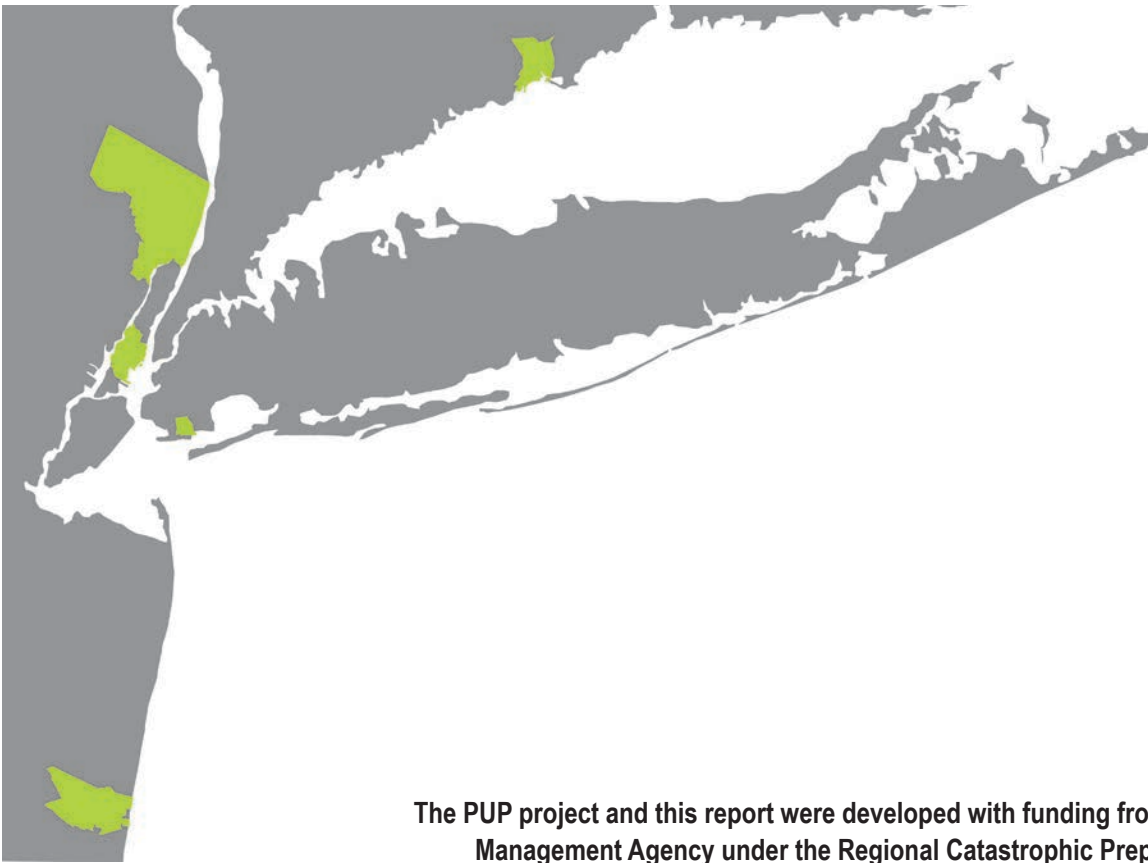THE REGIONAL CATASTROPHIC PLANNING TEAM'S

PARTICIPATORY URBAN PLANNING

WORKSHOP SERIES

JANUARY 2015

ABOUT THIS REPORT

Each community has its own capacitites, vulnerabilites, character and political structure, but many communities in the tri-state region face shared challenges in relation to environmental disaster. For this reason, The Regional Catastrophic PlanningTeam has gathered the results from its five Participatory Urban Planning workshops in three states into a single document that can also be disseminated by chapter. If local authorities, community groups and umbrella organizations wish to share just their community's workshop, they can extract their chapter along with the report introduction, conclusion and maps as a separate document. Alternatively, it can be read as a whole, so that regional trends and differences appear in detailed context. Finally, the most important aspect of the workshops were their particpants and the whole community networks they formed. Each chapter lists the event attendees while the appendix provides a complete list of particpants, the roles they fill and organizations they represent.

CONTENTS

"If you don't know what to do and you're not prepared ahead of time, these events become disasters."

Bill Richards, Milford, CT Disaster Relief Coordinator

FOREWORD

This is a report-back from the Regional Catastrophic Planning Team's (RCPT) Participatory Urban Planning (PUP) series, the focus of which was interim housing. There were five workshops, each of which brought together 25-50 representatives from all levels of government, local NGOs, academia, the private sector and the community to strategize interim housing for the gap between the closing of short-term shelters and residents' return home after a disaster. The brainstorming sessions, which prescribed little and allowed the participants' concerns to guide the conversation, produced a wide range of options from capacity analyses for siting pre-fabricated housing modules to policy-based coordination of housing opportunities among neighboring states.

1   **BRIDGEPORT**

2   **BERGEN COUNTY**

3   **JERSEY CITY**

4   **SHEEPSHEAD BAY**

5   **TOMS RIVER**

INTRODUCTION

WHAT IS RCPT?

Established in 2008, the Regional Catastrophic Preparedness Grant Program (RCPGP) is a groundbreaking Department of Homeland Security initiative to encourage collaborative emergency planning in America's largest urban regions. A catastrophic event in our region would require response and recovery operations of an unprecedented scale. The NY-NJ-CT-PA RCPGP project site includes major metropolitan areas such as Newark, Jersey City, Bridgeport, and New York City. The RCPGP has three primary goals:
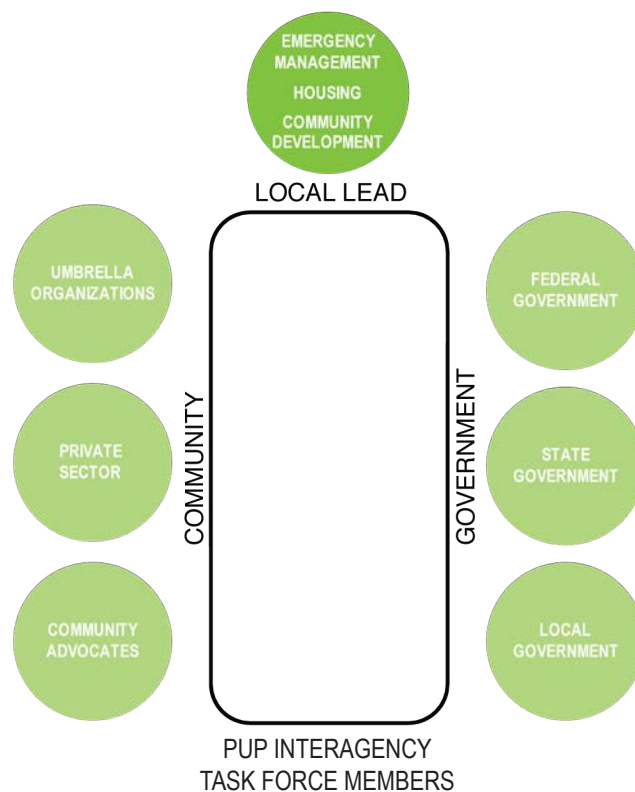
1. Fix Shortcomings in Existing Plans,
2. Build Regional Planning Communities,
3. Link Operational and Capabilities-Based Resource Planning.

The Regional Catastrophic Planning Team (RCPT) is a multi-state steering committee that guides RCPGP-funded activities. This region has been awarded nearly $27 million in RCPGP funds. In 2012 a series of plans were completed that serve as a common foundation for strengthening regional preparedness, including a Housing Recovery Plan. Through the Housing Recovery Program, the RCPT has developed resources that streamline the process of post-disaster housing and long-term community recovery.

WHAT IS PARTICIPATORY URBAN PLANNING?

Participatory Urban Planning (PUP) is a resource for coordinating governments' emergency management response and recovery operations with non-profit organizations, the private sector, and the community. The RCPTdeveloped a PUP Toolkit that contains an Interagency Task Force framework and a Communications Guide to facilitate whole community recovery. These tools can help eliminate conflict between immediate response and longterm goals by exercising cross-sector networks of communication in advance of disaster recovery. The PUP Table includes Emergency Management, Housing, Community Development and Human Services departments from all levels of government; private sector and academic partners, and umbrella organizations, community advocates, neighborhood or faith-based groups, and other non-governmental organizations.

Disasters often cross administrative and disciplinary boundaries. Housing, infrastructure and social services can be simultaneously affected in complex ways that test the financial and organizational capacity of government responders. PUP's working principle is the presence of all constituencies from the start to support the planning for and recovery from these impacts.

EMERGENCY MANAGEMENT
HOUSING
COMMUNITY DEVELOPMENT

LOCAL LEAD

UMBRELLA ORGANIZATIONS

FEDERAL GOVERNMENT

COMMUNITY

GOVERNMENT

PRIVATE SECTOR

STATE GOVERNMENT

COMMUNITY ADVOCATES

LOCAL GOVERNMENT

PUP INTERAGENCY
TASK FORCE MEMBERS

WHAT IS INTERIM HOUSING?

Interim housing addresses the planning gap in housing for those who cannot return to their homes by the time emergency shelters close. The Federal Emergency Management Agency (FEMA) supports temporary housing via financial or direct assistance, providing repairs to the damaged home, rental placement and payment or, based on availability of rental properties, temporary housing units like trailers. FEMA's Individual Assistance division provides this assistance for up to 18 months through their Individuals and Households Program, except in the case of a catastrophic disaster, where IHP can be made available for two years or more.

FEMA and the Department of Homeland Security recognize that the time frame for interim housing will be much longer in a Catastrophic Disaster, a category that does not include either Superstorm Sandy or Hurricane Irene. FEMA's definition of Catastrophic is as follows:

"What are the questions we need to ask, not what are the answers."

Joan Finn, Ocean County
Long-Term Recovery Group

- 1,750,000 survivors require emergency sheltering
- 265,000 survivors require emergency medical care
- 500,000 households move to non-congregate sheltering within 60 days
- 500,000 eligible households have a need for temporary housing.[1]

WHY DISCUSS INTERIM HOUSING?

FEMA's National Disaster Housing Strategy recognizes that "identifying interim housing solutions for disaster victims...is arguably the most demanding facet of disaster housing."[2] A PUP workshop that brings players from many places in government and the community can facilitate discussions for housing scenarios that exceed the mandate of emergency response personnel but do not fit the terms of a long-term city plan, and have complicated sets of social and economic parameters beyond the housing itself. The workshops had a specific benefit for the towns that need to develop interim housing scenarios for the current federally mandated Mitigation Plans. More importantly, they modelled a "whole community" process that can inform discussion going forward.

HOLISTIC PLANNING

Interim housing can also involve a host of related services. We heard how transportation planners could shuttle survivors from off-site temporary housing; health and senior services departments could represesent the needs of vulnerable communities; parks departments could provide open sites with infrastructure for housing; emergency managers, and long-term planners could create a platform on which to communicate more frequently.

TIMELINE

The time frame for planning and executing interim housing far exceeds the time required to move a family into an apartment or erect a pre-fabricated module. Laying the groundwork, whether it be the infrastructure for a module, permits for the land, or the policy structure for a vendor, requires complex long-term planning and coordination among many stakeholders.

There is no single timeline for the planning of interim housing because of the complex interaction of governmental demands and local conditions. Based on these conditions and the priorities that arose at each PUP session, participants discussed competing timelines. They asked: what is the time frame of proposed siting agreements? How long do we need to prepare? At what point should "interim" housing begin and end? Under what terms and time frame does interim become long-term or even permanent?

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1 FEMA, Catastrophic Housing Annex, DHS, Aug 2012, http://1.usa.gov/14pvbeU, 7.
2 FEMA, National Disaster Housing Strategy, DHS, Jan 2009, http://1.usa.gov/1BLaULh, 64.
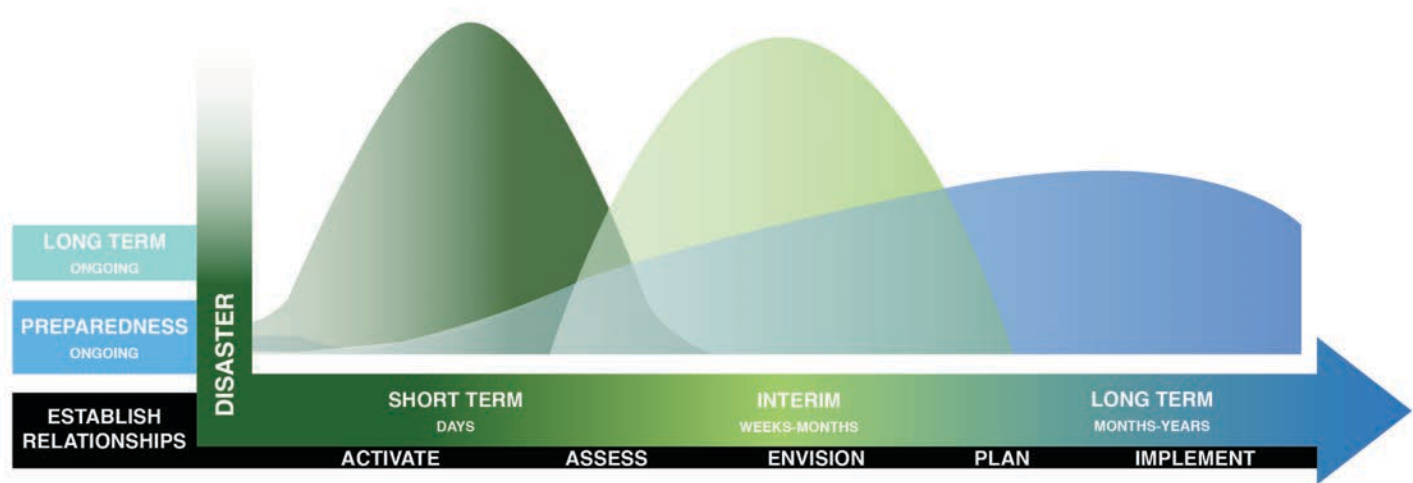
THE WORKSHOPS

Each PUP workshop began with a presentation of environmental hazards and community vulnerabilites through maps and data. With many communities still recovering from Superstorm Sandy, this storm served as a reference in our presentations and for participants who were encouraged to pull from their experiences during that recovery period to inform the analysis and discussions that followed. The 100-year flood boundary, drawn by the National Flood Insurance Program, was also included as a planning reference in the workshops and an illllustration of possible future catastrophic events.

Following the presentation, small groups of around eight representatives of various levels and departments of government from FEMA and HUD to the local sherrif, planners and emergency managers, local leaders and community group representataives brainstormed approaches to interim housing. The event concluded with a presentation by each group to everyone assembled. This series of workshops was the preliminary step in strategizing for better interim housing.

ANALYZE	STRATEGIZE	PLAN
• Discuss and record the experiences, needs and capacities of your community.	• Identify and map possible sites for housing unit deployment. • Brainstorm tools, policies, networks, outside-the-box options for housing displaced residents.	• Create planning scenarios: for sites and housing strategies but also policy and governmental frameworks. • What's needed to initiate these?

Toms River Workshop August 5th 2014

THE SITES

RCPT selected the workshop communities to represent five recurring but varied conditions in the region:
• two densely populated, land-strapped communities, one within an extensive urban center, Sheepshead Bay (June 25, 2014), the other a smaller municipal hub, Jersey City (September 29, 2014);
• one coastal suburban town, Toms River (August 5, 2014);
• a coastal industrial city with a shrinking population, Bridgeport (November 4, 2014);
• and a final session at the regional scale in Bergen County (December 4, 2014).

The sites were chosen through conversations with officials at municipal, county and local Offices of Emergency Management who had existing relationships with RCPT, and through suggestions from local departments, Rebuild by Design competitors and other operators of Sandy-recovery efforts in the region. The capacity of small, hard-hit towns to host a session during on-going recovery as well as a local governmental interest in the project were factors in site selection.

	BERGEN COUNTY	BRIDGEPORT	JERSEY CITY	SHEEPSHEAD BAY	TOMS RIVER
Population	925, 328	144,229	257,342	118,188	88,791
Elderly (65+)	16%	10%	9%	17%	17%
Area (square miles)	233	16	15	3	39
Density (people / sq mi)	3,885	9,029	16,736	38,027	2,279
Median household income	$83,794	$41,050	$58,206	$49,316	$73,990
Below poverty level	7%	23%	18%	16%	6%

Statistical comparison of all workshop sites. Source: US Census Bureau

INTERIM HOUSING TOOLKIT

UNDERUTILIZED PARKING GARAGES
Easily adaptable

VOUCHERS AND GRANTS
Subsidising rent or paying for repairs and rebuilding

POLICY
Write new and innovative policy to allow for interim housing in your neighborhood

DEPLOYABLE PRE-FAB HOUSING
Prefabricated homes can be rapidly manufactured and deployed to prepared sites

GOLF COURSES
Many towns have golf courses available that could be retrofitted to host interim housing

UNDERUTILIZED GOVERNMENT BUILDINGS
Government owned structures and land could be retorifitted for interim use

RAISING HOMES
Existing homes and utilities can be raised above the BFE

VACANT LAND VACANT HOMES
Empty lots, homes and buildings can be temporarily used to housed displaced residents
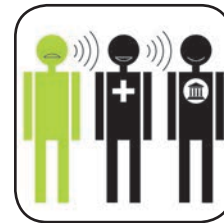
COMMUNICATE
Communication within the community as well as to NGO's and Government officials to minimize redundancy and maximize recovery

REUTILIZING WATERFRONT INDUSTRIAL SITES
Many of the towns have under-used piers and waterfront land that could be used for temporary housing

RE-ZONE
Rethinking zoning to accommodate interim use in the case of a disaster

BARGES AND CRUISE SHIPS
For dense urban areas, barges could be used for interim housing and could be prepared long before a disaster occurs

PARKS AND PUBLIC OPEN SPACE
Similar to retrofit for a festival, parks offer an abundance of space and minimal intrusion to daily life

RESILIENCE
Being prepared to quickly bounce back from a catastrophic event and adapt to new circumstances

SERVICE HUBS
Centrally located centers to help, organize, and advise residents in need

SOUTHERN BERGEN COUNTY
PARTICIPATORY URBAN PLANNING WORKSHOP REPORT

CONTENTS

WORKSHOP PARTICIPANTS

Nathaly Agosto-Filion - New Jersey Resiliency Network

Cynthia Barton - Regional Catastrophic Planning Team, New York City Office of Emergency Management

Noreen Best - Bergen County Division of Community Development

Julie Blanciak - Federal Emergency Management Agency Individual Assistance Region 2

Alison Dubois - Greater Bergen Community Action

Dennis Dura - New Jersey Department. of Human Services Office of Emergency Management

Iris Epsenhart - Federal Emergency Management Agency Individual Assistance Region 2

Manuel Garcia - New Jersey Department of Community Affairs

Mariedyth Gayas - Bergen Volunteer Organizations Active in Disaster, Long-Term Recovery Committee, Volunteer Center of Bergen County

Sally Gellert - Bergen Grassroots, Long-Term Recovery Committee, Occupy Sandy New Jersey

Jaklin Girgis - Bergen County Grassroots

Nancy Harris - Regional Catastrophic Planning Team

Abram Hillson - New Jersey Housing and Mortgage Finance Agency

Michael Kolber - Urban Planner

Debbie Lawlor - New Jersey Meadowlands Commission

Barry Leventhal - Bergen County Office of Emergency Management

Joann Lowry - Federal Emergency Management Agency New Jersey Sandy Recovery Field Office

Balenda Nelson - U.S. Department of Housing and Urban Development

Patrick O'Neil - Remlu, Inc. Emergency Preparedness Planning

Donna Orbach - Bergen County Department of Planning & Economic Development

William Peppard - Bergen County Police Department

Bruce Shapiro - New Jersey Association of Realtors

Janet Sharma - Bergen Volunteer Organizations Active in Disaster, Long-Term Recovery Committee, Volunteer Center of Bergen County

Steve Tiboni - New Jersey Office of Emergency Management

Alfred Titone - Small Business Administration New Jersey District

Tess Tomasi - Bergen Volunteer Organizations Active in Disaster, Long-Term Recovery Committee, Volunteer Center of Bergen County

Paula Van Clef - New Jersey Deptartment of Health

Matt Ziemkiewicz - Bergen County Office of Emergency Management

"We need a regional approach. It can't be town by town."
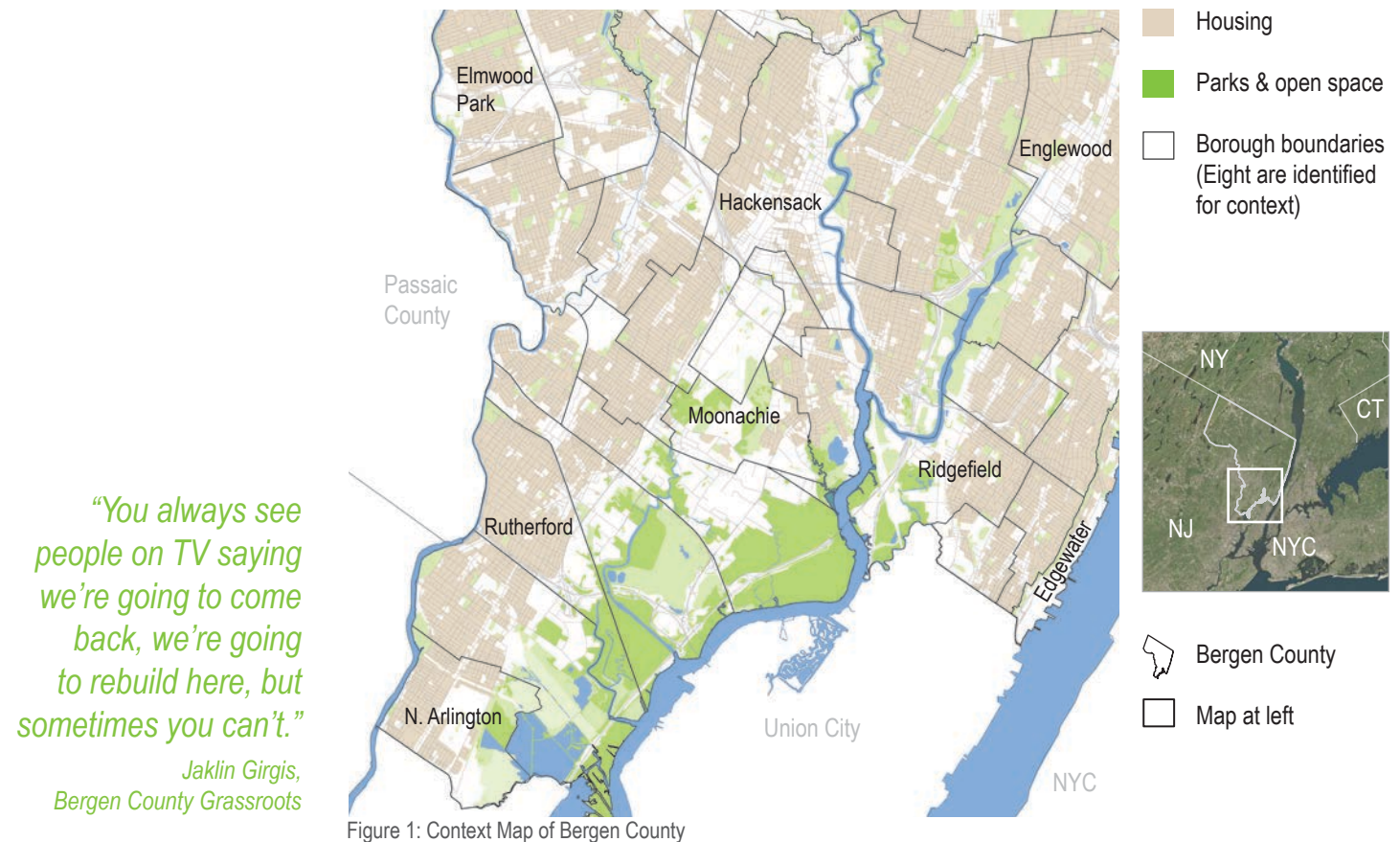*Fransisco Artigas, PHD*

MAPS INCLUDED in the WORKSHOP

CONTEXT
SANDY STORM SURGE EXTENT
EVACUATION & SHELTERS
POWER FAILURE
TOPOGRAPHY
100 YEAR FLOOD
PUBLIC FACILITIES
Community Centers / Open Space -
Food Stores -
Health Facilities -
Schools / Child Care -
Senior Care -
POPULATION
ELDERLY POPULATION
AREA MEDIAN INCOME
RACE & ETHNICITY
TRANSPORTATION
LAND USE
HOUSING TYPOLOGIES
All maps can be found in the appendix.

INTRODUCTION

Bergen County is the most populous county in New Jersey and has one of the highest median household incomes in the United States. The county comprises 70 municipalities, some of which are small boroughs home to less than 100 residents. Because the county is so large and diverse, RCPT's interim housing workshop focused on the southern portion, roughly the area of the Meadowlands District, which comprises 8,400 acres of both conserved and densely developed land, plus several boroughs to the north. The focus area reaches from Elmwood Park in the Northwest across to Englewood and Edgewater on the Hudson River (*fig. 1*).[1]

"You always see people on TV saying we're going to come back, we're going to rebuild here, but sometimes you can't."

Jaklin Girgis,
Bergen County Grassroots

Figure 1: Context Map of Bergen County

_____

1 Focus area includes: Borough, Carlstadt, Cliffside Park, East Rutherford, Edgewater, Elmwood Park Borough, Englewood, Fairview, Fort Lee, Garfield, Hackensack, Hasbrouch Heights, Leonia, Little Ferry, Lodi, Lyndhurst, Maywood Borough, Moonachie, North Arlington, Palisades Park, Ridgefield Borough, Ridgefield Park, Rochelle Park Township, Rutherford, and Saddle Brook Township.

925,328 people	Largest county in NJ
15.8% elderly (65+)	US = 15.1% elderly (65+)
233 square miles	Sheepshead Bay = 3 sq mi
3,884.5 people / sq mi	Sheepshead Bay = 38,027 people / sq mi
$83,794 median income	Bridgeport = $41,050 median income
7.2% below poverty line	37th wealthiest county in U.S. (of 3,144)

WHAT CAN BERGEN COUNTY TEACH US ABOUT INTERIM HOUSING?

- Because some of the smaller municipalities lie completely within the flood plain, here plans for interim housing require that even local solutions consider land beyond borders.
- The combination of dense low-lying settlements with open space that lies within the flood plain means that Bergen County housing solutions must be innovative and well-planned in advance of disasters.
- The complex interaction of coastal and riverine flooding, which will be more frequent with sea level rise, requires precise environmental understanding.

WHAT CAN BERGEN COUNTY TEACH US ABOUT PARTICIPATORY URBAN PLANNING?

- New Jersey home rule means that many small boroughs manage their own critical facilities, such as police and fire stations and do so with very few resources. Bergen County can use PUP on an inter-borough scale to help individual municipalities overcome these limitations.
- In addition to home rule, disaster management occurs at the county level bringing many government officials at all levels to the PUP table. PUP can shape and be shaped by these complex governmental structures.
 - PUP in Bergen County can be used to educate and empower its residents, who are not accustomed to seeking assistance from the county and state.
- There is little inter-borough planning, so that PUP can provide a forum for disaster mitigation as well as management and even longer term planning.
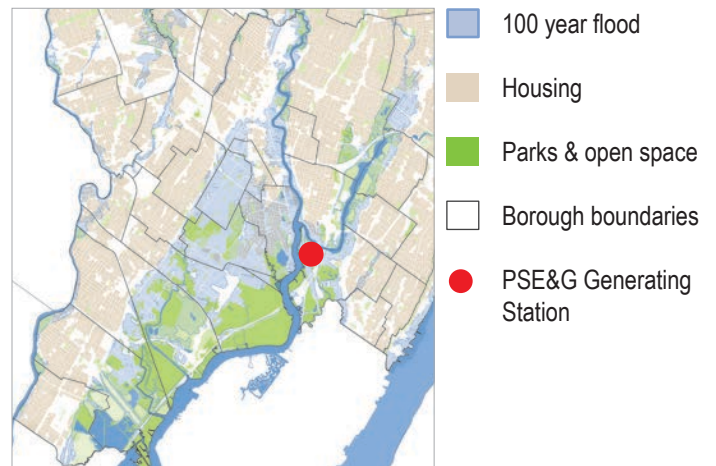

Figure 2: 100-Year Flood Zone and PSE&G

- 100 year flood
- Housing
- Parks & open space
- Borough boundaries
- PSE&G Generating Station

CHALLENGES

NATURAL HAZARDS

1. WIND
- Speeds of more than 90 mph would "tip the scale of disaster." Wind damage is the primary cause of disaster declaration in the region. Sandy did not have hurricane winds, and therefore is not an adequate planning baseline in this regard.

2. FLOOD
- Meadowlands boroughs receive much of the district's stormwater run-off.
- Pumping infrastructure is ill-equipped to handle the recurring tidal, riparian and stormwater flooding.
- Five-foot berms were over-topped by Superstorm Sandy's 9 ft. surge. Floodwaters were "essentially transmitted straight to Borough Hall."[2]
- The no-notice event caused by the surge's sudden over-topping complicated boroughs' evacuation and response.

2 Francisco Artigas, PhD. "Water Level Observations During Superstorm Sandy." Presentation, New Jersey Meadowlands Commission, Lyndhurst, NJ, Dec 4, 2014.

- The area's repetitive loss rate of floodplain housing is extremely high: Bergen County has more than 1,000 repetitive loss properties, totalling $30,139,305 in claims paid, the third largest in the state.
- Homes will continue to flood regularly until more resilient planning via construction or retreat is completed.
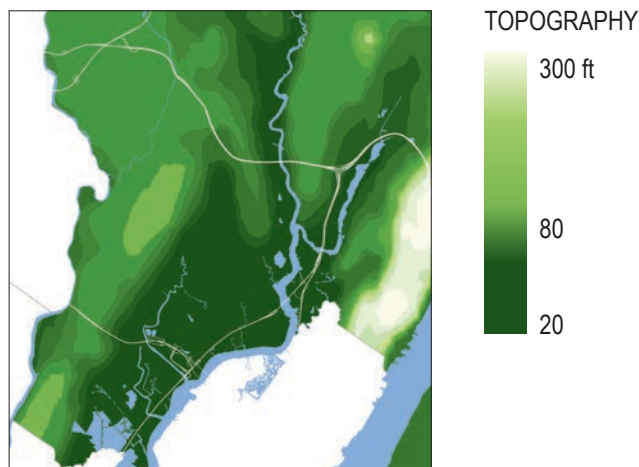
Flooding and flood hazard zones reflect topography

CRITICAL FACILITIES
- The entirety of Little Ferry,[3] Teterboro, and Moonachie are within the 100-year flood hazard area (or zone), as are their critical facilities. Borough emergency response is incapacitated if critical facilities are flooded.

HOUSING, SHELTERING and RELOCATING
1. LIMITED AFFORDABLE HOUSING
- A limited number of landlords accept the Department of Housing and Urban Development (HUD)'s Section 8 vouchers for low-income households, and the waiting list for the program is "years long."

3 Clarke Caton Hintz, "Strategic Recovery Planning Report," The Borough of Little Ferry, March 20, 2014, http://bit.ly/1rYoyuu, 14.

- Market-rate rental units and hotel rooms are not affordable to low-income households, even on a temporary basis post-disaster.

2. SHELTERING-IN-PLACE ISOLATES RESIDENTS
- In the past, residents have "sheltered-in-place" in damaged homes and relied on utilities at nearby churches. With survivors living in scattered isolation, adequate physical and psychological help to elderly and homebound residents is limited.

3. CATASTROPHIC MEANS RELOCATION
- A Catastrophic Disaster[4] would mean 70% of the area's housing stock is destroyed, so sheltering-in-place or assigning families to 'available housing units' is not an option.
- Displaced people relocate several times before interim housing is put in place, such that communities are torn apart.

4. REUNITING DISPLACED RESIDENTS
- Without mechanisms to track pre-disaster networks, neighborhoods, blocks and community groups cannot be reassembled after relocation.
- Informal networks and resources, like neighbors who babysit each other's children, are even harder to track.

COORDINATION
1. WITHIN GOVERNMENT
- Borough home rule is an obstacle to coordination during district-, county-, or statewide emergencies.
- Some participants felt that the state does not take enough leadership and "points fingers" at county government.
- Planning and funds allocation occurs at the county level, but a lack of communication between boroughs and the county makes the exchange of information and services inefficient.

2. BETWEEN GOVERNMENT AND NGOs
- Information exchange between groups in Sandy's aftermath

4 FEMA's definition is described in the introduction.

"People will go where they can take care of their families. How do we keep people with their communities?"
Iris Epsenhart, FEMA IA

was good, but the Long-Term Recovery Committee (LTRC) had some trouble getting information, especially from the state.

- Government officials need organizations like the LTRC as contributors and decisions-makers at the PUP table.

COMMUNICATION

1. PUBLIC OUTREACH from the GRASSROOTS

- Residents tend not to reach past their hometown to get information and assistance.
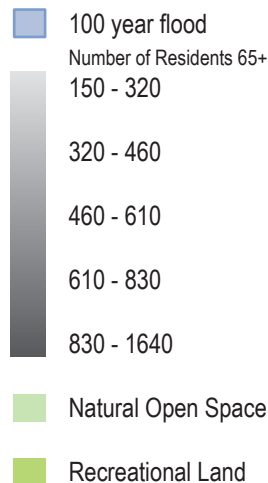- What they need may be available only from the county.

- The county OEM needs to engage citizens from a grassroots level to improve household and neighborhood preparedness.

2. TAILORED MESSAGES TO VULNERABLE COMMUNITIES

- Vulnerable populations include English-as-a-second language, elderly, low-income, single-mother, no-car or functional-needs households.
- Each of these populations requires special messaging and clear direction from trusted organizations.
- Collaborating with groups who work with these communities on a daily basis is vital to planning and response.

INFRASTRUCTURE

1. NO INTRA-COUNTY TRANSPORTATION

- The NJ Transit corporation serves the entire state of New Jersey and; in Bergen County, it is designed to connect commuters with New York City, not to a local network.

ELDERLY POPULATION

100 year flood

Number of Residents 65+

150 - 320

320 - 460

460 - 610

610 - 830

830 - 1640

Natural Open Space

Recreational Land

2. INTERIM HOUSING NEEDS INFRASTRUCTURE

- Because the interim housing might never be implemented, it is difficult to ensure allocation of resources for a preparatory infrastructure, such as hook-ups.

3. MAINTENANCE PREVENTS LOSS

- Better regular maintenance of infrastructure would reduce damage during disaster.

OPPORTUNITIES

POLICY

1. SHORTER, STRAIGHTER PATHS TO FUNDING
- Shorten the time it takes to distribute individual assistance by simplifying application processes and clarifying eligibility requirements. Explanations need to be in plain terms, not "FEMA-speak."
- Demystify "duplication of benefits." Many homeowners are being asked to pay back some of the funds they applied for and received from government agencies because these are "duplicate" benefits according to the law.
- Eliminate confusion about whether and how to apply. Ineligible and incorrect applications will "clog the pipeline."
- Faster funding allocation will facilitate prompt completion of home repairs or reconstruction and reduce need for interim housing.

2. DISASTER LEASES as ACCESS TO HUD FUNDING
- Because a lease is required to receive Section 8 funding, HUD should collect a network of landlords who will allow "Disaster Leases," or short-term leases of their available units after a disaster.
- HUD could guarantee and/or cover security deposits and first month's rent payment.
- Pre-disaster agreements between landlords and HUD could allow tenants of any income to have month-to-month or week-to-week leases without fear of eviction.

3. LONG-TERM HOMELESS PREVENTION
- Interim plans can "piggyback" onto current homelessness plans, applying longterm tools already in place to the interim housing problem.

4. MEMORANDA of UNDERSTANDING:
WHERE TO FIND ASSISTANCE
- Designate clear hierarchies of assistance in memoranda of understanding between counties and housing authorities or borough administrators. For example, if borough leadership is incapacitated due to a disaster, a "sister" borough or the county would be the agreed upon next line of contact for households.

5. MEMORANDA of UNDERSTANDING:
INTERIM POWER SHIFT
- Draft county-borough memoranda of understanding that allow the county more power during disaster recovery. The county could then enact cross-municipality assistance using their knowledge of vulnerabilities and assets across all boroughs and facilitate swifter movement from the area of displacement to a safe area.

COORDINATION & COMMUNICATION

1. THE BLOCK CAPTAIN MODEL
- Chicago's "Block Captain" is a good model for coordination before and during disaster and recovery.
- The Block Captain meets all tenants when they move in and knows what their needs might be in an emergency.
- The Block Captain helps households, and especially vulnerable populations, understand their responsibilities and how to get assistance and prepare for emergencies.
- Direct communication from Block Captain equivalents to the county Office of Emergency Management (OEM) would better facilitate recovery across affected areas.

2. DIRECT NGO-to-COUNTY COMMUNICATION
- Community groups contribute essential information to governmental agencies about their needs and priorities.
- Higher level agencies need to seek and use input directly from these sources; otherwise resources will be wasted.
- Communication directly from trusted community groups to county and state officials is more efficient than communication through boroughs.
- Pre-disaster, boroughs can help make these connections between the county and community groups.
- A more formalized system of coordination among sectors, such as the PUP Interagency Task Force model, will tighten resource coordination.

"How many housing authorities have MOUs with adjoining counties?... Housing needs to be regional."
Joe Picciano, NJOHSP

3. POINT-OF-CONTACT CENTERS
- The Reception Center at the Teterboro Technical School worked well in Sandy's immediate aftermath as a place to sort the needs of thousands of individuals.
- A center can also serve as a point-of-contact through which members of displaced networks can reconnect with each other over the long-term.

SHELTERS

1. EXPAND AND IMPROVE HOUSING INVENTORIES
- Update existing search portals[5,6] to be better maintained, more centralized and comprehensive: everyone, including mayors, housing officials, willing commercial property owners, Airbnb administrators, should be involved.
- Integrate portals with on-the-ground information exchange and resource coordination.

2. EXISTING PORTALS TO BUILD ON

"Is the unit the individual family or is it the neighborhood?"

Patrick O'Neil, resident

- The Housing Resource Center website,[7] initiated through a partnership between NJ Realtors Association and the NJ Housing and Mortgage Finance Agency, inventories available buildings and units.
- Six-hundred units were put on the list after Sandy, Airbnb units were rented for $0; successes within this model should be expanded and replicated.

3. HOUSING MODULE SITE CHECKLISTS
- Provide a checklist to every municipality to communicate the requirements of an interim housing site.
- Communities or boroughs can use the checklist to identify and prepare sites pre-disaster.

- Checklists should include location: interim shelter must be close to the schools, workplaces, community centers, meeting places for worship, etc of relocated households.

4. RETROFITTING NON-RESIDENTIAL BUILDINGS
- Because there are many commercial and industrial buildings available in Bergen County, they should be retrofitted for temporary residential use.
- Identify best practices for installing adequate sewer, water and kitchen utility into vacant non-residential buildings.
- Create post-disaster building codes to allow a dorm-like layout with a shared kitchen and bathroom space, or hire a private vendor to supply restroom and shower trailers.
- Retrofits need to be comfortable for weeks to months or years; it is not emergency housing.

INFRASTRUCTURE
1. DECENTRALIZE POWER

- Off-grid, decentralized, renewable energy networks would prevent widespread outages.
- PSE&G's 2014 Sustainability Report cites a $1.22 billion "Energy Strong" program that will upgrade 29 substations that were flooded during Sandy.[8]
- Some residents have equipped their houses with individual generators; but in an emergency, lack of fuel will result in generator failures if there are too many. Zoning or regulations should be introduced that encourage block-wide investment in one generator for all electrical necessities.

2. TRANSPORTATION EMPLOYEE RESERVES
- Hire a reserve of drivers ready to operate shuttles from interim housing communities to their daily activities.
- Include transportation agencies and companies in post-disaster housing plans from the beginning.

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5 FEMA, "Housing Portal," no date, http://1.usa.gov/1HAUngD, accessed Dec 29, 2014.
6 CoStar, "CoStar Property," 2014, http://bit.ly/1uJmjqJ, accessed Jan 15, 2014.
7 NJ Housing Resource Center, "Find Housing," 2011, http://bit.ly/1AhmJM5, accessed Dec 19, 2014.

8 PSEG, "Focusing our Energy on the Future: Sustainability Report 2014," accessed Dec 29, 2014, http://bit.ly/1zOWkjh, 25.

LONG-TERM RESILIENCE

1. COUNTY HAZARD MITIGATION PLAN (HMP)
- The second draft of the HMP, mandated by FEMA, is nearly finished as of the December 4th workshop.
- It needs to include an interim housing plan.

