PUBLIC-PRIVATE PARTNERSHIPS FOR TRANSPORTATION IN THE APEC REGION

An Analysis and Literature Review

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ABBREVIATIONS

APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
BAPPENAS	*National Development Planning Agency* (Indonesia)
BEDB	Brunei Economic Development Board
BLMT	build-lease-maintain-transfer
BOO	build-own-operate
BOOT	build-own-operate-transfer
BOT	build-operate-transfer
BTL	build-transfer-lease
CBA	cost-benefit analysis
CNY	China renminbi or yuan
D&C	design and construction
DB	design-build
DBB	design-bid-build
DBFM	design-build-finance-maintain
DBFMO	design-build-finance-maintain-operate
DBFO	design-build-finance-operate
DBO	design-build-operate
DEPD/JPKE	Department of Economic Planning and Development (Brunei Darussalam)
DFBOMT	design-finance-build-operate-maintain-transfer
EOI	expression of interest
GDP	gross domestic product
ICAC	Independent Commission Against Corruption (Hong Kong, China)
JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
KPI	key performance indicators
KPPIP	Committee for Acceleration of Prioritized Infrastructure Development (Indonesia)

KRW	Korean won
MOF	Ministry of Finance
MOSF	Ministry of Strategy and Finance (Korea)
MTDS	Medium-Term Development Strategy (Papua New Guinea)
MTdS	Medium-Term Debt Strategy (Papua New Guinea)
MTFS	Medium-Term Fiscal Strategy (Papua New Guinea)
NDRC	*National Development & Reform Commission* (People's Republic of China)
NT$	Chinese Taipei dollars
PAB	private activity bonds
PDF	project development fund
PFI	private finance initiatives
PFIPCJ	PFI Promotion Corporation of Japan
PIMAC	Public and Private Infrastructure Investment Management Center
PKPS	Directorate for PPP Development (Indonesia)
PPI	Private Participation in Infrastructure (World Bank's Database)
PPP	public-private partnership
PPPIAM	Programa para el Impulso de Asociaciones Público-Privadas en Estados Mexicanos
PSC	public sector comparator
PSP	private sector participation
RFP	request for proposal
RFQ	request for qualifications
ROT	rehabilitate-operate-transfer
SEPO	State Enterprise Policy Office (Thailand)
SGD	Singapore dollars
SNIP	*National System of Public Investment* (Peru)
SOE	state-owned enterprises
TOR	terms of reference
USD	United States dollars
USDOT	United States Department of Transportation
VfM	value for money
VGF	viability gap funding

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EXECUTIVE SUMMARY

Sound transportation infrastructure is critical to national development and economic growth. Well-designed, sustainable, and resilient infrastructure provides economic opportunities through increased market access, job creation, and manufacturing activity. The need for sound infrastructure is especially critical in a global economy: infrastructure bottlenecks such as the excessive turnaround times for container vessels in a port or physical constraints on the speed of a railroad can limit the efficiency in a supply chain, increasing the cost of trade.

The public sector, however, has limited financial and institutional capability for necessary investment in airports, highways, marine ports, railroads, terminals, and other infrastructure assets. Governments, therefore, increasingly seek public private partnerships (PPPs) to finance, build, operate, and maintain key infrastructure assets. PPPs make possible increased capital investment in a greater number of high-quality infrastructure projects, thus easing impediments to global and regional connectivity. For example, an inefficient port can increase the distance to a shipper's export market by 60 percent (Clark et al. 2001). Furthermore, improvements in infrastructure can help realize the gains expected from trade reform. For example, a World Bank study found that cutting port congestion 10 percent could lower transport costs in East Asia as much as 3 percent, equivalent to an across-the-board tariff reduction of 0.5 percent (Wilson et al. 2009).

APEC member economies are relatively advanced in implementing PPPs. In fact, some member economies are global leaders in selecting, packaging, and implementing PPP deals. Based on rankings of PPP programs presented in the *Economist Intelligence Unit's 2014 Infrascope*[1] three of APEC's Latin American economies are ranked within the top five economies in the Latin America and Caribbean region[2] and four of the APEC economies in the Asian Pacific region[3] are ranked as mature and well-developed in regards to PPP.

Moreover, work on improving connectivity and infrastructure development in APEC is long-standing. APEC has been directly supportive of PPP projects under some of its key initiatives: the APEC Growth Strategy in 2010, the APEC Multi-Year Plan on Infrastructure Development and Investment of 2013–2016, the Cebu Action Plan in 2015, and the APEC Connectivity Blueprint for 2015-2025.

Some economies nonetheless face certain gaps that may limit private investor interest in PPP arrangements. This review examines ten key PPP-related factors to identify strengths and potential gaps in the PPP development of transportation infrastructure within the APEC region. The table below presents these gaps, as well as a selection of the key observations made specific to the APEC region:

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[1] The *Economist Intelligence Unit* rankings comprised 19 indicators divided into 6 categories. The six categories are legal and regulatory framework (weighted 25%), institutional framework (weighted 20%), operational maturity (weighted 15%), investment climate (weighted 15%), financial facilities (weighted 15%), and sub-national adjustment factor (weighted 10%).

[2] The *Economist Intelligence Unit* report classifies the following as part of Latin America and the Caribbean: Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Trinidad and Tobago, Uruguay and Venezuela. These economies were compared across a variety of categories pertinent to PPP frameworks.

[3] The *Economist Intelligence Unit* report classifies the following as part of the Asia-Pacific: Australia, Armenia, Bangladesh, People's Republic of China, Georgia, India (and India's Gujarat State), Indonesia, Japan, Kazakhstan, Republic of Korea, Kyrgyz Republic, Mongolia, Pakistan (and Pakistan's Sindh Province), Papa New Guinea, Republic of the Philippines, Tajikistan, Thailand, Viet Nam, and the United Kingdom (used as a benchmark for comparative purposes).

PPP Factor	Observation
PPP Objectives	For APEC economies, the key objectives are proper allocation of risks and improved efficiency and quality of service for users.
Legal Environment	Many member economies have passed PPP-related legislation in recent years. In 2015, PPP legislation or amendments to PPP laws were passed in Brunei Darussalam, Mexico, Russia, and Viet Nam. In 2014, regulatory frameworks were further developed in Papa New Guinea and the People's Republic of China. These recent changes demonstrate the importance that the region has been assigning to improved regulatory frameworks for PPP development in infrastructure.
Business Environment	Most member economies are generally open to foreign investment and have well-developed local financial markets. However, improvements could be made in government support for land acquisition and financial support such as viability gap funds (VGF).
Institutional Capacity	A vast majority of APEC economies have dedicated PPP units. Some economies, for example Australia and Canada, have central and decentralized PPP units. A centralized PPP Unit is housed within the federal government, typically in the Ministry of Finance. A decentralized PPP Unit works in coordination with the federal unit and is typically housed in a specific line ministry (such as the Ministry of Energy) or associated with a particular region/state (as is seen in India, Australia and Mexico). The dedicated PPP units have slightly varying roles, but most are charged with drafting PPP policies and guidelines, assisting with or leading the project planning and selection, and monitoring contract compliance. In some economies, the roles of the PPP unit and other relevant departments are less clearly defined or the PPP unit lacks authority to enforce necessary decisions or processes. In other economies, PPP units take on more roles- acting as a committee more than an administrative unit. For the PPP unit to be as effective as possible, it needs the appropriate level of authority to enforce decisions.
Planning and Project Selection	APEC member economies are relatively advanced in the selection process. Many economies, Canada among them, include complex analysis of Public Sector Comparators (PSCs) in the formal selection of projects. PSCs enable a detailed comparison of the actual savings to the public sector if it relied on a PPP versus traditional procurement.
Project Preparation	Many APEC economies provide feasibility analysis funding or expense recovery mechanisms, both of which demonstrate an economy's commitment to thorough preparation for a PPP project. For example, Indonesia offers very strong government support through project development funds (PDF), infrastructure guarantee funds, and other government guarantees. In addition, some economies, such as the Republic of Korea, have processes for compensating the private sector for preparation of unsolicited proposals.
Risk Allocation	The basic principle of a PPP is to improve risk allocation. Private investors must be confident in the stability of their investment in the project and the host economy. Many member economies also manage risk through very effective mechanisms and methods. Among these are requirements to include detailed risk matrixes in project selection and procurement phases. However, a potential risk for APEC is that some member economies allow for direct negotiation with the private sector, without providing specific details on when a project is eligible for direct negotiation versus open competition. This practice creates an opaque project selection and tendering process, allowing political will or government agendas to influence selection of the winning bidder.
Procurement	Many APEC economies have gone through great lengths to ensure that procurement is as transparent as possible. In Chile, for example, projects are selected based on their net present value once the proposal already satisfies the necessary technical and quality requirements. Once the project has been selected, a council of external board members is available to recommend any contract changes to the Ministry of Public Works (the acting PPP unit).
PPP Contract	APEC economies have shown commitment to clearly defining roles, risk allocations, and key performance indicators. One area for improvement is defining the arbitration and dispute resolution clauses, and invoking them when conflicts arise.
Project Monitoring and Stakeholder Consultation	Many APEC economies require specific clauses in the PPP contract that determine the process for project monitoring. One recommendation is for government agencies to engage with the private sector early on in the project structuring to generate feedback on innovative approaches to improve the project's viability.

A gap in any of the above factors could result in bottlenecks impeding trade. For example, poorly defined regulations and legal frameworks governing PPPs could be a disincentive for private investment in both the construction and operation of different nodes along a transport corridor. Conversely, a strong regulatory environment can attract private sector financing for infrastructure development and operation.

Additionally, as member economies begin implementing a larger number of PPP projects, it will become increasingly important to learn from and understand the challenges that other economies faced in structuring and implementing projects. For that reason, the report includes four case studies: Port of Baltimore and Seagirt Marine Terminal (USA), Airport Privatization (in Mexico), Metro Line 4 (in People's Republic of China) and the Peninsular Link (in Australia). Some key lessons learned from these case studies included:

- Proper allocation of risk is a requirement for a successful PPP project. If there are perceived risks, such as political risks, the public sector should maintain and mitigate the risk as well as possible.
- Minority stakeholders in a PPP project should be protected, and clauses specifying the protections should be included in the PPP contract.
- Projects should consider the potential for other revenue-enhancing opportunities, such as the inclusion of commercial aspects, such as the inclusion of land-side (terminal gift shops and restaurants) in an airport.
- Strong legal and regulatory frameworks favor the participation of first-class private investors/operators.
- Project planning should include well-developed cost-benefit analysis and accurate traffic projections to ensure financial viability.
- The best value for money for the public sector is attained through international, competitive bidding.

In April 2016, APEC members gathered in Sydney, Australia, to discuss the strengths and potential gaps within the region. During this workshop, member economies noted that the largest gaps, and therefore the essential areas for further capacity building, were:

- Institutional capacity for PPPs,
- Project planning and selection,
- Proper risk/benefit allocation between the public and private sectors,
- Legal environment
- Procurement

Furthermore, it was noted that there is a need for government agencies to engage with the private sector early on in structuring a project to generate feedback on innovative approaches that would improve project viability. In order to strengthen these gaps that were highlighted in the April 2016 workshop, an additional workshop was held in July 2016 in Mexico City. This workshop focused on the gaps identified in Sydney and encouraged participants to discuss approaches that have been undertaken in their economies to address and manage specific capacity gaps and challenges within each of these five areas. Following these discussions, participants proposed and subsequently prioritized key activities that could be implemented to support/address the identified capacity gaps and challenges. Some of the popular proposed activities for APEC to consider as they continue to build PPP capacity included:

- Train-the-trainers on specific issues relating to: institutional capacity, project planning and selection and risk allocation;
- Creating a platform of past projects, in which the challenges and lessons learned are outlined, which can be accessed by all APEC economies;
- Training on financial modeling and how it should be incorporated in the decision-making process;
- Sponsoring internships between economies in the respective PPP Units; and
- Training on how risk perception changes with institutional strengthening.

Overall, the APEC region has a highly diverse level of PPP development, which allows member economies that are not as advanced to learn from and leverage the knowledge of member economies that are global leaders. In this regard, APEC economies will only continue to develop their PPP environment and the region will continue to be an international standard setter for PPPs.

1. INTRODUCTION

Governments around the world are recognizing the value of public private partnerships (PPPs) in the operation, management, and development of key infrastructure assets. PPPs can bolster economic growth, unlock revenue generation potential, and enhance innovation as well as operational efficiency in public services.

As described in the APEC Connectivity Blueprint, APEC has the potential to become a regional leader in PPPs. This potential can be unlocked through enhanced knowledge-sharing of best practices; improved assessment methods for evaluating potential PPP projects; and, stronger legal, regulatory, and policy frameworks. Approaches to transportation PPPs differ across the Asia-Pacific region, with the degree of PPP readiness varying from developing to mature. A review of PPP frameworks, processes and experiences of member economies is necessary to obtain a sound appreciation of the levels of PPP readiness within the region.

Guiding Questions for Economies

What are the main objectives in pursuing a PPP?

Which transportation bottlenecks have been identified as barriers to trade?

How can the viability of a PPP be determined?

Which PPP arrangements have been most successful for the different modes of transportation?

How can governments best structure transportation projects so they attract private investors and still create value for the public?

This report:

- Identifies gaps, good practices, and capacity-building requirements in the region to promote more effective PPPs in transportation infrastructure, including airports, railroads, roads, seaports, and transit systems;
- Identifies and examines existing information on project identification, prioritization, and analysis and structuring of PPPs in the APEC region;
- Incorporates specific case studies to highlight factors that led to the successful implementation of transportation PPPs;
- Examines lessons learned that should be considered when implementing future transportation PPPs; and
- Makes preliminary recommendations based on the gaps identified in the region and on standard best practices.

WORKING DEFINITION OF PPP

No single approach works for all PPPs, and there is no globally accepted definition. Economies can adjust their individual PPP processes to best accommodate their specific needs, objectives, and economic circumstances. This report will apply the description in the Asian Development Bank's *PPP Handbook (2008, page 1):*

> *PPPs present a framework that—while engaging the private sector—acknowledge and structure the role for government in ensuring that social obligations are met and successful sector reforms and public investments achieved. A strong PPP allocates the tasks, obligations, and risks among the public and private partners in an optimal way. The public partners in a PPP are government entities, including ministries, departments, municipalities, or state-owned enterprises. The private partners can be local or international and may include businesses or investors with technical or financial expertise relevant to the project. Increasingly, PPPs may also include nongovernment organizations (NGOs) and/or community-based organizations (CBOs) who represent stakeholders directly affected by the project. Effective PPPs recognize*

that the public and the private sectors each have certain advantages, relative to the other, in performing specific tasks.

HOW THIS REPORT IS ORGANIZED

Section 2 summarizes the different APEC policy frameworks, initiatives, and activities surrounding PPP development in the region. The essential APEC forums contributing to PPP initiatives in the region consist of the Investment Experts' Group, the Finance Ministers' Process, the Transportation Working Group, and the APEC Business Advisory Council (ABAC).

Section 3 lists objectives that economies may consider when choosing a PPP over a traditional public procurement process, since a critical first step in designing and implementing a PPP is to have a clear understanding of an economy's overall objectives for using the PPP approach.

Section 4 describes the nine key influences on the success of a PPP project. These nine areas were analyzed during a gap analysis and review of PPP development in each member economy. The latter part of this section describes the strengths and gaps of PPP development within the Asia-Pacific region.

The final section provides a case study each for aviation, ports, roads, and rapid transit. These case studies highlight the successful aspects as well as any relevant challenges of each project, followed by summaries of lessons learned from the case studies that economies may consider when implementing similar projects.

Appendix A provides a detailed summary on the status of PPP development in each member economy. Appendix B lists PPP-relevant sources and websites.

2. SUMMARY OF RELEVANT APEC POLICY FRAMEWORKS

This chapter provides information on key APEC policy frameworks relevant to transportation PPPs. The source documents consist largely of APEC policy documents, economy-level reports, and studies. The key APEC forums engaged in PPP-related issues are the Investment Experts' Group (IEG), the Finance Ministers' Process (FMP), the Transportation Working Group (TPTWG), and the APEC Business Advisory Council (ABAC).

APEC's work on connectivity and infrastructure development is long-standing. Focusing on improving infrastructure development complements APEC's core mandate to attaining the Bogor Goals of free and open trade and investment in the region by 2020. Members have recognized that supporting infrastructure development and investment is critical because well-designed, sustainable, and resilient infrastructure can enhance economic growth and increase productivity, and provide significant positive follow-on effects, including improved access to markets, job creation, and manufacturing growth. Infrastructure investment is also likely to have a significant impact on gross domestic product (GDP).

In 2010, the APEC Leaders Growth Strategy acknowledged APEC's role in facilitating growth through infrastructure development. This policy framework indicates that APEC can use its convening power to help create a platform to develop innovative solutions, and provide technical assistance and advisory services to help member economies develop their capacities for raising private and public financing for infrastructure-related projects. It was also acknowledged that APEC can provide an exchange of views on best practices in PPPs for in infrastructure development.

In 2011, APEC finance ministers underscored the critical importance of accelerating infrastructure investment as a way of improving service delivery, boosting economic recovery, and sustaining economic growth in the Asia-Pacific region. Ministers also acknowledged the work done by some APEC economies to improve the environment for investment through PPPs and to minimize regulatory risk. In addition, they highlighted the importance of continuing a robust dialogue with market participants on infrastructure financing, which is a critical element in attracting private sector resources.

Since then, APEC members have also acknowledged the importance of adopting and maintaining laws, regulations and practices that facilitate investment, and of efforts to improve the investment climate in the APEC region. In 2013, APEC economic leaders recognized that delivering concrete outcomes in infrastructure development requires a multiyear commitment by APEC economies. Furthermore, member economies understand that well-designed, sustainable, and resilient infrastructure facilitates enhanced economic growth, improved productivity, better access to markets, and further job creation across sectors.

In this context, this report highlights APEC's key policy frameworks, including the APEC Growth Strategy, APEC Multi-year Plan on Infrastructure Development and Investment (MYPIDI), the Cebu Action Plan, and the APEC Connectivity Blueprint.

THE APEC GROWTH STRATEGY

The Growth Strategy was launched in 2010 to achieve balanced, inclusive, sustainable, innovative, and secure growth. This strategy focuses on specific initiatives to achieve sustainable growth and equitable development. Two of those initiatives are:

Action Agenda on Promoting Infrastructure Investment through Public Private Partnership. Endorsed in 2014 by APEC, this agenda identifies actions for cooperation on regional connectivity and infrastructure undertaken by the Committee on Trade and Investment and the Investment Experts' Group, while the Finance Ministers' Process works on accelerating infrastructure development and financing.

