

Executive Summary

# Jamaica Logistics Hub Initiative: Market Analysis and Master Plan



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# Acronyms

BPO	Business Process Outsourcing
CSEZ	Caymanas Special Economic Zone
GoJ	Government of Jamaica
HS	Harmonized System
JISCO	Jiuquan Iron & Steel Company
JJIP	JISCO Jamaica Industrial Park
JPS	Jamaica Public Service Company
LNG	Liquefied Natural Gas
LHI	Logistics Hub Initiative
LPI	Logistics Performances Index
OEM	Original Equipment Manufacturer
SWOT	Strengths, Weakness, Opportunities, Threats

# LHI Executive Summary

Jamaica, via its Logistics Hub Initiative (LHI), has the opportunity to capitalize on the global phenomenon of continuing industrial fragmentation. To do so, Jamaica intends to position itself as a global logistics hub by capitalizing on its strategic location to serve major trade corridors. With port and airport expansion and complementary logistics facilities already underway, Jamaica has a unique opportunity to leverage the physical and performance dimensions of its assets to attract investments; many industries have much to gain from the expanded transport connectivity and increased access to markets, which large domestic ports and transshipment ports can provide. Market access potential for industries is significant as the vessels plying the trade lanes of the Latin America and Caribbean region serve a consumer market of approximately 800 million people.

Jamaica's role, however, is not assured if location is the only consideration. There are established and emerging rivals in the region that have engaged in developing logistics-like hubs that arguably have similar proximity advantages relative to trade flows. Jamaica must establish its role within the global supply chain, the economic benefits of which ultimately must be tied to firms in both origin and destination countries. Products destined for Brazil from Europe, for example, must show that the cost advantage for stopping in Jamaica for storage, sorting or processing extends to Brazil. Said another way, when products destined for Brazil are diverted to Jamaica, the cost and quality of packaging, labeling, or additional processing in Jamaica must be more competitive than performing the same functions in Brazil. In this way, Brazil's importers and consumers benefit from value-added activity that is less expensive when taking place in Jamaica, as does the originator of the goods.

Of course, competitiveness is affected by a myriad of factors, including the ease of the regulatory regime permitting value-added activities, timeliness of shipments, the existence of well-performing infrastructure (and the costs associated with using it), the effective integration of infrastructure assets for receiving, processing, and shipping goods, access to freight status information associated with these activities, competitive rates for reliable water and energy supply, transport connectivity, and human capital availability.

**At full buildout, the LHI will comprise nearly 3,900 hectares of development across the island, with a total order-of-magnitude investment cost of over US\$28 billion (Table 1). This represents the creation of about 87,400 direct jobs<sup>1</sup>.** The potential for LHI development is undeniable, but several risks that may impair the its potential that go beyond the gaps addressed later in this report must be mitigated by the Government of Jamaica (GoJ).

*With the above in mind, this report presents the results of the LHI Market Analysis and Master Plan Project.* It is intended to serve as a reference and guide for Jamaica as it seeks to position itself as a global logistics hub. The project was divided into two distinct, but related parts.

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<sup>1</sup> Each new high-tech manufacturing job creates five additional jobs in the service economy.

**Table 1: Summary of Required LHI Development Costs by Infrastructure Type**

	AREA (hectares)	COST (US\$ million)
Maritime Infrastructure	200	2,728
Aviation Infrastructure	360	1,698
Industrial Infrastructure	3,300	21,933
Utilities Infrastructure	25	519
Road and Rail Infrastructure	-	1,515
	3,885	28,393

The first part, constituting the project's Phase I, consists of a market analysis, which includes development of a vision statement for the Jamaica Logistics Hub Initiative (JLHI); analysis of surface and air cargo flows, market dynamics of regional and international maritime and aviation cargo and an evaluation of the relevant factors necessary to transform Jamaica into a regional transshipment center and global logistics hub; a review of ongoing and pipeline infrastructure projects in Jamaica including an assessment of the adequacy of supporting infrastructure and utilities; an analysis of the competitiveness of Jamaica vis-à-vis other countries competing for regional and global transshipment and logistics business leading to the definition of the JLHI's competitive position and the types of policies, infrastructure, and logistics facilities required in order to be globally competitive; an analysis of those industries that could potentially add the most value and gain the most benefit from the development of a global logistics hub in Jamaica with particular focus on identifying industries that should be targeted for location in the Caymanas Special Economic Zone (CSEZ).

