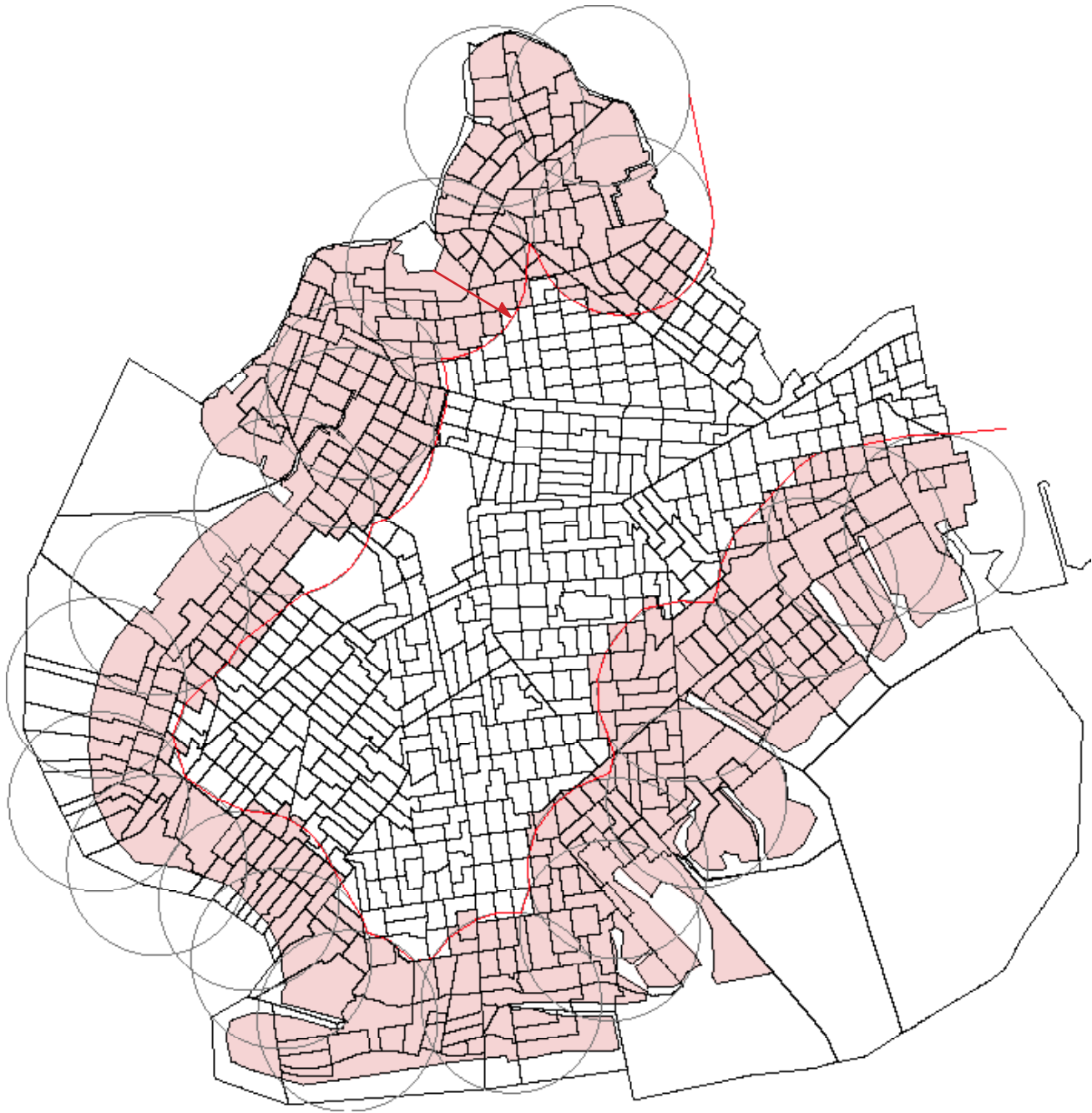


# LIVING IN BROOKLYN

HOUSING ALONG THE WATERFRONT

City Tech Auditorium  
285 Jay Street  
Brooklyn, NY 11201  
April 12, 2019  
9:00am - 4:00pm





BWRC RESEARCH AREA: Brooklyn census tracts within 1 mile radius of waterfront

Cover Design by Jeremy Renner

## Brooklyn Waterfront Research Center, New York City College of Technology:

Richard E. Hanley, Director, BWRC and Emeritus Professor of English

Anne Leonard, Geospatial Coordinator, BWRC and Associate Professor, Ursula Schwerin Library

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Celia Castellan, Project Coordinator, BWRC

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## BWRC Advisory Board:

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Dan Wiley, Congresswoman Nydia Velázquez

## Special Thanks:

Julia Jordan, Director, Faculty Commons, New York City College of Technology

Esteban J. Beita, Department of Architecture, New York City College of Technology

# Message from the Director

The phrase, “housing along the Brooklyn waterfront,” can conjure condos in Brooklyn Bridge Park, public housing units in Red Hook, bungalows in Sheepshead Bay, or two-family brick homes in Canarsie; the housing could be a high-rise apartment in Schaeffer Landing, a studio co-op in DUMBO, a brownstone along the Promenade in Brooklyn Heights, a row house in Sunset Park, or a condominium overlooking Brighton Beach. In short, Brooklyn’s waterfront housing comprises a number of diverse building typologies, socioeconomic groups, and demographic categories.

But that housing and accessibility to it is being shaped by two forces, both of which can seem to be “forces of nature,” but are both produced by human activities and decisions: gentrification and climate change, with resulting sea level rise. These forces have produced a kind of push-back as communities try to mitigate their effects by working to create housing that is affordable and resilient. Because we see these as the two major forces facing Brooklyn’s waterfront communities today, this conference will focus on housing affordability and resilience and forgo to a later date discussions about the many other housing issues we could have spotlighted such as the new Brooklyn skyline created by North Brooklyn’s waterfront towers, the stresses placed on transportation and educational resources by all of the new residents along the Brooklyn waterfront, or the effects new tech-enabled “sharing” companies such as AirBNB are having on affordable housing.

Today the BWRC is pleased to bring together City officials, activists, tenants, developers of affordable housing, and architects and designers working on ways to make housing along the Brooklyn waterfront affordable and more resilient. We will have featured speakers open the day by offering a historical perspective on Brooklyn’s waterfront housing and another setting the context for the current status of housing. Our lunch speaker, a scholar and activist, will outline the social, economic, and political housing challenges facing those living along the waterfront. And the final featured speaker of the day will look forward a generation to outline what planning and adaptation must be done now to prepare for the consequences of climate change that will affect Brooklyn’s waterfront.

The day’s first panel will have city officials and scholars discussing the “mechanics” of affordability—what is it? How is it defined? How does the City define it and what is the vision to achieve it? How is zoning a tool in achieving that vision? What are the financing tools the City

has at its disposal to create affordable housing? How can public advocacy have a voice in this process?

The second panel will feature developers of affordable and supportive housing in Brooklyn, describing some of their projects and the challenges they face trying to provide affordable housing in a highly charged market. The activists, tenants, and organizers who sit on the third panel will describe the organized efforts that are necessary to maintain and create affordable housing in Brooklyn's waterfront communities.

The day's last panel, on resiliency, will focus on ways the City and communities are addressing and dealing with the issues of flooding, storm surge, and sea level rise. How has a neighborhood such as Sheepshead Bay dealt with the damage left by Sandy and prepared for future flood events? How can Home Resiliency Audits help small homeowners deal with new flood maps and insurance requirements? What lessons from Sandy have been incorporated into the planning for resilience and recovery in NYCHA housing? What Federal approaches after Sandy were most helpful to Brooklyn waterfront communities?

We hope that you have a chance to engage with the speakers and panelists and participate in the day's discussions on two of the most intractable problems facing Brooklyn's waterfront communities. The BWRC also hopes to continue to promote discussions of these and other issues important to those of us who are forever absorbed and amazed by the dynamism of the Brooklyn waterfront.

**Richard E. Hanley, Director**  
Brooklyn Waterfront Research Center



**@BKLYNWaterfront**

Tweet with us throughout the conference!

#LivinginBrooklyn

# Living in Brooklyn: Housing along the Brooklyn Waterfront

April 12, 2019  
9:00am-4:00pm

New York City College of Technology  
285 Jay Street  
Brooklyn, NY

## Program Overview:

- 9:10 Welcoming Remarks
- 9:20 Historical Perspective
- 9:40 Setting the Context
- 10:00 Panel One
- 11:00 Coffee Break
- 11:20 Panel Two
- 12:20 Lunch
- 1:30 Panel Three
- 2:30 Coffee Break
- 2:45 Panel Four
- 3:45 Last Word

# Program Schedule:

8:30 - 9:00 Registration and Continental Breakfast

9:10 - 9:20 Welcoming Remarks and Introductions

Richard E. Hanley, Director, Brooklyn Waterfront Research Center

Russell Hotzler, President, New York City College of Technology

9:20 - 9:40 Housing along the Brooklyn Waterfront: A Story of Shipping, Industry and Immigrants

Kurt Schlichting, Research Fellow, Brooklyn Waterfront Research Center and E. Gerald Corrigan '63 Chair in Humanities and Social Sciences, Fairfield University

9:40 - 9:55 Setting the Context: Housing Affordability along the Waterfront

Jessica Yager, Vice President, Policy & Planning, WIN

10:00 - 11:00 **Panel One: New York City's Affordable Housing Policies**

**Moderator**

Nicholas Dagen Bloom, Professor of Social Science, New York Institute of Technology

**Panelists**

Brendan McBride, Associate Commissioner for New Construction, NYC Department of Housing Preservation and Development

John Mangin, Senior Counsel, NYC Department of City Planning

Fabiana Meacham, Chief of Staff Office of Policy and Strategy, NYC Department of Housing Preservation and Development

Rona Reodica, Assistant Commissioner, Building & Land Development Services, NYC Department of Housing Preservation and Development

Alex Schwartz, Professor of Public and Urban Policy, The New School

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11:00 - 11:20

**Coffee Break**

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11:20 - 12:20 **Panel Two: Affordable Housing against the Odds: Innovative Developments along the Brooklyn Waterfront**

**Moderator**

Jason Montgomery, Assistant Professor of Architecture, New York City College of Technology, Principal, Truong Montgomery Architect

**Panelists**

Martin Dunn, President, Dunn Development Corporation

Frank Lang, Director of Housing, St. Nick's Alliance

Brenda Rosen, President and CEO, Breaking Ground

Michelle de la Uz, Executive Director, Fifth Avenue Committee

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12:20 - 1:20 **Lunch and Address**

**The Future of the Brooklyn Waterfront: Affordability and Resilience Are Not Enough**

Tom Angotti, Professor Emeritus of Urban Policy and Planning at Hunter College and the Graduate Center, City University of New York

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1:30 – 2:30 **Panel Three: Preserving and Expanding Housing Affordability through Organizing**

**Moderator**

Oksana Mironova, Housing Policy Analyst, Community Service Society of New York

**Panelists**

Michael Higgins, Jr., Lead Organizer, FUREE

Cea Weaver, Campaign Coordinator, Upstate/Downstate Housing Alliance

Renae Widdison, Director of Land Use and Planning, Office of Councilmember Carlos Menchaca New York City Council District 38

Tevina Willis, Red Hook WiFi Communications Associate, Red Hook Initiative

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2:30 - 2:45 **Coffee Break**

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2:45 – 3:45 **Panel Four: Housing Resilience: Strategies for Climate Readiness**

**Moderator**

Illya Azaroff, Associate Professor of Architecture, New York City College of Technology, Principal, + Lab,

**Panelists**

Deborah Gans, Professor of Architecture, Pratt Institute and Principal and Founder, GANS Studio

Michele Moore, Director of Recovery and Resilience, New York City Housing Authority

Rachel Stein, Deputy Director, Sustainability and Resiliency, Center for New York City Neighborhoods

Dan Wiley, Director, Southwest Brooklyn District, Office of Congresswoman Nydia Velázquez

3:45 **Last Word**

Michael Marrella, Director of Waterfront and Open Space Planning, NYC Department of City Planning

# Housing along the Brooklyn Waterfront: A Story of Shipping, Industry, and Immigrants

By Kurt C. Schlichting

The history of housing the Brooklyn waterfront is inexorably tied to the rise of the Port of New York and the ascendancy of New York City, in the nineteenth century the Island of Manhattan, to the country's largest city and most productive economy in the United States. By 1850 the Port of New York reigned as the second busiest port in the world. Piers and wharves lined Manhattan's shoreline on the East River from the Battery to 14<sup>th</sup> Street and along the Hudson to the Chelsea neighborhood. An insatiable demand for waterfront space led to the development of the Brooklyn waterfront: the US Navy established a shipyard in Wallabout Bay in 1801; the Atlantic and Erie basins opened in the 1840s; and construction of the Bush Terminal in Sunset Park began at the turn of the twentieth century.

Thousands of immigrants followed to work the Brooklyn docks, providing the day labor needed to load and unload ships and Erie Canal barges. The longshoremen and dock workers found housing in the tenements lining the nearby streets, living in appalling conditions. For as long as the port prospered, one immigrant group followed another, creating ethnic enclaves in the neighborhoods on the waterfront.

The near death of the Brooklyn waterfront in the 1960s and 70s, a result of the shipping container revolution, mirrored the near death of the Manhattan waterfront. In a stunningly short period of time, the Port of New York moved to Newark Bay; abandonment and decay followed along the Brooklyn waterfront. Racial change and poverty compounded the problems as middle-class whites left for the suburbs; African-Americans and Americans from Puerto Rico arrived to fill the empty tenements. To compound the difficulties, a vibrant manufacturing waterfront also disappeared and thousands of well-paying manufacturing jobs vanished.

Today the Brooklyn waterfront has been reinvented. From Greenpoint to Red Hook, Sunset Park, Coney Island, Brighton Beach, and Canarsie dramatic change has taken place. Many waterfront neighborhoods have been reborn as havens for wealthy professionals who thrive in the city's post-industrial economy. Gentrification has transformed the brownstone streets of Cobble Hill and Carroll Gardens. Waterfront parks have replaced the maritime world that drove the economy of Brooklyn for well over two hundred years. Today the priceless commodity is the view out into the harbor or the Atlantic Ocean as former factory and warehouse buildings are converted to upscale apartments. New luxury high-rise residential buildings line the shoreline where once ships arrived from all over the world.

## **Building a Maritime Infrastructure**

Brooklyn was settled by the Dutch East India Company, and in 1635 the first colonists purchased land from the Native Americans. By the 1660s there were six small farming settlements: Brooklyn, Bushwick, Flatbush, Flatlands, Gravesend and New Utrecht. The market for their agricultural products lay across the East River in Manhattan.

The English gained control of the Dutch colony and in 1663 Kings County was established as a political entity in the province of New York. Population growth remained stagnant for the next century: the first British colonial census records in 1698 placed the Kings County population at 2,017 and New York (Manhattan Island) at 4,937. For the next fifty years the population of Kings County did not grow at all while New York's population increased to over 13,000.<sup>1</sup> On the eve of the Revolution in 1771, Kings County had 3,623 residents and New York 21,863. After the turmoil of the Revolutionary War, which saw the British occupy both Brooklyn and New York for seven long years, the first US Census in 1790 counted Brooklyn's population at 4,495 and New York's at 33,131. Fifty years later in 1840, six years after the State of New York established the City of Brooklyn in 1834, Brooklyn's population had increased to 47,613. By comparison, New York's population had soared to 312,710, by far the largest city in the country.

The Brooklyn waterfront comprises over sixty-five miles of shoreline that includes Newtown Creek, the East River, Wallabout Bay, the shore of New York Harbor's Upper Bay, Coney Island and Sheepshead Bay on the Atlantic Ocean, and the salt marshes of Jamaica Bay. At the time of the Revolution, the Brooklyn waterfront remained undeveloped. The Port of New York consisted of the piers along the East River from the Battery to Corlear's Hook.

In a British colonial world all of the seaports faced a common challenge: how to build a maritime infrastructure along the shore. There was no expectation that constructing wharfs and piers was the responsibility of the colonial government. On the contrary, private citizens would be responsible to use their own capital to build and maintain waterfront facilities for shipping, whether for ocean going ships crossing the North Atlantic from Europe or the small sailing vessels bringing produce across the East River from Brooklyn to Manhattan.

