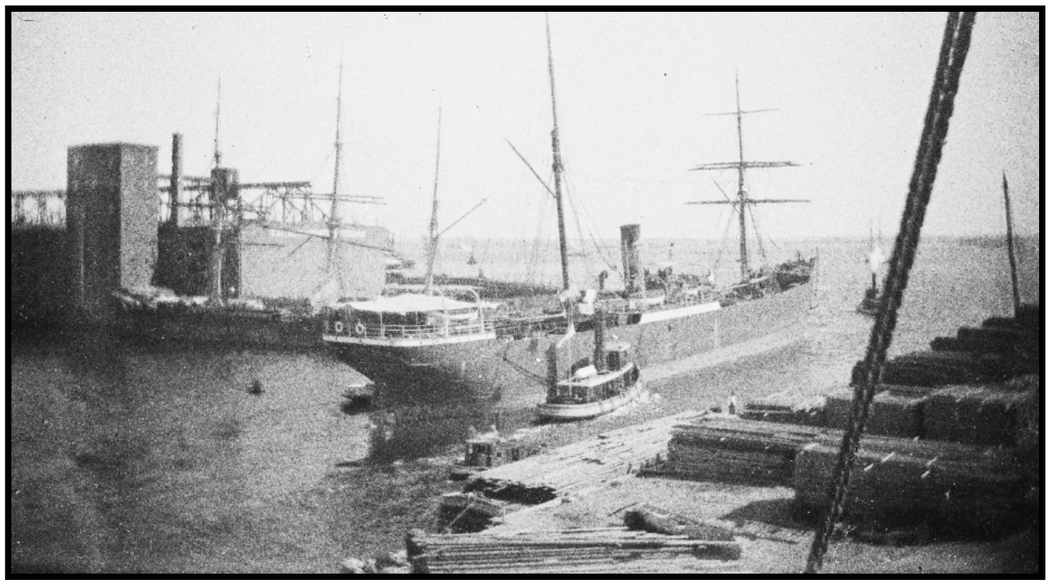
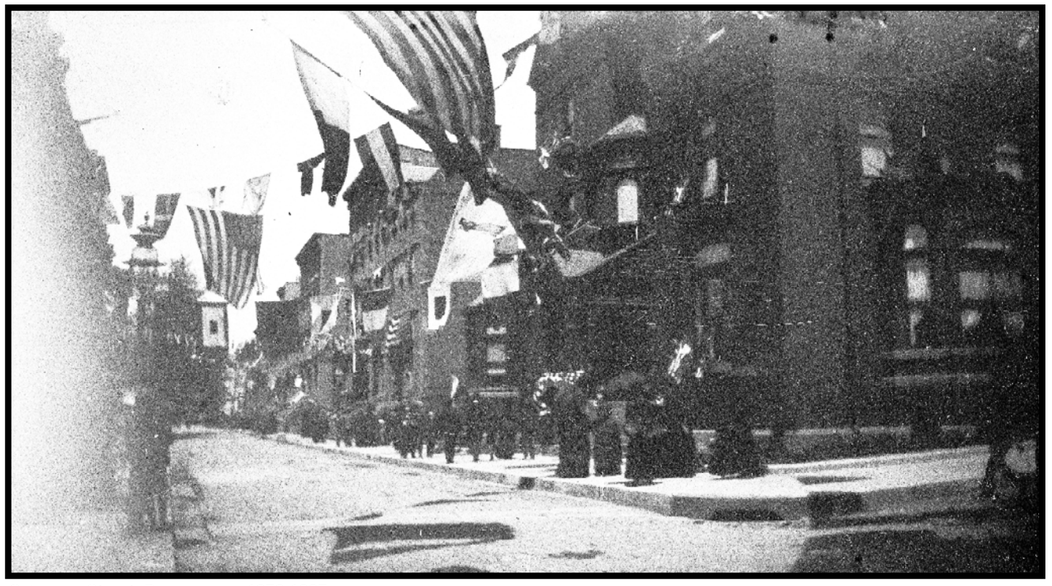
SOUTHWEST BROOKLYN

GROWING FROM THE WATERFRONT AGAIN

A FRAMEWORK AND TOOLS TO DRIVE AN ASCENDANT, RESILIENT, EQUITABLE, THRIVING NEW YORK CITY



Erie Basin, Brooklyn, ca. 1872-1887



Columbia Street, Brooklyn, ca. 1872-1887

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PREFACE

THE CITY IS EXPERIENCING A
HOUSING CRISIS WITH A 3.459% VACANCY RATE

SOUTHWEST BROOKLYN WILL
ADD 49,540 NEW HOUSING UNITS INCLUDING 11,250 AFFORDABLE HOUSING UNITS

RED HOOK HOUSES RESIDENTS
ANNUAL MEDIAN INCOME IS $14,000

SOUTHWEST BROOKLYN WILL
GENERATE 55,700 NEW JOBS

MOST OF RED HOOK IS A
10 TO 25 MINUTE WALK FROM THE SUBWAY

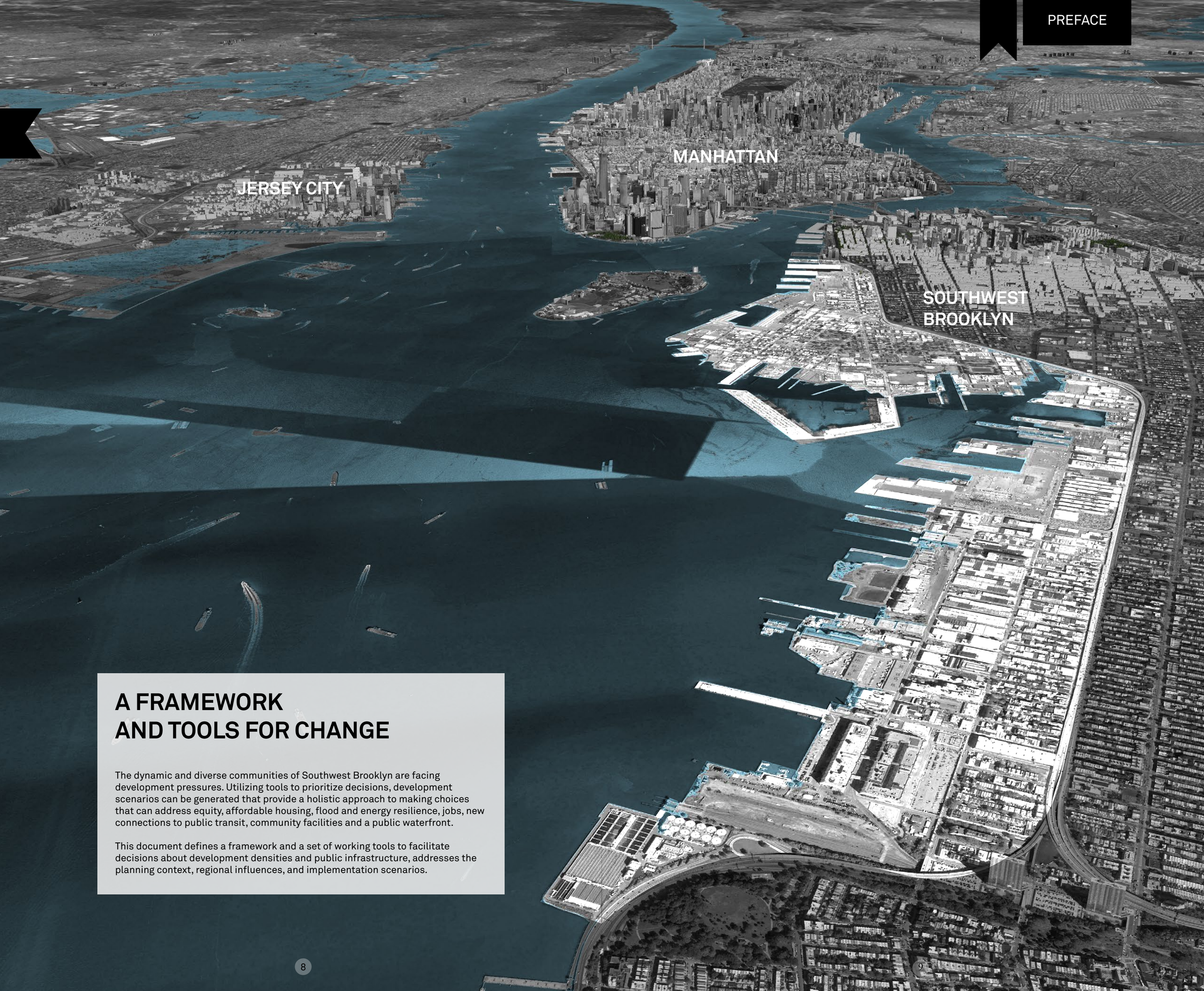
SOUTHWEST BROOKLYN WILL
MAKE 1M MORE JOBS TRANSIT ACCESSIBLE TO RESIDENTS

Like all great cities, New York has remade itself in the face of enormous change — from a port city to mercantile hub to industrial center to financial capital and to, today, a global city, touching the entire world on a daily basis. These transformations have been driven by economic transitions, seismic migrations from inside and outside of the country, social and cultural upheaval and vast technological innovations. At times, these transformations have been chaotic and turbulent, causing social unrest and conflict; other times, they have been the result of political stability and public engagement, allowing for growth and accommodation. With forecasts calling for more than three million additional people living in New York in the next twenty five years, and a million new jobs needed, the City faces tremendous questions of how and where it will grow, and what that growth will mean for all New Yorkers.

Throughout its history, three constants have formed the foundation of the City, each one fundamentally related to the other. Most importantly, they have endured, at times to the point of collapse, due to long-term civic engagement and vision. First, it was the basic environmental question of delivering fresh clean drinking water to a densely settled and rapidly growing population. Second, it was the transportation system, how to get people from home to work. Finally, it was housing, the growth and development of quality and affordable housing throughout the five boroughs. It has been these three pillars that have allowed the City to grow literally from a small fort at the tip of Manhattan to the global center it is today, changing and transforming, growing and contracting, but in every decade driving a new vision for a city not yet realized.

Today, the City faces a moment in time that will define its future for decades to come. Worldwide economic forces, questions of equity, the whole idea of what is a neighborhood, and dramatic climate change will drive and transform New York City regardless. Each is a given. The question becomes, can each one of these questions be answered in a way that creates an equitable, sustainable and resilient city.

This document does not provide an answer to these challenges, rather it presents a framework for a civic discussion on how the City might balance these challenges, using Southwest Brooklyn as a way to ask that most basic question: What kind of city do people want to live in? It has as its foundation the same three pillars; the environment, now more broadly defined as climate change and sea level rise; the challenge of mobility, transportation, and the connectivity to create and maintain neighborhoods; and, a housing market that can accommodate all of the people needed to live and work in the new economy. This document looks at these issues through the guiding princples of growth, equity, resiliency and sustainability. The future of the City will not be found in a single vision. Instead, it must be the result of a constant conversation with the City as a whole. Southwest Brooklyn might be where that conversation begins.



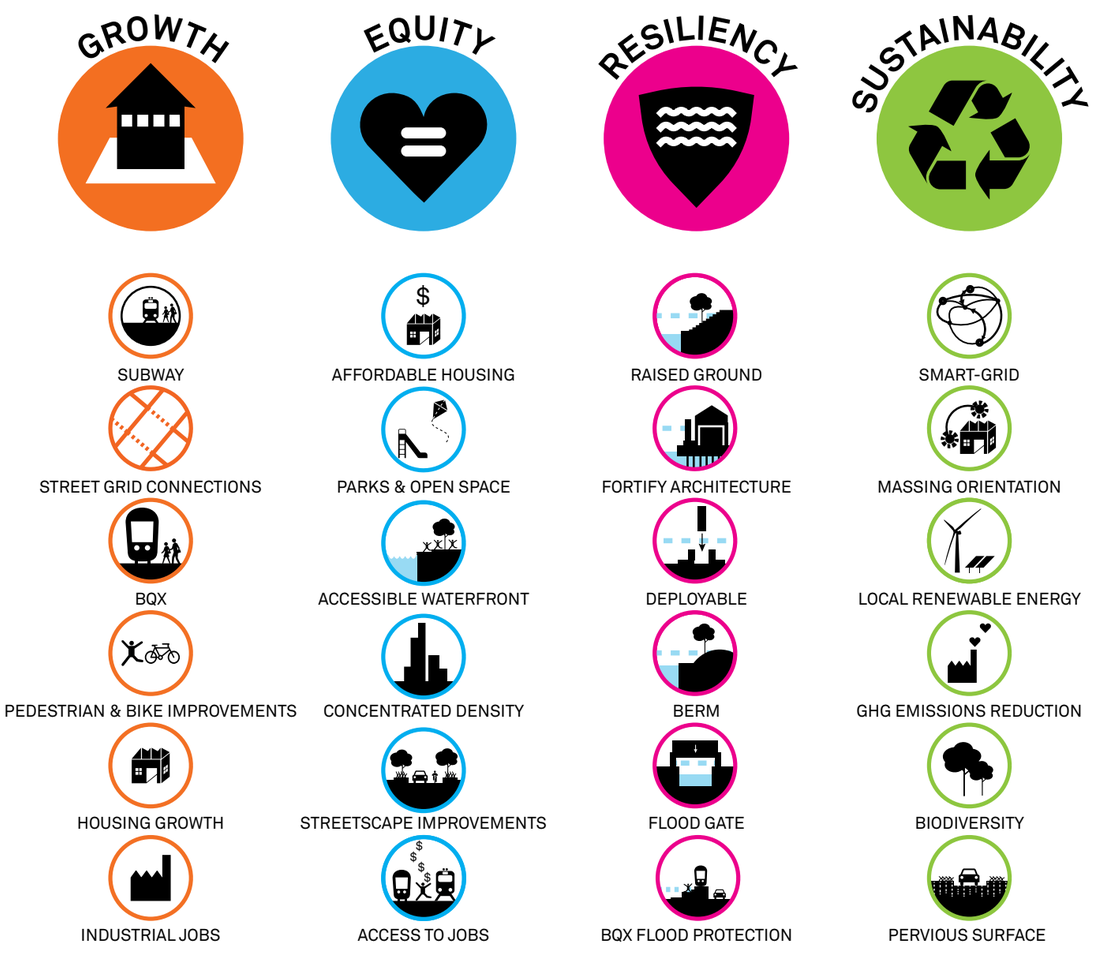
A FRAMEWORK AND TOOLS FOR CHANGE

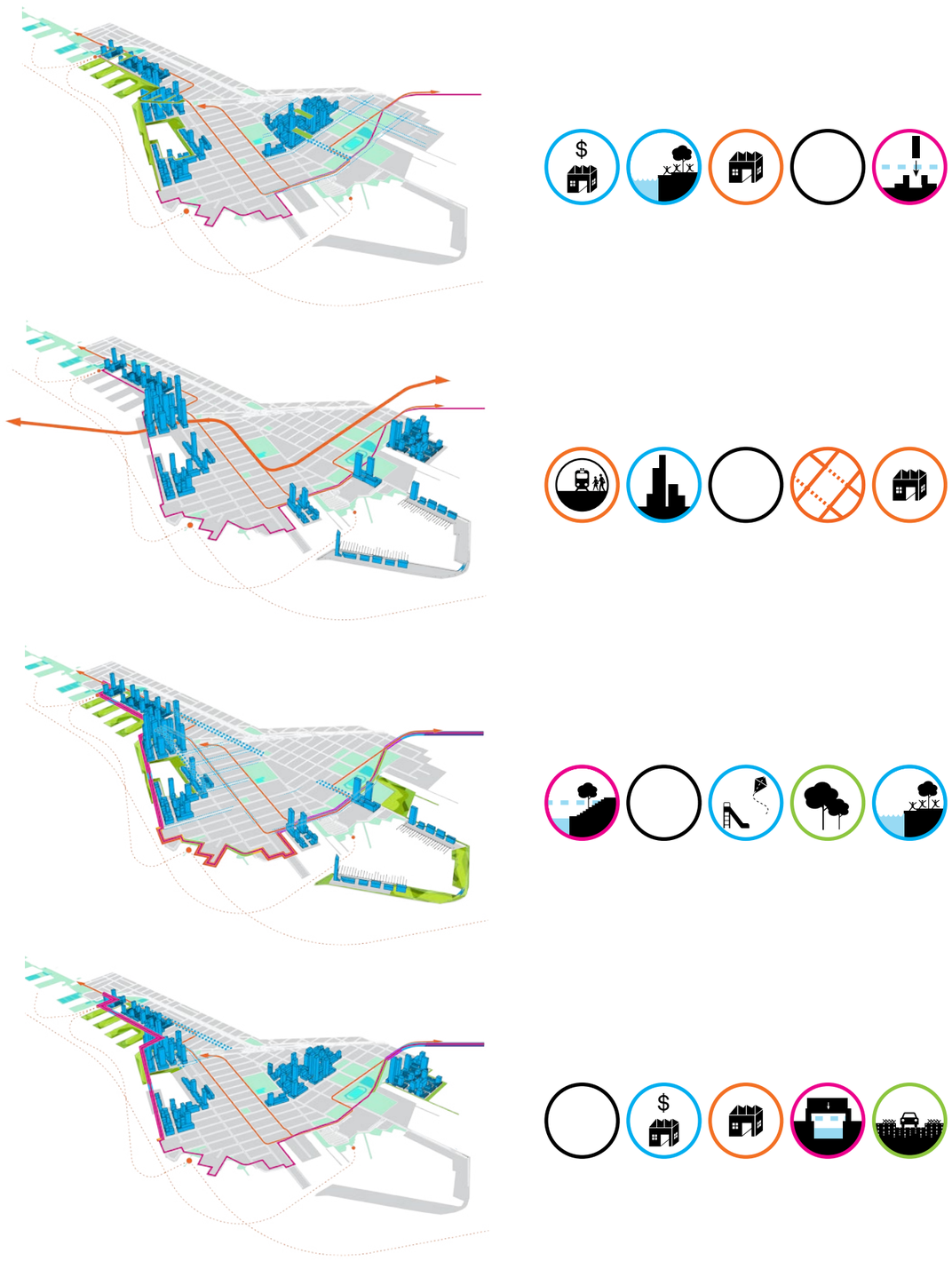
The dynamic and diverse communities of Southwest Brooklyn are facing development pressures. Utilizing tools to prioritize decisions, development scenarios can be generated that provide a holistic approach to making choices that can address equity, affordable housing, flood and energy resilience, jobs, new connections to public transit, community facilities and a public waterfront.

This document defines a framework and a set of working tools to facilitate decisions about development densities and public infrastructure, addresses the planning context, regional influences, and implementation scenarios.

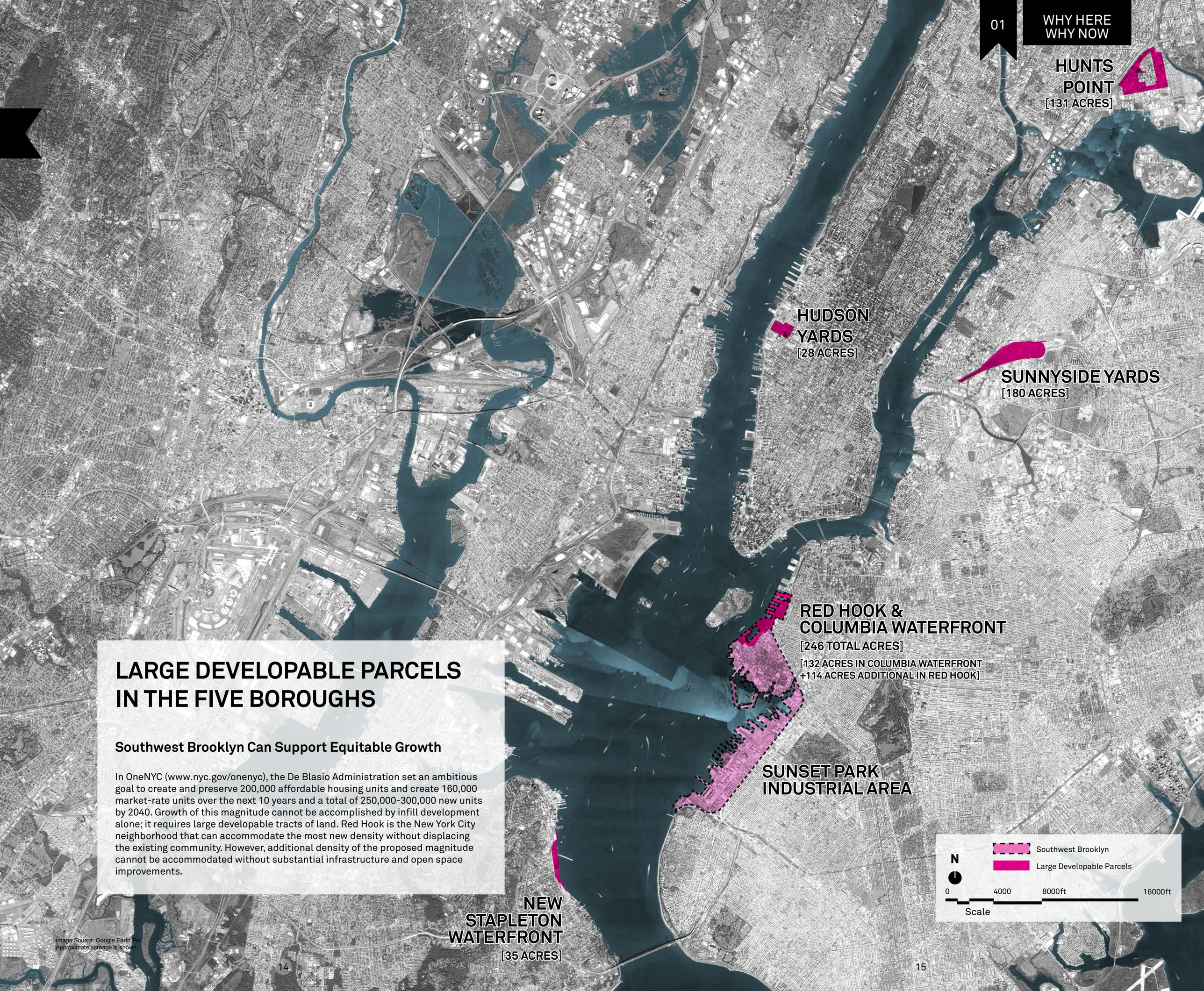
CHALLENGES AND CHOICES: A FLEXIBLE FRAMEWORK

New York, an ever evolving city, is facing tremendous questions of where and how it will grow, and what that growth will mean for all New Yorkers. A robust civic dialogue about the challenges and choices the City faces can be considered using the guiding principles and framework presented here.





WHY HERE? WHY NOW?



LARGE DEVELOPABLE PARCELS IN THE FIVE BOROUGHS

Southwest Brooklyn Can Support Equitable Growth

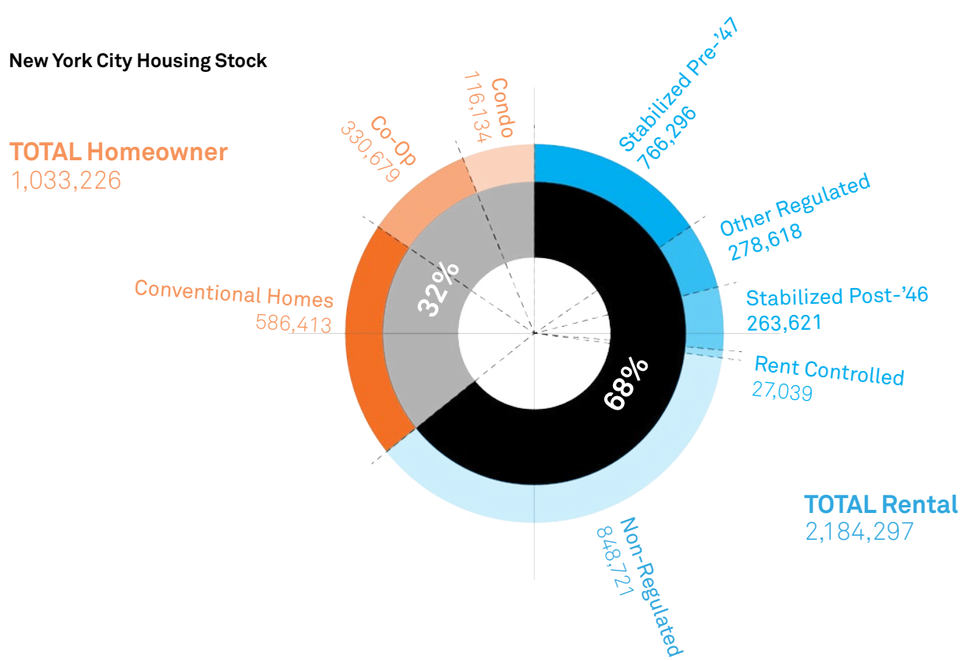
In OneNYC (www.nyc.gov/onenyc), the De Blasio Administration set an ambitious goal to create and preserve 200,000 affordable housing units and create 160,000 market-rate units over the next 10 years and a total of 250,000-300,000 new units by 2040. Growth of this magnitude cannot be accomplished by infill development alone; it requires large developable tracts of land. Red Hook is the New York City neighborhood that can accommodate the most new density without displacing the existing community. However, additional density of the proposed magnitude cannot be accommodated without substantial infrastructure and open space improvements.

