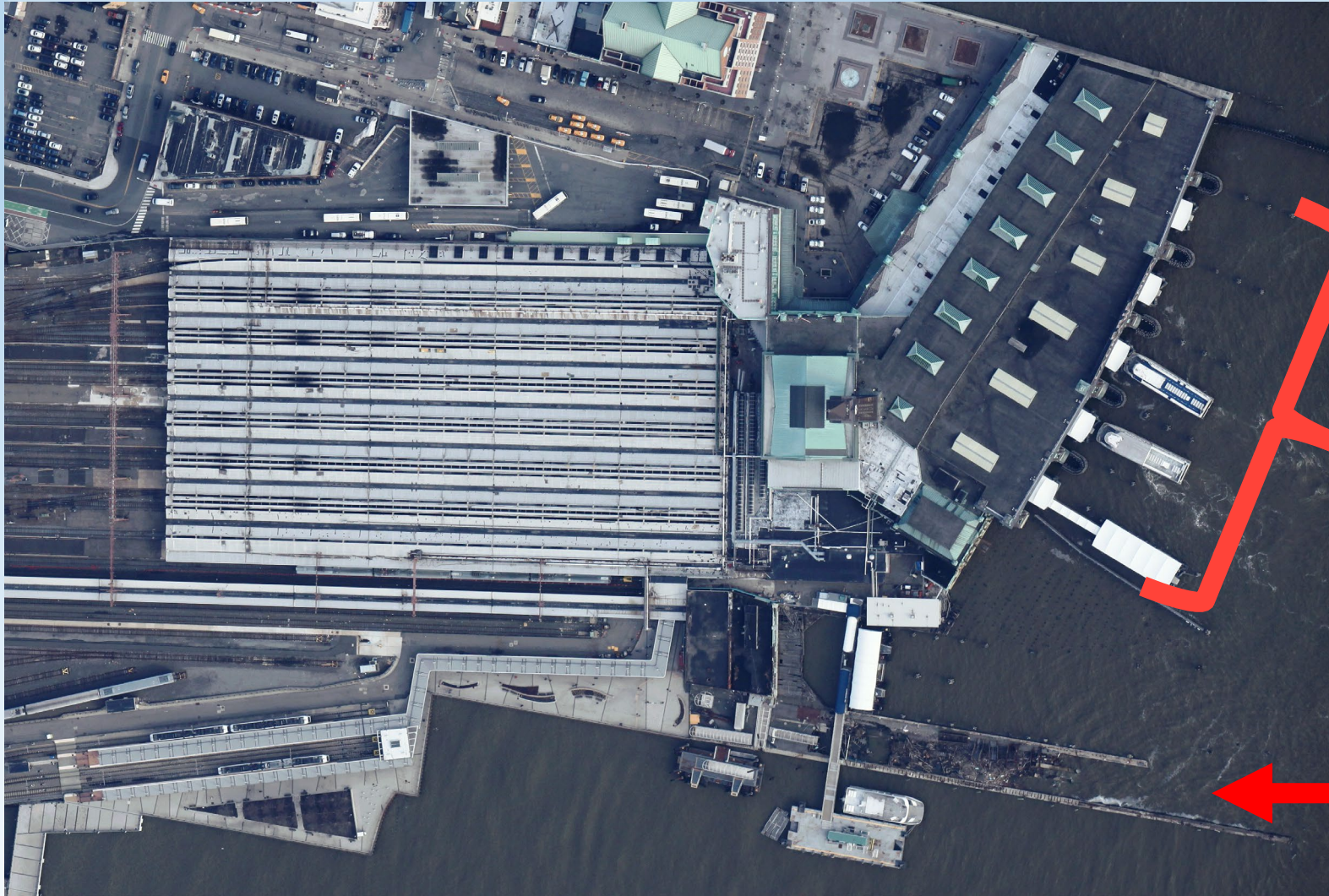


Final Report
**Ferry Maintenance
Facility Evaluation**

**Hoboken Terminal
South Site**



Hoboken Terminal South Site



Hoboken Ferry Terminal
(Passenger Boarding
Locations - 5 ferry slips)