To build out the needed wharves and piers, private citizens, typically the well to do and politically connected, were awarded grants to develop the shorefront, often adjacent to land they owned along the water. New York City received two colonial charters: the Dongan Charter in 1686, which established New York as a corporate City independent of the Colony of New York, and the Montgomerie Charter in 1730. The Montgomerie Charter expanded the shoreline of the City for 400 feet out into the East and Hudson rivers and granted the underwater land to the city creating "water-lots." The City in turn granted "water-lots" to private individuals to build and maintain the needed wharfs and piers using their own money.<sup>2</sup> In turn, the grantees would charge fees to use their waterfront facilities.<sup>3</sup> Beginning in the 1650s, the British Crown and then the City of New York granted hundreds of "water-lots"; Kings County and the City of Brooklyn followed. The New York Municipal Archives have records of 462 waterfront grants along the Brooklyn waterfront.<sup>4</sup>

Over 400 years the construction of a maritime infrastructure did not involve just one water-lot grant. As ships increased in size and capacity, piers and wharf space also expanded farther out into the harbor. New water grants expanded the Island of Manhattan and the Brooklyn waterfront into the surrounding rivers and bays. The original water-lots were filled in creating "made-land" along the waterfront. The

original shoreline Henry Hudson found in 1609 disappeared (Map 1).

The Dumbo, Brooklyn Heights, and Cobble Hill waterfront neighborhoods are built on this “made-land.” At Hicks Street in Brooklyn Heights the modern shoreline is 1,000 ft. out into the East River and at Henry Street in Cobble Hill the shoreline is 1,900 ft. out into the Upper Bay.



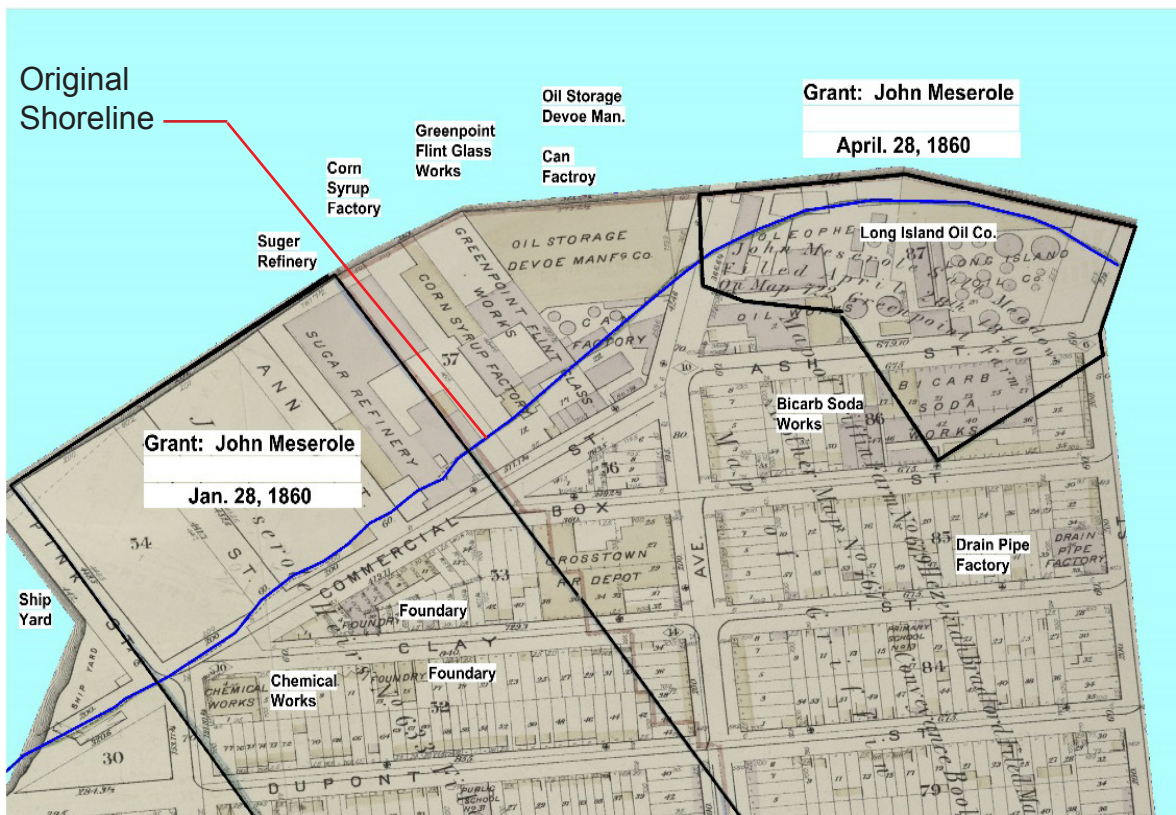
Map 1 Brooklyn & Manhattan Waterfront: “Made-Land” 1776 British Naval Map & Current Shoreline  
Source: NYPL MapWarper - 1776 Blaskowitz British Navy map; NYC Planning - shoreline

The State and City of New York, in 1870, created the Department of Docks to take over the Manhattan waterfront and reassert public control of the port’s maritime infrastructure. As a first step, the Department of Docks conducted a title search of all property and water-lot grants along the East and Hudson rivers and created detailed maps. Between Wall Street and Maiden Lane were a total of 149 water-lot grants, adding 21 acres of “made-land” from Pearl Street to South Street.



**Map 2** Manhattan Water-Lots: East River- Wall St to Maiden Lane

In Greenpoint a similar grant process occurred. John Meserole secured two grants in 1860 and extended the shoreline (blue line) out into Newtown Creek. Industrial development followed along the Creek shoreline and on the adjacent streets.



**Map 3** Newtown Creek Shoreline - Greenpoint Brooklyn Waterfront Neighborhoods - 1880s



## Brooklyn Waterfront Neighborhoods - 1800s

The Brooklyn waterfront neighborhoods include those along the East River and New York harbor from Greenpoint to Sunset Park (Map 4). The growth of these areas in Brooklyn was tied to the ascendancy of the Port and City of New York. The Dutch established ferry service across the East River in 1642 to bring food to Manhattan Island from the farms in Brooklyn. Steam ferry service began to Fulton Street in 1814, to Atlantic Street in 1836, and to Hamilton Avenue in 1846 for a passenger fare of two cents. Ferry service throughout New York harbor continued to expand and by 1887 included 42 lines to Queens, Staten Island, and New Jersey.



**Map 4** Brooklyn Waterfront Neighborhoods

The 15 ferry lines to Brooklyn carried 47,500,000 passengers in 1866.<sup>5</sup> Brooklyn Heights, Cobble Hill, Boreum, Hill and Park Slope became the country's first suburbs where the well-to-do could buy a brownstone, travel by horse-drawn street car to the Fulton Ferry, and take the ferry across the East River to work or shop in Manhattan.

Kings County consists of almost 70 sq. mi. of land; from the shoreline at Newtown Creek to the beaches of Coney Island is a distance of over 12 miles. The three waterfront neighborhoods along the Atlantic Ocean, Coney Island, Brighton Beach, and Sheepshead Bay, remained places apart with few year-round residents. In the nineteenth century, before mass transit, a boat provided the most efficient means of transportation from all three to Manhattan or downtown Brooklyn. Each summer they came to life as seaside resorts once railroads and eventually the subway lines linked them to downtown Brooklyn and the ferries to Manhattan (Map 5). Three famous Coney Island amusement parks opened between 1897 and 1904: Steeplechase Park, Luna Park, and Dreamland. Brighton Beach's main attractions included a thoroughbred race track. Canarsie, on Jamaica Bay remained a fishing and farm community until the twentieth century.

**Railroads:**

- 1 Brooklyn Bath West End RR
- 2 NY & Sea Beach RR
- 3 NY & Coney Island RR
- 4 Prospect Park & Coney Island RR

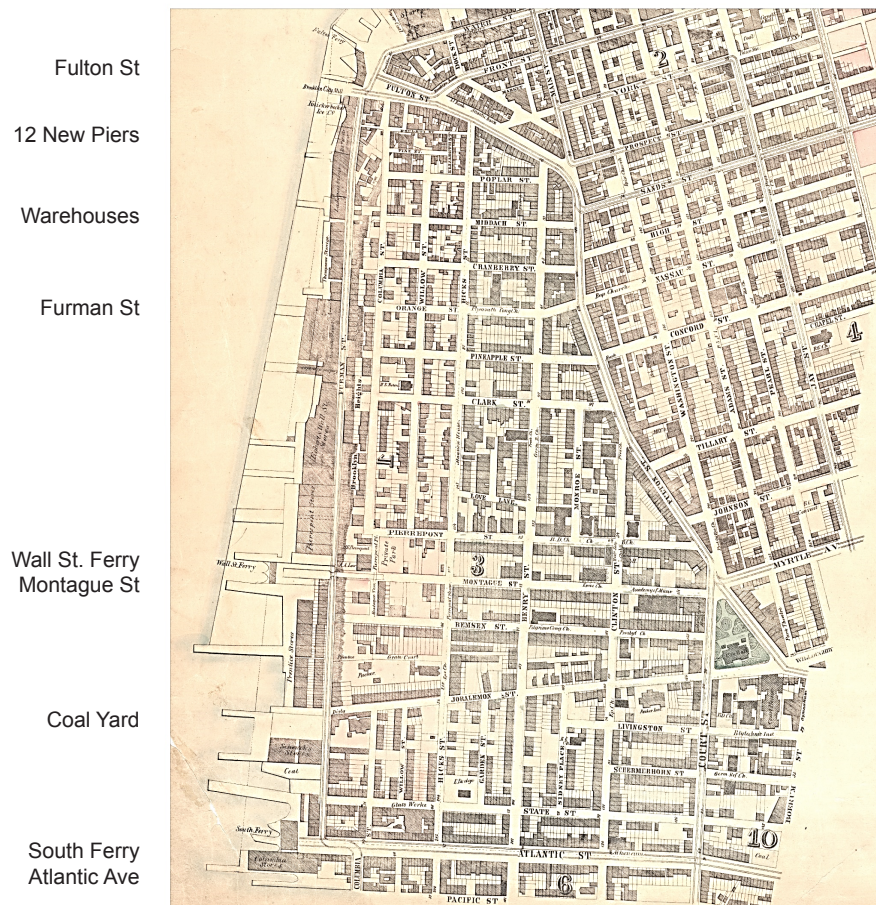


**Map 5** Coney Island & Brighton Beach - 1890

Source: NYPL MapWarper

## An Expanding Maritime World

The phenomenal growth of the port of New York in the nineteenth century brought the number of ships entering and leaving to record levels. In 1834, 1,950 ships entered from foreign ports, 3,163 in 1850, and 5,711 in 1885.<sup>6</sup> These numbers do not include the thousands of coastal vessels arriving from the Southern ports and New England. At times hundreds of ships anchored in the Upper Bay, waiting for space at a Manhattan pier or wharf. The undeveloped waterfront in Brooklyn along the East River became the prime location for the construction of new wharfs and piers. A series of grants along the East River below Brooklyn Heights led to the expansion of the waterfront out into the East River by 1860.



**Map 6** East River Waterfront Expansion: Fulton to Atlantic Ave. 1867

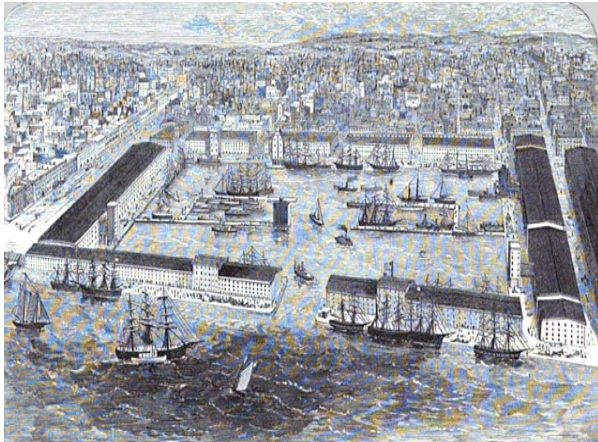
Twelve piers were built out into the East River by the private owners who received water grants; there was no common design for the length or width of the piers. Warehouses, called “stores” lined Furman Street. Shippers stored their goods in the warehouses and hundreds of horse-drawn carts crowded Furman Street, each picking up or delivering freight. On the piers, sailing ships brought freight from all over the world. Erie Canal barges, laden with wheat and flour loaded their cargo onto ships bound for Europe. Coal barges docked on the pier near State Street bringing an essential commodity to Brooklyn to heat homes and supply industry with coal to power their machinery.

The piers from Fulton to Atlantic Avenue were soon filled and the expansion of the Brooklyn waterfront continued to the south. Once simply referred to as “South Brooklyn” these areas today are Cobble Hill, Carroll Gardens, and Red Hook. Two waterfront infrastructure projects there were unique: the Atlantic Basin and the Erie Basin. Instead of a series of piers out into the harbor, long breakwaters created enclosed basins with piers inside; warehouses built next to the piers provided safe storage for freight.

In 1839 Daniel Richards, a shipping entrepreneur who owned land and shallow water along the Buttermilk Channel, built a 40 acre enclosed basin later surrounded by warehouses, which opened in 1844. Richards promoted the basin as a safe harbor where Erie Canal barges could load the agricultural bounty of the Midwest onto ships bound for Europe. Farther south, Edward Beard built the much larger Erie Basin, which in addition to protected piers, offered ship building and repair facilities with a large dry dock. Completed in 1864, the basin became the major terminus in the port for the Erie Canal. Many canal barges were privately owned and wintered over in the Erie Basin when the Canal froze for the winter.

The Brooklyn waterfront neighborhoods along the East River and Upper Bay were not just places for commercial shipping; they also became manufacturing centers. By 1860 Manhattan was the largest manufacturing center in the country and Brooklyn was third. A total 1,032 companies employed over 12,000 workers and produced \$ 34.2 million dollars of products, from ships for the US Navy to sugar at the largest sugar refinery in the country, Domino Sugar Co., along the East River in Dumbo.<sup>7</sup> By 1880,

the number of manufacturing business increased to 5,201 with a work force of over 44,000. Brooklyn ranked fourth in the country measured by the value of goods produced: \$ 177 million.<sup>8</sup> At the turn of the twentieth century Brooklyn's factories employed 100,000 people.



Atlantic Basin



Erie Basin

Note: Crowded waterfront housing on streets adjacent to Basins

The growth of the port of New York continued at a breakneck pace. Wallace estimates that by 1900 “6,000 steamers and sailing vessels arrived each year from foreign ports; perhaps another 15,000 entered from domestic ports. The City handled two-thirds of the nation’s imports ...and over one-third . . . of exports.”<sup>9</sup> Once centered on Manhattan Island, the maritime world now expanded throughout the harbor to Brooklyn, Staten Island, and across the Hudson to the shoreline of the New Jersey. Docks and piers lined the waterfront of Bayonne, Jersey City, and Hoboken. All of the major railroads in the country had to bring their passenger and freight trains to New York in order to compete with the New York Central system. The NY Central was the only railroad that could bring its trains onto Manhattan Island.<sup>10</sup> All of the other railroads, the Baltimore & Ohio, Erie, Lehigh Valley, Pennsylvania, and Central RR of New Jersey, scrambled to build facilities to float their passengers and freight across the harbor. The Pennsylvania RR built facilities to float freight cars from piers in Bayonne to Bay Ridge in Brooklyn to connect with the tracks of the Long Island RR, which was owned by Pennsylvania.

The growth of the port of New York drove a relentless need for more wharves and piers to handle the enormous volume of passengers and freight. In 1907 over 8,000 ships arrived and departed the harbor in “direct foreign service,” the US Customs designation for ships arriving from or departing directly to a foreign port. In 1916, 10,580 ships arrived from foreign ports, an average of 29 each day for the entire year.<sup>11</sup> Added to this was the huge number of coastal ships, Albany and Long Island Sound steamers, thousands of Erie Canal barges, fleets of lighters, and railroad “float” barges carrying freight cars back and forth to New Jersey – chaos reigned. Shipping companies, manufacturers, and politicians complained that the maritime transportation bottleneck threatened the prosperity of the entire metropolitan region.

Consolidation of the City of New York in 1898 brought the responsibility for the Brooklyn waterfront under control of the New York City Department of Docks, created by the City and State of New York in 1870 to take control of the Manhattan waterfront and rebuild the wharves and piers, once the private property of the water-lot grantees. The Department of Docks began massive construction projects in the 1890s, spending over \$ 70 million, including on the Brooklyn waterfront.

