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Super Seven "S" Trends (SSST) that Shape the Future of Philippine Global Ports

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ABSTRACT: The paper presents the port investments and initiatives the Philippine Port Authority spearheaded, including financial performance and operational highlights. The extensive readings on the Philippine Port Authority (PPA) report, online searches, documentary analysis, observations from the press, etc., and interviews were evaluated and divided into Seven Super "S" Trends (SSS-T). This 7S-T includes STEMS, SIZE or SCALE, SPEED, SMARTNESS, SUSTAINABILITY, SAFETY and SECURITY, SCARCITY, and SUPPLY, which together would influence the future of global ports. These "S" Trends will be explained in light of current (2017–2018) projects, trends, best practices, and port investments that are being started and carried out in the Philippines despite obstacles and difficulties. The paper concludes with a few closing thoughts. The views and analysis set out in this paper are those of the author(s) and not the official viewpoint of the Philippine Port Authority (PPA) unless otherwise the statement(s) of the person(s) have been quoted "in toto." The analyses provided in this paper are ideas and interpretations of the author(s) as maritime educators and researchers and are solely intended for academic discourse. Although the Seven Super Trends (SST) may use different terms, they may represent the same trends seen by port specialists because trends in ports are a global concern.

1 INTRODUCTION

The Philippine maritime sector has a considerable economic impact on the country. Several relevant sectors, subsectors, and regulatorFy and contributor supervisory bodies must adjust to the changing times and contemporary technologies to continue playing their respective roles. Modernization, automation, and other emerging technology would help three important maritime industries: shipping, shipbuilding, ship repair, and maritime personnel. The ports, harbors, container, and freight firms should execute parallel plans and coordinated activities that will result in a more amicable and successful partnership because their work and services complement and are related to those of the three sectors. This synchronization would be a suitable answer to the growing demand for more appropriate and efficient services. (Manila Times, 2018) [11]

In the Philippines, arrays of major transport projects are being rolled out under the Build, Build, and Build (BBB) program. The Philippines transport authorities are doing their best to address problems brought on by traffic congestion and the overcapacity of ports and harbors. The government is accelerating its infrastructure investment to address this situation by integrating the islands of the archipelago and exciting development, such as considerable systems improvements in the roads, railways, and ports. (Oxford Business Group, n.d.) [21]

As a background, nearly all of the Philippines' large public ports are controlled by the Philippine Ports Authority. The Philippine Ports Authority

granted a joint venture between Asia Terminal International and Aries Arrastre Services for a cargo-handling franchise in Batangas. In 1994, the government issued Order 212 to promote private sector activity in the port sector. This allowed private ports to compete for third-party cargo and had little impact because of the low public port tariffs in the subsidized regional ports. Private Arrastre companies provide Cargo-handling, but the Philippine Ports Authority licenses only a few companies to provide each port's services. Attempts to open cargo handling to competing firms, as part of Order 212, were stymied by the existing licensees' efforts. Many of the port services in Manila have been licensed to private providers. (ADB, 2000) [1]

2 PORT INFRASTRUCTURES INVESTMENTS

The Philippine Ports Authority (PPA) is accelerating port infrastructure projects nationwide due to the revenues indicating a solid increase in the first quarter of 2018. PPA revenues for 2017 were PHP 3.78 billion (USD 72 million) in Q1 2018, 9% more than PHP 3.48 billion. The high performance of the government programs was correlated with the storage fees, which climbed by 50%, and the lay-up fee, which increased by 183%. (Louppova, 2018) [9].

The PPA ports increased by a percent from the first quarter of 2017 to 55.2 mln mt. in Q1 2018. The Manila/North Luzon accounts for 24,7 mln mt—half of the entire volume. Manila handled 1.198 mln TEU, almost 70% of this volume. It is observed that the container traffic rose to 1.76 mln TEU, a significant 7% increase. Due to its strong financial performance, the agency can enhance other overcrowded ports with cargo and passengers. Although, PPA's net income decreased by 4% to PHP 2.26 billion (USD 43 million) from PHP 2.37 billion last year due to significant first-quarter maintenance costs, mainly for dredging, repair, and maintenance. (Louppova, 2018) [9].

