

PORT MASTER PLAN 2050

A Road Map for the Next 30 Years



February 13, 2020

PFAC Meeting
NYMTC

The Port Master Plan Is and Is Not...



A Framework

Provides a framework of potential options and a guide for future land use decisions

Near and Long

Provides near and long-term strategies to ensure delivery of needed infrastructure

Consistent

Ensures future development is consistent with goals and policies

Holistic

Helps integrate Port facilities into a transportation network



Commercial

Facilitates commerce and business growth

Economic

Supports long-term economic benefits to the region, including jobs and tax revenue

Change-Based

Considers changes in shipping, population, environmental impacts and technological advances

Flexible

Adapts to changes in the baseline assumptions and provides flexibility over time



Definitive

Not absolute in its recommendations

Final

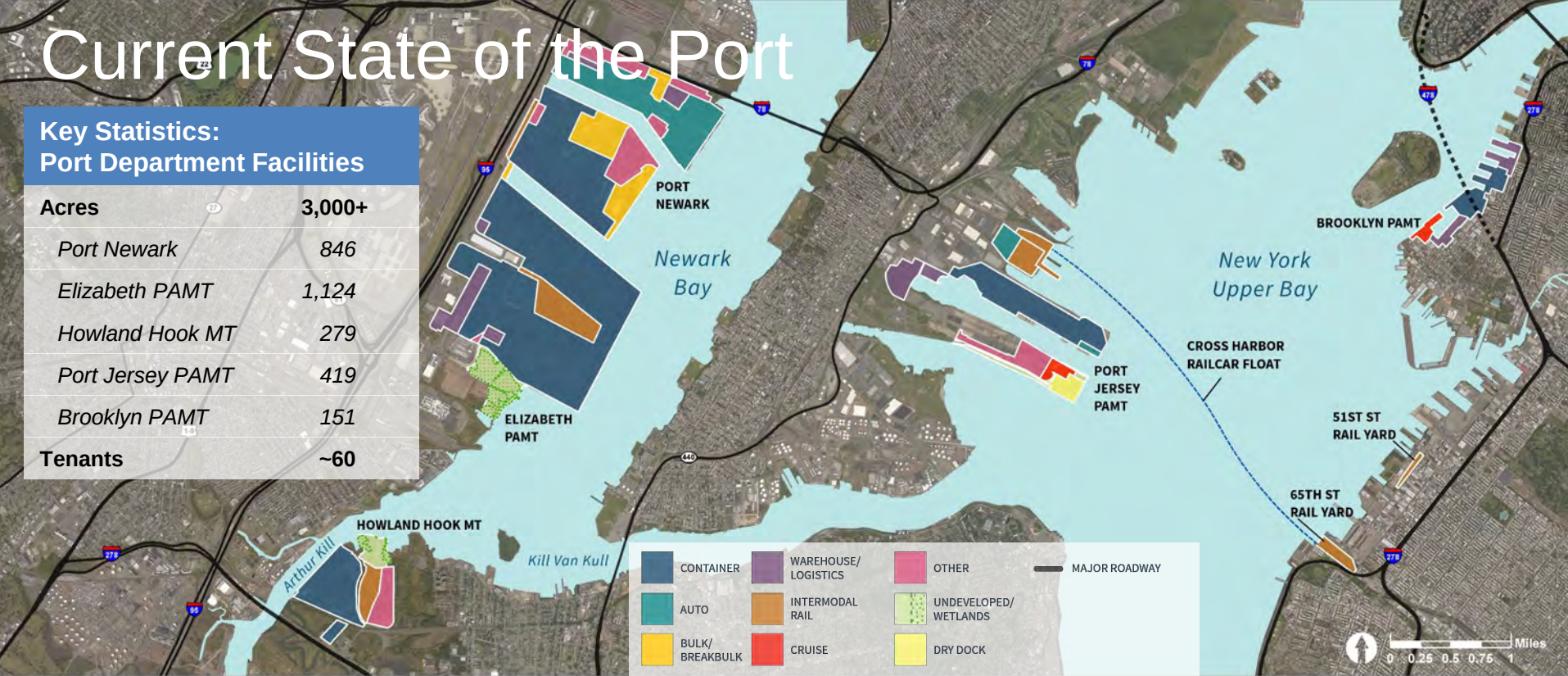
Not the final plan for all development over the next 30 years

**...and implementation
will require design, permits,
outreach and authorization**

Current State of the Port

Key Statistics: Port Department Facilities

Acres	3,000+
Port Newark	846
Elizabeth PAMT	1,124
Howland Hook MT	279
Port Jersey PAMT	419
Brooklyn PAMT	151
Tenants	~60



PONYNJ Benefits



LOCATION

- Located in the middle of the largest consumer markets in one of the most affluent parts of the world
- Greatest port reach on the East Coast. 45 million people within 4 hours' drive, 1/3 of the nation's GDP
- Access to 125 million people within a 36-hour drive



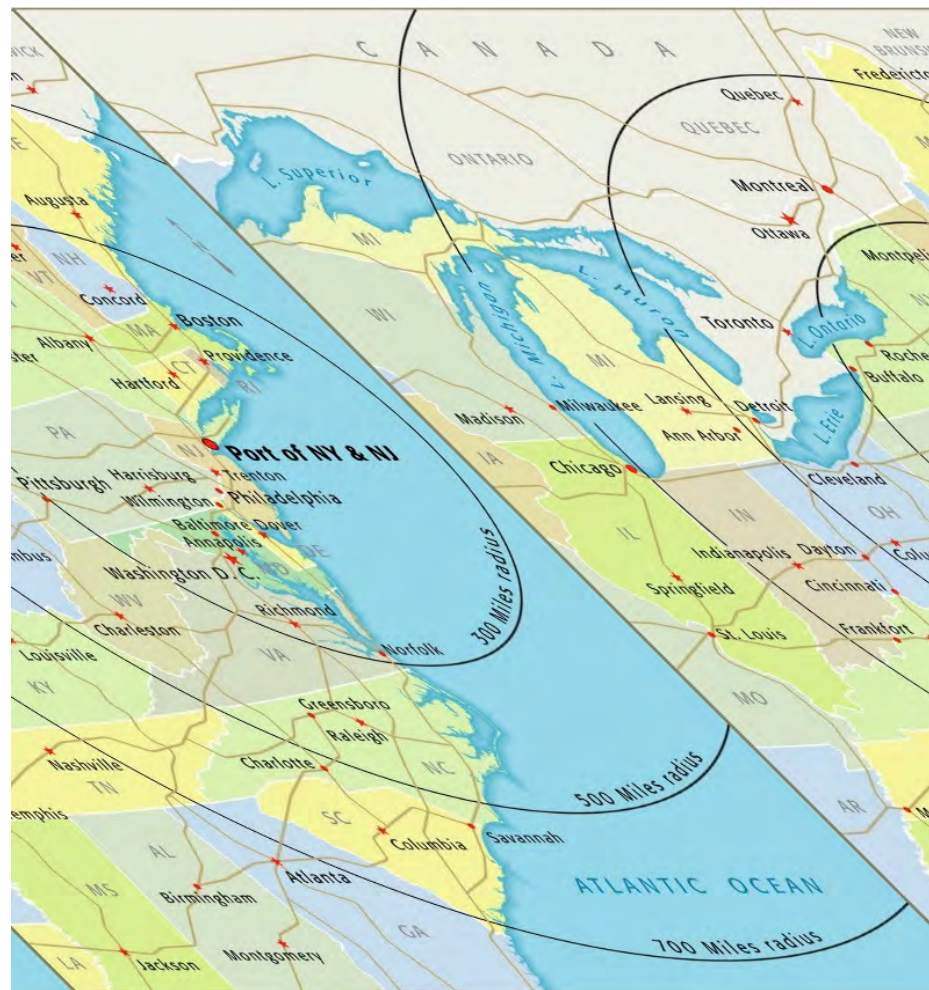
CONNECTIVITY AND SUPPORTING INDUSTRIES

- Direct access to major road and rail networks.
- Over 1 billion square feet of warehouses and distribution centers within 50 miles of port.
- More first port of call services than any other East Coast port



INVESTMENT

- Significant private and public sector investment to support future growth



Port Master Plan Process



Port Master Plan 2050 Vision

Create a flexible roadmap to develop a competitive, financially successful port, maximizing regional jobs and economic impacts, and minimizing environmental effects



Sustainable and Resilient

...leading by example, the Port Authority will continue to drive down carbon emissions, minimize noise, congestion and environmental impacts at its facilities and throughout the Port of New York and New Jersey.