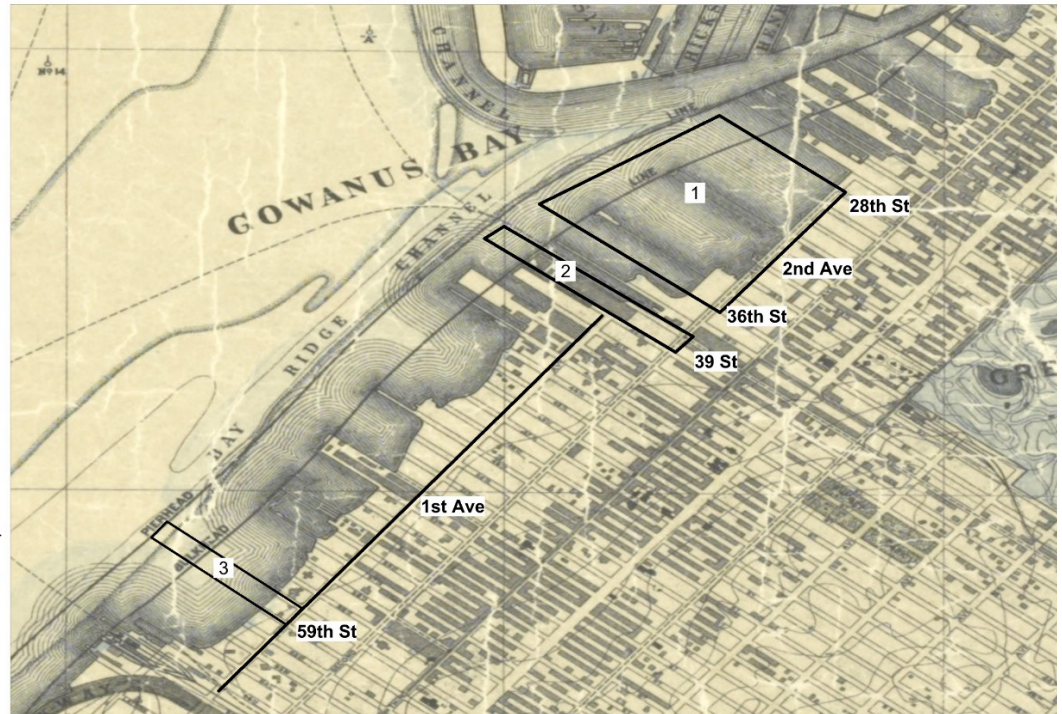
The Department of Docks, in 1900, proposed to take control of the Brooklyn waterfront, just as it had along the Manhattan shorefront. The private companies that owned the waterfront piers and warehouses, among them the Atlantic Dock Company, objected and pointed out that their facilities were more modern and pledged to keep them in good repair. The Dock department agreed and turned its attention to the underdeveloped waterfront in Sunset Park where it proceeded with three major projects. They purchased the private waterfront property between 28<sup>th</sup> and 36<sup>th</sup> streets, the South Brooklyn Ferry landing between 36<sup>th</sup> and 39<sup>th</sup> streets, and from 59<sup>th</sup> street south for 422ft.<sup>12</sup>

Spending over \$ 6.2 million, the Dock Department built new piers out to the Bay Ridge Channel and the Gowanus Canal. Private development followed. In 1891 Irving T. Bush purchased land along the shoreline and organized the Bush Terminal Company in 1902.<sup>13</sup> The company constructed warehouses and piers out into the harbor then bought the blocks between 1<sup>st</sup> and 2<sup>nd</sup> avenues for additional warehouses and their own railway. Soon the company operated eight piers, handled

millions of tons of freight, and employed thousands of dock workers. Eventually the terminal had 102 warehouses with over 26 million cu. ft. of space and 16 factory buildings. The development of the Sunset Park waterfront completed a modern maritime infrastructure stretching from Newtown Creek in Greenpoint to Bay Ridge.

**Dept. of Docks:  
1906-1908**  
Water-lot Purchases

- 1 1906  
From: Archibald Murray  
4.3 mill sq. ft.  
\$ 4,674,448
- 2 1906  
From: South Bklyn Ferry Co.  
\$ 751,067
- 3 1908  
From: Lotus Realty Co.  
770,000 sq. ft.  
\$ 848,520



**Map 7** Sunset Park – Dept. of Docks 1906 - 1908

## The Social Construction of the Brooklyn Waterfront Neighborhoods

The development of the Brooklyn waterfront and the growth of manufacturing led to a population explosion in Brooklyn. In 1840, the population was less than fifty thousand - 47,613 and by 1860 279,122; an increase of 486 percent; by 1880, the population reached 599,495. The waterfront needed an enormous work force, primarily of day laborers who lived on the nearby streets. Loading and unloading ships and barges was back-breaking, dirty, and dangerous work.

Immigration played a key role in the history of the port of New York and its waterfront neighborhoods in Brooklyn. The Irish famine in 1840s and the political turmoil and economic unrest in 1848 in Germany led to a flood of people coming to American and, by far, most arrived in the port of New York. Thousands of the Irish fleeing the famine landed on the East River docks and walked to the teeming streets in the nearby 4<sup>th</sup> Ward, desperate to find decent housing and a job.

New York State opened Castle Garden in 1855 and between the opening and 1870, 2,112,908 immigrants passed there through the “Golden Door.” Many crossed by ferry to Brooklyn. By 1860, 38.1 percent of Brooklyn’s population was foreign born; over 78,000 of the foreign born were from Ireland.<sup>14</sup> Immigration continued over the next decades to both New York (Manhattan) and Brooklyn. Brooklyn’s population was concentrated in the waterfront neighborhoods; other areas remained sparsely settled including Coney Island, Brighton Beach, Sheepshead Bay and Canarsie (Map 8).

Immigrants often moved to a street or neighborhood where people from their native country had preceded them, creating a pattern of “chain migration.” Once settled, they found work, married, and had children. Their American born children formed a first-generation ethnic population, born in the United States with immigrant parents. Ethnic immigrant neighborhoods included both immigrants and their first-generation children; succeeding generations followed.

For the first time, the 1880 Census recorded the street address for people living in cities across the country, including Brooklyn. In addition, the Census Bureau organized the Census collection by dividing population concentrations into Enumeration Districts, small geographical areas, often one or two city blocks. For the 1880 Census in Brooklyn, 250 Enumeration Districts (EDs) were mapped. Brooklyn’s population was concentrated in the EDs along the East River; the rest of the county remained sparsely settled where a primarily agricultural economy persisted. Development of the Sunset Park waterfront had just begun with a population of less than 5,000. By comparison, the EDs in the Cobble Hill, Carroll Gardens and Red Hook were home to 31,580 residents.



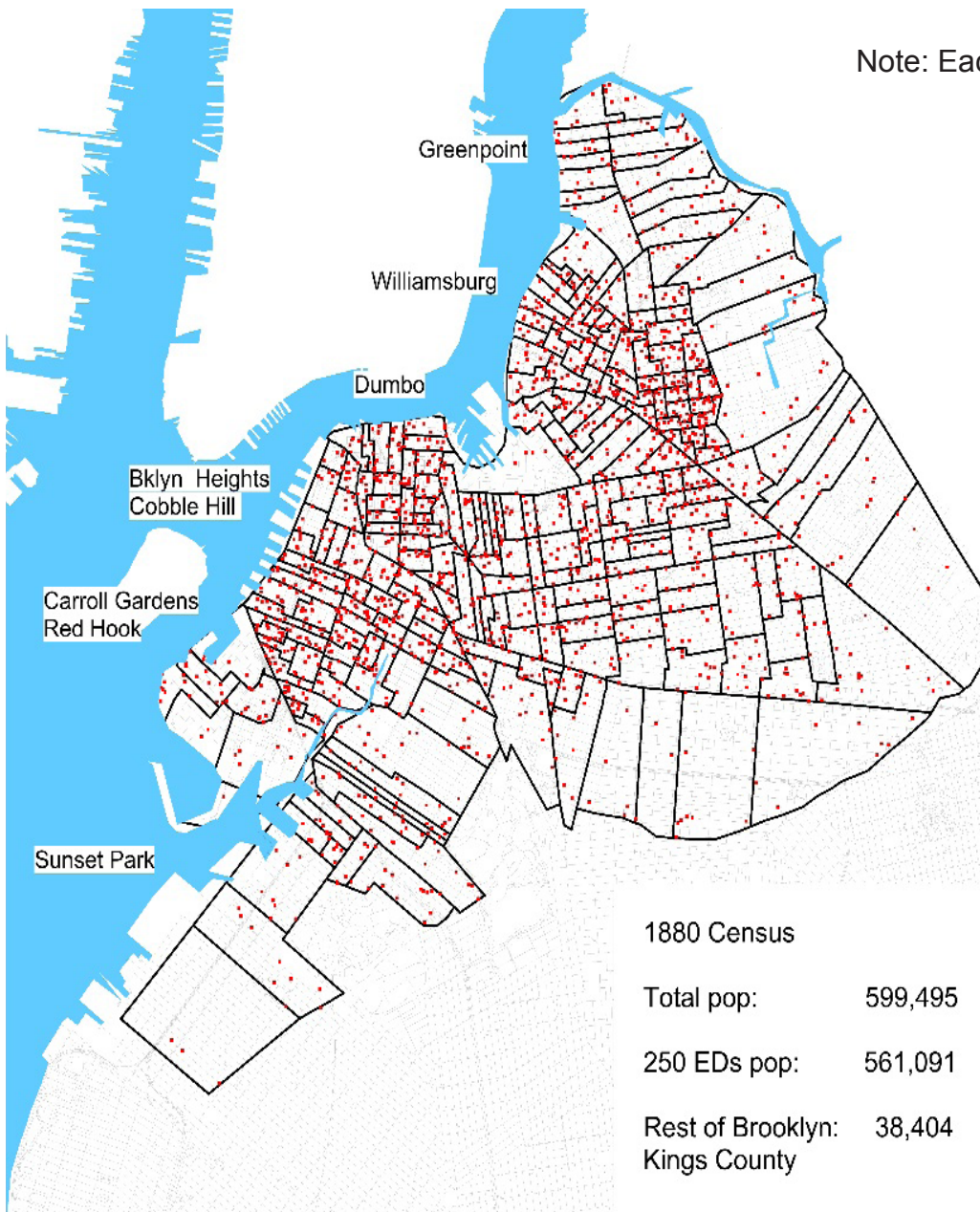


Williamsburg, Dumbo, Brooklyn Heights Waterfront



Red Hook - Erie Basin, Gowanus Canal, Sunset Park, Bush Terminal

Source: NYCity Map 1924 aerial map found at: [maps.nyc.gov/doitt/nycitymap/](https://maps.nyc.gov/doitt/nycitymap/)



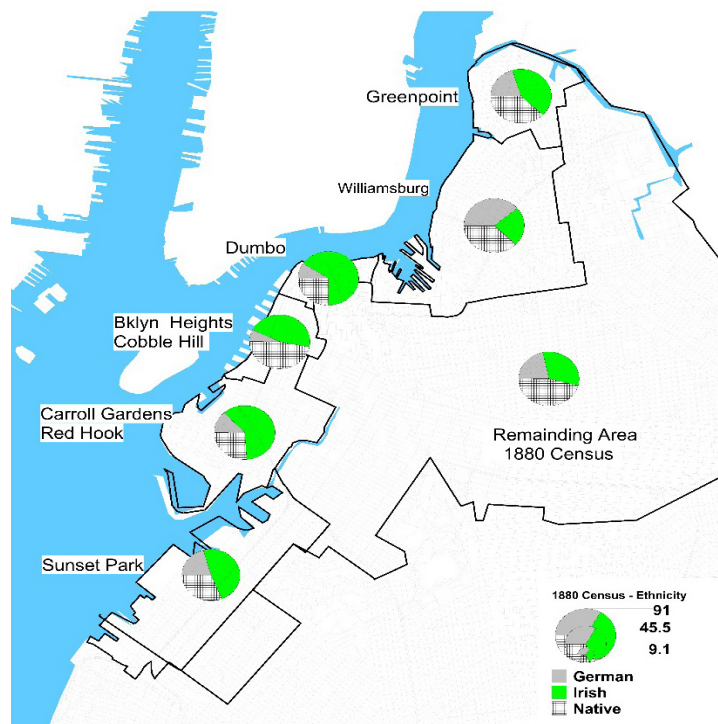
**Map 8** 1880 Census: Population Density by Enumeration District (ED)

Complex ethnic patterns emerged with the waterfront neighborhoods significantly different from each other. German immigrants settled in Williamsburg and the Irish did not, illustrating patterns of chain migration. Along the Williamsburg streets, German would be the language spoken. Today in Brooklyn this ethnic pattern persists with Spanish, Creole, and Russian the first languages heard on many streets.

**Table 1** 1880 Census – EDs & Waterfront Neighborhoods

	All EDs N = 250	Outside Water-front EDs = 138	Water-front Neighborhoods EDs = 112	Green-Point EDs = 12	Williams-burg EDs = 8	Dumbo EDs = 8	Heights Cobble Hill EDs = 25	Carroll Gardens Red Hook EDs = 8	Sunset Park EDs = 25
<b>Native</b>	35.8	40.7	29.9	33.4	33.6	21.8	41.7	22.9	25.2
<b>German</b>	20.8	19.4	22.9	17.9	35.4	8.2	8.2	11.5	17.4
<b>Irish</b>	31.0	28.1	36.1	36.6	2.1	57.5	41.5	53.3	40.0

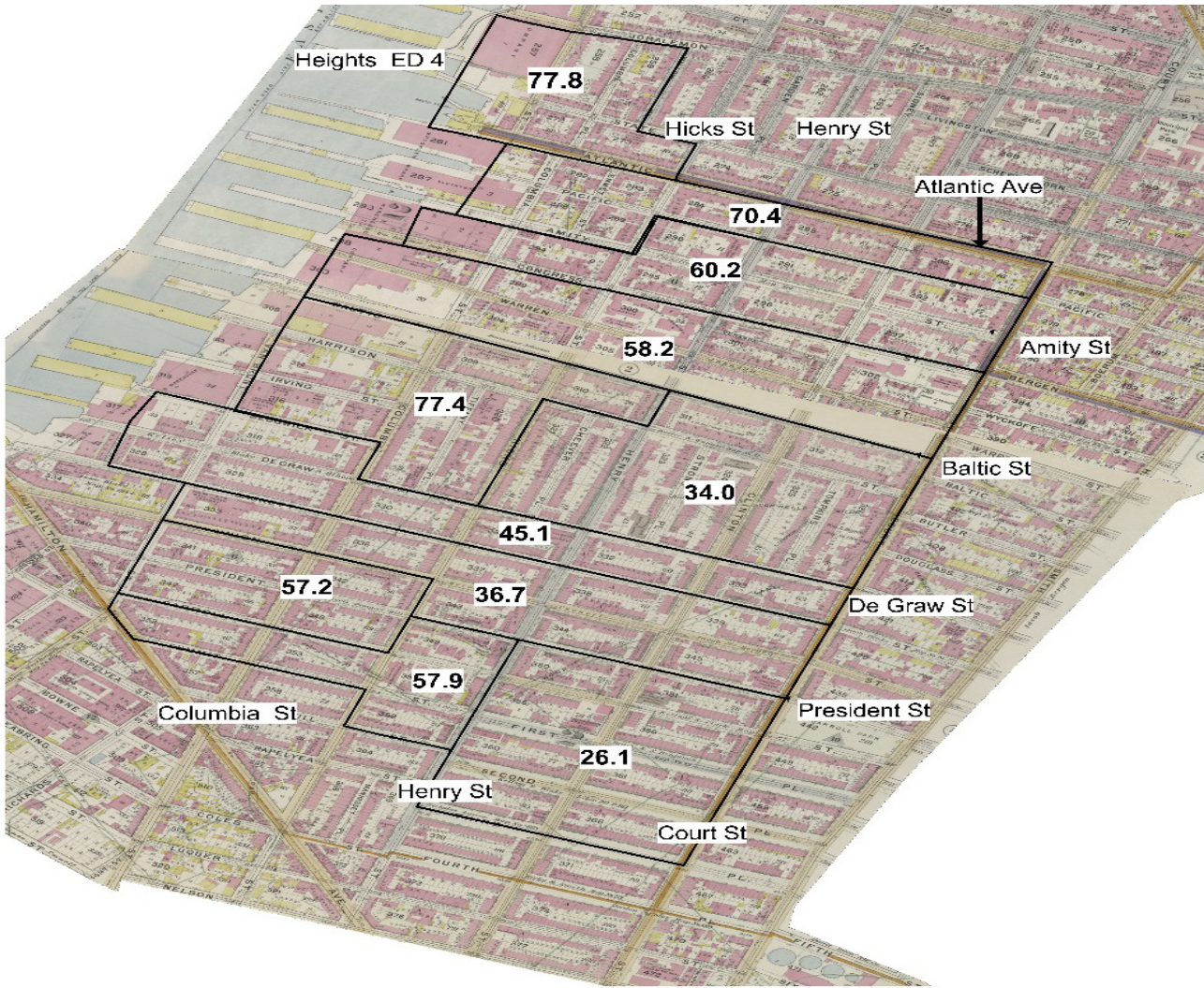
Note: Native – born US & parents born US; German – born Germany + 1<sup>st</sup> Gen born US; Irish - born Ireland + 1<sup>st</sup> Gen born US