Image Source: Google Earth Pro
Approximate acreage is shown

THE CITY IS ASCENDANT – BUT ITS HOUSING IS IN CRISIS

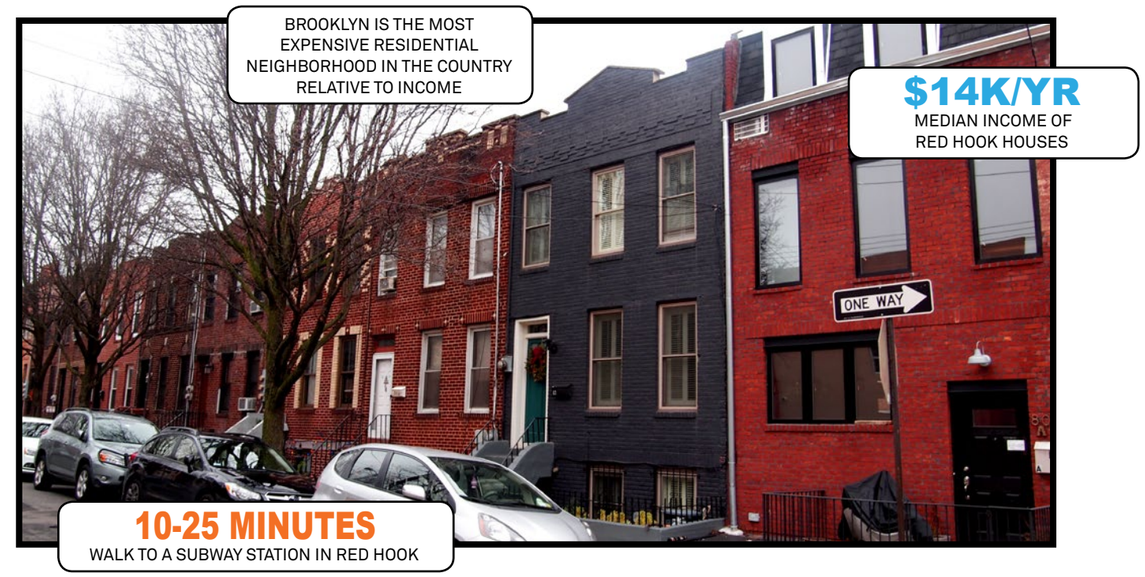
Over the last decade the City of New York has experienced unprecedented growth. The City has 8.4 million residents, the most in its history, with all indications pointing to the population growing to 9 million by 2040. Much of that growth will take place in Brooklyn where, per the NYC Department of City Planning, Brooklyn's population will increase by 13% by 2040. The City is already experiencing a housing crisis. The legal definition of a housing emergency is a vacancy rate below 5%. In 2014, the New York City vacancy rate was 3.45%. The lack of available housing presents a particular challenge to New York's low-income and working-class families as the lack of housing supply drives prices upwards. More than half of New Yorkers are rent-burdened and over 30% are severely rent-burdened.

New York City Housing Stock



Note: Above figures exclude vacant units that are not available for sale or rent. Source: U.S. Bureau of the Census, 2014 New York City Housing and Vacancy Survey

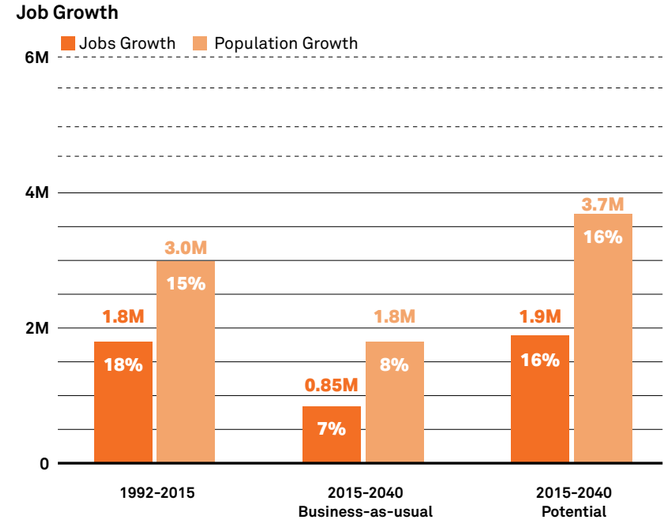
EMBRACING THE RED HOOK AND SUNSET PARK COMMUNITIES



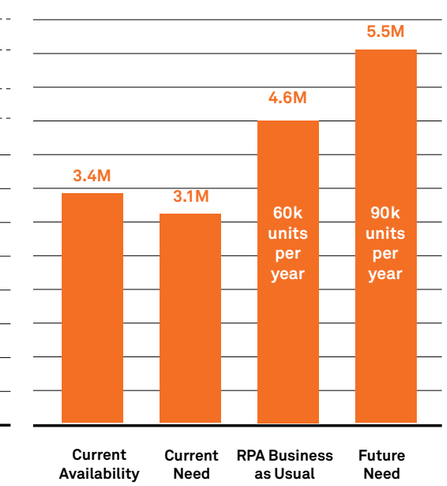
The Southwest Brooklyn waterfront communities of Red Hook and Sunset Park have strong, vibrant and engaged communities with entrepreneurial spirit, but each face their own challenges resulting at least in part from neglect and Robert Moses-era infrastructure planning decisions. Sunset Park residents are underserved in terms of waterfront access and open space and would greatly benefit from a robust local industrial sector that prioritizes head of household jobs that do not require a college degree. Red Hook residents are isolated in terms of access to public transportation, jobs, neighborhood services, cultural amenities and waterfront access. NYC Housing Authority's (NYCHA) Red Hook Houses median household income is $14,000 per year. They are also particularly vulnerable to flooding and energy disruption during and after extreme weather events.

The area needs to be redeveloped with an eye towards improving the existing communities' access to jobs, open space, schools and essential services, as well as protecting them from flooding and energy blackouts.

Job Growth



Housing Demands



Data Sources: The Fourth Regional Plan; Regional Planning Authority. U.S. Bureau of the Census, 2014 New York City Housing And Vacancy Survey; OneNYC

SOUTHWEST BROOKLYN NEEDS MORE OF THE RIGHT KIND OF JOBS

The residents of Southwest Brooklyn need improved access to the right kind of jobs. This means jobs similar to the shipping industry jobs that built this part of Brooklyn: industrial jobs that are often union, do not require a college degree but can support a family and provide the opportunity for advancement. As the City has become more intensely developed, traditionally industrial space (like much of the waterfront) has been replaced by higher value residential. The industrial area of Sunset Park has an active industrial base and the potential to add 40,000 new jobs within the next 20 years. This needs to be protected and nurtured to provide opportunity for neighboring immigrant and/or Person of Color communities such as Red Hook and the residential portion of Sunset Park.

DEVELOPMENT PRESSURE MEANS THAT INACTION IS NOT AN OPTION

There is an insatiable demand for new residential development in Brooklyn and along the City's post-industrial waterfront. This fact, along with the aforementioned housing crisis; the catalytic impact of the Brooklyn Queens Connector Streetcar; the full build-out of adjoining neighborhoods, and; New York City's core characteristic as a dynamic and ever evolving organism, mean that in the next few years, the Southwest Brooklyn Waterfront will see substantial development activity and will undergo a radical transformation. Gentrification and changes within the city that are exclusive rather than inclusive, is fraying the fabric of the city. The development can be ad-hoc and developer-driven or, to paraphrase One NYC, it can be done with collaborative, holistic neighborhood planning to support new mixed-income housing creation with supporting infrastructure and services. This document advocates for the latter, using the guiding principles of growth, equity, sustainability and resiliency.

TOOLS FOR CHANGE

SOUTHWEST BROOKLYN

GUIDING PRINCIPLES

This document and the framework and tools for Southwest Brooklyn were developed using four guiding principles as lenses to examine scenarios: Growth, Equity, Resiliency and Sustainability. The purpose is to ensure that a triple bottom line (social, environmental and financial) thought process is being used to develop any strategy while also incorporating the priorities and thinking of New York City community-vetted vision documents such as the Mayor's One NYC Plan and the Regional Plan Association's draft Fourth Regional Plan.

The guiding principles are informed by regional, city and local community-driven vision plans and the specific challenges facing Southwest Brooklyn.

GROWTH

Southwest Brooklyn will experience population growth with an emphasis on preserving and maintaining affordable housing. It will see an influx of new jobs and be a center for both traditional and emerging high job-producing industries. It will see improved mobility in the form of enhanced public transportation and more walkable and bikeable streetscapes.

EQUITY

Southwest Brooklyn will have equitable neighborhoods with ample access to head of household jobs where residents live with dignity and security. We take this to mean providing quality housing options and reliable and convenient public transit access; developing healthy neighborhoods that include quality open space and promote active living and have streetscapes that further Vision Zero goals, and; provide good schools, daycare, and early childhood development programs as well as access to quality health care and other needed social and cultural amenities.

RESILIENCY

Southwest Brooklyn must have the capacity to withstand and emerge stronger from disruptive events such as extreme weather events made more frequent due to climate change, or chronic stresses such as failing aging infrastructure that provide essential services. Strategies could include both green and gray infrastructure that provide coastal protection and flood management as well as development of smart grids and distributed clean power generation to provide energy security and buildings that can deal with longer, hotter summers without requiring more energy use.

SUSTAINABILITY

Southwest Brooklyn must operate in a sustainable way such that life there today does not compromise the needs of future generations. A sustainable framework for the area must be grounded in a triple bottom line approach, meaning that social, environmental and economic considerations are all interconnected. This means future development in Southwest Brooklyn should prioritize enhancing and expanding public open space, reducing greenhouse gas emissions, reducing waste, protecting air and water quality, and remediating brownfields.

SOUTHWEST BROOKLYN

DECISION-MAKING

Weighing the Costs and Benefits

Development decisions and infrastructure investment require an understanding of all the issues and inputs. Decision-making that benefits the local area and the region, promotes equitable growth, and meets the City's goals must be fully informed and reflective of the variety of users, needs and desires.

The Triple Bottom Line (TBL) tool creates a platform for informed decision-making and the ability to prioritize desired outcomes. The TBL tool harnesses large amounts of data to analyze and visualize scenarios for informed decision-making. The tool can facilitate the selection of project investments and alternatives (groups of projects that together solve complex problems) and achieve performance requirements for the proposed development at the lowest cost while optimizing social and environmental impacts and meeting City and regional goals.

The model allows the impact of different decisions and priorities to be quickly evaluated, tracked, and visualized. It serves as a communication tool that can lead to an improved understanding of why projects are selected and what the impacts and investment outcomes are from a societal, environmental and financial perspective. It also allows for easy evaluation across multiple infrastructure investment alternatives.

The TBL tool can project and measure performance against criteria such as job generation, greenhouse gas emissions, recreation and open space creation, affordable housing creation, system resilience, and water quality.

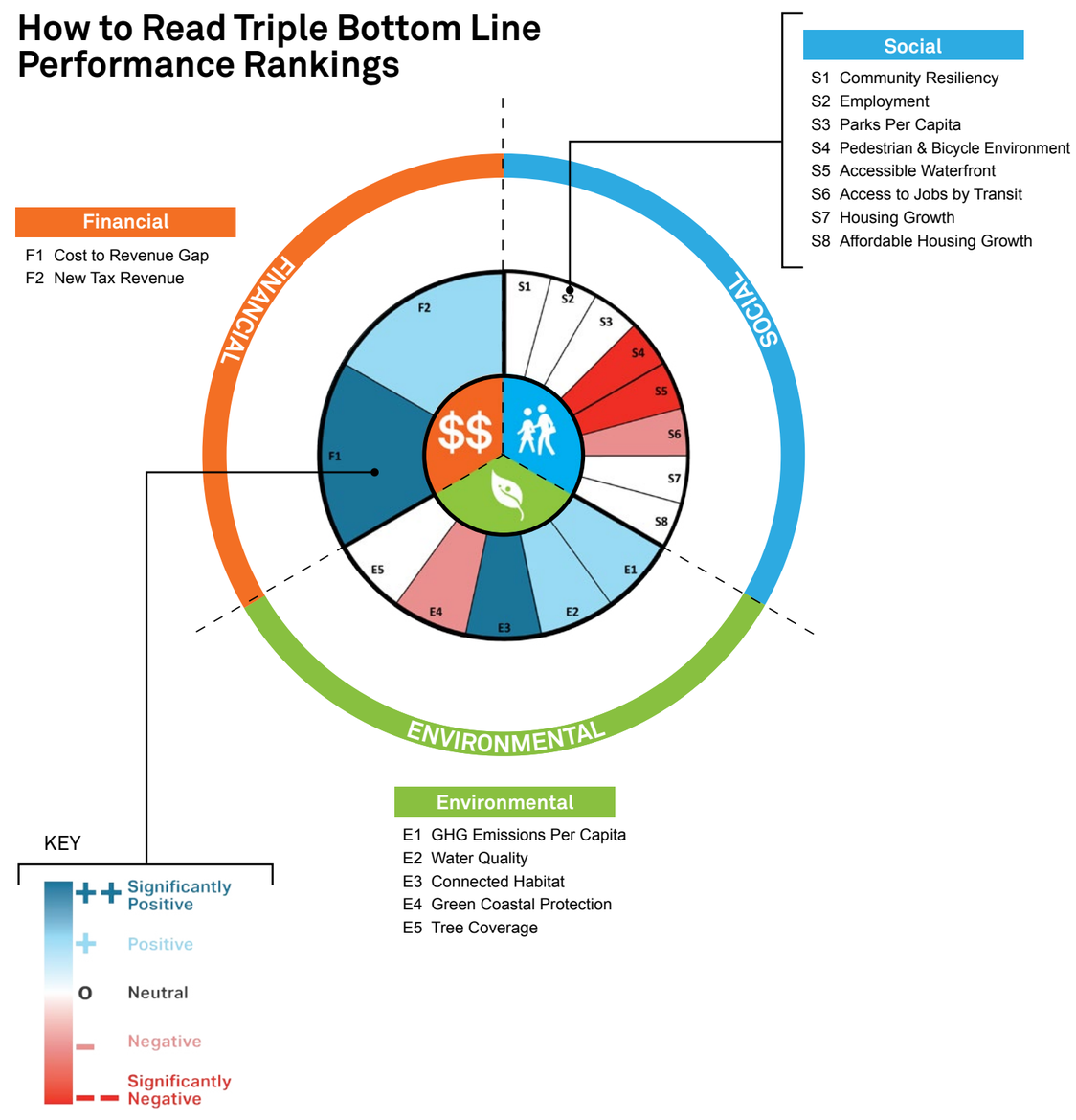
The TBL tool performance summaries on the following pages depict three density scenarios for Red Hook: 45 million square feet, 35 million square feet, and 25 million square feet. Seven social criteria, three environmental criteria, and two financial criteria were selected to show the performance of each scenario. Each criteria is fed by indicators affected by the development scenarios, such as the number of affordable housing units created or the amount of impervious surfaces.

Costs and benefits of new infrastructure, buildings, flood protection, affordable housing, parks, and other elements of the built environment must be understood and considered by the multiple affected stakeholders that include a wide range of people and geographies, such as local residents and business owners, borough and City-wide constituents, City agencies, developers, investors, and regional entities.

The Triple Bottom Line Model is a platform for informed decision-making with the ability to prioritize desired outcomes through a flexible interface that weighs each part of the toolkit independently to generate a score for a development scenario.

The TBL tool ranks each development scenario by criteria, resulting in a range of significantly positive to significantly negative performance results. Following the principles of the triple bottom line, social, environmental, and financial categories occupy equal areas on the circular chart, and each specific criterion slice represents it's influence on the overall value of the alternative being evaluated. The positive or negative impacts shown for each criterion are represented on the circular chart by both the color (blue=positive, red = negative) and the area of the 'slice'. A thinner slice represents a smaller influence on the overall value of the alternative, while a thicker slice represents a larger influence.

How to Read Triple Bottom Line Performance Rankings



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TRIPLE BOTTOM LINE

The TBL performance summaries show three density scenarios for Red Hook evaluated under social, environmental, and financial criteria.

The ranking rationale, criteria, and indicators established here are a sample of how the TBL model can be used to make and communicate decisions. The TBL tool is iterative and the ranking rationale and criteria indicators are based on approximate data and ranking rationale and can be further refined to reflect the project and stakeholder input.

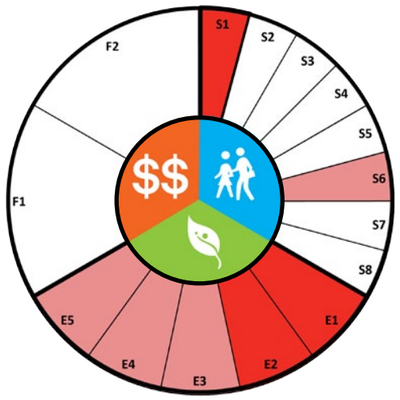
++ Significantly Positive
\+ Positive
o Neutral
– Negative
– – Significantly Negative

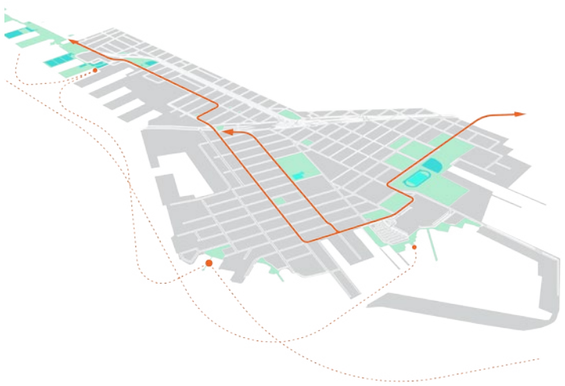
Social
- S1 Community Resiliency
- S2 Employment
- S3 Parks Per Capita
- S4 Pedestrian & Bicycle Environment
- S5 Accessible Waterfront
- S6 Access to Jobs by Transit
- S7 Housing Growth
- S8 Affordable Housing Growth

Environmental
- E1 GHG Emissions Per Capita
- E2 Water Quality
- E3 Connected Habitat
- E4 Green Coastal Protection
- E5 Tree Coverage

Financial
- F1 Cost to Revenue Gap
- F2 New Tax Revenue

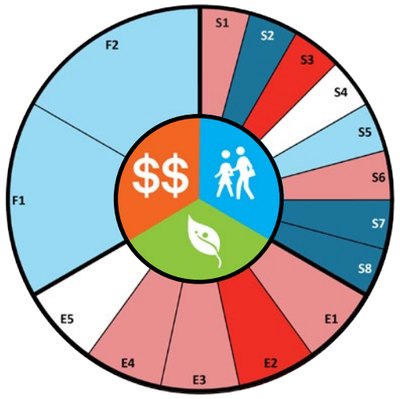
Existing Condition

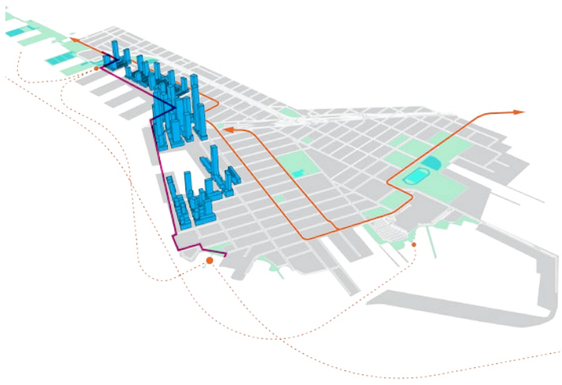




The existing conditions would not be modified in this scenario, yielding the most unfavorable significantly negative TBL results due to a lack of coastal protection, public access to the waterfront, a high amount of impervious surfaces, and high GHG emissions per capita. No additional affordable housing, subway access or public open space would be provided in this scenario. The new ferry service and BQX would be incorporated into the neighborhoods.

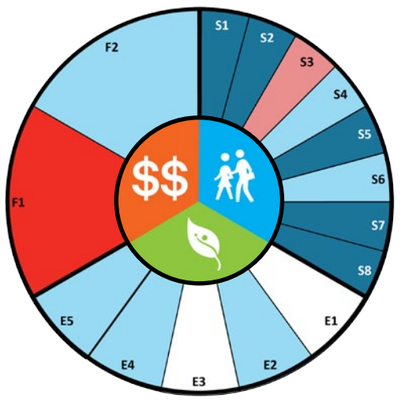
25M SQFT

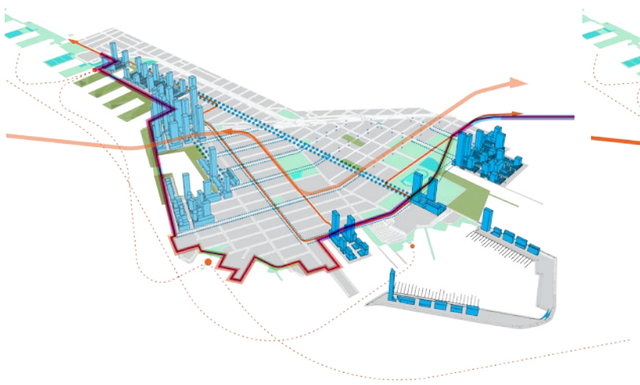




The cost of high-rise development for 25M square feet utilizes much of the available capital as there is a relatively small amount of new development over which costs can be spread. Costs go towards development site preparation and capital available to financing affordable housing limits the number of units developed (25% of new development). Parks, accessible waterfront, and bicycle and pedestrian improvement costs are not supported by development. Coastal protection along the western edge of for Red Hook from the Columbia Street waterfront to Valentino Pier Park, constructed primarily with 'grey' infrastructure, would be supported and paid back by revenue generated by the development under this scenario; however, new subway infrastructure could not be supported.

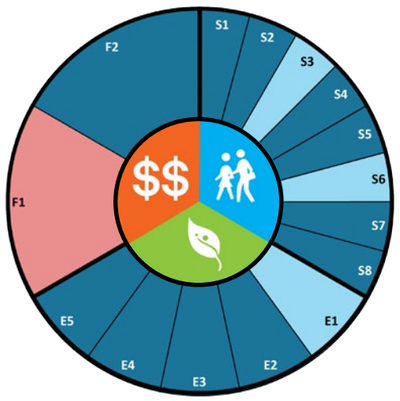
35M SQFT

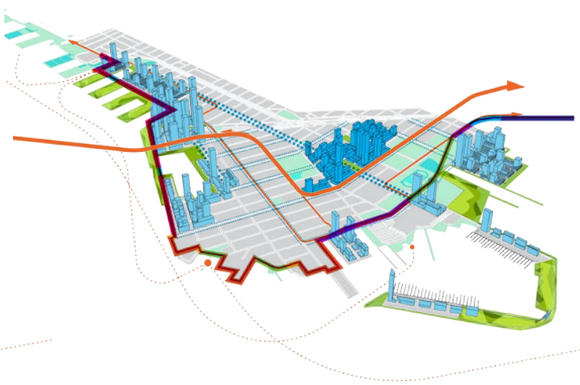




The costs of high- and mid-rise development for 35M square feet are better distributed across a larger development in this scenario, leaving more capital available for public infrastructure. Costs go towards development site preparation, affordable housing (25% of new development), coastal protection for Red Hook, some parks and open space, and targeted pedestrian and bicycle improvements. New subway infrastructure could be partially supported and paid back by revenue generated under this scenario, but will require additional tax measures or other sources of funding avenues to fully pay for support the new subway line. This 35M development scenario would potentially provide less investment capital for new subway infrastructure as compared to the 45M scenario.

45M SQFT





The costs of high- and mid-rise development for 45M square feet, the largest development scenario considered, are distributed across Red Hook, leaving more available capital for public infrastructure. Costs in this scenario go towards development site preparation, affordable housing (25% of new development), coastal protection for Red Hook that incorporates green infrastructure and public open space, and a parks, open space, and pedestrian and bicycle network. New subway infrastructure could be partially supported and paid back primarily by revenue generated under this scenario, but will require other sources of funding to fully support the new subway line.

TBL model based on approximate and best available information and projections.

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PERFORMANCE SUMMARIES

Ranking Rationale

The tables below depict the alternative scenarios and rankings, along with the rationale used to rank each criteria allowing for evaluation across the scenarios. The TBL tool designed to accommodate project-specific criteria that can be weighed against city, regional and stakeholder goals, as well as to optimize social and environmental impacts. The data inputs, ranking rationale, and criteria indicators below will be further refined to reflect the project and stakeholder input.

Ranking Methods

Absolute: Ranks positive or negative impacts based primarily on the actual performance metric such as providing 100% protection or no protection. This is not influenced by performance of other alternatives.

Relative: Ranks positive or negative impacts based on comparison to other alternatives in relative terms, with the best performing alternative getting the highest rank and other alternatives ranked based on the gap between them and the best alternative.

Benchmark: Ranks positive or negative impacts based on comparison to a specific target or benchmark, usually referenced to a OneNYC target. Meeting the target particularly if that target is a requirement is considered a neutral impact, exceeding or far exceeding the target has a positive or significantly positive impact. Conversely, not meeting the target or a very large gap to the benchmark target is considered a negative or significantly negative impact.