An Economic Generator

...with increased jobs on the Port and in the region, enabling small and large businesses to thrive and providing opportunities for training, job creation and entrepreneurship.



A Platform for Partnership

...with communities, customers, operators, shippers, logistics providers, and potential investors all actively involved in decision-making and implementation.



Shaping Future Growth

...accommodating the future needs of shippers, rationalizing land uses, consolidating containers, autos, and bulk, and partnering to improve regional rail, road, and off-site facilities.



State of the Art

...with technology, safety and data management at the heart of improved operations.

Port Master Plan Engagement and Outreach

45+

Total Presentations to
Regional Stakeholders and
Community Groups

50+

Planning Workshops,
Interviews, and Activities

400+

Stakeholders across
New York & New Jersey

STAKEHOLDERS INCLUDED

NY & NJ Elected Officials
Transportation Authorities and
Planning Agencies
Commercial Real Estate &
Property Management Groups
Technology Leaders
Academic Institutions
Environmental Justice Groups
Host Communities

Current Tenants
Rail and Terminal Operators
Federal, State, and Local Agencies
Harbor Pilots
Shipping and Labor Management
Associations
Labor
Trucking and Logistics Companies

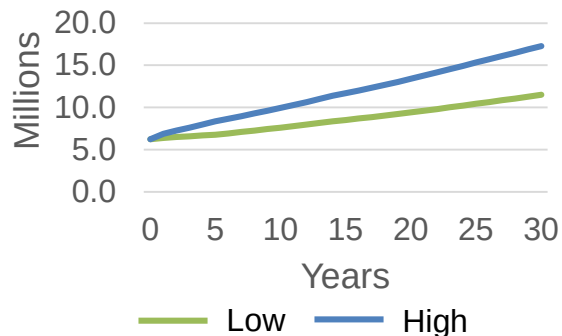
Containers

Trends and Emerging Issues

- Container volumes are projected to double or triple by 2050
- Ocean carrier consolidation and alliances
- Vessel size increasing rapidly
- Use of real-time decision making and other technologies



Market Forecast (TEU)



Estimated Leasehold Acreage

	Present	2050
Acres	1,649	1,779 – 1,815



Design Vessel

Capacity	18,000 TEU
Class	ULCV
Length (LOA)	399 m (1,310 ft)
Beam (max)	54 m (177 ft)
Draft	16 m (52 ft)
Air Draft (est.)	59 m (194 ft)

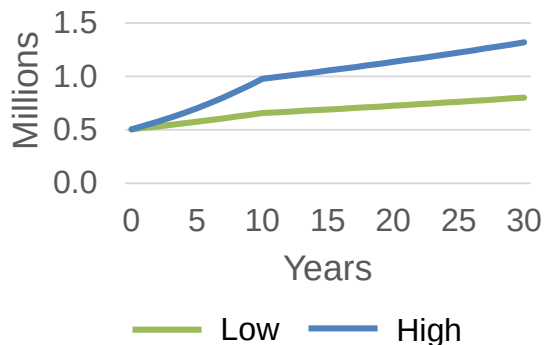
Autos

Trends and Emerging Issues

- Auto volumes remain strong
- Mobility as an on-demand service
- Autonomous vehicles
- Electric and hybrid vehicles



Market Forecast (CEU)



Estimated Leasehold Acreage

	Present	2050
Acres	291	390



Design Vessel

Capacity	9,000–10,000 CEU
Class	PCTC
Length (LOA)	265 m (869 ft)
Beam (max)	42 m (138 ft)
Draft	13 m (43 ft)
Air Draft (est.)	52 m (171 ft)

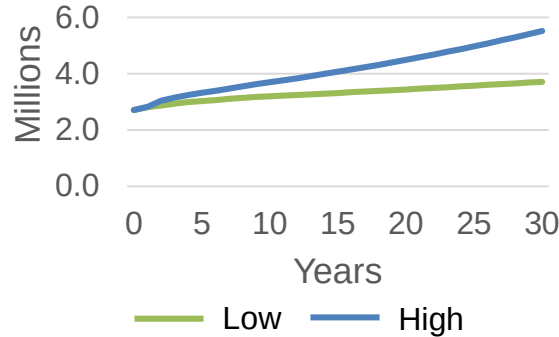
Bulk

Trends and Emerging Issues

- Bulk volumes remain strong
- Offshore wind and other renewable energy sources
- LNG bunkering
- Additive manufacturing (i.e. 3D printing)
- Beneficial use of recycled commodities



Market Forecast (Tons)



Estimated Leasehold Acreage

	Present	2050
Acres	160	179 – 281



Design Vessel

Capacity	80,000 DWT
Class	Panamax
Length (LOA)	290 m (950 ft)
Beam (max)	32.3 m (106 ft)
Draft	14.6 m (47.9 ft)
Air Draft (est.)	40 m (132 ft)

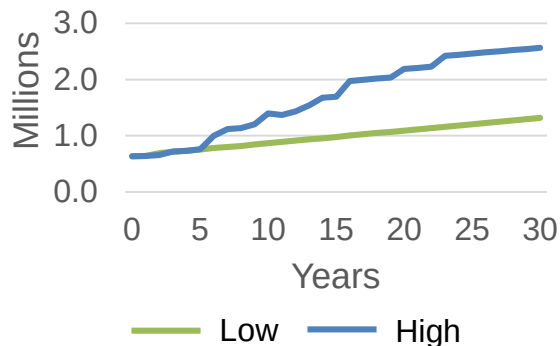
Cruise

Trends and Emerging Issues

- Consistent growth in passenger volumes
- Increasing vessel size
- NY/NJ as port of call



Market Forecast (Pax)



Estimated Leasehold Acreage

	Present	2050
Acres	No change	



Design Vessel

Capacity	5,400 pax
Class	Oasis Class
Length (LOA)	362 m (1,188 ft)
Beam (max)	65.5 m (215 ft)
Draft	9.1 m (30 ft)
Air Draft (est.)	57 m (187 ft)

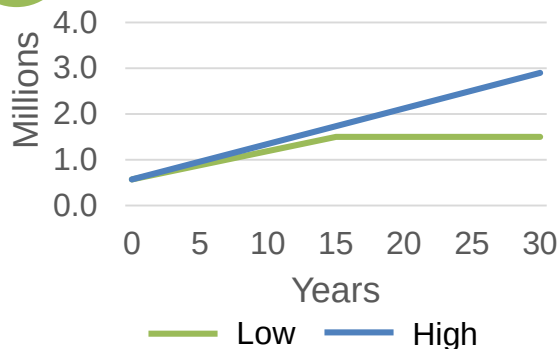
Intermodal Rail

Trends and Emerging Issues

- Potential demand for inland port facilities
- Need for additional off-terminal facilities (including storage tracks)
- Discretionary market opportunity