**Map 9** 1880 Census - Ethnicity

Four waterfront neighborhoods had significantly higher concentrations of Irish than for Brooklyn as a whole: Dumbo – 57.5 percent, Carroll Gardens, Red Hook – 53.3 percent, Brooklyn Heights, Cobble Hill – 41.5 percent and Sunset Park – 40 percent. If the spatial scale is changed to focus on the ten EDs in Cobble Hill and Carroll Gardens, ethnic separation becomes more striking. For example, in ED 39 adjacent to the docks, 77 percent of the population was born in Ireland or were first-generation

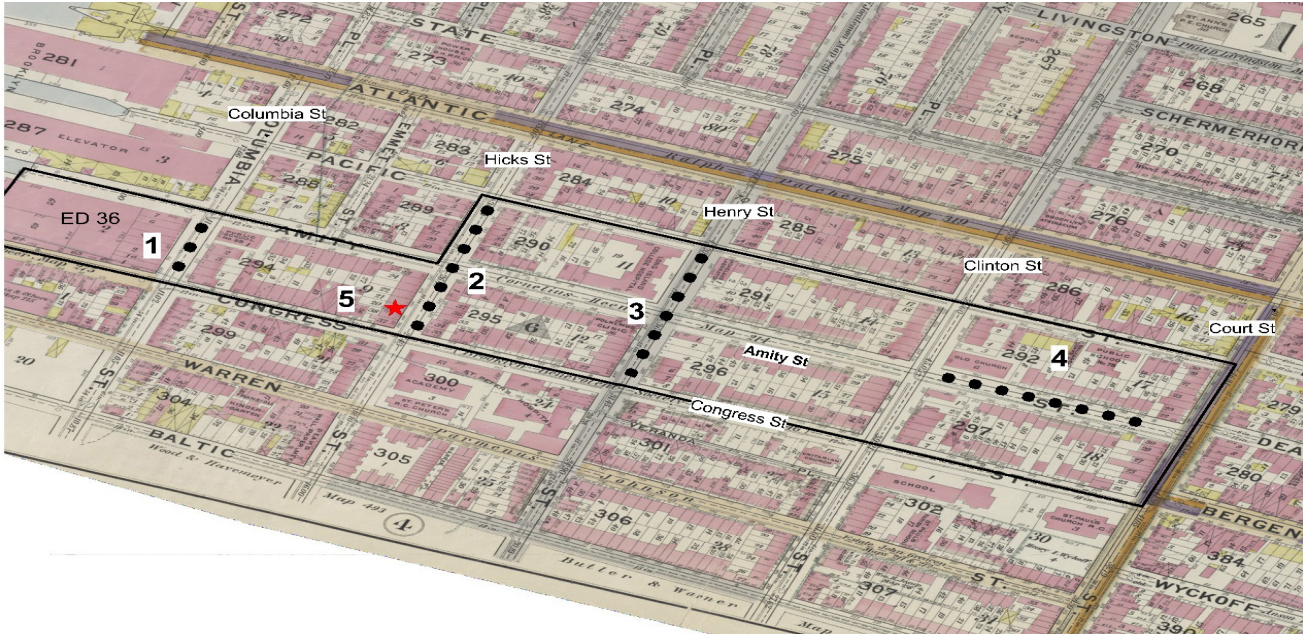
Irish. By contrast ED 44 between Henry and Court streets was just 26.1 percent Irish. The Brooklyn Heights ED 4, north of Atlantic Avenue to Joralemon Street and fronting the East River piers, had the third highest percent of Irish residents in Brooklyn - 77.8 percent. ED 100 in Red Hook, on the Erie Basin, had the highest concentration: 85.2 percent.



**Map 10** Cobble Hill – Carroll Gardens 1880 Census EDs - percent Irish  
 Source: Base map: NYPL MapWarper – Bromley street maps circa 1880s

The spatial segregation of the Irish in ED 36 (60.2 percent Irish) is apparent when the analysis shifts to the city block and building level. The five blocks from Court Street down to Columbia Street and the waterfront differ dramatically.

On the north side of first block (# 4) on Amity Street there were (and still are) thirteen brownstones. In each, lived a single family and each household had at least one live-in servant; the Klingenbergs and Bloosoms had three. Half of the 21 servants were Irish. The heads of household all had professional occupations, including: a physician, a “China” merchant, oil refiner, dry goods merchant, and a bank president. Hugh Boyd, the dry goods merchant, and Keran O’Brien, a real estate broker, were born in Ireland.



**Map 11** 1880 Census ED 36 – Cobble Hill

- City blocks:
- 1 Columbia btw Amity & Congress
  - 2 Hicks btw Pacific & Congress
  - 3 Henry btw Pacific & Congress
  - 4 Amity btw Court & Clinton
  - 5 382 Hicks

Down Amity Street toward the harbor, the blocks were increasingly Irish. Crossing Henry Street the neighborhood changed dramatically. Just a short distance farther down toward the waterfront on Hicks Street, the Irish predominated. On Columbia Street, right across the street from the piers, almost all residents were Irish.

**Table 2** 1880 Census ED 36 - Cobble Hill

	<b>ED 36</b>	<b>Block 1 Columbia</b>	<b>Block 2 Hicks</b>	<b>Block 3 Henry</b>	<b>Block 4 Amity</b>	<b>382 Hicks</b>
<b>Population</b>	3,353	143	565	236	91	44
<b>Native</b>	16.9	0	2.7	27.1	42.9	0
<b>German</b>	6.7	1.4	.3	7.1	15.3	0
<b>Irish</b>	60.1	91.3	89.5	20.8	17.7	88.9

The eight families living in 382 Hicks Street were all Irish, a total of 44 people in a four story tenement.<sup>15</sup> Thirteen men over the age of 15 worked and 7 of them worked the docks. Thomas Murtagh and his son John were longshoremen along with John Kelly, Jason Daly, and his son Joseph. Michael Flannery and Dennis Ryan worked as “day laborers” on the docks. As the shoreline infrastructure expanded after the Civil War, Irish immigrants, their sons, and then their grandsons worked the docks. The Irish waterfront lasted for over a hundred years. In “On the Waterfront,” the 1954 Academy Award winning movie starring Marlon Brando, the characters have Irish names and many speak with a brogue echoing ethnic stereotypes that persisted over time. In Brooklyn, Italian immigrants would eventually replace the Irish on the docks.

## Twentieth Century: Population Density and Ethnic Diversity

The Brooklyn waterfront neighborhood populations grew, as did the city of Brooklyn. For the period from 1880 to 1940, Brooklyn was one of the fastest growing places in the United States. By 1940 Brooklyn’s population exceed Manhattan’s by over 800,000 people.

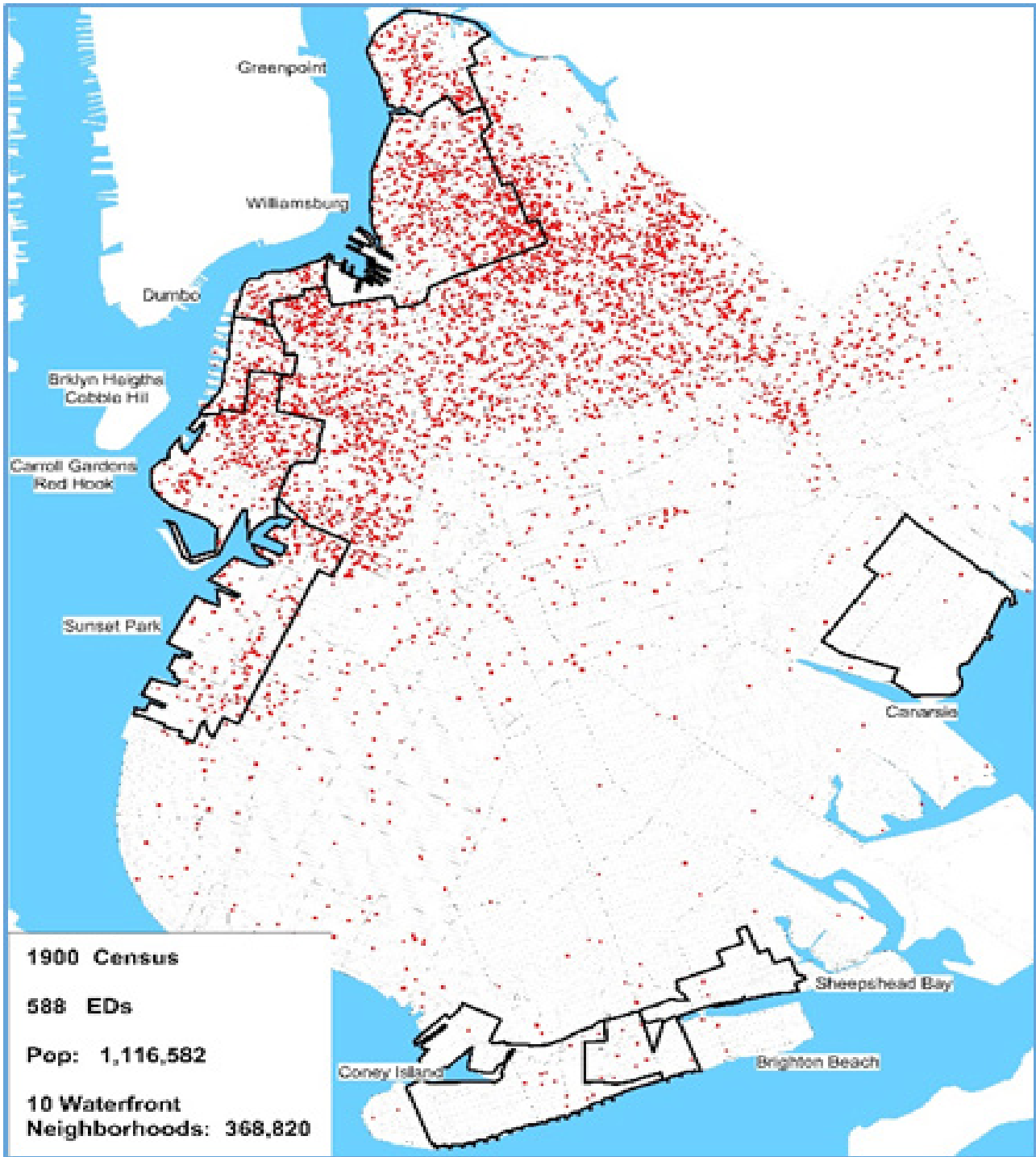
**Table 3** Brooklyn, Manhattan & New York City: Population 1880 - 1940

Year	Brooklyn	Manhattan	NY City*
1880	599,495	1,164,673	
1900	1,166,582	1,850,093	3,437,202
1910	1,634,351	2,331,542	4,766,883
1920	2,018,356	2,284,103	5,620,048
1930	2,560,401	1,867,312	6,930,446
1940	2,698,285	1,889,924	7,454,995
<b>Percent increase 1880 - 1900</b>	94.6		
<b>Percent increase 1900 -1930</b>	119.5		

\* 5 boroughs after consolidation in 1898.

Major improvements in the city’s transportation system sustained the dramatic growth of Brooklyn: the Brooklyn Bridge (1883), Manhattan Bridge (1909), and the first subway line (IRT) between Manhattan and downtown Brooklyn (1908). Myriad street cars and railroads followed as did the expansion of the subways throughout the borough. The port of New York remained the busiest in the country and manufacturing flourished in Brooklyn and throughout the metropolitan region.

For 1900 the Census Bureau delineated Enumeration Districts (EDs) for the entire City – a total of 588, including EDs for Coney Island, Brighton Beach, Sheepshead Bay, and Canarsie. In addition to the dramatic growth in the overall population, the ethnic diversity of Brooklyn changed as immigration to the United States continued into the twentieth century. Many more individuals now arrived from eastern and southern Europe. As more immigrants settled in the waterfront neighborhoods, the demand for housing intensified and thousands of three- and four-story tenements were constructed and filled. Conditions in the Brooklyn tenements mirrored those described by Jacob Riis in the Five Points and 4<sup>th</sup> Ward neighborhoods in Manhattan.<sup>16</sup> Before 1940, the census Bureau did not collect housing data: population density (Pop./Sq M) provides a surrogate for overcrowding. In five of the six waterfront neighborhoods along the East River and the harbor, population density exceeded 50,000 people per square mile crammed into the three- and four-story tenements. A decade later Williamsburg’s density exceeded 76,000 people per square mile!



**Map 12** Population Density by Enumeration District (ED) 1900 Census

Not only did the population grow, ethnic diversity increased dramatically. Immigration from Ireland and Germany slowed. Millions of Jewish immigrants from Russia and Eastern Europe fled centuries of persecution to seek religious freedom in the United States and settled in Williamsburg.



Scandinavians moved to Carroll Gardens - Red Hook and Sunset Park, another example of chain migration. Immigrants from Italy began to arrive and settle in Brooklyn by 1900 to be followed by millions more Italians in the next two decades before restrictions closed the “Golden Door” with the Immigration Act of 1924.

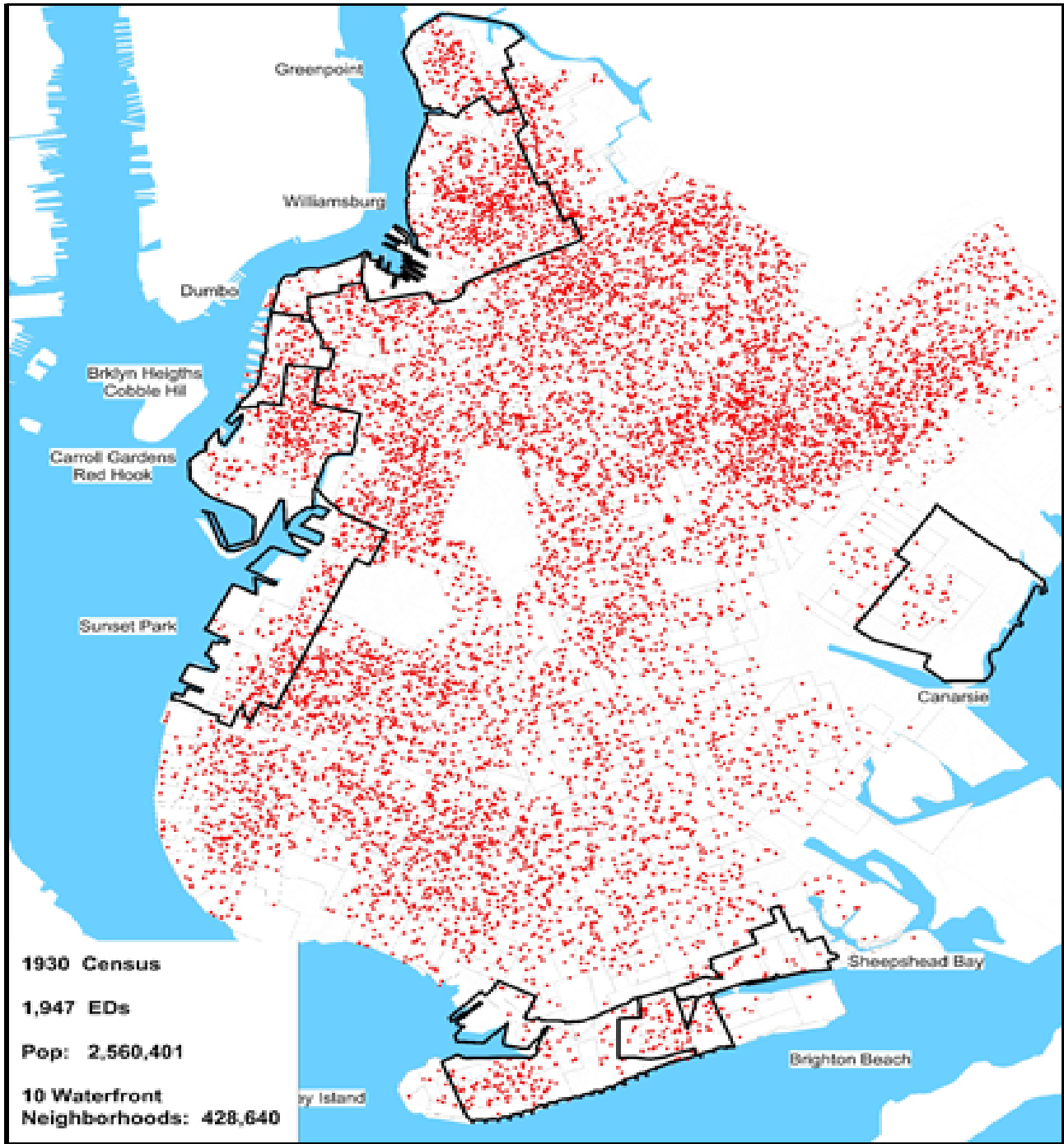
**Table 4** 1900 Census: Ethnicity – Brooklyn Waterfront Neighborhoods

	<b>Pop. 1900</b>	<b>Native</b>	<b>German</b>	<b>Irish</b>	<b>Italy</b>	<b>Scan.</b>	<b>E. Europe Russia</b>
<b>Greenpoint</b>	45,920	27.3	22.2	26.8	1.3	2.2	5.1
<b>Williamsburg</b>	153,060	21.0	27.7	14.6	7.0	1.7	<b>15.0</b>
<b>Dumbo</b>	19,000	23.5	7.9	37.1	<b>12.1</b>	2.5	2.5
<b>Heights - Cobble Hill</b>	23,280	28.2	6.7	35.1	7.0	3.4	2.9
<b>Carroll Gardens - RH</b>	75,720	18.3	11.8	35.8	9.7	<b>12.3</b>	1.0
<b>Sunset Park</b>	40,740	19.7	13.7	22.0	6.3	<b>12.5</b>	6.2
<b>Coney Island</b>	3,560	46.6	6.2	11.8	5.6	1.1	14.0
<b>Brighton Beach</b>	3,440	22.1	12.8	15.7	17.4	3.5	15.7
<b>Sheepshead Bay</b>	1,820	33.0	28.6	15.4	0	1.1	.0
<b>Canarsie</b>	2,280	40.4	31.6	7.0	0	1.1	14.0

Note: Scan. – Scandinavia: Finland, Norway, Sweden E. Europe: Poland, Hungary, Romania

For the next three decades, Brooklyn’s population continued to grow to over 2.5 million people in 1930 and became even more diverse. Italian immigrants and their children settled in Carroll Gardens and Red Hook and made up over 50 percent of the residents. Jewish immigrants from Russia moved to Coney Island, Brighton Beach, and Canarsie.

