



Invest Puerto Rico

Logistics Research / Feasibility Study

October, 2019



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Section 1.

Introduction



Introduction – The Team



The Seabury Maritime Team

We are a team of logistics and supply chain experts that have been contracted by InvestPR to conduct a Logistics Research/Feasibility Study for Logistics-based business opportunities for Puerto Rico

- **Seabury Maritime** was established in 2016 as an amalgamation of Seabury Capital’s maritime investment banking practice and Paul F. Richardson Associates. Seabury Capital is a leading global advisory and professional services firm that provides diversified business support to transportation related industries, whereas PFRA was founded in 1977 and executed numerous assignments for a variety of customers on an international basis.
- **Strategic Rail Finance** is a trusted advisor to ports, shortlines, shippers, transloaders, rail-served industrial parks, and government agencies for 25 years. SRF has completed projects in 43 US states and Canadian provinces. SRF also advises on rail business development, land use, operations, equipment, industrial development, and policy development.
- **Gilbert Sachs Group** aims to maximize effectiveness and efficiency of customers’ logistics and supply chain by generating sustained savings through lasting process improvement.



The Charge

- The Seabury Maritime team has been provided the unique opportunity to research, view, and assess transportation and logistics related business opportunities on the island of Puerto Rico in an effort to increase the scale of the economy both on a domestic and an international basis. From our team’s backgrounds in the logistics and supply chain space, we are charged with providing the InvestPR team with recommendations based upon our expertise in the specified and related industries.

The Focus

- Our team has focused our study for InvestPR around three poignant questions:
 1. What strengths and weaknesses exist for Puerto Rico in the area of logistics?
 2. How can Puerto Rico minimize negative impacts and build on strengths in logistics?
 3. In which logistics-dependent sectors can Puerto Rico best create jobs and build its tax base?

Team Construction



Individual Team Member Introductions

Project Sponsor:

Patrick Bird – Managing Director, Seabury Maritime

Project Director:

Gary Pedersen – Operations Director, Seabury Maritime

Intermodal Expert:

John Elliott – Senior Vice President, Strategic Rail Finance

Supply Chain / Logistics Expert:

Jonathan Gilbert – Senior Consultant, Gilbert Sachs Group

The Seabury Maritime Group of Experts

Analyst

Patrick Bird



*Project
Sponsor*

Gary Pedersen



*Project
Director*

John Elliott



*Senior Vice
President*

Jonathan Gilbert



Principal

Jack Joyce



Analyst



We Visited...



Rafael Cordero Santiago Port of the Americas



Demaco Terminal, Guayanilla



Roosevelt Roads Naval Station



José Aponte de la Torre Airport



Summary of Visit



Timeframe



Interviews

- Ponce, Rafael Cordero Santiago Ports of the Americas
 - General Manger of Ponce and Exec. Director of the Authority
- Demaco Terminal
 - The Principal owners and management team
- Roosevelt Roads
 - Executive Director of the Local Development Authority
- 23 stakeholders from various companies and agencies
 - Conducted roundtable discussion with robust participation
 - Follow-up questions were initiated
- Invest Puerto Rico
 - Six team members, with whom we worked in close collaboration with throughout our trip

Tours

- **Day 2** – Tuesday, September 17th
 - Ponce: Rafael Cordero Santiago Ports of the Americas
 - Guayanilla: Demaco Terminal, Demaco Corporation HQ
 - Mayaguez
 - Rincon
 - Aguadilla: Rafael Hernandez Airport
- **Day 3** - Wednesday, September 18th
 - Ceiba: Roosevelt Roads
 - Ferry Terminal and Adjacent Piers
 - Naval Station, including Dry Dock
 - José Aponte de la Torre Airport

Documents

- We poured over a number of documents to strengthen our understanding of the legislative and economic customs of Puerto Rico
 - Government and Legislative Policies
 - Jones Act
 - Stevens Act
 - Act 20, 22, 73, 273, 399
 - Agency Programs
 - Trade Statistics
 - Economic Indicator Reports
 - Infrastructure Plans
 - Roosevelt Roads Master Development Plan

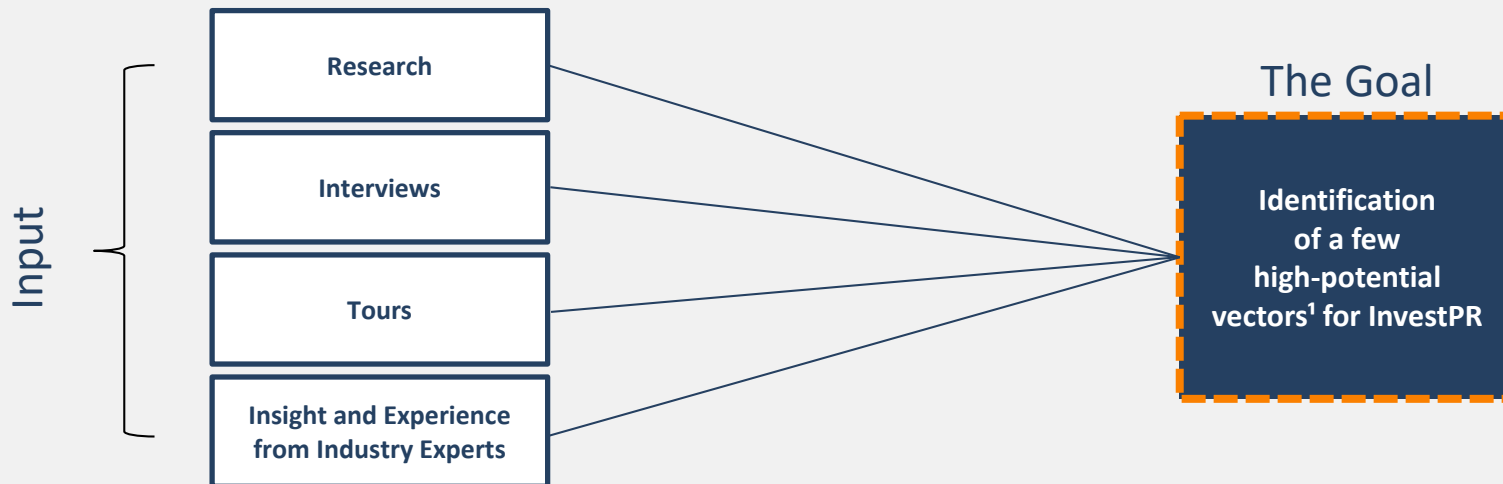
What Does Success Look Like?



Constructive Thinking for Agile Business

- Being an island economy, Puerto Rico is highly dependent (uniquely dependent for a United States territory) on the transportation and logistics sector to sustain its way of life
 - Puerto Rico is a modern economy, and like all other modern economies of the world, it's transportation infrastructure is compromised of a system of roads, highways, airports, ports and harbors, and railway systems that serve the almost 4-million people on Island
 - As it stands, transportation on the Island is heavily funded from both local and federal government funds
- To maximize operational efficiencies of the movement of goods and services, and ultimately conserve money and free time for other business endeavors, Puerto Rico will need to look toward implementing cooperative operating structures between private business and government entities. We will show how this can be done (through examples happening elsewhere in the world) later in this presentation
- The Seabury Maritime team has committed to providing InvestPR with the requisite information, analysis, and constructive business ideas to think about logistics and transportation as a primary driver of economic production in Puerto Rico. This presentation aims to demonstrate our findings.

Goal - Vector Identification



Section 2.

Grounding in Logistics and Location



Counting Zeros



Understanding relationships between freight weight, freight value, and mode grounds all other thinking in logistics

SHIPMENT WEIGHT										
Tons	0.0001	0.001	0.01	0.1	1.0	10	100	1,000	10,000	100,000
Pounds	0.20	2	20	200	2,000	20,000	200,000	2,000,000	20,000,000	200,000,000

MODE											
Air Freight	Air Freight						747 Jet				
Trucking	Parcel Services			LTL Trucking			1 Truck Load	50 Trucks			
Rail							1 Rail Car	12 Rail Cars	Unit Train		
Water								Barge	Small ship	Ocean ship	

Understanding Scale and Proportion

- Understanding the role of logistics in any given industry starts with comprehending orders of magnitude of freight weight and volume
- The range of shipment sizes literally span nine orders of magnitude, from 0.0001 ton parcels moved by ground or air mail to 100,000+ ton shipments moved by ocean-going bulk ships
- Some modes, have natural ceilings below the floor of other modes
 - A 747 cargo jet will carry about as much freight as one rail car
 - A train of 100 rail cars barely fills a small ship
 - Container shipping aggregates thousands of smaller shipments of 10 or 20 tons each into ship-sized units
- Some commodities, like bulk grain or iron ore, require locations with direct access to bulk shipping (rail and water) because inefficiency of transportation by any other mode erases the value of the product itself

Relation to Business Attraction Strategies

- Unit cost for transportation increases
 - Every time a product is touched
 - Every time a product changes modes, cost increases
 - The smaller the shipment size
 - The further the product moves
- Seek locate businesses where location allows minimum touches, minimum mode changes, maximum shipment size, and minimum distance traveled for both its process inputs and output to customers
- The relative value of a cargo correlates strongly to its weight and mode of transportation. So, air freight efficiency will generally benefit companies dealing in small, light objects with very high value density (\$100's or \$1,000's per pound). Marine freight efficiency will typically deal with heavy objects with very low value (pennies or dollars per pound).

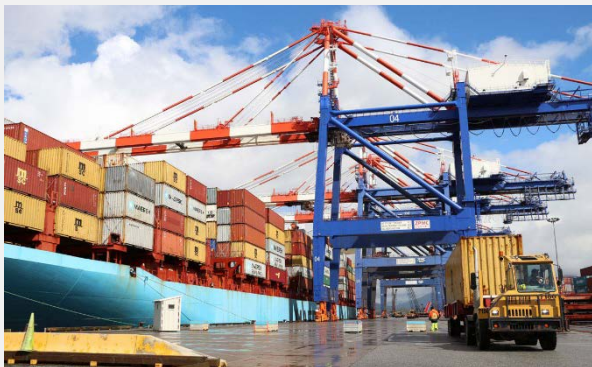
Threefold Factoring of Transport in a Regional Economy



Any and all of these three can drive—or drag—a regional economy

1

Transportation as a stand-alone service industry



Example: a coastal container transfer terminal

2

Transportation intrinsic to another industry



Example: an integrated rail yard, grain elevator, and flour mill

3

Transportation intrinsic to the cost of living



Example: NYC trash transportation from islands by barge

For business attraction in Puerto Rico, consider opportunities in all three categories as ways to retain and increase wealth in the island economy

Island Logistics are Foundational to Economic Growth

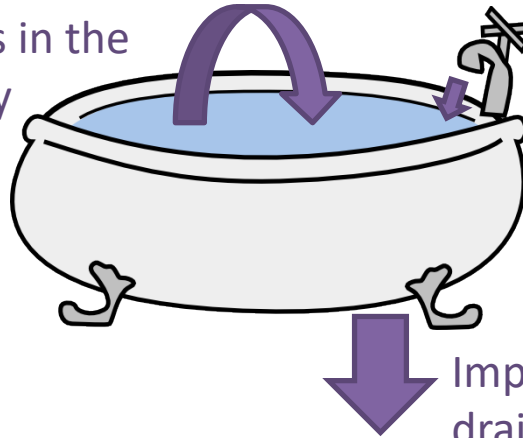


“There are essentially only two ways that an economy can grow. Either it can increase its production for the outside world or it can produce for itself what it otherwise would buy from the outside. The first of these is an expansion of exports. The second is import substitution.”

Persky et al. (1993, p. 18)

Local production

retains dollars in the
local economy



Exports are a source of
dollars for the economy

Imports and excessive transport costs
drain dollars from the economy

Puerto Rico’s economy will continue shrinking until it either exports more products of higher value (generating more cash inflow) or locally creates products that replace imports (slowing and reducing cash outflow). The island territory’s unique logistics constraints and logistics opportunities will largely determine its economic future.

