



PORT EVERGLADES MASTER/VISION PLAN 2024 UPDATE

Executive Summary Final Report

Prepared by

AECOM

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ES.0 Definitions

ES.0.1 Glossary of Terms

Air Draft

The maximum height of a vessel above the waterline.

Apron

Area immediately adjacent to the vessel berth where lines, provisioning, gangway, and other operations occur.

Anchorage

Location where a vessel may anchor. For cruise, in destinations where docks are not present to accommodate vessel operations, anchorages are used and passengers are shuttled to/from the cruise vessel to a landside location using a small boat (tender). Anchorages are generally only used in ports of call. For cargo, an area outside a port where a vessel anchors to await a berth assignment. For Port Everglades, the anchorage location is approximately two and one-half miles northeast of the entrance channel to the Port, as established by federal regulations.¹

Beam

The width of a vessel at its widest part.

Berth

- (1) An anchorage or dock space for a vessel in port.
- (2) A bed, generally attached to the deck and/or bulkhead onboard a cruise vessel.

Break Bulk

General cargo or goods such as steel rebar or pipes that must be loaded/unloaded and handled individually or in pre-determined modular quantities (e.g., pallets). Break-bulk cargo is not handled in intermodal shipping containers or in bulk quantities as would be the case with petroleum, grain, and cement, for example.

Bunker/Bunkering

Marine fuel used for propulsion. The act of delivering marine fuel to a vessel.

Capacity

The number of units (passengers, berths, containers, gallons, tons, etc.) that a given area or space can handle at a given time.

Cruise Brand

Term referring to individual cruise vessel operating companies (e.g., Carnival Cruise Line) to distinguish them from their corporate holding companies (e.g., Carnival Corporation).

¹ Source: 33 C.F.R. § 110.186

Cruise Line

For purposes of this report, cruise line is used to describe a corporate holding company with one or more cruise brand(s) operating under its corporate umbrella (e.g., Carnival Corporation).

Cruise Terminal

Building where cruise passengers embark and/or disembark in a homeport destination.

Daily Cruises

Term applied to vessel service transporting passengers, vehicles, or cargo from point to point. The key difference between daily cruises and multiday cruises is that daily cruises offer transportation services as their primary business focus and return to the port of origin the same day they depart.

Draft

The depth of water required by a vessel to float; the measurement in feet (or meters) of the extent to which the vessel projects below the surface of the water.

Dry Bulk

Commodity cargo that is transported in unpackaged, non-standardized, non-liquid granular form, usually in large quantities (e.g., cement, bauxite, coal, etc.).

Emission Control Area (ECAs)

Designated sea areas in which stricter controls were adopted to minimize emissions from ships, as defined by Annex VI of the 1997 MARPOL Protocol, which include sulfur oxide and nitrogen oxide emissions.

Ground Transportation Area (GTA)

Zone in which vehicles, including buses, taxis, and private cars, are organized and accessed as part of cruise terminal/destination embarkation and disembarkation activities.

Homeport

A marine facility and destination locality that serves as the base of operations from which a multiday or daily cruise begins and/or terminates. Also referred to as a turnaround port.

International Maritime Organization (IMO)

A specialized agency of the United Nations responsible for the safety, security, and environmental performance of international shipping.

Itinerary

Sailing routes and ports visited on a given cruise. Two itinerary types are generally observed. *Open-jaw itineraries* refer to those deployments where the cruise begins at one homeport and ends at another. *Round-trip or closed-jaw itineraries*—the more common type observed—begin and end from the same homeport.

Liquid Bulk

Free-flowing liquid cargoes, such as gasoline, jet fuel, crude oil, liquefied natural gas, industrial chemicals, etc. that are typically transported in large quantities via tanker vessel and stored in tanks at or near ports for distribution/consumption.

Liquefied Natural Gas (LNG)

A natural gas that has been cooled down to a liquid state (about -260 degrees Fahrenheit) to significantly reduce the volume of natural gas for shipping and storage. LNG is a cleaner burning fossil fuel that significantly reduces harmful emissions compared to conventional marine fuels.

Marine Terminal

Facility, including storage yards as well as associated buildings, where cargo handling activity occurs, usually within a physically defined and secure (i.e., gated) area.

Methanol

A light, volatile alcohol used as an alternative fuel in some marine applications, and one of the many alternative fuel options being explored by the cruise industry for potential use.

Mixed-Use Facility

Refers to a facility or complex with more than one type of real estate or operational use. Mixed-use facilities generally:

- (1) are contiguous in nature,
 - (2) are developed within a broader master plan constructed at one time or in phases, and
 - (3) provide for a symbiotic relationship to occur among all uses such that the sum of the mixed-use facility from a real estate or operational perspective is greater than its parts.
- Mixed-use maritime facilities often include cruise, ferry, marina, commercial, residential, recreational, and other upland transportation facilities.

Multiday Cruises (Cruises)

Leisure-oriented voyages on deep-water, ocean-going cruise vessels of two or more nights, often to a variety of destinations or ports of call. Multiday cruises are offered either by regional or international operators marketing to a variety of consumer sectors and nationalities.

Neo-Panamax

Vessels classified as Neo-Panamax are of the maximum dimensions that will fit through the newest set of locks in operation by the Panama Canal (366 meters [1,200 feet] long by 49 meters [161 feet] wide by 15.2 meters [50 feet] in depth).

Panamax

Vessels classified as Panamax are of the maximum dimensions that will fit through the original locks of the Panama Canal (304 meters [998 feet] long by 33.5 meters [110 feet] wide by 25.9 meters [85 feet] deep). Thus, a Panamax vessel will usually have dimensions of close to 294 meters (965 feet) long by 32.3 meters (106 feet) wide by 12.5 meters (40 feet) in depth.

Peak (or Peaking)

Period of greatest intensity of use or volume. Port Everglades' peak days for cruise activity, for example, are Saturday and Sunday since those are the days that, on average, see the greatest number of cruise ship calls and/or passenger disembarkations during a given cruise season.

Penetration Rate

Percentage of the total potential market that is currently addressed by a given product or service. For example, in 2016, North America (including Canada, the United States, Mexico, the Caribbean, and Central America) had a penetration rate for cruise of 2.3 percent (13.34 million cruisers/579 million total population).

Port of Call

A destination visited as part of a cruise itinerary. The focus of the port of call is on tourism activities adjacent to the cruise arrival area and the transportation of passengers to regional points of interest. This can also be referred to as a downstream destination.

Post-Panamax

Size standard that exceeds the largest vessel dimension capable of transiting the original Panama Canal locks (304 meters [998 feet] long by 33.5 meters [110 feet] wide by 25.9 meters [85 feet] deep). These measurements are generally based on the beam and LOA of the vessel.

Revenue Passenger

This generally refers to homeport passengers or, in some very limited cases, port-of-call passengers, whereby passenger counts reflect the port's passenger wharfage or tariff rate charging policy. For homeport calls, the actual number of passengers is doubled to show that the cruise operator is charged by the port for the passenger embarking/disembarking the vessel at a set fee.

RORO

Maritime term for roll-on/roll-off cargo such as passenger vehicles, tractor trailers, buses, railcars, etc. that are driven on and off a ship under their own power or using a platform vehicle, such as a truck and trailer or self-propelled modular transporter.

Shore Power

A process that allows ships in port to connect to the local electrical grid and shut down their engines, which can help to reduce emissions in port cities.

Super Post-Panamax

Generally, refers to the largest vessels in existence today. These vessels are defined not only by their dimensions, but also their carrying capacity (i.e., 3,000+ passengers for cruise and 12,000-14,000+ twenty-foot equivalent units [TEUs] for container ships).

Tariff

A schedule of fees charged to port users, especially marine terminal and vessel operators, to cover some or all costs associated with port operations and other fiduciary obligations (e.g., infrastructure development and maintenance).

Terminal Operator

Entity with primary responsibility for managing marine/cruise terminal and related operations, usually under contract to a public port authority or other public or quasi-public ownership interest.

Transit Passenger

By literal definition, the status of cruise passengers at a port of call. This term can also be used to describe passengers who remain on a homeport cruise ship for back-to-back sailings.

Twenty-Foot Equivalent Unit (TEU)

Unit of cargo used to describe the capacity of modular container ships and container terminals. It is based on the volume of a 20-foot-long (6.1 meter) intermodal container, which is the historical standard metal container used in container shipping. Most containers in use today are forty-foot equivalent units; however, TEU remains the standard unit of measurement.

Use Ratio (Utilization Percentage)

The ratio of days that a berth is occupied to available berth days (total calls/total available berth days). For example, in a year-round market, a single berth is theoretically available for a total of 365 days. If that berth receives 52 calls (one vessel sailing weekly round-trip itineraries year-round) then its use ratio is .142, or 14.2 percent (52/365).

ES.0.2 List of Acronyms

AADT	Annual Average Daily Traffic
ADT	Annual Daily Traffic
AI	Artificial Intelligence
BA	Bermello Ajamil & Partners
BCCC	Broward County Convention Center
BMP	Best Management Practices
CAGR	Compound Annual Growth Rate
CIP	Capital Improvement Program
CSXT	CSX Transportation
CT	Cruise Terminal
CY	Container Yard
CO_{2e}	Carbon Dioxide Equivalents
DPC	Deepwater Port Component
ECA	Emission Control Area
EV	Electric Vehicle
FAA	Federal Aviation Administration
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FECR	Florida East Coast Railway
FLL	Fort Lauderdale-Hollywood International Airport
FTZ	Foreign Trade Zone
FY	Fiscal Year
GFLA	Greater Fort Lauderdale Alliance
GHG	Greenhouse Gas
GTA	Ground Transportation Area
I	Interstate
IIJA	Infrastructure Investment and Jobs Act
ICTF	Intermodal Container Transfer Facility
ILC	Intermodal Logistics Center
IMO	International Maritime Organization
ITS	Intelligent Transportation System
LNG	Liquefied Natural Gas
LRT	Light Rail Transit
MAF	Military Access Facilities
MARPOL	International Convention for the Prevention of Pollution from Ships
MPH	Miles Per Hour
MPO	Metropolitan Planning Organization
M/VP	Master/Vision Plan
NO_x	Nitrogen Oxides

NS	Norfolk Southern
PBB	Passenger Boarding Bridge
PIDP	Port Infrastructure Development Program
PJA	Port Jurisdictional Area
PM	Particulate Matter
POV	Privately Owned Vehicle
PREMO	Broward County's Premium Mobility Plan
ROI	Return on Investment
RORO	Roll-On/Roll-Off
RTG	Rubber Tire Gantry
SCFE	South Central Florida Express
SIS	Strategic Intermodal System
SO_x	Sulfur Oxides
SPP	Super Post-Panamax
SR	State Road
STNE	Southport Turning Notch Expansion
STS	Ship-to-Shore
TBPD	Thousand Barrels Per Day
TEU	Twenty-Foot Equivalent Units
USACE	United States Army Corps of Engineers
USCBP	United States Customs and Border Protection
USCG	United States Coast Guard
USEPA	United States Environmental Protection Agency

ES.1 Introduction

The Broward County Board of County Commissioners (the Board) has directed the Port Everglades Department (the Port) to update its Master/Vision Plan approximately every four years. The Port has undergone growth and structured development since the original Master/Vision Plan (M/VP) was approved by the Board in December of 2008. The M/VP is updated regularly, including in 2011, 2014 and 2018. The most recent M/VP Update was approved by the Board in June of 2020, during the COVID-19 global pandemic, which caused significant local and regional impacts to goods movement, cruise activities, port operations, and revenue. For example, the cruise industry at Port Everglades, within Florida, and around the world shut down and ceased operations for about 15 months. Since then, the U.S. has experienced various other issues that have affected the port industry, including supply chain problems, labor challenges, high inflation, rising energy prices, and increasing climate change impacts.

The M/VP is a flexible tool used by the Port to assess opportunities and challenges for the short and long term, identify critical path investments, and evaluate the tradeoffs between various strategies and scenarios for growth and expansion. The Port Everglades mission statement provides the foundation for developing the M/VP:

“Port Everglades works creatively and competitively to expand the revenue positions of our trade, cruise and energy customers which in turn creates economic social and environmental value for our community.”

Consistent with prior M/VP Updates, the goal of the 2024 M/VP Update is to help the Port achieve its mission by using an ongoing collaborative effort to create a plan that facilitates growth in volume and associated revenue while maintaining a diverse and environmentally responsible portfolio of operations. This is accomplished through the creation of a realistic 5-year Master Plan accompanied by 10- and 20-year Vision Plans that identify medium- and long-term opportunities for the Port.

The 2024 M/VP Update is structured in two primary phases as follows:

Phase 1

- Element 1: Existing Conditions Assessment
- Element 2: Market Assessment

Phase 2

- Element 3: Plan Development and Final Plan
- Element 4: Impacts and Strategies for implementation

A third phase, which consist of the preparation of a 3D computer-animated video documenting the 2024 M/VP Update and an update to the Deepwater Component of the Broward County

Comprehensive Plan (Broward NEXT), respectively, also comprise key aspects of the 2024 M/VP Update.

As with previous updates, the 2024 M/VP Update assesses changes in market and other conditions that have occurred locally, regionally, nationally, and internationally since the last iteration of the plan (adopted in 2020) and uses a 20-year planning horizon for future market assessments, activity projections and plan implementation and funding scenarios. The baseline year for the 2024 Update is 2026. The following milestone years define the 5-, 10-, and 20-year plans:

- 5-Year Master Plan: 2026-2030
- 10-Year Vision Plan: 2031-2035
- 20-Year Vision Plan 2036-2045

A number of projects identified in these plans are expected to extend across several time periods. In addition, it should be noted that some of the projects identified within the 20-Year Vision Plan are expected to extend beyond the 20-year time horizon of the M/VP, i.e. beyond 2045.

ES.2 Project Scope

The overarching goal of the 2024 M/VP Update is to develop a future plan that maximizes Port Everglades' role in connecting the people and businesses of Broward County and South Florida to individuals, markets, and experiences across the globe while mitigating the associated challenges to the extent possible. In practical terms, the principal outcome of this 2024 M/VP Update is identification of capital projects that could be implemented within the 5-, 10-, and 20-year planning milestones to enable Port Everglades to achieve the M/VP's objectives and successfully execute Port Everglades' mission and future vision. The following objectives are primary factors in achieving the overarching goal of the 2024 M/VP Update:

- Expand containerized cargo throughput and optimize infrastructure to achieve continuous improvement in efficiency and performance against key indicators, including electrification needs to support decarbonization objectives, as well as provide growth and optimization of operations.
- Expand cruise passenger throughput and optimize infrastructure to achieve continuous improvement in efficiency and performance against key indicators.
- Improve traffic conditions through, to, and from the Port complex and enhance intermodal connectivity (road and rail) to facilitate transportation of goods and people and provide world-class customer service.
- Provide safe, secure, and sufficient liquid-bulk receiving infrastructure to continue powering the South Florida economy and address the needs for import and use of future fuels within the maritime industry and South Florida region.
- Generate positive net income for all lines of business, in line with financial goals, while maintaining or exceeding minimum debt-coverage ratios and ensuring a diverse portfolio of operations.
- Maintain high environmental standards while managing Port Everglades' growth and addressing trends, regulatory requirements, and needs for decarbonization, sustainability and resilience.
- Improve customer service and customer attainment to maintain current business and enhance growth within the Port and surrounding community.

As with previous iterations of the M/VP Update, the 2024 M/VP Update considers components of the Broward County Comprehensive Plan as well as the comprehensive plans of the Cities of Fort Lauderdale, Hollywood, and Dania Beach in developing consistent goals, objectives, and policies, especially with respect to coastal resiliency, decarbonization, sustainability, transportation, intergovernmental coordination, and capital improvement planning.

The core tasks completed as part of the 2024 M/VP Update are summarized below.

Element 1: Existing Conditions Assessment

The existing conditions assessment of the 2024 M/VP Update includes the following sections:

- Master Planning Context
- Land Ownership and Uses
- Facility Inventory
- Progress on 5-Year Projects in the 2020 M/VP Update
- Neighbors' Plans Influencing Port Development
- Cargo Berth and Yard Capacity Analysis
- On-Port Traffic and Parking
- Intermodal Transportation Network
- Environmental Conditions

Element 2: Market Assessment

The market assessment of the 2024 M/VP Update includes the following sections:

- Cruise Market Assessment
- Liquid Bulk Market Assessment
- Containerized Cargo Market Assessment
- Non-Containerized Cargo Market Assessment
- Foreign Trade Zone Trends and Port Everglades International Logistics Center
- Liquefied Natural Gas (LNG) Bunkering Assessment
- Assessment of Supply Chain and Distribution Trends
- Assessment of Broader Supply Chain Trends
- Cold Storage Assessment
- Assessment of Potential Day Care Facilities in the Port Jurisdictional Area
- Assessment of Hotel, Restaurant, and Other Uses in the Port Jurisdictional Area
- Assessment of Port Everglades Fire Station
- Opportunities for Port Beautification

Element 3: Plan Development and Final Plan

The plan development and final plan portion of the 2024 M/VP Update includes the following sections:

- Conceptual Planning Process
- Market Assessment Summary
- Status of Projects Included in the 2020 M/VP Update
- Terminal Design Trends
- Operational Enhancement Opportunities
- Facility Needs Assessment

- Affordability Analysis
- Project Decision Matrix
- Projects Included in the 2024 M/VP Update (Final Plan)
- Summary of Updates/Changes

Element 4: Impacts and Strategies for Implementation

The impacts and strategies for implementation portion of the 2024 M/VP Update includes the following sections:

- Parking and Estimated Future Traffic
- Environmental Impact Assessment
- Business and Asset Utilization Strategies
- Financial Strategies
- Goals, Objectives, and Policies

ES.3 Outreach and Participation

The planning process for the 2024 M/VP Update involved a collaborative effort among the AECOM team, the Port's senior staff, tenants, customers, and stakeholders to achieve the Port's goal of creating a plan that facilitates growth in volume and associated revenue while maintaining a diverse portfolio of operations through a realistic 5-year Master Plan, that will inform the Capital Improvement Program (CIP), and within the 10- and 20-year Vision Plan framework. Through meetings (both public and private) and other forums, such as telephone and email communication, this process engaged a broad range of Port stakeholders, including various Broward County administration and sister agencies, and state and federal agencies, such as:

- Broward County Aviation Department and other departments,
- Broward Metropolitan Planning Organization (MPO),
- Florida Department of Transportation (FDOT),
- Florida Department of Environmental Protection (FDEP),
- United States Army Corps of Engineers (USACE),
- U.S. Coast Guard (USCG),
- U.S. Customs and Border Protection (USCBP), and
- Federal Aviation Administration (FAA).

Existing Port tenants, customers, users, employees, stakeholders, the public, and other affected and interested parties were also interviewed throughout the planning process to understand their current and future operational requirements. In total, 32 meetings were held with stakeholders and the public to inform the development of the 2024 M/VP Update. In March 2025, four charrettes with Port tenants and other stakeholders were conducted by business line, including for energy, non-containerized cargo, cruise, and containerized cargo (see **Figure ES.3.1** below). These charrettes included a review of the key findings from the 2024 M/VP Update Market Assessment (Element 2), presentations of project ideas and working sessions to discuss and evaluate potential capital project ideas for inclusion in the 5-year Master Plan and the 10- and 20-year Vision Plans. A fifth charrette was also conducted to present the combined initial results from the four separate business line charrettes. The input received from these charrettes and throughout the entire stakeholder engagement process has been incorporated into the 2024 M/VP Update.

Figure ES.3.1: 2024 M/VP Update Charettes (February/March 2025)²



ES.3.1 Common Charrette Themes

During the charrettes conducted with representatives of the Port's containerized cargo, cruise, energy, and non-containerized cargo business lines, several themes common to all parties were identified. The key points of discussion during the charrettes generally centered around the following themes:

- **Port Perimeter Gates and Traffic:**
 - Balancing the need for Port security with access and traffic control functions
 - Assessing whether Port security gates should be eliminated or adjusted to better meet Port and user needs
 - Traffic congestion into and within the Port
- **Berthing Conflicts:**
 - Availability of berths
 - Conflicts over berth usage between different vessel types
- **Big Ship Readiness:**
 - Port readiness to host larger cruise ships and container ships
 - Port readiness to accommodate increasing sizes of dry bulk and tanker ships
- **Accommodating Future Growth:**
 - Availability of landside space and conflicts between different land uses
 - Cargo being "squeezed" into smaller terminals
 - Consolidation and optimization of terminals and cargo types

² Source: AECOM

- **Construction Impacts on Port Users:**
 - Impacts from the Slip 1 Widening and Main Channel Deepening and Widening projects
 - Relocation of USCG, pilots, tugs, and tankers

The program of projects selected for inclusion in the 2024 M/VP Update reflects an attempt to address many of these themes through planned capital investments. These projects are further detailed in Section ES.6.4.

ES.3.2 Iterative Planning and Design

An iterative planning and design process was used for development of the 2024 M/VP Update to evaluate and refine future land use and project alternatives for the Port using the following three dimensions as a guide throughout:

1. **Competitiveness:** This dimension evaluates how well a project enhances the Port's ability to compete and grow within global trade networks:
 - **Capacity:** Direct or indirect increase in berth or yard throughput, road or parking capacity
 - **Efficiency:** Improvements in operational speed, cost, cargo flow or productivity.
 - **Market Positioning:** Reinforces the Port's strategic role in trade routes.
 - **Cargo/Market Diversification:** Expands into new cargo types or client sectors, reducing dependency on a narrow base and supporting growth.
2. **Economics:** This dimension focuses on the financial and broader economic value of the project:
 - **Return on Investment (ROI):** Expected financial return to the Port.
 - **Economic Impact:** Contribution to job creation and economic activity locally and regionally.
 - **Future Adaptability:** Ability to remain relevant amid evolving trade flows and regulations.
 - **Funding Leverage:** Potential to attract federal/state grants or private investment.
3. **Sustainability:** This dimension assesses how the project supports long-term operational and environmental goals:
 - **Asset Preservation:** Extends or protects the life of existing infrastructure.
 - **Environmental Compliance:** Supports regulatory compliance and mitigation efforts.
 - **Resiliency:** Enhances the Port's ability to withstand extreme events or disruptions.
 - **Energy and Resource Efficiency:** Reduces resource use and emissions over time.

This iterative process began with the AECOM team developing a range of project ideas, which included soliciting project ideas from Port staff, tenants and stakeholders. These project ideas were presented, discussed, and reviewed with Port staff, tenants, and stakeholders through a series of meetings, presentations, workshops, and charettes to solicit feedback and refine the ideas into a list of potential projects.

The projects were then evaluated, further refined, scored, and ranked to select the best-value projects. Scoring and ranking was initially performed by the AECOM team, with the results presented to senior Port staff, who were then asked to also score and rank the projects. The results of these assessments were used to further refine projects for inclusion in the draft program.

Cost estimates were prepared for each project, and the results of financial modeling and affordability analyses were used to develop a preferred plan with the selected projects, in concurrence with Port management. The results from the market forecasts, capacity analyses, needs assessments, and strategic decisions, with considerations for budget constraints, were used to develop the optimal sequencing of projects for the Port's future investments in line with the projected growth by business line.

ES.4 Existing Conditions Assessment

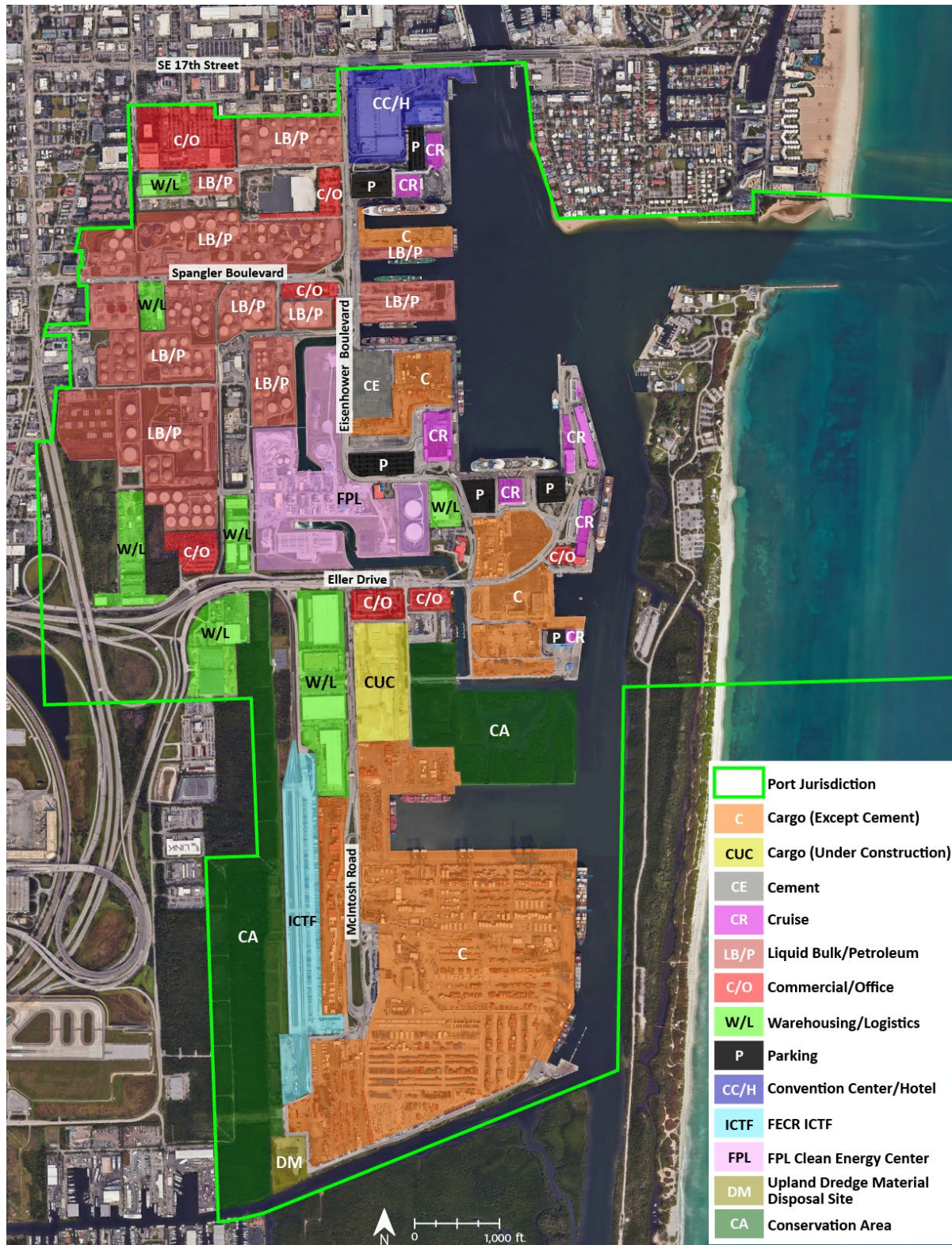
Element 1 of the 2024 M/VP Update presents an assessment of existing conditions at Port Everglades and provides context related to the Port Everglades operating environment. Specifically, the following information pertaining to existing conditions at Port Everglades was included in the 2024 M/VP Update:

- Land ownership and uses,
- Facility inventory,
- Progress on 5-year projects in the 2020 M/VP Update,
- Neighbors' plans influencing Port development,
- Containerized and non-containerized cargo berth and yard capacity analysis,
- On-Port traffic and parking,
- Intermodal transportation network, and
- Environmental conditions.

ES.4.1 Land Ownership and Uses

The Port Everglades Jurisdictional Area (PJA) occupies a total of 2,190 acres, which is comprised of both upland (1,742 acres) and submerged (448 acres) land. The PJA encompasses a diverse blend of private and public lands, characterized by an array of uses ranging from industrial and commercial to retail. Adjacent to the Port, there are residential communities located to the west and northeast. As depicted in **Figure ES.4.1**, there is a delineation of land usage types within the Port, with a diversity of uses coexisting alongside each other. It is important to note that current land use configurations are subject to change with the ongoing development of planned projects and introduction of new initiatives and projects proposed in the 2024 M/VP Update.

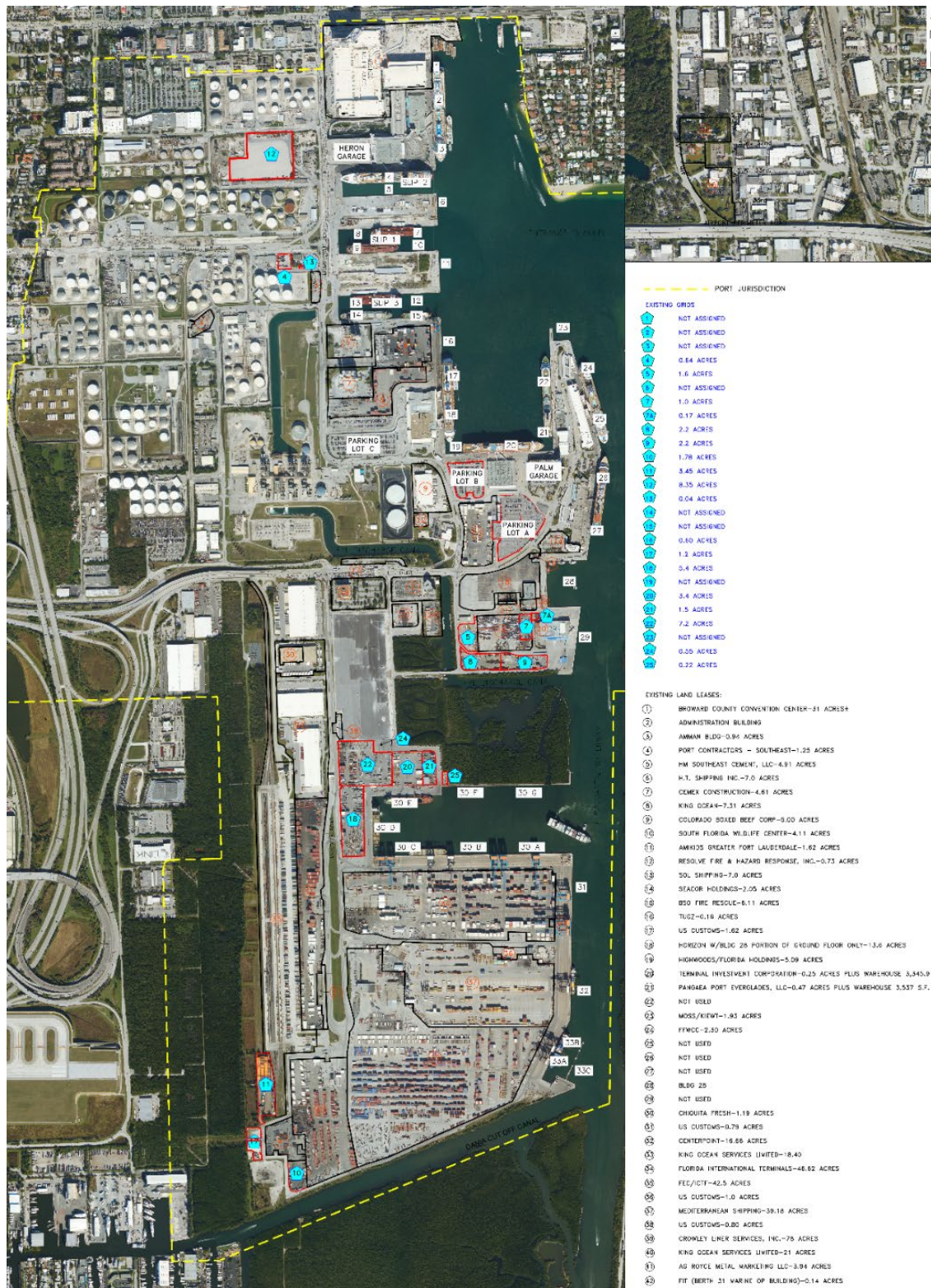
Figure ES.4.1: Port Everglades Land Uses (December 2023)³



³ Source: Port Everglades; Cordova Rodriguez & Associates. Note: For planning purposes only.