On its 44th Anniversary (July 11, 2018), the Philippine Ports Authority (PPA) announced that the agency is investing significantly in port infrastructure to achieve its vision by 2020. The move also parallels one of the International Maritime Organization's (IMO) major programs to build better ports for the future. These infrastructure projects involve the complete containerization of Philippine ports. A more expansive space will be set up for more excellent backup facilities. There will also be secure and practical Passenger Terminal Buildings (PTBs) and cruise terminals being upgraded and built in strategic locations nationwide. [14]

It can be surmised that the 53-ha Manila North Harbour Port can support the country's current and future expansion. With more than 1.2 million TEUs of domestic cargo, it has a capacity at par with those of foreign operators in Manila. [21]

The existing infrastructure and ongoing expansion strengthened the port's profile, as evidenced by the operator's P14.5 billion ($306.7 million) investment commitment in 2016 for the port modernization slated for the next 25 years. The terminal anticipates that increasing its terminal capacity to approximately 4m TEUs would finally finish the modernization over several years. The fully air-conditioned passenger terminal complex at the port can accommodate 2000 passengers. The port's cargo terminal is undergoing renovation. [22]

The Philippines' critical port priority is to acquire modern equipment (eight (8) quay cranes and 27 rubber-tired gantry cranes) to facilitate faster cargo turnaround. Expanded 840-meter quay areas will aid in accommodating longer vessels while implementing a NAVIS N4 terminal operating system. A one-stop shop has also been built to streamline transaction services and offer faster service from the point of origin to the point of destination. Port performance is good if it achieves a high throughput of TEUs in a year, as it will mean a high record of vessel turnaround rates. Port performance is also dependent on the port users. [22]

Furthermore, as the government's infrastructure push is anticipated to increase shipments to the Philippines, Asian Terminals Incorporated (ATI), the operator of Manila South Harbor, and the Batangas Container Terminal are investing in a multibillion-peso expansion program. [2]

3 FINDINGS AND ANALYSIS

Based on various readings of Philippine Ports Authority reports, internet searches, observations, documentaries, content analysis, and interviews, the information and data generated have been noted and analyzed, focusing on Philippine ports' investment, trends, and best practices that impact the port industry. These have been summarized into the Seven Super Seven "7 S" trends ("SSST" or 7ST), which would shape the future global ports and Shipping for easy recall. [7]

The Seven Super “S” stands for the 7 ST: STEMS, SIZE, SPEED, SUSTAINABILITY, SMARTNESS, SAFETY & SECURITY, and SCARCITY & SUPPLY.

3.1 *STEMS*

STEMS profile as a priority in a Knowledge Intensive labor Market for the port sector. Knowledge and innovation will become increasingly dominant factors in determining the competitive strength of the port. [14] It is envisioned that the STEM (Science, Technology, Engineering, and Mathematics) track will be required for maritime students. STEM students will become more sought after. Competition for skilled employees is increasing, and as a result, the (port) labor market will further internationalize in the next few years. Western shipping companies facing this talent shortage will look for Asia and Africa to secure their human capital. Universities and port authorities in the Philippines are working together to secure talent potential. The mismatch between high school (youth) unemployment and the lack of skilled workers is a social change. [7]

3.2 *SIZE or SCALE*

The increasing size of ships, trains, and trucks will continue for 15 years. For example, the largest vessels, such as the 22,000-TEU ships, can only call at limited ports. Larger ships require more depth, more expansive docks, stronger quays, and more massive cranes. Implementing major infrastructural projects typically takes 15 years. [14] Transshipment is becoming more structural; the need for cooperation with other ports increases to secure optimal transport. Ports focusing on large ships result in more essential but also fewer ports and carriers.

According to PPA reports, there was an extraordinary rise in cruise ship arrivals over the previous 12 months, culminating in many cruise ships arriving simultaneously at Manila's South Port in March 2018. The fact that cruise tourist passengers have increased by more than 1000% demonstrates that the Philippines gradually realizes the advantages of those programs. [10] International cruise tourism has also contributed to the Philippines' passage industry's overall performance. The number of international cruise passengers increased by more than 184.76%, from 43,820 in 2017 to 124,779 passengers in 2018. The cruise ship passengers' concentration is mainly in Manila, Batangas, Palawan, Panay, and Guimaras. No sign of port congestion existed in any of the Philippines' primary gateway ports, specifically Manila. The productivity is still consistent, as indicated by an average of 23 moves an hour combined. The average is 60% yard utilization, while the three ports' berth occupancy rate is 59%. [18]