2. ATTENTION TO CLIMATE ADAPTATION
- Adaptation is not widely addressed in policy documents at the borough or county level.[9]
- Interboro's Rebuild by Design competition-winning plan for the Meadowlands district could alleviate some of the area's flooding-related vulnerabilities.
- NJ Office of Homeland Security and Preparedness (NJOHSP) partnered with Rutgers to create a pilot program to devise a resilient community approach in Secaucus. It was wholeheartedly accepted by Borough leadership and should be used as a template for other municipalities.
- The ultimate goal is to eliminate the need for interim housing. Buildings must be safe from, or at least resilient to, natural disasters in the longterm. In the future, houses in the floodplain could be bought out by the government.

"The assumption is that everyone has a car, but they don't."

Michael Kolber,
urban planner

9 Clarke Caton Hintz, *Strategic Recovery Planning Report,* The Borough of Little Ferry, Mar 20, 2014, 18.

PROPOSED SITES

*Workshop participants identified these sites as
having high potential for interim housing.*

Commercial parking lots

Garden State Plaza
mall interior and parking lot

Capped Landfills
805-acre Overpeck County Park, created 2009

Senior Community Vacant Units

IZOD Center
Football fields, parks and governmental property

Meadowlands Grounds
If not a flooding emergency

Office Space

Bank-Owned Houses

Willing Homeowners
paid by the borough
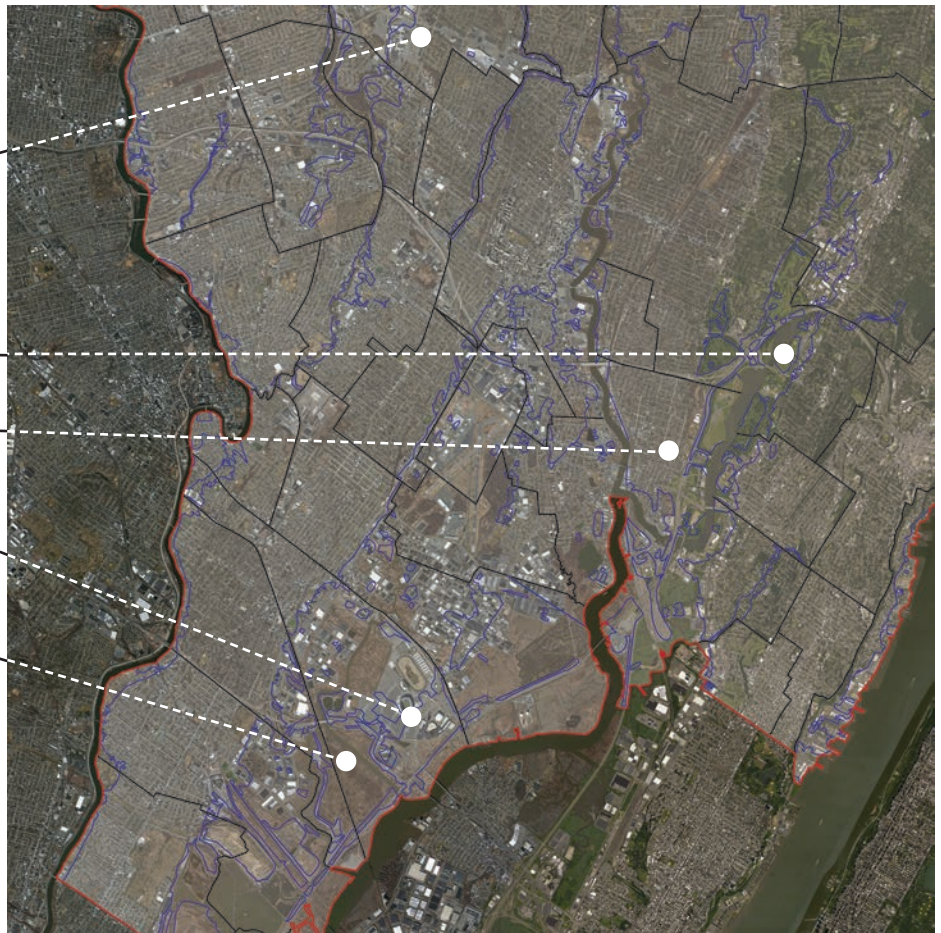
Resources:
- Bergen County, Vision Bergen: Bergen County Master Plan, http://bit.ly/14oIJa0
- Clarke Caton Hintz, Strategic Recovery Planning Report, The Borough of Little Ferry, Mar 20, 2014.
- FEMA, National Response Framework 2nd Ed., http://1.usa.gov/14vDKEY
- FEMA, Tool for Identifying Duplication of Benefits, http://bit.ly/1As0zXu
- MIT CAU + ZUS + URBANISTEN, "NJ Meadowlands," Rebuild by Design, http://bit.ly/1xFuWar
- NJ Meadowlands Commission, NJMC Master Plan, http://bit.ly/1As013l
- NJ OEM, New Jersey Hazard Mitigation Plan, http://bit.ly/1zUaJL5
- PSEG, Focusing our Energy on the Future: Sustainability Report 2014, http://bit.ly/1zOWkjh

BRIDGEPORT
PARTICIPATORY URBAN PLANNING WORKSHOP REPORT

CONTENTS

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MAPS INCLUDED in the WORKSHOP

CONTEXT
SANDY STORM SURGE EXTENT
EVACUATION & SHELTERS
100 YEAR FLOOD
TOPOGRAPHY
POPULATION
ELDERLY POPULATION
RACE & ETHNICITY
AREA MEDIAN INCOME
TRANSPORTATION
PUBLIC FACILITIES
COMMUNITY CENTERS / OPEN SPACE -
FOOD STORES -
HEALTH FACILITIES -
SCHOOLS / CHILD CARE -
SENIOR CARE-
HOUSING TYPOLOGIES
LAND USE
VACANT LOTS
*All maps can be found in the appendix.*

INTRODUCTION

Bridgeport is the largest, densest and most diverse city in the state of Connecticut, home to over 144,229 residents, with 13 neighborhoods in an area of 16 square miles. It is also the fifth-largest city in New England and a part of the Greater New York City Combined Statistical Area. Bridgeport contains 79% of the region's high-density residential land use with 57,012 housing units, 10% of which are vacant.

Although Bridgeport harbor is one of three deep-water ports in Connecticut, since the adoption of the 2006 Natural Hazard Mitigation Plan, development along the harbor has been drastically reduced. Like many other waterfront American cities, Bridgeport also suffered greatly during the deindustrialization of the United States in the 70's and 80's. The city's economic hardship was exacerbated by the recession in 2008 and Sandy in 2012, but it has slowly recovered, most recently with the Office of Economic Development's investment of $250 million into the Downtown Village District to "sell Bridgeport" as "Connecticut's Hub for Entrepreneurship and Innovation."

The Connecticut Division of Emergency Management and Homeland Security organizes the state not by county but as five regions. Bridgeport, in Fairfield County, belongs to Region One.

"...this is not only a Bridgeport issue. The Department of Housing and Urban Development (HUD) is a federal department. This means that as long as you are an American taxpayer – this affects you."
Andrew Martinez, South End Bridgeport Resident
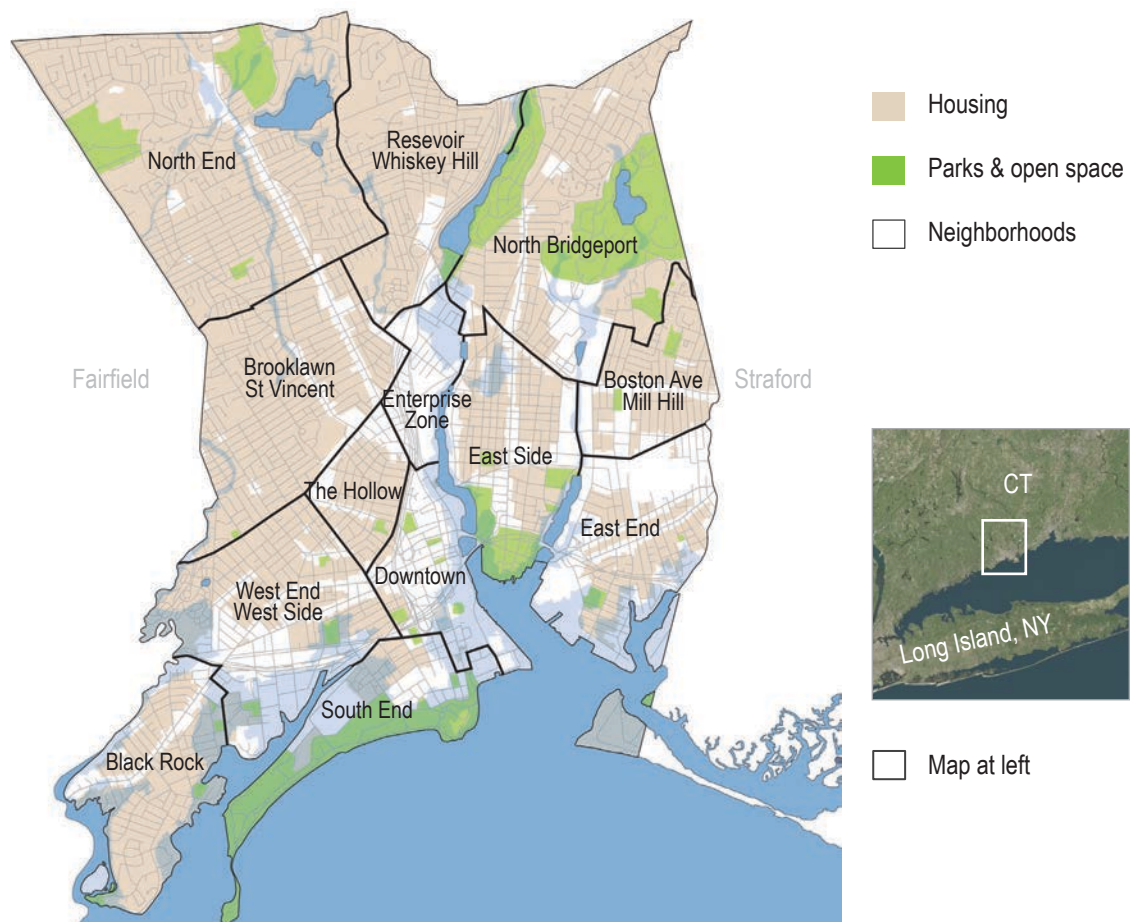
WHAT CAN BRIDGEPORT TEACH US ABOUT INTERIM HOUSING?

- Bridgeport's need to move affordable housing outside of the floodplain is common to many coastal cities in the U.S.
- Preparedness outreach and aid processes that could reduce the demand for interim housing are a particular challenge in the city due to its large English-as-a-second-language population.

WHAT CAN BRIDGEPORT TEACH US ABOUT PARTICIPATORY URBAN PLANNING?

- The city faces a challenge of bringing low-income and other vulnerable populations to the participatory planning table, partially due to a distrust in the government because of tensions over affordable housing sites.
- Planners and emergency managers need stronger avenues of communication so that efforts are coordinated, which could prevent the overtaxing of both departments

CHALLENGES

MAGNITUDE OF DISASTER

- Planning for 'catastrophe' as defined by FEMA (see introduction page 6) is essential for the 5th largest municipality in the Northeast. Emergency Managers stressed that a catastrophic event would exceed the recovery resources required for Sandy. With 100 mile per hour winds, the city would need to be prepared for the high likelihood of more widespread power outages and severe roof damage.

STATISTICS   COMPARE

STATISTICS	COMPARE
144,229 people	Most populous city in CT
10% elderly (65+)	US = 15.1% elderly (65+)
16 square miles	Sheepshead Bay = 3 sq mi
9,029 people / sq mi	Sheesphead Bay = 38,027 people / sq mi
$41,050 median income	CT = $69,461 median income
23.3% below poverty line	CT = 10.2% below poverty line

- In the nearby town of Milford, a Category 4 hurricane surge of Sandy displaced 4000 households on the coast and 200 of those have not returned (as of November 2014).

FLOODING

1. COASTAL

Hurricanes and tropical storms have repeatedly put many of Bridgeport's neighborhoods at risk, including Hurricane Irene and Superstorm Sandy. Sandy produced a surge of 8-9 feet, which inundated the low-lying areas of Black Rock, the East End, East Side and South End south of I-95 as well as some areas several miles north of the highway along the city's rivers and inlets.[1]

CATEGORY	WIND SPEED (MPH)	SURGE (FT)
5	≤156	>18
4	131-155	13-18
3	111-130	9-12
2	96-110	6-8
1	74-95	4-5
ADDITIONAL CLASSIFICATIONS		
TROPICAL STORM	39-73	0-3
TROPICAL DEPRESSION	0-38	0

2. COMBINED SEWER OVERFLOWS CAUSED BY RAIN EVENTS

- Rainstorms that result in moderate-to-severe flooding have the potential to occur about once every year in the Bridgeport region.[2]
- Several sections of the City are served by combined sewer systems that are overwhelmed by excessive runoff from heavy rain events and cause overflows of wastewater from the sewage treatment plants into the harbor.
- The city's coastal neighborhoods experience regular problems with inadequate storm water drainage and back-flooding from streams and sewers not necessarily from the direction of the harbor.

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1 Greater Bridgeport Regional Council, *2014 Natural Hazard Mitigation Plan Update*, http://bit.ly/1yGMOU9, accessed Jan 7, 2015, 3-32.
2 Greater Bridgeport Regional Council, *2014 Natural Hazard Mitigation Plan Update*, http://bit.ly/1yGMOU9, accessed Jan 7, 2015, 3-28.
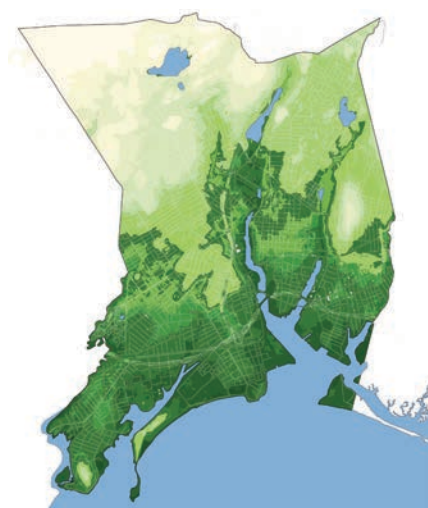
SEA LEVEL RISE

- The International Panel on Climate Change estimates that sea level is likely to rise two feet along most of the Atlantic Coast by 2100.[3]
- With the higher scenario of four feet of sea level rise, Sandy-level flooding, which disrupted power to 45,000 homes and displaced 10,000 individuals, could occur every 1-2 years,[4] and parts of the Bridgeport Harbor Power Generating Station site would be under water.[5]
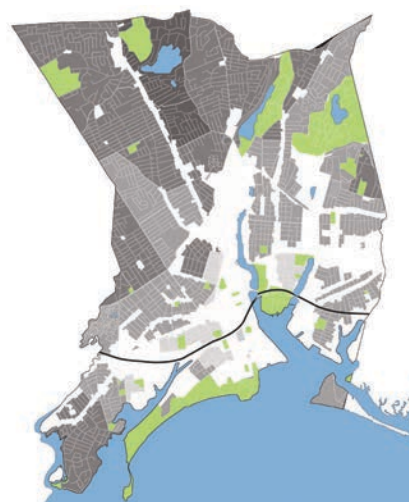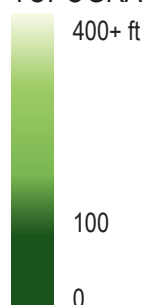
OPEN SPACE

- Though Bridgeport has a fair amount of open space, it is primarily in the form of park, playground and public amenity that residents unaffected by disaster will want to access again after a disaster

TRANSPORTATION

- Access to some parts of the city can be cut off due to flooding, especially at underpasses of the New Haven rail line and I-95.
- The loss of these access points would divide low-income housing and its vulnerable populations from many critical city services.

VULNERABLE POPULATIONS

1. AT RISK LOCATIONS
-Vulnerable and at-risk populations, including low income, minority, limited English proficiency, elderly and disabled persons disproportionally live in flood prone areas.
-The city has a homeless population who will need shelter and then interim housing. The homeless of Black Rock were particularly effected by Sandy.
-Many of the workshop's participants stressed that proposed development plans for affordable housing continue to be sited near the coast, which will keep the most vulnerable populations in or near the 100 year flood zone.
-In the days immediately following Sandy, 2,800 people needed housing in part due to the vulnerable location of many public housing units. More than 70% of Marina Village is in the flood zone

2. SHELTERING in PLACE
- Vulnerable populations are less likely to evacuate because they do not want to lose the stability of their community and are afraid they will not be able to return to retrieve belongings and documents needed to acquire recovery assistance.
- Residents who chose not to evacuate for Sandy were made to

TOPOGRAPHY

400+ ft

100

0

AREA MEDIAN INCOME

<30%

30-50%

50-80%

80-120%

Parks and Open Space

3 Ibid, 3-34.
4 Sweet, William, et al., 2013: "Hurricane Sandy Inundation Probabilities Today and Tomorrow" [in "Explaining Extreme Events of 2012 from a Climate Perspective"]. Bull. Amer. Meteor. Soc., S19, http://bit.ly/1tL7KCE, accessed Jan 7, 2015.
5 NOAA, "Sea Level Rise Inundation," last modified Sept 18, 2012, http://bit.ly/1yCdDZI, accessed Jan 7, 2015.

sign a waiver acknowledging that the household would not be rescued later, which inspires distrust in the government.
- Many families moved back into homes that were marked 'severely damaged' by survey teams.

3. AFFORDABLE HOUSING
- Housing prices and rents in the greater Bridgeport region have risen exponentially while incomes have not; so housing options in the city are very few and there is a substantial homeless population.
- Some Bridgeport residents worry that upland public housing complexes would degrade property values in the area and hurt the city's tax base, which deters the development of affordable housing.

"If you don't know what to do and you're not prepared ahead of time these events become disasters." – Bill Richards, Milford, CT Disaster Relief Coordinator

4. LANDLORD NEGLECT
- Absentee landlords do not prepare for or manage their buildings or tenants during disaster.
- Many landlords tend not to educate tenants about renters insurance and preparedness.
- In current protocol, there is monetary incentive for landlords to wait for emergency funding to replace damaged services rather than investing up-front in necessary items like generators.

RISK FACTORS in the MASTER PLAN
- Bridgeport's 2008 Master plan promoted development of housing in Downtown Bridgeport, part of which is in the flood zone.[6]
- The City is moving forward with new units at the demolished Father Panik Village site, adjacent to the proposed new PT Barnum train station at Barnum Avenue. Although it is not in the 100-year flood zone, the site is directly adjacent to the Yellow Mill Channel, one of Bridgeport's many inlets.[7]

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6 BFJ Planning, *Bridgeport 2020: A Vision for the Future, Master Plan for Conservation & Development*, Mar 2008, http://bit.ly/1z9AU4x, 4.
7 CT Post, "Housing Authority plan promotes partnerships," Oct 4, 2014, http://bit.ly/1zFvrV1, accessed Dec 30, 2014.

OPPORTUNITIES

POLICY
1. REGIONAL COMMUNICATION AND PLANNING
- Further develop inter-town communication and coordination. Several participants suggested sending displaced households to Trumbull, in which case a Memo of Understanding and policy with the neighboring town would need to be developed in advance.
- Host towns would need access to resources to serve a large number of people in a catastrophic event.

2. PRIVATE OWNER AGREEMENTS
- Develop incentives, or regulations for retrofitting stalled development sites.
- Unused commercial buildings are available but would require precise timelines so private owners could plan for future reuse.
- Owners would need resources for both retrofitting and decommissioning a building from use as interim housing.
- Grant temporary or 'emergency' certificates of occupancy to developers to allow residency immediately following disaster.

3. STREAMLINED AID PROCESS
- Make the housing assistance application more efficient, accessible, and transparent, especially for those who normally rely on government assistance.
- Implement a rapid repair program like that used in New York City after Sandy to reduce the need for relocation. The faster families receive funds and can repair or rebuild their homes, the fewer interim housing units are needed.
- Establish weatherization rapid repair programs so that houses are improved during rebuilding prior to the next storm.

"In an area that is so compact and so built up, the planning has to be dynamic because sites change." Kathy Dorgan, Rebuild by Design

4. DISASTER RENTAL COVERAGE
- Disaster housing funds and funders could cover safety deposits and/or first month's rent payments to secure housing for displaced families.

5. CORRESPONDING INVENTORIES
- To make disaster rental coverage effective, an inventory of willing and prepared landlords would need to be updated regularly and coordinated with an inventory of anticipated population needs.
- A publicly accessible inventory of existing social services could expedite funding to priority communities.
-Small banks and resident landlords could partner with community organizations to maintain these databases.

INTERIM BUILDING USE
- Interim use would require a variety of permits, policies, memos of understanding and allocated funding to implement housing or bring it to code as described in the section on policy; but there are a variety of potential buidlings that could be outfitted:
  - Vacant commercial buildings
  - Underutilized buildings (such as churches in the East Side)
  - Foreclosed houses
  - University facilities, institutions, dormitories
  - Governmental departments could be moved to other facilities after a disaster; and the space could be used as housing to provide temporary shelter that is close to home.

INTERIM MODULAR HOUSING SITES
- The use of modular interim housing requires complex, long term planning including: MOUs with property owners, the provision of infrastructural hook ups, Building Department approvals, lease and maintenance and tax arrangements, to name a few. However, Bridgeport has many potential private and public sites to consider:
  - Sikorsky Airport
  - Shoreline Star Greyhound Park
  - Trailer Parks
  - Remington Arms Site if decontaminated
  - Sikorsky Airport (with shuttles to social services)
  - Supermarket Parking Lots (Stop & Shop on Madison)

- Incentivize the demolition of blighted buildings, perhaps through grants. This approach has the added benefit of bringing blighted properties back into the tax roles.
- Prepare vacant land infrastructurally, which can be used as community farms in the meantime.

INTERIM TO PERMANENT HOUSING
- Given the need for more and affordable housing outside the floodplain, the interim units, which are built to code for permanent housing, are suitable to become part of the city's stock and replace permanent structures that are at risk.[8]

NEIGHBORHOOD PREPAREDNESS
- Establish community networks to make populations less vulnerable during and after emergency events.
- Neighborhood-scale disaster risk reduction and preparedness plans should include special-needs-sensitive and multi-lingual documents and outreach.
- Create disaster community centers in local churches and schools as hubs for coordination, power, conditioned (heated or cooled) space, prepared meals, etc.
- Designate block or neighborhood emergency leaders to inform residents of emergency meeting points, evacuation routes, and post disaster community centers and hubs.
- Landlords or community advocates could equip all flood-prone units with a single personalized document that residents will need for the recovery process.
- Disaster risk reduction plans should comprehensively describe Immediate Response, Relief/Recovery, Intermediate Recovery, and Longterm Recovery according to neighborhood demographics and community profiles.

_____

8 FEMA, National Disaster Housing Strategy, DHS, Jan 2009, http://1.usa.gov/1BLaULh, 53.

SCENARIO TESTING

-The city could use an event like The Vibes festival in Seaside Park, which manages a tent-city infrastructure for hundreds of festival-goers, as a test model. Tests would provide hard numbers such as how many days it will take to set up an interim community in a prepared public space.

LONG-TERM RESILIENCE

1. MASTER PLAN and ZONING

- The area's updated zoning to create more "livable, transit-orient neighborhoods" took measures to address the risks of flooding, according to one participant.[9]
- Include the regional scope of preparedness planning in master plans.
- Encourage housing development outside the flood plain and ensure that people have "safe, good housing" in order to reduce the need for interim housing. The most radical suggestion was to make everything south of I-95 parkland.
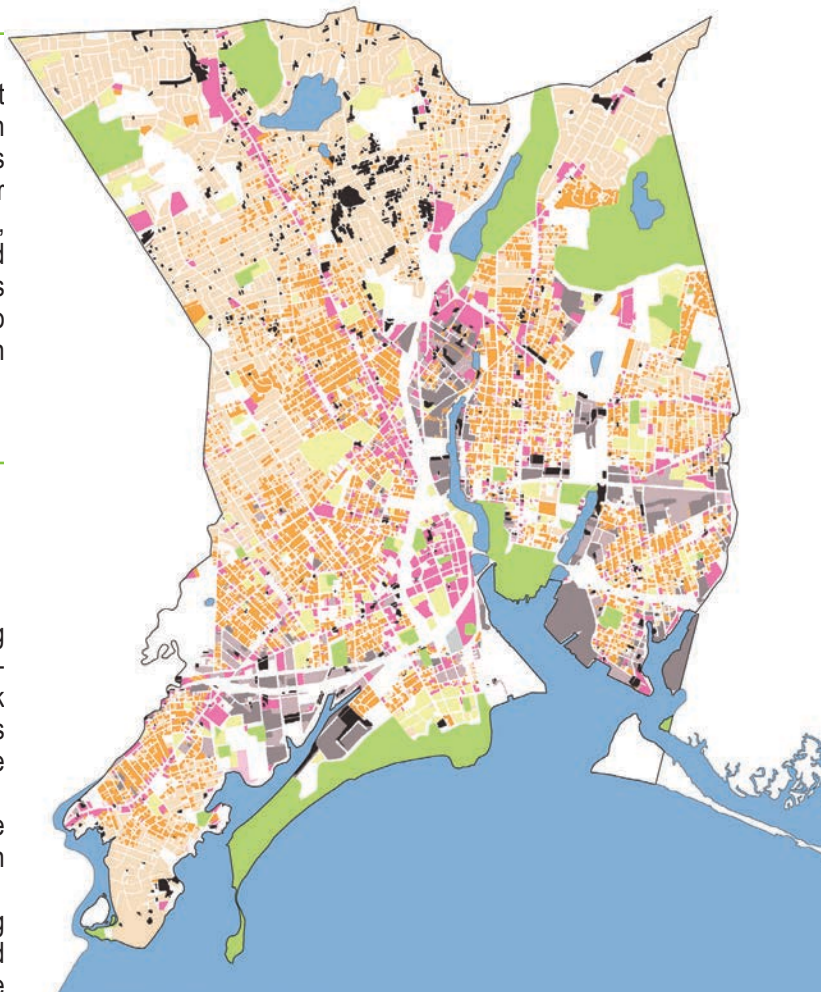
LAND USE

- ▪ Commercial
- ▪ Mixed Use
- ▪ Residential High Density
- ▪ Residential Low Density
- ▪ Institution
- ▪ Industrial
- ▪ Vacant
- ▪ Parks

2. PREPARED BUILDINGS

- Build or retrofit public buildings with shelter capacity. The new Fairchild Wheeler school was built with emergency sheltering capacities; this model can be replicated in other public buildings, preferably not schools as children's return can help stabilize communities.
- The type of structural preparation at Steele Point and Remington for flood risks and 130 mile per hour wind should extend to publicly subsidized residential complexes.

9 Park City, Bridgeport, CT. BGreen 2020: A Sustainability Plan for Bridgeport, Connecticut, 2013 Progress Report, http://bit.ly/1kVnWvk, 15.

3. INFRASTRUCTURE
- Utilities infrastructure should be hardened along with the housing stock.
- Raising the streets in flood zones could mitigate the impacts
- Berms are being built around Seaside Park and could be expanded in scope.
- Robin Hood Foundation granted $500,000 to raise utilities and could be a source of further funding.

4. COORDINATION of PLANS
Emergency management offices and long-term planners need to communicate often to ensure that disaster preparedness is built into coordinated city plans.

"Don't use the word 'temporary.' Make it permanent! Give me a safe house and I'm in!" – participant notes

PROPOSED SITES

Workshop participants identified these sites as having high potential for interim housing.

Supermarket Parking Lots

Sikorsky Airport

Empty Lots

Shoreline Star Greyhound Park

Underutilized Housing Stock

Seaside Park

JERSEY CITY
PARTICIPATORY URBAN PLANNING WORKSHOP REPORT

CONTENTS

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Sandy Gracia - Housing Authority of the City of Jersey City
Francesca Giarratana - Hudson County Division of Planning
Carline Dixon - New Jersey Department of Health and
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Nancy Harris - Regional Catastrophic Planning Team
Abram Hillson - New Jersey Housing and Mortgage
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    New Jersey Sandy Recovery Office
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Jim Nelson - St. Paul's Center of Caring
Dawn Niles - Women Rising, Bergen Communities United
Claudio Perez - American Red Cross
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Steve Tiboni - New Jersey State Police, Office of
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Darice Toon - Jersey City Department of Health and
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Kelly Voicheck - Property Owners Association
Matt Ward - Jersey City Division of Planning
Jeff Wenger - Jersey City Division of Planning
Tara Werner - Visiting Homemakers Service of Hudson County
John Winckelmann - LWDMR Architects
Jim Woods - Hudson County Office of Emergency Management

MAPS INCLUDED in the WORKSHOP

CONTEXT
SANDY STORM SURGE EXTENT
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COMMUNITY CENTERS / OPEN SPACE -
FOOD STORES -
HEALTH FACILITIES -
SCHOOLS / CHILD CARE -
SENIOR CARE-
LAND USE
All maps can be found in the appendix.

INTRODUCTION

Jersey City is the seat of Hudson County, New Jersey. It is part of the New Jersey Meadowlands District and is bordered by the Hudson River to the east and Newark Bay to the west. It was the first destination for many immigrants entering the U.S. through Ellis Island, and remains one of the most diverse cities in the country. Jersey City's population is 260,712, making it the second most populated city in New Jersey after Newark.[1] It is also part of the New York metropolitan area and Manhattan's neighbor, making Jersey City a massive transportation hub and the object of a recent surge in high-rise development along the waterfront.

Jersey City is not only populous but also extremely dense - the 4th densest city in the nation.[2] Moreover, a high concentration of its residents (~55,586), and specifically its elderly population, live in the 100-year flood zone. It has very little development alternative in that, according to recent real estate data, it has only 7 remaining acres of privately held developable vacant land.

Legend:
- Housing
- Parks & open space

Map labels: The Heights, Hoboken, McGinley Square, West Side, Paulus Hook, Bergen / Lafayette, Manhattan, Greenville, Bayonne, NYC

Inset map: NJ, NYC

- Jersey City
- Map at left

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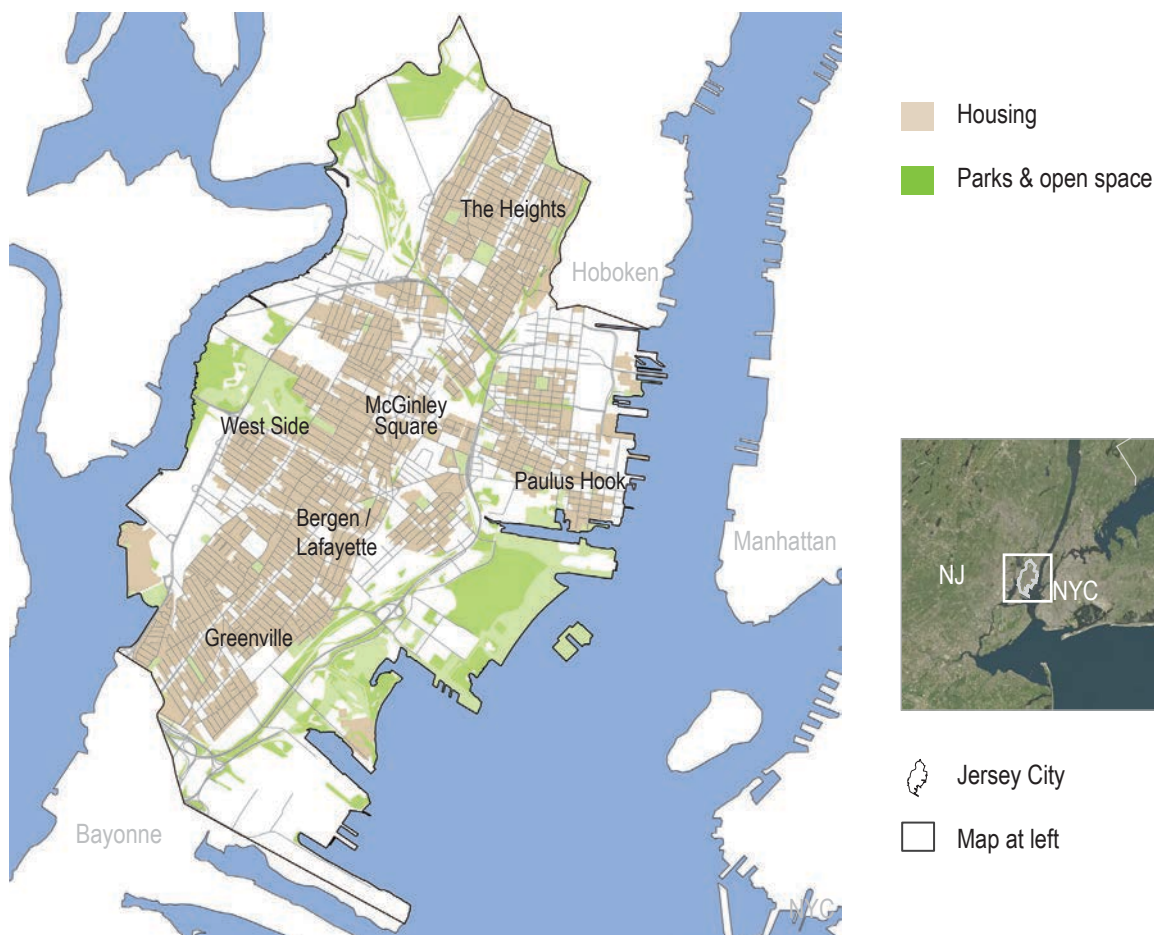
1 City of Jersey City, Jersey City Master Plan, Circulation Element, June 14, 2011, http://bit.ly/1KdnOF0, accessed Jan 15, 2015
2 Wikipedia, "List of United States cities by population, http://bit.ly/1gAnxPB, accessed Jan 14, 2015.

257,342 people

9% elderly (65+)

14.79 square miles

16,736 people / sq mi

$58,206 median income

18.4% below poverty line

3% of NJ's population

Toms River = 16.7% elderly

Sheepshead Bay = 3 sq mi

4th densest in U.S.

NJ = $71,180 median income

NJ = 10.2% below poverty line

WHAT CAN JERSEY CITY TEACH US ABOUT INTERIM HOUSING?

- Because of the city's lack of uncontaminated open space outside the flood plain, solutions for interim housing must use ingenuity and also consider land beyond municipal borders.
- The city's large population and density require highly coordinated and large-scale plans of action. Every scale of organization is needed to plan, facilitate and track the movement of displaced households.

WHAT CAN JERSEY CITY TEACH US ABOUT PARTICIPATORY URBAN PLANNING?

- The city is highly diverse: tailored strategies of emergency preparedness require the input from networks of grassroots organizations, faith-based communities, and neighborhood associations representing many different populations.
- It shares a Trans-Hudson Emergency plan with its neighbor, New York City, and therefore must coordinate its own recovery efforts with the largest city in the country.
- Due to its governance by home rule, additional inter-jurisdictional policies are needed to ensure that interim housing solutions are implemented as efficiently and quickly as possible, and that proper assistance reaches residents without bureaucratic delays.

100 YEAR FLOOD

100 Year Flood

Housing

Parks + Open Space
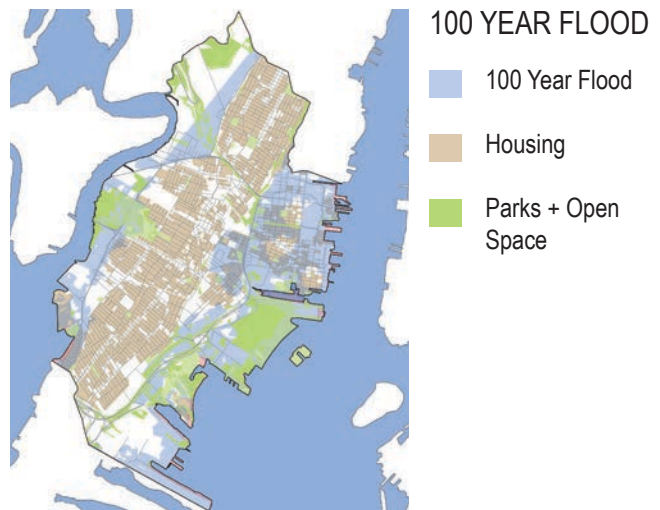
CHALLENGES

LARGE DISPLACED POPULATION

- Hudson County is the 6th densest county in the country.[3] In a disaster scenario, a minimum of 10% of the population, or 25,000 will be displaced within that dense context.
- The Trans-Hudson Emergency evacuation plan designates the city host to 250,000 New York City residents in the case of some disasters, for whom Liberty State Park is the reception center.
- Businesses as well as households will face displacement with multiple consequences for transportation, housing and employment. After 9/11, workers had to commute long distances to a relocated workplace for 6 months to a year.

LIMITED ACCESS

- Some Jersey City Housing Authority (JCHA) buildings were surrounded by water after Sandy and residents had no way of accessing external resources.

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3 Wikipedia, "County statistics of the United States," last modified Dec 31, 2014, http://bit.ly/18AgPu4, accessed Jan 23, 2015.

- Many people did not evacuate, even when it was mandatory. Floodwaters did not recede quickly so it was difficult to extract residents from their buildings.
- Some areas like the Greenville neighborhood do not have a hospital nearby, and the closest one (in Bayonne) does not have adequate in-patient facilities.

INTERIM HOUSING AFFORDABILITY
- The city's low average income of $50,000 means that some displaced residents cannot afford to use interim housing options such as hotel rooms and rental units. Local interim stock is limited.

LANDLORD INVOLVEMENT
- Currently, landlords have no reason to coordinate with emergency planners to plan for recovery.
- In current protocol, there is monetary incentive for landlords to wait for emergency funding to replace damaged services rather than investing up-front in necessary items like generators.

COMMUNICATION
- Because of the diversity of backgrounds and languages within buildings, there's little neighbor-to-neighbor coordination for disaster preparedness.

POWER
- For Jersey City, power outages are extensive because critical infrastructure is in the floodplain. Due to the city's large number of high-rise residential buildings, this problem should take top priority.
- The union of the city's electrical generator, PSE&G, requires that utilities be at grade, which prohibits elevating structures above the base flood elevation.[4]

ELDERLY POPULATION and EVACUATION

100 year flood

Number of Residents 65+

0 - 175

180 - 360

365 - 540

560 - 750

755 - 1040

Parks + Open Space

Evacuation Route
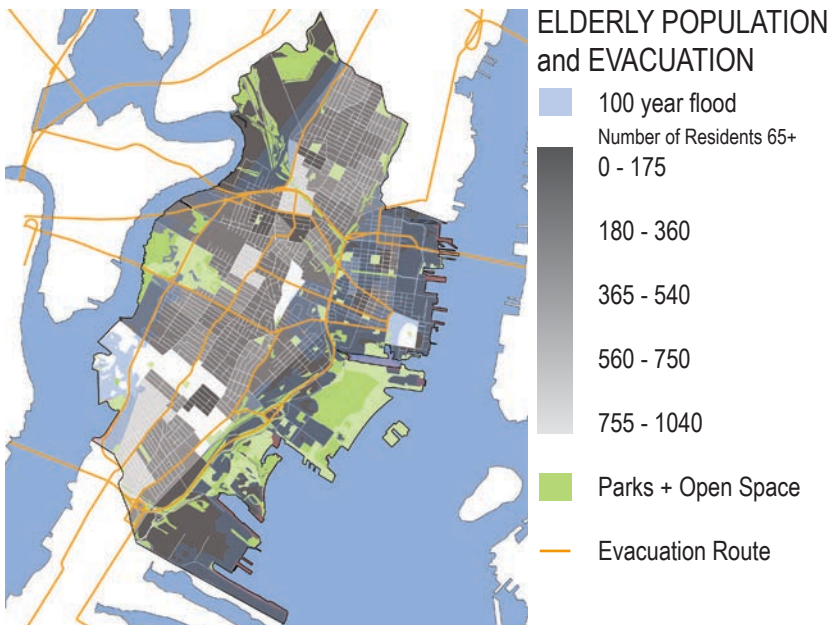
PLANNING FOR CATASTROPHIC EVENTS
- Because no event has yet reached catastrophic proportions, imagining and planning for that magnitude of loss is difficult. During Sandy, 2500 people used Jersey City emergency shelters and 4000 used County ones; but in a catastrophic event with hurricane winds, 1% of the state's population or 89,000 would be displaced.
- The cooperation and planning across political boundaries required to accommodate a vast displacement for a long period of time beyond the emergency response is not yet in place.