To some extent the Irish and Germans in Brooklyn disappear in the 1930 Census. A third- or fourth-generation Irish or German would be classified “Native” because they were born in the US and their parents also were. Their Irish and German ancestry, which in many cases remained strong, would come from the grandparents and in many cases their great-grandparents who immigrated in the 1840s.



**Map 13** Population Density by Enumeration District (ED) 1930 Census

The US Census today measures ethnicity/ ancestry by including a direct question: “What is your ancestry?” Respondents self-identify and describe their ancestry by tracing back over many

generations. In the most recent American Community Survey, 45 million people self-identified their ancestry as German, 32.5 million as Irish, 23.9 million as British, and 17 million as Italian – 37 percent of the entire population of 321 million. Ethnic identification remains strong in Brooklyn as it does in many places across the United States.

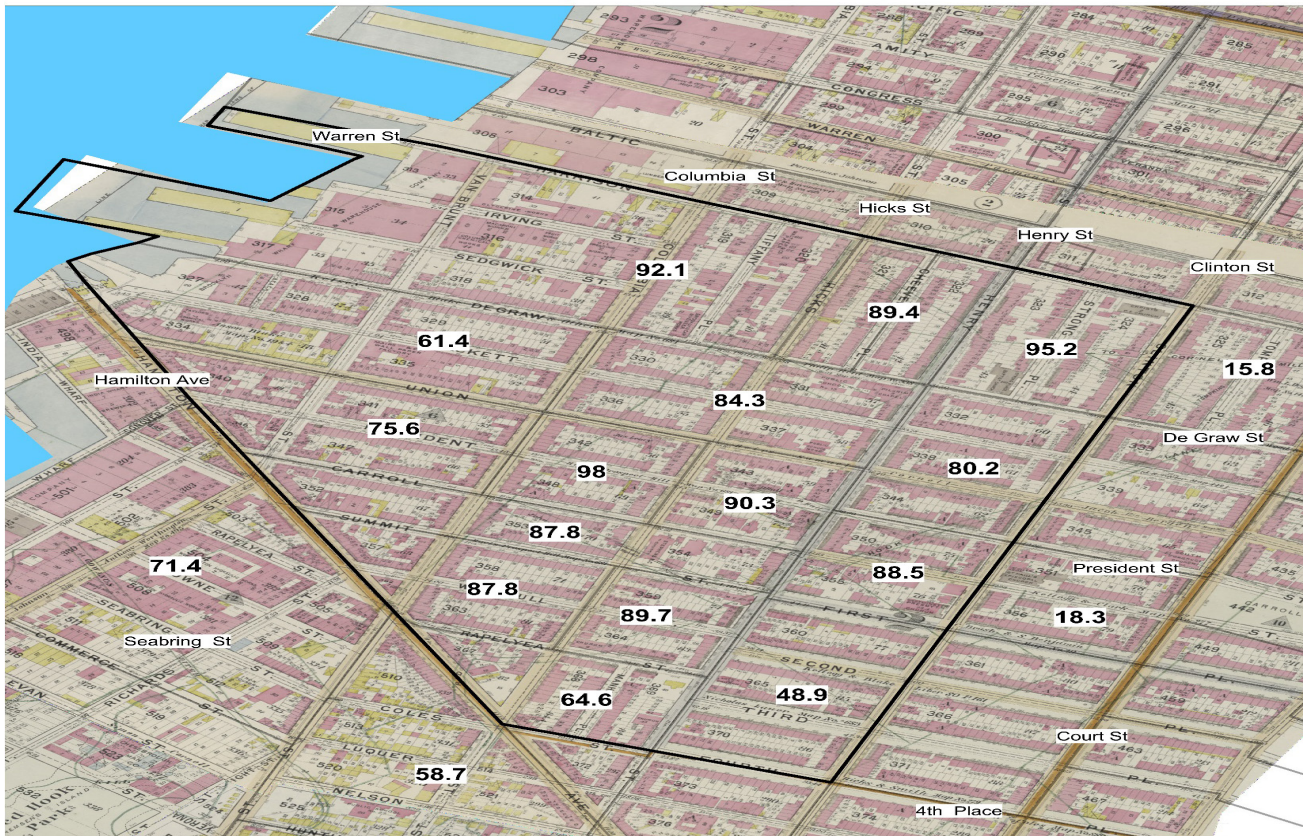
Millions of Italian immigrants arrived in New York in the first two decades of the nineteenth century and faced daunting challenges. Most spoke Italian as their first language, had little formal education, and no skilled occupation. They had little choice but to take the lowest paid jobs, which demanded hard labor for ten or twelve hours a day, including working the docks. Following the Irish and German immigrants who preceded them, they moved to ethnic enclaves where they found a welcome and an established, supportive religious and cultural world.

Italian immigrants and their children comprised 19 percent of the Brooklyn population in 1930. The 1930 Census data clearly illustrates the pattern of chain-migration to specific waterfront neighborhoods: Sheepshead Bay, Sunset Park, and especially Carroll Gardens and Red Hook.

**Table 5** 1930 Census - Ethnicity

	Pop.	Native	Irish	German	Italy	E. Europe	Russia
<b>Brooklyn</b>	2,560,401	20.4	6.9	5.6	<b>19.2</b>	10.1	17.7
<b>Greenpoint</b>	40,340	19.2	13.8	4.7	3.1	39.3	4.4
<b>Dumbo</b>	9,660	17.0	13.0	2.7	21.3	6.6	1.7
<b>Heights - Cobble Hill</b>	21,160	30.2	9.9	3.3	18.2	1.4	2.7
<b>Carroll Gar. - Red Hook</b>	68,620	15.7	11.5	2.3	<b>51.6</b>	.8	1.4
<b>Sunset Park</b>	66,220	17.4	10.2	6.8	25.3	10.6	1.7
<b>Williamsburg</b>	150,300	12.7	2.8	2.8	21.9	24.1	17.0
<b>Coney Island</b>	34,840	6.0	2.0	1.3	17.6	20.0	<b>32.5</b>
<b>Brighton Beach</b>	23,040	8.0	.3	2.3	4.4	15.8	<b>43.1</b>
<b>Sheepshead Bay</b>	5,200	40.0	8.1	3.8	27.7	1.5	.4
<b>Canarsie</b>	9,260	23.1	2.8	8.4	13.2	4.3	<b>29.6</b>

Working the docks necessitated finding a place to live on the waterfront. On the blocks below Clinton Street and down to the docks, the spatial segregation of the Italians was intense. In 1930 Enumeration Districts the area below Clinton, from Warren Street to Hamilton Avenue, 24,100 people lived, of whom 83 percent were Italian. In a number of the EDs Italians made up over 90 percent of the population, a concentrated ethnic enclave.



**Map 14** 1930 Census: Carroll Gardens – Red Hook % Italian

The Immigration Act of 1924 ended the Century of Immigration; the total number of legal immigrants was limited to 163,000 people a year. The 1924 law set each country's quota on the percentage of immigrants recorded in the 1890 census—a blatant effort to limit Jewish and Italian immigration. In the first decade of the twentieth century, over 2,000,000 Italians came to American. After 1924, the law set Italy's quota at 3,845 a year and Russia's at 2,248, slamming the Golden Door closed.

## Brooklyn Waterfront Housing Crisis

The Great Depression descended on the New York metropolitan region in the 1930s. Desperate men and women walked the streets of the city searching for a job or a bread line. Far fewer people came to America as economic opportunity disappeared. After a half-century of dramatic population growth, Brooklyn's population increased by just 138,000 thousand between 1930 and 1940. Tenements on the blocks closest to the shoreline had far fewer residents or were in disrepair and many were soon to be abandoned.

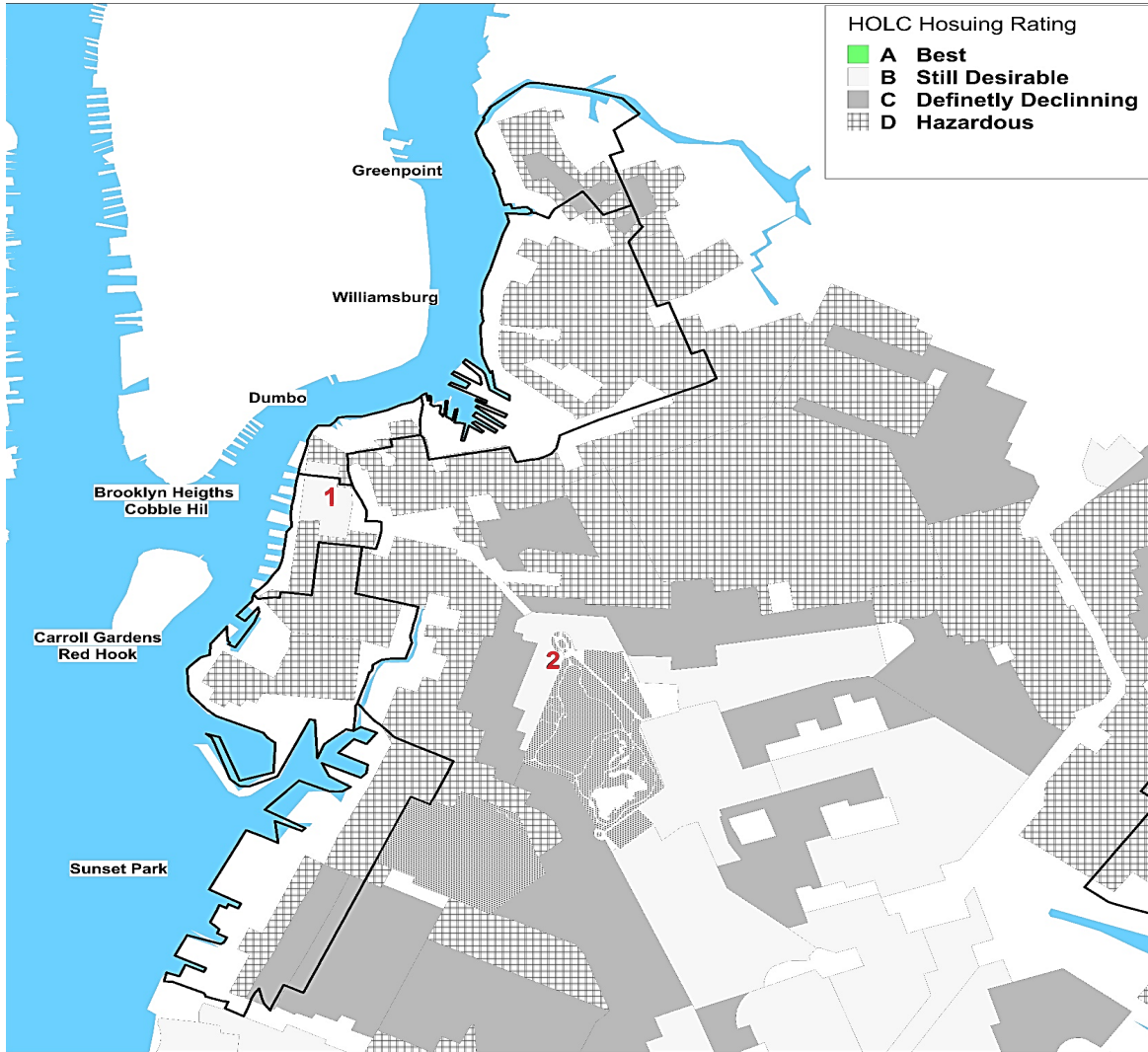
Historians of the New Deal usually laud the myriad of programs that brought relief to millions. The WPA put hundreds of thousands back to work in New York City, including on Robert Moses' highway, bridge, and tunnel projects. In Red Hook, construction of the Red Hook Houses provided decent housing for thousands of families.

New Deal housing initiatives during the Depression included the Home Owners Loan Corporation (HOLC) and Federal Housing Authority (FHA). The HOLC refinanced over a million mortgages in danger of default and also systematically appraised the value of housing in neighborhoods across the United States.<sup>17</sup> The HOLC rated each neighborhood's housing using four categories: A (Best), B (Still Desirable), C (Definitely Declining), and D (Hazardous). A final step involved creating detailed maps of all of the cities and color-coding each neighborhood using the four categories with red used for D – the neighborhoods with the most “deteriorated” housing. From this work by the HOLC comes the term “redlining.” In cities across the country, almost all African-American and ethnic neighborhoods were “redlined.” In these neighborhoods, the HOLC would not refinance existing housing or finance new construction, resulting in a continued spiraling downward of these “redlined” neighborhoods. The FHA, in turn, provided mortgage guaranties, which enabled millions to buy homes in the suburbs, but would not guarantee mortgages in redlined neighborhoods or in addition C (Definitely Declining). For Brooklyn, the 1938 HOLC appraisals proved devastating.



**Map 15** Brooklyn, Waterfront Neighborhoods & HOLC Ratings – 1938  
 Note: blank spaces – primarily industrial, commercial, parkland

Of the 64 neighborhoods defined by the HOLC, only one in Bay Ridge was rated as A (Best) and 17 as B (Still Desirable). All the remaining were ranked as either C (Definitely Declining) (n=24) or D (Hazardous) (n = 22), the latter – “redlined.” In the waterfront neighborhoods along the East River and Upper Bay, there was only one neighborhood where the housing was rated as “Still Desirable” – parts of Brooklyn Heights. The HOLC redlined all of the housing in Williamsburg, Cobble Hill, Carroll Gardens, Red Hook, and Sunset Park along the shoreline as “Hazardous.” The nearest neighborhood with housing rated as “Still Desirable” was Park Slope.



