

An aerial photograph of Rockaway Beach, New York, showing the sandy beach, the ocean, and the surrounding urban development. The beach is on the left, with waves breaking onto the shore. To the right of the beach is a dense residential area with many multi-story buildings. A highway and a railway line run parallel to the beach. The background shows the vast expanse of the ocean under a clear blue sky.

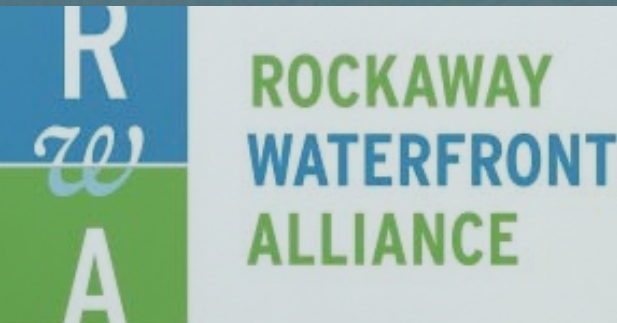
Planning for a Resilient Rockaways

A Strategic Planning Framework for Arverne East

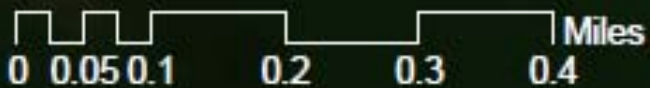
NYU Wagner

Waterfront Solutions

Alda Chan, Sa Liu, Jonathan McGrath,
Rossana Tundo & Katie Walczak




Study Area



Service Layer Credits: Copyright ©2013 Esri
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USGS, AEX, Geoprocessing, AeroGRID, IGN, IGP,
swisstopo, and the GIS User Community

