Vision for Brooklyn Marine Terminal

Task Force Meeting #4

December 18, 2024

BMT Managed by NYC/EDC

Agenda

Part 1 — **30 mins**

BMT Port Opportunities

Q&A

Part 2 — **90 mins**

Site Planning Tool

Land Use Assumptions

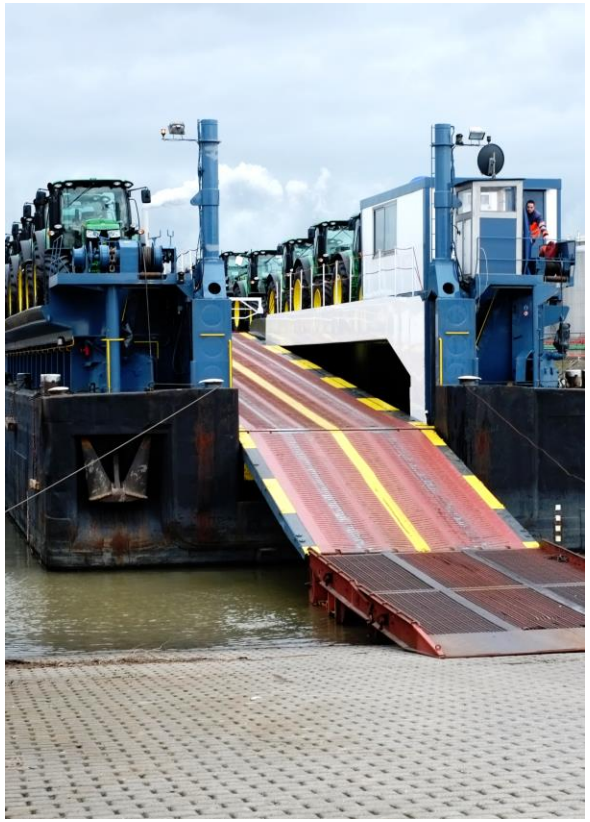
Q&A + Discussion

Meeting Goals

- Review and discuss **detailed information and analysis on port uses** including container, flex maritime, and cruise
- Introduce the **site planning tool** and review the **land use assumptions** integrated into the tool and its corresponding web application

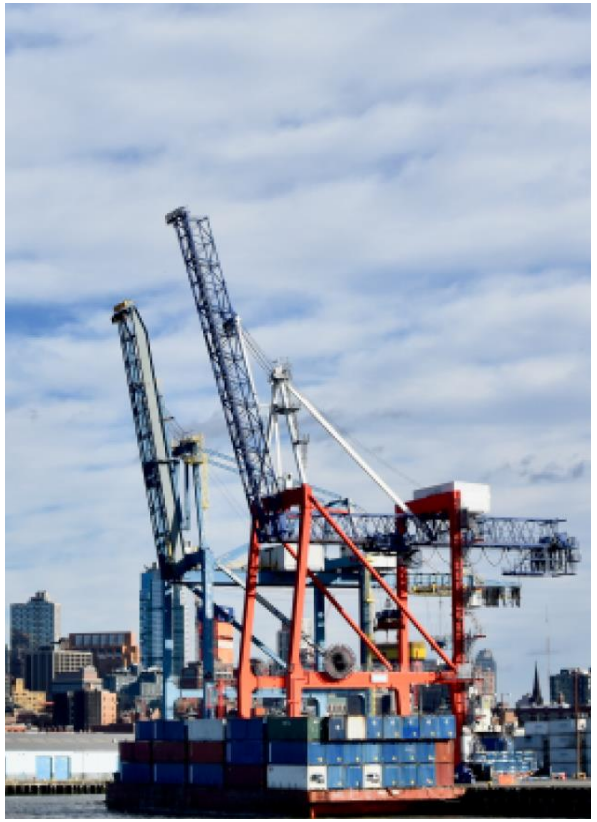
What is BMT today and what can it be in the future as a modern maritime port?

Today, BMT is a **niche container terminal** serving smaller vessels (<4,000 TEUs), **a small amount of non-container bulk cargo**, and **a cruise terminal**. A modern port can result in **additional container activity**, a new **flex maritime area serving blue highway**, and a **reimagined cruise terminal**.



Roll-on/roll-off cargo ships

Micro-mobility vehicles



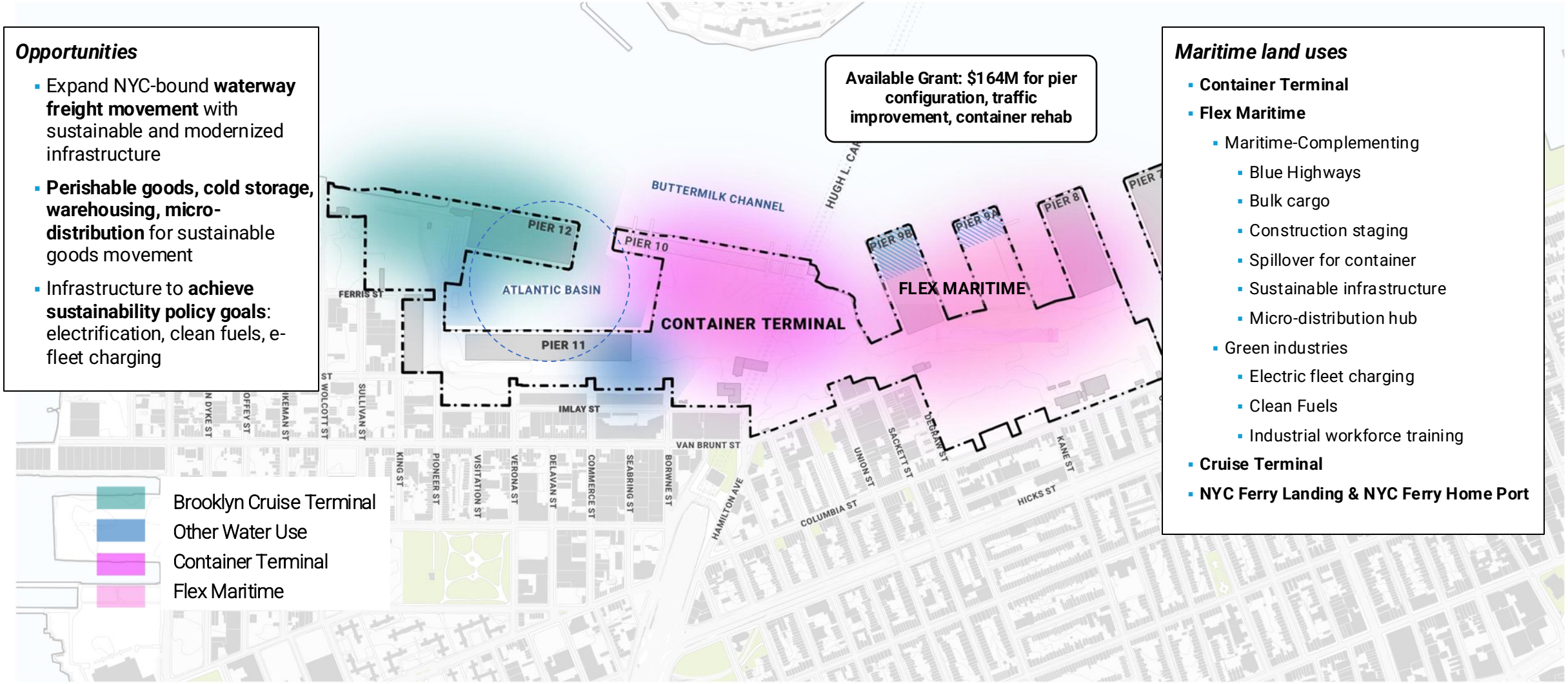
Electric cranes

Cruise

Future Multi-Purpose Port Opportunity

Opportunities

- Expand NYC-bound **waterway freight movement** with sustainable and modernized infrastructure
- **Perishable goods, cold storage, warehousing, micro-distribution** for sustainable goods movement
- Infrastructure to **achieve sustainability policy goals**: electrification, clean fuels, e-fleet charging



Maritime land uses

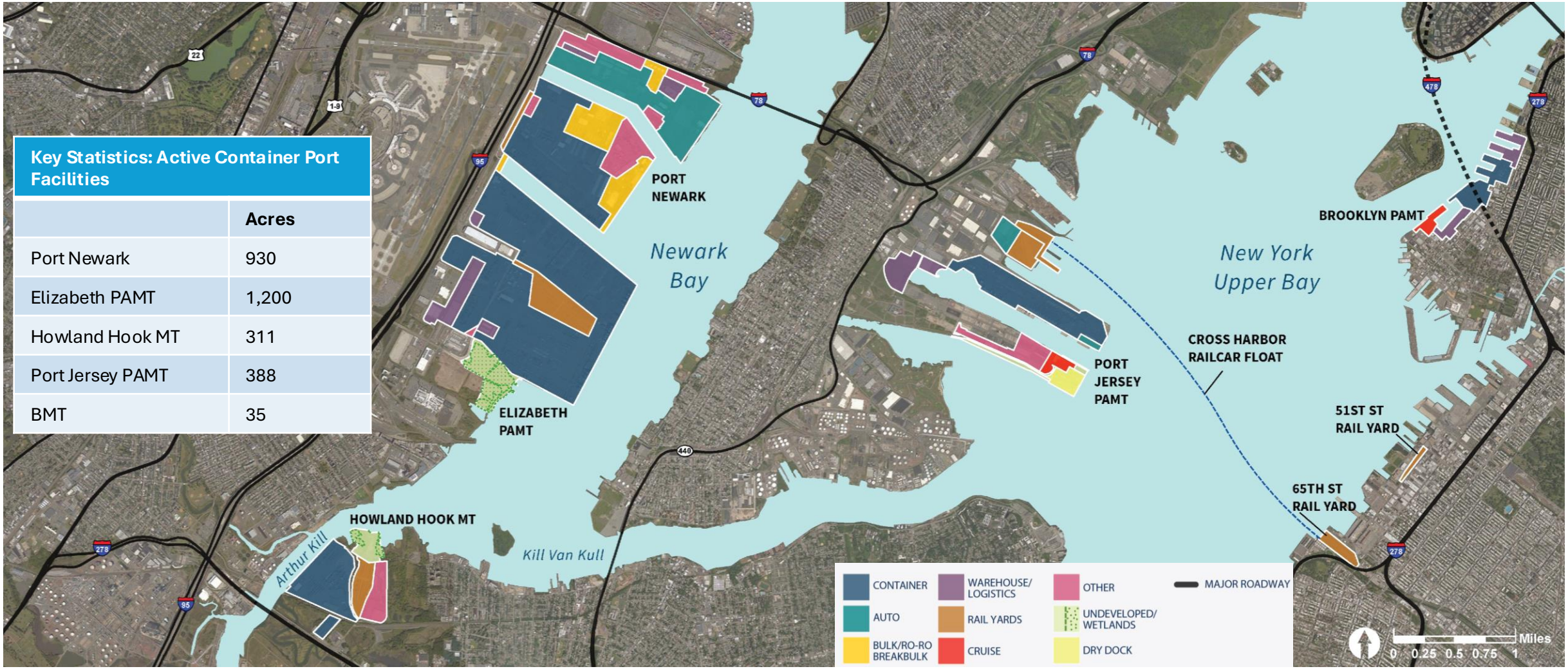
- **Container Terminal**
- **Flex Maritime**
  - Maritime-Complementing
    - Blue Highways
    - Bulk cargo
    - Construction staging
    - Spillover for container
    - Sustainable infrastructure
    - Micro-distribution hub
  - Green industries
    - Electric fleet charging
    - Clean Fuels
    - Industrial workforce training
- **Cruise Terminal**
- **NYC Ferry Landing & NYC Ferry Home Port**

Container Terminal

Regional NY & NJ Container Market

Since 2022, container activity in Port of NY & NJ has more than doubled, making it the second largest U.S. port for loaded containers. Container volume served by larger vessels in the Port is expected to more than double again by 2050.

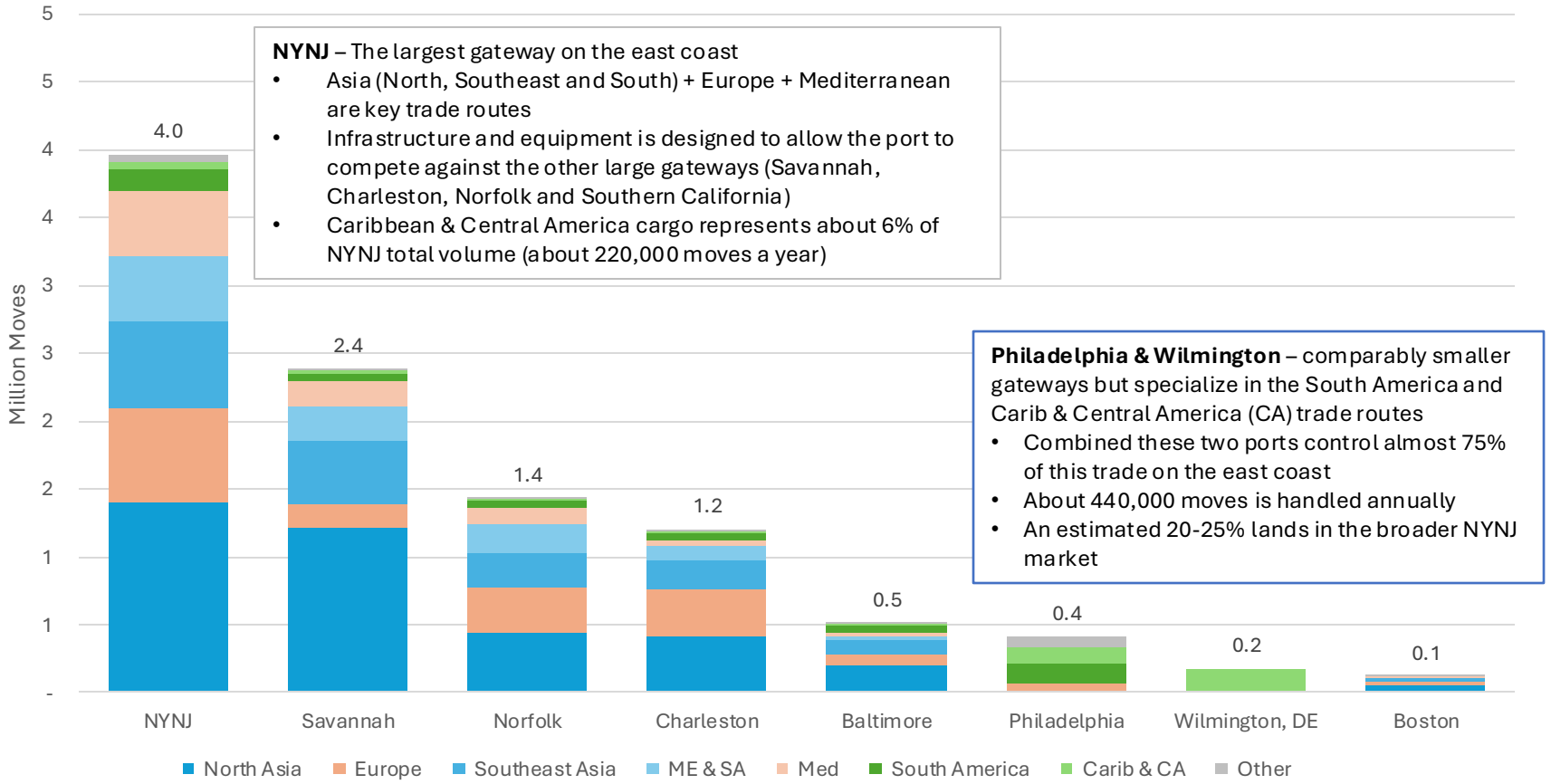
Key Statistics: Active Container Port Facilities	
	Acres
Port Newark	930
Elizabeth PAMT	1,200
Howland Hook MT	311
Port Jersey PAMT	388
BMT	35



Northeast Container Market Overview

The Port of NYNJ are a traditional “Must-Call” port; but Philadelphia and Wilmington represent the most direct challengers for BMT for perishable foodstuffs. Savannah remains a key overall East Coast competitor.