**Map 16** Waterfront Neighborhoods & HOLC Ratings – 1938

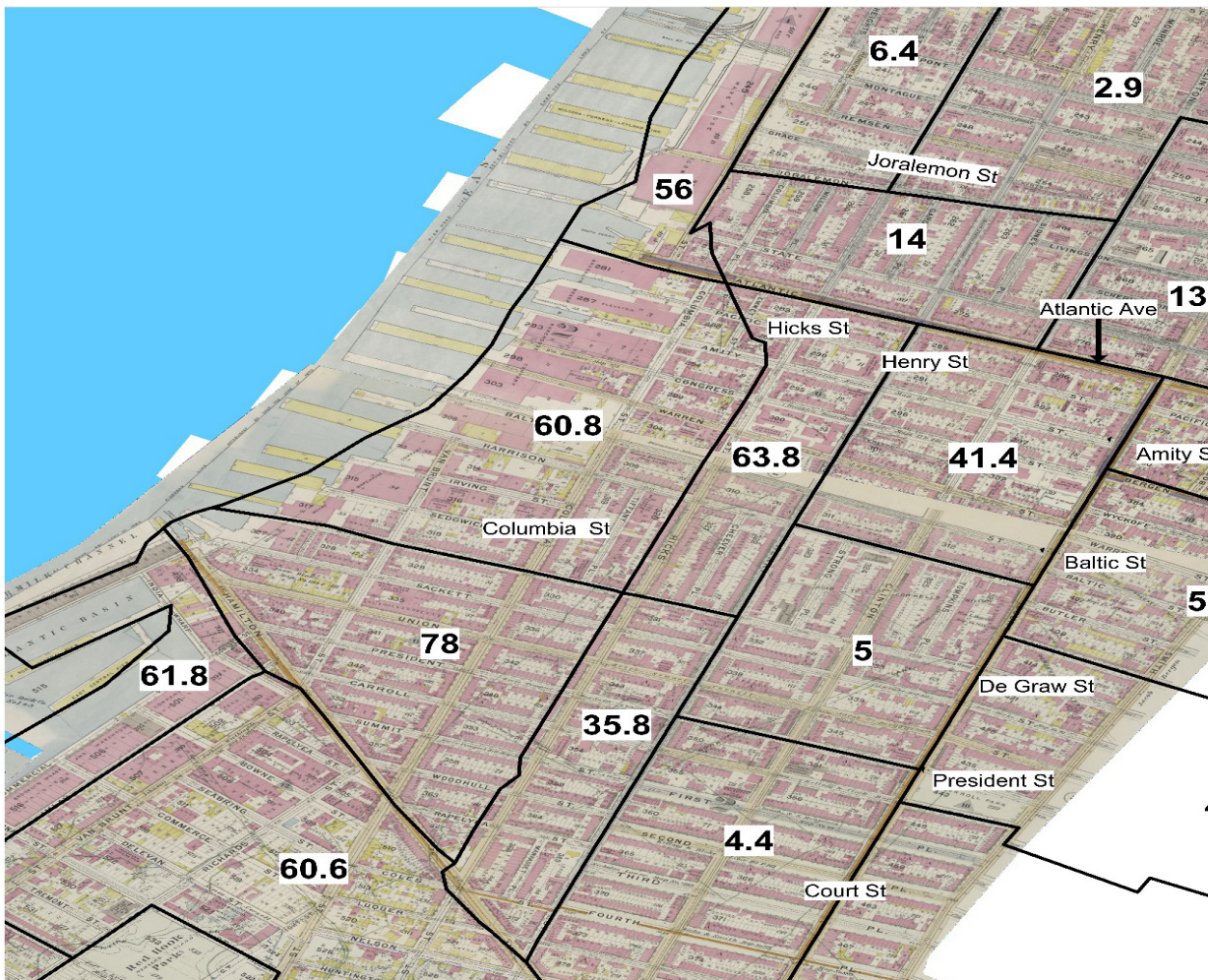
Note: 1 – Brooklyn Heights 2 - Park Slope

Financing for existing housing or new construction disappeared from large parts of Brooklyn. The HOLC redlining continued well into the post- World War II era. The 1960 Census of Housing rated housing in each Census tract as: “sound,” “deteriorated,” or “dilapidated” – the last two categories approximated the HOLC— C and D categories. The waterfront neighborhoods throughout Brooklyn had the highest concentration of “deteriorated” and “dilapidated” housing in 1960 just as they did in 1938.

**Table 6** Brooklyn Housing 1940 - 1960

Brooklyn	1940	1960	
<b>Total Housing Units</b>	674,958	973,619	
		Units	Percentage
<b>Sound (No Repair)</b>		737,343	75.8%
<b>Deteriorated</b>		209,260	21.5 %
<b>Dilapidated</b>		27,016	2.7 %

In the Census tracts along the waterfront from Atlantic Avenue to the Atlantic Basin, the percentage of deteriorated and dilapidated housing ranged from 56 percent to 78 percent. In the block up from the waterfront close to Court Street, almost all of the housing was classified as “sound” and not in need of any repair.



**Map 17** 1960 Census Tracts --Percent of Housing Deteriorated + Dilapidated  
 Source- base maps: NYPL Mapwarper – 1890s Bromley street maps



## The Post War Era and the Near Death of the Waterfront

Brooklyn's waterfront played an important part in World War II. The Navy Yard employed more than 70,000 people who worked around the clock, seven days a week for four years. Ships crowded the piers at the Bush Terminal, loading millions of tons of supplies for the war in Europe. Longshoremen worked long hours and returned home to their crowded tenements along the shore. Brooklyn had an acute shortage of housing through the war years, building materials were rationed, and there was little new residential construction; maintenance of the existing housing stock fell far behind.

The 1950s brought unimaginable change. Returning GIs married; the Baby Boom followed putting even more pressure on the Brooklyn housing stock. Deindustrialization began and suburbanization followed. Millions left Brooklyn for what many saw as the "Promised Land" in Nassau and Suffolk counties. Brooklyn's post-war population fell from 2.7 million in 1950 to less than 2.2 million in 1980, a loss of half a million people.

Robert Moses, beginning in the 1930s, built bridges, tunnels, and highways that completely changed the transportation system in the New York metropolitan region, cementing the ascendancy of the automobile and truck.<sup>18</sup> The Port of New York's dominant position also declined. In 1951, the port handled 151 million tons of cargo while Boston, Philadelphia, Mobile, and New Orleans handled 353 million tons.<sup>19</sup> On the waterfront, crime and corruption flourished. Theft on the docks reached epic proportions, costing shippers an estimated \$ 200 million a year. The International Longshoremen's Association (ILA) stood by as mobsters controlled the docks and made the lives of the longshoremen a living hell.<sup>20</sup> Organized crime bosses Albert and Anthony Anastasia controlled the Brooklyn docks with an iron hand. Fewer and fewer ships arrived and departed from both Manhattan and Brooklyn docks. Chintz describes the slow death of the waterfront as "A Century of Slowing Down."<sup>21</sup>

The container revolution dealt the final death blow to the Brooklyn and Manhattan industrial waterfront. In a brief period, a way of life on the piers and in the waterfront neighborhoods disappeared. This revolution began in 1956 when Malcolm McLean loaded 58 containers onto his ship, the Ideal-X, in

Newark Bay bound for Houston, Texas. No one could have anticipated the dramatic changes that would follow. The Port of New York moved from the Brooklyn and Manhattan shoreline to Newark and Elizabeth, N.J. The N.Y, N.J. Port Authority in 2015 reported that the port handled 3,602,508 containers. Brooklyn's only container facility along the Red Hook waterfront handled 110,000 containers – a mere 3 percent of the total volume. Across the harbor in Newark Bay, the Port Authority's huge container facilities flourished. In 1965 there were 2.3 million days of longshoremen's labor on the Brooklyn waterfront. One decade later, that number had fallen to 930,000. Levinson described the demise of the Bush Terminal: "...employment there had fallen 78 percent in the decade (1965-75). Brooklyn's once mighty cargo-handling industry was a shadow of its former self." <sup>22</sup>

Brooklyn's manufacturing world also disappeared, as companies moved from the waterfront neighborhoods out of the city to suburban locations where space was available for large one-story buildings, adjacent to the new highways Moses built. Manhattan and Brooklyn lost 357,000 manufacturing jobs between 1956 and 2013.

Racial change accelerated in the second half of the twentieth century and continues to the present day. In 1940, African-Americans were 4.1 percent of Brooklyn's population; by 1960 the Black population reached 15 percent, most of whom lived in Bedford-Stuyvesant. The US Census in 1960 tabulated the Hispanic population (by surname) as 7 percent of Brooklyn's residents. Today the population is 36 percent African-American, 34 percent White, 18 percent Hispanic, and 12 percent Asian – one of the most diverse places in the United States.

Brooklyn's waterfront neighborhoods, historically linked to the port of New York and the city's manufacturing base, suffered. By 1960, the population in the six neighborhoods along the harbor declined by 26 percent. Tens of thousands of Brooklyn families, in search of decent housing, had moved to the suburbs where bank financing and FHA mortgage guaranties were readily available.

On October 5<sup>th</sup>, 1977, President Jimmy Carter made a dramatic visit to the South Bronx and walked across a landscape of devastation and abandonment that looked like Berlin at the end of World War II. The President could have visited Columbia Street on the Brooklyn waterfront and viewed

the same scene of urban decay. The waterfront neighborhoods hollowed out as the more affluent continued to leave for the suburbs. Those who remained had an increasingly difficult time finding a job that provided a decent income. Extreme poverty characterized the waterfront and many other neighborhoods through Brooklyn.

**Table 7** Brooklyn Waterfront Neighborhoods: Population 1940 - 1960

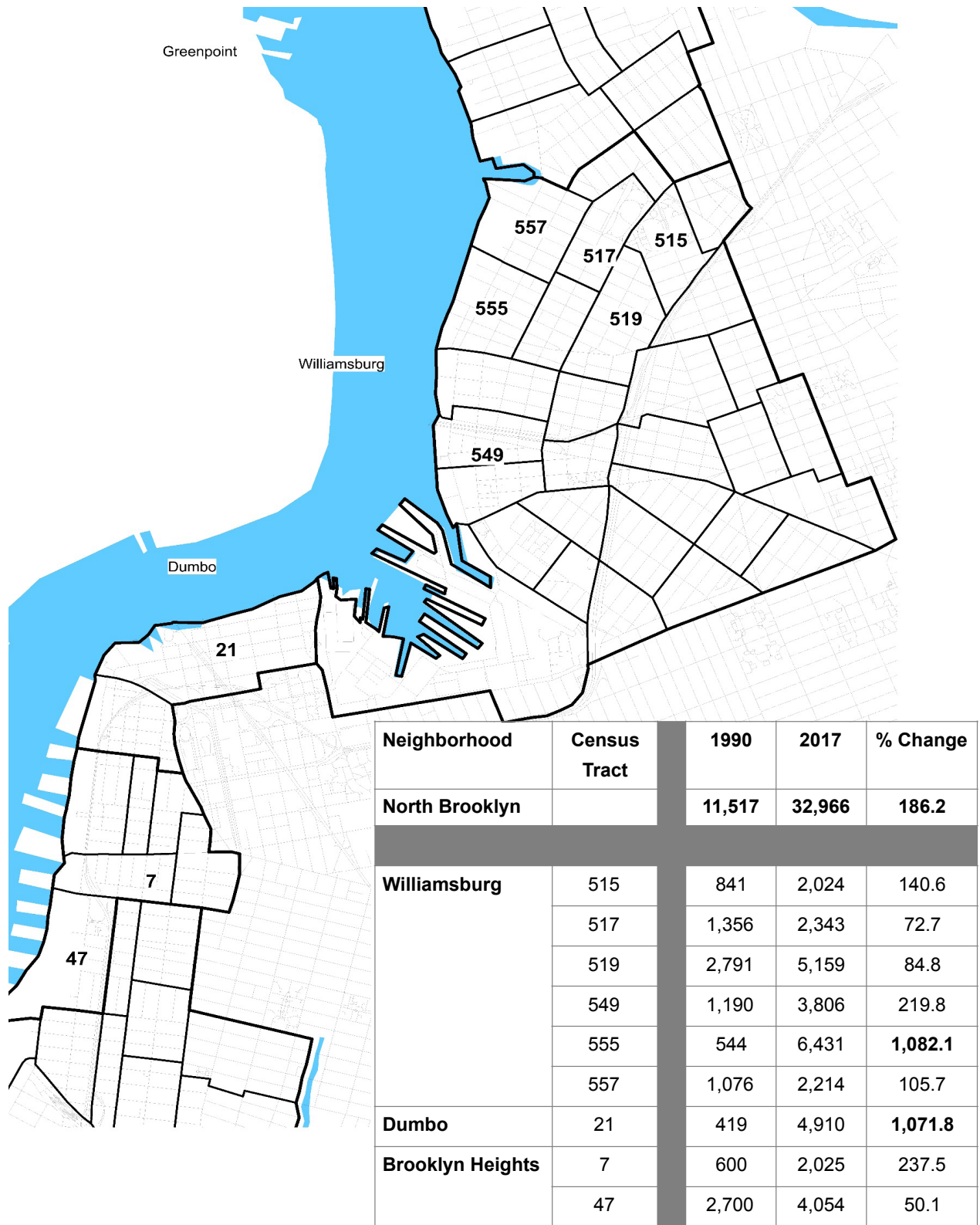
	1940		1960
<b>Brooklyn</b>	<b>2,698,285</b>		<b>2,628,285</b>
<b>10 Waterfront Neighborhoods</b>	<b>459,569</b>		<b>396,620</b>
<b>Greenpoint</b>	57,854		29,056
<b>Dumbo</b>	13,138		4,464
<b>Bklyn. Heights - Cobble Hill</b>	33,568		20,700
<b>Carroll Gar. - Red Hook</b>	68,620		60,428
<b>Sunset Park</b>	49,461		51,711
<b>Williamsburg</b>	138,904		119,908
<b>Sub – Total</b>	<b>361,545</b>		<b>286,267</b>
<b>Coney Island</b>	41,515		33,075
<b>Brighton Beach</b>	21,209		31,486
<b>Sheepshead Bay</b>	19,260		15,398
<b>Canarsie</b>	16,040		30,394
<b>Sub - Total</b>	<b>98,024</b>		<b>110,353</b>

## Economic Transformation

After the despair of the 1960s, 70s, and 80s, parts of Brooklyn and especially the waterfront neighborhoods were once again transformed. The waterfront is no longer a place of piers, docks, and basins filled with maritime commerce or with thousands of manufacturing companies and warehouses on the streets nearby. Many of the tenements and brownstones that remain have been renovated in Brooklyn Heights, Cobble Hill, Carroll Gardens, and Red Hook. In the late 1950s, the Brownstone movement began in Brooklyn Heights and spread block by block to the neighborhoods south of Atlantic Avenue.<sup>23</sup> In Dumbo, Greenpoint, and Williamsburg the zoning changes effected during the Bloomberg mayoralty resulted in the construction of tall apartment towers along the waterfront while many warehouses and old factory buildings were converted to luxury condominiums. Additionally, from Greenpoint to Sunset Park, waterfront parks have created a new landscape for leisure and recreation.

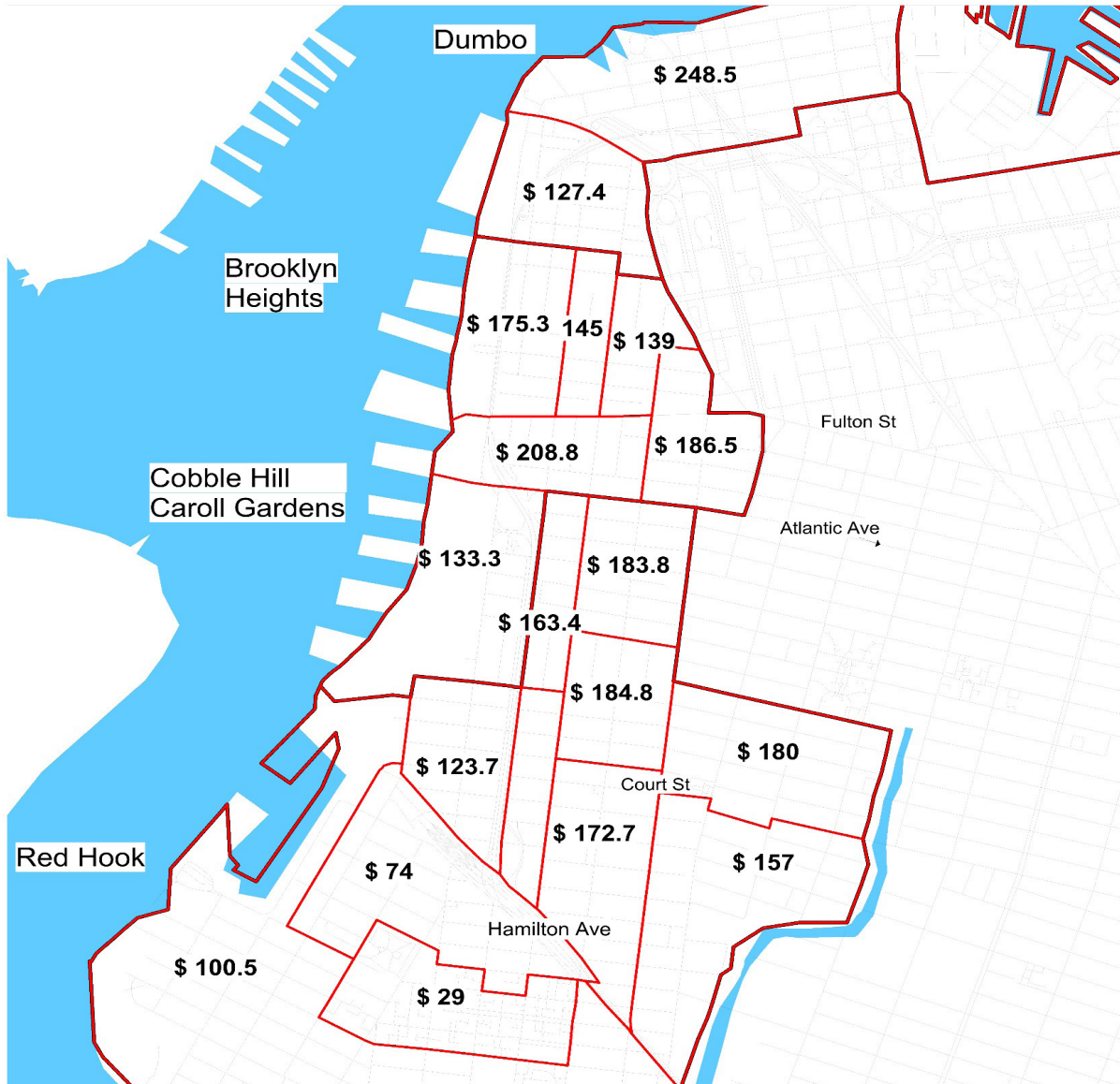
In several of Brooklyn's waterfront neighborhoods there has been significant population change since 1990. Almost all of the 115 tracts in the ten neighborhoods experienced population increases, in some cases at very dramatic rates of increase. Eleven tracts in Williamsburg, six in Canarsie, three in Brooklyn Heights and Cobble Hill, and one each in Coney Island and Brighton Beach had a population increase of over 50 percent.