As a landlord port, Port Everglades generates the majority of its revenue by contracting out its available publicly owned land and facilities to private operators for uses that are generally water-dependent and/or consistent with the Port Everglades mission. The Port uses several different types of contracts to this end. Port Everglades' land leases and grid areas as of October 2025 are shown in **Figure ES.4.2**. The Port also contains a substantial amount of rail trackage, most notably the Florida East Coast Railway (FECR) Intermodal Container Transfer Facility (ICTF) in Southport.

Figure ES.4.2: Port Everglades Land Leases and Grid Areas (October 2025)⁴



⁴ Source: Port Everglades. Note: For planning purposes only.

ES.4.2 Facility Inventory

Port Everglades' facility inventory is continuously modified and updated through an ongoing facilities investment and maintenance plan as defined in the Port Everglades 5-Year CIP.

In March 2022, the 13th Biennial Condition Report of Port Facilities (2021 Biennial Report) was developed for Port Everglades. Comprising three volumes, this report (prepared by WSP) documents the results of a comprehensive visual inspection spanning several months, covering Port Everglades' facilities, utilities, cranes, and underwater infrastructures. Specific categories inspected, along with the respective quantities of each facility type, included:

- Buildings – 39
- Open areas – 41
- Lift stations – 31
- Berths – 40

A total of 3,706 individual needs were identified across all four categories of facilities. The necessary repairs and estimated costs associated with addressing these 3,706 issues were identified for these 151 facilities (examined during the 2021 Biennial Report). The cost estimates were categorized based on the following priority levels for corrective actions:

- Immediate – 897
- Moderate – 1,487
- Low – 1,340

Since completion of the 13th Biennial Condition Report of Port Facilities, Port Everglades' staff have addressed, and continue to address, the issues that were identified.

ES.4.3 Progress on 5-Year Projects in the 2020 M/VP Update

Port Everglades has either completed or is currently undergoing implementation of the majority of projects outlined as five-year priorities in the 2020 M/VP Update. A list of these projects can be found in **Table ES.4.1**.

Table ES.4.1: Port Everglades 5-Year Projects as Proposed in 2020 M/VP Update⁵

To Be Determined (TBD)	Maintenance Facility Consolidation	2019	TBD	TBD	Ongoing
Northport	Cruise Terminal (CT) 2/CT-4 Parking Garage	2018	-	2020	Completed
Northport	Port Access Road	2024	2024	2026	Ongoing
Northport	Slip 1 - Phase 1 (Berths 9/10 Bulkheads)	2019	2028	2031	Ongoing
Midport	CT-21 Redevelopment RORO Yard	-	-	-	Not Started
Midport	Relocation/Expansion (Phase 1)	2020	-	-	Canceled
Southport	6 SPP Ship-to-Shore (STS) Cranes	2017	2021	2024	Completed
Southport	PEV ILC	2018	-	2021	Completed
Southport	Phase 9A	2018	-	2025	Completed
Southport	STNE	2015	2016	2025	Completed
Southport	Southport Crane Rail	2015	-	2022	Completed
Port-Wide/ Other	USACE Channel Deepening and Widening (USCG Reconfiguration)	2019	TBD	TBD	Ongoing
Port-Wide/ Other	USACE Channel Deepening and Widening	2019	2028	TBD	Ongoing
Port-Wide/ Other	Former Dynegy Logistics Development	TBD	TBD	TBD	On Hold
Port-Wide/ Other	Auto Terminal West	-	-	-	Canceled
Port-Wide/ Other	I-595 Flyover	-	-	-	Canceled
Port-Wide/ Other	Entrance Channel North Wall	2023	2025	2026	Ongoing
Northport	Berths 1A, 1B, 2 and 3 Bulkheads	2023	2024	2026	Ongoing
Midport	Berths 16-18 Bulkheads	2024	2028	2030	Ongoing

ES.4.4 Neighbors' Plans Influencing Port Development

In addition to projects planned, designed, and implemented by Port Everglades itself, there are projects planned (or ongoing) by neighbors of the Port that are likely to have an impact on Port Everglades. Notable projects include the ongoing Broward County Convention Center's expansion

⁵ Source: Port Everglades

and new hotel on the northern part of the Port and construction of Terminal 5 at Fort Lauderdale-Hollywood International Airport (FLL), strategically positioned to the southwest of the Port.

In addition to these key projects, the surrounding County is poised for significant advancements through capital improvement initiatives, most notably the upcoming light rail transit (LRT) project, also known as the Airport-Seaport-Convention Center Connector, the Convention Center Connector (Bypass Road, currently in construction). These collective endeavors are poised to mold the Port's trajectory, influencing not only its immediate growth but also shaping the 2024 M/VP Update and potential 5-, 10-, and 20-year development projects.

Broward County Convention Center

The Broward County Convention Center stands as a key driver of economic growth in the intracoastal waterfront district. Renowned for hosting diverse events, including automotive and marine trade shows, the Convention Center is now undergoing a substantial expansion. This expansion encompasses a 600,000 square foot addition to the original footprint, introducing four new ballrooms, including a 65,000 square foot waterfront ballroom, and a sprawling five-acre waterfront plaza (see **Figure ES.4.3**). Simultaneously, plans include construction of an adjacent 801-room headquarters hotel, featuring an extra 75,000 square feet of meeting space.

Figure ES.4.3: Broward County Convention Center Expansion⁶



Situated in close proximity to the waterfront, the expanded Convention Center will be easily accessible via water taxi. Moreover, an associated project proposes construction of a bypass road from Federal Highway to the Convention Center complex, aimed at alleviating congestion on 17th

⁶ Source: Broward.org/CCExpansion

Street. The expansion initiative also entails construction of a new parking garage, providing additional spaces for visitors. The combined efforts for the Convention Center expansion and headquarters hotel project are estimated to cost approximately \$1.1 billion, with a projected annual local economic impact of \$200 million. Additionally, the development is expected to create over 1,000 new part- and full-time jobs. Completion of the project is anticipated by late 2025.

Fort Lauderdale-Hollywood International Airport

Located on the southwestern side of Port Everglades, FLL commenced its expansion efforts in October 2023 with construction of Terminal 5, slated for completion by mid-2026 (see **Figure ES.4.4**). The estimated cost of this domestic flight terminal is \$404 million, featuring two levels, five domestic gates, check-in/ticketing areas, baggage processing for arrivals/departures, and a security screening checkpoint. Retail and concessions will also be integrated into the terminal.

Figure ES.4.4: Fort Lauderdale-Hollywood International Airport Terminal 5⁷



Simultaneously, an \$855 million project is underway to establish an Automated People Mover within the airport, enhancing transit efficiency. The construction of Terminal 5 is anticipated to bolster traffic to the Broward County area. The preferred airport development plan outlined on

⁷ Source: [Broward.org/Airport/Business](https://www.broward.org/Airport/Business)

Broward County's website details ongoing efforts for airport development, including the transformation of Palm Garage. This redevelopment envisions seven to nine levels dedicated to public parking, providing 3,500 to 3,700 parking spaces—a significant increase from the current 2,500 spaces.

Illustrated in **Figure ES.4.5** is a conceptualization of the Intermodal Center, designed to serve as a transportation hub connecting passengers to various mass transit options. The expanded Intermodal Center also incorporates plans for the Commercial Center and Airport Hotel. Situated alongside the Palm Garage redevelopment, this hotel is envisioned to comprise 300 rooms and a conference center. These initiatives and developments fall under the Fort Lauderdale-Hollywood International Airport 2020 Master Plan, with the goal of enhancing the airport's functionality and passenger experience.

Figure ES.4.5: Fort Lauderdale-Hollywood International Airport Intermodal Center⁸



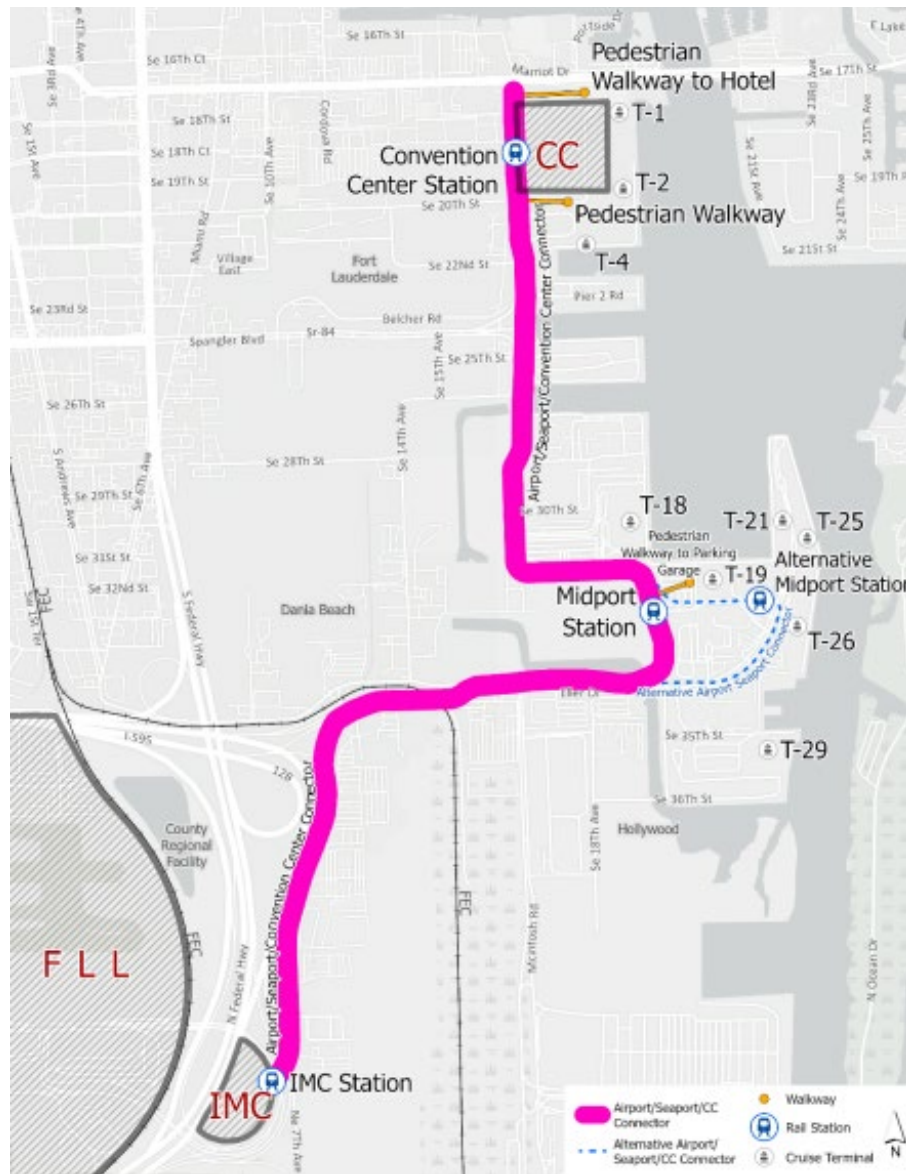
Premium Mobility Plan (PREMO)

Broward County's Premium Mobility Plan (PREMO) will have a significant impact on influencing the future of Port development. Specifically, PREMO calls for the creation of a 3.5-mile LRT system with three stations, primarily utilizing an elevated guideway on Broward County property (see **Figure ES.4.6**). Called the Airport-Seaport-Convention Center Connector, this initial segment

⁸ Source: Illustrate My Design, LLC; Ricardo & Associates, Inc.

of the project aims to connect FLL, Port Everglades, and the Broward County Convention Center, providing an efficient transit connection between all three destinations.

Figure ES.4.6: Airport-Seaport-Convention Center Connector LRT Route⁹



The location for LRT maintenance facilities and stations are yet to be determined, and future extensions of the LRT system are being considered along Broward Boulevard and State Road (SR) 7, with potential east-west connections along Sunrise or Commercial Boulevards. These extensions will be based on future LRT performance and studies to validate needs. The anticipated annual ridership for the initial LRT segment ranges from 130,000 to 665,000, with

⁹ Source: <https://www.broward.org/>. Note: For planning purposes only.

projected estimated construction completion by the end of 2028. The estimated investment for this segment is \$1.25 billion.

Future expansions to Broward Boulevard and SR 7 anticipate annual ridership of 1.7 million to 2.7 million passengers, with a projected opening by the end of 2031 and an estimated investment of \$442 million. The expansion aims to enhance connectivity throughout the Fort Lauderdale area, providing efficient transportation options for residents and visitors while also accommodating potential future growth and demand.

Traffic Infrastructure Development

FDOT is implementing a novel adaptive traffic signal system along US-1 on the west side of the Port as part of Broward County's comprehensive traffic mitigation plan. This innovative signal system aims to alleviate congestion in the area by actively monitoring traffic patterns to enhance the flow of vehicles. The SE 17th Street Causeway is also set to benefit from this adaptive signal system. Encompassing a stretch from Griffin Road to Broward Boulevard, the US-1 adaptive traffic signal system is designed to address traffic challenges effectively. While the completion date for this project is currently unspecified, its implementation aligns with Broward County's strategic efforts to enhance traffic management. FDOT has commenced construction on a portion of these improvements, with the estimated completion of the Broward County segment slated for 2028.

In conjunction with this initiative, the construction of a new Convention Center Connector (Bypass Road) along SE 24th Street is currently underway, further facilitating access to the Broward County Convention Center and Port Everglades. Construction for this project commenced in April 2024. These synchronized efforts underscore a concerted approach aimed at optimizing traffic conditions and improving accessibility in the Port area.

ES.4.5 Cargo Berth and Yard Capacity Analysis

Cargo handling capacities were analyzed for each berth and storage facility at Port Everglades, including all Northport, Midport, and Southport facilities. Cargo handling capacities were calculated for four key commodity types: containers, cement, other dry bulk, and break bulk. Berth and storage capacity were calculated separately for each terminal; a terminal's overall capacity is the lesser of berth and storage capacities. All capacities were calculated using spreadsheet-based models. Results generated in previous M/VP versions were updated based on information provided by Port Everglades, as well as through interviews and data gathered from tenants, in order to reflect recent changes to infrastructure and operations at the Port.

Container Berth and Yard Capacities

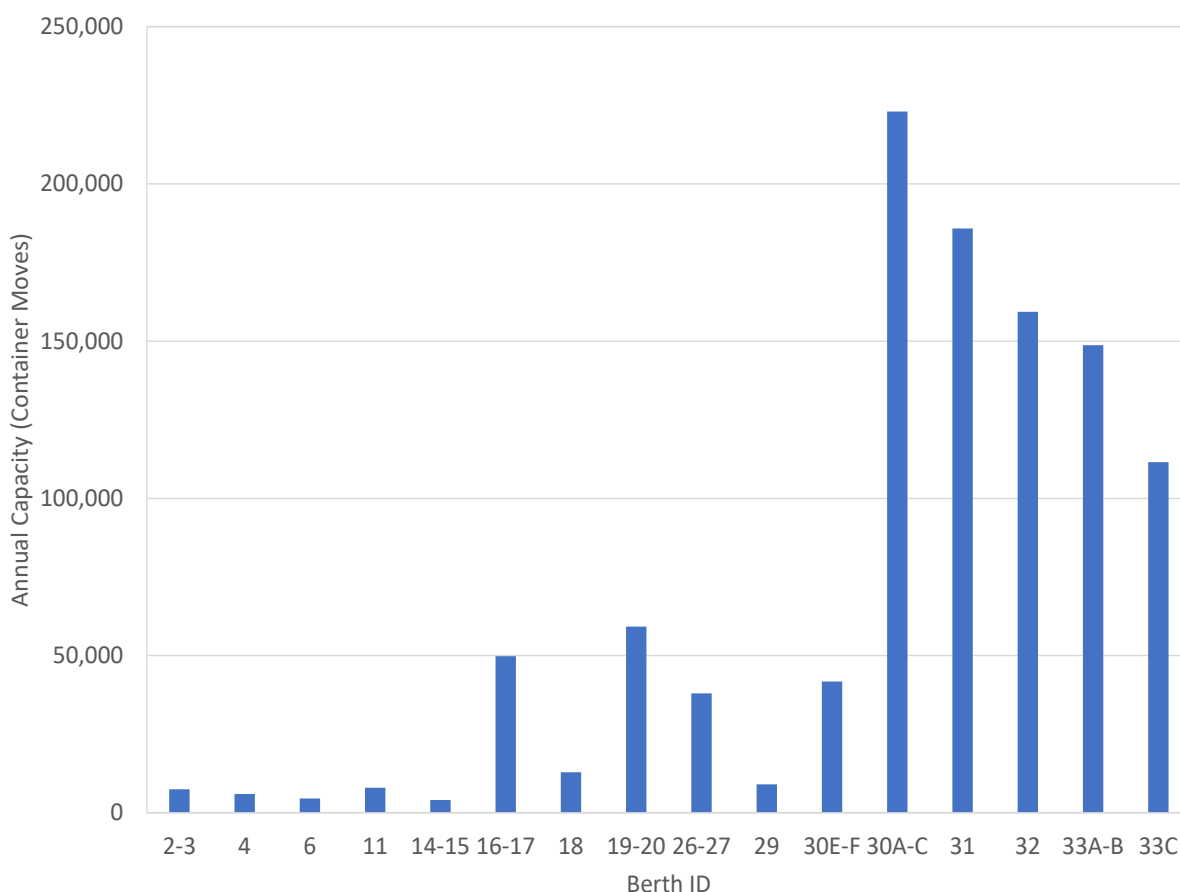
According to the berth capacity analysis, Southport (Berths 30 and higher) has more productive container berths than Northport or Midport. This is because Southport has more dedicated

container operations, including availability of shore-to-ship (STS) cranes, and these berths tend to handle the larger international shipping lines, which bring larger call sizes. This analysis yielded a Port-wide container berth capacity of 1.07 million annual containers, or 1.92 million annual TEUs with a 1.8 TEU/container factor. Improvements at Southport account for most of the increase in container berth capacity in recent years, as the increased berth availability to serve large, heavily loaded containerships results in substantial capacity increases.

Figure ES.4.7 below shows capacity results by berth graphically. This demonstrates that Northport berths accommodate only a small percent of overall container capacity, as these berths typically only handle small island services such as refrigerated bananas, and often only on an as-needed basis if other terminals in Midport or Southport are not available. Overall, about 77 percent of Port-wide container berth capacity is through Southport berths.

As Port Everglades handled over 1 million TEU in fiscal year (FY) 2023 and FY 2024, these capacity figures indicate that the Port was operating at about 53 percent of capacity.

Figure ES.4.7: Container Berth Capacity Summary



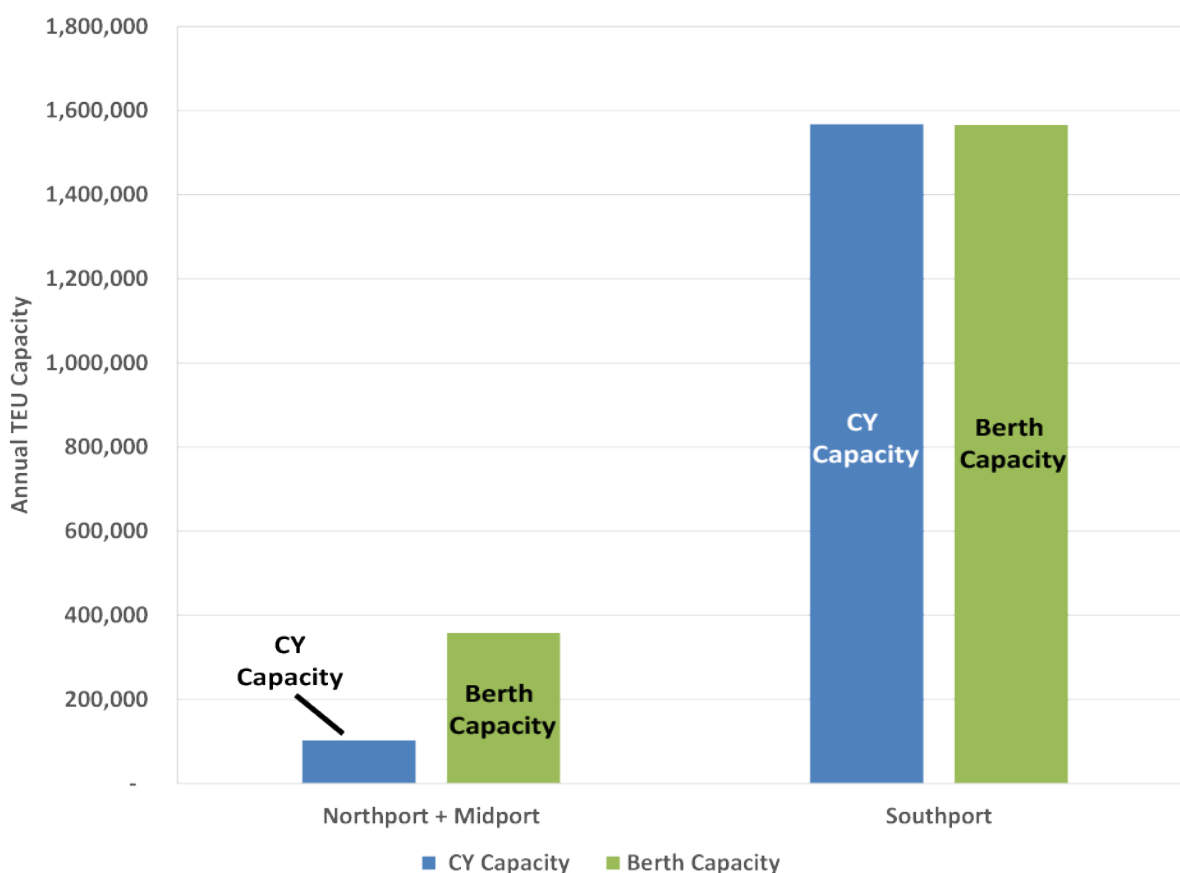
Further increases to berth capacity are possible, particularly through adding more STS cranes. The availability of STS cranes drives the higher container capacity seen in Southport. Currently,

Southport has 13 STS cranes across about 5,200 feet of berths, or about one STS crane per 520 feet.

The status quo (existing conditions) container yard capacity at Southport was calculated for each of the individual terminals. The future phase container yard capacity was also calculated, assuming high-density rubber-tide gantry crane (RTG) stacking operations are implemented at each of the container handling facilities. Midport and Northport container yard capacities were calculated for basic top-pick/wheeled operations using acreages provided by Port Everglades. These capacities are assumed to remain unchanged in the future, as they are small, discontinuous yards for which top-pick operations are already optimal.

Figure ES.4.8 compares the berth capacity and storage yard capacity for the combined Northport/Midport operations and Southport operations. This analysis shows that, overall, Southport is well balanced in terms of container yard capacity, whereas the Northport and Midport facilities have more berth than storage capacity for containers. Overall, Port Everglades' throughput was just over 1 million TEUs in FY 2023 and FY 2024, meaning the Port has room to grow container throughput.

Figure ES.4.8: Container Berth Capacity vs. Container Yard (CY) Storage Capacity

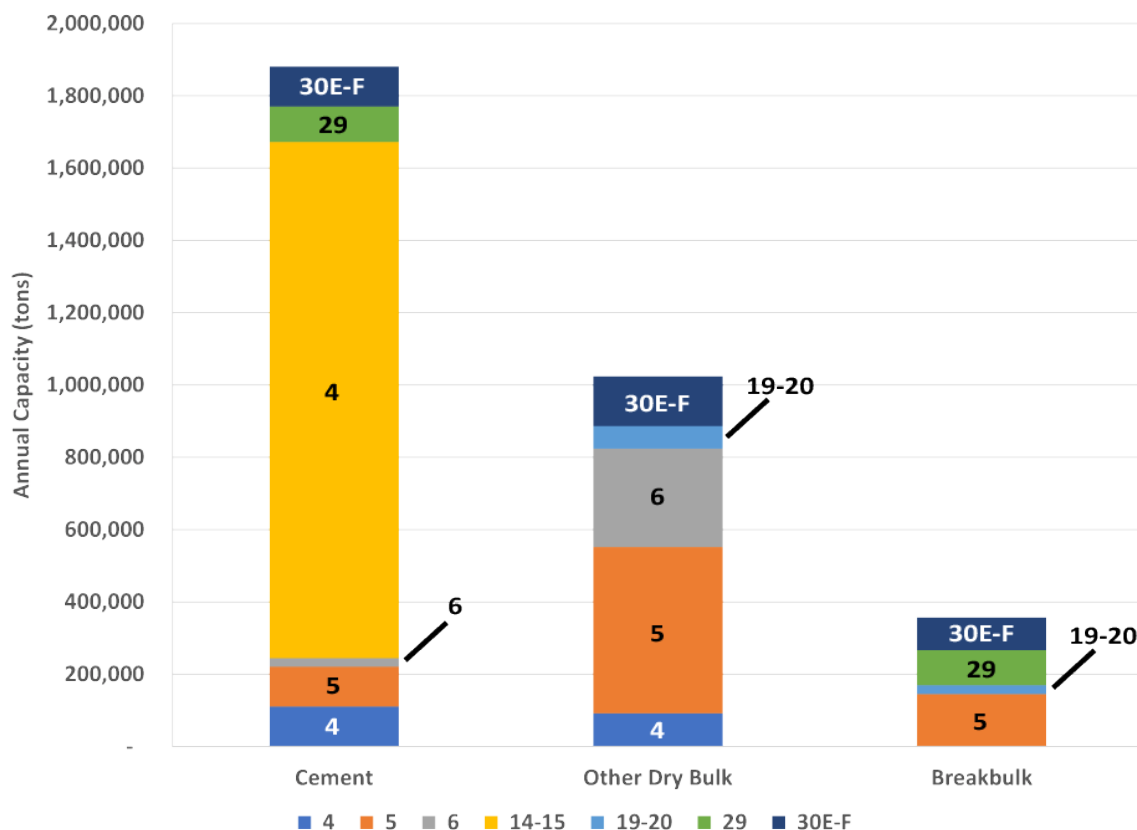


Cement, Other Dry-Bulk, and Break-Bulk Berth and Yard Capacities

Cement is the primary dry bulk product handled at Port Everglades primary via the cement terminals located at Berths 14 and 15 in Slip 3. Additional berths beyond Berths 14-15 and those listed above have historically been used as needed to handle small amounts of dry bulk commodities, such as Berths 2 through 3 and 18, although they have not done so recently, based on operating data. Additional capacity could be generated through making use of these less-preferred berthing locations on an as-needed basis.

Other (non-cement) dry-bulk commodities include ash, bauxite, gravel, gypsum, and sand. It is noted that the operational model for these non-cement dry-bulk cargoes rely on vessels unloading directly to trucks. No current upland storage is provided at the Port for these commodities. Berth 5 was mostly used for these products and is near its capacity for dry-bulk products. It is important to note that this analysis includes reduced availability at Berth 5 for dry-bulk cargo due to increased cruise vessel usage at Berth 4, as vessels are generally too large to be accommodated at both Berths 4 and 5 in Slip 1 simultaneously. As a result, some dry-bulk volumes will likely have to shift to other berths in order to accommodate annual demand. Break-bulk cargo at Port Everglades consists primarily of steel, with other cargo including lumber, RORO (primarily autos), yachts, and project cargo. **Figure ES.4.9** shows the dry-bulk and break-bulk berth capacities by cargo type.

Figure ES.4.9: Dry-Bulk and Break-Bulk Berth Capacity by Cargo Type and Berth



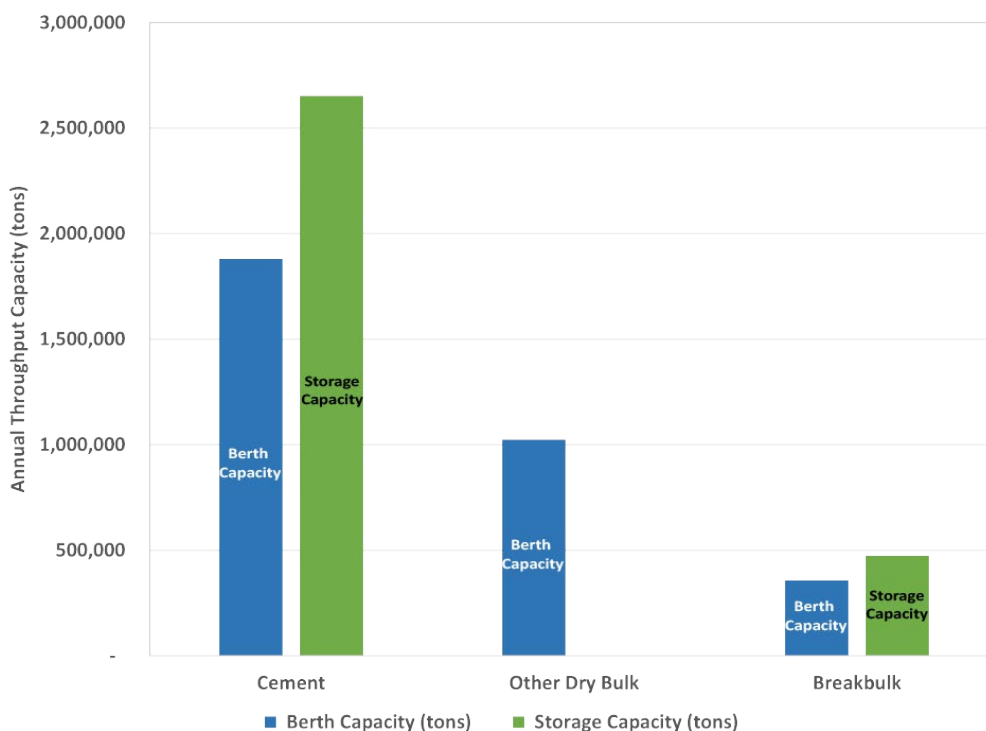
This analysis shows that most of the available Port Everglades berth capacities for bulk commodities have been assigned to cement. This split is somewhat nominal, however, as it is based on recent demand and may change over time to support changes in relative demand by cargo sector.