Hoboken South
(Proposed Maintenance Site)

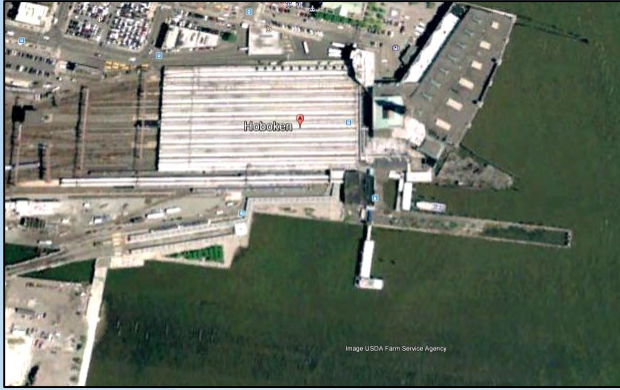
Previous NJ TRANSIT Ferry Study of Hoboken South (2009)



- Conditions have changed since 2009
- At the time NJ TRANSIT was advancing plans to develop a ferry maintenance facility at Hoboken South
- Objections were raised by Jersey City that it would adversely impact plans for residential high-rise development south of the site
- Plan was revised to relocate the ferry-lift and the “shop” barges to an existing industrial dry dock (Union Dry Dock) in Hoboken; would serve as a storage-only marina for up to 10 vessels
- The 2011 opening of the Hoboken Ferry Passenger terminal resulted in new pedestrian transfers and occupied the last available corridor to connect vehicular traffic to the Hoboken South (Brick Alley)
- Super Storm Sandy occurred in 2012 impacting the pier
- Pier condition and pilings for Hoboken Terminal have degraded in the last decade – NJ TRANSIT is currently having a technical analysis conducted of the piers and piling conditions – report anticipated Summer 2019

Hoboken South - NJT	Hoboken	1
Port Imperial Ferry Terminal	Weehawken	2
Port Imperial Marina	Weehawken	3
Greenville Pier	Jersey City	4
Bayonne Peninsula	Bayonne	4
Union Dry-Dock	Hoboken	6
Morris Canal	Jersey City	7
Cross Harbor	Jersey City	8
Hugo Neu	Jersey City	9

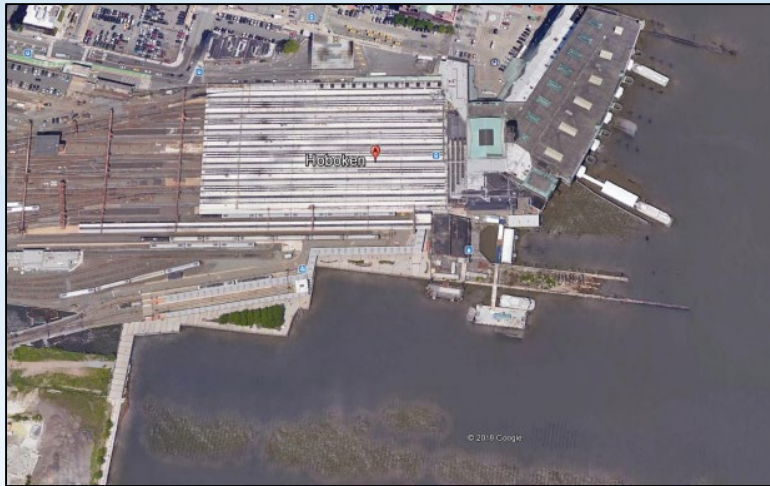
Superstorm Sandy – Hoboken Terminal South Pier



2009



2012 Superstorm Sandy



2017

- Superstorm Sandy inundated Hoboken Terminal with flood waters/storm surge
- Storm surge further degraded the conditions to the pier at Hoboken South
- The Hoboken South has an open southern exposure and is vulnerable to future storm effects