Population change has been most dramatic right on the waterfront, across from where ships crowded the piers for hundreds of years. Affluent young professionals have moved to the shore reversing more than four decades of population decline. Between 1990 and 2017, in nine waterfront Census tracts from Williamsburg to Brooklyn Heights, the population almost doubled from 11,517 to 32,966. In two areas, the population increase exceeded 1,000 percent.



**Map 18** Waterfront Census Tracts: Williamsburg, Dumbo, Brooklyn Heights Pop. Change 1990 – 2017

Celebration of change on the Brooklyn waterfront is not without controversy. From Dumbo to Red Hook, renovated or new housing is affordable only for the affluent. In 2015 the average household income in Brooklyn stood at \$ 83,177. In the two Dumbo tracts, household income was \$127,431 and \$ 248,521 – three times the average in Brooklyn. In every tract in Brooklyn Heights, Cobble Hill, and Carroll Gardens average income exceeded \$100,000.



**Map 19** Census 2015 – Average Household Income  
 Note Nos. = 1,000 Ex. \$ 123.7 = \$123,700

By comparison, in the thirteen tracts in Sunset Park income ranged between \$47,000 and a high of \$77,000, well below the average income in Brooklyn. The Red Hook Houses stand apart with average income of \$27,000 for each household. An affordability crisis challenges long-time residents and thousands of households with modest income.

Ethnic and racial change has transformed Sunset Park, Coney Island, Brighton Beach, Sheepshead Bay, and Canarsie creating new ethnic enclaves. These areas mirror the enclaves of Irish, Germans, Italians, and other Europeans in the nineteenth and first half of the twentieth century.

Brooklyn, once a pastoral farming community across the river from Manhattan, developed into a thriving maritime industrial world that drew millions of immigrants. Diverse ethnic communities emerged, a pattern that continues to the present day. The city streetscapes reflected a shipping and industrial world that remained intact until after World War II when the post-industrial era began. The demise of that world was devastating and the future looked bleak. A rebirth began that has transformed some of the waterfront neighborhoods along the East River and the harbor. The demise of the maritime waterfront has allowed a reimagining of space and the redevelopment of the entire shorefront from Newtown Creek to Atlantic Avenue. Instead of piers and factories, a new cityscape of parkland and expensive residential housing has emerged. Today the most valuable real estate assets are the views and access to the shoreline.

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## NOTES

1

Population 1698 - 1900		
Year	Brooklyn Kings County	New York Manhattan Island
1698	2,017	4,937
1749	2,283	13,294
1771	3,623	21,863
1790	4,495	33,131
1840	47,613	312,710
1880	599,495	942,292
1900	1,166,582	1,850,093

Source: U.S. Census, *A Century of Population Growth* (1909); Census of Population (1990)

<sup>2</sup> A “wharf” is the bulkhead parallel to the streets along the rivers and harbor ex. South St, West St., Furman St., Columbia St. A “pier” is a platform built out into the river at a right angle to the river front street

<sup>3</sup> See Schlichting: *Waterfront Manhattan: From Henry Hudson to the High Line* (Baltimore, 2018) Chap. 2.

<sup>4</sup> New York Municipal Archives, Department of Ports and Trade, *Water Grants*, Accession No. 92-61

<sup>5</sup> Commissioners of Police, *Annual Report 1865* (New York, 1866).

<sup>6</sup> Annual Report of the Commissioner of Navigation, 1888.

<sup>7</sup> US Census Bureau: Census of Manufactures – 1860

<sup>8</sup> US Census Bureau: Census of Manufactures – 1880, 1900

<sup>9</sup> Wallace, *Greater Gotham*, (New York. 2017) 189.

<sup>10</sup> See Schlichting: *Grand Central’s Engineer*, Chap 1. (Baltimore, 2012).

<sup>11</sup> Vessels, Tonnage – Port of New York – Direct Foreign Service

Year	Entered		Departed		Total Ships
	Ships	Tonnage	Ships	Tonnage	
1907	4,315	11,984,297	3,863	11,473,334	8,178
1910	4,419	12,405,673	3,755	12,962,709	8,204
1916	5,192	13,213,919	5,388	13,843,473	10,580

Source: 1860 Albion, Rise of New York Port; 1907 - 1916 Port Development Commission, Joint Report

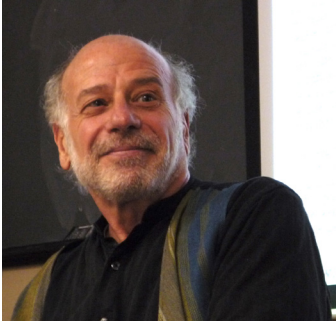
<sup>12</sup> Department of Docks, *Annual Report 1909* (New York, 1910).

<sup>13</sup> Gallager, Bush Terminal, *Encyclopedia of the City of New York* (New York, 1995)



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- <sup>14</sup> The source of the historic and modern Census data is the University of Minnesota Population Center. Census data for 1880 to 1940 – IPUMS: <https://www.ipums.org/>; Database for 1960 to 2017 Census data – National Historic Geographical Information System: <https://www.nhgis.org/>
- <sup>15</sup> 1880 Census data - 382 Hicks Street Ancestry.com accessed Feb., 2019
- <sup>16</sup> Riis, *How the Other Half Lives* (New York, 1890).
- <sup>17</sup> Jackson, "Race Ethnicity, and Real Estate Appraisal: The Home Owners Loan Corporation and the Federal Housing Administration," *Journal of Urban History*, 1980, 422
- <sup>18</sup> Caro, *The Power Broker* (New York, 1974).
- <sup>19</sup> Kihss, "Pier Growth Here Way Behind Rivals," *New York Times*, Aug 13, 1953, 38.
- <sup>20</sup> Johnson, "Crime on the Waterfront" – 21 articles in the *New York Sun*, 1947-48 – won Pulitzer Prize
- <sup>21</sup> Chintz, "A Century of Slowing Down", Chap 2, *Freight and the Metropolis*, (Boston, 1960)
- <sup>22</sup> Levinson, *The Box: How the Shipping Container Made the World Smaller and the World Economy Bigger*, (Princeton, 2006).
- <sup>23</sup> Osman, *The Invention of Brownstone Brooklyn: Gentrification and the Search for Authenticity in Postwar New York* (New York, 2011).

# Biographies



## Tom Angotti

Tom Angotti is Professor Emeritus of Urban Policy and Planning at Hunter College and the Graduate Center, City University of New York. He was the founder and director of the Hunter College Center for Community Planning and Development. His recent books include *Zoned Out! Race, Displacement and City Planning in New York City*; *Urban Latin America: Inequalities and Neoliberal Reforms*; *The New Century of the Metropolis*; *New York for Sale: Community Planning Confronts Global Real Estate*, which won the Davidoff Book Award; and *Accidental Warriors and Battlefield Myths*. He is an editor of *progressivecity.net*

and Participating Editor for *Latin American Perspectives* and *Local Environment*. He is active in community and environmental issues in New York City.



## Illya Azaroff

Illya Azaroff, AIA, is an Associate Professor at New York City College of Technology (CUNY), and founding principal of +LAB architect PLLC, a leader in disaster mitigation, resilient planning strategies and design. Currently, he is working with FEMA/ANCR on developing curriculum for resilience as well as with the City of New York on the 2019 Hazard Mitigation Plan. Azaroff served as a Technical Advisor to Assistant Secretary for Preparedness and Response, informing the National Disaster Recovery Framework. He served as a subject matter expert with the Rockefeller Foundation 100 Resilient Cities, and his studio

is engaged in resilient planning and design projects, including resilient residential prototypes under construction in Breezy Point New York. In 2014 he received the AIA National Young Architect Award, and is founding co-chair of both the DfRR and the AIA Regional Recovery Working Group, receiving the 2015 component Excellence Award. Azaroff is currently serving on the AIA National Strategic Council 2016-2018.



## Nicholas Dagen Bloom

Nicholas Dagen Bloom is a Professor of Social Science at New York Institute of Technology, where he teaches courses in American history, New York history, design history, and city planning. He is author/editor of eight books from leading academic presses, Co-Editor in Chief of the *Journal of Planning History*, and serves as a frequent reviewer/guest critic of scholarly manuscripts, student architectural proposals, and published works in urban history. He has also been interviewed and quoted on housing and other topics in leading national and regional media sources including WNYC, *The New York Times*, the *Daily News*,

*The Wall Street Journal*, and *NPR Marketplace*. He is an editorial writer on various New York urban affairs and public policy topics.



### Martin Dunn

Martin Dunn is a leader in the fields of housing and community development in New York City. Over the last 25 years, Dunn has been involved in the development of more than 3,700 units of affordable housing. Since 1998, he has been President of Dunn Development Corp., a socially conscious, award-winning real estate developer with expertise in affordable and supportive housing. Dunn Development Corporation's mission is to build the highest quality housing for low- and middle-income New Yorkers, including those with disabilities and other special needs. Dunn is also an active advocate on housing and homelessness

issues in New York City and New York State.



### Deborah Gans

Deborah Gans, FAIA is a Professor of Architecture at Pratt Institute and principal at Gans and Company, a design studio in Red Hook Brooklyn. Much of her practice engages the linked environmental and social dimensions of design. In both New Orleans after Hurricane Katrina and in Sheepshead Bay Brooklyn after Superstorm Sandy, she worked with neighborhoods and interdisciplinary teams of professional to produce resilient masterplans for varying community scales. Gans and Co. were architects for 83 modular houses for New York City's post-Sandy reconstruction, the City's first such modular effort. She has also consulted

with the NYC Department of Emergency Management on their community-based planning and visions for regional sustainability.



### Michael Higgins, Jr.

Michael Higgins Jr. is a member-turned-organizer at Families United for Racial and Economic (FUREE) and a native of Fort Greene, Brooklyn. Higgins first joined the Accountable Development campaign, before engaging more deeply in work around public housing. He now organizes FUREE members around environmental justice, civic participation, and further inclusion of public housing in the greater housing justice movement in New York City.



### Russell Hotzler

Russell K. Hotzler became the eighth president of New York City College of Technology/CUNY in 2004. A native New Yorker, Hotzler holds BS and MS degrees in metallurgical engineering and a PhD in physical metallurgy from the Polytechnic Institute of Brooklyn. Hotzler served as University Vice Chancellor for Academic Planning and as Interim President at several CUNY Colleges before joining City Tech. During his tenure at City Tech, enrollments have risen by over 50 percent to 17,400 and the number of full-time faculty has also risen by 50 percent to 425. He has led the College's first major construction project in over 30 years—the newly opened Academic Building that houses the City Tech's science and clinical health programs. City Tech is seen today as a significant source of the highly educated technical workforce necessary to the economic vitality of New York.



### Frank Lang

Frank Lang is the Director of Housing for the St. Nicks Alliance, a 43-year-old community development organization, based in North Brooklyn that provides a variety of programs to residents and businesses. Lang has overseen all housing programs at St. Nicks since 2006, including real estate development, tenant assistance, and property management. Lang has worked in the community development field for more than 25 years both at St. Nicks and previously as Director of Planning and Development for Asian Americans for Equality. He is a former board member of the Association for Neighborhood Housing Development. Mr. Lang is a visiting Assistant Professor at Pratt Institute in Brooklyn. He is trained as an architect with a BA from Columbia University and a Master's Degree from the University of Pennsylvania.



### Brendan McBride

Brendan McBride has worked in the affordable housing and community development field for nearly two decades with both nonprofit and for-profit developers, managing the development of housing for low- and moderate-income individuals and families in a wide range of cities and towns in NY and NJ. He now serves as Associate Commissioner for New Construction at NYC's Department of Housing, Preservation and Development, where he oversees the divisions that provide funding for the construction of new affordable housing for New Yorkers, including supportive housing and initiatives to permanently house formerly homeless individuals and families.



### John Mangin

John Mangin is Senior Counsel at the New York City Department of City Planning and an Adjunct Assistant Professor of Urban Planning at NYU's Robert F. Wagner Graduate School of Public Service. Prior to that, he was a teaching fellow at Georgetown University Law Center and worked in affordable housing development and litigation for Fair Share Housing, an organization that grew out of the Mount Laurel exclusionary housing suits in the 1970s and '80s. He is the author of "The New Exclusionary Zoning" in the *Stanford Law and Policy Review* and "Ethnic Enclaves and the Zoning Game" in the *Yale Law and Policy Review*.

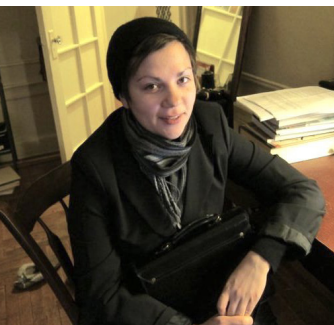
He was also a Yale Law Public Interest Fellow at the CUP (Center for Urban Pedagogy), where he co-authored "What Is Affordable Housing?" and "What Is Zoning?" and co-designed and fabricated the Sewer in a Suitcase. He is a graduate of Yale Law School.



### Michael Marrella

Michael Marrella is the Director of Waterfront and Open Space Planning for the New York City Department of City Planning. He is responsible for directing waterfront land use policy for the agency and oversees the agency's climate resiliency planning portfolio. Marrella also advises the Chair and members of the City Planning Commission on the planning and land use issues affecting waterfront and open space areas, manages the staff of the Waterfront and Open Space Division, and acts as the primary liaison to a wide range of stakeholders, including elected officials, community organizations, and private sector entities

on matters of land use, zoning, and economic development related to waterfront and open space. He is also an adjunct professor at both Hunter College and the Pratt Institute. Born in New York City, Marrella holds a Master in City Planning from MIT and a BA from Vassar College.



### Oksana Mironova

Oksana Mironova is a housing policy analyst at the Community Service Society of New York, where her research focuses on housing issues affecting low-income New Yorkers. Her writing has appeared in *Metropolitica*, *Urban Omnibus*, and the *Journal of International Planning Studies*. She grew up in Coney Island, Brooklyn and holds a Master of Urban Planning degree from CUNY Hunter.



### Michele Moore

Michele Moore is the Director of Recovery and Resilience at the New York City Housing Authority (NYCHA), where she oversees the largest grant in FEMA history—over \$3 billion—to repair and protect 33 severely damaged NYCHA developments. Superstorm Sandy devastated over 10 percent of NYCHA’s housing stock and affected nearly 60,000 public housing residents. Moore is working to expand NYCHA’s \$3 billion to not just repair NYCHA’s housing stock, but to rebuild better and smarter, significantly improving structural resiliency and better protecting residents from future disasters due to climate change. She is incorporating into NYCHA’s Sandy recovery program the goals of Next Generation NYCHA—the housing authority’s long-term strategic plan to create safe, clean, and connected communities and to preserve New York City’s public housing assets for the next generation.



### Fabiana Meacham

Fabiana Meacham is the Chief of Staff for the Office of Policy & Strategy at the Department of Housing Preservation & Development. She has managed a range of policy and operational initiatives while at HPD, including the implementation of a citywide fair housing assessment and development of the multifamily resiliency retrofit program under Build it Back. Prior to joining HPD, she consulted for the World Bank on urban infrastructure projects throughout Brazil. She holds a Master in Urban Planning from Harvard University and a BA from Brown University.



### Rona Reodica

Rona Reodica is the Assistant Commissioner at NYC’s Department of Housing Preservation and Development’s Division of Building and Land Development Services (BLDS). BLDS, which is the largest division in the Office of Development, is tasked with implementing the Mayor’s Housing Plan, *Housing New York 2.0*, and assuring that HPD-assisted affordable housing projects are designed with quality and constructed in a safe and timely manner. Reodica has been with HPD since 2006 and oversees the architectural, engineering, environmental, cost evaluation, and construction services for both new construction and preservation projects. Prior to her career at HPD, Reodica spent time in Manila, Philippines as a Fulbright Scholar conducting research on “Housing and Community Development for the Urban Poor” and served as a volunteer in Puerto Rico, where she assisted a non-profit organization with the construction of a school and community center. She holds a Bachelor of Architecture from the University of Notre Dame, and a Master of Urban Planning (International Specialization) from New York University.



