

Desirability & Convenience Study: Puerto Rico Cruise Terminals

Prepared by the Puerto Rico Public-Private Partnerships Authority



GOVERNMENT OF PUERTO RICO
Puerto Rico Public-Private Partnerships Authority



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General Disclosure

This Desirability and Convenience Study (the “**Study**”) has been prepared pursuant to the requirements of the Public-Private Partnerships Act, Act 29-2009, as amended (the “**Act**”). This Study seeks to determine whether the establishment of the proposed public-private partnership (“**PPP**”) is advisable and meets the public policy goals established by the Act.

This Study was formulated according to the Act and the Regulation for the Procurement, Evaluation, Selection, Negotiation and Award of Participatory Public-Private Partnership Contracts under Act No. 29-2009, as amended, approved by the Puerto Rico Public-Private Partnerships Authority (the “**Authority**”) on May 4, 2017.

This Study is based on estimates, assumptions and market information obtained from sources believed to be reliable. Actual results may vary from those anticipated in this Study. Changes in the cruise industry or shifts in the overall economic conditions may occur which can alter the assumptions and conclusions presented in this Study. Neither the Authority nor the Puerto Rico Ports Authority (“**PRPA**”) makes any representation or warranty whatsoever, including representations and warranties as to the accuracy or completeness of the information contained in this Study, including estimates, forecasts or extrapolations. The Authority and the PRPA expressly disclaim any liability for any representations or warranties, expressed or implied, contained herein or for any omissions from this Study or for any other matter related to this Study.

The Act and Authority’s regulations, as well as all applicable Puerto Rico and federal laws and regulations, will govern the dissemination of this Study.

Only those representations and warranties that are made in a definitive written agreement relating to a PPP, if and when executed, and subject to any limitations and restrictions as may be specified in such definitive agreement, shall have any legal effect. Readers should make an independent assessment of the merits of pursuing a possible PPP and should consult their own professional advisors.

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EXECUTIVE SUMMARY

OVERVIEW

This Study for Desirability and Convenience (the “**Study**”) has been prepared for the purposes of section 7(b) of the Public-Private Partnerships Act, Act No. 29-2009, as amended (the “**Act**”) and the Regulation for the Procurement, Evaluation, Selection, Negotiation and Award of Participatory Public-Private Partnership Contracts (the “**PPP Regulation**”), and is prepared on behalf of and with the support of the Partnering Entity (as defined in the Act), the Puerto Rico Ports Authority (the “**PRPA**”), to determine whether establishing a public private partnership (“**PPP**”) for San Juan’s cruise terminals is advisable.

The purpose of the Study is to:

- i) Determine the cruise terminal Service Needs of the residents and tourists of Puerto Rico;
- ii) Analyze various options for meeting those Service Needs; and
- iii) Select the most efficient of those options.

The cruise terminal project contemplated in this study includes the repair, improvement, financing and operations & maintenance of Pier 1, Pier 3, and Pier 4, Piers 11 to 14, and the Pan-American Pier or some combination thereof under a PPP structure (the “**Project**”). Subject to market demand, the availability of funds and proposals received from entities bidding for the Project, the Project (1) may not include certain of the piers listed above, (2) may include other piers in and around the San Juan Bay and (3) may be developed in phases which include one or more piers in each phase. The Project under a PPP structure may include a lease of such piers and related property or another form of agreement for improving, operating and maintaining such piers and related property to the entity selected as the Private Partner for the PPP structure.

The Study is broken down into two separate parts.

Part A

Part A of the Study explores what needs to be done to improve utility of the existing cruise terminals in San Juan and the degree to which the cruise terminals need to be expanded to enhance economic development and job creation. This part of the Study includes:

1. Definition of the key objectives of the PRPA and the cruise terminal key Service Needs; and
2. The constraints on PRPA in achieving these key Service Needs.

PART A STUDY CONCLUSION: Cruise terminals are essential to Puerto Rico’s economy. Enhanced cruise terminals are expected to improve economic conditions on the Island, increase tourism activities, and promote economic development and job creation. To accomplish these goals, capital needs to be invested in the terminals to bring them up to world class standards and to repair hurricane damage, and terminal operation should be optimized so as to be able to secure additional cruise line calls and increased homeporting of vessels. The specific service needs identified to be considered as part of a procurement are identified as:

- Support economic development and job creation through tourism
- Improve cruise terminal infrastructure
- Balance the needs of cruise terminals and cruise passengers with other users of the harbor
- Improve the financial position of the PRPA and access funding for projects
- Preserve Puerto Rico’s unique natural environment

Part B

Part B of the Study analyzes potential options to meet these objectives detailed in Part A. Part B includes:

1. Analysis of procurement options;
2. A thorough identification of project risks, focusing on risk description and potential mitigation; and
3. Recommended path forward.

PART B STUDY CONCLUSION: Part B concludes that a “RDBFMO” (Repair, Design, Build, Finance, Maintain & Operate) PPP delivery model is the most effective way for the PRPA to meet its goals.

This form of PPP would include specific repairs required to bring the Piers up to good working order, design and construction of new infrastructure at the existing Piers, and would outsource the operations & maintenance risk to a Private Partner. The PPP would be ‘revenue risk’, such that the Private Partner would be entitled to the cruise line revenue and other Project revenue, and PRPA and any other applicable Government entity would grant their rights to and interest in cruise line revenue and other Project revenue to the Private Partner. It would be expected that the PPP would include some combination of an upfront payment from the Private Partner to the PRPA and/or ongoing payments from the Private Partner to the PRPA (eg. rent or revenue share). These proceeds could be used by PRPA to pay down debt (thereby improving PRPA’s balance sheet position) or could be used to fund ongoing costs of PRPA (such as improvements at other PRPA controlled assets).

This approach to the Project allows PRPA to maximize immediate-term value, mitigate the need for additional PRPA debt and accelerates improvements at the cruise terminals, producing jobs and economic development for Puerto Rico.

STUDY OF DESIRABILITY AND CONVENIENCE PART A

OVERVIEW

This Study will, to the extent applicable to the studied potential Project, address the following matters discussed in Section 7(b) of the Act:

- i. A definition of the essential characteristics of the Function, Facility or Service (as these terms are defined in the Act);
- ii. A history, projections or both on the demand on use, the economic and social impact of the Function, Facility or Service in its area of influence, and the profitability of the PPP;
- iii. As to new projects, their technical and functional feasibility and an assessment of the existing data and reports referring to territorial or urban planning;
- iv. Social feasibility, including an analysis on the cost/benefit to the government and the social impact of the proposed project;
- v. A justification of the PPP modality expected to be used for carrying out priority projects, as established in Section 3 of the Act, indicating the main benefits of the selected modality;
- vi. Operational and technological risks involved in rendering the Service or discharging the Function or building and using the Facility;
- vii. The cost of the investment to be made and the economic and financial feasibility of the project or operation;
- viii. An evaluation of the cost/benefit and the convenience of using public or private financing to render the Service, discharge the Function or develop or build the Facility with a justification of the origin of such investment or financing, taking into account the possible loss of eligibility to receive Federal funding for the project;
- ix. The preliminary preparation of an analysis or identification of the environmental effects of the project or operation that proponents shall consider when analyzing risks in presenting their proposals and participating in a PPP. This study is not equal to an environmental impact statement, nor is it required at this stage to prepare any particular document required under the Puerto Rico Environmental Public Policy Act, Act No. 416 of September 22, 2004, as amended. However, if the Authority should so deem pertinent, it may conduct such additional studies as it deems convenient and feasible to conclude, at this initial stage of the study, on the desirability of establishing a Partnership;
- x. A comparative analysis of the cost/benefit represented in allowing a Government Entity assume the responsibility for carrying out or continuing operations or for carrying out the building, repair or improvement, as opposed to channeling the operation, building, repair or improvement through a PPP, including its effect on public finances;
- xi. Feasibility for businesses with local capital, non-profit entities and cooperative unions to be able to participate in the procedures to forge a PPP intended for building, operating or maintaining a Facility or Service thereunder. The study shall identify areas with the greatest potential for local entities, the measures that government agencies shall take, the function to be discharged by nongovernmental organizations in fostering competitiveness of the entities grouped into this sector, and any other actions that may arise from this participation without impairing the laws or the norms that regulate and guarantee the free market; and
- xii. Feasibility for local pension plans and other local funds to be able to participate as investors in PPP infrastructure projects based on their investment policies and risk profile. Proponent shall demonstrate that it has made efforts to obtain some type of investment from said pension plans and local funds as capital investors in the PPP.

Section 7(b) of the Act further requires, at some point during the study process, an evaluation of potential modifications to the proposed PPP as a result of citizen and local business participation. Said participation may be achieved in an informal manner and solely by written comments. The Authority shall publish a notice to such purposes, in English and in Spanish, in at least one newspaper of general circulation in Puerto Rico and on the Internet, containing (i) a summary or brief explanation of the proposed PPP, (ii) a reference to the legal provisions that authorize said action, (iii) the form, time, date, and place where the comments regarding the proposed PPP may be submitted in writing or via electronic mail, and (iv) the location and webpage where all documents deemed necessary for public comment regarding the proposed PPP shall be made available to the public. The Authority shall prepare a summary of said comments as provided above. Both the comments submitted by the public or local industry and the summary prepared by the Authority shall be included in the record of the proposed PPP. Citizen participation in this process shall not confer standing or allow an individual to become a party with the right to challenge a proposed Partnership, either judicially or administratively.

The Authority shall conduct such public and local industry participation and comments evaluation process in accordance with the Act and Section 5.2 of the PPP Regulation. **Part A** of this Study intends to summarize the discussion and analysis of the service delivery requirements which define the need for the asset / service being delivered. This section will include:

1. Definition of the key Service Needs of the Island of Puerto Rico with respect to cruise terminals;
2. Cost and benefit analysis surrounding the achievement of the Service Needs identified;
3. Financial constraints and overall social and technical feasibility of the PRPA achieving these Service Needs; and
4. The main objectives of the Project considered under the Study.

This information and analysis will be a key driver in the determination whether the proposed Project is a necessary and desirable one for Puerto Rico.

Part A will also be crucial to addressing some key requirements of the Act, more specifically the following sections of the Act:

- **Section 7(b)i:** Part A will define the essential characteristics of the function, facility and services required by the Island and Government of Puerto Rico. This is achieved through the following:
 - Definition of the key Service Needs of the Island;
 - Description of the Project; and
 - The identification of the costs required to achieve the Island's Service Needs and projects through conventional procurement.
- **Section 7(b)iii and iv:** Part A of the Study will include a comprehensive cost-benefit analysis which will discuss in detail the technical, functional, and social feasibility of the proposed Project.

PROJECT OVERVIEW

The purpose of this study is to determine the cruise terminal needs of San Juan, analyze various options for meeting those needs, and select the most efficient of those options. These options include both conventional operations (i.e. government operated and maintained) and alternative procurement (i.e. public-private partnership). The cruise terminals contemplated in this study include the following existing piers (or potential combinations thereof) – collectively “the **Piers**”. Subject to market demand, the availability of funds and proposals received from entities bidding for the Project (i) may not include certain of the piers listed below, or (ii) may include other piers in and around the San Juan Bay:

- Pier 1
- Pier 3
- Pier 4
- Piers 11 to 14
- Pan-American Piers

The Piers are currently owned and operated by the PRPA which is responsible for operating, maintaining, and developing the cargo and passenger port infrastructure in Puerto Rico.

Cruise Terminal Scope

Cruise terminal service offerings differ depending upon whether the terminal is being used for homeporting (additional requirements due to passengers registering, embarking and disembarking with their luggage) or for port-of-call visits (less requirements, as passengers are disembarking for sightseeing only). The key requirements for each type of call are set out below:

Homeport	Port of Call
<p>Embarkation:</p> <ul style="list-style-type: none"> • Arrival curbside and transport center • Curbside luggage collection • Luggage screening & sorting • Passenger screening • Security perimeter and check points • Check-in area and conflict resolution counters • Pre-embarkation photo and check-point • Ancillary retail and food and beverage 	<p>Port of Call Requirements</p> <ul style="list-style-type: none"> • Arrivals meet and greet area • Tour operations area and curbside • Transport and parking areas • Security Perimeter and check points and potentially a land based security building • Tourism related offerings
<p>Disembarkation</p> <ul style="list-style-type: none"> • Luggage display area • US Customs and Border Protection (CBP) spaces 	
<p>Other Administration</p> <ul style="list-style-type: none"> • Bathrooms, canopies and weather protections • Primary area • Secondary screening area • Back-of-house offices • Support spaces • Gangways • Dockside provisioning areas 	<p>Other Administration</p> <ul style="list-style-type: none"> • Bathrooms, canopies and weather protections • Potentially a duty-free retail area • Gangways • Dockside provisioning areas
<p>Service Provision</p> <ul style="list-style-type: none"> • Potable water provision to cruise ships • Waste collection • Refueling (provided by barges) 	<p>Service Provision</p> <ul style="list-style-type: none"> • Potable water provision to cruise ships • Waste collection • Refueling (provided by barges)

There is a significant difference in revenues generated by homeporting as opposed to port of call visits, due to the additional services provided directly to home ported vessels (eg. bunkering, restocking of food and supplies) and also indirect revenues flowing to the broader economy through additional hotel stays of tourists before and after their cruise and the economic impact of home-port based cruise line staff.