CRITERIA & INDICATORS		SCENARIOS & RANKING					METHODS & RANKING		
		No Action	45 M SF	35 M SF	25 M SF		Method	Ranking Rationale	
SOCIAL									
S1	Community Resiliency	--	++	++	-		Absolute	The 45M and 35M alternatives protect most of the study area shoreline with sea walls and/or building level resiliency measures, while 25M alternative protects only the limited new areas being developed. No Action has little protection and ranks significantly negative.	S1
S2	Employment	O	++	++	++		Benchmark	All options increase employment in significantly greater magnitude than the 20% leverage growth projected for NYC (as per OneNYC study).	S2
S3	Parks Per Capita	O	+	-	--		Benchmark	Compared to the existing benchmark of 0.7 acres/1000 persons for Council District 38, the 45M alternative is the only option that improves this to 0.78 acres/1000 persons while other options reduce the District's average.	S3
S4	Pedestrian & Bicycle Environment	O	++	+	O		Relative	45M alt (++) adds/improves bike lane more than 30% over existing. 35M and 25M alt (+) adds/improves bike lane less than 30% from existing. No Action (O) has no change in bicycle environment.	S4
S5	Accessible Waterfront	O	++	++	+		Relative	All options improve waterfront access compared to existing, but 45M and 35M alternatives improve publicly accessible over longer stretches (almost double) than 25M alternative.	S5
S6	Access to Jobs by Transit	-	+	+	-		Benchmark	45M and 35M alternatives include subway stops that provide access to an additional 1M jobs over the average 1.4M jobs within 45 minutes from a transit station for NYC. The existing condition and 25M alternative have lower than city average accessible jobs.	S6
S7	Housing Growth	O	++	++	++		Benchmark	All alts except No Action is far exceed the existing stock by 5 to 10 times and therefore ranks significantly positive. No Action rank neutral due to no growth.	S7
S8	Affordable Housing Growth	O	++	++	++		Benchmark	All alternatives significantly exceed the proportional affordable housing contribution of providing 2% of the 80,000 new affordable housing units identified by the OneNYC Plan by Council District 38 based on the population size.	S8
ENVIRONMENTAL									
E1	GHG Emissions Per Capita	--	+	O	-		Benchmark	45M alt (+) contributes to GHG Reduction by providing tree canopy by 18% and improves building efficiency by 25% from existing, which achieves the 15% target in both indicators. 35M alt (O) provides 14% tree canopy and improves building efficiency by 20%. 25M alt (-) does not achieve target in either indicator. No Action is far away from the target, which only provides 8% of tree canopy with no improvement in building efficiency.	E1
E2	Water Quality	--	++	+	--		Benchmark	Each alts performs quite differently in improvement of perviousness from existing condition. A 15% improvement target is set based on Impervious Cover Model. 45M alt is far beyond target by adding 23%. 35M alt (+) achieves target and 25M alt (O) slightly lower than target.	E2
E3	Connected Habitat	-	++	O	-		Relative	The 45M alternative is the only option that provides a well connected system of habitat quality green, while the 35M alternative provides a much smaller habitat component. The Existing condition and 25M alternative do not provide any enhanced habitat areas.	E3
E4	Green Coastal Protection	-	++	+	-		Relative	The 45M alternative provides significantly more green coastal protection than the 35M alternative which relies on a higher grey protection strategy. The existing condition and 25M alternative do not use any green coastal protection components.	E4
E5	Tree Coverage	-	++	+	O		Relative	The 45M alternative provides for the largest park and tree canopy coverage as well as tree-lined streetscapes. The 25M alternative provides for minimal parcel level greening compared to the more barren existing conditions.	E5
FINANCIAL									
F1	Cost to Revenue Gap (including subway)	O	-	--	+		Relative	While all options generate enough revenue to cover basic development costs, despite the larger revenue base, the 45M alternative is able to cover only 45% of the significant $3.5B new subway costs, while the 35M alternative covers only 20%. The 25M alternative does not have a subway, and therefore has a positive land residual value and revenue base.	F1
F2	New Tax Revenue	O	++	+	+		Relative	The 45M alternative has the largest new tax revenue potential of nearly $$130M/Yr, while the 35M and 25M alternatives have $90M/Yr, and $50M /Yr respectively.	F2

KEY

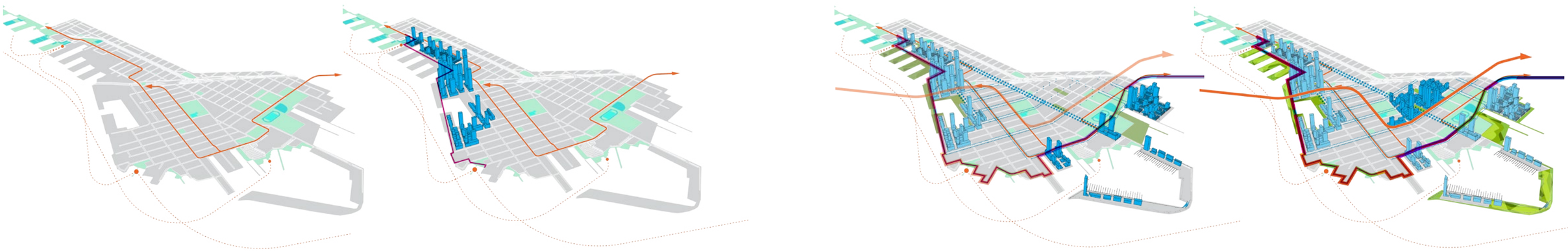
- ++ Significantly Positive
- + Positive
- O Neutral
- - Negative
- -- Significantly Negative

TBL model based on approximate and best available information and projections.

SOUTHWEST BROOKLYN

BY THE NUMBERS

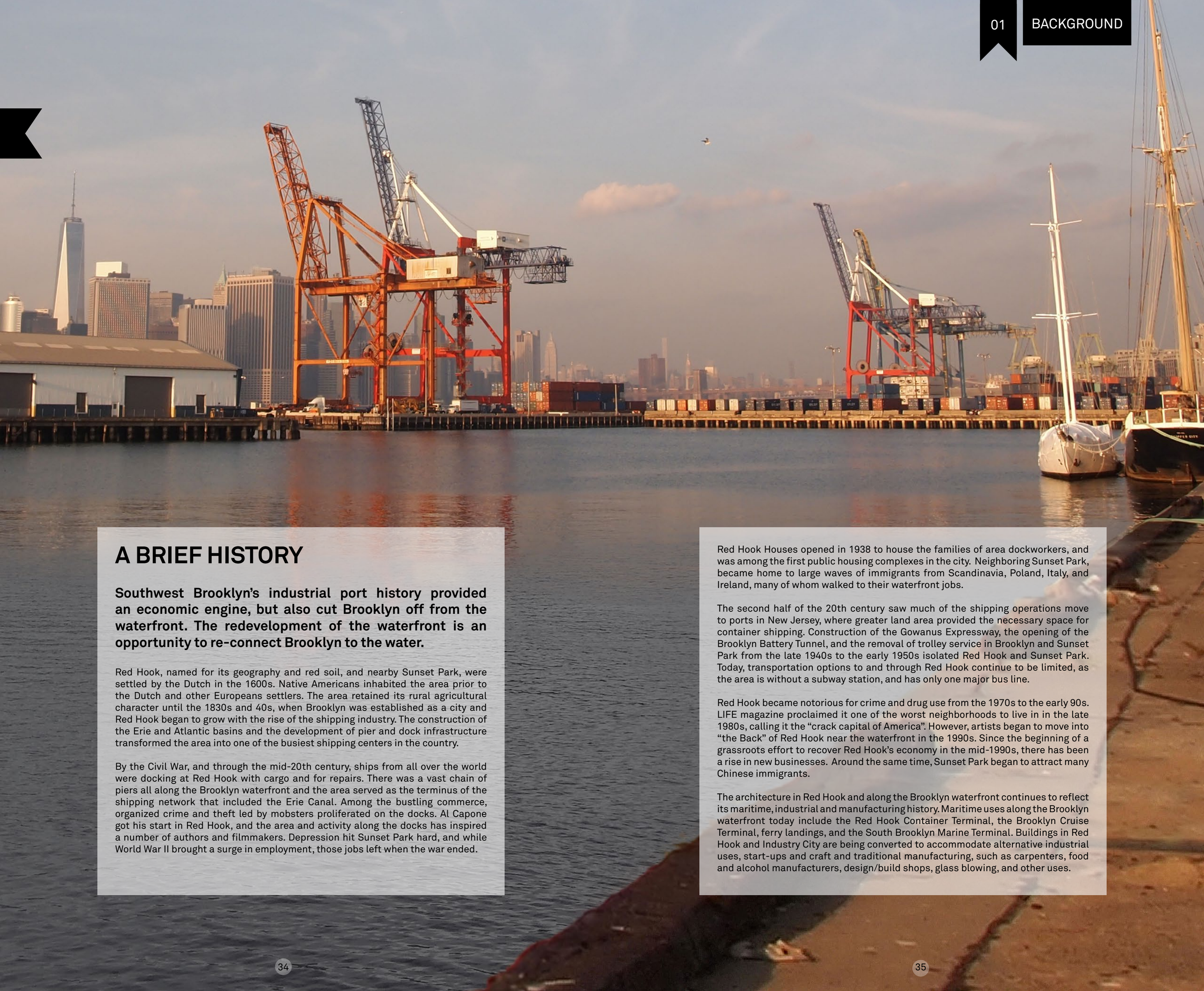
The three density scenarios below, shown through the lenses of the guiding principles, demonstrate a range of potential outcomes.



Existing Condition	25M SQFT Scenario	35M SQFT Scenario	45M SQFT Scenario
LIMITED TRANSIT OPTIONS CREATE **10-25 minutes** WALK TO A SUBWAY STATION	**2500** NEW JOBS **$50M** NEW ANNUAL CITY REVENUE **29540 total** HOUSING UNITS	**SUBWAY** 3 NEW STATIONS **8750** NEW JOBS **$90M** NEW ANNUAL CITY REVENUE **39450 total** HOUSING UNITS	**SUBWAY** 3 NEW STATIONS **15700** NEW JOBS **$130M** NEW ANNUAL CITY REVENUE **49540 total** HOUSING UNITS
EXISTING AFFORDABLE HOUSING **3K units**	**6250 units** NEW AFFORDABLE HOUSING	**8750 units** NEW AFFORDABLE HOUSING **3 miles** STREETSCAPE IMPROVEMENTS	**11250 units** NEW AFFORDABLE HOUSING **3065 units** PRESERVED AFFORDABLE HOUSING **5.7 miles** STREETSCAPE IMPROVEMENTS
WITHOUT COASTAL PROTECTION **859 properties** DAMAGED BY HURRICANE SANDY	**2.5 miles** COASTAL PROTECTION	**4.5 miles** COASTAL PROTECTION	**4.5 miles** COASTAL PROTECTION
ONLY **0.5 miles** PUBLIC WATERFRONT ACCESS	**0.3 miles** NEW PUBLIC WATERFRONT ACCESS	**2.1 miles** NEW PUBLIC WATERFRONT ACCESS **50 acres** NEW PARKS & OPEN SPACE	**2.1 miles** NEW PUBLIC WATERFRONT ACCESS **100 acres** NEW PARKS & OPEN SPACE

Based on approximate and best available information and projections.

BACKGROUND



A BRIEF HISTORY

Southwest Brooklyn's industrial port history provided an economic engine, but also cut Brooklyn off from the waterfront. The redevelopment of the waterfront is an opportunity to re-connect Brooklyn to the water.

Red Hook, named for its geography and red soil, and nearby Sunset Park, were settled by the Dutch in the 1600s. Native Americans inhabited the area prior to the Dutch and other Europeans settlers. The area retained its rural agricultural character until the 1830s and 40s, when Brooklyn was established as a city and Red Hook began to grow with the rise of the shipping industry. The construction of the Erie and Atlantic basins and the development of pier and dock infrastructure transformed the area into one of the busiest shipping centers in the country.

By the Civil War, and through the mid-20th century, ships from all over the world were docking at Red Hook with cargo and for repairs. There was a vast chain of piers all along the Brooklyn waterfront and the area served as the terminus of the shipping network that included the Erie Canal. Among the bustling commerce, organized crime and theft led by mobsters proliferated on the docks. Al Capone got his start in Red Hook, and the area and activity along the docks has inspired a number of authors and filmmakers. Depression hit Sunset Park hard, and while World War II brought a surge in employment, those jobs left when the war ended.

Red Hook Houses opened in 1938 to house the families of area dockworkers, and was among the first public housing complexes in the city. Neighboring Sunset Park, became home to large waves of immigrants from Scandinavia, Poland, Italy, and Ireland, many of whom walked to their waterfront jobs.

The second half of the 20th century saw much of the shipping operations move to ports in New Jersey, where greater land area provided the necessary space for container shipping. Construction of the Gowanus Expressway, the opening of the Brooklyn Battery Tunnel, and the removal of trolley service in Brooklyn and Sunset Park from the late 1940s to the early 1950s isolated Red Hook and Sunset Park. Today, transportation options to and through Red Hook continue to be limited, as the area is without a subway station, and has only one major bus line.

Red Hook became notorious for crime and drug use from the 1970s to the early 90s. LIFE magazine proclaimed it one of the worst neighborhoods to live in in the late 1980s, calling it the "crack capital of America". However, artists began to move into "the Back" of Red Hook near the waterfront in the 1990s. Since the beginning of a grassroots effort to recover Red Hook's economy in the mid-1990s, there has been a rise in new businesses. Around the same time, Sunset Park began to attract many Chinese immigrants.

The architecture in Red Hook and along the Brooklyn waterfront continues to reflect its maritime, industrial and manufacturing history. Maritime uses along the Brooklyn waterfront today include the Red Hook Container Terminal, the Brooklyn Cruise Terminal, ferry landings, and the South Brooklyn Marine Terminal. Buildings in Red Hook and Industry City are being converted to accommodate alternative industrial uses, start-ups and craft and traditional manufacturing, such as carpenters, food and alcohol manufacturers, design/build shops, glass blowing, and other uses.

Early 1900s

THE WORKING PORT

1940s - 50s

PEAK

1980s - 90s

COMMUNITY HARDSHIP

2016

BUILDING STRONGER COMMUNITIES

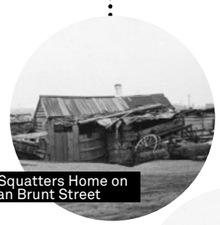
PROSPERITY

ECONOMIC HARDSHIP

BEGINNING OF THE SHIPPING INDUSTRY

1840

1900



1900 Squatters Home on Van Brunt Street

A hooverville in Red Hook

CONSTRUCTION STARTED ON GOWANUS EXPRESSWAY IN 1939

THERE WERE 60,000 MARITIME JOBS AT THE HEIGHT OF THE SHIPPING INDUSTRY

1942 Red Hook Houses

RENT WAS $5.30/WEEK

1940

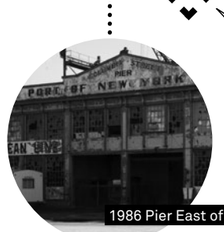
COMMUNITY PRESERVATION ADVOCACY

1950

1960

SHIPPING EVOLVED AND MOVED TO NEW JERSEY IN THE 60S

MAERSK, LARGEST SHIPPER IN THE WORLD, LEFT RED HOOK IN 1986



1986 Pier East of Columbia Street

RED HOOK BECAME NOTORIOUS FOR CRIME AND DRUG USE FROM THE 1970s- 90s

RED HOOK BEGINS TRANSFORMING IN THE EARLY 90S

1990

2000

2010

2012 Hurricane Sandy

RED HOOK RESIDENTS ENGAGED IN RESILIENCY PLANNING DURING THE NY RISING COMMUNITY RECONSTRUCTION PLAN

PLANNING BEGAN FOR THE RED HOOK INTEGRATED FLOOD PROTECTION SYSTEM

2020

Image Sources: Library of Congress; Brooklyn Museum Archives; Andy Blair, Flickr; Sunghwan Yoon, Flickr; Sun-tect blogspot

RED HOOK HOUSES

The Red Hook Houses are an important part of the Red Hook neighborhood and make up over 60% of the residents living in Red Hook. It is the largest NYCHA development in Brooklyn, comprised of 30 buildings with over 6,500 residents in approximately 2,873 residential units. The Red Hook Houses were completed in two phases, East and West. The first portion was built in the 1930s to provide housing for longshoremen and their families, and the second portion was constructed in 1955. The Joseph Miccio Community Center, which provides a community gathering space, events, and services, is also located at Red Hook Houses.

SOUTHWEST BROOKLYN
ASSETS

School field trip to Red Hook Community Farm

Health & Social Services

1. SUNY Long Island College Hospital
2. P.S. 15 Patrick F. Daly
3. NYCHA Miccio Community Center
4. Mercy Home Visitation Residence
5. NYCHA Red Hook West Senior Center
6. Conover House / Supportive Housing
7. Brooklyn Cultural Center
8. BASIS Independent Brooklyn
9. PAVE Academy Charter School
10. Lutheran Hospital
11. Red Hook Initiative
12. Red Hook Community Justice Center

Natural & Cultural Assets

1. The Backyard Garden
2. Waterfront Museum
3. NYCHA Red Hook West Urban Farm
4. Coffey Park
5. Louis Valentino Jr. Park
6. Atlantic Basin
7. Gowanus Canal
8. Gowanus Bay
9. Erie Basin Park
10. Bush Terminal Park

Economic Assets

1. Van Brunt Street Mixed-Use Corridor
2. Lorraine Street Mixed-Use Corridor
3. Columbia Street Mixed-Use Corridor
4. Red Hook Container Terminal
5. Gowanus Bay Terminal (GBX)
6. Buckeye Fuel Terminal (Formerly Hess)
7. Brooklyn Cruise Terminal
8. Ikea
9. Sunset Park Industrial Area
10. Costco
11. Bush Terminal
12. Brooklyn Meat Market

Image Sources: Amanda Hirsch, Flickr CC; jpc.raleigh, Flickr CC; Krista, Flickr CC; Mr. Nygren, Flickr CC; Jim.henderson, Wikimedia Commons; Nightscream, Wikimedia Commons; Myrtle Avenue Brooklyn Partnership, Flickr CC; EdenPictures, Flickr CC

THE WORKING PORT

Past, Present, Future

The history of the Brooklyn waterfront follows the arc of most city harbor ports around the world.

Following World War II, the explosion of Manhattan as an office center squeezed out the warehouses and cargo handling facilities as higher and better uses pushed this industry to Brooklyn, the last of the undeveloped waterfront. For three decades Brooklyn thrived as a port; handling cargo in bulk, it was a labor intensive operation employing thousands of longshoreman and warehouse workers.

But the advent of containerization soon revolutionized the port business and larger facilities with far greater warehouse and distribution support was necessary. Brooklyn also lacked easy access to the newly built national highway system, limiting its market potential. Inexorably, the cargo moved across the river to the ever larger ports of Newark and Elizabeth, leaving overtime only the Red Hook Container terminal.

The new and highly competitive worldwide container market was soon squeezing out inefficiencies and high cost operations. As a result, in 1986, Maersk –the largest shipper in the world – closed down its lease in Red Hook. With Brooklyn's once mighty heritage ending, Governor Mario Cuomo proposed subsiding a barge to equalize the cost between New York and New Jersey, essentially moving the cargo for free for the shipper.

The hope was that cargo rates would rise and worldwide demand would increase to a point where such a subsidy was no longer necessary. A local operator with deep knowledge of Brooklyn's operation took over. But the market never materialized and the subsidy grew over time to a point of glaring economic inefficiency. Since 1986, the Port Authority has spent $561 million in direct subsidy to keep the terminal open. In 2013 and 2014, the subsidy was $14 and $12 million, respectively. But the market simply did not come back. Container volumes, peaking at around only 60,00 per year, are now down to 35,000. Today, there are only about 100 active ILA workers at Red Hook.

The cash strapped Port Authority has begun actively discussing closing the terminal and seeking a better use. Recognizing the interest in maintaining maritime access and activity, the City of New York has solicited proposals for the South Brooklyn Marine Terminal at 39th Street. This RFP will allow the market to determine the long viability of container operations in Brooklyn. With 90 acres, there is an equivalent space to maintain and develop the current market, and if traffic grows, to further expand. As some argue, the long term potential capacity shortage throughout the port and rising demand will necessitate significant larger scale development, but this will be a function of the market, and not public subsidy.

SOUTHWEST BROOKLYN
WATERFRONT USES

1958 View of New York Harbor, Sunset Park and Red Hook with Bush Terminal in foreground

Infrastructure System

1. Red Hook Container Terminal
2. Brooklyn Cruise Ship Terminal
3. Marina
4. NY Water Taxi Homeport
5. Erie Basin Barge Port
6. MTA/TBTA Facility
7. Working Piers
8. Buckeye Fuel Terminal
9. USPowerGen
10. Sims Municipal Recycling
11. South Brooklyn Marine Terminal
12. USPowerGen
13. Owls Head Wastewater Treatment Plant

Natural & Cultural

1. Brooklyn Bridge Park
2. Valentino Pier
3. Pier 44 Waterfront Garden
4. Erie Basin Park
5. Bush Terminal Piers Park

Economic

1. Industrial Warehouse
2. Fairway Market
3. Brooklyn Waterfront Artists
4. IKEA
5. Hamilton Asphalt Plant
6. Sunset Industrial Park
7. Bush Terminal
8. Food Hub
9. Brooklyn Army Terminal

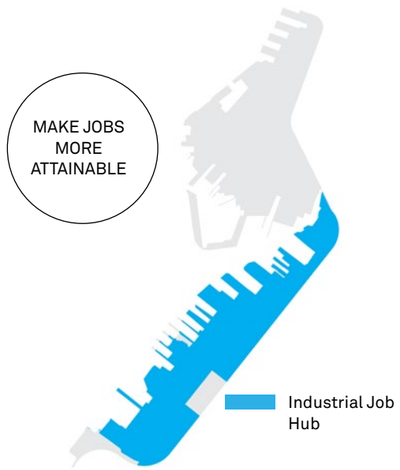
1908 Brooklyn

Image Sources: Historic American Engineering Record, Library of Congress; August R. Ohman & Co. (1908), Library of Congress

ISSUES TO ADDRESS

SOUTHWEST BROOKLYN

ISSUES TO ADDRESS

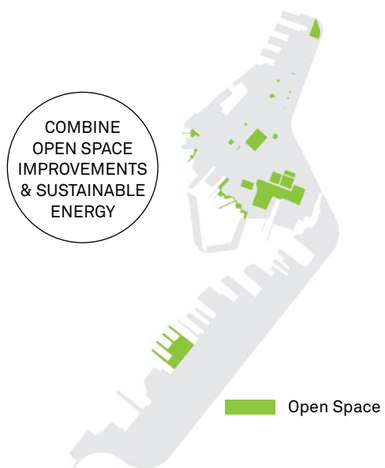


GROWTH

Much of Red Hook is outside of a 10 minutes walk to public transit.

EQUITY

Community residents need high quality head of household jobs.



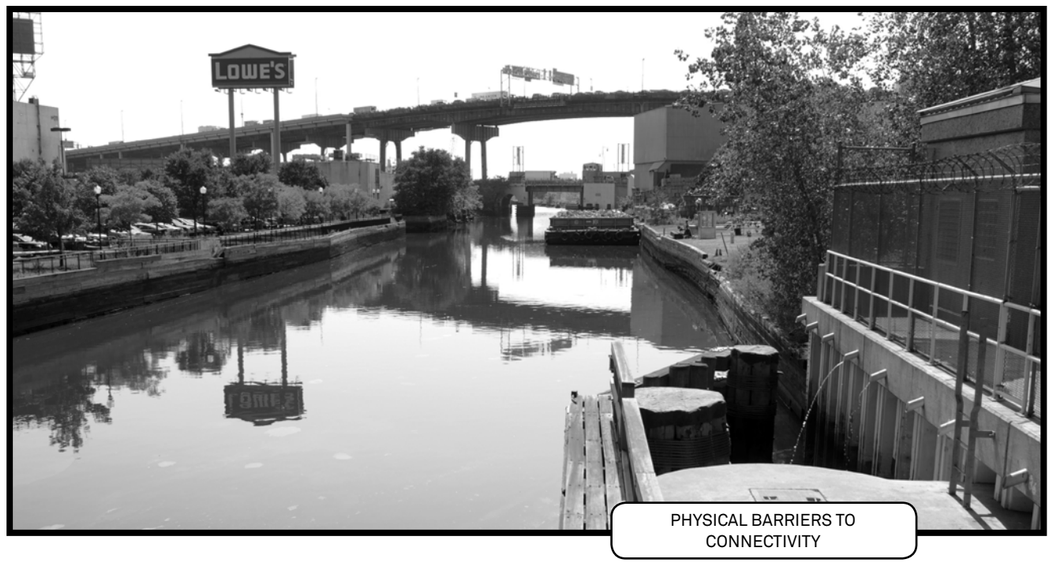
RESILIENCY

Almost all of Red Hook and most of Sunset Park Industrial Area flooded during Hurricane Sandy.

SUSTAINABILITY

Existing energy infrastructure does not include sustainable technology.