The second part, comprising the project's Phase II, consists of the master plan for land use and specification of the infrastructure improvements necessary for successful LHI implementation considering both demand- and supply-driven development; an analysis of the structural and non-structural needs, or gaps, that must be addressed to achieve the LHI vision along with recommendations for mitigating these gaps; and finally a long-term development strategy and action plan to serve as a guide for relevant stakeholders in Jamaica as they implement the LHI.

The sub-sections below provide both brief overviews of the project's analyses as well as relevant findings related to each of the tasks identified above. They are organized according to the chapters that follow subsequently in this report:

## **Part I**

- I.1 Vision Statement Formulation;
- I.2 Analysis and Forecasts of Cargo Flows;
- I.3 Review and Assessment of Existing and Pipeline Projects;

- I.4 Logistics Hub Competitiveness Benchmarks;
- I.5 Industry Analysis; and
- I.6 Caymanas Special Economic Zone Industry Analysis;

## Part II

- II.1 Land Use Master Plan;
- II.2 Gap Analysis; and
- II.3 Development Strategy.

### Chapter I.1: Vision Statement Formulation

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Chapter I.1 addresses the formulation of a vision statement for the JLHI based on a workshop conducted with a range of both public and private sector stakeholders. Efforts were focused on generating a vision statement that is concise, unique and encompassing the service offerings to be provided by a logistics hub in Jamaica, aspirational yet achievable, and readily understandable by both Jamaican and global audiences. The workshop then elicited views from participants to determine what the LHI vision statement should connote given the participants' understanding both of Jamaica's current position as well as its anticipated future role in global trade and logistics.

The resulting vision statement generated by the workshop's participants – ***JAMAICA, THE GLOBAL LOGISTICS GATEWAY INTERCONNECTING THE AMERICAS TO THE WORLD*** – recognizes the unique advantages represented by the LHI, consists of sufficient agency to both inspire and sustain the actions that will be required to move from vision to reality, and provides to a diverse array of stakeholders the clear direction necessary to carry forward the vision in a way that is both innovative and creative.

### Chapter I.2: Analysis and Forecasts of Cargo Flows

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Chapter I.2 assesses both maritime and air cargo trade flows relevant to Jamaica as well as the prospects, including recommendations, for Jamaica to capture said trades. For maritime trade flows, transshipment terminals in the region are reviewed along with global and regional liner and feeder shipping service patterns in order to assess the potential to increase transshipment services in Kingston. Projected cargo volumes are then presented by industry cluster and for transshipment. Here, while estimates are made of the trade volumes that the Port of Kingston can potentially capture, it is important to view forecasts in the context of the overall economic impact tied to production inputs and outputs, which will have broader effect on the Jamaican economy than container handling at Jamaica's port facilities. For air cargo trade flows, the size of the potential air cargo market – global and regional – relevant to the LHI is assessed with a focus on countries where competitor airport facilities are located, air cargo integrators operating in the region, and the existing air cargo market in Jamaica.

Analysis conducted for this project indicates that Jamaica has the potential to process maritime trade flows over 0.63 million TEUs and 1.01 million TEUs in cluster-related volumes by 2020 and 2035, respectively. Total container volumes could increase substantially with the addition of transshipment traffic, with 1.63 million TEUs and 2.0 million TEUs by 2020 and 2030, respectively. Analysis of air cargo trade flows indicate that 30 percent of projected transshipment air cargo from Latin America and Europe in the industry clusters relevant to the LHI that is currently transiting through Miami International Airport could be diverted to existing and future air cargo facilities in Jamaica. Accordingly,

air cargo facilities in Jamaica have the potential to move from processing 16,558 tons in 2016 to approximately 340,000 tons in 2021 and 500,000 tons in 2035.