San Juan currently has sufficient infrastructure to accommodate larger ships as homeported ships while simultaneously handling up to three additional ships as port-of-call. Although there are days that an additional ship can be added, this does not happen without seriously degrading the overall level of service and experience to passengers.

History of the San Juan Cruise Terminal Development

For years, the PRPA's development strategy has been hampered by a lack of funds and development has been limited to a minimum level of investment. As a result, the San Juan cruise facilities today are undersized and fail to meet the needs of the modern cruise industry. The older, traditional piers along the San Juan waterfront, Piers 1 through 4 were built many years ago, for a different class of ship and for a mix of cargo and passengers. These piers have been continually augmented to increase their capacity and in the 1990's the PRPA invested in developing a new homeport terminal at Pier 4, which was subsequently redesigned to increase its capacity. Pier 4 can currently accommodate cruises up to 1,055 feet in length, but cannot accommodate today's larger ship classes. In general, each pier has different characteristics that limit the type and size of the ships that can dock there, thus an all-encompassing strategy is required to expand the facilities and extract their best possible use.

The Caribbean Cruise Market

The Caribbean cruise market has been one of the most successful in the industry, featuring unique destinations that are widely enjoyed by cruise passengers. This market is politically stable and in high demand, particularly because its proximity to the United States makes it accessible, as well as attractive for first time cruisers.

The Caribbean region is the number one cruise destination by passenger bed-days (a formula based upon lower cabin berths by cruise length by sailings) with the Mediterranean ranking second and Northern Europe third overall. Asia and Alaska round out the top 5 destinations for cruise passenger traffic.

It is important to note that the Caribbean region has been greatly impacted by Hurricanes Irma and Maria. In the short term, it is likely that traditional destinations in the region will be impacted as reconstruction work takes place across the islands. Nevertheless, it is expected that the medium and long-term projections for the cruise industry in the Caribbean will not be impacted, which provide an opportunity for investment in the San Juan cruise facilities both in the short term, to immediately welcome a larger market and retain such market share in the future, and in the long term, through strategic investments in infrastructure and cruise tourism development.

Anticipated San Juan Port Capacity Expansion

An initial assessment for a long-term vision of San Juan is that, in order to stay competitive within the Caribbean cruise market, capacity needs to be increased as follows:

- **Port-of-Call** – The capacity for transit calls at San Juan should increase to match at least the capacity of St. Maarten and the U.S. Virgin Islands, each capable of docking four large cruise ships. This matching will allow the up to fifteen ships that leave the ports of Miami, Port Everglades, and Canaveral to operate an efficient itinerary that will help increase traffic to the island.
- **Homeport** – With increased growth in the Caribbean market, homeport capacity should be increased from four terminals (6 berths) in the short term, and up to five terminals (8 berths) over the long-term. This would allow each major cruise line to operate their turn around operations with more flexibility.

Homeport terminals may be used for port-of-call when not being used for homeport operations, which would provide the San Juan cruise facilities with additional capacity and flexibility.

DEFINITION OF SERVICE NEEDS

The Piers represent all of the cruise terminals in San Juan, the continued operation of which are critical to ongoing tourism and economic development of Puerto Rico. As it is an island, substantially all of the goods consumed in Puerto Rico are imported via ports. This heightened reliance on port infrastructure (when compared to the US mainland) means that any proposed transaction involving the ports needs to be highly scrutinized to ensure that the ongoing viability of the island is not adversely affected. Accordingly, careful consideration must be given to how any PPP process is to be carried out with respect to the cruise terminals and ensuring that cargo terminals are not adversely impacted.

PRPA has developed the following list of Service Needs, drawing from the objectives identified in the 2040 Long Range Transportation Plan produced for Puerto Rico by the Department of Transportation and Public Works and also from the PRPA's own objectives, having regard to its role as the Government agency charged with ensuring the continued operation and expansion of Puerto Rico's ports and airports.

Service Need 1 - Tourism	Support economic development and job creation through tourism
Current Constraints	<ul style="list-style-type: none"> Degraded infrastructure Significant competition for cruise line calls, including from newer, cheaper and/or higher quality terminals
Objective 1.1	Maximize number of cruise ships & tourists calling Puerto Rico
Objective 1.2	Increase number of cruise lines using Puerto Rico as a 'home port'
Objective 1.3	Increase per passenger spend on the Island
Objective 1.4	Increase opportunities for local employment as part of the tourism industry
Service Need 2 – Infrastructure	Improve Cruise Terminal infrastructure
Current Constraints	<ul style="list-style-type: none"> Limited berthing space, especially for the largest cruise ships Degraded infrastructure & deferred maintenance Lack of information on Pier capacity available for the cruise lines Requirement of any repair / rehabilitation works to comply with updated building codes Lack of borrowing capacity, and liquidity to finance repairs and expansions
Objective 2.1	Repair hurricane damage
Objective 2.2	Rehabilitate existing infrastructure & maintain in a good state of repair
Objective 2.3	Invest in new cruise terminal infrastructure
Objective 2.4	Optimize use of cruise terminal infrastructure
Objective 2.5	Job creation through infrastructure investment
Service Need 3 – Harbor Balance	Balance the needs of cruise terminals and cruise passengers with other users of the harbor
Current Constraints	<ul style="list-style-type: none"> Lack of a master-plan for cruise terminal development Piers 11 – 14 used for mix of cruise and general cargo in an inefficient manner As an island, Ports are essential for Puerto Rico's viability
Objective 3.1	Optimize use of the harbor to more effectively use cruise terminals and other terminals
Objective 3.2	Preserve sufficient terminal space for cargo and other non-cruise liner use
Objective 3.3	Improve ability to support emergency activities

Service Need 4 - Financial		Improve the financial position of the PRPA and access funding for projects
Current Constraints	<ul style="list-style-type: none"> Limited sources of funding available PRPA's debt burden and weak financial position 	
Objective 4.1	Reduce PRPA's debt burden	
Objective 4.2	Improve PRPA's net position	
Objective 4.3	Carry out scheduled and desired projects without additional debt	
Service Need 5 – Environment		Preserve Puerto Rico's unique natural environment
Current Constraints	<ul style="list-style-type: none"> Unique environment of Puerto Rico requires protection 	
Objective 5.1	Minimize adverse impacts to natural and built environments.	

KEY DRIVERS OF SERVICE NEEDS

Tourism Needs

The Caribbean is the most popular cruise destination in the world. The cruise industry has always been an integral part of tourism and of the economy of Puerto Rico and is a substantial source of revenues for the Puerto Rico economy. Throughout the years, the PRPA has developed and improved the San Juan cruise facilities to make Puerto Rico one of the leading cruise destinations in the Caribbean. While the Port of San Juan was once an integral part of every cruise itinerary in the region, cruise industry growth over the last decade has occurred more rapidly in the surrounding islands than in Puerto Rico due to the infrastructure limitations of the Port of San Juan – depriving Puerto Rico of the economic benefits from additional cruise visitors.

Master-planning

The Piers have been developed and upgraded in an ad-hoc fashion over the years, with individual cruise lines financing improvements to specific Piers in return for preferential berthing rights. While this approach has been necessary due to PRPA's limited financial resources, it means that the cruise terminal operation is not optimized. A single master plan for the cruise terminals, including a long range capital expenditure program, would enable the Piers to be managed more effectively and operated more efficiently.

Repairs & Improvements

Significant maintenance is needed to bring the Piers up to the PRPA's desired standards, and damage from the recent hurricanes has exacerbated this problem. Having recently lacked the necessary funding to carry out important maintenance and expansion projects, a backlog of work has built up.

The need, as mentioned above, to provide safe, efficient and well-maintained cruise terminals in San Juan is evident. With the existing Piers comprising essential infrastructure for Puerto Rico tourism, their upkeep is a prime concern for the PRPA. Therefore, the principal driver of the above Service Needs is the lack of funding available for PRPA to properly meet them on an ongoing basis through available cash flow and funds.

The firm Iglesias-Vazquez and Associates was hired by the PRPA after the recent hurricanes Irma & Maria to assess the condition of the Piers under consideration. The reports issued by the firm also include cost estimates for three categories: A – debris removal, B – emergency protective measures and C – other categories. The survey included a walk over inspection of the Piers and buildings as well as a visual inspection by boat of the fenders and underside of the Piers. A diving survey and detailed structural calculations were not part of the firm's scope of work. The below table summarizes the cost estimates from the reports; cost are shown in USD:

	Category A and B	Other categories	Total
Pier 1	2,476,210	949,440	3,425,650
Pier 3	674,550	161,000	835,550
Pier 4	2,857,620	1,330,960	4,188,580
Piers 11 to 14	2,123,024	2,410,780	4,533,804
Pan American Pier I	1,296,690	1,423,810	2,720,500
Pan American Pier II	1,531,330	1,630,570	3,161,900
Total	10,959,424	7,906,560	18,865,984

In response to the storms, the US Department of Transportation Maritime Administration (MARAD), under mission assignment by the Federal Emergency Management Agency (FEMA), engaged DCM Architecture & Engineering, LLC (DCM) to conduct a condition assessment of piers under consideration. The reports also include cost estimates for two categories: Repairs, and Resilience measures. The survey included a walk over inspection of the Piers and buildings as well as a diving inspection (including ultrasonic thickness (UT) measurements) and structural calculations. The survey report recommends amongst others that Piers 1 and 4 be rebuilt entirely. The below table summarizes the cost estimates from the reports; cost are shown in USD:

	Repairs	Resilience measures	Total
Pier 1	61,612,900	651,000	62,263,900
Pier 3	991,219	113,400	1,104,619
Pier 4	136,733,073	452,900	137,185,973
Piers 11 to 14	72,613,100	781,705	73,394,805
Pan American Piers I and II	28,924,700	20,451,644	49,376,344
Total	300,874,992	22,450,649	323,325,641

Clearly, the in-depth assessment performed by MARAD leads toward major renovations not previously envisioned in the IV&A report. Under a scenario where major resiliency renovations are needed, there will be a need to develop an extensive design, procurement and construction program to provide for safe and sound facilities. The traditional delivery of infrastructure in Puerto Rico entails the procurement of different firms for the design and construction of the facilities. This conventional procurement method typically called design-bid-build (DBB) is commonly used in the development of government construction and rehabilitation projects. It calls, among other characteristics, for multiple and separate contracts that are dependent and related to each other. This type of process usually results in longer development and execution periods, having the public agency to deal with consequences of delays, changes in cost, and unforeseen problems. The service needs demand the repairs to be done in a timely and efficient approach through a process that will best promote a stable and accountable method. A long and fragmented process will be subject of constant administrative changes that will debilitate the implementation of accountability mechanisms preventing the much needed repair and rehabilitation of the piers and terminal facilities.

There may be funding available from FEMA to support some of the repairs and rehabilitation considered as part of the project scope. It is premature to know the availability and the amount of such funding, and so this Desirability

& Convenience Study has been prepared on the assumption that this funding is not forthcoming. If FEMA funding becomes available, then the procurement will take into account such additional funding and the concession terms and conditions will have to be compatible with the provision of FEMA funding.

PRPA FUNDING CONSTRAINTS

The PRPA's three main sources of funding are maritime operations (~67%), airport operations (~26%), and government financial assistance (federal and from the Commonwealth of Puerto Rico - ~7%).

(Dollars in Thousands)								
Revenues from:	2010	2011	2012	2013	2014	2015	2016	2017 (Unaudited)
Maritime Operations	73,250	61,565	75,585	85,945	74,534	75,355	75,995	71,992
Airport Operations	67,060	84,470	91,103	64,429 ¹	26,057	28,419	27,633	28,510
Federal Financial Assistance	23,658	22,512	20,254	23,712	17,018	11,315	13,638	7,493
Less: Pass through	(8,105)	(12,852)	(8,413)	(3,568)	(4,168)	(5,260)	(2,912)	(610)
Commonwealth of Puerto Rico Appropriations	242	2,817	5,139	6,942	2,726	2,735	25	28
Total Revenues	156,105	158,512	183,668	177,460	116,167	112,564	114,379	107,413

Deterioration in the local and global economic environment has affected PRPA's funding capacity to the extent that PRPA's outstanding bonds have been severely downgraded and PRPA advises that the bond markets are effectively inaccessible to the agency. PRPA's bonds are currently rated C by Moody's and D by Standard & Poor's.