For comparison, Port Everglades handled about 1.2 million tons of cement in FY 2023 versus an estimated berth capacity of 1.9 million tons, or about 67 percent of cement capacity. Other dry bulk was about 521,000 tons in 2023 compared to a capacity of 1.0 million, or about 51 percent of other dry-bulk capacity. Break bulk reached 243,000 tons in FY 2023, or about 68 percent of its 378,000 annual ton capacity.

Based on FY 2023 data, it appears that Port Everglades has sufficient capacity for cement, dry-bulk, and break-bulk cargo for the time being. However, it is worth noting that the most popular berths for each of these commodity types are capacity constrained, which forces shipping lines to utilize less desirable berthing locations at times, including berths not listed on the capacity tables. Berths 14 and 15 are operating at 82 percent of their cement capacity, and Berth 5 is operating at 97 percent of its other dry-bulk capacity.

Figure ES.4.10 compares annual storage capacity to annual berth capacity for cement, other dry-bulk, and break-bulk product types. Overall, Port Everglades appears to have adequate capacity to accommodate the existing cement and other dry-bulk cargo volumes, though without much room to accommodate future growth, particularly from the berth capacity aspect.

Figure ES.4.10: Bulk/Break-Bulk Berth Capacity vs. Storage Capacity



Automobile Berth and Yard Capacities

Port Everglades handled almost 48,000 units of RORO in FY 2023, most of which were automobiles. This is down from a high of 72,400 units in FY 2021.

As RORO cargo can be accommodated opportunistically at several berths, a berth capacity analysis for autos was not tabulated separately. Currently, these cargoes can be handled on an as-needed basis, as sufficient spare berth capacity exists across the Port to handle this relatively small amount of cargo. Auto berth capacity may need to be assessed in more detail in the future should volumes grow and require more dedicated berth space.

As previously noted, auto cargo handling activity increased significantly in 2017/2018, but has declined substantially since then (from 141,000 tons of RORO in FY 2017 to 83,000 tons in FY 2023). Like the break-bulk cargoes, the auto volumes do not appear to fluctuate with the cruise seasons. Insufficient data is available to accurately capture Port Everglades' capacity to handle this cargo, and thus, the overall auto yard capacity has not been assessed. As Port Everglades handled substantially more RORO in 2018 than 2023, auto storage capacity may be sufficient unless volumes increase substantially again.

ES.4.6 On-Port Traffic and Parking

This traffic analysis for the 2024 M/VP Update consisted of assembling existing data as a basis for the future evaluation of projected roadway/traffic volumes through Port Everglades' security gates for the existing, 5-, 10-, and 20-year milestones. To achieve this objective, the analysis utilized the latest traffic counts from FDOT for the period of October 2022 to October 2023.

The Port Everglades Cruise Passenger Survey 2022/2023, published in May 2023, also provided valuable insights into the modes of transportation used to access Port Everglades. The top three methods identified were taxi/rideshare, personal vehicle, and rental car, accounting for more than 80 percent of Port traffic. Shuttles from neighboring hotels, transit hubs, or the cruise line coaches accounted for the remaining traffic.

All gates, except the McIntosh Road gate, exhibit similar truck traffic volume percentages, with approximately 40 percent of the traffic observed being trucks. Additional key findings from the on-Port traffic and parking analysis are detailed in the sections below.

Eller Drive

Consistent with the 2020 M/VP Update, Eller Drive remains the most frequently used entry point into Port Everglades. It is noted that the Eller Drive gate is open 24 hours per day, seven days per week, while the Spangler Boulevard and Eisenhower Boulevard gates generally close at 6 PM. The data collected from this access point highlights the significant volume of vehicles passing through the security checkpoint, thus confirming the prominent role of Eller Drive as the primary gateway to the Port, especially the Midport area that is home to six of the Port's eight multiday

cruise terminals. The data indicates that the Eller Drive gate observed the highest traffic volume, accounting for slightly over 40 percent of the total traffic impact on Port Everglades

The difference in eastbound and westbound traffic indicates that just over 16 percent of vehicles that enter Port Everglades through Eller Drive do not leave through the same gate. Instead, many of them are likely to remain within the Port premises for a period of time (e.g., the duration of a multiday cruise) or exit via a different gate. Notably, Eller Drive experiences the heaviest traffic on weekends, particularly on Saturdays and Sundays, which coincides with the busiest days for cruise vessels at Port Everglades. Furthermore, the peak daily activity also correlates with typical cruise vessel disembarkation (mid-morning) and embarkation (early afternoon) activities.

Eisenhower Boulevard

The Eisenhower Boulevard gate provides access to two additional cruise terminals in the Northport area of the Port. Nevertheless, upon examining the entry and exit patterns for each gate, it was observed that the Eisenhower Boulevard gate experiences the lowest traffic volume of all the gates. Additionally, the data show a similar distribution of traffic for both inbound and outbound directions at the Eisenhower Boulevard gate. This could indicate that the traffic collected at the Eisenhower Boulevard gate is primarily intended for Northport as its destination.

Moreover, the Eisenhower Boulevard gate exhibits the lowest truck traffic volume, with a proportionate truck distribution of 34 percent inbound to 36 percent outbound truck volume. Cruise traffic peaks during Saturdays and Sundays at this location. The reduced traffic volume at the Eisenhower Boulevard gate can be attributed to the fact that the parking facilities for CT 2 and 4 precede the gate location for southbound traffic on Eisenhower Boulevard. As a result, this leads to a lower volume of traffic at this specific gate.

McIntosh Road

The McIntosh Road gate serves as the sole access point to the Southport container terminals and the ICTF at Port Everglades. The data gathered indicates that the McIntosh Road gate experiences higher truck traffic relative to the remaining three gates at the Port. Furthermore, the data reveals that over 50 percent of inbound and outbound traffic consists of trucks, which aligns with the Port's configuration.

The McIntosh Road gate is busiest on Fridays. This trend is consistent with the activity of container vessels and marine terminal operating procedures. The peak vessel activity typically occurs on Thursdays, Fridays, Saturdays, and Sundays, while the terminal gates are open during standard workday hours (i.e., 8 AM – 6 PM).

The traffic at the McIntosh Road gate generally peaks in the hour before and after the lunch hour (12 PM – 1 PM). This trend aligns with the Marine Terminal's Operational Guidelines since gates are often closed during lunch hours to comply with union work rules.

Spangler Boulevard

The Spangler Boulevard gate, an alternative entrance/exit for the cruise terminals situated in both Northport and Midport, experiences peak traffic on Saturdays and Sundays, which aligns with the busiest days for cruise vessel activity at the Port. However, the data from this gate indicates an unbalanced entry and exit traffic pattern, where the entrance traffic exceeds the exit traffic by more than twofold. This observation suggests that a significant proportion of the vehicles, at least 51 percent, that enter through the Spangler Boulevard gate do not exit through the same gate. While it is possible that petroleum trucks entering through the Spangler Boulevard gate are exiting through other gates to I-595 or SE 17th Street, it can be determined that the vehicles in question remain within the confines of the Port premises, as the data from other gates indicates normal inbound and outbound traffic patterns. It is therefore reasonable to infer that the vehicles did not leave the Port area during the study period (i.e., they most likely belonged to cruise passengers on multiday voyages). It is also possible that vehicles are using this gate for pass-through traffic to avoid congestion on surrounding major streets.

Similar to the Eller Drive gate, the Spangler Boulevard gate also experiences peak daily activity during the typical cruise vessel disembarkation (mid-morning) and embarkation (early afternoon) periods..

On-Port Traffic Assessment Summary

In summary, the data analysis shows that during an average 24-hour period, approximately 21,980 vehicles pass through the four security gates analyzed between the third quarter (October) of 2022 and the third quarter (October) of 2023. The data analysis on the entry and exit patterns for each gate at Port Everglades reveals a traffic pattern that achieves equilibrium between the incoming and outgoing traffic. This contrasts with the 2020 M/VP Update report, which indicated that certain gates were prioritized for incoming or outgoing cruise passenger traffic.

The traffic in and around Port Everglades is observed to be quite heavy during peak hours, leading to inconveniences for both Port users and the local community. It has been identified that the primary reason for delays and overcapacity at the gates is drivers being unprepared with their identification documentation upon arrival at the gate. To address this issue, the installation of permanent advanced signage in specific areas to inform and prepare drivers for the upcoming identification requirements is recommended.

Moreover, conflicts have been observed at the point where vehicles merge as they exit the gate on Eller Drive. The configuration of the entrance, where five gate entrances must merge to fit three travel lanes as traffic passes through the gates and enters the Port, is the cause of these conflicts. Proper geometric design measures should be taken to mitigate these conflicts and ensure a smooth flow of traffic.

It has also been observed that westbound drivers turning right to continue on Eller Drive from the intersection of Eller Drive and McIntosh Road have been making illegal U-turns to head back towards the gate on Eller Drive. These movements raise safety concerns, and it is proposed to install tubular markers on the painted median to discourage such U-turns.

In addition, while the posted speed limit within the Port premises is 30 miles per hour (MPH), cars have been observed to travel at higher speeds. There are multiple horizontal curves within the Port without advisory speed signs and curve warning signs. For example, the McIntosh Road truck circulation path has a posted speed limit of 30 MPH, but the curve radius at the turn is extremely sharp, which raises safety concerns.

Parking

Port Everglades boasts five parking facilities to accommodate the parking needs of its patrons. These facilities include two parking garages and three surface parking lots. The Heron Garage adjacent to CTs 2 and 4, situated in the Northport area, stands adjacent to the Convention Center, while the Palm Garage, located in Midport, is located between Cruise Terminals 19 and 21. Parking Lot C (Surface Lot 18) is adjacent to Cruise Terminal 18, while Parking Lot B (Surface Lot 19) is adjacent to Cruise Terminal 19. The latest addition to the parking facilities is Parking Lot A, which is also adjacent to Parking Lot 19.

To determine the number of vehicles remaining on Port Everglades' premises for over 24 hours, the Port provided monthly counts of incoming and outgoing vehicles passing through the four gates. The total number of inbound vehicles was subtracted from the number of outbound vehicles to determine the remainder. The average number of daily vehicles that remained at the Port constituted the existing parking demand.

The Port's existing parking demand would be the minimum number of parking spaces required if all parking were situated in a single location. However, since Port Everglades provides parking in two garages and three parking lots, with a total capacity of 5,538 vehicles, an origin-destination survey and parking occupancy data are required to establish the exact destination of the vehicles after entering each gate.

Per the 2020 M/VP Update, the Northport Garage was designated solely for the Convention Center and was not considered part of the Port perimeter. A new parking facility, the Heron Garage, has since been constructed to cater to the Port's needs. With a capacity of 1,818 spaces, the Heron Garage serves Cruise Terminals 2 and 4. It is worth noting that, contrary to the 2020 M/VP Update, access to the north entrance of the Heron Garage does not require users to pass through the Eisenhower Boulevard gate or any other gate, as observed during the field visit. Only the south entrance/exit requires the users to pass through a gate to access the Heron Garage.

The Palm Garage (Midport Garage) at Port Everglades has an ample capacity of 1,926 vehicles and serves all Midport cruise terminals, including CTs 18, 19, 21, 25, and 29. Due to its considerable distance from the Midport Garage, CT-29 is serviced via shuttle. The Midport Garage

is connected to the Port Everglades Harbormaster Tower and is also utilized by Port operations staff.

Apart from the parking garages, Port Everglades has three surface parking areas:

- Parking Lot C (Surface Lot 18) with a capacity of 600 spaces,
- Parking Lot B (Surface Lot 19) with a capacity of 400 spaces, and
- Parking Lot A (new) with a capacity of 750 spaces.

The Port's parking occupancy and availability were deduced by computing the variance between the average daily inbound traffic and the average daily outbound traffic, while taking into account the highest demand during the study period using actual parking utilization data from Q3 2022 to Q3 2023, including holidays.

Based on the gate data provided, the maximum daily parking needs of the Eisenhower Boulevard traffic activities were estimated at 542 vehicles, equivalent to 30 percent of total occupancy. The facility's overall usage remains below 50 percent of its available capacity, as per the 2020 M/VP Update. Furthermore, the March 2024 Broward County Convention Center (BCCC) Parking Feasibility Study revealed that the Heron Garage recorded a peak occupancy of 80 percent on busy event weekends. The study collected data over five different periods and found that the Heron Garage had ample capacity to support the Port's highest demand, never experiencing a parking deficit for Cruise Terminals 2 and 4. However, it is known that, on occasions, cruise traffic from the Midport cruise terminals is sometimes diverted to Heron Garage on peak usage days, particularly around holidays.

To provide a detailed and specific analysis for each parking facility, it is necessary to conduct an origin-destination survey or gather parking occupancy data, which can help determine the exact destination of vehicles after entering each gate. The remaining four parking facilities have a combined capacity of 3,720 parking spaces. These facilities are primarily utilized by two specific gates, the Eller Drive gate and the Spangler Boulevard gate, which together account for 2,481 (67 percent occupancy) peak parking demand.

The fact that the Heron garage was 80 percent occupied on its busiest day implies that Port Everglades possesses adequate capacity to accommodate its highest demand. This analysis corroborates these findings, with a maximum daily parking need of approximately 76 percent for the Port. Although the 2020 M/VP Update suggests that the surface parking lots may operate at 100 percent occupancy due to convenience and proximity to the terminals, the Port's parking spaces are sufficient to support the current demand. Overall, Port Everglades has ample parking spaces available, and the analysis indicates that the facilities are currently underutilized.

However, the parking concern is not related to available capacity, but rather the placement of the parking lots and garages within the Port that can result in an overabundance of vehicles in one area while another remains underutilized. This scenario currently occurs in the Midport area on select days throughout the year, as noted above. As such, although a parking demand

management system may be considered as an innovative solution for optimizing parking utilization, additional parking facilities in Midport is the primary solution, particularly as the volume of cruise passengers will increase as additional vessels are homeported in Port Everglades.

Port-Wide Trucking Queue Analysis

An in-depth analysis of the truck circulation within Port Everglades was conducted to identify the quality and impact of truck traffic on the Port. On January 29th, 2023, a field observation was conducted to assess the truck impact on Port Everglades and the surrounding roadway network. The parameters observed and analyzed during the field visit included, but were not limited to, the queue length at all four gates, the truck circulation patterns for the different sections of the Port, the potential layover areas within the Port, and the processing times for trucks. A summary of the processing time for all the gates is presented in **Table ES.4.2**.

Table ES.4.2: Gate Processing Times (Seconds)

Gate Locations	Truck Average	Truck Median	Other Vehicle Average	Other Vehicle Median
Eller Drive Gate	26	10	6	5
Eisenhower Boulevard Gate	63	10	6	5
McIntosh Road Gate	17	13	32	34
SR 84/Spangler Boulevard Gate	14	9	16	9

The results of the queue analysis did not reveal significant truck queuing at the Eisenhower Boulevard gate. The Eller Drive gate experiences the second-highest truck volume entering Port Everglades. A significant area of concern was identified when long queues, approximately 500 feet long, began to form, causing vehicles to back up into the intersection on McIntosh Road. As the sole access point to the Southport container terminals and the ICTF at Port Everglades, the gate on McIntosh Road experiences the highest truck volume.

At the time of the site observation, no significant queue build-ups were observed at this gate. However, despite the lack of queuing witnessed at the McIntosh Road gate during this observation, interviews with Port stakeholders and observations by AECOM team members at other times revealed that trucks can occasionally queue as far back from the gate as the Eller Drive overpass during peak periods. Finally, the Spangler Boulevard gate presents an issue with unbalanced entry and exit traffic patterns, as the number of incoming vehicles surpasses the number of outgoing vehicles. Some queuing was also observed at the Spangler Boulevard gate during the observation period.

ES.4.7 Intermodal Transportation Network

The Strategic Intermodal System (SIS) is the statewide high-priority transportation network authorized by the Florida Legislature in 2003 and described in Florida Statutes, Sections 339.62, 339.63, and 339.64. As per the 2022 SIS Policy Plan Update, the SIS includes corridors such as highways, rail lines, waterways, hubs (such as airports, seaports, spaceports, passenger terminals, freight rail terminals, and passenger rail and intercity bus terminals), intermodal connectors between the hubs and corridors, and Military Access Facilities (MAF). SIS components relevant to Port Everglades include:

- MAF and highway connectors:
 - I-95 to SR 84/SW 24th Street east to entrance (freight and passenger)
 - I-595 east to Eller Drive east to entrance (freight and passenger)
- Rail connector:
 - FECR spurs from seaport property, including the ICTF in Southport, to FECR lines
- Fort Lauderdale FECR Intermodal Terminal connector:
 - I-95 to SR 84/SW 24th Street east to Andrews Avenue south to entrance
- Waterway connector:
 - Port Everglades harbor channel and turning basins connecting to the Atlantic Coast shipping lane

Also important to Port Everglades are the SIS connectors to FLL:

- I-95 to SR 84/SW 24th Street east to SW 4th Avenue south to Perimeter Road cargo entrance (freight)
- I-595 to Fort Lauderdale-Hollywood International Airport interchange south to entrance (passenger)

As part of the SIS, there are specific elements that have been identified as critical to the economic success of Florida. These elements include intermodal logistics centers (ILCs), as defined per Section 311.101(2) of Florida Statutes, whose main purpose is to serve as a hub for various types of freight movement throughout the State of Florida. The Florida's Gateway ILC, located in Winter Haven, Florida, is a designated ILC for the SIS.

Freight Rail

Two rail corridors exist in South Florida. The first is the freight rail corridor owned and operated by FECR. The second is the shared freight/passenger South Florida Rail Corridor – the former 81-mile CSX Transportation (CSXT) right of way between (approximately) Miami International Airport and West Palm Beach, purchased by FDOT in 1988. The CSXT railroad has operating rights over this corridor, and Amtrak and Tri-Rail operate their passenger services on it.

Paralleling the Atlantic Coast for essentially the entire north-south length of the state, the FECR right of way provides the most direct rail route between Jacksonville and South Florida and serves

Florida's most densely populated markets. From Jacksonville, FECR provides connecting rail service with two Class I railroads: Norfolk Southern (NS) and CSXT. FECR is the sole rail service provider to Port Everglades, PortMiami and Port of Palm Beach. Freight moves to and from South Florida and within the state through FECR's Bowden Yard rail center in Jacksonville. In addition to its short-line rail service linking South Florida with the NS and CSXT networks in Jacksonville, FECR provides connecting branch line service between Fort Pierce (mile post 242 on the FECR line) and South Bay on the South Central Florida Express (SCFE) rail line. This branch line service is operated under a lease arrangement with SCFE, which has a reciprocal car haulage agreement between Fort Pierce and Jacksonville on the FECR system.

Since opening in 2014, the FECR ICTF at Port Everglades continues to handle more international cargo every year. Port Everglades ranks third in Florida for total container cargo activity based on total TEUs. Total containerized cargo volume was 1,107,546 TEUs in FY 2022. This represents a 6.7 percent increase compared to 1,038,179 TEUs in FY 2021. Containerized cargo activity in FY 2022 was 7,334,350 tons, an increase of 12.7 percent compared to 6,509,190 tons in FY 2021.

CSXT – the largest rail network in the Eastern United States – is the core business unit of CSX Corporation. CSXT provides freight rail transportation over a network of more than 23,000 route miles in 23 states, the District of Columbia, and two Canadian provinces. From its headquarters in Jacksonville, CSXT maintains an extensive rail network within Florida, which reaches from Jacksonville to Homestead, in southern Miami-Dade County. This rail network extends south from Jacksonville through Orlando to Tampa.

From a point east of Tampa, the CSXT rail line moves southeastward across the state and into Palm Beach County. Starting in Palm Beach, the CSXT line parallels the FECR right of way south through Fort Lauderdale to its terminus in Opa-Locka (known as the CSX Hialeah yard).

Despite the proximity of the CSXT rail line to the FECR line, CSXT has no rail access rights into the South Florida ports. Also, there is no freight intermodal interchange point between FECR and CSXT south of Jacksonville. The two railroads do have the capability for the direct interchange of carload and aggregate traffic in West Palm Beach and Miami. However, existing track structures are not adequate for the interchange of intermodal flatcars.

A third rail carrier, NS, operates rail service in Florida, but does not own right of way farther south than Jacksonville. As noted previously, NS provides direct service to South Florida under its car haulage agreement with FECR.

Inland Waterways (Marine Highway Program/Short-Sea Shipping)

A long-discussed alternative to moving freight by road or rail is the concept of short-sea shipping, the coastwise movement of containers or trailers which offers shippers, truckers, and intermodal companies the opportunity to shift intermodal cargo to the waterborne mode. This concept took on new life when the Energy Independence and Security Act of 2007, as amended in Section 405 of the Coast Guard and Maritime Transportation Act of 2012, required the U.S. Secretary of

Transportation to establish a short-sea alternative to road or rail transport. Subsequently, the Transportation Secretary designated 18 marine highway corridors – including Corridor M-95 and Corridor M-10, which encompass Florida’s Atlantic and Gulf Coasts, respectively – and directed more than \$110 million toward marine highway projects within those corridors.

Two Florida seaports were able to benefit from project funding through the Marine Highway Program; however, overall, the program has failed to make significant advancements in the nation’s coastal shipping network.

Florida’s lengthy coastlines and the state’s SIS Atlantic and Gulf Coast waterways offer particular opportunities to utilize the marine highway concept effectively – if and when specific financial and policy issues are resolved, and an appropriate infrastructure gets built. A study sponsored by FDOT’s seaport office looked at opportunities for increased cargo transport on the State’s commercial intracoastal and navigable waterway system some 21 years ago.¹⁰ This study concluded that scheduled coastal shipping was limited to only a few carriers, but operations in open water that could be characterized as short-sea operations were conducted more regularly. The latter occur particularly in the domestic trade between Florida (the Port of Jacksonville and Port Everglades) and Puerto Rico, as well as between Florida’s West Coast ports and Texas.

Constraints to the use of the inland waterways, such as the Atlantic Intracoastal Waterway that serves the three South Florida seaports, involve both infrastructure limitations and the appropriateness of specific cargoes. Generally speaking, water depths are not adequate in portions of the waterways, and dedicated terminals that complement landside truck or rail operations are lacking. Also, only cargoes that are not time sensitive, are of a critical mass, and that can be regularly scheduled are suitable for this mode of transport.

Port Everglades received approval in January 2021 from the U.S. Maritime Administration for a Marine Highway intended for a new transit route. This route will connect Port Everglades with Port Houston and is considered an alternative to the current trucking method while offering increased efficiency in transit time. The Port Everglades M-10 route traditionally operates under trucking transportation from Texas to South Florida but will now offer this alternative ocean option to effectively take trucks off the road, thus reducing emissions. M-10 is also intended to connect to Puerto Rico and the U.S. Virgin Islands. Additionally, the M-95 and M-2 routes open-up new opportunities for direct service to Puerto Rico from Port Everglades.

ES.4.8 Environmental Conditions

Port Everglades collaborates with several stakeholders and organizations to achieve its environmental management, restoration, and remediation goals. As part of Element 1, existing environmental conditions, initiatives, and considerations were assessed that are critical to Port

¹⁰ Source: Wilbur Smith Associates, CH2MHILL, and others, *Florida Intracoastal and Inland Waterway Study*, May 2003

Everglades' ongoing operations and future development. Specific areas assessed and elaborated in great detail within Element 1 include:

- Wildlife and habitat,
- Mitigation projects,
- Landfill and petroleum storage,
- Environmental initiatives, including mitigation initiatives, stormwater management, and air quality,
- Climate change initiatives, resiliency, and sustainability,
- Drinking water management, and
- Shore power.

ES.5 Market Assessment

Element 2 of the 2024 M/VP Update presents an assessment of future market conditions for each of the Port's primary lines of business through over a 20-year horizon (2043–2044). These 20-year business forecasts were developed by members of the AECOM team as follows:

- **Cruise** – Bermello Ajamil & Partners (BA)
- **Liquid Bulk/LNG** – AECOM
- **Containerized Cargo** – Martin Associates
- **Non-Containerized Cargo** – Martin Associates

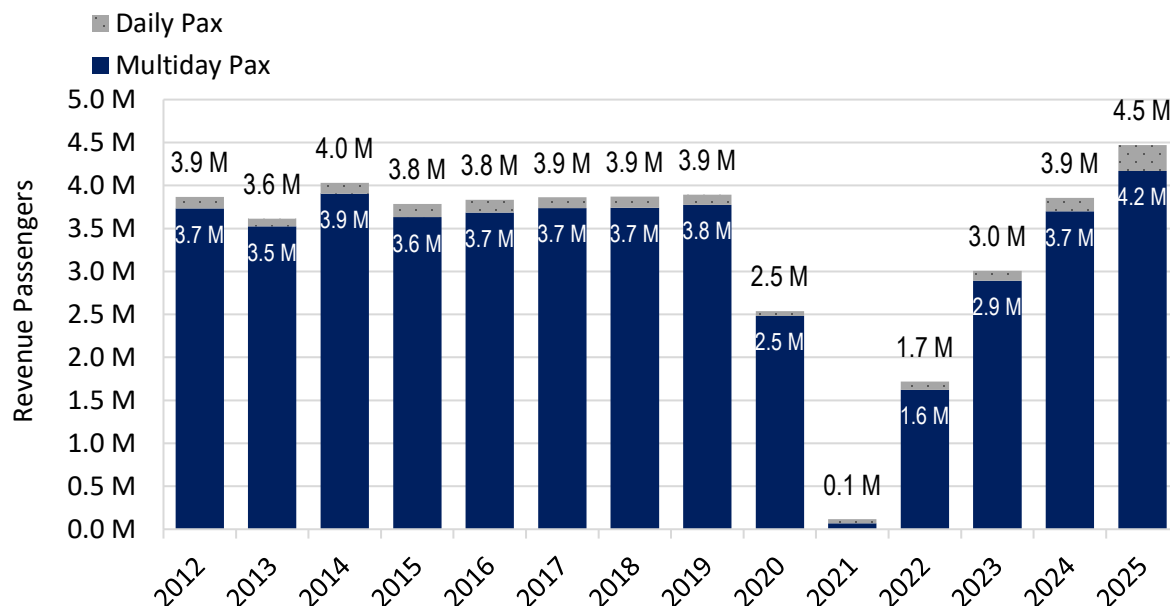
Information presented in Element 2, as summarized below, reflects the project team's review of historical Port Everglades statistics, broader industry information pertaining to each individual line of business, one-on-one interviews held with Port tenants and other stakeholders, input from Port senior staff, and coordination with Broward County. All years specific to the Port are fiscal (October-September) and all projections are unconstrained, unless otherwise noted.

ES.5.1 Historical Cruise, Liquid Bulk, and Cargo Activity

Cruise

To understand the future cruise traffic in Port Everglades, it is important to look at its historic performance, as data trends are one aspect that helps guide passenger projections. **Figure ES.5.1** shows cruise revenue passenger throughput at Port Everglades since 2012 and includes both multiday and daily operations. Like every other cruise port, a significant decline was experienced in 2020 through 2022 due to the COVID-19 pandemic shutdown. These years were removed from the analysis as they are not representative of overall port performance. Trends before the pandemic and current schedules were assessed. In fact, in 2024, the Port surpassed 2019 passenger levels for both multiday and daily operations.

Figure ES.5.1: Cruise Revenue Passenger Throughput (2012–2025)¹¹



Daily ferry traffic has seen some variations over the 2012 to 2019 period, peaking in 2015 with 153,000 passengers and declining to 120,000 passengers by 2019. For this time period, daily traffic saw negative annual growth, at -1.9 percent. However, like cruise, ferry traffic is showing signs of anticipated recovery post-pandemic, and passenger throughput rebounded in 2024 and that growth is expected to continue. However, daily traffic only accounts for 5 percent of Port Everglades' annual traffic volumes. The majority of Port Everglades' cruise traffic comes from multiday cruises, and as such, a larger deep dive into the underlying figures of this segment is explored.

Overall multiday cruise passenger growth remained relatively stable from 2012 to 2019. Port Everglades' multiday cruise passenger throughput peaked in 2014 at just over 3.9 million passengers. This spike in numbers was largely attributed to atypical events that year—ship diversions from Port Canaveral due to an active hurricane season and from PortMiami, due to anticipated protests and traffic disruptions linked to the Organization of American States meeting in Miami.

Since this uptick, traffic resumed alignment with historic levels, reaching 3.8 million by 2019, representing a 0.3 percent compound annual growth rate (CAGR) for the period overall. In 2024, 3.7 million conventional cruise passengers are expected to sail on 651 cruises from Port Everglades on 51 different vessels representing 14 cruise brands (3.8 million in 2019). Based upon current 2025 bookings, Port Everglades is on track to break a new record for passengers calling Port Everglades, with 4.2 million revenue passengers scheduled.

¹¹ Source: BA

Liquid Bulk

Since the 2020 M/VP Update, the landscape of both the U.S. and global oil markets has continued to evolve, reflecting a dynamic shift towards increased U.S. production of crude and natural gas. This shift has significantly influenced market dynamics, leading to a notable decrease in global oil prices and altering the flow of petroleum products into Port Everglades. The continued growth in domestic production has not only reduced operational costs for refiners along the U.S. Gulf Coast but also facilitated a strategic pivot from foreign to domestic crude sources. This transition has been mirrored at Port Everglades, which adapted to a changing supply landscape from international to predominantly domestic providers prior to the 2020 M/VP Update.