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4 For definitions of flood hazard zones and base flood elevations: FEMA, "Flood Zones," last updated July 24, 2014, http://1.usa.gov/1AuJpGf

OPPORTUNITIES

POLICY

1. CROSS-JURISDICTIONAL TASK FORCES

- There is potential for an inter-sector, cross-jurisdictional task force that extends beyond political boundaries. The New Jersey Department of Human Services (NJ DHS) Catastrophic Housing Framework[5] has outlined some of these strategies to coordinate across jurisdictions.
- "Host-state Agreements" is a policy tool introduced in the NJHCF that allows cross-jurisdictional movement post disaster. FEMA's monetary support can aid host states in supporting out-of-state residents.

2. GOVERNMENTAL SERVICES

- Services that communities rely on should move with them whenever possible. Providing these services requires highly coordinated planning.

3. REZONING AND WAIVERS

- Sites scheduled for demolition could be specially zoned to preserve their utilities and land for interim housing use.
- An overlay zone could be implemented to compel building owners to provide vacant units for interim use.
- A post-disaster executive order could waive certain regulations on land use to open sites to interim housing.
- A temporary moratorium on certificates of occupancy could be used to get interim housing up more quickly.
- Waive HUD's regulations that allow only one unrelated adult in an accessory dwelling unit.

4. INCENTIVES AND STIPULATIONS

- Incentivize landowners and developers to build interim housing after disasters.

LAND USE
- Housing
- Parks + Open Space
- Commercial
- Industrial
- Utilities
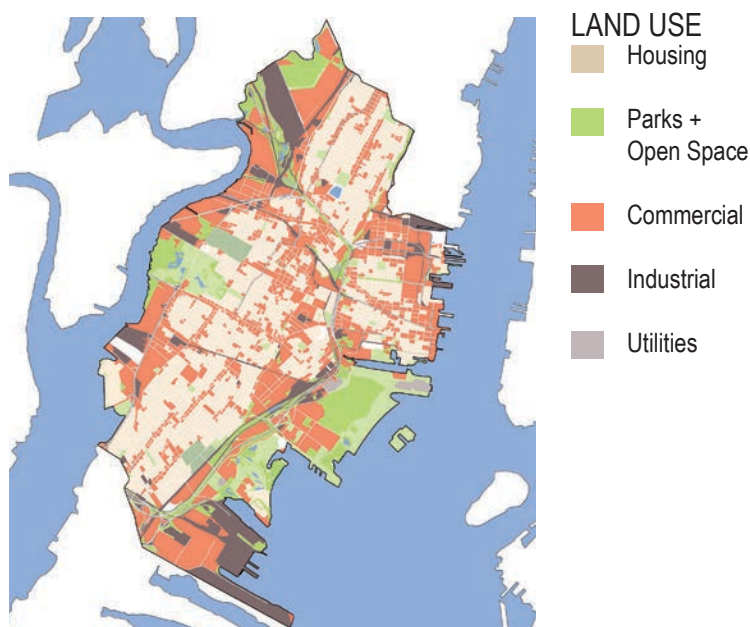
- Stipulations for allocating funds to building owners for repairs could require that a portion of the repaired units are used for interim housing in the future.

INVENTORIES

1. UNIFY EXISTING RESOURCES

- A Housing Resource Center website,[6] initiated through a partnership between NJ Realtors Association and the NJ Housing and Mortgage Finance Agency, inventories available buildings and units. It could be more powerful if its input and outreach network was wider to include all public agencies and willing private property owners.
- Landlords are required to register their abandoned properties with the Mayor's Quality of Life Task Force, but some of these are not suitable for habitation due to years of neglect.

---

5 NJ Dept. of Human Services, DRAFT Catastrophic Housing Framework, June 2014.

6 NJ Housing Resource Center, "Find Housing," 2011, http://nj.gov/njhrc/find_housing.html, accessed Dec 19, 2014.

- Clearinghouse: existing inventories should be managed by a single organization or agency to ensure their comprehensiveness and accuracy over time.

2. LIVE AND COMPREHENSIVE LISTS
- Inventories should be frequently maintained, publicly editable and searchable. They need regular input from existing housing networks like local realtors, community groups, faith-based organizations, and neighborhood associations.
- Vacant senior facility rooms should be included. The NJ DHS Catastrophic Housing Framework[7] also recommends inventorying big box stores as well as developers and property owners who would be willing to lend available land and units for interim housing.
- Create policy that can immediately "turn on" access to the current inventory of sites post disaster.

3. SLIMMING THE HOUSING ASSISTANCE PIPELINE
- Rapid repair "Blue Tarp" programs, micro-grids and solar energy for vulnerable areas would allow residents to stay in damaged but habitable homes and keep households out of the assistance pipeline.
- Clearer language about eligibility and process and faster funding allocation will facilitate prompt completion of home repairs or reconstruction and reduce need for interim housing.

INSTITUTIONAL PARTNERSHIPS
- Cultivate partnerships with St. Peters University, Port Authority, and Christ Hospital.
- Establish temporary schools for families who have been relocated far from home.

PREPAREDNESS OUTREACH
- Establish building, block or neighborhood leaders prior to disasters.

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7 NJ Dept. of Human Services, DRAFT Catastrophic Housing Framework, June 2014.

- Prepare and communicate information in the correct language and to communities with special needs.
- Capitalize on NJ OEM's 400 trained Community Emergency Response Team (CERT) leaders.

TRANSPORTATION
- Extend transportation services to provide a stable connection to residents' normal services and places of meeting and amenities.
- Include transportation agencies and companies in post-disaster housing plans from the beginning.
- Implement split-sheltering scenarios, where workers are housed near employment during the week.
- Assign housing relocations based on where workers and schoolchildren need to get to on a daily basis.
- Mayors can partner with companies on employee retention plans during interim relocation.

LONG-TERM RESILIENCE
- Update the city's building code.
- Partner with the Jersey City Redevelopment Agency and other departments and organizations that oversee vacant building and lot use.
- Align and create long-term plans with post-disaster scenarios.
- Incentivize building owners to retrofit or build more responsibly.
- Create a resilience rating system that advertises and communicates the resilience of existing buidlings.
- Tailor post–disaster plans to its diverse communities.
- Employ and improve the city's Community Rating System, which is a FEMA hazard mitigation program that incentivizes resilience.

MODULAR INTERIM HOUSING UNITS
- While Jersey City is very dense, there are possible sites for the construction of modular interim housing units. Some of these sites come with infrastructure while others would need to be prepared before of just after a disaster. In all cases, issues from foundations to permitting will require longer term planning.

PROPOSED SITES

Workshop participants identified these sites as having high potential for interim housing.

Meadowlands Area

The Newport Parking Deck

The Beacon

Capped Brownfields: Berry Lane Park (currently under development by the Jersey City Redevelopment Agency)

New Jersey City University, West Campus redevelopment area, currently a parking lot

Liberty State Park

Cruise ships at Bayonne, Houseboats on the Harbor, Barges with Container Homes

SHEEPSHEAD BAY
PARTICIPATORY URBAN PLANNING WORKSHOP REPORT

C O N T E N T S

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Cynthia Barton - New York City Office of Emergency
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Elana Bulman - Pratt Center for Community Development
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Chris Gorman - Governor's Office of Storm Recovery
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        Community Renewal
Kerensa Wood - New York City Department of City Planning

MAPS INCLUDED in the WORKSHOP

CONTEXT
SANDY STORM SURGE EXTENT
EVACUATION & SHELTERS
TOPOGRAPHY
100 YEAR FLOOD
PUBLIC FACILITIES
COMMUNITY CENTERS / OPEN SPACE -
FOOD STORES -
HEALTH FACILITIES -
SCHOOLS / CHILD CARE -
SENIOR CARE -
TRANSPORTATION
AREA MEDIAN INCOME
RACE & ETHNICITY
LAND USE
LAND USE TYPOLOGIES
BUILDING FOOTPRINTS
All maps can be found in the appendix.

INTRODUCTION

Sheepshead Bay's location on the inlet to the northeast of Coney Island has provided both a strong maritime tradition and relationship to the waters edge, but also historical problems with flooding from both the Bay and Gerritsen Creek on its eastern boundary.

The neighborhood is home to 118,188 residents, and though it is characterized by its 'beach bungalow' one and two unit houses; it also contains a New York City Housing Authority campus comprising four superblocks. Sheepshead Bay has the highest population density of our workshop sites in the region.[1] It has a very small amount of vacant land on high ground on which to install temporary housing after disasters.

Like many south Brooklyn communities, its residents reflect New York's waves of immigration, including Irish and Italian sailors who have lived in the same houses for generations, more recent arrivals from the former Soviet Union and a current Asian influx. After Sandy, however, residents banded together and have created strong community networks to rebuild.

Topography and Waterways

18 ft
10
0

Gerritsen Creek
Bay inlet
Plum Beach Channel

Gerritsen Beach

Manhattan Beach

NJ   NYC

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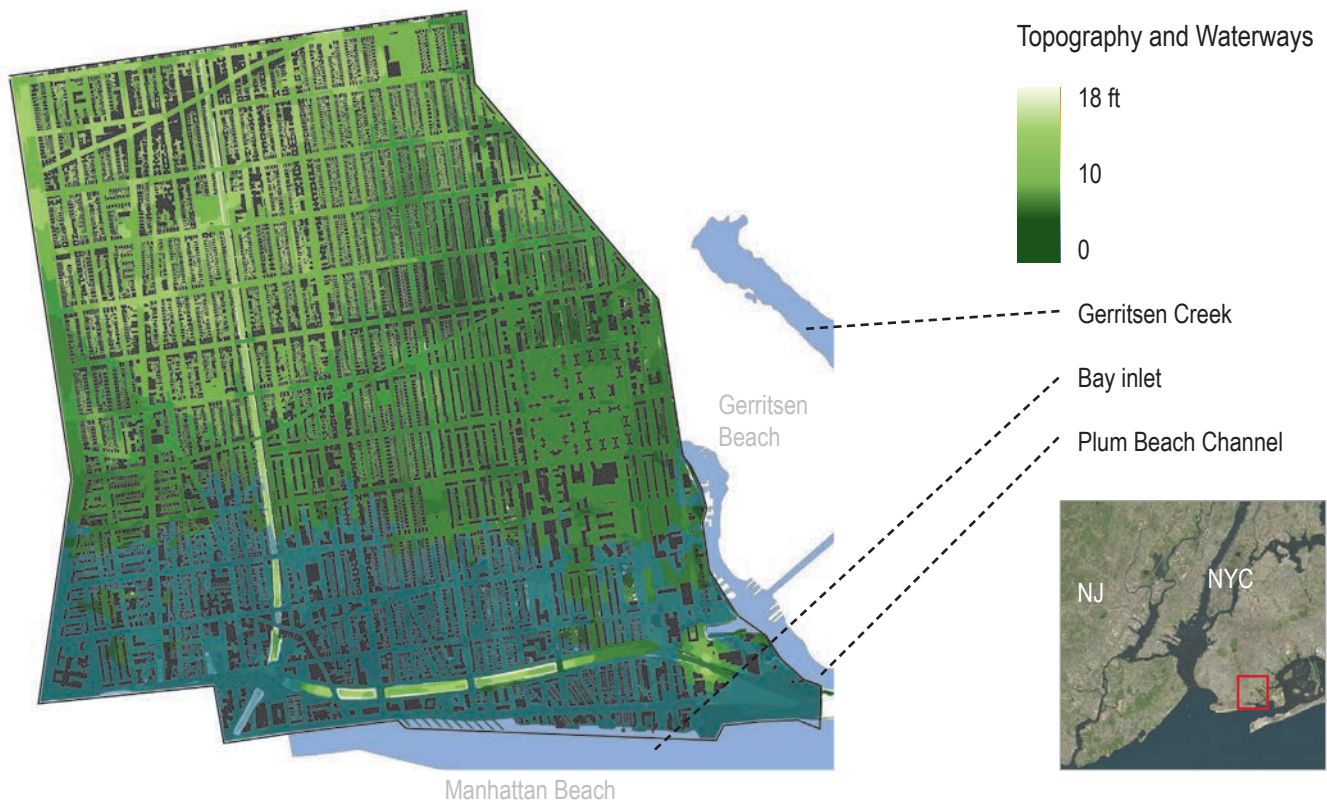
1 City-data.com, "Sheepshead Bay neighborhood in Brooklyn, New York," 2014, http://bit.ly/15Mx1GT, accessed Dec 31, 2014.

WHAT CAN SHEEPSHEAD BAY TEACH US ABOUT INTERIM HOUSING?
- It sheds light on how a plan for one neighborhood can fit into a large and complex set of governmental resiliency strategies at many scales and over varying lengths of time. (See "Resources" for other pertinent plans.)
- As a very dense neighborhood in a dense city, it provides lessons for other intensely urban areas.

WHAT CAN SHEEPSHEAD BAY TEACH US ABOUT PARTICIPATORY URBAN PLANNING?
- It reveals how activist residents and local community leaders can self-organize and engage with government.
- Because the neighborhood has been involved in several participatory urban planning initiatives by programs including the RCPT, the State's New York Rising, and the City's Strategic Initiative for Rebuilding and Resiliency, Sheepshead Bay is a model for how the "whole community" can plan interim and longterm solutions together.

CHALLENGES

FLOODING
- The low-lying sector of the neighborhood south of the Belt Parkway is vulnerable to both coastal surge and back-flooding form Gerritsen Creek and Plum Beach Channel.
- Nor'easters as well as hurricanes can inundate the upland as well as coastal neighborhood with heavy rain.

SHEEPSHEAD BAY	NEW YORK CITY
118,188 people	8.1 million people
16.5% elderly (65+)	12.1% elderly
3.108 square miles	302.64 sq mi
38,027 people / sq mi	27,013 people / sq mi
$49,316 median income	$52,259 median income
16% below poverty line	20.3% below poverty line

■ 100 year flood zone

- The pedestrian courts of houses below street level are subject to flooding on a regular basis from both rain and snow.

DENSITY
- With 30,000 people in evacuation zones one and two, Sheepshead Bay requires approximately 150 acres of interim housing, assuming a standard New York City density of 200 units per acre.[2]

COMMUNICATION
- Few people knew the location of the one shelter, which was in Roosevelt High School.
- Few people were aware of evacuation routes, with most residents deciding for themselves how to get to higher ground.
- Establishing contact with displaced residents who have found their own shelter outside the neighborhood has been difficult.

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2 NYC DCP, DDC, OEM, RCPT, "What if New York City: Designing Post-Disaster Housing for Urban Areas." http://on.nyc.gov/1AwldEL.

- Many residents do not speak English, so their understanding of disaster response outreach and their subsequent participation in resiliency meetings was curtailed. Translators were difficult to find locally.

CRITICAL FACILITIES
- The Coney Island sewage treatment plant is in the floodplain and failed during the storm.

ELDERLY
-The coastal edge of Sheepshead Bay is home to a large elderly population, many of whom were trapped in their apartment buildings and group care facilities after the storm.

HOUSING and LOCATION
- Although FEMA would have paid their rent through the Neighborhood Stabilization Program (NSP), displaced families did not choose to live in available (often foreclosed) houses because they were perceived to be in undesirable neighborhoods.
- Many residents have left Sheepshead Bay to live with family because the two year rebuilding timeframe has exhausted their resources.
-The remote location of many interim residences has prevented the maintenance of their Sheepshead Bay properties and created blight on some blocks.

Senior Care

Senior Homes

Senior Centers

OPPORTUNITIES

MODULAR INTERIM HOUSING
-Participants were interested in using pre-fabricated modules as on-site shelters for those who need to vacate their house for repairs.
- They were also open to off-site larger module developments because most residential lots are not large enough for the module. Given the density of the neighborhood, siting is an obstacle to module use.
- Pre-fabricated modules can be outfitted to work off-grid (at a cost) and can be built to four stories without an elevator or five stories with elevator access.

OPEN SPACE
1. FLOYD BENNETT FIELD
- Floyd Bennett Field is used as a staging ground for emergency operations but for longer term interim needs it offers a very large open area with 50-60 RV hook-ups.
- A bus or shuttle route to and from the area would need to be arranged as part of the plan for the site.

2. GOLF COURSE
- Because its seasonal use is generally outside of hurricane season, Marine Park Golf Course is a potential site, although possible chemical contamination complicates its potential.

3. NYCHA PROPERTIES
- In Sheepshead Bay, the NYCHA land is the only undeveloped

land in the neighborhood. NYCHA residents could be included in a community planning process potentially leading to an MOU for temporary housing on their property, perhaps with some incentives.
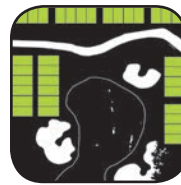
4. ROOFS
- Modules could be installed on roofs, assuming they had proper weight-bearing capabilities.
- Future construction design requirements in flood prone areas

could require that certain sized roofs have the load capacity for modules.

VACANT LOTS

The New York City Office of Emergency Management has a running tally of vacant lots in the city; and the list could be activated and put to use to site modules post-disaster.[3]

FLOATING MODULAR UNITS

- Given the neighborhood's dearth of open land and the availability of piers with boat hook ups, participants were in favor of pursuing the use of boats for interim housing. Barges could be in place for up to two years. One group calculated that a 200 by 250 feet barge with 30 houses, stacked three high could accommodate 360 persons.

- There was only 30% loss for the boats that were in the harbor during Sandy, and the marina and inlet maintained much of their utilities during the storm, indicating that it will be relatively safe for an interim housing barge.

- FEMA and other emergency management agencies have investigated the use of barges in the past, including for Sandy's aftermath. Barges could be permanent FEMA housing solutions that would travel around the country to disaster sites.

- Barges can also transport goods and services to the floating houses when roads are impassable due to debris.

- The site preparation, infrastructural hookups and related permitting process for barges are less cumbersome than for land based interim modules. Flexible sewer lines could be used as in houseboats; while water and electricity would be provided by the barge.

3 Citywide Administrative Services, "City Surplus," 2015, http://on.nyc.gov /1vbQbID, accessed Jan 26, 2015.
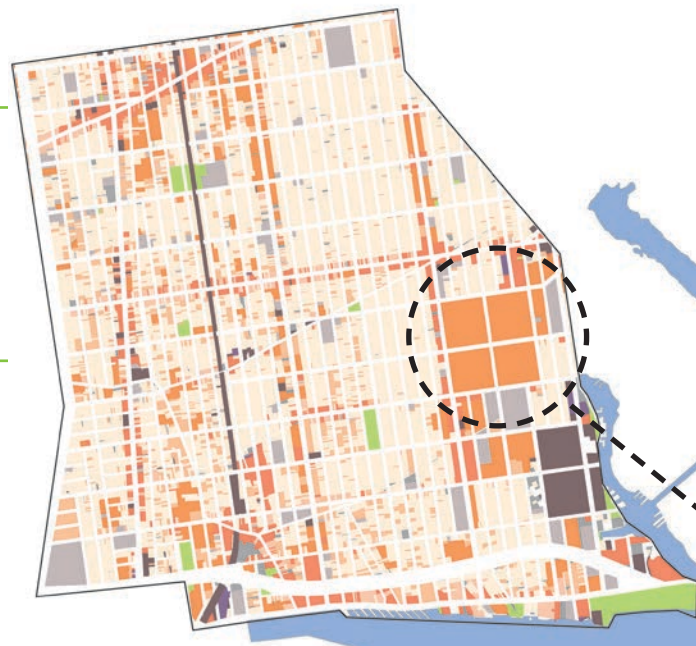
LAND USE

- 1-2 Family Homes
- Multi Family Walkup
- Multi Family Elevator
- Mixed Use
- Industrial/Manufacturing
- Public Facilities and Institutions
- Public Open Space
- Parking/Transportation/ Utilities
- Vacant Land
- NYCHA Properties

- Establish policy and a Memoranda of Understanding between marina boat owners and government in order to use the harbor for interim housing.

MEETING HOUSING NEEDS

- The pre-fabricated interim modules of the New York City Office of Emergency Management meet all codes for permanent residence. Given the need for affordable housing in New York, one possibility would be to find either permanent sites for the interim housing after the crises or to implement policy that would allow the housing to stay on its interim site in perpetuity.

- Policy outlining the shift in ownership of the housing from FEMA to the private or public sector would need to accompany the eventual permanent use of the housing. Modules could be sold to an entity that would maintain them as long-term housing.

Sheepshead Bay inlet and marinas. Credit: Marinas.com

housing. The Furman center identified about 200,000 such lots as of 2003 that were built out at less than 50% of their zoning capacity"[6] and opportunity still exists.

BUILDING CODE
- The minimum room area and apartment area required by the New York City Building Code, rather than allowable zoning, are the limiting factor in many cases; but temporary stipulations could increase the number of interim housing modules in an urban neighborhood.

ZONING
1. PARKING
- Future New York City off-street parking requirements should include stipulations or incentives for building multi-level parking equipped with infrastructural hook-ups for temporary housing modules. Presently there are no incentives to build parking structures as opposed to surface lots.[4] The Furman Center has studied how parking requirements could be amended.[5]

2. FLOOR TO AREA RATIO
- A temporary waiver system, expedited permitting or even zoning policy could allow lots that are not built out to their maximum floor to area ratio (FAR) to be in-filled with interim or more permanent

"Putting them on barges is the only answer here."

Cliff Bruckenstein, resident

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4 The City of New York, City Planning Commission, "Zoning Resolution Article II Chapter 5," Oct 9 2013, http://on.nyc.gov/1A4fcQY, accessed Jan 13, 2015.
5 The Institute for Affordable Housing Policy, "Searching for the Right Spot: Minimum Parking Requirements and Housing Affordability in New York City," Furman Center for Real Estate & Urban Policy NYU, Mar 2012, http://bit.ly/1BASSwe, accessed Jan 13, 2015.

6 Been, Vicki, et al., Underused Lots in New York City, working paper, Furman Center for Real Estate & Urban Policy NYU, Nov 2009, http://bit.ly/1Cicb01, accessed Jan 13, 2015.

PROPOSED SITES

Workshop participants identified these sites as having high potential for interim housing.

Floyd Bennet Field

Marine Park Golf Course

Kelly Memorial Park and Playground

3480 Nostrand Disused Lot

2185 Coyle St Parking Lot

NYCHA Open Space

PS194 Playground

Bay Family Center Parking Lot

Floating Modular Units

TOMS RIVER
PARTICIPATORY URBAN PLANNING WORKSHOP REPORT

CONTENTS

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MAPS INCLUDED in the WORKSHOP

CONTEXT
SANDY STORM SURGE EXTENT
EVACUATION & SHELTERS
TOPOGRAPHY
100 YEAR FLOOD
PUBLIC FACILITIES
Community Centers / Open Space -
Food Stores -
Health Facilities -
Schools / Child Care -
Senior Care -
POPULATION
ELDERLY POPULATION
AREA MEDIAN INCOME
RACE & ETHNICITY
TRANSPORTATION
LAND USE
HOUSING TYPOLOGIES
All maps can be found in the appendix.

INTRODUCTION

Toms River Township, formerly known as the Township of Dover, is the county seat of Ocean County NJ. Toms River is home to 91,239, as of 2010, making it the eighth most populous municipality in the state of New Jersey.[1] The township has a total area of 53 square miles, of which 25% is water. The area along the shore and small barrier island boroughs is well known for its beaches settled with second-homes and short-term rentals used primarily in summer months. However, 95% of the total population in Toms River proper is permanent. including all of its inland, riverine and shore communities. In contrast, the permanent population of the smaller barrier island boroughs' only amounts to 40%.[2]

Context Map

- Housing
- Parks
- 100 Year Flood

"NIMBYism changes when...there are no backyards when so many properties are entirely destroyed and around 10,000 people needed temporary sheltering."

Iris Epsenhart, FEMA Individual Assistance

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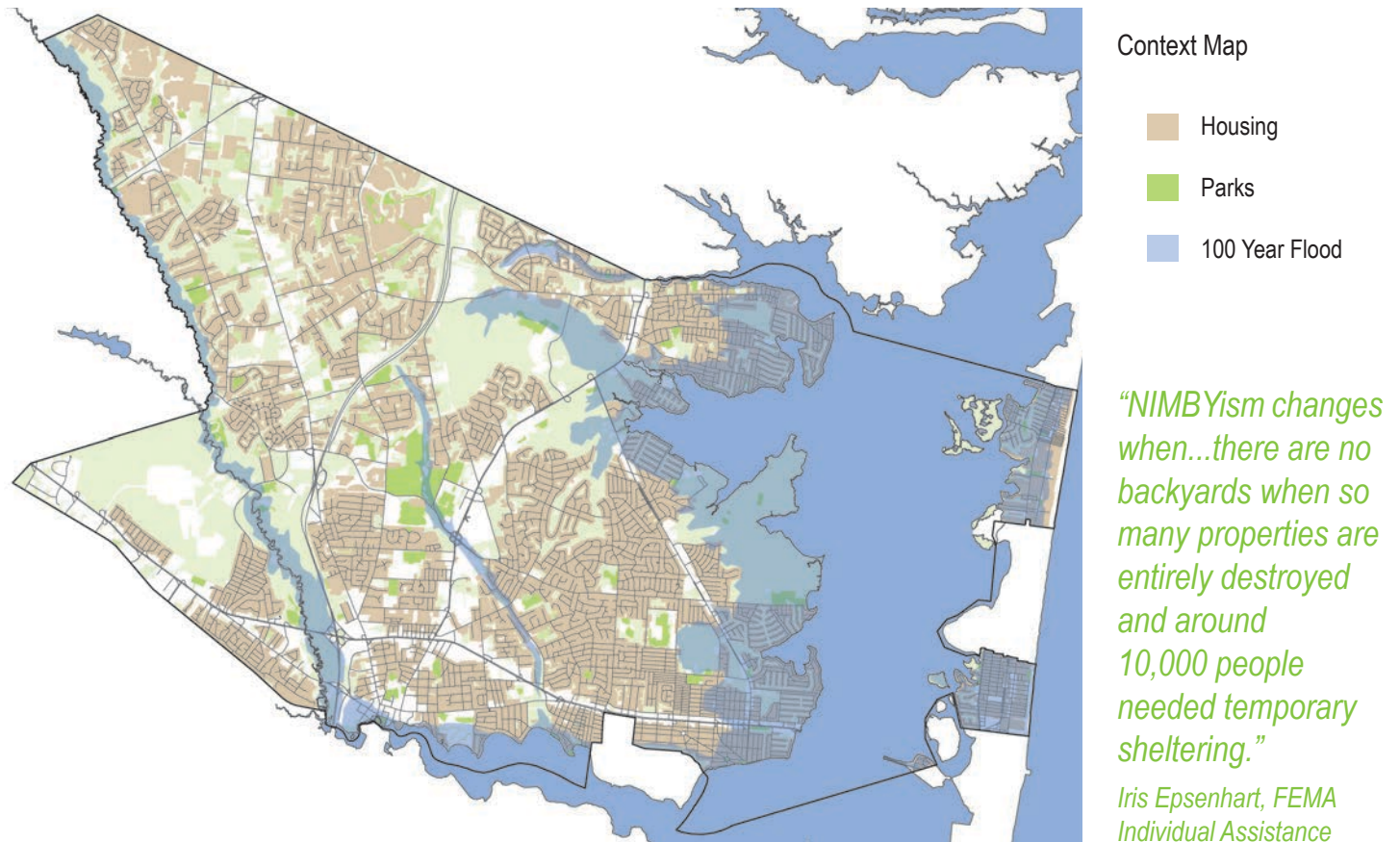
1 US Census Bureau, "State & County QuickFacts, last updated Dec 4, 2014, http://1.usa.gov/15MGDkZ, accessed Dec 31, 2014.
2 US Census Bureau, http://1.usa.gov/17L5tmx, accessed Jan 15, 2015.

TOMS RIVER COMPARE

88,791 people	NJ = 8.8 million people
16.7% elderly (65+)	US = 15.1% elderly (65+)
38.95 square miles	Sheepshead Bay = 3 sq mi
2,279 people / sq mi	38,027 people / sq mi
$73,990 median income	NJ = $71,180 median income
6.3% below poverty line	NJ = 10.2% below poverty line
5% of all units are seasonal	Jersey City = .05% seasonal

WHAT CAN TOMS RIVER TEACH US ABOUT INTERIM HOUSING?

- Interim Housing plans must consider the threat to not only the population of the township but its main economy
- They must respond to pressures from a homeless population, a dearth of affordable hosuing and the seasonal nature of some homes, all of which apply to other coastal communities

WHAT CAN TOMS RIVER TEACH US ABOUT PARTICIPATORY URBAN PLANNING?

- There is great opportunity to build strong connections among planning departments, emergency response and recovery personnel in relation to interim housing. Responsibility for the interim period is entirely unassigned.
- Local non-governmental organizations and community groups could be a great asset, as the housing advocacy and resiliency networks are strong in the county.

CHALLENGES

COMMUNITIES of CONCERN: VULNERABLE POPULATIONS

- North Jersey has identified "Communities of Concern", several within Toms River: poor, elderly, homeless.
- Senior citizens 75 years and older are 17% of the population; some participants advocated for expanding this definition to 55.
- A high percentage of families have children in school.

Vulnerable Communities
Parks

100 Year Flood
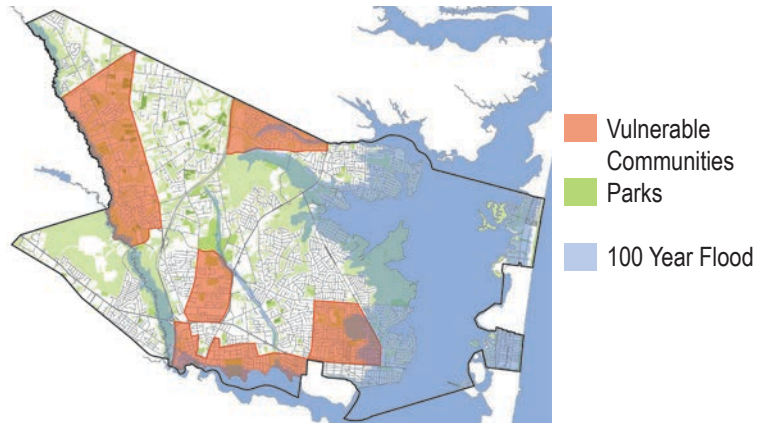
Fig. 1: Together North Jersey's Communities of Concern

- There is serious need for pet-friendly shelters.
- There is a significant homeless population.
- The lack of public transportation makes it difficult for these populations to access basic goods and services and requires that interim housing plans consider supplying them.

INTERIM SHELTERING for the HOMELESS

- There are no homeless shelters in Ocean County, and few affordable and special needs housing options.
- Many of the homeless inhabit vacant summer rental properties and motel rooms on the barrier island during the off-season, part of which is also hurricane season, putting vulnerable populations in high-risk housing.
- Toms River's "not in my backyard" mentality, or NIMBYism, is an obstacle to sheltering the homeless. A resident of the Twin Oaks neighborhood where a local church proposed a shelter called The LODGE, said, "the program is good, but it doesn't belong in a residential neighborhood like ours."
- Disasters exacerbate the effects of NIMBYism because 10,000 residents could be in need of shelter."[3]

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3 Ellefson, Diana, "Church withdraws plans to open a homeless shelter on site," Toms River Patch, Feb 21, 2012, Accessed Dec 31, 2014. http://aol.it/1yGOU-gU.

INTER-JURISDICTIONAL COORDINATION

- There is a lack of inter-agency communication at the local level and in relation to county and municipal departmental responsibilities. For example, the Ocean County Department of Planning did not interact with the Office of Emergency Management until after Sandy.
- Some emergency response and planning personnel do not understand the need to be involved in planning interim housing.
- Several participants cited certain fundamental disagreements, such as the existence or effects of climate change, as roadblocks.
- Participants commented on the need at neighborhood and government levels for a more businees like structure for identifying strategy and implementing it.

AFFORDABLE HOUSING

- The need for affordable and special needs housing and shelters for homeless populations is severely exacerbated during disaster.

TRANSPORTATION

- Toms River is a "sleeper town," or bedroom community where people work in industries outside of the municipality and depend on their cars to commute, making their employment as well as their home safety vulnerable if there is limited road access.
- Ocean County provides bus service among boroughs, but a more extensive system is needed, especially to shuttle relocated residents to daily activities post-disaster.
- A study of demographic shifts and car ownership should be applied to find potential avenues for public transit expansion.
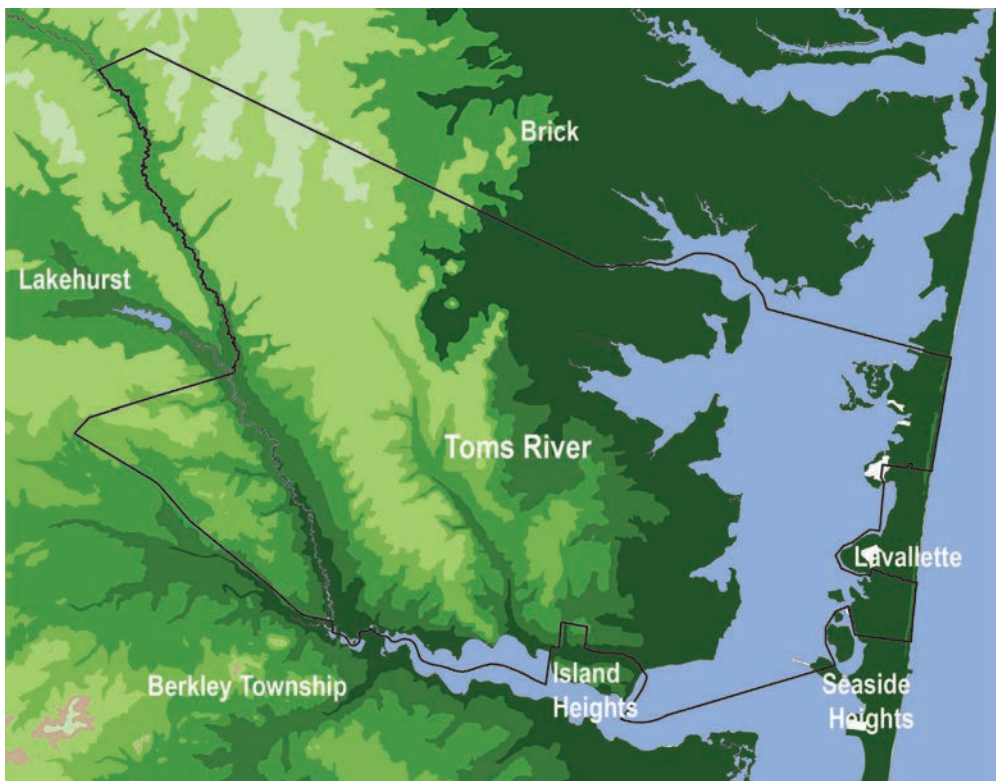
TOPOGRAPHY AND MUNICIPAL BORDER

+90 Feet
60
30
0
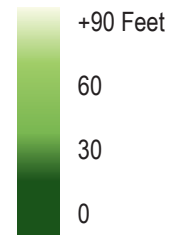
"We can't pre-build but we must be able to mobilize."
Thomas Wagner, NJ State Police

OPPORTUNITIES

POLICY

1. INTER-JURISDICTIONAL AGREEMENTS

Create Memoranda of Understanding with surrounding towns or among counties to ensure coordinated recovery and exchange of resources. For example, Beachwood, a town just south of Toms River, has open space including a 200- acre state park that could serve as a potential temporary housing site. A look at topography and physical capacity is necessary for such strategic partnerships

2. REGIONAL RECOVERY MANAGEMENT

New Jersey Future, the state's smart growth policy organization, supplied many municipalities (some jointly) with a recovery planning manager after Sandy. Managers could communicate with a wider scope of jurisdictions to streamline resource coordination and create and execute regional long-term recovery plans.

3. RELOCATING TO SERVICES

- After emergencies, Continuity of Operations personnel move critical governmental and administrative capacities outside the area of disaster (After Sandy, Toms River offices were moved to Warren County). The disaster area's displaced population could move with their local government and continue to be served by it, instead of burdening local officials.

HOUSING INVENTORIES

1. UNIFY EXISTING RESOURCES

- A Housing Resource Center website, initiated through a partnership between NJ Realtors Association and the NJ Housing and Mortgage Finance Agency, inventories available buildings and units, and could be more powerful if its input and outreach network was wider and more organized with public and willing private property owners.
- Landlords are required to register their abandoned properties with the Mayor's Quality of Life Task Force, but some of these are not suitable for habitation due to years of neglect.
- Clearinghouse: Existing inventories should be managed by a single organization or agency to ensure their comprehensiveness and accuracy over time.

2. LIVE AND COMPREHENSIVE LISTS

- Inventories should be frequently maintained, publicly editable and searchable. They need regular input from existing networks like local realtors, community groups, faith-based organizations, and neighborhood associations.
- Vacant senior facility rooms should be included, as well as infrastructurally prepared sites, such as RV parks. The New Jersey Department of Human Services Catastrophic Housing Framework also recommends inventorying big box stores as well as developers and property owners who would be willing to lend available land and units for interim housing.[4]
- Create policy that can immediately "turn on" access to the current inventory of sites post disaster.

MODULAR and PRE-FABRICATED HOUSING

- Many designs and suppliers for modular units are possible. Seabox containerized housing units are one alternative to the New York City pre-fabricated structure included in the workshop presentations.
- Site Prep: Toms River has a variety of potential sites, many of which already have required infrastructure or could be pre-prepared so that they are equipped to accommodate housing quickly in an emergency
- Inventories: A clearinghouse like the one for available apartments could exist for sites like RV parks and campgrounds that are infrastructurally prepared to hook up to pre-fab housing modules or even trailers and mobile homes.
- Communication is key: everyone needs to know the list exists so that it is comprehensive.[5]

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4 NJ Dept. of Human Services, DRAFT Catastrophic Housing Framework, June 2014.
5 NJ Housing Resource Center, "Find Housing," 2011, http://bit.ly/1AhmJM5, accessed Dec 19, 2014.

LONG-TERM RESILIENCE

- The ultimate goal is to eliminate the need for interim housing through long-term planning. The New Jersey Office of Homeland Security and Preparedness has worked with Rutgers' Edward J. Bloustein School of Planning, NJ Institute of Technology and others to address the resilience of New Jersey's coastlines.

- Eventually, alternative permanent housing will need to be identified for residents of the barrier islands.

- Expand longterm affordable housing and create a homeless sheltering system to reduce the interim housing demand.

- Planning should include an understanding with other towns.

- Build long-term recovery and interim housing into well-coordinated, regional, inter-jurisdictional, master plans.

PROPOSED SITES

1. AVAILABLE HOUSING STOCK

- Vacant townhouses in Fort Monmouth, retrofitted by the US Army Corps of Engineers were used for housing.

- Military bases are a good place to house the influx of early contractors who can get government clearance easily.

- Ocean County College is easily negotiable as an interim housing site because it is government-owned, and any housing built could subsequently be converted to dormitories.

2. PUBLICLY OWNED SITES

- Robert Miller Airfield, which is County-owned and within the Pine Barren, is on a septic system that could not support very much density. FAA regulations would also be a factor in siting temporary housing here.

- The County Fairgrounds

- Parks: Winding River and Riverwood Parks

3. PRIVATE DEVELOPMENT SITES

- Future development sites could be used temporarily. According to real estate databases, Toms River has roughly 17 acres of such vacant land.

- Memoranda of Understanding for the duration and terms of the interim housing and the preparation of the sites would be required in advance.

4. PRIVATE CAMPUSES

- Deserted shopping centers and malls : both their parking lots for modular buildings and their interiors for housing retrofits.

- Industrial campuses might work in the same way as long as they are uncontaminated.

- Remediated brownfields: Ciba-Geigy, a 1400 acre superfund site, with 1200 acres deemed uncontaminated, was proposed for housing but the counter argument was that housing should never be located in a superfund site.

PROPOSED SITES

Workshop participants identified these sites as having high potential for interim housing.