By the close of May 2018, passenger volume continued to expand by 36.76 million vis-a-vis the 33.63 million dealt with in the same timeframe in 2017, an increase of 9.3%, owing to the rise in dependence of the public on sea-traveling by Ro-Ro vessels, fast crafts, and motorized bancas for inter-island travel primarily in the ports of Bohol, Masbate, Mindoro, Negros Oriental and Siquijor and Negros Occidental-Bacolod-Banago area. The lively stream in passenger traffic is also due to the public's support of the government's domestic eco-tourism programs, which promote inter-island leisure travel through Ro-Ro vessels. [4]

Due to the robust domestic consumption and the generally good business climate, the Philippine cargo modestly increased by 0.44% in 2018. Total throughput increased to 98.89 million metric tons (MMT) in 2018 from 98.89 MMT in 2017, with domestic freight volume increased by nearly 4% to 42.36 MMT. [4]

The Philippines' main gateway in Manila (Manila International Container Terminal in Manila South Harbor and the Manila North Port) remains healthy at a combined berth occupancy rate of 59%. Likewise, the Quay crane productivity is 24 moves an hour per crane. [4]

3.3 *SPEED*

The rise in port infrastructure investments in recent years has yielded notable results in alleviating road congestion. In the 2017 Lloyd's List of Asian Ports, the Philippines is included in the top 100 container ports at 32nd spot in 2017 and improved its standing in 2018 at 22nd spot due to the booming Philippine economy that increased 6.8% in 2017 from 5.9 % in 2016. [4] This was attributed to establishment of the Appointment Booking System in 2015, resulting in higher volumes handled by the ports in the country, particularly MICT and Manila South Harbor.

With the most significant revenue and throughput in the Philippines, the ports outperformed a few top international ports in container volume, including London, Melbourne, Piraeus, Vancouver, and Seattle, in the Lloyd's List Top-100 Ports Ranking 2017. [8][20][22]

The Philippines must build more ports and expand and modernize the existing ones to ensure continuous maritime passenger safety and shipment promptness.[24]

3.4 *SUSTAINABILITY*

Green Shipping is one of the most significant innovations in the Philippine shipping sector. In February 2018, the IMO sponsored a workshop to equip the thirty maritime educators with ship-energy efficiency (fuel consumption and greenhouse gas emissions), so they may incorporate them into the curriculum. The training was done thru lectures, videos, and online interactive exercises. The workshop was under the Global Maritime Energy Efficiency Partnership project with the United Nations Development Program and the Global Environment Facility. [15] [16]

On December 3, 2018, Batangas and Cagayan de Oro ports received Green Port Award System (GPAS) awards from APEC Port Services Network (APSN). This recognition means that the Philippine Ports Authority (PPA) has stepped up its 'green port' initiatives in all its ports nationwide. [5][15][16]

The GPAS program is significant to all ports in the APEC region because it is a recognized green evaluation system. The program improves environmental awareness and increases understanding of green port development strategies. It promotes the port's sustainability in the APEC region; helps protect the port environment for the benefit of the entire APEC community. It helps achieve a balance between economic and environmental development. The programs share best practices and encourage mutual assistance among APEC ports. It also contributes to harmonizing regulations, improving the APEC region's interoperability of green port systems, and establishing an APEC green port performance benchmark based on this program. [15][16]

Batangas and Cagayan de Oro ports are recognized for implementing the Port Safety, Health, and Environmental Management System (PSHEMS). [5][6] They are also certified to ISO 9001:2008, and the two ports have migrated to the Integrated Management System (IMS) that covers three international standards. These are the Quality Management System (ISO 9001:2015), the Environmental Management System (ISO 14001:2015),

and the Occupational Safety and Health (OHSAS 18001:2007 that solidifies further the policies on quality, safety, health, and environmental, safety and health conditions and the commitment to port quality operations and services for the protection of all concerned. [17]

The Batangas port, with 150 hectares, serves as the strategic trading center for all industries in the CALABARZON ecozone, especially for goods from Batangas shipped to ports near Manila. Traffic for general cargo and containers is constantly increasing. The development project at the Batangas Port is completed. Phase I caters to domestic and non-containerized foreign vessels, and Phase 2 is dedicated to international container vessels. [15]

On the other hand, Cagayan De Oro port, with its advantageous location on the Northern Coast of Mindanao within Macajalar Bay, is dubbed the global gateway to Mindanao. Being adjacent to urban cities, provinces, and other regions of the country, the port is where passengers and goods enter and exit. It also links conveyances to countries such as Australia, China, Vietnam, and the United States. [15]