Legend

 Arverne East Study Area

Demographics & Background

Arverne East

10,142 residents

- 64% African American
- 23% Hispanic
- 8% Caucasian

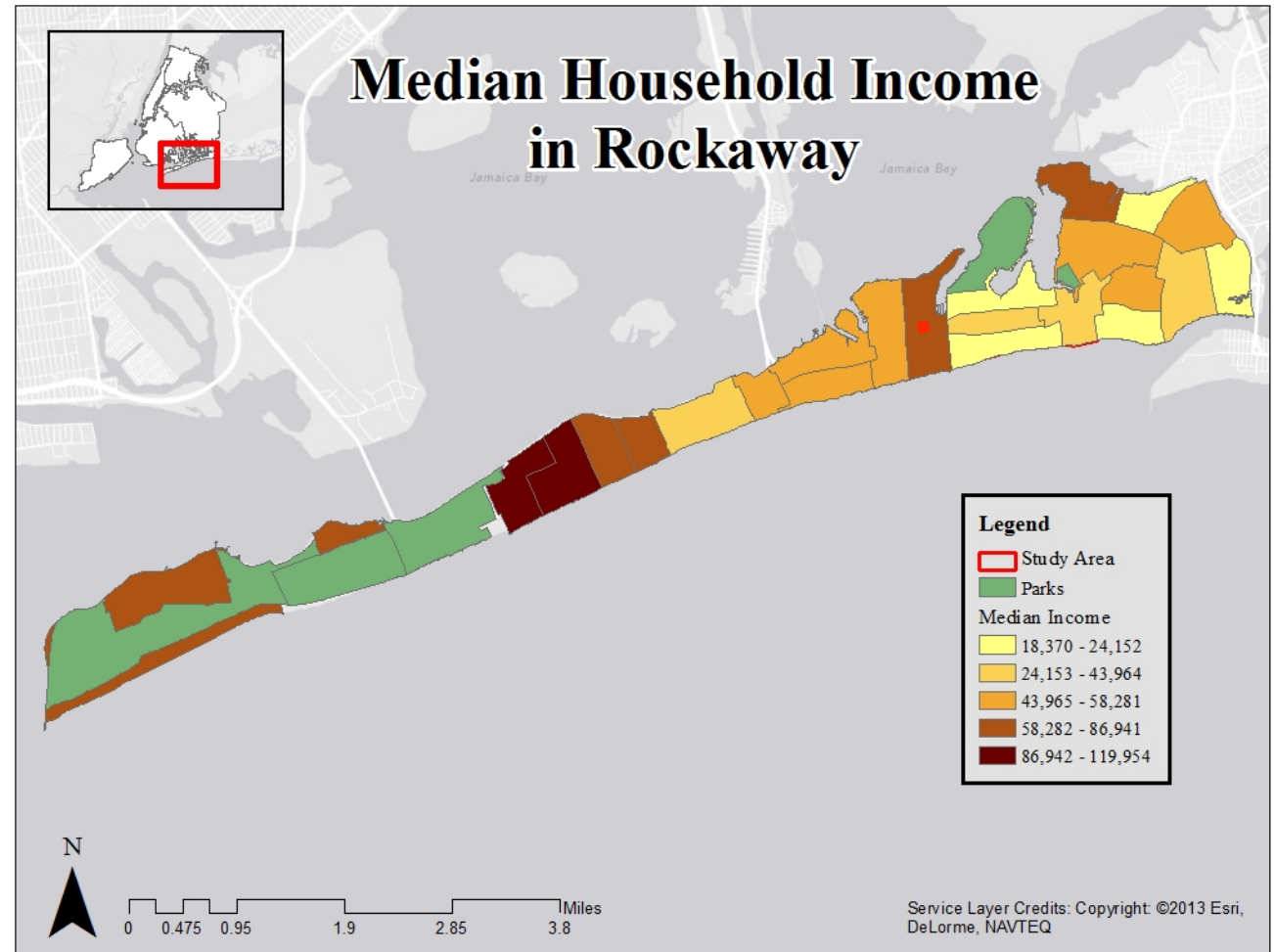
Age distribution

- 31% are < 18
- 11% are 65+

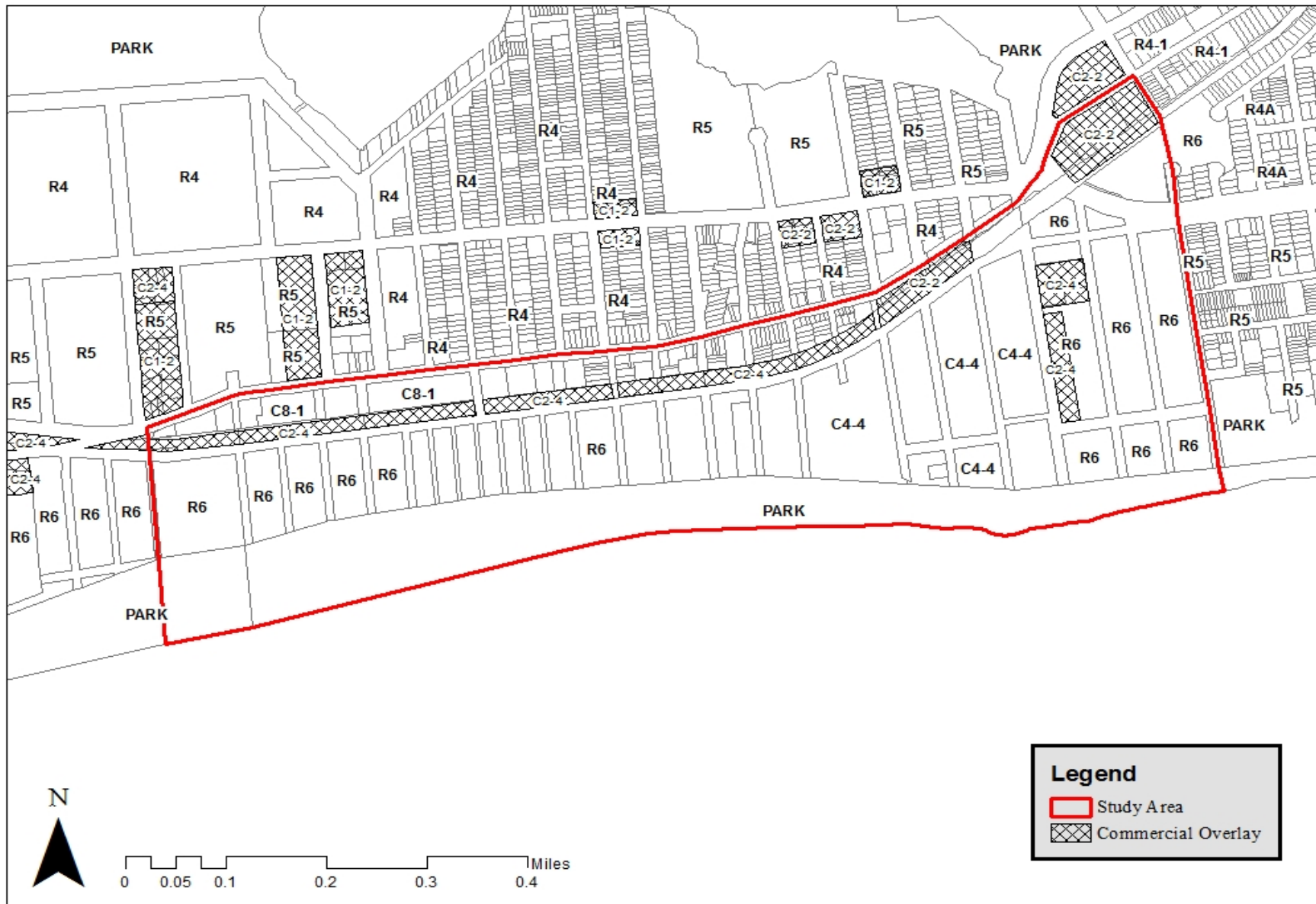
Median HH Income

- \$16,224 - \$44,119

Source: U.S. Census Bureau, 2010
(tracts 972.02, 972.04, 992)