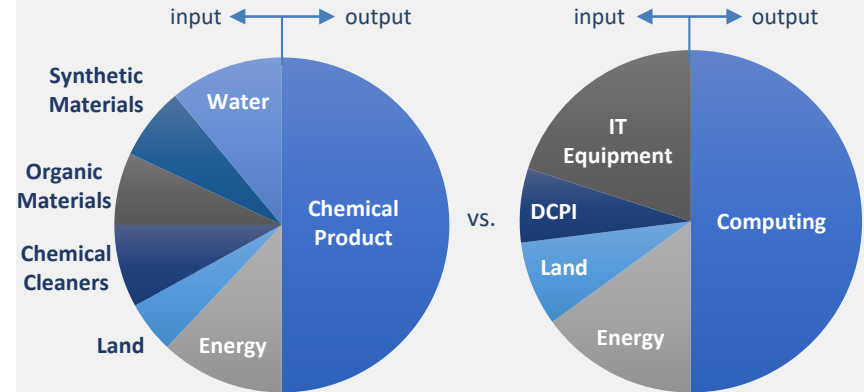
Input/Output and Location Quotient Analysis



I/O Quotients

- Each industry spends their dollar differently, purchasing the inputs required to produce their products
 - Items consumed in production: Various feedstocks, Energy
 - Cost to transform the inputs: Labor, Cost of Capital investment
 - Transportation: to bring inputs and deliver outputs
 - Taxes: including regulatory compliance costs
- Two sample I/O for North American chemical plants vs. data centers (right) shows how differently they relate to supply chains, and how differently they impact a region's economy
- Each economic region (e.g. island, or metro area) has a location quotient for each main industry, which is simply measures an industry's relative concentration in that region. Industry concentration levers the I/O quotients to predict demand for a product in that region, thereby creating supply chain strengths and
- Industrial location theory and practice focuses on minimizing total costs of production**, which often requires co-location with suppliers or customers. This trend combines with concentration of specially skilled labor creates localized industry clusters
- Industry clusters tend to over-produce products required locally, thus generating product exports and currency import (thereby becoming a means of local wealth generation)
- Business attraction strategy should focus the intersection of a particular industry's requirements and Puerto Rico's respective advantages** (e.g. locally available feedstocks, lower relative transportation costs, better tax or regulatory environment)
- Business attraction strategy can also seek to complement and locally extend the supply chains of existing businesses.** Start by asking business leaders, what do you buy, from whom, and where? What inputs cost more than they should because they're on an island? (see the Salad Dressing example, right)

Sample I/O – Chemical Plant vs. Data Center



Hypothetical Example in Supply Chain Inquiry: Salad Dressing

- What does the Salad Dressing company purchase from others? (answer: vinegar, vegetable and olive oils, herbs, spices, cardboard boxes, plastic bottles and caps, and bottle labels).
- Which inputs have an outsized transportation cost inside them?
- How can that supply chain be increasingly localized for value retention?
- What inputs could be shipped in larger volumes or different form to reduce transportation costs?
- Which inputs are overpriced due to island logistics (vs. mainland)?

IDEA: Can we reduce overall cost of salad dressing by shipping resin beads in bulk and making bottles and caps locally? Are there others nearby importing plastic bottles? Would there be a bottle supplier eager to secure these customers with a local bottle manufacturing facility?

Industry Depend upon Various Transport Modes



In addition to unique relationships to other transport modes and government, each mode supports certain dependent industries

483: Water transportation

5412OP	Misc professional, scientific, and technical services	0.0018
111CA	Farms	0.0013
GFG	Federal general government	0.0012
GFE	Federal government enterprises	0.0012
311FT	Food and beverage and tobacco products	0.0011
331	Primary metals	0.0006
483	Water transportation	0.0006
481	Air transportation	0.0005
212	Mining, except oil and gas	0.0004
327	Nonmetallic mineral products	0.0004
484	Truck transportation	0.0003
486	Pipeline transportation	0.0003
482	Rail transportation	0.0003
487OS	Other transportation and support activities	0.0003
325	Chemical products	0.0002
213	Support activities for mining	0.0002
22	Utilities	0.0002
55	Management of companies and enterprises	0.0002
23	Construction	0.0002
GSLG	State and local general government	0.0002

484: Truck transportation

484	Truck transportation	0.0609
327	Nonmetallic mineral products	0.0422
321	Wood products	0.0258
311FT	Food and beverage and tobacco products	0.0212
322	Paper products	0.0173
337	Furniture and related products	0.0168
331	Primary metals	0.0166
212	Mining, except oil and gas	0.0162
111CA	Farms	0.0153
313TT	Textile mills and textile product mills	0.0153
213	Support activities for mining	0.0114
23	Construction	0.0112
3361MV	Motor vehicles, bodies and trailers, and parts	0.0110
339	Miscellaneous manufacturing	0.0104
323	Printing and related support activities	0.0099
315AL	Apparel and leather and allied products	0.0096
332	Fabricated metal products	0.0095
325	Chemical products	0.0094
333	Machinery	0.0091
326	Plastics and rubber products	0.0089

481: Air transportation

GFE	Federal government enterprises	0.0107
514	Information and data processing services	0.0070
562	Waste management and remediation services	0.0060
521CI	Federal Reserve banks, credit intermed, and related	0.0057
323	Printing and related support activities	0.0054
GFG	Federal general government	0.0053
511	Publishing industries (includes software)	0.0050
5415	Computer systems design and related services	0.0046
484	Truck transportation	0.0044
561	Administrative and support services	0.0043
5412OP	Misc professional, scientific, and technical services	0.0035
512	Motion picture and sound recording industries	0.0031
337	Furniture and related products	0.0027
523	Securities, commodity contracts, and investments	0.0025
321	Wood products	0.0024
532RL	Rental and leasing services and lessors of intangible assets	0.0023
487OS	Other transportation and support activities	0.0023
332	Fabricated metal products	0.0023
713	Amusements, gambling, and recreation industries	0.0021
326	Plastics and rubber products	0.0021

482: Rail transportation

212	Mining, except oil and gas	0.0368
331	Primary metals	0.0272
22	Utilities	0.0245
327	Nonmetallic mineral products	0.0140
484	Truck transportation	0.0123
322	Paper products	0.0110
325	Chemical products	0.0067
311FT	Food and beverage and tobacco products	0.0058
GFE	Federal government enterprises	0.0054
482	Rail transportation	0.0048
213	Support activities for mining	0.0046
321	Wood products	0.0045
326	Plastics and rubber products	0.0044
111CA	Farms	0.0040
332	Fabricated metal products	0.0026
337	Furniture and related products	0.0019
335	Electrical equipment, appliances, and components	0.0018
3361MV	Motor vehicles, bodies and trailers, and parts	0.0017
323	Printing and related support activities	0.0014
333	Machinery	0.0012

- Industries most dependent upon Marine Transport are farms, food manufacturing, primary metals, mining, minerals, chemicals, utilities, and construction
- Industries most dependent upon Air Transport (generally) are mostly service related, along with printing and publishing and some manufacturing
- Many, diverse industries depend upon trucking, which is so ubiquitous in North America as to almost become a non-differentiator
- Certain industries almost cannot exist without rail: utilities (for coal and oil), primary metals (for ore), paper (for pulp and finished goods movement)

Application to Business Attraction

- Look for import replacement and export opportunities by attracting bulk-shipping dependent industry to on-dock and near-dock sites
- Rail-dependent industries overlap with marine-dependent industry, and on an island without railroads these activities could locate on-dock or near dock where bulk transportation is cheapest or rail-borne commodities on the continent could be shipped to the island in bulk vessels
- Air services on an island will naturally be more robust than in a mainland city of similar size. Therefore, air travel will likely not be a limiting factor and could become an attractive feature with advantageous connecting locations

Principles in Supply Chain Analysis & Design



Building Competitive Supply Chain Capabilities

- Building competitive supply chain capabilities requires understanding the unique advantages of each location being considered
- Site location studies go deep into country risk, customs and duties, logistics costs, capabilities, and capacity
- For companies looking to establish trade in the Caribbean and South America, Puerto Rico enjoys significant supply chain advantages in the Caribbean
 - Country Risk:** Superior rule of law, US defenses, and use of the US dollar for financial transactions virtually eliminates country risk
 - Trade Efficiency:** No customs or duties for inbound cargo from the US mainland; ample FTZ areas allow imports without immediate entry cost
 - Geographic Advantage:** Centrality to the Caribbean market means short trade routes to many other island economies
 - Geographic Advantage:** Puerto Rico is also well placed to service South American demand for North American shippers
 - Transportation Links:** Frequent sailings and adequate port capacity ensure security of supply
 - Workforce:** Specialized skills, especially in pharma and chemical production mean that Puerto Rico can support production and distribution
- For Puerto Rico, the challenge is finding companies that have these unique needs
 - Competing in the broader market where these factors are less important will not be a winning strategy
 - Instead, Puerto Rico must focus on companies that can clearly benefit from the Island's unique capabilities

Companies build their supply chains to create differentiated offerings and drive competitive advantage. This example shows a firm that sets different supply chain goals for each of its sales channels.



Performance Category	Competitive Requirements (Choose: 1 Superior / 1 Advantaged / 2 Parity)				
	Channel →	International	Wholesale	Reseller	Solutions/End Users
Delivery Reliability	↗	S	P	P	S
Responsiveness/Speed	↔	P	A	S	P
Flexibility	↓	P	P	P	P
Cost	↑	A	S	A	A
Working Capital	↓	P	P	P	P
Stocking Policy Implications		Concentrate on managing unreliable lead-time items; hold more safety stock	Concentrate on managing long lead-time items; hold less safety stock	Concentrate on managing long lead-time items; hold more safety stock	Concentrate on managing unreliable lead-time items; hold more safety stock

Principles in Supply Chain Analysis & Design cont'd



More Than Cost is at Stake

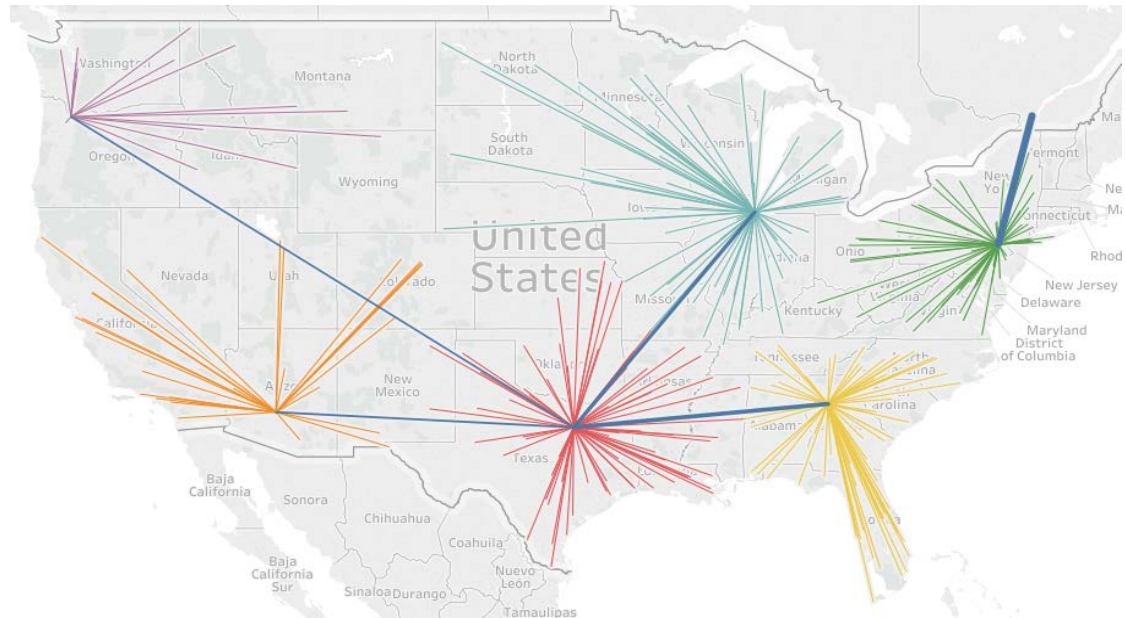
- Supply chain leaders trade off reliability, responsiveness, flexibility, and cost to locate facilities
- Companies design supply chains to fulfill customer requirements
- Different markets can require vastly different supply chain strategies
- Locations of production/inventory relative to demand are optimized through network analysis
 - Heuristic and linear programming models are used to locate sites, trading off costs vs. service levels
 - Understanding how companies make these decisions can help drive more effective use of EDA resources

Supply Chain Drivers

- Supply chain strategy is driven by analysis of:
 - Customer requirements
 - Competitive market positioning and value proposition
 - Availability of working capital
 - Physical characteristics of demand (location, transport options, etc.)
 - Availability of capital
 - Other additional factors

Network Analysis Showing Supply Chain Service Areas and Routes

Companies build distribution networks that balance DC operating and transportation costs. The optimal solution adds locations until the marginal cost of a new facility outstrips the transportation savings it can provide.