The same economic factors caused PRPA to suffer budgetary issues, which further curtailed the funding options available to Puerto Rico, and, as such, routine maintenance on the Piers was deferred.

Based upon current economic conditions in Puerto Rico and the PRPA's existing debt burden, PRPA does not foresee near term opportunities to access the debt markets to fund repairs and upgrades to the Piers.

CONCLUSIONS AND KEY OBJECTIVES OF THE PRPA

The Service Needs and Objectives set forth above are the key goals the Study intends to address. Part B of the Study will consider the various options available to meet these Service Needs and Objectives. These options include traditional delivery, as well as alternative forms of delivery such as a PPP.

¹ Luis Muñoz Marín International Airport ("LMM") PPP reached financial close in January 2013, so 2013 reflects ~7 months of full revenues and 2014 onwards reflects private ownership of LMM.

STUDY OF DESIRABILITY AND CONVENIENCE PART B

One of the key objectives of the Study is to provide support in thinking creatively and finding the most efficient ways to meet Puerto Rico's capital needs associated with meeting the Service Needs.

Part A identified the key Service Needs of the Project and the constraints the PRPA is experiencing in satisfying these needs. This part of the Study analyzes the various delivery options for the Project to ensure the Service Needs identified in Part A are delivered effectively and efficiently.

Part B will include a:

- Comprehensive identification of project risks and potential mitigation;
- Analysis of procurement options; and
- Qualitative assessment of the proposed Project compared to the status quo alternative.

We also reiterate the Authority's and PRPA's key objectives in undertaking the Study:

- The need to access additional funding sources to allow necessary capital expenditures to be made;
- The need to foster the creation of employment in Puerto Rico, either through employment by a Private Partner on improvements, upgrades and modernization of existing infrastructure and new construction, or in other job opportunities derived from additional cruise traffic and economic activity in general; and
- The need to improve the quality of Puerto Rico's cruise terminals.

In summary, this Part asks:

- By reference to the Detailed Review Criteria (as this term is defined below), which procurement option will best achieve Puerto Rico's objectives and most efficiently deliver the Service Needs?
- If private sector procurement is preferred, what risks are involved in the various procurement options and how do they affect procurement?
- From a value for money perspective, what risks should be retained by the public sector and what risks should be transferred to the private sector?
- Having regard to the above, what is the appropriate procurement option for the Project?
- How can there be local participation?

As discussed in Part A, a key purpose of the Study is to address several legislative requirements put forward by the Act. Part B addresses several of these requirements, more specifically the following sections of the Act:

- **Section 7(b) v.** Based on the objectives identified in Part A, Part B identifies a variety of service delivery options available to the PRPA in structuring a potential Project. This includes both traditional procurement, and a variety of alternative procurement options. Part B concludes with a justification of the PPP modality expected to be used for carrying out priority projects.
- **Section 7(b) vi.** A key component of Part B is a detailed risk analysis and allocations of all the risks present in the delivery of the functions, and service needs identified in Part A. Part B identifies these risks, allocates them, and determines the form of procurement that best allocates the risks identified to the party (public or private) best able to bear them.
- **Section 7(b) x.** Through its comprehensive analysis of the risks of the Projects, and the various service delivery options (traditional and alternative), Part B provides a comparative analysis of the cost/benefit represented in allowing the Government Entity, in this case the PRPA, assume the responsibility for carrying out or continuing operations or for carrying out the repair, or improvement, as opposed to channeling these obligations through a PPP.
- **Section 7(b) xi.** Part B will discuss how the participation of local entities will be utilized in the delivery of the selected service delivery options. It will also fulfill the following: identify areas with the greatest potential for local capital entities, non for profit entities and cooperatives (credit unions) to participate in the PPP to be

created for the Project and the viability of participation by such entities; the measures that Government entities shall take, the function to be discharged by nongovernmental organizations in fostering competitiveness of the entities grouped into the sector, and any other actions that may facilitate this participation without impairing the laws or the norms that regulate and guarantee the free market.

SPECTRUM OF SERVICE DELIVERY OPTIONS

The following are the range of options to achieve the Service Needs (“**Service Delivery Options**”) proposed for consideration.

■ **Status Quo:**

- Continued operation & maintenance of the Piers by PRPA
- Capital expenditures deferred until PRPA has funds available

■ **Contracting Model:**

- PRPA continues to own the terminals (and receive terminal revenues) but outsources operations and maintenance to a third party contractor
- Capital expenditures deferred until PRPA has funds available

■ **Alternative Procurement (PPP):**

- Award a concession to a Private Partner to repair, design, build, finance, operate, and maintain the terminals and to earn revenue from the cruise terminals
- Private Partner is required to spend funds on capital expenditures as part of the Concession
- PRPA receives an upfront payment and/or a revenue share in return for granting the Concession

Of these, only the Alternative Procurement is able to generate an upfront payment and/or a revenue share for PRPA to improve its financial position while achieving the identified Service Needs. Status quo would see no change to PRPA’s financial position in the ordinary course, and if an extraordinary event such as a major hurricane occurs, then a negative change would be expected from the point of view of financial position and delay in achieving Service Needs. The Contracting Model may see an improvement to PRPA’s financial position if the contracting party is able to operate and maintain the Piers more cheaply than PRPA. However, there would not be an upfront payment generated and it is uncertain if the improved operations under the Contracted Model would generate sufficient additional revenues to advance the identified Service Needs.

DETAILED REVIEW CRITERIA: ALTERNATIVE PROCUREMENT

Before we conduct any further analysis on the risk profile of different Procurement Options, we need to measure the Alternative Procurement against the review criteria identified below (the “Detailed Review Criteria”) to ensure that the Project is capable of alternative procurement.

Criteria	Explanation	Guidance
Financial viability	<ul style="list-style-type: none"> — The combined value of expected revenue must be sufficient to provide a commercial rate of return on private funds required to cover acquisition costs and costs of construction / operations / maintenance within a reasonable commercial term — Under a private concession, the Piers may or may not be eligible for federal grants or other type of funding 	<ul style="list-style-type: none"> — The market is very comfortable valuing patronage risk transactions where there is a well-established patronage history and a strong story around growth — Any incoming investor would assess the financial viability of the Piers on a standalone basis without the assumption of federal funding being contributed at a later date — <i>The Puerto Rico cruise terminals have sufficient operating history and the Caribbean cruise industry is sufficiently strong that bidders will be comfortable banking an established traffic story, without reliance on federal support</i>
Structuring	<ul style="list-style-type: none"> — In order to be financeable, the project must be capable of being structured so as to transfer only those risks that the private sector is capable of pricing 	<ul style="list-style-type: none"> — Significant precedent brownfield PPPs exist for the market to have a good understanding of how to structure a transaction — <i>Puerto Rico has successfully structured other transactions as brownfield PPPs, and the market will be comfortable using a similar structure</i>
Timeliness	<ul style="list-style-type: none"> — A key element of this PPP process is delivering the capital expenditure improvements as quickly as possible to improve the condition of the Piers and drive increased cruise line patronage into Puerto Rico 	<ul style="list-style-type: none"> — For a PPP Project to be completed in a timely manner, sufficient information must be available to tender the asset with the bidders only being required to make standard assumptions regarding projections and measurable risks — <i>In this case – sufficient information is able to be gathered quickly and efficiently on each of the Piers and the Puerto Rico cruise industry in general so as to facilitate a timely tender process</i> — <i>Bidders will likely conduct their own patronage surveys and due diligence, however these are customarily able to be completed in a matter of months and are not expected to delay a process</i>

Criteria	Explanation	Guidance
No Legal impediments	<ul style="list-style-type: none"> — Clear path to all environmental and regulatory approvals — Legislative requirements between procurement and closing of the transaction add significantly to failed procurement risk and are unlikely to be acceptable to PPP participants — There should be no legal impediments to entering into the Concession/PPP Agreement 	<ul style="list-style-type: none"> — The Act lays out that construction, operation and/or maintenance of transportation related systems and infrastructure, including maritime transportation, are considered Priority Project that can be advanced and transacted in a PPP. Therefore, the contemplated framework of this Study is permitted. Furthermore, the legal framework created under the Act is very flexible as to the types of agreements that the Participating Entities are allowed to enter into as part of a PPP, provided the procedural requirements of the procurement process and certain minimum substantive content in the negotiated agreements are complied with, as prescribed in the Act. — In addition, any concession of the Piers will require proponents to undertake maintenance and modernization works to ensure that the Project continues to comply with all other statutory requirements, under the Act or otherwise. An example of those may include, but it is not limited to, the following: <ul style="list-style-type: none"> a) Compliance with Puerto Rico’s Law no. 416 (Title 1, Article 4.B.3), Environmental Public Policy Act, with requires the preparation of an environmental document (Categorical Exclusion, Environmental Assessment or Environmental Impact Statement) b) If the project is federally funded, compliance with certain federal environmental legislation is also required c) Compliance with Planning Board Regulation No. 25 of planting, cutting and forestation for Puerto Rico d) Performance of archeological studies and submission to Puerto Rican Cultural Institute for acceptance. Special instruction to bidders may be requested as the result of the investigations. If the project is federally funded or requires the involvement of federal agencies such as USACE, the Puerto Rico State Preservation Office shall be also consulted. e) Performance of environmental assessments as deemed necessary. Structures shall be tested for presence of lead paint and asbestos for mitigation f) In coastal areas, consultation with US Coast Guard may be required for new bridge construction or modification of existing ones g) If the project impacts the maritime-terrestrial zone, a delimitation (survey) is required and a concession for the utilization of such zone shall be obtained <p><i>Care will need to be taken to ensure that none of the above would require any degree of investigation beyond that required of a reasonably prudent cruise terminal operator and that the PRPA provides reasonable support as future partner of the PPP proponent</i></p>

Criteria	Explanation	Guidance
Track record in private sector	<ul style="list-style-type: none"> — The private sector should have a track record of undertaking similar projects or activities as PPPs in other jurisdictions — At least some of the key resources and expertise necessary to undertake the project should be already present in the private sector in Puerto Rico 	<ul style="list-style-type: none"> — Globally, large numbers of port terminals, including cruise terminals, are privately owned and/or operated, so the concept is not novel in a global context. The USA itself has a long history of private port terminal management and lease construction. — There are numerous examples of privately managed cruise facilities globally: <ul style="list-style-type: none"> ○ Caribbean: (The Bahamas, Belize, Dominican Republic) ○ Mediterranean: a study by <i>Port Economics</i> reports that for 85 cruise terminals identified in the region, 55% are partially or fully managed by private operators or investors ○ North America: Ports America currently operates 9 cruise terminals in USA (Boston, Brooklyn, Manhattan, Norfolk, Port Everglades, Los Angeles, Seattle, Vancouver, WA) — Japan is currently finalizing a public-to-private PPP arrangement with Genting Hong Kong to remodel and upgrade the cruise terminal of Shizuoka; in exchange, the private partner in obtained priority access to the facility for 105 days per year over a 15 years period — Within Puerto Rico, the concept of a brownfield PPP is well understood, as the Teodoro Moscoso Bridge, PR-22 and PR-5 highways and Luis Muñoz Marín Intl Airport have all transacted under concession models — <i>Not only have toll roads already been concessioned in Puerto Rico, but there are numerous precedents of concessioning of cruise terminals in the United States and internationally</i>
Necessity	<ul style="list-style-type: none"> — Projects should be necessary as evidenced by either or both of 1) a strong user pay revenue stream 2) a likely positive cost benefit analysis supporting the case for availability payments 	<ul style="list-style-type: none"> — There is a necessity in monetizing some of the future benefits in these cruise terminals now to achieve the Service Needs identified by the PRPA in the near term. Moreover, the PRPA recognizes the funding benefit and risk allocation benefit of having a private party be responsible for the operation and maintenance of the Projects — <i>As detailed in Part A, the Service Needs are clearly present for the concessioning of all of the Project</i> — <i>Moreover, the strong and recurrent revenue stream from cruise passengers demonstrates the necessity of a cruise terminal operation in San Juan</i>
Integration	<ul style="list-style-type: none"> — Projects need to be capable of standing alone without too many interfaces with other projects or activities 	<ul style="list-style-type: none"> — Projects should be selected for PPP delivery where the private sector partner is able to control sufficient aspects of the scope of the Project to accept substantially all of the risks and responsibilities associated with delivery of the service — <i>This will depend ultimately on the risk allocation structure to be granted to the concessionaire (discussed further below)</i> — <i>However, it is important to note that the cruise terminals already operate as a standalone business run by PRPA, so the degree of integration is not expected to be insurmountably high</i>