Investment Facilitation Action Plan (IFAP). Endorsed in 2008, this plan lays out the principles for facilitating investment. It seeks to improve the transparency in the formulation and administration of investment-related policies and to strengthen public private partnerships for developing infrastructure.

THE APEC MULTIYEAR PLAN ON INFRASTRUCTURE DEVELOPMENT AND INVESTMENT (MYPIDI), 2013–2016

The MYPIDI, a joint collaboration of the Finance Ministers' Process and Senior Officials Meeting (SOM), provides a menu of actions and reforms that economies can individually decide to adopt according to their own circumstances. Collectively, under this plan, economies are expected to deliver the supportive institutional environment needed to maximize private sector involvement in infrastructure. The workstreams guiding future APEC work in infrastructure development and investment are:

- Workstream 1: Fostering a business-friendly environment for infrastructure development and investment, through a solid regulatory framework that minimizes uncertainty and maximizes transparency and predictability.
- Workstream 2: Development and refinement of integrated planning system mechanisms.
- Workstream 3: Development of government capacity to identify and generate a pipeline of bankable infrastructure projects.
- Workstream 4: Development or further improvement of financing and funding environment to encourage long-term investors.

As part of this framework, APEC established a pilot PPP Centre within Indonesia's Ministry of Finance, with the goal of assessing and preparing infrastructure PPP projects and guiding the successful execution of these projects. In addition, an APEC PPP Experts Advisory Panel was established with the overarching aim of building local institutions and then joining them together into regional networks to help create a regional infrastructure market. As such, the PPP Experts Advisory Panel has been providing resources and advisory services to the PPP Centre. As part of the MYPIDI, members also acknowledged the importance of comprehensive project planning, whether using PPP or traditional public procurement, such as taking into account long-lasting asset value, stability of long-term cash flow, and lifecycle cost. The MYPIDI also instructed ministers and APEC officials to support additional capacity-building activities to assist economies in the promotion of sustainable and resilient infrastructure development and investment.

CEBU ACTION PLAN (CAP)

In 2015, APEC members agreed to establish the Cebu Action Plan (CAP) with the "goal of building an APEC community that is more financially integrated, transparent, resilient, and connected" through facilitating trade and investment in the region, pursuing sound fiscal policies, offering diversified financial instruments, and enhancing financial resilience for market volatility and other risks. The CAP has four pillars:

1. *Promoting financial integration;*
2. *Advancing fiscal reforms and transparency;*
3. *Enhancing financial resilience; and*
4. *Accelerating infrastructure development and financing.*

The fourth pillar of the CAP is of direct relevance to transportation infrastructure PPPs, which will leverage the work promoted under other APEC policy frameworks such as MYPIDI. Efforts to support quality infrastructure development and financing will focus on the following aspects:

- *"Attracting private sector capital through PPPs to deliver crucial infrastructure;*
- *Mobilizing long-term financing for infrastructure, particularly through enhancing member-economies' capacity for project preparation and developing capital markets and flexible financial instruments that would attract institutional investors;*
- *Demonstrating the importance of and activating long-term vehicles to support long-term investment; and*
- *Promoting inclusive infrastructure in urban development and for regional connectivity."*

This fourth pillar also aims to build a larger library of existing PPP material in the APEC region, including the development of standardized contracts and guidelines that members can use for reference. Additionally, APEC plans to work with large multinationals with experience in PPPs to develop a pipeline of bankable PPP projects in the region.

APEC CONNECTIVITY BLUEPRINT (2015–2025)

The Connectivity Blueprint serves as a guide for current and future initiatives that will improve connectivity across APEC member economies, and focuses on three aspects of connectivity: physical, institutional, and people-to-people.

Physical connectivity concerns: improving the **investment** climate; enhancing infrastructure financing through PPP; adopting comprehensive assessment methods in evaluation of infrastructure project proposals; and, enhancing the application of good practices for planning and implementing infrastructure projects. Information on what infrastructure projects are needed, what gaps exist in institutional frameworks, and the skilled labor needed in the market will be crucial to support economies in achieving their connectivity targets.

Some APEC member economies have begun implementing further actions allowing for greater connectivity, including physical connectivity and improved infrastructure. Examples include the Brunei International Airport Modernization Project (B$150 million), the China-Russia Heihe Boundary Highway Bridge, the KL Singapore High Speed Rail, and the Mekong Development Roadmap.

The achievement of the goals of the Connectivity Blueprint will also depend on how well approaches for developing physical infrastructure (including roads, rail, ports and airports) are managed by economies. Well-developed physical infrastructure is critical for improved trade facilitation and better connectivity.

ADDITIONAL INITIATIVES SUPPORTED UNDER APEC FORA

APEC economies have supported the development of other noteworthy initiatives in this policy space through the APEC Business Advisory Council (ABAC), Committee on Trade and Investment (CTI), Investment Experts' Group (IEG), Finance Ministers' Process, and Transportation Working Group (TPTWG), and others.

ABAC's Asia-Pacific Infrastructure Partnership (APIP) was established in 2011 to encourage active dialogue on private investment in infrastructure. These dialogues have continued since 2011 and have been held in several member economies: Indonesia, Malaysia, Mexico, Peru, the Philippines, and Thailand. Through these dialogues, some key constraints to financing infrastructure have been identified: lack of capital market depth, dearth of good-quality projects, inadequate regulatory frameworks, and a need for better understanding of how to allocate risks. ABAC followed up on the dialogues by commissioning five studies:

- A comparison of legal frameworks to protect long-term interests of pension funds investing in PPPs;

- A comparative contractual clauses for smooth adjustments of physical infrastructure services through the PPP project lifecycle;
- Best practices in design of social PPPs;
- Best practices taxation measures to support PPPs; and
- Evaluating externalities of PPP.

In 2013, the CTI hosted an "APEC Dialogue on Infrastructure Development & Investment" at the SOM2 meetings in Surabaya, Indonesia. During sessions in which private sector representatives discussed some of the capacity constraints they experience when pursuing PPP investment opportunities with governments throughout the Asia-Pacific region, two key deficiencies were identified:

1. There is a general lack of "bankable" projects in the pipeline. Commercial viability of projects is critical to attracting private investors.
2. Government staff charged with facilitating PPP infrastructure deals do not always understand how to share risk with private investors. This has historically meant that even deals that are straightforward by private investor standards may become bogged down with uncertainty if government officials are not familiar with project finance constructs.

In 2014, ABAC published an *Enablers of Infrastructure Investment Checklist*,[4] a self-assessment tool for officials to use to measure the extent to which their economies can attract and facilitate FDI in infrastructure (e.g., road, rail and air transport). The checklist addresses the following four overarching policy categories: *"(1) augmenting government project planning and coordination mechanisms; (2) building a strong financial and financing environment; (3) developing robust PPP mechanisms and frameworks; and (4) creating and maintaining a strong investment environment to attract foreign direct investment."* The checklist includes key assessment questions and key performance indicators in which an economy should consider in improving its attractiveness to infrastructure development.

In 2015, the IEG published a *Guidebook on PPP Frameworks in the APEC Region*. The guidebook compiled information on legal and institutional aspects of each member economy's PPP frameworks. Additionally, other IEG initiatives, such as the Public Private Dialogues, have also identified several actions that should be improved upon in the region to help facilitate private financing in infrastructure. Following a 2014 Public Private Dialogue, it was agreed that the IEG would coordinate with other forums to prioritize resources to accomplish the following:

- Promote continued policy dialogue on methods to finance infrastructure;
- Share good policies and practices;
- Enhance government policies and operation by using ABAC's Enablers of Infrastructure Checklist;
- Launch capacity-building initiatives to remove impediments to PPPs;
- Establish well-functioning and well-trained PPP centers;
- Strengthen collaboration between APEC economies, ABAC and private sectors and World Bank, other donors;
- Work with regional academia to enhance analytical PPP work; and
- Continue APEC's efforts to identify actions and best practices.

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[4] This checklist is an annex of the 2014 publication Attracting and Harnessing Infrastructure FDI to Secure Lasting Economic Growth. The *National Center for APEC* collaborated with the *National Association of Manufacturers* and ABAC.

Through the Cebu Action Plan, the FMP (together with the PPP Expert's Advisory Panel, APIP and the Global Infrastructure Hub), hopes to create an online knowledge portal that will likely include best practices on PPP, past projects undertaken by APEC economies, guidance on risk mitigation, and a directory of firms and consultants involved in PPPs in the region. In addition, member economies are encouraged to use the FMP and the PPP Experts' Advisory Panel as a resource for advice on PPPs in relation to developing pipelines for projects and setting up PPP centers. Finally, the FMP has published the *Infrastructure Public-Private Partnership Case Studies of APEC Member Economies, a* collection of 55 infrastructure cases as well as the *Implementation Roadmap to Develop Successful Infrastructure PPP Projects in the APEC Region*, which is addressed further in Chapter 4.

The TPTWG has been using PPPs to develop dry ports and logistics parks in the region. By reviewing the current opportunities for and impediments to PPP investments in dry ports and logistics parks, the TPTWG has been working to establish common frameworks that encourage collaboration and overcome barriers between government and the private sector in these sectors. By facilitating further knowledge sharing and incorporating the importance of PPP throughout their development plans, the region can be expected to continue to grow and become a global example of PPP collaboration and connectivity.

3. OBJECTIVES FOR PURSUING PPPS IN APEC ECONOMIES

There are a number of reasons why an economy will choose to pursue a PPP, and these objectives play an important role in determining how a PPP program is designed, the type of PPP structure to be adopted for a specific project, and how the tender process is devised to select winning proposals.

As described in the *APEC Connectivity Blueprint* and the *Action Agenda on Promoting Infrastructure Investment through PPP*, APEC members have acknowledged the important role that efficient transport infrastructure can have on improving connectivity and facilitating regional trade. In this regard, APEC's main objectives in promoting the effective use of PPPs to finance transport infrastructure investment are to improve the quality of service, optimize resources, and reduce cost constraints on the public sector. Accordingly, Table 3-1 below lists the most common objectives for economies to pursue PPPs, as well as the main considerations or rationale for pursuing the said objective.

Table 3-1. Typical Objectives in Pursuing a PPP in Transportation Projects

Objectives	Considerations/Rationale
Reduce the costs of providing transportation infrastructure	The private sector is not subject to the inflexible procurement restrictions that affect the public sector in delivering transportation infrastructure projects; therefore, the private sector can optimize most of the construction costs and operating costs during all phases of the project cycle. At the same time, it is important to consider that a public bidding process can be longer and more expensive than traditional public sector procurements. However, when all costs and benefits during the life cycle[5] of the project are considered, the PPP can present a better cost-benefit alternative.
Complete projects on time and within budget	The private sector is better equipped and motivated to complete projects on time and within budget. For PPP transportation projects to be completed on time and within budget, the PPP contract must provide clear and tangible incentives for the private sector to do so. For example, in long-term PPP transportation projects, where the private sector is responsible for design, construction, and then operation of the asset, the private sector is motivated to finish according to schedule and budget because greater revenue will be received if the transportation project starts operations earlier and the reduction of initial investment will enhance the expected overall profit for the investor. With this objective in mind, the economy's government must provide the necessary tangible and measurable incentives in the PPP concession contract.
Ensure the proper allocation of risk	Optimal risk allocation is one of the main determinants for successful transportation PPPs. Risk should be allocated to the party best able to manage it, taking into account public interest. The aims of a PPP transportation project are to deliver improved services and provide better value for money to the public sector; achieving both depends on the appropriate allocation of risk. In order to properly identify, assess, mitigate, and allocate risks, the public sector should conduct an effective stakeholder consultation before implementing strategic PPP transportation projects.
Ensure greater service coverage for users	If the overarching need is for expanding transportation network or service coverage, the economy government has to structure the RFP and the terms of reference accordingly and has to choose the private sector offer with the strongest investment

[5] Life cycle costs comprise all costs of construction, operation, and maintenance.

Objectives	Considerations/Rationale
	commitment to expand service coverage.
Promote lower tariffs for users	The selection criteria and the bidding process will focus on selecting the bidder who can provide the best value for money while lowering tariffs. This objective will likely involve a greater monetary contribution from the government which will leave the government with less capital to finance other projects simultaneously. It is important to consider that lower tariffs are translated in lower investment and lower level of service. This tradeoff has to be carefully evaluated and discussed with users and other stakeholders of the transportation system. For example, a principle objective for Japan, as outlined in the Japan Revitalization Strategy, is to provide affordable and good service to its citizens.
Increase foreign investment in the economy	A balance of local and international investors is always desirable. However, the public sector will emphasize providing the enabling environment and appropriate incentives to attract foreign investors. Some Latin American economies, like Chile, Peru and Mexico, have used PPPs with the objective of promoting foreign investment and developing local financial markets. Many other APEC economies in Asia, such as Indonesia, are also focused on increasing foreign investment into their markets.
Promote monetization	In this case, the economy's government receives a large sum up front from investors in exchange for the right to use or operate an existing revenue-generating asset (brownfield project). Typically, the public sector pursues this type of arrangement to reinvest the large payment back into other infrastructure projects or in other sectors like education or health. Monetization has become one of Australia’s main objectives, illustrated by the new “Asset Recycling Initiative” from 2014. Additionally, during the first wave of privatizations in Mexico, monetization of major existing infrastructure assets was a main federal government objective (Infrastructure Australia 2014).
Provide better quality of service	The private sector is better equipped to provide a higher level of service if properly motivated. The technical proposal, and eventually the PPP contract, has to define the conditions to enhance level of service. The PPP structure has to incentivize the provision of higher quality rather than penalize the lack of it. As mentioned before, it is important to consider that higher level of service translated into higher investments and higher tariffs. This tradeoff has to be carefully evaluated and discussed with users and other stakeholders of the transportation system before a final decision.
Reduce maintenance costs	The private sector typically puts additional care to guarantee that the transportation facility is built properly at the onset to eliminate or significantly reduce future repair costs during the concession. If this is the one of the main objectives of a PPP, the PPP contract should be written in detail and entail a long-term concession in order for the private sector to be incentivized to construct the asset with great care as well as to ensure the proper preventive maintenance.
Access improved technology and innovation	If improved technology and innovation are the government’s primary objectives, the government will look toward bidders that include advanced technology and innovative approaches in their proposals and are willing to transfer this knowledge to the public sector. In a new toll road project, the government can encourage use of an automated system to collect tolls in order to promote the use of enhanced technology. New technology can also be a discriminator to accept or reject unsolicited proposals. For example, in the Philippines, one requirement for accepting unsolicited proposals is to confirm that the project involves a new concept or technology. A concession contract of the Mactan-Cebu International Airport in the Philippines was awarded to a consortium known for its cutting-edge technology, such as precast construction systems. (ERIA 2015).
Ensure optimization of resources	PPPs promote better utilization and optimization of resources for the private and public sectors. Critical mass, economies of scale, and vertical and horizontal integration are important elements to save costs and generate value to attract international private sector investors and operators. PPP is a proven infrastructure procurement method that, in the appropriate circumstances, can utilize the resources of both sectors. For example, in the privatization of Mexican airports, the strategy to group large and small airports in the bidding process saved significant resources in all stages of the PPP process, including the planning, assessment, procurement,

Objectives	Considerations/Rationale
	operating, and regulatory phases. The airport grouping strategy generated economies of scale and the visibility to attract world class private sector operators and investors. This gave the Mexican Government a critical mass to list the airport companies on the New York Stock Exchange (NYSE).
Enhance competition	A transparent procurement process attracts the most qualified investors and best value for money from the private sector while reducing the potential for corruption. The inherent competition among bidders to provide the best value at an appropriate cost will allow the government to choose the proposal that most appropriately fills the government's needs and expectations.
Attain flexibility of nongovernmental entity	The private sector has more flexibility than the public sector in delivering the infrastructure asset or public services. Since the private sector entity is awarded a contract for the life of the project, the entity decides who receives subcontracts and under what terms. Alternatively, in traditional procurement the public sector would need to release a competitive, open bid for each component, limiting flexibility and increasing procurement time and costs.
Achieve clear separation between regulation and operations	By contracting the private sector to finance and operate an infrastructure asset for a set period of time, the public sector is effectively separating any conflict of interest between policymaking/regulation and investment/operations during the contract period as these two roles would both be the public sectors responsibility during traditional procurement.

As displayed in the table above, each objective has a large effect on how the public and private sector identifies, prepares, and implements PPP projects. If the primary objective is provision of services at the lowest price possible, the project structure and bid selection criteria will be very different than if the objective is to improve technology and innovation. These objectives and desired outcomes are a key component in determining the structure and procurement process of the PPP transportation project. For this reason, defining the economy government's objectives cannot be overlooked and is the first consideration in designing and implementing a successful PPP program.

4. GAP ANALYSIS OF PPP DEVELOPMENT

APEC is one of the most advanced regions in the world in using PPPs[6], and some member economies are global leaders in the selection, packaging and implementation of PPP deals. Furthermore APEC forums are collectively drawing knowledge and know-how from each other and working together to better target resources as can be seen in the various APEC-related development plans, manuals and guidelines, and through various dialogues and workshops discussed in section 2.

Since 1989, member economies have been striving to create greater prosperity for people by advancing regional economic integration and promoting balanced, inclusive, innovative, and secure growth across the region. Free and open trade and investment as well as business facilitation are fundamental components of APEC's core mission. This mission includes addressing impediments to trade and investment at and behind the border, and ensuring that goods, services, investment, and people move easily across borders. Reducing costs for importers and exporters by improving logistics and transport networks is a priority for APEC members. However, even if trade-facilitating policies and mechanisms are in place, expected economic gains through trade can be derailed by poor-performing transport logistics systems, particularly those hampered by nontariff trade barriers and infrastructure bottlenecks.

The World Economic Forum estimates that the global demand for infrastructure investment is US$3.7 trillion annually, yet only US$2.7 trillion is currently being invested (World Economic Forum 2014). This deficit or "infrastructure gap" of US$1 trillion is the reason for certain transport bottlenecks hobbling trade, logistics, and the overall economy. In 2012, it was reported that Asia would need to invest 11% of its GDP in the region's infrastructure to remain competitive and to ensure prolonged economic growth (World Economic Forum 2012). This gap is difficult for economies and even the multinational development banks to bridge, hence the economies interest in PPPs and private sector investment. PPPs can be a useful mechanism to increase capital investments in infrastructure, thus eliminating bottlenecks and generating higher economic value.