Fort Monmouth

Ocean County College

Occean County Mall

County Fairgrounds

Robert Miller Airfield
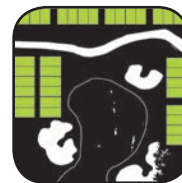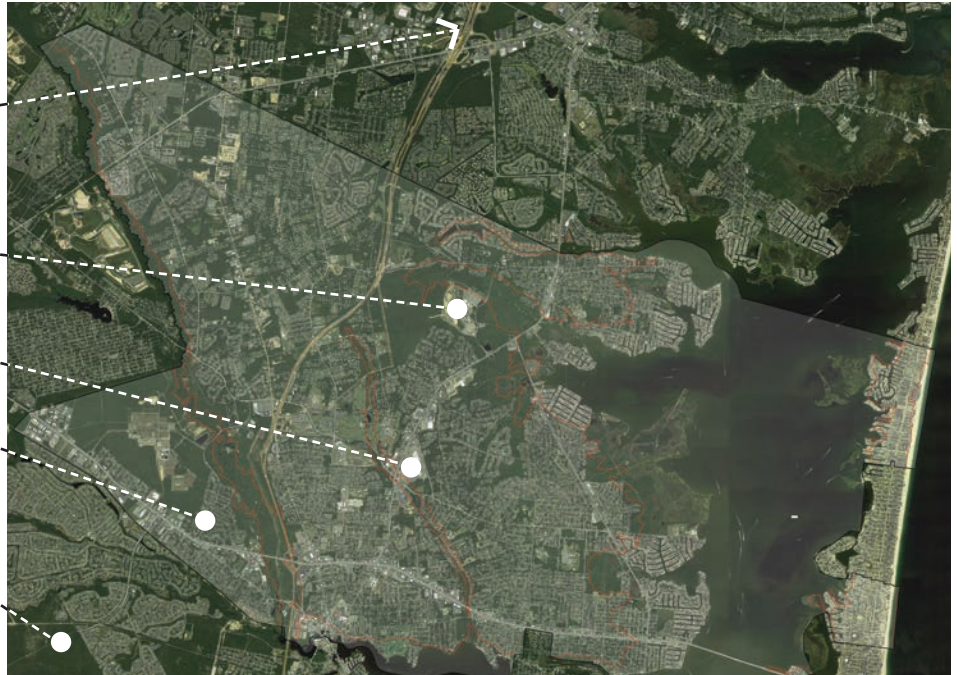
Resources:
- FEMA, National Response Framework 2nd Ed., DHS, May 2013, http://1.usa.gov/14vDKEY
- Together North Jersey, "Communities of Concern," http://togethernorthjersey.com/?page_id=18464
- NJ Department of Human Services, "CASS NJ Consolidated Assistance Support System," 2014,
http://www.nj.gov/humanservices/cass.html, accessed Dec 19, 2014.
- NJ Office of Emergency Management, 2014 State Hazard Mitigation Plan,
http://ready.nj.gov/programs/mitigation_plan2014.html, accessed Jan 14, 2015.

CONCLUSION

R E G I O N A L   T R E N D S

Though each site's workshop produced ideas unique to local conditions, regional trends emerged revealing key obstacles and opportunities for planning for interim housing needs. All the events showed that identifying physical potential sites is only a small piece of the solution, that interim housing requires a wider range of players than emergency sheltering or long-term planning.

COORDINATION + COMMUNICATION

Across agencies, but also between government and residents and non-profits, communication and coordination were identified as opportunities for improvement at every workshop. Participants recognized the importance of strong lines of communicaiton between organizations familiar with the local community who can assess interim needs and priorities with those who bring resources from outside. They argued for ongoing networks of communication that could be activated in the case of disaster. The PUP round table discussions began tackling this larger scope of coordination with what the National Disaster Housing Strategy identifies as an "increased need for cooperation and collaboration among all players."[1]

"The point is we've got to start planning now."

Bob deBeauvernet,
The Lodge

Especially in home-ruled municipalities, cross-jurisdictional coordination was seen as essential to effective catastrophic housing plans. The potential need for housing located beyond political borders requires overcoming a traditional "island mentality" and the development of regional components for disaster response and long term planning.

RESPONSIBILITY

Interim housing often falls between the cracks of agency responsibilities. Additionally, when no one agency is in charge, the division of responsibility is also missing. As the draft New Jersey Department of Human Services Catastrophic Housing Framework states, "there is currently no coordination plan in place for alternate housing identification."[2] Toolkits, such as those provided by the Regional Catastrophic Planning Team, are available, but agencies and organizations rarely have the staff or the time to employ them.

INVENTORIES + CLEARINGHOUSES

Improved upkeep, comprehensiveness and accessibility of inventories of available land, units, general resources, community needs and population characteristics would be helpful to interim housing plans. Some inventories that exist need more regular updates to be useful to pre-disaster planning, and because that is a substantial responsibility it may require dedicated staff.

TIMELINE

Interim housing will need to be planned and sited well before a disaster occurs: it takes time to create understandings of use, acquire access, and install the infrastructure that will support the housing, whether it be in a retrofitted mall, available government building, or a vacant or public lot. Many of the interventions that would make a site available for interim housing involve long-term activities and the initiation of policy shifts.

The ill-defined timeline of sea level rise causes uncertainty in all resiliency planning including interim housing. On highly dense and economically important coastlines, planning for the worst-case scenario is politically or physically impossible.

MONEY

A common concern was sources of funding. FEMA and other government representatives stepped forward to indicate when a project could be part of their mandate and therefore their funding streams, but often a strong idea such as preparing a site with infrastructure had no obvious revenue source.

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1 FEMA, DHS, National Disaster Housing Strategy
http://1.usa.gov/1BLaULh

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2 NJ Dept. of Human Services, DRAFT Catastrophic Housing Framework, June 2014.

Resources:
- Climate Central, "New Jersey and the Surging Sea,"
http://sealevel.climatecentral.org/uploads/ssrf/NJ-Report.pdf.
- NYC DCP, DDC, OEM, RCPT, What if New York City:
Designing Post-Disaster Housing for Urban Areas
http://on.nyc.gov/1AwldEL
- FEMA, DHS, Catastrophic Housing Annex
http://1.usa.gov/14pvbeU
- FEMA, DHS, National Disaster Housing Strategy
http://1.usa.gov/1BLaULh

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Francesca Giarratana - Hudson County Division of Planning

Jaklin Girgis - Bergen County Grassroots

Chris Gorman - Governor's Office of Storm Recovery

Sandy Gracia - Housing Authority of the City of Jersey City

Linda Weber of NJ Resiliency Network shares her groups map in Toms River

Sandy Gray - Homelessness Ended Through Local Partners
Terry Hardy - The Council of Churches
Emmeline Harrigan - Shore Up Connecticut
Allison Harris - Ocean County Board of Social Services
Jeanette Harris - The Council of Churches
Nancy Harris - Regional Catastrophic Planning Team
Andrei Harwell - Yale Urban Design Workshop
Abram Hillson - New Jersey Housing and Mortgage Finance Agency
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Tamara Jones - Resident
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Scott Klinder - New Jersey State Park Police
Michael Kolber - Urban Planner
Paul Krumins - Higgins Real Estate
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Craig Marshall - Federal Emergency Management Agency Sandy Recovery Field Office
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Maciej Maslonka - Ocean County Planning
Martha Maxwell Doyle - Barnegat Bay Partnership
Rev McCluster - Shiloh Baptist Church
Dotlyn McKenzie - Bridgeport Department of Social Services
Erin McLachlan - Regional Catastrophic Planning Team

Group works on their "Proposed Sites" satellite map in Bridgeport

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Balenda Nelson - U.S. Department of Housing and Urban Development
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Christine Newman - Toms River Police
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Dawn Niles - Women Rising, Bergen Communities United
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Donna Orbach - Bergen County Department of Planning & Economic Development
Larry Palaia - Bridgeport Department of Health
Jim Palmer - New Jersey Department of Education
Thad Pawlowski - New York City Mayor's Office of Housing Recovery Operations
William Peppard - Bergen County Police Department

Claudio Perez - American Red Cross
Paul Perillo - Federal Emergency Management Agency New Jersey Sandy Recovery Field Office
Adam Plattus - Yale Urban Design Workshop
Michael Prasad - American Red Cross
Pam Quatse - Homelessness Ended Through Local Partners
Pamela Ralston - Greater Bridgeport Opening Doors
Joy Reinhardt - Ocean County Human Services
Bill Richards - Milford Office of Emergency Management
Anne Richardson - Grandview Terrace Apartments
Tom Rodgers - Toms River Office of Emergency Management
Jennifer Rodgriguez - City of Bridgeport Homelessness Specialist
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Lorraine Sansone - Resident
Verletha Santiago - Optimus Health Care
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Vadim Shiglik - Empower Sheepshead Recovery Coalition
Steve Simone - Ocean County Planning
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Darice Toon - Jersey City Department of Health and Human Services

Lady Torres - Grandview Terrace Apartments
Jennifer Turner - Univ. of Bridgeport
Paula Van Clef - New Jersey Department of Health
Bob Vanbochove - Clarion Hotel
Kelly Voicheck - Property Owners Association
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Linda Weber - New Jersey Resiliency Network
Jeff Wenger - Jersey City Division of Planning
Tara Werner - Visiting Homemakers Service of Hudson County
John Winckelmann - LWDMR Architects
Debbi Winogracki - City Council
Kerensa Wood - New York City Department of City Planning
Peter Wood - Southwest Community Health Center
Jim Woods - Hudson County Office of Emergency Management
Rebecca Ziefle - Ocean County Planning
Matt Ziemkiewicz - Bergen County Office of Emergency Management
Susan Zuber - Federal Emergency Management Agency Sandy Recovery Field Office

Lady Torres presents her groups proposal in Jersey City

APPENDIX of MAPS

THE REGIONAL CATASTROPHIC PLANNING TEAM'S

PARTICIPATORY URBAN PLANNING

WORKSHOP SERIES

REGIONAL CATASTROPHIC PLANNING TEAM

RCPT

New York New Jersey Connecticut Pennsylvania

ABOUT THIS APPENDIX

Each community was studied through a series of analytical maps used during the workshop events to prioritize needs and identify sites or vulnerabilities. This appendix includes all maps from each community, allowing them to be extracted as separate documents. These maps are not to scale.

*Starred maps were particularly relevant to the workshop's discussion.

CONTENTS: MAPS APPENDIX

SOUTHERN BERGEN COUNTY

*SATELLITE MAP

— Borough borders

— 100 year flood extent

— Bergen County border

*100 YEAR FLOOD

Housing

100 Year Flood

Open Space / Wetland

(boroughs are labeled for context)

GARFIELD

HACKENSACK

I-80

MOONACHIE

RUTHEFORD

RIDGEFIELD

I-95

SANDY INUNDATION

- Housing
- Open Space / Wetland
- Sandy Inundation
- ● Shelter

GARFIELD

HACKENSACK

I-80

MOONACHIE

RUTHEFORD

RIDGEFIELD

I-95

EVACUATION ROUTES

- Housing
- 100 Year Flood
- Open Space / Wetland
- Evacuation Routes
- Shelter

GARFIELD

HACKENSACK

I-80

MOONACHIE

RUTHEFORD

RIDGEFIELD

I-95

*TOPOGRAPHY

Main Roads

300 feet

80

20

GARFIELD

HACKENSACK

I-80

MOONACHIE

RUTHEFORD

RIDGEFIELD

I-95

*POPULATION DENSITY

By Census Tract

⬛	1400 - 3200
⬛	3200-4300
⬛	4300 - 5400
⬜	5400 - 6700
⬜	6700 - 8600
🟩	Open Space / Wetland

GARFIELD

HACKENSACK

I-80

MOONACHIE

RUTHEFORD

RIDGEFIELD

I-95

ELDERLY POPULATION

Number of People 65 and Older per Census Tract

- 150 - 460
- 460 - 610
- 610 - 830
- 830 - 1640
- Open Space / Wetland
- 100 Year Flood

RACE

1 Dot = 50 People

- Asian
- Black / African American
- Hispanic / Latino
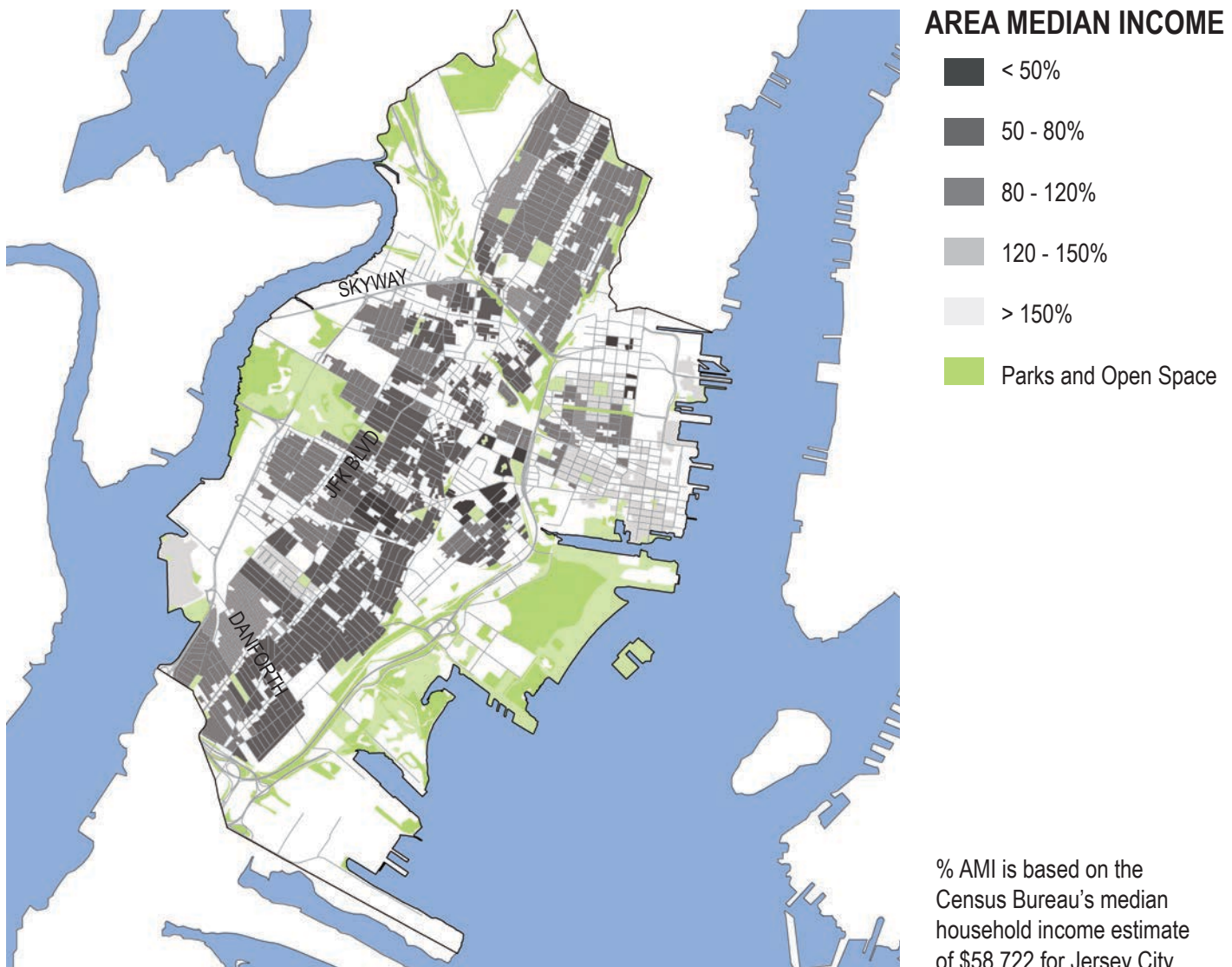- White
- Other
- Open Space / Wetland

GARFIELD

HACKENSACK

I-80

MOONACHIE

RUTHEFORD

RIDGEFIELD

I-95

AVERAGE MEDIAN INCOME

- ☐ < 50%
- ☐ 50 - 80%
- ☐ 80 - 120%
- ☐ 120 - 150%
- ☐ > 150%
- ☐ Open Space / Wetlands

% AMI is based on the
Census Bureau's median
household income
estimate of $84,255 for
Bergen County.

Map labels: GARFIELD, HACKENSACK, I-80, MOONACHIE, RUTHEFORD, RIDGEFIELD, I-95

*TRANSPORTATION

— NJ Transit

— Public Bus Route

Housing

Open Space / Wetlands

GARFIELD

HACKENSACK

I-80

MOONACHIE

RUTHEFORD

RIDGEFIELD

I-95

*SCHOOLS

- 🟠 School
- 🟣 College / University
- 🔴 Sandy Reception Ctr
- 🟫 Housing
- 🟩 Open Space / Wetland

GARFIELD

HACKENSACK

I-80

MOONACHIE

RUTHEFORD

RIDGEFIELD

I-95

SENIOR CARE

People over 65

0 - 175

180 - 359

365 - 541

562 - 750

753 - 1033

● Nursing Homes, Assisted Living, Senior Care'

Open Space / Wetland

100 Year Flood

GARFIELD

HACKENSACK

MOONACHIE

RUTHEFORD

I-80

I-95

RIDGEFIELD

HEALTH FACILITIES

- ● Hospitals
- ● Senior Care
- Housing
- Open Space / Wetland
- 100 Year Flood

GARFIELD

HACKENSACK

RUTHEFORD

MOONACHIE

RIDGEFIELD

I-80

I-95

PARKS AND RECREATION

Recreation

Wetland

Housing

GARFIELD

HACKENSACK

I-80

MOONACHIE

RUTHEFORD

RIDGEFIELD

I-95

FOOD ACCESS

- ● Supermarket
- Housing
- Open Space / Wetland

GARFIELD

HACKENSACK

I-80

MOONACHIE

RUTHEFORD

I-95

RIDGEFIELD

FACILITIES

- 🟠 Schools
- 🟣 College / University
- 🔴 Senior Care
- 🟢 Health Facilities
- 🟡 Community Center
- 🟩 Open Space / Wetland
- 🟦 Sandy Inundation
- 🟫 Housing
- 🔴 Bergen Tech

*LAND USE

Housing

Commercial

Mixed Urban

Industrial

Transportation + Utilities

Recreation

Wetlands

GARFIELD

HACKENSACK

I-80

MOONACHIE

RUTHEFORD

RIDGEFIELD

I-95

BROWNFIELDS

● Brownfield

Housing

Open Space / Wetland

GARFIELD

HACKENSACK

I-80

RUTHEFORD

MOONACHIE

RIDGEFIELD

I-95

Data sources: FEMA, Google Earth, NJDEP, NJGIN, NJOEM, nj.com, US EPA, USGS,US Census Bureau

BRIDGEPORT

*SATELLITE MAP

—— 100 Year Flood

—— Municipal Border

Housing

100 Year Flood

Parks

PARK AVE

MAIN ST

ROUTE 8

ROUTE 1

I-95

SANDY INUNDATION

- Housing
- Parks
- Sandy Inundation
- ● Shelter
- ▬ Interstate Highway 95

PARK AVE

MAIN ST

ROUTE 8

ROUTE 1

I-95

*EVACUATION ZONES

Housing

Parks

Evacuation Zone

Shelter

PARK AVE

MAIN ST

ROUTE 8

ROUTE 1

I-95

TOPOGRAPHY

400+ ft.

120

5

PARK AVE

MAIN ST

ROUTE 8

ROUTE 1

I-95

POPULATION DENSITY

By Census Tract

	1200-2400
	2400-3600
	3600 - 4800
	4800 - 6400
	6400 - 8400
	Parks
	100 Year Flood

PARK AVE

MAIN ST

ROUTE 8

ROUTE 1

I-95
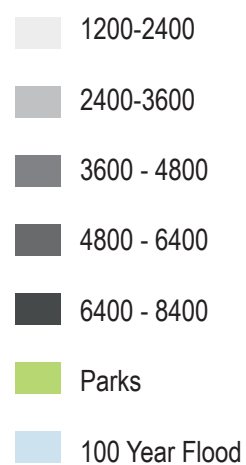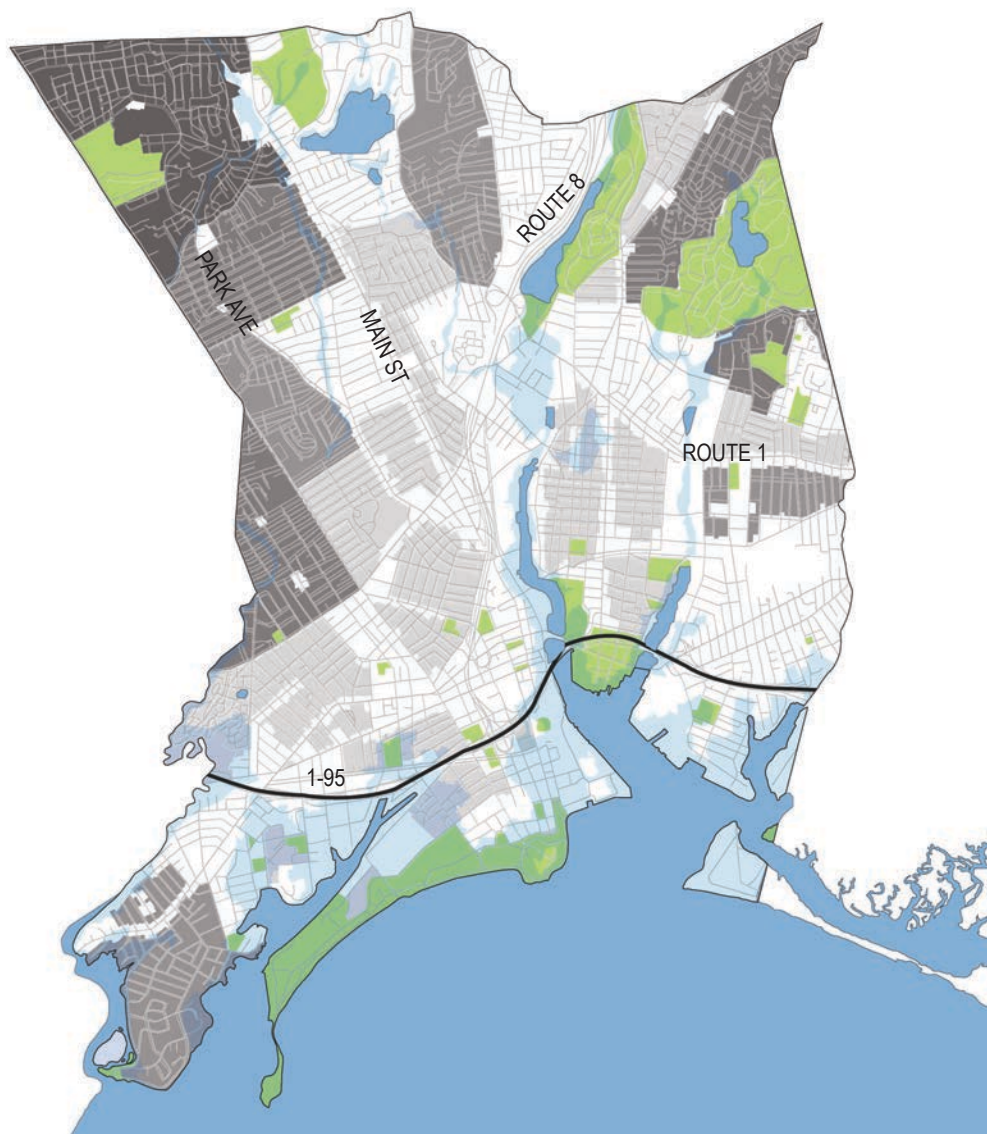
ELDERLY POPULATION

Number of 65 and Older

	25 - 240
	240 - 400
	400 - 560
	560 - 750
	750 - 1100
	Parks
	100 Year Flood

PARK AVE

MAIN ST

ROUTE 8

ROUTE 1

I-95
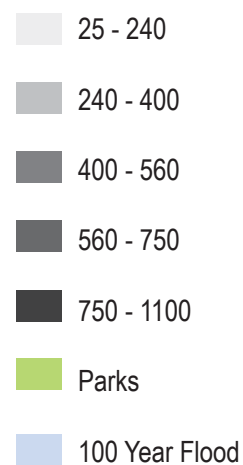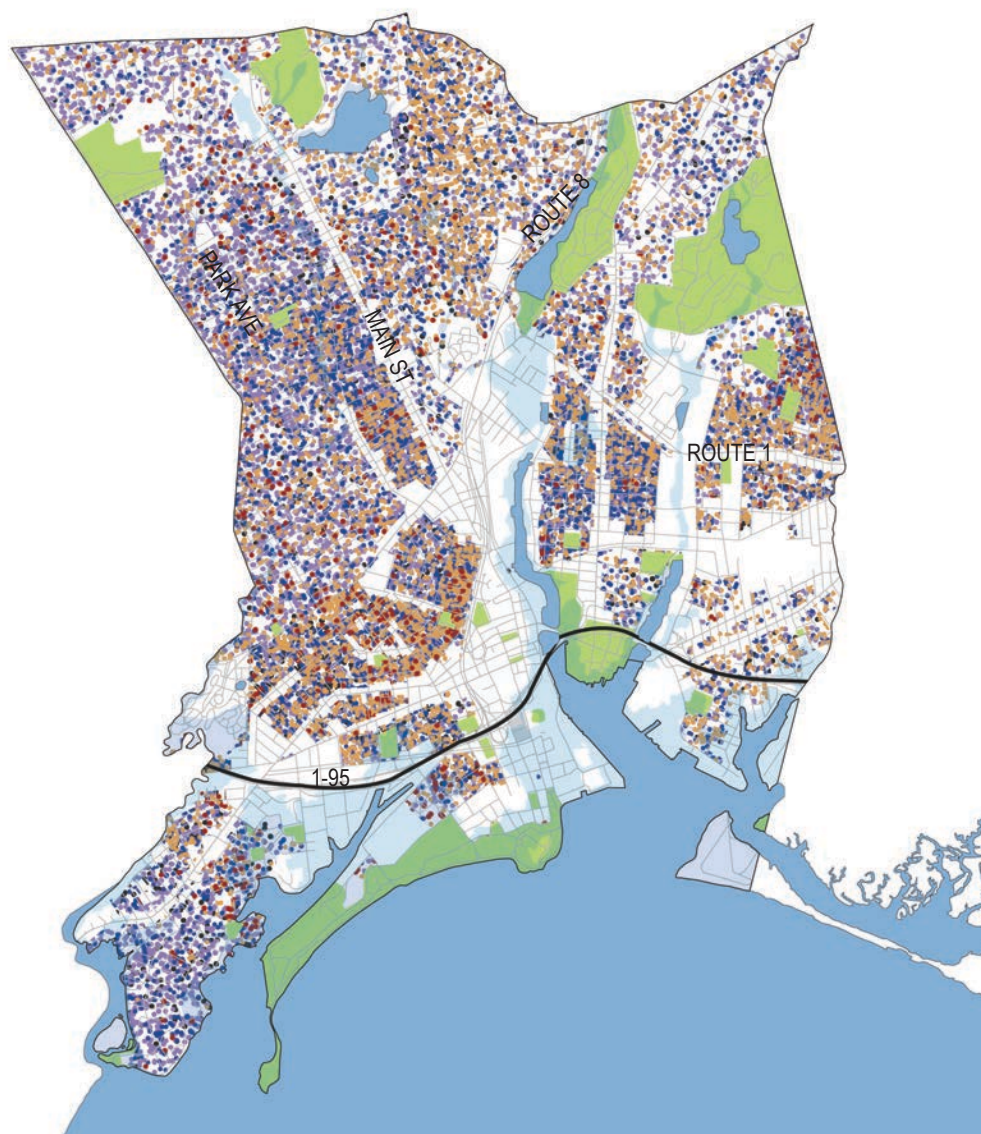
RACE

1 Dot = 10 People

- Asian
- Black / African American
- Hispanic / Latino
- White
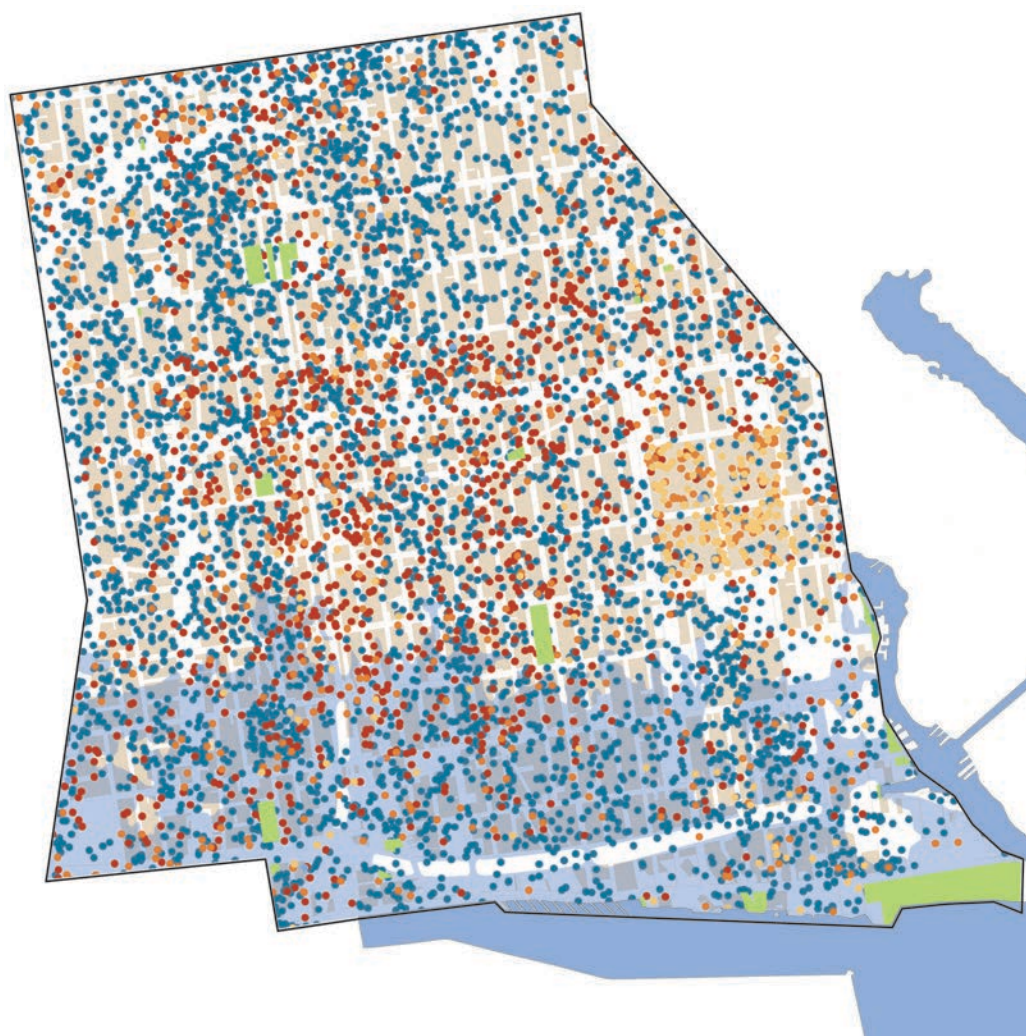- Other
- Parks
- 100 Year Flood

PARK AVE.
MAIN ST.
ROUTE 8
ROUTE 1
I-95

*AREA MEDIAN INCOME

< 30%
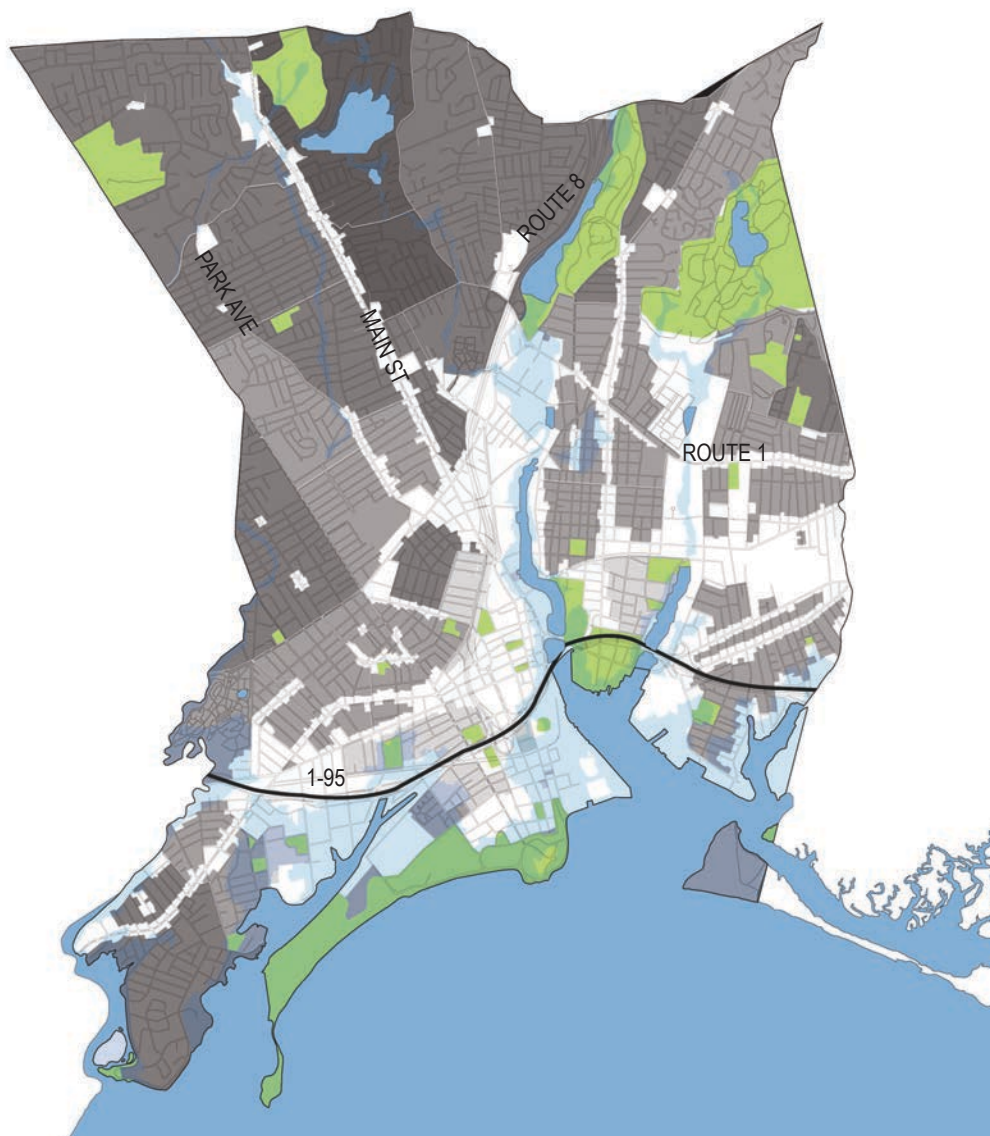
30 - 50%

50 - 80%

80 - 120%

> 120%

Parks

100 Year Flood

AMI is based on American Community Survey income estimates and HUD's 2014 family income of $83,721 for Bridgeport metropolitan area, which includes Bridgeport, Easton, Fairfield, Monroe, Shelton, Stratford, Trumbull.
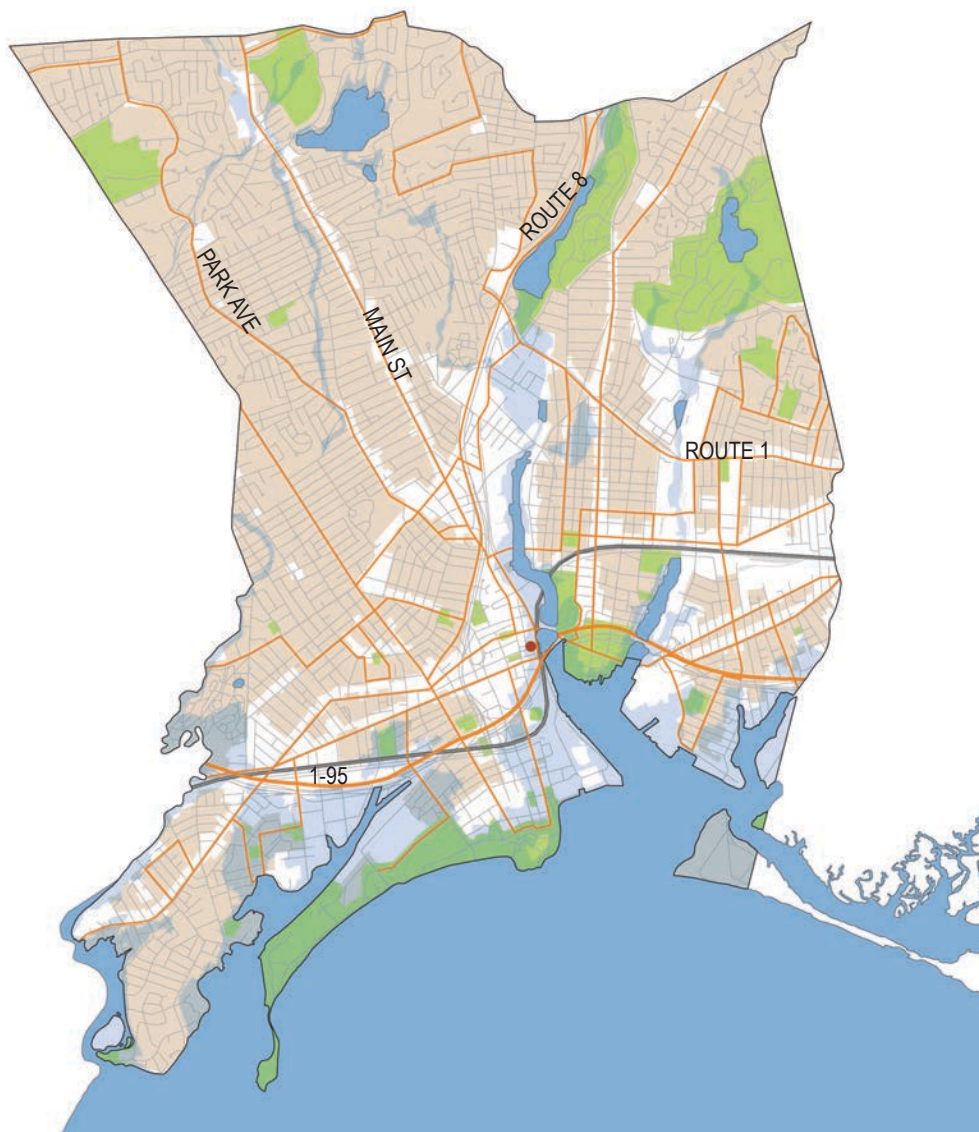
*TRANSPORTATION