Data sources: PLUTO; FEMA



PHYSICAL BARRIERS TO CONNECTIVITY

FLOODING DURING LARGE STORM EVENTS

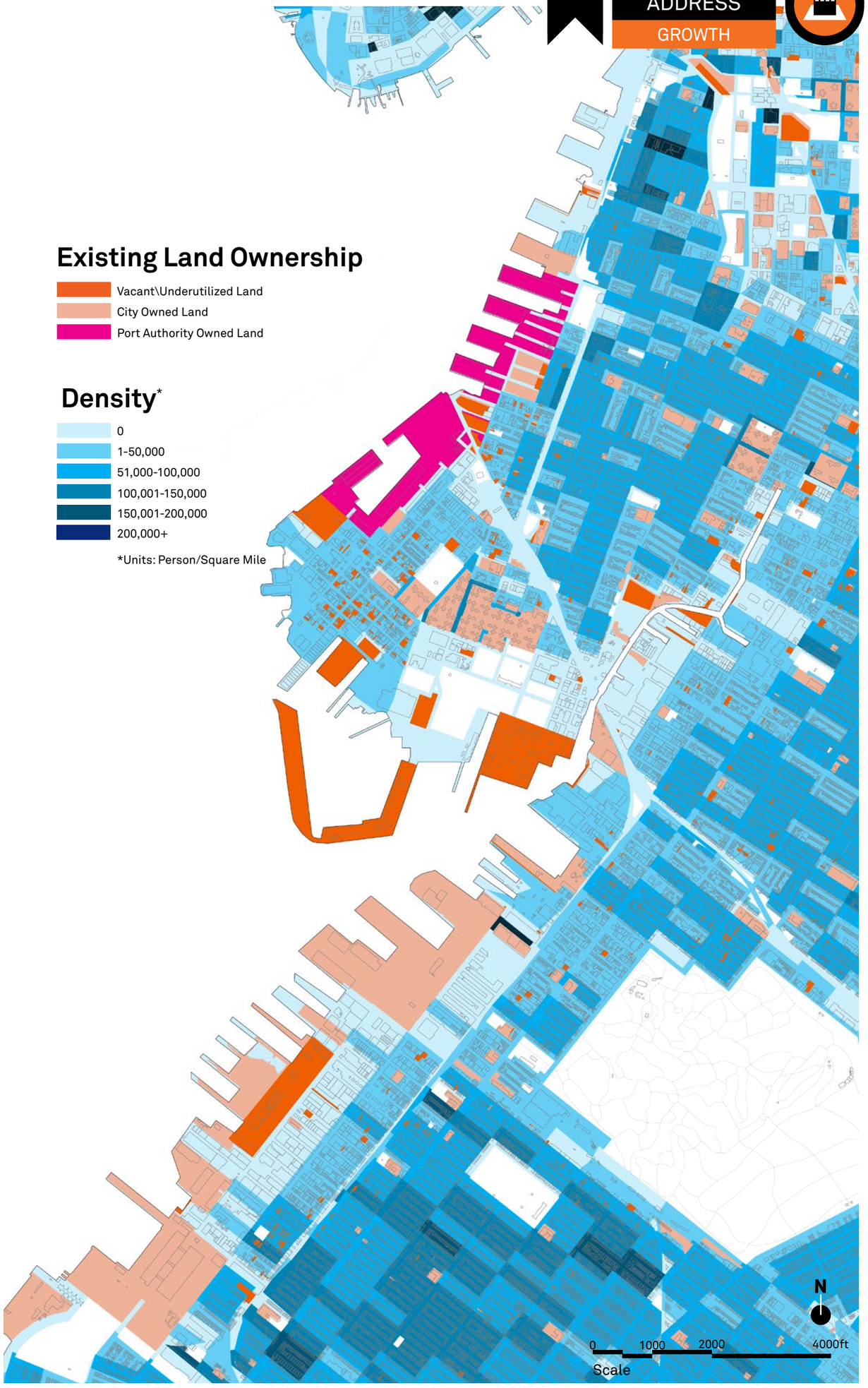
Image Sources: Top: Heather Holland Flickr, CC; Bottom: Matthew Krausvia Flickr, CC

SOUTHWEST BROOKLYN IS
UNDERUTILIZED

The neighborhood has a large quantity of vacant and underutilized public land, along with a growing innovative industry sector. For example, currently 56% of the available space in Industry City's facilities is underutilized. How can future development best leverage the potential for increased density and economic growth?

With relatively low residential population densities and a number of City and Port Authority-owned properties, Southwest Brooklyn could be home to new affordable housing, jobs, and residents for a growing city currently in a housing crisis – both of affordability and availability. Increased density could support making transit options more viable. The industrial spaces in the area house traditional industrial activities such as warehousing, food production and maritime activities as well the burgeoning innovation economy including advanced manufacturing, design, advertising and media. The underutilized space in the industrial section of Sunset Park is well positioned to accommodate a significant amount of 21st century, high job producing industry.

VACANT AND UNDERUTILIZED PROPERTIES



Data Sources: MapPLUTO June 2015 15V1, City Of New York

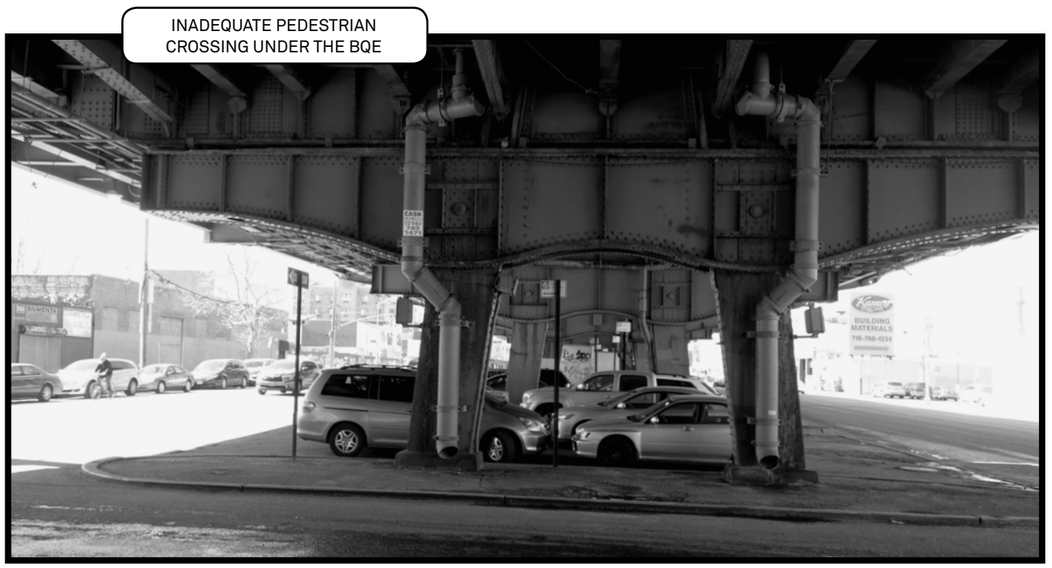
SOUTHWEST BROOKLYN IS
ISOLATED

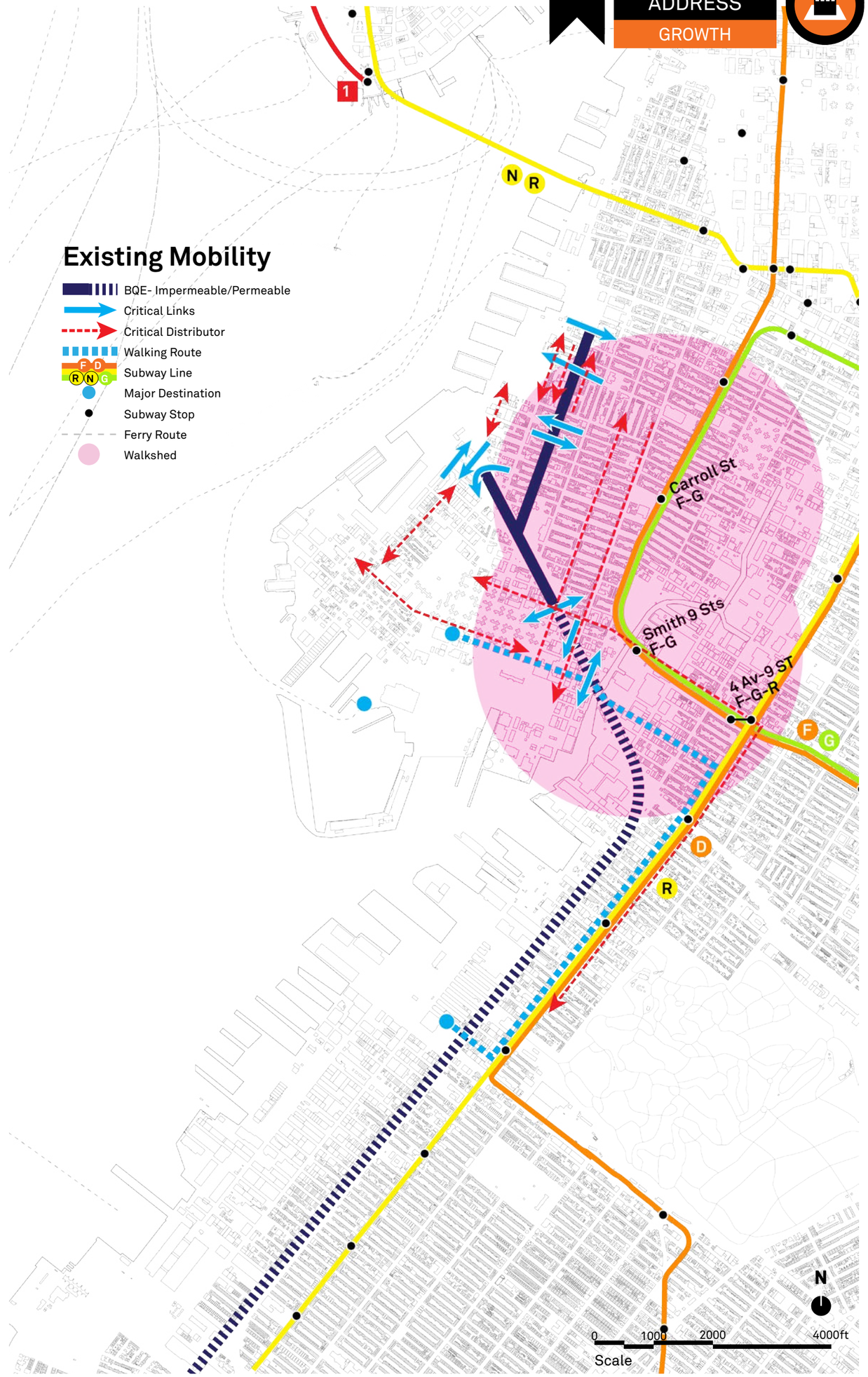
The neighborhood is not well-connected by public transit or vehicular, pedestrian and bicycle routes and most of Red Hook is unserved by a subway station. How can future development better connect the neighborhood and open access to jobs, parks, community services, and the waterfront?

The Southwest Brooklyn communities have a transportation network that has been seriously compromised by the construction of major highways and river crossings to meet City-wide and regional highway travel needs. The Brooklyn-Queens Expressway (BQE) and its linkages to the Brooklyn-Battery Tunnel (BBT) cut large swaths through the Sunset Park and Red Hook/ Carroll Gardens communities, often limiting the connections among the severed communities. The viaduct segment over 3rd Avenue in Sunset Park provides points to drive or walk beneath it, but this low-slung viaduct and the heavy traffic on 3rd Avenue have created a forgotten and unwelcoming barrier for adjacent neighborhoods. The elevated, at-grade and open-cut BQE sections cutting off southern and western Red Hook have created even greater physical and aesthetic barriers. West of 3rd Avenue to the waterfront, there are virtually no arterial-type north south or east-west roadways, with little capacity to handle higher traffic volumes, making it hard to get into, out off, and through these areas.

These challenging transportation infrastructure conditions limit walking and cycling as reasonable and safe options for trips within or between these communities. Transit mobility is an even greater challenge. Most of Red Hook's residents face a relatively long walk to the nearest subway stations and bus service is limited and often slowed by traffic along its routes. These combined conditions limit local residents' reliable and reasonably priced access to employment opportunities. Any plan to have Southwest Brooklyn realize its potential as a stronger, vibrant residential, commercial and recreational area must address these serious elements of its transportation infrastructure and services, including appealing and sufficient roadway and pedestrian/bicycle pathways and substantially improved transit access and service levels.

INADEQUATE PEDESTRIAN CROSSING UNDER THE BQE





SOUTHWEST BROOKLYN IS
INEQUITABLE

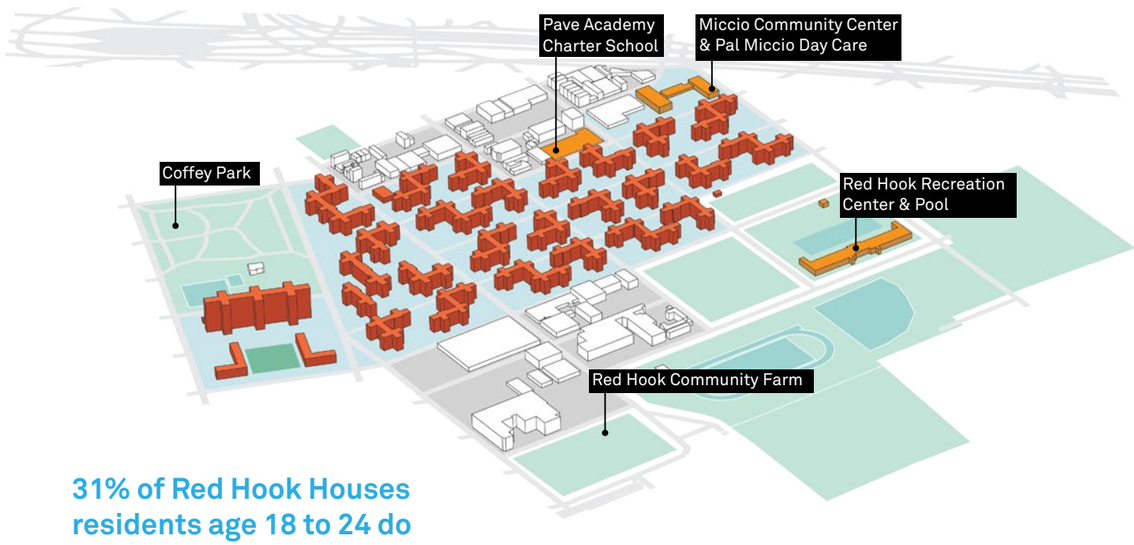
The neighborhood has a high concentration of low income residents, a need for more schools and other community facilities, and public housing that requires investment. As an example, over the last year, there were an average of 1,034 open work orders at Red Hook Houses with an average resolution of 36 days (15 days is the service level target). How can future development bring equitable neighborhood benefits?

Many of the residential areas within Southwest Brooklyn have median incomes below the area median income for New York City, and Red Hook Houses residents' median income is below 30 percent of the area median income. While Red Hook Houses provides a large portion of the affordable housing available in the area, like many New Yorkers, housing affordability is an issue for area residents.

Parks and open space, particularly in Red Hook, are easily accessible; however, public access to the waterfront is limited to Valentino Pier Park, Erie Basin Park, and Bush Terminal Park as much of the waterfront is privately owned within Southwest Brooklyn. Bike paths and streetscapes that accommodate multiple modes of transportation are limited.

Red Hook Houses Resources and Challenges

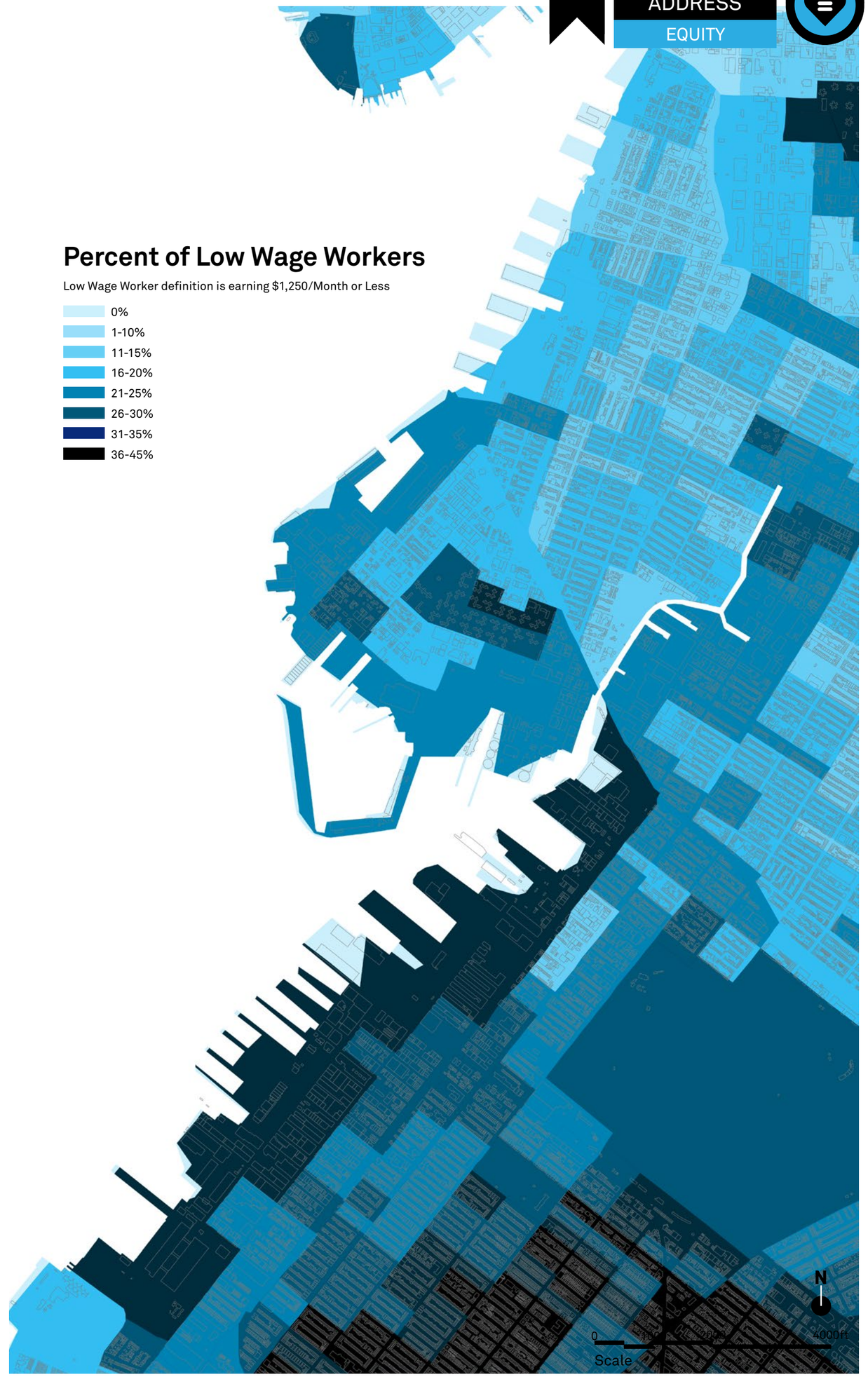
Red Hook Houses has 2,873 apartments with 6,500 residents



31% of Red Hook Houses residents age 18 to 24 do not have a high school degree.

60% of the Red Hook population lives in Red Hook Houses. In 2014, median household income at the Red Hook Houses was $14,000, below 30% of the area median income

Data source: American Community Survey (2010-2014); NYCHA work orders 2015

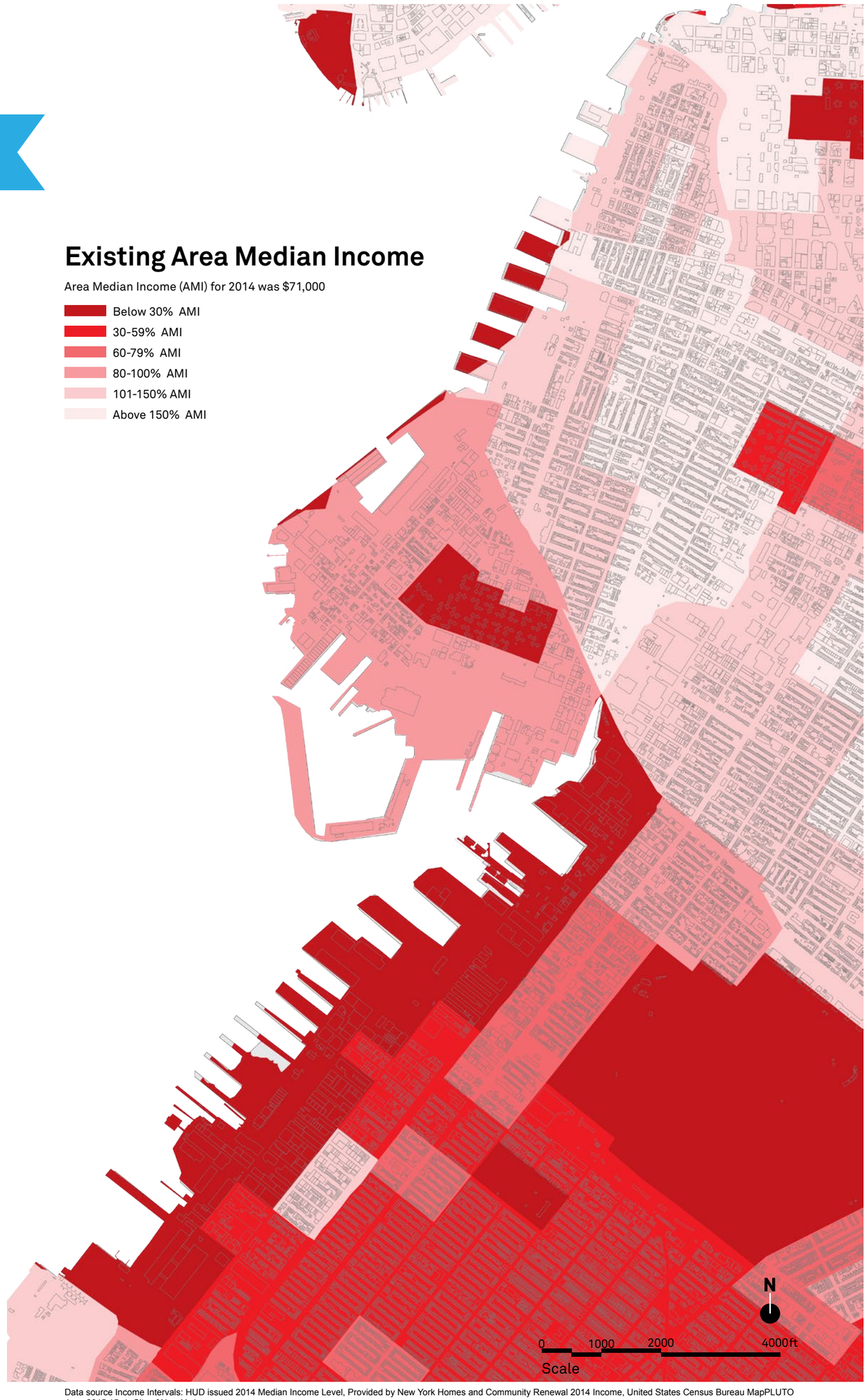


Data source: 2014 US EPA Smart Location Database, 2010 Census U.S. Census Bureau

Existing Area Median Income

Area Median Income (AMI) for 2014 was $71,000

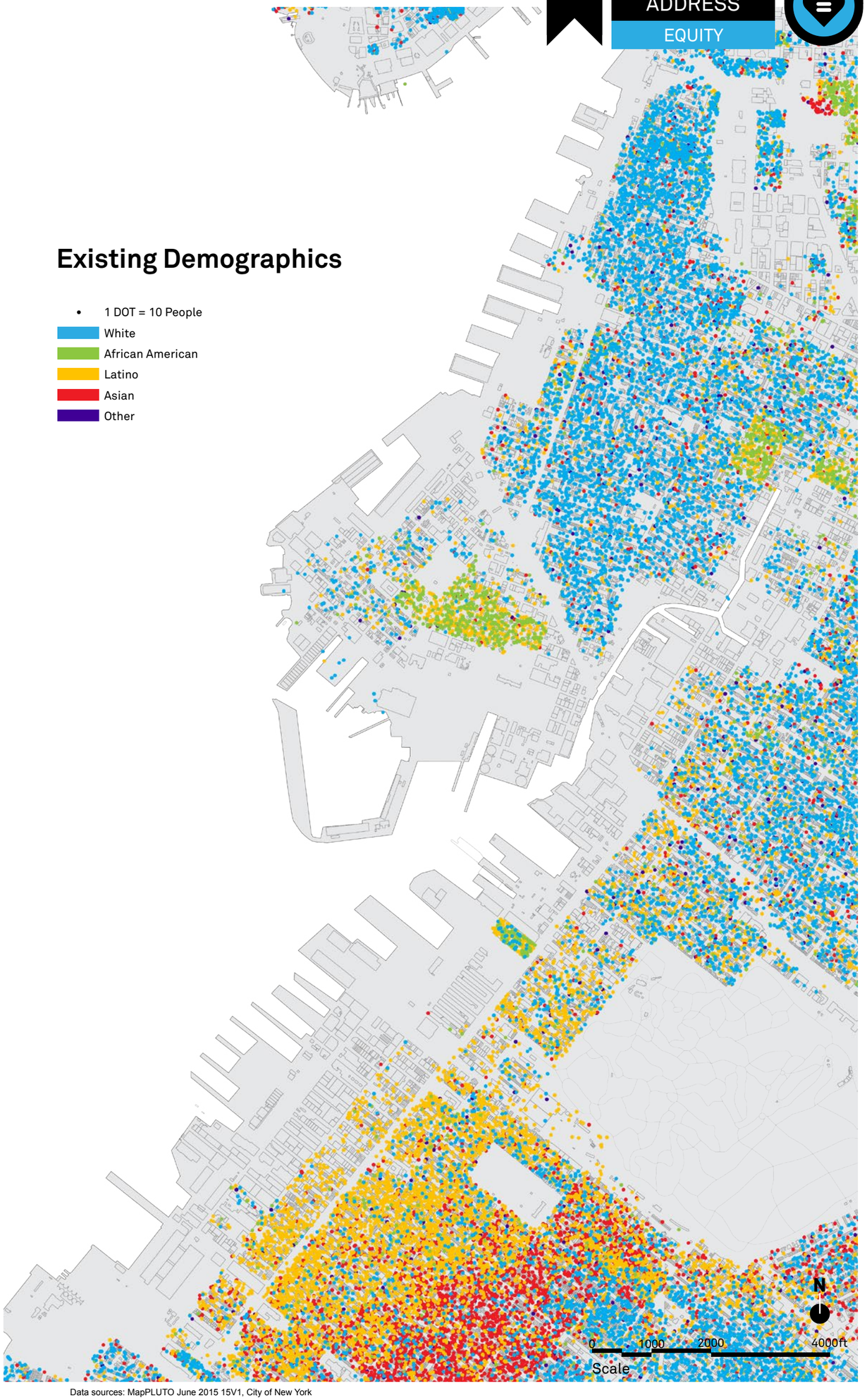
- Below 30% AMI
- 30-59% AMI
- 60-79% AMI
- 80-100% AMI
- 101-150% AMI
- Above 150% AMI



Data source Income Intervals: HUD issued 2014 Median Income Level, Provided by New York Homes and Community Renewal 2014 Income, United States Census Bureau MapPLUTO June 2015 15v1, City of New York

Existing Demographics

- 1 DOT = 10 People
- White
- African American
- Latino
- Asian
- Other



Data sources: MapPLUTO June 2015 15V1, City of New York

SOUTHWEST BROOKLYN IS
FLOODING

The neighborhood experiences recurring flooding and was heavily damaged during Hurricane Sandy. For example, flood waters exceeding 6 feet in some locations. How can future development prevent flood impacts?