Transport infrastructure is not made up of isolated segments, but rather an entire network of value-driven supply chains. Therefore, if one node or link in a network is not functioning as it should, the efficiency of the entire corridor is compromised. Analysts have found that an inefficient port, for example, can increase the distance to a shipper's export market by 60 percent (Clark, et al. 2001). Each additional day required for a shipment imposes an "extra" economic distance equivalent to 70 km per day, effectively moving markets further away (Djankov, et al. 2006). At the same time, however, improvements in infrastructure and logistics can help realize the gains expected from trade reform. For example, a study conducted by the World Bank found that cutting port congestion by 10 percent could cut transport costs in East Asia by up to 3 percent (equivalent to a tariff reduction across the board of 0.5 percent)(Wilson, et al. 2009). In trade, a seaport or an airport will receive imported goods, which are shipped by rail, roads, or a combination of both to a company that redistributes the goods, again by rail, road, or a combination, to consumers. The entire process is as strong as the weakest point in the network.

Some typical bottlenecks found in transportation infrastructure sectors include:

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[6] Reference is from multiple sources.

- **Maritime Ports:** slow turnaround time for containers, ill-equipped to scan goods in containers, lacking sophisticated cranes;
- **Airports:** limited runway space, lengthy procedures to move cargo to and from airplanes, inefficient customs processes;
- **Roads:** excess highway traffic, lack of alternative routes, inefficient border posts; and
- **Rail:** slow rail service, ill-maintained tracks, too many intersections that slow down trains.
- **Mass Urban Transit (Metro):** inadequate integration with other transit services, high cost, insufficient capacity with limited number of routes per total urban population.

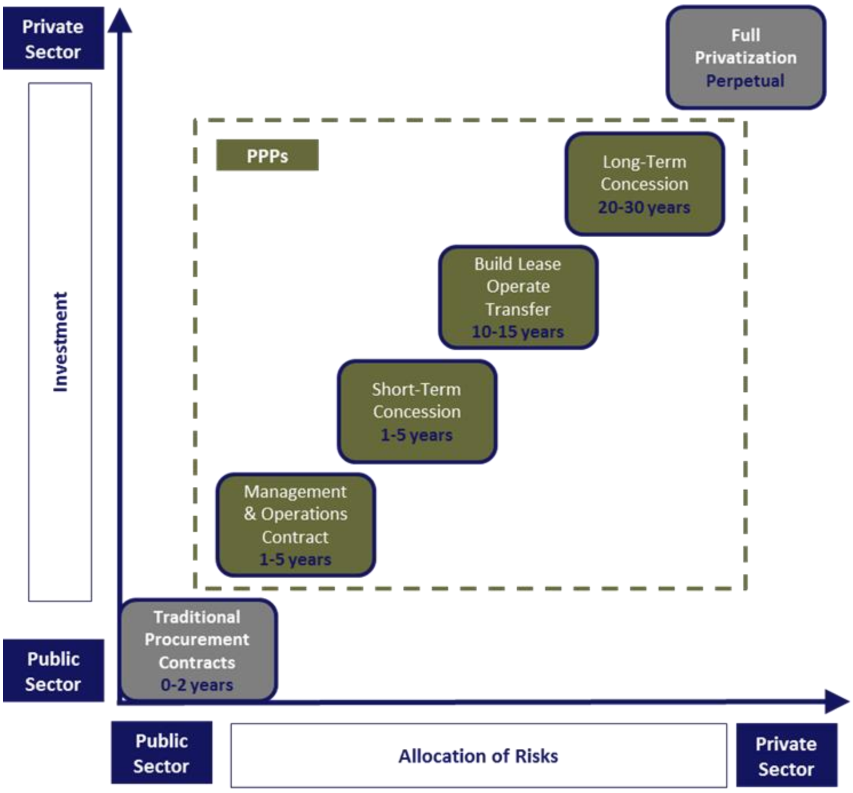
Some economies may face bottlenecks due to a lack of infrastructure rather than, or in addition to, inefficiencies in the existing infrastructure. For example, a well-designed and managed port requires an equally well-designed road or rail system to connect the port to market. The development of much-needed transport infrastructure can be financed through PPPs, an approach that can reduce constraints on the public sector and allow for a greater number of high-quality infrastructure projects to be developed.

Infrastructure bottlenecks, such as the container vessel turnaround time at a port or the speed of a railroad, can limit the efficiency in a supply chain, thereby increasing costs associated with trade. If an economy faces gaps in any areas that influence the success of PPPs in transportation infrastructure outlined in the following section, additional barriers to trade could arise. For example, a poor regulatory environment could have a ripple effect on the construction and operation of different nodes along a transport corridor. Alternatively, a strong regulatory environment can act as an impetus for attracting private sector financing and improving infrastructure development and operation.

If certain bottlenecks are identified as critical and able to be alleviated through PPP, it is important that the PPP arrangement is done so carefully and with great consideration of the specific project characteristics, the PPP-enabling environment, and the project's overall objectives. Generally speaking, build-operate-transfer (BOT) is the most common PPP arrangement for providing transport infrastructure. It is important to note that however a PPP is arranged, all aspects of the PPP project cycle must still be addressed. If a project is categorized as a BOT, the design and financing stages of the project are still critical. One of the most important aspects of the PPP arrangement is whether there is a "transfer" between the private sector and public sector. If the asset is transferred, it is also important to note when the transfer will take place. In many transport projects, the public sector will give the private sector the right to design, finance, build, own, operate, and maintain the asset for a specified number of years. Typically the private sector will then transfer the ownership rights back to the public sector once the PPP contract has expired. Although this model has been seen in many APEC transportation PPP projects, it is not the only recommended option.

Figure 4-1 below displays the spectrum of potential PPP contract types, from management and operations contracts (in which most of the risk and more investment is required by the public sector), to long-term concession contracts (in which the private sector assumes more risk and greater investment than in a management contract). As previously stated, PPPs require a tailor-made approach and specific project conditions must be considered when choosing the most appropriate PPP structure.

Figure 4-1. PPP Contract Types



For ports, the most successful experiences have followed the landlord operational model. A public entity owns the port but grants long-term leases of one or more port terminals to global operators. In the case of airports, long-term concession of the entire airport has proven to be efficient, attracting global operators; however, recently some long-term concessions that include just landside services (areas related to the passengers service) have become more common.

FACTORS FOR A SUCCESSFUL PPP

This report examines ten key PPP-related factors to analyze the strengths and potential gaps in the APEC region. Economy-level summaries can be found in Appendix A.

PPP Objectives

As discussed in section 3, governments must clearly understand their objectives for pursuing PPPs. In order to align PPP projects with government objectives, projects should be based on desired outcomes or results, rather than required inputs. This allows the private sector investor and operator greater flexibility and creativity in how infrastructure facilities and services will be delivered, while ensuring that those facilities and services meet the required results or operating capacity established by the government.

A review of the literature indicates that the availability of financial resources is not the main driver for using PPPs in the APEC region, as is the case for Africa and the lesser developed economies in Latin America. APEC member economies are generally open to foreign investment and have well-developed local financial markets. For APEC, the main objectives for pursuing a PPP are the proper allocation of risks and improving efficiency and quality of service for users.

Typically, an economy begins to use PPP for projects where benefits are easiest to achieve, such as projects that earn revenue from the users (e.g., toll roads and power-generation plants). However, as soon as the PPP program in an economy becomes more developed and mature, governments have the institutional capacity and know-how to target sectors (e.g., education, health, and water sanitation) that use more complex financing methods. These methods may include availability payments (payments made by the private sector that depend on the asset or service being available in the quantity agreed to and at the quality defined in the contract), shadow tolls (free for users, but for which the government pays a fee per user—vehicle or person—to the operator), or other innovative financing methods (such as warranties and gap financing).[7] Many of APEC's member economies are in the "mature stage" so they are already well-advanced in using PPP project financing for both transport and social projects. For example, the Peninsular Link case study presented in the following section was implemented in Australia using availability-based payments.

Legal Environment

To successfully attract private sector investment, there must be a clear legal and regulatory framework (including institutions such as an independent court system where contractual obligations and rights can be protected and enforced) in place to increase certainty and ensure the effectiveness of long-term PPP contracts. The legal, regulatory, and policy framework must clearly specify the rights and obligations for private sector investment and must facilitate private sector participation in developing infrastructure assets. Following international best practices, it is recommended that an economy have a PPP policy or law. If there is no law then the PPP contract itself becomes the presiding legal document. In this case, it becomes complicated to draw up a contract that can overcome a lack of regulations because the contract clauses must address all potential scenarios (such as changes in tariffs, arbitration, changes in other relevant laws). In addition, any laws on procurement, foreign investment, or public financial management, or sector-specific laws regarding PPP, are also important when considering the strength of an economy's legal environment.

Many member economies have passed PPP-related legislation in recent years. In 2015, PPP legislation or amendments to PPP laws were passed in Brunei Darussalam, Mexico, Russia, and Viet Nam. In 2014, regulatory frameworks were further developed in Papua New Guinea and the People's Republic of China. These recent changes demonstrate the importance that the region has been placing on improving regulatory frameworks for PPP development in infrastructure. Economies that do not have specific PPP laws or regulations generally have other frameworks in place that help the private sector operate in infrastructure development, such as detailed procurement laws and enabling-foreign-investment laws, as is the case in Hong Kong, China.

Business Environment

Just as important as the legal environment is the business-enabling environment. Infrastructure projects require a large amount of capital, and investors must feel reassured that there is no risk in the financial market. An economy should have a business environment that (i) is transparent; (ii) is open to foreign investment; (iii) has full foreign currency convertibility; (iv) does not have restrictions on repatriation of capital; (v) has a favorable tax environment; and (vi) has a stable currency and exchange rate. Additional indicators of a strong business enabling environment include access to innovative financing packages, availability of a clear exit process for investors, and the availability of government financial and political support.

Many APEC member economies have very strong business enabling environments. Most are open to foreign investment, allow for access to innovative financing packages, and have long-term local currency markets. In addition, many economies, such as Mexico, the People's Republic of China, and the United States, offer private investors access to very large international markets. However, a gap facing a number

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[7] Under "user pays PPPs," the private party provides a service to users, and generates revenue by charging users for that service. In different PPP arrangements, such as PPPs largely paid by the public sector, government payments can depend on the asset or service being available at a contractually-defined quality ("availability" payments) (World Bank 2015).

of other APEC economies concerns government support for land acquisition. In certain economies, such as in Brunei Darussalam and Indonesia, land ownership is restricted to citizens, with few exceptions allowing foreign investors or companies to own land. These restrictions can limit the types of PPP arrangements within the economy, such as projects where ownership of the asset includes ownership of land. Another issue identified in some APEC economies is the lack of government financial support such as through viability gap funds (VGF). VGF could address the gap between revenues required to make a project commercially viable and the revenues likely to be generated by user fees. VGF are used to attract private financing at the start of projects that have potential long-term economic benefits.

Institutional Capacity

Key government bodies involved in the PPP process must have sufficient capacity to carry out their responsibilities. A successful PPP program does not necessarily require a central PPP unit; however, the success of a PPP program does depend on the involved parties having a clear understanding of their roles throughout the entire PPP project cycle. A PPP unit with defined roles and the necessary level of authority to implement PPPs can help streamline the PPP process, thus making it more efficient.

A vast majority of APEC economies have dedicated PPP units in place, with some economies having both central and decentralized PPP units, such as Australia and Canada. A centralized PPP Unit is housed within the federal government, typically in the Ministry of Finance. A decentralized PPP Unit works in coordination with the federal unit and is typically housed in a specific line ministry (such as the Ministry of Energy) or associated with a particular region/state (as is seen in India, Australia and Mexico). It should be noted, however, that there is significant variation from economy to economy in these definitions. These PPP units have slightly varying roles, but most are charged with drafting PPP policies and guidelines, assisting with or leading the project planning and selection process, and monitoring contract compliance. Almost all PPP units in APEC are responsible for developing manuals and guidance materials. An economy can benefit by promoting itself to international private investors through a well-developed and navigable website that should also be available in English. There is significant competition to attract world-class investors; comprehensive PPP program overviews and PPP project descriptions will help to attract these investors. Several APEC economies have relevant material easily accessible on either the PPP unit's or relevant ministry's website. Economies that do not should make sure that these materials can be easily accessed by the public. Releases of RFQs or RFPs will likely need to be shared on websites and in the federal gazette. In addition, PPP guidelines and manuals should be available in English, the international language of PPP, which will help attract international private investors.

In some economies, the roles of the PPP unit and other relevant departments are not as clearly defined or the PPP unit is not given the appropriate level of authority to enforce necessary decisions or processes. For the PPP unit to be as effective as possible, it needs the appropriate level of authority to enforce decisions. Furthermore, it is imperative that the PPP unit or relevant ministry have the required institutional capacity in place to structure and implement complicated PPP arrangements. Many economies in APEC, as previously stated, are global leaders in PPP development and have the knowledge required for successful implementation. Through continued APEC dialogues and workshops, these economies can transfer some of their knowledge to economies that may need additional capacity building.

Planning and Project Selection

Insufficient planning has led to many of the PPP project failures seen around the world. When planning a project, the first step should be the clear understanding of the economy's objectives. These objectives determine (1) how a PPP program should be designed, (2) the appropriate PPP project structure, and (3) the criteria for selecting winning bidders. The expected results and anticipated roles of both the public and private sectors in a PPP should be addressed before any activity begins; doing so will ensure that all expectations are realistic and remain in line with the objectives. Apart from the public and private sector players in a PPP, there should also be a good understanding of PPPs and their advantages by the general public. In a few instances, certain PPP projects may cause social debates amongst affected citizens.

Accordingly, there may be value in highlighting the benefit of a good public relations/education campaign when a PPP project is being considered for not only government employees but also the general public. For example, Canada has implemented a very extensive stakeholders engagement program that to ensure that most concerns are addressed during the project design and, therefore, achieve a fast implementation once the decision to proceed is made.

In addition, there should be a comprehensive planning process in place, including credible prefeasibility and feasibility analysis (e.g., incorporating cost benefit and value for money analyses) [8]; a realistic project pipeline; and a defined, transparent, and consistent PPP screening process. An additional indicator of a well-developed PPP enabling environment is whether an economy has a system in place for dealing with unsolicited proposals.

Before an unsolicited proposal can be considered for an open and competitive bidding process, the responsible PPP department must review the unsolicited proposals and provide an initial preapproval for consideration of the project. This pre-approval process includes due diligence of the private sector's proposal and preliminary analysis to determine if the project should be considered and if a prefeasibility study is needed. The proposal should be in line with the public investment plan of the relevant government agency as well as with the economy government's overall policy strategies. There are economies such as Japan where there is an evaluation process in place that is as comprehensive as the process to evaluate government-led evaluation and approval.

Economies around the world are competing for private sector investors and operators for financing transport infrastructure PPPs. An updated and accessible pipeline of bankable projects is a powerful tool to attract these domestic and international private sector investors because it provides the necessary information for both the private and public sectors to develop their long-term strategic plans. A sound sector strategy, in addition to including important project background, provides critical information on the economy's commitment to the sector which in turn helps investors evaluate project risks. Investors seek to leverage economies of scale, and with an easily-accessible project pipeline, investors can analyze whether or not an economy is offering the best long-term opportunities for them. The Asia-Pacific region is taking steps to help address this issue. For instance, Australia (one of the global leaders in PPPs) has been providing guidance and instruction to some of the developing APEC economies on how to create a bankable pipeline.

An indicator of the level of PPP maturity in APEC member economies is that many are incorporating advanced value-for-money analyses when preparing projects for selection. Many economies have included public sector comparators (PSCs) in their formal project selection process, such as Canada. PSCs involve a detailed analysis comparing the actual savings that the public sector would receive if pursuing a project using a PPP versus a traditional procurement approach. In determining the value provided by the public compared with the private sector, a PSC analysis considers the cost of service as well as the costs associated with risk. For projects or economies where there is a significant amount of uncertainty (e.g., if there are insufficient past data or if the economy is currently in conflict), then the private sector will impose a much higher cost to mitigate these risks. In this case, the PSC analysis would likely show that traditional public procurement would be a better option. Furthermore, traditional public procurement will likely be used for assets that are considered to be a domestic security priority, such as air traffic control, which the public sector wants to maintain a certain level of oversight. This type of analysis is incredibly detailed and demonstrates the in-depth planning involved before an economy decides to pursue a PPP.

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[8] Value-for-money analyses (VfM) and cost-benefit analyses (CBA) involve a thorough analysis incorporating a wide range of factors, apart from time and cost. These two analyses incorporate values gained from improved efficiency, lower risks, and other qualitative considerations. VfM compares the value of a project developed by the government versus developed through a PPP.

Project Preparation

A PPP project must be well-planned,-designed, and—structured before releasing a request for quotes (RFQ) or request for proposals (RFP) to the market. During project preparation, defined checklists and controls should be in place before releasing an RFQ or RFP. Governments play a large role in project preparation and can contribute to creating a PPP enabling environment by providing feasibility analysis funding or expense recovery mechanisms to help cover some of the costs in preparing PPP projects. It is also imperative that the contracting agencies and any ministries directly involved in project preparation have sufficient PPP management capacity. If not, outside advisers should be hired. Greenfield PPP project preparation includes prefeasibility and feasibility studies, both of which consider a sound value-for-money methodology. Alternatively, brownfield PPP projects require a corporatization effort and the preparation of historical financial statements, if possible.

A large number of APEC member economies have prefeasibility and feasibility analysis funding available. This is indicative of their commitment to do the necessary project preparation before determining if a PPP should be pursued. For example, Indonesia offers very strong government support through project development funds (PDF), infrastructure guarantee funds, and other government guarantees. In addition, some economies, such as the Republic of Korea, have processes in place to compensate the private sector for proposal preparation for unsolicited proposals.

Risk Allocation

A principal benefit of implementing projects under PPP arrangements is the ability to allocate risks to the party that can best mitigate them. If too much risk remains with the public sector, the benefit of the PPP arrangement diminishes. If too much risk falls on the private sector, or if the cost of managing certain risks is too high, the project may need to be reevaluated to determine if traditional procurement should be pursued or if the project should be rejected. Risk allocation should be clearly defined early on and address a variety of risks, including definitions on how to mitigate the risks from natural disaster.