An important underlying assumption of these forecasts is that the LHI will be successful in providing the global supply chains and the targeted clusters with competitive logistics services (fast, reliable, predictable and competitively priced), a business environment that supports the successful settlement of light industry and distribution centers (a flexible and empowering Special Economic Zone law and related regulation, improved education focusing on technical skills and technology, and lower cost of energy), and an enhanced trade facilitation approach by its customs agency. The key is that the cargo reflected in the forecasts is already being served by other countries. In order for Jamaica to attract it, it needs to offer better conditions than the other countries. Related, in terms of infrastructure and transport services, the need for increased connectivity, a reduction in cost and time, and improved reliability and predictability through improved road, air, port, and logistics services are all emphasized in this chapter as critically important to the success of the LHI.

### Chapter I.3: Review and Assessment of Existing and Pipeline Projects

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Chapter I.3 assesses both Jamaica's existing logistics-related assets as well as initiatives that are currently being developed or underway. To do so, the analysis begins with a review of Jamaica's logistics infrastructure, including assessments of performance of Jamaica's ports and road and rail linkages in order to generate composite logistics scores for each, composed of time, cost, and variability factors. Also reviewed is Jamaica's other logistics assets, including warehousing, IT and telecommunications, and utility infrastructure. While many of projects in Jamaica are conceptual, meaning no or few studies have been undertaken to assess their merits, there are a number of projects that are in progress, particularly those related to port infrastructure, roads, industrial and logistics parks, and logistics support facilities. Thus, it is clear from the analysis that Jamaica is already in the process of implementing the LHI. That being said, for any public investment, we recommend that the Government of Jamaica obtain and analyze independent market demand studies as well as formal feasibility studies to evaluate respective return on investment.

Based on review of both ongoing and pipeline projects<sup>2</sup>, the analysis identified the following pipeline projects, which are classified as strategic, to be implemented within a five-year horizon and prioritized as follows:

- KCT concession-related improvements;
- KWL dredging, rehabilitation, expansion and equipment investment;
- German Ship Repair Jamaica Ltd dry dock project;
- Construction of Caymanas SEZ facilities;
- PAJ 80-hectare Port-Centric Logistics Park development with private sector;
- Conversion of the railway right of way from CSEZ to KCT to Customs-controlled dedicated truckway;
- Conversion of the Caribbean Maritime Institute to a Maritime University;
- Provision of logistics services training at the HEART Trust NTA training agency;
- Construction of the KWL Total Logistics Facility;

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<sup>2</sup> Does not include proposed JISCO Industrial Park and SEZ



- JP Cold Storage Facility infrastructure investment;
- NMIA privatization, including modifications to the capital structure; and
- Improvement to the north coast highway (A1; Ocho Rios to Montego Bay);
- North south link of the Highway 2000 Project;
- Investment in the south coast highway including Harbour View to Port Antonio; and
- Expansion of air cargo warehouses and cold storage facilities in Sangster International Airport.

The GoJ's SEZ strategy is leveraging the logistics infrastructure and market access arrangements and is resulting in several industrial clusters being developed, such as:

- JISCO Jamaica Industrial Park (JJIP), an Aluminium Cluster involved in downstream aluminium products processing, limestone products, clean energy industries (solar and wind), agro processing, logistics, LNG and other energy intensive heavy industries;
- Vernamfield Aerotropolis, an Aviation Cluster involving aviation and aviation-reliant industries, agro processing, and other perishables of time sensitive industries;
- Port Esquivel as a petrochemical cluster which a LNG hub, petrochemical industries, and other heavy industries;
- Caymanas Special Economic Zone as a light industry and logistics cluster focused on agro processing, pharmaceutical, assembly, distribution, automotive and logistics industries;
- Greater Kingston as a light industry and logistics cluster focused on agro processing, pharmaceutical, BPO, assembly, distribution, automotive, maritime, ship repair and logistics industries; and
- Other smaller industrial clusters spread across the island.