Hoboken South Pier

- The South pier is in disrepair and will need a full demolition and replacement for any use
 - Navigable waterway/Dredging requirements - unknown
 - Presence of contaminated materials likely - extent unknown
 - Vessel interaction with immediately neighboring passenger terminal - TBD
 - No viable landside side truck access for delivery, fueling and limited emergency services access
- Prior interim ferry passenger boarding used a combination of barge and other boarding locations; not the south pier itself
 - Limited scale operation
 - Moved to restored Hoboken Ferry Terminal in 2011

Hoboken Terminal South Pier



Remaining South Pier (eastern end)



South side of South Pier (western end)



Interior Conditions of South Pier (western end)



North side of South Pier (western end)

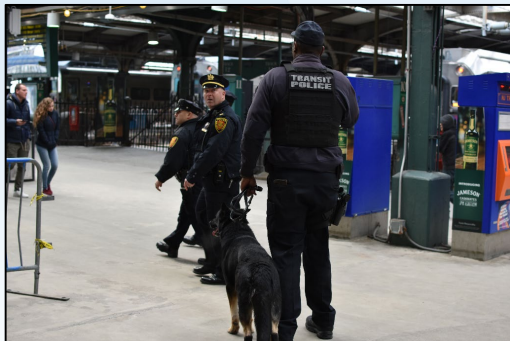


South Barge



Immigration & Pullman Building (background) being reconstructed to house a storm resilient substation