Fact File

- **ISO code:** PRI
- **Language:** Spanish, English
- **Currency:** US Dollars (USD)
- **Time zone:** GMT-4
- **Dialling code:** +1 787
- **Capital city:** San Juan
- **Area:** 13,790 sq km
- **Population:** 3,620,897
- **Weights & measures:** Metric system
- **Electricity supply:** 120v. 60Hz



Commodities and Trading Partners

- **Exports:** Chemicals, electronics, apparel, canned tuna, rum, beverage concentrates, medical equipment
- **Imports:** Chemicals, machinery and equipment, clothing, food, fish, petroleum products
- Principal trading partners – exports:
 - **United States:** 90.3 %
 - **United Kingdom:** 1.6 %
 - **Dominican Republic:** 1.4 %
 - **Netherlands:** 1.4 %
- Principal trading partners – imports:
 - **United States:** 55 %
 - **Ireland:** 23.7 %
 - **Japan:** 5.4 %

Prohibited Cargo

Imports

- Meat or any products thereof (dried, canned etc).
- Narcotics and some medication containing prohibited substances (see source website for more details).
- Absinthe (or other alcohols containing artemisia absinthium).
- Plants, seeds, vegetables, fruits.
- Soil, livestock or animal pests.
- Biological (bacteria cultures, fungi specimens, viruses and others for research and etc, Permissible only with APHIS permit).
- Unprepared fish and fish eggs.
- Imports from embargoed countries (Iran, Cuba, Myanmar, Sudan) and leather souvenirs.
- Endangered wildlife species and products thereof (for example clothing and accessories).
- Cultural artefacts from Byzantine period, Pre-Columbian period, Khmer sculptures (unless with permission).
- Dog and cat fur.
- Items infringing trade and copyright regulations.

Exports

- Narcotics and some medication containing prohibited substances.
- Absinthe (or other alcohols containing artemisia absinthium).
- Biological material (bacteria cultures, fungi specimens, viruses and others for research and etc. permissible only with APHIS permit).
- Endangered species that have not been outlined by CITES convention.
- Items infringing trade and copyright regulations.

Import/Export & Trade Balance Economics



General Trade Economics In Puerto Rico

- Puerto Rico had one of the most robust economies in the Caribbean until 2006
 - In 1948, GNP per capita in Puerto Rico was \$1,478 (in 1990 dollars)
 - By 1994, GNP per capita increased to \$6,361 (in 1990 dollars)
 - Over the past 12 years, however, the Island has seen negative annual growth

- The industrial sector greatly exceeds agriculture as the focal point of economic activity and income

- Tourism has, historically, been an important source of income on the Island
 - The first quarter of 2019 saw great resurgence in the post-Maria tourism industry
 - Total demand for independent rentals is up by 72% in the same period
 - The year-end forecast for 2019 shows booking is nearly 25% higher than 2018 levels

- Puerto Rico's merchandise trade surplus is particularly strong, with exports nearly 50% greater than imports
 - Current account surplus is roughly 10% of GDP

- Puerto Rico's dependency on oil for transportation and electricity generation, as well as its dependency on food imports and raw materials, makes Puerto Rico volatile and highly reactive to changes in the world economy and climate

Principal Imports

Commodities	Partners
Chemicals	United States (55.6%)
Machinery and Equipment	Ireland (13.4%)
Food	Singapore (6.1%)
Petroleum Products	Switzerland (2.9%)
Motor Vehicles	South Korea (2.8%)

Principal Exports

Commodities	Partners
Chemicals	United States (76.5%)
Electronics	Belgium (6.1%)
Rum	Netherlands (3.4%)
Beverage Concentrates	Italy (1.7%)
Medical Equipment	Spain (1.6%)

2018 Freight Stats for Puerto Rico



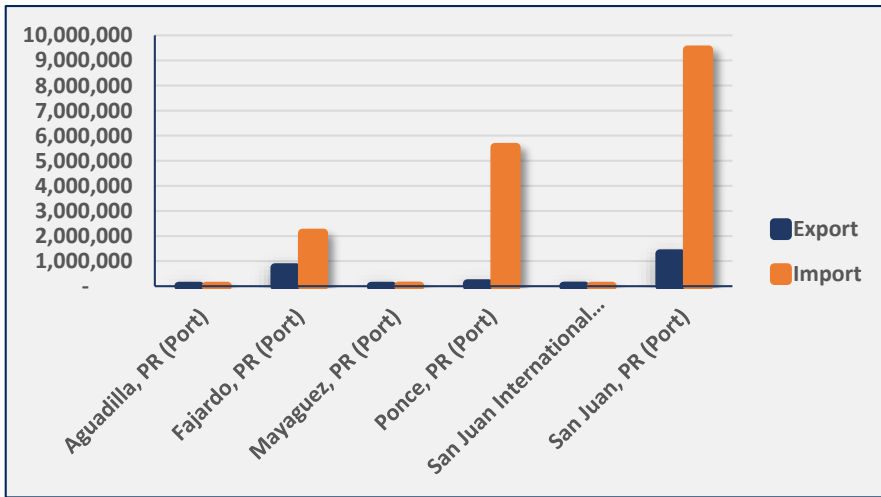
The Puerto Rico Ports Authority

- The Puerto Rico Ports Authority (PRPA) is the government agency empowered with all necessary rights to develop, own, upgrade, operate, and manage Puerto Rico’s air and maritime infrastructure in order to promote the economy and the well-being of its people
 - The PRPA owns 13 airports (10 fully operational)
 - All 10 operational regional airports are operated by the PRPA
 - The PRPA oversees nine seaports one the Island
 - The overwhelming majority of throughput occurs at Port of San Juan
- The PRPA has a strategy to develop and promote Puerto Rico as a transportation center with world class air and maritime serviced in order to effectively compete in the international trade marker
- The PRPA’s additional mandate is to promote capital income and the creation of new industries in Puerto Rico, in effect, creating effective strategies to develop and expand commercial opportunities in port facilities

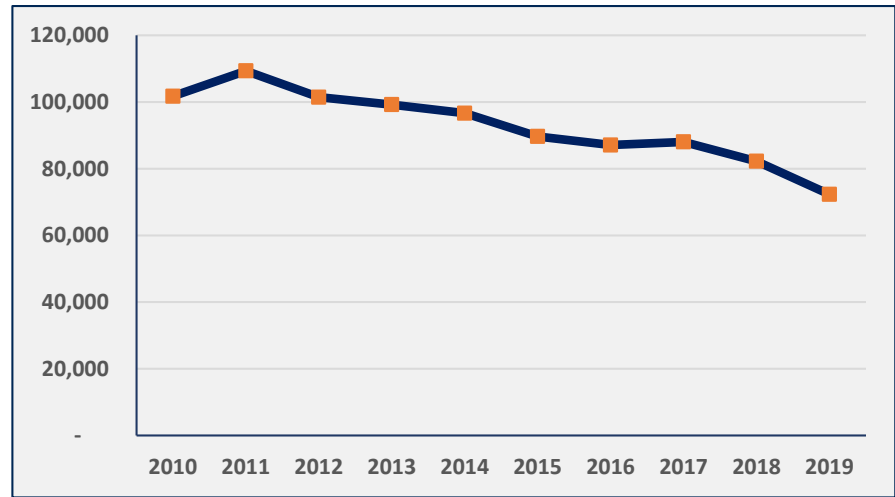
Total Freight Throughput (kg)

Exports	499,263,088
Imports	4,030,152,200
Grand Total	4,529,415,28

Marine Freight (thousands of kg)



Air Freight (thousands of lbs)



Container Stats CONUS/Puerto Rico – Ocean



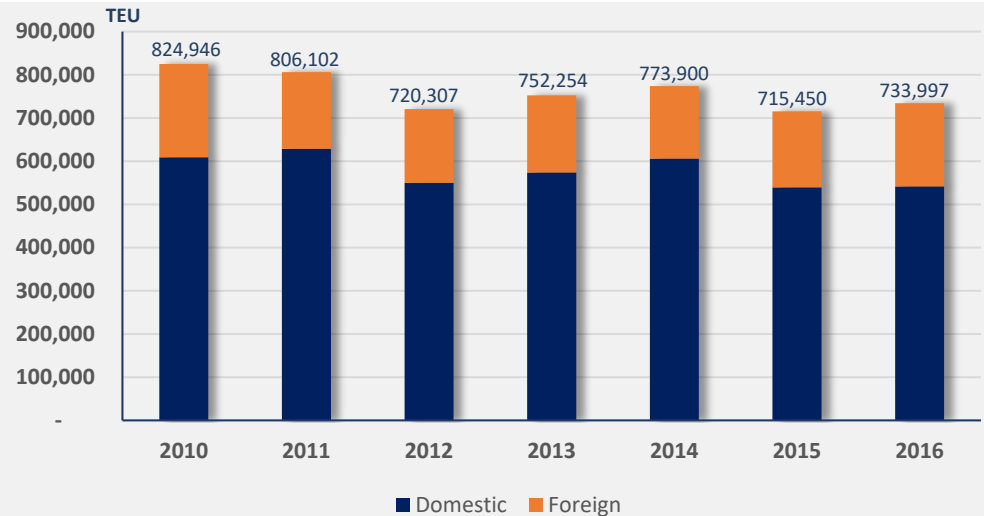
Container Carriers moving to/from Puerto Rico and Continental United States (CONUS)



Container Carriers

- Tote Maritime and Crowley are the primary container carriers who serve the shipping needs of Puerto Rico from the US mainland
 - Crowley transmits more than four million units between the commonwealth and the US mainland per year
 - Tote Maritime is the preferred carrier for perishable commodities from the US mainland to Puerto Rico
 - Both services are most active at Port San Juan
- 73.8% Container moves by US Flag vessels
- 26.2% Container moves by Foreign vessels
- 43% Vessel Calls by USA Flag vessels
- 57% Vessels Calls by foreign vessels

Puerto Rican Ports Container Traffic By Year



Puerto Rican Seaport Infrastructure



Snapshot of Seaport Infrastructure Locations on Island





General Information

San Juan

▪ Puerto de San Juan (Tourism dock (Cruises)):

- Spring 1: Use of cruise ships in transit and home-port with a capacity of few passengers such as the Seadream. It is used to dock frigates or military ships.
- Spring 2: Boat Terminal. The facilities were transferred to the Maritime Transport Authority (ATM) and are responsible for their maintenance.
- Spring 3: Use of cruise ships in transit. Royal Caribbean has preferential use of the pier.
- Spring 4: Dock for use of cruise ships in transit and home-port. Carnival and its subsidiaries have preferential use of docks.
- Pan American Docks: I (East), II (West)
- Use of cruise ships in transit and home-port.
- Royal Caribbean and its subsidiaries have preferential use of the pier.

▪ Loading Docks:

- Grounding Gate Area
- **Spring 10:** The largest export dock. It is estimated that it exceeds \$ 100 million in exports. It is used by different transport companies to mobilize goods, equipment and materials to mobile casino no deposit required the smaller islands. They are known as gondoliers. They use schooner-style boats that dock Mediterranean and Ro-Ro style. The load is carried on pallets. **Spring 11:** Used mostly for the cargo receipt of construction materials. **Spring 12:** Used mostly for the cargo receipt of construction materials. **Spring 13:** Used mostly for the cargo receipt of construction materials. **Spring 14:** Used mostly for the receipt of 90% of the load of construction materials, among them: rod, structural steel, wood, among others. **Navy Frontier Dock:** Used mostly for cruise ships, car-carriers and docking of luxury boats (yachts)
- **Isla Grande area:** Crowley Pier - The ramp is used to unload containers, its operation is Ro-Ro. Spring 15: Containerized cargo, car cargo and tugboat docking. Spring 16: Containerized cargo, car cargo and tugboat docking.