The supply of electricity to the SEZs will follow the provisions of Jamaica's electricity regime, namely the All Island Electric License and the recently enacted Electricity Act. As such, SEZ operators and occupants will be able to connect to the national grid for the purposes of receiving electricity at a unique and competitive tariff for SEZs and/or generate energy for their own specific use (the new JPS license issued in January 2016 allows net billing and wheeling between related facilities across the grid). The intention is for the electricity company to introduce a strategic "economic development tariff" which will result in SEZ developers, large industrial users or SEZ occupants benefitting from a wholesale electricity rate that is not only affordable, but also regionally competitive.

Jamaica is also introducing natural gas into the country's energy mix, as it is currently overly dependent on heavy fuel oil and diesel for electricity generation. LNG use started in November 2016 at the Bogue plant in Montego Bay. With the success of its Bogue conversion project and two additional projects in development (Old Harbour and Jamalco), Jamaica will benefit from over 400 megawatts of clean and modern natural gas power generation from American company New Fortress Energy LLC, which will invest more than US\$750 million to construct a Liquefied Natural Gas (LNG) terminal in Old Harbour.

JISCO has also proposed the construction of an LNG Terminal at Port Kaiser in St. Elizabeth to supply gas needed for the power plant serving the JISCO ALPART Alumina refinery and a proposed industrial park/SEZ. The supply of electricity to the SEZ will be affected by the JPS All Island License. An alternative arrangement could be supplying LNG as fuel to individual generators or boilers in the JISCO SEZ.

The proposed LNG production facilities will deliver access to low cost fuel and environmental benefits to customers in the industrial park/ SEZ, transportation and power industries. The proposed LNG terminals will provide an alternative source of energy and cryogenic power for industry. The Port Esquivel facility is expected to generate more than 200,000 metric tons of LNG annually, which will initially be supplied to the domestic market. There are also plans to expand output for delivery to other Caribbean countries, thereby positioning Jamaica as a regional hub for the supply of LNG. New Fortress has indicated that they are willing to install LNG infrastructure in SEZs at their expense.

## Chapter I.4: Logistics Hub Competitiveness Benchmarks

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Chapter I.4 assesses Jamaica's standing relative to eight other countries in the region on the basis of 38 indicators that are categorized in four pillars, including infrastructure, business environment, human capital, and technology. Relying on a competitiveness benchmarking model prepared specifically for this project, the analysis indicates that Jamaica's competitive position is in the lower quarter of relative competitiveness. However, given ongoing logistics asset development in the country, particularly related to port expansion and warehousing development, it is highly likely that Jamaica will become more competitive in terms of provision of logistics-related services. As is demonstrated through the model's application, Jamaica can advance above the 75th percentile in the competitiveness rankings assuming improvements in infrastructure and technology categories.

Two critical areas in which Jamaica can advance its infrastructure ranking are by improving maritime and air connectivity as well as the logistics chain. Maritime liner connectivity will likely improve in the short term with the concession of Kingston Container Terminal (KCT) if CMA-CGM decides to change its deployment practices and combines its feeder services with main liner services in Kingston. Air connectivity levels for Jamaica are currently low when compared with regional competitors, but opportunities exist to improve connectivity given recent developments with Jamaica's bilateral air agreements.