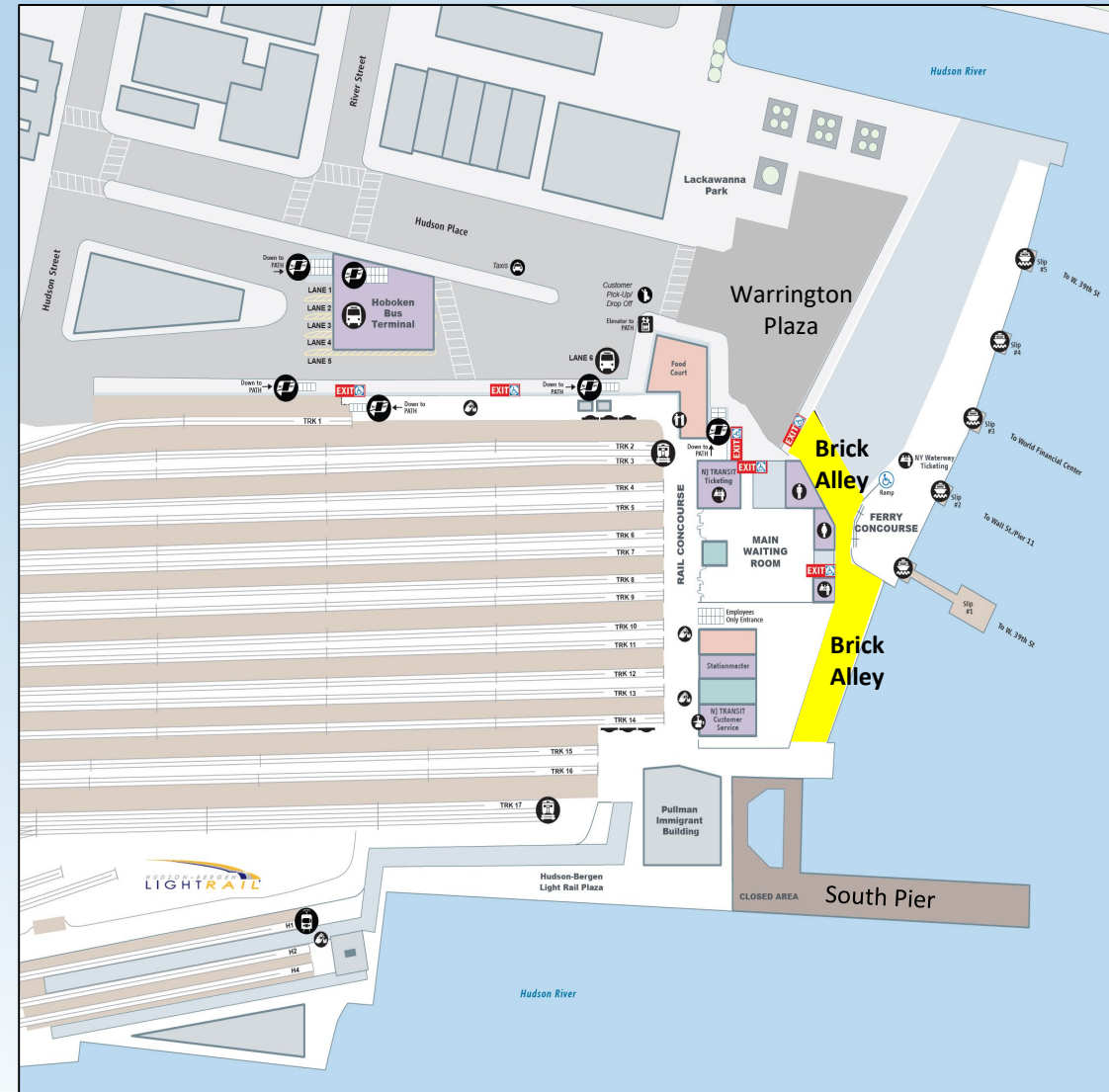
Hoboken Terminal – Safety & Security



- Hoboken Terminal is listed by the Department of Homeland Security on the Top Transit Asset List (TTAL) - the top mass transit terrorist targets in the US
- High volume of customers (+85,000 boardings per day) at Hoboken Terminal on every mode of transportation except for aviation - Rail, Bus, Light Rail, Ferry, PATH, taxi, bicycle, pedestrian
- NJTPD has added target hardening measures over the last several years such as a staffed guard booth entering the plaza, delta barriers for mitigation of vehicle ramming, increased uniformed personnel, etc.
- As an iconic, high value terrorist target, there are significant security issues with allowing fuel trucks to traverse through the area. This is in addition to the typical safety concerns such as a fuel spill or pedestrian accident
- Emergency vehicle access and egress also would present significant challenges as there is currently no safe route for vehicles to access the proposed location
- The fuel and chemicals that would be stored on-site present significant safety and security concerns. Fire, explosion, or spill in the proposed location could have serious impacts to life and health
- Hoboken Terminal serves as an evacuation point for Manhattan as well as a rail service diversion point for much of the NJ TRANSIT rail system. An accident at the proposed location could shut down every mode of public transportation and create safety and congestion issues throughout two states

Hoboken Terminal – Brick Alley

- Limited accessway between Warrington Plaza and South Pier; not designed for regular truck activity
- Low 10'6" and narrow (<14') clearances prevent fuel trucks, commercial delivery trucks and emergency services vehicles from using the alley - length of vehicles/turning radius affect usability
- Pedestrians cross the alley for access to/from the ferries and ferry ticket sales offices
- Brick Alley is enclosed and manually gated
- The alley is located under the main Hoboken Terminal Building with administrative offices and crew facilities located on next level above



Hoboken Terminal - Brick Alley



Warrington Plaza Access 11' 2" Vertical Clearance



Interior Corridor



Access to Ferries from Waiting Room



Interior Low Vertical Clearance 10' 6"

