Due to these changing market conditions and the impact of the COVID-19 pandemic on travel behaviors, there were fluctuations in the throughput of different petroleum products from 2014 to 2022:

- Gasoline saw an initial increase up to 2019 but experienced a noticeable dip in 2020, likely influenced by external factors such as global economic conditions and local demand shifts due to the COVID-19 pandemic, before partially recovering by 2022.
- Diesel volumes remained relatively stable, with a slight increase towards 2022, underscoring steady demand for this fuel type. In contrast to COVID-19's impact on other fuels, diesel volumes stayed higher through 2020 and 2021, likely due to the increase in truck traffic resulting from increased ecommerce activity during this period.
- Jet fuel experienced fluctuations, with a significant drop in 2020, reflecting the impact of reduced air travel due to the COVID-19 pandemic, followed by a strong recovery by 2022.
- Fuel oil saw a decline in throughput, particularly sharp in 2021, but a minor resurgence in 2022, possibly due to pandemic-related conditions.
- Asphalt, avgas, propane, and crude oil volumes remained relatively constant or diminished.

The historical throughput of each liquid bulk commodity, in thousand barrels per day (TBDP), can be seen in **Table ES.5.1**.

Table ES.5.1: Historical Port Everglades Commodity Throughputs (TBDP) (FY 2014–FY 2023)¹²

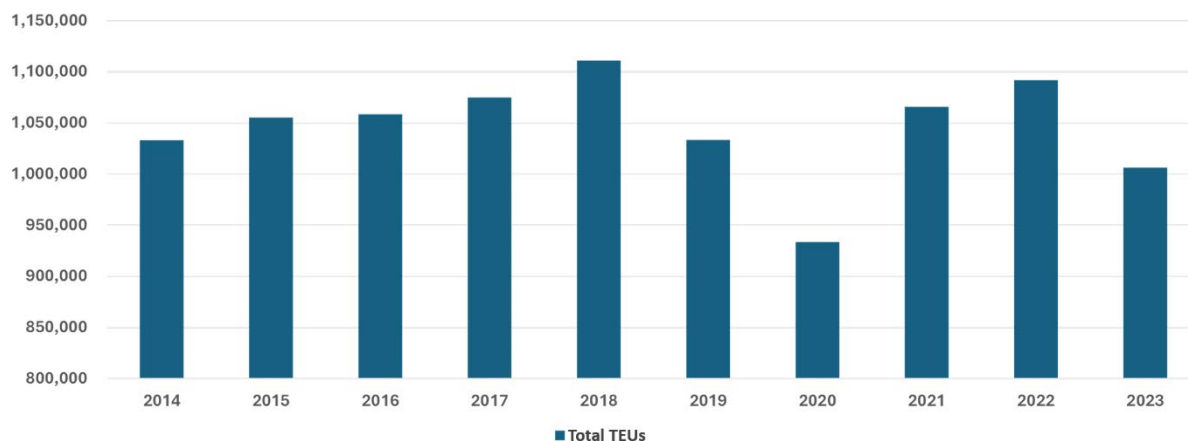
Asphalt	1	1	1	1	2	2	2	1	1	1
Avgas	1	1	1	1	1	1	1	1	1	1
Diesel	37	40	42	43	45	45	45	46	50	52
Fuel Oil	12	9	7	7	7	7	7	1	6	7
Gasoline	161	165	172	173	168	174	153	166	172	177
Jet Fuel	76	84	87	88	93	94	66	75	96	98
Propane	1	0	1	1	1	1	1	1	1	1
Crude Oil	2	2	2	1	1	1	1	0	0	0
Ethanol (Maritime)	4	3	2	4	6	4	2	3	4	7
Ethanol (Land)	14	15	17	16	14	16	16	16	15	12
Total	309	320	332	335	338	345	294	310	346	356

Containerized Cargo

The total number of TEUs handled at Port Everglades grew significantly between 2014 and 2018 but declined to the lowest level within a 10-year period in 2020, reflecting the impact of the COVID-19 pandemic. The TEUs rebounded between 2020 and 2022 but fell again in 2023, as shown in **Figure ES.5.2**. The record volume of TEUs handled at Port Everglades was in calendar year 2018, and this volume has not been reached since. The decline in TEUs between 2022 and 2023 is reflective of the overall decline in import volumes nationwide in 2023 but also reflects some dynamics in services at the Port that occurred since the 2020 M/VP Update.

¹² Source: Port Everglades. Note: Ethanol shipped by land is primarily shipped by rail.

Figure ES.5.2: Port Everglades Total TEUs, 2014–2023¹³



The Port Everglades container market has been dominated by trade with Central America, the Caribbean, and the East Coast of South America. These three trade lanes accounted for 87 percent of the Port’s containerized trade in 2023, which reflects a highly concentrated region of service by the Port. Trade with Central America has fallen at a CAGR of 2.7 percent over the 2014–2023 period, while trade with the Caribbean has also declined over this period. It is to be emphasized that the container volumes on these two key trade lanes in 2023 were lower than the volumes recorded in 2014 on the same trade lanes. In addition, there has been a contraction of volume moving on the Mediterranean trade lane. The loss in volume on the Central American trade lane reflects the relocation of several Central American ocean carrier services from Port Everglades to the Port of Jacksonville and Port of Wilmington, NC, as these ports are closer to the locations of several beneficial cargo owners engaged with trade with the Central American countries.

Non-Containerized Cargo

Non-containerized cargo at Port Everglades can be classified into four primary categories:

- Automobiles
- Break-bulk cargo (primarily steel coils and rebar)
- Dry bulk cargo (primarily cement)
- Other RORO cargo and yachts

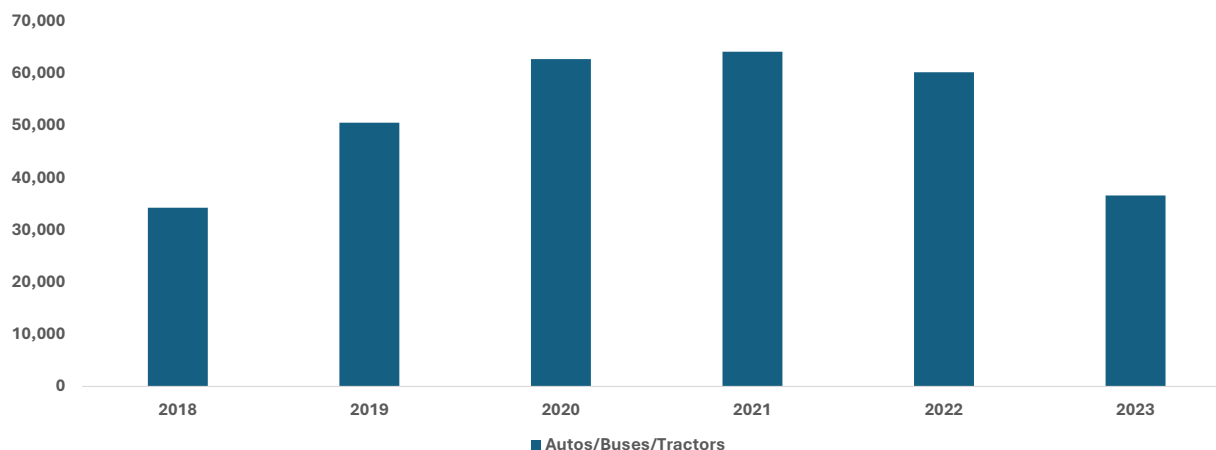
Automobiles

Currently, AMPORTS leases 15 acres from Port Everglades to handle auto exports and imports. Since 2018, Port Everglades has maintained records on auto units handled on pure car carriers, which typically exclude used vehicles or privately owned vehicles (POVs) that move to the islands for personal use and resale or are used for ports. Since 2018, the volume of autos and RORO

¹³ Source: Port Everglades

cargo have shown growth; however, since 2020 they are on a declining trajectory, as shown in **Figure ES.5.3**. Interviews with the auto processor indicated that the capacity of the terminal is about 60,000 auto units, and currently only about 20 percent of the terminal is utilized. It is unlikely that capacity will be reached at the terminal, as the import market, which had focused on Mexican imports has not materialized, and the export market to the Caribbean Islands is projected at about 1,000 to 2,000 units per month for a total of about 24,000 auto units annually.

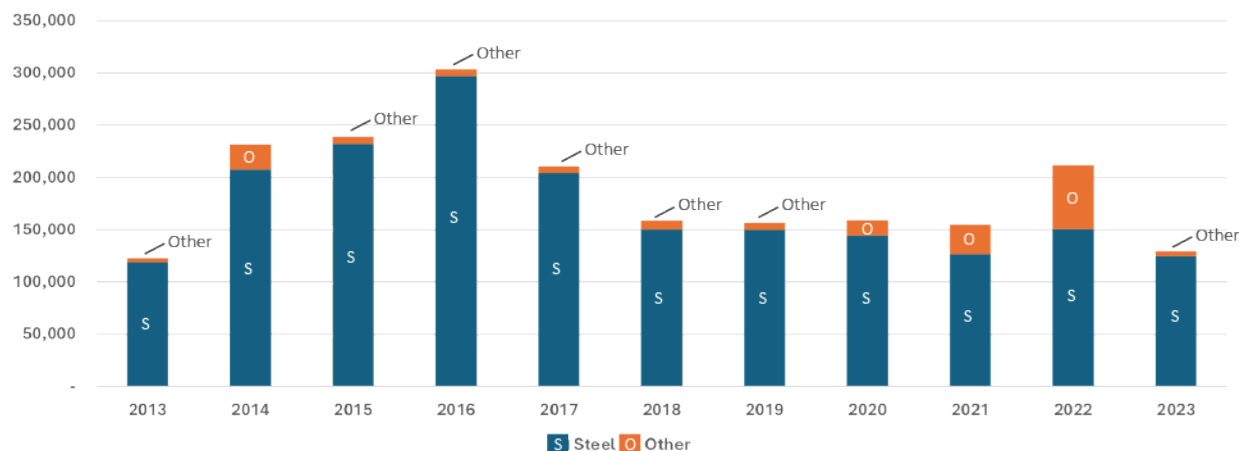
Figure ES.5.3: Automobile and RORO Units Handled at Port Everglades (Excluding POVs)¹⁴



Break-Bulk Cargo

Port Everglades' break-bulk cargo volumes, consisting mainly of steel products plus some other miscellaneous break-bulk cargo, have been highly stable since 2017, with an increase in 2022 (see **Figure ES.5.4**). This increase between 2021 and 2022 was the result of the unprecedented demand for warehouse space and open storage for lumber and plywood driven by the construction and remodeling activity that resulted from the COVID-19 pandemic, which has since subsided.

Figure ES.5.4: Port Everglades Break-Bulk Cargo Tonnage (2013–2023)¹⁵



¹⁴ Source: Port Everglades

¹⁵ Source: Port Everglades

Steel imports are driven by the growth in construction activity in Southern Florida, but due to limited storage area and berth availability in Port Everglades, break bulk activity is constrained and growth is not anticipated. Steel imports have been relatively stable at the Florida ports, except for Port Manatee. Overall, there has been little growth in steel imports over the past 20 years.

Dry Bulk Cargo

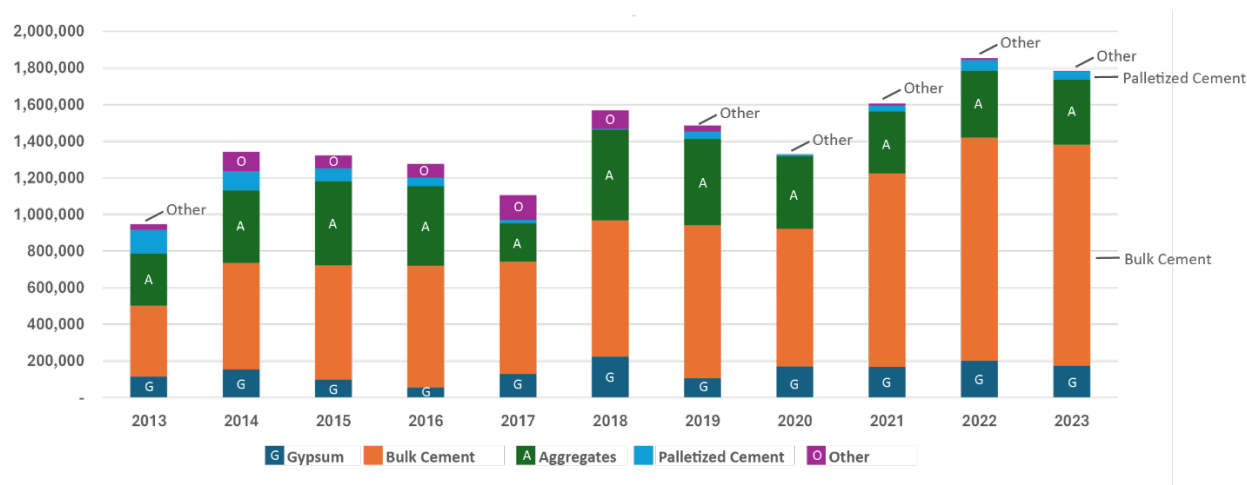
Dry bulk cargo handled at Port Everglades consists of bulk cement, as well as aggregates, gypsum, palletized cement, and miscellaneous dry bulk including ash, bauxite, slag, and coal. As shown in **Figure ES.5.5**, bulk cement has grown significantly nearly doubling from 2016 levels to 1.2 million tons in 2023. Except for cement, other bulk cargos such as aggregates typically are off-loaded, reloaded in trucks, and drayed off-port to local cement manufacturers. These cargos move on 50,000 deadweight tonnage vessels requiring 40–41 feet of draft.

As with break-bulk vessels, due to periodic challenges with adjacent with cruise operations, dry bulk vessels are sometimes moved off their assigned berth and sent out to anchor, returning to the berth later to not conflict with cruise operations. Interviews with the key bulk importers indicated that there is a strong market for Port Everglades to serve South Florida construction and highway construction projects, however the impact of Disney cruise vessels at Berth 4 on the non-cement dry bulk operations at Berth 5 and the lack of storage area on Port limits the ability to use Port Everglades.

Furthermore, interviews with aggregate importers indicated that there is an immediate potential for an additional 150,000 to 250,000 tons of imported aggregates, but the berth issues and laydown area remain significant constraints.

It is realistic to assume that the issues with Berth 5 and challenges with adjacent cruise operations will continue in the future, and furthermore, it is unlikely that additional land will become available for dry bulk storage. The capacity for other dry bulk cargos is estimated at about 35,000 tons of static storage, and the use of Berth 5 and its conflict with Disney cruises will limit vessel calls. Without the Berth 5 conflict, it is projected that about six vessel calls per year would call the Port with other dry bulk such as copper slag, bauxite, sand, etc., with a discharge of about 40,000 tons per call. This equates to another 200,000 to 150,000 tons of annual potential.

Figure ES.5.5: Port Everglades Dry Bulk Cargo Tonnage (2013–2023)¹⁶

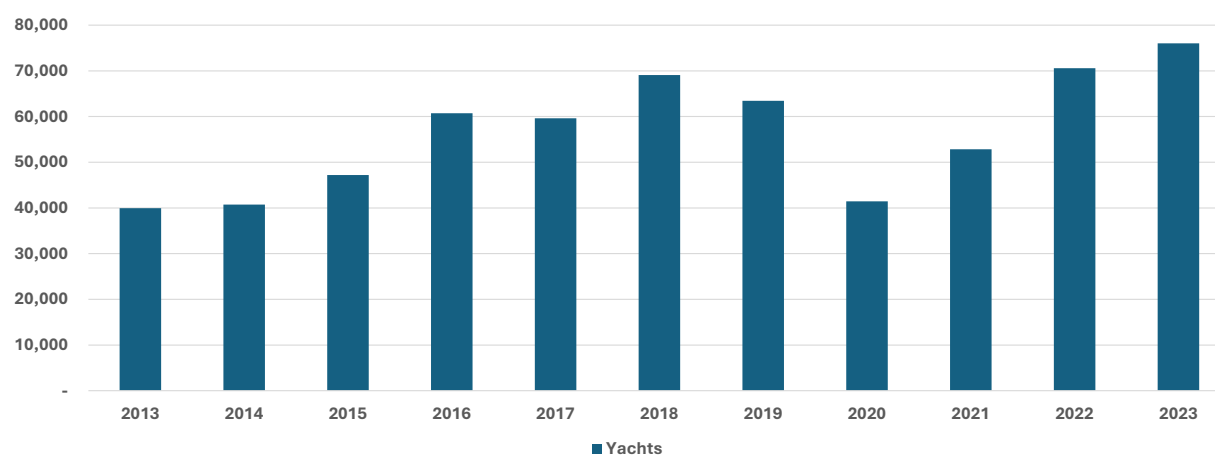


Throughput of cement tonnage has nearly doubled at the Florida Ports since 2013, reflecting the growth in population, housing and highway construction that has occurred within the State in the past 10 years. This growth has been primarily at Port Everglades, Port Canaveral, and Port Manatee; Port Everglades ranks as the third-largest cement import port in Florida.

Other RORO Cargo/Yachts

Port Everglades is a key port for the transport and repositioning of yachts. As seen in **Figure ES.5.6**, the yacht volume peaked in 2018, declined during the COVID-19 pandemic, and has rebounded through 2023.

Figure ES.5.6: Port Everglades Yacht Tonnage (2013–2023)¹⁷



¹⁶ Source: Port Everglades

¹⁷ Source: Port Everglades

ES.5.2 Future Market Assessment Summary

Cruise

To forecast future cruise passenger volumes and calls at Port Everglades, multiple projections were developed based on a combination of factors including market capture rates and differing levels of cruise line commitments and terminal developments (i.e., deployment scenarios). The low scenario serves as the foundational projection, directly tied to the lowest estimates from the likely market capture methodology. This scenario assumes no significant changes in cruise line deployments or terminal developments beyond current commitments and acts as a cautious estimate.

The mid scenario introduces a more optimistic view, predicated on several key developments and assumptions of increased deployments and terminal developments. These assumptions are as follows:

- **Carnival Cruise Line's Return:**
Following the completion and renovation of CT-21, Carnival redeploys two vessels to Port Everglades on a seasonal basis, mirroring their historical presence.
- **Additional Seasonal Deployments:**
Adding seasonal deployments from smaller luxury brands alongside a larger European contemporary brand to further diversify the Port's cruise line portfolio.
- **Celebrity & Royal Caribbean Cruises Capacity Increase:**
Following the future redevelopment of CT-29, Celebrity and Royal Caribbean Cruise Lines both aim to expand their presence with additional ships deployed seasonally, leveraging the enhanced terminal facilities.

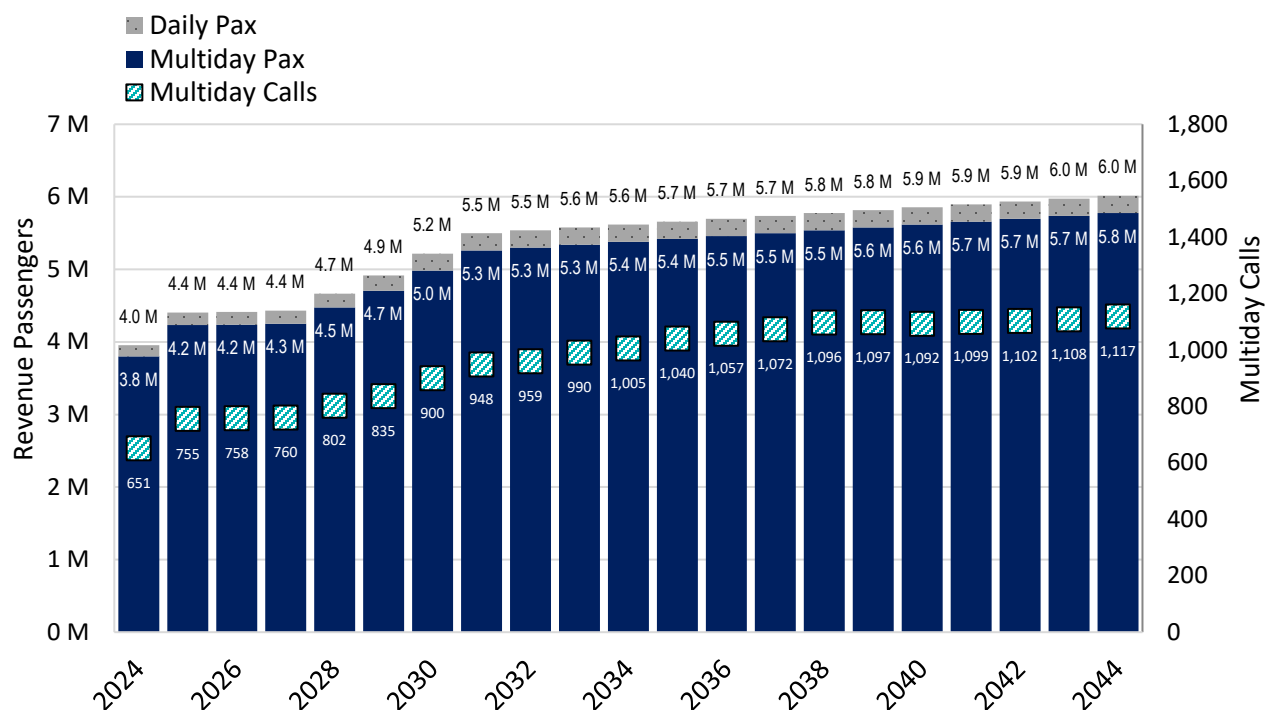
The high scenario expands upon the mid scenario, presenting the most optimistic outlook in this methodology. Additional deployments, supplementing those outlined in the mid scenario, include:

- **Year-Round Deployment by Carnival:**
One of the Carnival vessels introduced in the mid scenario is deployed year-round.
- **Introduction of an Additional Luxury Brand:**
The introduction of an additional luxury brand on a seasonal basis.
- **Enhanced Commitment from Celebrity and Royal Caribbean:**
Celebrity and Royal Caribbean Cruise Lines extend their deployment strategies beyond seasonal, incorporating an additional vessel to operate year-round from Port Everglades.

Using the mid-case projections for Port Everglades' daily and multiday passenger volumes, as well as the mid-case projections for multiday vessel calls, the mid-case Deployment Scenario through 2044 is summarized in **Figure ES.5.7**. This scenario represents a realistic assessment of future passenger and vessel volumes at Port Everglades based on cruise line trends and

actionable opportunities associated with additional traffic growth in the short to medium term. These projections show total daily and multiday annual revenue passenger volumes of approximately 6 million and total multiday vessel calls of 1,117 in 2044.

Figure ES.5.7: Port Everglades Revenue Passenger Throughput and Multiday Calls (Mid-Case Deployment Scenario (2024–2044))¹⁸



Liquid Bulk

The liquid bulk commodity forecast for 2023 to 2043 suggests the following trends:

- Gasoline throughput is expected to stabilize at around 152-155 TBPD by the end of the forecast period, indicating a saturation in growth, possibly due to increasing fuel efficiency and alternative energy sources.
- Diesel shows a slight decline in the longer-term forecast, settling at 42 TBPD, which may reflect technological advancements in transportation and a shift towards greener alternatives.
- Jet fuel is projected to see a robust increase, reaching 151 TBPD by 2043, driven by growth in air travel and cargo transport.
- Fuel oil and ethanol are forecasted to maintain steady but relatively low throughput levels, consistent with ongoing but limited demand.

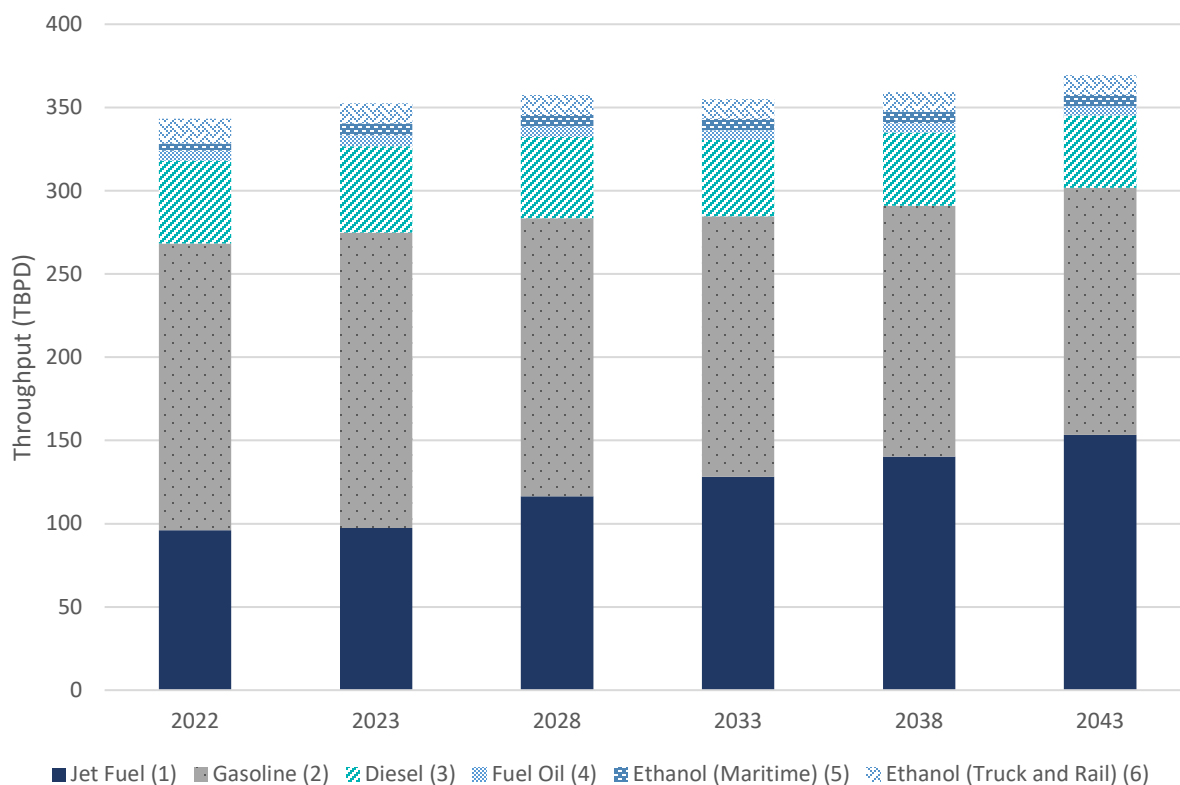
¹⁸ Source: BA

The forecasted commodity figures can be seen in **Table ES.5.2** and **Figure ES.5.8**.

Table ES.5.2: Forecasted Port Everglades Commodity Throughput (TBDP) (FY 2022–FY 2043)¹⁹

Commodity	2022	2023	2028	2033	2038	2043
Jet Fuel	96	98	116	128	140	153
Gasoline	172	177	167	157	151	148
Diesel	50	52	49	46	44	43
Fuel Oil	6	7	6	6	6	5
Ethanol (Maritime)	4	7	7	7	7	7
Ethanol (Truck and Rail)	15	12	12	12	12	12
Total	343	353	357	356	360	368

Figure ES.5.8: Port Everglades Throughput Projections (TBDP) (FY 2022–FY 2043)²⁰



¹⁹ Source: Port Everglades. Note: 2022 and 2023 values are historical. Forecasts are based on EIA and FAA forecasts.

²⁰ Source: Port Everglades; AECOM; FAA; EIA

Containerized Cargo

The future market potential for containerized cargo will be driven by several key factors. Import trade will be driven by:

- Organic growth in local consumption, driven by population, and
- The development of new services.

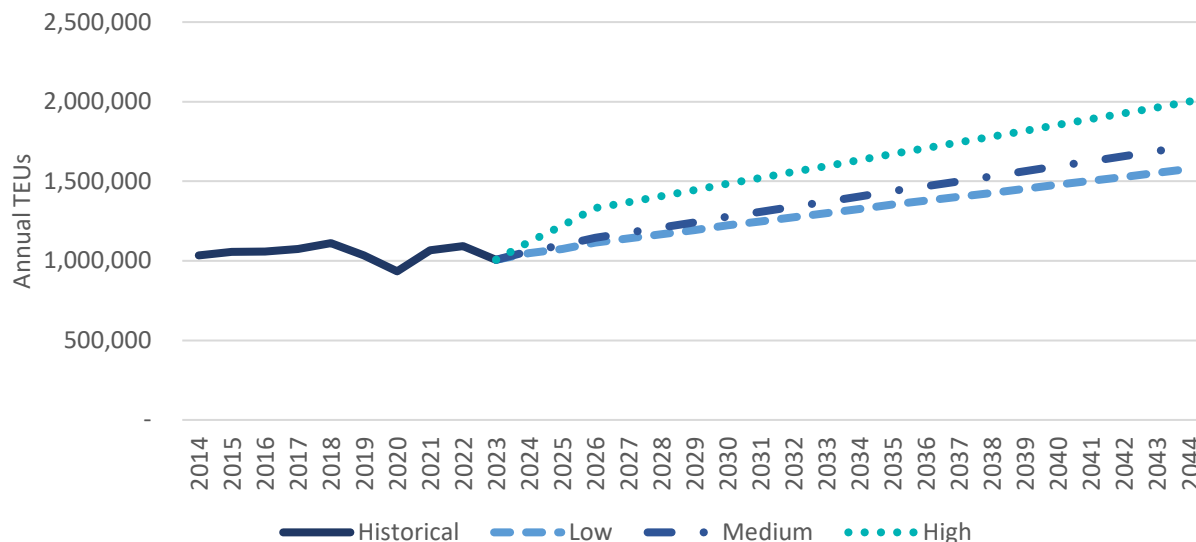
Export trade, which has been dominated by exports to Central America, South America, and the Caribbean, will depend primarily upon the projected growth in the trade partner countries' economies within those markets. Any addition of new import services at Port Everglades will also play a role by increasing export capacity and foreign port coverage.

It is to be emphasized that the cargo projections are unconstrained projections, in that they are demand driven. These unconstrained projections represent the markets in which Port Everglades can participate, and the degree of success in the capture of the markets will depend upon market efforts as well as current and future terminal operations and future facility investments outlined in the 5-Year Master Plan and 10- and 20-Year Vision Plans.

Baseline containerized cargo projections were developed using population projections for the state of Florida. Beyond the baseline projections, two potential markets for new services were identified. A potential Mexican service, which is estimated at 83,000 TEUs currently, and a new Northern European/Mediterranean service, estimated at 94,000 TEUs. It is assumed that these services will develop over the next three years. It is also assumed that the potential market grows at the same annual rate as the baseline import and export TEUs throughput at the Port.

Based upon the factors outlined in this section, the containerized cargo market outlook for Port Everglades through 2044 is summarized in **Figure ES.5.9**. In this summary, the low forecast is based upon medium Florida population growth, the medium forecast is based upon high Florida population growth, and the high forecast is based upon the addition of the potential Mexican, Northern European, and Asian services.

Figure ES.5.9: Containerized Cargo Market Outlook Summary (2014–2044)²¹



Non-Containerized Cargo

Automobiles

With respect to Port Everglades’ projected new automobile imports and exports, even with the addition of a potential new account, future throughput will not likely exceed 50,000 units annually. The most likely scenario is that auto throughput will fluctuate between 15,000 and 30,000 units annually.