Criteria	Explanation	Guidance
Effective Risk Transfer	<ul style="list-style-type: none"> — Risks associated with a project should be capable of being identified — The public sector should be willing to transfer key project risks and the control levers associated with managing those risks — The private sector should be capable of accepting, managing or mitigating those risks 	<ul style="list-style-type: none"> — Projects should be selected as PPPs where the risk transfer objectives can be clearly identified and all parties are willing to accept the risk transfer — We believe that a market standard risk allocation structure can be adopted that would be sufficient for all parties — There is sufficient precedent, both within Puerto Rico and within the global ports sector, to be able to develop a ‘market’ risk allocation relatively easily
Innovation	<ul style="list-style-type: none"> — PPP delivery encourages innovation through development of performance – based “output” specifications based on service objectives rather than detailed highly specified design inputs 	<ul style="list-style-type: none"> — Projects which have already been fully designed for conventional delivery may not provide sufficient scope for innovation — The private sector has shown itself thoroughly capable of bringing innovation to a project through: <ul style="list-style-type: none"> a) Revenue generating innovation (eg. marketing, accommodating cruise line requirements etc.) b) Service offering optimization c) O&M efficiencies d) Maintenance capex efficiencies & willingness to invest capex for an improved asset e) Insurance efficiencies — A transaction such as this, where the Private Partner will be applying their own business plan to the Project, has the highest scope for innovation
Lifecycle Risk	<ul style="list-style-type: none"> — Under PPP delivery, the private sector partner is typically responsible for the design and construction, long term operations, maintenance and rehabilitation of the assets 	<ul style="list-style-type: none"> — A project which does not transfer sufficient lifecycle risk may not be an appropriate candidate for PPP delivery — It is intended that in the case of the Proposed Project, full lifecycle risk is passed to the private sector — In this case the Project will pass as full lifecycle risk to the Private Partner
Term	<ul style="list-style-type: none"> — Term of the deal effects value — Longer term provides private sector with greater opportunity to realize benefits of improved operations and capex spend, and spread risk of demand volatility through economic cycles — The term should match the duration for which revenues and costs can be accurately forecast 	<ul style="list-style-type: none"> — Term of concession is an important criteria for selection as a PPP — Less than 20 years is unlikely to be attractive to the private sector, especially where a significant capital expenditure program is required, as it doesn’t provide a sufficiently long time to amortize the costs of acquisition and upgrades — 20 - 50 years permits the private sector to make long-term lifecycle decisions and earn a return on investments over time — 50 years is the maximum permitted term under the Act without further legislative action — Provided that the concession is of an appropriate length, the Project passes this criteria. 30 years is considered an appropriate length for this analysis

Criteria	Explanation	Guidance
Schedule and Cost Certainty	<ul style="list-style-type: none"> — One of the key benefits of PPP delivery is to achieve schedule and cost certainty — PPPs can also be beneficial in accelerating construction timeframes 	<ul style="list-style-type: none"> — Projects where costs and schedule certainty is important should be strong candidates for PPP delivery — Projects where reducing the time to service implementation is important – this includes bringing forward capital expenditure that would be deferred under public ownership—are also good candidates for PPP delivery — <i>In this case the Project will pass on both counts</i> — <i>By passing construction risk to the private sector, the private sector can deliver greater schedule and cost certainty, through the use of bonding, liquidated damages and fixed price contracts</i> — <i>By passing O&M risk to the private sector along with patronage risk, the private sector is incentivized to spend capital expenditure upfront to drive patronage through improved facilities</i>
Technical viability	<ul style="list-style-type: none"> — Technical requirements of project should depend on proven technologies and engineering practices 	<ul style="list-style-type: none"> — PPP projects are ideally delivered with existing technology – as the fixed time fixed price nature of project financing does not include contingencies for proving new technologies — PPPs can be highly innovative while still working within the confines of proven technical solutions — <i>The Project complies with this requirement because the proposed upgrades to existing marine terminals are not novel works</i>
Competition	<ul style="list-style-type: none"> — Effective PPP delivery depends upon the ability to attract a competitive range of proposals for the project or alternatively to create a benchmarking process which delivers competitive outcomes 	<ul style="list-style-type: none"> — PPP projects are customarily run as a competition between 2 to 4 shortlisted parties. Shortlisting is based upon a review of credentials and proposed project solution — <i>In this case there are numerous cruise terminal operators who would be expected to be interested in pursuing a PPP of the San Juan ports. This would include both cruise line operators who also own cruise terminals, and also independent terminal operators. Therefore, the Project would favorably pass this criteria.</i>

CONCLUSION:

The Project satisfies all of the Detailed Review Criteria, including the critical fatal flaw analysis points of Financial Viability, Timeliness, Legal Impediments and Private Sector Track Record. Therefore, under the discussed criteria, the Project is suitable to be delivered through a PPP.

We now look at the risks associated with the Project and how those risks are best allocated – either through transfer to the private sector or retention by Government.

RISK ASSESSMENT AND PROCUREMENT METHOD FOR PPP

This section provides an overview of the risk analysis process. Please note that risk analysis is performed throughout the Study and is iterative in nature. Although not exclusive to Part B, a large amount of risk analysis is performed at this stage in order to identify what service options effectively manage and transfer risk to the parties that can most effectively absorb them.

The key feature of a PPP approach is “risk transfer”, which is achieved by making the private sector partner responsible for assuming risk and delivering services that would otherwise be assumed or provided by the public sector (or not provided at all). These risks can include construction, functionality of design, financing, receipt of patronage revenues, and the long-term performance of the asset through the optimal allocation of responsibility for operations, maintenance and rehabilitation.

Risk transfer is a key driver of value for money for governments in PPPs. The type, amount and effectiveness of possible risk transfer differs considerably based on the procurement method, contract structure selected and characteristics of a particular project.

PUBLIC-PRIVATE PARTNERSHIP (PPP): WHAT IS A PPP?

Broadly speaking, a PPP is a form of procurement that uses a long-term, performance based contract where appropriate risks associated with a project (including revenue risk) can be transferred cost effectively to a private sector partner.

Key benefits of a PPP approach include:

- **Risk Transfer:** Typically, well-structured PPP projects provide better value for money than the ones developed under traditional procurement, reflecting the whole life costing, design innovation, improved efficiency and risk transfer. Under the public-private partnerships model, the Government transfers key risks (construction, operation and financing) to the Proponent, who is better positioned to manage and control them – thereby (i) avoiding government incurring the associated expenditure and (ii) provide for greater certainty and predictability in relation to the quality and maintenance of infrastructure.
- **Better quality services:** The quality/standards of the services delivered under a PPP by an experienced operator are customarily higher than that achieved under traditional models, reflecting the benefits, service innovation, and customer focus of a commercial entity with an incentive to deliver a high quality user experience.
- **Accelerated project delivery:** The speed of project delivery under a PPP tends to be faster than that achieved under traditional procurement, as the private partner is incentivized to conclude the construction / repair phase as early as possible to start operations and commence earning revenues.
- **Private investment:** By relying upon private finance, a PPP project means that public funds can be used for other purposes. Public funds are also shielded from the performance of the asset.
- **Better asset utilization:** By allowing the private sector to innovate regarding provision of the services, PPPs can provide better utilization of existing infrastructure.

Based on experience with existing projects, risk transfer is the most important area in the determination of value for money in a PPP. The type, amount and effectiveness of possible risk transfer differs considerably based on the procurement method, contract structure chosen and characteristics of a particular project. Traditional procurement has typically involved construction management (CM) and design bid build (DBB), representing points along a continuum of possible procurement methods where there is very little or no transfer of project-related risk to a private partner.

Where Greenfield construction is involved (as opposed to pure modernization and rehabilitation capital expenditure), PPPs can vary greatly in the extent of risk transfer, depending usually on what is the better value for money outcome to the procuring authority. When a PPP is purely brownfield in nature (i.e. the government entity is concessioning off an already constructed piece of infrastructure) then the scope of the PPP is more limited.

The range of private sector partnership procurement options that are generally accepted to be PPP structures include:

Greenfield PPP Options	Brownfield PPP Options	Hybrid PPP Options
<ul style="list-style-type: none"> ■ Design build (DB) 	<ul style="list-style-type: none"> ■ Finance maintain and operate (FMO) 	<ul style="list-style-type: none"> ■ Repair design build finance maintain and operate (RDBFMO)
<ul style="list-style-type: none"> ■ Design build finance (DBF) 	<ul style="list-style-type: none"> ■ Operate & Maintain (O&M) 	
<ul style="list-style-type: none"> ■ Design build maintain operate (DBMO) 		
<ul style="list-style-type: none"> ■ Design build finance maintain and operate (DBFMO) 		

The Project under consideration amounts to a hybrid of Greenfield and Brownfield. The Private Partner finances the “purchase” of the concession and, as part of that obligation, maintains and operates the asset (Brownfield FMO), but in addition the private partner is required to undertake certain design and construction works (effectively a Greenfield PPP).

This report now considers which potential procurement option is best for the Project, evaluating both through PPP procurement and also through traditional procurement.

EFFECTIVE RISK TRANSFER

The table below lays out the various procurement options for the Project and discusses in more detail the level of Risk Transfer achieved by each of these options.

For the Project under consideration, the key risks for the PRPA to transfer to the Private Partner are:

- **Revenue Risk:** The Private Partner will receive the rights to earn revenue from the cruise terminals. In return, the Private Partner will make an upfront payment to the PRPA. PRPA may share in revenue risk to a certain amount, by way of a revenue share.
- **Operating Risk:** The Private Partner will be responsible for operating the cruise terminals, under its own business plan and with its own staff and any proprietary technology and systems, operational costs being payable from the revenues generated from such operations by the Private Partner. This provides the Private Partner with the ability to truly innovate, as the Private Partner is incentivized to grow the client base, improve customer service and drive higher revenues.
- **Design & Construction:** Where major new capital expenditure is to be incurred, the Private Partner shall be responsible for its design and construction. This applies to both committed capital expansions that are agreed at the time of entry into the Concession Agreement, and also to expansion capital expenditures required in the future. The main risks that the Private Partner will be required to accept in respect of design and construction include:
 - **Design fitness for purpose:** Risk that the design meets the requirements of the Private Partner and also of the PRPA under the Concession Agreement
 - **Construction quality:** Risk that the works are completed to the required standards of quality
 - **Schedule certainty:** Risk that the works are completed on time. To the extent that the works are completed late, the Private Partner has no recourse to the PRPA (unless the PRPA caused a delay, or provides other relief under the Concession Agreement) and may be required to pay liquidated damages. As revenue risk has been transferred to the Private Partner, a delay in schedule is likely to lead to a delay in earning revenues.

- **Cost certainty:** Risk that the works are completed on or under budget. To the extent that the works are over budget, the Private Partner has no recourse to the PRPA (unless the PRPA caused additional costs, or provides other relief under the Concession Agreement).
- **Maintenance & Repair Risk:** The Private Partner will be required to undertake ongoing maintenance of the Piers, and also undertake certain repairs necessary to improve the conditions of the Piers.
- **Integration Risk:** The Private Partner will be responsible for all aspects of the design and construction, long-term operations, maintenance and rehabilitation of the asset, which creates opportunities and incentives to integrate these functions to optimize performance and maintenance spend over the entire Concession.
- **Finance:** The Private Partner will be required to raise all of the finance for the Concession – including for the upfront payment to PRPA, the initial repairs and capital expenditures, and to fund its own working capital. As expansions and major maintenance are required throughout the Concession, the Private Partner will be responsible for financing these also (either through raising new financings, or through retained earnings). The Private Partner will be responsible for servicing the financing through project revenues, and therefore needs to determine its optimal capital structure. Any financing will be without recourse to PRPA.