US East Coast Ports – Volume by Gateway by Trade Lane



NYNJ – The largest gateway on the east coast

- Asia (North, Southeast and South) + Europe + Mediterranean are key trade routes
- Infrastructure and equipment is designed to allow the port to compete against the other large gateways (Savannah, Charleston, Norfolk and Southern California)
- Caribbean & Central America cargo represents about 6% of NYNJ total volume (about 220,000 moves a year)

Philadelphia & Wilmington – comparably smaller gateways but specialize in the South America and Carib & Central America (CA) trade routes

- Combined these two ports control almost 75% of this trade on the east coast
- About 440,000 moves is handled annually
- An estimated 20-25% lands in the broader NYNJ market

Source: PIERS; M&N

BMT – Infrastructure Constraints and Northeast Competition

BMT does not have certain advantages to compete with regional container ports located close to transportation networks that provide direct access to more consumer markets in North America.

Infrastructure Constraints

- Harbor Depth: the harbor depth of 40 feet around BMT serves <4,000 TEU vessels
  - Port Newark has a harbor depth of 50 feet that can accommodate some of the world's largest container vessels (8,000 – 17,000 TEU).

- Lack of Direct Largescale Inland Connections:
  - Rail: unlike NJ ports that connect directly to the national rail network, BMT does not have on-dock rail connections
  - Highway: BMT does not have direct access to major interstate highways that provide truck access to the Northeast, Mid-Atlantic, and across North America.
    - This makes it less attractive for shippers needing large scale inland distribution.

Northeast Port Competition

- Existing parent-company relationships and operator alliances: relationships between liner-owned terminal operators and container vessel operators influence the ports that ships are inclined to call on
  - Maersk owns APM Terminals that operates Port Elizabeth; Maersk ships prefer to call on APM Terminals
- Dense cluster of value-added logistics and import services:
  - Ports of Philadelphia and Wilmington have an entrenched competitive advantage for fruit imports from providing value-added logistics, import services, and millions of SF in cold storage facilities

Container Terminal – Today

Pier and Upland Area

- Container terminal operates on Pier 10 and upland
- U.S. Customs and Border Patrol Inspection Facility in Pier 8 shed
- 1,300 linear feet of berth on Pier 10

2022 Annual Throughput

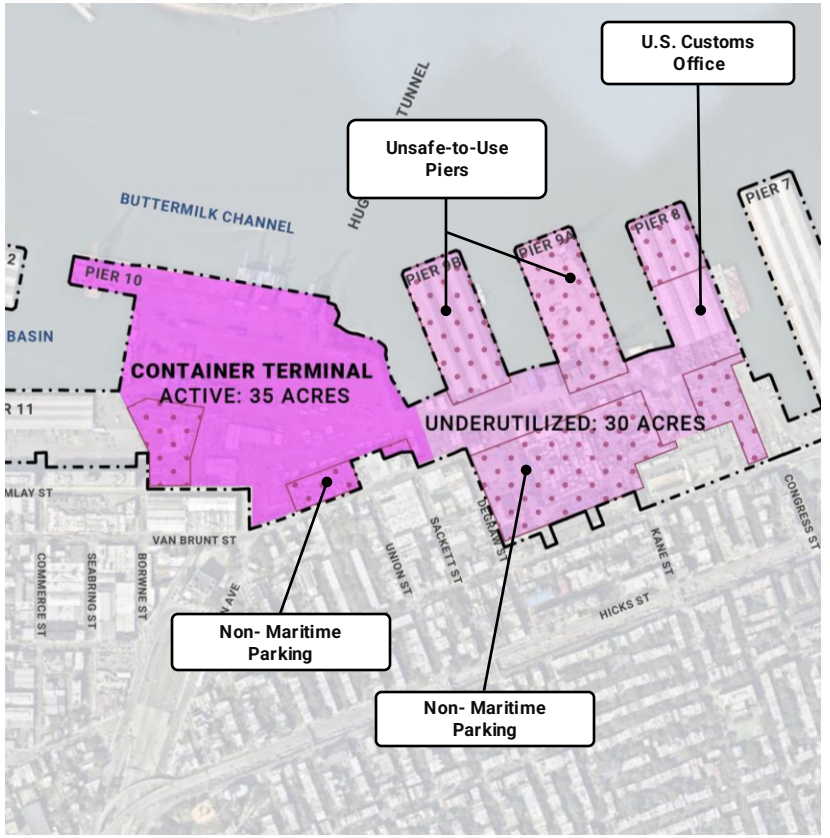
- 60,000 international container moves
- Approximately 50% barged to New Jersey

Container Handling Equipment

- 2 active, electric ship to shore (STS) cranes
- Diesel reach stackers
- Diesel yard tractors and bomb carts
- Forklifts

Ancillary Facilities for Container Terminal include:

- U.S. Customs and Border Patrol Inspection Facility
- Administration Building
- One-stage 8-lane Reversible Truck Gate and Guard Booth
- Maintenance and Repair Building
- 200 Reefer Plugs (according to PANYNJ 2021)

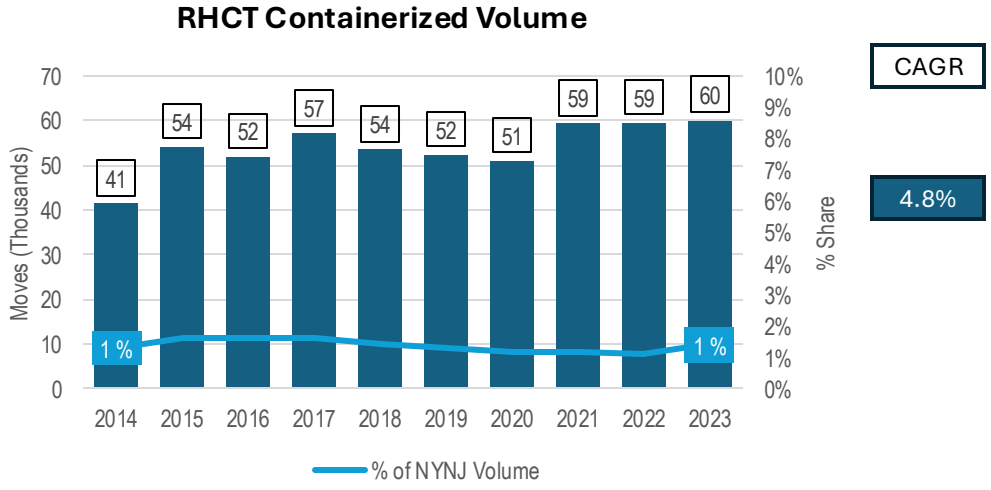


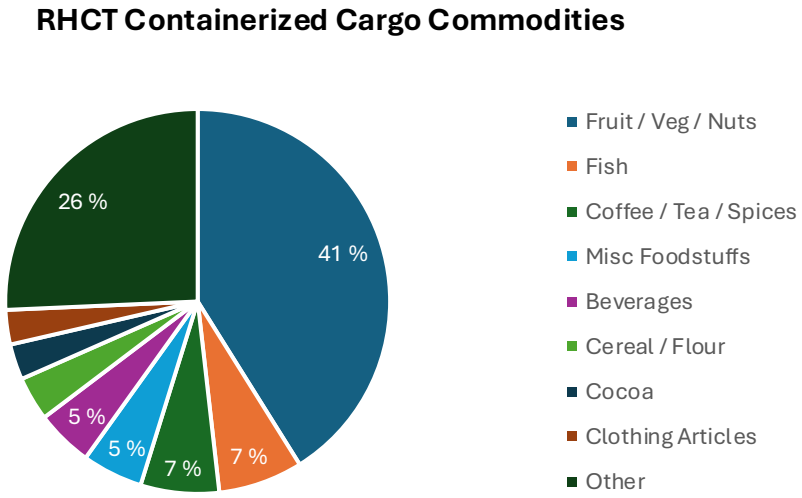
Container Profile by Commodity

Containers arrive via 2 regular services (Seaboard Marine and Grimaldi) importing different perishable and non-perishable foods

Around 70% of containerized cargo handled is foodstuffs

- Reefers are needed for perishable goods such as fruit / veg and fish which almost make up 50% of handled containers
- Coffee / tea / spices, beverages (including alcohol), cereals / flour, cocoa, and other items typically stored in kitchen cupboards generally don't need to be in refrigerated containers





* Preliminary data, to be refined with RHCT

Key Takeaways

Container Terminal at BMT: Future Growth Potential

The market opportunity for container terminal at BMT should continue to focus on handling specialized cargo freight including perishable items destined to the local NYC market

- Currently ~170 jobs (majority ILA)
- Well-positioned to target smaller vessels from South/Central America, Mediterranean, and Africa
- Competition is greatest with the ports of Wilmington, DE and Philadelphia region
- Barge service has potential to ship refrigerated containers to Hunts Point for Blue Highway deliveries, while also continuing to serve NJ

Moffatt & Nichol forecasts that a modern port with 25 to 35 acres of upland can be financially self-sustaining and handle 1 additional service, resulting in ~ 135k moves/year, compared to 90k moves/year today

- This 50% increase in container volume throughput can be achieved by picking up 1 additional regular service (currently the terminal receives 2 regular services)

Key Takeaways

Container Terminal at BMT: Infrastructure Requirements and Financial Sustainability

A 25 to 35-acre terminal could be financially viable after initial public investment and cross-subsidy for maritime infrastructure costs

- Historically, RHCT has operated with an annual $3M - $5M subsidy and that cannot be maintained in the future
- A single operator for the container, cruise, and flex maritime terminals could increase efficiency, financial sustainability

There is approximately $675M-$715M in capital expenditures to modernize the terminal with new and upgraded piers, cold storage, and electric container handling equipment

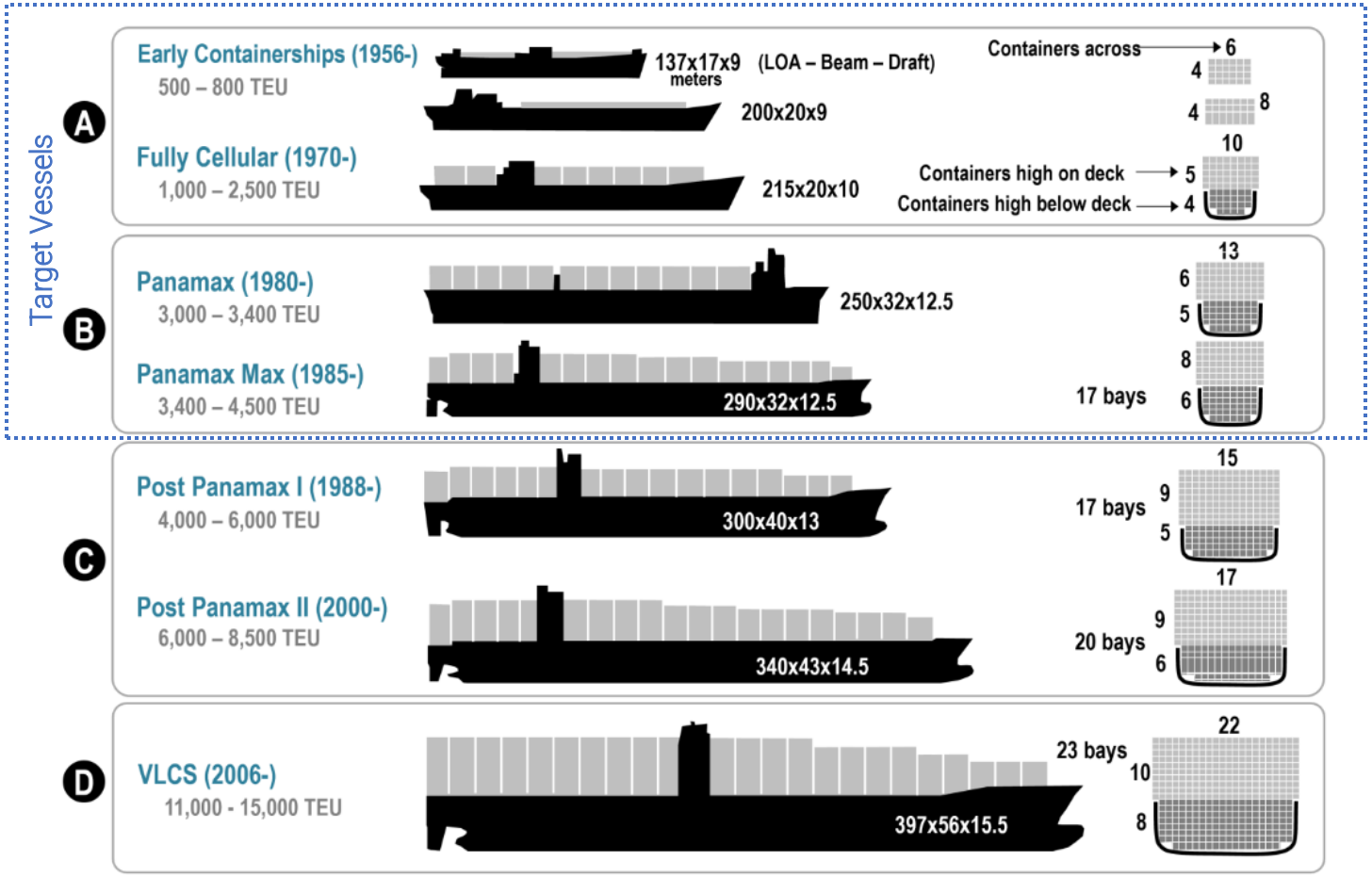
- Even with $295M initial public investment, an estimated $380M - $420M would need to be funded by cross-subsidy and private investment from an operator
- Maritime infrastructure (pier repair and new marginal pier): $545M - $570M
- Top-side infrastructure: 3rd crane, cold storage facility, electric container handling equipment: $130M - $145M

A modernized container terminal with increased capacity will increase truck needs. Transloading on barges to Hunts Point through the Blue Highway network could mitigate traffic issues. Additional transportation solutions will be necessary to reduce additional truck traffic impacts on local streets

- Blue Highway: shipping refrigerated containers and microfreight by barge to Hunts Point and Manhattan

BMT is poised to serve more smaller vessels in the future

BMT has the current capabilities of handling vessels < 4,000 TEU. Currently, 40% of the vessels that call in the NYNJ harbors are < 5,000 TEU. As larger vessels continue to be prioritized at the large terminals of PANYNJ, BMT could take over more calls for the smaller ships that use BMT today.