Elsewhere in Puerto Rico – Main Island

- **Muelle Arecibo:** Electric Power Authority (AEE) is the main operator. Use: Transmission of fuel by pipeline to the PREPA Cogeneration Plant.
- **Guánica:** Operations of unloading and loading of chemicals and asphalt, handling of fossil and chemical fuels and unloading and loading of propane gas through pipes to tanks. Used by the companies Demaco and Better Roads; the Tallaboa pier, by Pro Caribe.
- **Muelle Guayama - Las Mareas:** Facilities for the receipt and transportation of oil and derived products. The AES dock is for exclusive use, it has conveyors to the generating plant. Tugboat service and port practical 24 hours a day.
- **Muelle Yabucoa:** Facilities for the receipt of crude oil and fuel shipment. Buckeye-Shell Oil have preferential use
- **Muelle Fajardo:** Terminal Lanchas. Passengers
- **On Vieques:** Muelle Vieques: Vieques terminal. Passengers
- **On Flamenco:** Muelle Culebras: Passenger boat terminal



San Juan

▪ Ocean Container Carriers

- Trailerbridge*
- Tote*
- Crowley*
- National Shipping Company of Americas*
- Tropical Shipping
- CMA-CGM
- Maersk Sealand
- Hapag Lloyd

▪ Bulk Shipping

- Crimson Shipping*
- Moran Towing*
- United Ocean Services*

▪ Cruise Operators

- | | |
|--------------------------|------------------------|
| - AIDA Cruises | - SeaDream Yacht Dream |
| - Azamara Club Cruises | - Silversea |
| - Carnival | - Viking Ocean Cruises |
| - Costa Crociere | - Windstar Cruises |
| - Crystal Cruises | - Royal Caribbean |
| - Holland America Line | - Regent Seven Seas |
| - MSC Cruises | - Princess Cruises |
| - Norwegian Cruise Lines | - Oceania Cruises |



Ponce – Port of the Americas

▪ Bulk Operations specializing in:

- Scrap Metal
- Clinker
- Cement
- Molasses
- Coal
- Slag
- Gypsum
- Wood
- Sulfur
- Sand

▪ Other Operations:

- RoRo (Roll-on / Roll-off)
- Military Cargo

▪ Cruise Operators:

- Royal Caribbean
- Celebrity Cruises



Puerto Rican Airport Infrastructure



Snapshot of Airport Infrastructure Locations on Island





San Juan

- **Luis Muñoz Marín International Airport San Juan (SJU)**
 - By far the largest passenger and cargo terminal in San Juan – it is the busiest airport in the Caribbean by passenger traffic, as it's the main gateway
 - The airport serves as a focus city for JetBlue Airways, being the largest carrier in the airport
- Passengers
 - In 2017, Luis Muñoz Marín International Airport handled 8,407,404 passengers
 - Quite far from the record established in 2005, of 10,768,698 passengers
- The top ten destinations from San Juan Airport are US Airports
 - Orlando, New York, Fort Lauderdale, Miami, Atlanta, Newark, Philadelphia, Charlotte, Tampa Bay, and Boston

Elsewhere in Puerto Rico – Main Island

- **Rafael Hernández Airport Aguadilla (BQN):** Freight, commercial passenger flights, free trade zone, base for federal agencies such as: USCBP, USCG and USDA. Air rescue training base, aviation history museum, airline maintenance base, commercial asset development
- **Eugenio María de Hostos Airport Mayagüez (MAZ):** General aviation, aeronautical education, development of commercial assets, tourism.
- **Mercedita International Airport Ponce (PSE):** Cargo, support to the Port of Ponce, commercial flights and passenger chartered, development of commercial assets.
- **Humacao Regional Airport Humacao (X63):** General aviation, recreational events and development of commercial assets.
- **Aeropuerto José Aponte Ceiba (NRR):** General aviation, commercial and chartered passenger flights, aeronautical education, regional cargo, aeronautical maintenance, events and commercial development of assets.
- **Fernando Ribas Dominick/ Isla Grande Airport Isla Grande (SIG):** General aviation, commercial and chartered passenger flights, regional cargo, support to the Convention District, aviation school and airline maintenance.
- **Aeropuerto Regional Antonio Nery Juarbe Pol Arecibo (ABO):** General aviation, recreational events and development of commercial assets.

Vieques and Flamenco

- **Antonio Rivera Rodríguez Airport Vieques (VQS) and Benjamín Rivera Noriega Airport Culebra (CPX):**
 - Commercial aviation, commercial flights and passenger chartered, development of commercial assets, tourism.



Luis Muñoz Marín International Airport San Juan (SJU)

Passenger Airlines

- Air Canada
- Air Sunshine
- AirTran Airways
- American Airlines
- American Eagle
- Cape Air
- Continental Airlines
- Copa Airlines
- Delta Airlines
- Direct Air
- Iberia
- Insel Air
- JetBlue Airways
- LIAT
- PAWA Dominicana
- Spirit Airlines
- Sun Country Airlines
- United Airlines
- US Airways
- Vieques Air Link
- Virgin Airways

Freight Airlines

- ABX Air
- Ameriflight
- Amerijet International
- Capital Cargo Int'l Airlines
- Centurion Air Cargo
- DHL
- FedEx Express
- FedEx Feeder (Mountain Air)
- Roblex Aviation
- Tampa Cargo
- Tradewinds Airlines
- UPS Airlines



Rafael Hernández Airport Aguadilla (BQN)

Passenger Airlines

- Continental Airlines
- JetBlue Airways
- PAWA Dominicana
- Spirit Airlines

Freight Airlines

- Ameriflight
- Atlas Air
- CaribEx Worldwide/CaribEx Int'l Airlines
- CaribEx Worldwide/CaribEx Int'l Airlines operated by Skyway Enterprises
- Contract Air Cargo
- Corporate Air
- FedEx Express
- FedEx Feeder operated by Mountain Air Cargo
- Merlin Ventures Ltd
- Merlin Express
- Mountain Air Cargo
- Roblex Aviation
- Tradewinds Airlines





State of the Island

- Puerto Rico is subject to the same U.S. customs regulations and tariffs that are applicable to all other ports on the U.S. mainland and in Alaska and Hawaii. There is no Customs surcharge for Puerto Rico.
- Per Export.gov shipments to Puerto Rico, as a U.S. territory, are not considered exports so duties are not applied. Puerto
 - Most goods arriving at the port are liable for Puerto Rico sales and use taxes that are calculated and paid before the items leave port (“PICO system”)
- Goods shipped between Puerto Rico and the CONUS must file Electronic Export Information (EEI). The EEI is the electronic data filed in the US Customs and Border Automated Export System (AES). This information is mandated to be filed through the Automated Export System or ACE AESDirect and is an electronic declaration of merchandise. The information is used to help compile U.S. export and trade statistics. It is also used by other government agencies for trade enforcement purposes.

Jones Act – Maritime Cabotage

▪ Background

The Jones Act requires all goods shipped between two U.S. points (Jacksonville to San Juan, for example) be carried on American built, American crewed, and American owned vessels. The Act does not require goods from overseas be shipped to Puerto Rico on U.S.-flag vessels, does not slap taxes on foreign ships servicing Puerto Rico, and has not prevented the distribution of aid to Puerto Rico.

▪ Argument

The Jones Act increases the cost of goods and services shipped to and from Puerto Rico

▪ Suggested action by those in opposition.

Repeal of the Jones Act

Stevens Amendment – Air Cabotage

▪ Background

Federal law does not allow U.S. carriers to use excess capacity of their foreign partners to move international cargo. The foreign carrier must make the full trip by itself. It is prohibited from transferring cargo to or from a U.S. carrier flying the international leg of the journey.

In 2004, a USDOT exemption for Alaska in the FAA authorization passed the Stevens Act. This allowed landed cargo in Alaska, on its way to and from the lower 48 states, to be shuffled among planes and carriers at that time without being subject to federal regulations.

▪ Argument

Puerto Rico is well-placed geographically; it is relatively easy to fly to the US, Europe, South America, Central America, and the Caribbean. A “Stevens Amendment for Puerto Rico” would help economic development on the Island, allowing: the entry of new air cargo companies, a greater usage of its capacity for the benefit of the international transport, and the creation of new jobs. Additionally, the foreign airlines would not be penalized for stopping in Puerto Rico, which creates a mutual profitable relationship.

▪ Suggested action by those in favor.

Adoption of similar regulations as the Stevens Act.

Section 3.

Logistics-based Business Attraction Opportunities



Opportunity Sites



Puerto Rico Relative to Caribbean Neighbors

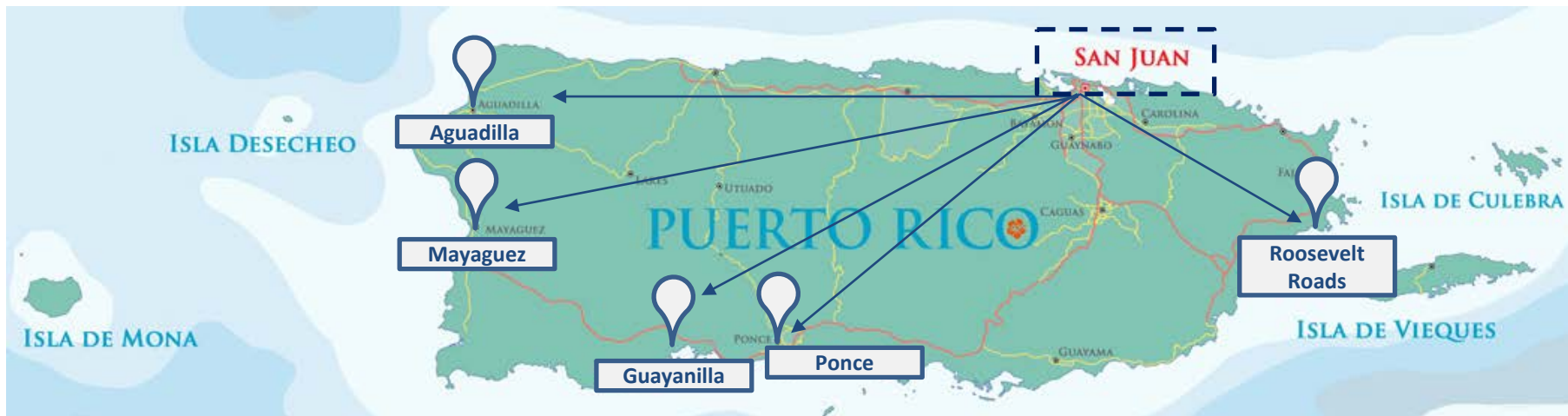


Opportunity Sites with Quality Infrastructure in Place





Opportunity Sites Expanded Upon...



Puerto Rican Commerce is “San Juan-Dominant”

- The vast majority of the Island’s commerce is centralized in the Puerto Rican capital of **San Juan**
 - The population of the metropolitan area makes up roughly 80% of the overall population of Puerto Rico; these areas include Bayamón, Guaynabo, Cataño, Canóvanas, Caguas, Toa Alta, Toa Baja, Carolina, and Trujillo Alto. All in, there is roughly **2.6 million inhabitants**
 - This same 80% is marginally higher in terms of the working population on a daily basis, as Island residents come from all over the island for jobs which are located in the San Juan region. Thus it is reasonable to infer that a substantial portion of the Island’s GDP is created out of the San Juan area

Other Potential Business Regions on Island

- This dynamic creates a natural opportunity for business growth in other regions of the Island, especially due to **“ready-use” infrastructure**
- Also, due to the general size of the Island, 3,525 sq. miles (slightly larger than the state of Delaware), another benefit is **accessibility**
- Distance and Time (by road) from San Juan:

– Ponce	122 km, 1 hour and 20 minute drive
– Guayanilla	141 km, 1 hour and 45 minute drive
– Mayaguez	193 km, 2 hour and 20 minute drive
– Aguadilla	132 km, 2 hour drive
– Roosevelt Roads	72 km, 1 hour and 15 minute drive



Manufacturing and Distribution

- 1 Steel Manufacturing
- 2 Cold Chain Transshipment Hub
- 3 Transshipment Hub
- 4 Micro Pharma Plant
- 5 Chemical Distribution
- 6 Specialty Cargo Transshipment
- 7 Household and C&DD Materials
- 8 Glass Manufacturing

Other Transportation-based Opportunities

- 1 Air Hub and Operations
- 2 Liquefied Natural Gas (LNG)
- 3 Roosevelt Roads
- 4 Graving Dock
- 5 Port Community System
- 6 Reuse of Dredge Material
- 7 Research and Training Facility
- 8

Logistics-based Business Attraction Opportunities

Manufacturing and Distribution





Steel Mini-Mill for Manufacturing Steel Reinforcement Bar and Wire Mesh

- Puerto Rico's construction industry relies heavily upon cement concrete construction, which consumes large amounts of steel bar and mesh for reinforcement. Demand will increase with storm reconstruction activity and with modern building codes
- Steel (and other primary metals) depend heavily upon bulk transportation and energy.
 - The underutilized Port at Ponce could be used for raw materials input and finished goods export via ocean barge or small vessels to other islands
 - Existing undeveloped land around the Port of Ponce is close to local workforce, warehousing, and other amenities
 - The existing industrial area of south western Puerto Rico has power production and transmission assets
- Primary metals has one of the highest multipliers of any industry (at \$2.65 of national economic benefit for every \$1.00 of revenue) which will likely increase in the context of a transportation-dependent industry and an island with high transportation costs.



Leveraging Puerto Rico's Strengths

- Puerto Rico has reliable local demand, which is supplemented by those of nearby islands
- A larger island with a built-in market makes it a natural location for Caribbean region production
- Sources of local scrap (generated by the island) might no longer be exported (e.g. Schnitzer Steel operation in Ponce) but would be consumed locally, adding value to a local "waste" product
- "American" steel requirements in federal construction projects could create CONUS market for steel products manufactured in Puerto Rico backhauled on vessels otherwise supplying the island



Build out the supply chain for Puerto Rico's builders

Moving Ahead Requires...