ALTERNATIVE PROCUREMENT OPTIONS: EFFECTIVENESS OF RISK TRANSFER

Procurement Option	Does Option Achieve Risk Transfer?	Effectiveness of Risk Transfer
Conventional Procurement	✘	— Conventional Procurement does not achieve any degree of risk transfer as all risks are retained by the Government
Design Build (DB)	✘	<ul style="list-style-type: none"> — Risks transferred to the Private Partner: <ul style="list-style-type: none"> — Design Scope Risk — Construction Risk — The Project and PRPA should have the following characteristics for this option to be viable: <ul style="list-style-type: none"> — Conceptual design completed — Operating and maintenance costs are low and are already performed effectively by the public sector agency — Significant construction and schedule risks that are better managed by the Private Partner — Limited financial and solvency risk (as the PRPA is required to make progress payments) <p>Conclusion: This option does not meet the objectives of the PRPA. In particular, it does not achieve transfer of operations, maintenance, revenue risk and it requires PRPA to fund the works.</p>

Procurement Option	Does Option Achieve Risk Transfer?	Effectiveness of Risk Transfer
Design Build Finance (DBF)	X	<ul style="list-style-type: none"> — Risks transferred to the Private Partner: <ul style="list-style-type: none"> — Design Scope Risk — Construction Risk — Financial and Sponsor Risks (but not for the long term) — The Project and PRPA should have the following characteristics for this option to be viable: <ul style="list-style-type: none"> — Conceptual design completed — Operating and maintenance costs are low and are already performed effectively by the public sector agency — Significant construction and schedule risks that are better managed by the Private Partner — Limited financial and solvency risk (as the PRPA is required to make a substantial completion payment to repay the financing) <p>Conclusion: This option does not meet the objectives of the PRPA. In particular, it does not achieve transfer of operations, maintenance or revenue risk, and it requires PRPA to fund the works (through the substantial completion payment).</p>
Operate and Maintain (O&M)	X	<ul style="list-style-type: none"> — This procurement method is effective at transferring only the following risks to the Private Sector: <ul style="list-style-type: none"> — Operating Cost Risk — Long term maintenance risk — The Project and PRPA should have the following characteristics for this option to be viable: <ul style="list-style-type: none"> — Clear scope of O&M to be outsourced — Operating costs are able to be effectively managed by the Private Sector — Limited degree of financial and solvency risk (as the PRPA is required to pay the contractor for performing the O&M scope) <p>Conclusion: This option does not meet the objectives of the PRPA. In particular, it does not achieve transfer of revenue risk, and it requires PRPA to fund both the O&M costs and also any capital improvements. Furthermore, if key operation and maintenance tasks are not able to be effectively priced by the Private Partner then the O&M contract may need to be structured as a 'cost plus' arrangement, which is unlikely to deliver value for money. In other instances, depending upon the pricing and O&M control granted to the Private Partner, an O&M contract may be cheaper than the PRPA continuing to self-perform the O&M scope.</p>

Procurement Option	Does Option Achieve Risk Transfer?	Effectiveness of Risk Transfer
Design Build Maintain Operate (DBMO)	✘	<ul style="list-style-type: none"> — Risks transferred to the Private Partner: <ul style="list-style-type: none"> — Design Scope Risk — Construction Risk — Operating Cost Risk — Long term maintenance risk — The Project and Authority should have the following characteristics for this option to be viable: <ul style="list-style-type: none"> — Conceptual design completed — Operating costs are able to be effectively managed by the Private Sector — Long term capital expenditure costs can be accurately forecast and managed by the Private Partner — Significant construction and schedule risks that are better managed by the Private Partner — Limited degree of financial and solvency risk (as the PRPA is required to pay the contractor for performing the scope) <p>Conclusion: This option does not meet the objectives of the PRPA. In particular, it does not achieve transfer of revenue risk, and it requires PRPA to fund the works through both the DB and OM phases.</p>
Design build finance maintain and operate (DBFMO)	✔	<ul style="list-style-type: none"> — Risks transferred to the Private Partner: <ul style="list-style-type: none"> — Design Scope Risk — Construction Risk — Financial and Sponsor Risks for the long term — Operating Cost Risk — Long term maintenance risk — Revenue generation risk — The Project and PRPA should have the following characteristics for this option to be viable: <ul style="list-style-type: none"> — Conceptual design completed — Operating costs are able to be effectively managed by the Private Sector — Long term capital expenditure costs can be accurately forecast and managed by the Private Partner — Significant construction and schedule risks that are better managed by the Private Partner <p>Conclusion: This option meets the objectives of the PRPA and could be structured to provide an upfront payment for PRPA as well as transferring revenue risk to the Private Partner. However, it should be noted that a DBFMO is customarily applied for Greenfield projects that involve new builds. While the Project can be delivered under this construct, a better solution is the RDBFMO (discussed below).</p>

Procurement Option	Does Option Achieve Risk Transfer?	Effectiveness of Risk Transfer
Repair, design build finance maintain and operate (RDBFMO)	✓	<ul style="list-style-type: none"> — In addition to the risks transferred by the DBFMO procurement option above, the RDBFMO option also transfers the following risks to the Private Sector: <ul style="list-style-type: none"> — Specified repair obligations — The Project and Authority should have the following characteristics for this option to be viable: <ul style="list-style-type: none"> — Conceptual design completed — Clear list of repairs to be undertaken to existing infrastructure and timeframe for completion — Long term capital expenditure costs can be accurately forecast and managed by the Private Partner — Operating costs are able to be effectively managed by the Private Sector — Significant construction and schedule risks that are better managed by the Private Partner <p>Conclusion: This is the option that best meets the objectives of the PRPA, as it accommodates both construction of new facilities and repair of existing facilities, all within the framework of a long-term concession that outsources operations, maintenance and lifecycle risk to the Private Partner while able to be structured to provide an upfront payment for PRPA as well as transferring revenue risk to the Private Partner.</p>

Based on the detailed risk analysis presented in the previous section, this Study concludes that the best option for the procurement of the Project is the **Repair, Design, Build, Finance, Maintain and Operate (RDBFMO)** procurement option.

Given the PRPA’s financial circumstances, the most feasible procurement method is one where a significant amount of risk (including the risk of raising finance) is transferred to the Private Partner. This gives the Private Partner the largest scope to operate the Project, and minimizes the likelihood that the Private Partner will need to seek any form of payment from the PRPA.

DOES THE PROCUREMENT METHOD MEET THE SERVICE NEEDS?

The Service Needs set out in Part A clearly demand the following objectives to be met by this process:

- Support economic development and job creation through tourism
- Improve cruise terminal infrastructure
- Balance the needs of cruise terminals and cruise passengers with other users of the harbor
- Improve the financial position of the PRPA and access funding for projects
- Preserve Puerto Rico's unique natural environment

These objectives can be met in a variety of ways and a variety of options will be evaluated by this section of the desirability study. These options primarily include:

- **Status Quo** – PRPA retains ownership, operations and maintenance of the Piers
- **O&M** – PRPA tenders an Operations & Maintenance contract to outsource maintenance and operations of the Piers, but otherwise retains ownership and terminal revenues
- **Alternative Procurement Option** – Repair, Design, Build, Finance, Maintain and Operate (RDBFMO) option

REVIEW OF SERVICE NEEDS

SERVICE NEED 1 – TOURISM

Service Need 1 requires that the Project support economic development and job creation through tourism.

Number of Calls, Number of Tourists, and Per Visitor Spend

The expected Project's outputs (increase in the number of passengers, total calls, high standards of operation/services, new investments), will produce a number of economic, social, commercial, and cultural impacts to the community/users, the government of Puerto Rico and others involved in the tourism industry. The benefits provided by cruise port projects can be categorized as follows:

- **Direct Impact** – Consists in the sum of the spending of the three principal agents involved in the cruise activity (passengers, crew and cruise lines)
 - **Passengers & Crew:** Trips and entertainment, accommodation, food and beverages, clothing, souvenirs, and city internal transport services, including the use of airport facilities
 - **Cruise Lines:** Restocking of food and beverages, fuel, technical support, services provided by shipping agencies, services provided by the port operator and other public entities, mooring, and nautical pilotage
- **Indirect Impact** - Revenue received by local businesses that supply goods and services to businesses benefiting from direct economic impact
- **Induced and Other Impact** - Effect derived from consumer spending of revenue generated employment (directly and indirectly) in cruise activities

The Direct Impact from passengers is a function of the number of passengers and their average expenditure. According to a report by Business Research & Economic Advisers² (“**BREA**”), in the 2014/2015 cruise year, 1,393,900 passengers visited Puerto Rico, with an average expenditure of US\$88.95 on the Island. Under a PPP structure, the Private Partner is incentivized to maximize the number of passengers calling at the Port. And it could reasonably be expected that with higher quality port infrastructure (eg. better connectivity to road tours, upgraded concessions, and improved amenities) that the average spend per head could increase also. By way of

² BREA – “Economic Contribution of Cruise Tourism to the Destination Economies: A Survey-based Analysis of the Impacts of Passenger, Crew & Cruise Line Spending” – October 2015

comparison, average passenger expenditure in the same period was \$119.29 per passenger in Jamaica and \$115.60 in the Cayman Islands.

Homeporting

Improved San Juan cruise terminal facilities would be expected to induce more cruise ships to make San Juan its 'homeport'. A homeport terminal requires significant amount of land and logistics in order to be able to move passengers, supplies (food & beverages etc.) and luggage, as well as have a large dedicated space for Customs and Border Protection stations and security & check in stations.

The benefit to Puerto Rico of additional homeporting is that the average expenditure per passenger is higher at the home port, as passengers are more likely to stay additional nights before and/or after the cruise and to fly in and out of the airport. As a reference, 2016 data from BREA shows that the average global spending per transit cruise passenger was \$94.61 per person at ports of call, while the equivalent spend at home ports was US\$356.10³. It can be appreciated that both of these numbers are significantly higher than the US\$88.95 spent per passenger in Puerto Rico in 2014/15, demonstrating the significant additional revenue for the economy that could be captured by improving facilities and an increase in homeporting.

With its excellent air transport connectivity to the US mainland and strategic location between the north and south Caribbean, San Juan would be expected to be a key homeport for Caribbean cruising. However, San Juan currently has very low homeport utilization compared with the other main Caribbean homeports. A PPP procurement could be structured so that the Private Partner is required to spend capital to expand San Juan's ability to homeport cruise vessels, including the capacity to serve the largest class of cruise ships as a home port.

Increase employment opportunities in the Tourism Industry and Broader Economy

It is estimated that, in 2014/2015 cruise year, the cruise industry employed more than 5,000 people in Puerto Rico (including direct and indirect jobs).⁴ Increased tourist numbers, especially through an increase in homeporting, would necessarily drive an increase in tourism related jobs in Puerto Rico – including hospitality, tours, and service industries that supply them. This creation of new, well-paying jobs would also expand the tax base for Puerto Rico.

Conclusion

A well-structured RDBFMO PPP could deliver benefits to the Commonwealth of Puerto Rico through the enhanced economic development and job creation that an improved cruise terminal could unlock, with the Island effectively benefitting from the commercial disciplines, expertise and capital provided by the Private Partner. In contrast, neither the status quo nor an O&M Contract would be expected to bring additional tourists to Puerto Rico on the same scale.

SERVICE NEED 2 – IMPROVE CRUISE TERMINAL INFRASTRUCTURE

Due to a lack of capital investment and limited maintenance of the San Juan cruise facilities, they are undersized, in poor condition, and unable to meet the needs of the global cruising industry. Puerto Rico's financial situation has meant that essential maintenance has been deferred repeatedly, to the point where the terminals are (with limited exceptions) in need of urgent repairs in order to maintain their utility. The recent passage of Hurricanes Irma and Maria through the Caribbean has exacerbated this issue.

Moreover, the cruise ship order book demonstrates a trend towards larger vessels – and with the Caribbean being the most popular cruise destination globally it is expected that these ever larger vessels will be deployed on the Caribbean routes (as has been the pattern over the past decades). Capital will need to be spend on San Juan's cruise terminal infrastructure to ensure that San Juan continues to be able to serve the largest cruise vessels.

³ BREA – “*The Global Economic Contribution of Cruise Tourism 2016*”

⁴ BREA – “*Economic Contribution of Cruise Tourism to the Destination Economies: A Survey-based Analysis of the Impacts of Passenger, Crew & Cruise Line Spending*” – October 2015

Repair, Rehabilitate & Expand

Under the status quo, PRPA advises that there are insufficient funds available to carry out the necessary repair and rehabilitation works at the Piers or to expand the cruise terminals.

In contrast, a RDBFMO PPP could mandate that certain repair, rehabilitation and expansion works are carried out within a designated timeframe, and funded solely by the Private Partner. This has the dual benefit of bringing forward the works in time, and also not requiring PRPA to fund them.

Job Creation during Construction

Any significant infrastructure development at the port will require a significant skilled workforce. While the Private Partner may include global firms who will bring their own management, the nature of the works will require a significant local workforce to execute the works. This is likely to include local labor force and trades and local construction subcontractors. It is estimated that during the construction phase of a RDBFMO project more than 300 direct jobs would be created.

Neither the Status Quo nor the O&M Contract provide for large scale construction at the cruise terminals, and so the RDBFMO PPP is the only alternative that will deliver these construction jobs in the near term.