Zoning and Land Use



2006 Arverne East Proposal

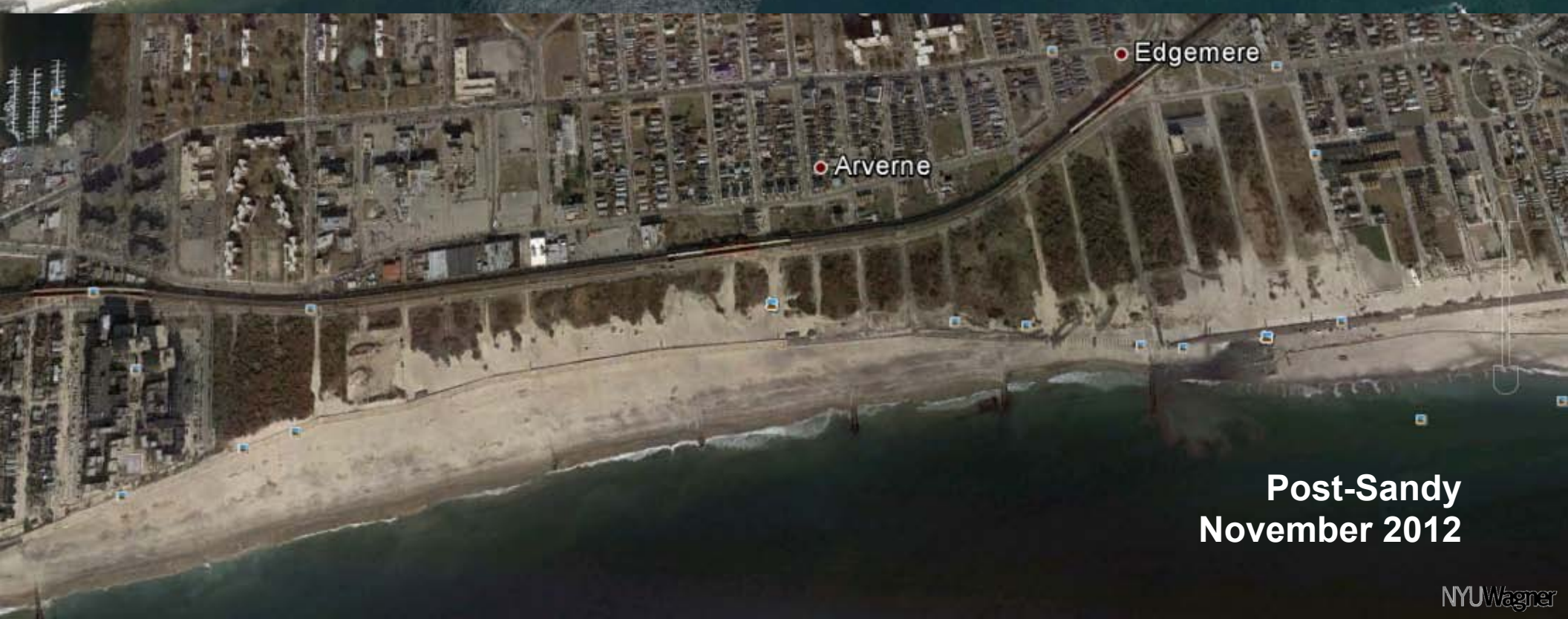




Edgemere

Arverne

Pre-Sandy
June 2012



Edgemere

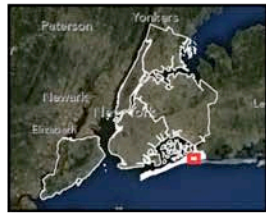
Arverne

Post-Sandy
November 2012








Advisory Base Flood Elevation Map

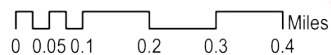


Existing Conditions



Legend

-  Arverne East Study Area
- Assets**
-  A Train
-  Public School
- Challenges**
-  Unmaintained streetscape
-  Flooding Risk
- Opportunities**
-  Pathway
-  Boardwalk
- Other**
-  Public Housing



Outreach



CB14



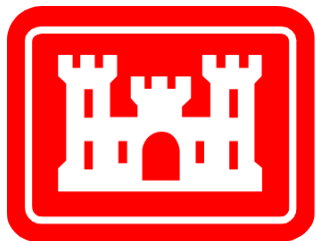
Queens Community Board Fourteen represents the neighborhoods of The Rockaways: Arverne, Bayswater, Belle Harbor, Breezy Point, Broad Channel, Edgemere, Far Rockaway, Neponsit, Rockaway Beach, Rockaway Park, Rockaway Point, and Roxbury.