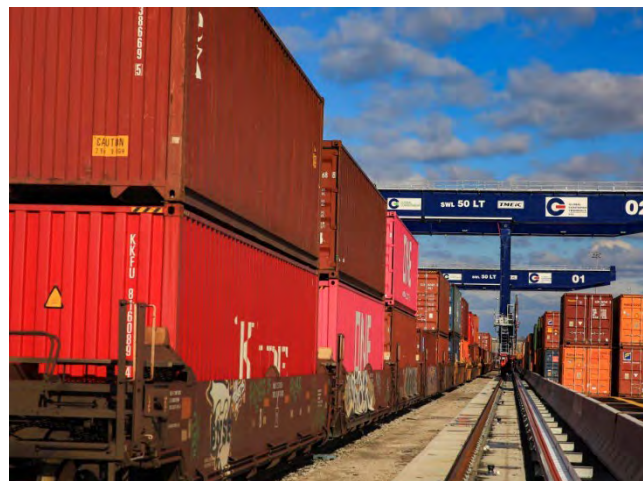


Market Forecast (Lifts)



Estimated Leasehold Acreage

	Present	2050
Acres	(included in container leaseholds)	



Design Vessel

Capacity

Class

Length (LOA)

Beam (max)

Draft

Air Draft (est.)

Not Applicable

Other Emerging Trends and Issues

Trucking and Logistics

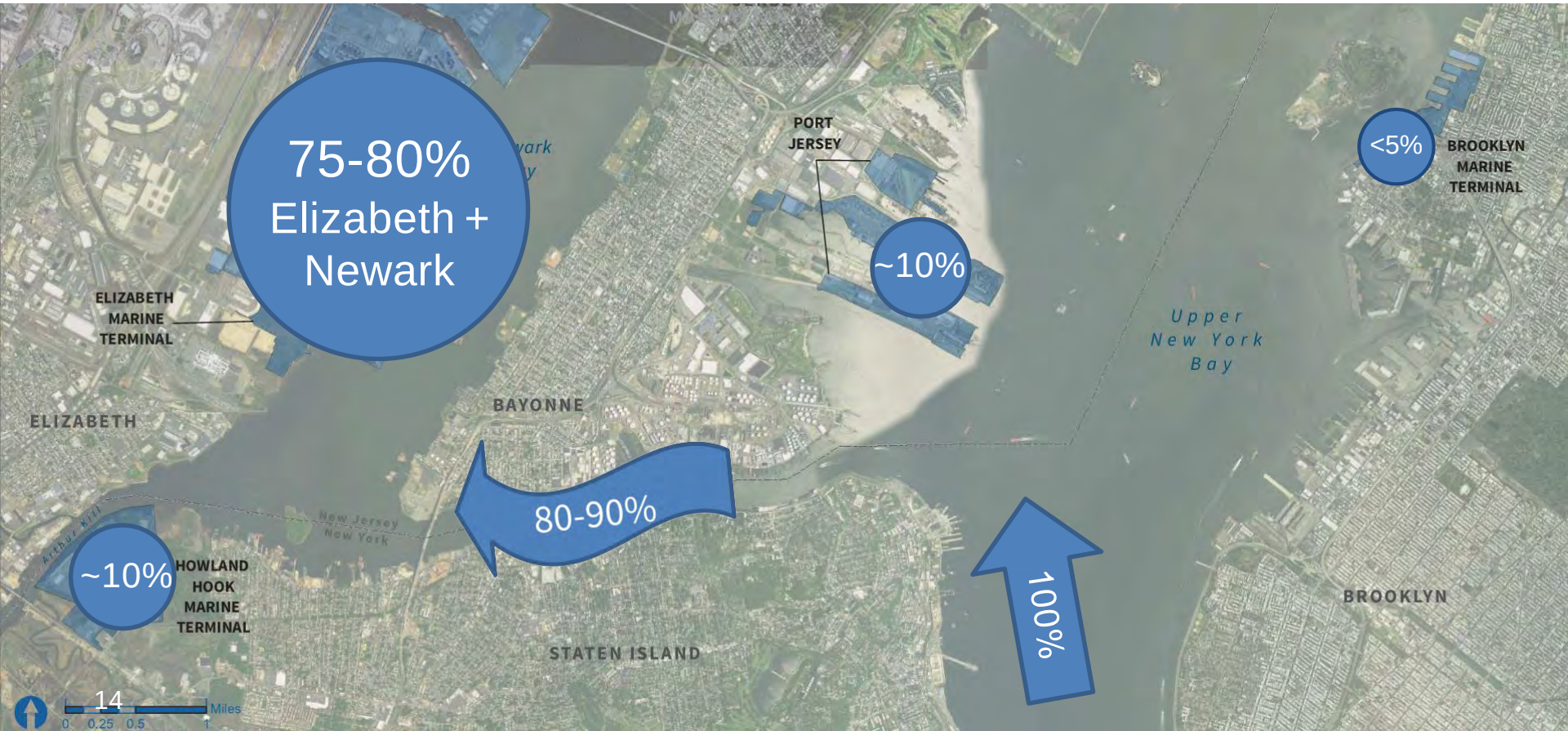
- Truck data capture
- Shared chassis pools and empty container depots
- Autonomous trucking and platooning
- Driver supply
- Intelligent transportation systems (ITS)
- Digitization of information streams