3.5 *SMARTNESS*

New technologies and innovations, such as Artificial Intelligence, and the Internet of Things, will streamline the flow of information and goods. Devices will be interconnected and communicate with each other. In advanced countries, their shipping companies have automated their businesses and processes in their off- and onshore operations. Sophisticated shipping companies have the money and human resources to operate modern communication facilities, infrastructures, and technologies. Some shipping companies have adopted blockchain technology, reducing the need for third-party certification and verification of transactions. In Philippine Shipping, the documentation could be more varied. On short-haul trips, seafarers have less time to handle the paperwork. The satellite connections in ships can ease administrative work, as officers and crew members can communicate far from shore. [11]

In the Philippines, while a more advanced and quicker internet connection may not be possible, the maritime sectors and relevant agencies can proactively automate their processes by adopting appropriate software and hardware systems. Certification, verification procedures, and other simple transactions through online systems may be implemented, which will require their support for the required training and education programs for their personnel.

The Terminal Appointment Booking System (TABS), introduced in 2015, bolstered the volume-handling capacity at the Port of Manila's international terminals. The Manila International Container Terminal (MICT) and the Port of Manila South Harbour improved their turnaround time and efficiency, increasing total container traffic by 21.1 %. The total container traffic in the Philippines rose by 20.5% over the same period, from 5.86m TEUs to 7.06m TEUs.[20] [21]

The Philippine Ports Authority in the Port of Manila South Harbour reported that in 2017, it had handled 587,000 TEUs. In contrast, the MICT and the Domestic Terminal of North Harbour Manila handled 1.69m TEUs and 922,000 TEUs, respectively. In 2017, the cargo clearance process at the Port of Manila was boosted when a paperless system was established. It led to the removal of 15 transaction windows and, more importantly, minimized corruption due to limited in-person interaction between the importers and customs officials, preventing the under-evaluation of shipments. In 2017, the Port of Manila launched the new system and eventually by the entire ports in the country. The port's new developments in Clark and Subic Bay increased the handling capacity and promoted the country's cruise line industry. [20] [21]

In 2015, PPA recorded that from 223.67m tonnes, cargo throughput rose 11.6% in 2016 to 249.57m tonnes, a 12.6% increase in foreign cargoes to 151.6m tonnes over the same period. Domestic cargo shipments rose from 89.05m tonnes to 97.96m tonnes, a 10% increase. The containerized cargo traffic reached 6.57m TEUs, compared to 5.86m TEUs in 2015, increasing 12%. The foreign container traffic rose to 3.97m TEUs, a 14.1 % increase, during import traffic at 2.6m TEUs, a 9.3% increase. In the first half of 2016, PPA reported that the top container cargo handler was MICT, which had processed 1.24m TEUs. Second, the Port of Manila South Harbour was on the list, with 584,598 TEUs. On the other hand, Manila North Harbour handled 696,495 domestic TEUs. In July 2016, the PPA reported that the combined yard utilization at Manila's international ports inside the terminals was roughly 32,600 TEUs (40%). The new terminal appointment booking system and an electronic platform for booking the pickup and delivery of containers at Manila's two international ports contributed to the yard's efficiency. According to PPA, before the system's installation, the average daily gate pickup at Manila's ports was between 4500 and 5000 TEUs; now, it is between 7000 and 7500 TEUs daily. [20] [21]

The future is technology. Technology has fundamentally altered how logistics are structured. The logistics industry is evolving. Consequently, there is a growing demand to digitalize the information streams. Digitalization will optimize current infrastructure, lowering the demand for additional infrastructure investment and opening the door to eliminating unneeded (empty) transportation. Data analytics and exchange are being used increasingly, giving ports a new competitive edge. Self-steering ships will be the norm. Soon, using sensors will take the place of towing. Similar to how using drones for inspection would increase productivity, it may be learned through online training to enhance efficiency accessible through e-learning and simulations. [7]

Likewise, additive manufacturing 3D printing removes the need for Shipping. Some manufacturers already use 3-D Printing to produce goods closer to their customers and eliminate the need for shipping. [7] The manufacturers envisioned a zero inventory goal. It will transform how ships are supplied in the future – cargo streams will most likely differ: more shipment of raw materials rather than end products.