Break-Bulk Cargo

For future planning purposes, throughput of steel products will not likely exceed 200,000 tons annually at Port Everglades, as steel throughput has been relatively stable at the Port for the last two decades.

Dry Bulk Cargo

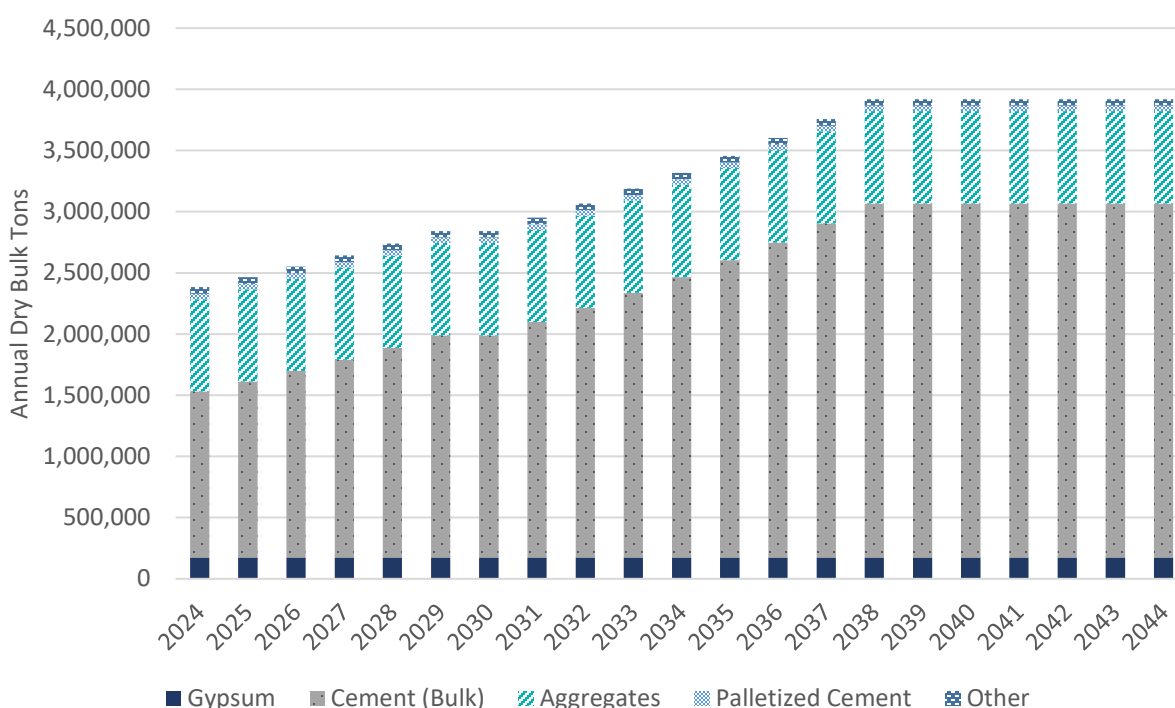
Overall, the demand for cement, slag, and aggregates is likely to continue to grow in response to highway and other residential and commercial developments in Florida. The upper limit on cement and aggregates imports will likely be the defined capacity of the cement operations (CEMEX and Lehigh), which is about 2.6 million tons based on the berth capacities of Berths 14 and 15 and silo storage capacity. However, there is a berthing issue at Berths 14-5 in that if cement vessels are berthed at both Berth 14 and Berth 15, the vessel docked at Berth 15 extends beyond the slip. This berthing arrangement creates a conflict with cargo and cruise operations at Berths 16-18, particularly when a large Oasis class cruise vessel is to berth at Cruise Terminal 18. As the cement vessels are anticipated to grow in size to handle 35,000 to 40,000 tons per call,

²¹ Source: Martin Associates

the length of the vessels also increases, exacerbating the Berths 14-15 conflicts when two cement vessels are berthed at the same time.

Based upon recent growth trends, interviews with dry bulk importers, and the growth factors outlined above for cement, aggregates and other materials, the dry bulk cargo forecast through 2044 is summarized in **Figure ES.5.10**. This forecast shows that Port Everglades may reach its current cement berth capacity of 2.6 million tons annually by 2036, requiring further expansion to accommodate the forecasted 2044 cement volumes. The forecast also shows the potential for an additional 200,000 to 250,000 tons annually of bauxite, copper ore, and other materials, all of which contribute to a projected 2044 dry bulk volume of nearly 4 million tons annually.

Figure ES.5.10: Port Everglades Annual Dry Bulk Cargo Tonnage Projections (2024–2044)²²



Other RORO Cargo/Yachts

Interviews with the key carrier handling yacht transport in Southern Florida indicated that yacht activity at Port Everglades could more than double in the near term. The carrier currently serves the market via Port Everglades and the Port of Palm Beach, with an annual number of combined vessel calls. Historically, the carrier had berthing issues at the Port, primarily due to conflicts with the cruise operations. The operator has grown significantly over the past 25 years and is hoping to consolidate its Florida operations at Port Everglades. According to the carrier interviews, this

²² Source: Martin Associates

consolidation would result in about 100 annual calls within the next five years and would require about 15,000 square feet (SF) of fenced area.

ES.5.3 Foreign Trade Zone Trends

Given the prevalence of Foreign Trade Zones (FTZs) within the U.S., particularly within major port-adjacent metropolitan areas (i.e., six separate FTZs in South Florida), there is little evidence to suggest that having an FTZ is a competitive advantage for an individual port in terms of attracting or sustaining containerized cargo volumes. However, not having an FTZ may serve as a competitive disadvantage for a port like Port Everglades. In this sense, while it is not easy to quantify the direct benefits of FTZ-25 on Port Everglades cargo volumes, there is plenty of evidence that Port users can and do benefit from using FTZ-25. The benefits of an FTZ for a given company depend on myriad factors, however, so not all port users will benefit from FTZ designation at Port Everglades or elsewhere.

FTZ-25 has been successful in the past, to the extent that it has provided Port Everglades users with business advantages associated with FTZs. Given Port Everglades' unique mix of cruise and cargo activity, having an on-port FTZ has proven to be, and likely will continue to be, a valuable logistics asset that meets a clear market demand. Two principal and related challenges that limit growth in the number of FTZ users are:

1. Lack of information/awareness, and
2. Perceptions associated with activation and compliance processes.

One potential marketing strategy related to FTZ-25 is to work closely with current FTZ-25 users to develop positive testimonial-based marketing materials and a network of existing users that new or potential new users can access to better understand what is involved, and why they should bother. Another marketing strategy could be to host regular FTZ-25 information sessions around the county, in partnership with local chambers of commerce and regional entities, to help inform potential users of the benefits and help educate them about the process.

Maintaining FTZ-25 as a strategic marketing tool is important. FTZ-25 clearly adds value to Port Everglades, in the sense that it has the potential to save existing and future port users significant amounts of money, due to the tax, cash flow, and other benefits that it facilitates. However, the benefits of FTZ activation accrue almost entirely for Port users, rather than the Port itself, and there is little evidence to suggest that shippers select one port over another, due mostly or entirely to reasons related to FTZ status. Therefore, it is reasonable to question the degree to which FTZ-25 expansion should be prioritized by Port Everglades in terms of resource allocation.

One potential future strategy in this regard could be to partner more closely with the Greater Fort Lauderdale Alliance (GFLA), Broward County Office of Economic and Small Business Development, the South Florida Manufacturers Association, and other economic development groups to incorporate FTZ-25 more directly into their business recruitment efforts. FTZ-25, particularly if restructured under the alternative site framework, aligns very naturally and directly

with the missions of these organizations and new users of FTZ-25 – and its primary beneficiaries – are equally likely to be GFLA “customers” as port customers.

ES.5.4 LNG Bunkering Assessment

The adoption of LNG as a marine fuel is primarily motivated by the need for compliance with global and regional emissions regulations and the potential cost savings due to lower LNG fuel prices. Emission standards enforced by the International Maritime Organization (IMO) under MARPOL Annex VI are the main drivers, aiming to reduce sulfur oxides (SO_x), particulate matter (PM) and nitrogen oxides (NO_x) emissions. There are also specific Emission Control Areas (ECAs) with enhanced restrictions across North America (including most of the U.S. and Canada) and the Caribbean Basin. The IMO's progressive tightening of sulfur content in fuels within certain areas to 0.1 percent post-2015, with further reductions anticipated, necessitates lower emission solutions, making LNG an attractive option due to its significantly reduced NO_x, SO_x, PM, and CO₂ emissions. In addition, IMO amendments mandate specific international vessels to adhere to new energy efficiency and carbon intensity standards, with the additional ratings expected following the first annual reporting in 2023.²³

Since the 2020 M/VP Update, the attractiveness of LNG has also been bolstered by the extraction of shale gas in North America, which has dramatically increased natural gas supplies and led to reduced and stabilized LNG prices in the U.S. Despite additional costs associated with LNG production and the need for port infrastructure investment, the long-term economic and environmental benefits are driving vessel operators to consider LNG as a marine fuel. This transition is supported by advancements in technology and economies of scale in LNG production, presenting a competitive fuel alternative amidst growing climate change mitigation efforts.

Port Everglades, through its involvement with SEA-LNG and other initiatives, underscores the importance of collaboration and innovation in the push towards decarbonization in shipping. LNG is recognized as a scalable and sustainable marine fuel solution that offers a pathway towards achieving emissions reductions goals, with bio-LNG and e-LNG serving as potential future options. This focus on LNG not only addresses the immediate need for cleaner fuel options but also supports the maritime industry's long-term environmental goals.

LNG Container Ships at Port Everglades

S&P Sea-Web estimates put the current global LNG containership fleet at 88 vessels. This list includes both dual-fuel and LNG-only vessels, although in the containership category most ships are dual-fuel as LNG bunkering services are not yet as widespread as distillate fuel oil bunkering, therefore giving these ships added flexibility with routes. Several carriers with LNG vessels serve Port Everglades, creating opportunities for growth in its LNG bunkering services. Ship size is a

²³ Source: <https://www.news.uscg.mil/maritime-commons/Article/3505404/amendments-to-marpol-annex-vi-chapter-4-entering-in-to-force-november-1-2022/>

crucial consideration since many LNG carriers are constructed on a larger scale to optimize economic efficiency, necessitating the Port's capability to dock such vessels. Additionally, these vessels come equipped with substantial fuel tanks, some exceeding 10,000 cubic meters, which means the infrastructure and equipment necessary for refueling operations need to be available at the Port. Demand from shippers also plays a significant role; there must be a justified need to route these large vessels to the Port.

Therefore, while Port Everglades stands to benefit from expanding its LNG bunkering services, this expansion must be strategically aligned with stakeholder collaboration and the broader maritime trade interests of South Florida. Crowley currently owns and operates LNG-powered container vessels, with several more to be added to their fleet. These ships operate in the Caribbean and are expected to make calls at Port Everglades, indicating a potential latent demand for LNG bunkering for Port Everglades. A full list of the global current active LNG container fleet, alongside their main specifications, can be seen in **Table 2.7.1**. It should also be noted that Crowley is expecting an LNG bunker barge to be added to its fleet that will have a capacity of 12,000 cubic meters.²⁴

LNG Cruise Ships at Port Everglades

Recently, LNG ships have been gaining popularity in the maritime industry due to their environmental benefits, with fewer emissions. This shift towards LNG-fueled ships necessitates the development and expansion of LNG bunkering infrastructure, a critical element in facilitating their widespread adoption. While the shipping sector has demonstrated a more rapid integration of LNG technology, the cruise industry is observing a more cautious adoption pace. The ongoing development in this area represents a pivotal focus within the maritime sector, underscoring a collective move towards more sustainable maritime operations.

In the context of Port Everglades, there is a low short-term expectation of LNG cruise ship demand. Globally, there are 20 operating LNG or LNG-dual-fuel cruise ships, almost all of which operate in Europe. The only cruise line that currently operates LNG cruise ships in Port Everglades is Royal Caribbean's Silversea brand. The Port's first LNG bunkering operation was performed on April 16, 2024, when the cruise ship Silver Nova (Silversea) was fueled by the bunker barge Clean Canaveral at Cruise Terminal 19.

LNG cruise ships from Carnival, Disney and Royal Caribbean are currently homeporting at PortMiami and Port Canaveral. These vessels are dual fuel, meaning they use distillate fuel oil whenever LNG is not available or while in port and at berth. Since neither PortMiami nor Port Canaveral currently have LNG fueling operations, LNG bunkering infrastructure at Port Everglades could be a source of new business. Future vessel conversions could change LNG cruise ship demand in the Caribbean soon, although none are publicly reported as being planned. Of the more than 60 cruise ships currently on order, 18 will be LNG-fuel capable.

²⁴ Source: <https://fincantierimarinegroup.com/products/crowley-lng-bunker-barge/>

ES.6 Plan Development and Final Plan

Element 3 of the 2024 Port Everglades M/VP Update provides a summary of the planning process undertaken to support development of the 2024 M/VP Update and includes an overview of the market assessments prepared for the Port's four primary business lines – cruise, liquid bulk, containerized cargo, and non-containerized cargo – which are detailed in full in Element 2 of the 2024 M/VP Update. To set the stage for proposed new Port investments, Element 3 reviews the status of the projects proposed in the 2020 M/VP Update and includes an assessment of design trends for both cruise and cargo terminals, a discussion of potential operational enhancements at Port Everglades, and overview of a facility needs assessment. Element 3 concludes with descriptions of the projects selected for the Port's 5-Year Master Plan and 10- and 20-Year Vision Plans, including the decision matrix used to evaluate and select projects and an affordability analysis for future Port investments.

ES.6.1 Terminal Design Trends

Cruise Terminal Design Trends

As discussed in Element 2, there are more than 60 new cruise vessels (this estimate has since increased) scheduled for delivery over the next five years. The average passenger capacity of these vessels is 2,900; however, 18 of these new builds have a capacity of over 4,000 lower berths. Most of these ultra-large vessels are being built by cruise lines that currently call Port Everglades home, such as Princess Cruises and Royal Caribbean International. This trend toward larger average passenger capacity cruise vessels, particularly in Port Everglades' core service region—the Caribbean/Bahamas—is discussed at length in the Element 2 cruise market assessment. However, larger average passenger capacity vessels are one of the most critical trends impacting current and future cruise terminal trends.

Port Everglades is the third busiest cruise homeport in Florida and the world. As such, it should strive to have cruise facilities that not only meet today's best-in-class industry standards but set the bar for what constitutes best-in-class into the future. To achieve this, the Port's cruise terminals must be designed to allow for flexibility in terms of cruise line operations, passenger loads, and other variables while emphasizing operating and cost efficiency and guest/user convenience and satisfaction.

Increasingly, new cruise terminals should be highly functional facilities designed to achieve performance targets through coordinated operations, limiting passenger queuing times, and minimizing the overall time required to complete key embarkation and disembarkation processes. Efficiency of operations and passenger throughput rates become even more important as average vessel sizes increase, and as average and peak passenger volumes at the Port continue to grow. As a rule, the cruise vessel and the brand it represents should be the experience, with the terminal serving as the platform to initiate and complete this experience. Therefore, convenience and passenger comfort are the defining considerations.

User convenience and satisfaction should be the key drivers in the cruise terminal design process. While certain “bells and whistles” or next-level amenities (including functional as well as aesthetic amenities) may be desirable on the part of cruise lines to reinforce their branding and the overall passenger experience within the terminal, the core design should focus on efficiency and be intuitive while allowing for maximum flexibility and easy maintenance. The future can be anticipated, but never predicted, so flexibility and design that addresses short-term issues within a long-term strategy are vital as this will minimize or avoid future costs associated with unexpected market or operating changes and allow the Port to adapt to new opportunities more dynamically. Key considerations that influence facility design concepts are summarized below.

Segregation of passengers/traffic.

- Segregation of transportation modes:
 - Buses/tour vehicles,
 - Private vehicles/staff, and
 - For-hire vehicles.
- The latest security:
 - Entry/exit, pier, ground transportation area (GTA),
 - Check of passengers, bags, provisioning (if required), and
 - Provide for operational flexibility:
 - All facility security cordon,
 - Partial facility security cordon, and
 - Berth security cordon.
- Improvements in functionality:
 - Reduce queuing,
 - Linkages of passenger metering processes – slow to fast, and
 - Integrate facility into the waterfront.
- Technology implementation:
 - Facial recognition,
 - Touchless check-in options including App use, and
 - Baggage automation.
- Secondary uses:
 - Commercial, and
 - Other, such as private functions.

Typically, today’s cruise homeport facilities provide for two levels of operations to allow for simultaneous embarkation and disembarkation. Multiple (two) passenger boarding bridges (PBBs, gangways) are also typically used for each vessel call to allow for safe and efficient movement of passengers on and off the vessel. Design elements should be as flexible as possible to accommodate multiple vessel types and sizes as well as different operations. Flexibility is also

important to allow for potential future reconfiguration of the facility based on changing operational preferences as well as changes in security practices and/or protocols over time.

The following cruise terminal trends are among the most salient in terms of positioning Port Everglades to handle projected future cruise traffic while achieving best-in-class operational efficiency, convenience and passenger comfort:

- Multi-level terminals,
- Key Performance Indicators,
- Type, number and service range of PBBs (gangways),
- Parking and GTAs,
- Baggage handling,
- USCBP/Security,
- Technology innovations, and
- Alternative/secondary uses.

Container Terminal Design Trends

Similar to cruise terminals, container terminal designs and operations have been influenced by a number of trends in recent years. Key trends shaping container terminals today are summarized below.

- **Increased Automation and Digitalization**
 - **Automation:** U.S. ports have been increasingly evaluating automation technologies to improve efficiency, improve safety, and handle larger volumes of containers. This includes the use of automated yard cranes, self-driving trucks, and automated guided vehicles to move containers within port terminals.
 - **Digitalization:** The adoption of digital platforms, data analytics, and artificial intelligence has become more prevalent to optimize port operations. Real-time tracking of containers, predictive maintenance for equipment, and the use of AI for logistics planning are helping ports improve turnaround times and reduce congestion. Blockchain technology is also being explored to streamline documentation and improve the transparency of supply chains.
- **Expansion and Modernization to Accommodate Larger Vessels (Post-Panamax)**
 - **Infrastructure Upgrades:** The expansion of the Panama Canal in 2016 allowed for the passage of larger “Post-Panamax” ships, which has led U.S. ports to invest in deeper channels, larger cranes, and expanded berths to accommodate these mega-ships and handle increased container volumes.
 - **Intermodal Connectivity:** Ports are also focusing on improving their connectivity to rail and trucking networks to enhance the flow of containers to inland destinations. This includes investments in intermodal terminals and expanded

logistics facilities to handle increased container throughput and reduce bottlenecks.

These trends are driven by the need to increase efficiency and remain competitive in the face of growing global trade volumes and shifting supply chain dynamics.

In addition to automation/digitalization and infrastructure expansion, a number of other key trends have shaped U.S. port container operations, as summarized below.

- **Sustainability and Decarbonization Initiatives**

- **Green Port Strategies:** U.S. ports are increasingly focusing on reducing their carbon footprint. This includes investments in electrification of port equipment, transitioning to electric vehicles (EV), and implementing shore power systems to allow vessels to plug into the grid while docked, reducing emissions from idling engines.
- **Environmental Regulations:** Ports are under pressure to meet stricter environmental regulations aimed at reducing air and water pollution, which has prompted investments in cleaner technologies.
- **Sustainable Fuels:** Ports and shipping companies are exploring the use of alternative fuels like LNG, hydrogen, and biofuels to meet emissions reductions goals.

- **Supply Chain Resilience and Diversification**

- **Response to Supply Chain Disruptions:** The COVID-19 pandemic and subsequent global supply chain disruptions have highlighted the need for greater resilience. Ports have been working on diversifying their supply chains, optimizing inventory management, and adopting more flexible logistics strategies.
- **Nearshoring and Regionalization:** There is a shift towards nearshoring (moving production closer to the U.S.) to reduce dependency on distant suppliers and minimize the impact of disruptions. This trend is increasing container traffic from Mexico and Central America, which affects port operations along the Gulf Coast and Southern border.
- **Agility in Operations:** Ports are investing in technology to improve real-time data sharing among stakeholders, enabling more agile responses to sudden changes in demand or disruptions in the supply chain.

- **E-commerce and Last-Mile Logistics**

- **E-commerce Boom:** The surge in e-commerce has significantly increased the demand for port capacity, especially for handling smaller, high-frequency shipments. Ports are adjusting their operations to accommodate a shift toward containerized consumer goods with faster turnaround times.
- **Distribution Centers:** Ports are partnering with logistics companies to expand warehousing and distribution centers closer to port terminals, enabling faster last-mile delivery.

- **Labor Relations and Workforce Modernization**
 - **Labor Shortages:** The push towards automation has raised tensions between port operators and labor unions. At the same time, ports are experiencing workforce shortages, prompting efforts to attract and train new talent.
 - **Skill Development:** Ports are investing in training programs to upskill workers for more technologically advanced roles, such as operating automated equipment and utilizing digital tools.
- **Data Analytics and Artificial Intelligence (AI) for Predictive Management**
 - **Predictive Analytics:** Ports are increasingly using AI and machine learning for predictive maintenance, congestion management, and optimizing container movements. Predictive analytics can reduce downtime by forecasting equipment failures and improve the efficiency of cargo handling.
 - **Digital Twins:** The use of digital twin technology (virtual replicas of physical assets) allows ports to optimize operations, simulate scenarios, and enhance decision-making in real-time.
- **Cybersecurity and Risk Management**
 - **Cybersecurity Investments:** As ports become more digital, the risk of cyberattacks has grown. U.S. ports are investing in cybersecurity measures to protect critical infrastructure and ensure the smooth flow of goods. The Port of Los Angeles, for instance, has partnered with IBM to develop a cyber resilience center.
 - **Resilience Planning:** Ports are also focusing on risk management to safeguard against disruptions caused by natural disasters, geopolitical tensions, or pandemics.
- **Growth in Inland and Regional Ports**
 - **Inland Ports Development:** To alleviate congestion at major coastal ports, there's been a push to develop inland ports and improve rail connections.
 - **Diversification of Trade Routes:** Ports along the Gulf and East Coasts are gaining more traffic as shippers look for alternatives to West Coast ports, which was evident during the recent supply chain crises.
- **Emergence of Smart Ports**
 - **Smart Technologies:** Ports are embracing Internet of Things sensors, 5G networks, and cloud-based platforms to improve real-time data collection, enhance cargo visibility, and optimize operations.
 - **Port Community Systems:** Ports are implementing integrated systems that connect all stakeholders—shipping lines, trucking companies, customs, and terminal operators—to streamline communication and reduce delays.

These trends reflect the evolving landscape of port operations as U.S. ports adapt to technological advancements, environmental concerns, and changes in global trade dynamics.

Cold Storage Trends

As identified in previous M/VP Updates, the expansion of on-port or near-port cold storage capacity represents a significant opportunity for Port Everglades to capture a larger share of the growing perishables market.

By definition, perishables have a limited shelf life and lose value every day that they are not in markets or otherwise available for purchase by consumers. The potential for Port Everglades to increase speed-to-market for perishable products by transloading them on-Port (or near-Port) into either refrigerated 53-foot domestic trailers or refrigerated railcars so that they reach their final point of consumption more quickly adds real value for shippers. Given this, there is a clear trend for both dry and especially cold storage capacity to be developed near container ports that handle high volumes of certain types of products as a means to increase transloading capabilities since this allows for less-costly inland movement, increases distribution options, adds flexibility, and avoids the need to reposition containers back to ports.

In addition, there is a growing interest in the synergies between air cargo perishables, particularly seafood, and cold storage facilities within the Port's hinterland. In most cases, the demand for cold storage/temperature-controlled warehouses is specific to facilities that can provide transload/cross dock operations, where the imported perishable cargo moving via container is stripped at the port, then transferred to domestic truck or rail for distribution. Similarly, perishables for export, such as meat and fish, are reloaded from over the road truck or rail into marine containers at the temperature controlled/refrigerated warehouse.

There are multiple potential options for Port Everglades to consider expansion of its on-Port or near-Port cold storage capacity. The 2020 M/VP Update included the redevelopment of the former Dynegy property within the PJA into a cutting-edge logistics center, incorporating the development of cold storage facilities and a direct-to-rail transfer facility to support the transshipment of refrigerated cargo on-Port. This project has not yet advanced and is still pending negotiations with FECR.

Additionally, Port Everglades may consider redeveloping other sites within or adjacent to the Port to accommodate an increase in warehousing and cold storage capacity. The SE 10th Avenue Site (outside of the PJA) presents an opportunity to create a modern logistics development (for cold storage and/or other general cargo use) near the Port and initial site preparation is included in the 5-Year Master Plan of the 2024 M/VP Update; private investment is anticipated for full development. Furthermore, future redevelopment of 1800 and 1850 Eller Drive properties may also present opportunities to reconsider the allocation of space within the Port and expand cold storage capacity. Regardless of the site selected, any future development of on-Port or near-Port cold storage facilities would need to be funded by a third-party developer who could develop and operate the facility on land leased by the Port to meet the needs of the expanding perishable market.

ES.6.2 Operational Enhancement Opportunities

Southport

The Southport area currently handles most of Port Everglades' containerized cargo and is expected to manage nearly all such activity once the 5-year Master Plan and 10- and 20-year Vision Plan projects are completed. Key issues in Southport include insufficient berth and STS crane capacity, as well as traffic congestion within and around the Southport facilities. Some STS crane capacity issues have been alleviated with the addition of six new STS cranes since 2020, but further improvements are possible, and congestion issues remain a concern.

The other major constraint to growth of containerized cargo, particularly with the increasing size of container ships, is the USACE Channel Deepening and Widening project, which is moving forward.

The primary operational enhancement opportunities related to containerized cargo operations in Port Everglades' Southport area are summarized as follows:

- Cranes,
- Shore power and alternative fuels,
- Terminal operating practices,
- Navigational constraints,
- Berth availability, and
- Traffic congestion in and around the Port, especially on McIntosh Road and at the Eller Drive gate complex.

Midport

Midport currently comprises a patchwork of mixed land uses and multiple operations in a relatively confined area. This area includes a mix of cruise, container, break-bulk, RORO, and cement terminals. Midport is home to six of the Port's eight multi-day cruise berths/terminals and three separate cruise-related parking areas, meaning there is continuous and ongoing competition both for berths and for adjacent land areas. In some cases, this diversity of uses is advantageous to the Port since it results in higher berth utilization rates. In other cases, however, this mixed-use approach hinders operational efficiencies and creates conflicts.

As cruise activity continues to increase at Port Everglades it will be critical for the Port to reduce the overlapping uses in Midport in order to be able to offer a more efficient space in which to concentrate growing cruise activity and operations. This is already evident when a Royal Caribbean Oasis class vessel berths at CT-18, which impacts the containerized cargo operations at Berths 16-17.

The principal operational enhancement opportunities in Port Everglades' Midport area are improvement of berth-terminal adjacencies and reducing conflicts between cruise and cargo operations.

Northport

The primary inefficiencies within the Northport area of the Port relate to liquid bulk operations within and around Slips 1 and 3 (Berths 6-13) and challenges with adjacent cruise operations in Slip 2 (Berths 4 and 5). These inefficiencies relate almost entirely to the width of the slips themselves, and the age and condition of the finger piers. These piers were designed to service the smaller liquid bulk and break-bulk vessels that currently call the Port, but are generally unsuitable for the next generation of larger liquid bulk vessels. Additionally, current Port operations do not allow petroleum offloading to occur adjacent to a berthed cruise ship within the same slip (e.g., Slip 2).

Vessels are not only getting larger, but the amount of product transferred per vessel call is also increasing, which will place constraints on both the slip widths and the land area and liquid bulk transfer infrastructure within the piers. Slip drafts are also a limitation, as the entrance channel and turning basin both currently support deeper drafts than the petroleum berths. Furthermore, as vessels increase in size, it is anticipated that an adjacent berth within the same slip will be unable to be used simultaneously due to navigational constraints and general safety concerns. This is expected to become an issue for Slips 1 and 3.

Slip 1, with focused liquid bulk operations and an anticipated increase in the size of the vessels, was identified as the priority. The Slip-1 widening project was identified in the previous 2020 M/VP Update and is currently in progress. Elements of this project have already been completed, such as a new manifold system to allow higher transfer of cargo and more efficient distribution of the flows and placed to facilitate widening of both Slip 1 and Slip 3.

Another operational enhancement opportunity is addressing the current berthing practices at Slip 3 that require cement vessels at Berth 15 to turn around to be able to work in all hatches of the vessels, with mooring and tugboats operations in between that slow down the production rate, thus increasing the time at berth and reducing the berth capacity. The 2024 M/VP Update includes several projects to address this issue. Additionally, there is the potential of increasing sizes of cement vessels by widening and deepening Slip 3, which will be critical once the projected growth of cement at Berths 14 and 15 has surpassed the current capacity.

In addition, Cemex is in the process of adding a new ship unloader that will increase the current unloading capacity by 50 percent while also avoiding air pollution associated with these types of operations when handled with outdated equipment. Both cement terminals will need upgrades and expansion to support the forecasted cement growth.

The challenges associated with Slip 2 are far less urgent given the critical nature and berth-specific requirements of liquid bulk operations vs. those of break-bulk operations. Bulk

operations currently taking place at Berth 5 are being accommodated around the cruise vessels at Berth 4. However, this challenge will continue to worsen over time, especially with proposed increased cruise activities at Berth 4. As such, the 2024 M/VP Update includes a Slip 2 widening project.

ES.6.3 Project Decision Matrix

Consistent with previous M/VP Updates, the 2024 M/VP Update utilized a decision matrix to evaluate the projects proposed for inclusion in the M/VP. Also, like previous M/VP Updates, the 2024 M/VP Update developed evaluation criteria that advance the themes that have governed the M/VP planning process and that tie directly back to the Port's mission statement.

Table ES.6.1 shows the scoring categories and evaluation criteria used to assess the projects included in the 2024 M/VP Update. Some of these criteria can be measured quantitatively while others are qualitative in nature. Similarly, some of the measures shown in **Table ES.6.1** are more applicable when applied to the Port's overall 20-year development program than to individual projects.