— Local Bus Routes

— Regional Train

● Train Station

— 1-95

Housing

Parks

100 Year Flood
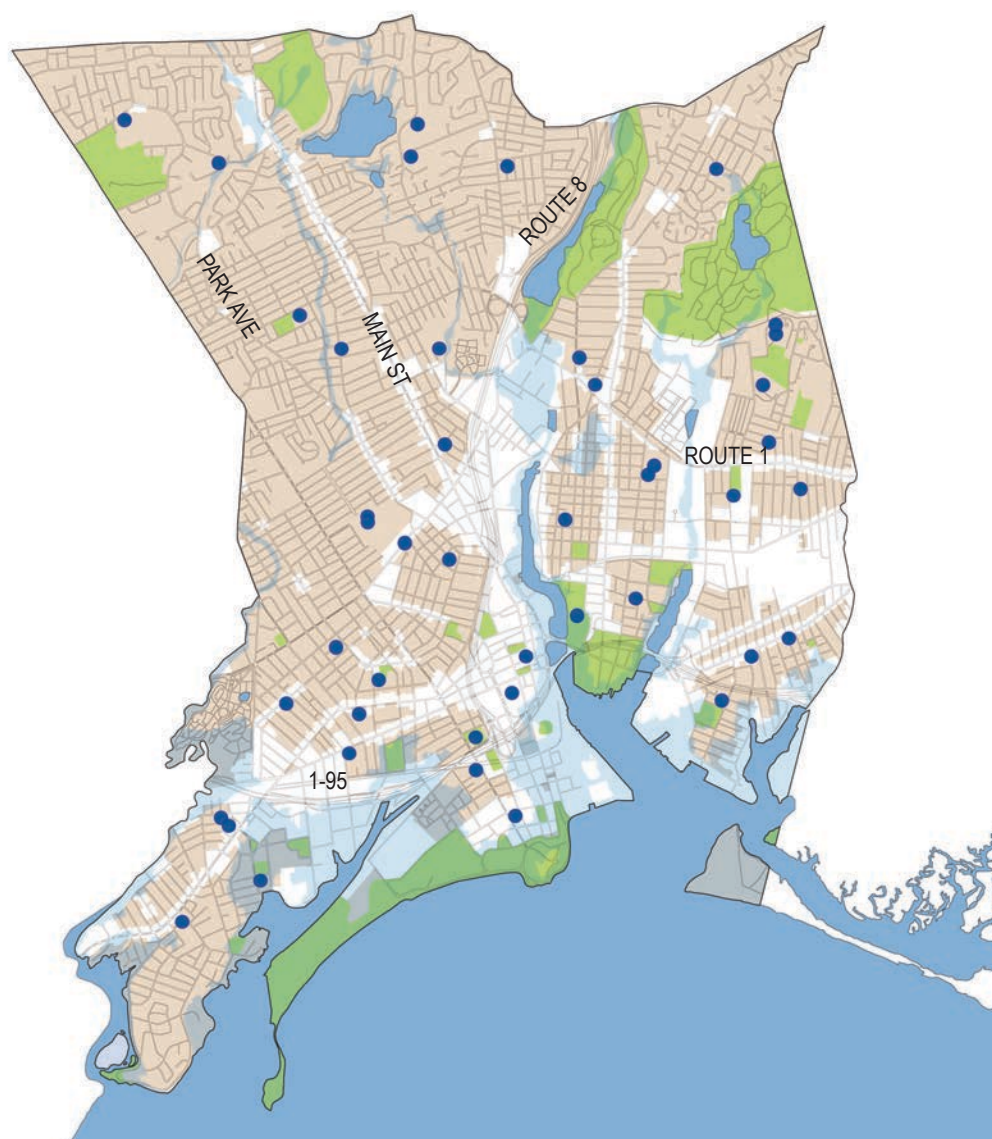
SCHOOLS

- School
- Housing
- 100 Year Flood
- Parks

PARK AVE

MAIN ST

ROUTE 8

ROUTE 1

I-95
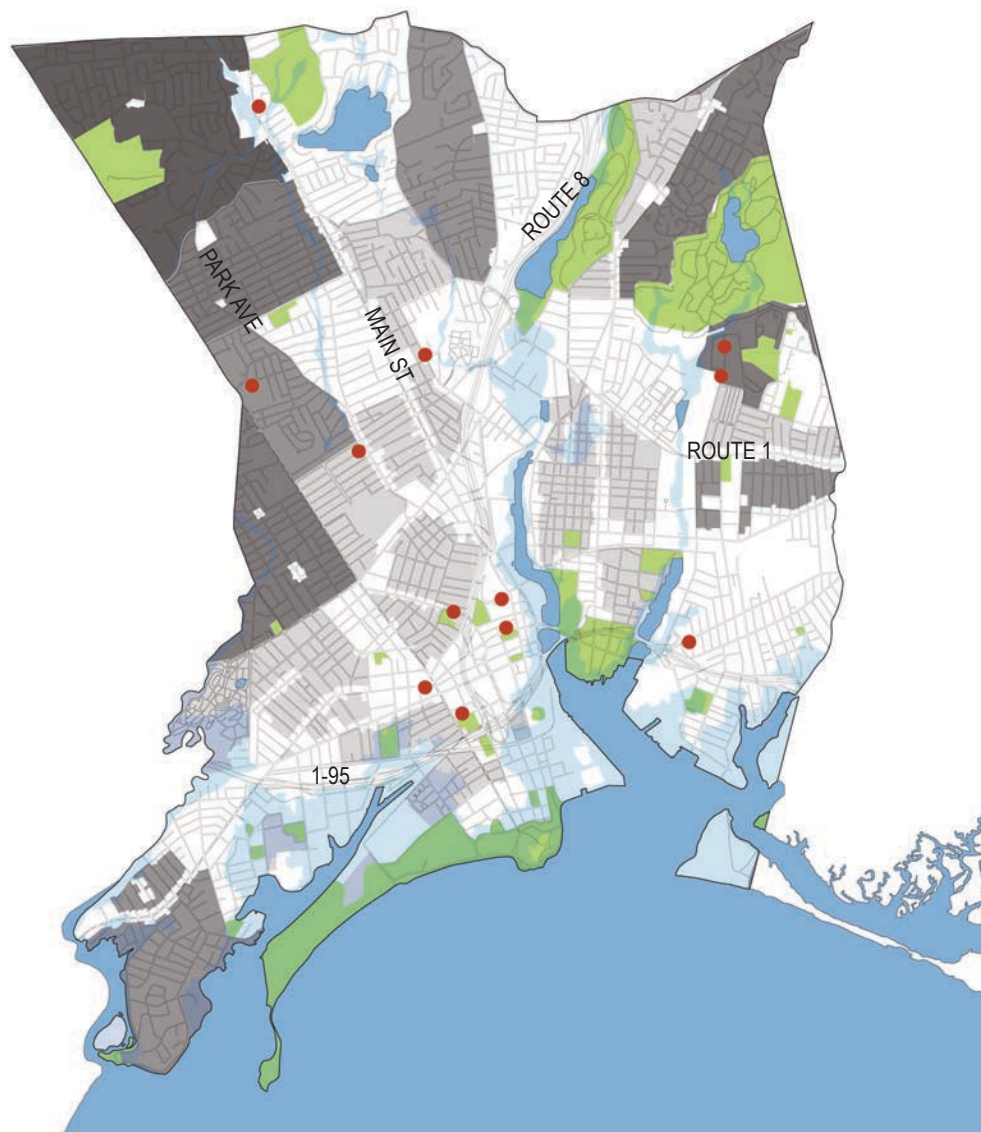
SENIOR CARE

● Nursing Homes, Assisted Living, Senior Care

People over 65
- 25 - 240
- 240 - 400
- 400 - 560
- 560 - 750
- 750 - 1100

Parks

100 Year Flood

PARK AVE

MAIN ST

ROUTE 8

ROUTE 1

I-95

*PARKS AND RECREATION

Parks

Housing

100 Year Flood

PARK AVE

MAIN ST

ROUTE 8

ROUTE 1

I-95

FOOD ACCESS

● Supermarkets

Parks

Housing
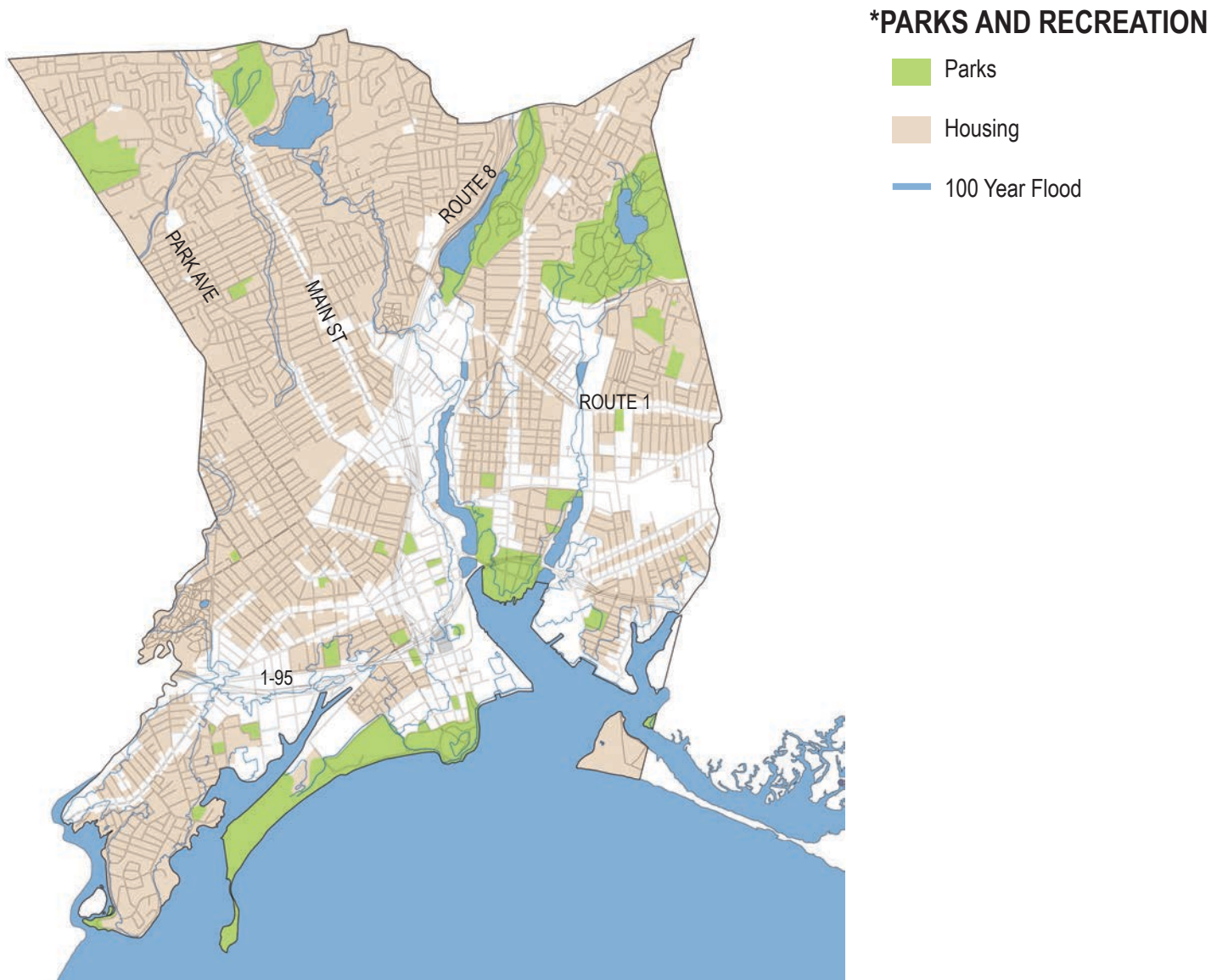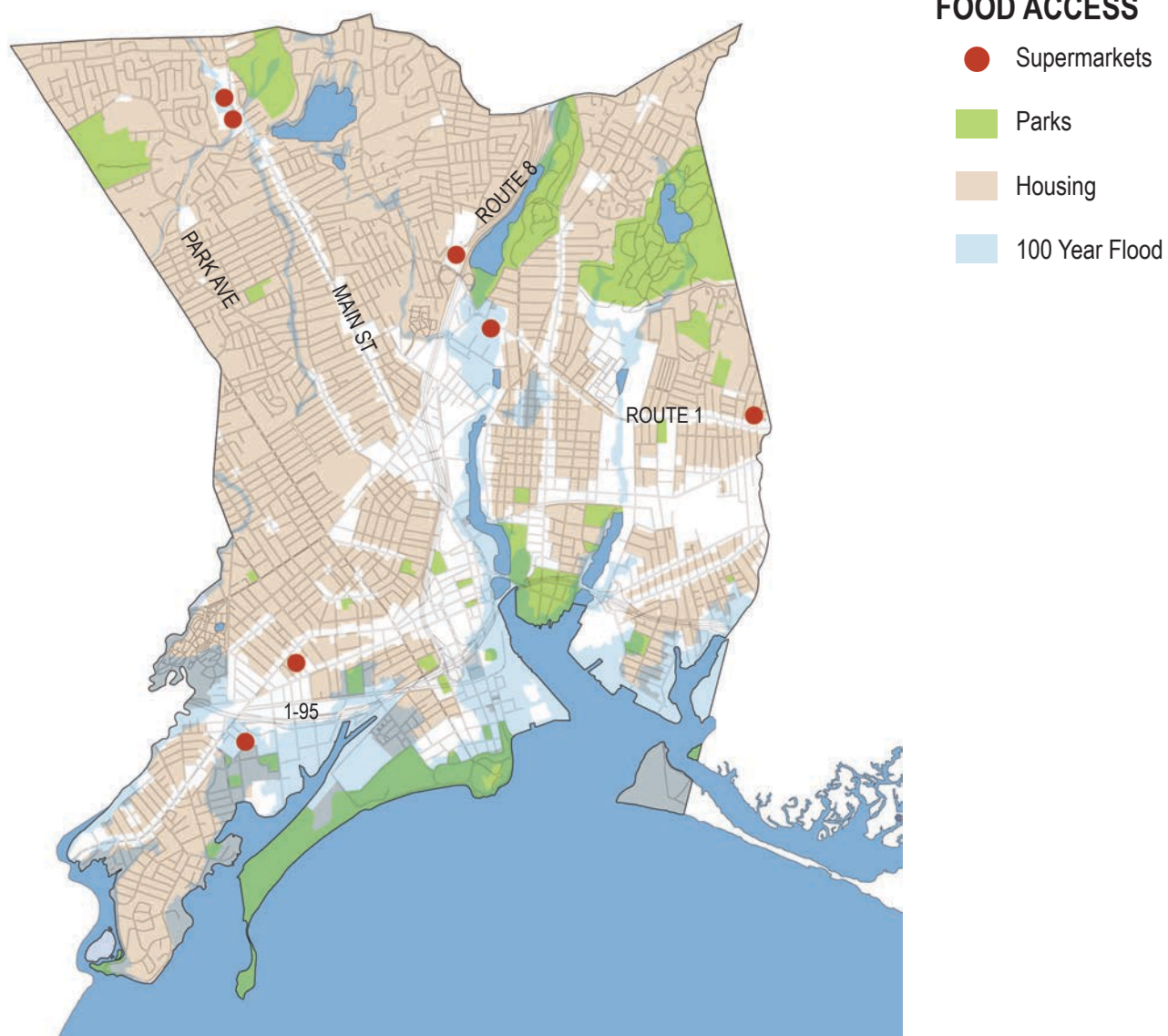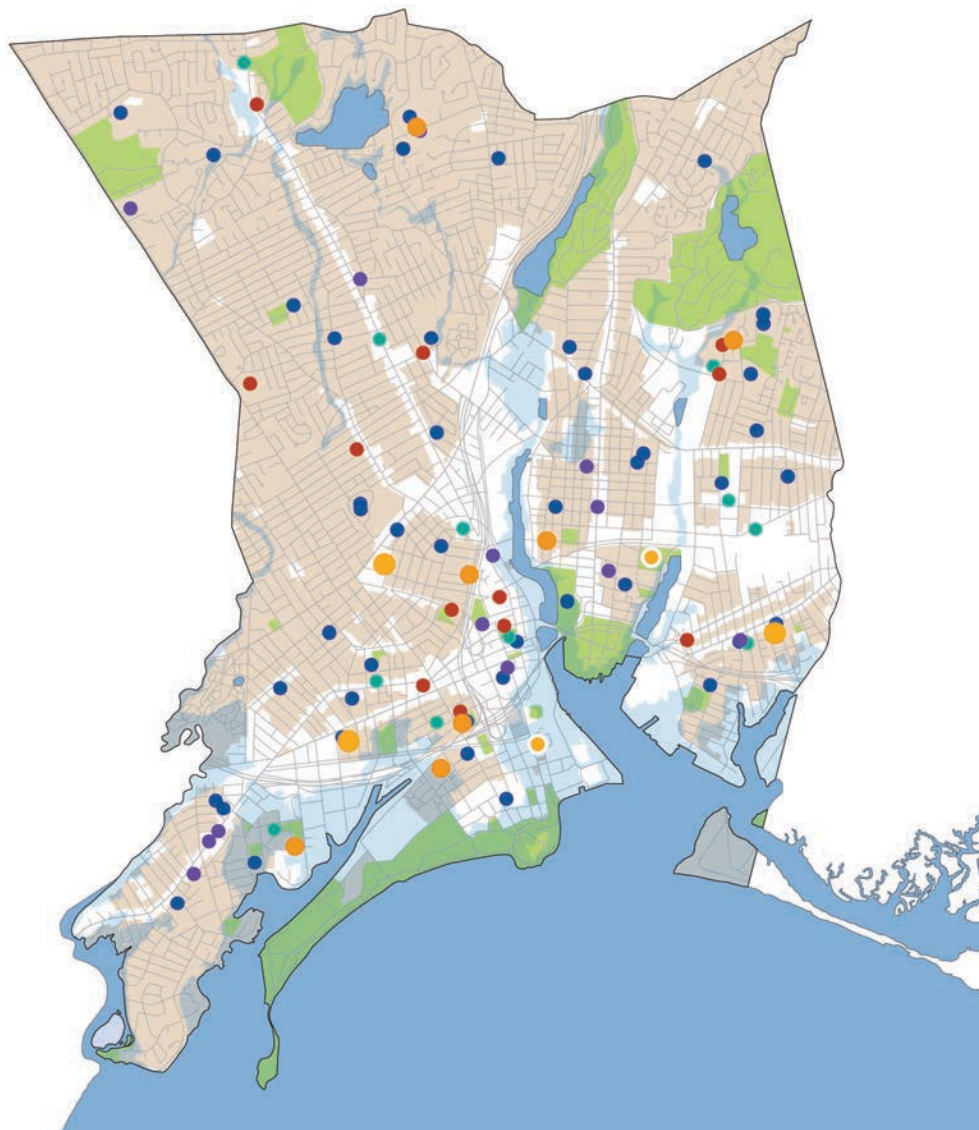
100 Year Flood

FACILITIES

- 🔵 Schools
- 🟠 Bridgeport Housing Authority
- 🔴 Senior Care
- 🟢 Health Facility
- 🟣 Community Center
- 🟩 Parks
- 🟦 100 Year Flood
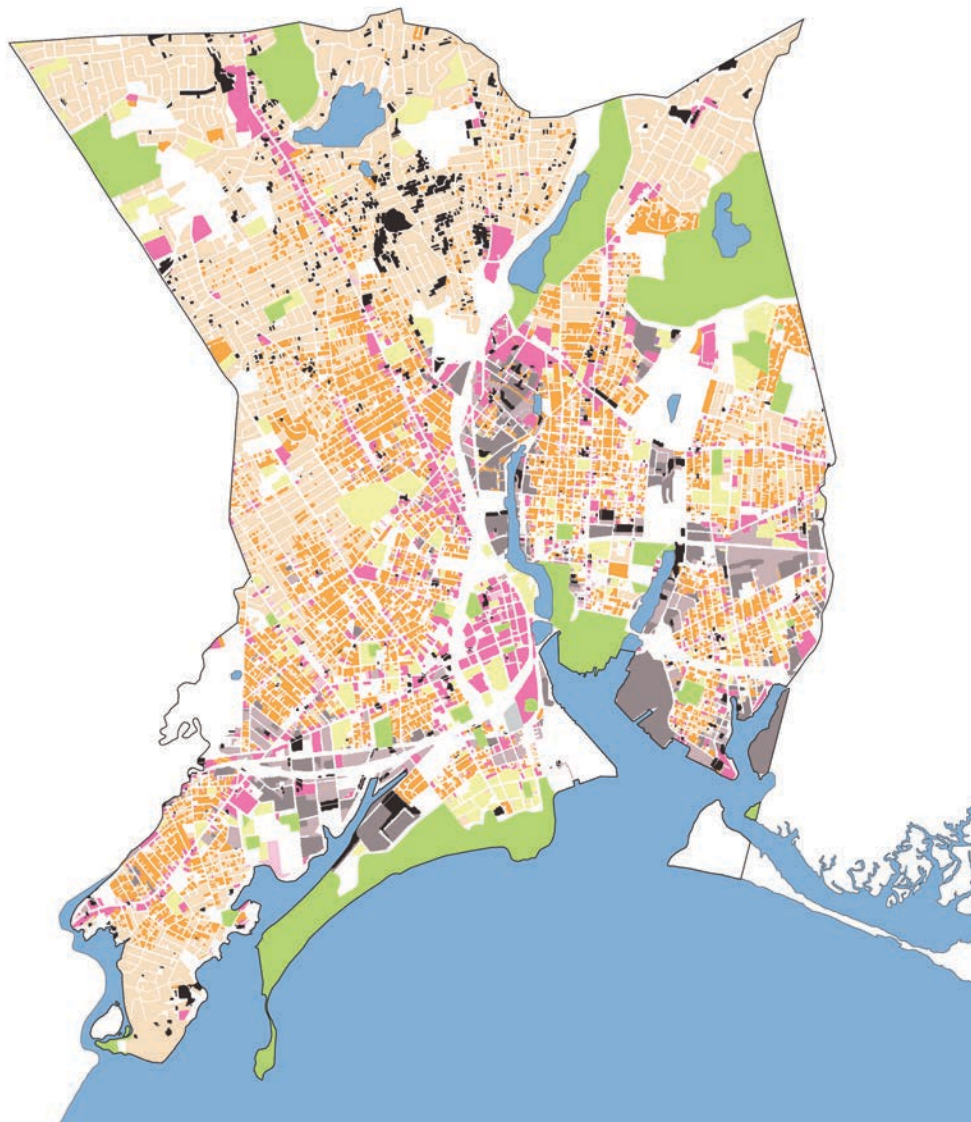
*LAND USE

- Residential High Density
- Residential Low Density
- Mixed Use
- Commercial
- Institution
- Heavy Industrial
- Light Industrial
- Vacant
- Park

Data sources: CLEAR, ConnDOT, CT DEEP, FEMA, nbcconnetticut.com, UConn MAGIC

JERSEY CITY

SKYWAY

JFK BLVD

DANFORTH

*SATELLITE MAP

— 100 Year Flood

— Municipal Border
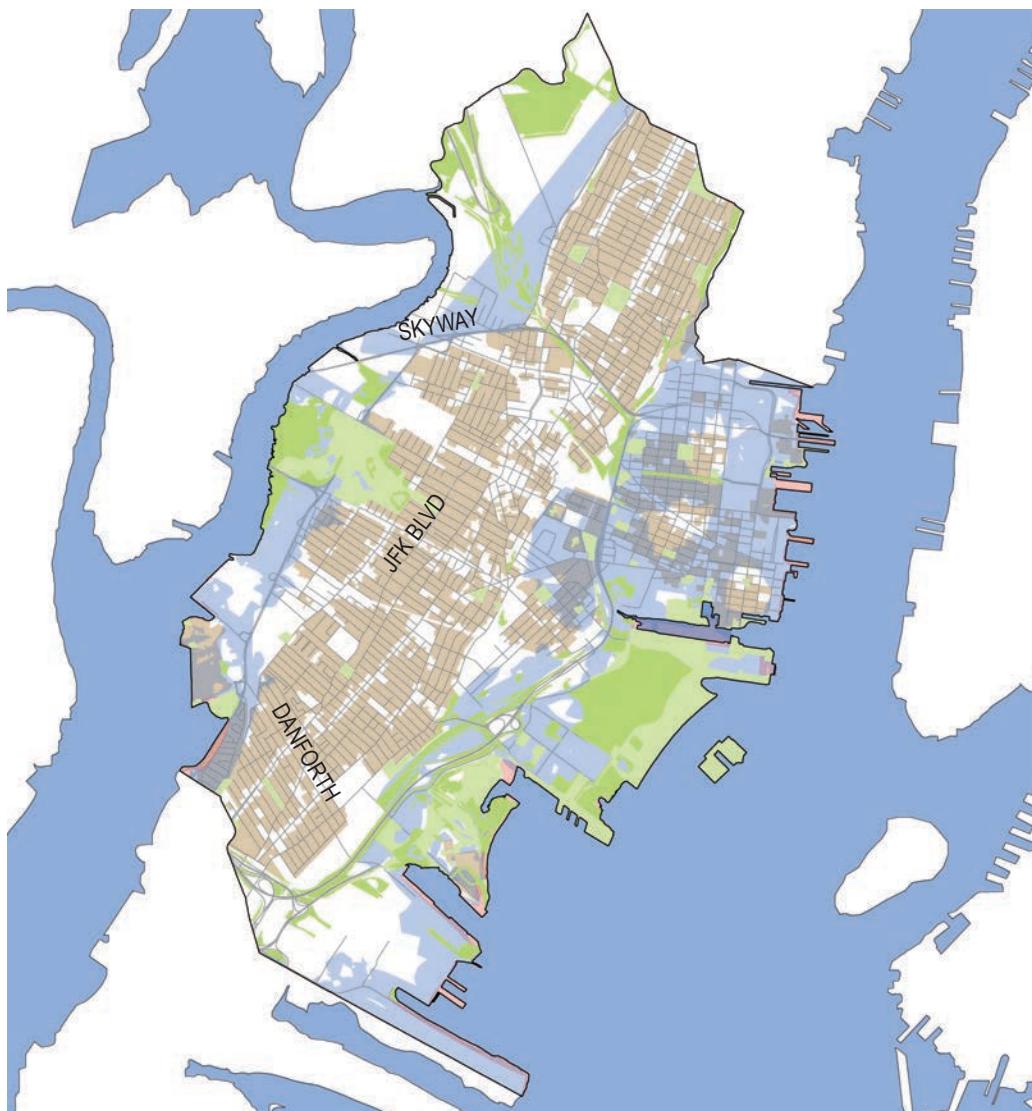
*100 YEAR FLOOD

Housing

100 Year Flood - Zone AE
1% annual chance of flood

100 Year Flood - Zone VE
1% annual chance of
flood plus risks from high-
velocity wave action

Parks and Open Space
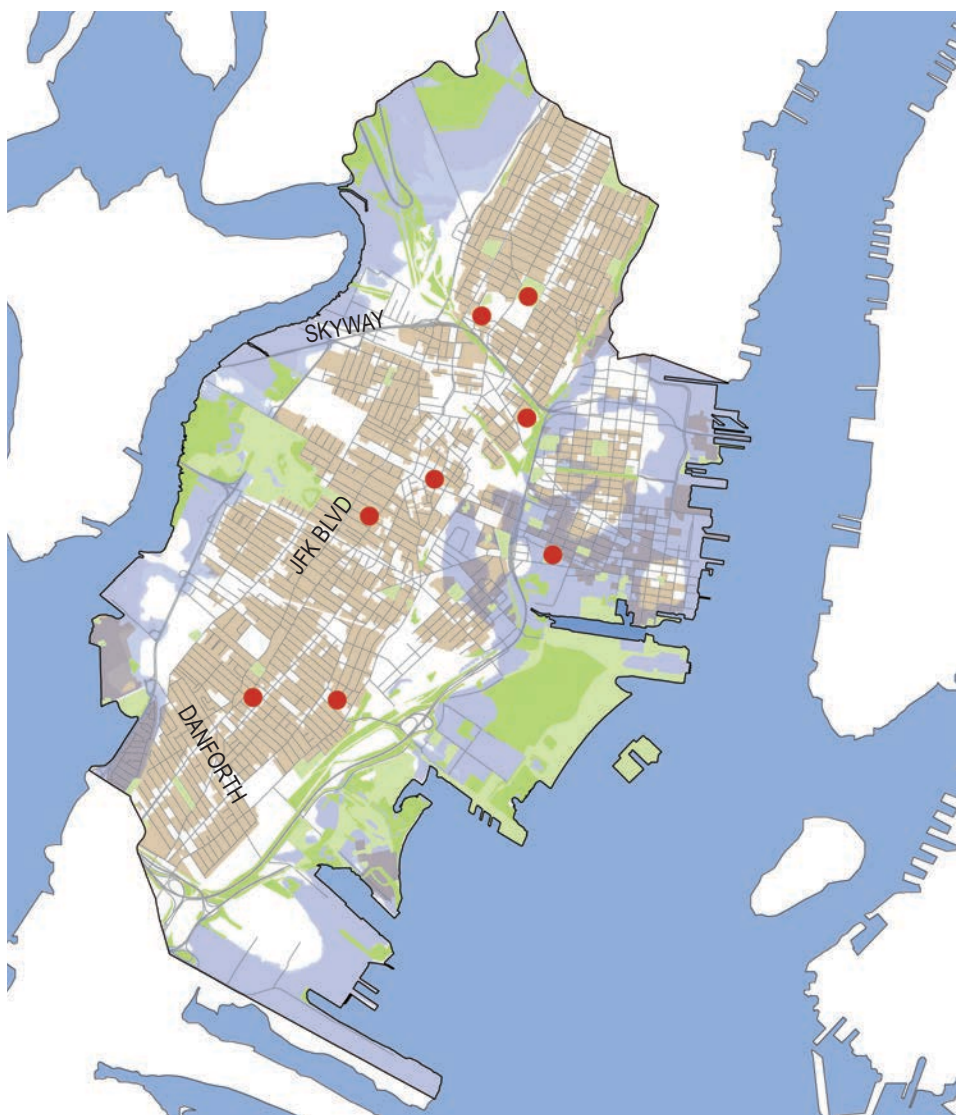
SANDY INUNDATION

- Housing
- Parks and Open Space
- Sandy Inundation
- Shelter

SKYWAY

JFK BLVD

DANFORTH

*EVACUATION ROUTES

- Housing
- 100 Year Flood
- Parks and Open Space
- Evacuation Routes
- Shelter

*TOPOGRAPHY

132 feet

30

0

POPULATION DENSITY

By Census Tract

	0 - 2400
	2401 - 3600
	3601 - 4600
	4601 - 6200
	6201 - 9700
	Parks and Open Space
	100 Year Flood

SKYWAY

JFK BLVD

DANFORTH
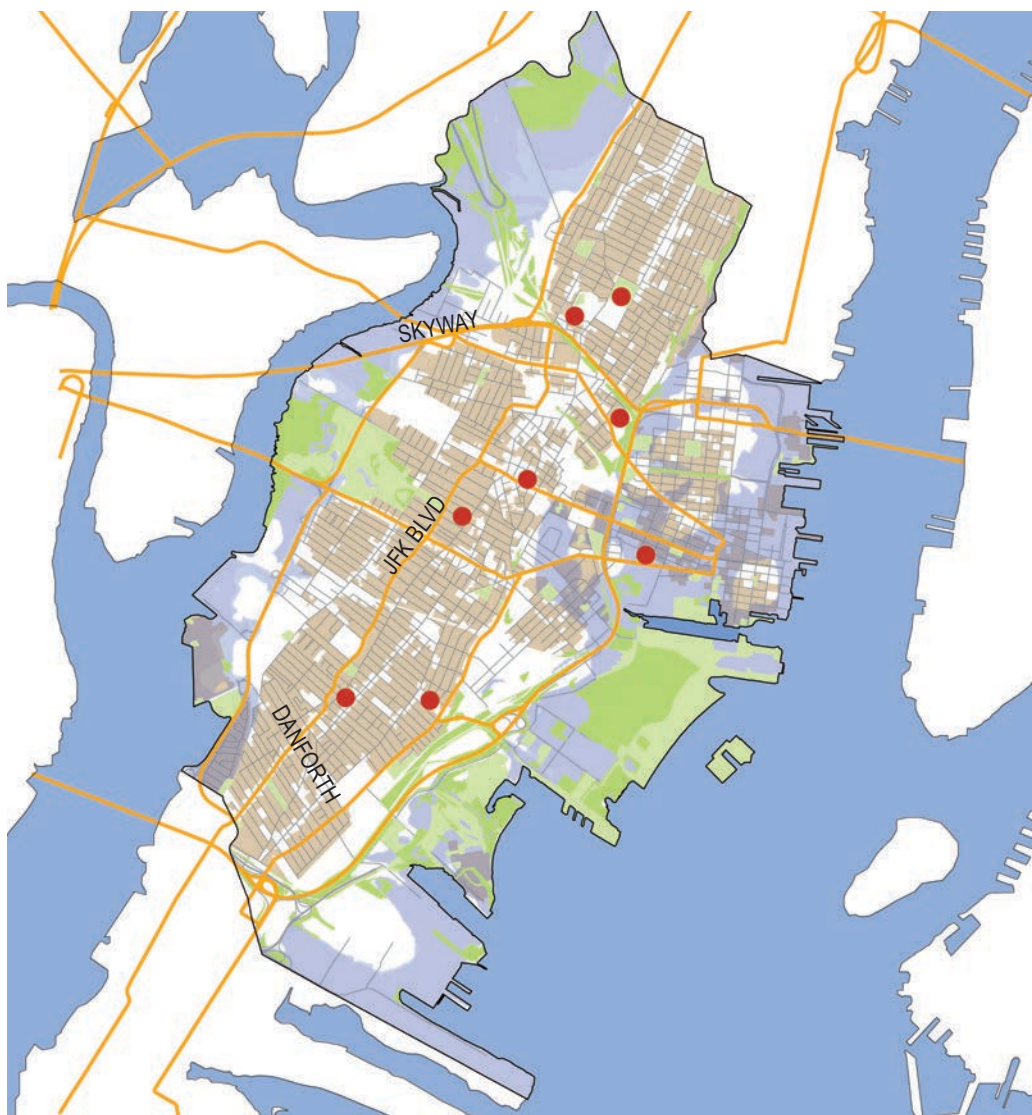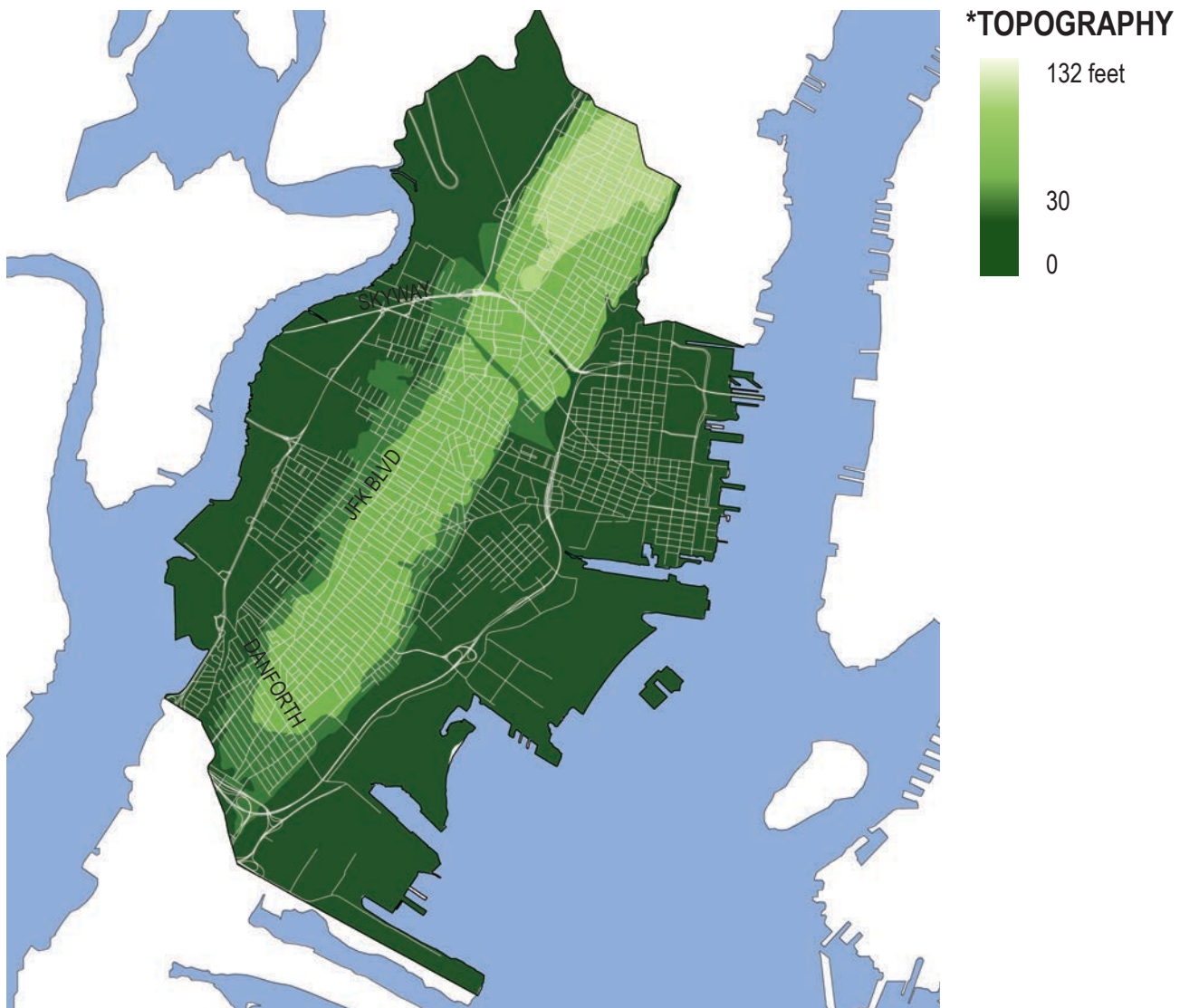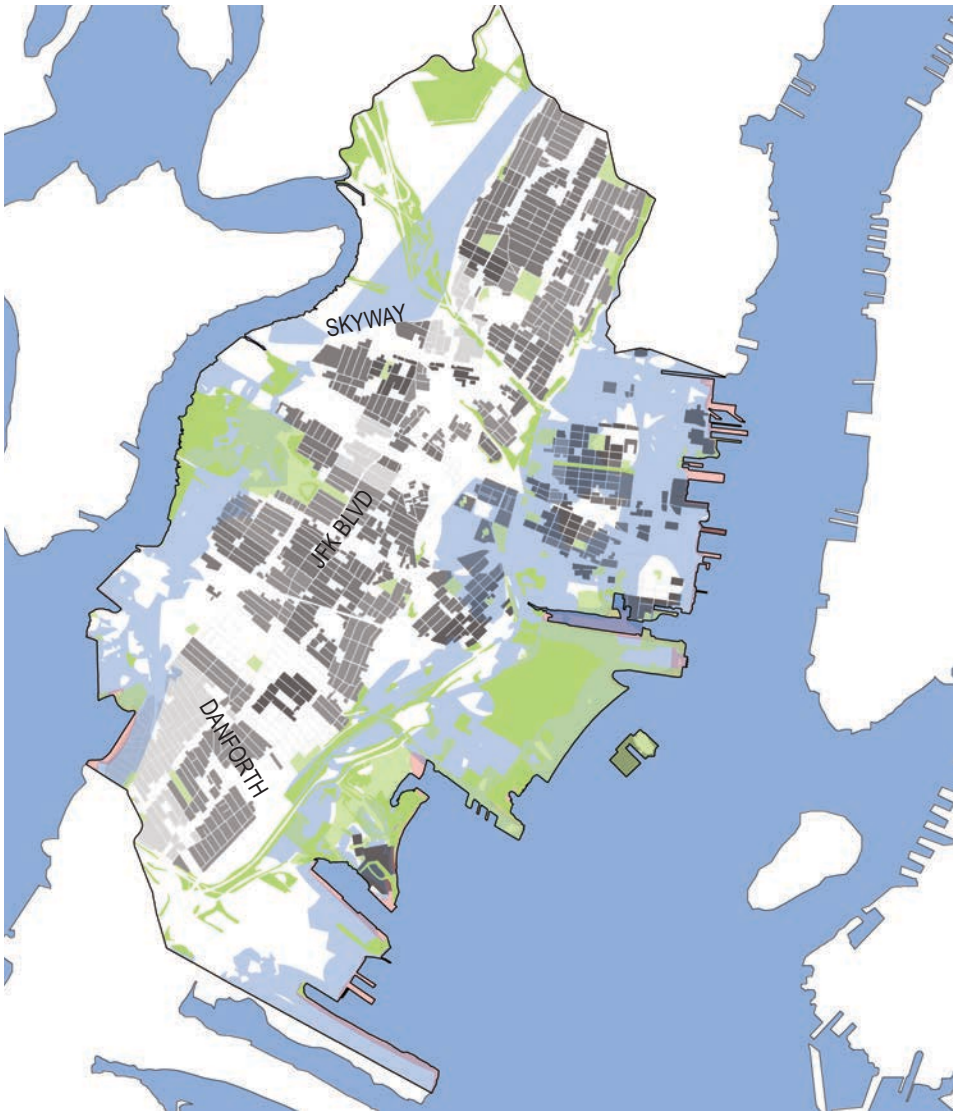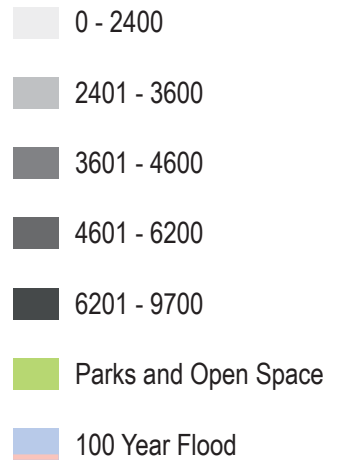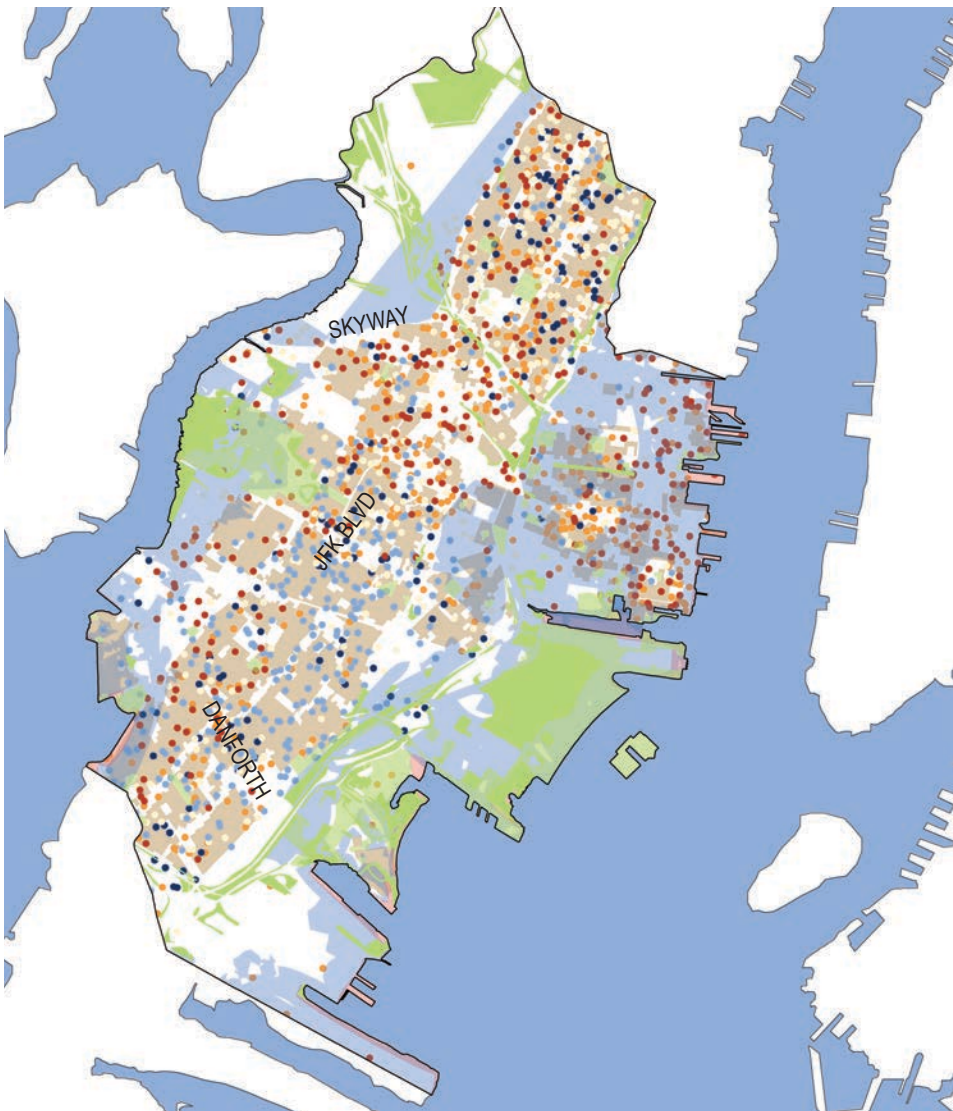
RACE