As trade patterns alter, new opportunities will emerge to service new manufacturing requirements to ship materials out for recycling and refurbishment. The Philippines needs more efficient and transparent port operations systems by employing modern technologies.

3.6 *SAFETY and SECURITY*

Safety is yet another crucial element that supports a port's viability. PPA is purchasing vessel traffic management solutions (VTMS) gear that will cover five other locations besides the ports in Batangas and Manila. The long-term goal is to address offshore safety and establish suitable VTMS infrastructure in the most important ports. It is best to use VTMS to plan cargo handling operations, environmental protection, and berthing management to promote safety. The Philippine Ports Authority's medium-term plans include the modernization and development of the five strategic and commercially essential ports: Davao-Sasa, Iloilo, Cagayan de Oro, General Santos, and Zamboanga thru a public-private partnership arrangement. However, different modalities are also being evaluated. Davao-Sasa is eyed as the priority target for redevelopment, although on a more conservative and cost-efficient level than initially planned. [20] [21]

Maritime security and safety remain a critical concern in the Philippines, considering that Shipping is the cheapest mode of transportation for cargo ships and interisland passenger shipping lines. Marina's statistics show that about 20 major maritime accidents involving passenger-carrying ships were recorded between 2009 and 2014. Notably, 19 of these vessels were second-hand imported ships, with only one locally built.

MARINA created a financing program to encourage shipbuilding at local shipyards in the Philippines in collaboration with financial institutions. The program aimed to provide subsidies to help shipping companies replenish their fleet with modern vessels and help the local shipbuilders grow. The Marina memorandum circular's full implementation of replacing local wooden hull bancas with steel, fiberglass, or composite types will significantly improve domestic travel safety.

The fact that hackers can remotely influence port operations is one of the main problems with port security. The risk of human error would be decreased by using various control systems and increasing automation at the port. Automation also improves system reliability, which reduces the number of delays. Technology does, however, have a dark side, and as automation advances, cybersecurity, and cyber-resilience are becoming increasingly important. Be ready to handle current and emerging cyber threats from terrorists, criminals, and adversary nation-states that could cause significant disruptions to the nation's vital maritime transportation infrastructure. Drug dealers are quicker to disable IT security. This preparation entails creating a risk-aware culture, not only technologically.

3.7 *SCARCITY & SUPPLY*

Further globalization, demographic growth, and development of the world economy are expected to trigger scarcity of natural resources and growth in global freight transport. [14] The increasing scarcity of raw resources implicates geo-economics (corresponding trade routes and investments in infrastructure [7] As a result of the urbanization trend, ports must be better connected to the bigger cities; one example is the high-speed rail connectivity proposed between the Port of Manila and the Port of Batangas or Subic. [14]

The plan's key recommendations include developing an integrated, long-term national supply chain and logistics strategy, detailing necessary multi-modal infrastructure schemes, and a robust nautical highway and roll-on/ roll-off terminal system linking the country. The plan also recommends creating an administrative agency for supply chain and logistics to ensure policy implementation, compliance, and reforms to streamline and standardize logistics policies under various government agencies. Road development was highlighted as the most critical priority, especially access roads to sea and airports, freight centers, rail networks, and air cargo facilities. The plan reports that an anticipated surge in cargo volumes due to demographic and economic growth will exacerbate road congestion around ports. The roadmap should positively impact multi-modal connectivity and logistics as they align with the transportation agenda and focus on improved project delivery under President Duterte. [14][20][21][22]

In August 2016, the Department of Public Works and Highways (DPWH) was tasked with designing the final configuration for upgrades at the country's Batangas and Subic ports by the National Economic and Development Authority (NEDA). This plan indicates that port developments in the country remain a crucial prerogative because they will benefit from new railway connections. [20][21][22]

Within the continuous ASEAN integration framework, trade volume will rise as the population grows and trade barriers continue to collapse. Traffic into Batangas or Subic will depend on volume growth and trends in commerce. While Batangas was primarily intended to be a port for processing containers, it has since emerged as the principal entry point for the importation of fully assembled automobiles. Given the existing commercial conditions, moving cargo out of Manila may not be prudent for Batangas or Subic. Nevertheless, given the expected growth trajectory, these two facilities and other ports outside Manila will continue to utilize more. [20][21][22]