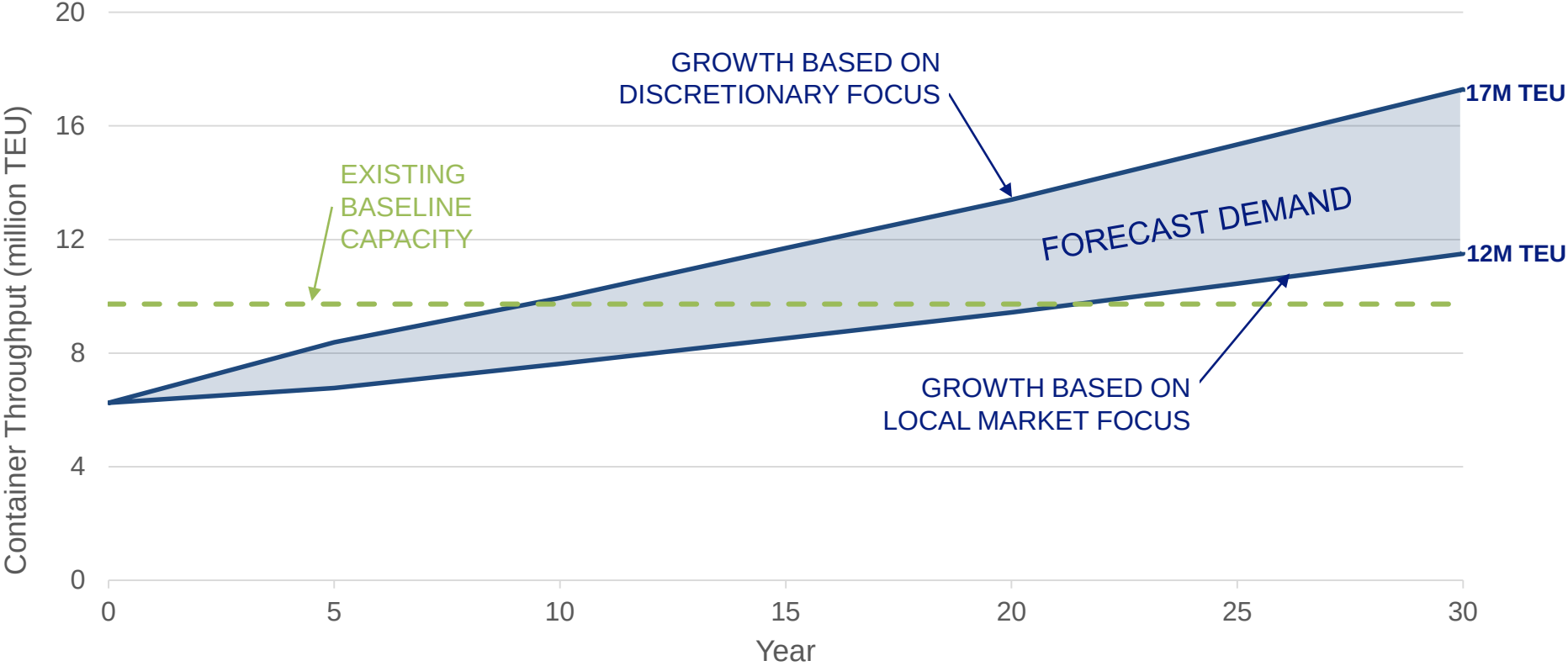
Infrastructure and Terminals

- Kill Van Kull channel becomes a greater constraint without mitigation
- Modal split has opportunity to increase, including rail and marine highway (barge)
- Tenants want to invest in capacity to support growth

Current Container Capacity of Port

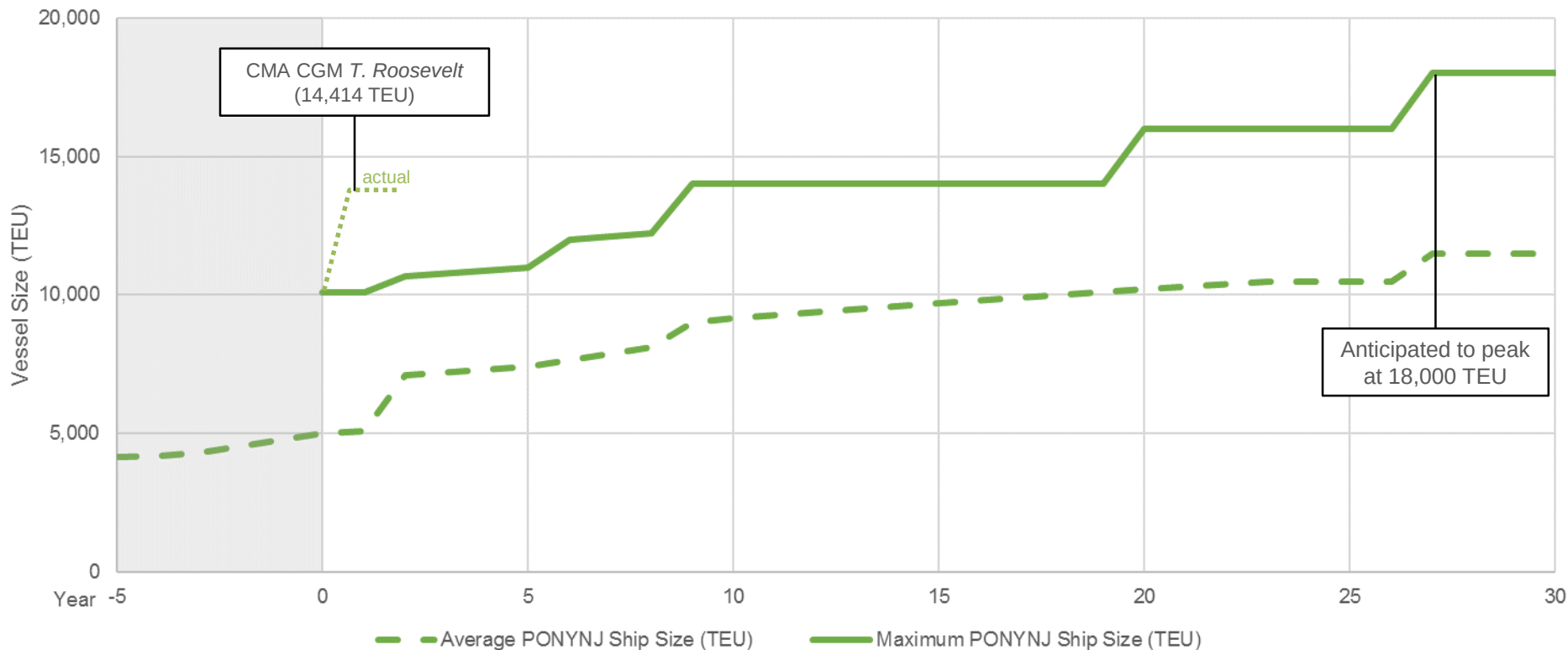


Current Container Capacity vs. Forecast Demand



Forecast of PONYNJ Container Fleet Vessel Size

Ever-Larger Vessels → Long-Term Decrease in Vessel Calls → Less Pollution



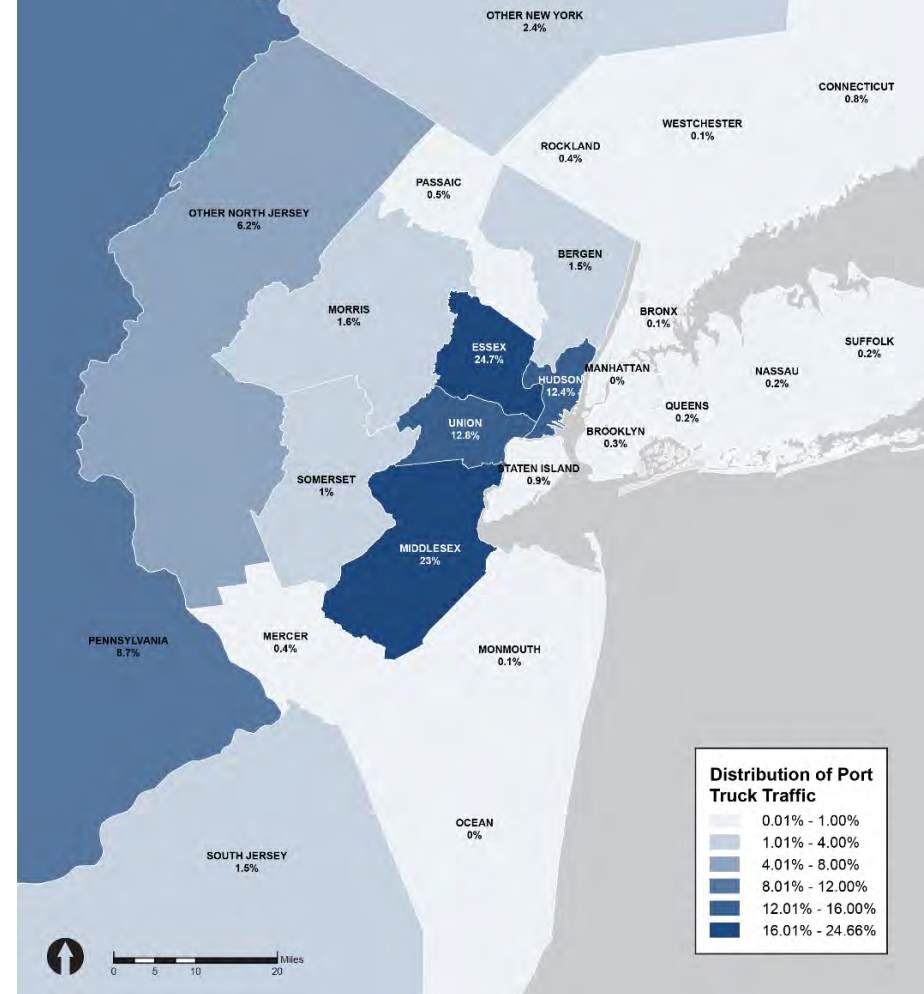
Port Truck Distribution



Primary destinations (first stop) for Port truck traffic (top 4 counties account for almost 75% of trucks)