- Given depth constraints at BMT of 40ft, vessel class is limited to smaller container ships
- Vessels of up to 3,000 – 4,000 TEU that presently call BMT are considered the target market for the terminal.

Container Terminal – Future

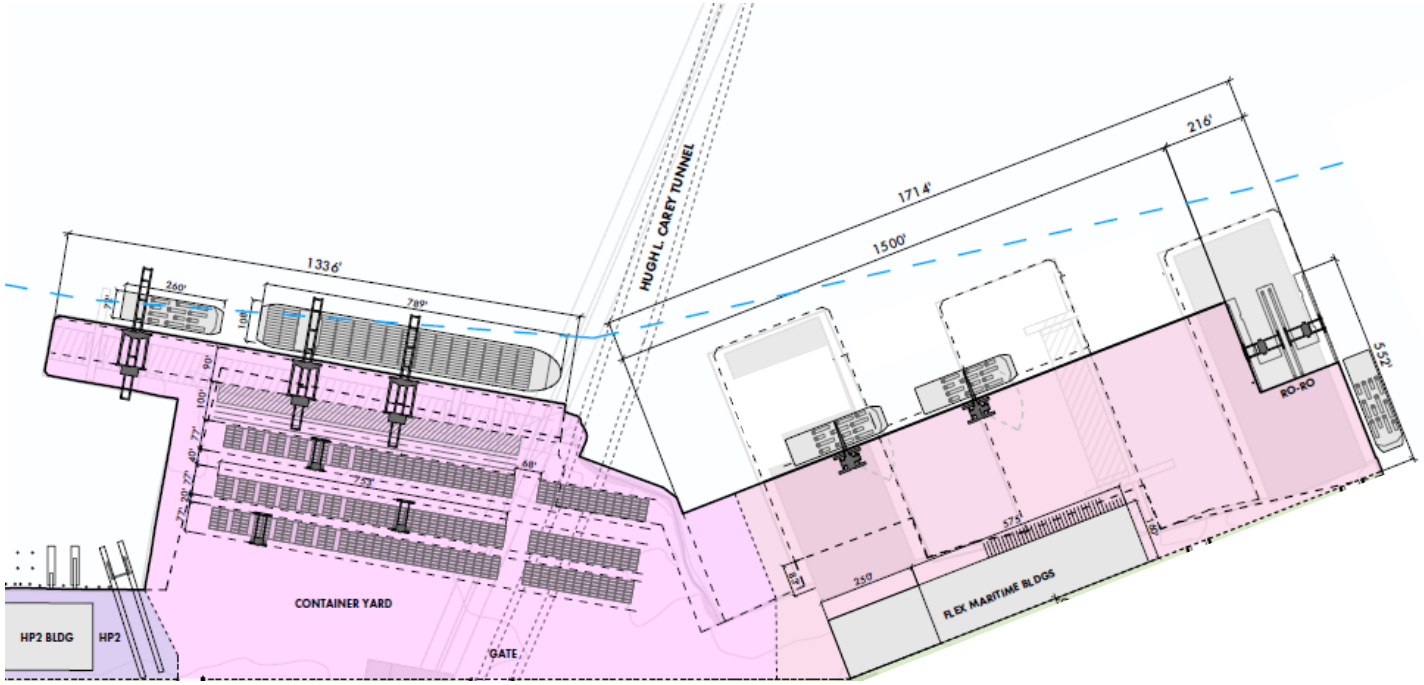
- 25 to 35 acres for container terminal at BMT can provide capacity for ~135k moves/yr with higher-stacked container yard
- 1,300 linear feet of Pier 10 wharf for simultaneous berthing of international vessel and barge
- 10 to 20-acre flex terminal for spillover of additional container volume, Blue Highway, construction staging

Maritime Infrastructure requirements:

- Pier 10 fendering replacement
- Pier 10 repairs and preventative maintenance
- New marginal pier (combining Piers 9a, 9b, 8)

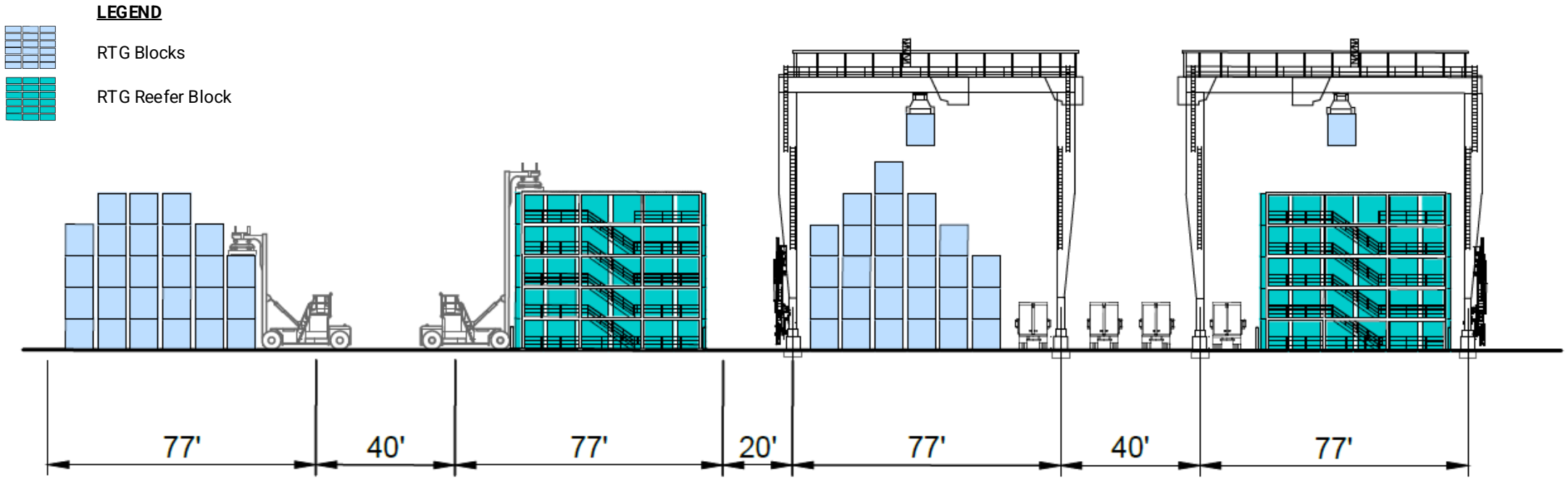
Top-Side Infrastructure (buildings, equipment) requirements include:

- 3rd ship to shore (STS) electric crane
- Cold Storage facility (capacity TBD)
- Mobile electric cranes for container stacking
- Reefer access platforms
- New Admin and M&R building
- Modernized terminal gate
- Electrified yard vehicles and chargers
- Ship to shore power at Pier 10 and marginal pier



BMT as a modern container terminal operation

- Rubber Tired Gantry Crane / Reach Stacker Capable
- 6-wide up to 6-high Dry container stacks and 6-wide up to 5-high Refrigerated (reefer) container stacks
- All stacks can be accessed with electrified RTGs and electrified / hydrogen front end loaders
- Reefer container stacks are adjacent to reefer access/maintenance platforms



Flex Terminal

Flex Terminal – Today

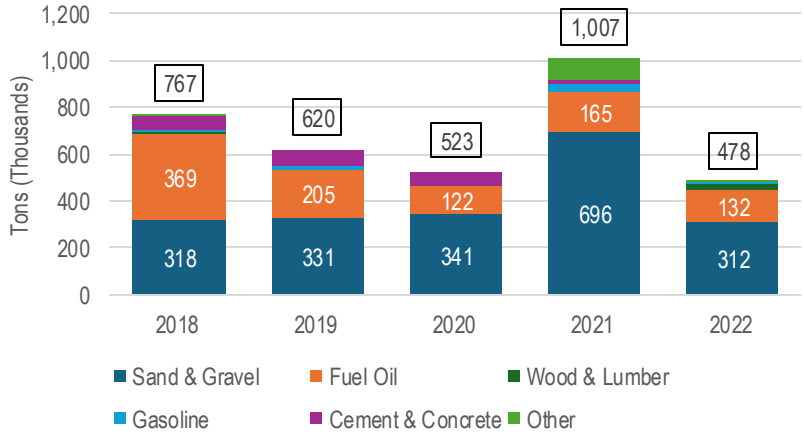
Flex maritime is limited today to bulk cargo in the upland areas with limited revenue potential today and in the future

Bulk Cargo type and volume

- 10 to 20 acres for rock and sand aggregates
  - Aggregate barge operation
  - Existing annual throughput of 50k – 200k tons
  - Less consistent growth than container volume over 2014-2022 period
- D&M Lumber
  - Existing annual throughput of 100k tons
  - 70,000 sf warehouse / 3 acres yard storage, truck loading

Bulk Cargo handling equipment

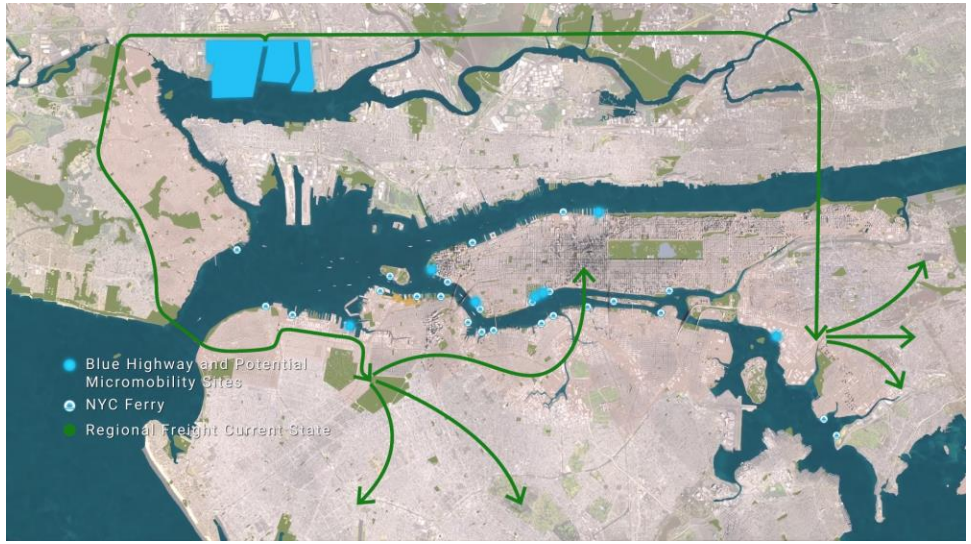
- No fixed equipment

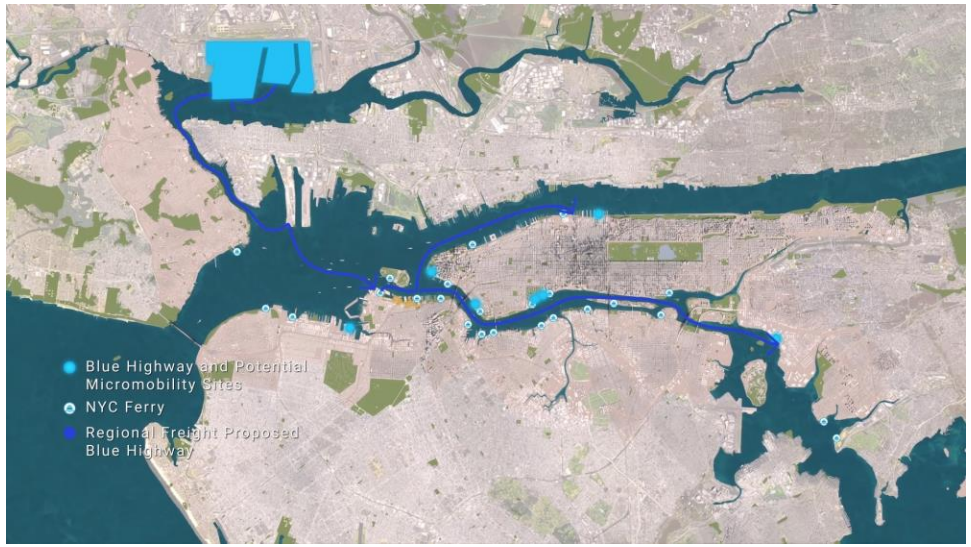


BMT: Blue Highway network for goods movement by water

BMT can be a key node in a citywide Blue Highway network for moving containers and microfreight by water, using barges, fast ferries, and zero-emission vehicles

- **Refrigerated containers** would be shipped by barge from BMT to Hunts Point, for last-mile deliveries by truck or cargo bikes moved by barge or fast ferry.
- **Microfreight** (food, beverages, e-commerce packages) would be shipped by barge to Manhattan, for last-mile deliveries by cargo trikes and e-vans





Flex Terminal – Future

Throughout the world, there has been increasing investment in microdistribution and blue highway as a way to reduce the impact of freight movement on city streets. EDC is prepared to invest in these steps at an ambitious scale.