City of New York
Parks & Recreation



AAP
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The Bluestone
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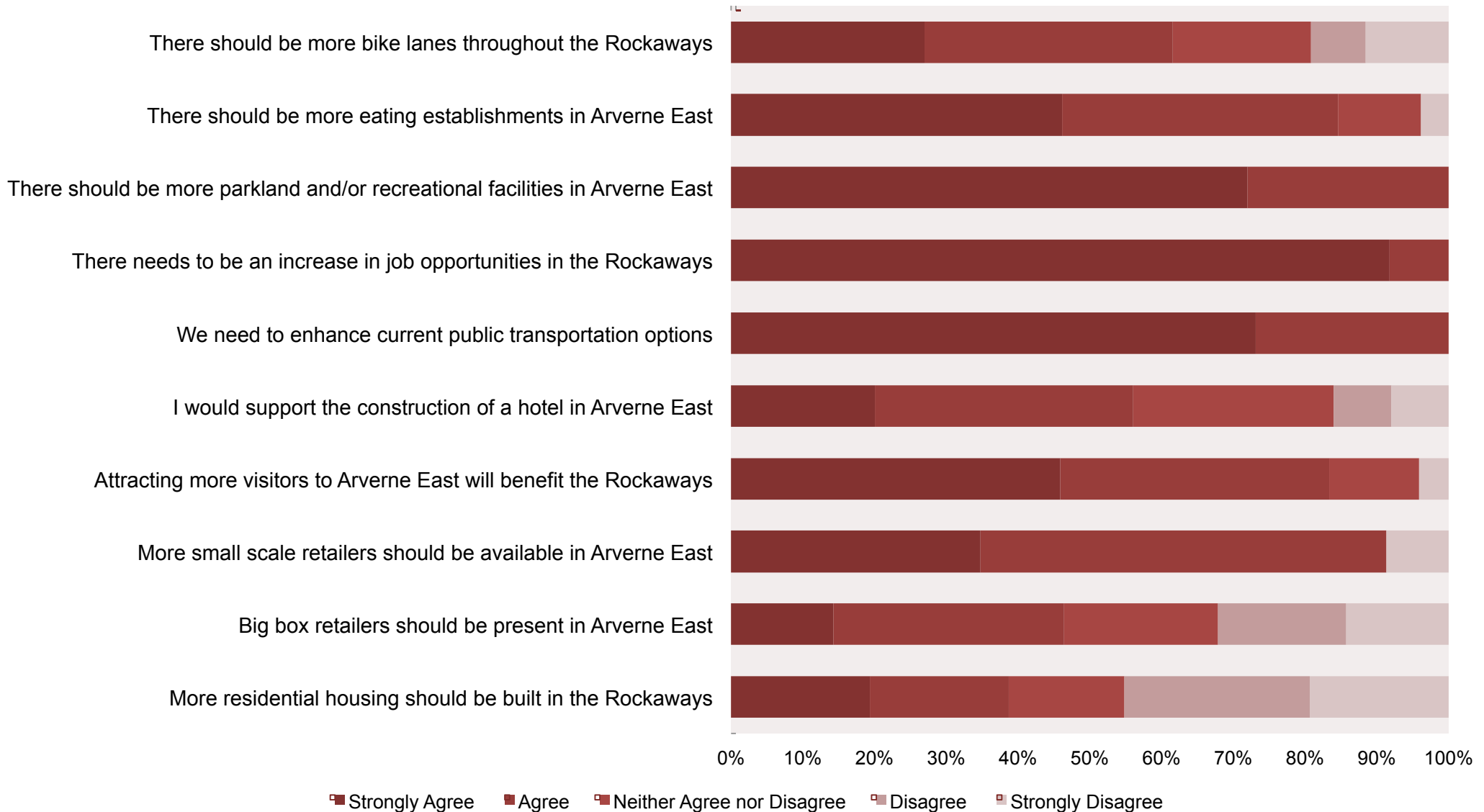
Community Outreach



March 7, 2013 Public Outreach Workshop

- Approximately 50 attendees participated in breakout discussions on assets, challenges, and desires

Community Survey Responses



Vision

Leveraging local assets to foster a community-oriented wellness and recreation hub that serves as model for coastal **environmental, economic, and social resilience**