- Preparing for and launching a business attraction campaign.
- Local alignment. Prioritize near-dock land in Ponce for industrial development (versus container handling). Inventory utilities, local roads, and other characteristics of the potential site (e.g. ground bearing capacity). Confirming the capabilities of the Port of Ponce
 - Identify the total import volume of reinforcement steel to the island and nearby markets
 - Determine the price differential in steel "retail" prices in Puerto Rico versus other markets
 - Identify potential local customers (distributors, large consumers)
 - Identify all "mini-mill" owners in the US and linked import-export partner countries. Begin direct outreach with the target investment companies



Puerto Rico as a Cold Chain Hub

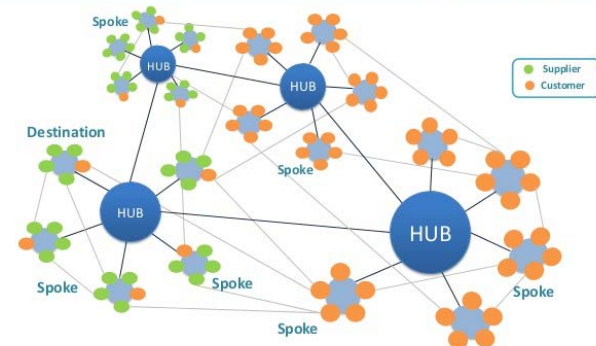
- With over \$66Billions of exports from the pharmaceutical industry in order to reduce the insurance risk , increase the confidence and branding for shipping our Biopharmaceutical goods we need to incentivize the supply chain to become a IATA Certified Pharmaceutical Cold Chain Hub
- Branding PR as a IATA Certified Pharmaceutical Hub as Miami Airport requires the incentives and promotion to corporate and local management . Invest PR can facilitate this role.
- This IATA Certification will complement the PR AIR HUB DOT status once approved.

Requirements for Success

- **Certification:**
 - A minimum of 7 companies from transportation, warehousing, airlines need to be certified.
 - This certification process will require changes in operations, tracking, increase documentation and validations, that could increase the cost of doing business.
 - If the companies service the industry they should be in compliance, but not certified.

Cold Chain Network Design

What is Cold Chain Network Design ? ...(2)



Identifying the locations and capacity of warehouses and number of trucks to meet the demand, which reduces overall investment, operating expenses and wastage from end-to-end.

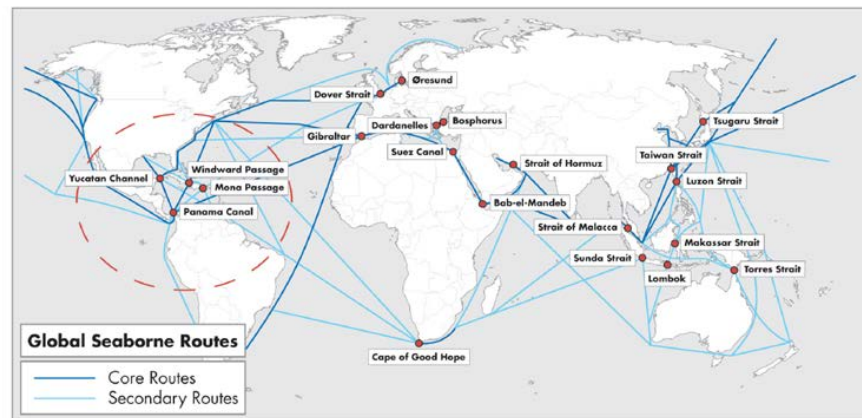
Ponce – Transshipment Hub



Port of Ponce as an International Shipping Hub

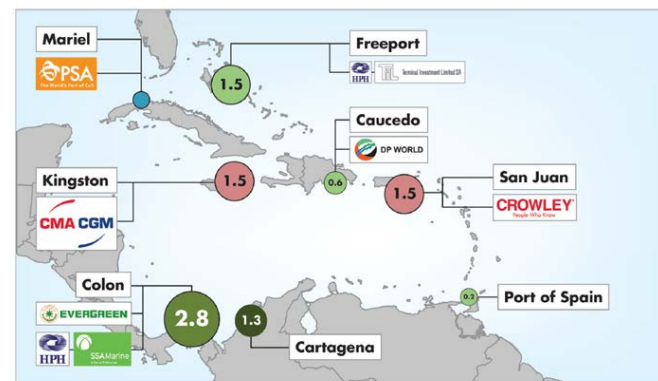
- Discussions have revolved around the Port of Ponce as an international shipping hub for the Caribbean.
- The main trends in the Caribbean maritime sector are the increasing vessel sizes and consolidation among shipping lines. These trends are expected to continue. In fact, double transshipment moves inside the Caribbean basin (which already occur) are likely to become more prevalent as shipping lines aim to optimize the use of the larger vessels. In order to do so, shipping lines will call only at several large and conveniently situated ports with the largest vessels.
 - Consequently, medium-sized vessels will serve several regional hubs, and small vessels will be employed to serve small regional ports. As such, regional transshipment activity will likely increase and a new regional hub would possibly emerge among the smaller ports.
- This dynamic will create intense competition
 - Competition in the Caribbean for container handling is fierce. There are identified 11 main port development projects identified in the Caribbean which will add about 21 Million TEU capacity in the coming decade.
- However,
 - The major game changer in the container shipping sector is the expansion of the Panama Canal **The Panama Canal Expansion increases the capacity of the Canal from 5,100 TEU to 13,200 TEU vessels**

Global Sea Routes



Source: Dr. Jean-Paul Rodrigue, Dept. of Global Studies & Geography, Hofstra University

Transshipment Stats in Caribbean



Transshipment TEU in 2013	Container Throughput CAGR 2009 - 2013
2.8 Million TEU Transshipment	> 15%
	10% to 153%
	0% to -5%
	< -5%
	5% to 10
	0% to 5%
	Unknown
	New Development



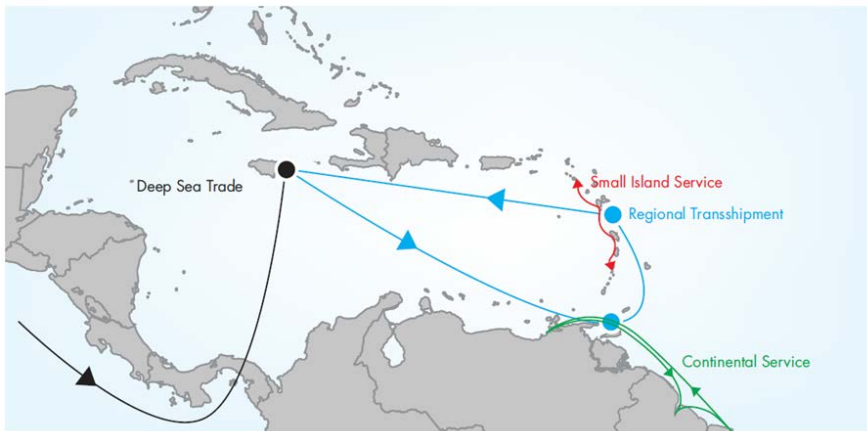
Increased Vessel Sizes

- Side effects of increased vessel sizes transiting through the Panama Canal
 - Knock-on or cascade effect:** This effect is basically the knock-on effect that the introduction of Ultra Large Container Ships (ULCS) elicits on the type of vessels deployed in other trades around the world. The deployment of ULCS on the North Europe/Far East trade is pushing current smaller classes into the Far East/South America trades and the Trans Pacific trades. Thereafter those trades are also affected and their vessels move on to other trades.
 - Growing importance for transshipment:** With the increased vessel size and the corresponding increased call sizes, these vessels put a lot of pressure on port infrastructure and handling equipment. Transshipment is used to serve the smaller spoke ports from the main hubs (hub & spoke) and the feeder vessels are used to fill the main liner vessels.

Shipping Consolidation

- The trend for the consolidation of Shipping lines leads to a higher concentration of container handling. The container shipping industry has seen a large number of mergers and alliances forming over the past decades. The recent economic downturn drove another consolidation wave as shipping lines were forced to reduce costs and to further optimize the deployment of ships and the services offered to their customers.
- Consolidation amongst shipping lines affects the services offered in their destinations. In an alliance, shipping lines reassess their services and the ports they serve, in an attempt to optimize the combined market coverage.
- Combined with the trend of increasing vessel sizes, this is likely to lead to concentration of transshipment activity, as alliances aim to optimize utilization to/from the transshipment hub ports.

Snapshot of Regional Transshipment Trade



The Opportunity

- Increasing vessel sizes and the continued consolidation of shipping will lead to a greater use of transshipment in the Caribbean basin.
- The Opportunity:**
 - Review the changes in transshipment trends as a result of larger vessel transits and increased capacity control by ocean carriers
 - Further review Ponce's strength in its ability to attract Deep Sea Liner Trade as Primary Transshipment Hub as compared to its neighboring ports
 - Come to a long-term agreement with the shipping lines, or even better, have the shipping lines co-invest in the facility. As such, a level of guarantee is created on future volumes.
 - Embrace technology to accommodate hub and spoke operations that accommodate both Main liner and Feeder operations.



Construction of Micro-Pharma Manufacturing Plant

- An interesting line of business for Puerto Rico to pursue would be the construction of a modular Micro-Pharma manufacturing plant (Flex/continued-processing/skids, etc) for both domestic and more importantly export & services to developing countries.
- Due to limited skills and infrastructure, there exists a need in developing countries for the local manufacturing of pharmaceutical products. This development will improve access and cost.
- This opportunity could represent a high economic impact for local companies with pharmaceutical expertise in the equipment and facility design, product development, regulatory, construction, installation, controls, commissioning, validation, transportation, logistics, consulting, training, investment and others service area sectors.
- Puerto Rico will lead and be recognized globally by its Pharmaceutical knowledge base and will attract business tourism for training purposes.

Requirements for Success

- Develop a business plan and market study
- Preliminary discussion with potential partners & clients
 - USAID
 - WHO
 - PAHO
 - Gates Foundation
- Obtain funding for design and development of prototype (EDA, local construction companies)
- Submit proposals to potential clients (letters of Intent)
- Obtain export decree & other incentives

Skid Manufacturing Example





Chemical Transshipment, Forward Inventory, and Redistribution

- Chemical transshipment, forward inventory, and redistribution could be a compelling offering for Puerto Rico
- Position Puerto Rico as a hub for chemical shipping in the Caribbean; attract chemicals and other liquid bulk cargo to the Island for repackaging and redistribution. Sources could include international producers, and with a Jones Act waiver, US mainland producers.
- Create a transload site in the South of the Island utilizing pre-existing infrastructure at Guayanilla, including 26 million gallons of capacity in 34 existing tanks, with 12 pipelines to the Guayanilla docks. The port at Guayanilla can accommodate vessels of up to 800 foot in length.
 - Chemical tankers are generally small due to the nature of demand for chemical cargoes and the need to serve smaller ports. This means that the shallower 37' channel at Guayanilla is likely appropriate for this type of traffic.
- Build capability to receive product in bulk via chemical tanker and ship in bulk or repackage into liquid bulk ISO containers, IBC (intermediate bulk container) totes, or drums
- Target redistribution markets in the Caribbean and South America, and local demand on Puerto Rico
- Leverage Puerto Rico's substantial history in petroleum and chemical production, processing, and logistics



Leveraging Puerto Rico's Strengths

- Developing chemical logistics offerings on the South Coast plays to Puerto Rico's strengths
 - Provides a productive use for underutilized capacity at Guayanilla and possibly Ponce if ISO container shipping is implemented
 - Leverages labor and skills that already exist in the area
 - Revives a local economy that has suffered since the closure of the chemical plants and the refinery
 - Allows for redevelopment of brownfield sites for appropriate uses
- Establishing repackaging operations brings job creation opportunities and construction demand through investment in chemical packaging lines and other infrastructure
- Pursuing this initiative will create local jobs and potentially make Puerto Rico manufacturers more competitive through access to lower-cost inputs

Moving Ahead Requires...