Available Flex Terminal Site Area:

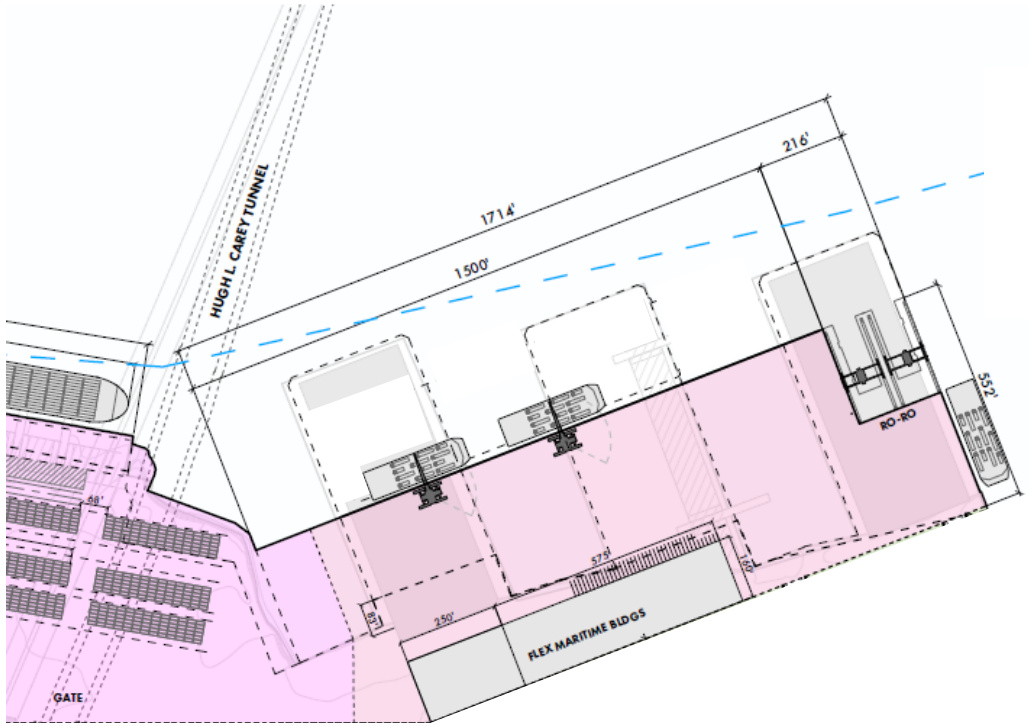
- Approximately 10 - 20 acres

Infrastructure Requirements include:

- New marginal pier

Future Uses:

- Blue Highway
- Bulk Cargo
- Construction Staging
- Spillover area for additional container volume



Flex Terminal: Future Uses

Micro Hub Precedents

- Often located in parking garages, shipping containers, storefronts, on street/open air
- Typically under 12,500 SF
  - 2,500 SF Loading/unloading
  - 4,000 SF Vehicle Parking and Battery Charging
  - 3,000 SF Vehicle repair and other storage needs
  - 3,000 SF Employee amenities
- Access point for bikes/trailers >8' high and 54" wide
- 16' vertical truck clearance (floor to ceiling)
- Bikes should have separate access from trucks
- Mode shift to electric and non-motorized transportation
- Can deliver over 1,500 packages in a day (depending on size and # of vehicles)

Logistics Providers

Single Carrier

Multi Carrier

Repurposed Infrastructure

Car Repair Shop

Parking Garage

Offshore Wind Opportunities and Constraints

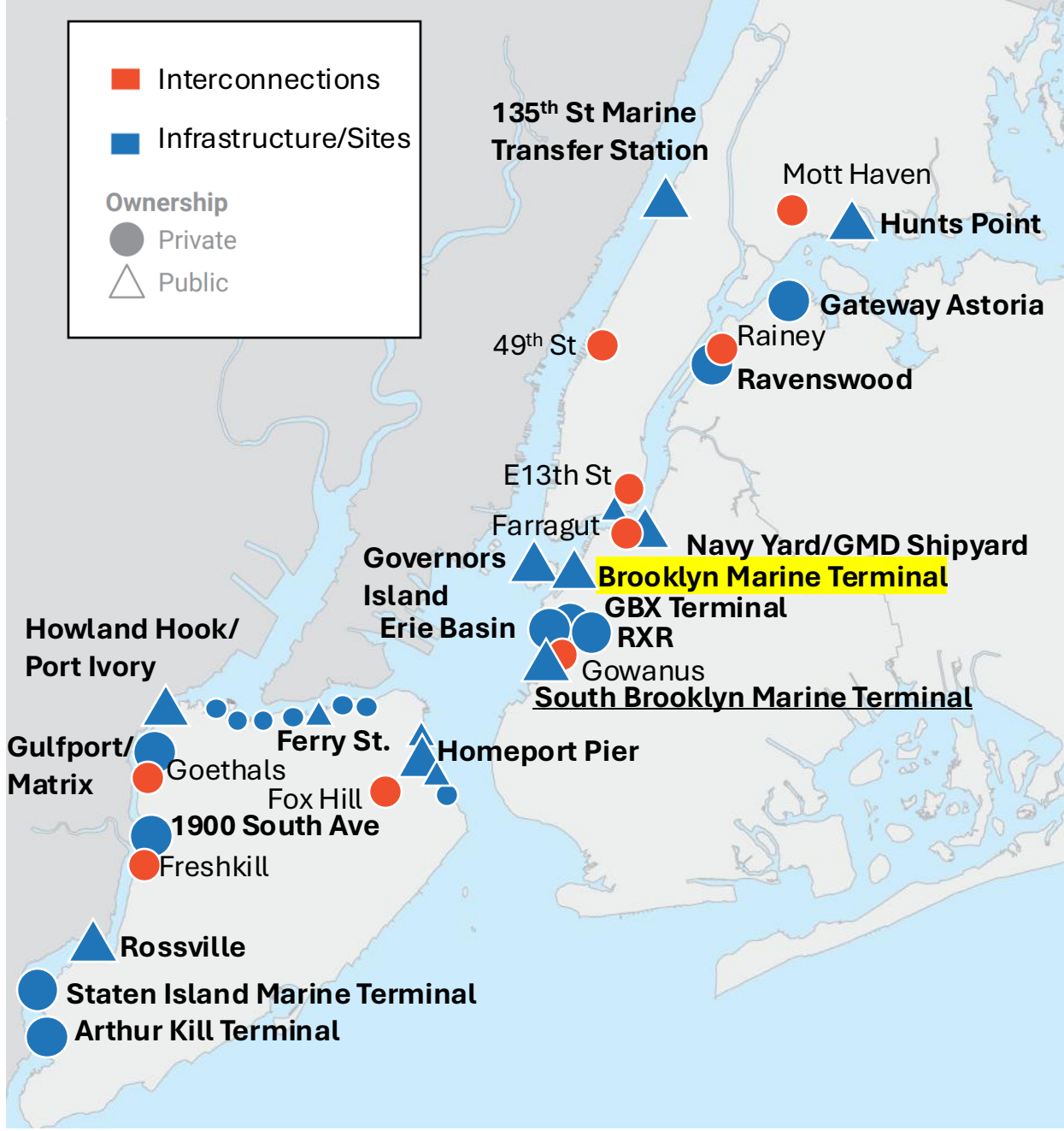
	Largescale Tier 1/2 Manufacturing	Staging & Assembly	Operations & Maintenance	Onshore Substation
Use	Fabrication of foundations, offshore electrical substation parts, cables	Receive, store, assemble components to transport to OSW farm for installation	Dispatch daily and bi-weekly vessels for turbine service and maintenance	Point of entry for cables from OSW farm to utility grid
Needs	60-100 acres+, heavy live load capacity, large laydown area to transport components; variable leasing timeline	25-100 acres, heavy live load capacity, berthing, covered storage; 9-24 month leases	3-10 acres, berthing, back-office space; 20-30 year leases	3-10 acres, 30+ year leases
Suitable NY Sites	Upstate or SI	BK or SI	BK, SI, QNs, or LI	NYC / LI – limited by existing power grid

Multi-site activation to meet OSW anticipated needs

Top Contender Sites for OSW uses

Site	OSW Uses
Arthur Kill Terminal (32 acres)	Staging / O&M
SI Marine Terminals (130 acres)	Staging / Manufacturing / O&M
Rossville (100 acres)	Manufacturing / O&M
Homeport Pier (2 acres)	O&M
SBMT (68 acres)	Staging / O&M
GBX Terminal (13 acres)	Interconnection / O&M
RXR Gowanus (8 acres)	Interconnection / O&M
Navy Yard (6 acres)	O&M
Ravenswood Generating Station (14 acres)	Interconnection / O&M

BMT not required for anticipated OSW opportunities other than possible transmission cable corridor (underground)



Cruise Terminal

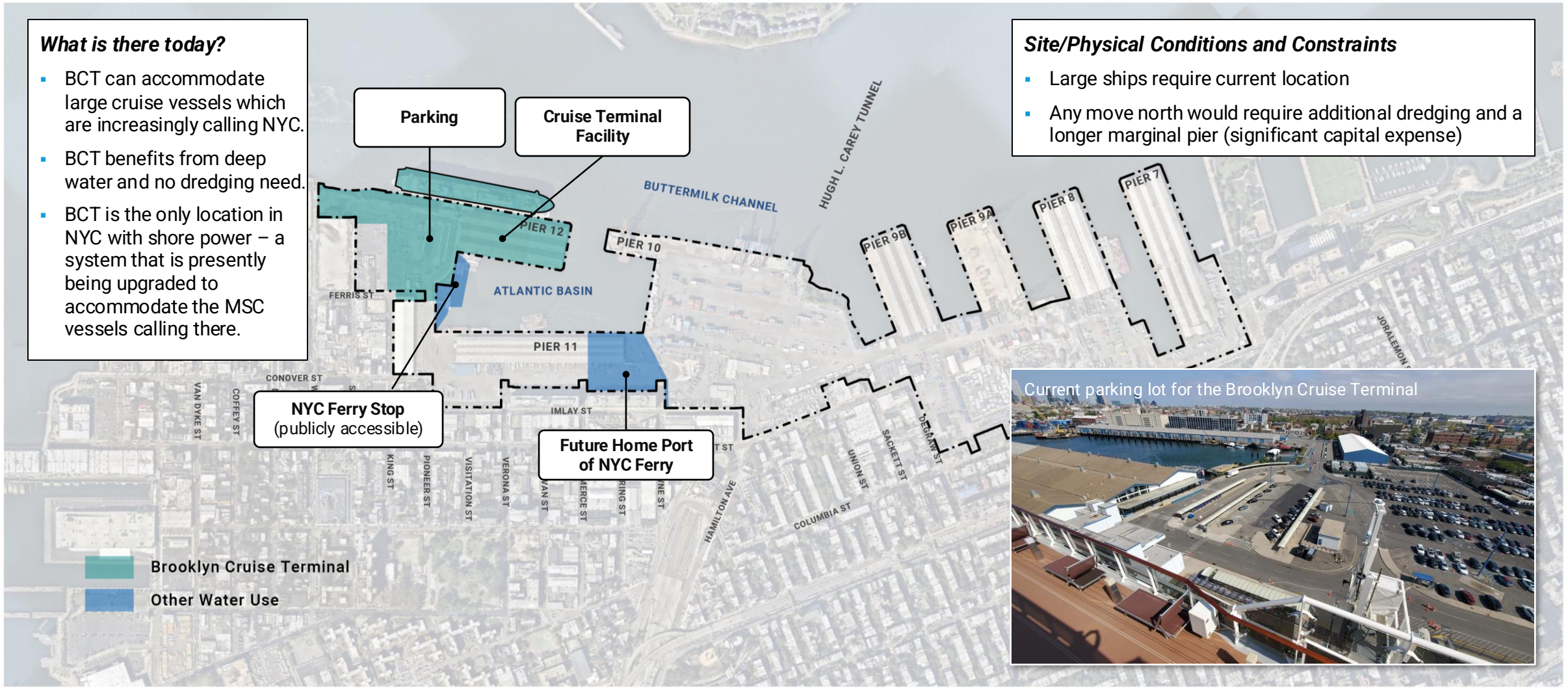
Brooklyn Cruise Terminal – Today

What is there today?

- BCT can accommodate large cruise vessels which are increasingly calling NYC.
- BCT benefits from deep water and no dredging need.
- BCT is the only location in NYC with shore power – a system that is presently being upgraded to accommodate the MSC vessels calling there.

Site/Physical Conditions and Constraints

- Large ships require current location
- Any move north would require additional dredging and a longer marginal pier (significant capital expense)



Current parking lot for the Brooklyn Cruise Terminal

Brooklyn Cruise Terminal – Future

Future Passenger Volume and Capital Investments

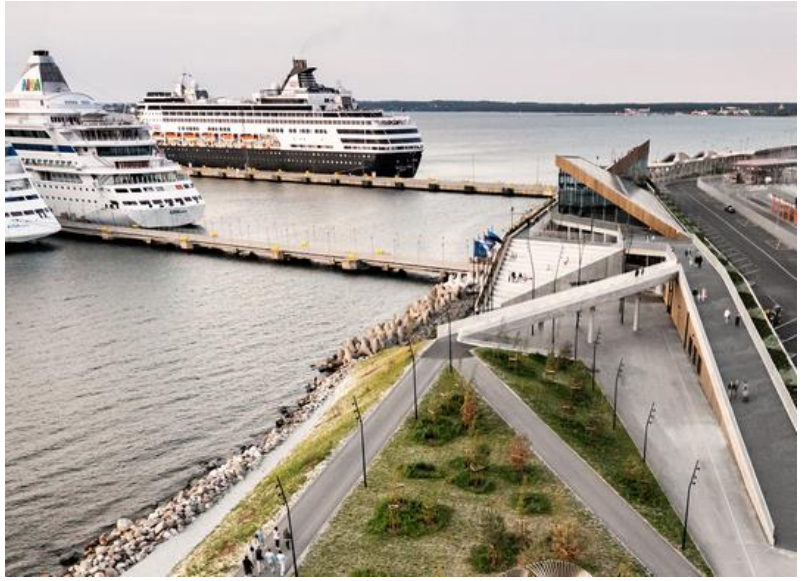
- Of the three port uses on BMT, cruise has by far the strongest economic return and growth potential, making the overall port more attractive to a future port operator.
- Moffatt & Nichol projects that cruise business has strong growth potential in NYC. They project a total of roughly 3 million passenger moves for MCT/BCT by 2041. BCT passenger moves could increase by 38% during the same time period.
- Infrastructure improvements in piers, terminal building, and shore power will make BCT more attractive. With a 1,300 linear ft berth and shore power extension at BMT would be better accommodate larger cruise ships.
- Reconfigured ground transportation area and internal traffic circulation to reduce the impact of passenger embarkation and disembarkation on local streets are crucial.
- Modern urban cruise terminals include a variety of amenities, including retail, open space, and hotel accommodations making them strong community development assets in their neighborhoods

Cruise Terminal & Waterfront District – Precedents

Cruise destination, hospitality, community event space

Sydney Cruise Terminal, Australia

- Opportunity to provide **public space** at cruise terminal
- **Hotel and hospitality** at cruise terminal to distribute arrivals and departures over a longer time period and support local business activity
- **Cultural institutions** adjacent to cruise terminal



Tallinn, Estonia

- Cruise terminal as **iconic architectural landmark**
- **Public space** integrated into cruise terminal building over structure

Casa Cipriani at Battery Park Maritime Building, NYC

- Capitalizes on New York Harbor views and **maritime character/uses** at ferry terminals

Transportation & Resiliency

BMT Transportation Goals

A multi-modal, multifunctional network that balances the needs of the modern port and the neighborhood.

