A WORKING WATERFRONT FOR NY HARBOR:
USING SHIPPING INFRASTRUCTURE AS COASTAL DEFENSE

This proposal aims to change the mode of the container port as a way to reimagining the coastline of NY Harbor while addressing the rising waters of SLR and storm surge. Currently, significant infrastructure investments are being implemented to accommodate Post Panamax shipping at Elizabethport. Cost estimates made after Hurricane Sandy illustrate that even greater investments would be required to construct storm surge barriers. The idea is to combine the way we think of these large-scale systems.

Today, there are 6 container terminals that handle $5 million tons of incoming goods to NY. The majority of these goods are dropped off at the 3 terminals at Elizabethport, adjacent to Newark Airport and connecting to I95. However, 90 million consumers live within a 24-hr reach of these terminals, and 75% of these imported goods remain in the NY-NJ area. Therefore, water can act as a medium on which to distribute these goods locally, reducing the volume of highway truck traffic. With the expansion of the Panamax Canal complete 2014, there will be larger container ships able to access the East Coast. To stay active as the prominent port on the East Coast, NY will have to handle this greater influx of goods. By using a range of barge types, greater volumes of goods can be delivered with each vessel.

Therefore, the region’s strategy outlines 2 potential scenarios. With high levels of investment similar to early estimates for storm surge barriers, a large breakwater port could be built at the mouth of the harbor, doubling as storm surge protection. With lower and status quo investments, Elizabethport could remain as the major breakwater facility. In such cases, fleet of smaller barges could distribute goods around NY Harbor.

Based on existing hydrological systems and currents, in addition to future water levels, any further development in the area should be able to adapt to a 30 ft rise in sea levels and on the water. Instead of placing vulnerable residences and wear, corporate waterfront developments - or even fancy parks intended for the occupants of such buildings - this suggests a working waterfront for New York, a return to what led the city to greatness in the first place, just in an ecologically-minded approach.

REGIONAL HARBOR SECTION

PHASING TIMELINE

GATEWAY TODAY

GATEWAY 2080:
ECO-PORT

SHIPPING INFRASTRUCTURE
CURRENT VC PLAN: PREPARING FOR POST PANAMAX

STORM SURGE INFRASTRUCTURE
CURRENT VC PLAN: PROPOSED BARRIERS/25 years

THE COSTS OF DREDGED SHIPPING CHANNELS:

As long as Port Panamax ships are allowed to cut through the harbor into Elizabethport and maintain the existing shipping basins and Tudor-Hoboken Commercial Channel, these

TOTAL
$2.5 BILLION

TOTAL
$0.2 BILLION

PUBLIC WATERFRONT

OCEAN VIEW

RECREATION

RESIDENTIAL

MILITARY

HOSPITAL

HARBOR

RECRUITMENT

PHASING TIMELINE

PHASE 1: 2050
SITE SCALE

PHASE 2: 2050
HARBOR SCALE

PHASE 3: 3000
MARINE SCALE

PHASE 4: 3000
COMMUNITY SCALE
NY HARBOR ATTRIBUTES

SECTIONS OF NEW COASTLINES

The new waterfront involves infrastructure for local business, with mixed uses for small businesses and recreation. Utilizing the same coastal reaches and tidal influences, a range of ground types allows for a variety of micro-climate conditions to occur, leading to various forms of activities.

THE SCALE OF POST-PANAMAX SHIPPING

CURRENT NYC PORT INFRASTRUCTURE

The waterfront’s cross section is not set for the graziers, open space activists, or other non-business characters who have a stake in keeping the waterfront clean and free of industrial activities. In this case, the waterfront is not yet the waterfront. New York City is protected because of its industrial and infrastructural components, as well as its commercial, ecological, and historical significance.

CURRENTLY, DREDGING REMAINS THE PRINCIPAL

WATERFRONT PERSPECTIVE

PORT PERSPECTIVE

“People have been cut off for too long. They’ve forgotten what was there to the water for the first place; the reliance of the lugs, the fishing, the commercial and industrial beauty – and not just these physical connections, but the personalities which you bump into and the things you could do and see.”

- Ismail Benard, South Street Waterfront Association

This proposal uses the meeting point of human infrastructure and natural systems to create an urban waterfront and environmental strategies for the future. It includes a new structure on the perimeter forming shipping channels and providing tidal wave protection. Meanwhile, new forms and uses of water will be continuously developed to maintain and enrich the water and its uses.