- Evaluating demand and testing interest among chemical shippers
- Gaining commitments from chemical manufacturers and distributors
- Dredging Guayanilla to 37', as committed, to allow larger ships to call
- Establishing or expanding existing FTZs to accommodate chemicals
- Consider adding waivers for other liquid bulk commodity shipments
- Immediate next steps should include:
 - Studying the demand for specific chemicals on the Island and in the Caribbean and South American markets
 - Exploring the feasibility of adding a liquid bulk chemical exemption for chemical shipments from the US mainland to PR
 - Starting initial discussions with chemical manufacturers and distributors about the opportunity

Specialty Cargo Transshipment and Forward Deployment



Specialized Forward Inventory and Distribution Services

- Specialized forward inventory and distribution services are a natural fit for Puerto Rico
- Drive investment in specialized logistics capabilities:
 - Support forward deployment of inventory to meet Caribbean demand
 - Drive inventory reduction strategies with regional logistics hub concepts
 - Create additional specialized cold storage and cold distribution hub capabilities for food, pharma, and chemical logistics
 - Establish contract manufacturing and contract packaging services to provide value-add capabilities
- Target pharmaceutical and medical device supply chains with a specially designed PSA-certified hub offering on Puerto Rico
- Create capabilities to support Value Add within existing or new FTZs to facilitate localization, kitting, assembly, labeling, and other logistics activities on the Island

Leveraging Puerto Rico's Strengths

- The Island's existing infrastructure makes Puerto Rico a natural choice for expanded pharma and medical device logistics services
 - Service providers are trained and capable of handling the specialized requirements of these types of supply chains
- Puerto Rico is geographically well-positioned to service Eastern Caribbean air cargo needs
 - As the easternmost US large commercial airport with frequent flights to the US mainland, SJU can act as a convenient hub for specialized Caribbean cargo moving to and from the US mainland
- There is a stated need for localized inventory to support anticipated future emergency relief efforts throughout the Caribbean
 - USAID and NGO organizations have expressed interest

Medical Devices



Moving ahead requires...

- Evaluating demand and testing interest among pharma and medical device shippers in the Caribbean Basin; including governmental, NGO and private industry actors
- Establishing or expanding existing FTZs as needed
- Gaining commitments and locating financing where matches are found
- Immediate next steps should include:
 - Studying the demand for specific products on the Island and in the Caribbean and South American markets
 - Launching conversations with stakeholders, shippers and providers

Management of Household and C&DD Materials



Household and C&DD Waste

- Consider the US Maritime Administration (MARAD) Marine Highway System for the movement of both Household and Construction & Demolition Debris (C&DD).
- MARAD's Marine Highway Program has one major goal - **expand the use of America's navigable waters**. MARAD works closely with public and private organizations to:
 - develop and expand marine highway service options and facilitate their further integration into the current U.S. surface transportation system, especially where water-based transport is the most efficient, effective and sustainable option
 - highlight the benefits, increase public awareness and promote waterways as a viable (in some cases a superior) alternative to "landside" shipping and transportation options
- Achieving Marine Highway status provides opportunities for MARAD Grants. For example, recently there was a DOT MARAD Notice of Funding Opportunity for America's Marine Highway Projects in the amount of \$7,000,000. The purpose of the appropriation is to make grants available to previously designated Marine Highway Projects that support the development and expansion of documented vessels, or port and landside infrastructure.
- A good example of this process in work is a case study from New York City

Marine Highway Routes



Opportunities

- Coordinate efforts of the Marine Highway Initiative with entities such as the EDC and Puerto Rico Recycling Partnership. <https://www.prrcycles.org/>
- Build on strengths and engagements of these organizations to consider new opportunities related to existing efforts for:
 - Construction & Demolition Debris
 - Education & Outreach
 - Electronics Recycling
 - Glass, Metal and Plastic Containers
 - Organics
 - Paper
 - Scrap Metal
 - Special Wastes
 - Trash Free Waters





Example - NYC

- An example of a Marine Highway service engaged in the movement of waste materials is in the city of New York. The program involves the collection of trash from various Marine Transfer Stations (MTS). The trash is then stuffed into specialty configured containers. These containers are then loaded onto barges for transport to another facility for disposal. The system comprises of multi-modal transportation system involving truck, barge and rail movement (as well as terminal handling).
- The public benefits includes:
 - create and sustain jobs in U.S. vessels, ports and shipyards
 - relieve landside congestion
 - reduce maintenance costs and improve the U.S. transportation system's overall state-of-repair (wear and tear on roads and bridges)
 - drive the mandatory use of emerging engine technologies
 - improve U.S. economic competitiveness by adding new cost-effective freight and passenger transportation capacities
 - improve environmental sustainability of the U.S. transportation system by using less energy and reducing air emissions (such as greenhouse gases) per passenger or ton-mile of freight moved
 - improve public safety and security by providing alternatives for the movement of hazardous materials outside heavily populated areas
 - improve transportation system resiliency and redundancy by providing transportation alternatives during times of disaster or national emergency
 - improve national security by adding to the nation's strategic sealift resource
 - create new market for recycling operations and waste material management

M-2 Marine Highway Designation for Puerto Rico

MARINE HIGHWAY M-2

Applicant: San Juan Port Commission

Supporters: The Ports of Ponce and marine/port facilities in Mayaguez, Ceiba (former US Naval Station Roosevelt Roads), Yabucoa, Guanica, Guayama, Guayanilla, and Arebico.

Landside Route Served: Route-2

Route Description:

The M-2 Route includes the Caribbean Sea, and connecting commercial navigation channels, ports, and harbors around the perimeter of Puerto Rico via San Juan, Mayagüez, and Ponce.

Attributes:

Puerto Rico is served by just 250 miles of interstate highway and 169 miles of noninterstate facilities. By 2020 this system is expected to handle approximately 492 million vehicle-miles of travel. According to the Federal Highway Administration, almost \$1.4 billion will be required over the next 20 years to address congestion sourced problems. Adding to this is the fact that 90 percent of Puerto Rico's cargo arrives by water (approximately 14 million tons), and 18 percent of its traffic is attributable to trucks originating from the Port of San Juan alone. There is no rail system to supplement goods movement by truck; as such, water represents the only potential alternative.



This marine highway Route which circles the island and connects the vital sea ports such as Ponce (Port of Las Americas), Mayaguez, Ceiba, Yabucoa, Guanica, Guayama, Guayanilla, and Arecibo offers the potential to provide relief for the movement of people and freight, especially into and out of the island's sea ports.

Puerto Rico Once Manufactured Glass Packaging



Reducing Waste and Building Employment

- One idea to bring back to the Island's business sector would be capturing post-consumer recycled glass and remaking it into new containers – this, in turn, would reduce waste and build employment
- Puerto Rico knows this industry well, as it was once a producer of glass packaging
- A local glass plant could capture post-consumer recycled glass and combine it with locally sourced silica to make glass once again on the Island
 - Product could be used for packaging and other inputs to manufacturing on the Island
 - When Owens-Illinois closed its Alta Vega plant in 2008, it was servicing demand from Bacardi and Cerverceria India
- Access to lower-cost energy, perhaps LNG, could make Puerto Rico more competitive in this arena

Glass Manufacturing Plant



Leveraging Puerto Rico's Strengths

- There is demand for glass packaging on the Island and it is expensive to import glass from other sources
 - Glass is a relatively low-value commodity and shipping empties over long distances is inefficient and wasteful
 - High packaging costs impact manufacturers and may be making production on Puerto Rico less competitive
- There are no Island-wide recycling programs, which means that glass waste is landfilled today rather than being captured and reused
 - Puerto Rico's existing landfills are filling up, and there are concerns about how to add capacity in the future
 - Diversion of post-consumer glass could provide needed inputs for glass manufacturing and reduce demand for landfill space

Moving Ahead Requires...

- Studying demand for glass packaging on the Island
- Speaking with users of glass to determine where they get packaging, current costs, and opportunities for improvement
- Exploring the implementation of recycling protocols on the Island with the appropriate solid waste management agencies and contractors
 - Who would be interested in running in these types of programs?
 - How would recycled materials be segregated and transported?
 - What would it cost?
 - What types and quantities of materials could be recovered?
 - How would this initiative impact the current landfill situation?
 - What other benefits could be derived?

Summary of Opportunities

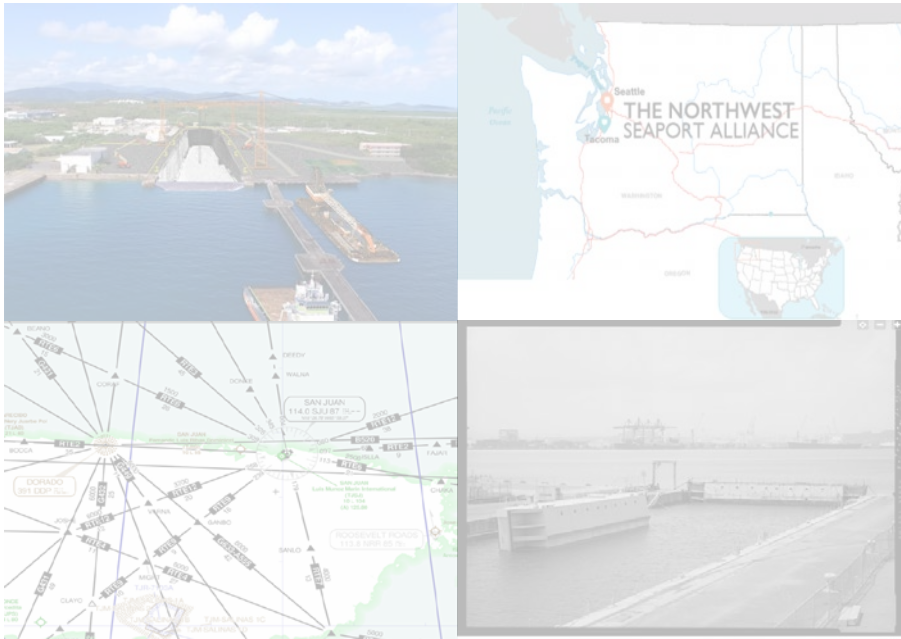


Manufacturing and Distribution

<u>Opportunity</u>	<u>Difficulty</u>	<u>Time to Length of Value</u>	<u>Investment Level</u>	<u>Financial Benefit</u>
Steel Manufacturing	High	Greater than 3 Years	High	Very High
Cold Chain Hub	High	Less than 3 Years	Moderate	High
Transshipment Hub	High	Greater than 5 Years	Low	Very High
Micro Pharma Plant	Moderate	Less than 3 Years	Moderate	High
Chemical Distribution	Low	Less than 2 Years	Low	High
Specialty Cargo Transshipment	Moderate	Less than 5 Years	Moderate	High
Household and CC&D Materials	Low	Less than 1 Year	Low	High
Glass Manufacturing and Packaging	Moderate	Less than 2 Years	Moderate	High

Logistics-based Business Attraction Opportunities

Other Transportation-based Business





Manufacturing and Distribution

- 1 Steel Manufacturing
- 2 Cold Chain Transshipment Hub
- 3 Transshipment Hub
- 4 Micro Pharma Plant
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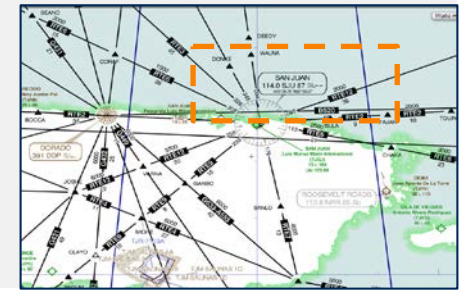
Other Transportation-based Opportunities

- 1 Air Hub and Operations
- 2 Liquefied Natural Gas (LNG)
- 3 Roosevelt Roads
- 4 Graving Dock
- 5 Port Community System
- 6 Reuse of Dredge Material
- 7 Research and Training Facility
- 8

Air Hub Operations and Opportunities for Sea Air Service

Taking Advantage of Puerto Rico's Airport Capacity

- Puerto Rico has ample airport capacity and is well-positioned to serve other nearby markets with passenger and air cargo services
- The goal is to make the Island an air hub for the Eastern Caribbean with complementary air cargo and passenger focused services
- Ways to address the aviation market:
 - Develop cost-competitive feeder airline service to adjacent islands and tie to existing mainline air carrier service
 - Identify cargo transshipment opportunities for intra-Caribbean distribution and evaluate the feasibility of promoting inter-island passenger services
 - Establish a transit zone for passengers that would allow changing flights without requiring US entry or customs
 - Create a Tech Stop location for enroute aircraft refueling and maintenance and create a supporting FTZ for jet fuel
 - Connect airports to ferry services sailing from Ceibo, Mayaguez, and Aguadilla for additional reach
 - Create better, more reliable ground transportation services for Aguadilla passengers
- When new aviation routes are introduced, promote cargo in unison with passenger volume. Belly freight can subsidize lower volume passenger lanes. Look to Boston, Miami, Las Vegas, Ft Lauderdale for examples of how co-marketing cargo and passenger services can help add connectivity with competitive fares and cargo rates.
- Utilize any remaining capacity at SJU San Juan first, looking to BQN Aguadilla and RVR Ceibo next for future expansion



Leveraging Puerto Rico's Strengths

- Puerto Rico is well-positioned to service Eastern Caribbean airline passengers and cargo
 - As the easternmost US large commercial airport with frequent flights to the US mainland, SJU can act as a convenient hub for Caribbean travelers and cargo moving to and from the US mainland
 - Inter-island air services can provide additional connectivity throughout the Caribbean, allowing passengers to move more freely between islands
 - Without Cuba, the addressable market is over 33 million people
- Building passenger capacity and adding routes will also provide cargo capacity, making Puerto Rico more competitive in freight
 - Airlines cross-subsidize cargo and passenger operations depending on the balance of traffic and available revenue opportunities

Moving Ahead Requires...