Port transportation needs:

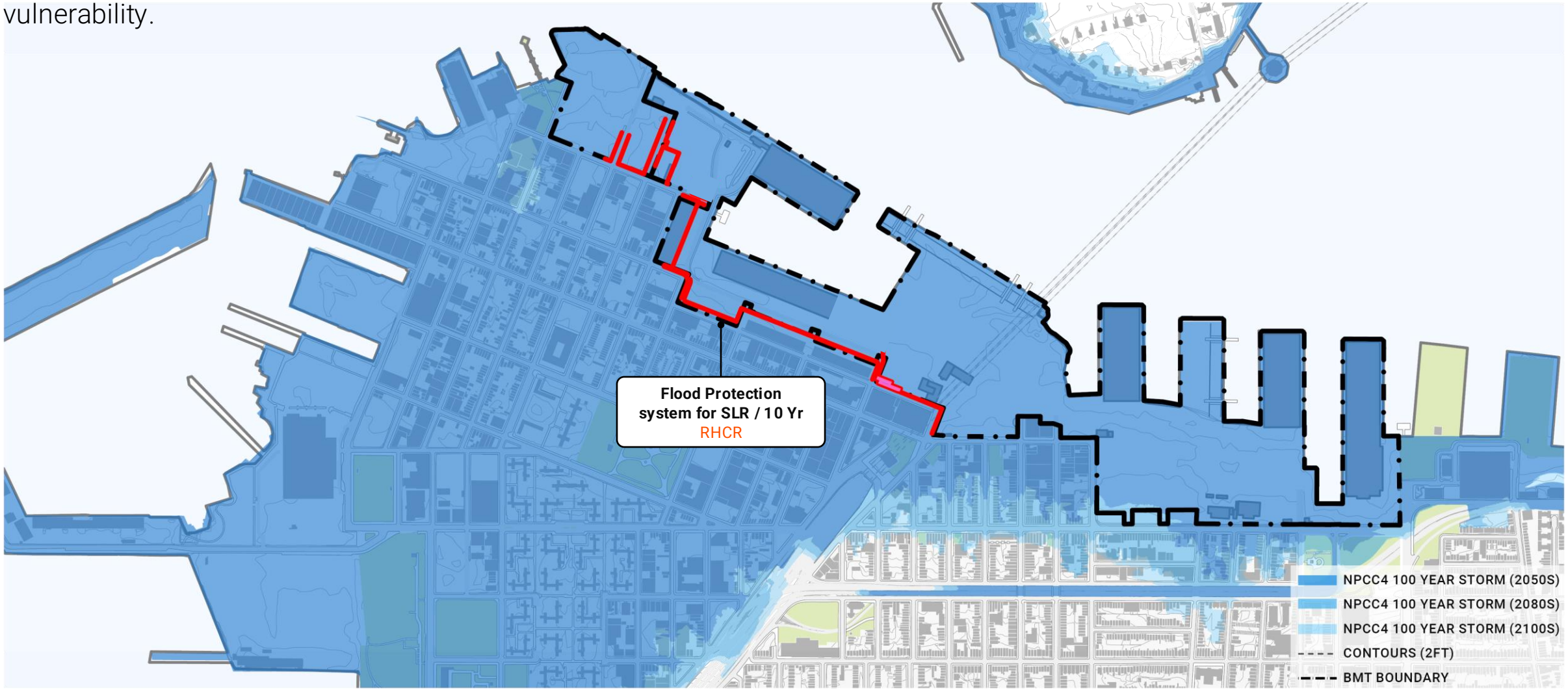
- Mitigate truck traffic generated from the port
- Mitigate cruise traffic
- Allow for microdistribution

Existing neighborhood transportation needs to mitigate neighborhood congestion by:

- Improving transit
- Improving greenway condition
- Improving overall street network and circulation
- Improving truck routes for the neighborhood

Neighborhood Coastal Surge Exposure

BMT was inundated during Hurricane Sandy and surrounding neighborhood continues to face coastal flood and storm surge vulnerability.



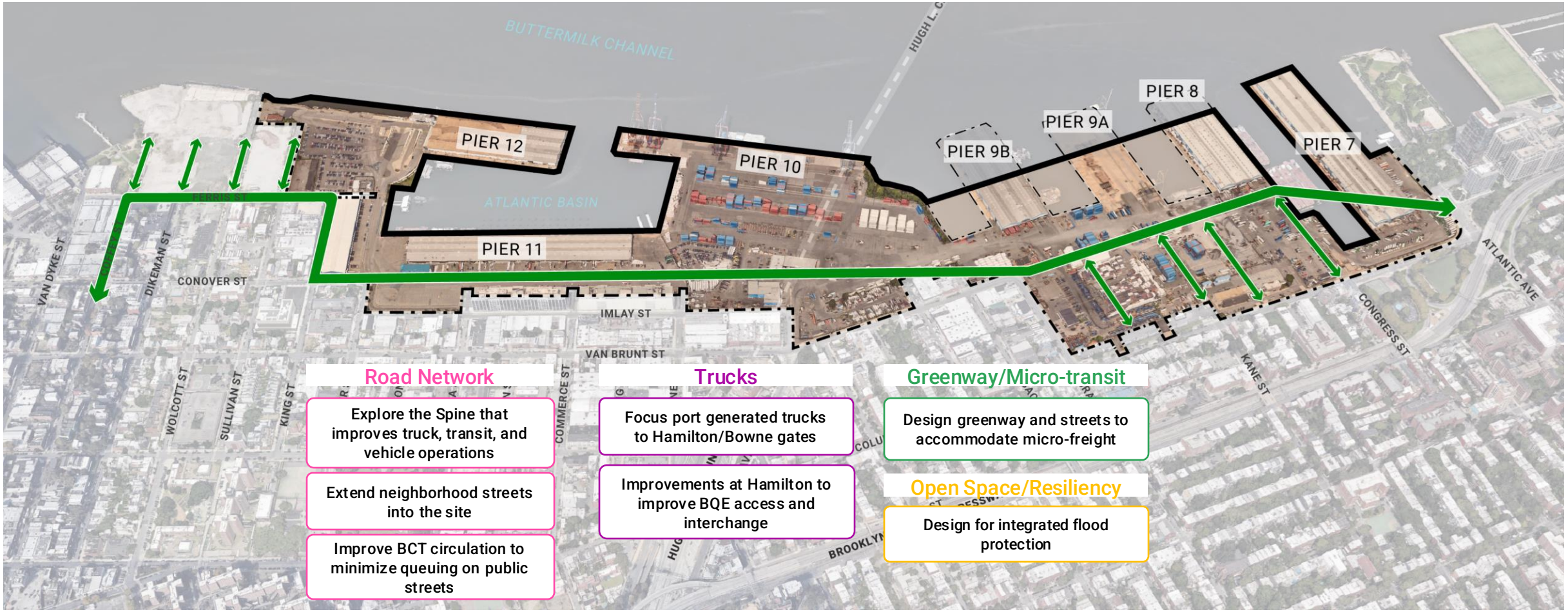
BMT Resiliency Goals

BMT can have a layered protection approach that includes:

- Integrating appropriately and sensitively with Red Hook Coastal Resiliency
- Elevating waterfront uses appropriately and based on location
- Protecting critical infrastructure
- Resilient buildings designed appropriately for location and necessary protection

BMT Spine Concept

The BMT spine is the creation of a new road network within BMT that allows for port use impacts to stay on site, extend the existing city grid into the site, create a better connection to Hamilton Avenue and the Atlantic Avenue interchange, and improve the greenway. The Spine would also act as resiliency measure to protect the residential neighborhood.



Brooklyn Marine Terminal Planning Exercise

Balancing Community Needs & Financial Sustainability

Supporting Project Outcomes

Addressing city and local priorities will require generating sustainable revenue to fund critical initiatives.

Clean & Modern Port

- Invest in pier infrastructure
- Enchance operational efficiency

Reduce Port Emissions

- Incorporate sustainable practices
- Invest in port electrification and operations

Open Space

- Increase open space & waterfront access

Resiliency

- Protect against coastal flooding & extreme rainfall
- Minimize impacts on the sewer system

Improve Mobility

- Mitigate traffic impacts
- Expand bus and ferry service to improve local transit
- Improve greenway connectivity

Opportunities to Generate Revenue

Each of these desired outcomes need significant financial investment

Housing

- Building market rate homes enables the inclusion of additional amenities:
  - Affordable housing
  - Well-maintained green space
  - Community amenities like schools and libraries

Hotel

- Local job opportunities
- Cruise traffic mitigation
- More opportunities to support local businesses

Public Grants

- MEGA Grant
- City investment
- State investment

Housing is Needed and Unlocks Wider Benefits

- **Housing is needed.**
- NYC is in an unprecedented housing crisis, and **we need to develop more homes** that are affordable to people at all income levels
- **Housing creates additional jobs** indirectly
  - Residents increase the customer base at local businesses
  - New jobs are created to support residents
- **We can build critically needed affordable homes** when we also build market rate housing that cross-subsidizes them

We need to work together to find a balance **between community benefits and revenue positive uses to ensure financial sustainability at BMT**.

Establishing Baseline Cost

PORT PROJECTED OPERATION INCOME AND TOPSIDE CAPEX

PORT PROJECTED OPERATION INCOME*

USES	*ESTIMATE RANGE*	*WEB APP VALUE*
Container	$95M	$95M
Flex	-$8M to -$117M	-$63M
Cruise	$48M to $237M	$142M
Total	**$134M - $215M**	**$174M**

**NPV of operation income over 40-year period using 6.25% discount rate*

PORT TOPSIDE CAPEX**

Hard Cost	-$173M to -$181M	-$177M
Container	-$92M	-$92M
Flex	-$15M to -$17M	-$16M
Cruise	-$63M to -$73M	-$68M
Soft Cost	-$69M to -$72M	-$71M
Total	**-$242M to -$254M**	**-$248M**

NET PORT DEFICIT: -$27M to -$119M

SITE ACTIVATION COST

PUBLIC REALM

USES	*ESTIMATE RANGE*	*WEB APP VALUE*
Roadways	-$186M	-$186M
Open Space	-$388M to -$514M	-$451M
Resilience	-$210M to -$217M	-$213M
Transit Improvements	-	-
Maintenance	-$83M to -$96M	-$90M
Total	**-$874M to -$1B**	**-$940B**

SITE PREP

Demolition & Grading	-$14M	-$14M
Utilities	-$170M to -$199M	-$185M
Total	**-$184M to -$213M**	**-$198M**

PIERS INFRA/RECONFIG

Hard Cost	-$567M to -$595M	Responsive to tool
Container	-$101M	-$101M
Flex	-$17M to -$429M	Responsive to tool
Cruise	-$50M to -$433M	Responsive to tool
UPS Bulkhead	-$16M	-$16M
Soft Cost	-$193M to -$204M	Responsive to tool
Total	**-$794M to -$833M**	**Responsive to tool**

ACQUISITION & RELOCATION

Site Acquisitions	-$230M	-$230M
DOT Relocation	-$14M	-$14M
Total	**-$244M**	**-$244M**

TOTAL Sitewide Activation Costs: -$2.1B to -$2.3B

*** "Port Topside CAPEX" is excluded from the total sitewide activation costs*

Land Uses & Cost Assumptions

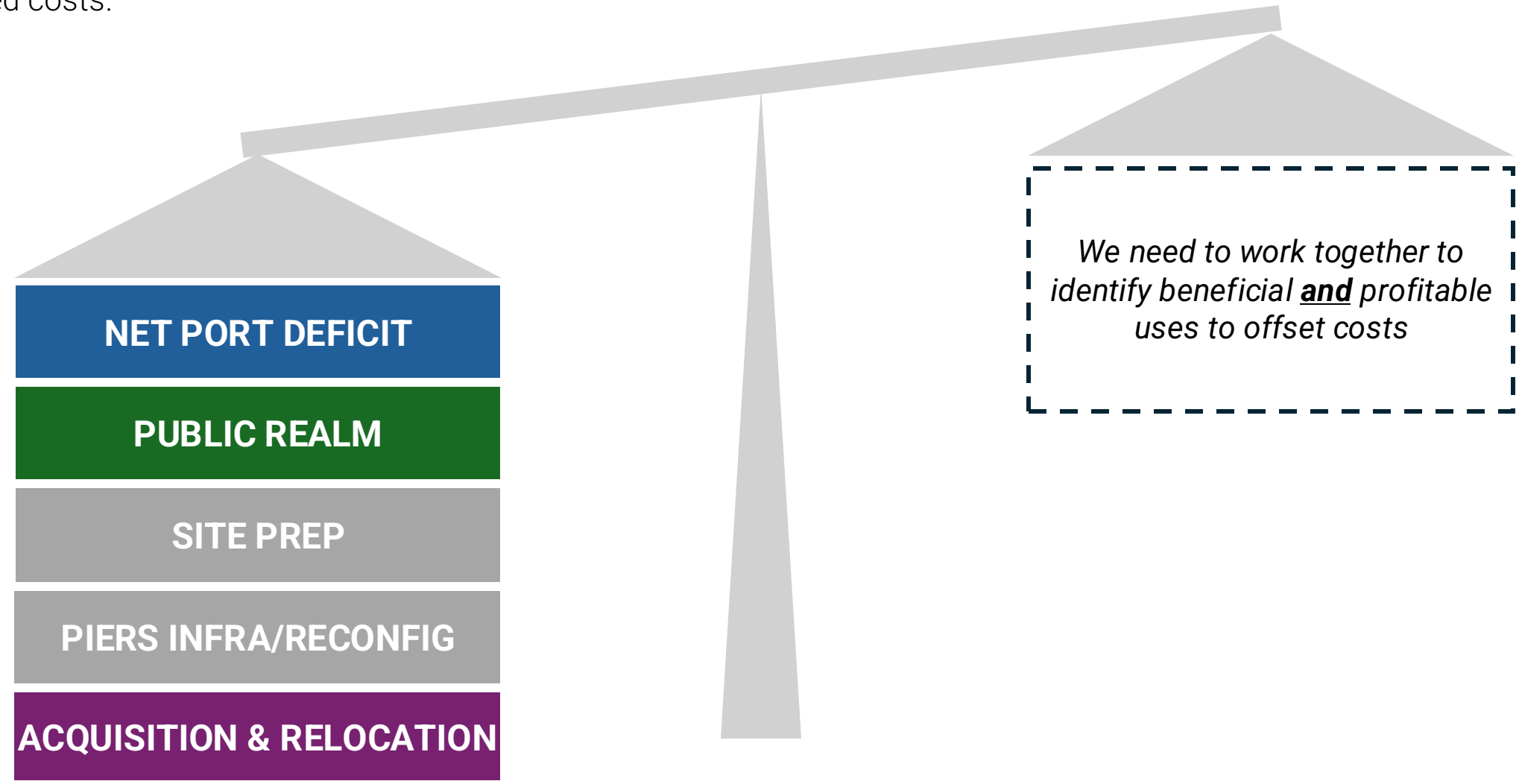
Land Use Type	Cost	Direct Jobs	Data Source
MIH Housing Mix	$642/SF	1 job per 25 units	Market comparable
100% Affordable Housing	$604/SF	1 job per 25 units	Market comparable
Cruise	$95M-110M total	TBD	Top side and below deck capex
Container Terminal	$139M total	TBD	Top side and below deck capex
Flex Maritime / Flex Industrial	$23M-$26M total	TBD	Top side and below deck capex
Light Industrial	$748/SF	1 job per 1000SF	MADE Bush Terminal precedent