Concept for a Resilient Rockaways

Complete Streets



Active Open Space



Pier Garden Sports Art

Commercial Corridor



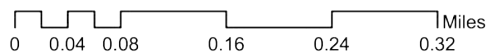
Resilient Housing



Legend

- Pier
- Transportation node

Floodable Areas



Ecotourism

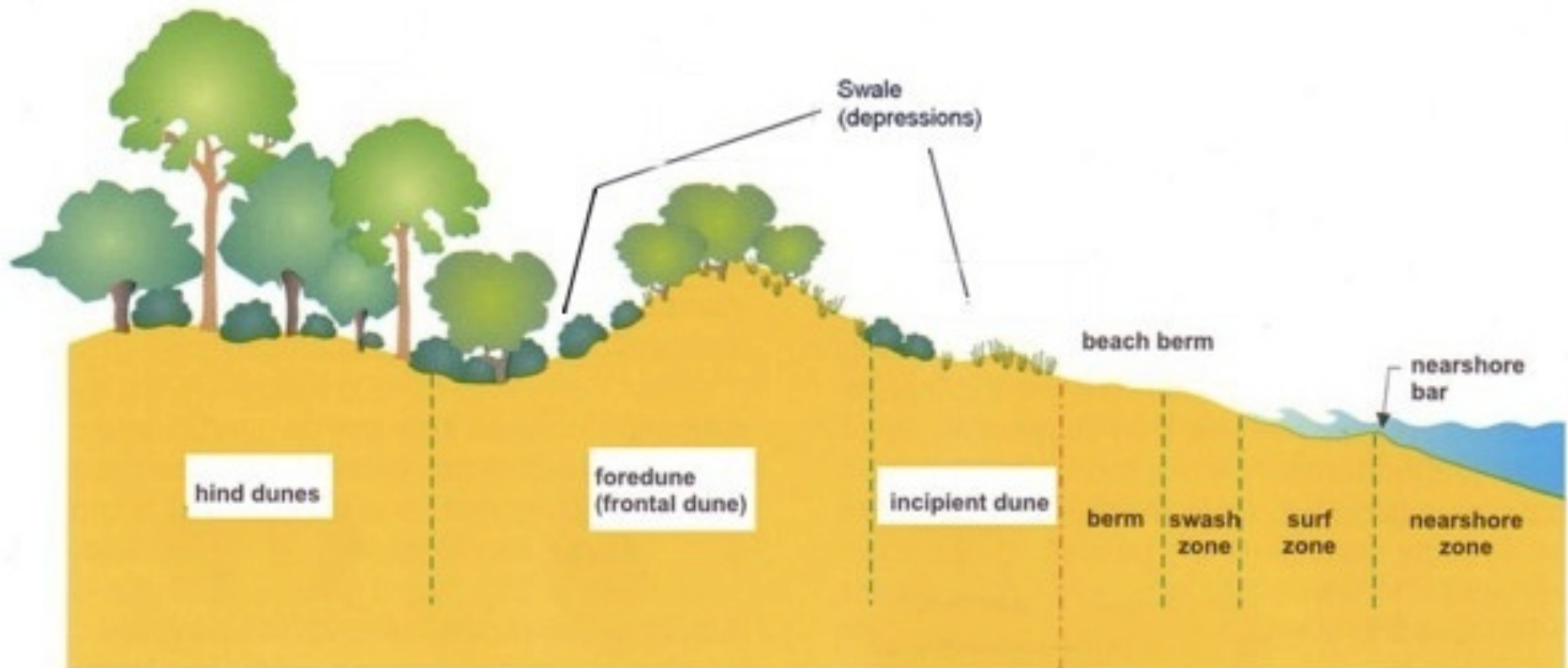


Coastal Barriers



Environmental Resilience: Coastal Barriers

- Elevate site above Advisory Base Flood Elevation levels
- Primary and sacrificial dune with heterogeneous native plants

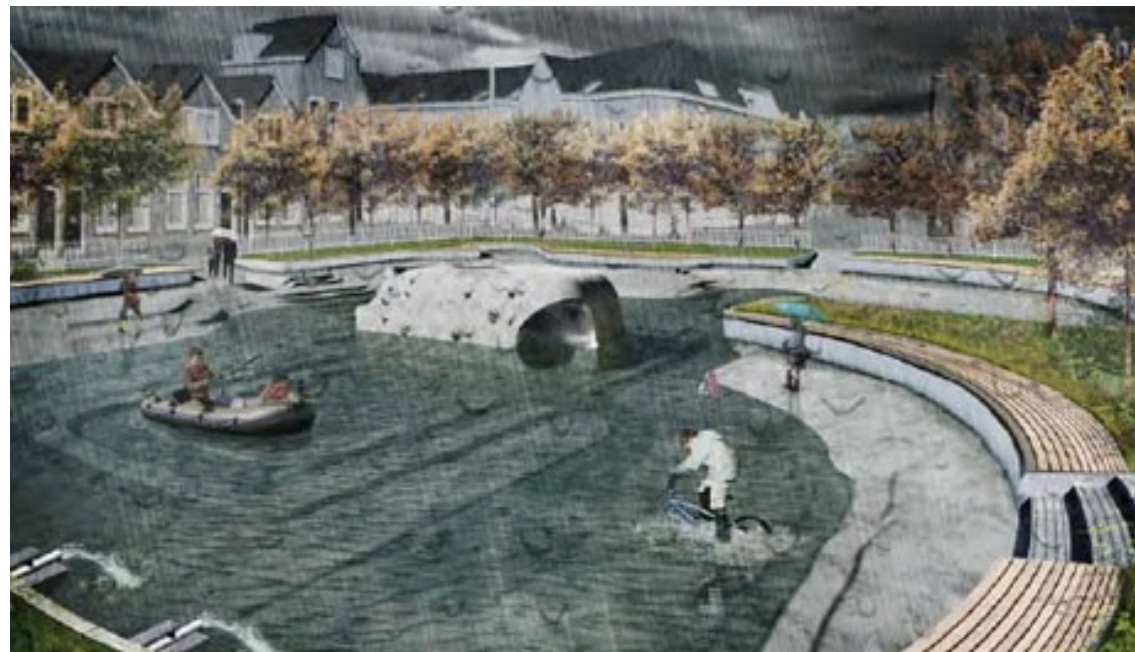


Environmental Resilience: Floodable Areas / Multifunctional Defense

- Integrated throughout natural and built elements, i.e. nature preserve, parks, parking garages, etc.