Interstate highways, showing major routes for Port trucks and peak traffic congestion



Port Truck Distribution



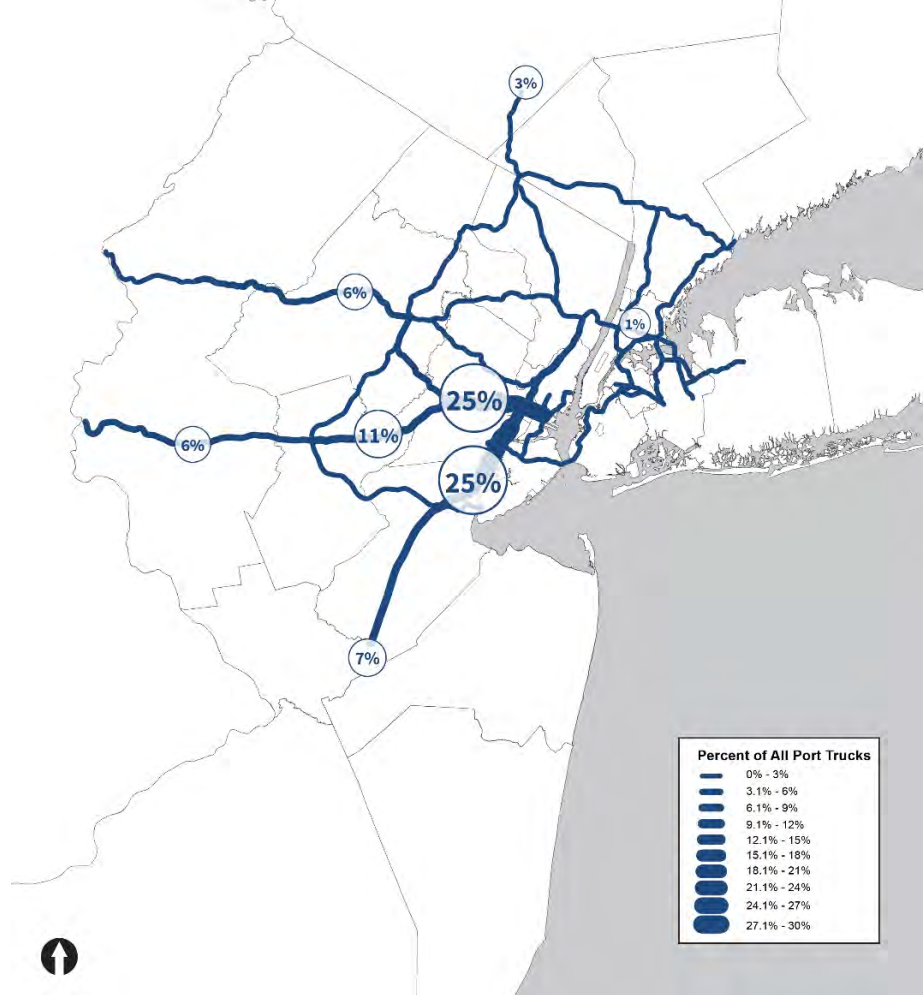
Primary destinations (first stop) for Port truck traffic (top 4 counties account for almost 75% of trucks)



Interstate highways, showing major routes for Port trucks and peak traffic congestion

Key east-west corridors:
I-78 and I-80 (along with I-280 and NJ 24)

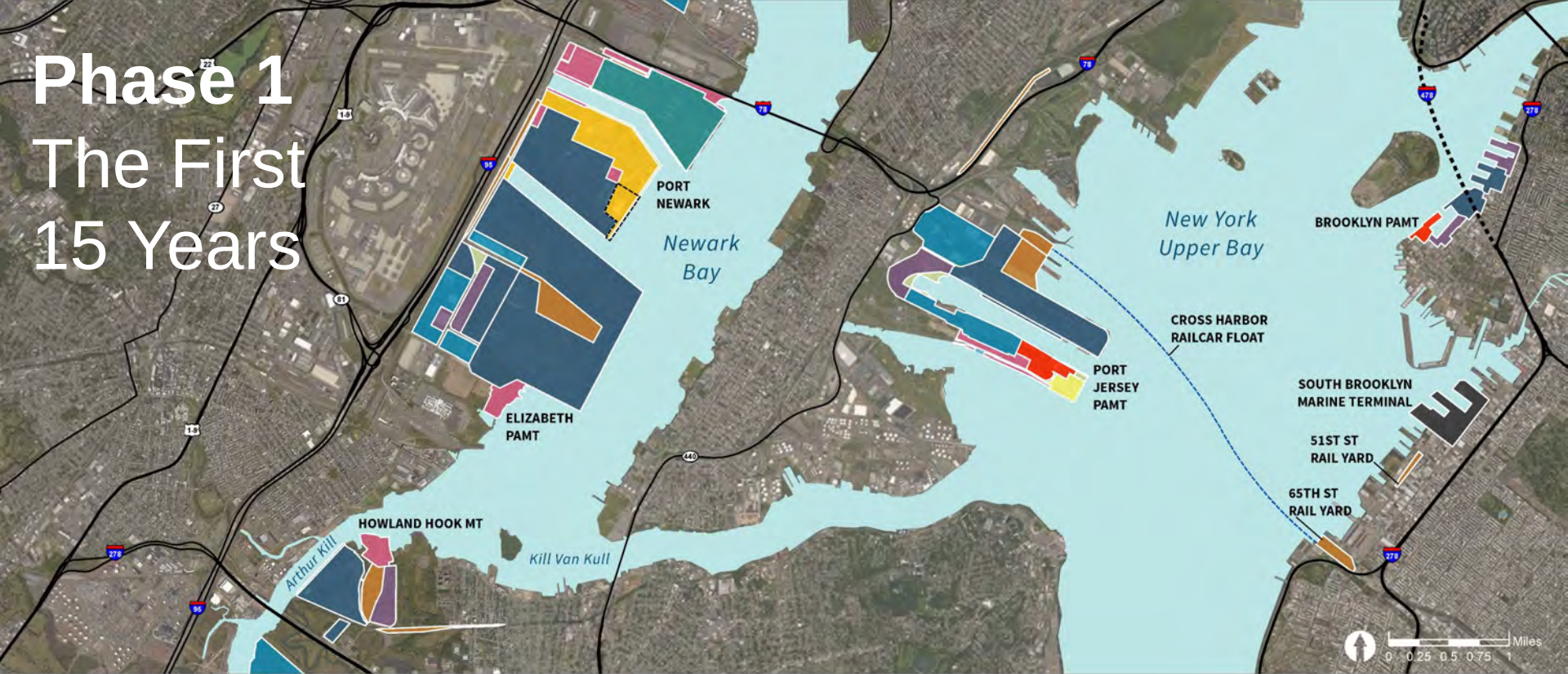
Key north-south corridors:
I-95, I-287 and NJ 17