Table ES.6.1: Decision Matrix Criteria

Category	Criterion 1	Criterion 2	Criterion 3	Criterion 4
Competitiveness	Capacity	Efficiency	Market Positioning	Cargo/Market Diversification
Economics	Return on Investment (ROI)	Economic Impact	Future Adaptability	Funding Leverage
Sustainability	Asset Preservation	Environmental Compliance	Resiliency	Energy and Resource Efficiency

Before applying the decision matrix above to the Port M/VP, it is important to understand that while all projects included in the 2024 M/VP Update address at least one of the dimensions identified in **Table ES.6.1**, not all projects in the Plan meet all of the evaluation criteria. For example, not all projects in the 5-year Master Plan and/or 10- and 20-year Vision Plans result in increased capacity or direct revenue to the Port or can be linked directly to regional economic benefits. However, many projects proposed in the 2024 M/VP Update are necessary to improve overall Port operations by:

- Mitigating existing traffic congestion and gate access issues,
- Accommodating changing mobility needs,
- Repurposing or consolidating land uses to increase productivity,
- Addressing resiliency, sustainability and/or emission reductions goals,
- Maintaining existing assets in a state of good repair, and
- Addressing other critical needs.

Without these operational improvements, however, the future needs of Port tenants, users, regulatory agency partners, and the general public cannot be fully met. These investments contribute to the success of separate but related revenue-generating projects that are essential to maintaining Port competitiveness, ensuring Port tenant and user satisfaction, meeting regulatory requirements, and ultimately providing local and regional economic benefits.

ES.6.4 Projects Included in the 2024 Update (Final Plan)

The 2024 Update of the Port Everglades M/VP, which encompasses the 20-year period from 2026-2045, comprises a total of 34 projects, with five of these projects anticipated to continue to be implemented in the 20+ year time horizon (i.e., beyond 2045). The projects selected for inclusion in the 2024 M/VP Update are distributed across the Plan milestone periods as follows:

- **0-5 Years (2026-2030)** 15 new projects (\$1,161.3 million)
- **5-10 Years (2031-2035):** 7 new projects, 6 continuing projects (\$833.8 million)
- **10-20 Years (2036-2045):** 12 new projects, 5 continuing projects (\$1,432.8 million)
- **20+ Years (2046+):** 0 new projects, 5 continuing projects (\$398.7 million)

Of these 34 projects, six are located in Northport, 13 in Midport, 10 in Southport, three are Port-wide projects (i.e., projects that impact multiple Port areas or business units), one is to be in a location that is yet to be determined, and one is located off-port (near-port). It is expected that over the next 20+ years, a total of \$3.83 billion (2025 dollars) will be required to implement all 34 projects. Of this total, it is anticipated that Port Everglades will be responsible for approximately 55 percent (\$2.11 billion) of the costs, with various private, state, and federal entities contributing the remaining approximately 45 percent (\$1.72 billion). Element 4 of the 2024 M/VP includes additional details on third-party funding sources and strategies. The 34 projects proposed in the 2024 M/VP Update are listed in **Tables ES.6.2** through **ES.6.5** by Plan milestone period.

Table ES.6.2: 2024 Master/Vision Plan Projects (0-5 Years, 2026-2030)

Griffin Road Access	Container	Southport	\$38.0	\$38.0
New VACIS Area in Southport	Container	Southport	\$3.5	\$3.5
Container Terminal Redevelopments*	Container	Southport	\$150.0	\$450.0
Container Terminal Utilities and Shore Power*	Container	Southport	\$3.0	\$100.0
Cruise Terminal 29 Development	Cruise	Midport	\$253.0	\$253.0
Cruise Terminal 29 Parking Structure	Cruise	Midport	\$68.0	\$68.0
Berths 16, 17 & 18 Bulkhead Improvements*	Cruise	Midport	\$60.4	\$103.0
Shore Power Systems for Cruise Terminals*	Cruise	Northport/ Midport	\$56.0	\$217.0
New Midport Parking Structures*	Cruise	Midport	\$84.0	\$168.0
Slip 1 Widening (Berths 9 & 10)	Energy	Northport	\$224.0	\$224.0
Port Maintenance Facility	Port-Wide/ Other	TBD**	\$60.0	\$60.0
Fire Station Upgrades	Port-Wide/ Other	Midport	\$10.0	\$10.0
Balearia Facilities at Berth 28A	Port-Wide/ Other	Midport	\$25.0	\$25.0
SE 10 th Avenue Property Redevelopment	Port-Wide/ Other	Off-Port	\$12.0	\$12.0
Channel Deepening and Widening*	Port-Wide/ Other	Port-Wide	\$114.3	\$494.0
Total 5-Year Project Costs	Blank	Blank	\$1,161.3	Blank

*Project appears in multiple 2024 M/VP planning periods.

**Location for the Port Maintenance Facility has not yet been determined.

Table ES.6.3 2024 Master/Vision Plan Projects (5-10 Years, 2031-2035)

Realignment of McIntosh Road	Container	Southport	\$27.0	\$27.0
Container Terminal Redevelopments*	Container	Southport	\$300.0	\$450.0
Container Terminal Utilities and Shore Power*	Container	Southport	\$3.0	\$100.0
Container Terminal Relocations from Midport	Container	Midport/ Southport	\$27.0	\$27.0
Add STS Cranes at Berth 30E*	Container	Southport	\$30.0	\$50.0
Berths 16, 17 & 18 Bulkhead Improvements*	Cruise	Midport	\$42.6	\$103.0
Shore Power Systems for Cruise Terminals*	Cruise	Northport/ Midport	\$60.0	\$217.0
Ground Transportation Facilities	Cruise	Midport	\$13.0	\$13.0
New Midport Parking Structures*	Cruise	Midport	\$84.0	\$168.0
Cruise Terminal 21*	Cruise	Midport	\$70.5	\$307.0
Berths 7 & 8 Bulkhead Improvements	Energy	Northport	\$73.0	\$73.0
Eller Drive Gate Reconfiguration	Port-Wide/ Other	Midport	\$14.0	\$14.0
Channel Deepening and Widening*	Port-Wide/ Other	Port-Wide	\$89.7	\$494.0
Total 10-Year Project Costs	Blank	Blank	\$833.8	Blank

*Project appears in multiple 2024 M/VP planning periods.

Table ES.6.4: 2024 Master/Vision Plan Projects (10-20 Years, 2036-2045)

Container Terminal Utilities and Shore Power*	Container	Southport	\$35.0	\$100.0
Add STS Cranes at Berth 30E*	Container	Southport	\$20.0	\$50.0
Add STS Crane at Berth 31-32	Container	Southport	\$20.0	\$20.0
Add STS Crane at Berth 30A/B/C	Container	Southport	\$20.0	\$20.0
East Extension of Berths 14-15	Non-Container	Midport	\$5.0	\$5.0
Berth 30E East Extension and RORO Ramp	Non-Container	Southport	\$30.0	\$30.0
Slip 3 Widening	Non-Container	Northport	\$224.0	\$224.0
Slip 2 Widening*	Non-Container	Northport	\$14.5	\$224.0
Shore Power Systems for Cruise Terminals*	Cruise	Northport/ Midport	\$51.0	\$217.0
Cruise Terminal 21*	Cruise	Midport	\$236.5	\$307.0
Additional Parking for Cruise Terminals 2 & 4	Cruise	Northport	\$32.0	\$32.0
Cruise Terminal 19	Cruise	Midport	\$177.0	\$177.0
Consolidated GTA	Cruise	Midport	\$52.0	\$52.0
Cruise Terminal 18*	Cruise	Midport	\$128.0	\$154.0
Cruise Terminal 26*	Cruise	Midport	\$61.8	\$116.0
New Petroleum Entrance South of Spangler	Energy	Northport	\$10.0	\$10.0
Channel Deepening and Widening*	Port-Wide/ Other	Port-Wide	\$290.0	\$494.0
Total 20-Year Project Costs	Blank	Blank	\$1,432.8	Blank

*Project appears in multiple 2024 M/VP planning periods.

Table ES.6.5: 2024 Master/Vision Plan Projects (20+ Years, 2046+)

Container Terminal Utilities and Shore Power*	Container	Southport	\$59.0	\$100.0
Slip 2 Widening*	Non-Container	Northport	\$209.5	\$224.0
Shore Power Systems for Cruise Terminals*	Cruise	Northport/ Midport	\$50.0	\$217.0
Cruise Terminal 18*	Cruise	Midport	\$26.0	\$154.0
Cruise Terminal 26*	Cruise	Midport	\$54.2	\$116.0
Total 20+-Year Project Costs	Blank	Blank	\$398.7	Blank

*Project appears in multiple 2024 M/VP planning periods.

As previously stated in Section ES.3, an iterative planning process was used to identify, develop and define the projects necessary to allow the Port to meet the highest possible percentage of future demand while maintaining a balanced portfolio of business lines and minimizing capital and operating costs. As summarized in **Table 3.9.1**, three categories, each with four criteria, were considered throughout the process:

- **Competitiveness:** Does the project enhance the Port’s ability to compete and grow within global trade networks?
- **Economics:** Does the project generate financial and economic value for the Port?
- **Sustainability:** Does the project support the Port’s long-term operational and environmental goals?

In addition to the projects themselves, the implementation and phasing/sequencing of projects was considered throughout the M/VP development process. The five principal criteria used to evaluate project prioritization during the planning process included:

- Is the project tied to the USACE channel deepening/widening project in a way that would impact project sequencing?
- Is there an immediate safety or security issue that the project helps to address, improve, or resolve?
- Is the project already approved or funded?
- Is the project tied to other projects that would be implemented in a way that would impact project sequencing?
- Is the project critical for both near-term and long-term Port competitiveness?

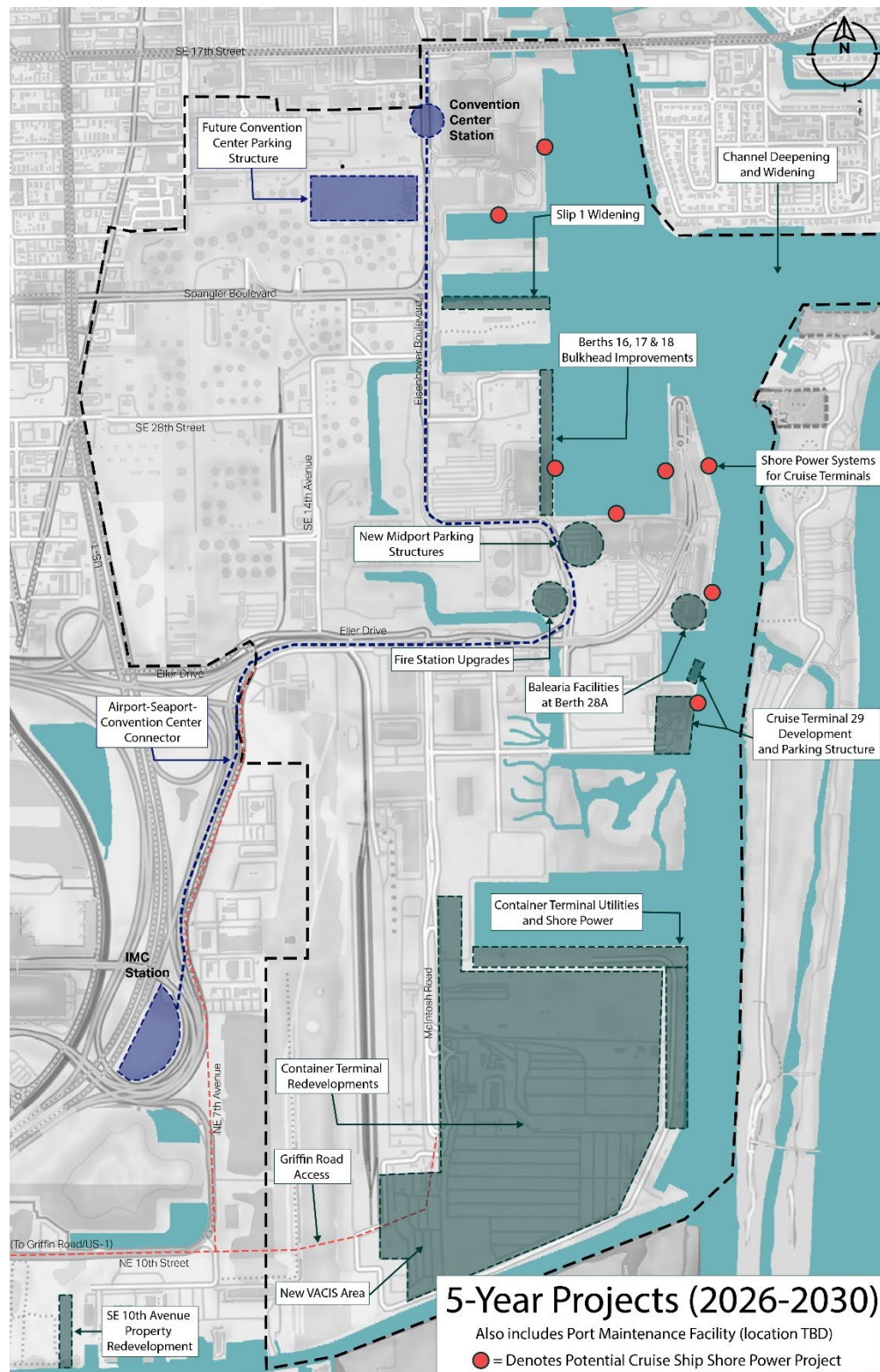
Generally speaking, those projects that were deemed critical and/or are also already approved are all included in the 5-Year Master Plan, which is why the costs associated with the 5-Year Master Plan are higher than those of the other two milestone periods (10-year and 20-year). The differentiation between 10-year and 20-year projects is a result of market forecast results, meeting the needs of Port tenants, the timing of the channel deepening and widening project, and financial constraints that make earlier implementation of the projects unlikely or impossible.

As time goes on, it is fully expected that both the currently recommended order of implementation and the actual start and completion years for many of the projects, especially those identified as 10-year and 20-year-plus projects, will continue to evolve in line with market conditions, Port tenant and customer needs, funding availability, emerging Port priorities, and other internal and external factors, such as regional population growth and port industry and goods movement trends. However, it is the intent of the Port that the 5-Year Master Plan is implemented to the extent possible as currently recommended, with the understanding that even some of the 5-year projects may change due to the factors listed above.

These projects represent the final list that was refined throughout development of the 2024 M/VP through Port stakeholder charrettes, workshops and meetings, as well as numerous meetings with Port management and staff (as discussed in Section ES.3). The various project ideas and alternatives were developed and then evaluated, discussed, and revised with the Port. Only those alternatives that were ultimately deemed sufficiently viable to be recommended for inclusion in the final 2024 M/VP Update are shown here.

Figure ES.6.1 illustrates all 15 projects proposed to begin construction during the initial 5-Year Master Plan, which will be the basis for the CIP. The 5-Year Master Plan covers the years 2026 through 2030. These 15 projects are distributed across three of the Port's four main business lines (no non-container projects are proposed), including four container projects, five cruise projects, and one energy project, as well as five projects that are port-wide or other projects.

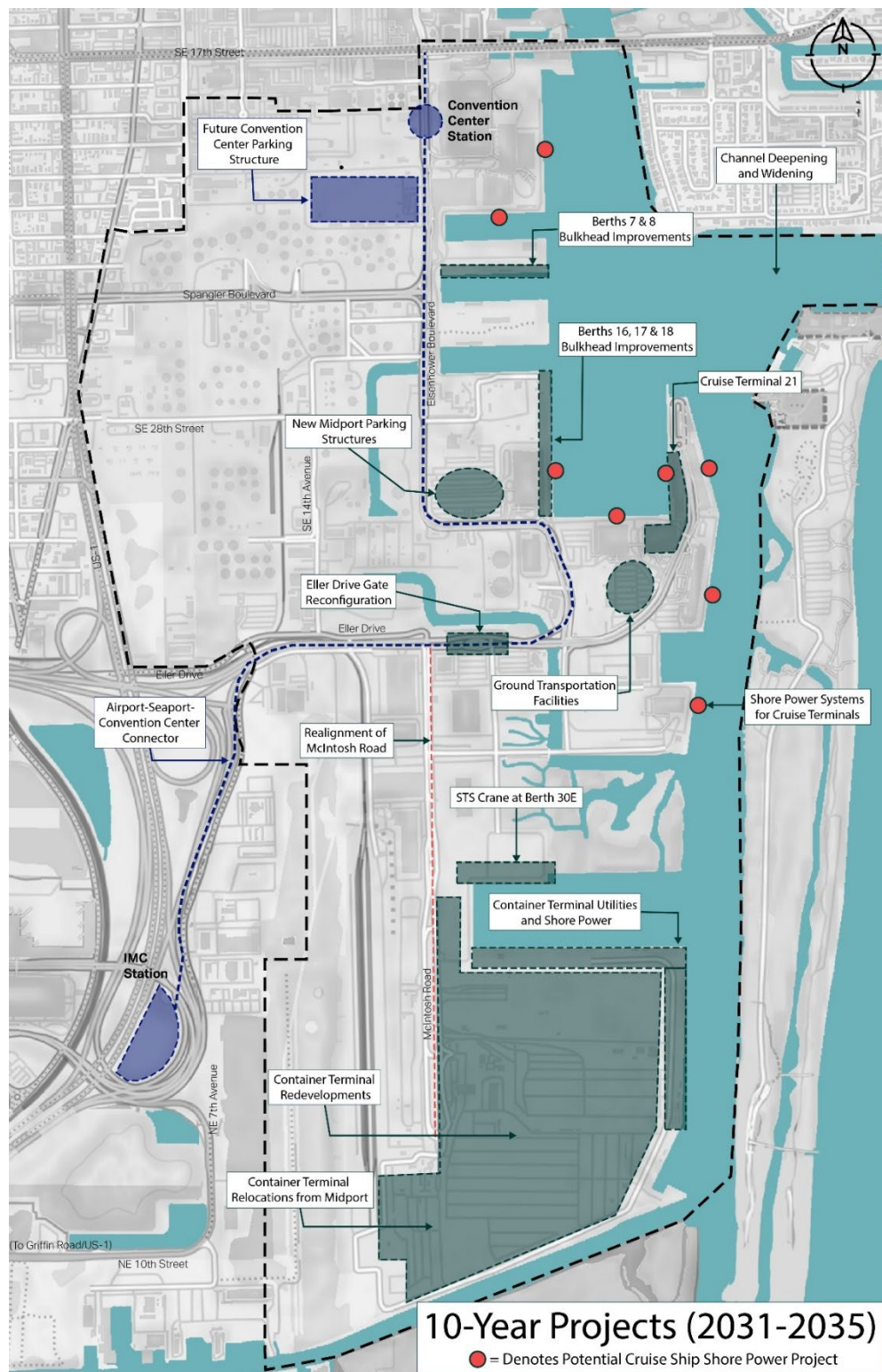
Figure ES.6.1: Proposed 5-Year Projects at Port Everglades²⁵



²⁵ Source: AECOM. Notes: For planning purposes only.

Figure ES.6.2 illustrates all seven new projects proposed to begin during the 10-Year Vision Plan period, as well as the six projects from the 5-Year Master Plan that would continue during this period. The 10-Year Vision Plan covers the years 2031 through 2035. These 13 projects are distributed across three of the Port's four main business lines (no non-container projects are proposed), including five container projects, five cruise projects, and one energy project, as well as two port-wide/other projects.

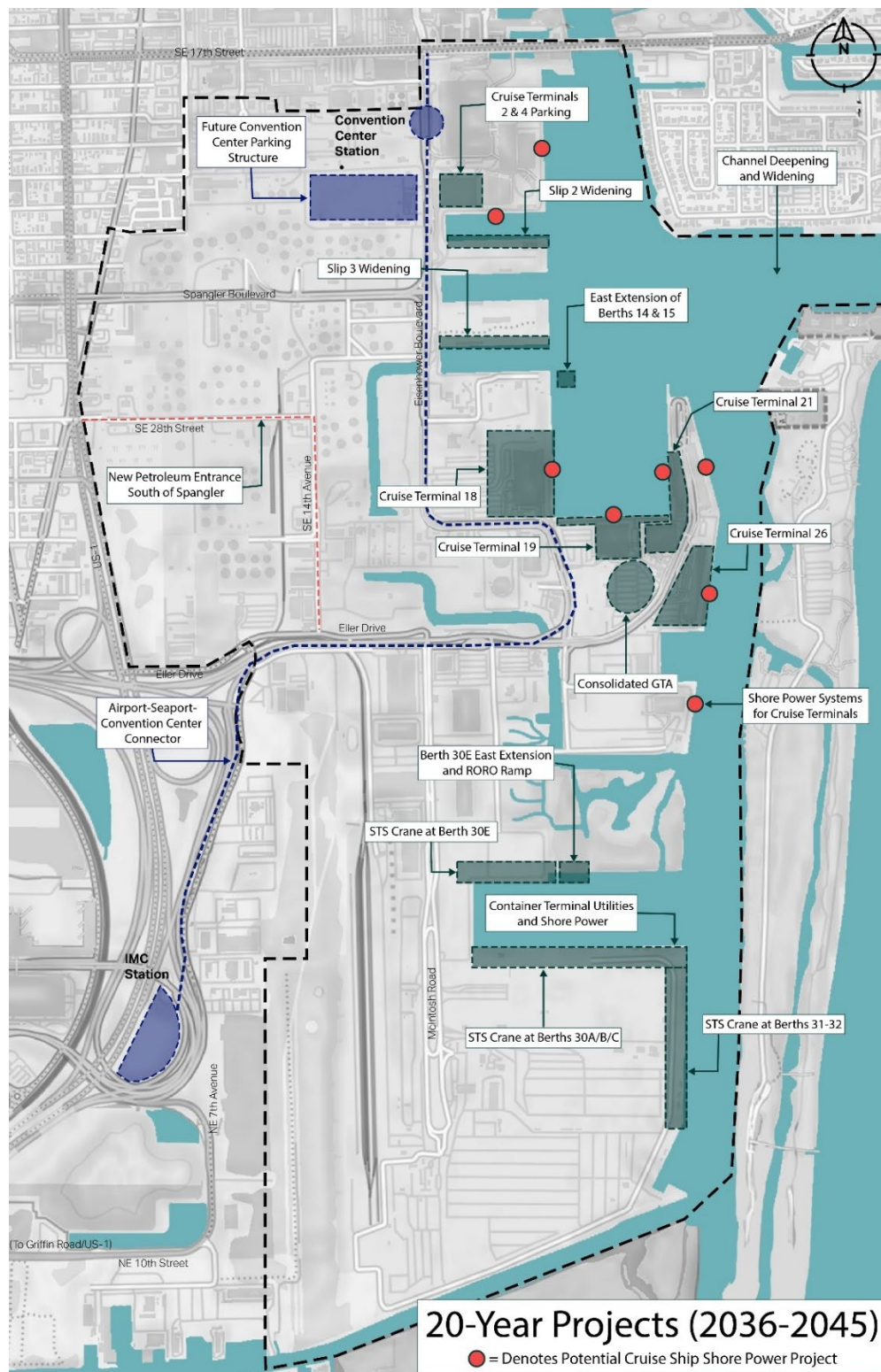
Figure ES.6.2: Proposed 10-Year Projects at Port Everglades²⁶



²⁶ Source: AECOM. Note: For planning purposes only.

Figure ES.6.3 illustrates all 12 new projects proposed to begin during the 20-Year Vision Plan period, as well as the five projects from the 10-Year Vision Plan that would continue during this period. The 20-Year Vision Plan covers the years 2036 through 2045. These 17 projects are distributed across all four of the Port's main business lines, including four container projects, four non-container projects, seven cruise projects, and one energy project, as well as one port-wide/other project.

Figure ES.6.3: Proposed 20-Year Projects at Port Everglades²⁷

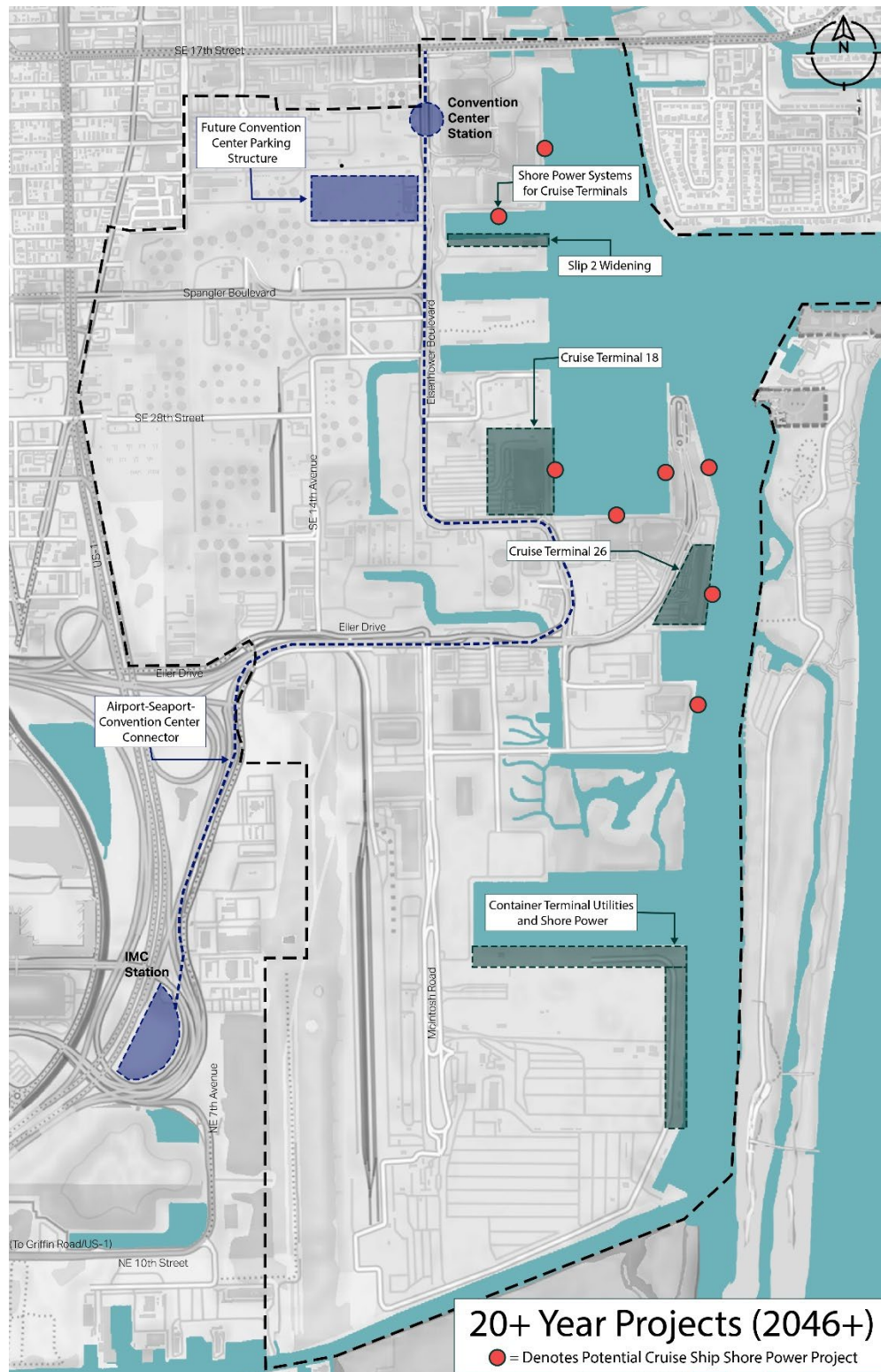


²⁷ Source: AECOM. Note: For planning purposes only.

There are five total projects that are expected to extend beyond the 20-year planning horizon for the 2024 M/VP Update. All five of these projects begin in the 5-year, 10-year, or 20-year time periods and are anticipated to continue with implementation into the 20+-year period, extending beyond the year 2045.

The primary reason these projects extend beyond 2045 (and the 20-Year Plan) is the ability of the Port to afford all of the projects included in the 2024 M/VP Update. If the Port obtains additional funding for projects, or the importance, sequencing, and/or costs of projects change, these projects could be reevaluated for completion within the 20-year planning horizon. These projects are shown in **Figure ES.6.4**.

Figure ES.6.4: Proposed 20+-Year Projects at Port Everglades²⁸



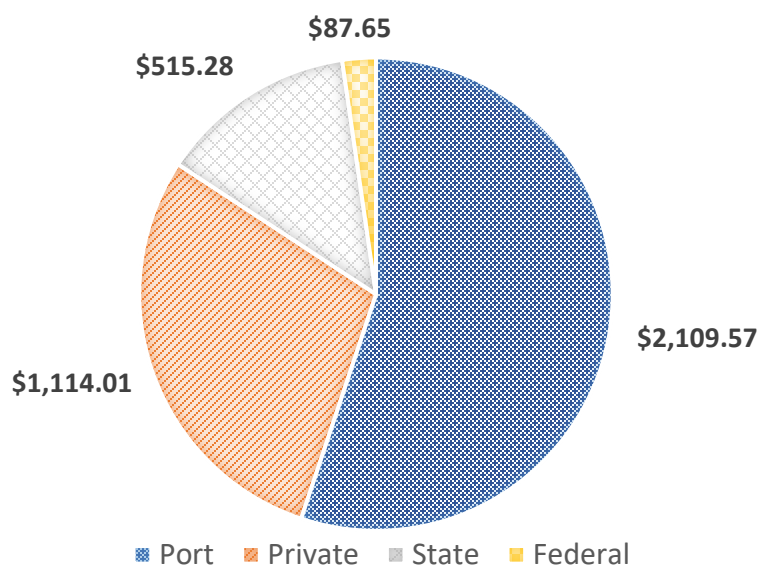
²⁸ Source: AECOM. Note: For planning purposes only.

ES.6.5 Affordability Analysis

The 2024 M/VP Update assumes that Port Everglades will continue to be successful not only in securing state and federal grant dollars but in achieving a greater degree of public/private co-investment in its facilities in partnership with its tenants and other users. These third-party partnerships are vital to the feasibility of the overall M/VP. The Port cannot afford to develop all projects included in the 2024 M/VP Update using only Port funds, and it is a reasonable expectation that the Port can share the costs of these projects with other parties given the number of public/private co-investment precedents that exist, especially for cruise and cargo projects, at other ports across the U.S.

The 2024 M/VP Update assumes that Port Everglades will be responsible for roughly 55 percent (almost \$2.11 billion) of the over \$3.83 billion (2025 dollars) overall capital improvement program included in the 2024 M/VP Update. **Figure ES.6.5** presents the assumed distribution of 20-year capital contributions, by funding source, associated with the 34 projects included in the 5-year Master Plan and 10- and 20-year Vision Plans, as well as those projects that extend into the 20+-year horizon, of the 2024 M/VP Update.