1 Dot = 200 People

● Asian

● Black / African American

● Hispanic / Latino

● White

● Other

Parks and Open Space

100 Year Flood

AREA MEDIAN INCOME

- < 50%
- 50 - 80%
- 80 - 120%
- 120 - 150%
- > 150%
- Parks and Open Space

% AMI is based on the Census Bureau's median household income estimate of $58,722 for Jersey City.
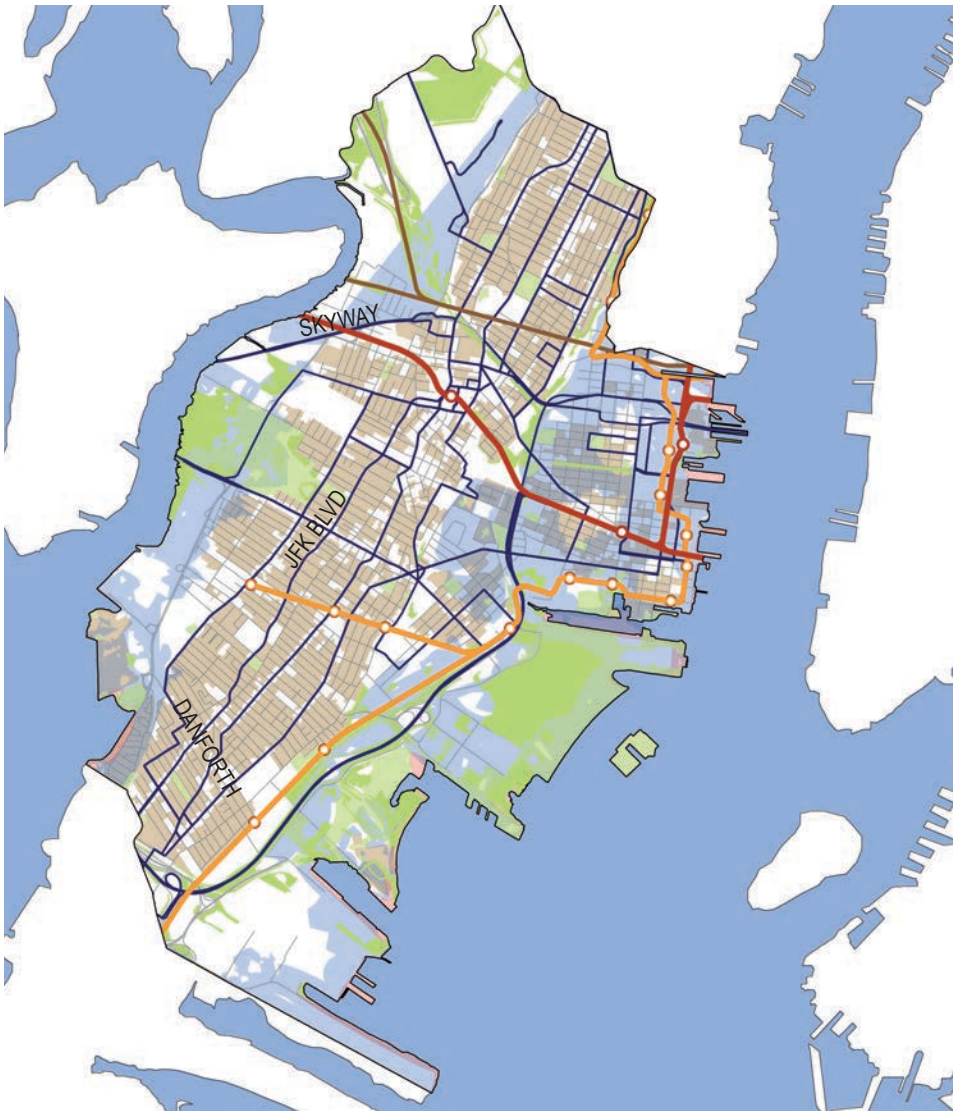
TRANSPORTATION

— Light Rail

— PATH Train

— NJ Transit

— Public Bus Routes

Housing

Parks and Open Space
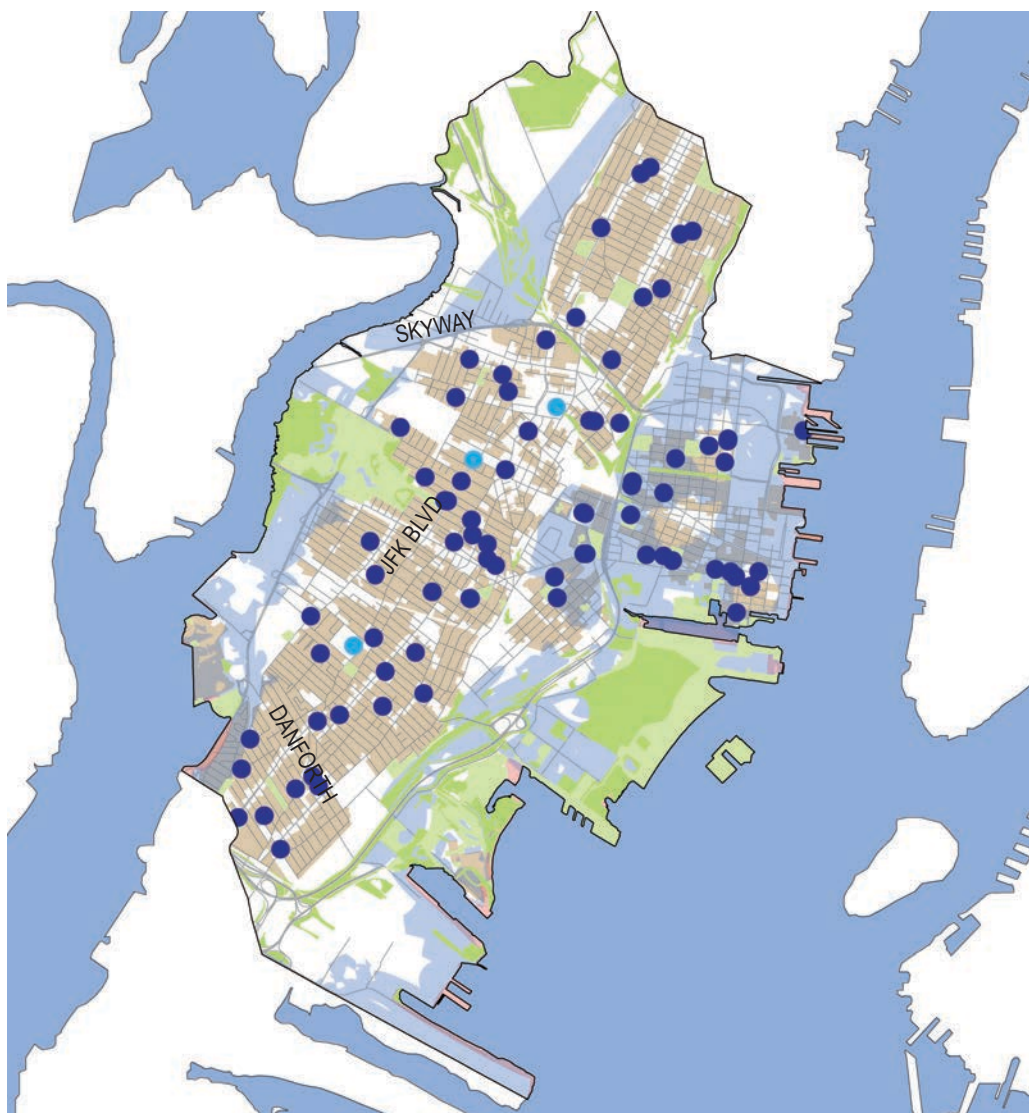
100 Year Flood

SCHOOLS

● Schools

● College/University

Housing

100 Year Flood
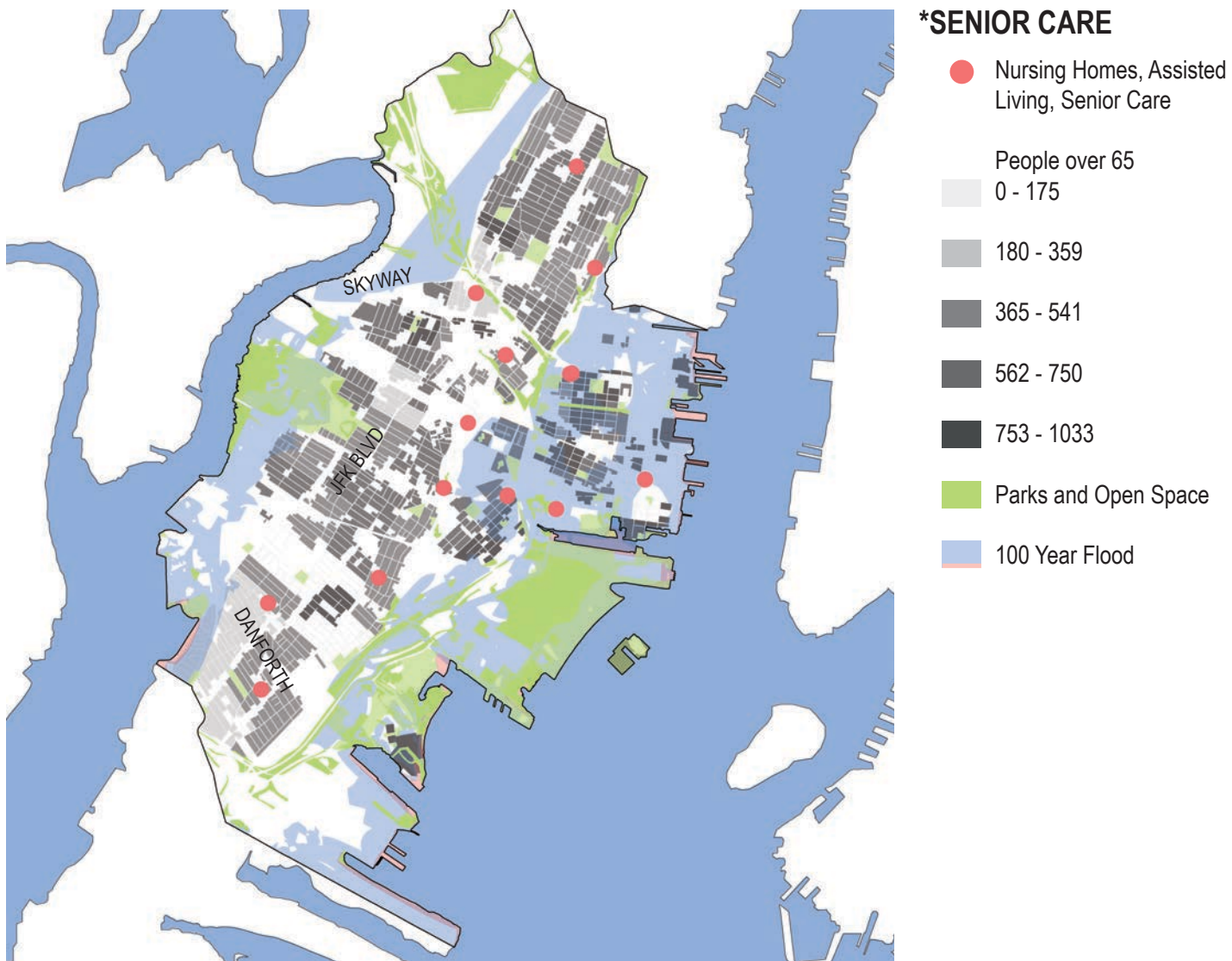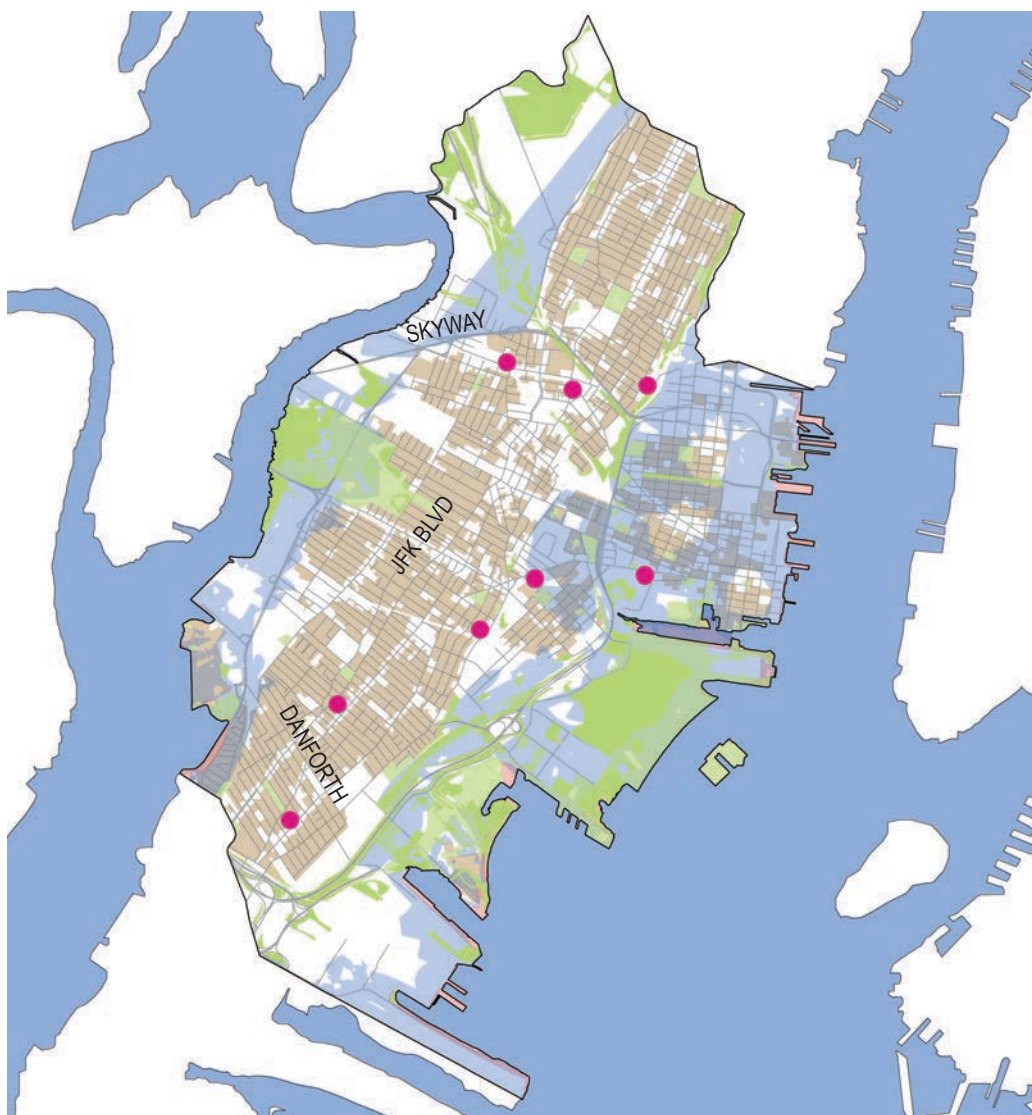
Parks and Open Space

SKYWAY

JFK BLVD

DANFORTH

*SENIOR CARE

● Nursing Homes, Assisted Living, Senior Care

People over 65

- 0 - 175
- 180 - 359
- 365 - 541
- 562 - 750
- 753 - 1033

Parks and Open Space

100 Year Flood

SKYWAY

JFK BLVD

DANFORTH

*HEALTH FACILITIES

● Health Facility

▨ Housing

▨ 100 Year Flood

▨ Parks and Open Space

SKYWAY

JFK BLVD

DANFORTH
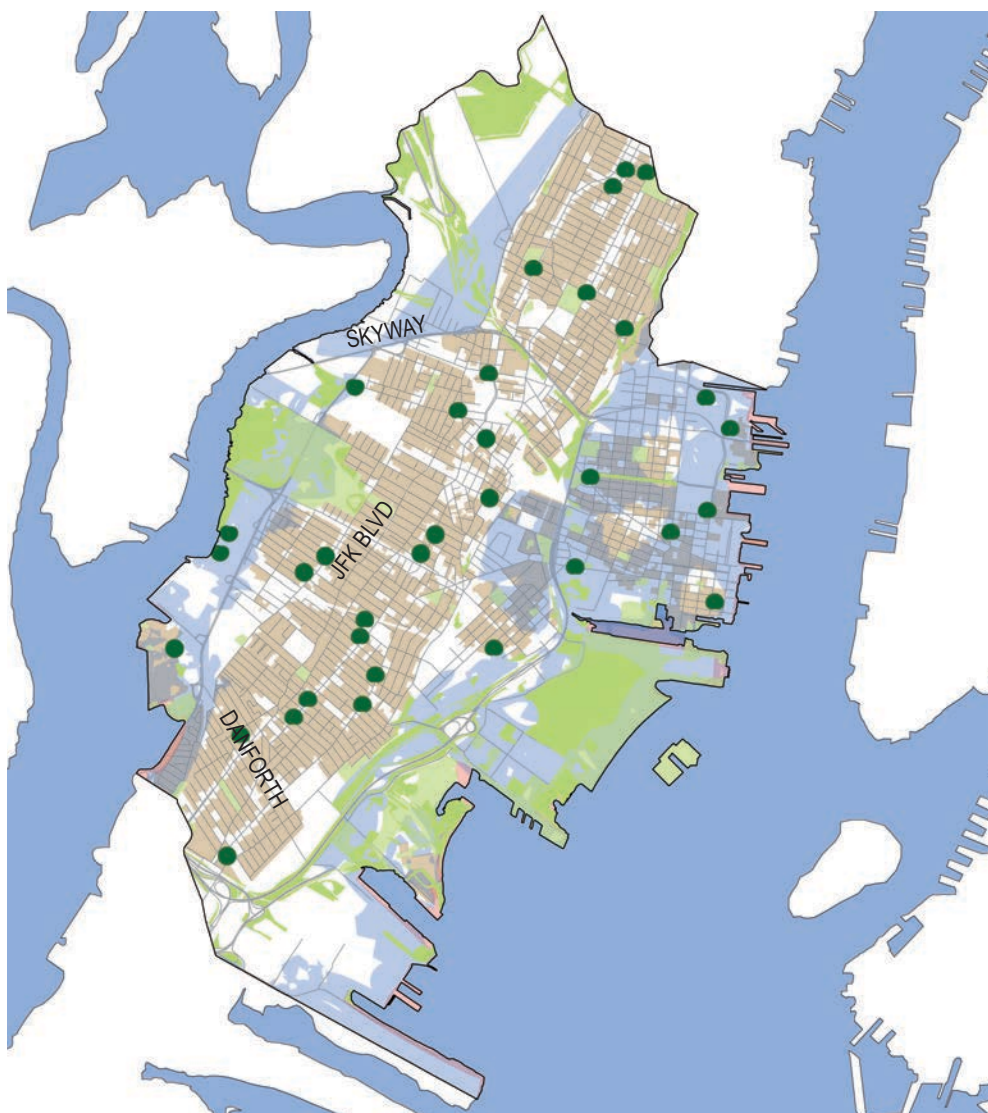
FOOD ACCESS

● Supermarket

▮ Parks and Open Space

▮ Housing

▮ 100 Year Flood

PARKS AND OPEN SPACE

Housing

100 Year Flood Boundary

Wetland

Parks

SKYWAY

JFK BLVD

DANFORTH
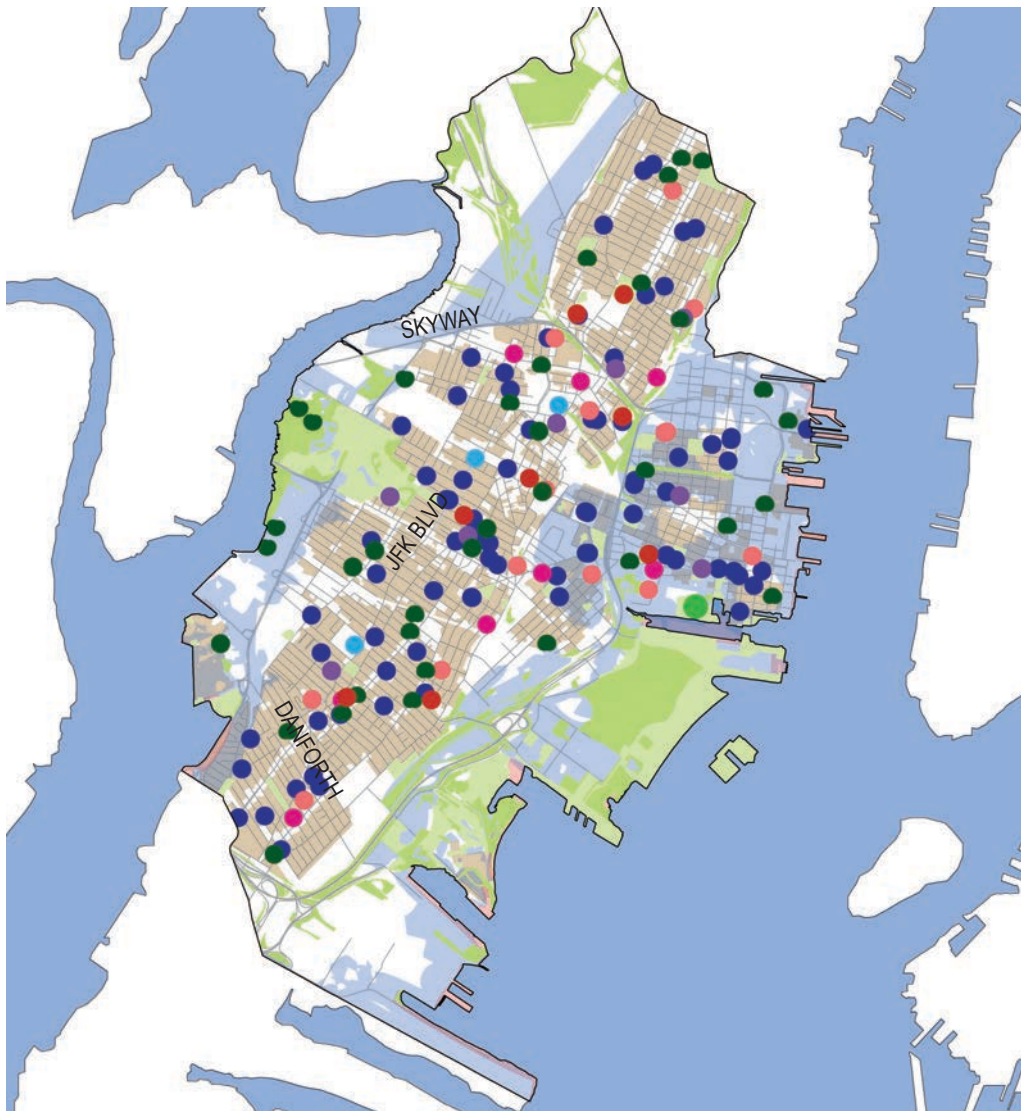
FACILITIES

- ● Supermarket
- ● School
- ● College / University
- ● Senior Care
- ● Health Facility
- ● Liberty Park Harbor RV
- ● Community Centers
- Wetland
- Parks
- Housing
- 100 Year Flood

SKYWAY

JFK BLVD

DANFORTH

*LAND USE

- Residential High Density
- Mixed Urban Land
- Cultural Facility
- Wetland
- Recreational Land
- Transportation + Utilities
- Unused

SKYWAY

JFK BLVD

DANFORTH

Data sources: FEMA, NJDEP, NJGIN, NJOEM, nj.com, US EPA, USGS, US Census Bureau

SHEEPSHEAD BAY

*SATELLITE MAP

— 100 Year Flood

KINGS HIGHWAY

OCEAN PARKWAY

AVENUE U

AVENUE X

BELT PARKWAY

*100 YEAR FLOOD

Housing

100 Year Flood

Parks and Open Space

KINGS HIGHWAY

OCEAN PARKWAY

AVENUE U

AVENUE X

BELT PARKWAY

*SANDY INUNDATION

Housing

Parks and Open Space

100 Year Flood

Sandy Inundation

Police Precinct

KINGS HIGHWAY

OCEAN PARKWAY

AVENUE U

AVENUE X

BELT PARKWAY
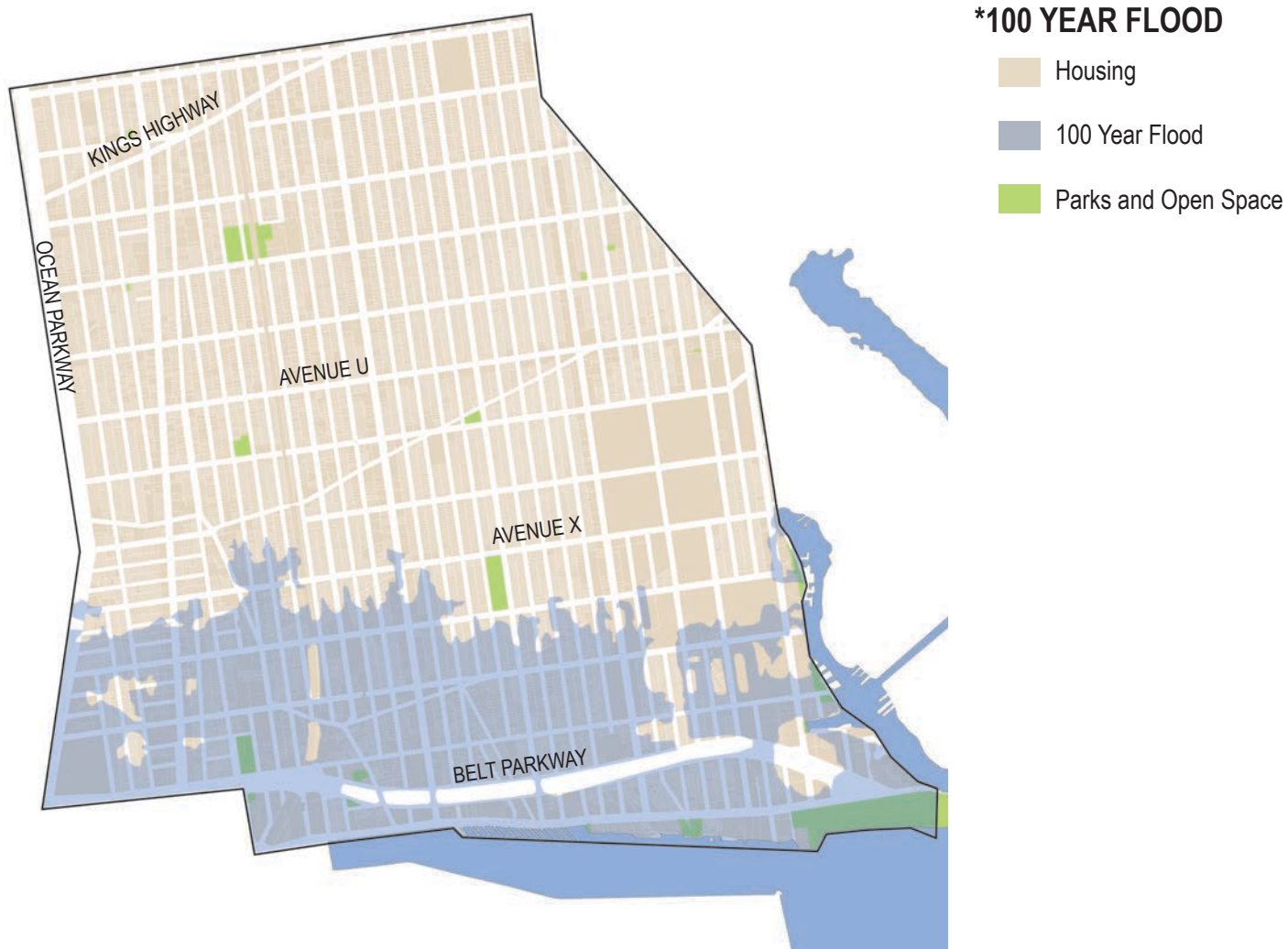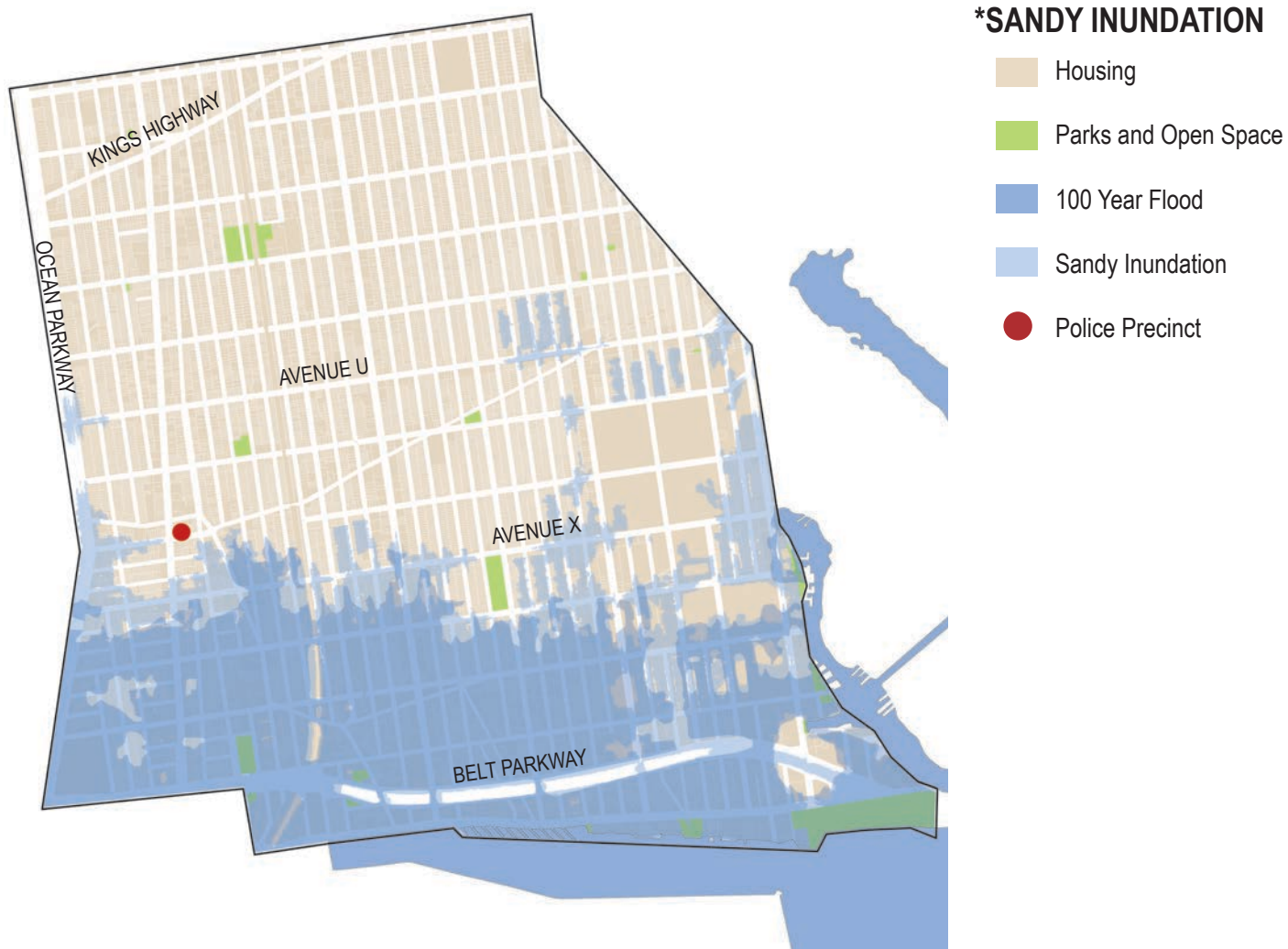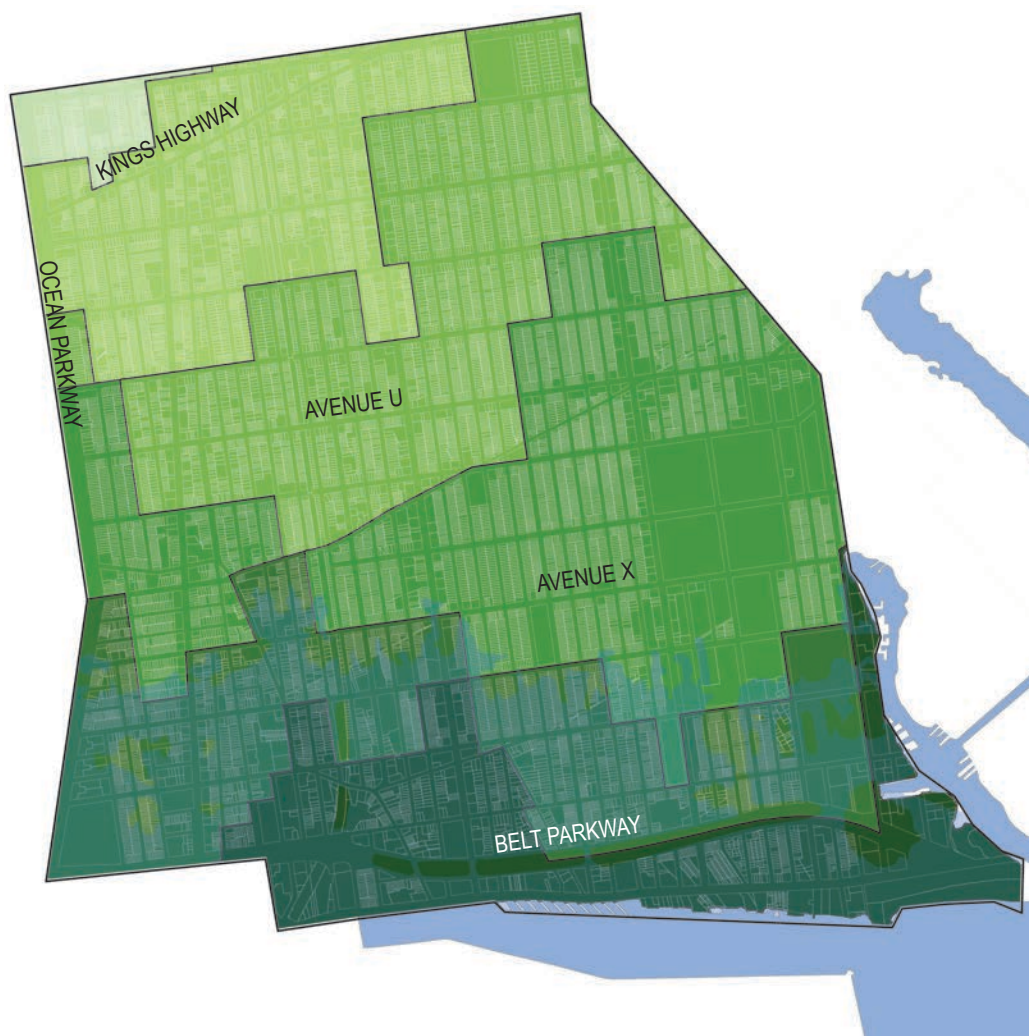
*EVACUATION ZONES

- ■ Zone 1
- ■ Zone 2
- ■ Zone 3
- ■ Zone 4
- ■ Zone 5
- ☐ Property Lines
- ■ 100 Year Flood

The approximate population in evacuation zones 1+2 is 31,786 people, based on census tract populations.

During Sandy, the closest evacuation center was Franklin D. Roosevelt highschool at 5800 20th avenue.

TOPOGRAPHY

Buildings

18+

6

0

KINGS HIGHWAY

OCEAN PARKWAY

AVENUE U

AVENUE X

BELT PARKWAY
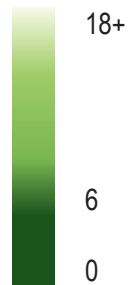
RACE

1 Dot = 20 People

- ● Asian
- ● Black / African American
- ● Hispanic / Latino
- ● White
- ● Other
- ▮ Parks and Open Space
- ▮ 100 Year Flood

AREA MEDIAN INCOME

■ < 30%

■ 30 - 50%

■ 50 - 80%

□ 80 - 120%

□ > 120%

■ Parks and Open Space

Percentages are based on the 2007-2011 American Community Survey and FY2014 HUD income estimates for Kings County: $62,213.