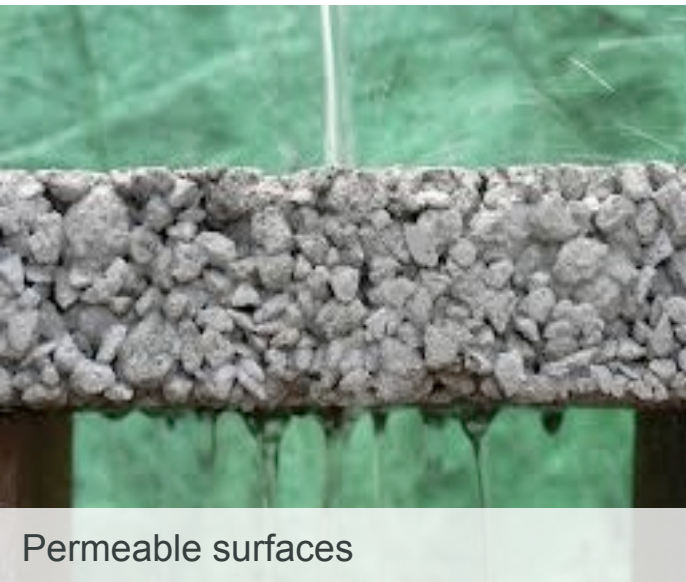
Floodable open space



Waterpleinen Stormwater Park Concept by Urbanisten

Environmental Resilience: Green Infrastructure

- Mitigate storm water run-off
- Integrated throughout development



Permeable surfaces



Green roofs



Bioswales / rain gardens

Hotel and Tourism Profile

- Few existing hotel options
- Innovative accommodation options emerging (boatel)
- Four million visitors annually
- Nearby markets:
 - NYC (50.9m visitors)
 - NJ shore (59m visitors)
 - JFK (47.7m passengers)
 - Long Island beaches
- Community support for hotel/tourism



Surfers at Rockaway Beach



Concession stands along boardwalk

Economic Resilience: Ecotourism

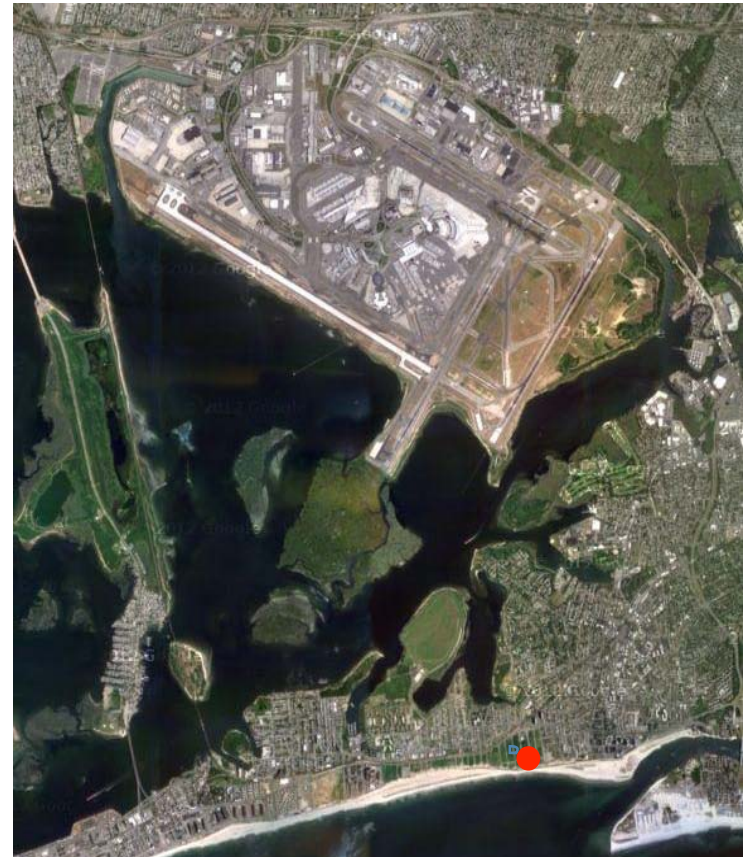
Urban ecotourism: opportunity to conserve biological and social diversity, create new jobs and improve the quality of life

- Restore and conserve natural and cultural heritage
- Maximize local benefits and engage the local community
- Educate visitors and residents
- Reduce ecological footprint