Along the Southwest Brooklyn waterfront, storm surges from Hurricane Sandy caused extensive flooding. Homes, small businesses, retail, commercial and industrial properties were damaged. Hurricane Sandy caused power outages, displaced residents and businesses, disrupted transportation networks, and damaged infrastructure systems and personal property, resulting in lost revenue and disruption of basic daily life. In addition, Red Hook is a low-lying area with poor drainage that has a potential for sewer back-ups where frequent flooding can occur, even during moderate rain events. Many recovery and resiliency efforts are under way, but there is much more work to be done.

Hurricane Sandy Impacts

Re-Store Red Hook provided recovery grants to 51 small businesses

859 properties damaged by Hurricane Sandy in Red Hook

Hurricane Sandy flood waters exceeded 6 feet in some locations along the Brooklyn waterfront

Flood level line

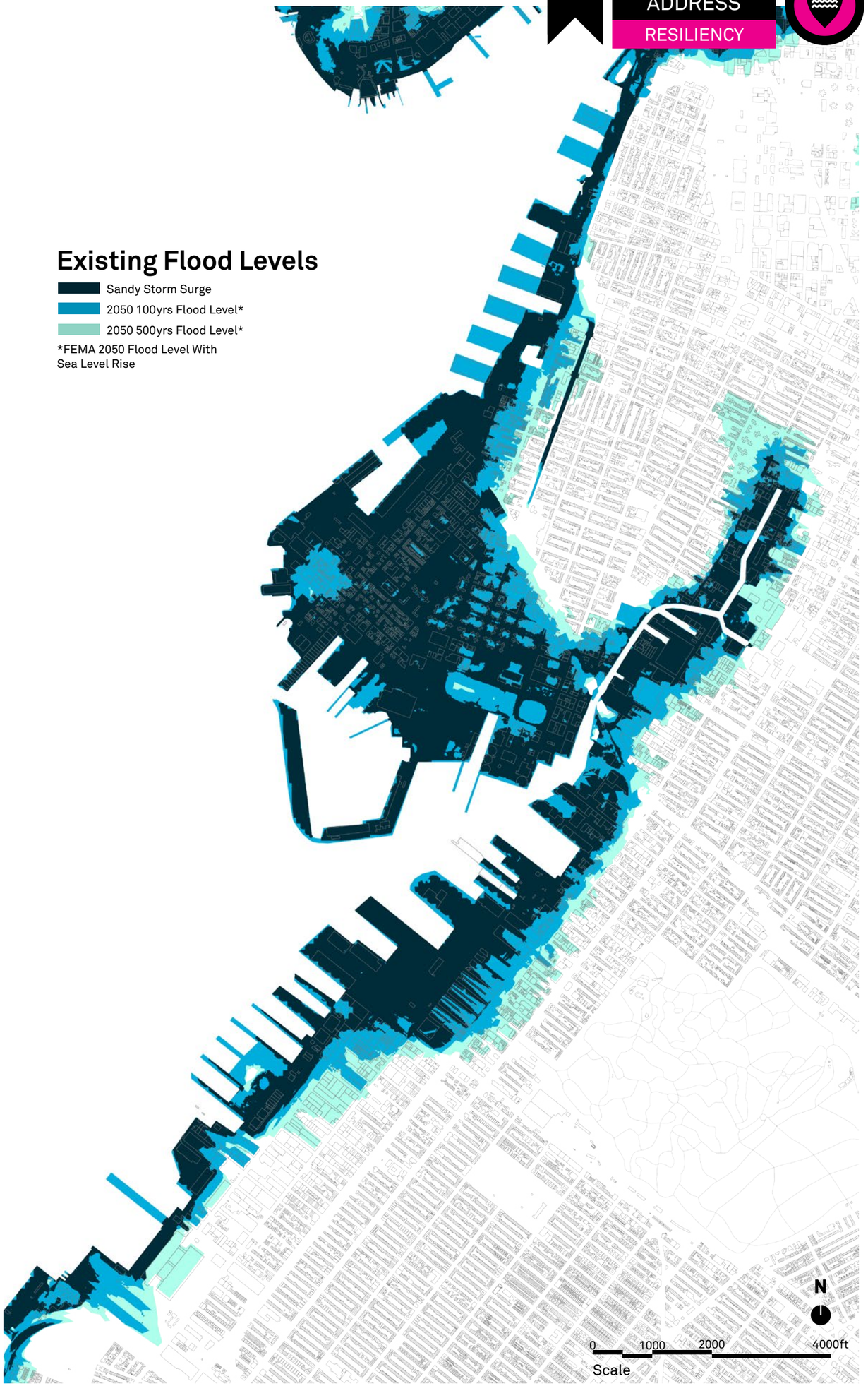
Along the Brooklyn-Queens waterfront, 3,100 businesses employing 34,600 people were impacted by Hurricane Sandy

Image and Data Sources: James Spahr, Flickr CC; HUD Sandy Damage Estimates by Block Group (01/17/2013); ReStoreRed Hook.org; New York City Landcover, 2010; A Stronger, More Resilient New York, SIRR 2013

Existing Flood Levels

- Sandy Storm Surge
- 2050 100yrs Flood Level*
- 2050 500yrs Flood Level*

*FEMA 2050 Flood Level With Sea Level Rise



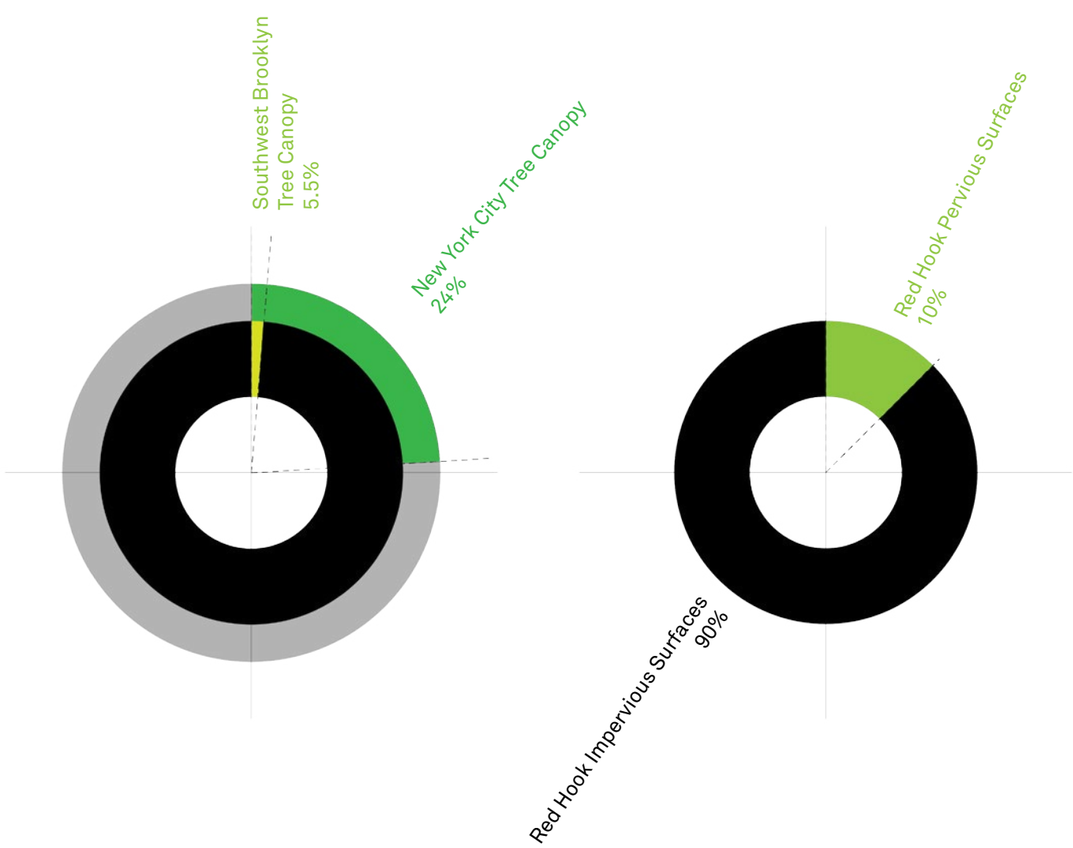
Data Sources: Sea Level Rise Maps 2050S 100 & 500-Year Floodplain, NYC Open Data, City of New York; MapPLUTO, June 2015 15V1, NYC Open Data, City of New York

SOUTHWEST BROOKLYN IS
UNSUSTAINABLE

The neighborhood has large amounts of impervious surfaces, several waste transfer stations, and contaminated areas. How can future development increase green spaces, energy efficiency, and stormwater management?

The low-lying geography of the area, the high percentage of impervious surfaces, and the storm sewer drainage issues continue to create recurring flooding in the neighborhood, impacting residents, businesses and the quality of stormwater runoff into local waterways. The tree canopy and associated pervious surfaces, particularly street trees, are limited in the Southwest Brooklyn area. Tree cover can contribute to mitigating stormwater runoff, improve air quality, and reduce the effect of greenhouse gas emissions through carbon sequestration. New York City established an ambitious goal to reduce greenhouse gases by 80% by 2050, the majority of which will need to come from improvements in building efficiencies. The Gowanus Superfund Site and the number of waste transfer stations impact the environmental quality of the area.

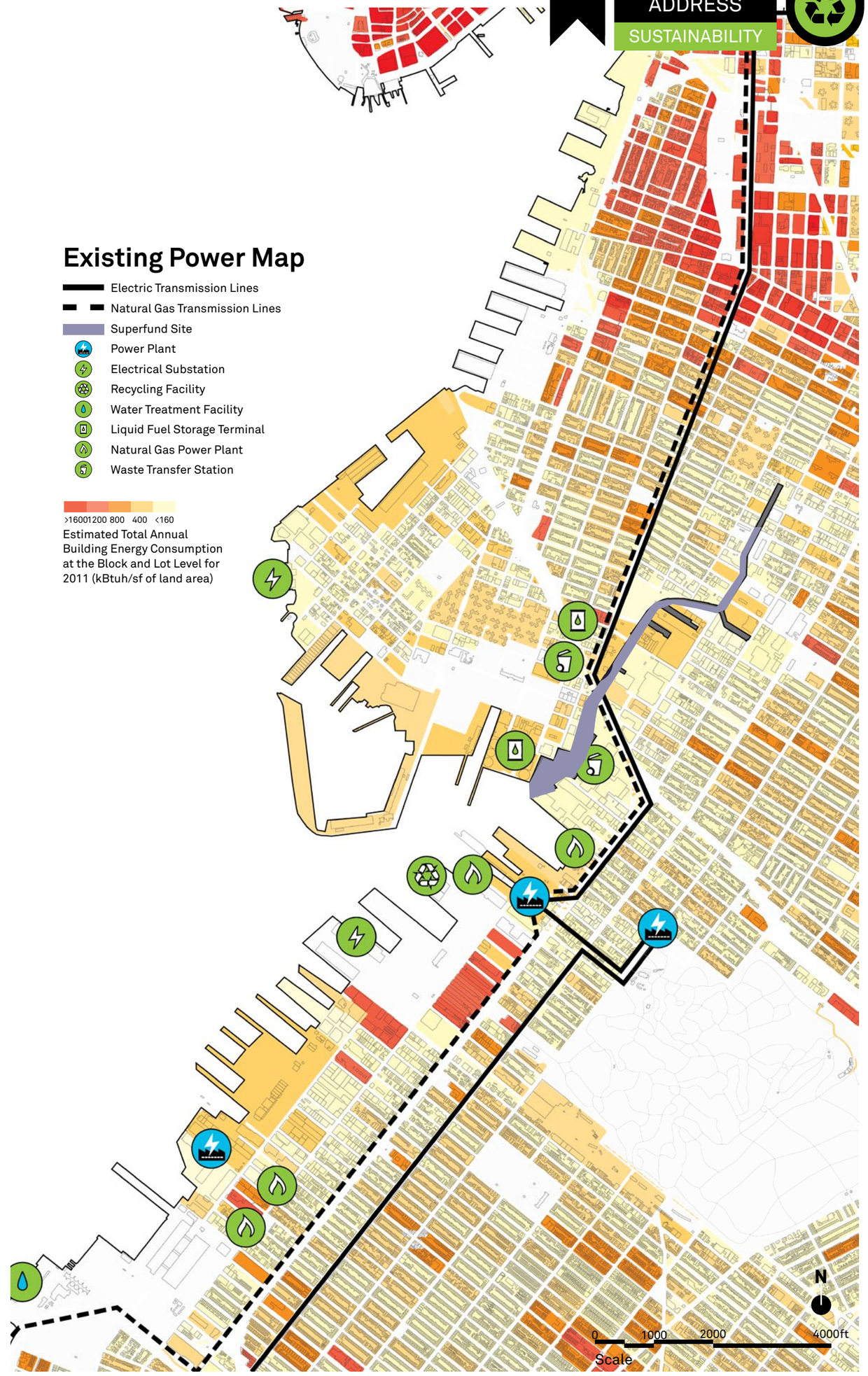
There are limited major transmission lines into the Red Hook neighborhood. This limitation, in addition to flooding, contributed to the loss of power for area residents during and after Hurricane Sandy - the Red Hook Houses residents were without heat and electricity for up to three weeks. The impacts of Hurricane Sandy to the Red Hook Houses directly led to the allocation of FEMA funds for restoration and resiliency work, including installing back-up power generation and replacing the temporary boilers that have been in use at Red Hook Houses since Hurricane Sandy.



Existing Power Map

- Electric Transmission Lines
- Natural Gas Transmission Lines
- Superfund Site
- Power Plant
- Electrical Substation
- Recycling Facility
- Water Treatment Facility
- Liquid Fuel Storage Terminal
- Natural Gas Power Plant
- Waste Transfer Station

>1600 1200 800 400 <160
Estimated Total Annual Building Energy Consumption at the Block and Lot Level for 2011 (kBtuh/sf of land area)



Data Source: Shaky Sherpa of Sustainable Engineering Lab, Spatial distribution of urban building energy consumption by end use; U.S. Energy Mapping System (EIA)

FLEXIBLE FRAMEWORK

SOUTHWEST BROOKLYN

TOOLS FOR CHANGE

The dynamic and diverse communities of Southwest Brooklyn are facing development pressures. Utilizing tools to prioritize decisions, development scenarios can be generated that provide a holistic approach to making choices that can address equity, affordable housing, flood and energy resilience, jobs, new connections to public transit, community facilities and a public waterfront.

Southwest Brooklyn is one of New York City's greatest opportunities to realize the demands of the regional growth projections and meet the goals of the One NYC Plan. By looking at the communities of Southwest Brooklyn holistically through Guiding Principles, there is an opportunity to help New York City achieve the equitable growth outlined in the OneNYC plan and address regional growth needs and flood protection in a transit-rich area, while respecting the existing neighborhood context. Without a holistic flexible framework, the area risks attracting disaggregated attention and investment, undercutting the neighborhoods' true potential.

GROWTH

CONNECT AND GROW: Red Hook and Sunset Park neighborhoods each have their own character and culture and challenges. By increasing access to transit, the full potential of these communities to attract housing and jobs can be realized, with connections to adjacent neighborhoods and the larger New York Metro dramatically improved.

- Realize full potential of vacant and underutilized land
- Enhance access to housing and jobs
- Improve connections with adjacent communities and larger New York Metro

EQUITY

ATTRACT AND AFFORD: Well-paying jobs, abundant affordable housing and community services support strong neighborhoods. Developments conceived with local communities can ensure the delivery of more affordable housing, a truly public waterfront, neighborhood parks, schools and other community facilities that benefit the entire community.

- Create a mixed income vibrant neighborhood
- Abundant and affordable housing
- Accessible open space and community services

RESILIENCY

PROTECT AND ADAPT: Integrated coastal protection that combines urban flooding solutions, environmental remediation and habitat restoration can define Southwest Brooklyn's community fabric, ensuring the neighborhood is protected and connected, not divided. Similarly, transit and energy improvements can ensure the provision of service that withstand storm events.

- Construct coastal protection and prevent urban flooding
- Create redundant energy and transit systems

SUSTAINABILITY

SECURE AND POWER: Resilient energy infrastructure, anchored by interconnected smart grids, delivers unprecedented reliability, empowers energy customers, and creates jobs.

- Advance integrated green infrastructure systems that reduce long term operating costs and increase biodiversity
- Install reliable and future-proof energy service provision that reduces carbon footprint

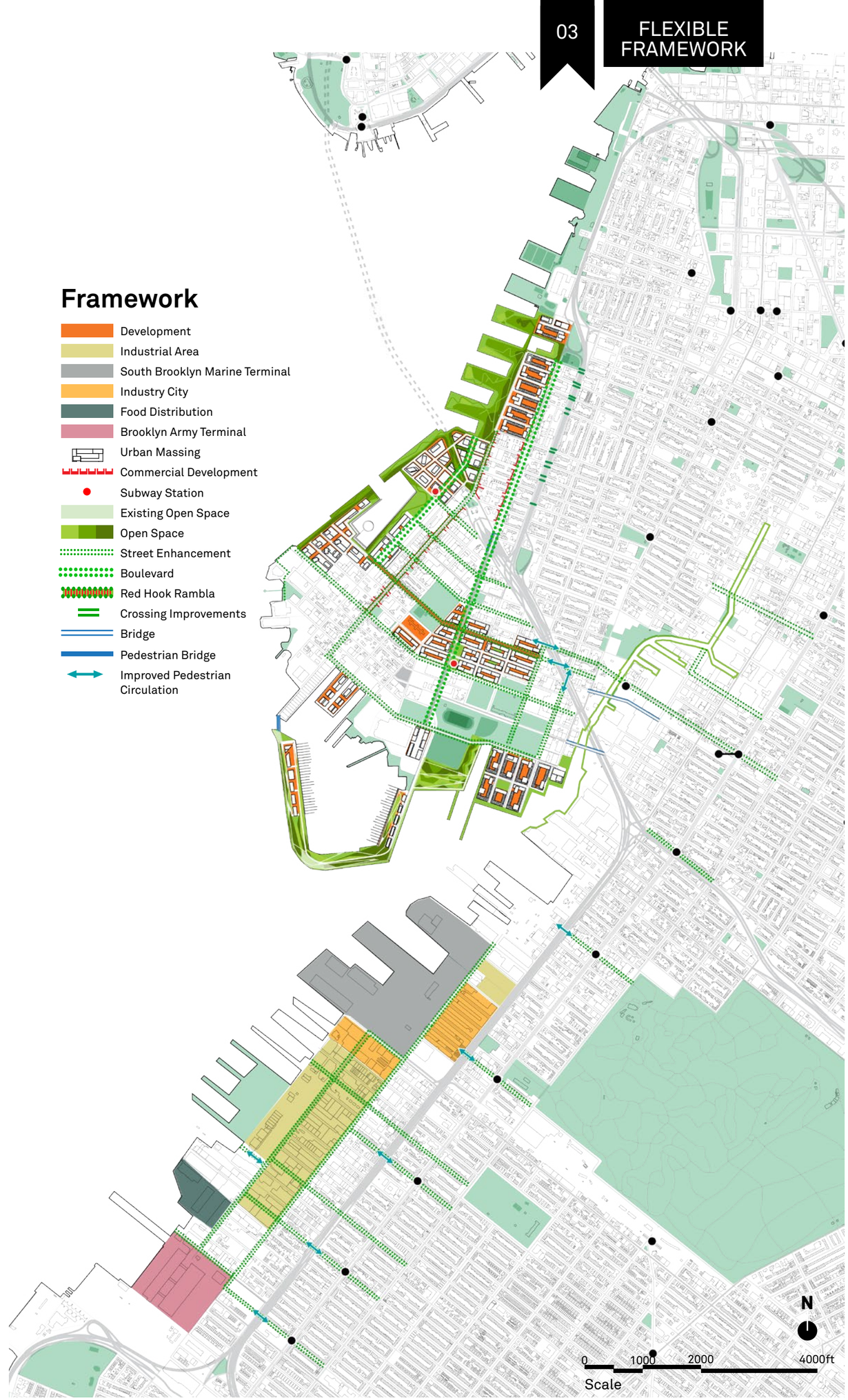
COMMUNITY AMENITIES IMPROVE QUALITY OF LIFE

COMMUNITY OPEN SPACE AND NEIGHBORHOOD PARKS PROVIDE GATHERING SPACES

Image Sources: Top: NYCA. Remixed by AECOM; Bottom: OurTown.com. Remixed by AECOM

SOUTHWEST BROOKLYN
FRAMEWORK

In the flexible framework and tools for change developed for Southwest Brooklyn, Red Hook, Columbia Waterfront, and the Sunset Park Industrial Area share a continuous section of the Southwest Brooklyn Waterfront. The neighborhoods retain and expand their strong, vibrant and engaged communities and entrepreneurial spirit. Utilizing the flexible toolkit of parts, the areas can be re-connected to the larger borough with a linear waterfront park, new connections along the street grid, pedestrian promenades and bike routes, and new transit lines. Red Hook can provide mixed-income housing, additional schools and community support facilities, cultural places, maker spaces, commercial corridors, and new green and open spaces within a walkable neighborhood and easy access to multiple modes of transportation. To the south, Industry City and the Sunset Park can continue to serve as a hub for industrial, maritime and innovative industry jobs. The neighborhoods can integrate sustainable technologies and flood protection elements.