Optimize Use of Cruise Terminal Infrastructure

Due to funding constraints at PRPA, improvements to the cruise terminals have been made in a haphazard, piecemeal basis, relying upon financing from different cruise lines to cover improvements to their own specifications. This financing method, tied to individual cruise line's requirements, has prevented the PRPA from implementing a cohesive strategy and master-plan for the development of the San Juan cruise facilities. Establishing a RDBFMO PPP would transfer the responsibility for master-planning and strategy to the Private Partner, resulting in a holistic approach to the improvement, expansion and management of the cruise facilities. Both the Status Quo and the O&M Contract would result in no change to the master-planning for the facilities.

SERVICE NEED 3 – BALANCE THE NEEDS OF CRUISE TERMINALS AND CRUISE PASSENGERS WITH OTHER USERS OF THE HARBOR

As an island, Ports are essential for Puerto Rico's viability. This heightened reliance on port infrastructure (when compared to the US mainland) means that any proposed transaction involving the ports needs to be highly scrutinized to ensure that the ongoing viability of the island is not adversely affected.

Preserve sufficient terminal space for cargo and other non-cruise liner use

In particular, sufficient terminal and Pier space needs to be preserved for cargo and other non-cruise uses, and increased cruise traffic needs to be managed in such a way that it does not interfere with cargo uses. PRPA, as the government entity responsible for ports planning, would retain an oversight role to ensure that cargo and other uses are protected.

Optimize use of the harbor to more effectively use cruise terminals and other terminals

As well as optimizing the use of Cruise Terminal infrastructure (as discussed above), given the limited space available within the port of San Juan, a Service Need is to ensure that the port as a whole is optimized (i.e. cruise traffic, cargo, ferries and other uses).

Conclusion

Under any of the possible delivery mechanisms (RDBFMO PPP, Status Quo or O&M Contract), the PRPA would be expected to maintain overarching control over the uses in the harbor. Under the RDBFMO PPP, the Concession Agreement could clarify that the PRPA retains ultimate control over planning within the harbor, with a mechanism for the Private Partner to seek approval for proposed growth projects and based upon agreed triggers, criteria and performance indicators.

SERVICE NEED 4 - IMPROVE THE FINANCIAL POSITION OF THE PRPA AND ACCESS FUNDING FOR PROJECTS

The PRPA has limited sources of funding available, and a weak financial position that makes borrowing and investing in new capital expenditures not practicable. PRPA advises that the bond markets are effectively closed

to it for new borrowing. Hence Service Need 4 is the dual goal of (i) improving PRPA's financial position and (ii) securing funding for the necessary works that does not require a contribution from PRPA.

Reduce PRPA's debt burden and improve its net position

As of the fiscal year ended June 30, 2016, PRPA's debt burden was approximately \$500m. The upfront payment paid as part of the RDBFMO PPP could be applied to reducing this debt amount. Any amounts not applied to debt reduction could be held as cash on PRPA's balance sheet to improve its net position. Neither the Status Quo nor the O&M Contract would provide an equivalent upfront payment.

Similarly, if there is a revenue sharing component as part of the RDBFMO PPP, this will create an ongoing revenue stream for Puerto Rico which can be used to reduce PRPA debt over time, defray expenses, or held as cash on the PRPA balance sheet.

Under both the RDBFMO PPP and the O&M Contract the maintenance and operations scope would be outsourced. However, the impact on net position differs. Under the RDBFMO PPP, PRPA will see a direct and immediate cost saving as it no longer needs to incur maintenance and operations spend on the cruise terminals. However this would be offset by a reduction in cruise revenues (which, under the RDBFMO PPP would accrue to the Private Partner).

Under the O&M Contract, the same maintenance and operations expenditure is avoided, however, as a new expense is created in making payments to the O&M Contractor. Depending upon the terms of the O&M Contract, the cost could be more or less than the cost of self-performing (therefore the net position of PRPA under an O&M Contract could be either worse or better, respectively, depending upon the contract price).

Carry out scheduled and desired projects without additional PRPA debt funding

Under the Status Quo and O&M Contract scenarios, capital expenditure can be funded from either PRPA's own balance sheet (which, as of the fiscal year ended June 30, 2016 had a net position deficit of \$19m) or from PRPA's borrowings.

In contrast, the RDBFMO PPP provides a new funding source for capital expenditure, as the Private Partner could be required to undertake certain works as part of the Concession Agreement. The Private Partner could raise project finance against the expected cruise passenger revenues.

Broader Economic Impacts

As discussed above, the broader economic impacts of improved cruise terminal infrastructure include indirect impacts (like employment opportunities for people supplying organizations who directly serve cruise lines) and induced impacts (like the multiplier effect of consumer spending from cruise lines flowing on through increased spending across the broader economy). All of this activity improves Puerto Rico's economic position and expands the tax base.

A large foreign investment such as a RDBFMO PPP concession with an upfront payment signals to the market that Puerto Rico is 'open for business' as a safe and stable jurisdiction in which to invest. This could be expected to encourage other investors to explore investment opportunities within Puerto Rico that they may have otherwise passed over.

Conclusion

Only the RDBFMO procurement method is capable of achieving all of PRPA's financial objectives. Most importantly, a RDBFMO PPP procurement would provide a source of new, committed financing to carry out the near term repair and expansion works, resulting in increased certainty around the capital expenditure and bringing forward the works by potentially many years. In addition, the capital expenditure involved in an RDBFMO concession (and the resultant increase in tourist numbers) can be expected to have multiplier effect across the Puerto Rican economy.

SERVICE NEED 5 – PRESERVE PUERTO RICO'S UNIQUE NATURAL ENVIRONMENT

It is an objective of the Project to minimize adverse impacts to natural and built environments. While a detailed environmental study is beyond the scope of this report, it should be noted that the works proposed to form the basis of this Project amount to rehabilitation and expansion of existing Piers rather than construction of entirely new Piers, so the environmental impact is expected to be lessened.

The Status Quo and the O&M Contract could be expected to have the least environmental impact, but that is because under those two scenarios there is no funding available for any capital improvements. Conversely, the RDBFMO PPP scenario would be expected to have some environmental impact as capital improvements are a central tenet of the RDBFMO. With appropriate environmental studies undertaken, and customary protections for PRPA under the Concession Agreement, it is expected that the RDBFMO could successfully navigate the environmental requirements of Puerto Rico.

SERVICE NEEDS CONCLUSION

It can be seen from the above that the only procurement option that meets all of the Service Needs is the RDBFMO PPP procurement. The combination of upfront payment (or revenue share) and committed financing to repair and expand the cruise terminals is key to the RDBFMO PPP being able to meet the PRPA's key objectives.

STRUCTURING THE CONCESSION

Now that it has been determined that the optimum procurement option for the Project is the Repair, Design, Build, Finance, Maintain, and Operate (RDBFMO) option, the Study intends to utilize information gathered in the Detailed Review Criteria, and Risk Analysis matrix to determine the optimal concession structure.

The main issues that must be considered when structuring a concession are the following:

- **Scope of the Concession** – Which Piers are to be included in the Concession, and which are to remain under PRPA control?
- **Payment Mechanism** – Method in which the private sector pays the PRPA for the right to operate and maintain the Piers over the life of the concession
- **Concession Term** – Optimal concession term for the projects

The outcome of this analysis will be used to develop a potential structure for a PPP concession.

SCOPE OF THE CONCESSION

PIERS INCLUDED

A key benefit of using PPP procurement is to harness private sector ingenuity. While this report focuses primarily on Pier 1, Pier 3, Pier 4, Piers 11 to 14 and the Pan-American Pier, it may well be that a private sector respondent is able to deliver a more efficient potential solution for cruise terminals in San Juan that doesn't require use of all of those piers, or that requires use of additional piers. PRPA would be open to considering proposals from entities bidding for the Project that (i) do not include certain of the piers listed above and/or (ii) include other piers in and around the San Juan Bay and/or (iii) include the phased repair, improvement, operation and maintenance of piers.

Provided that the repair and expansion works on the included Piers is able to meet the Project objectives (with sufficient spare capacity for future expansion as required), the PRPA should encourage innovative solutions regarding piers for inclusion. This will allow proponents to place the highest value on piers where they can see the most upside, without having to burden their proposal with a budget to operate and maintain a Pier that is not desirable for their business.

Recommendation: To maximize private sector ingenuity, run a single procurement that can include all of the Piers or, at the proponent's election, a sub-set of them. PRPA would need to develop a framework to assess competing proposals that did not elect to use all of the Piers (eg. a proponent who bids a lower upfront payment but doesn't require use of one of the Piers) – however this can form part of the evaluation criteria. The Authority would welcome feedback from interested parties on how this issue should be addressed under the evaluation criteria.

PAYMENT MECHANISM

PAYMENTS TO PRPA

A number of different mechanisms are possible for payments from a private sector partner to the PRPA.

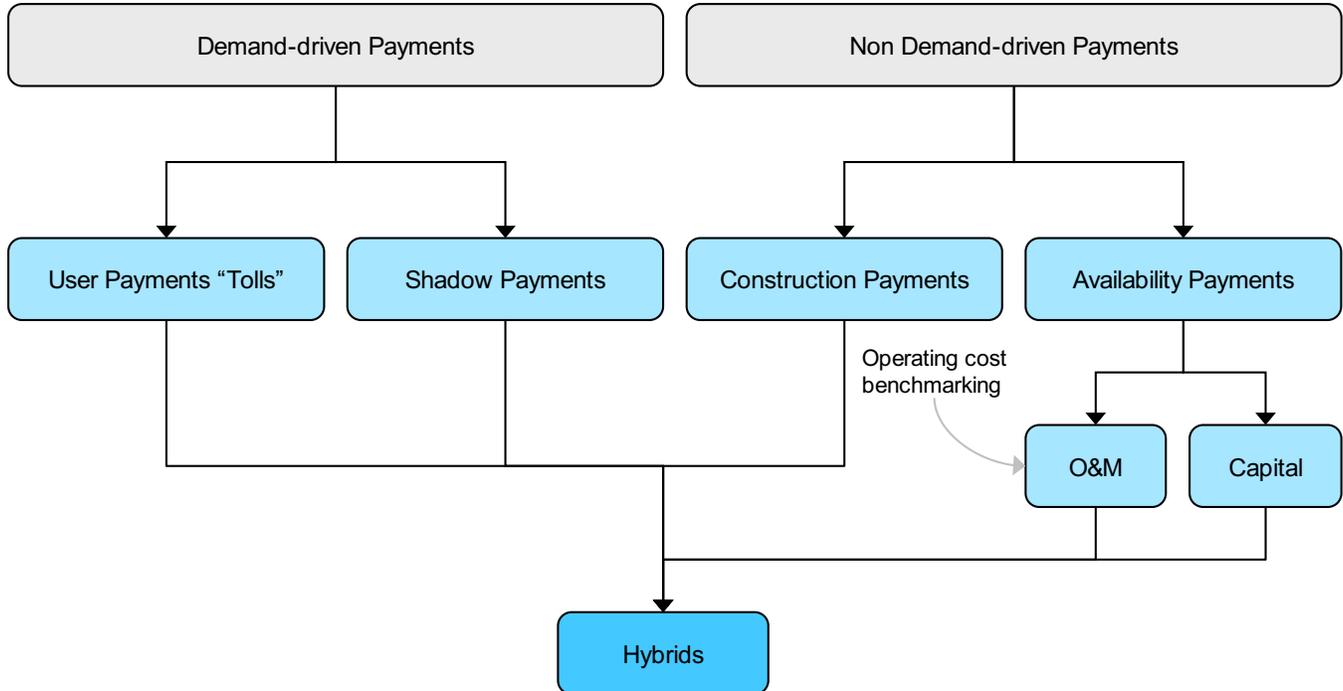
The major options are:

1. **Upfront:** Upfront Payment of a Concession Fee upon financial close. This is the simplest and lowest risk option from the PRPA perspective but may not lead to value maximization.
2. **Periodic:** Payment of Concession Fees on a periodic basis (for example annually) throughout the Concession term (ie. a lease structure)
3. **Sharing:** Profit or revenue sharing formulas under which the PRPA shares in the revenue risks of the Project, and benefits from upside if actual passenger numbers are higher than forecast.

These payment mechanisms have different risk transfer implications which are considered further below.

PAYMENTS TO PRIVATE SECTOR CONCESSIONAIRE

The chart below illustrates a variety of different payment mechanisms that are typically utilized in a PPP structure:



Given the long history of cruise passenger patronage and growth in the San Juan cruise terminals, the Concession is expected to be a 100% demand driven (i.e. “user pays”) structure, under which the Private Partner earns revenues through passenger fees and other charges. A Concession structure that uses Non-Demand Driven Payments (i.e. Availability Payments or Construction Payments) does not meet the Authority’s Objectives.