The basic principle of a PPP is to improve the allocation of risks so that private investors are confident in the stability of their investment in the project and in the economy. Political risks cannot be controlled by the private sector and are the full responsibility of the public sector. A potential risk for APEC as seen in the literature is that some member economies allow for direct negotiation with the private sector, without providing specific details on when a project is eligible for direct negotiation versus open competition. This practice creates an opaque project selection and tendering process, allowing political will or government agendas to influence the selection of the winning bidder. In addition, the definition provided by the ADB states that state-owned enterprises (SOEs) are considered part of the public sector. However, some APEC economies recognize SOEs as the private sector partner in a PPP arrangement. It is commendable that economies are working to make PPPs function in their environments and, while some economies are not able to incorporate all of the elements required in a PPP, they can create “PPP-like” agreements using SOEs or other innovative methods.

Finally, many member economies also manage risk through very effective mechanisms and methods, such as the requirement by some economies to include detailed risk matrices in the project selection and procurement phases. Furthermore, some economies even include independent bodies to help ensure transparency and thus remove risk from the PPP process, such as Hong Kong, China, where the Corruption Prevention Department of the Independent Commission against Corruption can be leveraged to help mitigate risks.

Procurement

The success of a PPP program depends on clear and transparent rules and an implementation process that instills confidence in the private sector investors; for this reason, a transparent and competitive tender process and system for pre-bid consultations is required in order to have an optimal PPP environment. In addition, having standard PPP contracts and clauses, a credible adjustment procedure, and in-depth procurement options analysis all help strengthen investor confidence during procurement. PPP projects should be procured following an international open bidding process—i.e., in a transparent manner that is not restricted to domestic bidders.

One of the most critical aspects of the procurement phase in the PPP process is ensuring transparency. Authorities in charge of implementing the bidding processes have to balance transparency and flexibility during the procurement. Many APEC economies have gone through great lengths to ensure that procurement is as transparent as possible. For example, in Chile, projects are selected based on the net present value once the proposal already satisfies the necessary technical and quality requirements. Once the project has been selected, a council of external board members is available to recommend any contract changes to the Ministry of Public Works (the acting PPP unit).

Some economies include in the procurement process a panel of independent, well-regarded citizens as observers to ensure transparency.

PPP Contract

A PPP contract should clearly state the amount of government support that will be provided to the project and must clearly state the roles, responsibilities, risks, and rewards of each party. PPP project contracts should incorporate comprehensive oversight and regular review mechanisms. Performance targets should be easily measurable, incentives should be meaningful, and rewards and penalties effective. In addition, a process for arbitration and remedial actions should be clearly defined.

The PPP contract can be a complicated document for economies to maneuver, but many APEC economies provide information on the relevant PPP unit website regarding the required clauses, or even provide standardized and sample contract documents. Although APEC economies have varied degrees of effective dispute resolution clauses, APEC is strong in outlining the respective roles, responsibilities, risk allocations and key performance indicators. Some economies, such as Peru, have very strong systems in place allowing for international arbitration procedures. However, even if an economy may allow for formal dispute resolution in the contract, some may try to influence a private sector partner to reach a resolution through informal means. It is important that member economies put theory into practice and honor the dispute resolution options that are stipulated in the PPP contracts. Furthermore, some economies do not allow arbitration clauses to be in contracts between government and non-government entities. This is perceived as a risk by private sector investors, which could impede further private investment. Looking forward, all APEC member economies should include arbitration and dispute resolution clauses in their standard PPP contracts.

Project Monitoring and Stakeholder Consultation

Properly monitoring contract compliance is critical to ensure that public infrastructure provided under a PPP agreement is developed according to the requirements set forth in the PPP contract and that the project continues to generate value for money throughout the life of the project. Any PPP project should have clearly defined public sector roles for project monitoring and active stakeholder engagement throughout the implementation of the project. In addition, best international practices recommend the inclusion of an independent regulatory body to monitor project progress.

A large number of the APEC economies require specific clauses in the PPP contract that determine the process for project monitoring. Typically, the public sector (in many cases the Ministry of Finance) acts as the monitor for the project. In some cases, a committee is developed for a project to monitor and approve any modifications to the contract. Some APEC economies had independent regulatory bodies that monitored the progress of PPP projects, but implementing this practice in a larger number of the member economies should be addressed in the future to further strengthen the project monitoring process.

Stakeholder consultation is typically required to ensure a market oriented approach during early planning stages, and evaluation to procurement and operation startup. The feedback ensures that all aspects are considered and negative impacts correctly addressed.

CONCLUSION

APEC is one of the most advanced regions of the world in terms of engaging in PPPs, and some member economies are global leaders in the selection, packaging, and implementation of PPP deals. Members that are not as advanced in PPP development have the opportunity to learn from and leverage the knowledge of members that are global leaders.

In April 2016 (Sydney, Australia) and July 2016 (Mexico City, Mexico), APEC members gathered to discuss the current strengths and the potential gaps within the region and the economies as related to PPP development.

Based on the gap analysis and the interactive workshops, areas that could benefit from additional capacity building include institutional capacity, planning and project selection, risk allocation, legal environment and procurement .

Additional conclusions were drawn from the April 2016 workshop, especially during the insightful Private Sector Expert panel, such as:

- There is a need for government agencies to engage with the private sector early on in the project structuring process to generate feedback on innovative approaches that would improve project viability.
- Lack of bankability should not be an excuse to reject a project if proper feasibility studies have not been undertaken and if relevant stakeholders have not yet been consulted. There are many ways that a project profile can be improved and consulting the private sector during project development is critical. During the workshop an example was given of a large railway project (North West Rail Link) in Australia that, given its specific characteristics, was divided in three projects with two taken up by the public sector and one by the private sector as a PPP. This project was possible due to the coordination scheme developed by the government and its transaction advisors.
- Monetization could be a viable option for member economies, such as it has been in Australia. Demand risk in Australia's greenfield highways is been addressed by the government developing those greenfield projects that are considered critical until their demand is better understood. Once that is known, the projects are monetized to help fund new greenfield projects.
- The PPP structure should seek to promote the presence of long term equity/owners as these groups are committed to the projects in the long term and will help address temporary challenges.

In order to strengthen the gaps that were highlighted in the April 2016 workshop, an additional workshop was held in July 2016 in Mexico City.

This workshop focused on the gaps identified in Sydney and encouraged participants to discuss approaches that have been undertaken in the economies to address and manage specific capacity gaps and challenges within each of these five areas. Some key challenges as observed by workshop participants included:

Institutional Capacity:

- Public sector staff turnover (for reasons such as: being attracted to the private sector by a higher salary, a change in government, etc.);
- Large gap between the federal and state level capacities;
- There is a need to have a PPP Champion at a high government level to promote the scheme and the existence of PPP laws/guidelines ensures that the government prioritizes the program;

Project Planning and Selection:

- Governments should publish their pipelines online, it informs the private sector on government priorities;
- Selection process does not always involve the same people who manage the projects, so the people selecting the projects are disconnected from the real everyday challenges. For this reason, mistakes tend to repeat themselves;
- The process for unsolicited proposals is still unclear in some economies.
- In the US and other countries, many of the efforts to expedite project preparation are in the area of environmental permitting where authorities have created fast track procedures that allow for a shorter time frame to secure all necessary permits while still protecting the environment.

Risk Allocation:

- Land acquisition is a big risk in many economies;
- Risk should be revisited on a contract by contract basis throughout the bidding process to reduce likelihood of contract negotiations (as is the practice in Canada), but new information can come out during the lifecycle of the project so the contract needs to be flexible;
- Certain geological risks are prevalent in APEC economies (such as earthquakes for economies like Chile, Peru, Mexico and Japan) and these risks need to be addressed in the contracts;

Following these discussions, participants proposed and subsequently prioritized key activities that could be implemented to support/address the identified capacity gaps and challenges. Some of the popular proposed activities for APEC to consider as they continue to build PPP capacity included:

- Train-the-trainers on specific issues relating to: institutional capacity, project planning and selection and risk allocation;
- Creating a platform of past projects, in which the challenges and lessons learned are outlined, which can be accessed by all APEC economies;
- Training on financial modeling and how it should be incorporated in the decision-making process;
- Hiring an advisor for the short-tem (2-4 years) that would assist the PPP Unit to implement a few pilot PPP projects through hands-on-training;
- Sponsoring internships between economies in the respective PPP Units;
- Training on how risk perception changes with institutional strengthening; and
- Engage relevant APEC fora such as the Anti-Corruption and Transparency Experts Working Group (ACTWG) to leverage the work undertaken by ACTWG in terms of improving transparency in PPPs (as recommended by stakeholders following the workshop in Mexico).

5. CASE STUDIES: TRANSPORTATION PPPS IN THE APEC REGION

The section below highlights four different case studies in the APEC region: the Port of Baltimore in the United States; airport privatization in Mexico; Metro Line Rail 4 in the People's Republic of China; and the Peninsular Link Project in Australia. Each case study gives explains project strengths, weaknesses, and lessons learned.

PORT OF BALTIMORE AND THE SEAGIRT MARINE TERMINAL, USA

This example demonstrates the importance of multimodal access to marine terminals and the impact of constraints on its long term viability and growth potential.

The Port of Baltimore has a unique geographic advantage in the United States as the closest East Coast port to the Midwest. It is one of two East Coast ports with both a 50-foot channel and a 50-foot berth, allowing it to accommodate some of the largest container ships in the world. It has different marine terminals handling containers, automobiles, salt, steel, roll-on/roll-off (ro/ro), and sugar, with a combination of public and private terminals. The Port of Baltimore's inland location has a large, nearby consumer market, and an impressive highway network.

Opened in 1990, Seagirt is a high-tech facility with the latest in cargo-handling equipment and systems. Seagirt is now operated by Ports America Chesapeake (a member company of the Ports America Group which is owned by Highstar Capital), under a 50-year PPP agreement signed in 2010 with the Maryland Ports Administration (MPA). Under the agreement, Ports America was to construct a 50-foot container berth to be accompanied by four state-of-the-art super Post Panamax cranes (Highstar Capital 2010). The improvements were completed in 2012.

The PPP Agreement

In April 15, 2009, the MPA published a Request for Qualifications (RFQ) from private parties to establish long-term marine terminal operations at Seagirt Marine Terminal in the Port of Baltimore. The RFQ indicated that the successful bidder had to take care of operations and cargo development at the terminal and entered into a long-term lease (minimum of 30 years) with MPA for the operation of the existing Seagirt Marine Terminal and the construction and operation of a new Berth IV to accommodate "New Panamax" vessels. The MPA required that successful completion of the Seagirt Project had to meet several key objectives, including:

- Development and construction of Berth IV for New Panamax vessels;
- Payment of sufficient upfront funds to repay Maryland's investment in the existing Seagirt Marine Terminal;
- Receipt of periodic lease payments during the term of the lease; and
- Increased cargo volumes and correspondingly increased economic benefit to the citizens of the State of Maryland.

Highstar Capital's lease of the Seagirt container terminal (Seagirt) in the Port of Baltimore is the first major U.S. port PPP since 2007. The 50-year lease (which was the length agreed after negotiations) is a very different kind of transaction from the wholesale acquisitions previously seen in the ports sector and demonstrates the reassessment of asset valuation using a more conservative approach to sponsor risk appropriation in the aftermath of the 2008 financial crisis.

Ports America Baltimore (PAB), Highstar's existing operator at the port, is the parent company of Ports America Chesapeake (PAC), the project company. It closed the US$334 million in financing for its concession on January 2010.

The US$334 million of financing consisted of debt of US$259 million, issued in tax-exempt economic development revenue bonds, and US$75 million of Highstar's equity. The $259 million in debt consisted of $170 million in senior lien bonds (Series A bonds) and $89 million in junior debt (Series B notes). Of the $170 million in senior debt, $140 million was used for the upfront payment to the Maryland Transportation Authority. The remaining $30 million, along with the $89 million in subordinate debt and $75 million in equity, were used to fund the transaction fees, capital and operation reserve accounts, and preliminary capital expenditure.

As well as the upfront payment to Maryland Transportation Authority, the proceeds of the bonds funded the continued operation of existing Seagirt terminal assets, consisting mainly of three berths, seven container cranes, and 12 gantries. PAC also built a fourth berth with the capacity to accommodate post-Panamax carriers (which can accommodate between 4,000 and 8,000 twenty-foot equivalent units, or TEUs), and installed four new post-Panamax cranes. This expansion was completed in 2012.

The MdTA used the proceeds of the concession payment to fund some of the improvements to Interstate-95 and US-50, the highways that serve the port area. It is also receiving an annual payment of US$3.2 million from the concessionaire and a revenue-sharing agreement after year five of the concession, under which the MdTA receives US$15 per container, when annual volume has reached more than 500,000 containers. Both the annual payment and the revenue sharing sum will increase with inflation, starting at a minimum of 1.5% and capped at a maximum of 3.5%. (Highstar Capital, 2010).

While this deal is considerably smaller in the size of its financing than its predecessors in the ports sector, the use of the concession structure protects both the MdTA and the sponsor company from volume risk. The value of the deal was based on conservative cargo forecasts which removed undue pressure on the port to increase throughput – in part due to problem with the rail access to the port beyond the control of the port concessionaire. CSX (a railway company) is unable to use double container stack on its railcars due to the height restriction on a rail tunnel in downtown Baltimore which connects the port to the rest of the economy. This restriction makes it uneconomical to serve the mid-west from Baltimore, lowering the attractiveness of the port of Baltimore for cargo destined farther than 300 miles, which can be served cost-effectively by trucks. The reduced leverage and increased cost of debt are in line with other recent U.S. infrastructure concession financings using tax-exempt bonds, but the structure also demonstrates a more sustainable model for future ports operation transactions. In addition, Highstar estimates that the concession and related building development generated 2,700 new permanent jobs in Baltimore, and an additional 3,000 contracted construction jobs. (Highstar Capital, 2010).

As of June 2016, a CSX sponsored study has determine that the cost of adding an extra 18 inches to the tunnel's height will cost $425 million, a much lower amount that previously thought. The improvements are expected to be covered by CSX ($125 million), State DOT ($145 million), and US DOT ($155 million through the *Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies* (FASTLANE) grant program).

Successes

The port is capable of handling 1.5 million TEU containers a year; Seagirt's practical yard layout places the storage area directly behind the berths. Enhancing Seagirt's efficiency is the adjacent Intermodal Container Transfer Facility, which brings the railhead to within 1,000 feet of the bulkhead.

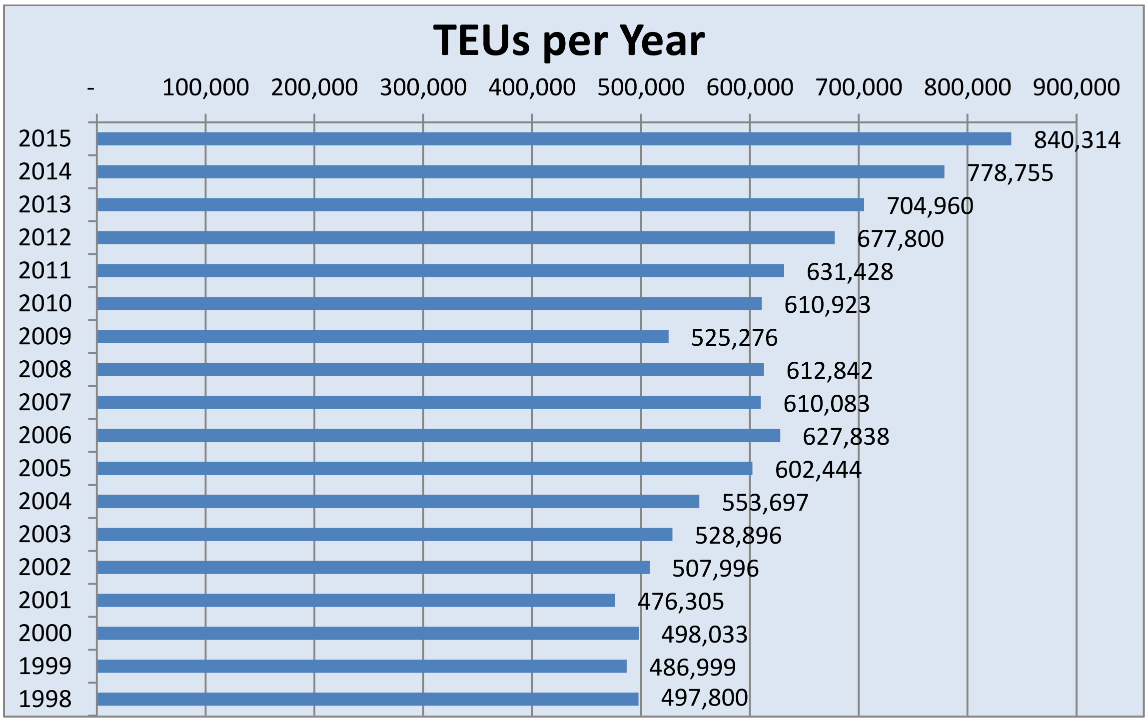
In addition, the Seagirt computer system's electronic data interface capabilities automatically receive and send information to the terminal's steamship line customers. With just a few keystrokes, the carriers receive instantaneous information on the cargo and equipment, helping them to generate timely reports that can boost their efficiency.

Seagirt Marine Terminal Technical Data
Location: Port of Baltimore
Sponsor: Ports America Chesapeake (subsidiary of Highstar Capital)
Size: 284 acres (112 ha).
Cargoes: Containers.
Berths: Berth 1 through 3=3,127 ft. (953.0m); depth 45 ft. (13.7m) capable of handling up to 9,200 TEU vessel. Berth 4=1,225 ft. (373.4m); depth 50 ft. (15.2m) capable of handling up to 14,000 TEU vessels.
Cranes: Seven (7) Sumitomo post-panamax gantry cranes with an outreach of 18 containers wide; working height 110 ft. (36m), total hoist height 158 ft. (48.2m), lift capacity under spreader 50 long tons (50.8mt) and 60 long tons (60.9mt) with cargo hook; Four (4) ZPMC Super post-panamax gantry cranes with an outreach of 22 containers wide; working height 140 ft. (42.7m), lift capacity under spreader 65 long tons (66.0mt) and 85 long tons (86.4mt) with cargo hook; twelve (12) rubber-tired gantry cranes (RTG's); capacity 50 long tons (50.8mt), span 78 ft. (23.8m) and height under spreaders 50 ft. (15.2m)
Reefer Outlets: Total 240
Outside Storage: 134 acres (48.5 ha).
Rail Access: Direct connection to the adjacent Intermodal Container Transfer Facility by CSX Corp.
Highway Access: Many of the major transportation arteries are within minutes of the Port's terminals. East/West corridors include I-70, and North/South corridors include I-81, I-83, I-95, I-97 and I-895.