Port Master Plan 2050

Phase 1

The First 15 Years



Phase 1

Maximizing Recent Investments Over the Next 15 Years

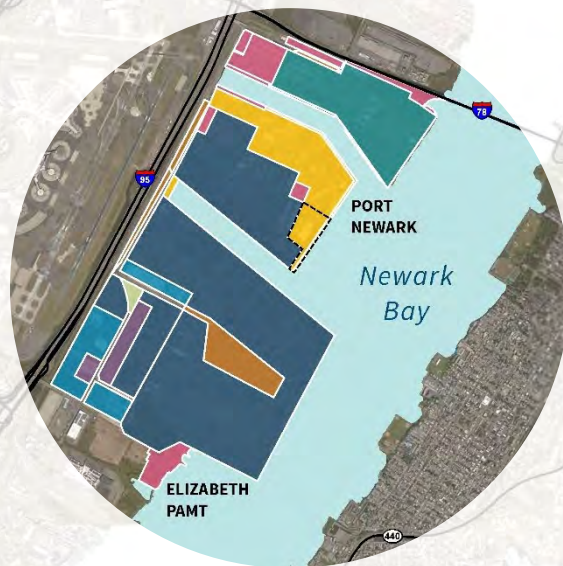
- GOALS

- Continue to set green goals and policies aimed at driving down port-related impacts
- Support growth of existing tenants
- Allow PANYNJ to meet sustainability/resiliency goals
- Lay the foundation for future investments

KEY ACTIONS IDENTIFIED

- Establish working groups, planning forums and policies for inclusion in projects, processes and leases
- Establish consistent stakeholder outreach procedure
- Develop scope of work for Port Ivory and Port Jersey South (former MOTBY) development projects
- Conduct detailed future capacity analysis of New York and New Jersey waterways with USACE
- Collaboratively plan for the future — expansion options in Newark/Elizabeth, Port Jersey, or Brooklyn
- Increase intermodal rail cargo volumes
- Implement roadside improvement projects and improve circulation along common roadways and local port streets
- Establish a site-wide electrical and communications platform and alternate power source program
- Explore potential for OSW manufacturing or support facilities

Phase 1 Facilities



PORT NEWARK AND ELIZABETH PAMT

- Focus investment on road- and rail-enabling projects
- Implement alternate power source program over time
- Seek to work with Cities of Elizabeth and Newark to envision greater public access

Phase 1: Port Newark/Elizabeth PAMT

IMPLEMENT

An alternate power source program converting to low-emissions operations and equipment

DEVELOP

A site-wide communications and electrical platform that is forward thinking and resilient

IMPLEMENT

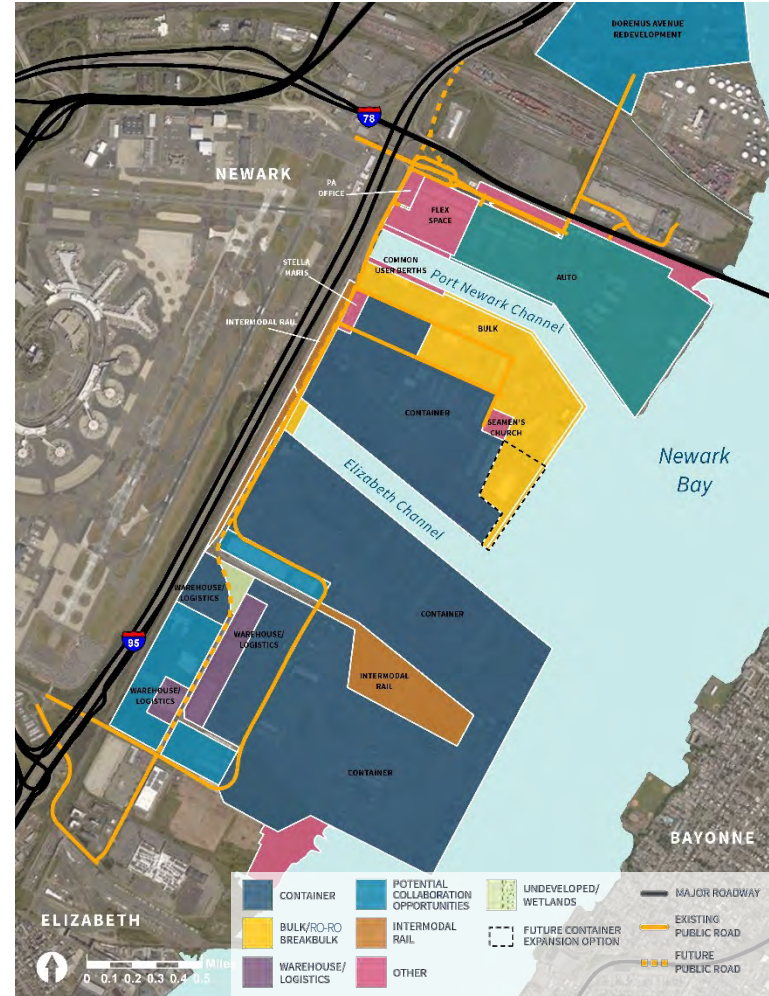
Roadside improvement projects including Port Street realignment, data capture utilizing E-Z Pass or GPS reader technology and chassis and empty container storage location studies

IMPROVE

Connectivity with I-95 and I-78

INCREASE

Intermodal rail volume to ensure ExpressRail facilities are operating efficiently and increase container on barge usage intra-harbor and regionally



Next Steps: Port Newark & Elizabeth PAMT

PROJECT

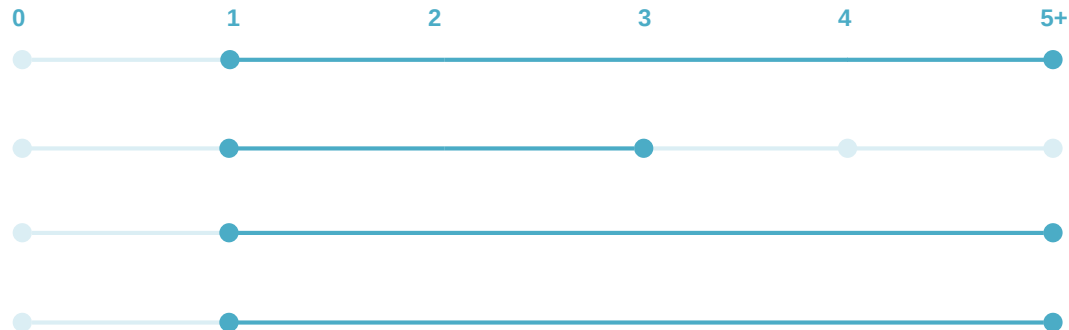
01 | Improve circulation along common transportation spine and local port streets

02 | Establish upgraded power and communications network (study phase, implementation to follow)

03 | Establish community access & education programs

04 | Continue move to low emission operations

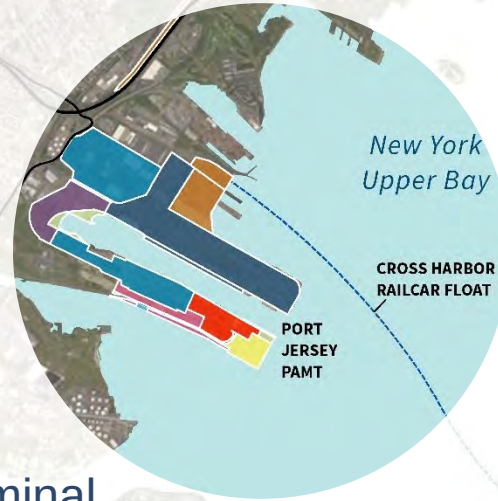
TIMELINE (YEARS)



Phase 1 Facilities

PORT JERSEY PAMT

- Continue to support establishment of ferry terminal
- Investigate container expansion alternatives