Land Uses & Cost Assumptions

Land Use Type	Cost	Direct Jobs	Data Source
Commercial	$604/SF	1 job per 600SF	Market comparable
Hotel	$748/SF	1 job per 1,300SF	Market comparable
Parking	$288/SF	-	Market comparable
Parks & Open Space	Destination Parks: $350/SF Neighborhood Parks: $250/SF Greenways: $150/SF	-	Based on cost per sf of precedent projects. Doesn't include soft costs.
Arts & Culture	$805/SF	1 job per 500SF	Market comparable
Civic/Institutional	$805/SF	1 job per 500SF	Market comparable

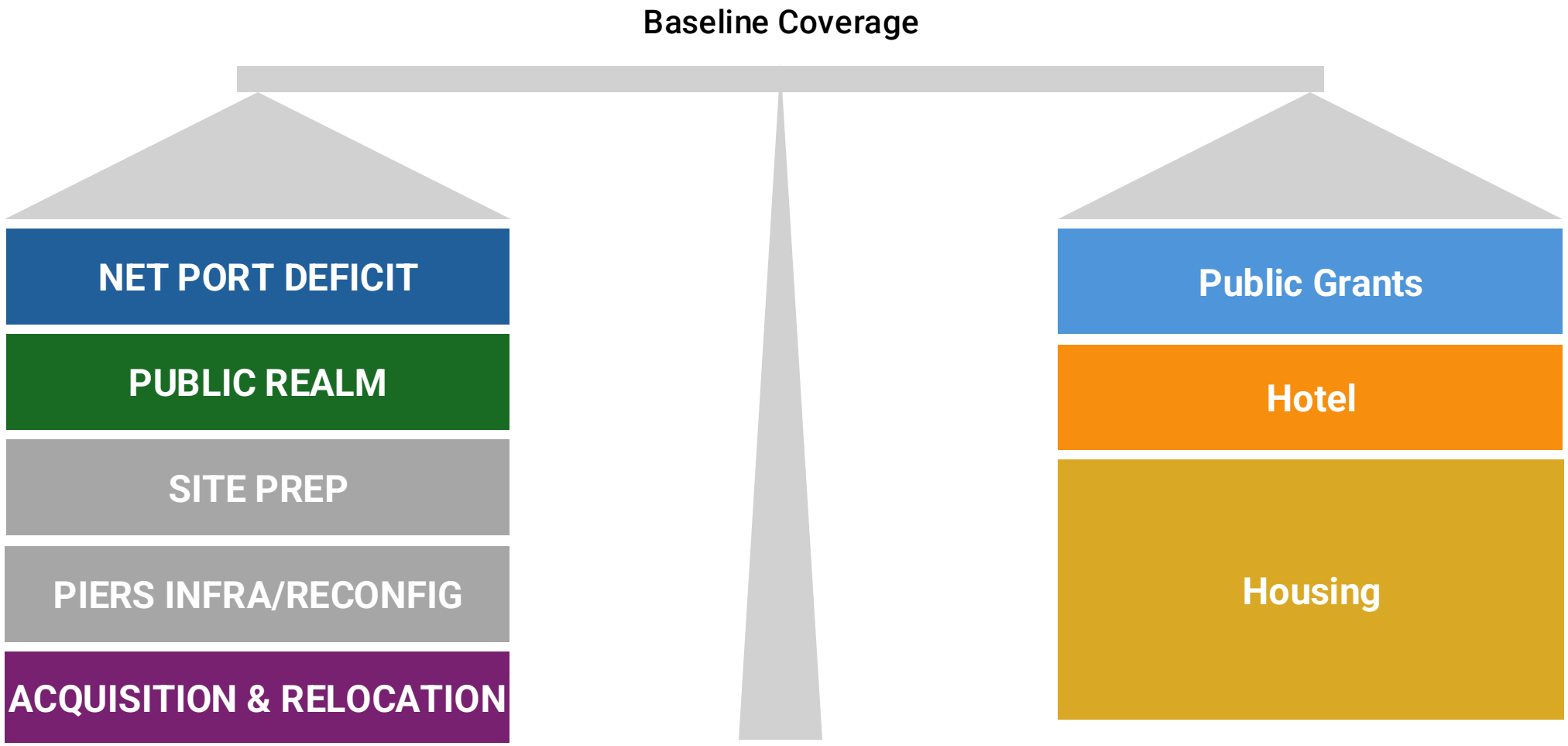
Establishing Baseline Cost

The baseline cost includes expenses for port operations, public realm investments, site preparation, pier infrastructure, and other related costs.



Establishing Baseline Cost

We will aim to balance these costs through the development of market-rate housing, hotels, and public grants.



Establishing Baseline Cost

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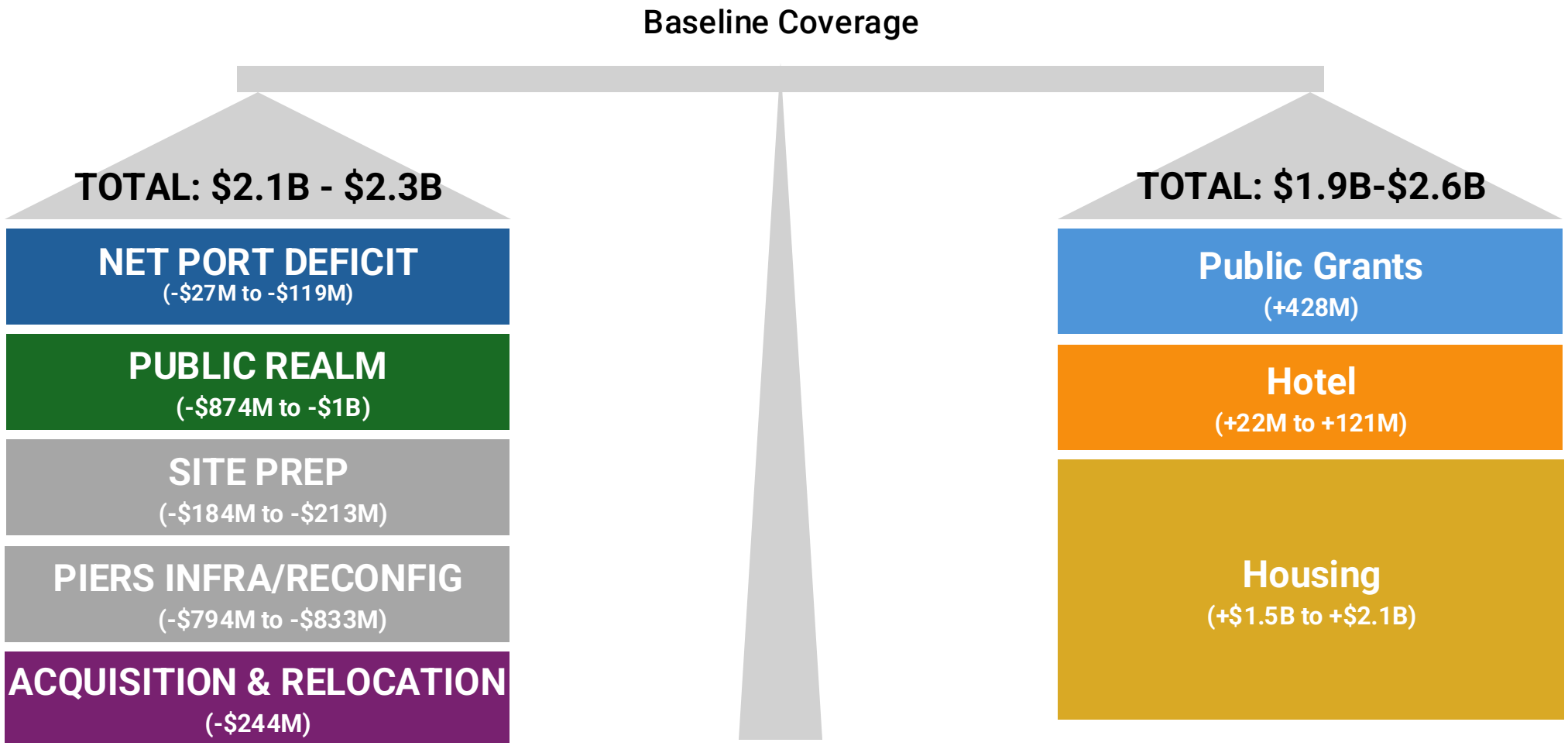
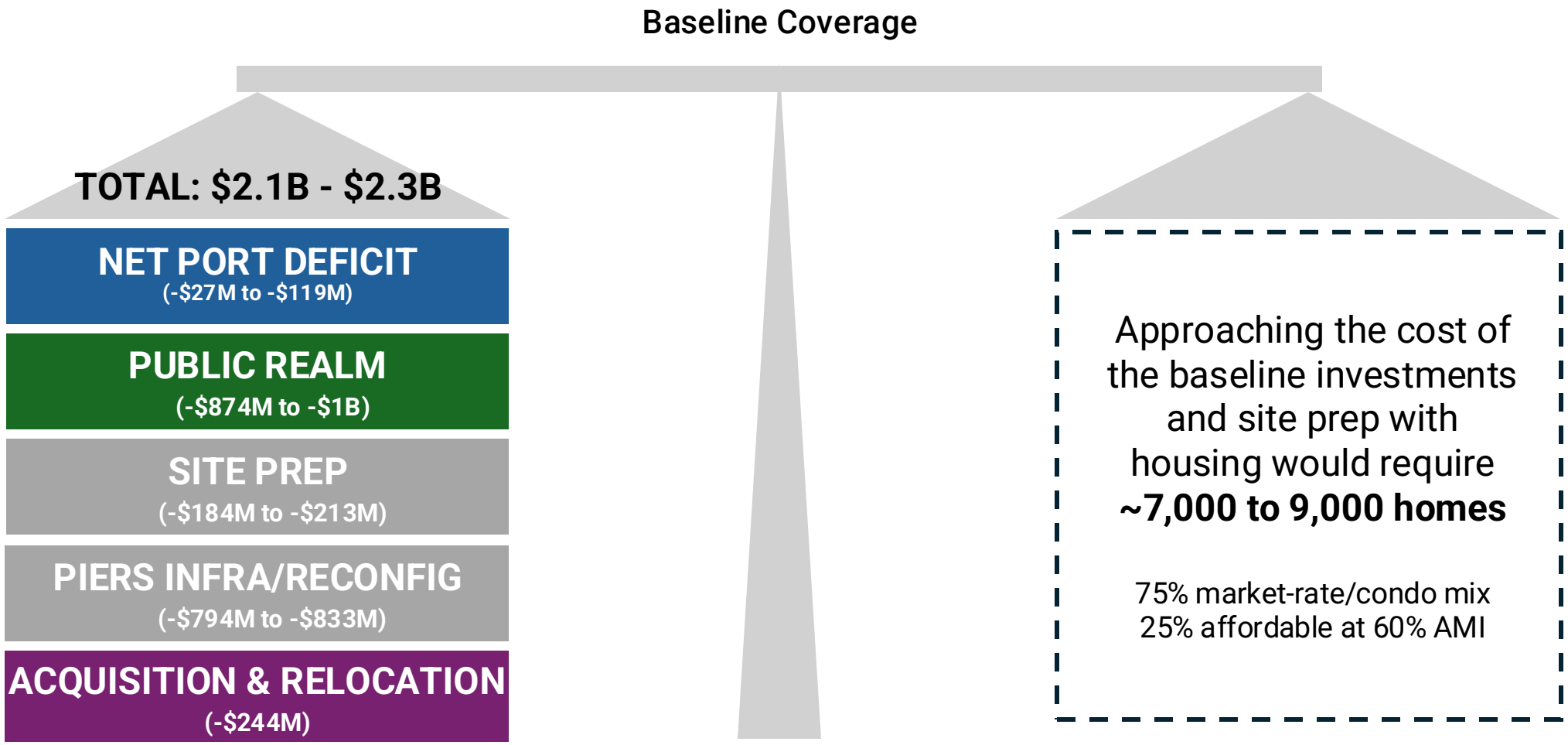


Setting the Baseline

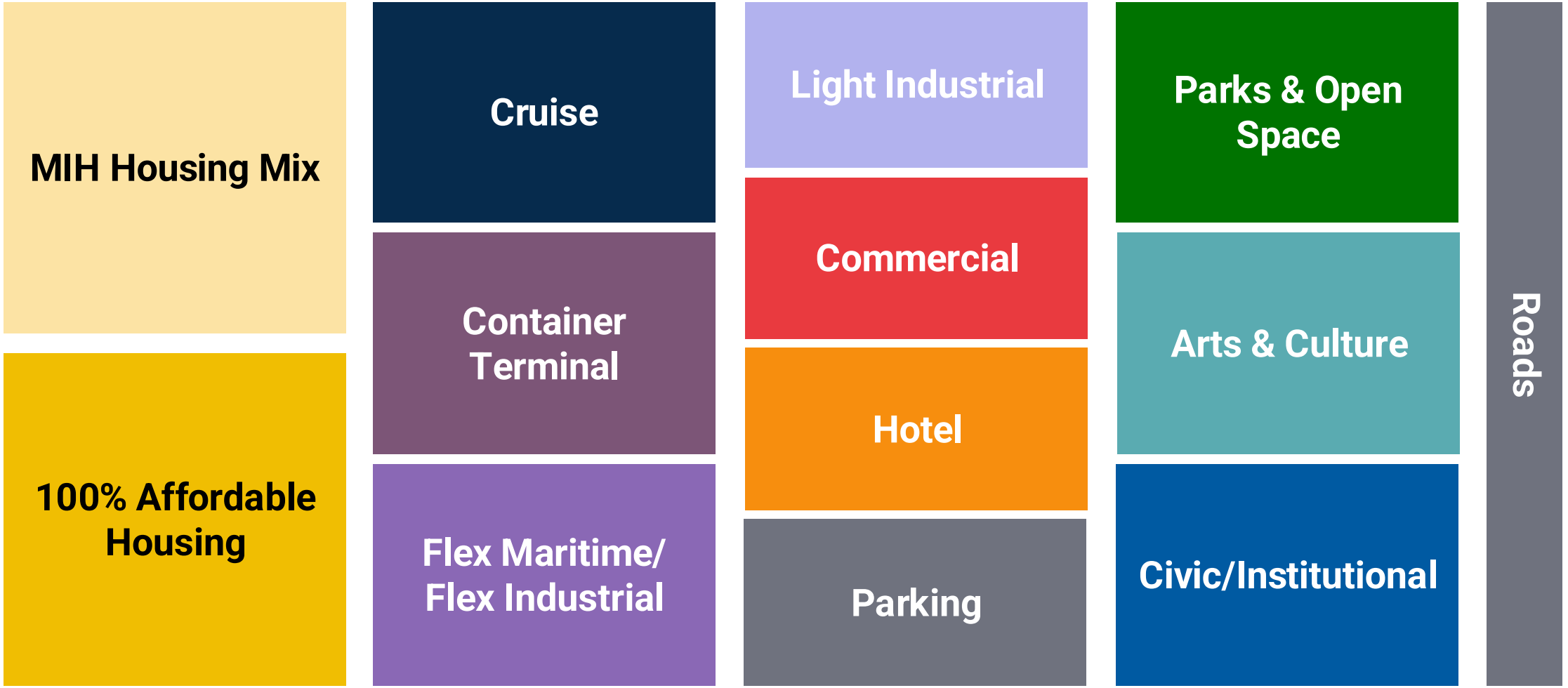
We will aim to balance these costs through the development of market-rate housing, hotels, and public grants.