Source: Maryland Port Administration

The Seagirt has increased traffic from almost 611,000 TEU in 2010 to more than 840,000 TEU in 2015, which coincides with the recovery from the world economic crises in 2008, but it also highlighted a well-planned and implemented PPP project in an economy with strong legal and regulatory framework.

Figure 5-1. Figure: Port of Baltimore-Seagirt Marine Terminal Historic Traffic



Source: Nathan Associates, with information from Maryland Ports Administration

Lessons Learned

Baltimore container traffic has increased every year since 2009. However, the Seagirt Marine Terminal cannot handle cargo containers placed two-high on train cars because they will not fit through the low, 120-year-old Howard Street tunnel, and this creates a chokepoint for the freight operator CSX Corp. The inability to double-stack the containers limits the attractiveness of the port for long distance traffic (mostly the Midwest including Chicago) as rail is the most cost effective way to move cargo over land for such long distances. Essentially, companies pay less to pull more with double-stack rail. If they cannot find a cheap option in Baltimore, they might look elsewhere, the Baltimore Business Journal reported in 2015 (Seltzer 2015). As mentioned before, transport infrastructure has to be considered as part of a transport corridor from the production centers to the consumption centers and not as isolated nodes working independently. In this case the lack of capacity inland transport infrastructure is affecting the capacity of the marine port terminal. In 2016, CSX was able to secure access to a different tunnel that will be retrofitted to increase its height, allowing CSX to finally operate double stacked containers from Baltimore.

AIRPORT PRIVATIZATION, MEXICO

In early 1995, the Mexican government established the following main objectives for the introduction of private management and investment into the Mexican airport system: [9]

1. Maintain, modernize, and expand the airport infrastructure;
2. Raise the levels of safety, security, and efficiency;
3. Improve the quality of aeronautical, complementary, and commercial services, ensuring that they are provided in a competitive and non-discriminatory manner for the benefit of the users;
4. Promote the development of the aeronautical and airport industry on a regional basis;
5. Ensure the continuous operation of all airports within the airport network;
6. Promote a fair, objective, transparent, and expeditious process;
7. Encourage participation of quality investors and operators with operative, administrative, technical, and financial capabilities and strengths;
8. Respect, in accordance with the relevant laws, the rights of employees;
9. Ensure that the public sector receives the best available terms regarding price, timing, and other relevant matters; and,
10. Ensure the participation of Mexican investors.

To provide certainty to airport users and investors, the Mexican government established as a first step in the airports' privatization process a clear, effective, and consistent new legal framework that defined the scope of the state authority and the future role of the government in the airport sector.

After an informal consultation period with airlines, international airport operators, commercial service providers, sector analysts, airport consultants, investment bankers, development bankers, and other participants in the airline and airport industries, the Mexican government issued the *Investment Guidelines for the Opening of Private Investment in the Mexican Airport System* (the Guidelines) in February 1998.

The process for introducing private investment into the Mexican Airport System was implemented through the following three main phases:

- Corporatization of four independently managed regional airport groups, each with their own budget autonomy, and not subject to the state-owned company regulations.

[9] Contributing writer Rafael Enriquez acted as the transaction adviser to the Mexican government during the privatization described in this case study. His experience and knowledge was used as the main resource; additional resources were unnecessary.

- Sale of a minority interest (15%) of each airport group holding company to a strategic partner selected through an international public bidding process (trade sale).
- The sale of the remaining (85%) holding company's equity in one or several initial public offerings (IPO) in the domestic and international equity markets once each airport group had established a record of independent management.

First Phase: The Airport Grouping and the New Corporate Structure

As part of the first phase, the Ministry of Communication and Transport identified 35 of Mexico's 58 major airports as being suitable for private investment. After an evaluation of different alternatives, the 35 most attractive airports in the Mexican Airport System were corporatized and divided into four regional groups.

Second Phase: Selection of Strategic Partner

The strategic partner was needed to provide technical and management experience to each airport group in order to improve airport operations and develop commercial activities, as well as to enhance the credibility required by a successful international IPO. Each airport group had a qualified strategic partner selected through an international public tender.

Following the guidelines, a series of international public bidding processes were conducted sequentially to award a minority interest (15%) in each airport group to a strategic partner. As a result, in December 1998, the Mexican government awarded a 15% interest in the Southeast Airport Group to a consortium led by Copenhagen Airports (CPH);

Simultaneously, to complete the first two phases of the privatization process, the Mexican government sold the remaining 85% of the Southeast Airport Group's capital stock to a Mexican Selling Trust established by NAFIN, a Mexican development bank. Since then, the airport group and its subsidiaries have not been subject to the Mexican regulations on government-owned companies. This has provided the airport group's management the flexibility to control its own budget, to develop and implement its business plan, and to respond on time to potential business opportunities.

Third Phase: Initial Public Offering

As part of this third phase, on September 28, 2000, the Mexican Government sold 85% of the capital stock of the Southeast Airport Group Holding Co. (ASUR) through simultaneous IPOs in the New York Stock Exchange (NYSE) and in the Mexican Stock Exchange (BMV).

Successes

The results of the Mexican Airport Privatization Process are a success and its strategy has served as the model in different developing economies around the world. ASUR private management has achieved the following:

- Since the concession contract in 2000, annual traffic through ASUR has increased form 11.4 million passengers to 26.1 million passengers. Cancun airport, the main airport in the group, has grown from 6 million passengers in 2000 to 20 million passengers in 2015.
- ASUR has a more active and focused marketing strategy to attract new customers (i.e., airlines). ASUR has a very diverse client base including almost all major airlines from around the world.
- ASUR has improved operational efficiency (i.e., labor productivity and asset utilization). More efficient traffic management has improved utilization and has deferred the original capital expenditure program.
- ASUR has invested substantial resources in expanding and modernizing the airport group. During 1999–2013, ASUR invested approximately US$1 billion in upgrading its airports. This amount exceeds the investment commitments assumed by the Mexican government. In the current 5-year period alone

(2014–2018), ASUR has investment commitments totaling $7.0 billion Mexican pesos (about half a billion USD).

- Following the economic regulation mechanism, ASUR has successfully implemented three 5-year master plans. This mechanism has included stakeholder consultation to set quality standards, required investment, and price caps for aeronautical services, promoting better planning and delivery in the capital expenditure (capex) program.
- ASUR has 50% joint venture partner in Aerostar Airport Holdings LLC, operator of the Luis Muñoz Marin International Airport in San Juan, Puerto Rico.
- ASUR has developed a sound commercial strategy to increase the amount and quality of non-aeronautical revenue, as well as to attract brand-name retailers and renowned service providers.
- Since the company was created, it has received several awards for corporate governance standards.
- The privatization strategy of the Mexican Airport System promoted the participation of wide range of private investors principally by means of public equity offerings in the domestic and international capital markets.

Key Elements and Lessons Learned

The key elements in the Mexican airport PPP effort can be summarized as follows:

- The government identified and ranked its strategic main objectives;
- The government promoted a broad stakeholder consultation and public consensus in all its development stages including operations;
- The government established a clear legal and regulatory framework to support the PPP strategy and implementation plan in all its development stages;
- The Ministry of Transport strengthened its institutional capacity to oversee and regulate PPPs, and appointed a very experienced PPP unit in charge of the process;
- The government conducted a complex, long, and costly, but transparent bidding process.
- The government established a simple and transparent economic regulation within the airports sector that protects users, provides certainty to the private sector, and promotes productive investment;
- The airports groups have achieved a significant transfer of technology form the strategic partners (Copenhagen Airports, AENA and ADPI);
- The concession contracts include the flexibility to react to unexpected economic downturns and provide a clear mechanism to solve disputes;
- The listing of the stock of the three airport groups has promoted very transparent and effective corporate governance for these strategic assets and at the same time has promoted the participation of small and mid-size investors in Mexico and internationally; and
- Since the privatization, the Government has concentrated on its role of policy-maker and regulator, and has transferred airport infrastructure ownership (temporal) and operations to the private sector.

METRO RAIL LINE 4, PEOPLE'S REPUBLIC OF CHINA

Considering the transportation needs due to the impending 2008 Beijing Summer Olympics and the limited amount of capital that the Beijing municipal government had to fund infrastructure development, the public sector decided to expand its mass transit rail (MTR) system using a PPP model (Finance Ministers Process 2014). It was in this manner that the Metro Line 4 project was released as a competitive tender in the market. Metro Line 4 was the first subway project in the PRC that introduced foreign private capital for construction and operation. Metro Line 4 is 28 km long, running from the north in Majialou to the south in Haidan, with a total of 24 stations (Finance Ministers Process 2014b).

Financing/ PPP Strategy

A large number of infrastructure construction and utility companies in the PRC are SOEs and, in the Chinese context, many arrangements to implement infrastructure assets have "PPP-like arrangements" in which the SOE is considered to be the private sector and then contracts with the public sector (International Institute for Sustainable Development 2015). Metro Line 4 was no exception, and the 30-year concession was awarded to the joint venture Beijing MTR. Chinese law prohibits foreign investors from holding more than 50% of the joint venture company for urban infrastructure projects (Chang 2013); therefore ownership of Beijing MTR was divided as follows: China MTR (49%), Beijing Capital Group Company Limited (49%), and Beijing Infrastructure Investment Company Limited (BIIC, 2%) (Finance Ministers Process 2014). China MTR, considered the main private sector partner in the joint venture, is a SOE, with 76.5% ownership by Hong Kong, China. Beijing Capital Group is a SOE of the Beijing Municipal Government and BIIC is another Beijing SOE responsible for project financing in the city. The contract among the parties was signed in 2006. Due to delays in contract negotiation, the private sector did not participate in the entire construction process, so the financing was divided into two parts: The first component was financed by the public sector and the second component was financed by the private sector, incorporating rolling stock purchases. At the end of the 30-year concession, Beijing MTR will transfer its portion back to the Beijing Municipal Government at no cost (Chang 2013).

Shadow Toll Approach

The agreement between the public sector and China MTR adopted the shadow toll approach, which guarantees a specified revenue amount per passenger regardless of the price that is actually charged to users. At the time of the concession agreement, the metro fares ranged from 3 to 7 CNY and the parties agreed to include a shadow price of 3.34 CNY for Line 4 (Finance Ministers Process 2014b). As specified in the original agreement and outlined in *Public–Private Partnerships in China: A Case of the Beijing No.4 Metroline*, the following specifications applied in regards to the shadow toll:

1. *If actual patronage is less than 80% of the shadow level, the public sector will guarantee the private sector with a revenue floor of 80% shadow revenue.*
2. *If actual patronage is between 70 and 100% of the shadow level, the public sector will subsidize the operation with an amount equal to: actual patronage X (shadow price- actual price)*
3. *If actual patronage is between 100 and 120% of the shadow level, the public sector will subsidize an amount equal to: shadow revenue – actual price X shadow patronage, while additional revenue generated by the excess number of passengers goes to the private sector.*
4. *If the actual patronage is above 120% of the shadow level, the public will subsidize the same amount as (3), but will start to share half the revenue generated above 120% of shadow patronage.* (Chang 2013)

In the following year, 2007, the metro fares were reduced by the Beijing local government to a lower flat rate of 2 CNY. Seeing as users generally take more than one metro line, the actual fare charged by Line 4 was closer to 1 CNY. This meant the government was paying a subsidy of almost 3 CNY per passenger per trip. Furthermore, the demand estimates that originally shaped the shadow toll amount in the agreement were much lower than the actual demand for the metro line. In 2010, the actual number of passengers was 122% of the estimated demand (Chang 2013).

The public sector attributed the higher level of demand to the lower flat rate fare, a fare which was not considered in the original contract. The public sector then requested a modification so that the public sector started sharing revenue with the private sector when the actual number of passengers reached 100% of the shadow number rather than the original 120%, the public received half the revenue when the actual number of passengers reached 100–110% of the shadow estimate, and 60% of revenue if passengers exceeded 110% of the shadow (Chang 2013).

Successes

The Beijing Metro Line 4 proved successful for the public sector. By procuring the project in the manner outlined above, the public sector saved 4.6 billion CNY in costs, CNY 600 million in investments and CNY 4 billion in maintenance costs. (Finance Ministers Process 2014b).

In addition, it has been quite profitable for the private sector. Based on China MTR's annual report, the No. 4 line and the extension (Daxing) line earned CNY 70 million in 2011and 200 million in 2012 (Chang 2013).

Finally, Line 4 has been successful for users, as it is the metro line with one of the highest passenger-satisfaction ratings. Its punctuality rate is 99.4% compared with 90% in other lines (Finance Ministers Process 2014b).

Lessons Learned

As a minority stakeholder, China MTR did not have the protection required for the contract modification requested by the public sector. Minority stakeholders in a PPP project need to be protected in the contract, as it could possibly limit interested investors if they do not feel protected from potential risks.

In addition, demand risks were not accurately estimated, which is a problem seen across the spectrum of economies implementing PPP projects. As a lesson learned, all transportation PPP projects should perform a price elasticity of demand analysis, in which the responsiveness of demand to changes in price is measured. This analysis could have been useful to predict the demand fluctuations when the Beijing local government lowered metro prices to prices not included in the original agreement. In the case of Line 4, the project was in large demand by users so regardless of the changes to the original contract, China MTR still made considerable profits. However, learning from the past , China MTR has reduced price risk in delivering the recent metro line 6 by establishing a hybrid tariff scheme, including a guaranteed minimum ticket price during the 30-year concession, with the Beijing Municipal Government. In addition, the private sector is bringing innovation from Hong Kong, China's PPP development market to the PRC, such as introducing additional commercial revenues that could be generated around the metro line, like commercial stores (International Institute for Sustainable Development, 2015).

PENINSULA LINK PROJECT, AUSTRALIA

Greater urbanization and population growth in Australian cities has led to increasing congestion on public infrastructure and roads. State and territorial governments are responsible for providing and delivering transportation and utilities infrastructure (Finance Ministers Process 2014b).

In order to address its transportation needs and improve the regional public infrastructure, the State of Victoria created a PPP unit, Partnerships Victoria. Partnerships Victoria was a key part of implementing the (then) Victorian Government's AU$38 billion transport plan which was designed to leverage private sector experience in the design, financing, building, and maintenance of transport infrastructure projects in a manner aligned with the State of Victoria's goals of fostering economic growth, linking communities, and improving road network safety (Finance Ministers Process 2014). The framework incorporated in Australia's National PPP Policy Framework and Guidelines as well as additional state-specific requirements for PPP. Peninsula Link was the first project within the Partnerships Victoria pipeline to be fully delivered under the new domestic policies and guidelines in Australia. It was a 27-kilometer freeway built to reduce congestion in Victoria's capital, Melbourne and was the first road PPP to use an availability model. The toll free road, which connects the EastLink-Frankston Freeway to the Mornington Peninsula Freeway, opened to public use in January 2013 (Finance Ministers Process 2014).

Financing Approach

Peninsula Link was created under an availability payment-based PPP agreement (no tolls levied on users). This was the first project under the availability payment model from the Partnerships Victoria projects. Any refinancing losses will be borne by the concessionaire (WB PPP Solutions 2010). The State of Victoria chose the Southern Way Consortium (described below) through a competitive tender process completed in 2010. Southern Way, the concessionaire, agreed to design, finance, and build the freeway, and operate and maintain it for 25 years. In return, the state makes quarterly service payments to the provider. Southern Way receives financial incentives to continue to provide the agreed-upon level of service and road performance based on key performance indicators (KPIs) (Finance Ministers Process 2014).

The Southern Way Consortium comprises many partners. These include Abigroup Contractors Pty Ltd., responsible for the freeway design and construction (D&C), and LendLease, responsible for operations and maintenance (O&M) during the 25-year operations phase. Project financing consisted of both senior debt for the capital required for construction (converting to a 7-year term loan upon operation) provided by multiple financiers, and equity provided by Bilfinger Berger Project Investments and Access Capital Clients (Finance Ministers Process 2014).

Successes

The PPP option with Southern Way was chosen because its bid was estimated to provide an overall lower cost to deliver the freeway compared with traditional public procurement. This was determined using a PSC analysis, which estimates the cost of the life of the project if the public sector delivered it. The Southern Way bid was estimated to cost a net of AU$849 million over the life of the contract, compared with the estimated AU$858 million it would have cost for the public sector to provide build and maintain the freeway (Finance Ministers Process 2014). Southern Way achieved a 1% saving against the PSC from a Net Present Value standpoint. While, the difference in cost represents a very small difference, if a lower cost is the only consideration to award the PPP then this could have been developed under traditional procurements as well.

The construction of the freeway decreases travel times between Mt Martha and Carrum Downs by as much as 40 minutes during peak travel times. The freeway has 11 on-and-off ramps, including three freeway-to-freeway connections. Partnerships Victoria ensured that the project tender appropriately distributed risks shared or split between the private sector provider (Southern Way) and the public (State of Victoria). The road opened in January 2013.

Challenges

Reliably estimating the economic benefits and the value for money of a PPP project can be difficult. In June 2011, the Victorian Auditor General's Office examined the outcomes of the state's transport plans, including the Peninsula Link PPP project. The audit found that the state authorities managing the PPP program provided unreliable economic benefit estimates due to weaknesses in traffic forecasting and economic benefits calculations (Finance Ministers Process 2014).

The traffic forecasting specifically failed to adequately account for potential increased traffic congestion from new journeys or travel generated by the new freeway. This underestimation of forecast traffic congestion led to an overestimation of economic benefits. Furthermore, the value-for-money calculations were unreliable because the cost estimates for the state delivery of the freeway (the PSC) failed to account for the low-risk nature of the project (resulting in a lower rate of return that otherwise would have been estimated) and failed to test for the sensitivity of the final PPP discount rate. When the business case for PPP is based on a value-for-money savings of only 1%, the final sensitivity calculations become of utmost importance and require additional judgment or qualitative review of the benefits of the project (Finance Ministers Process 2014).

Lessons Learned

State actors that are managing PPP projects need to ensure the quality of the transport modelling and calculations of the economic impact and benefits. This affects the reliability of the project business case and rationalization. Furthermore, future PPP projects should include plans to measure costs and benefits as part of the project development process instead of only relying on initial estimates during project planning.