KINGS HIGHWAY

OCEAN PARKWAY

AVENUE U

AVENUE X

BELT PARKWAY

TRANSPORTATION

- ☐ MTA Bus Routes
- ▮ Q and B Subways
- ▮ Housing
- ▮ Parks and Open Space
- ▮ 100 Year Flood

KINGS HIGHWAY

OCEAN PARKWAY

AVENUE U

AVENUE X

BELT PARKWAY
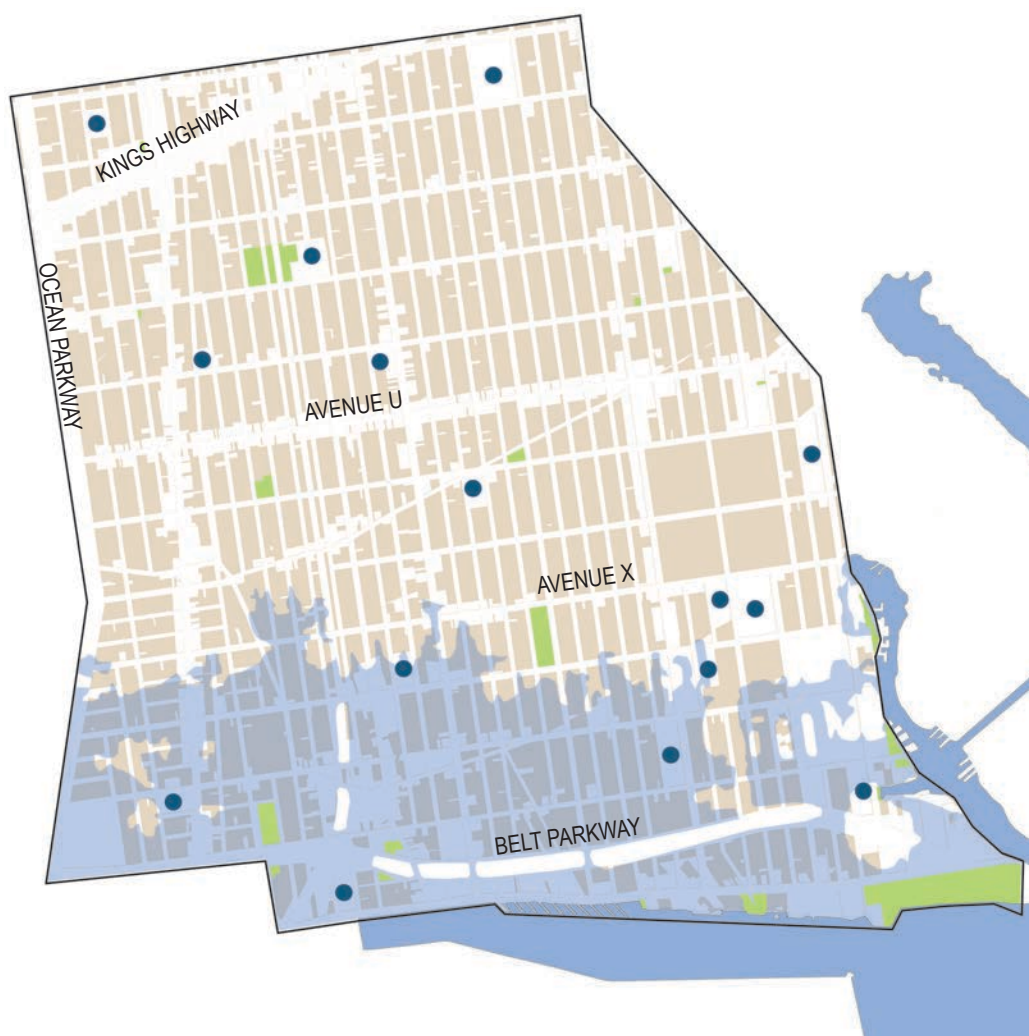
SCHOOLS

● Schools

■ Housing

■ 100 Year Flood

■ Parks and Space

KINGS HIGHWAY

OCEAN PARKWAY

AVENUE U

AVENUE X

BELT PARKWAY
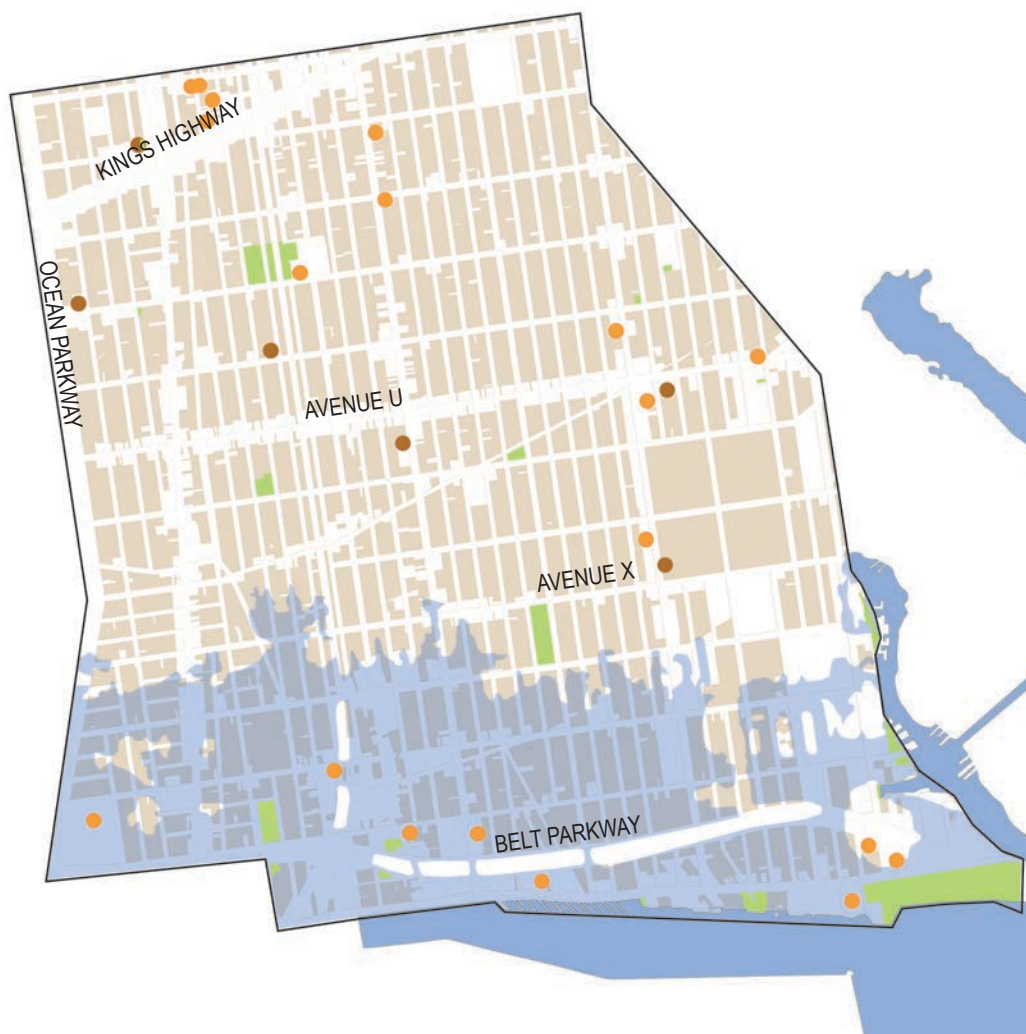
SENIOR CARE

- 🟠 Senior Home, Hospice
- 🟤 Senior Center
- ⬜ Housing
- 🟩 Parks and Open Space
- 🟦 100 Year Flood

KINGS HIGHWAY

OCEAN PARKWAY

AVENUE U

AVENUE X

BELT PARKWAY
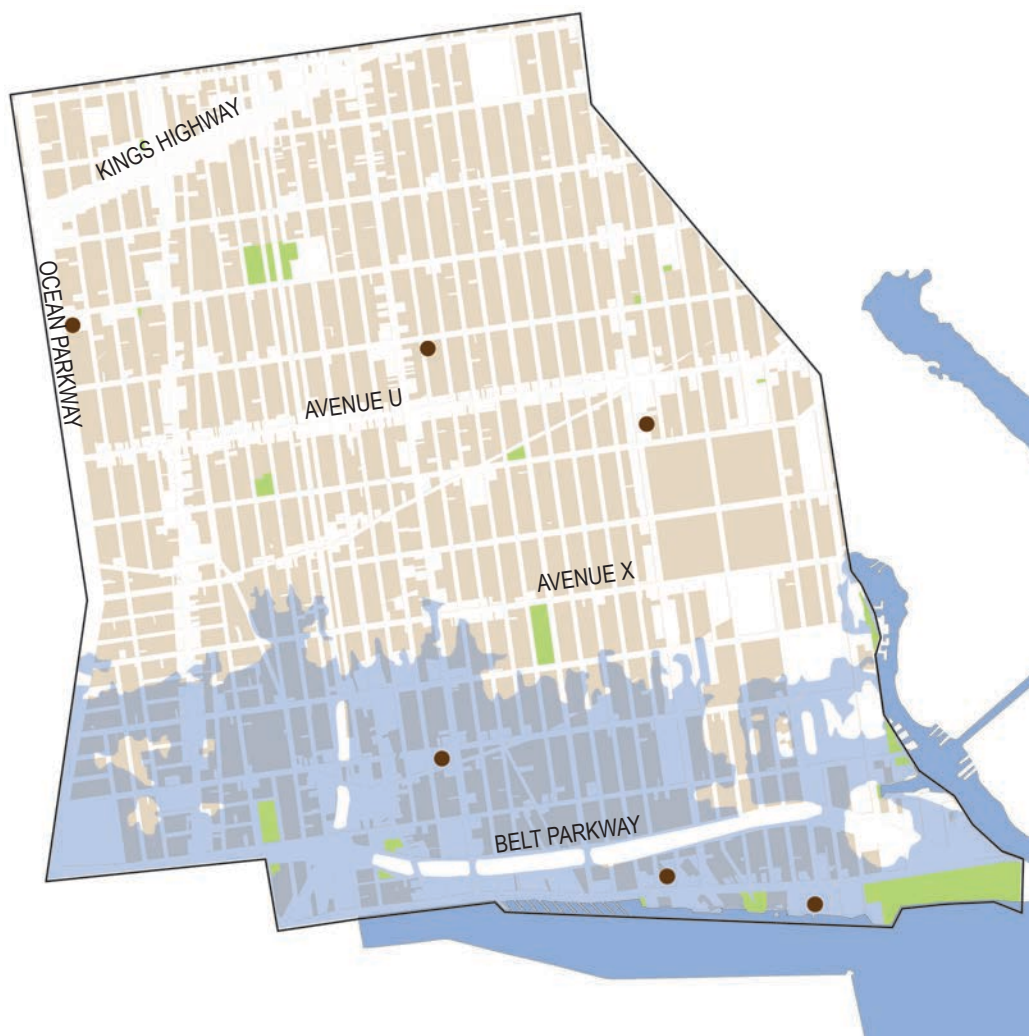
COMMUNITY CENTERS

● Community Center

▨ Housing

▨ 100 Year Flood

▨ Parks

KINGS HIGHWAY

OCEAN PARKWAY

AVENUE U

AVENUE X

BELT PARKWAY
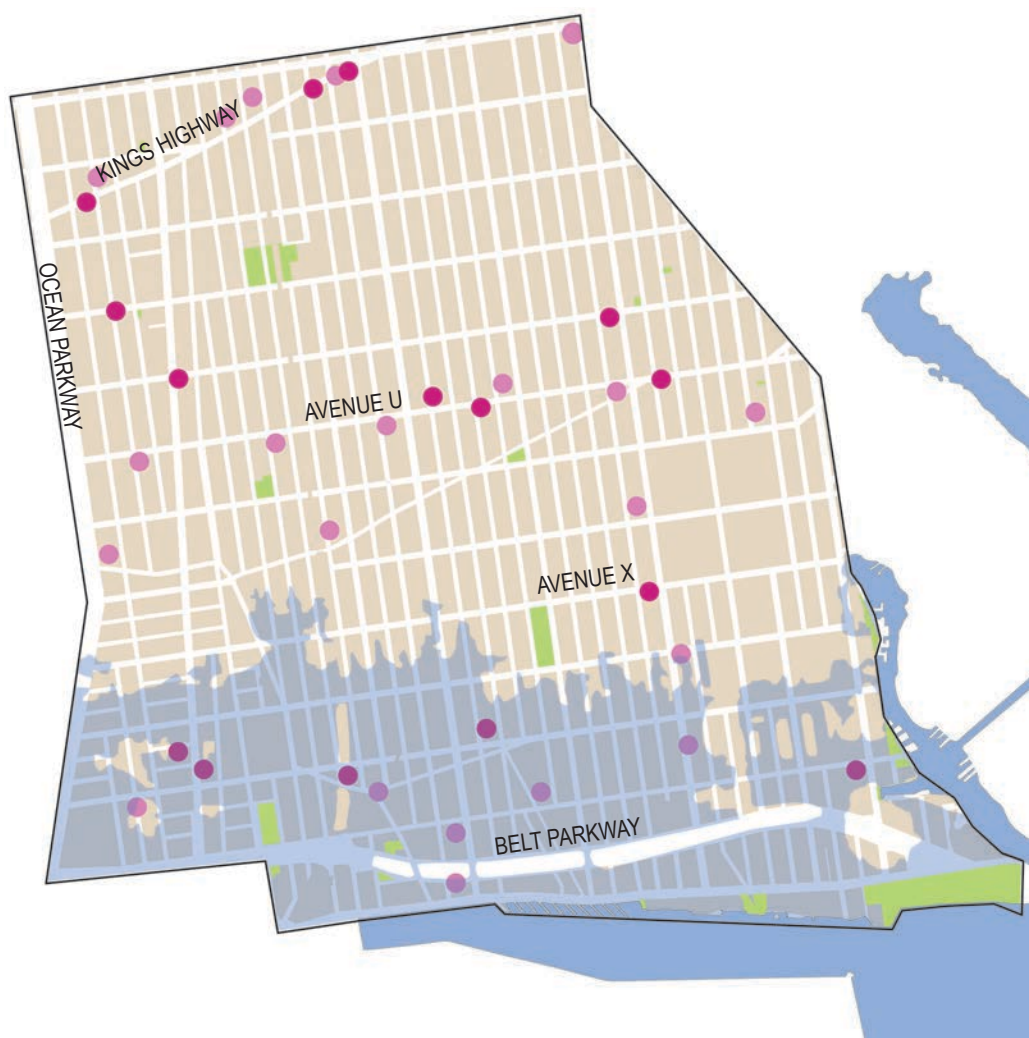
FOOD ACCESS

- Super Market
- Corner Store
- Housing
- Parks
- 100 Year Flood

KINGS HIGHWAY

OCEAN PARKWAY

AVENUE U

AVENUE X

BELT PARKWAY
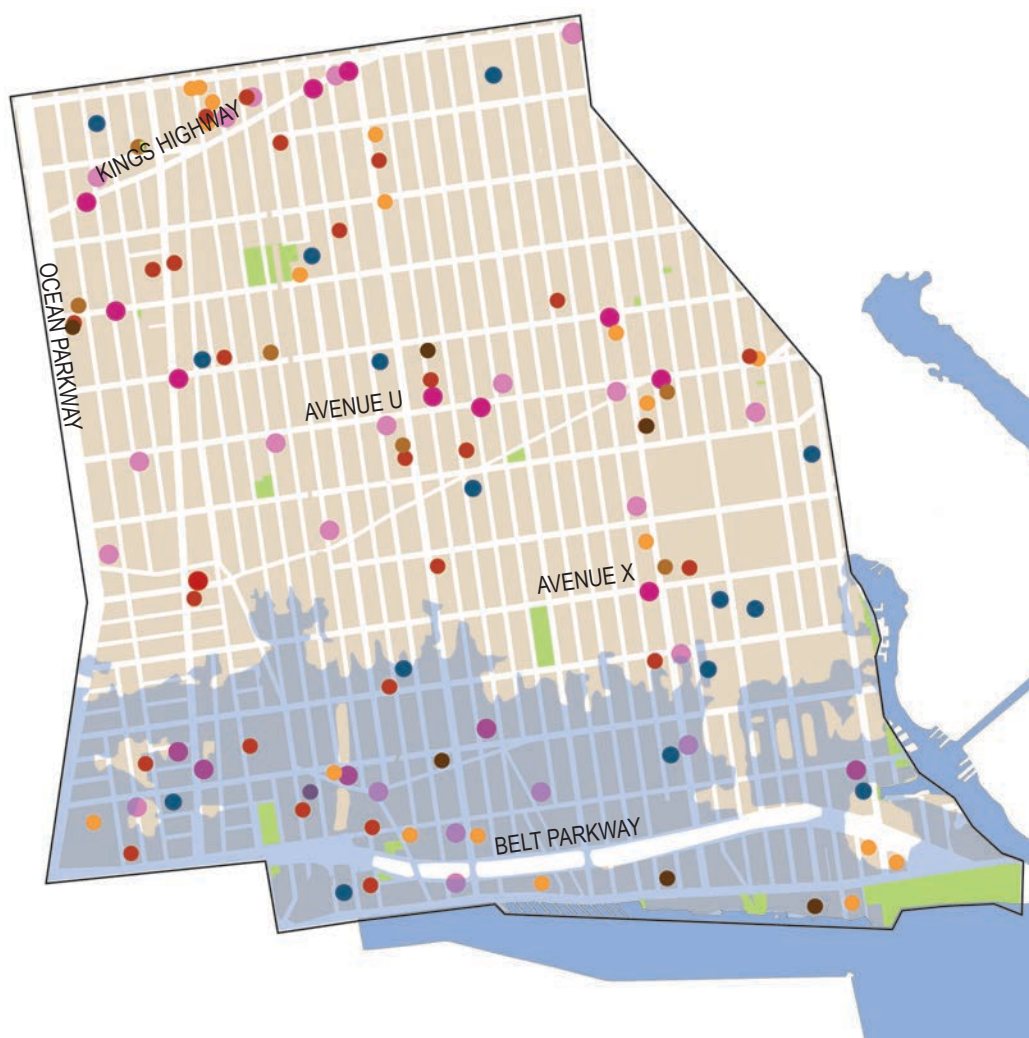
FACILITIES

- Community Center
- Senior Home, Hospice
- Senior Center
- Schools
- Supermarket
- Corner Store
- Housing
- Parks and Open Space
- 100 Year Flood

KINGS HIGHWAY

OCEAN PARKWAY

AVENUE U

AVENUE X

BELT PARKWAY
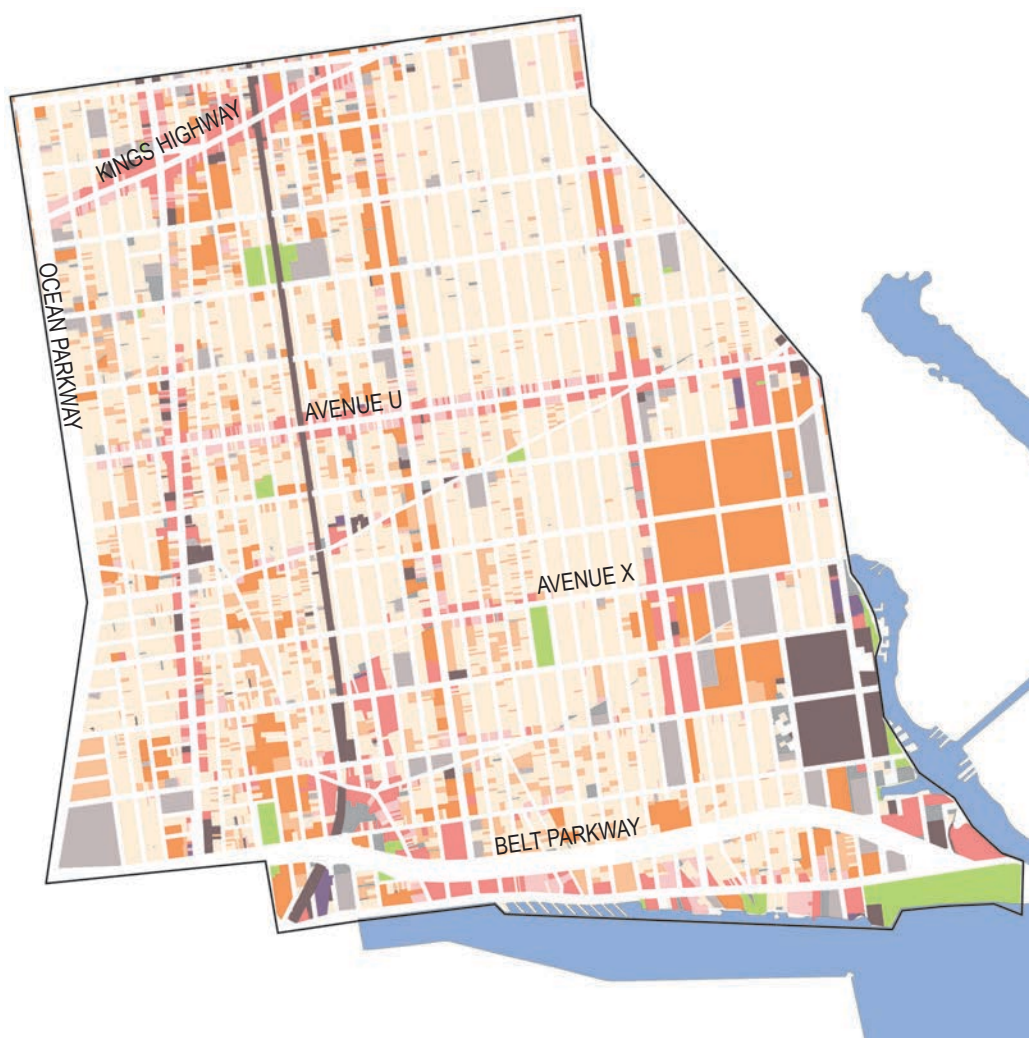
*LAND USE

- 1 + 2 Family Home
- Multi-family Walkup
- Multi-family Elevator
- Mixed Use
- Commercial
- Industrial
- Public Facility
- Public Open Space
- Parking and Utilities
- Vacant Land

KINGS HIGHWAY

OCEAN PARKWAY

AVENUE U

AVENUE X

BELT PARKWAY

Data sources: ESRI, FEMA, Google Earth, NYC DCP, NYCT, Romalewski, USGS, US Census Bureau

TOMS RIVER

SATELLITE MAP

━━━ 100 Year Flood

━━━ Municipal Border

ROUTE 70

PARKWAY

HOOPER AVE

ROUTE 37
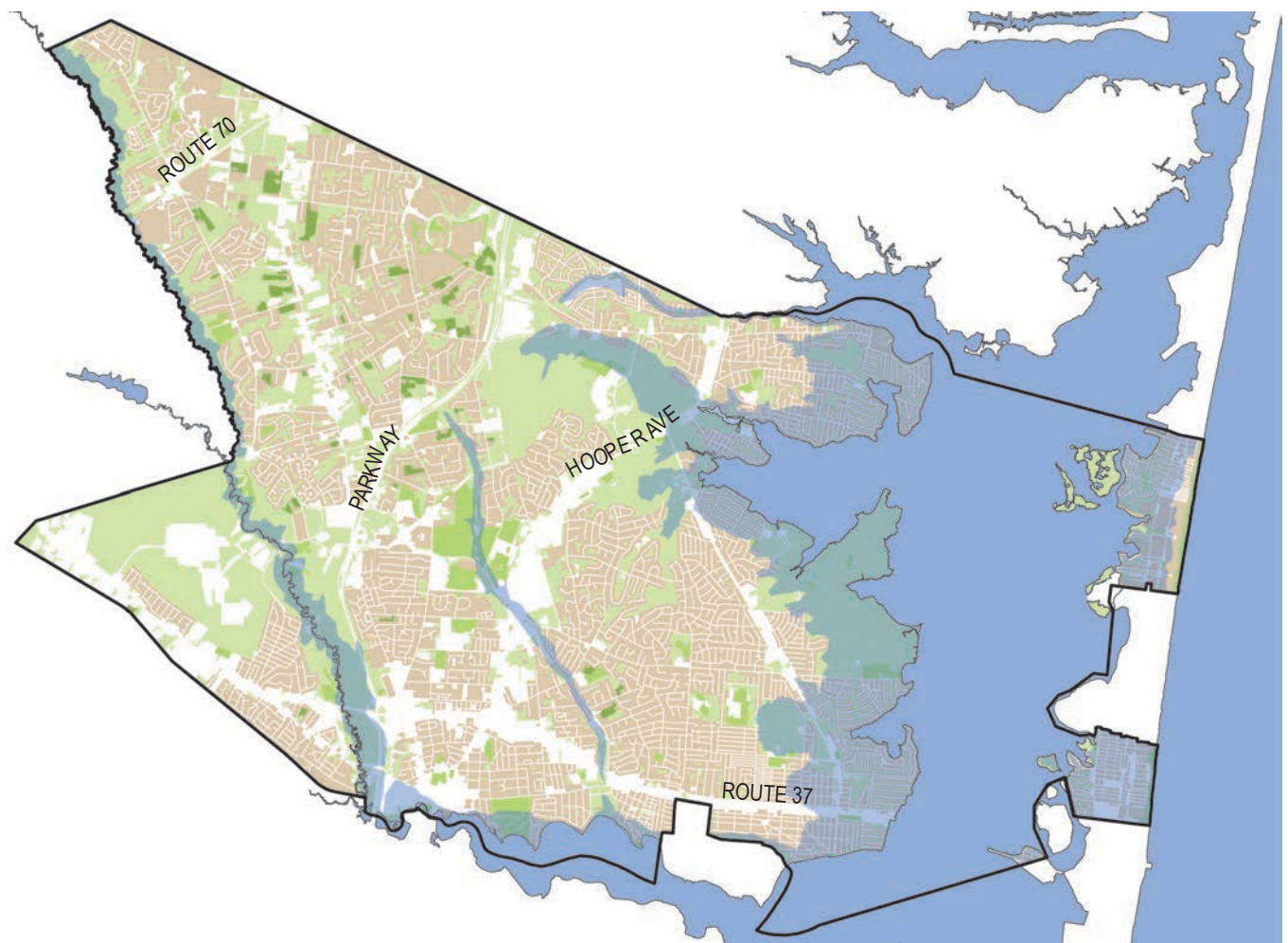
*100 YEAR FLOOD

Housing

100 Year Flood

Parks and Open Space

SANDY INUNDATION

- Housing
- 100 Year Flood
- Parks and Open Space
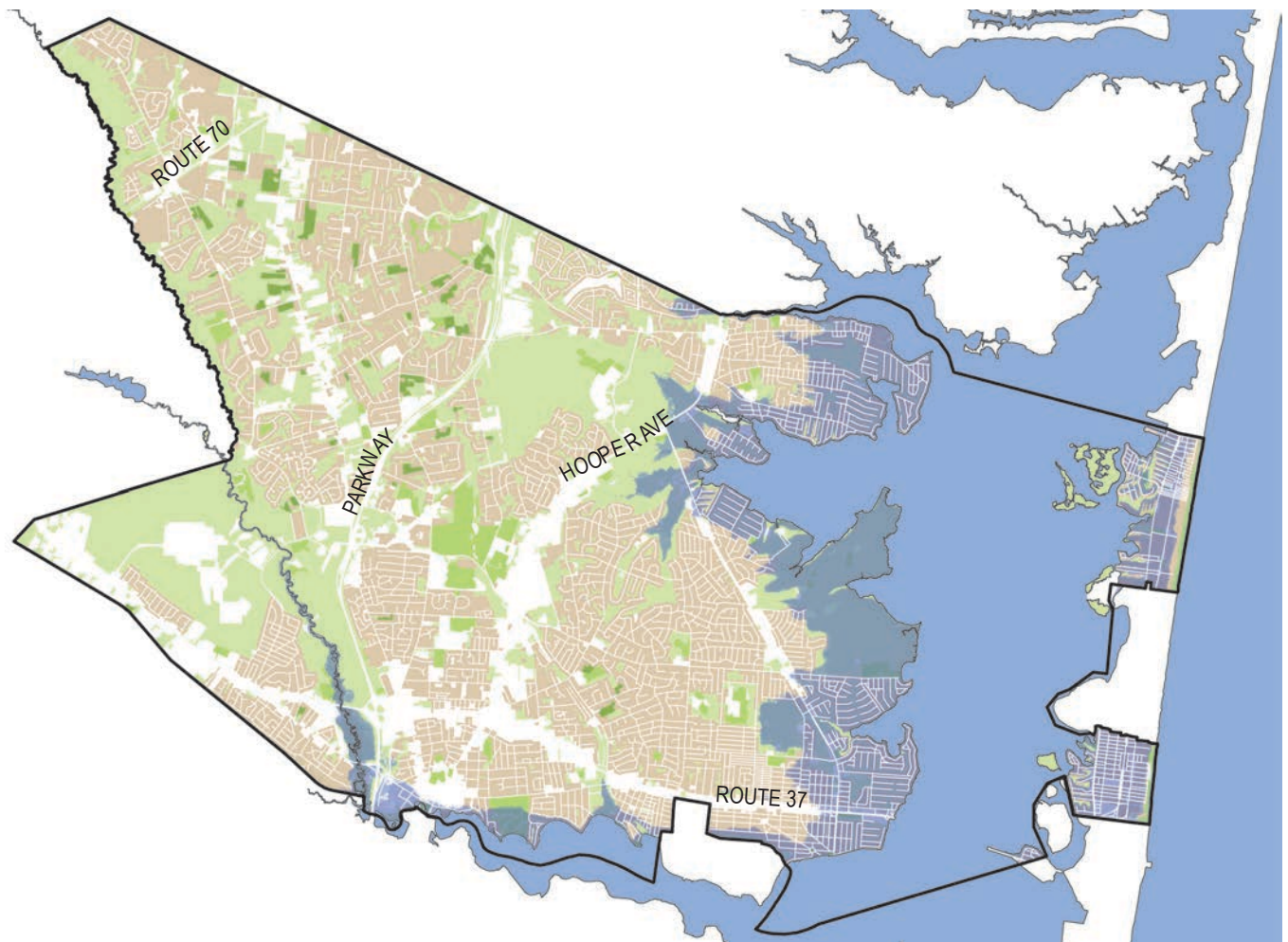
ROUTE 70

PARKWAY

HOOPER AVE

ROUTE 37

EVACUATION ROUTES

- Housing
- 100 Year Flood
- Parks and Open Space
- Evacuation Routes

ROUTE 70

PARKWAY

HOOPER AVE

ROUTE 37

*TOPOGRAPHY

⬜ Main Roads

100+

25

0

ROUTE 70

PARKWAY

HOOPER AVE

ROUTE 37
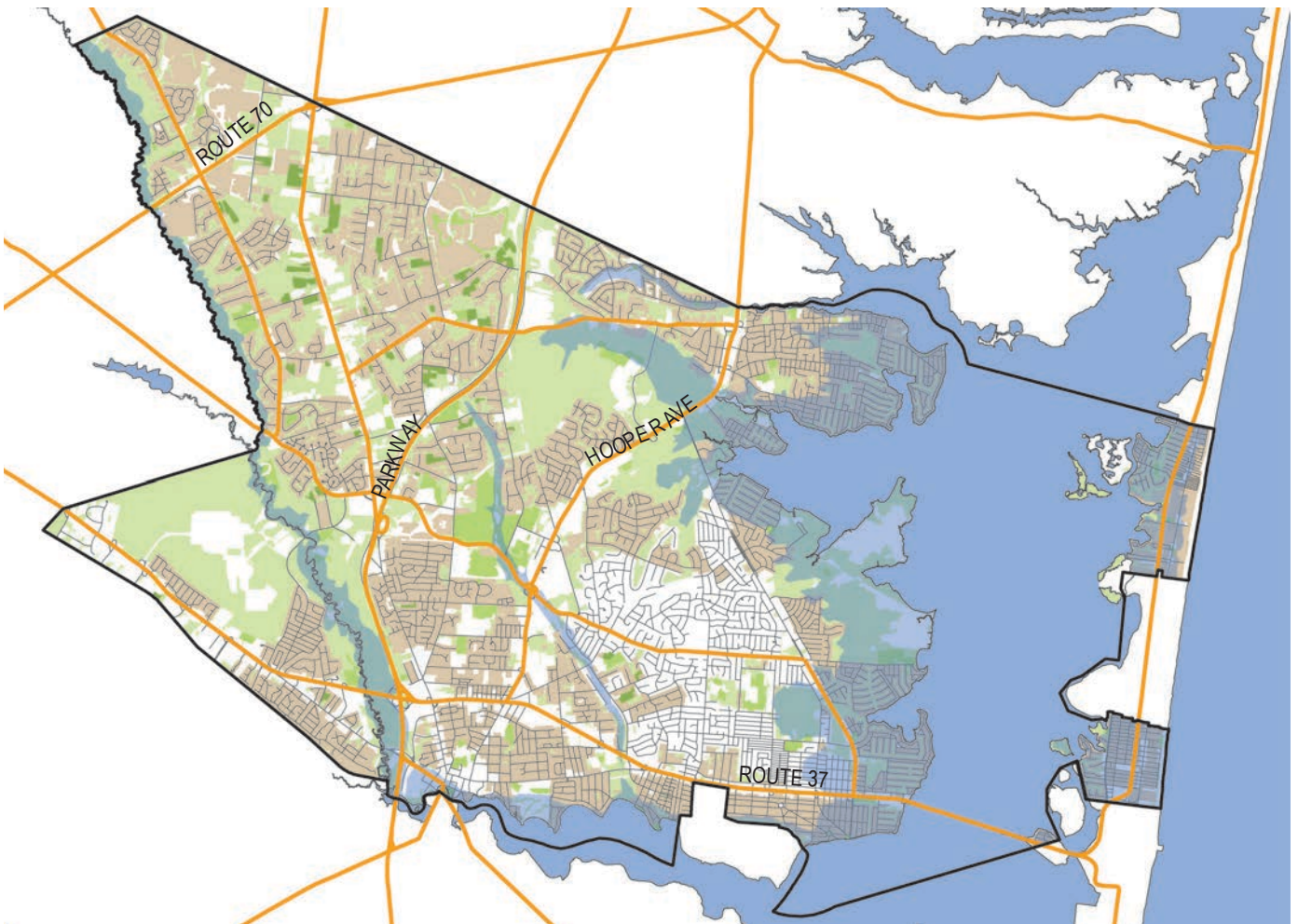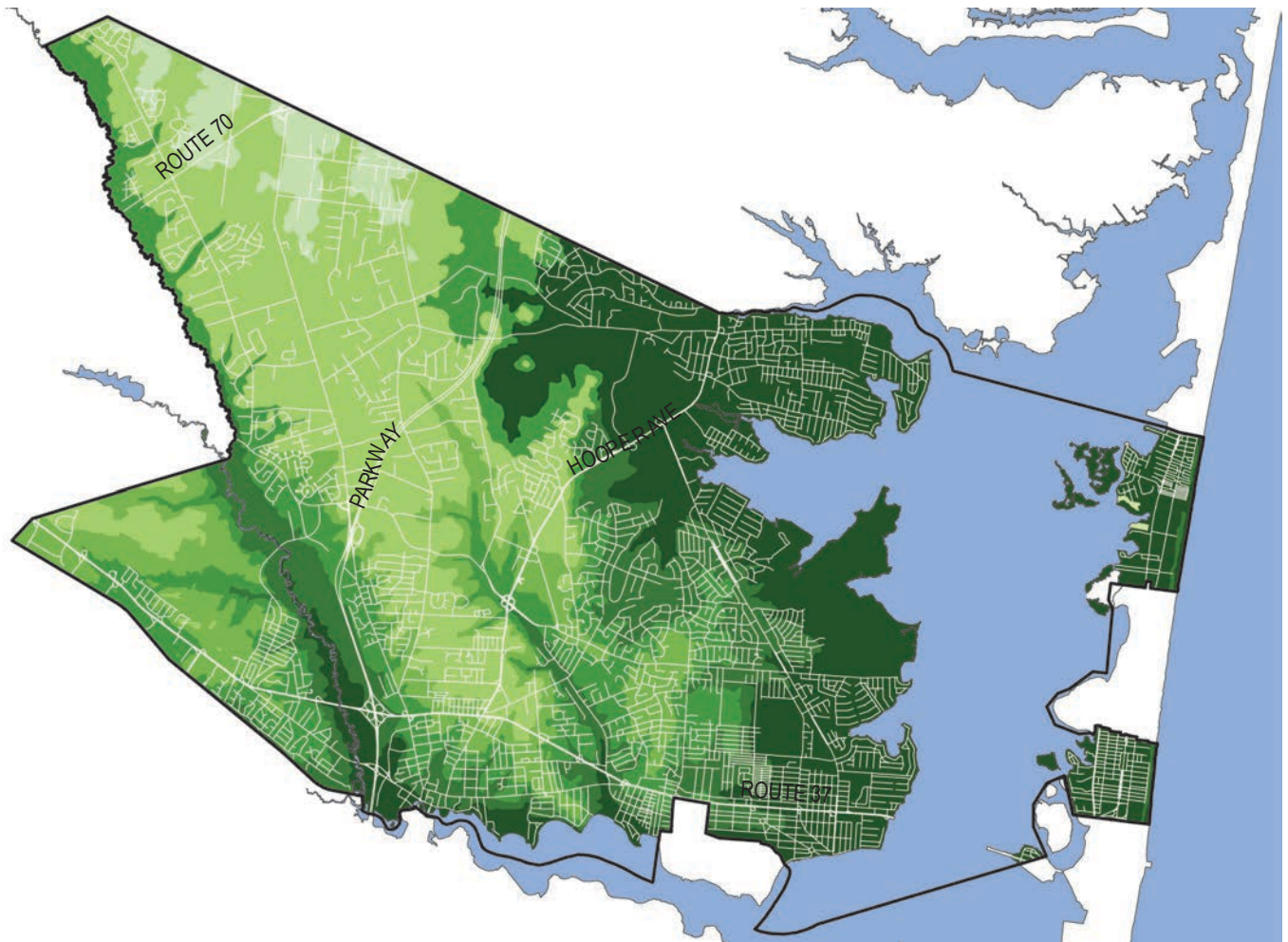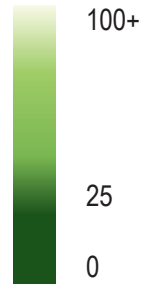
SEA LEVEL RISE + SANDY

- 1 ft. Sea Level Rise
- In Surge
- Partially in Surge
- Parks and Open Space
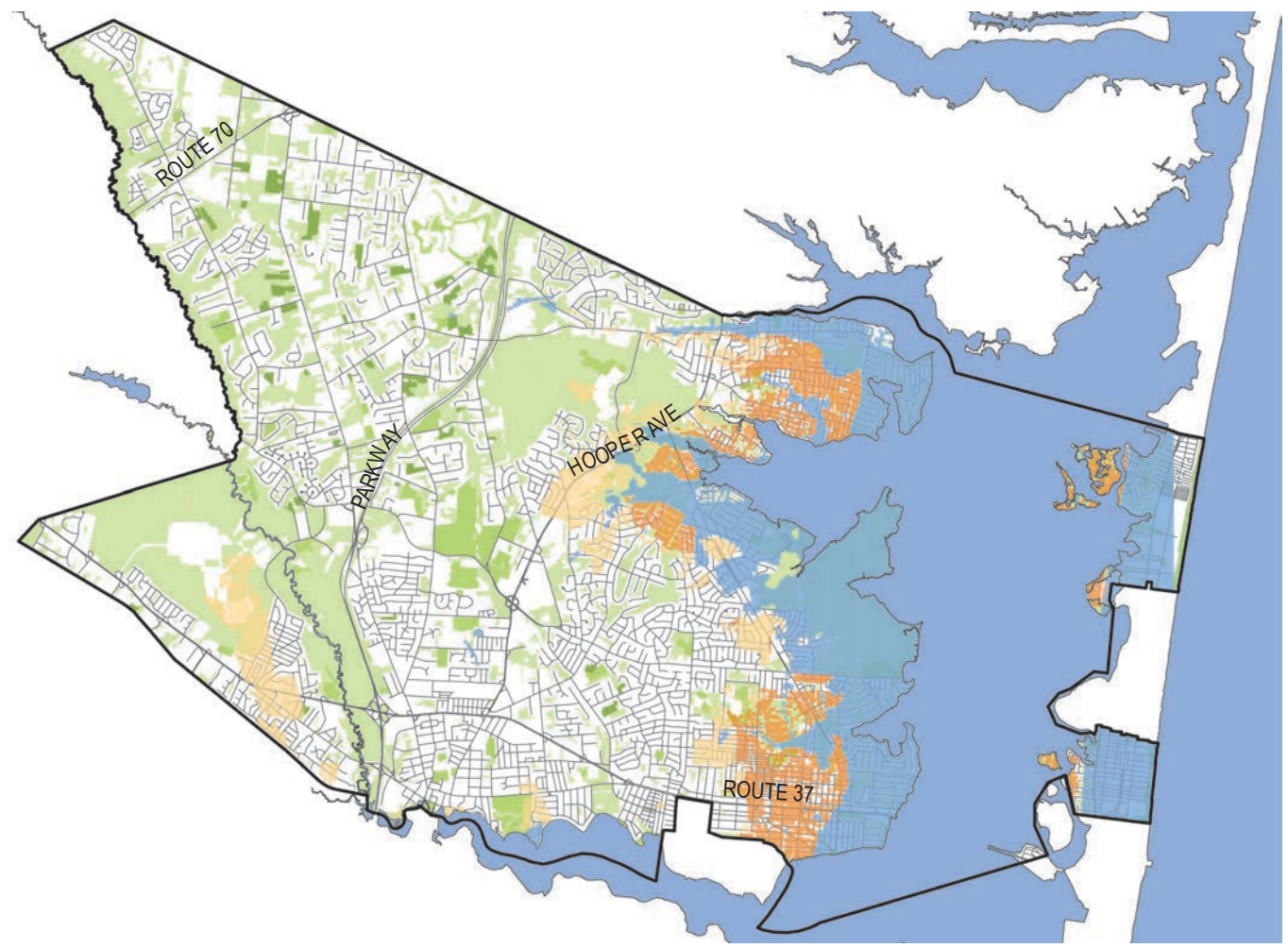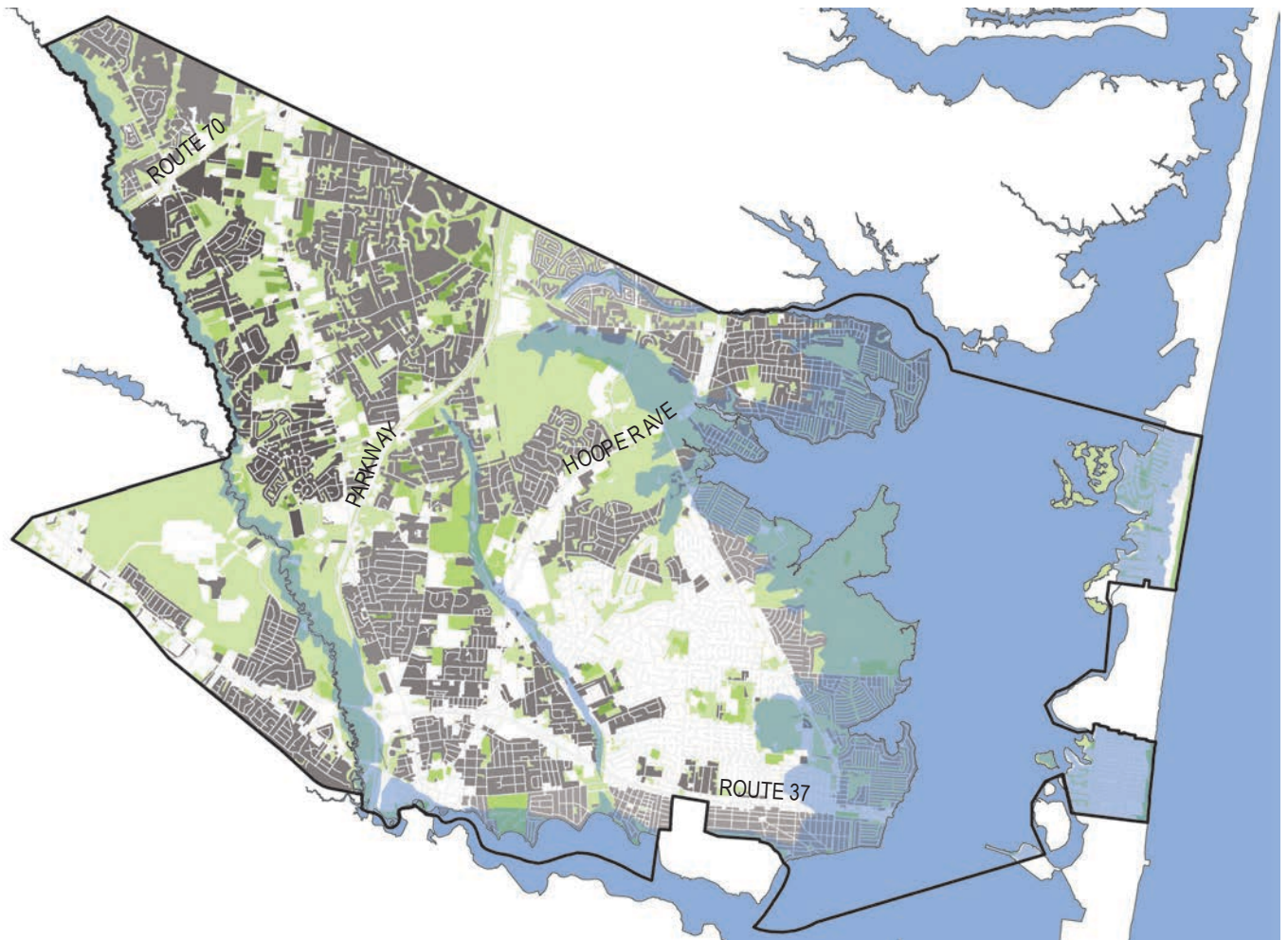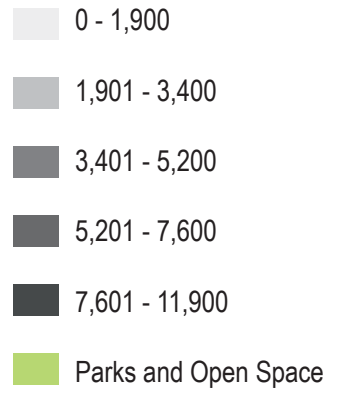
ROUTE 70