Phase 1: Port Jersey PAMT

COMPLETION

Of the 14A interchange and enhanced separation of port and public vehicles

SUPPORT

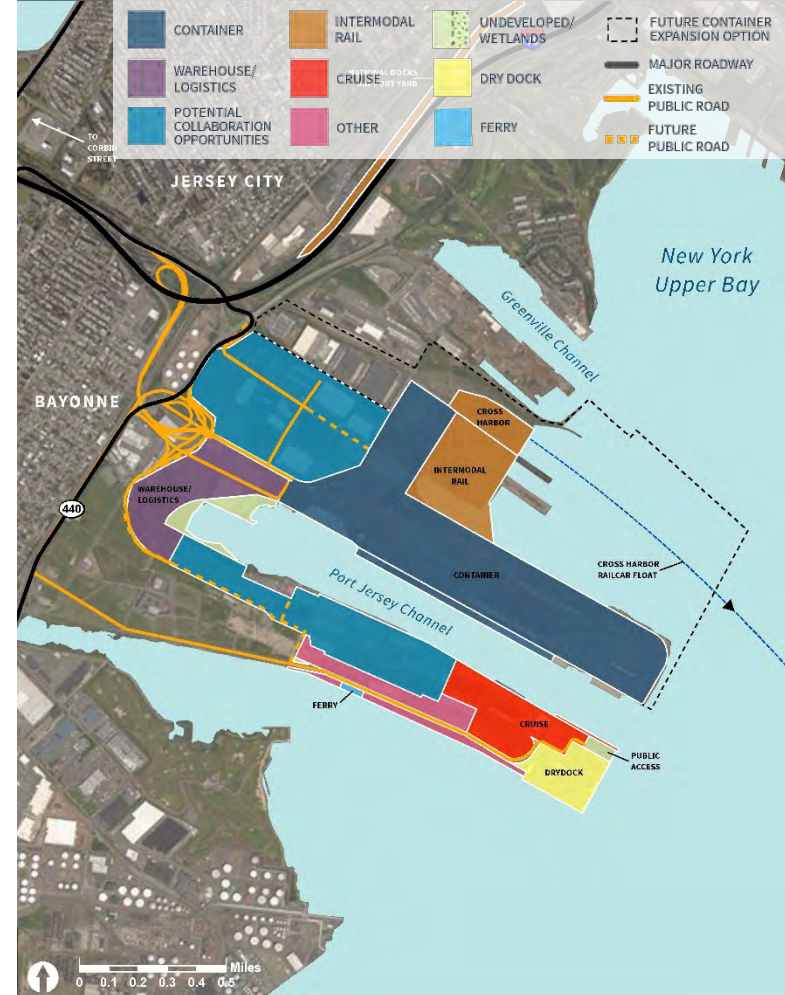
Progressive expansion that could eventually lead to an expanded ICTF Greenville Yard network that provides high-efficiency (i.e. longer working track) on-dock rail capability

INVESTIGATE

Expansion alternatives for future additional container capacity north of the existing facility

ACQUIRE

Land if needed to enable the envisaged plan and seek potential partnering for development that will improve circulation and ease congestion



Phase 1: Port Jersey PAMT

DEVELOP

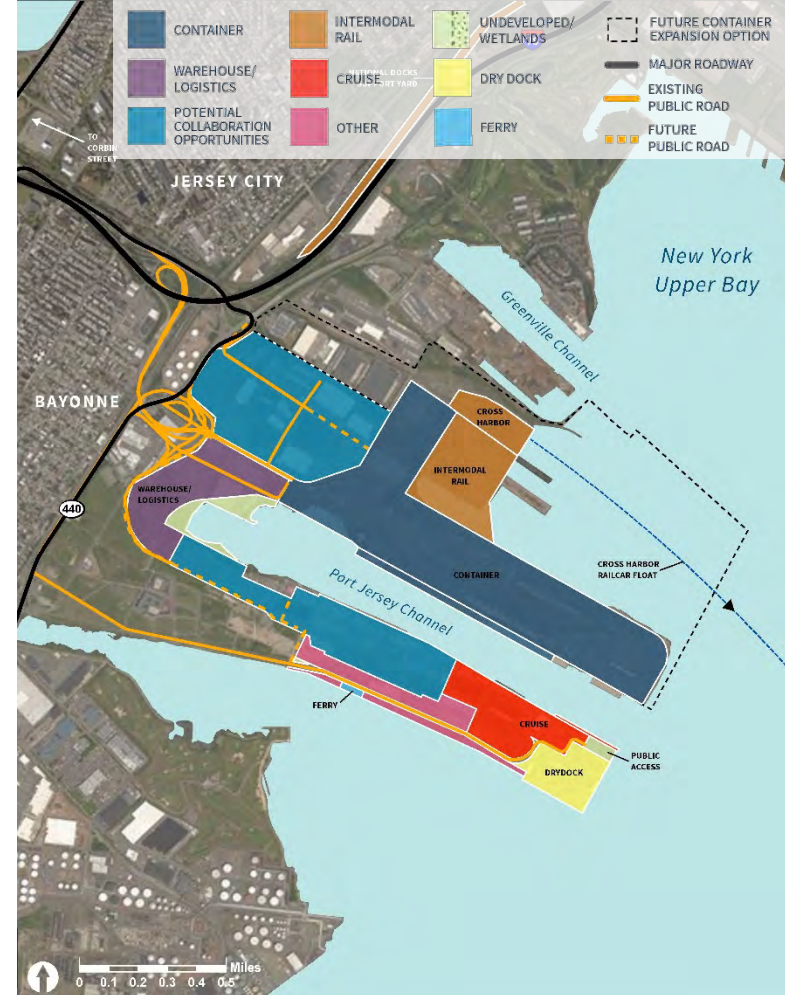
A coordinated distribution and warehousing hub in conjunction with adjacent property owners along Port Jersey South (former MOTBY)

CONTINUE

To support the establishment of a ferry terminal

ENHANCE

Provisions for a future second cruise berth



Next Steps: Port Jersey

PROJECT

01 | Establish ferry terminal service

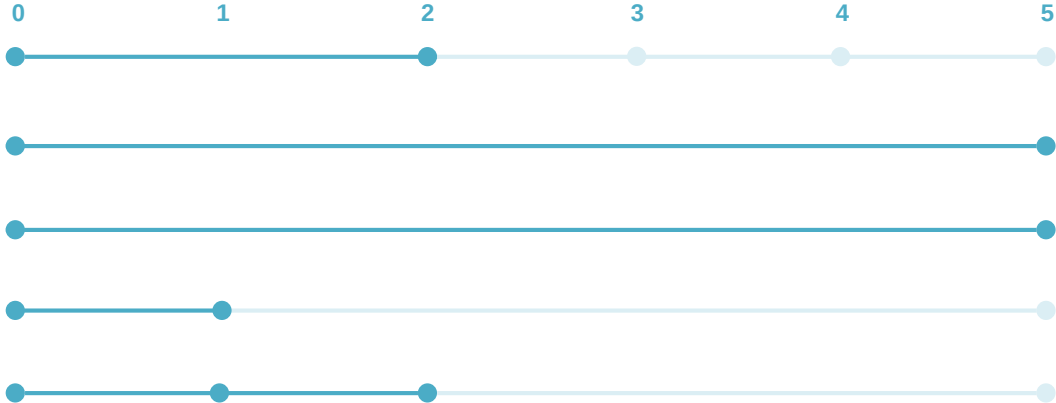
02 | Strategic land acquisition

03 | Assist development of Port Jersey South

04 | Expand GCT Bayonne

05 | Plan for future capacity

TIMELINE (YEARS)



Phase 1 Facilities



HOWLAND HOOK MARINE TERMINAL

- Support enhanced container-handling capacity
- Potential to develop Port Ivory site as a facility for logistics and distribution or to support offshore wind and other renewable energies

Phase 1: Howland Hook Marine Terminal

SUPPORT

Enhanced container-handling capability

LEVERAGE

Logistics and distribution center developments through greater connectivity between the facilities, marine terminal and local road & interstate networks

DEVELOP

Port Ivory into a logistics facility linked to the existing ExpressRail network with a realigned Western Avenue (Parcel B)