That being said, to become a global logistics hub, Jamaica must rapidly improve all components of its logistics chain. While Jamaica will likely improve, its score in the Logistics Performance Index (LPI) 2018 report due in part to the port and warehousing improvements discussed above, related factors must also be improved. For instance, modern, efficient, and cost-effective customs is a prerequisite for global competitiveness. Further, it is also important to note that all of the competitor countries in the region are investing in modernizing and expanding port and airport capacity and have designated free trade zones. As a result, Jamaica must balance investment in making its own logistics infrastructure and networks more efficient and modernized, while not contributing to overcapacity that diminishes the return on its investment, especially when considering developments in the region.

## Chapter I.5: Industry Analysis

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Chapter I.5 identifies industry sectors and sub-sectors that offer the greatest potential to expand or locate to Jamaica. Through analysis of Jamaica's investment trends and requirements (bearing in mind the growth potential identified through the trade flow analysis and demand forecasts), survey results from local and international investors, and SWOT and multi-criteria analyses, industry sectors and sub-sectors along with industry clusters are recommended for prioritization by the LHI. Related, recommendations are made on how best to improve logistics hub competitiveness in Jamaica with a

focus on addressing institutional and regulatory improvements, industrial development, and promotion strategies that are in line with the LHI vision.

The commodities that may be of most interest to investors located in the JLHI are those with the highest trade flow volumes and values identified through this analysis (e.g., electric, water, space, and soil heaters; TV receivers; parts and accessory for motor vehicles) as well as intermediate products that may be imported to Jamaica for value-added activities (e.g., assembly of automobiles and motorcycles) and subsequently exported to the US and Latin American markets as finished products. Key industries that are most suited to take advantage of Jamaica's strategic position and capitalize on its comparative advantages include<sup>3</sup>:

### **Agro Processing Industry**

Food processing involves the transformation of agricultural produce into a different physical or chemical state. It encompasses technical and mechanical processes that range from packaging to the transformation of raw material into final products. A key characteristic of agro-processing is its strong up- and downstream linkages. Upstream, the sector links to primary agriculture across a variety of farming models and products. Downstream, agro-processing outputs are both intermediate products to which further value is added and final goods that are marketed through wholesale and retail chains as well as through a diverse array of restaurants, bars, hotels and fast-food franchises, making it critical for employment creation and poverty alleviation.

### **Pharmaceutical Industry**

The pharmaceutical industry discovers, develops, produces, and markets drugs or pharmaceutical drugs for use as medications. Pharmaceutical companies may deal in generic or brand medications and nutraceuticals.

### **Parts and Accessories for Motor Vehicles**

The automotive aftermarket is the secondary market of the automotive industry, concerned with the manufacturing, remanufacturing, distribution, retailing, and installation of all vehicle parts, chemicals, equipment, and accessories, after the sale of the automobile by the original equipment manufacturer (OEM) to the consumer.

### **Electrical Products**

Products include electrical motors, commercial and industrial lighting fixtures, heating, ventilation, and air conditioning systems and components and, among others, electrical power equipment.

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<sup>3</sup> Industries are displayed in terms used in Harmonized System (HS) Codes. As described by the United Nations International Trade Statistics Knowledge Base, HS is an international nomenclature for the classification of products. It allows participating countries to classify traded goods on a common basis for customs purposes.

## Medical Devices

The medical equipment and device manufacturing industry (often referred to as the MedTech or medical devices industry) designs and manufactures a wide range of medical products that diagnose, monitor, and treat diseases and conditions that affect humans. These products range from inexpensive tools, such as tongue depressors, to complex, multimillion-dollar systems, such as magnetic resonance imaging systems. Other examples include pacemakers, stethoscopes, replacement joints, hip implants, miniature robots that perform complex surgeries, synthetic skin, artificial hearts, scalpels, medical laboratory diagnostic instruments and test kits, patient management software, and software that is used as a component in a medical device.