Access from South Side of Platform



Access to Ferry Slips Across Alley

Evaluation of Hoboken South Options

 Manageable  Significant  Prohibitive  Undetermined	Full Maintenance & Storage Facility	Vessel Storage (Mooring Only)
FATAL FLAW – Water Depth (12’ min) and Navigability		
FATAL FLAW – Property Available/Lease-Purchase Cost/Physical Condition		
FATAL FLAW – Conflict with other Vessel Operations		
FATAL FLAW – Permitting and Environmental		
FATAL FLAW – Construction Cost and Timing		
FATAL FLAW – Vessel Operating Cost Impacts		
FATAL FLAW – Site Safety and Security		
<hr/>		
<i>Workforce accessibility</i>		
<i>Compatibility with adjacent land uses and plans</i>		
<i>Compatibility with vehicle traffic (deliveries/fuel)</i>		
<i>Shoreline stability (access & use of fixed and floating in-water structures)</i>		
<i>Upland space (for shop/admin building, storage, fuel storage, pump-out, parking)</i>		
<i>Utilities (electric, water, sewer)</i>		

Hoboken South Storage Only

Phase 1

- A temporary “storage only” marina could be set up with barge(s); driving piles to anchor/secure barges off of the southern pier/south side of terminal
- Would require permits and verification of extent of the navigable waterway
- Storage for up to 10 vessels; depends on barge placement and any construction activity at South Pier/Sub-station construction project
- No maintenance or fueling; site lacks required landside access and staging
- 12 - 18 months minimum with design, emergency permitting, verification of extent of navigable waterway and required construction