GENERAL CONCLUSIONS AND LESSONS LEARNED

APEC member economies have implemented numerous successful PPP projects in the transport sectors, as well as in social infrastructure sectors. Each project brings its own unique challenges and lessons learned. Generally speaking, the first element of a successful project is a clearly defined objective. The potential for success is then determined largely by the key areas that are outlined in section 4 of this report. These areas include the legal-enabling environment, business-enabling environment, institutional capacity, project planning, project selection, project preparation, risk allocation, procurement, the PPP contract, and project monitoring.

Specifically, in the case studies examined above, there are various lessons for the public and private sectors from the challenges presented and the successful outcomes that were attained. Some of these lessons:

- Proper allocation of risk is a requirement for a successful PPP project. If there are perceived risks (such as political risks), the public sector should maintain and mitigate the risk as best as possible.
- Minority stakeholders in a PPP project should be protected, and clauses specifying this should be included in the contract.
- Projects should also consider the potential for other revenue-enhancing opportunities, such as the inclusion of commercial aspects.
- Strong legal and regulatory frameworks favor the participation of first-class private investors/operators.
- Project planning processes should include well-developed cost-benefit analysis and accurate traffic projections to ensure the financial viability of the project.
- The best value for money for the public sector is attained through an international and competitive bidding process.

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APPENDIX A: ECONOMY-LEVEL ANALYSES ON PPP DEVELOPMENT

AUSTRALIA

According to the *Economist Infrascope*[10], Australia was ranked as the most conducive economy for PPPs in the Asia-Pacific region, with a score of 91.8 percent. Australia, as a global PPP leader, offers private investors a transparent, open, and predictable environment for implementing PPP projects. The Australian government provides tax loss incentives to encourage private investment and, as stated in the *IEG Guidebook on PPP Frameworks in the APEC Region*, state-level legislation expedites land acquisition for private investors at a fair market price. Flexible financing is encouraged in Australia. Even so, long-term investors (such as pension funds) have been moving toward a new bid model for greenfield infrastructure projects where a long-term equity owner would be appointed to a project before competitive tenders for other partners are released (Australian Government 2014a). This method, though preferential for long-term investors, has the potential for decreased transparency because not every step of the process is subject to open and competitive bidding. In PPPs, it is always advisable to keep all phases of the project as transparent as possible through open and competitive tenders.

Australia has a comprehensive governance framework in place for PPP procurement, including the National PPP Policy and Guidelines (2008) and Commonwealth Procurement Rules (2014). The Australian Government recently implemented changes in the Foreign Investment Framework (effective December 2015) and published various fact sheets explaining the changes and how they address the major public concerns.

The majority of Australia's PPP infrastructure projects are procured and implemented at the state level; therefore many of Australia's states and territories (specifically Victoria and New South Wales) have their own PPP policies. These states also have their own PPP units, which provide very clear manuals and guidance materials (including standardized concept notes, and risk and procurement analysis matrices), procurement pipelines, and checklists for procuring PPP projects. Australia, apart from the PPP Units in Victoria, New South Wales, and Queensland, has a PPP Unit.

Australia's legal, business and institutional frameworks all help facilitate planning, selecting, procuring, and implementing large infrastructure projects. Local-level and domestic PPP units publish well-defined pipelines for government tenders. There are also initiatives in place, such as the new Asset Recycling Initiative (2014–2019), encouraging further development of PPPs. Through the Asset Recycling Initiative, the federal government will incentivize a state, through payments of up to 15 percent of the total concession price, to reinvest returns from mature infrastructure assets into greenfield assets that will enhance productivity (Australian Government 2015).

As for procurement, Australia has a very transparent and competitive tender process, including the Gateway Review Process which involves six "gates" (or checkpoints) assessed by an independent review team before a project is released to the market. These checkpoints involve various types of analysis, including: business needs, business case, procurement strategy, investment decision, readiness for service, and benefits realization

[10] The *Economist Intelligence Unit* report classifies the following as part of the Asia-Pacific: Australia, Armenia, Bangladesh, People's Republic of China, Georgia, India (and India's Gujarat State), Indonesia, Japan, Kazakhstan, Republic of Korea, Kyrgyz Republic, Mongolia, Pakistan (and Pakistan's Sindh Province), Papua New Guinea, Republic of the Philippines, Tajikistan, Thailand, Viet Nam, and the United Kingdom (used as a benchmark for comparative purposes).

reviews (Australian Government Department of Infrastructure and Regional Development 2015).

Overall, the failure rate for PPPs in Australia is very low. Accordingly, Australia has been one of the APEC leaders in assisting other APEC members in developing their PPP programs, specifically in developing their own bankable PPP pipelines (APEC 2014b).

BRUNEI DARUSSALAM

Brunei Darussalam is a high-income economy and consistently ranks as having one of the highest GDPs per capita as seen in the *International Monetary Fund's Economic Outlook* data. Brunei improves its business enabling environment further by providing various incentives to private investors, such as tax incentives (including potential 10-year tax exemption), granting pioneer status, a low tax rate of 18.5 percent (second lowest in the ASEAN region (Banco Santander Trade)) and customs duties exceptions (U.S. Department of State 2013). However, ownership of land is only granted to citizens of Brunei, with exceptions for locally incorporated companies. The procedures for land acquisition are lengthy and, at times, not very clear (ERIA 2015).

In order to further increase transparency in business, Brunei recently passed an amendment to the Company Act in January 2015 to simplify doing business, including facilitating online procedures to starting a business (World Bank Group Doing Business Data). Regarding other legal and regulatory frameworks facilitating PPP development, Brunei does not have a formal PPP law or policy in place; however, Brunei operates under English common law and released its own PPP guidelines in 2015 (ERIA 2015). Most literature surrounding the legal environment in Brunei also refers to the *National Vision* and the *Tenth National Development Plan*, both of which outline Brunei's rationales for promoting PPPs. PPP and infrastructure development is mentioned in many of the policy directions of the *National Vision*, including:

> *#6. Promoting research, development and innovation both in government-funded institutions and through public-private partnerships (PPP) and international partnerships;*
>
> *#14. Investing in world class infrastructure necessary to attract foreign and domestic investments in new export industries;*
>
> *#16: Encourage projects that have elements of value for money to be more resilient and accountable, including the privatization of government services that have been identified as being more effectively carried out by the private sector, and;*
>
> *#40: Adopting appropriate legal and regulatory frameworks to promote investments in social and industrial infrastructure, including privatization and PPP in line with international best practices.* (Brunei, JPKE, 2012).

Brunei has a clear division of responsibilities for the two institutions that help to facilitate and implement PPP projects. The Department of Economic Planning and Development (DEPD, JPKE) plays a leading role in overseeing PPP projects, and in the evaluation and selection of PPP projects (ERIA 2015). The Brunei Economic Development Board (BEDB), housed in the Prime Minister's Office, is responsible for optimizing economic opportunities by attracting foreign or domestic investors and delivering infrastructure. The *National Public Private Partnership Guidelines* clearly outline the process during the project planning, selection, and evaluation stages of the PPP cycle, including details on the roles of DEPD, BEDB, and other relevant stakeholders throughout the phases (Brunei, JPKE, 2015).

According to ERIA, Brunei's largest disadvantages regarding PPP development include the inherently limited scale for investment because of the small domestic market and the restricted space for new greenfield projects (ERIA 2015).

CANADA

Canada has a well-advanced PPP program. Deloitte, the consulting firm, estimates that between 2003 and 2012, PPPs contributed CAD$32.3 billion in income and CAD$48.2 billion in total GDP for Canada (Ciufo, et al. 2015).

Canada does not have a federal PPP law, but various municipalities have adopted their own PPP policies (including Ottawa, Calgary and Edmonton) and formed their own PPP units, such as Infrastructure Ontario, Partnerships BC, Alberta Infrastructure, Partnerships New Brunswick and SaskBuilds (IEG 2015). The central government PPP unit, PPP Canada Inc. (P3 Canada) is largely responsible for providing manuals, guidelines, and due diligence, rather than direct involvement in the procurement process (APEC 2015a).

Canada has prefeasibility funding readily available. For a PPP project to receive additional funding; a "P3 screen" is used to assess projects applying for funding through the New Building Canada Fund. An initial stage of screening determines whether a PPP provides better value for money than traditional procurement. A "P3 Suitability Screening Matrix" is provided and if the project scores high then the next stage of project preparation involves a procurement options analysis, examining the market, as well as procurement options, and incorporating qualitative and quantitative considerations. This P3 screening matrix creates a transparent and holistic project preparation phase (Ciufo et al. 2015).

In Canada, the sponsor for a PPP project is a municipal, provincial or federal government entity and the asset is usually owned by the project sponsor for the duration of the project agreement with no transfer of ownership (IEG 2015). In projects where a local government is not the project sponsor, various licenses and permits may have to be granted, such as permits for construction, land use, and traffic disruption (IEG 2015).

CHILE

Chile is a global PPP leader, evidenced by the *Economist Intelligence Unit* report[11] ranking of Chile as the leading economy for PPP in Latin America. According to the World Bank's *Private Participation in Infrastructure (PPI) Database*, 180 projects worth US$66.7 billion in investment have reached financial close since 1990, with 62 of these projects since 2010. During the period of 1990–2015, only 3 of these projects have been canceled or under distress and no projects have been canceled within the last five years. The infrastructure development plan expects US$9 billion to be invested in transport projects during 2014–2020 (Economist 2014b).

Chile has a stable investment climate, as well as strong legal, regulatory, and institutional environments. Chile's PPP Law, *Ley de Concessiones de Obras Públicas (2010)*, is a modification to the 1996 Concession Act. The modification to the law addressed a variety of topics, such as contract renegotiations and the process for unsolicited proposals. Additionally, Chile has sector-specific laws in place to help facilitate PPP or private sector participation (PSP) within the sector. For example, electricity generation is primarily in the hands of the private sector, facilitated by the specific legal framework for granting indefinite concessions. Similarly, regulations passed in the late 90s allowed the government to privatize water and sanitation services. Now, nearly 100 percent of water sanitation in urban areas has been privatized

[11] The *Economist Intelligence Unit* report classifies the following as part of Latin America and the Caribbean: Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Trinidad and Tobago, Uruguay and Venezuela. These economies were compared across a variety of categories pertinent to PPP frameworks.

(Economist 2014b). Further legislation in cross-cutting areas also facilitates PPP development in Chile, such as streamlining land acquisition and maintaining openness to foreign investment. Chile enjoys a broad investor base, a vibrant securities market, deep and liquid capital markets, and freely traded local currency bonds (Economist 2014). The government also supports further private sector participation through a number of government initiatives such as: covering against exchange rate risk, providing infrastructure bonds, reimbursing the costs of project preparation if presented as an unsolicited proposal, and offering government guaranteed minimum income mechanisms (IEG 2015).

The institution charged with implementing Chile's PPP program is the Concessions Unit housed in the Ministry of Public Works and is responsible for promoting, preparing, coordinating, and supervising PPP projects in the economy. The Concessions Unit provides a fair amount of easily accessible information on its website, including a clear project pipeline, checklists for what to include on proposals, and evaluation criteria to assess proposals (Government of Chile, Ministry of Public Works).

With respect to project planning, selection, and procurement, Chile has a very transparent and clearly defined process for each of these phases. During planning, the *National Public Investment System* supervises cost benefit analysis requirements for every project. Specific to the transportation sector, projects are selected based on their present value once the proposal satisfies technical and quality requirements. Once a project has been selected and work starts, a council of external board members is available to recommend any contract changes to the Ministry of Public Works (Economist 2014). As all phases of the PPP project cycle are grouped within the same ministry office (Ministry of Public Works), no system of checks and balances is in place (Economist 2014b). With the recent modification to the Concessions Act, certain measures have been taken to ensure transparency at all stages of procurement.

PEOPLE'S REPUBLIC OF CHINA

The People's Republic of China has been classified by the *Economist* as one of the leading emerging economies for PPP development in Asia. Based on data from the World Bank's *PPI,* the PRC has implemented 1,237 projects that have reached financial closure, totaling US$133.54 billion since 1990. Nearly 25 percent of these projects have been implemented since 2010. As evidenced by the large number of projects, one of the greatest attractions for investing in the PRC is that it is the biggest international market in the world, with 1.3 billion potential customers (Banco Santander Trade). China has an attractive investment climate and rapidly growing market, but investors perceive certain legal and political risks largely because of issues with transparency and excessive government involvement (Economist 2014a).

Chiefly, the PRC has quite a broad definition of PPP, including PPP arrangements made between the government and SOEs (considered to be the private partner). Although this type of arrangement may include PPP-like arrangements, it is not, however, a traditional PPP (International Institute for Sustainable Development 2015).

Although there is no PPP law in place, recent regulatory reforms aim to reinforce the PPP framework in the PRC, and pursue greater PPP framework uniformity in China's provinces. In 2004, the *Administrative Rules on Concession of Public Utilities* were published, which includes a concession agreement template. Other regional frameworks have also been enacted, such as the *Administrative Measures of Shanghai Municipality on the Concessions of Urban Infrastructure* (IEG 2015). The government has made great strides toward supporting private sector involvement in developing infrastructure and recognizes the existence of historical barriers limiting full private sector involvement, such as public sector interference. During a 2013 forum of the Central Committee of the Communist Party of China, an agenda was announced that would allow market forces to play a greater role in allocating resources. During this same conference, it was decided that 30 pilot projects would be implemented in accordance with new rules and guidance (Economist 2014a). The push for development of a PPP-enabling environment in 2014 can be seen in the following table from the International Institute for Sustainable Development's report *Public-Private Partnerships in China:*

Table A-1. Recent PPP-Related Legislation in the People's Republic of China

Date	Issuing Body and Title	Reference
May 18, 2014	*National Development and Reform Commission* (NDRC), *Notice to encourage private capital to invest in first infrastructure projects*	NDRC 2014c
September 21, 2014	State Council, *Opinions of the State Council on strengthening the management* of *local government debt*	State Council 2014c
September 23, 2014	MOF, *Notice on questions relating to expanding the use of PPPs*	MOF 2014c
November 16, 2014	State Council, *Guiding opinions on the innovative investment mechanism and encouraging social investment in key sectors*	State Council 2014a
November 29, 2014	MOF, *Guide on operation of public-private partnership projects (interim)*	MOF 2014a
December 2, 2014	NDRC, *Guidelines on development of public-private partnership projects*	NDRC 2014a

Source: Public- Private Partnerships in China, International Institute for Sustainable Development, April 2015.

The unit dedicated to promoting and expediting PPPs is the PPP Centre established by and located in the Ministry of Finance (IEG 2015). Working in close coordination with the PPP Centre are the *National Development and Reform Commission* (NDRC) and other provincial PPP Units (Hunan, Fujan, etc.) and financing facilities (Henan, Jiangsu, etc.). The PPP Centre is primarily responsible for policy research, advice, training, and coordination among agencies. The NDRC is the department charged with planning and implementing PPP projects. Further clarity with regards to the division of expected roles could address issues of duplication of responsibilities. (International Institute for Sustainable Development 2015).

PRC has greatly progressed in areas of institutional capacity, political support and regulatory reform, however the main impediment for future PPP development lies in potential political risks. For example, rules for open and competitive tendering have not always been followed, including for some of the 30 pilot projects released in 2014 (International Institute for Sustainable Development 2015).

HONG KONG, CHINA

Hong Kong, China's attractiveness for investment is evidenced in the World Bank's *Doing Business* 2016 report ranking the economy as having the world's fifth- best business climate. Although HKC has no PPP law or policy in place, the economy has credible and stable foreign investment laws, simplified tax compliance processes, and a reduced tax rate on profits to incentivize further investment (Banco Santander).

Hong Kong, China's primary department facilitating PPP development is the Efficiency Unit, housed under the Chief Secretary. The Efficiency Unit is responsible for more than just PPPs, including a wide range of private sector involvement, organizational restructuring, social innovation, and other "citizen-centric" services, performance measurement, and other areas of general management advisory support (Efficiency Unit). Specifically concerning PPP, the unit creates and publishes manuals and other guidelines for PPP development. The Legislative Council (LegCo) is the authority responsible for considering project proposals and approving funding for such proposals (Efficiency Unit 2008). The agencies working on the specific PPP project, whether the Ministry of Transport or the Ministry of Energy, are directly involved in the PPP project cycle (IEG 2015).

The 2008 PPP guidelines created by the Efficiency Unit are detailed, complete with an outline of the different steps and requirements during each stage of PPP project planning and selection as well as the relevant agencies that should be involved at each point. The guidelines also include checklists to consider before releasing a project to market and clearly defined roles of the project steering committee and the contract manager during the monitoring stage of a project. Furthermore, specific considerations regarding risk allocations are outlined, including a process for mitigating any potential corruption risk. HKC leverages the Corruption Prevention Department of the Independent Commission Against Corruption (ICAC) to help mitigate any risks of that nature. As stipulated in the guidelines, projects in HKC are likely to adopt a design-build-operate or design-build-finance-operate (DBO or DBFO) model and will consider PPP financing if a project's capital cost exceeds HK$300 million (Efficiency Unit 2008).

Hong Kong, China’s favorable business climate and clearly defined guidelines are both attractive considerations for private investors. However, the potential PPP project pipeline was not easily accessible.

INDONESIA

Indonesia has recently made great strides toward improving the institutional and regulatory frameworks needed to implement a successful PPP program. Indonesia needs improved and new infrastructure, but the public sector cannot finance the ever-growing infrastructure gap that the economy is facing. For this reason, Indonesia has shifted its attention to PPP (ERIA 2015).

Although Indonesia does not have an official PPP Policy or Law, a very large number of regulations have been passed to help facilitate private sector investment, including Presidential Decree No. 67/2005 and the PPP Operational Guidelines (IEG 2015). Since Presidential Decree No. 67 was passed, 39 projects have reached financial close, representing a total investment of USD $37.9 million (World Bank 2015, PPI Database). It is difficult to maneuver the many laws affecting PPP development, which could dissuade some private investors (ERIA 2015).

Indonesia’s market is very large (250 million potential customers), with a growing middle class, and abundant natural resources (Banco Santander Trade). Historically, a common PPP bottleneck was imposed by land acquisition issues, but recently modified land acquisition laws are helping to streamline procedures (including Land Funds for toll road projects). However, Indonesia is still facing various barriers in creating an enabling investment climate. due to rising costs of credit, terrorism risks, among others (ERIA 2015).