## Refrigerators, Freezers and Other Home Appliances

Home appliances are electrical/mechanical machines, which accomplish some household functions, such as cooling/heating, cooking or cleaning. Home appliances can be classified into:

- Major appliances, or white goods
- Small appliances,
- Consumer electronics

## ICT and BPO

BPO is a subset of outsourcing that involves the contracting of the operations and responsibilities of a specific business process to a third-party service provider. Originally, this was associated with manufacturing firms, such as Coca-Cola that outsourced large segments of its supply chain. BPO is typically categorized into back office outsourcing, which includes internal business functions such as human resources or finance and accounting, and front office outsourcing, which includes customer-related services such as contact center services.

## Logistics and Distribution

Logistics is the management of the flow of things between the point of origin and the point of consumption in order to meet requirements of customers or corporations. The resources managed in logistics can include physical items such as food, materials, animals, equipment, and liquids; as well as abstract items, such as time and information. The logistics of physical items usually involves the integration of information flow, material handling, production, packaging, inventory, transportation, warehousing, and often security.

## Aluminum Industry

Aluminum is the essential element for products in the following sectors:

- Aerospace
- Aluminum Cans
- Automotive
- Building & Construction
- Electrical
- Electronics & Appliances

- Foil & Packaging
- Other Markets - As aluminum enters into its second century of widespread use, new scientific and production technologies continue to expand its market potential. Solar panel nanotechnology, transparent aluminum alloys and aluminum-air batteries will help lead the way toward the development of new and innovative markets this century.

The analysis finally identified three primary industry clusters – light manufacturing, business process outsourcing, and transportation and logistics – which should be prioritized when assigning space for industrial development in the LHI.

## Chapter I.6: Caymanas Special Economic Zone Industry Analysis

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Chapter I.6 assesses the market outlook for the CSEZ, relying on the demand forecasts conducted as part of the trade flow analysis along with the industry analysis discussed above. Structured as a pre-feasibility assessment designed to be complementary to the ongoing CSEZ feasibility study, the project’s analysis of the CSEZ first compared the results of the industry analysis with the sectors and clusters identified in other recent projects and studies from other sources, including the World Bank, MIIC, and UDC, all of which recommended light (clean) manufacturing as a potential industry to locate to the CSEZ. Biomedical equipment, transportation, and logistics, the latter of which is needed to support the other biomedical equipment and light manufacturing industries, were also considered as possible industries to relocate to the zone. Base and high cargo forecast scenarios within the 2035 planning horizon were then prepared for the CSEZ in order to estimate land area requirements.

While developing port-centric facilities is currently being prioritized given that new operators’ logistics and industrial facilities will naturally seek locations closest to port, outside locations for development of logistics and manufacturing zones, such as the CSEZ, also represent an important component of the LHI. With sufficient infrastructure investment and access to a competitively priced labor market, it is estimated that the CSEZ could capture up to five percent of cargo flows by 2035 in the base case and up to 11 percent of cargo flows by 2035 in the high case for the aforementioned industries. The development of an SEZ at Caymanas would satisfy requirements for both demand scenarios, providing the space needed (which is 32 hectares for the base case and up to 64 hectares for the high case, respectively, by 2035) to meet projected demand and a location near population centers from which labor could be sourced.

Development of the CSEZ thus represents the following value proposition and potential to be: a modern and sustainable port-centric facility at the heart of the Global Logistics Hub, with benefits including up to 524 hectares of greenfield land for industrial and other development, direct access to Kingston Container Terminal, modern, state of the art, and environmentally-friendly facilities suitable for light manufacturing and logistics industries, access to skilled and scalable labor, and state of the art residential, commercial, and recreational facilities.

## Chapter II.1: Land Use Master Plan

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Chapter II.1 details the proposed master plan for land use and infrastructure improvements for the LHI, considering requirements for both demand- and supply-driven development. Demand-driven requirements over a 20-year planning horizon are based on the demand forecasts generated as part of the project. Supply-driven development accounts for the cluster effects that can be generated by

industrial development and rival firm location decisions spurred by “first mover” firms’ decisions to relocate to or expand in a new market.