RED HOOK & COLUMBIA WATERFRONT

SUNSET PARK INDUSTRIAL AREA

GUIDING PRINCIPLES AT WORK

SOUTHWEST BROOKLYN *WILL*

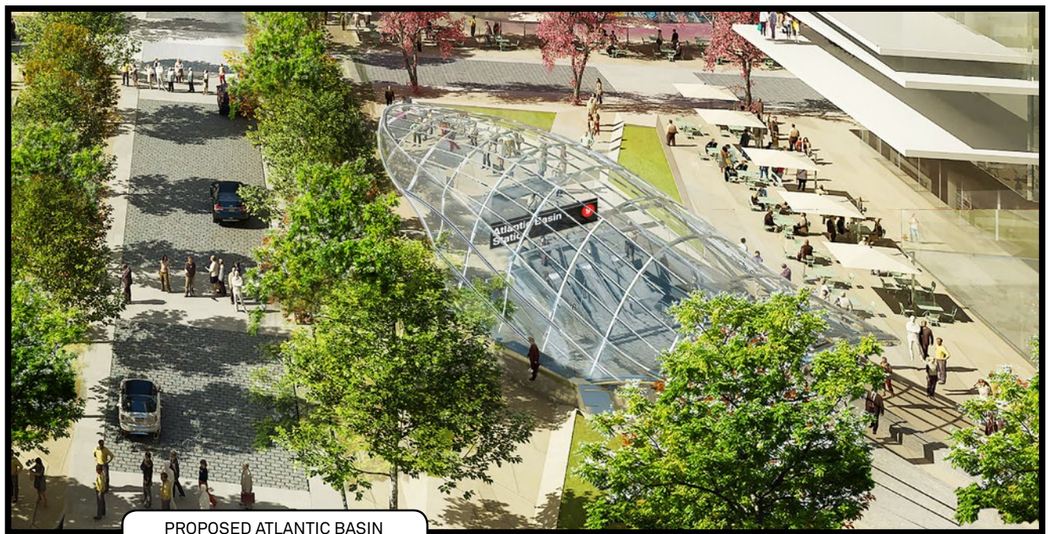
CONNECT

Improve Transit Access to Job Sites

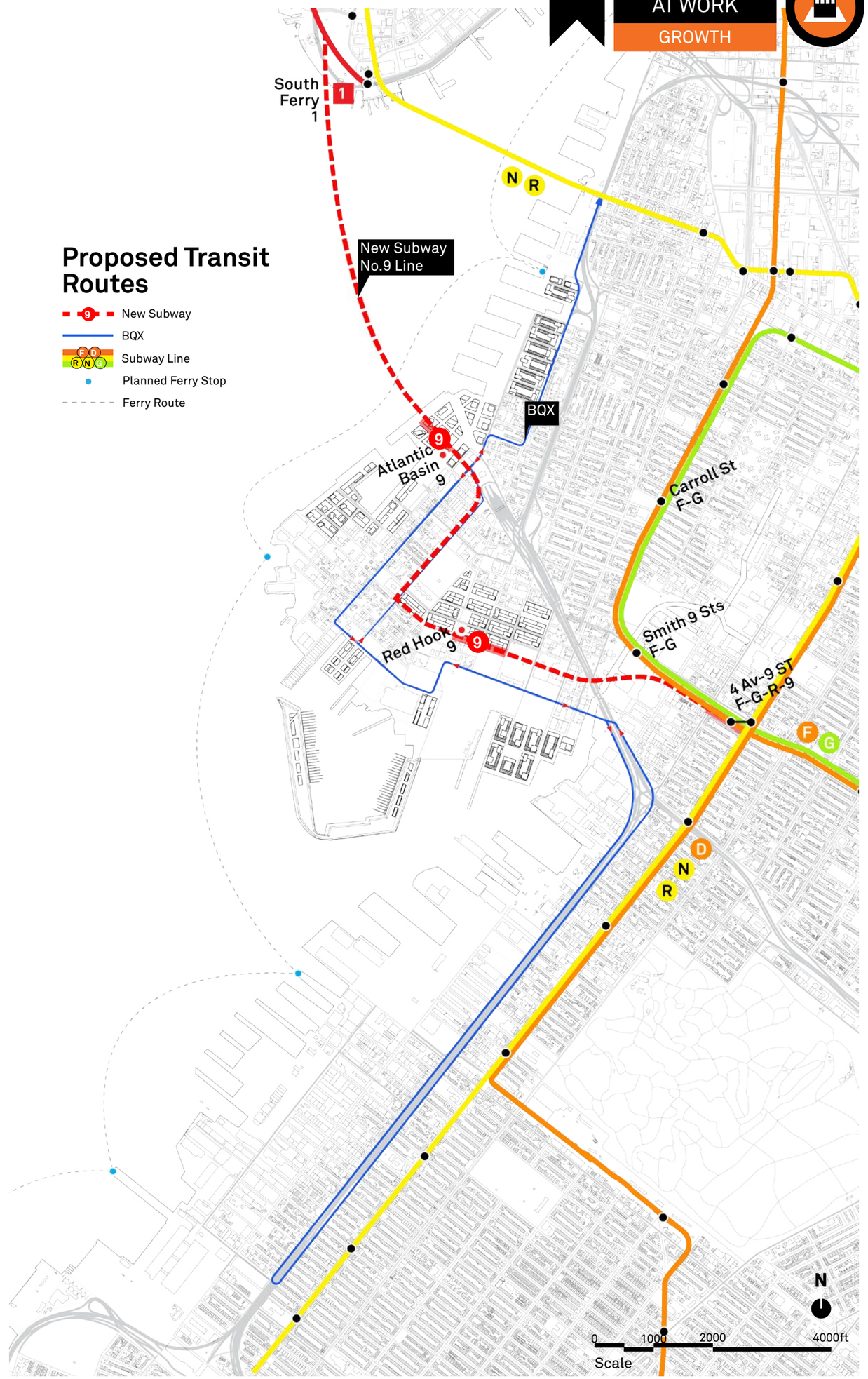
The transportation plan for the Southwest Brooklyn waterfront calls for creating a new subway line (the No. 9) that branches off No. 1 Subway Line at the Rector Street Station in Lower Manhattan, and extends beneath the New York Harbor and Governors Island to the Red Hook section of Brooklyn. Three new stations are proposed:

ATLANTIC BASIN	Within the existing Red Hook Terminal, north of Atlantic Basin and south of the Brooklyn-Battery Tunnel
RED HOOK	Adjacent to Red Hook Houses, along Lorraine Street
4TH AVE. STATION	At 4th Avenue and 10th Street, with connections to the F, G and R lines and potential connections to the D and N lines

The No. 9 Train would radically improve transit access to the underserved Red Hook community, substantially increasing the number of jobs and social and cultural amenities accessible within 45 minutes of transit. The new linkages among existing subway lines created by the No. 9 would provide expanded connections for regional travelers, and an increasingly important redundant tunnel connection between Brooklyn and Manhattan. Given the substantial amount of proposed new development in the Red Hook area, improvements to other transit modes are also expected, including ferry and bus services. In addition, the Mayor has proposed the development of a 15 mile light rail transit line that would connect waterfront areas from Astoria Queens to Sunset Park, Brooklyn, including the waterfront areas in Red Hook. Collectively, these improvements would make it possible to integrate transit services across all modes.



PROPOSED ATLANTIC BASIN SUBWAY STATION



SOUTHWEST BROOKLYN *WILL*

CONNECT

New Public Transportation Connections

The proposed No. 9 Train brings three new subway stations into presently underserved neighborhoods, connecting to numerous subway lines and linking the area to the rest of the City and region. The Mayor's proposed concept for a Brooklyn-Queens Connector ("BQX") would increase transit connections along the Southwest Brooklyn waterfront.

The new subway connections will provide the major increase in rapid transit capacity and connectivity to handle the growth in trips by residents, employees and visitors to the Southwest Brooklyn waterfront's residential, commercial and recreational areas. It also provides redundant cross-harbor rail tunnels and additional transit service options to other areas. These would develop an in-street light rail transit (LRT) system connecting growing waterfront areas from Astoria, Queens to Sunset Park. Within the re-envisioned Red Hook, the BQX would primarily play a collector-distributer role that would be complementary to the No. 9 Train. The BQX service, along with local bus service and bike network enhancements would help meet this expanding area's overall mobility needs.

Access to Jobs Via Transit

A reasonable transit access centroid was established at Bush and Columbia Streets. The transit access program and GIS programs were run to estimate the approximate number of jobs that could be accessed in 45 minutes by transit. The existing subway stations are relatively far from many areas in the community, including an approximately 15 minute walk from the chosen centroid point to the nearest station (the 9th St. /Smith St. F and G line station), with other Red Hook locations much closer or much further away from this and other stations. The proposed subway extension would bring two more convenient stations within Red Hook, with a third providing connections with other major lines.

Overall, it was estimated that with these major subway access improvements, the average Red Hook traveler could access in 45 minutes what presently would be accessible in approximately 60 minutes. The same transit access and GIS mapping programs were then used to estimate the approximate number of jobs that presently could be accessed in 60 minutes by transit.

The No. 9 Train would increase the number of jobs accessible to Red Hook residents within 45 minutes by transit by approximately 1 million, from 1.01 million to 1.98 million.

KEY

45 Minutes of Travel Time from Red Hook

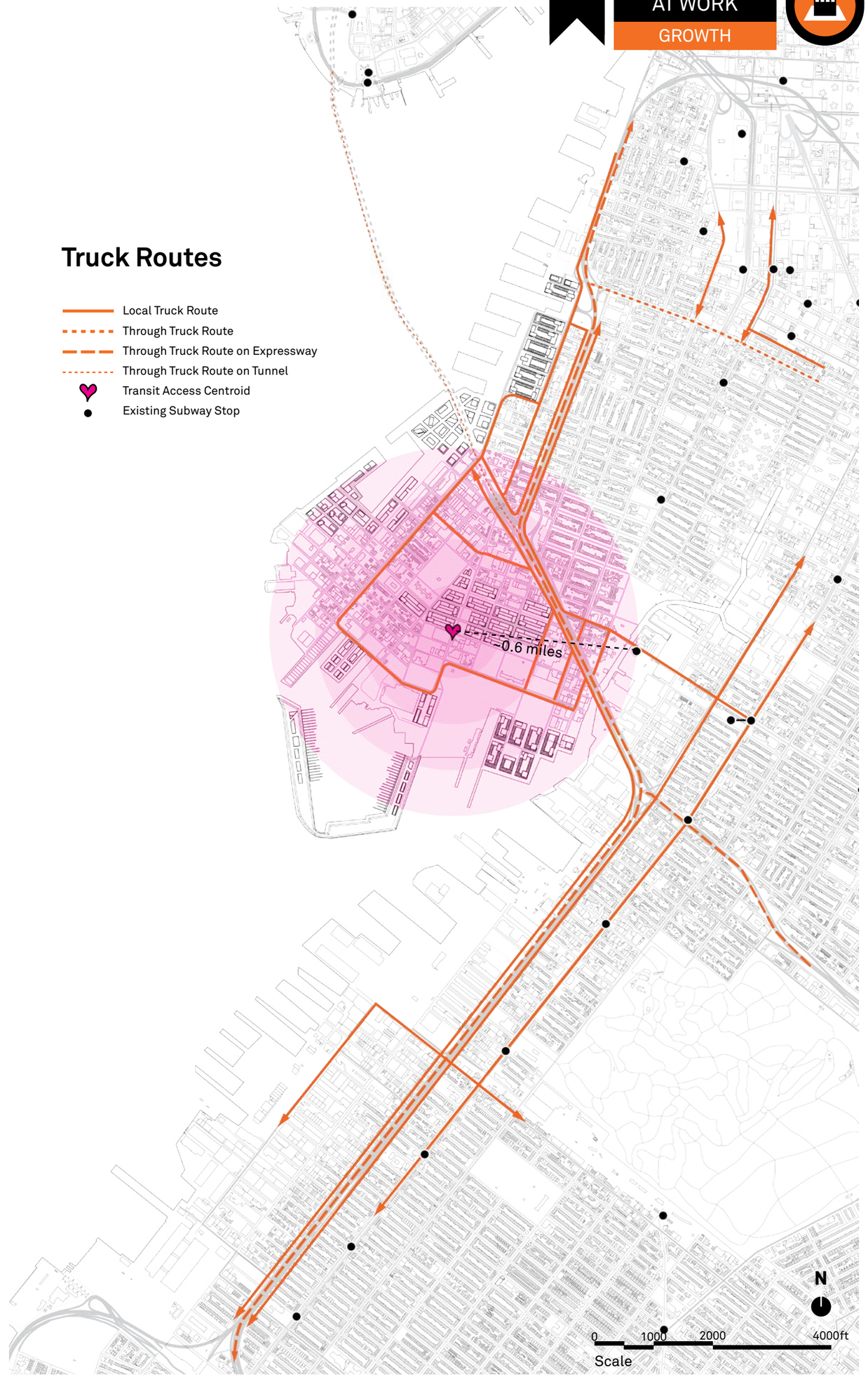
60 Minutes of Travel Time from Red Hook

TRANSIT ACCESS TO JOB SITES

Travel Time	Travel Shed (m^2)	Sq. Miles	Census Tracts	Total Jobs	Job Increase
45 Minutes	128,200,000	50	587	1,010,000	790,000
60 Minutes	287,900,000	110	1,124	1,980,000	970,000

Truck Routes

Local Truck Route
Through Truck Route
Through Truck Route on Expressway
Through Truck Route on Tunnel
Transit Access Centroid
Existing Subway Stop



SOUTHWEST BROOKLYN *WILL*

WALK & RIDE

Bike Way and Connection Upgrades

The revitalized Southwest Brooklyn waterfront envisions multiple connections throughout the neighborhoods to re-establish a robust street grid, and increase bicycle and pedestrian amenities.

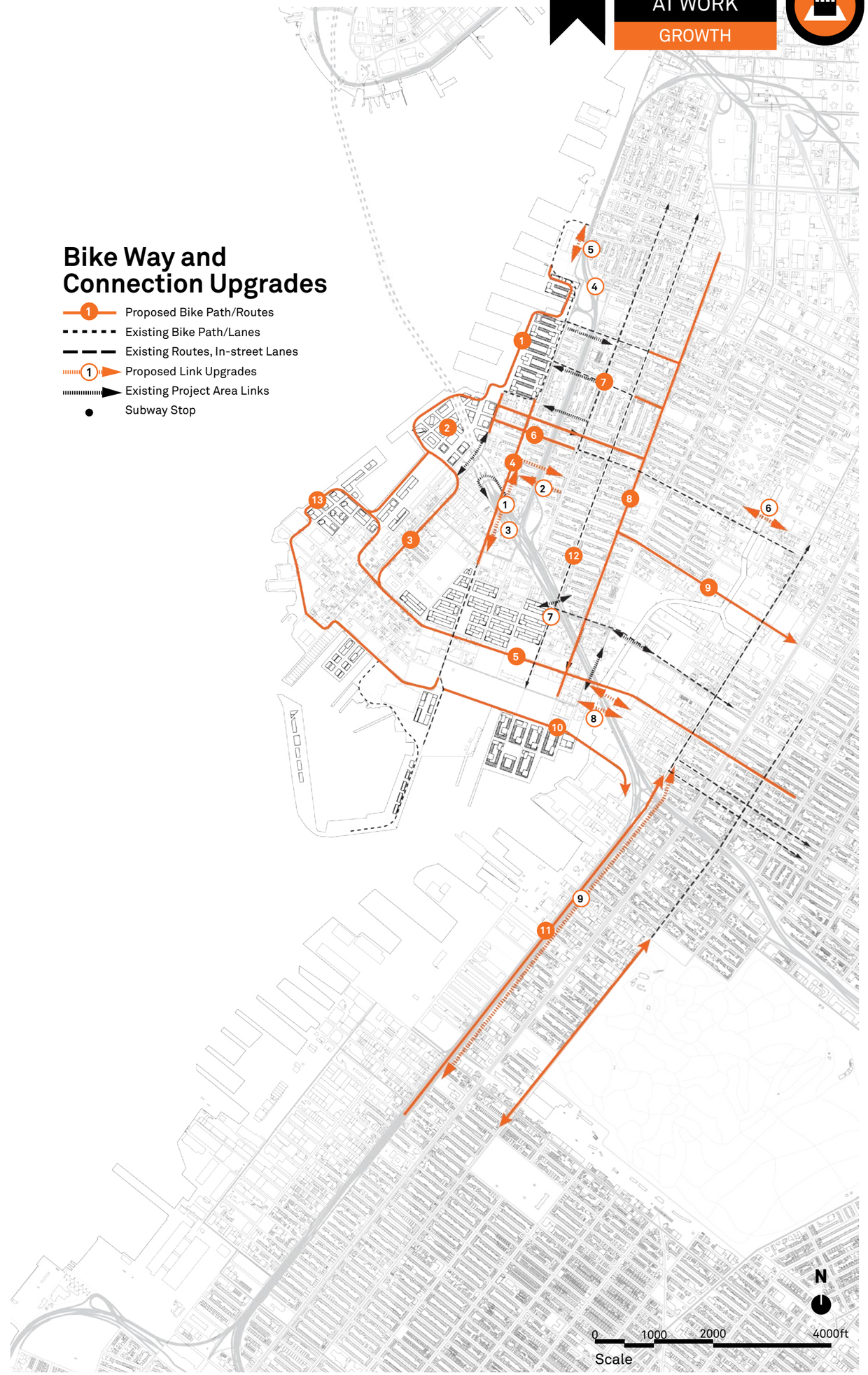
The connections will take the form of pedestrian esplanades; bicycle routes; comfortable and active crossings underneath the BQE; crossings over the Brooklyn Battery Toll Plaza along Columbia Street; crossings over the Gowanus Canal; and new transit lines via the new subway and streetcar lines.

Bike/Pedestrian Expanded Connections

1. Esplanade Paths
2. Internal Connections to Subway Station with Bicycle Storage
3. Van Brunt Extension
4. Columbia Street Connection
5. Lorraine Street Link - Subway Stop using Roadway Extension across Canal
6. Union-Sackett E-W Connection
7. Improve/Enhance Local Street Bike/Ped Connections/Network throughout Cobble Hill, Carroll Gardens
8. N/S Court Street Route
9. 3rd Street - Additional cross-canal connection
10. E/W connection from Red Hook Park/Housing to Sunset Park- new cross-canal connection
11. 3rd Avenue Extension - main N/S route - part of entirely re-thought street corridor
12. N/S Clinton Street Route - Utilize Gowanus Underpass
13. Waterfront

Proposed Improved/Expanded Connections

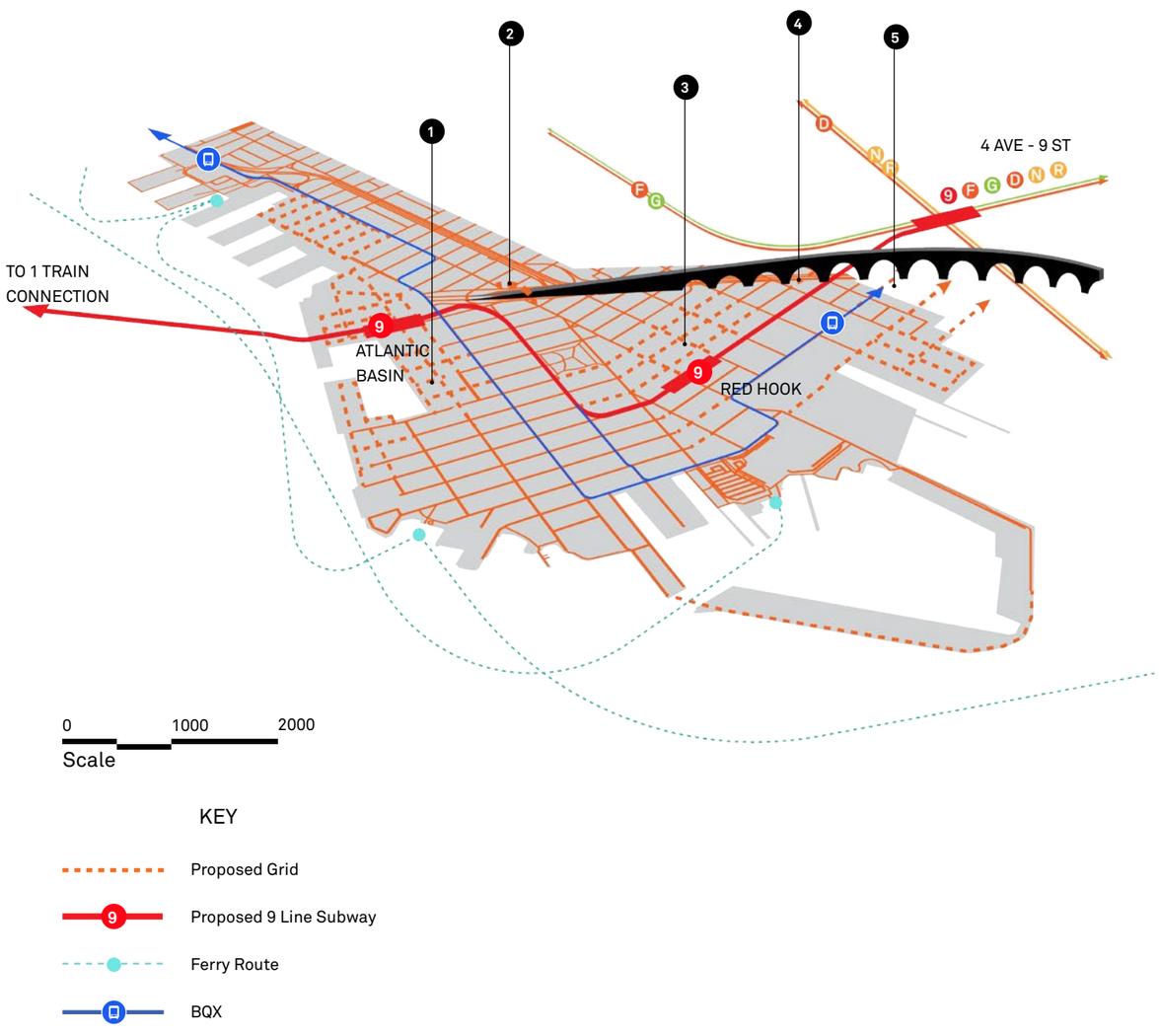
1. Columbia Street Connection across BBT Toll Plaza
2. Carrol/Summit Street - new extensions across BQE cut section
3. Re-configuration of Toll Plaza and re-thinking of highway/tunnel connection system
4. Re-configuration of Atlantic/Columbia/BQE Interchange
5. Comprehensive renovation of Furman Street
6. New Sackett St. Crossing of canal
7. Comprehensive review of Clinton/9th/Hamilton/BBT entrance intersections and under-viaduct N/S connections
8. New Cross-Canal Connections - Lorraine St. and Bay Street
9. Complete Street review of 3rd Avenue - vital arterial

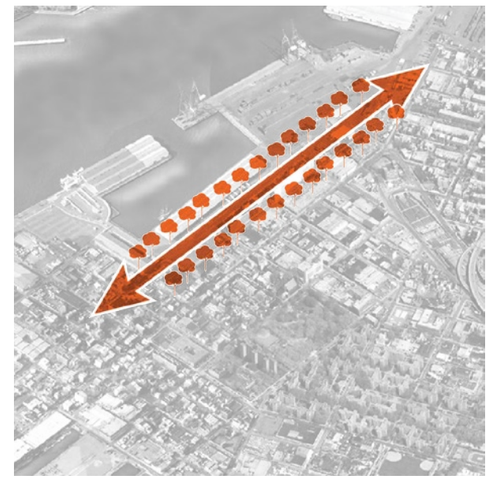


WALK & RIDE

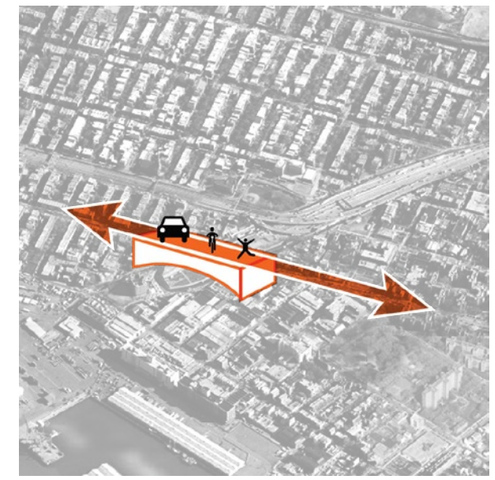
Re-Stitch the City Grid

Vibrant neighborhoods afford safe and convenient access to employment, services and amenities. As conduits of access and connectivity, Southwest Brooklyn streets will be extended and aligned to re-establish and expand the existing grid, coordinated with the city-wide network of bicycle trails. Key service and retail corridors will be treated as compete streets, integrating green infrastructure pedestrian amenities, and public realm.

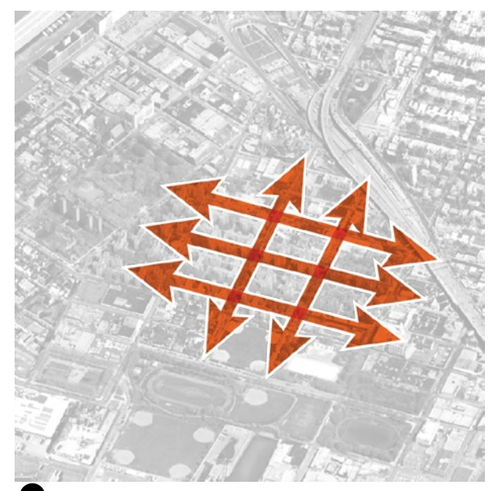




1 Extend and enhance Conover Street

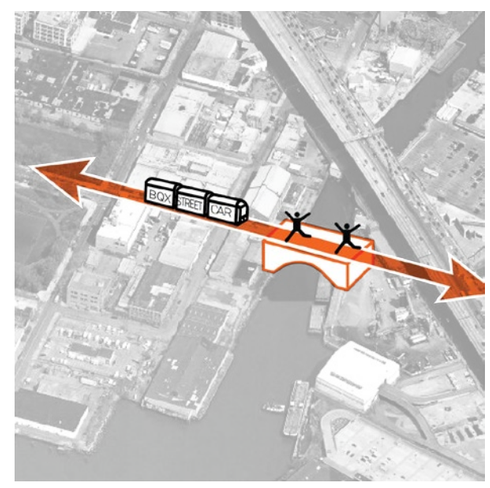


2 Restore Columbia street by bridging over the BQE



3 Reconnect the street grid within the Red Hook Houses site

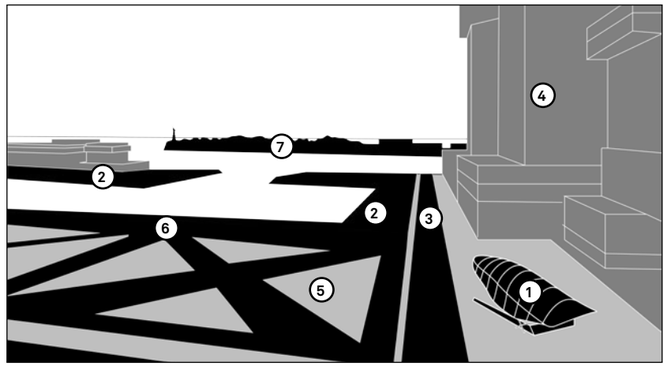
4 Improve the pedestrian experience and vehicular flow under the BQE



5 Bridge over the Gowanus Canal and extend into Sunset Park

New Atlantic Basin District subway station at The Steps

Atlantic Basin Subway Station and Transit Plaza (1)
The Steps at Atlantic Basin (2)
Seaway Avenue shared street (3)
Governors View residential development (4)
Browne Park (5)
Atlantic Basin Promenade (6)
Governors Island (7)



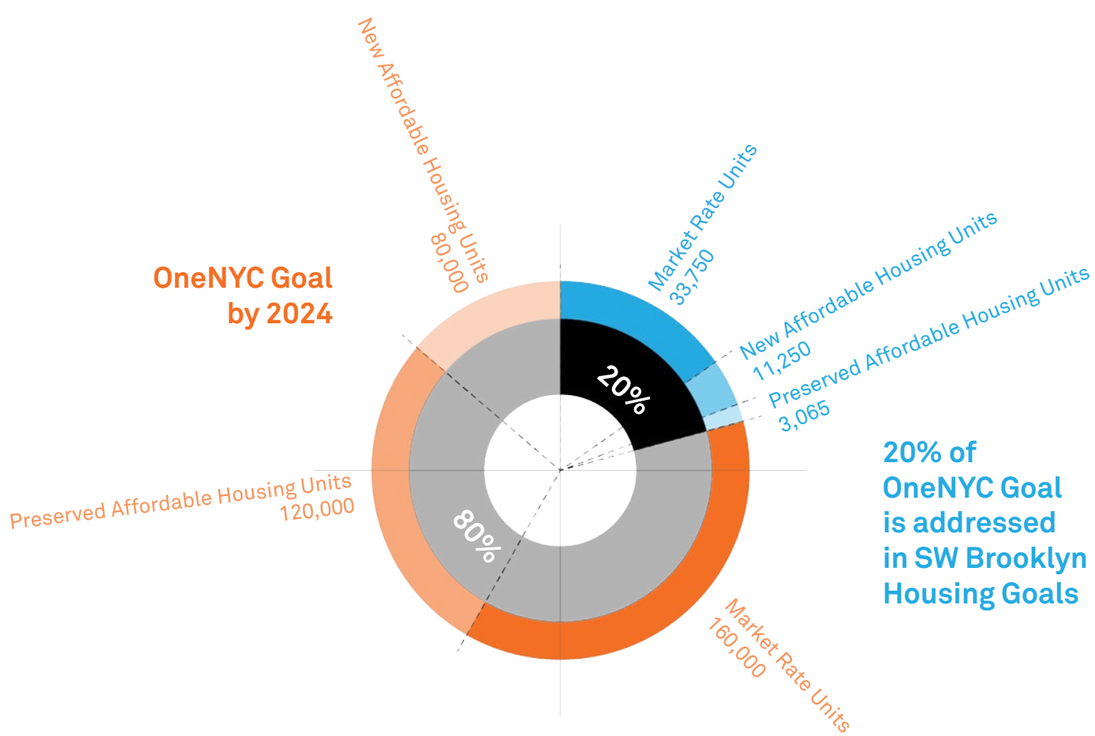
SOUTHWEST BROOKLYN *WILL* DEVELOP

Economic Development and Housing

The Southwest Brooklyn communities have the space to accommodate significant development when paired with strategic infrastructure investment. This development will be thoughtful and focused, with an end goal of furthering New York City as a just, equitable and sustainable city.