Site Planning Introduction

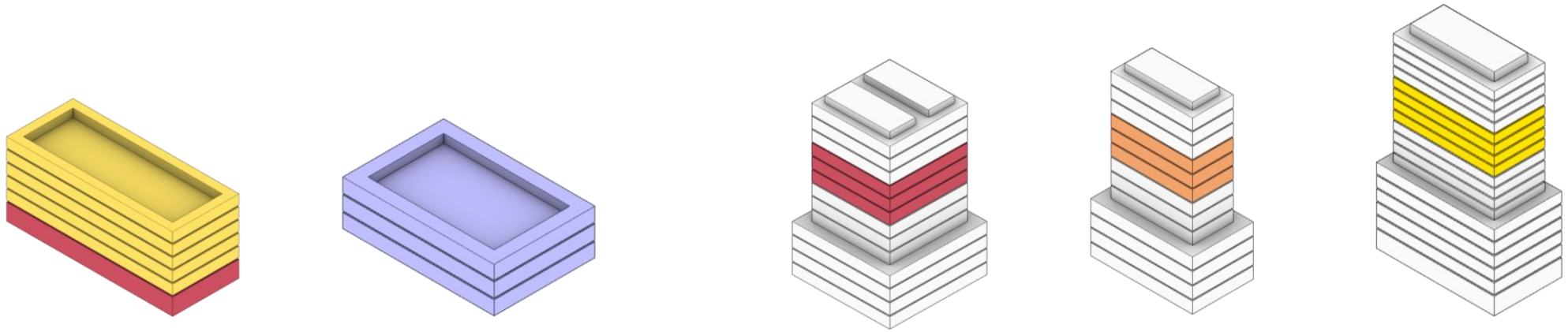
Land Use Blocks and Tiles

In the activity, place blocks and site area pieces to show where you would like to see each use.



Block Types

Blocks come in different forms to represent different parts of a building and building shapes.



Base blocks

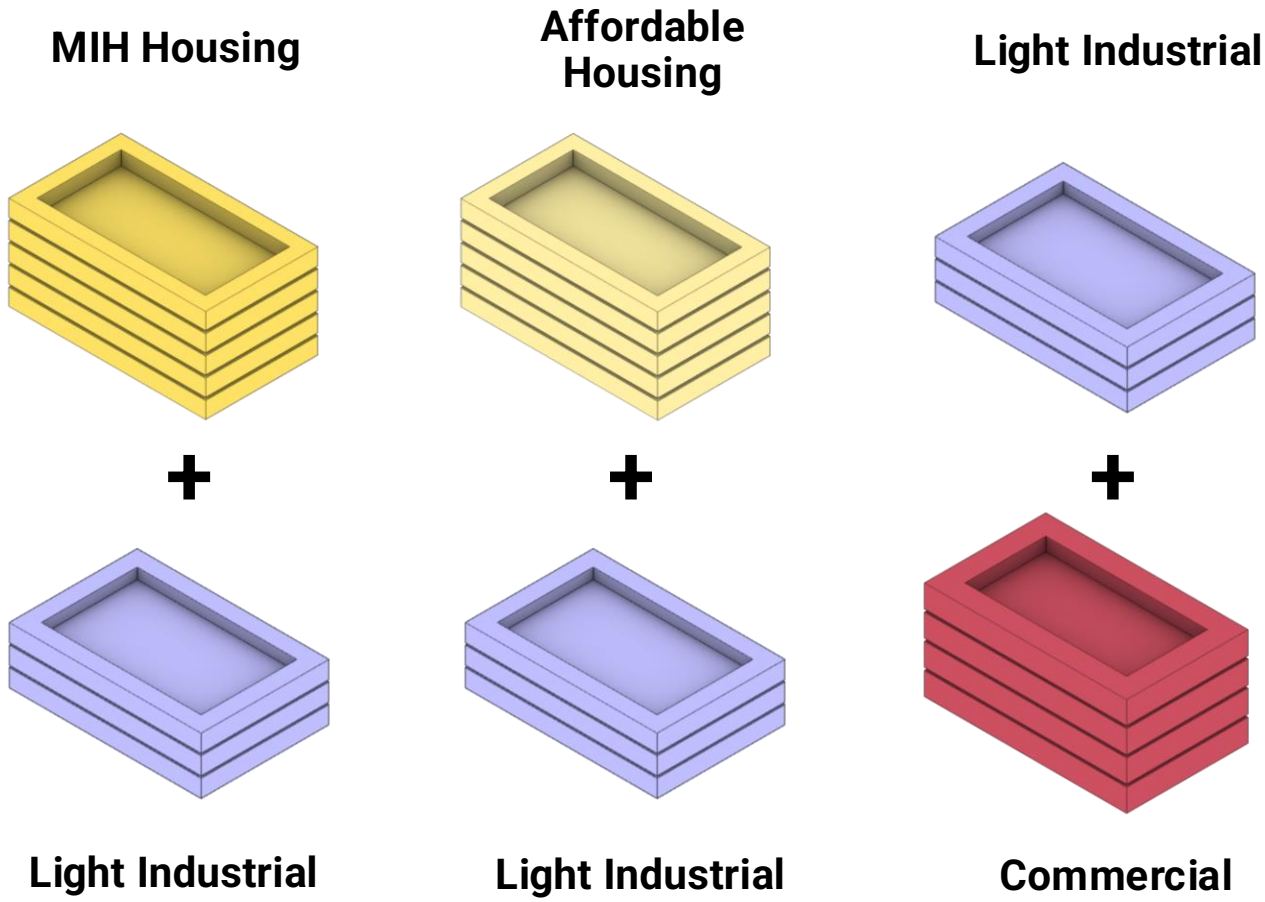
Tower blocks

- Most blocks can be stacked to reach your desired height
- The size of the block represents the Gross Floor Area (GFA)

Industrial Mix

Light industrial can be the ground floor use of housing and can go on top of commercial.

You can mix and stack Light Industrial blocks with most other uses.



Modeling Metrics

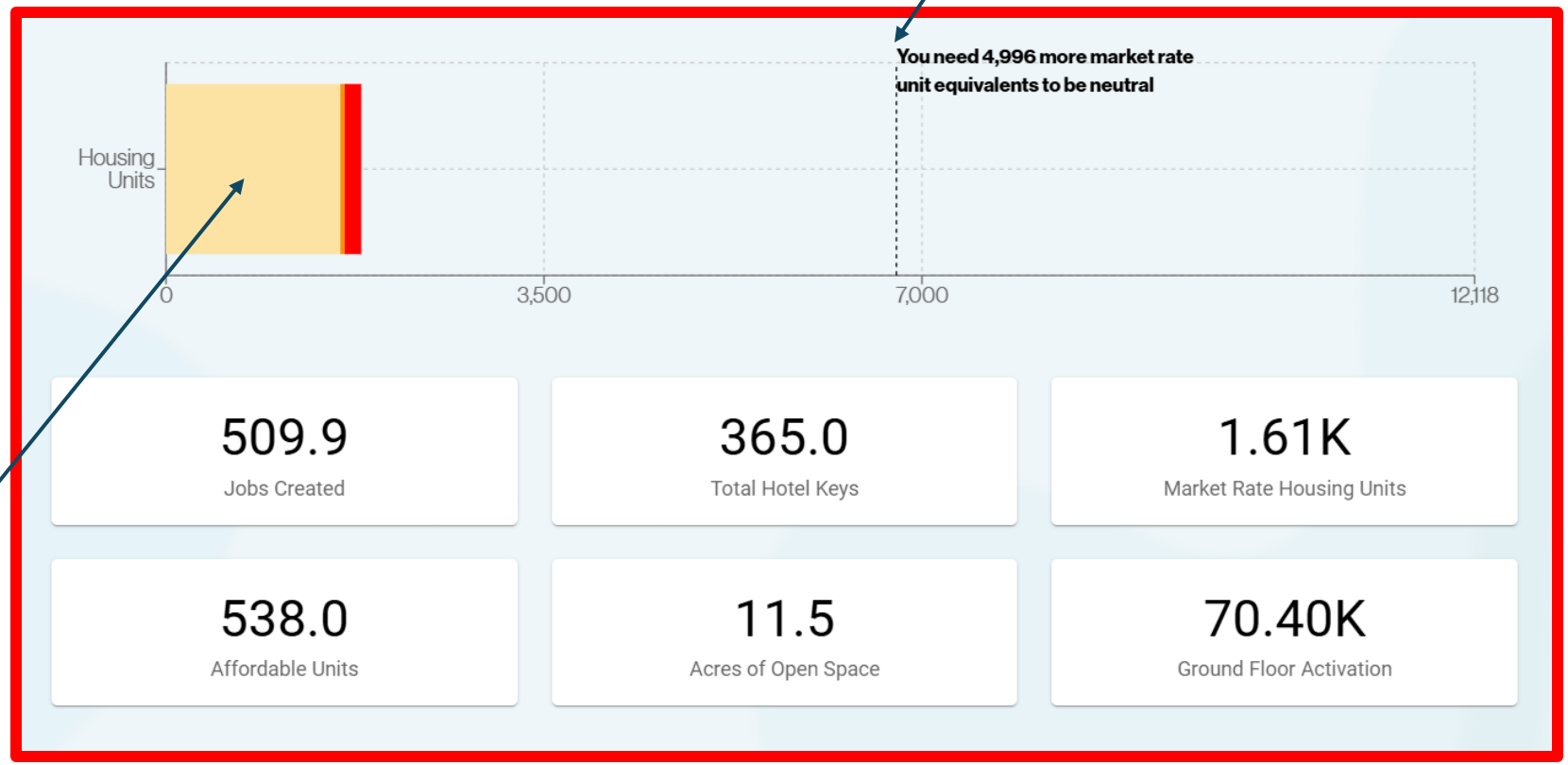
For each block that your group builds on the BMT site model, there are **associated metrics** for jobs, housing , housing units, and hotel keys.

As your team builds, a facilitator will track your site plan's metrics using a web app.

Work together to create a site plan that covers its costs.

This line moves higher for each cost you add

This bar ticks up when you add revenue positive uses



Modeling Metrics Explained

Where do the metrics come from?

- The metrics associated with each block come from the planning team's analysis.
- The values in the metrics represent **preliminary estimates**; however, they are **helpful to understanding trade-offs** at a high level.
- The exact costs, job, resident, and environmental numbers will differ as the project advances, and we reach greater clarity about the proposed vision.

Model Mechanics

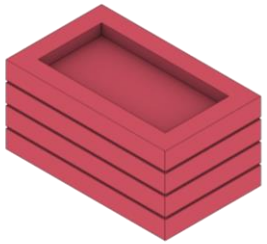
How does the model work?

- **Finances**
  - For each block there is an associated cost or revenue
  - For each block whose cost outweighs its revenue, you will need to build more revenue positive uses to achieve financial sustainability
- **Outcomes**
  - Each block also has an associated number of jobs, residents, hotel keys, open space acreage

Revenue Positive Blocks

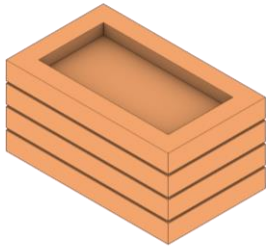
These land uses generate revenue and will get your scenario closer to financial sustainability.

Adds jobs



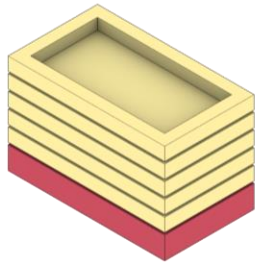
Commercial / Office
(Red)

Adds hotel keys



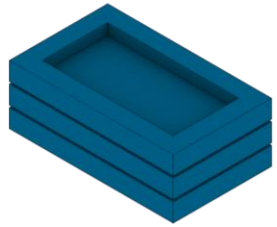
Hotel
(Orange)

Adds residents



MIH Housing Mix
(Light Yellow)

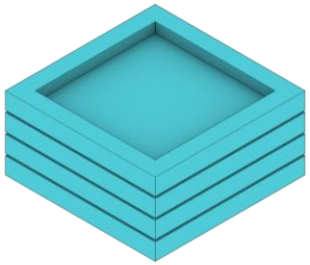
Adds jobs



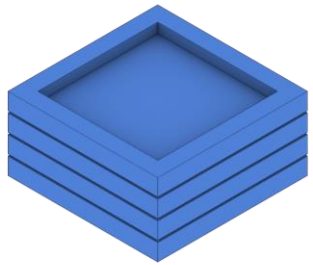
Cruise Terminal
(Navy Blue)

Revenue Negative Blocks

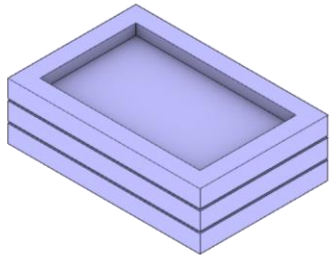
These land uses offer important community benefits, but their costs outweigh their revenue. The more of these uses you add, the more revenue positive blocks you will need to reach balance.