One of APEC’s initiatives involved the creation of a Central PPP Unit in Indonesia’ Ministry of Finance. This unit is responsible for project preparation and creating an enabling environment to move the PPP agenda forward. The new PPP Unit will attempt to create more transparency in the selection of projects. (Economist 2014a). In addition, other involved agencies include the Committee for Acceleration of Prioritized Infrastructure Development (KPPIP), the *National Development Planning Agency* (BAPPENAS), and BAPPENAS’ PPP unit the Directorate for PPP Development (PKPS) (ERIA 2015). BAPPENAS and PKPS are responsible for creating PPP policies and for publishing and disseminating guidance material, which includes a PPP book published each year containing a list of all potential projects and highlighting eligibility criteria (BAPPENAS 2015). This initiative was implemented as an attempt to further reduce corruption risks in selecting projects.

Indonesia provides very strong government support in the forms of project development funds (PDF), viability gap funds (VGF), infrastructure guarantee funds, and other government guarantees, further exemplifying the government's commitment to attracting private sector financing to enhance the economy's infrastructure (Economist 2014a).

JAPAN

Japan is equipped with enabling institutional and legal frameworks, but still encounters some difficulties with transparency, risk allocation, and dispute resolution (Economist 2014a).

Regarding its PPP regulatory framework, Japan passed the *Act on Promotion of Private Finance Initiatives in 1999,* which was then amended in 2011 to allow concessions that include an operational phase (IEG 2015). Japan has clear guidelines in place, which were revised further in 2013 to allow for private management. Additional legislation that facilitates PPP projects includes the *Compulsory Purchase of Land Act* which facilitates land acquisition and the *Act on Promoting Quality Assurance in Public Works* (APEC 2015a). There is strong central government support for PPP, which is supplemented by a healthy business enabling environment. Japan has a very large financial center with project finance readily available, a well-developed capital market, a variety of domestic and foreign lenders, good sovereign credit ratings and strong liquidity (Economist 2014, Banco Santander). The public sector also provides additional financial support and incentives for private sector investment and to improve the competitiveness of Japanese industries. The PFI Promotion Corporation of Japan (PFIPCJ) offers interest-free loans through the Infrastructure Fund, and the Japan Bank for International Cooperation (JBIC) provides financial support (IEG 2015).

Japan has had sufficient PPP institutional capacity to prepare and implement PPP projects for many years. Agencies involved in the PPP process include the PFI Promotion Office, housed in the Cabinet Office (PFIPCJ), and the provincial and municipal governments that commission subnational PPPs (IEG 2015). PFIPCJ was created via a 2011 amendment to the 1999 act mentioned in the previous paragraph and is charged with the responsibilities of promoting PPPs, drafting policies and coordinating with relevant organizations. The roles are clearly defined in the PFI Act.

The PFIPCJ has many guidelines and materials that are easily accessible on its website and in the guidelines, although the material is largely in Japanese. A PPP project pipeline is readily available, and includes a "target list" and action plan specifying the number of projects expected for each sector by the end of 2016 (in the priority areas of airports, water, sewage and roads) (PFIPCJ).

Additional guidelines provided by PFIPCJ cover topics such as risk sharing, proposal evaluation and contract monitoring (although only in Japanese). In addition, a standardized PPP contract is available and easily locatable on the PFIPCJ website. Another Japanese agency, the Japan International Cooperation Agency (JICA), has supported the APEC region in promoting PPP projects through grant aid, loans, and technical cooperation (IEG 2015). JICA has also published various reference materials, including the *Guidebook on Quality Infrastructure Development and Investment.*

Some of the recent guidelines, such as the guidelines on risk sharing, have been published due to risks that investors have perceived within Japan's climate. Historically, it has been noted that risk allocation tended to be biased in favor of the public sector and that transparency in procurement could be limited (Economist 2014a). With new changes in legislative frameworks, Japan is working to resolve these issues.

REPUBLIC OF KOREA

The Republic of Korea is another global leader in PPP, ranking just behind Australia in the *Economist*'s Infrascope report on the Asia-Pacific region.

Korea has a well-developed and reliable investment and legal environment, including the 1998 PPP law and the subsequent amendments to the law that has added clauses to address unsolicited proposals, Build-Transfer-Lease (BTL) models, and the creation of dispute resolution committees. Further legislation facilitating PPP development includes the *Enforcement Decrees of the Act on Private Participation in Infrastructure, the PPP Basic Plan* and *PPP Implementation Guidelines* (IEG 2015). Aside from creating a favorable regulatory framework, project finance is readily available through the public sector's strong political support for PPP. ROK has more than 20 private infrastructure funds, including the Korea Infrastructure Credit Guarantee Fund (IEG 2015), provides tax incentives, allows early termination payments, offers assistance to secure land, compensates the private sector on proposal preparation, has an investment risk-sharing system in place, provides interest risk-sharing on various BTL projects, and grants the right to request buyout for force majeure and specific events. (Economist 2014a, IEG 2015).

Korea's government officials have a high level of technical capacity in regards to PPP, evidenced by the high quality of planning and understanding in Korea's PPP unit: the Public and Private Infrastructure Investment Management Center (PIMAC). PIMAC has developed PPP Guidelines for all stages of the process and the unit is also required to provide regular training to other government officials involved in the PPP process, thus encouraging deeper internal capacity (Economist 2014a).

Korea has a very transparent and clear project planning and procurement process. Approval to continue with a project lies with the *National PPP Review Committee*, part of the Ministry of Strategy and Finance (MOSF). It then commissions PIMAC to perform the prefeasibility studies for projects, specifically for those no less than KRW 50 billion. If the project still exhibits good value for money after the prefeasibility analysis, then the related authority does the project's feasibility study, with PIMAC reviewing the results. PIMAC offers standard concession agreement templates on their website, with clear components for risk allocation and dispute resolution. In Korea, dispute resolution is managed by a PPP Dispute Resolution Committee (IEG 2015). However, based on the 2011 amendment addressing dispute resolution, judgments made by the Dispute Resolution Committee are nonbinding. Due to this limitation, the private sector may prefer to follow the arbitration route (Economist 2014a). ROK encourages the submission of unsolicited proposals from the private sector and, by international standards, receives a very high proportion of these proposals. In Japan, the process for unsolicited proposals is just as clearly defined, detailed, and tightly regulated as the process for solicited proposals detailed above (Economist 2014a).

Based on the regulatory and institutional framework, the investment climate, operational maturity, and transparent systems in place, Korea is a very attractive economy for a private investor. The principal disadvantage from the private sector's point of view may be a level of bureaucracy in place that can sometimes appear to be too rigid (Economist 2014a).

MALAYSIA

Since the *PPP Guidelines were* established in 2009, eight projects with a total investment of US$9.1 billion have reached financial close in Malaysia according to the *World Bank's PPI Database*. Apart from the Privatization Policy, several other laws affect the status of PPPs in Malaysia, such as the *Stamp Duty Order (2010)* which helps reduce transaction costs for PPP projects and the *Privatization Masterplan*. Malaysia currently does not have a PPP law in place though the economy offers general PPP guidelines (ERIA 2015).

Further policies aim to provide a friendlier environment for business, including the liberal and transparent investment policy in place (Banco Santander Trade), the *Income Tax Act,* which permits the benefits of an industrial building allowance for projects using the build-lease-maintain-transfer (BLMT) model, the availability of a dual banking system (Islamic and conventional), the fiscal reform program (started in 2013), the unrestricted process for foreigners to own land, and various other incentives for foreign companies (ERIA 2015). Although the government has created many incentives for private investors, the government does not provide guarantees for long-term funding. Companies must rely on their financial strength and the nature of the concession. Furthermore, no third-party equity shareholders are permitted to participate in a project of this nature (Abdullah et al. 2014). Funding that is available comes from the Facilitation Fund (approximately US$6.2 billion), managed by Malaysia's PPP Unit: UKAS (ERIA 2015).

UKAS is housed in the Prime Minister's Department and is primarily responsible for screening, evaluating, and recommending proposals, as well as obtaining the necessary government approvals. Typically, proposals are not submitted to the UKAS, but rather submitted directly to the relevant ministry (ERIA 2015). The decision to undertake a project lies within the Cabinet (IEG 2015). The relevant line ministry is then responsible for implementing the project and managing the contract. However, it is not uncommon that project tendering is done through direct negotiation (ERIA 2015). In addition, the PPP unit is staffed with in-house legal and technical teams to assist in evaluating proposals and structuring the contract. An integrity unit also exists to help ensure transparency and good governance. The PPP Committee, chaired by the general director of UKAS and with members from relevant and participating ministries, supervises evaluation of PPP projects (ERIA 2015). In Malaysia's 10th Development Plan, an anticipated next step was included to establish a strong and independent project monitoring unit.

MEXICO

Mexico, with its current 29 federal PPPs and 20 subnational projects, is a regional leader in PPP activity, evidenced by the *Economist Intelligence Unit* ranking Mexico as the 4th leading economy for PPPs in Latin America.

At the federal level, Mexico's macroeconomic stability, low inflation, foreign reserve position, flexible exchange-rate regime, and manageable public debt/GDP ratios help to contain economic risks for investors. The states of Federal District, Guanajuato, Mexico, Nuevo León, Querétaro, Sonora, and Veracruz have a mature capacity to implement PPPs. Yucatán also embraces subnational PPPs, particularly in the agro-industry, health, and tourism sectors, and enjoys greater public security than other states. However, many states lack dedicated PPP units, impairing their capacity to identify, structure, and procure projects as well as to supervise their construction and operation phases. State officials' experience with PPPs is limited, even though there is considerable expertise in dealing with traditional public procurement projects with the private sector. Significant staff turnover within the short-term political cycle in Mexico has been a limiting factor, as the time required to plan and implement PPPs exceeds the three-year electoral cycle faced by many state- and local-level politicians (Economist 2014b).

When the government passed the Law of Public-Private Partnerships (*Ley de Asociaciones Público Privadas*) in January 2012, it provided a broader enabling framework for PPPs at all levels of government. Notably, it improved the federal legislation introduced a decade earlier, as well as the many state-level bills enacted since 2006. The new law also paved the way for PPPs in new sectors such as security, leading to innovative prison projects—of particular significance given Mexico's crime wave (Economist 2014b). The law allowed for unsolicited proposals from the private sector, something that has helped to increase activity.

That said, companies are often unaware of the financial capacities of subnational entities, which creates inefficiencies in planning. Furthermore, new legislation establishes equal rights for local or foreign firms, requires bidding processes with ample public notification, and requires that all projects be awarded through competitive bidding. These changes also promote enhanced project selection processes using either a cost-benefit or value-for-money analysis.

The International Development Bank's Multilateral Investment Fund (MIF) provides the Mexican public authorities with technical and legal support. PIAPPEM (*Programa para el Impulso de Asociaciones Público-Privadas en Estados Mexicanos*) collaborates closely with 13 of Mexico's 32 states, but representatives of all states have been involved. The Mexican subnational experience shows that there are challenges, such as administrative capacity, the legal and regulatory framework, contract design, financing facilities, and political will (Economist 2014b).

The Mexican privatization program has been one of the largest in the world for the number of government-owned companies privatized and their relative size. Between 1982 and 2003, the number of government-owned companies fell from 1,200 to around 200. However, the main PPP effort on infrastructure projects started in the early 1990s. From 1990 to 2000, the government granted PPP contacts in the form of long-term concessions to design, finance, build, operate, maintain, and transfer public service infrastructure (DFBOMT), mostly in transportation. The participation of the private sector in development and operation of public infrastructure has been seen in both greenfield and brownfield projects for many sectors, such as toll roads, marine ports, rail service, airports, and telecommunications. From 2000 to 2015, both the federal government and the state governments granted major and mid-size PPP contacts in new subsectors like hospitals, prisons, reactional centers, schools, government offices, waste and water treatment services, and non-toll roads.

In Mexico, many PPP experts see considerable opportunities, given the demand for greater social and physical infrastructure. However, there needs to be greater political drive to adopt PPPs at the subnational level. Greater and more active participation from the federal economy government, particularly in providing financing guarantees, could help facilitate this needed political drive as states are concerned about the longer-term liabilities implied by the PPPs. Also, the normative legislation could benefit from greater clarity on the specifics of the project contract. More broadly, a strengthening of the institutional, technical, legal, and organizational framework would facilitate the environment for PPPs.

NEW ZEALAND

New Zealand's objective in pursuing PPPs is clearly stated by the New Zealand Treasury:

> *"to improve the delivery of service outcomes from major public infrastructure assets by: integrating asset and service design; incentivizing whole of life design and asset management; allocating risks to the parties who are best able to manage them; and only paying for services that meet pre-agreed performance standards"* (New Zealand Treasury website, consulted March 1,2016).

Although the economy has no specific PPP law in place, it does provide very clear guidance for procurement. In addition, clear laws are in place on foreign investment and public finance. Furthermore, the Resource Management Act allows for the fair purchase of land or the possibility of expropriation. The PPP team, housed in the Treasury, functions as a PPP unit. Its responsibilities are well defined and include the preparation of detailed PPP manuals and guidelines. However, the unit does not offer capacity building through training to other participants in PPP development (IEG 2015).

There is a two-step process in the PPP project development cycle, including detailed business cases incorporating both cost benefit and value-for-money analysis (CBA and VfM). In addition, risk allocation and key performance indicators (KPIs) are clearly indicated in the detailed business case per guidelines from the PPP team. The PPP project screening process is well detailed and comprehensive, as it considers public sector comparators and affordability (New Zealand Treasury website, consulted March 1, 2016).

The procurement process is also very clear and transparent and incorporates market sounding at various points. There is a PPP standard contract developed by the PPP team and modifications are not allowed without team approval, so PPP goals and objectives are preserved.

New Zealand's PPP program uses two basic models that allocate risks differently to the public and private sectors: design, build, finance, maintain and operate (DBFMO) and design, build, finance and maintain (DBFM). DBFMO is the preferred model for the transport sector (New Zealand Treasury).

Financing is mostly provided through short-term bank debt (5–7 years) and equity. This indicates that longer-term debt and other financial instruments, as well as economy government support, are needed to lower financial risks and costs (New Zealand Treasury).

PAPUA NEW GUINEA

The *Economist Intelligence Unit's* report recognizes the progress that the PPP program has made, particularly regarding its local capital markets; however, it indicates that PNG has yet to implement its first PPP transaction.

PNG has a PPP policy, established in 2008, firmly grounded in three main principles: (1) value for money on a whole-of-life cost basis; (2) open competition for selection of private partners and for the pricing of goods and services; and (3) transparency in procurement and service delivery (Papua New Guineau 2008). The PPP policy was recently supplemented by the PPP Law in 2014. This law established a PPP Centre that will be sponsored by the ADB (it has not yet been established but is expected to be in the near future). The 2014 PPP Law is complemented by laws that regulate foreign ownership (Investment Promotion Act 1992 and Companies Act 1997) and Public Financial Management (Public Finances (Management) Act 1995 and the Fiscal Responsibility Act 2006) (IEG 2015).

For projects to be considered as PPP, they must comply with the government's medium- and longer-term strategies—the Medium Term Development Strategy (MTDS), Medium Term Debt Strategy (MTdS), and the Medium Term Fiscal Strategy (MTFS). Project planning originates with the line agency that prepares the project concept note. The PPP Centre and the *Department of National Planning & Monitoring* review this concept note for consistency with government priorities. Then, the project committee prepares a comprehensive business case and final approval is given by the *National Executive Council*. The PPP Centre will also have a central role in development and procurement. The criteria for evaluation of submitted bids will broadly cover:

- "Whole-of-life" costs, including value for money and risk allocation
- Conformance to output specification
- Departure from revised draft Project Agreements, if permitted by the Request for Proposal documents (RFP). (Papua New Guinea 2008).

The PPP Centre will consider unsolicited proposals from the private sector for infrastructure projects that are not in project lists of any line agencies or state-owned-enterprises. The process for considering those unsolicited proposals is still to be defined. It is expected that investors proposing the project will develop a business case at their cost and then an open competitive bidding process will follow should the project be deemed a priority (Papua New Guinea 2008).

The process highlighted above still needs to be implemented to prove its effective application. It is not clear if it has been successfully implemented in the absence of the PPP Centre. In order for Papua New Guinea to further improve their PPP program, they should consider creating standardized contracts and clauses that would incorporate risk allocation, KPIs, construction schedules, and dispute resolution mechanisms. Furthermore, there is no clear indication if a transport regulator exists, which would ensure the independence of the monitoring function (Papua New Guinea 2008).

PERU

According to the World Bank's PPPI Database, Peru has reached financial closure on 79 projects in the last ten years, mainly within the electricity sector, for a total investment of US$32.7 billion.

Peru's main objectives for pursuing PPPs are achieving value for money, ensuring transparency in the process, promoting competition, achieving an optimal risk assignment, and maintaining the sustainability of public finances.

Peru has a comprehensive PPP law, well-developed laws on tax and incentives, and supplemental Supreme Court decrees. In addition, Peru has a dedicated PPP unit, called Proinversion[12], which is responsible for the creation of policy, regulation, and PPP manuals for PPP projects. Proinversion also provides training to all relevant agencies, including Congress. As for project preparation, the proposing agency, with support from Proinversion, is responsible for preparing an assessment report that includes VfM, CBA, and social and environmental impacts. Proinversion reviews and accepts the report and is responsible for integrating the projects into the PPP pipeline (IEG 2015). Proinversion has also created very clear and concise guides that map the project development process in an easy-to-follow manner. Peru has a separate financing determination process in place through the *National System of Public Investment* (SNIP) (Proinversion).

During procurement, Proinversion drafts the EOI, RFP, and other documents, as well as leads the procurement and evaluation of bids. The PPP law allows for a wide range of contract types, including concessions, operation, management, and joint ventures in PPP projects. Furthermore, there is a separate unsolicited proposal process that needs to meet the requirements of the SNIP if public funding is required.

Peru also has a well-developed system for dispute resolution and arbitration. The system has already been tested by successfully allowing for international arbitration procedures on the concession of a new container terminal at the Port of Callao (América Economía 2011).

THE REPUBLIC OF THE PHILIPPINES

The Republic of the Philippines has been noted by the *Economist* as one of the "mature" PPP leaders in the region. As indicated in the World Bank's PPI Database, the Philippines has successfully reached financial closure on 59 projects representing US$ 31.1 billion in the last ten years. The Republic of the Philippines has also received strong political backing to push

[12] Agencia de Promoción de la Inversión Privada

the PPP agenda forward; the Aquino administration identified PPPs as a "cornerstone strategy" to accelerate the infrastructure development' and for inclusive growth (PPP Talk Newsletter January – June 2015, Republic of the Philippines PPP Center page 3 quoting the Economist).