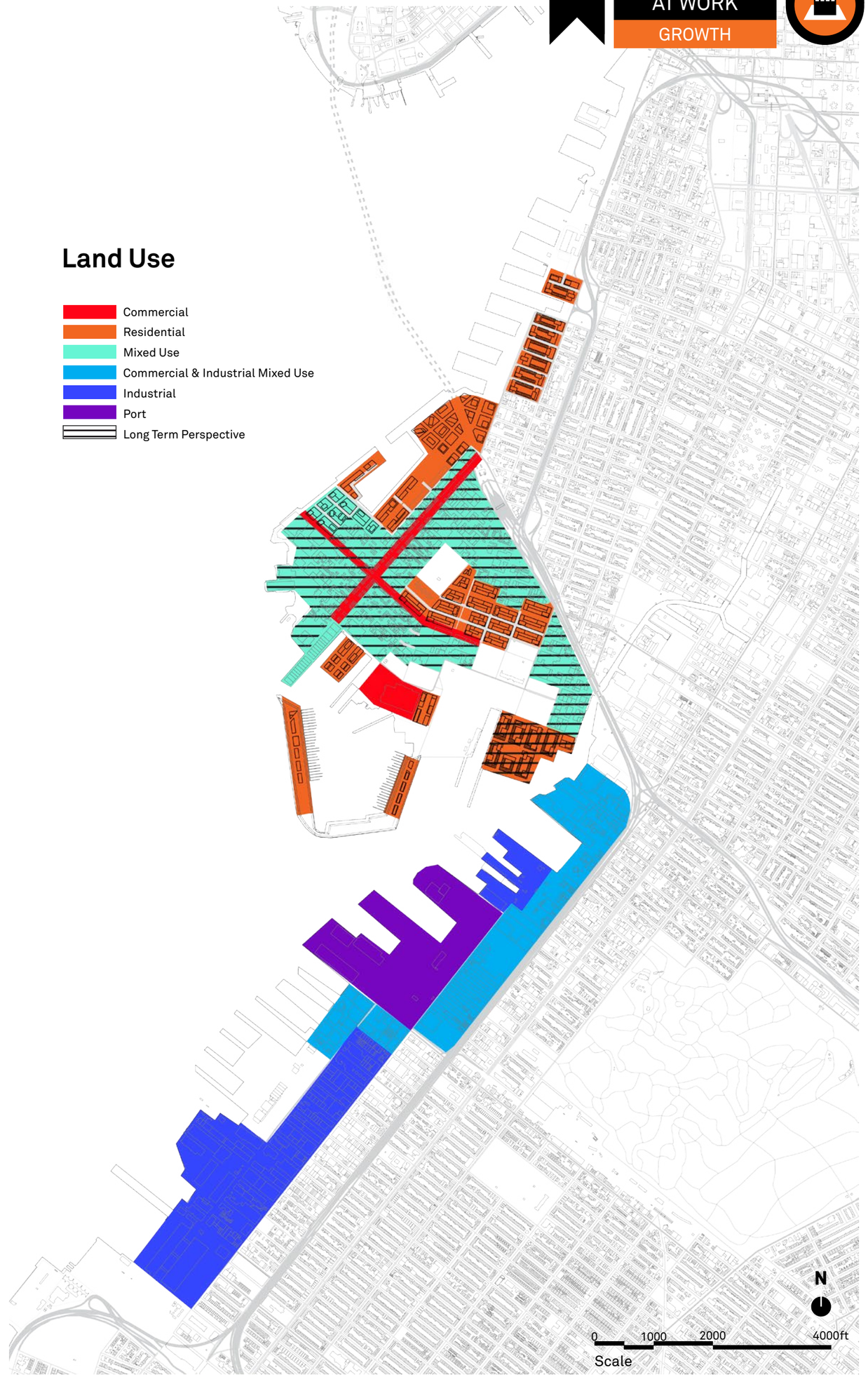
With needed improvements to public transit into the area, Red Hook can accommodate 45,000,000 square feet of new development. This would create 45,000 new units of housing and, presuming a 25% affordable housing set aside, 11,250 new units of affordable housing. This scale of development would allow for the creation of 100,000 square feet of new public space, generate 15,700 new jobs and generate $130,000,000 in new City revenue. More importantly, it would provide existing residents with a larger community, and the additional amenities and interconnectedness that comes with greater density, in place of large stretches of vacant space.

The plan envisions that the section of Sunset Park west of the BQE remain industrial in character. As the innovative economy in New York City continues to grow, a greater premium will be placed on traditionally industrial space that can house these types of activities. Based on an economic analysis, it is estimated that with a comparatively small infrastructure investment aimed at improving connectivity to the area, the industrial section of Sunset Park has the space and demand to accommodate 40,000 maritime, innovation economy and traditional manufacturing jobs.



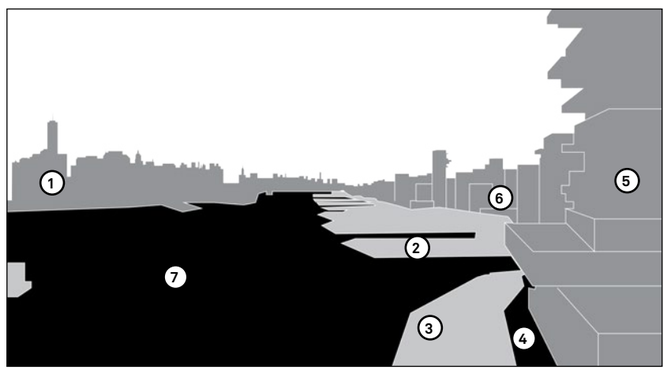
20% of OneNYC Goal is addressed in SW Brooklyn Housing Goals

Land Use



View of Manhattan, the New York Harbor, and The Fields at Columbia Piers from Governors View residential development

Lower Manhattan (1)
The Fields at Columbia Pier Park (2)
Buttermilk Esplanade (3)
Seaway Avenue shared street (4)
Governors View residential development (5)
Columbia Brownstones residential development (6)
New York Harbor (7)



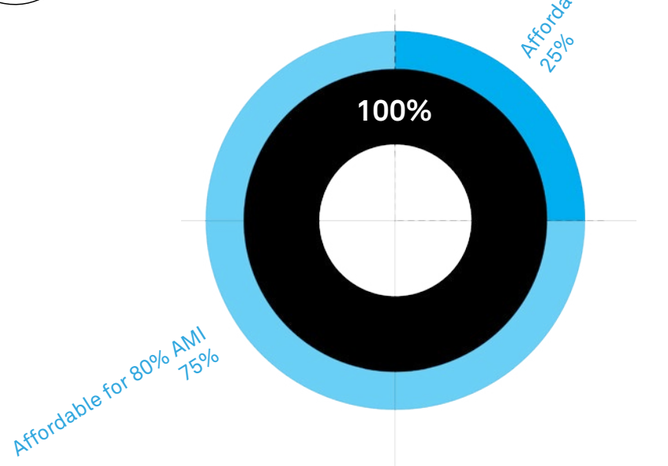
SOUTHWEST BROOKLYN *WILL* THRIVE

Equitable Density

Social infrastructure investments provide health benefits, increase equity, and promote access to education and jobs as demonstrated in the Arverne View case study.

The framework for Southwest Brooklyn looks to successful implementation of the redevelopment and renovation of affordable housing units in order to create a mixed-use sustainable neighborhood without displacing existing residents.

Case Study: Arverne View, Rockaway, NY



1,093 Units
13 Acre site

100% Affordable housing

$60M Renovation of existing units

Full Mixed-use buildout

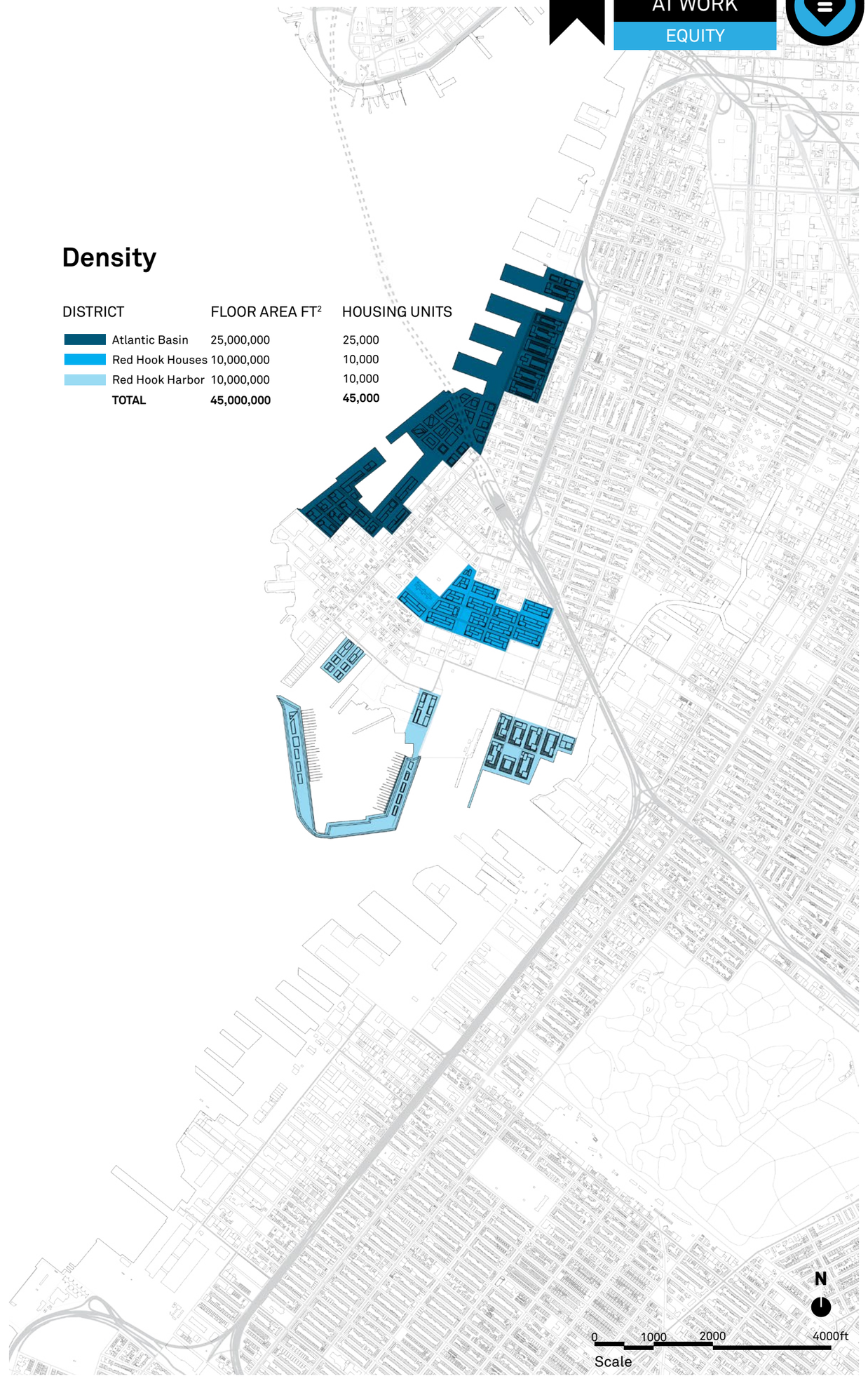
Phased Development

No displaced tenants

Data and Image Sources: City of New York Housing Preservation and Devleopment; Averne View

Density

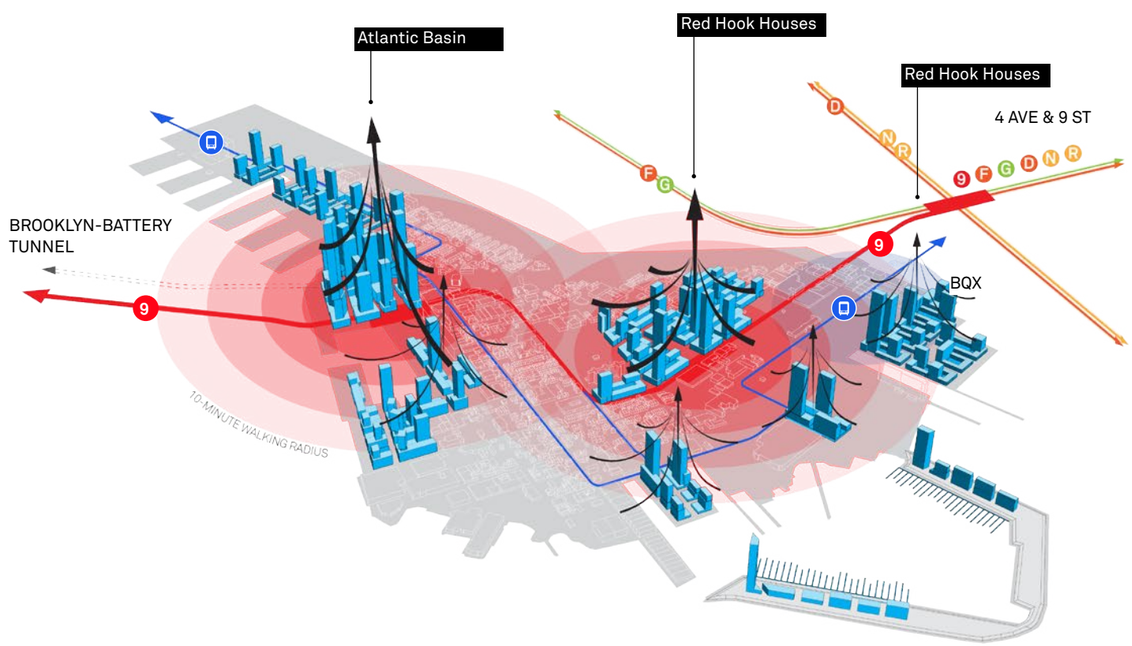
DISTRICT	FLOOR AREA FT²	HOUSING UNITS
Atlantic Basin	25,000,000	25,000
Red Hook Houses	10,000,000	10,000
Red Hook Harbor	10,000,000	10,000
TOTAL	**45,000,000**	**45,000**



THRIVE

Concentrate Density Around New Subway & BQX Stations

Transit provisions will leverage the development of a new mixed use urban center in Southwest Brooklyn. The No. 9 subway line will be extended to serve the new development, with new subway stations located within a 10 minute walk from the greatest concentration of development. Streetcars will similarly serve the new development, coordinated with the planned Brooklyn-Queens streetcar proposal.



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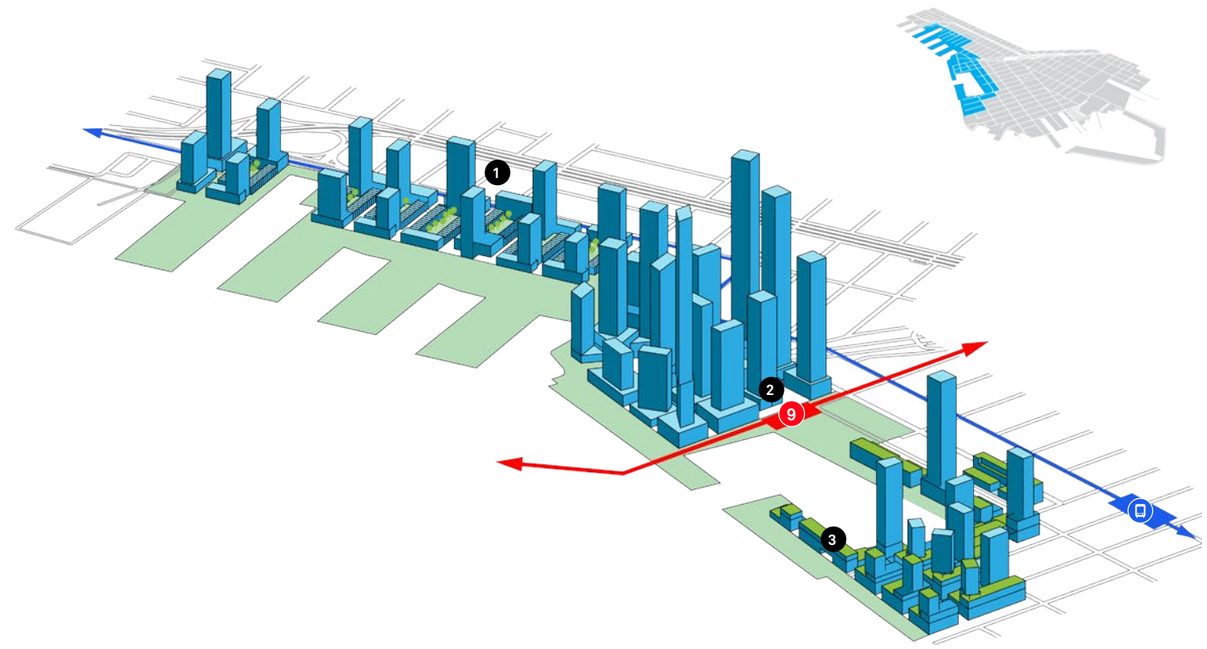
Scale

KEY

Proposed 9 Subway Line

Proposed BQX Streetcar Line

Atlantic Basin



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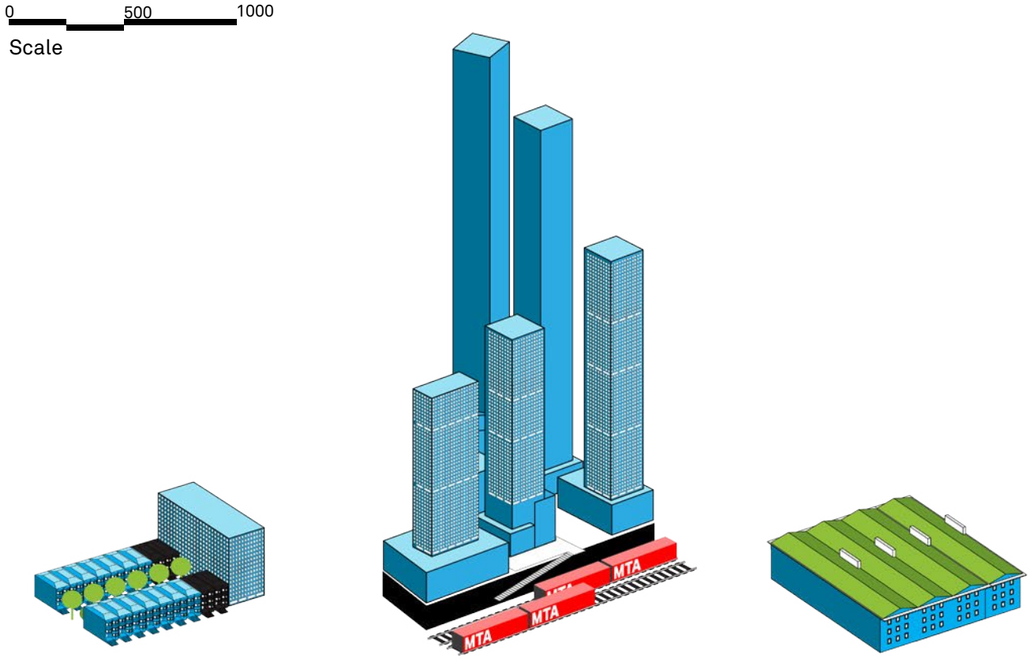
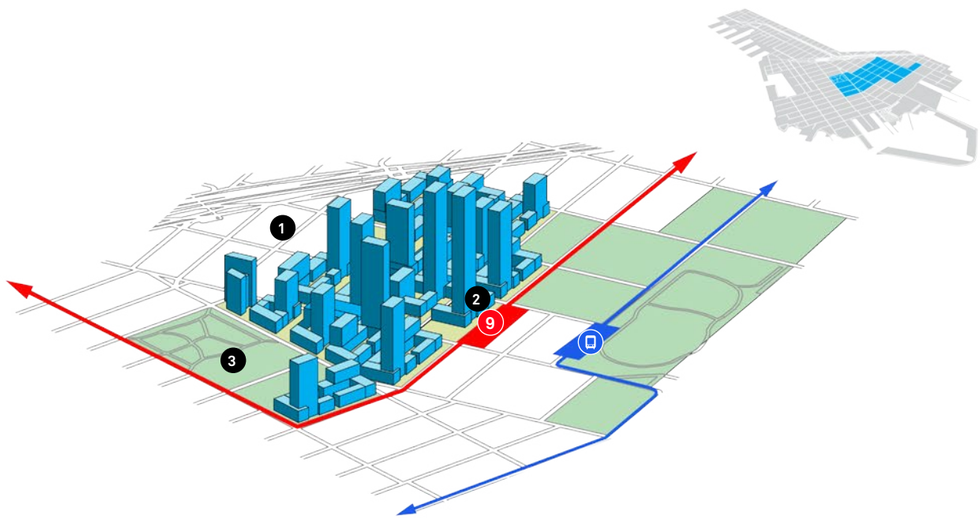


1. Vernacular architecture that respects the existing neighborhood context
2. Concentrate development around the new subway station and leverage opportunities to maximize density
3. Preserve the look and feel of the historic working port to accommodate mixed-use