### Brenda Rosen

Brenda E. Rosen was appointed President and CEO of Breaking Ground in July 2011, having first joined the agency in 1999. She is the agency's chief liaison with community leaders and other stakeholders and is charged with supporting Breaking Ground's Board of Directors in their oversight responsibilities to assure the agency's continual fiscal and programmatic stability and their ability to set future strategic direction of agency activities and priorities. Rosen is Board Chair of the Supportive Housing Network of New York, serves on the board of Homeless Services United, is an advisory member of both the New York State Department of Health Medicaid Redesign Team and New York Housing Conference, co-Chaired Mayor de Blasio's Supportive Housing Taskforce, and frequently lectures on the role of supportive housing in the life and vitality of today's urban environment. She holds a J.D. from the Benjamin N. Cardozo School of Law and received her B.A. from Hunter College. Prior to joining Breaking Ground, Rosen was Assistant General Counsel at the New York City Department of Homeless Services.



### Kurt Schlichting

Kurt Schlichting is the E. Gerald Corrigan '63 Chair in Humanities and Social Sciences and a Professor of Sociology at Fairfield, where he has served as the Dean and Associate Dean of the College of Arts and Sciences. His most recent book, *Waterfront Manhattan: From Henry Hudson to the High Line* (Johns Hopkins University Press), was published in 2018. His previous book, *Grand Central Terminal: Railroads, Architecture and Engineering in New York*, (also Johns Hopkins University Press), won the Association of American Publishers, 2002 Best Professional/ Scholarly Book (Architecture and Urbanism) and was the basis for the 2008 PBS - *The American Experience*: "Grand Central," an award-winning documentary. Schlichting's research uses GIS to analyze historical immigration data and the rise of the American city with a focus on New York. He recently contributed a chapter: "Kleindeutschland," the Lower East Side in New York City at Tompkins Square in the 1880s: Exploring Immigration Patterns at the Street and Building Level," for the *Routledge Handbook of Spatial History*, edited by Ian Gregory et. al. (2017).



### Alex F. Schwartz

Alex F. Schwartz is a Professor of Public and Urban Policy at the New School. He is the author of *Housing Policy in the United States: 3rd Edition* (Routledge, 2014) and co-author with Rachel Meltzer of *Policy Analysis as Problem Solving: A Flexible and Evidence-Based Framework* (Routledge, 2018). He is the Managing Editor for North America for the international journal *Housing Studies*.



### Rachel Eve Stein

Rachel Eve Stein is the Deputy Director for Sustainability and Resiliency at the Center for New York City Neighborhoods. She manages the FloodHelpNY Home Resiliency Audit and Backwater Valve Installation Program, in addition to citywide energy sustainability outreach under NYSERDA's Community Energy Engagement Program. Before joining the Center and after working at the New York State Assembly and the US House of Representatives, she managed sustainable energy outreach initiatives on behalf of the New York State Public Service Commission and NYSERDA. Rachel has been a community organizer

for over a decade, working on political, issue, and neighborhood-based campaigns. Rachel received her B.A. from Boston University, majoring in Social Movements and the Democratic Process.



### Michelle de la Uz

Michelle de la Uz has served as Executive Director of Fifth Avenue Committee (FAC) since 2004. Michelle oversees FAC's mission and comprehensive programs serving more than 5,500 low- and moderate-income neighbors. Prior to FAC, she was Program Director for the Center for Urban Community Services in Washington Heights and Harlem and oversaw social services in supportive housing. From 1995-99, de la Uz was Congresswoman Nydia Velazquez' first Director of Constituent Services and directed her South Brooklyn District Office. De la Uz is the first in her working-class immigrant family to graduate from

college, is a product of bi-lingual education, a former trustee of Connecticut College, and recipient of the Ford Foundation's Leadership for a Changing World award. De la Uz also serves on the National Board of Directors of the Local Initiative Support Corporation (LISC) and was appointed in April of 2012 by the then Public Advocate Bill de Blasio to serve on the New York City Planning Commission.



### Cea Weaver

Cea Weaver is the campaign coordinator for Upstate/Downstate Housing Alliance, where she is coordinating the Housing Justice for All campaign. HJ4A is organizing tenants and homeless New Yorkers across the state to strengthen and expand tenant protections and invest in deeply affordable and supportive housing in New York. Prior to this, Weaver was the Research and Policy Director at New York Communities for Change. At the Urban Homesteading Assistance Board, she worked alongside tenant leaders in Brooklyn to support the Crown Heights Tenant Union. She has a Masters in Urban Planning from NYU Wagner.





### Renae Widdison

Renae Widdison is currently Director of Land Use and Planning for New York City Council Member Carlos Menchaca. Her graduate thesis research was recently published by Pratt Center as the report *Flawed Findings: How NYC's Approach to Measuring Displacement Risk Fails Communities*. Widdison is committed to addressing the twin crises of climate change and racial and economic injustice in her planning work.



### Dan Wiley

Dan Wiley is Congresswoman Nydia Velázquez's Southwest Brooklyn District Director. He has coordinated projects and initiatives from that office covering waterfront communities from Downtown Brooklyn to Red Hook, Gowanus, and Sunset Park since 2000. He has team-taught in the urban design fall studio at Columbia University (GSAPP) as a part-time Adjunct Assistant Professor (2009-2012), and many of those students have gone on to work on resiliency and rebuilding projects following Hurricane Sandy. He also served as an Education Coordinator at Brooklyn Center for the Urban Environment (1993-1999). He holds an MA in Urban Geography from Hunter College, CUNY (2007), a BFA from Cooper Union (1987), and Whitney Museum Independent Study Program fellow (1988). His work can be found in *If You Lived Here: The City in Art, Theory, and Social Activism*, (Bay Press, 1991) and master's thesis: *Planning Brooklyn Bridge Park: The Political Economy of Place* (2007). He serves on the boards of Center for Urban Pedagogy (CUP) and the Brooklyn Waterfront Research Center .



### Tevina Willis

Tevina Willis is a lifelong Brooklynite, community organizer, educator, resident of Red Hook Houses, and Local Leaders Facilitator at the Red Hook Initiative. Willis participated in the first cohort of Local Leaders five years ago and today runs the English-speaking program. Shortly after graduating from the Local Leaders program, she founded her own non-profit organization which trains residents in community organizing and builds capacity of local non-profits. Willis joined RHI as a staff member in 2016 and in addition to Local Leaders, she organizes and manages the Red Hook Hub, an online and physical community bulletin board. She is very passionate about helping her fellow community members to become advocates for making positive change for themselves and their neighborhood.



Jessica Yager

Jessica Yager is the Vice President of Policy and Planning at Win (Women in Need), the largest provider of family shelter in New York City. At Win, Yager leads the policy and research/evaluation teams. Prior to joining Win, Yager was the Executive Director of the NYU Furman Center, a leading policy research center focused on affordable housing. While at the Furman Center, she worked on numerous research, data, and policy projects related to affordable housing, housing security, and homelessness. Prior to joining the NYU Furman Center, Yager was the founding Director of the Foreclosure Prevention Project at Queens Legal Services, where she supervised a team of lawyers and paralegals working on foreclosure defense and predatory lending cases. She has also worked as a senior staff attorney at the Office of the Appellate Defender; a clinical teaching fellow at the Center for Social Justice at Seton Hall University School of Law; and as a law clerk to the Honorable Napoleon A. Jones, Jr., United States District Court for the Southern District of California. Yager received a J.D. from New York University School of Law, where she was a Root-Tilden-Kern Public Interest Scholar, and a B.A. from Wesleyan University.

## BWRC Conference Planning Staff



Celia Castellan

Celia Castellan serves as Project Coordinator at the Brooklyn Waterfront Research Center. Prior to BWRC, Castellan served as a Senior Organizer at Transportation Alternatives where she managed multiple campaigns to redesign New York City's most dangerous streets into people-friendly corridors. In addition to her community organizing, Castellan has served in project management roles for the New York Immigration Coalition and New York Cares. Currently, she is pursuing her MA in Liberal Studies at The Graduate Center (CUNY) with a focus on urban social movements and urban policy. She received her BA in Urban Studies and Hispanic Studies from Vassar College.



Richard Hanley

Richard E. Hanley is the director of the Brooklyn Waterfront Research Center at New York City College of Technology (City Tech) of the City University of New York (CUNY). A professor of English at City Tech, he is the founding editor of the *Journal of Urban Technology*, an international journal published by Taylor and Francis and devoted to the interaction of technologies and cities. He is also the board chair of the CUNY Institute for Urban Systems. Hanley has led several National Endowment for the Humanities initiatives that have been awarded to City Tech including Water and Work and Along the Shore, an NEH American Landmarks Summer Institute focusing on the landmarks of Brooklyn's industrial waterfront. He was the general editor of the *Networked Cities* book series published by Routledge, the editor of *Moving People, Goods, and Information in the 21st Century*, and the co-editor of *Sustaining Urban Networks*, both published by Routledge and part of the *Networked Cities* series.



### Emily Holloway

Emily Holloway is a master's candidate in American studies at the City University of New York (CUNY) Graduate Center and holds an MS in urban policy and planning from Hunter College. Her research focus is on the politics of urban deindustrialization, land use, and neighborhood change. Currently a project coordinator with CUNY's Brooklyn Waterfront Research Center, she has worked also as a policy research intern for the Bronx Community Development Initiative, the Urban Manufacturing Alliance, and Public Advocate Letitia James. She earned her BA in political science at Smith College.



### Robin Michals

Robin Michals is a photographer specializing in urban landscape with a focus on the de-industrialized waterfront. Since 2010, she has been developing *Castles Made of Sand*, a series about low-lying areas that are being adversely affected by sea level rise. In 2015, Michals was a visiting artist at the Brooklyn Navy Yard in 2015. Her work has been seen at St. Peter's Church, the Alice Austen House, the Hudson Valley Center for Contemporary Art, the Brooklyn Historical Society, and the Davis Orton Gallery among other venues. She teaches photography at New York City College of Technology. She lives in Brooklyn.



### Jason Montgomery

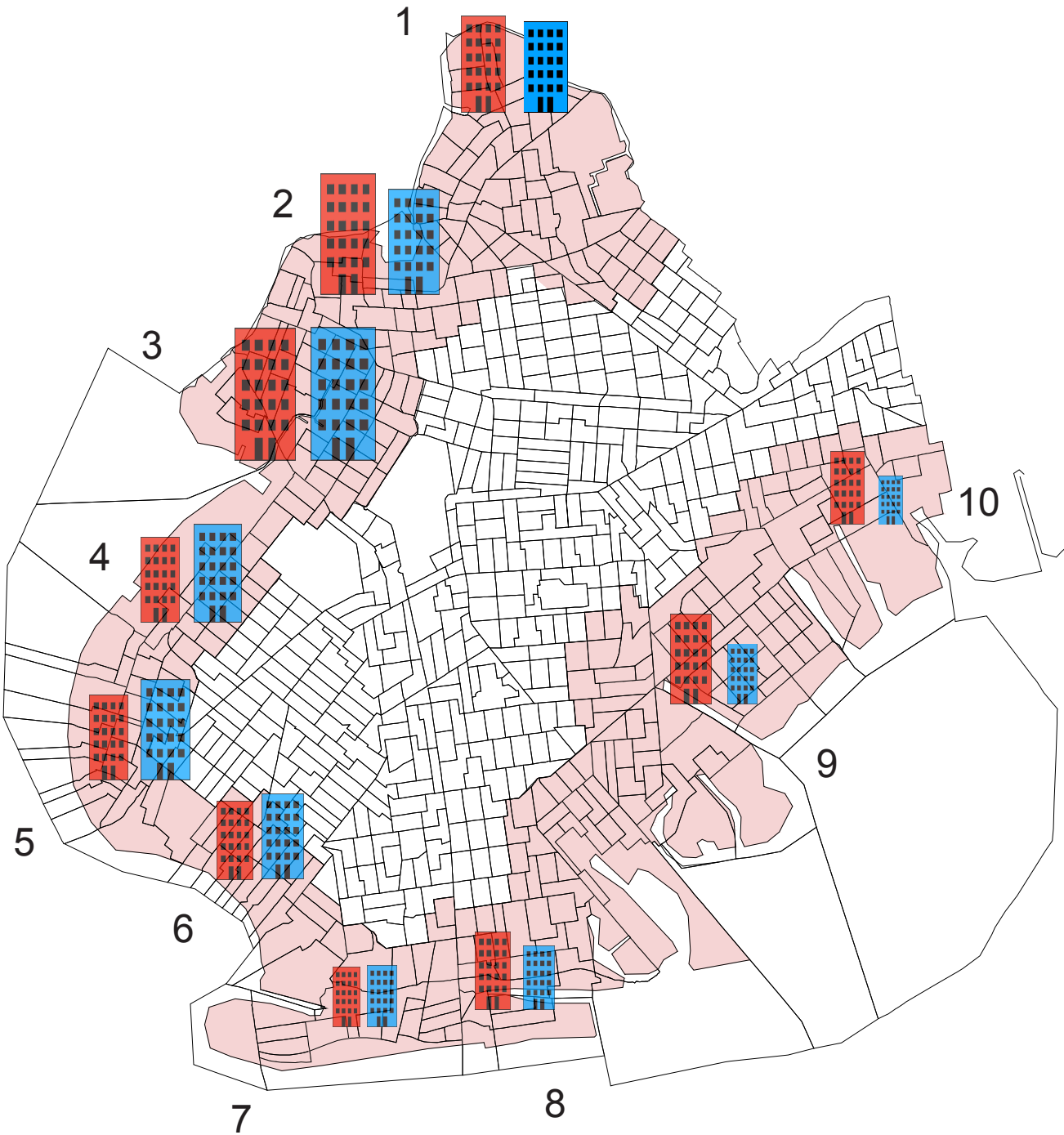
Jason Montgomery is an architect, urban designer, and educator. He has worked in a number of international practices where he led design projects in the US and Morocco, Costa Rica, England, and Egypt including the extension to Selwyn College, Cambridge, the Columbia School of Social Work, the site feasibility study for a New Residential College at Yale University, and the Summit Bechtel Family National Scout Reserve. He is a principal at Truong Montgomery Architect. His teaching experience is diverse including appointments at University of Notre Dame's Rome Program, Yale University, and Andrews University. He is currently an Assistant Professor at the New York City College of Technology and Co-Director of the Living Lab General Education Seminar. He was a significant contributor to a recently published monograph authored by Professor Elizabeth Macaulay-Lewis, *Bayt Farhi and the Sephardic Palaces of Ottoman Damascus*.



### Jeremy Renner

Jeremy Renner is a student and designer studying advertising at City Tech. He is also a native New Yorker originally from Roosevelt Island. Currently he is interning with Faculty Commons which has had him work with various professors on projects within City Tech. Aside from work and school, Renner enjoys spending time outside, skateboarding around the city and working on some of his own personal design projects.

# Appendix: Median Home Value + Rent



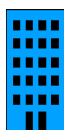
## Map Annotations Guide

Because the neighborhoods of the Brooklyn Waterfront represent such diverse geographies, demographics, challenges, and histories, we've analyzed trends in housing and population for each area. The numbered list below corresponds to the numbered regions of the map to the left, and each highlights the most distinctive or dramatic change we've uncovered in that neighborhood.

- 1 There has been a 6% increase in available housing units since 2010.
- 2 Median home value has increased here by over 50%, the highest rate along the waterfront
- 3 This area has seen a 26% increase in median income between 2010-2017.
- 4 Average household size has increased by 12% since 2010.
- 5 Population has increased by 5% since 2010.
- 6 In Bay Ridge/Fort Hamilton, there has been a nearly 14% increase in the Hispanic/Latino population.
- 7 Coney Island has had a 7% increase in household density.
- 8 There has been a 34% increase in the black population in Manhattan Beach and Sheeps head Bay.
- 9 Canarsie has had an 8% increase in population since 2010.
- 10 There's been a 25% increase in the white population in East New York.

The table below lists the median home values and rents for each neighborhood area (2017 data).

Number	Median Home Value	Median rent
1	\$745K	\$1,600
2	\$865K	\$2,000
3	\$1.1M	\$2,200
4	\$800K	\$1,400
5	\$821K	\$1,400
6	\$705K	\$1,300
7	\$505K	\$1,000
8	\$525K	\$1,300
9	\$494K	\$1,500
10	\$397K	\$1,200



Relative Median Home Value



Relative Median Rent

Note: All data sourced from the 2010 and 2017 American Community Surveys