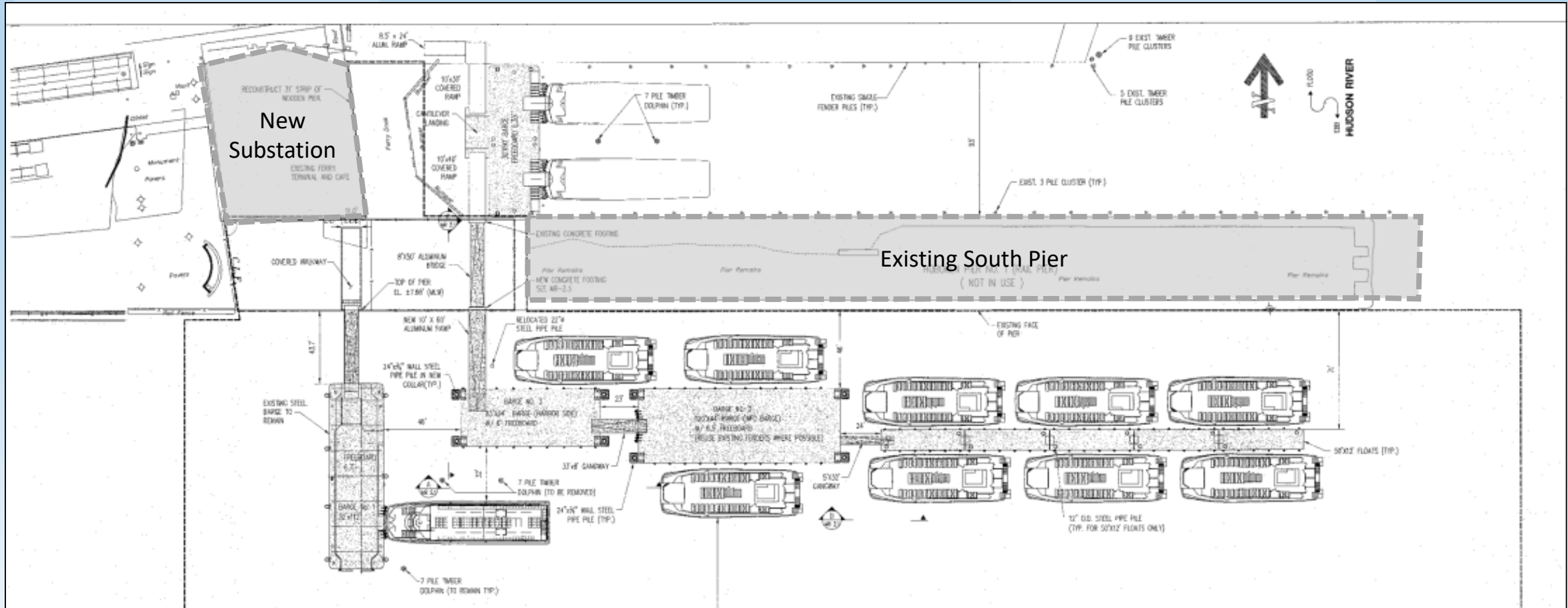
Phase 2

- Demolition of existing South pier
- Full rebuild of pier
- **Requires a full engineering analysis to determine feasibility and cost**
- 3 - 5 year minimum for project development/demolition and construction
- Storage for 12+ vessels

Unaddressed Issues with Storage Only Marina

- **Fueling - Maintenance – Materials Storage - Deliveries**

Hoboken South – Potential Temporary Ferry Storage Only Configuration*



* Concept plan from 2010 - Needs to be updated to reflect current conditions and other planned improvements including resiliency project for Substation at the Pullman/Immigration building

Hoboken South Costs – Storage facility only

	LOW COST (\$M)	HIGH COST (\$M)	FASTEST	SLOWEST
Construction¹ - Phase 1 - Temporary Storage	(30% contingency) \$9.5	(50% contingency) \$11.0	(design/construction) 12 months	(construction) 18 months
Property Acquisition	N/A	N/A		
Added Ferry Operating Cost per Year²	TBD	TBD		
Alternate Maintenance & Fueling Site³	TBD	TBD		

- 1. Construction timeframes assume receipt of required permits. Does not include costs for dredging or environmental mitigation.*
- 2. Location of Maintenance and Fueling site unknown. A storage only facility will require additional vessel movements for maintenance and fueling.*
- 3. A separate site for maintenance and fueling will have its own capital costs including infrastructure and possibly increased fleet size.*

2009 Ferry Site Screening Capital Cost Estimate:

Dredging - \$ 0 (*Dredging not required in 2009 report*)
 Pier Work - \$3,000,000
 Marine Work -\$1,100,000
 Utilities \$2,500,000
 Total - \$6,600,000

CPI inflation to 2019 dollars =
 \$7,730,000 base project cost

Summary of Findings

Hoboken Terminal South Site – Maintenance, Fueling & Storage

- Significant Safety and Security Issues - All vehicular access through the terminal building in corridors used by customers (deliveries, fuel, waste oil, emergency services) - **Fatal Flaw**
- Homeland Security Risk - Fuel Storage and other materials in proximity to passenger terminal - **Fatal Flaw**
- Limited to no space for any upland (landside) operations - **Fatal Flaw**
- Truck routing requires crossing the Hudson River Waterfront Walkway at Warrington Plaza (active pedestrian flow)
- No employee parking; ferry crews arrive early - typically before transit operates
- Physical condition of existing pier unusable
- Navigable water depth and required permits to be determined

Hoboken Terminal South Site – Storage Only

- Physical condition of existing pier unusable
- Long term - Storage for +12 vessels
- Navigable water depth and required permits to be determined
- Limited access for Emergency Services
- No employee parking; ferry crews arrive early - typically before transit operates
- Increased operational cost of storage only activity at this location with maintenance at a separate location
- Maintenance and fueling site – will still require significant capital investment

Conclusions

- A fueling and maintenance facility at Hoboken Terminal poses a homeland security and safety issue
- A ferry storage only marina does not address the critical need for ferry maintenance and fueling, that need would need to be addressed at another location with additional cost
- Temporary (barge based) ferry storage facility at Hoboken Terminal – Dredging, permits and environmental remediation represent major unknowns with both cost and schedule implications
- Permanent storage facility - The demolition and rebuild of the South Pier would be a major capital project; its feasibility and exact cost unknown. For comparison, the Brooklyn Navy Yard - NYC Ferry Homeport project supporting 20 ferries is at a cost of +\$50 million dollars