BROADEN

Potential cargoes and take advantage of emerging opportunities in offshore wind and renewable energy support on Port Ivory (Parcel C)



Next Steps: Howland Hook

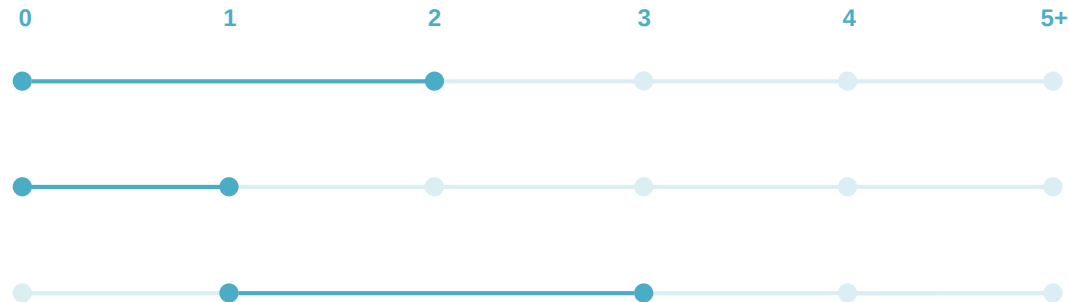
PROJECT

01 | Support HHMT growth, including review of current Howland Hook Toll Reimbursement Program

02 | Implement coordinated marketing strategy

03 | Develop Port Ivory & realign Western Ave

TIMELINE (YEARS)



Phase 1 Facilities

BROOKLYN PAMT AND WATERFRONT FACILITIES

- Continue evaluating alternatives to maintain and grow East-of-Hudson marine cargo operations
- Partnering and collaboration among numerous public and private stakeholders



Phase 1: Brooklyn PAMT and Waterfront Facilities

EVALUATE

Alternatives to maintain and grow East-of-Hudson marine cargo operations

ACTIONS

Arising from the study of alternatives are dependent on timing, and partnering/collaboration among public and private stakeholders

CONTINUATION

Of ongoing Red Hook marine activity at Brooklyn Port Authority Marine Terminal (BPAMT) will necessitate additional investment in infrastructure improvements and exploration of ways to improve capacity to grow

DEVELOPMENT

At SBMT could enable establishment of a state-of-the art marine facility with opportunities for expansion to meet the future needs of the East-of-Hudson market

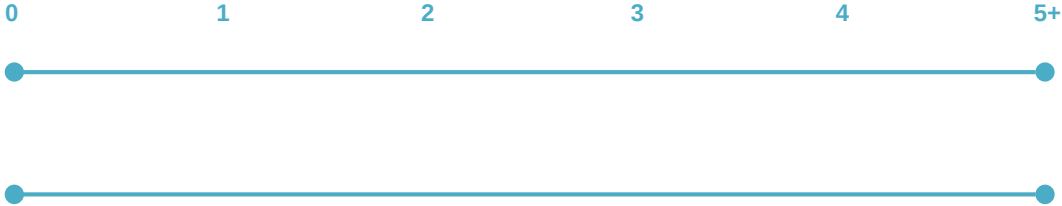


Next Steps: Brooklyn PAMT

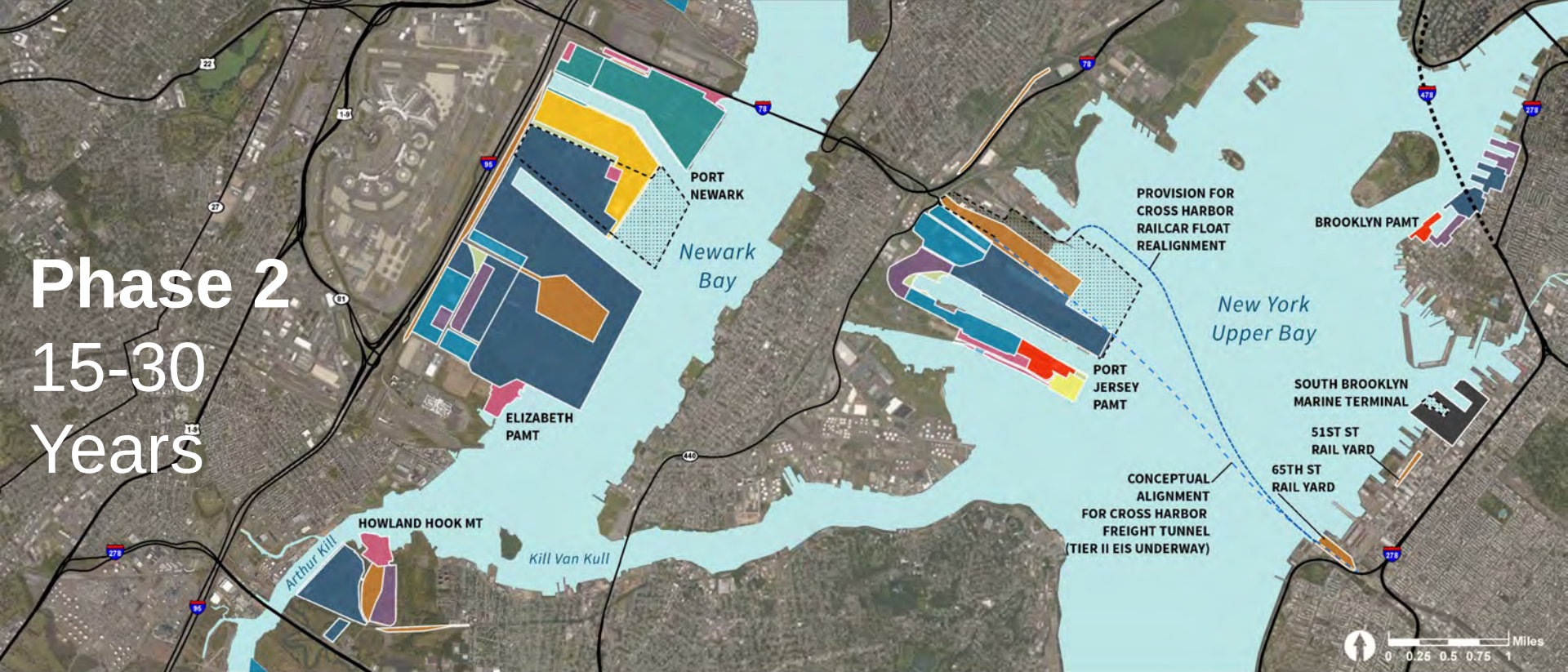
PROJECT

- 01 | Maintain and grow container and maritime activity on the Brooklyn waterfront
- 02 | Continue to support and maintain operations at Brooklyn PAMT facilities

TIMELINE (YEARS)



Phase 2 15-30 Years



Port Master Plan 2050 Results

When successfully implemented, the PONYNJ will be a competitive and financially successful port that is environmentally sustainable and provides the maximum benefit for regional jobs and economic impact.

	Sustainable and Resilient		An Economic Generator		A Platform for Partnership		Shaping Future Growth		State of the Art
...greenhouse gas emissions reduced by 35% by 2025 and 80% by 2050		...80,000 new jobs created regionally		...community engagement		...proactive rather than reactive		...leveraging technology developments to:	
...alternative-fuel vehicles deployed		...\$25 billion in incremental economic activity		...industry forums and summits		...partnering with state and regional planning organizations		...improve safety	
...alternative energy sources harnessed		...implements 30 major projects and develops unused space		...public access				...streamline infrastructure operations and maintenance (O&M)	
...new construction includes resiliency measures		...workforce development and education opportunities						...increase efficiency across the port and the region	
...increasing modal split									

Thank You

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<http://newpa1.panynj.gov/port/port-master-plan.html>