A Demand Driven payment structure will require the Private sector bidders conduct their own individual patronage forecasts and size their Concession Payments to the PRPA based on their view of patronage growth throughout the life of the concession.

Conclusion: A 100% demand risk structure best meets the needs of the PRPA.

CONCESSION TERM

A key risk transfer issue for consideration is the length of any private sector concession. The PPP Act allows for Concession Terms of up to 50 years.

The appropriate Concession Term is determined by:

- The ability of the Private Partner to accurately forecast revenues and costs out to the end of the Concession term
- The size of the capital investment and the period required to earn an appropriate rate of return on that investment
- The term of available debt finance for the Project
- The economic life of the assets and the timing of any significant refurbishments
- The NPV benefits to the PRPA in granting a longer or shorter concession (ie. larger upfront payment, longer stream of revenue share payments)
- Flexibility for future use of the facilities post-handback

Good practice is generally to ensure that the assets will remain in good condition for at least 10 years following the end of the Concession, so that the procuring authority does not need to make immediate capital expenditures upon handback.

Conclusion: It is recommended that a 30 year concession is considered as the base case. While a longer concession (up to 50 years) could be considered, the NPV difference in proceeds received by the PRPA would be minimal. Given the inherent uncertainty in forecasting costs and revenues over long periods of time in an industry as dynamic as the cruise industry, any Private Partner forecasts of patronage and revenue in the outer years will necessarily be conservative, and so any upfront payment made to the PRPA may not fully reflect the value of the longer dated concession.

With the ever evolving nature of the cruise industry and the demands for constant upgrades that this places on cruise terminals, 30 years is also considered an appropriate length of concession for PRPA in order to ensure that the cruise terminals and the obligations set out in the Concession Agreement are still relevant and appropriate for the cruise market at all times during the Concession term.

Upon the expiry of the Concession, PRPA could resume control of the improved Piers, or could re-tender a new Concession (with the ability to build in new capex or operational requirements as appropriate for the cruise industry at that time). Alternatively, PRPA could include option periods to extend the Concession if certain performance thresholds have been met.

Finally, a shorter concession has the added benefit of providing PRPA with flexibility to extend the Concession in the event of a compensation event (in lieu of making a cash payment). While longer concessions can also be extended, the value of an extension on a longer dated concession is less.

RECOMMENDED PROCUREMENT / SERVICE DELIVERY OPTION(S) AND BIDDING PACKAGES

Having carefully considered:

- the Detailed Review Criteria and how the various Service Delivery Options satisfy or fail to satisfy each Criterion;
- assuming a Service Delivery Option which involves a Private Partner acquiring a Concession of the Project, how each risk should be allocated to achieve the best value-for-money outcome for the PRPA;
- where a risk could be borne by either the private sector through a concession or by the public sector through conventional procurement, how that different assumption of risk affects the cost of providing the Service Need; and
- the opinion of the market of investors as to timing, risk, size and complexity of the packages,

we consider the Service Needs are best provided by a Service Delivery Option which involves a RDBFMO concession to a private party, based on the risk allocation and parameters contemplated above.

LOCAL PARTICIPATION

The local market participation spans three main sectors: i) construction contractors, ii) professional workforce, and iii) finance sector. These three local stakeholders have ample knowledge and experience in their respective disciplines in the local market and are ready and able to collaborate with international partners.

- **Construction Contractors:** Puerto Rico has one of the most sophisticated construction industries in the Caribbean with companies providing specialized technical services to the hospitality, health, infrastructure and pharmaceutical industries. However, given the recession, the construction industry in Puerto Rico has shrunk from \$5.8 billion in 2007 to \$2.8 billion in 2016⁵, although more recently the influx of insurance and federal monies after Hurricanes Irma and Maria has provided additional revenues. Despite this

⁵ Source: Puerto Rico Planning Board - <http://jp.pr.gov/Portals/0/Economia/Comercio%20Exterior/Estadisticas%20Seleccionadas%20de%20la%20Construcci%C3%B3n-%20F.pdf?ver=2017-07-13-061344-243>

shrinking of the industry, local general contractors and operations and maintenance (O&M) companies remain a potential asset to international developers given their local expertise with the local labor force and industry practices. In addition to general contractors, Puerto Rico has a wide range of competent specialized contractors in different areas of construction such as mechanical and electrical contractors, specialist crafts, and highly skilled engineers.

- **Professional Workforce:** Puerto Rico has a strong technical workforce product of mainland universities and internationally reputable local universities like the University of Puerto Rico at Mayagüez Campus. Which the American Society for Engineering Education in its 2016 Profiles of Engineering and Engineering Technology Colleges ranks the Mayaguez Campus as 2nd in awarding Bachelor's degrees to Hispanics and 27th in number of Bachelor's degrees to women in the U.S.
- **Local Banks:** The local banking institutions have actively participated in previous PPP transactions in Puerto Rico. Providing lending as part of international bank consortiums to: i) the PR-22 & PR-5 Concession Agreement between Autopistas Metropolitanas de Puerto Rico ("Metropistas") and Puerto Rico Highways and Transportation Authority and ii) the Luis Muñoz Marín International Airport Concession Agreement between Aerostar Airport Holdings and the Puerto Rico Ports Authority. The local financial sector is one of the most sophisticated in the region and local banks have shown interest in providing lending to well-structured infrastructure projects.
- **Local Pension Plans, Funds, and other Local Equity Investors:** While no local equity has been part of precedent PPPs in Puerto Rico, local pension plans and other local equity investors would be able to participate in a procurement process on the same terms as other participants. Such local investors may be attractive partners for bidding consortia as they would provide local knowledge and the best relationships with Puerto Rico based construction subcontractors and other specialists.

Clearly, Puerto Rico's local market provides several opportunities for international developers to utilize local expertise and financing. Expertise gained in previous PPP transactions allows these three sectors to make strong contributions to international consortia. The combination of local knowledge coupled with strong world-class best practices will provide the best value to the Government of Puerto Rico.

The Act requires consideration of the feasibility of businesses with local capital, non profit entities and unions to participate in the PPP. We consider that some degree of local participation can be introduced at various stages of the process for each of these classes of organization, as further detailed below.

PROCUREMENT STAGE

The procurement process involves a range of consultants to assist the PRPA with its analysis of the various submissions received from the private sector. We consider there is scope for a significant amount of local consultant involvement in each part of this process including:

- local legal counsel involvement
- local social advisor involvement (to assess the social costs and benefits)
- local technical advisor involvement
- local traffic & revenue adviser involvement (to develop patronage forecasts)
- local economic advisor involvement

A selection criterion similar to the below could be included in the RFP:

"The extent to which local Puerto Rico advisors, experts and professionals are integrated into the teams of proponents as sub-contractors and partners. This will be viewed very favorably by the Authority. To avoid doubt, this is referring to third party local partners/sub-contractors and not local representative offices of global proponents."

LOCAL PARTICIPATION THROUGHOUT THE CONCESSION

Throughout the term of the Concession, it is envisaged that there will be extensive local involvement in the PPP, both in the Design, Construction & Repair scope, and in the Operations & Maintenance scope.

Design, Construction & Repair

This work is likely to be concentrated in the early years of the concession. While the Private Partner may include global firms who will bring their own management, the nature of the works will require a significant local workforce to execute the works. This is likely to include:

- Local labor force and trades
- Construction and construction services companies
- Licensed engineers and architects used in the design, supervision of construction and repairs
- Supporting professionals (eg. lawyers, architects, financial services)

Operations & Maintenance

This work will continue throughout the entire concession, and includes both the day to day operations and also the major lifecycle replacement works. Again, while the Private Partner may include global firms with their own management, a significant local workforce will be required for the O&M scope. This is likely to include:

- Terminal operations staff
- Construction and construction services companies (for major maintenance)
- Engineers used in supervision of maintenance and for periodic surveying
- Supporting professionals (eg. lawyers, architects, financial services)

Financing

Local capital providers, pension plans, non-profit entities and cooperative unions should be able to participate in the PPP process on the same terms as non-Puerto Rican capital providers. As set out above, such local investors may be attractive partners for bidding consortia as they would provide local knowledge and the best relationships with Puerto Rico based businesses. As such, no special incentive needs to be provided to encourage Puerto Rico based financial organizations to participate as their locality already affords them an advantage.

Participation by local pension plans and other local funds would need to be subject to their investment policies and risk profile. However infrastructure investments such as the proposed RDBFMO PPP when structured appropriately (including that adequate security and rights to take over the operation of the project under certain circumstances are granted to the lenders), are generally considered relatively stable investments that are suitable for investment by pension plans and other investment funds. In fact some of the world's largest infrastructure investors are managers of pension funds that require low volatility, stable returns.

Provided that the local capital providers are able to meet the market on financing price and terms, they would be expected to be able to participate in any financing along with other non-Puerto Rican financiers.

Workforce

The Private Partner will be encouraged, but not required, to assume the employment of PRPA's current employees. The Private Partner, however, will be required to interview all PRPA's employees interested in applying for a position and, to the extent acceptable, extend an offer on the same terms it would provide its own employees at the same level. Any PRPA employee not assumed by the Private Partner will be re-deployed by the government of Puerto Rico in accordance with federal law and the laws of Puerto Rico.

ENVIRONMENTAL ASSESSMENT

According to section 7(b) ix of the Act, this study is required to "conduct a preliminary preparation of an analysis or identification of the environmental effects of the project or operation that Proponents shall consider when analyzing the risks presented by the Project." A detailed environmental study is outside the scope of this report, and the PRPA will comply with this requirement for further environmental effect analysis prior to a procurement.

The typical permitting process will need to comply with all applicable local, state and federal permits and approvals for project implementation prior to construction. The permits strategy shall be presented in three main phases: Planning Phase, Construction Phase and Inspection Certification for the Use and Operation Phase. Some of the local permits and endorsements to be filed during the Planning Phase include an Environmental Recommendation (REA for its acronym in Spanish). Input, recommendations and guidance will be received from environmental agencies such as the Puerto Rico Department of Natural and Environmental Resources (DNER) and the Puerto Rico Environmental Quality Board (EQB), among others. Further, as part of the evaluation of the Project, comments will be provided by other governmental entities on potential infrastructure improvements needed given the extension or improvements of the Project. Some of the agencies that could provide their input are: Puerto Rico Highway and Transportation Authority, Puerto Rico Aqueduct and Sewer Authority, Puerto Rico Electric Power Authority, and Puerto Rico Telecommunications Board. After comments are received, they shall be addressed in an Environmental Assessment (EA) or if deemed necessary, an Environmental Impact Statement (EIS).

The potential capital expenditures scope of work envisioned for the project comprises structural repairs, mechanical and electrical system upgrades, site improvements and utilities and potential future pier expansions or replacements. Given this scope of work, it is likely that the improvements needed will be developed in phases and will need to comply with the United States Environmental Protection Agency and all local regulations from the Puerto Rico Environmental Policy Act to fulfill all the applicable environmental compliance requirements prior to construction. Additionally, work affecting Jurisdictional Waters of the United States of America will be assessed by the United States Army Corps of Engineers (USACE). This federal agency is responsible for the permits evaluation and approval part of the *Nationwide Permit* or a *Joint Permit* application.

Additionally, the USACE is also involved in the dredging of the San Juan Bay, they perform this work every five (5) years in coordination with the PRPA, who is responsible for the preparation and compliance of the permitting process, including the required technical studies. Further, given the damages occurred in hurricanes Irma and Maria, the structural and pier reconstructions could be considered emergency work. Hence, these improvements could be evaluated through an expedited process. However, the full extent of required federal and local permits will be better understood once the PRPA has initiated the permitting process, which will be later transferred to the selected proponent of the project for all final applications.

QUANTITATIVE ASSESSMENT

As outlined above, PRPA advises that based upon its current financial state it does not foresee possibilities to access bond markets or generate sufficient cashflows from existing operations to repair and improve the Piers. This means that a full quantitative assessment comparing the status quo to the proposed RDBFMO is difficult to undertake.

The upfront payment provided to PRPA upon a RDBFMO concession will provide a positive cash injection and the ongoing revenue stream will provide PRPA with recurrent cashflows that grow in line with increased patronage. However the bigger impact on Puerto Rico is expected to be the island-wide economic benefits of improved cruise terminals – namely more tourist spending through additional cruise calls and increased homeporting.