Ports must be flexible to adapt to changing demands on the type of commerce and utilization. Once volume increases, shipping lines might be willing to divert Manila's goods to secondary ports. Other domestic ports will then maximize their facilities' potential and contribute to reducing handling costs. There would then be a need to integrate and align all the various port developments throughout the archipelago to decentralize. Then there will be a need to identify ports with similar

trade profiles that can act as sister ports and ensure that cargo handling standards are aligned. [20][21][22]

Ports like the Batangas and Subic ports are very viable. Like Manila's international ports, they can meet the shipping needs of other regions and deliver comprehensive port services. More importantly. The high-quality road infrastructure makes it accessible to shippers, directly linking them to the ports and factories without restrictive truck bans.][20][21][22]

ATI operates the Batangas Container Terminal. Both the terminal mentioned above and the Port of Subic, which ICTSI runs, have yearly capacities of over 300,000 TEUs each, which is more than enough to meet the demands of their respective markets. The example of Batangas demonstrates how volumes have increased over the last three years as more shippers and consignees have used the port's potential. Batangas Container Terminal carried more than 130,000 TEUs in 2015, up from just 10,000 TEUs when it opened. It exceeded 170,000 TEUs in 2016. [20][21][22]

In support of the Port of Manila, wherein 80% of the cargo is shifted, the Subic and Batangas ports were built to facilitate the remaining 20% of trade to serve southern and northern Luzon areas. Most of the international shipping lines and traders navigate Manila because Manila is consumer-based, wherein most of the economic activities are happening with the bulk of the population.

A significant way of achieving it was by putting cargo in the logistics center rather than leaving the port as a container. As more locators drive up volume, Subic, with its shorter sailing distance from Northern Asia, can serve Metro Manila by strengthening its visibility and position as an economic zone and destination for investment rather than merely a seaport, directly impacting utilization with its lower freight rates and its deeper bay that allows handling of large ships. Clark is also capable as a logistics center. Cargoes may travel from Subic to Clark to distribute cargoes that can travel by land, sea, and plane. An intermodal logistics distribution center out of Clark would best accelerate the Subic Bay utilization. [20][21][22]

There should be proper links between Subic and Clark, with Clark serving as a multi-modal logistics distribution center. Investments in these types of infrastructure developments are needed.

Further Integration of the Supply Chain as a chain is only as strong as its weakest link. The most critical asset of a port is the connection to the hinterland. Unlike being a landlord, the port authority now actively participates in the supply chain. The world's shipping businesses, logistics service providers, and terminal operators are growing increasingly international, and a small number of enterprises are acquiring market dominance, which suggests greater negotiating leverage. It is becoming more typical for port officials to take positions in foreign ports. The role of port authorities also gets more robust. The port authority is leading in developing a shared investment plan for the necessary infrastructure upgrades, ideally with influential corporate participants in the supply chain. Businesses can optimize and increase the flexibility of their supply chains with better information about inventory status and transport flows. The future port authority is supporting. [7]

Energy Supply -Energy transition and bio-based economy. Will the port continue to play a vital role in the energy supply? Renewable energy is being used more frequently. Solar energy is becoming increasingly efficient. Growing hybrid and fully electric vehicle sales reduce the demand for transportation fuels. More biofuels will be available, and bio-based chemical goods will advance quickly. Middle distillates and gas will become increasingly crucial for powering inland and maritime shipping. Opportunities and new cargo flows, such as LNG and biomass, are brought about by the shifting fuel mix, while risks are implied by a fall in the usage of mineral oil products as transportation fuels and local energy production for the port. [7]

4 CONCLUDING REMARKS

The Philippines is well-positioned to transform its transportation sector into a significant economic growth driver in the coming years, supported by rising merchant shipping, air passenger volumes, and commuter traffic, thanks to its advantageous geographic position flanking significant global trade routes between North America, ASEAN, and Australia. There is a great deal of room for development. However, the increasing urbanization and decades of underinvestment in essential infrastructure have made congestion worse across all sectors of the economy, particularly in the Metro Manila region and Luzon, the largest and most populous island in the country.

Despite these challenges, the future of the transportation industry looks very promising since a number of significant projects are in the works that will help reduce congestion. Supported by rising maritime trade and increased local and foreign port investment, the sector is well-positioned as a key driver of economic growth over the coming years. Importantly, the current efforts of the administration to upgrade infrastructure and strengthen international gateways enable the country to benefit from its geographic position. By modernizing the roads and a comprehensive public transportation infrastructure, new port expansions enhance multi-modal connectivity in the maritime trade.

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