Economic Resilience: Ecotourism

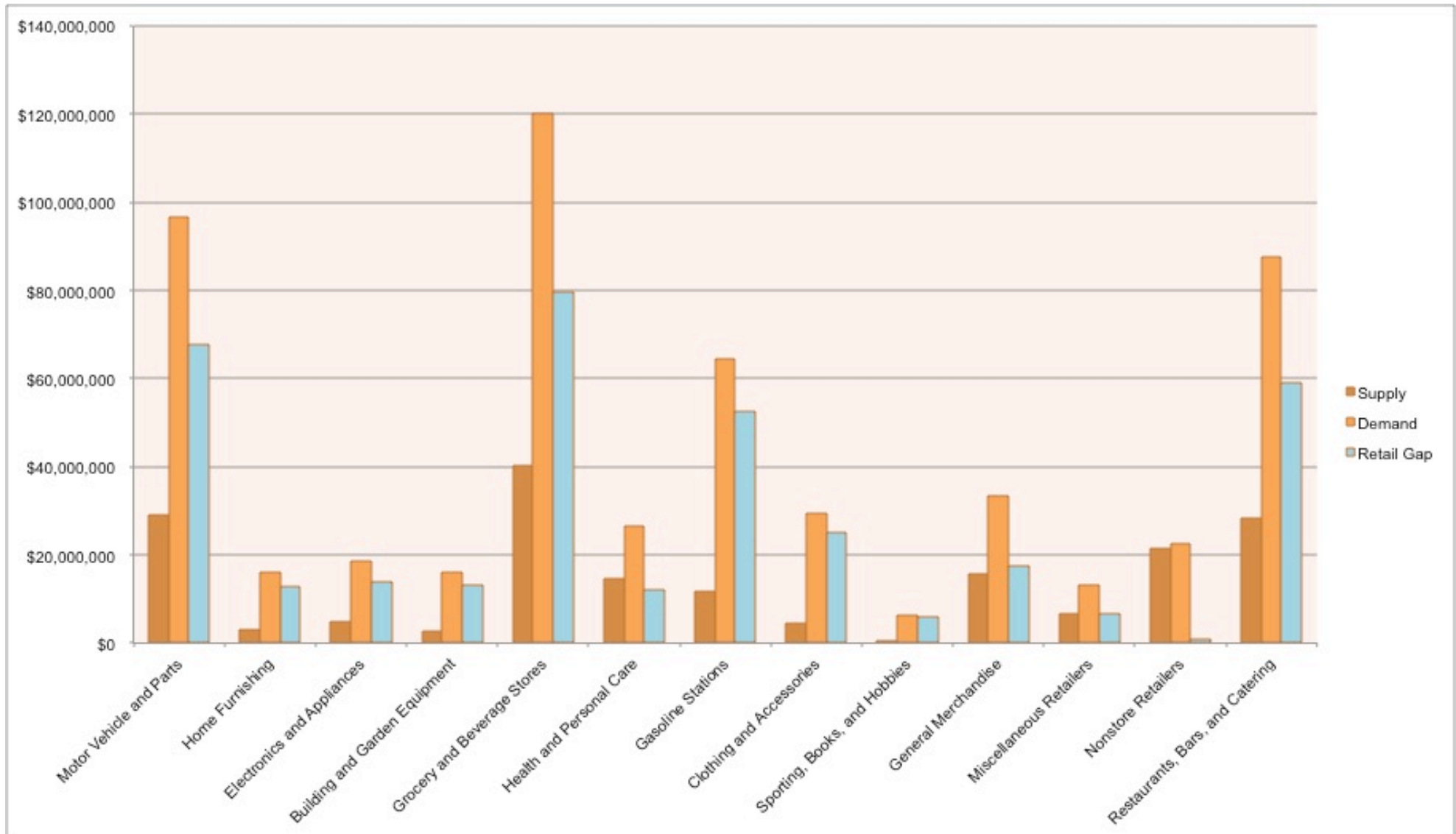
- Model for urban ecotourism
 - Incentivize community operation
 - Create educational programs
 - Preserve natural environment
 - Use green design / technology
- Attract day-trippers and weekend visitors
- Partner with international airlines to provide rooms and training space
- Event and conference space



Proximity to JFK, downtown & Jamaica Bay

Economic Resilience: Capturing Spending Leakages

Arverne East Market Profile

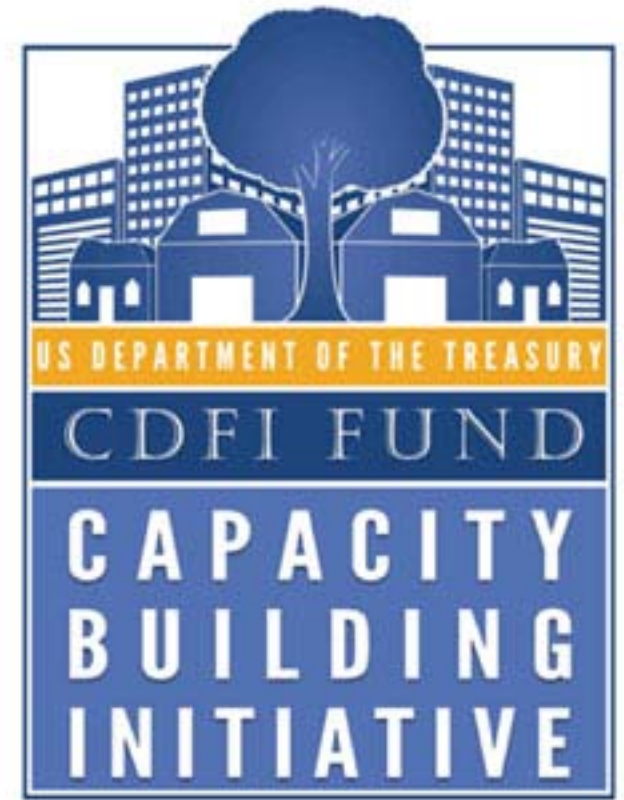


Economic Resilience: Retail and Entrepreneurship

- Commercial corridor with destination and small scale retail
- Community Development Financial Institutions