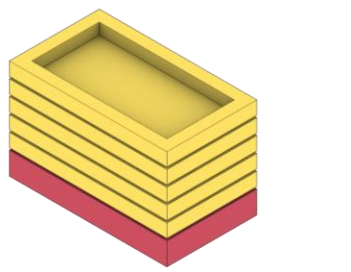
Arts + Culture
(Teal)



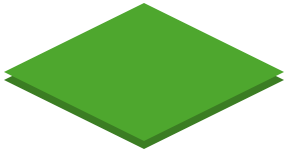
Civic + Institutional
(Blue)



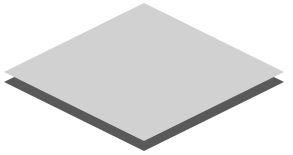
Light Industrial
(Purple)



100% Affordable Housing
(Bright Yellow)



Parks
(Green)



Streets
(Gray)

Housing Assumptions

There are some assumptions built into the model to make this exercise possible.

These are not decisions; they are a starting point.

- **MIH Housing Mix**
  - The "typical" **light yellow** housing block represents an affordability mix of 75% market-rate, 25% affordable
  - This mix is based on Mandatory Inclusionary Housing (MIH)
- **Affordable Housing**
  - The **yellow** affordable housing block represents 100% affordable housing.

** For the finances in this exercise, all affordable housing is modelled to be 60% of Area Median Income (AMI)*

You can mix and match housing affordability levels in a single building!

Flex Maritime / Flex Industrial

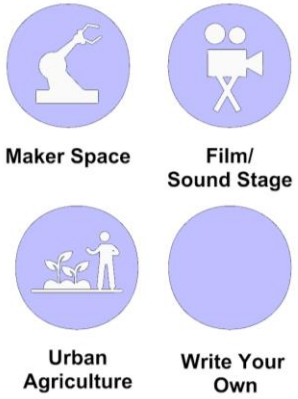
What is Flex Maritime/Flex Industrial? **You decide!**

- The baseline assumption is for any type of light industry with maritime connections
- **Add special tokens** to indicate if there are certain types of industry you would locate there
  - For example, *Blue Highways* or *Renewable Power*
- This industrial area may not require MARSEC security, so public access may be possible

Special Use Tokens

In the activity, use icon tokens to show where specific types of uses would be.

Non-Maritime Light Industrial

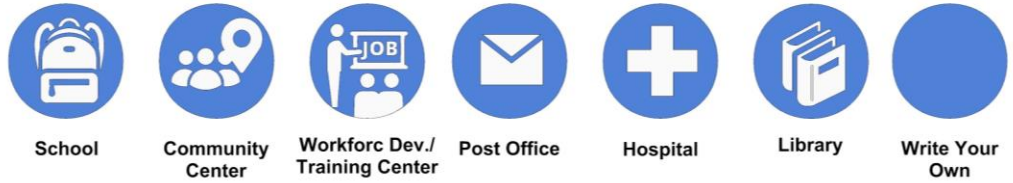


Flex Maritime

Waterfront Commercial District

Commercial

Civic/ Institutional



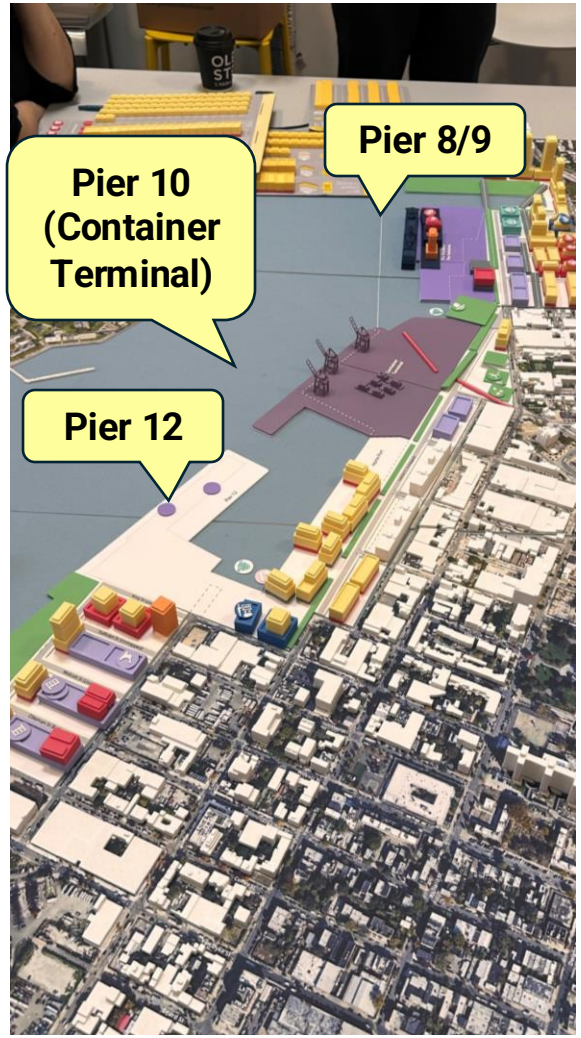
Arts/Culture

Parks & Open Space

Part 1: Set Major Uses

40 mins

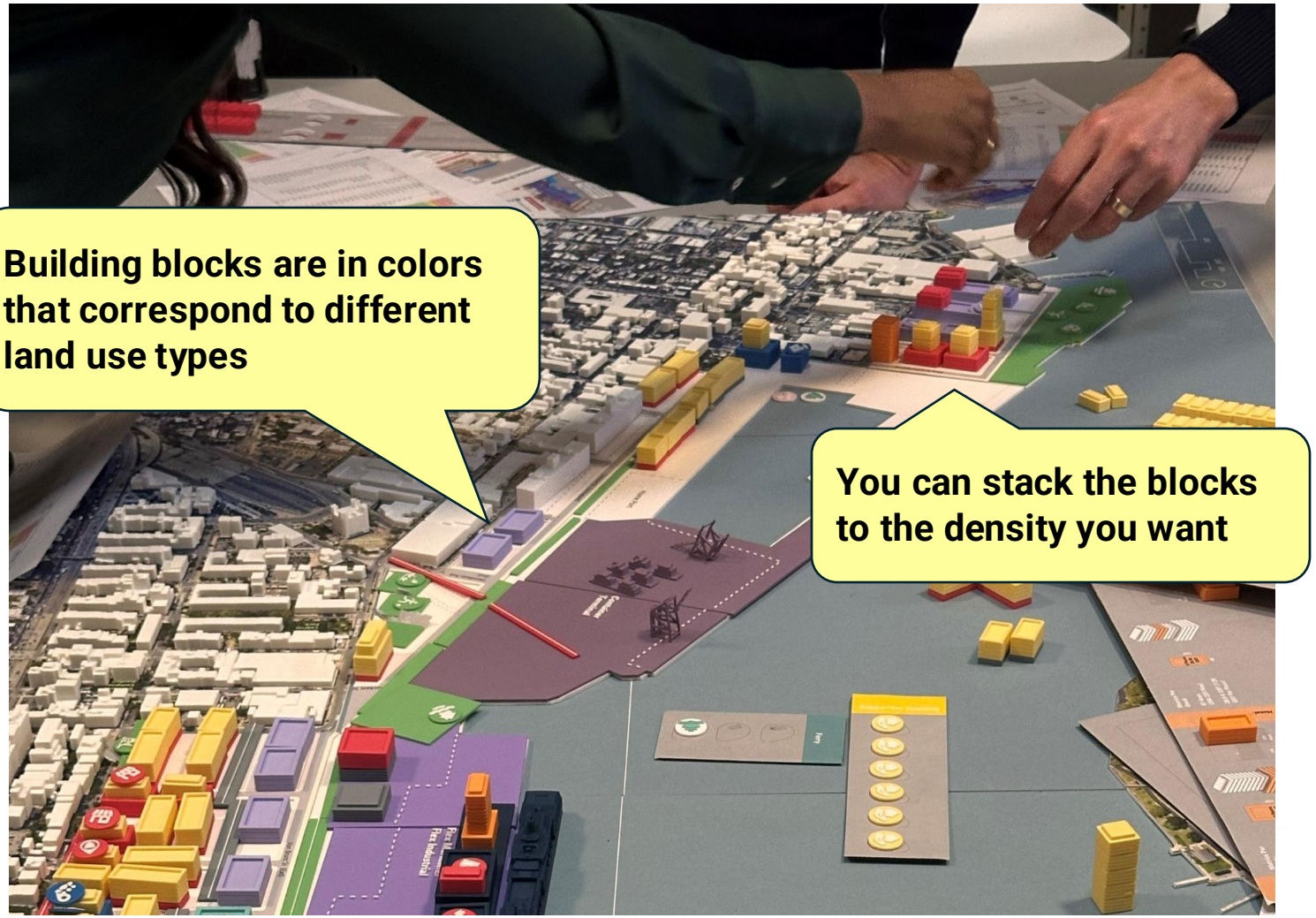
- The Container Terminal is required, and must be located at Pier 10
- **Decision Point:** Where do you want to place the Cruise Terminal,
  - Option 1: North (at Pier 8/9)
  - Option 2: South at its existing location (Pier 12)
  - Consider traffic impacts
- **Key Considerations**
  - Should the flex maritime/industrial zone be integrated with the cruise terminal operations?
  - If so, what potential synergies or challenges might arise from this pairing?



Initial Build Out

Now you are ready to build out the remainer of the site! Use land use blocks and tiles available.

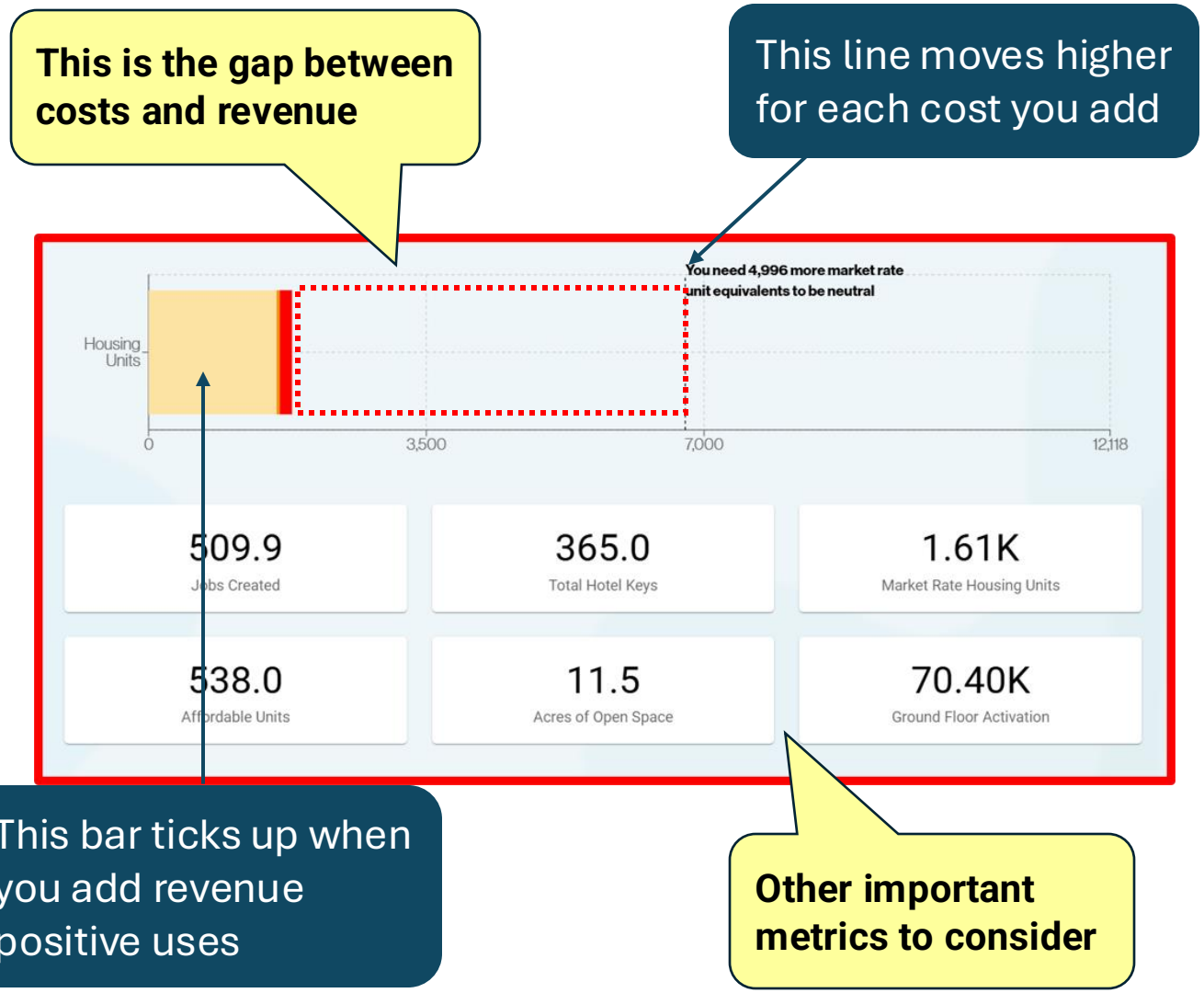
- Where would you like to see large destination parks and green spaces located?
- Where would it be appropriate to add housing?
- What density is appropriate in different parts of the site?
- How much affordable housing can we produce?



Metrics Checkpoint

Now you have taken a pass building out the site. The facilitator will enter your selection of major uses and densities into the web app to check its financial standing and other metrics.

- Does your initial build-out effectively balance costs and revenue?
- What do the metrics show?
- If the site is not currently balancing costs and revenue:
  - How close is it to achieving financial sustainability?
  - What additional revenue-generating uses would you consider adding?



Part 2: Build Out Amenities

40 mins

With the understanding of the metrics and impacts of your build-out in Part 1, you can now:

- Adjust the site to address any gaps
- Add new amenities
- Evaluate the financial sustainability as you adjust or add amenities

Final Site Plan Review

- Where is housing development prioritized within the site?
- What was your strategy for incorporating density into the site?
- What Flex Maritime and Industrial uses did you select, and why?
- Where did you create open space?
  - Are these locations serving the communities in need?
  - What types of program did you choose?
- What additional community amenities did you create?
  - Are these amenities addressing the community's needs?

Final Metrics Review

- Does your final site plan balance costs and revenue?
  - If not, how close is it to achieving financial sustainability?
- How many market rate housing units?
- How many affordable units did you create?
- How many jobs did you create?
- How many acres of open space?
- How many hotel keys?
- Any other metrics that the plan should consider?

Let's review your final site plan!

Part 3: Group Share & Reflect

10 mins

- What challenges did you encounter in building out the site?
- What trade-offs were necessary during the development process?
- How do you feel about the density of the final build-out?
- What are the appropriate location of various densities?
- What are the positive and negative impacts you would like to highlight?
- What mitigation strategies could address any negative impacts?
- Are there any gaps in road or transit infrastructure?
- What other concerns do you have regarding the build-out?

Next Steps

BMT Project Timeline