While the land use detailed in the master plan is driven by market demand, it is assumed that as demand-driven development occurs (in fact, it is already underway in Jamaica), supply-driven projects will ramp up. In fact, although the traffic volumes associated with the pipeline projects identified in Part I were forecast to 2035, supply-driven development will initiate well before that time horizon. Thus, the planning concepts highlighted in detail in the master plan are contingency-based, with facilities recommended to accommodate projected demand, but with sufficient flexibility so as to allow planners to respond to changing conditions as industry reacts to development in Jamaica.

The master plan then identifies locations for port and airport operations and facilities upgrades, logistics, industrial, institutional, and residential land uses as well as primary and secondary roadway networks, and railroad improvements.

The projects included within the master plan are presented in a LHI facilities connectivity map (Figure 1) which details the full build-out of all LHI projects that are planned along with phased layouts for all four phases of supply-driven development, subarea maps for LHI, concept plans for the Caymanas Estate Development Area and Vernamfield Airport City, and the phased land use Master Plan concept layouts for each.

For all key LHI projects identified in Chapter I.3., the four phases of supply-driven development estimate a 35% buildout in the first 10 years, 65% in the first 20 years, 85% in the first 25 years, and 100% in the first 30 years.

Once complete, Jamaica’s LHI will offer strategic access and proximity to global markets, a skilled and scalable workforce, and Special Economic Zones (SEZ) to support industry clusters. The proposed transportation and logistics infrastructure as well as the proposed Caymanas and Vernamfield concept plans included within the master plan support the LHI’s value proposition to offer an internationally competitive environment to connect businesses to world markets.