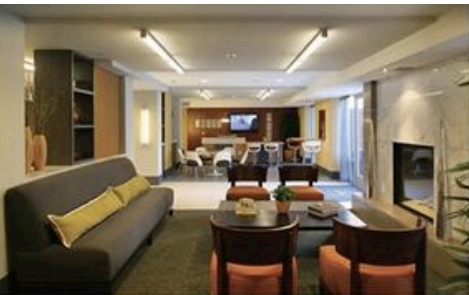


Mid-rise mixed-use housing and retail



Economic Resilience: Housing

- Medium-density, mixed-use
- Elevated and flood proof
- Age-friendly



Platinum Triangle in Anaheim, CA

Via Verde in the Bronx, NY

Economic Resilience: Community Anchors



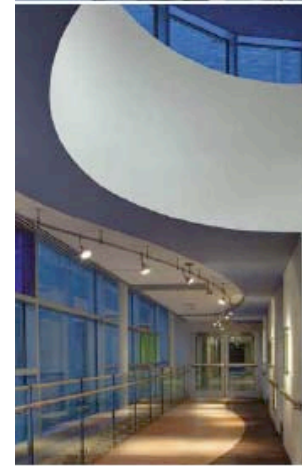
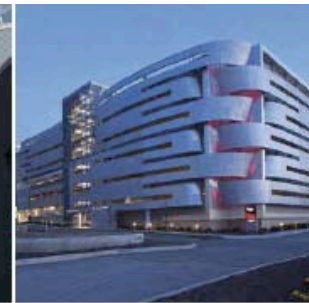
Rockaway Institute for Sustainable Environment



Queen's Children's Library Discovery Center

- Rockaway Institute for Sustainable Environment (RISE)
- New public library as economic engine and evacuation area
- Case Study: Philadelphia Free Library

Economic Resilience: Community Anchors



THE ANCHOR MISSION
LEVERAGING THE POWER OF ANCHOR INSTITUTIONS TO BUILD COMMUNITY WEALTH

*A Case Study of University Hospitals
Vision 2010 Program
Cleveland, Ohio*

FARZANA SERANG
Department of Urban Studies and Planning, Massachusetts Institute of Technology

J. PHILLIP THOMPSON
Department of Urban Studies and Planning, Massachusetts Institute of Technology

TED HOWARD
The Democracy Collaborative, University of Maryland College Park



- St. John's Episcopal Hospital: largest local employer
- Case Study: Vision 2010, Ohio University Hospitals

Social Resilience: Activate Open Space

- Year-round programming
- Recreational nodes
- Community gardens
- Urban farm
- New piers



Ocean Breeze Fishing Pier, Staten Island



Rockaway Beach Boardwalk



Outdoor public exercise equipment



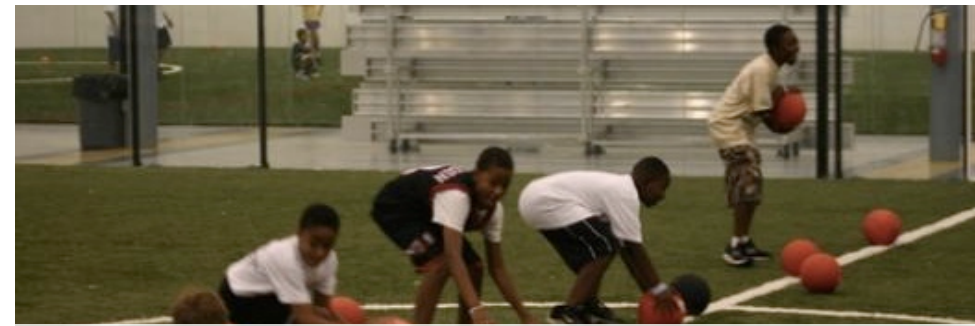
Community garden

Social Resilience: Health and Wellness Programming

- Community Health Center
- Indoor and outdoor activities
- Health programs, e.g. obesity prevention program
- Afterschool programs
- Healthy food and smart eating



Harris Teeter, Matthews, NC



Afterschool recreation program



Yoga studio

Social Resilience: Network Connectivity

- Complete streets
- Greenway
- Connecting to broader parks network (Jamaica Bay, Gateway National Park)



Next Steps

- Additional research
- Stakeholder engagement and collaboration
- Sourcing of financing
- Rezoning study
- Rockaway Economic Development Corp.