PARKWAY

HOOPER AVE

ROUTE 37

POPULATION DENSITY

By Census Tract

- 0 - 1,900
- 1,901 - 3,400
- 3,401 - 5,200
- 5,201 - 7,600
- 7,601 - 11,900
- Parks and Open Space

ROUTE 70

PARKWAY

HOOPER AVE

ROUTE 37

RACE

1 Dot = 10 People

- Asian
- Black / African American
- Hispanic / Latino
- White
- Other
- Parks and Open Space

AREA MEDIAN INCOME

30 - 50%

50 - 80%

80 - 120%

120 - 150%

> 150%

Parks and Open Space

ROUTE 70

PARKWAY

HOOPER AVE

ROUTE 37
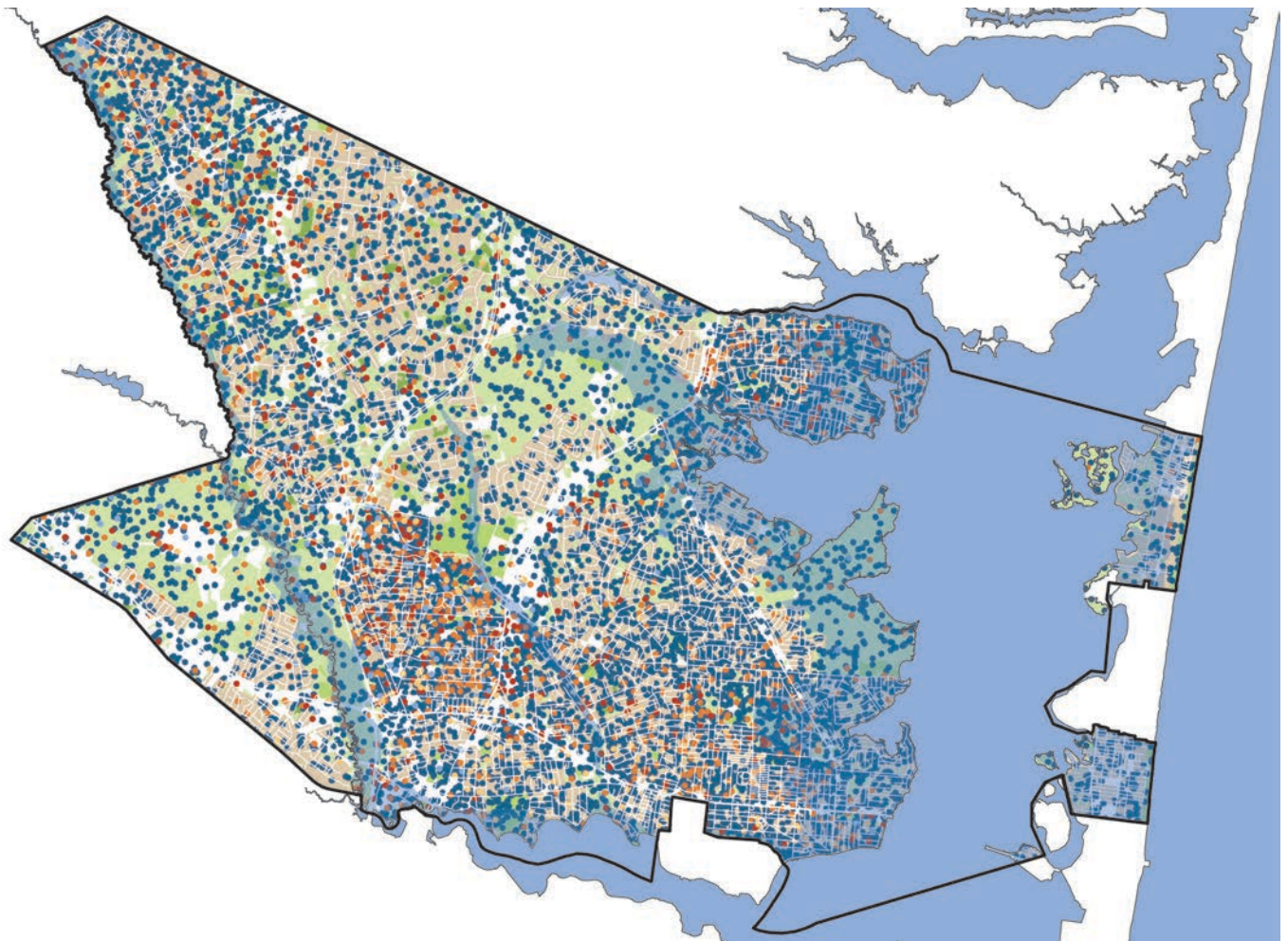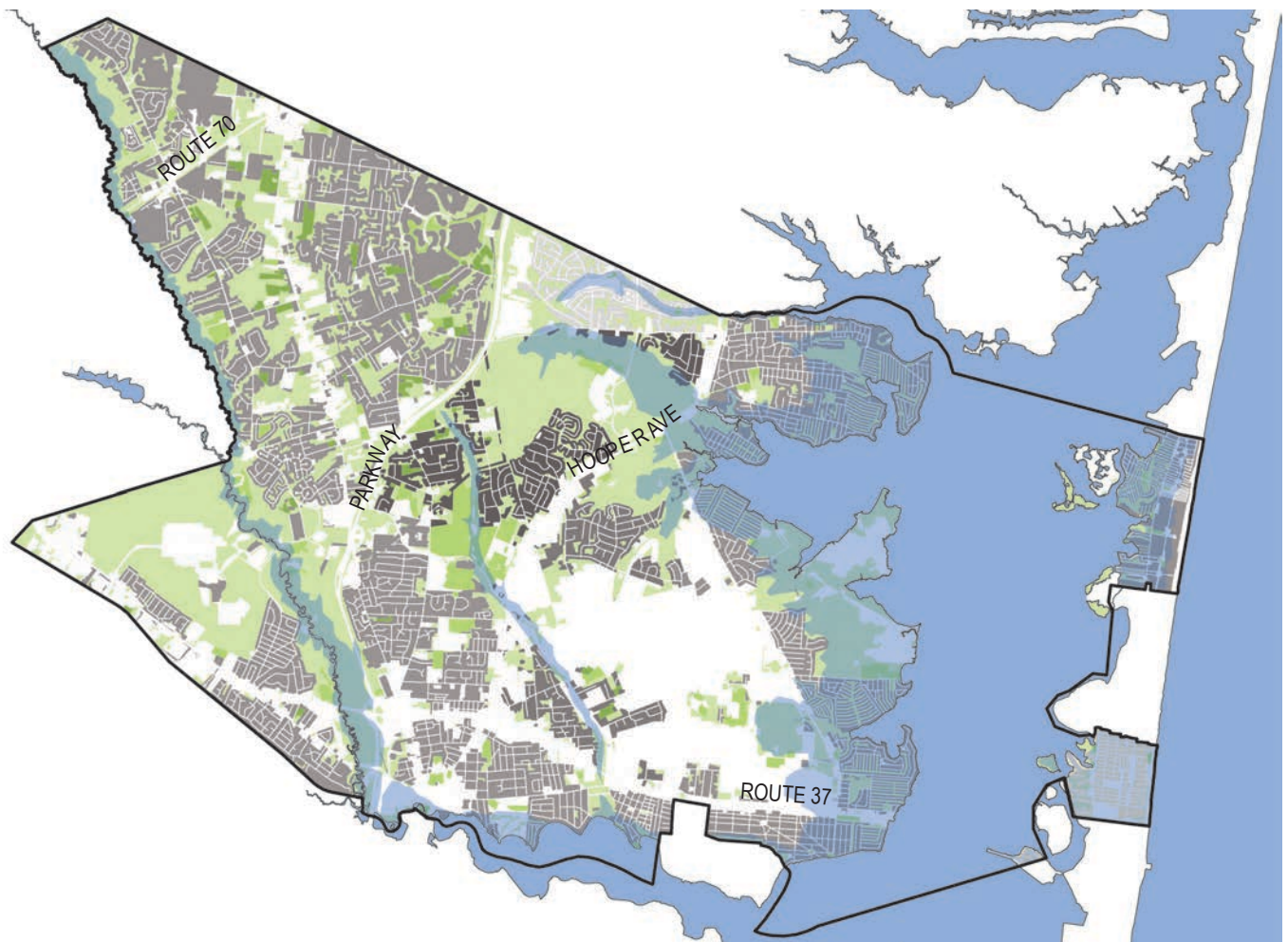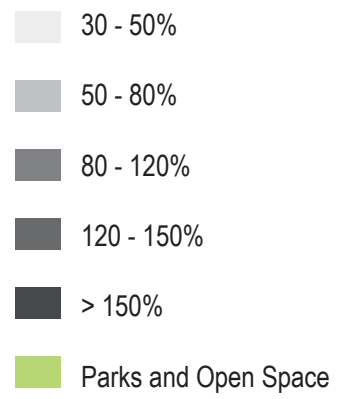
Area Median Income
is based on the US
Census Bureau's 2008-
2012 Median household
income estimate of
$72,465.

Ocean Ride Routes

Public Bus

Housing

Parks and Open Space

100 Year Flood

ROUTE 70

PARKWAY

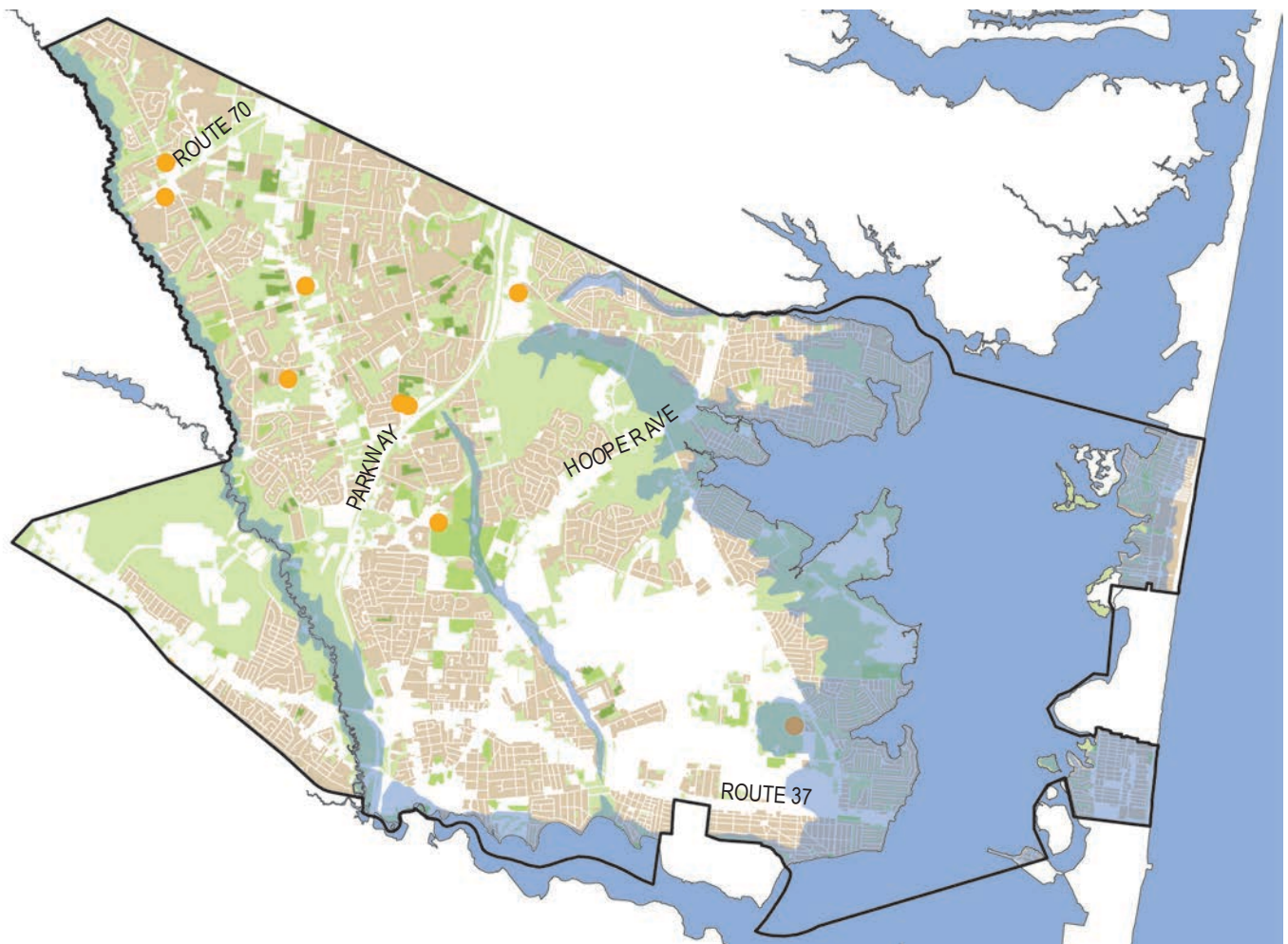HOOPER AVE

OCEAN COUNTY MALL

ROUTE 37

SCHOOLS

● School

▢ Housing

▢ Parks and Open Space

▢ 100 Year Flood

ROUTE 70

PARKWAY

HOOPER AVE

ROUTE 37
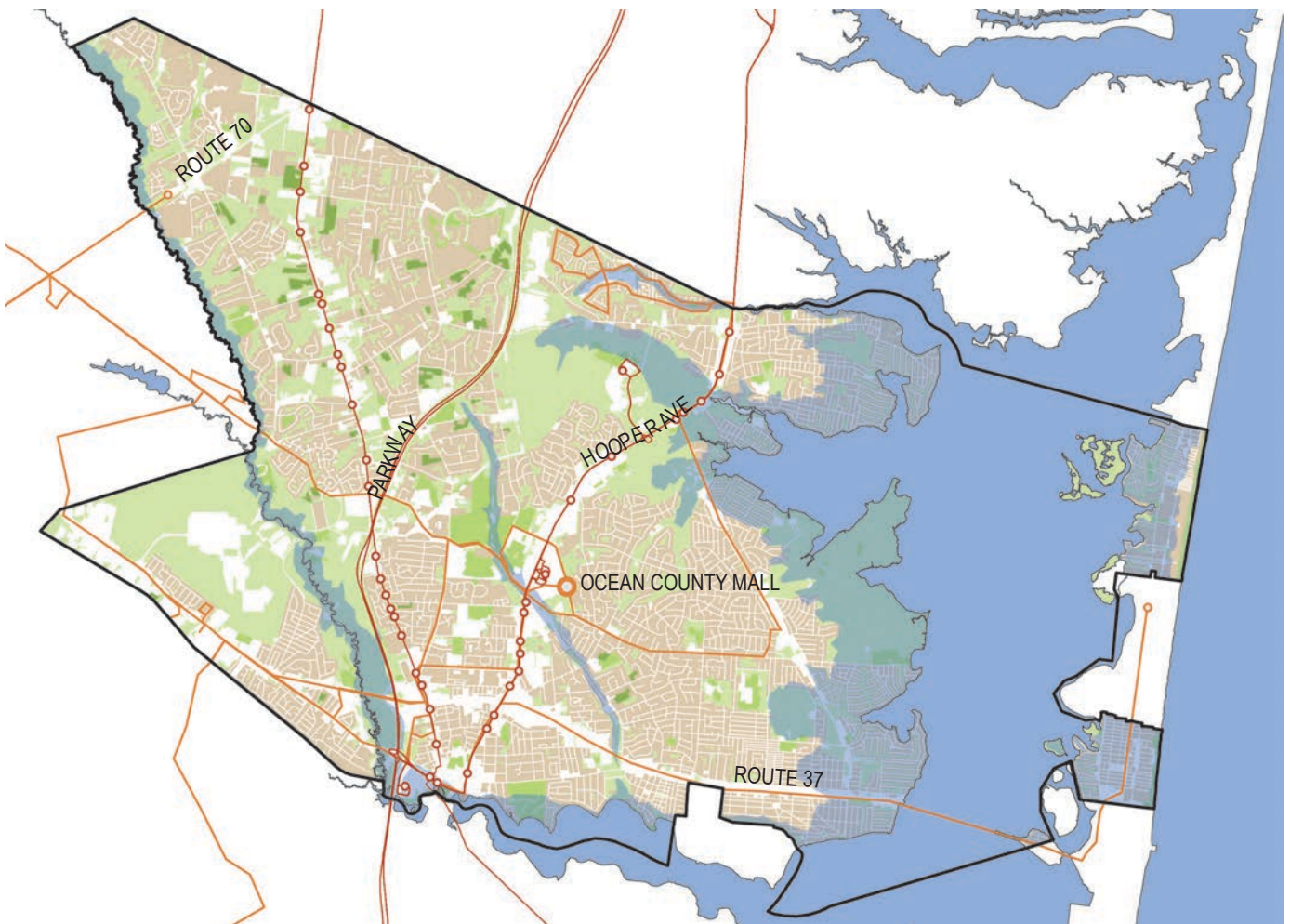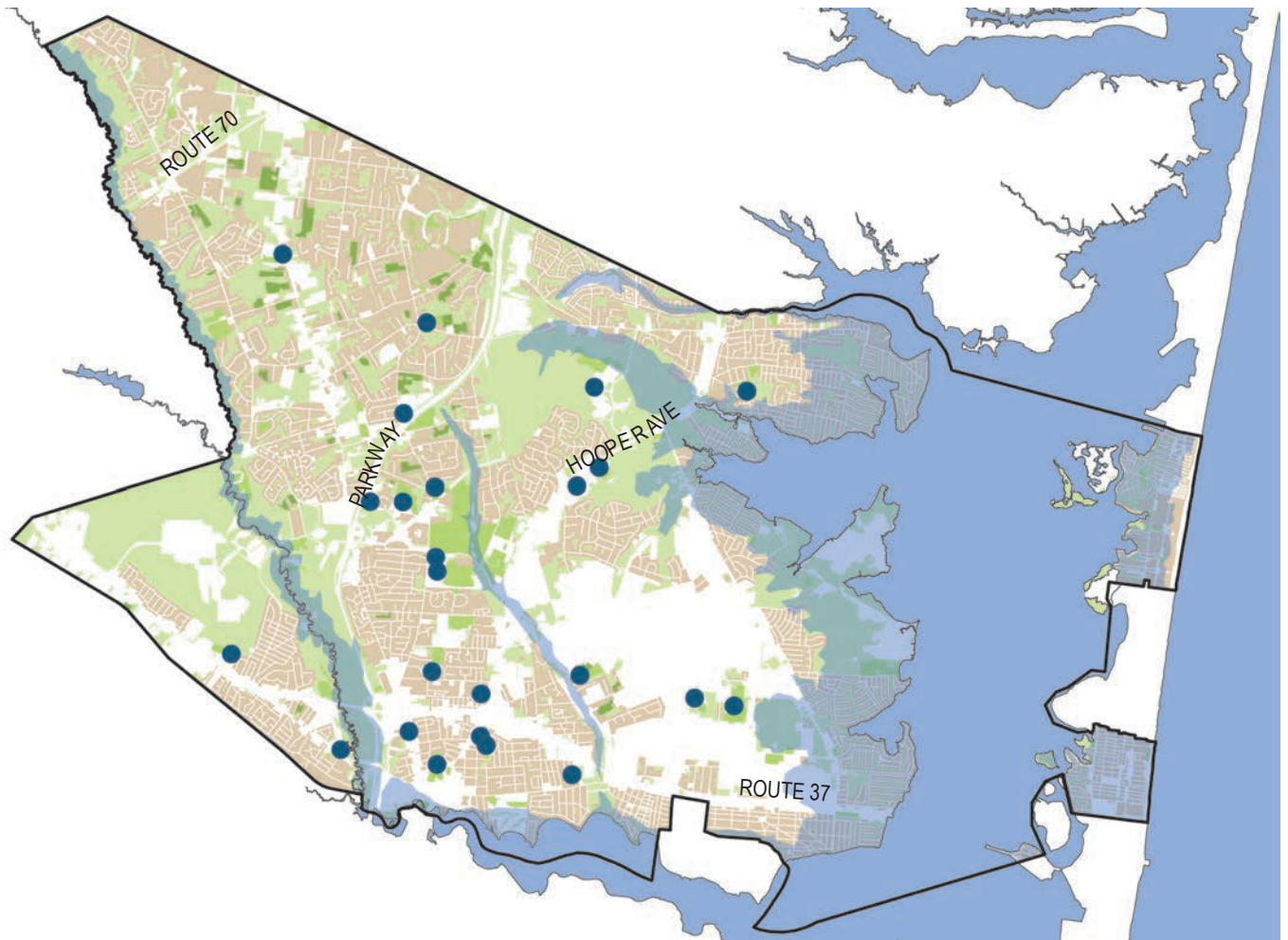
SENIOR CARE

● Senior Facilities and Homes

Housing

Parks and Open Space

100 Year Flood

ROUTE 70

PARKWAY

HOOPER AVE

ROUTE 37

HEALTH FACILITIES

● Health Facility

▢ Housing

▢ Parks and Open Space

▢ 100 Year Flood

ROUTE 70

PARKWAY

HOOPER AVE

ROUTE 37
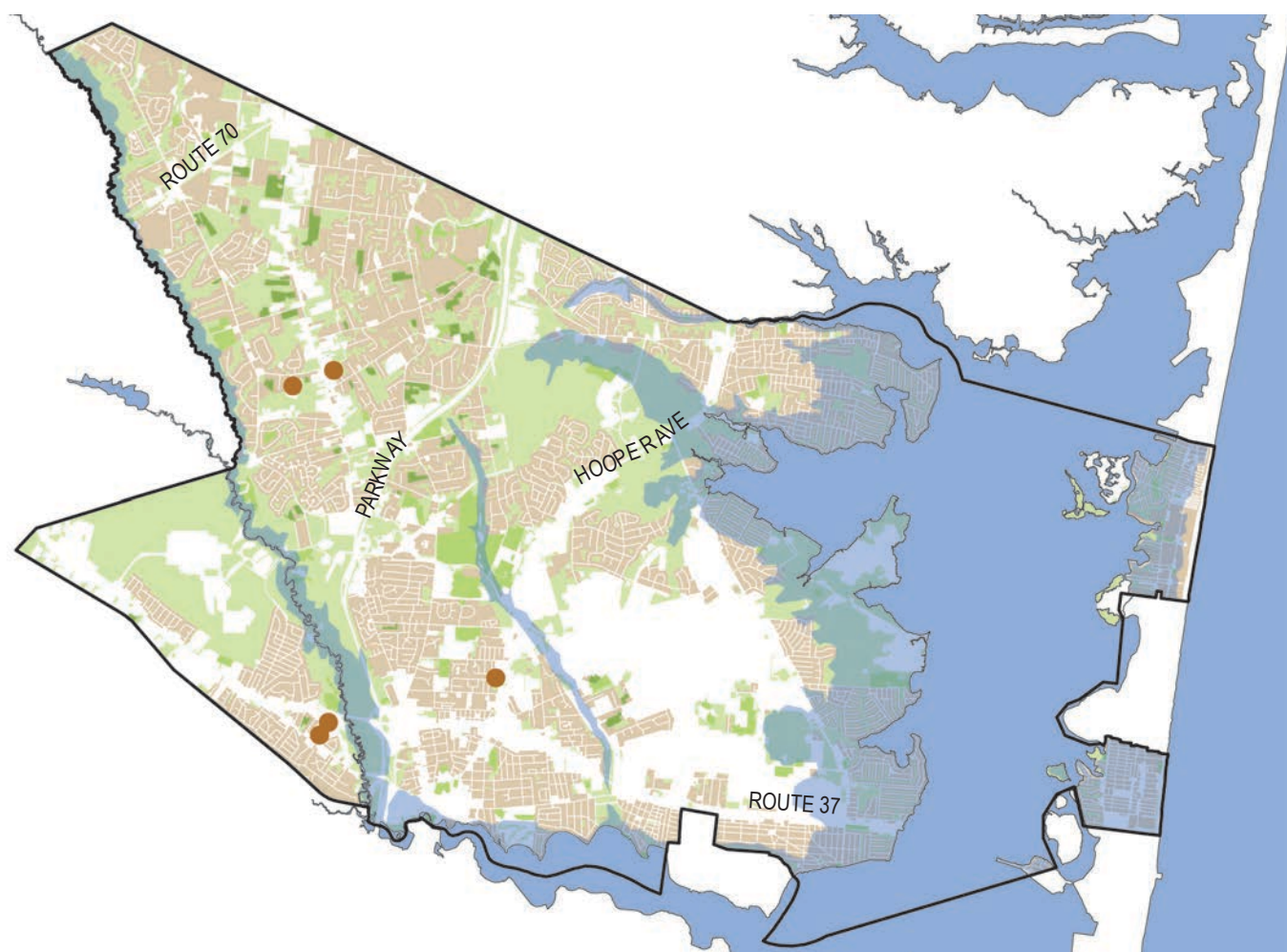
FACILITIES

- ● Health Facility
- ● Senior Care
- ● School
- ▢ Housing
- ▢ Parks and Open Space
- ▢ 100 Year Flood

ROUTE 70

PARKWAY

HOOPER AVE

ROUTE 37
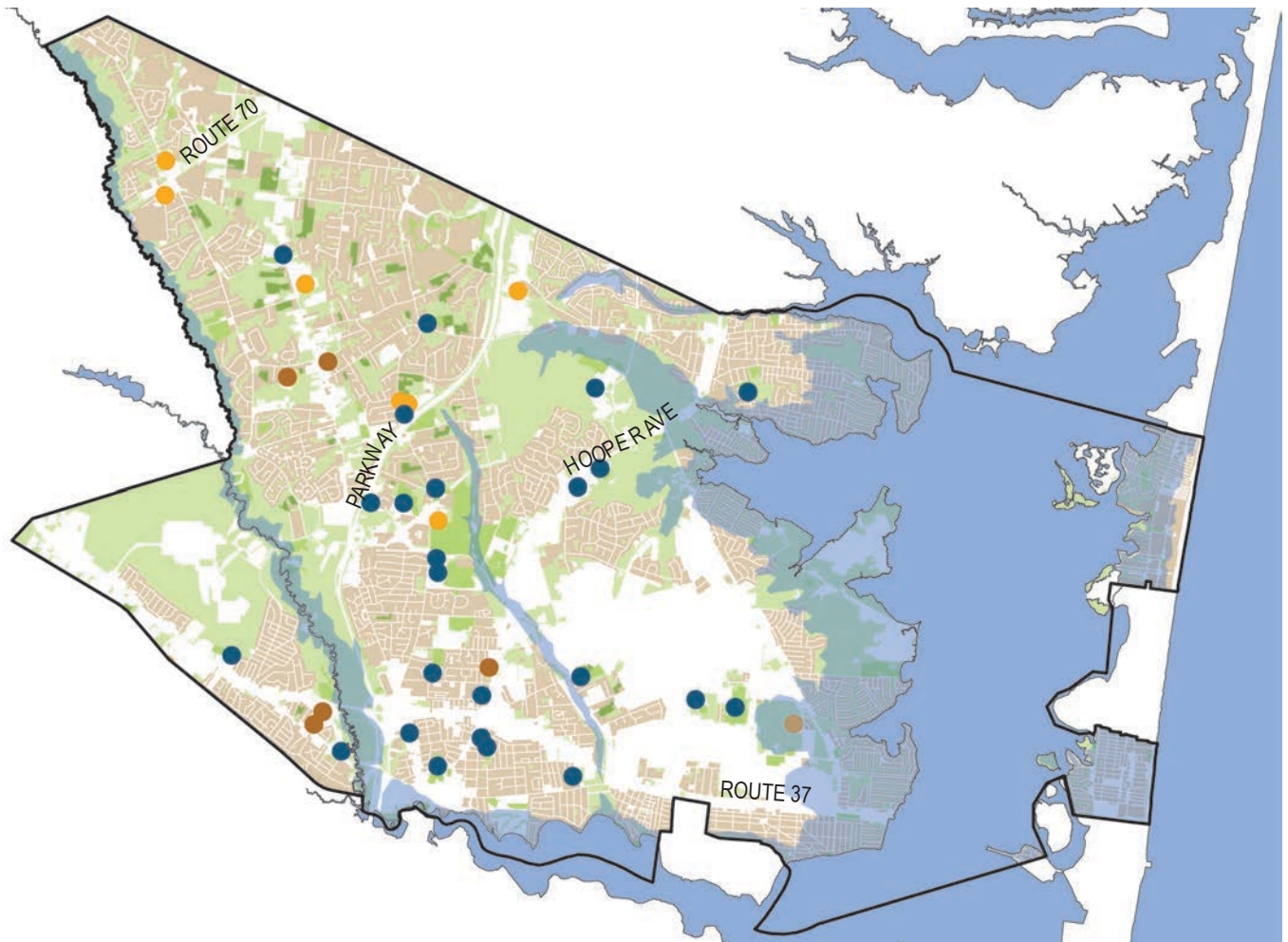
LAND USE

Commercial	Residential - High Density
Forests, Wetlands	Residential - Mid Density
Recreation and Beaches	Residential - Low Density
Agriculture	Residential - Rural
Cultural Facility	Cemetary
Utilities and Transportation	100 Year Flood

ROUTE 70

PARKWAY

HOOPER AVE

ROUTE 37

Area of Concern
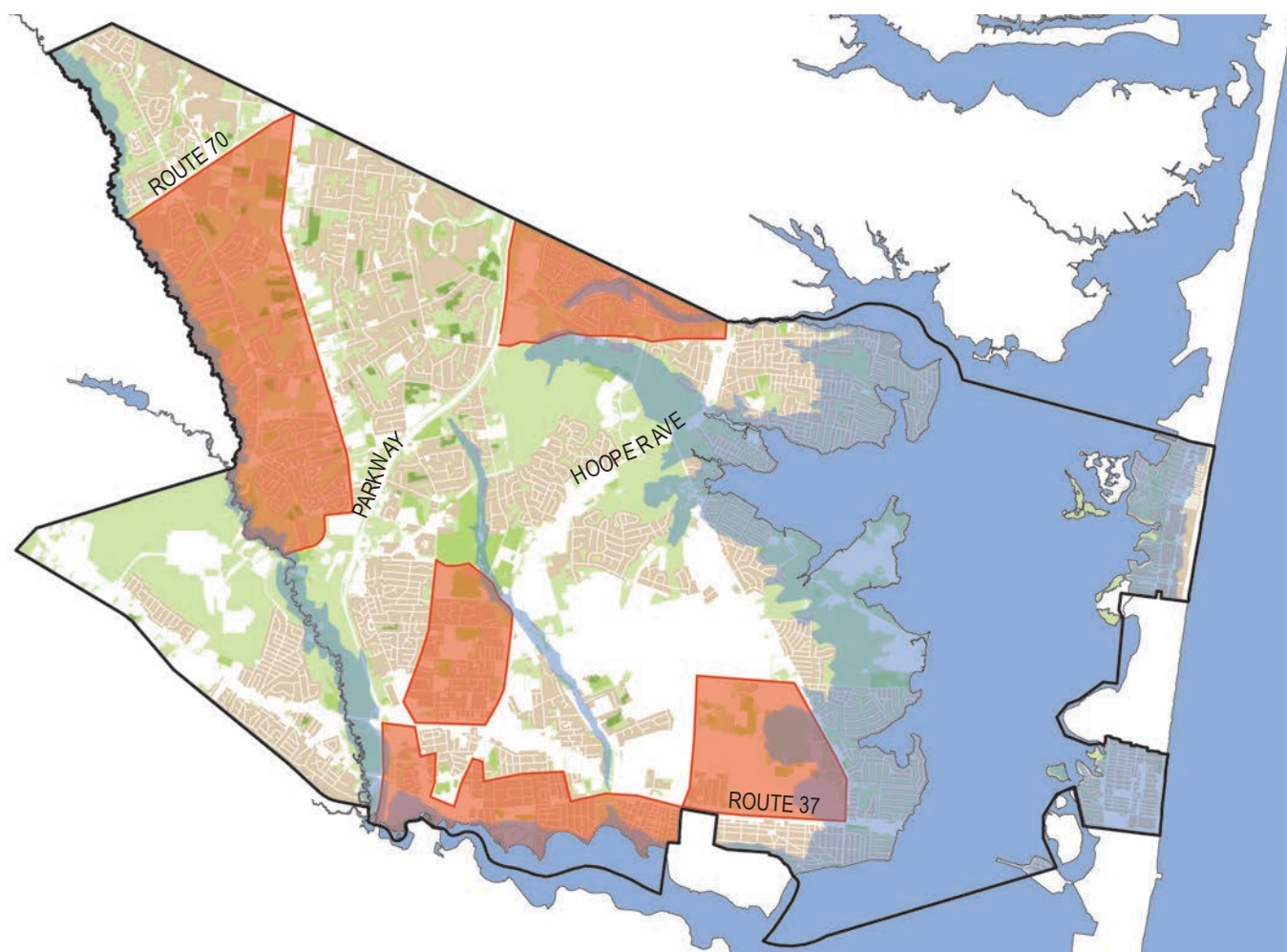
Housing

Parks and Open Space

100 Year Flood
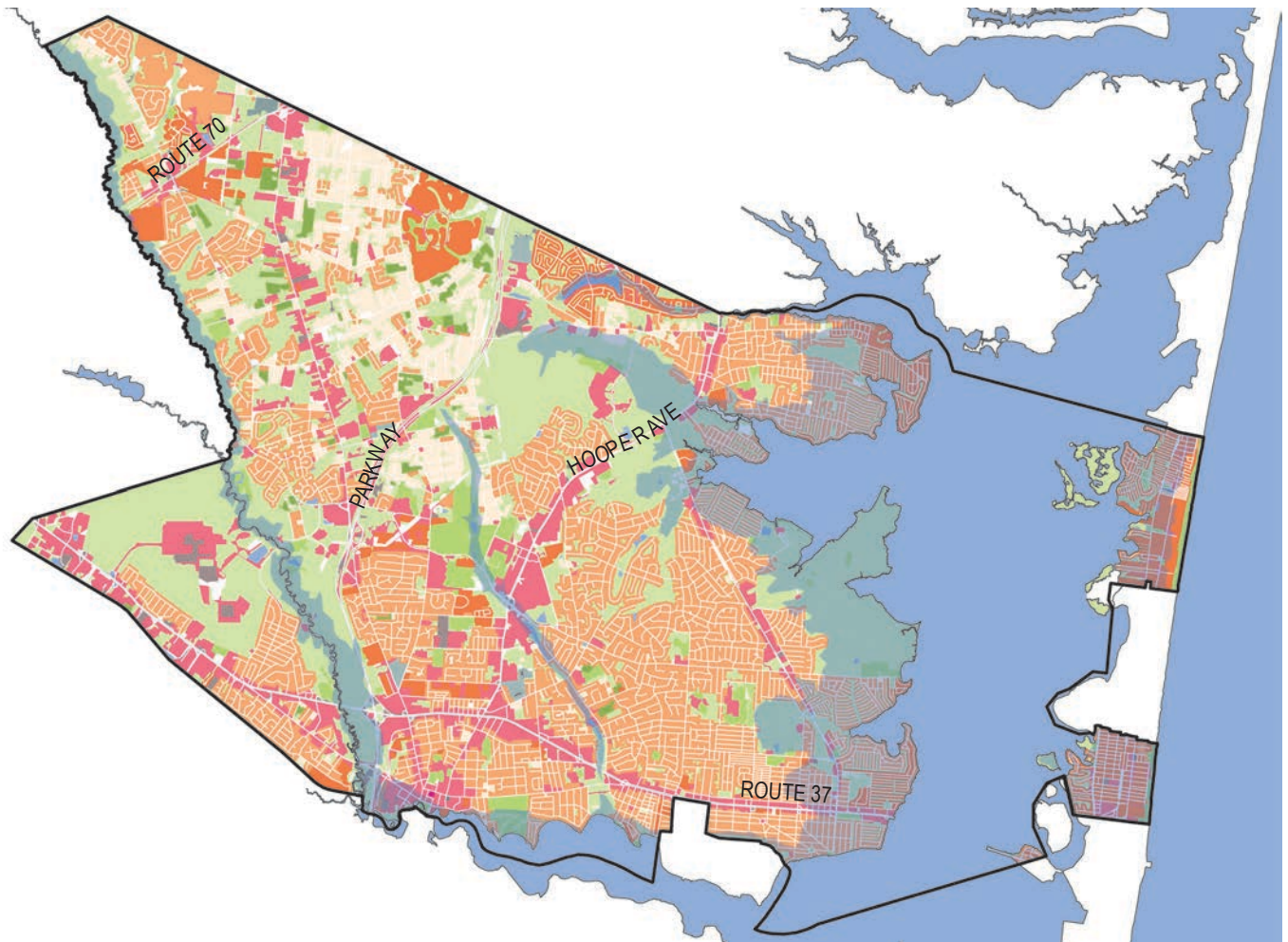
Communities of Concern are defined as:
- Households in Poverty
- Female-headed households with children
- Populations with limited English proficiency
- Zero-car households
- Populations over the age of 75

ROUTE 70

PARKWAY

HOOPER AVE

ROUTE 37

"Areas of Concern" are identified by Together North Jersey's Regional Fair Housing and Equity Assessment," http://bit.ly/1yTZPZm
Other data sources: FEMA, Google Earth, Rutgers EJB, NJDEP, NJGIN, USGS, US Census Bureau