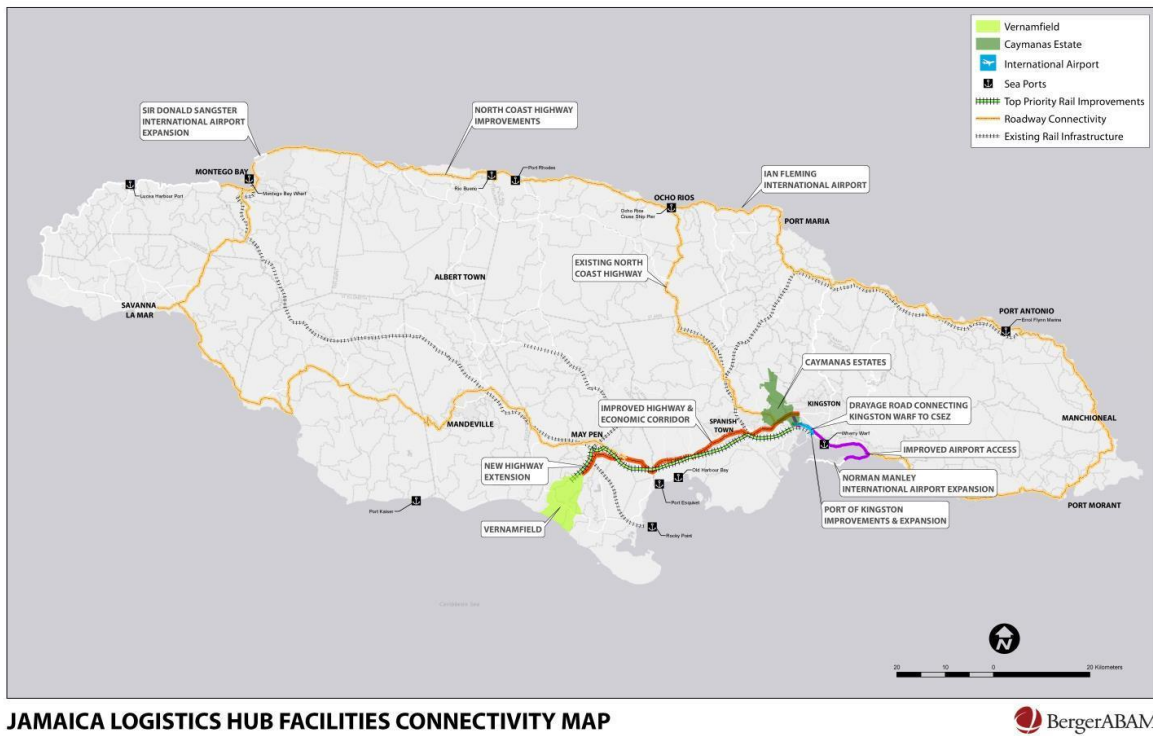
## Chapter II.2: Gap Analysis

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Considered an extension of the land use master planning exercise, Chapter II.2 identifies the structural and non-structural requirements that must be addressed in order to successfully implement the LHI. Structural and non-structural gaps were identified according to the following categories:

- Existing Ordinances and Planning Controls
- Legal, Policy, and Regulatory
- Maritime Infrastructure
- Aviation Infrastructure
- Industrial Infrastructure
- Utilities Infrastructure
- Road and Rail Infrastructure
- Education and Skills Preparation

Figure 1: Map of Critical Jamaica Logistics Hub facilities



For each category, existing shortcomings are then addressed and mitigation strategies recommended. For structural gaps, land requirements are identified and order-of-magnitude cost estimates for development in accord with the noted land use master plan are provided.

Addressing the identified gaps offers transformative potential not only for the LHI, but for the Jamaican economy as well. Approximately 87,400 direct jobs will be created by the LHI at full build out. Each new high-tech manufacturing job creates five additional jobs in the service economy or 437,000 opportunities for employment. As the Jamaican economy shifts towards new industries attracted by LHI-induced opportunities, potential LHI workers will be equipped with skills and competencies through targeted training and certification to match respective job and career requirements.

### Chapter II.3: Development Strategy

Chapter II.3 outlines the development strategy that Jamaica must pursue in order to achieve the LHI vision and fulfill the country’s role in growing its economy and contributing to fiscal stability. The chapter then sets forth a strategy consisting of seven strategic enablers and associated goals and actions. The strategic enablers include:

1. Improving institutional effectiveness;
2. Ensuring supportive policies and legislative and regulatory frameworks;
3. Enhancing workforce capacity;
4. Developing efficient and productive infrastructure;

5. Providing efficient transport logistics systems;
6. Facilitating sustainable financing; and
7. Promoting the LHI.

The seven enablers as a whole constitute 65 strategies and 105 actions. Each enabler's goal, the strategies to be executed for each, and strategy rationale are provided. A detailed action plan identifying the specific implementing actions, parties responsible, timelines, and performance measures is also provided in order to ensure that Jamaica has a practical framework and guide from which to measure progress towards implementation of the LHI.

A 20-year planning horizon is provided for each of the seven enablers, with focused attention on the first five years and several strategies extending well beyond the initial five years. Where only one year for implementation is indicated, strategies are to commence and be completed in one year. While most actions are executed during the first five years, there are several that occur on a recurring basis and hence are also indicated for years 6-20. The development strategy reflects a strong focus on the first five years of implementation given the uncertainty of longer periods. Strategies in the charts are color-coded to reflect their degree of priority, with red being the mission critical top priority, green indicating mission critical high priority, and gray indicating mission critical lower priority.

The development strategy is put into effect through the aforementioned implementing actions. Some action responsibilities are assigned to a variety of stakeholders, reflecting the collaboration needed for strategy achievement. A set of metrics designed primarily to ensure strategies are achieved are also included for each enabler, which also provides the basis for evaluating course correction, as needed. Ultimately, the promise of this development strategy is that it focuses on providing logistics services and assets while aligning and strengthening finances, people, systems, policies, processes and administration. Strategy success also relies on an organizational culture committed to collaboration and innovation in all its activities. Through commitment to the development strategy, Jamaica will realize its highest potential as a global logistics hub for Jamaica and beyond.