- Evaluating consumer demand and testing interest among airlines
- Developing an action plan to better connect airports to ferry services and inland locations on the Island
- Determining the feasibility of a transit zone for inter-island services eliminating the need for passengers to clear US immigration and customs
- Researching airline demand and interest in a PR tech stop
- Immediate next steps should include:
 - Identifying and interviewing airlines about their interest in growing inter-island Caribbean services, starting with JetBlue
 - Developing passenger trip and cargo demand models for inter-island and US mainland – Caribbean services
 - Forming a team to address passenger ground transport needs
 - Researching current work at GAO relating to these topics



LNG Transshipment, Forward Inventory, and Redistribution

- Focus on reducing the cost of bringing LNG from the Mainland to Puerto Rico via tanker vessel. Create a LNG bunkering and/or transload site in the South of the Island. Install tankage at Ponce and/or Guayanilla, receive inbound LNG; repackage or transload and redistribute into the Caribbean, South America, and other points on the Island.
- A viable option for Puerto Rico to address clean energy needs and create a sustainable transshipment and redistribution economy (all while supporting the local Island economy) is to establish a site in the South of the Island that accommodates LNG bunkering and/or transloading.
- Gas demand in China and the Middle East is expected to grow, and demand in the US is expected to grow (although less than previous years). Forecasts in the EU is for growth, as well. Production to meet the growing demand is set to increase the most in the United States, which Puerto Rico can use to its advantage due to its association with the Jones Act. Reducing the cost of bringing LNG from the Mainland to Puerto Rico via tanker vessel becomes a compelling opportunity.
- Small scale LNG could be the most viable option for the island
 - Small scale LNG is the process of delivering LNG in small quantities to areas otherwise not connected to the greater natural gas supply chain (often remains liquid)
 - Main uses: Marine fuel, heavy road transport fuel, power generation in off-grid locations

Leveraging Puerto Rico's Strengths

- Puerto Rico has plenty of unused capacity in its current port infrastructure to be able to accommodate an LNG bunkering facility, tanking facility, or receiving inbound gas
 - Install tankage at Ponce and/or Guayanilla, receiving inbound LNG with the potential to repackage or transload and redistribute to the Caribbean market, South America, and other points on the Island
- Tote Maritime has built a facility for LNG bunkering in Jacksonville
 - Tote is one of Puerto Rico's primary ocean service providers
- **Important Note:**
 - There is already a waiver precedent set by congress for shipment of LNG from the Mainland. According to Eduardo Pagan, the waiver was "relatively easy" to get, but was never used.

Moving Ahead Requires...

- Dredging Guayanilla to 37', as committed, to allow larger ships to call
- Establish or expand existing FTZs to accommodate natural gas
- Receiving a waiver - The PR Shipping Association would support pursuing a waiver and help facilitate which would require evidence that there is no other option but to get that waiver.
- DR is already positioning for transshipment of LNG, so Puerto Rico will need to move quickly
- Explore the possibility of Small Scale LNG on Island:
 - Speak to appropriate authorities to explore the possibility of building a small liquefaction facility
 - Study the market size and production forecast to determine economic feasibility



Redevelopment of Disused Naval Base

- Former US Navy Installation that has drawn much attention due to its infrastructure and natural surroundings.
- Master Plan for site was shared by Invest Puerto Rico.
- From our due diligence, we discovered the following additional information ([Per the Roosevelt Roads website http://www.rooseveltroads.pr.gov/](http://www.rooseveltroads.pr.gov/)):
 - An RFP for a Master Developer was created. This RFP constitutes the second phase of a three-phase process to solicit and select a Master Developer capable of redeveloping the entire project at the former Naval Station Roosevelt Roads ("NSRR"), consisting of approximately 3,000 acres of developable land, or the nine (9) zones presented in the 2014 Development Zones Master Plan for the Roosevelt Roads Redevelopment.
 - **Results:** This process was finalized and it was awarded to Clark Realty Capital but no contract was signed.
 - Also, the LRA signed a long-term lease with Mid-Atlantic Shipyards (MAS) on December 4, 2015 for the development of a multi-tenant shipyard in the dry-dock area (38 acres) at RR.
 - Puerto Rico aims big in their bid to burst onto the shipyard map.
 - MidAtlantic Shipyards is looking to turn this property (below), which is a disused naval base, into a multi-tenant facility with a focus on repair, while Jones Act shipbuilding remains possible.

Photo Rendering of the Proposed Project



Roosevelt Roads Dry Dock, LLC



San Juan “Graving Dock”



Rare Infrastructure Alongside the Port of San Juan

- The San Juan graving dock served numerous vessels during the 1950s, 1960s, and 1970s that required repairs or scheduled maintenance. Among the vessels serviced at the dock were U.S. Navy submarines, Greek merchant ships, oil tankers belonging to Esso and other oil companies, vessels of Alcoa Shipping, and cruise ships of the Cunard and passenger lines. 39 Cruising tourism into and out of San Juan increased during the 1960s and 1970s, from 77,500 passengers in 1966 to 211,200 in 1972.40 Because of its size, however, the San Juan graving dock could not be used for the newer larger vessels. In 1978 the operation of the graving dock passed from Sucesores de Abarca to Perez Y Cia. which operated it until June 1, 1999, when the government of Puerto Rico purchased the graving dock from the federal government and the Puerto Rico Ports Authority assumed the operation of the graving dock.
- A facility to accommodate this service is located on the southwest corner of the Isla Grande peninsula and situated to the east of San Juan Bay (Exhibit 2). The graving dock is located on the waterfront at the end of an industrial area. In the vicinity of the graving dock are other piers for shipping lines, warehouses and the abandoned facilities of an iron works foundry. The graving dock is situated along Piers 15 and 16. Shop buildings, storehouses, and other industrial structures are situated adjacent (or in close proximity) to the graving dock. The structure is a 672.5 ft. x 91 ft. wide pressure relieved type, one section drydock originally constructed between 1939 and 1941 (Exhibit 1). It is a concrete structure supported directly on soil. A railroad track utilized for portal crane purposes surrounds the graving dock on the shoreward side. The facility includes an underslab hydrostatic pressure relief drainage system, perimeter culverts and one pump house. A connecting tunnel runs from the pump house to the graving dock. These components create a system of flooding, draining and dewatering this drydock. Other key components of the industrial operation of this facility include the removable steel caisson and the flooding sluice gate.

Exhibit 1



Exhibit 2





Rare Infrastructure Alongside the Port of San Juan

- In 2016, a proposed MegaYacht Marina and Shipyard was announced. This new marina and MegaYacht re-fit and repair facility would target the largest yachts in the world that range in size from 218-600 feet, with crews that can number over 80 persons on a single yacht.
- The name of this venture was called “**Port Caribe**”.
- The shipyard component of the project is south of the airport, located on Pier 15 in the Isla Grande sector of San Juan. The dry dock maintenance, repair and overhaul facility includes an existing graving dock and will be available for about 20-40 vessels on the hard and between 125-175 boats in water.
- *Identified key benefits of San Juan:*
 - Puerto Rico is already the service hub for the Caribbean when it comes to marine service providers (i.e. Caterpillar and MTU engines).
 - Local labor will work facilities; the majority of workers on these yachts are Puerto Ricans. Local artisans and craftsmen will be engaged, as well.
 - Great Economic impact on local consumption of materials, like fuel and yacht stores.
 - Tax incentives offered in Puerto Rico for both marine tourism and the industrial sectors help support the required capital.
 - The Caribbean region lacks a maritime-industrial center that provides necessary services to MegaYachts. This presents an opportunity for this type of operation and creates a new market that will benefit Puerto Rico’s commercial and economic sectors.
- In August 2018, it was reported that The Puerto Rico Public-Private Partnership Authority was conducting a preliminary evaluation of an unsolicited proposal submitted by an undisclosed firm to develop a mega yacht marina and dry dock in San Juan
- It is estimated that a small, “very practical” dry dock facility would require a minimum \$10 million investment

Proposed Site



Photo Rendering



Establish a Port Community System



Embracing Technology to Meet Future Ocean Freight Demands

- As a result of the research involved with this project there has been an identified need for a Port Community System (PCS)
- A Port Community System (PCS), or single window system, is an electronic platform that connects the multiple systems operated by a variety of organizations that make up a seaport community. It is shared in the sense that it is set up, organized and used by firms in the same sector – in this case, a port community.

A Port Community System:

- Is an open electronic platform enabling intelligent and secure exchange of information between public and private stakeholders in order to improve the competitive position of the sea and air ports' communities.
- Optimizes, manages and automates port and logistics processes through a single submission of data and connecting transport and logistics chains



Northwest Seaport Alliance (NWSA)

- An example of such a system is the one implemented by the Northwest Seaport Alliance (NWSA) (<https://www.nwseaportalliance.com/>). The Northwest Seaport Alliance is a marine cargo operating partnership of the ports of Tacoma and Seattle. The first of its kind in North America, the NWSA is the fourth-largest container gateway. Regional marine cargo facilities also are a major center for bulk, breakbulk, project/heavy-lift cargoes, automobiles and trucks. Located in the Pacific Northwest in Washington state, The Northwest Seaport Alliance offers shorter U.S.-to-Asia transits, as well as a deep connection to Alaska.
- **System Highlights**
 - Directory of Ocean Carriers, Warehouse and Trucking providers by service offering
 - Vessel Schedules
 - Conduit for Business Inquiry

TIPS System (PANYNJ)

- Another such example is the TIPS system developed by the Port Authority of New York and New Jersey (PANYNJ) (<http://www.panynj.gov/>). The Port Authority of New York and New Jersey (PANYNJ) is a joint venture between the U.S. states of New York and New Jersey, established in 1921 through an interstate compact authorized by the United States Congress. The Port Authority oversees much of the regional transportation infrastructure, including bridges, tunnels, airports, and seaports, within the geographical jurisdiction of the Port of New York and New Jersey.
- **System Highlights**
 - Port and Terminal Information
 - Import Container Availability, Export Booking Inquiry and Empty Container Information
 - Vessel Schedules

Reuse of Dredge Material to Make Lightweight Aggregate



Addressing Maritime and Infrastructure Industry

- An idea for the ports and infrastructure sectors of Puerto Rico is to organize resources to create an affordable and environmentally acceptable way for ports to manage dredged sediments (especially silty clay material)
- An added benefit to this process would be to produce a reliable source of high-quality, lightweight aggregate (LWA) to support the infrastructure needs of the Island
- Driving investment for this process in Puerto Rico would enable transshipment opportunities in the Caribbean region, creating a lightweight, readily transportable, and cost-effective option for general building material and post-tropical storm rebuilding
- The sediment reuse approach:
 - Install a hydraulic dredge or mechanical excavator in the existing dredged material storage facility
 - Pump or convey the extracted sediment to the LWA reuse manufacturing plant, either stationary or on a mobile platform
 - Produce LWA using a rotary kiln
 - Sell the ASTM (American Society for Testing and Materials)-grade LWA to local or regional users
- LWA reuse has defined economics, eliminates risk of finding more sites, creates family wage jobs, and preserves land for higher value uses

Leveraging Puerto Rico's Strength

- The Island's existing infrastructure makes Puerto Rico a natural choice for the reuse of dredging material for LWA
 - Ports on Island (such as Ponce) have plenty of capacity to accommodate the process
- Dredging has been well-needed on the Island around existing port infrastructure for some time; this process would bring in a private operator to dredge the harbors, and in the process, use the dredged material to serve other Island needs
- Puerto Rico is geographically well-placed to service the rest of the Caribbean with this material
- There is a need on the Island for ready, quickly-made, cost-effective lightweight building material
 - Especially when rebuilding from Island storms becomes necessary

Moving Ahead Requires...