The Republic Act (RA) No 7718—also known as the BOT (build-operate-transfer) Law—and its Revised Implementing Rules and Regulations (IRR) govern PPPs in the Philippines. The Foreign Investment Law limits direct foreign investment in public utilities to no more than 40 percent of the securities of a corporation. There is no restriction for non-utility projects. While this restriction may be benefit the economy's local companies, it may affect innovation, competition, and the ability to achieve the maximum efficiencies as well as lowest finance costs (IEG 2015).

Recent reforms in the Republic of the Philippines include:

- In 2013, the rules and procedures for the review and approval of government contracts were revised. *The National Economic and Development Authority* (NEDA) Investment Coordination Committee (ICC) now acts as the approving authority for joint venture proposals involving government contributions over PHP 150 million.
- Provisions on the use of alternative dispute-resolution mechanisms were included in all agreements involving PPP.
- The BOT Law—Implementing Rules and Regulations (2012) were amended to allow for promoting an accelerated processing of PPP projects, with clearer transparency measures in bidding and awarding projects. The law also improves governance and accountability mechanisms, as well as the process for unsolicited proposals.
- Creation of a PPP governing board as the overall policy-making body.
- It was expected that in 2015, Congress would expand the Republic Act (RA) No 7718 into a PPP Act with additional reforms to improve the PPP regulatory and institutional framework (ERIA 2015).

There is a PPP center in the NEDA. This unit is tasked with writing policies, delivering capacity building training, preparing manuals, developing the PPP project pipeline, and providing transaction support. Several guides and manuals have been prepared by the PPP unit on a wide variety of topics, such as: project preparation, PPP pipeline screening, unsolicited proposals, dispute resolution, and viability gap funding (IEG 2015).

The Republic of the Philippines has a detailed project planning process in place. Projects that are considered viable after a prefeasibility analysis are included in the Public Investment Program (PIP) and the Comprehensive and Integrated Infrastructure Program (CIIP). Projects from these two programs are considered for potential PPP projects, and then screened using further multicriteria analysis (IEG 2015).

There is a project development and monitoring facility (PDMF) in place which funds technical studies as well as advisory services to ensure the development of credible and bankable project pipeline. Funds are recouped from fees on successfully closed projects. The PDMF funds audits to ensure transparency in the process. Furthermore, the procurement process includes continuous market sounding and consultations (IEG 2015).

The *Economist* says that the Philippines is one of the economies that made the most progress in their regulatory and institutional frameworks in part driven by "political will" as well as improvements in the investment environment through reforms of the capital markets. The well-designed and strong regulatory and institutional frameworks enable "the public sector to deal with the complexities of PPP transactions" (Economist 2014).

RUSSIA

The Federal Law No 224-FZ on Public-Private Partnership, Municipal-Public Partnership in the Russian Federation and Amendment of Certain Legislative Acts of the Russian Federation, signed on July 2015, is the new Russian PPP law. The law allows for additional PPP structures that consider the temporary retention of ownership by the private sector before its transfer to the public sector (e.g., build-own-operate-transfer, or BOOT), and also considers cases in which it is not transferred (e.g., build-own-operate, or BOO). The definition of PPP under the new law covers models where there is private ownership of infrastructure facilities exclusively, but concessions cover other models of PPP (Kilinkarov 2015). Additional laws and regulations guide procurement, public financial management, and transport infrastructure that need to be updated to comply with the 2015 PPP Law (Russia's Federal Legislation on Public-Private Partnership).

The Ministry of Economic Development is in charge of policy-making at the federal level, but there is no dedicated central PPP organization. Although there are multiple PPP centers, they are not necessarily associated with the central government, and they are primarily focused on PPP promotion and capacity building rather than project implementation. Currently, The Ministry of Finance is responsible for the financing aspects of PPP arrangements (Economist 2012).

Any projects considered under PPP must be consistent with the long-term sector development programs. These plans are developed by line executive agencies in association with the Ministry of Economic Development (IEG 2015). The 2012 Economist Infrascope report indicates that Russia has had limited technical capacity in planning and project design. Furthermore, issues of risk allocation have deterred private participation. The potential unwillingness of public owners to delegate rights to the private sector can also dissuade private investors from participating (Yarmalchuk 2012).

The government provides support through budgetary guarantees, direct capital investments, and bonds (IEG 2015). An investment program provides for the Bank for Development, Vnesheconombank, which extends targeted credits to companies investing in infrastructure projects by raising funds from the International Bank for Reconstruction and Development. The Vnesheconombank is required to provide financing in an amount comparable to borrowed funds. A credit can be extended for 15 to 30 years. The Bank for Development had, in 2012, a third of its credit portfolio associated with PPPs. The 2015 PPP Law, by allowing ownership for private sector, allows sponsors to borrow against the assets through the issuance of bonds (Kilinkarov 2015).

In the last ten years, Russia has reached financial close on a total of 57 projects worth US$ 127,935 million (World Bank PPI Database). Russia is making critical steps in developing a stronger legal and regulatory environment, and should continue strengthening its PPP capacity through defined and clear institutional roles for the project planning, procurement and selection process.

SINGAPORE

The objective pursued by the Singapore's PPP program is to improve efficiency. Primarily, to engage with the private sector on delivery of noncore public services, which can be implemented by the private sector in a more effective and efficient manner.

Singapore has a strong business environment conducive to the influx of private sector financing of infrastructure, supported by a large variety of infrastructure financing options, such as: project financing for greenfield projects, bond financing, business trusts for capital recycling and infrastructure equity funds. According to an address by Ms Indranee Rajah, Senior Minister of State for Law and Finance, at the Singapore Urban Roundtable, "financial institutions in Singapore lead-manage almost 60 percent of cross-border project financing in ASEAN (Ijjasz 2016)."

Singapore has a transparent and strong legal framework in place, however there are no existing PPP laws or regulations, nor does a central PPP agency exist. The Ministry of Finance is the agency involved in PPP project development and it has been charged with creating PPP Policy and Guidelines (as detailed in the 2012 PPP Handbook). In addition, the Handbook also describes the Ministry's responsibilities as: raising awareness amongst public agencies, building capacity within the public sector, working closely with line agencies on specific projects and assisting agencies in the design and management of contracts. To assist with project management, the Centre for Public Project Management (CP2M) was set up in 2010 (Singapore 2012).

The PPP Handbook indicates that the PPP procurement model is only considered for public infrastructure projects with a value exceeding SGD 50 million (approximately US$35 million). There is no model concession agreement.

During the contract management stage, involved government agencies are provided with guidelines and training on managing contracts from the Ministry of Finance (Singapore, Ministry of Finance).

Infrastructure projects, including transport-related ones, are permitted for PPP procurement, yet no infrastructure projects have been awarded as PPPs. The 10 PPP projects awarded in the past 10 years have been for education, leisure, water, and waste incineration (Singapore 2012).

CHINESE TAIPEI

Chinese Taipei recently approved the "Economic Power-Up Plan." This plan emphasizes the private sector investment in public works. This is seen as a move to free public sector resources for investment in other areas. According to the *Private Participation in Infrastructure Projects Investors Manual*, as of 2013, there have been over 1,000 contracted projects, amounting to NT$900 billion in investment. These projects include transportation infrastructure, tour sites facilities, sport facilities, sanitation and medical facilities, and cultural and educational facilities (Ministry of Finance 2014).

Chinese Taipei has a well-established PPP regulatory framework including an Act for Promotion of PPP in Infrastructure Projects (PPIP Act) and a Government Procurement Act. There is no central PPP unit; the Ministry of Finance has the mandate of creating policies, providing capacity building, and coordinating PPP projects. Foreign investment is regulated by the *PPIP Act*, the *Statute for Investment by Foreign Nationals*, and the *Measures Governing Investment Permit to the People of Mainland Area*. There is no limit to foreign investment, but companies need to register with and receive approval from the local authority (IEG 2015).

Regulations are in place for PPP procurement and for the promotion of PPPs, including the evaluation of bids and private-sector operation of transport facilities. There are several procurement options under PPP, including BOT, BTO, ROT, OT, and BOO. However, there is no standard PPP contract. The main source of project income for PPP projects is expected to be user charges. The PPIP guidelines include checklists, tender documents, and additional guidelines for clauses to include in contracts. The Ministry of Finance has established a Complaint Review Board, and should dispute resolution be necessary, mediation will be the primary tool, followed by arbitration or litigation (IEG 2015).

Chinese Taipei allows PPP to have ancillary enterprises to raise the financial benefits of projects to make them more viable and encourage private investment. Support includes subsidizing part of the interest accrued from the loan needed by the private institution, investing in part of the construction, providing mid- or long-term loans, and providing tax exemptions. The maximum public investment is set at 20 percent of total project value with the exception of the North-South High Speed Rail project, its first segment is operating since 2005, where public investment can reach 50 percent of the total value (Chinese Taipei 2015).

There is a need for comprehensive guidelines that outline the entire process for potential international private sector participants. Language may have played a factor in the literature review as it was conducted in English and many of the sources for Chinese Taipei were in Chinese.

THAILAND

Thailand has much experience with project financing to develop infrastructure assets. Since 2010, 43 projects with a total investment of US$15.6 billion have reached financial close (World Bank PPI Database). Thailand has a favorable project financing environment in place, with a large population, well-developed infrastructure, supportive foreign investment policies, solid growth, and stable export industries (ERIA 2015). The resilience of the financial market was tested with political upheaval in 2014, but the economy proved to be buoyant and growth has continued (Banco Santander Trade).

Before 2013, the Public Participation in State Undertaking Act B.E 2535 was the ruling PPP law, but the main purpose of this act was to reduce government corruption rather than create an enabling environment. The new act, Private Investment in State Undertakings Act (PISU), passed in 2013, updated the original law to address some of the lingering issues and gaps (ERIA 2015). PISU requires a wide range of action and introduces a variety of institutional improvements, such as the requirement for a PPP master plan to be published and the establishment of both the State Enterprise Policy Office (SEPO) (housed in the Ministry of Finance) and the PPP Policy Committee, of which the Minister of Finance acts as vice chairperson (IEG 2015). SEPO is largely responsible for drafting a strategic plan, which should include the priority sectors, the project pipeline, and the expected investment budgets. This new act has also empowered the PPP Policy Committee to consider project proposals under the threshold (THB 1 billion) indicated in the act. Project approvals will first come from SEPO, with final project approval required by the PPP Policy Committee (ERIA 2015).

As noted by the *Economist*, there is no official guidance on project evaluation and accounting mechanisms in place in Thailand. The two PPP agencies (the SEPO and PPP Policy Committee) are working on ensuring that more material and guidance on the PPP process be made available, including the anticipated creation of standardized PPP contracts and clauses. Other activities currently in motion include creation of a Private Investment Promotion Fund to support state agencies in project preparation (Economist 2014a).

The process for preparing, screening and approving projects has also been reevaluated under the new PISU Act. The timeline for screening projects, originally set to two years, has now been shortened to 7–12 months. During this period, feasibility studies are conducted by an external consultant from SEPO's list of qualified experts and then submitted to the relevant ministry, SEPO and the PPP Policy Committee for approval (ERIA 2015).

The PISU Act allows for both competitive bidding and direct negotiation. The act, however, does not say when direct negotiation may be permitted. With the limited guidance and oversight, transparent bidding cannot be guaranteed in direct negotiation (Economist 2014).

Furthermore, the act prohibits unsolicited proposals and does not permit arbitration clauses to be included in agreements between government and nongovernment entities (ERIA 2015).

THE UNITED STATES

Between the late 1980s and 2010, over 80 PPP projects have been completed in the United States, with total investments exceeding US$46 billion (Rall et al. 2010). Unlike most other economies, the United States possesses a robust municipal bond market of approximately $3.7 trillion, of which a significant portion is dedicated to infrastructure financing. A congressional panel on PPPs found that this is one major reason why the U.S. PPP market has not grown as quickly as in other economies, which do not offer tax-exempt municipal bonds, and why the potential for PPPs in the United States is limited. Despite the availability of municipal bonds, billions of dollars in infrastructure needs require funding. The congressional panel concluded that, in certain circumstances, a well-executed PPP can enhance the delivery and management of transportation and infrastructure projects. The review the business case and revenue projections by investors and bondholders provides additional oversight and financial incentive to deliver a PPP project on time and within budget (US House of Representatives 2014).

The general objectives for pursuing PPPs in the United States include: transfer of risk, monetization of assets, improved quality of service, accelerated and efficient delivery of much-needed projects.

There is no PPP unit at the federal level, though the Build America Bureau at the U.S. Department of Transportation (USDOT), created in July 2016, serves as the single point of contact and coordination for states, municipalities, and project sponsors looking to utilize federal transportation expertise; apply for federal transportation credit programs; and explore ways to access private capital in public private partnerships. Given its political constitution, the transportation sector planning and implementation is in the hands of state and local governments. The federal government, through the USDOT, is responsible for policy, regulation, and funding of central government-level programs. Through specialized modal agencies that address highways (interstate highway system), aviation, railways, transit and maritime sectors, USDOT provides financial and technical assistance to state and local governments, including PPPs.

The majority of transportation-related PPPs have been in the highway sector. To enable PPPs, each state needs its own PPP law. As of 2014, 33 states had statutes or provisions authorizing the use of PPPs for transportation projects (Gibson et al. 2015). The application of PPP procurement to infrastructure development has significant political implications in the United States. Some states refuse to implement PPP laws or use existing ones. Some people see the charging of tolls, a means of paying for roads built through PPPs, as double taxation and believe that the public sector should be able to develop infrastructure projects with taxes. They believe the lack of resources for infrastructure is due to misallocation of taxes rather than lack of resources. PPP projects are hotly debated during election campaigns of local and state politicians and as such subject to delays and cancelation.

In 2012, USDOT was required to identify best practices and establish a model contract for popular types of PPPs. As a result, the Federal Highway Administration (FHWA) Office of Innovative Program Delivery (IPD) produced sample contracts to provide guidance for state adoption (FHWA 2014). FHWA's IPD also prepared a PPP Toolkit comprising tools and guidance documents (including risk valuation and allocation, VfM, CBA, financial structuring, -procurement, and monitoring and oversight. In addition, the office created two Excel-based evaluation tools: P3-SCREEN (a checklist to assist public agencies in assessing the appropriateness of delivering a planned transportation project as a PPP) and P3-VALUE (a tool to evaluate risk, financial feasibility, CBA, and VfM to compare the PPP alternative against conventional procurement). Additionally, the FHWA has developed various PPP training both in person and online (United States, Government of. 2014).

The FHWA Office of Innovative Financing identified the following innovative financing options: (1) PPP project finance including state infrastructure banks, grant anticipation revenue vehicles, private activity bonds (PABs), and Build America Bonds; (2) PPP alternative procurement and payment models (e.g., toll and availability payments), which can reduce cost, improve project quality, and provide additional financing options; (3) credit assistance, through a program of the Transportation Infrastructure Finance and Innovation Act (TIFIA), for significant surface transportation projects (highway, transit, railroad, intermodal freight, and port access); (4) revenue programs focusing on innovation to generate revenue from transportation projects (e.g., value capture, developer mitigation fees, air rights, and road pricing) (FHWA). A congressional panel found that PABs and TIFIA are often critical elements of PPP project financing (U.S. House of Representatives 2014). The Transport Research Board, part of the National Academies of Sciences, Engineering, and Medicine, is reviewing of financing needs and sources.

In addition, the Federal Aviation Administration's Airport Improvement Program (AIP) provides grants to public agencies for planning and developing public-use airports. The grants cover up to 75 percent of eligible costs including construction and rehabilitation, environmental studies, and land acquisition.

Toll roads and bridges are the most popular forms of transportation PPPs in the United States. Public toll roads have operated in the United States for 75 years. More recently, toll roads have been developed and operated under PPPs. There are growing numbers of alternative forms of toll roads, particularly in urban settings such as HOT or managed lanes which are seen to optimize the use of HOV lanes for solo driving willing to pay tolls.

VIET NAM

Based on scores prepared by *The Economist*, Viet Nam has been developing a PPP program but has much more room for growth, scoring a 33.1% for their PPP environment. Although the economy has faced various challenges in creating an enabling legal and institutional framework, Viet Nam has managed to prepare good-quality concessions and to deliver a considerable number of projects (Economist 2014). According to the *World Bank's PPI Data,* 40 projects reached financial close in 2010–2014. Viet Nam is moving in a positive direction due to the recent pushes from the public sector to become an industrialized economy by 2020. Developing much-needed infrastructure is a central policy to the new agenda and Viet Nam plans on half of the estimated capital needed for infrastructure to be provided by the private sector. In total, Viet Nam estimates a needed US$ 400 billion for new infrastructure construction by 2020 (ERIA 2015).

The 2015 Decree on PPP Investment Form is the critical legislation that has been passed regarding PPP, with amendments to a wide variety of other procurement and investment laws helping to facilitate further PPP development, such as Decree 30 on PPP Investor Selection (2015); Decree 108 of 2009 ,which defines certain rights and responsibilities for build-operate-transfer (BOT) projects; the Amended Law on Public Investment (2014); the Amended Law on Construction (2014); the Amended Law on Investment (2014); and the 2013 updated Public Procurement Law. As evidenced by the number of amendments passed within the last few years, Viet Nam is working to modernize the legal framework. Furthermore, it is anticipated that the involved ministries will release topic specific "circulars" through 2016 providing guidance on PDF, VGF, feasibility studies, PPP contracts, and submission documents, and guidelines for specific sectors (ERIA 2015).

The Ministry of Planning and Investments is the principal agency involved in the PPP program and is home to the central PPP unit. The central PPP unit is responsible for creating a bankable PPP pipeline and coordinating among relevant ministries. Viet Nam also has a State Steering Committee for PPP in place, chaired by the Vice Prime Minister, which assists the PPP unit in formulating, commencing and managing projects. In addition, the recently passed Decree 15 requests each ministry to assign its own internal agency to coordinate PPP activities. This has been successful in the case of the Ministry of Transportation, which has created the Management Board of PPP Project Investment (ERIA 2015).

It is clear that Viet Nam is working to establish a more conducive PPP climate; however there is still a large degree of uncertainty regarding PPP in Viet Nam. First and foremost, projects have typically been directly awarded to local SOEs rather than through open competition (Economist 2014). This practice limits transparency and creates uncertainty over the project preparation and selection process. In addition, once a project is released to the market, regulations heavily favor domestic bidders. As specified in the regulations, a foreign investor (as an organization) must have a partnership with domestic contractors or subcontractors, unless domestic contractors do not have the capability to participate in any component of the bid (ERIA 2015).

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