Figure ES.6.5: 20+-Year Distribution of Capital Contributions to 2024 M/VP Update (Millions)



The 2024 M/VP Update confirms that the majority of projects are achievable within the planned schedules, contingent on assumptions about estimated costs, anticipated revenues, availability of state and federal grants, and the distribution of funding sources, as shown in **Figure ES.6.5**. As previously noted, select projects are expected to extend beyond the 20-year planning horizon. While this assessment supports affordability, the guiding principles of the 2024 M/VP Update stress the need for flexibility, ensuring decisions are based on the most accurate information available at the time. Consequently, project implementation must remain adaptable, as many initiatives outlined in Section 3.10 (of Element 3) are expected to evolve over time.

As the 2024 M/VP Update shifts from planning to execution, the Port will likely revise certain initial assumptions and update the financial model's inputs. Bond covenants require the Port to maintain minimum debt-service-coverage ratios of 1.25 for senior debt and 1.10 for subordinate debt—both calculated by dividing annual operating income by annual debt-service obligations. Because roughly \$2.1 billion of the 2024 M/VP Update's estimated \$3.8 billion capital program is expected to be financed through Port-issued bonds, sustaining coverage ratios above these thresholds will remain one of the plan's key affordability indicators throughout its duration.

Should the Port determine at some point that the assumptions included in the affordability analysis for the 2024 M/VP Update have changed, to the extent that certain aspects of the overall plan are deemed to be unaffordable, options for addressing any affordability gaps include:

- Advance or otherwise modify planned bond issuance(s),
- Secure additional third-party funding to support one or more of the projects included in the 5-year Master Plan and/or 10- and 20-year Vision Plans, particularly for the proposed cruise and container terminal development projects,
- Modify the proposed implementation schedule of one or more project(s) such that the capital demand in years where there is a projected deficit or other financial challenge is reduced or eliminated, with some or all of that capital demand being shifted to a year in which there is a projected surplus (delay the start of the projects not directly related to revenue like the maintenance facility), and
- Bridge the deficit years using a short-term, one-time loan specific to each respective annual deficit.

It is highly likely that some combination of the above identified strategies and realities will play out over the 20-year life of the 2024 M/VP Update. The preferred way to cover any funding gaps for new projects remains securing additional third-party funding, so the Port should continue to actively pursue state, federal, and private-sector investments. When such third-party funds are unavailable, however, the simplest solution for future pay-as-you-go shortfalls will likely be to issue additional debt, provided the Port stays within the minimum coverage-ratio thresholds already established.

Whatever mix of financing Port Everglades ultimately selects, past experiences shows that not every project will proceed exactly on the timetable set out in the M/VP, including some items in the 5-year Master Plan. For example, the USACE deepening and widening project, although essential to the Port's long-term success, is not fully under the Port's control; therefore, the target dates in the 2024 M/VP Update have the potential to slip. Likewise, the Airport-Seaport-Convention Center Connector could also encounter delays, and any postponement would ripple through other projects that depend on it. If either, or both, of these projects are deferred, the timing of bond issuances and other funding efforts will also have to shift. Such adjustments are largely unavoidable and should be anticipated, which is why the Port must continuously reassess affordability and revisit alternative funding scenarios on an ongoing basis.

ES.7 Impacts and Strategies for Implementation

Element 4 of the Port's 2024 M/VP Update begins by presenting an analysis of parking and anticipated truck traffic to be generated by the projected growth and an assessment of environmental impacts generated by the proposed new projects in the following areas:

- Vehicular traffic
- The natural environment
- Water resources
- Climate change, resiliency and sustainability
- Air quality

Business, asset, and financial strategies identified during the course of the planning process are then presented. Element 4 concludes with a comprehensive alignment of goals, objectives, and policies between Port Everglades and Broward County as a framework for Plan implementation.

ES.7.1 Parking

Parking Capacity

Port Everglades features five parking facilities designed to meet the parking requirements of its patrons. These facilities include two multi-level parking garages (Heron and Palm Garages) and three surface parking lots (Lots A, B, and C). The Heron Garage is located adjacent to CT-2 and CT-4 in the Northport area, and next to the Convention Center. The Palm Garage (also known as Midport Garage), positioned in Midport, is adjacent to CT-19. Lot C, also referred to as Surface Lot 18, is located adjacent to CT-18, while Lot B, known as Surface Lot 19, is adjacent to CT-19. The most recent addition to parking facilities at the Port is Lot A, which is also adjacent to Lot 19.

The Palm Garage and Lots A, B, and C collectively provide parking for all the Midport cruise terminals, which includes CT-18, CT-19, CT-21, CT-25, CT-26, and CT-29. Heron Garage, although primarily servicing CT-2 and CT-4, is also occasionally used to accommodate overflow cruise traffic from the Midport cruise terminals.

Port Everglades offers parking across these two garages and three lots, with a total capacity of 5,538 vehicles. The current parking facilities at Port Everglades are shown in **Figure ES.7.1**.

Figure ES.7.1: Port Everglades Public Parking Areas (Spaces)²⁹



²⁹ Source: Port Everglades. Note: For planning purposes only.

Parking Demand/Utilization

Overall, Port Everglades generally has ample parking spaces available, and the analysis indicates that the facilities are currently underutilized. The potential parking concern is related to the placement of parking lots and garages within the Port, which may result in an overabundance of vehicles in one area while another remains underutilized as described in Element 1 (Section 1.8.4). This primarily occurs in the Midport area at select times of the year, particularly around holidays such as Easter (spring break), Thanksgiving, and Christmas. At those times, the Midport parking capacity is exceeded, overflow traffic is diverted to Midport cargo storage areas and/or Northport (Heron Garage), and employees are directed to park elsewhere, which occasionally includes off-Port locations.

Table ES.7.1 and **Table ES.7.2** present a comprehensive summary of the existing parking utilization and needs. A parking demand management system may be considered as an innovative solution for optimizing parking utilization.

Table ES.7.1: Summary of Existing Parking Utilization Data by Facility³⁰

Parking Capacity	1,818	1,966	600	404	750	5,538
Peak Month	January 2023	February 2023	March 2023	March 2023	N/A	March 2023
Peak Utilization	8,936	10,973	2,681	3,361	N/A	22,364

Table ES.7.2: Summary of Parking Needs³¹

Average Daily	2,345
Maximum Daily	4,217
Peak AM	300
Peak PM	445

While Port Everglades currently maintains sufficient parking capacity for its operations, it is essential to anticipate the increasing demand for parking infrastructure. A thorough analysis of parking requirements is necessary to align with projected trends over the next several years. The anticipated rise in parking demand at the Port can be primarily attributed to the forecasted increase in cruise passenger numbers. Factors contributing to this trend include an expected increase in vessel calls, the deployment of larger cruise ships that accommodate more passengers

³⁰ Source: Port Everglades.

³¹ Source: Port Everglades.

(refer to Element 2 for additional discussion of this topic), and in increased percentage of drive-in passengers versus fly-in passengers.

As a proactive strategic response, the previous 2020 M/VP Update proposed two new parking structures near- and mid-term to support anticipated needs. The 2024 M/VP Update includes several parking projects, as discussed later in this section.

Several critical variables will influence this dynamic parking environment:

1. **Fly-in vs. Drive-in Demographics:** The proportion of cruise passengers arriving via air travel versus those driving to the Port directly affects parking demand. Fly-in passengers do not utilize parking facilities, whereas drive-in passengers necessitate long-term parking solutions.
2. **Cruise Duration:** The length of cruise itineraries, quantified by the number of nights, significantly impacts parking utilization. Extended cruises typically incur higher cumulative parking costs, which may influence passenger decisions concerning transportation and parking arrangements.
3. **Competitive Parking Alternatives:** The availability of neighboring parking facilities offering competitive pricing relative to on-Port options could alter the utilization rates at Port Everglades. Cost-sensitive travelers often gravitate towards more economical alternatives, potentially redistributing parking demand away from the Port.
4. **Impact of Autonomous Vehicles:** The emergence and adoption of autonomous vehicle technology may revolutionize parking requirements. Enhanced reliance on self-driving vehicles could modify parking space usage patterns, potentially increasing turnover rates and impacting the overall parking ecosystem.
5. **EVs:** The increasing prevalence of EVs may create a shift in the types of parking facilities demanded by Port users, including increased demand for parking spaces with EV charging capabilities.

Given these variables, it is imperative for Port Everglades to continuously assess its parking infrastructure. This proactive evaluation will ensure the facility can adapt to future demands while optimizing the passenger experience for cruise travelers.

The market assessment analysis presented in Element 2 of the 2024 M/VP Update, which developed multiple scenarios for future demand growth, indicates that Port Everglades is poised to establish a new record for cruise passenger traffic, with current bookings for 2025 projecting over 4.2 million revenue passengers. This figure demonstrates a full recovery of the cruise market from the COVID-19 pandemic. These cruise volume forecasts, along with other forecasts of automobile traffic in the Port area and passenger growth projections for FLL, were used to develop forecasted parking demand for Port Everglades. **Table ES.7.3** illustrates potential future parking occupancy in a range of growth scenarios with existing parking capacity in place.

Table ES.7.3: Future Parking Occupancy – Based on Existing Capacity³²

Average Daily Parking Demand (Incoming – Outgoing)	5,538	2,544	2,744	2,943	3,142	3,222	3,342
Maximum Daily Parking Demand (Incoming – Outgoing)	-	4,575	4,934	5,292	5,651	5,794	6,009
(Average Daily) Mid Case - Low	-	46%	50%	53%	57%	58%	60%
(Maximum Daily) Mid Case - Low	-	83%	89%	96%	102%	105%	109%
Average Daily Parking Demand (Incoming – Outgoing)	-	2,849	3,353	3,858	4,362	4,563	4,866
Maximum Daily Parking Demand (Incoming – Outgoing)	-	5,124	6,030	6,937	7,844	8,206	8,750
(Average Daily) Mid Case – High	-	51%	61%	70%	79%	82%	88%
(Maximum Daily) Mid Case - High	-	93%	109%	125%	142%	148%	158%

According to the projected parking demand analysis conducted based on the Mid Case scenario projections, the Port possesses sufficient parking capacity to accommodate average daily parking demand. However, based on interviews with Port staff during the development of the 2024 M/VP Update, there were up to 15 days in 2024 where existing parking capacity was exceeded due to changes in cruise itineraries and holiday cruising. On those occasions where the parking capacity in Midport is exceeded, causing overflow parking in non-cruise areas in Midport, traffic is diverted to the Heron Garage in Northport and employees are required to park off-port. These events are expected to get worse as cruise passenger volumes increase in future years and more larger vessels are deployed.

Furthermore, under the lower end of the Mid Case projections, the Port will be unable to meet maximum daily parking demand on or before 2043, with occupancy rates anticipated to reach 83 percent in 2028, 89 percent in 2033, and 96 percent in 2038. Conversely, under the higher end of the Mid Case projections, the Port will encounter limitations in managing maximum daily parking demand beginning in 2033, with a projected parking occupancy of 93 percent by 2028.

³² Source: HBC.

Once the proposed CT-29 parking structure is brought online (this project is included in the 5-year Master Plan for the 2024 M/VP Update), about 1,600 additional parking spaces would be added. This expansion could reduce overall Port-wide parking utilization to below 80 percent, potentially mitigating anticipated parking issues on a temporary basis. However, should parking demand exceed available on-site capacity prior to the facility's activation, as indicated in **Table ES.7.3** above, additional parking measures would need to be implemented to accommodate the surplus demand.

The 2024 M/VP Update includes a number of proposed parking projects to increase capacity, including:

- Multi-level parking structure as part of the CT-29 development,
- Lot B multi-level parking structure with 2,500 spaces, located adjacent to CT-19 and could also service CT-21,
- Lot C multi-level parking structure with 2,500 spaces, adjacent to CT-18, and
- Expansion of Heron Garage in Northport, by adding up to two additional parking levels.

For scenarios involving maximum daily parking demand, even with the planned introduction of CT-18, CT-19 and CT-29 parking structures, the existing and planned parking capacity is projected to remain insufficient across all milestone years under high-end projections. Forecasted occupancy rates range from approximately 84 percent in 2033 to 98 percent by 2048. **Table ES.7.4** provides a comparative analysis of parking occupancy with the implementation of the above parking structures in the 5-, 10- and 20-year periods of the 2024 M/VP Update.

Even with the establishment of near-term parking facilities at CT-29 and Lot C (adjacent to CT-19) in Midport, there exists the potential for the Port's parking operations to function at or near capacity. Therefore, the introduction of effective parking solutions is also strongly recommended.

Table ES.7.4: Future Parking Occupancy – Based on Future Capacity³³

Average Daily Parking Demand (Incoming – Outgoing)	7,138	8,938	2,744	2,943	3,142	3,222	3,342
Maximum Daily Parking Demand (Incoming – Outgoing)	-	-	4,934	5,292	5,651	5,794	6,009
(Average Daily) Mid Case - Low	-	-	38%	41%	35%	36%	37%
(Maximum Daily) Mid Case - Low	-	-	69%	74%	63%	65%	67%
Average Daily Parking Demand (Incoming – Outgoing)	-	-	3,353	3,858	4,362	4,563	4,866
Maximum Daily Parking Demand (Incoming – Outgoing)	-	-	6,030	6,937	7,844	8,206	8,750
(Average Daily) Mid Case - High	-	-	47%	54%	49%	51%	54%
(Maximum Daily) Mid Case - High	-	-	84%	97%	88%	92%	98%

ES.7.2 Estimated Future Traffic

Projected increases in cruise passenger and containerized cargo throughput at the Port over the 20-year planning horizon extending through 2044 suggest a significant rise in the volume of traffic entering and exiting the facility. This growth is anticipated to have a variety of impacts on on-Port traffic conditions. The analysis presented below is a quantitative assessment of projected growth in truck and other vehicular traffic at the Port, focusing on key milestone years as part of the 2024 M/VP Update.

Annual Average Daily Traffic (AADT) estimates for trucks and passenger vehicles have been developed and calculated separately using historical growth rates to allow for a nuanced understanding of vehicular flow dynamics. **Table ES.7.5** through **Table ES.7.9** illustrate a comprehensive view of the 2023 baseline year compared to projected traffic volumes for the years 2028, 2033, 2038, and 2043. By analyzing these projections, stakeholders can anticipate

³³ Source: HBC.

trends in traffic demand, which will inform infrastructure development and operational planning at the Port.

Table ES.7.5: Port Everglades Traffic Projections per Gate – AADT

Eller Drive Gate	8,845	10,747	12,648	14,550	16,452	17,212	18,353
Spangler Boulevard Gate	5,010	6,087	7,164	8,241	9,319	9,749	10,396
McIntosh Road Gate	4,526	5,499	6,472	7,445	8,418	8,808	9,391
Eisenhower Boulevard Gate	3,600	4,374	5,148	5,922	6,696	7,006	7,470
Combined Total	21,980	26,706	31,431	36,157	40,883	42,773	45,609

Table ES.7.6: Port Everglades Traffic Projections per Gate – Peak Annual Daily Traffic (ADT)

Eller Drive Gate	17,039	20,702	24,366	28,029	31,693	33,158	35,356
Spangler Boulevard Gate	11,562	14,048	16,534	19,019	21,505	22,500	23,991
McIntosh Road Gate	7,170	8,712	10,253	11,795	13,336	13,953	14,878
Eisenhower Boulevard Gate	14,646	17,795	20,944	24,093	27,242	28,501	30,390
Combined Total	50,417	61,257	72,096	82,936	93,776	98,111	104,615

Table ES.7.7: Port Everglades – Roadway Network Traffic Projections

Southeast 17th Street (east of Eisenhower Boulevard)	33,500	4.30%	40,703	47,905	55,108	62,310	65,191	69,513
Southeast 17th Street (west of Eisenhower Boulevard)	44,000	4.30%	53,460	62,920	72,380	81,840	85,624	91,300
US-1 (north of SR 84)	58,000	4.30%	70,470	82,940	95,410	107,880	112,868	120,350
US-1 (south of SR 84)	75,000	4.30%	91,125	107,250	123,375	139,500	145,950	155,625
I-95 Eastbound (west of McIntosh Road)	7,400	4.30%	8,991	10,582	12,173	13,764	14,400	15,355
Northbound Off Ramp to I-595 Eastbound	500	4.30%	608	715	823	930	973	1,038
I-95 Westbound (west of McIntosh Road)	1,000	4.30%	1,215	1,430	1,645	1,860	1,946	2,075

The upward trend in truck traffic at Port Everglades can be attributed to several key factors, including the rising demand for cold storage, the expansion of trade, operations associated with enhancement of intermodal rail services, and nearshoring trends. Since 2014, Florida's containerized imports of perishable goods have experienced a consistent annual growth rate of 5 percent, with Port Everglades managing a substantial portion (32 percent) of these imports. This trend is anticipated to escalate the demand for trucking services related to perishable goods.

Furthermore, a projected annual increase of 6 percent in cargo tonnage across Florida's ports, including Port Everglades, will lead to heightened trucking activities linked to the overall rise in cargo volumes. LNG bunkering operations, particularly driven by Crowley's fleet expansion, will necessitate additional truck trips to supply LNG to vessels, thereby further contributing to the growth of truck traffic. It is also likely there may be LNG-fueled container yard equipment that will contribute to this traffic, as well as other low-carbon fuels such as propane.

For the purposes of this analysis and given that cold storage demand and trade growth are the predominant factors influencing truck traffic expansion, a conservative approach was adopted with a projected growth rate of 6 percent annually. This estimate assumes no constraints and expects Port Everglades to continue operating at its current optimal efficiency.

Table ES.7.8: Port Everglades Truck Traffic Projections per Gate – Monthly Peak

Eller Drive Eastbound/Inbound	49,032	59,574	70,116	80,658	91,200	95,416	101,741
Eller Drive Westbound/Outbound	42,398	51,514	60,629	69,745	78,860	82,507	87,976
Eisenhower Boulevard Security Gate Northbound	18,799	22,841	26,883	30,924	34,966	36,583	39,008
Eisenhower Boulevard Security Gate Southbound	19,195	23,322	27,449	31,576	35,703	37,353	39,830
Spangler Boulevard Security Gate Inbound	19,279	23,424	27,569	31,714	35,859	37,517	40,004
Spangler Boulevard Security Gate Outbound	19,028	23,119	27,210	31,301	35,392	37,028	39,483
Mcintosh Road Security Gate Inbound	42,628	51,793	60,958	70,123	79,288	82,954	88,453
Mcintosh Road Security Gate Outbound	42,568	51,720	60,872	70,024	79,176	82,837	88,329

Table ES.7.9: Port Everglades Truck Traffic Projections per Gate – Monthly Average

Eller Drive Eastbound/Inbound	41,703	50,669	59,635	68,601	77,567	81,153	86,533
Eller Drive Westbound/Outbound	39,279	47,724	56,169	64,614	73,058	76,436	81,503
Eisenhower Boulevard Security Gate Northbound	16,270	19,768	23,267	26,765	30,263	31,662	33,761
Eisenhower Boulevard Security Gate Southbound	16,562	20,122	23,683	27,244	30,804	32,229	34,365
Spangler Boulevard Security Gate Inbound	16,867	20,493	24,119	27,745	31,372	32,822	34,998
Spangler Boulevard Security Gate Outbound	15,411	18,724	22,037	25,351	28,664	29,989	31,977
Mcintosh Road Security Gate Inbound	36,325	44,135	51,945	59,755	67,565	70,689	75,375
Mcintosh Road Security Gate Outbound	37,054	45,021	52,987	60,954	68,920	72,107	76,887

The anticipated growth in traffic aligns with broader economic indicators and trends in maritime commerce, suggesting an optimistic outlook for the Port's capacity to accommodate increased volumes effectively. This proactive planning and assessment underscore a commitment to

maintaining a high level of operational efficiency while addressing the projected demands associated with increased traffic.

ES.7.3 Rail Usage Projections

The near-dock FECR ICTF at Port Everglades is an asset to the Port for a variety of reasons. In FY 2024, the most recent 12-month data available, the ICTF handled 41,290 TEUs worth of international containers (loads and empties) that passed through the Port. This represents 5.2 percent of the Port's FY 2024 loaded container throughput.

The principal reason that intermodal volume moving via the ICTF at Port Everglades is not higher relates to the size and geographic extent of the Port's current hinterland reach. The time to market and cost-per-unit advantages of intermodal rail versus over-the-road trucking typically do not manifest within 250 miles of a port for either imports or exports. Since the vast majority of containerized imports and exports that currently move through Port Everglades have a point of origin or final destination within South Florida or Central Florida, rail is not always competitive with trucking from either a time or cost perspective. However, increasing congestion on local roadways and various market pressures on trucking shift that equation to be closer to equal.

The reach of rail transport outside of South and Central Florida would represent the largest growth potential for intermodal movements at Port Everglades. FECR provides for direct interchange service with CSX and NS, providing connections across the southern U.S. within two to three business days. Midwest and East coast destinations are possible with additional transit times. FECR offers premium intermodal service to UPS and other time critical providers, particularly southbound, providing truck competitive services that can be extended to perishables containerized cargos that are imported or exported through Port Everglades, capitalizing upon the existing predominance of refrigerated cargo passing through the Port.

In addition to containerized cargos, FECR provides for automotive processing within the ICTF, accommodating predominately the export of used domestic vehicles to the South American and Caribbean destinations. The flexibility of the ICTF design allows for unloading of autorack railcars without the need for additional terminal infrastructure and allows for direct access to the shipping terminals within the private roadway network within the Port. The vehicles can then be exported by RORO or containerized means from the Port.

Table ES.7.10 presents a review of annual throughput data for the ICTF based available data from FY 2022 to July of 2025. This rail volume is variable, but with a median share of 6.8 percent for all loads moved through Port Everglades.

Table ES.7.10: Annualized Rail Throughput (TEUs)³⁴

Port Everglades Total Loaded (TEU)	739,332	616,461	649,995	352,773	604,754
FECR Loaded (TEU)	50,544	42,008	34,072	25,241	43,270
FECR Empty (TEU)	4,629	4,525	7,218	5,368	9,202
Total FECR (TEU)	55,173	46,533	41,290	30,609	52,473
FECR Share of Loads	6.8%	6.8%	5.2%	7.2%	7.2%

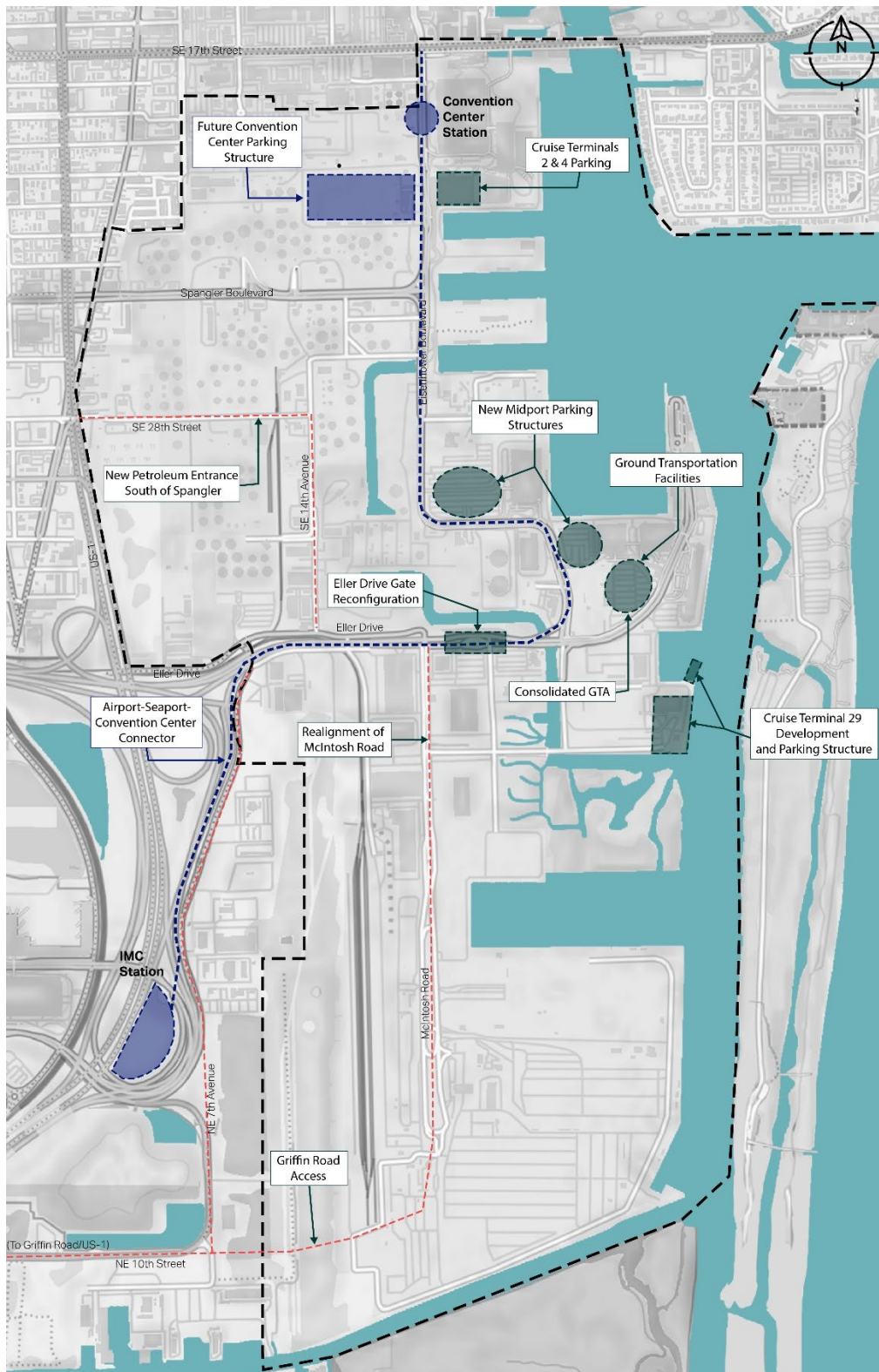
ES.7.4 Environmental Impact Assessment

Traffic Impacts

The 2020 M/VP Update emphasized several major projects that were expected to significantly influence traffic patterns in and around the Port. However, due to unexpected disruptions, notably the COVID-19 pandemic, the completion of some of these projects has been delayed. Additionally, some of these projects remain in progress while others are currently on hold and/or are no longer necessary. As a result, those projects that are still of relevance and that will support the growth of the Port have been retained in the 2024 M/VP Update, with their details presented in **Figure ES.7.2**.

³⁴ Source: FEC.

Figure ES.7.2: 2024 M/VP Update – Traffic-Impacting Projects³⁵



³⁵ Source: Port Everglades.

The projects included in the 2024 M/VP Update, and shown in **Figure ES.7.2**, generally align with the following key objectives:

- Increase available berthage/acreage and consolidate land for common uses as a means to increase the Port's capacity and more effectively meet future market demand,
- Speed the flow of trucks moving in and out of the Port, particularly the Southport container terminals, the ICTF, and the Port Everglades International Logistics Center, thereby enhancing operational efficiency,
- Improve safety and security within the Port and reduce emissions by reducing queuing times and lessening overall traffic congestion within and adjacent to the Port,
- Increase modal options for moving both passengers and cargo into and out of the Port, and
- Enhance the transportation network within and surrounding the Port by providing users and members of the general public with alternative routes.

The following list includes transportation-related projects that were considered for their ability to improve traffic flow within the Port and have been included in the 5-year Master Plan and 10- and 20-year Vision Plans.

1. **Griffin Road Access:** Extend Griffin Road to the east to provide a new southwest gate access point for container trucks; the direction of traffic flow between this new gate and Eller Drive would need to be determined.
2. **Realignment of McIntosh and Elimination of Gate:** Optimize the current McIntosh Road alignment to provide an efficient footprint for improved traffic flows and elimination of the existing gate complex.
3. **Eller Drive Reconfiguration and Revision of Gate Operations:** Reconfiguration of the gate complex to improve traffic processing, which could include separate entry and exit gate facilities, increasing entry lanes and decreasing exit lanes (in both directions), addition of automated systems, and potential changes in vehicle processing procedures and security protocols.
4. **Create New Petroleum Entrance South of Spangler:** Create a dedicated access point for liquid bulk trucks at 28th Street and US-1, with an exit to Eller Drive.
5. **General Road Safety Upgrades:** Installation of traffic control and safety measures throughout the Port that could include speed bumps and speed inhibitors, signals, signage, sidewalk improvements, barriers, and crossings for pedestrian safety, with consideration for road realignments.

Additionally, Broward County, Port Everglades, FLL, and FDOT have pursued the development of an LRT system to connect the airport, seaport, and convention center (Airport-Seaport-Convention Center Connector) via an alternative mode of public transportation. The goals of this

project include reducing vehicle miles traveled, enhancing the efficiency of fly-in cruise passenger movements to and from the Port, and improving the overall experience of airline passengers in general. A funding stream for this project was approved by Broward County voters and this project is now progressing with the design phase. While it is not currently clear or possible to quantify what the impact of this project will be on Port-related traffic it will almost certainly result in fewer vehicle trips into and out of the Port with the intersection of Eller Drive and McIntosh Road being one of the primary areas to benefit from this alternative mode of transportation. As this project continues to move forward it will be important for the Port to fully understand its impact on Port traffic.

Impacts to the Natural Environment

A detailed discussion of the existing and natural environment can be found in Element 1 of the 2024 M/VP Update. Element 4 of the 2024 M/VP addresses impacts to the natural environment resulting from the projects included in the 5-year Master Plan and 10-year and 20-year Vision Plans (identified in **Table ES.7.11**) and mitigation for the unavoidable impacts.

Table ES.7.11: Summary of 2024 M/VP Update Impacts to the Port’s Natural Environment

Berth & Apron					X	X	X		X	X	X	X	X
Channel	X	X		X	X	X	X	X	X	X	X	X	X
Cruise Terminal								X					
Logistics	X		X					X					
Parking								X					
Transportation	X		X	X				X					

Projects in **Table ES.7.11** that affect the natural environment may require environmental permits from the USACE, FDEP, and/or Broward County Public Works and Environmental Services Department. Potential impacts to species listed under the U.S. Endangered Species Act will likely require consultation with the National Marine Fisheries Service and/or the United States Fish and Wildlife Service. Coral removal, relocation, and propagation activities will require a Special Activities License from the Florida Fish and Wildlife Conservation Commission. Additionally, any

impacts to cultural or historic resources may require coordination with the Florida Division of Historical Resources.

Additional details on the impacts of the USACE Channel Deepening and Widening project, and proposed mitigation, can be found in its Environmental Impact Statement and associated documents.