- Studying the demand for dredging operations and associated demand for lightweight aggregate building material on Island and in the overall Caribbean region
- Speaking with port operators and port authority personnel who would be able to accommodate the process of dredging on the Islands ports, and determine the best available site
- Exploring the possibility of reusing the dredging material by selling the LWA to construction and other infrastructure firms on Island
 - Where is the appropriate site?
 - Who would the end users be?
 - Will there be demand in the Caribbean market beyond Puerto Rico, opening up the opportunity for transshipment

Puerto Rico as a Research and Training Center



National Disaster Preparedness

- As an island, consideration must be given to Puerto Rico’s unique requirements when engaged with relief efforts that stem from unfortunate natural disasters.
- Planning ahead is a main requirement for the Puerto Rican population to be able to, going forward, rebound from extreme weather as quickly as possible
- The goal would be to, in the face of extreme weather, make existing supply chains aware of relief networks and their capabilities and capacity
- The foundation for this approach is based on a study conducted by consulting firm CNA. The study highlights case studies about Hurricane Harvey, Irma and Maria and their impact on supply chain resilience.

The Opportunity

- **Opportunity** - Puerto Rico as the Caribbean based Research and Training Center for a hybrid program concentrating on National Disaster Preparedness and Supply Chain Research.
- **Requirements** - Develop and deliver training and educational programs related to homeland security and disaster management, with a specific focus on natural hazards, coastal communities, and the special needs and opportunities of islands and territories with a concentration on supply chain management.
- **The Result** – Supply Chain resilience in the face of extreme weather, both as a domestic asset and a regional economic opportunity for proper training for other islands

Partners for Training, Products and Services



FEMA



GOVERNMENT OF PUERTO RICO
Department of Economic Development and Commerce



Summary of Opportunities



Other Transportation-based Business

<u>Opportunity</u>	<u>Difficulty</u>	<u>Time to Length of Value</u>	<u>Investment Level</u>	<u>Financial Benefit</u>
Air Hub Operations	Low	Less than 3 Years	Low	High
Liquefied Natural Gas	High	Greater than 3 Years	High	Very High
Roosevelt Roads	High	Greater than 3 Years	High	Very High
San Juan "Graving Dock"	Moderate	Less than 1 Year	Low	High
Port Community System	Low	Less than 1 Year	Moderate	Moderate
Reuse of Dredge Material	Moderate	Less than 2 Years	High	Very High
Research and Training Center	Low	Less than 2 Years	Low	Moderate

Section 4.

Q&A and Actionable Plans





InvestPR is primarily interested in answering the following major questions

1

Can Puerto Rico successfully attract new business in this market segment?

Yes. See Section 3 in the current presentation. We believe there are opportunities driven by logistics in the following areas:

- Steel manufacturing
- Cold chain logistics
- Transshipment
- Micro-Pharma production plants
- Chemical distribution
- Waste Management
- Glass Manufacturing

2

What are the low hanging fruit and impediments to attracting logistics-centered firms to Puerto Rico?

Impediments: High operating costs, inefficient business practices, and adverse regulation are the primary impediments to successful development. See **Section 2** of this presentation for more impediments.

Feasible Opportunities: Seabury has identified the following initiatives as more feasible:

- Air hub operations
- LNG bunkering
- Redevelopment of port assets
- Port Community System
- Dredge material re-use program

3

What's the profile of these businesses?

Please see **Section 3** of the attached presentation for details on sectors, job creation opportunities, and scale of the proposed new businesses.

4

What does InvestPR need to do to ensure PR remains a competitive offering for these businesses in the near- and long-term?

Please see **Section 4** of the attached presentation (just after) for details on how to capitalize on the opportunities in **Section 3**.

5

Can Puerto Rico's development of the logistics sector be driven by private sector investment?

There is ample opportunity for private sector investment if the ROI can be shown and risk properly managed. There are also PPP opportunities, especially for public assets and redevelopment projects. **Section 4** provides details on how financing can be obtained.

6

Can Puerto Rico's development of the logistics sector be driven by private sector investment?

Puerto Rico can drive investment by championing PPP projects and focusing on Community Development and Small Business Investment Banking. Please see **Section 4** for more details on the slide market **"InvestPR FUND."**



Defining Strengths, Weaknesses, Opportunities, and Threats

STRENGTHS

- Being an island economy, Puerto Rico relies on the logistics sector to sustain its way of life; thus, it knows the industry and its advantages well
- Developed infrastructure including roads, ports, and plenty of storage space
- Low cost of use
- Territory of the United States
- Educated and skilled workforce

WEAKNESSES

- Fragmented industry as a whole; many small, local players acting independently of one another
- Cost to move goods is often more expensive relative to other island economies, who do not have to deal with United States cabotage laws
- Dependency on air and water transport for the inbound and outbound movement of goods and services

SWOT Analysis

- Jones Act for Maritime
- Extreme weather patterns disrupting the flow of goods
- Regulatory changes have the potential to disrupt standard practices, both from a local and US Federal perspective
- Loss of human capital due to higher wages outside of island

- Potential for market leader in the Caribbean for key industry areas
- Existing infrastructure already established in place for near-term future development
- Roll-up opportunities in several sub-sectors of the industry as a whole

THREATS

OPPORTUNITIES

Act on Obvious Business Attraction Candidates



Systematically Pursue Businesses, Starting with Steel and Chemicals

- Identify the domestic and natural export markets
- Identify bankable customers in the local market
- Identify feedstock availability and existing commodity flows
- Characterize the best local location and amenities
 - utilities and site characteristics
 - suitable sites with heavy freight logistics (deep water, heavy roads, power)
 - existing facilities for handling, storing feedstocks and products
- Directly promote Puerto Rico
 - to targeted international steel makers
 - to targeted international chemical companies
 - avoid generalized site selector
- Be the company's guide and champion in politics and approvals



The cost and risks in delay to study the “best” business attraction campaign likely exceeds the risk in just pursuing an obviously “good” business attraction campaign

Identifying More Business Attraction Candidates



Import / Export Economic Analysis and Industry Survey

- Partner with a local university economics department
- Develop capacity of graduate students through the research effort who can also serve as InvestPR interns and potential future employees
- Perform a combined location analysis and dependencies analysis of existing Puerto Rican industries
- Identify transportation dependencies and exposure to island-specific overpricing
- Develop a systematic interview process with local agriculture, manufacturing, chemical, pharma, and other industries to create an island-wide supply chain opportunities analysis
- Combine the studies with import-export records to identify additional candidates for business attraction
 - Calculate location quotients for each major industry to identify gaps in the island supply chain
 - Estimate the economic leakage from the island created by these gaps
 - Estimate the economic impact of closing the various gaps
 - Use interviews to both supplement/illustrate the economic data and identify partners for specific actionable steps



Never stop planning while you work on business attraction ... and never stop working on business attraction to plan ... **“just do it”**



Identify Strategic Partners and Strategic Buyers for Island Businesses

- Recognize that Puerto Rico's businesses themselves are business attraction assets – most new business ventures are not “greenfield” activities, rather, they are built through joint ventures, mergers, and acquisitions
- For businesses from the US mainland, Puerto Rico offers a natural springboard to Caribbean and Central American markets... existing Puerto Rican businesses become the catalyst through JV's, mergers, and acquisitions
 - bilingual work force
 - cultural and social connections to the Caribbean and Central American markets,
 - geographic proximity and excellent logistics connections for regional warehousing and distribution
 - US work rules, law, and US citizen workforce
- Invest Puerto Rico can develop a “match making” service to connect domestic businesses to similar US mainland businesses to both develop their marketing and distribution pathways to the Puerto Rican market and grow into the broader Caribbean market



24 island nations and territories of the Caribbean are a \$500B market
with 42 million residents plus millions of tourists

InvestPR Partnerships



InvestPR website could further promote access to the other constituents engaged with promoting Puerto Rico



While this initiative or the industries mentioned above are not engaged directly in supply chain services, they either touch on or benefit from such services. As businesses are developed and grow they intimately rely on supply chain to assist in meeting their goals.



Identify Strategic Finance Partners to help capitalize Puerto Rican businesses doing import replacement and export activity

- The apparent lack of industrial community development finance capacity in Puerto Rico has left many federal agencies (e.g. EDA, USDA) without a strong counterparty for many federal loan and loan guarantee programs
- Banks will want to leverage and de-risk their loans to Puerto Rican businesses while earning community reinvestment act (CRA) credits and developing their own portfolio
- Consider partnering with a well-established Community Development Financial Institution (CDFI) or Small Business Investment Company (SBIC) to utilize their back office, underwriting, capital raising, and technical skills with Invest Puerto Rico handling marketing and intake functions
- Insulate any investment fund from the territory's junk-bond credit ratings and maintain independent governance of the fund
- Invest Puerto Rico can, over time, develop its own discretionary income from the Fund to pay for broader program staff and marketing/outreach budgets in pursuit of its broader mission



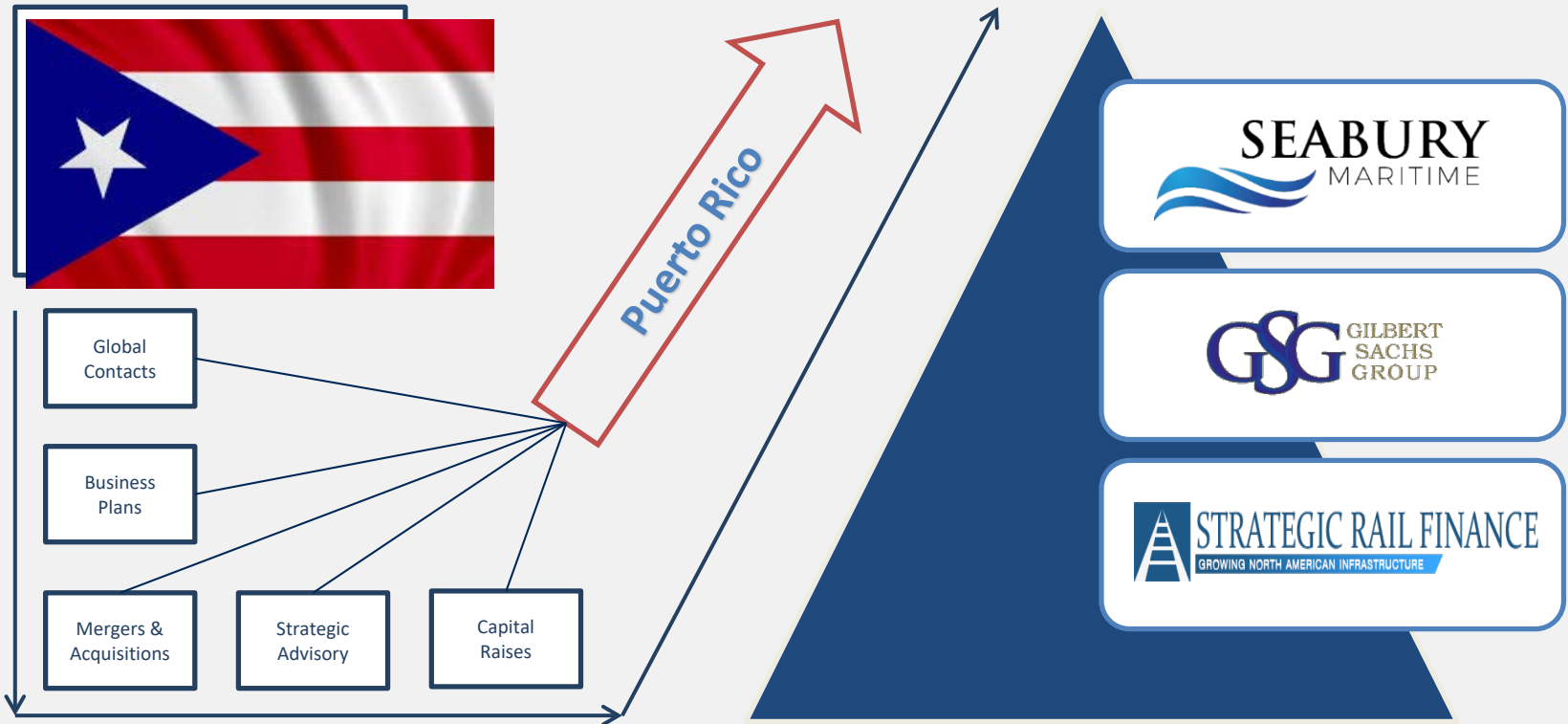
Develop an affiliated Invest Puerto Rico Fund to advance
your business attraction mission.

It's in your Name!



Integration and Expansion of Business Opportunities

- In reviewing the companies, infrastructures and existing sources available in Puerto Rico our recommendation is for Invest Puerto Rico to continue working with the Seabury Maritime, Strategic Rail Finance and Gilbert Sachs Group to identify potential new business opportunities by aligning each businesses best practices.
- Our experience in writing and executing Business Plans, Merger and Acquisitions brokering, and private business Capital Raise activities provides for great insight into how to formulate and create new business opportunity in Puerto Rico.



Appendix

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