CONCLUSION

Part A of this study examined the impact of cruise terminals on Puerto Rico's economy and concluded that enhanced cruise terminals are expected to improve economic conditions on the Island, increase tourism activities, and promote economic development and job creation. To better accomplish these goals, PRPA is required to invest capital in the terminals to bring them up to world class standards and to repair hurricane damage and to optimize the operation of the terminals so as to be able to secure additional cruise line calls and additional homeporting.

A reference Project was developed with the following Service Needs:

- Support economic development and job creation through tourism
- Improve cruise terminal infrastructure
- Balance the needs of cruise terminals and cruise passengers with other users of the harbor
- Improve the financial position of the PRPA and access funding for projects
- Preserve Puerto Rico's unique natural environment

And Part A concluded that a Project that addresses each of these Service Needs (and their specific objectives) would be appropriate for procurement as a PPP.

Part B of this study:

- Measured the Alternative Procurement (PPP) against the Detailed Review Criteria to ensure that the Project is capable of Alternative Procurement
- Analyzed the key risks for the PRPA to transfer to the Private Partner, and determined that a Repair, Design, Build, Finance, Maintain & Operate PPP provides the best contractual framework for transferring those risks
- Confirmed that the RDBFMO contractual framework is capable of meeting all of the Service Needs
- Considered the structure of a possible procurement and RDBFMO contractual framework

Part B concludes that a "**RDBFMO**" (Repair, Design, Build, Finance, Maintain & Operate) PPP delivery model is the most effective way for the PRPA to meet the Service Needs and use the redeveloped Piers to drive positive economic outcomes for the broader Puerto Rican economy.

APPENDIX A – HISTORY & CONDITION OF THE PIERS

HISTORY AND DESCRIPTION OF THE PIERS

TOTAL CRUISE TRAFFIC

The traffic data for the period 2013-2017 for passengers and ships' calls is presented in the following table

CRUISE OPERATIONS HISTORICAL USAGE – TOTAL SAN JUAN

Year	2013	2014	2015	2016	2017
Vessel Callings	455	515	533	510	426
- Home Port	175	176	188	201	185
- Transit	280	339	345	309	241
- YoY %	-	+13.2%	+3.5%	-4.3%	-16.5%
Passengers ('000s)	1,038	1,213	1,509	1,342	1,469
- Home Port	382	421	476	461	443
- Transit	656	792	1,033	881	1,026
- YoY %	-	+16.9%	+24.4%	-11.1%	+9.5%

PIER 1

Pier 1 is the Western most pier and the closest to Old San Juan. As such, this pier is ideal for a port of call facility as it facilitates passengers walking into Old San Juan. However, being one of the older piers it is also the smallest. Today, the pier has a small cruise terminal and a single floor lay-down area used for both embarkation and disembarkation. The upstairs of the building has been rented out as offices. The front of the building is used for vehicular access to the security at the front.

Pier 1 was constructed around 1970 and measures in total 950 ft. The structure consists of a reinforced concrete deck slab founded on reinforced steel piles. Pier 1E has a depth of 27' and has handled 1,500 passengers in one call. Pier 1W has a depth of 32' and has processed 2,500 passengers in one call.

Key Requirements

1. Extension / expansion to enable calling by larger vessels
2. Immediate capital expenditure to repair hurricane damage (discussed below)
3. Medium-term capital expenditure requirements to restore deteriorated condition.

PIER 1 CRUISE OPERATIONS HISTORICAL CALLS

Year	2013	2014	2015	2016	2017
Vessel Callings 1E					
- Home Port	4	8	11	12	5
- Transit	9	4	11	4	2
Vessel Callings 1W					
- Home Port	14	12	8	13	11
- Transit	22	29	26	14	5

HURRICANE DAMAGE AT PIER 1

Two condition survey reports were performed since the most recent hurricane event. In October 2017 a survey was executed by Iglesias-Vazquez and Associates. In March/ April 2018 DCM Architecture & Engineering LLC (DC) conducted a survey on behalf of MARAD/ FEMA.

Building

Overall, the Old San Juan Pier No. 1 Terminal was found in a poor condition. In terms of the impact of hurricanes the building exterior glass components and fascia elements were the most affected by the wind pressure and debris impact. Cost estimates for repair vary between USD 2.3M and 8.6M. The difference in cost estimates is mainly due to difference of opinion regarding; a) the condition of the building structure, and b) required contingencies, general conditions, insurance, taxes and profit.

Pier

The pier is in an advanced state of deterioration and was therefore classified to be in serious condition. The MARAD report recommends that the structure be demolished and replaced with a new structure. Cost estimates for repair vary between USD 160k and 53M. The very large difference in the estimates are due to the fact that the Iglesias-Vazquez and Associates survey did not include a diving survey nor detailed structural calculations. Hence, the study did not evaluate the condition of the pier foundation elements nor include cost estimates for its repair. In contrast the cost estimate as included in the MARAD report includes CAPEX for complete replacement of the pier.

PIER 3

Pier 3 is the new and improved port of call facility, which was just recently renovated by the PRPA. As such, Pier 3 is in excellent condition, and it is able to accept the largest cruise ships in operation today. The west side of the pier is still largely operational following the hurricanes.

The pier suffers from a lack of traffic management and parking areas for tour buses and when ships are in port, traffic is seriously congested along the frontage road.

Pier 3 was renovated in 2013 and is a wedge-shaped structure. Access is provided by means of two trestle structures originating from the narrow northern edge of the pier and heading one, northwest, and the other, northeast. Six mooring dolphins and one large mooring platform are present south of the wide portion of the wedge, connected to the main structure via platforms and catwalks. The total length of the trestles, pier, and dolphins is 1,484'.

The structure consists of a cast-in-place concrete deck supported by cast-in-place beams and pile bents. The pier and dolphins are supported by square concrete piles. Pier 3E has a depth of 34' and may handle 7,500 passengers in one call. Pier 3W has a depth of 36' and may handle 7,500 passengers in one call.

Key Requirements

1. Improved vehicular access
2. Duty Free Building

PIER 3 CRUISE OPERATIONS HISTORICAL CALLS

Year	2013	2014	2015	2016	2017
Vessel Callings 3E					
- Home Port	0	0	0	0	0
- Transit	55	19	57	62	60
Vessel Callings 3W					
- Home Port	0	0	0	0	0
- Transit	58	55	72	99	78

HURRICANE DAMAGE AT PIER 3

Overall, Pier 3 was observed to be in satisfactory condition. Two walkways and one fender need to be replaced. Cost estimates for repair vary between USD 260k and 990k.

PIER 4

Pier 4 is currently used by Carnival as a cruise ship terminal. It was initially built by the Ports Authority in two stages and subsequently its interior was modified by Carnival. Pier 4 can handle ships of approximately 2,000 to 3,000 passengers due to the building size. In addition, the length of the pier (877 feet) does not allow most new cruise vessels to berth on either side. As is, Pier 4 can operate as a single homeport terminal on the east side and a port of call facility in the west side, however, the two cannot operate simultaneously because of traffic congestion and security and customs provisions while the terminal is in operation.

Pier 4 was built around 1980 and has received a number of modifications since then. Pier 4 has a length of 1,146 ft. Pier 4E has a depth of 32' and has handled 4,500 passengers in one call. Pier 4W has a depth of 34' and has handled 4,500 passengers in one call.

Key Requirements

1. Immediate capital expenditure to repair hurricane damage (discussed below)
2. Medium-term capital expenditure requirements to restore deteriorated condition.

PIER 4 CRUISE OPERATIONS HISTORICAL CALLS

Year	2013	2014	2015	2016	2017
Vessel Callings 4E					
- Home Port	53	51	57	51	47
- Transit	80	127	62	46	48
Vessel Callings 4W					
- Home Port	1	2	4	14	17
- Transit	55	105	116	81	45

HURRICANE DAMAGE AT PIER 4

Building

Overall, the Old San Juan Pier No. 4 Terminal was found in a fair condition. In terms of the impact of hurricanes, the entrance of water at the interior of the building was the major concern. Cost estimates for repair vary between USD 2.6M and 5.4M. The difference in cost estimates is mainly due to difference of opinion regarding; the required contingencies, general conditions, insurance, taxes and profit.

Pier 4

Pier 4 was observed to be in serious condition with extensive spalling and delamination of the bent caps with excessive concrete cover cracks. Due to the extensive deterioration of the concrete caps which are the primary load carrying members and the complications that are involved in strengthening these members, it is recommended that the existing pier structure be demolished and replaced with a new structure. Cost estimates for repair vary between USD 310k and 131M. The very large difference in the estimates are due to the fact that the Iglesias-Vazquez and Associates survey did not include a diving survey nor detailed structural calculations. Hence that study did not evaluate the condition of the pier foundation elements. In contrast the cost estimate as included in the MARAD report includes CAPEX for complete replacement of the pier.

PIERS 11-14

Currently severely deteriorated, these piers are abandoned. The warehouse is currently used by the FEMA hurricane response team. The combined wharves have a total length of approximately 2,500 ft.

Pier 11 appears to be reconstructed around 1991 and measures 580 ft. The structure consists of a suspended deck supported on vertical and raked prestressed concrete piles. Additional sheet pile along the waterfront is slotted into the capping beam.

The wharf section of Pier 12 appears to be dating from around 1979. This section measures 33 ft in width, the area behind the wharf appears to be dated from 1950. The structure consists of a suspended deck supported on vertical concrete piles.

Key Requirements

1. Optimize use (rather than continue use as a 'catch all')
2. Immediate capital expenditure to repair hurricane damage (discussed below)
3. Medium-term capital expenditure requirements to restore deteriorated condition.

HURRICANE DAMAGE AT PIERS 11-14

Building

Overall, the FEMA warehouse building was found in a fair condition. Cost estimates for repair vary between USD 910k and 1.6M.

Piers 11 to 14

Piers 11 to 14 were observed to be in critical condition with widespread advanced deterioration of the reinforced concrete piles, pile caps, deck beams, and concrete deck. Due to the extensive deterioration MARAD has recommended that the existing pier structure be demolished and replaced with a new structure. Cost estimates for repair vary between USD 734k and 71M. The very large difference in the estimates are due to the fact that the Iglesias-Vazquez and Associates survey did not include a diving survey nor detailed structural calculations. Hence, that study did not evaluate the condition of the pier foundation elements. In contrast the cost estimate as included in the MARAD report includes CAPEX for complete replacement of the pier.

PAN-AMERICAN PIERS

These are the two most functional facilities in San Juan today from an operational point of view. However, the lack of maintenance has caused significant corrosion and structural failures can be seen throughout the facility. In addition, the length of the wharf is not sufficient to handle two large vessels simultaneously. The westernmost part of the terminal is currently being used by the ferry facility.

Pan America Pier is located to the south of Old San Juan and was built around 1980. The modern San Juan cruise ship terminal building at Pan America Pier is in Isla Grande.

Pan-American Pier I or East has a length of 1,200 feet and a depth of 32'. This pier has handled 2,500 passengers in one call. Pan-American Pier II or West has a length of 1,100 feet and a depth of 33'. This pier has handled 3,800 passengers in one call.

Key Requirements

1. Immediate capital expenditure to repair hurricane damage (discussed below)
2. Medium-term capital expenditure requirements to restore deteriorated condition.

PAN-AMERICAN PIERS CRUISE OPERATIONS HISTORICAL CALLS

Year	2013	2014	2015	2016	2017
Vessel Callings E					
- Home Port	28	33	27	42	31
- Transit	1	0	1	2	2
Vessel Callings W					
- Home Port	75	70	81	69	74
- Transit	0	0	0	1	1

HURRICANE DAMAGE AT PAN AMERICAN PIERS

Building

Overall the Pan American Main Terminal and Baggage Claim Buildings are in fair condition. In the other hand, the Cruise Passenger Bridge was observed in a very poor condition due to severely corroded and significant loss of section of main structural components. Cost estimates for repair vary between USD 1.2M and 7.1M. The difference in cost estimates is mainly due to difference of opinion regarding; a) the condition of the building structure, b) project management, and c) required contingencies, general conditions, insurance, taxes and profit.

Piers

Pan American Piers I and II are in poor condition. This is based primarily on the widespread advanced deterioration of the steel sheet pile bulkhead along the relieving platform portion of the docks. The sheet pile is considered a critical element in retaining fill material under the relieving platform and widespread failure has provided for loss of fill material and therefore increased the unbraced length of the steel H-piles supporting the platform (deck). Cost estimates for repair vary between USD 2.8M and 21.7M. The very large difference in the estimates are due to the fact that the Iglesias-Vazquez and Associates survey did not include a diving survey nor detailed structural calculations hence did not evaluate the condition of the pier foundation elements. Hence, that study hence did not evaluate the condition of the pier foundation elements. In contrast the cost estimate as included in the MARAD report includes CAPEX for repair of the two piers.