Water Resources

Many of the projects included in the 2024 M/VP Update consist of expanded, reconfigured, upgrades, or replaced cruise and cargo terminals and berths, as well as new parking structures, development of currently undeveloped land, and new or reconfigured roadways, all of which involve increasing impervious areas within the Port. These projects will impact surface water and will require new or revised surface water management permits. Existing surface water permits issued before December 28th, 2025, are grandfathered in under the previous Water Resource Implementation Rule (Chapter 62-330 and 62-40, F.A.C.), rather than Chapter 2024-275. An existing National Pollutant Discharge Elimination System under permit FLR05B255 to implement the Stormwater Pollution Prevention Plan with pollution prevention measures, treatment or removal techniques, monitoring, best management practices (BMPs), and other practices to monitor water quality and ensure standards are upheld.

Sea level rise is also a critical factor in the design of the Port's stormwater management systems for new facilities included in the 2024 M/VP Update. Bulkhead and berth improvements, parking structures, roadways, new terminal developments, and other Port infrastructure projects must all account for the expected future impacts of climate change, which includes continuing sea level rise and increasing frequency and intensity of extreme weather events, such as hurricanes. These projects also have the potential to reconfigure geomorphology, change tidal variation, alter salinity patterns, and impact ecological processes in coastal habitats, including wetlands, mangrove forests, and seagrass beds.

Climate Change, Resiliency, and Sustainability

The Port's low-elevation coastal location makes it, along with existing and future Port facilities and infrastructure, vulnerable to future climate change impacts, including sea level rise, extreme heat, and more frequent and intense rainfall and storm events. To address these challenges, the Port relies on various climate change information sources to guide the implementation of resilience actions aimed at mitigating or preventing such impacts. Additionally, through this 2024 M/VP Update, the Port plans to continue and expand its sustainability-focused programs and initiatives to promote energy efficiency and transition from fossil fuel-powered energy generation. Collectively, these efforts are intended to align with regional and statewide goals to enhance the Port's resilience to future climate impacts and reduce its local carbon emissions.

Sea level rise, extreme heat, and extreme rainfall and storm events represent the most significant climate change-related risks to the Port's operations, existing facilities and future projects. These

hazards have the potential to damage critical infrastructure, increase maintenance and operational costs, pose safety risks to employees, and cause adverse environmental impacts. Understanding projected impacts of these climate risks is a critical first step in developing effective mitigation and adaptation strategies.

Additionally, the Port relies on, and will continue to integrate, a variety of regional and national planning initiatives to assess the vulnerabilities of its assets and operations to climate change. These sources help to identify specific risks, informing planning efforts, and guide the implementation of resilient solutions to safeguard the Port's functionality and surrounding ecosystems. These initiatives include:

- Statewide Vulnerability Assessment
- Broward County Climate Change Element
- Broward County Resilience Plan
- Broward County Regional Standards for Seawalls & Flood Barriers
- Stormwater Pollution Prevention Plan
- Southport Turning Notch Extension Mangroves and Wetlands
- Sand Bypass Project
- Coral Reef Restoration

Finally, through this 2024 M/VP Update, the Port plans to continue or has initiated new sustainability focused programs and initiatives, that will contribute to the Port reducing its local carbon footprint and emissions towards climate change. These efforts include:

- Solar Powered Operations
- Florida Recycling Partnership
- Fleet Vehicle Transition
- Cruise Terminal Electrification
- Building Efficiency
- Green Marine Environmental Program

Air Quality

Port-related impacts to air quality are driven by four major sources of emissions:

- Vessels
- Vehicles (trucks, passenger vehicles, buses, and other rolling stock)
- Locomotives
- Yard equipment

Historically, increases in vessel or vehicle traffic, or in aggregate hours of operation of yard equipment, have led to a roughly proportionate increase in emissions. However, the global cruise industry, the international trade community, and the State/Federal government are all making

significant strides in reducing per-unit emissions by phasing in alternative fuel types and new technologies.

Although a comprehensive or quantitative assessment of air emissions at the Port is not part of the M/VP, the Port previously conducted an Air Emissions Inventory with the United States Environmental Protection Agency (USEPA) in 2015 and plans to update this inventory in 2026. It is clear that the projected growth in vessel calls and vehicle trips at the Port, along with the need to introduce additional cargo yard equipment to help increase container terminal density and throughput, will result in an increase in air emissions if not managed and/or mitigated. A summary of practices and technologies is provided to be considered for introduction at the Port in the future to help balance growth in economic impacts with the potential impacts to air quality associated with such growth.

The focus of discussion is vessels and terminal equipment rather than vehicles and locomotives due to the fact that the Port is better positioned to take measures to influence vessel and yard equipment emissions than vehicle or locomotive emissions, which are driven entirely by state and/or federal regulations and standards. One exception as previously noted is the Port's own fleet of vehicles and other rolling stock, which the Port has been upgrading to low- or zero-emission models following a natural replacement schedule based on the age and utilization of each vehicle in the fleet.

Vessels

The vessels calling at Port Everglades vary substantially across essentially all categories, including age, size, energy consumption, and engine efficiency, among others. Because of this, different vessels contribute to different degrees to air emissions. There are currently four principal means of reducing air emissions from vessels in the maritime industry:

- Shore power,
- Vessel stack carbon capture system,
- Vessel stack scrubbers, and
- Alternative fuels.

Shore power allows vessels to plug into landside electrical power sources. Turning off vessel auxiliary engines at berth can significantly reduce their diesel (and greenhouse gas [GHG]) emissions while in port. The benefits and desirability of shore power depend on several factors that are unique to individual ports, which include, but are not limited to:

- Infrastructure (including upland electrical generation and distribution/transmission infrastructure, as well as berth delivery and connectivity infrastructure),
- Availability, reliability, and source of landside electricity,
- Prevailing rates for electricity delivery,
- Existing regulations on vessel fuel type and/or emissions (e.g., ECAs), and
- Other factors.

Emissions reductions from using shore power stem from the production of the electricity ships need to power their ancillary systems with fewer polluting emissions from landside electricity power sources (i.e., power plants), as compared to onboard diesel-powered auxiliary engines. Potential emissions savings associated with shore power therefore depend on the type and grade of fuel being used by a given vessel at berth, as compared to source(s) of power generations.

The current emphasis for emissions reductions for Port Everglades is cruise vessels, as opposed to container, liquid bulk or bulk vessels, for three reasons. First, cruise vessels have greater potential for emissions reductions at the Port, given their far more substantial hoteling energy needs compared to other vessel types. Second, cruise vessel call activities are far more predictable than those of other vessel types, meaning the logistics of supplying landside power to cruise ships while at berth is more technically, though not necessarily economically, feasible. Third, some of the cruise vessels calling at Port Everglades are already shore-power equipped and most, if not all, new cruise vessels calling at the Port will be shore-power capable.

Onboard emission reduction methods (such as vessel scrubbers) are currently being widely used on cruise vessels, but not by other types of vessels. For ports, onboard solutions reduce the capital burden for the port by transferring the cost of emission reduction to the rightful bearer of the cost (the vessel operator). For vessel operators, since ships are inherently mobile assets that move and change locations constantly, onboard solutions allow for more flexibility in meeting different requirements at different ports in different regions around the world. More specifically for the cruise industry, they give cruise lines more control over vessel design criteria and operating parameters, since onboard solutions can be designed and integrated to meet the specific performance targets of the vessel operator fleet-wide, as opposed to on a ship-by-ship basis, depending on the region/port in which the vessel is deployed at any given time. From an overall public benefit perspective, onboard solutions also address emissions – not just locally, but more broadly, and not merely for 8-10 hours while the vessel is berthed, but continuously throughout the vessel's global, year-round operations.

However, onboard emission reduction methods (vessel scrubbers) are only a partial solution for reducing emissions; they are more effective for diesel-related pollutants and less so for GHG (or carbon dioxide equivalent [CO₂e]) emissions. Additionally, Port Everglades prohibits the discharge of scrubber effluent while at the Port. Given these limitations, lower emission fuels are being increasingly utilized by vessel operators to reduce emissions, which include LNG, methanol and biodiesel as fuels that are currently in use. Nonetheless, shore power is currently the only available solution that will effectively reduce (both diesel and CO₂e) emissions.

Yard Equipment

Apart from vessels, the other major source of air emissions at the Port that the Port may be able to influence is yard equipment. Yard equipment includes STS cranes as well as other heavy-duty rolling stock used to move cargo, such as RTG cranes, top-picks, reach stackers, forklifts, etc. Electrified and/or alternative fuel models of most such equipment are already commercially available and Port Everglades, and their tenants, have already implemented numerous strategies

to manage air emissions generated by yard equipment. Nearly all of the Port's STS cranes, with the exception of the STS crane and mobile harbor crane in Midport, connect to the local Florida Power and Light grid and run on electricity, as do all RTGs currently in service in Southport.

Going forward, the Port can continue to partner with its marine terminal operators and other parties to ensure that best environmental practices are followed, including the prioritization of low- or "zero" emission yard equipment. As a landlord port, Port Everglades does not have the ability to force its tenants to purchase specific types of equipment. Nor is it likely in the Port's best interest to do so from a competitive perspective. However, several of the Port's container terminal tenants in Southport have goals to implement electrified, hybrid, and/or alternative fueled (LNG, propane, etc.) equipment. A variety of incentives could be used to continue to move individual tenants toward more sustainable operating practices on their leaseholds, thereby resulting in lower air emissions over time. For example, the Port worked with several Southport tenants to successfully obtain Federal grant funding to support the electrification of container terminal operations and equipment.

It should be noted that while electrification of equipment will reduce emissions, the benefits of such conversion include optimization and densification of terminal operations, which can allow increased throughput of containers. As the Port's tenants look to increase throughput and remain competitive, and with a lack of available space within the Port, the primary solution to support that growth is in fact terminal electrification to facilitate optimization and densification of terminal operations.

ES.7.5 Business and Asset Utilization Strategies

Summary of Strategic Considerations

The Port's business strategies must consider the following:

- Status and integration of ongoing projects,
- The Port's 5-year Master Plan and 10- and 20-year Vision Plans,
- The Port's likely future market position (i.e., most probable trade/cruise markets) and correlating volumes,
- Widening aprons of cruise terminals to support the processing of larger volumes of passengers per vessel,
- Modernization of the GTA at the cruise terminals to improve the landside aspects of cruise operations, with consideration for integration with the future Airport-Seaport-Convention Center Connector,
- Implementation and timing of the USACE Channel Deepening and Widening project,
- Ways to adapt current operations to capture the full benefit of major projects as they come into service, especially the USACE Channel Deepening and Widening project and modifications to the Midport cruise facilities,
- Challenges related to air-draft and crane-height restrictions in Southport,
- Higher density container terminals and greater operational efficiencies,

- Optimizing lease layouts to accommodate all Port container operations within Southport,
- Affordability and phasing of proposed infrastructure improvements to balance available funding with construction costs and maximize return on investment,
- Integrating replacement of aging bulkheads into larger project to minimize disruptions, including resiliency improvements,
- New approaches to land leases, user agreements, and overall development of Port assets, including opportunities to more creatively partner with private and other third-party stakeholders for project development to achieve common goals, and
- Improvement of perimeter gate operations to improve Port access and connections with the external transportation network while enhancing operational efficiency within the Port area.

Key Concepts

There are six key business and asset utilization concepts that the Port must incorporate into its ongoing planning efforts to meet near-term and long-term growth objectives while ensuring sustainable financial and operating practices. These are summarized below.

- The Port must continue to increase its capacity to meet projected future demand, particularly for the cruise and containerized cargo lines of business. Cement terminals also need upgrades to their berths to avoid the current interruptions in offloading operations due to the size of the berth.
- Capital improvements should facilitate higher utilization of infrastructure assets, particularly berths and supporting upland areas (e.g., marine terminals, cruise terminals, and parking structures).
- Diversification of commodity throughput should be maintained but also prioritized consistent with the individual business line market assessments completed as part of Element 2.
- Operational efficiencies, such as mitigating traffic flow and gate processing, are necessary.
- Land use efficiencies (e.g., container terminal densification/reduced container dwell times) and traffic management solutions (e.g., terminal appointment systems) within and relating to leased areas, particularly in Southport, should be encouraged, incentivized, and/or required as part of future lease negotiations.
- Future Port development will need to align with integration of Broward County's future projects like the Airport-Seaport-Convention Center Connector.

ES.7.6 Financial Strategies

As with past M/VP updates, the principal financial strategy guiding the development of the 5-year Master Plan portion of the 2024 Update applies the asset utilization strategies outlined above to analyze and prioritize key requirements and incorporate sustainable and high value-added projects into the CIP to meet those requirements. This strategy recognizes that projected

gross revenue from a project cannot be the only criterion used to evaluate the project since other criteria, such as those included in the project decision matrix presented in Element 3, must also be used to assess the overall benefit of the project more holistically, including its economic and environmental impacts.

There are four key financial concepts that the Port must use to meet its near-term and long-term growth objectives while ensuring sustainable financial and operating practices. These are summarized as follows:

1. Port revenues should be maximized, with an emphasis on opportunities to generate new revenue streams and within competitive constraints and Port operating costs, including consideration for labor, administrative costs, utilities, and other expenses that should be minimized where possible to increase net income.
2. Utilization of alternative funding sources, such as federal and state grants, as well as public-private partnerships, should continue to be pursued aggressively and implemented whenever possible to ensure that the Port achieves its future vision in close partnership with other vested Port interests (i.e., shared financial risk) and to ensure that the Port sustains acceptable levels of debt coverage.
3. Utilization of a project decision matrix that evaluates and assigns relative values to competitiveness, economic impacts, financial return, and sustainability to make go/no-go decisions on all proposed infrastructure projects.
4. Port revenues must, at minimum, cover bond requirements and fund investments to maintain assets in a state of good repair, as well as make much needed capital improvements consistent with the 2024 M/VP Update. Furthermore, Port revenue streams should be adequate to cover deferred maintenance costs.

Apart from pursuing the maximum return on investment possible from negotiated agreements with its core tenants and users, Port Everglades should pursue new revenue opportunities wherever practical. There are at least three such potential opportunities for new revenue, including:

- Parking/Port access fees,
- Commercial office/building leases, and
- Alternative/secondary uses of cruise terminals.

Alternative Funding Sources

Port Everglades has been successful in the past in securing private, state, and federal funding in the form of public/private co-investment, grants and loans that have helped to develop several critical projects, including:

- CT-4, CT-18, and CT-25 (public/private co-investment)
- ICTF (public/state/private)
- Southport Turning Notch Expansion (federal/state)

- Eller Drive-I-595 overpass (state)

The 2024 M/VP Update assumes that Port Everglades will continue to be successful not only in securing state and federal grant dollars but in achieving a greater degree of public/private co-investment in its facilities in partnership with its tenants and other users. These third-party partnerships are vital to the feasibility of the overall M/VP. The Port cannot afford to develop all projects included in the 2024 M/VP Update using only Port funds, and it is a reasonable expectation that the Port can share the costs of these projects with other parties given the number of public/private co-investment precedents that exist for both cruise and cargo projects at other ports across the U.S.

The 2024 M/VP Update assumes that Port Everglades will be responsible for roughly 55 percent (approximately \$2.1 billion) of the over \$3.83 billion overall capital improvement program included in the 2024 M/VP Update. **Tables ES.7.12 through ES.7.15** identify minimum third-party funds that are expected to be available to support the implementation of the projects included in the 2024 M/VP Update for the 5-Year Master Plan, 10- and 20-year Vision Plans, and projects extending into the 20+-year horizon.

Table ES.7.12: Anticipated Project Funding by Source – 5-Year Master Plan (2026–2030)³⁶

Griffin Road Access	\$34.8	-	\$3.2	-	\$38.0
New VACIS Area in Southport	\$3.5	-	-	-	\$3.5
Container Terminal Redevelopments*	-	\$150.0	-	-	\$150.0
Container Terminal Utilities and Shore Power*	\$3.0	-	-	-	\$3.0
Container Subtotal	\$41.3	\$150.0	\$3.2	-	\$194.5
Cruise Terminal 29 Development	\$76.2	\$151.8	\$25.0	-	\$253.0
Cruise Terminal 29 Parking Structure	\$61.6	-	\$6.4	-	\$68.0
Berths 16, 17 & 18 Bulkhead Improvements*	\$9.3	-	\$31.8	\$19.3	\$60.4
Shore Power Systems for Cruise Terminals*	\$52.7	-	-	\$3.3	\$56.0
New Midport Parking Structures*	\$80.8	-	\$3.2	-	\$84.0
Cruise Subtotal	\$280.6	\$151.8	\$66.4	\$22.6	\$521.4
Slip 1 Widening (Berths 9 & 10)	\$146.3	-	\$77.7	-	\$224.0
Energy Subtotal	\$146.3	-	\$77.7	-	\$224.0
Port Maintenance Facility	\$53.2	-	\$6.8	-	\$60.0
Fire Station Upgrades	\$6.8	-	\$3.2	-	\$10.0
Balearia Facilities at Berth 28A	-	\$25.0	-	-	\$25.0
SE 10 th Avenue Property Redevelopment	\$12.0	-	-	-	\$12.0
Channel Deepening and Widening*	\$44.3	-	\$70.0	-	\$114.3
Port-Wide/Other Subtotal	\$116.3	\$25.0	\$80.0	\$0.0	\$221.3
Total 5-Year Project Costs	\$584.5	\$326.8	\$227.3	\$22.7	\$1,161.3

³⁶ Source: Port Everglades; AECOM.

Table ES.7.13: Anticipated Project Funding by Source – 10-Year Vision Plan (2031–2035)³⁷

Container Terminal Redevelopments*	-	\$300.0	-	-	\$300.0
Container Terminal Utilities and Shore Power*	\$3.0	-	-	-	\$3.0
Realignment of McIntosh Road	\$23.8	-	\$3.2	-	\$27.0
Container Terminal Relocations from Midport	\$27.0	-	-	-	\$27.0
Add STS Crane at Berth 30E*	\$30.0	-	-	-	\$30.0
Container Subtotal	\$83.8	\$300.0	\$3.2	\$0.0	\$387.0
Berths 16, 17 & 18 Bulkhead Improvements*	\$42.6	-	-	-	\$42.6
Shore Power Systems for Cruise Terminals*	\$60.0	-	-	-	\$60.0
New Midport Parking Structures*	\$77.6	-	\$6.4	-	\$84.0
Ground Transportation Facilities	\$9.8	-	\$3.2	-	\$13.0
Cruise Terminal 21	\$13.2	\$42.3	\$15.0	-	\$70.5
Cruise Subtotal	\$203.2	\$42.3	\$24.6	\$0.0	\$270.1
Berths 7 & 8 Bulkhead Improvements	\$38.0	-	\$15.0	\$20.0	\$73.0
Energy Subtotal	\$38.0	\$0.0	\$15.0	\$20.0	\$73.0
Eller Drive Gate Reconfiguration	\$10.8	-	\$3.2	-	\$14.0
Channel Deepening and Widening*	\$19.7	-	\$70.0	-	\$89.7
Port-Wide/Other Subtotal	\$30.5	\$0.0	\$80.0	\$0.0	\$221.3
Total 10-Year Project Costs	\$355.5	\$342.3	\$116.0	\$20.0	\$833.8

³⁷ Source: Port Everglades; AECOM.

Table ES.7.14: Anticipated Project Funding by Source – 20-Year Vision Plan (2036–2045)³⁸

Container Terminal Utilities and Shore Power*	\$20.0	-	-	-	\$20.0
Add STS Crane at Berth 30E*	\$35.0	-	-	-	\$35.0
Add STS Crane at Berth 31-32	\$20.0	-	-	-	\$20.0
Add STS Crane at Berth 30A/B/C	\$20.0	-	-	-	\$20.0
Container Subtotal	\$95.0	\$0.0	\$0.0	\$0.0	\$95.0
East Extension of Berths 14-15	\$5.0	-	-	-	\$5.0
Berth 30E East Extension and RORO Ramp	\$18.6	-	\$6.4	\$5.0	\$30.0
Slip 3 Widening	\$169.0	-	\$15.0	\$40.0	\$224.0
Slip 2 Widening*	\$14.5	-	-	-	\$14.5
Non-Container Subtotal	\$207.1	\$0.0	\$21.4	\$45.0	\$273.5
Shore Power Systems for Cruise Terminals*	\$51.0	-	-	-	\$51.0
Cruise Terminal 21*	\$79.6	\$141.9	\$15.0	-	\$236.5
Additional Parking for Cruise Terminals 2 & 4	\$3.2	\$19.2	\$9.6	-	\$32.0
Cruise Terminal 19	\$66.2	\$121.8	\$15.0	-	\$203.0
Consolidated GTA	\$36.0	-	\$16.0	-	\$52.0
Cruise Terminal 18*	\$36.2	\$76.8	\$15.0	-	\$128.0
Cruise Terminal 26*	\$24.7	\$37.1	-	-	\$61.8
Cruise Subtotal	\$226.9	\$396.8	\$70.6	\$0.0	\$764.3
New Petroleum Entrance South of Spangler	\$10.0	-	-	-	\$10.0
Energy Subtotal	\$10.0	\$0.0	\$0.0	\$0.0	\$10.0
Channel Deepening and Widening*	\$210.0	-	\$80.0	-	\$290.0
Port-Wide/Other Subtotal	\$210.0	\$0.0	\$80.0	\$0.0	\$290.0
Total 20-Year Project Costs	\$819.0	\$396.8	\$172.0	\$45.0	\$1,432.8

³⁸ Source: Port Everglades; AECOM.

Table ES.7.15: Anticipated Project Funding by Source – 20-Plus-Year Vision Plan (2046+)³⁹

Container Terminal Utilities and Shore Power*	\$59.0	-	-	-	\$59.0
Container Subtotal	\$59.0	\$0.0	\$0.0	\$0.0	\$59.0
Slip 2 Widening*	\$209.5	-	-	-	\$209.5
Non-Container Subtotal	\$209.5	\$0.0	\$0.0	\$0.0	\$209.5
Shore Power Systems for Cruise Terminals*	\$50.0	-	-	-	\$50.0
Cruise Terminal 18*	\$10.4	\$15.6	-	-	\$26.0
Cruise Terminal 26*	\$21.7	\$32.5	-	-	\$54.2
Cruise Subtotal	\$82.1	\$48.1	\$0.0	\$0.0	\$130.2
Total 20+-Year Project Costs	\$350.6	\$48.1	\$0.0	\$0.0	\$398.7

In addition to the non-Port funds identified in **Tables ES.7.12 through ES.7.15**, there will be numerous opportunities to pursue additional state and federal funds during the coming 20 years through a range of discretionary grant and loan programs. Opportunities that were newly created or expanded through the federal Infrastructure Investment and Jobs Act (IIJA) include Better Utilizing Investments to Leverage Development grants, Nationally Significant Multimodal Freight & Highway Projects grants, Reduction of Truck Emissions at Port Facilities grants, and U.S. Maritime Administration Port Infrastructure Development Program (PIDP) grants. Beyond the IIJA, additional federal funding opportunities include USEPA Diesel Emission Reduction Act grants and Transportation Infrastructure Finance and Innovation Act loans, among other programs. Additional grants are also available at the state level through FDOT, FDEP and the Florida Seaport Transportation and Economic Development Council.

Most federal funds are awarded through highly competitive application and lobbying processes, meaning there is no guarantee that the Port will be successful in securing additional federal funding for its projects. However, several ports – including at least two in Florida – have been very successful in securing competitive federal grant awards so the Port should continue to pursue such opportunities aggressively using a strategic approach that increases the chance of success. Port Everglades has had some success winning federal grant awards from the United States Department of Transportation and USEPA. For example, in 2023, Port Everglades was awarded a PIDP grant for \$50 million for modernization of the Crowley and Everglades Company Terminal container terminals in Southport.

³⁹ Source: Port Everglades; AECOM.

Additionally, while the IJA created new funding programs and expanded existing programs that already supported ports and their infrastructure, these funds are generally only available through federal fiscal year 2026. Congressional action will be required to advance a new surface transportation reauthorization bill that will set the parameters for future discretionary grant programs. Given the uncertainty around the timeline of Congressional action and the contents of any new bill, the Port should continue to monitor this topic to stay abreast of potential future changes in the federal funding landscape.

It may also be possible for the Port to achieve higher levels of direct investment by Southport tenants to support the additional work required to consolidate land, improve operations and increase overall container terminal throughput there. Direct investments from the cruise lines should also be considered for development/redevelopment of the cruise terminals, especially for the proposed Midport projects that include CT-18, CT-19, CT-21, CT-26, and CT-29. Such opportunities should be explored on an ongoing basis and integrated into the lease negotiation process. Federal grants from the Build America Bureau are available through the Innovative Finance and Asset Concession grant program that may help support the exploration of public-private partnerships or other similar arrangements between the Port and its tenants.

ES.7.7 Goals, Objectives, and Policies

The Deepwater Port Component (DPC) of the Broward County Comprehensive Plan aims to clearly define a core vision for the Port's coordination, operation, and development under the following four focus areas:

- Economic Vitality
- Safety & Security
- Environmental Stewardship
- Community Engagement

The Port Everglades M/VP serves as the state-mandated port master plan for the PJA. The Local Government Comprehensive Planning and Land Development Regulation Act, Chapter 163, Florida Statutes, requires that port master plans include goals, attainable objectives, and specific implementation policies to measure a port's progress in achieving its adopted goals. The DPC is therefore not a substitution for the 20-year M/VP but rather shares the long-term objectives of the plan and sets the foundation by which this vision can be achieved. **Table ES.7.16** summarizes the goals, objectives, and policies that will be incorporated into the DPC of the Coastal Management Element in Broward County's Comprehensive Plan.

Table ES.7.16: Summary of Port Everglades Goals, Objectives, and Policies⁴⁰

DPC Goal 1: Economic Vitality	1.1: Infrastructure Development	1.1.1: Short-term Infrastructure Improvements 1.1.2: Infrastructure Maintenance 1.1.3: Multi-purpose Terminals 1.1.4: Interconnected Land Uses 1.1.5: Intermodal Facilities 1.1.6: Foreign-Trade Zone 1.1.7: Future Development 1.1.8: Convention Center Integration
	1.2: Cargo and Cruise Industry Expansion	1.2.1: Marketing Plans 1.2.2: Marketing Activities 1.2.3: Private Businesses
	1.3: Land Use Compatibility and Development Regulation	1.3.1: Development Consistency
	1.4 Deepwater Access	1.4.1: Maintenance Dredging 1.4.2: Channel Deepening and Widening
	1.5: On-Port Road and Rail Network	1.5.1: On-Port Road 1.5.2: On-Port Rail 1.5.3: Traffic Monitoring 1.5.4: High Speed Intermodal Connections 1.5.5: Off-Port Rail 1.5.6: Connectivity with FLL and BCCC
	1.6: Transportation Agency Coordination	1.6.1: MPO Transportation Improvement Program 1.6.2: FDOT District 4 Annual Work Program 1.6.3: Broward County Capital Plan 1.6.4: Florida Seaport Transportation and Economic Development Program 1.6.5: Infrastructure Maintenance 1.6.6: Water-Dependent Access 1.6.7: Interagency Coordination
	1.7: Budgetary Process	1.7.1: Competitive Pricing 1.7.2: Port ROI 1.7.3: Expense Benchmarking 1.7.4: Coastal Storm Area
	1.8: Capital Improvement Plan	1.8.1: 5-Year CIP Updates 1.8.2: 10- and 20-Year Vision Plan Updates
	1.9: Funding Opportunities	1.9.1: Economic Impact Awareness 1.9.2: State and Federal Funds 1.9.3: Public/Private Partnerships 1.9.4: Sound Financial Management

⁴⁰ Source: Port Everglades.

DPC Goal 2: Safety and Security	2.1: Protection from Natural Hazards	2.1.1: Development in Flood Zones 2.1.2: Florida Building Code Compliance	
	2.2: Coastal High Hazard Areas	2.2.1: CHHA Designation 2.2.2: Prohibited CHHA Development	
	2.3: Hurricane Preparedness	2.3.1: Evacuation Times 2.3.2: Evacuation Routes 2.3.3: EMD/USCG Coordination 2.3.4: Hurricane Simulation Participation	
	2.4: Hazardous Materials	2.4.1: Handling and Cleanup 2.4.2: Oil Spills 2.4.3: Public Communication	
	2.5: Safe Operating Environment	2.5.1: Health and Safety Measures 2.5.2: Compliance with Applicable Standards	
	2.6: Port Security	2.6.1: Port Security Plan 2.6.2: Interagency Coordination 2.6.3: Security Checkpoints 2.6.4: Dockside Access 2.6.5: Anti-Threat Technology	
	2.7: Emergency Management	2.7.1: Port Emergency Management Plan 2.7.2: Interagency Coordination 2.7.3: Safe and Efficient Vehicular Movement	
	2.8: Post-Disaster Redevelopment	2.8.1: Procedures 2.8.2: Hazardous Condition Removal/Public Safety	
	3.1: Natural Resource Preservation and Protection	3.1.1: Cumulative Impacts on Coastal Resources 3.1.2: Habitat Inventory and Protective Policies 3.1.3: Manatee Habitat 3.1.4: Mitigation Plan 3.1.5: Port-wide BMPs 3.1.6: Dredged Material Disposal and Management 3.1.7: Consistency with Comprehensive Plans 3.1.8: Long-Term Planning	
	3.2: Estuarine Quality	3.2.1: Estuarine System Protection 3.2.2: Avoidance and Minimization of Water-Quality Degradation 3.2.3: Water Quality Monitoring 3.2.4: Drainage 3.2.5: Annual Hydrographic Survey 3.2.6: Tidal Flushing and Circulation 3.2.7: Stormwater Management BMPs	
	3.3: Water-Dependent Uses	3.3.1: Prioritization of Water-Dependent Uses	
	3.4: Beach and Dunes	3.4.1: Coastal Construction Control Line 3.4.2: Sand Bypass System 3.4.3: Interagency Agreements and Coordination 3.4.4: Beach Renourishment	
	DPC Goal 3: Environmental Stewardship		

DPC Goal 4: Community Engagement	3.5: Sustainability	3.5.1: Greenhouse Gas Emissions
		3.5.2: Energy Efficiency/Conservation
		3.5.3: Climate Change
		3.5.4: Historical and Archaeological Resources
	4.1: Plan Implementation	4.1.1: Interagency Coordination
		4.1.2: Port Everglades Transportation Area Compatibility
	4.2: Coordination with Other Broward County Departments	4.2.1: Compatibility with Broward County's Comprehensive Plan
		4.2.2: Airport-Seaport coordination
		4.2.3: Level-of-Service Standards
		4.2.4: Interlocal Agreements
	4.3: Community, Agency and Stakeholder Coordination	4.3.1: Municipal Coordination
		4.3.2: Interagency Cooperation
		4.3.3: Regional Collaboration