THRIVE

Concentrate Density Around New Subway & BQX Stations

Red Hook Houses



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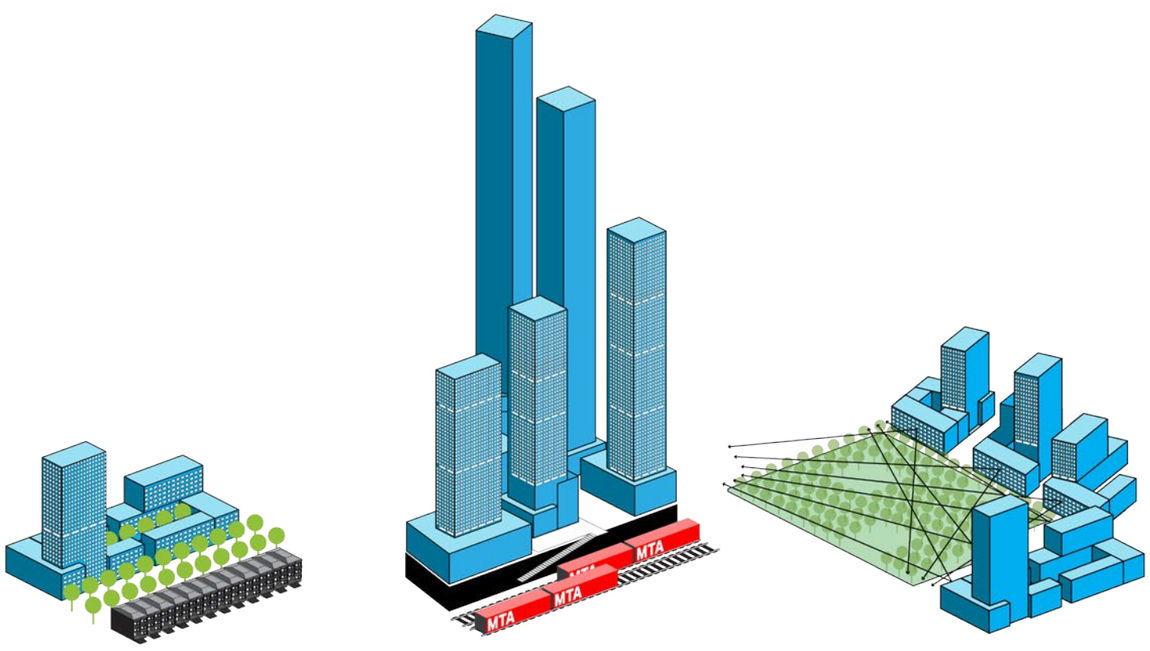
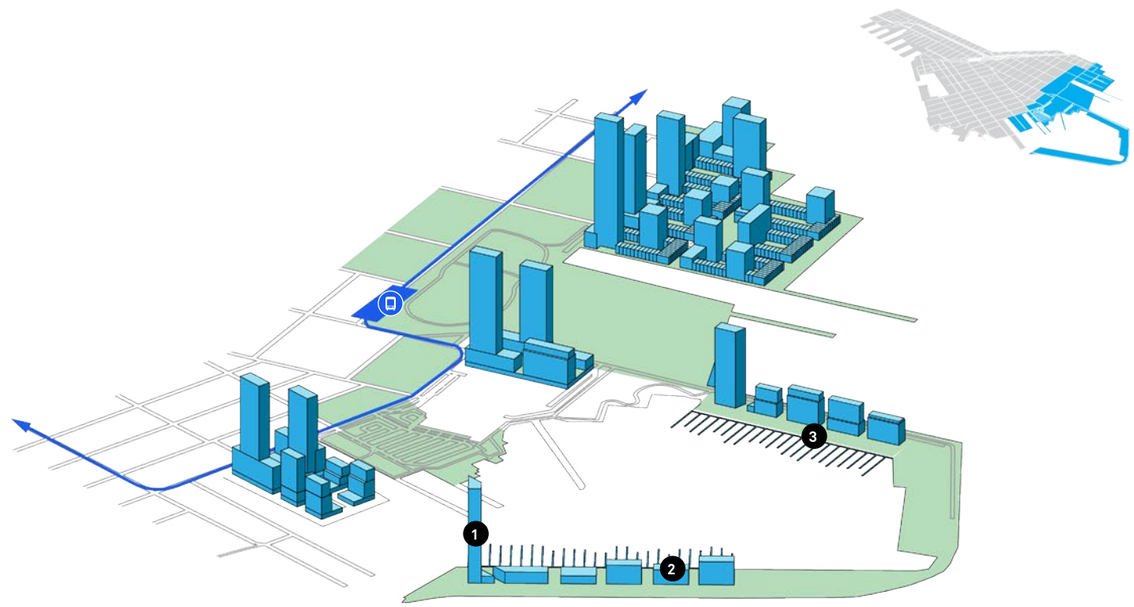


1. Vernacular architecture that respects the existing neighborhood context
2. Concentrate density near subway access
3. Organize architecture around ample open space

Red Hook Harbor



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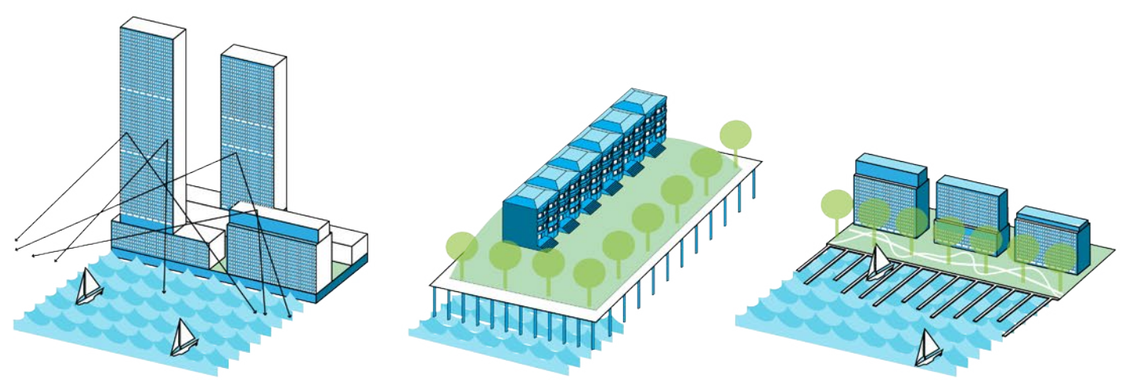
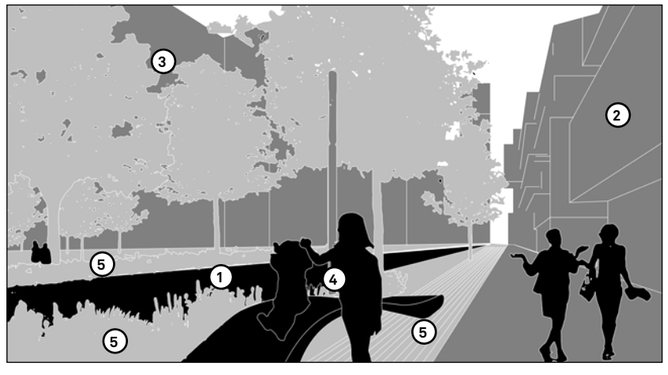


1. Maximize the waterfront views
2. Provide coastal flood protection by building on raised public space berms
3. Provide for continuous public right-of-ways

A new streetscape through Red Hook Houses

Sullivan Street extension (1)
Red Hook District new affordable housing (2)
Red Hook Houses (3)
Social gathering space (4)
Green infrastructure (5)

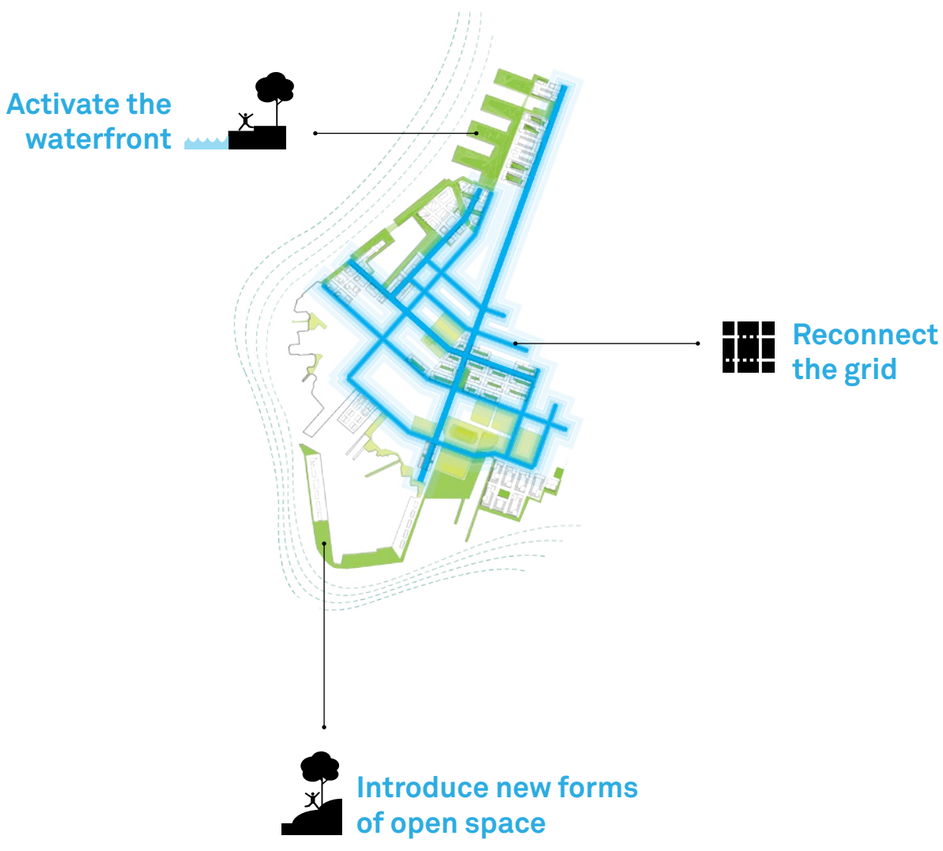


SOUTHWEST BROOKLYN *WILL* INTERACT

Open Space

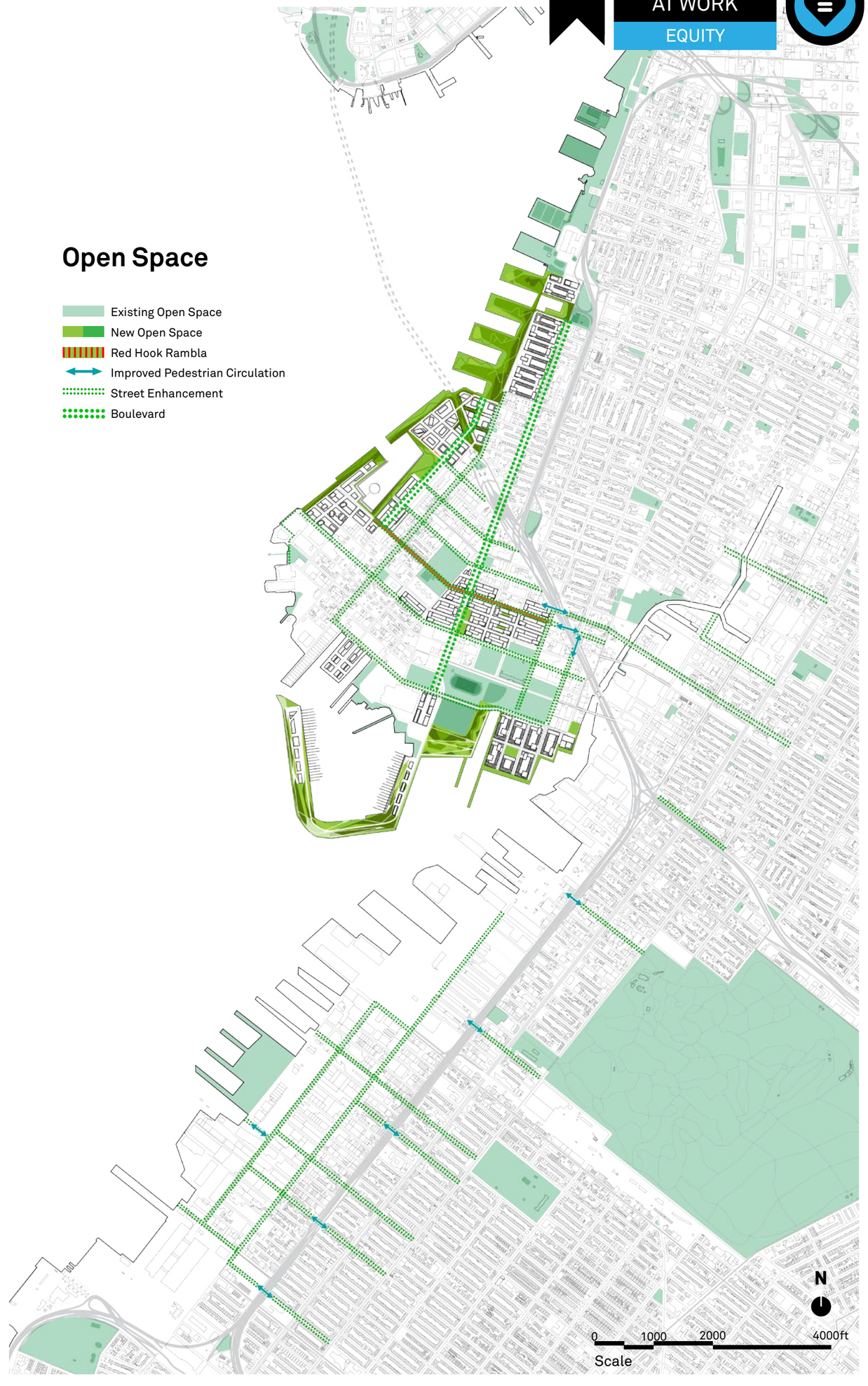
The existing parks and open space are preserved and enhanced, continuing to promote active and healthy living and a new public waterfront.

New waterfront parks and east-west connections to the waterfront re-connect the Brooklyn waterfront to the area's residents. The waterfront parks provide active and passive recreation spaces and opportunities to learn about the areas maritime and shipping history. The pedestrian esplanades, or rambla, create tree-lined social spaces that contribute to the strong network of east-west and north-south circulation in the area. The pedestrian esplanades and improved pedestrian circulation provide an enhanced open space network for neighborhood residents and new connections to the waterfront.



Open Space

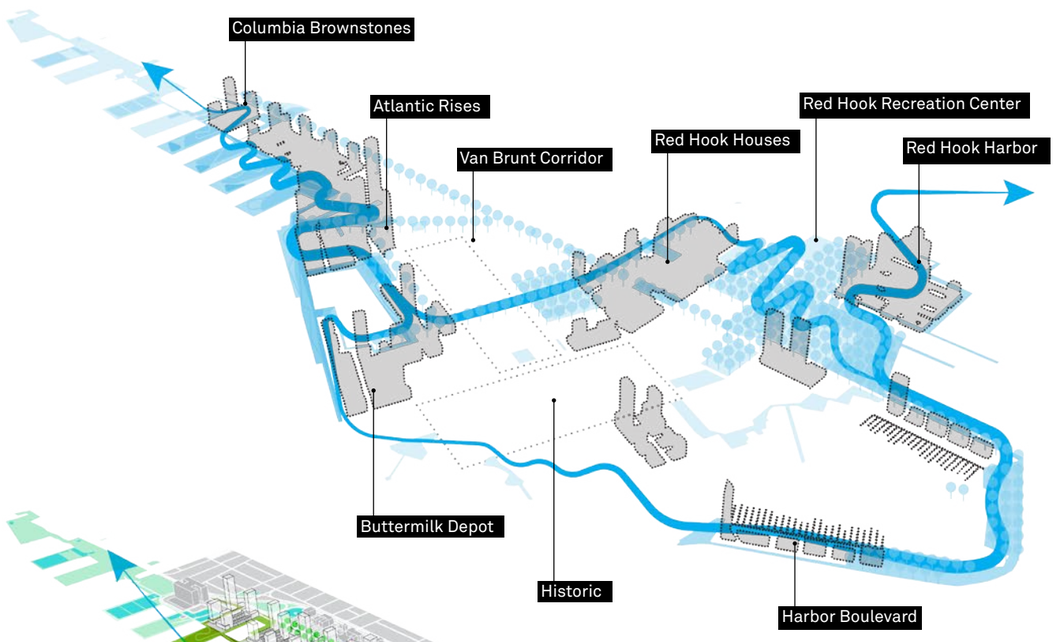
Existing Open Space
New Open Space
Red Hook Rambla
Improved Pedestrian Circulation
Street Enhancement
Boulevard

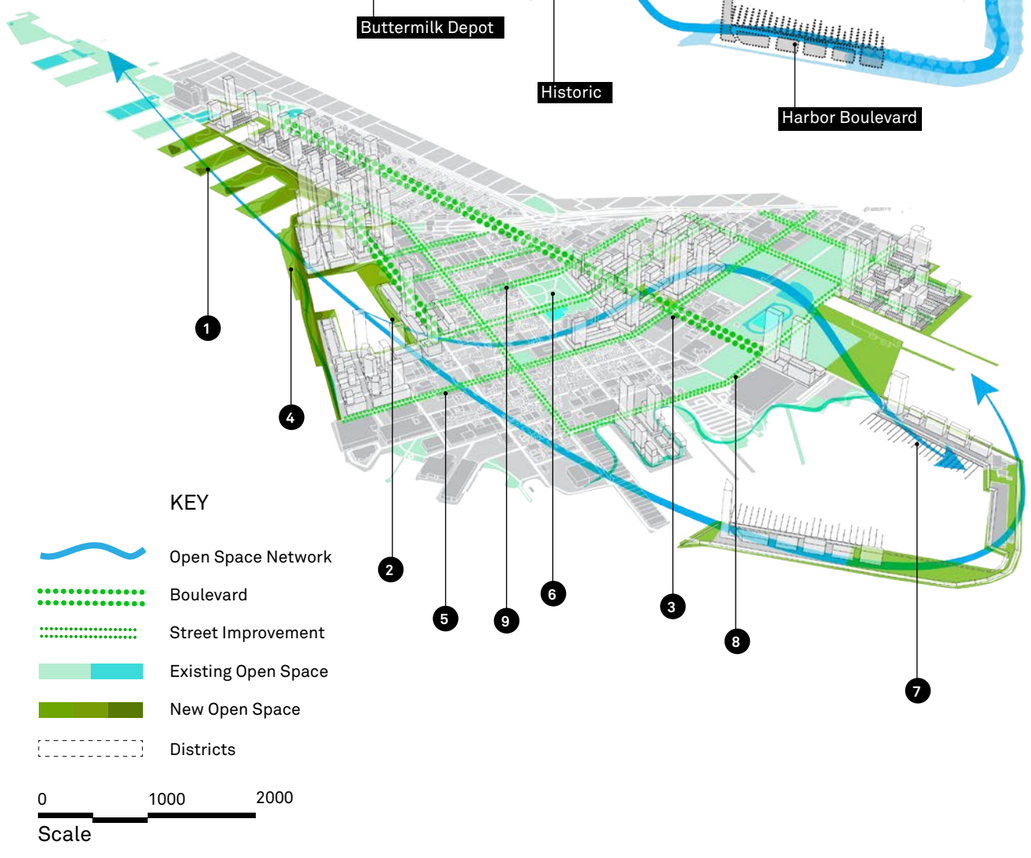


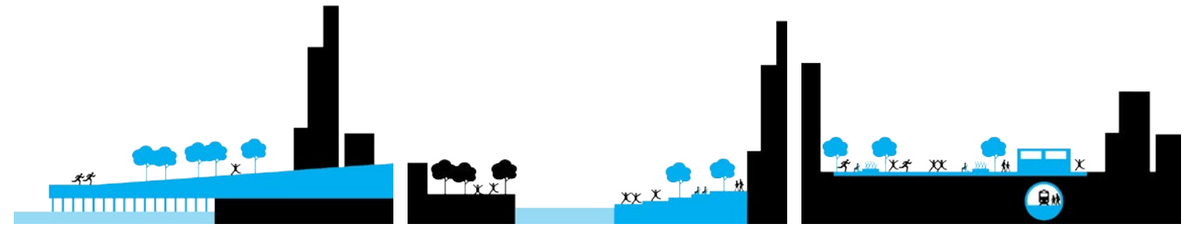
INTERACT

Create A Continuous And Connected Waterfront

New York City's waterfront has become a world-class public place. In Southwest Brooklyn, a continuous waterfront trail will be established along the study area's 13 miles of harbor frontage, combined with existing piers and wharfs to create an extraordinary array of waterfront parks and places.







1 Pier Park - Expanding the public open space onto underutilized pier infrastructure and creating a continuous waterfront with a connection to Brooklyn Bridge Park

2 Harbor Terrace - Leveraging the existing harbor to create safe interior waterfront access and public open space

3 Transit Plaza - Improved public open space and new subway stop reduces commute time and increases mobility

4 Esplanade - Raised 14' above sea level, active and passive recreation are protected and enhanced along the waterfront

5 Street Enhancement - Bike lanes, green infrastructure and new street trees improve user experience and ecology

6 Enhanced Existing Park- Improved landscape, community gardens, and green infrastructure address community needs and improve quality of life

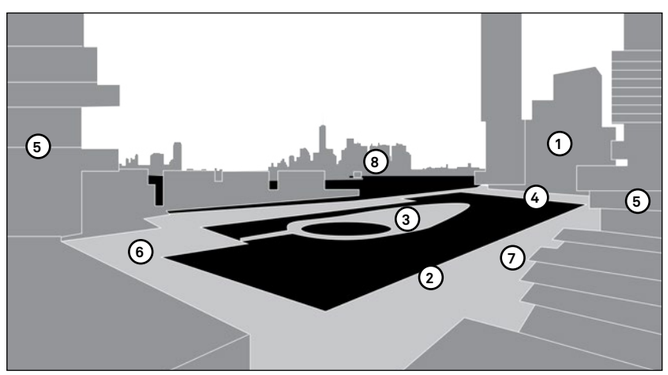
7 Marina - New recreational boating access and maritime educational facilities expand the waterfront programming at Erie Basin

8 Boulevard - Expanded landscape areas, bike paths and green infrastructure reduce urban pollution and improve the transportation network

9 Rambla - Pedestrian only street provides open space and creates a direct connection to the waterfront from the heart of Red Hook

The Steps public waterfront terrace at Atlantic Basin from Buttermilk Depot residential development

Governors View residential development 1
Atlantic Basin Promenade 2
Quay Pool 3
The Steps at Atlantic Basin 4
Buttermilk Depot residential development 5
Clinton Wharf Esplanade 6
Browne Park 7
Lower Manhattan 8



SOUTHWEST BROOKLYN *WILL*

ADAPT

Coastal Resilience

Coastal resilience measures provide security from future hurricanes and can provide public benefits now, if properly designed, and ensure successful long-term neighborhood growth.

The impacts of Hurricane Sandy and the increasing likelihood of future flooding due to climate change have made coastal resiliency an imperative. The federally funded Red Hook Integrated Flood Protection System project is studying the feasibility of different coastal resiliency strategies for Red Hook.

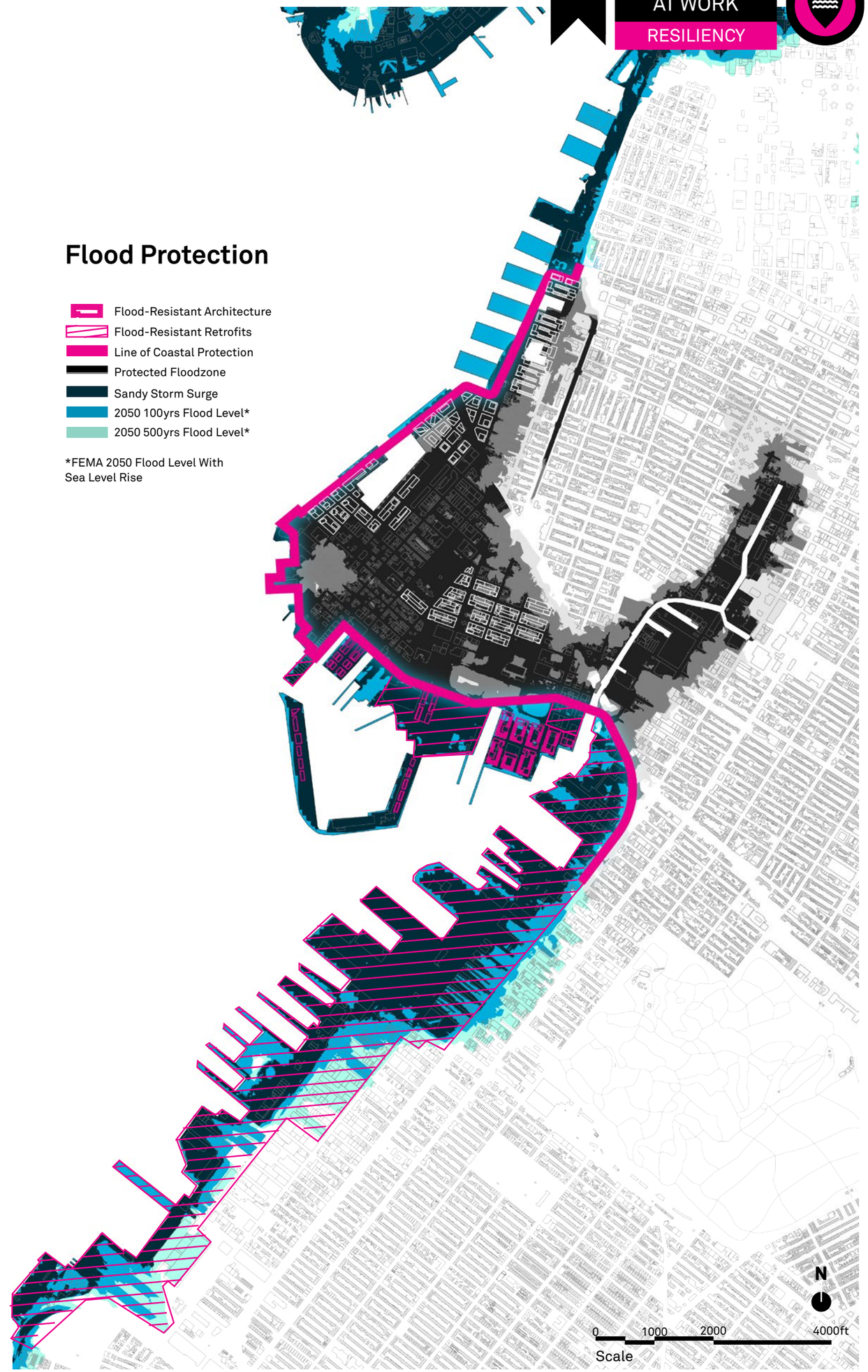
Coastal protection can take many forms. A combination of strategies can preserve and enhance the character of the area, and function to create an equitable solution that promotes strong, vibrant, and growing waterfront communities.

Raising the ground can accommodate new development and integrate it into the existing neighborhood while providing flood protection. Fortified buildings can withstand storm surges. Deployable flood protection elements can help maintain connectivity and views to the waterfront, activating when conditions require. Berms can create great public spaces, allow for recreation, and use natural systems to alleviate flooding. Flood gates and fortification of existing infrastructure can be plugged in to protect assets within the neighborhood context. Additional transit and local energy infrastructure along with coastal protection can provide the foundation for community resiliency. Integrating these solutions to create a multifaceted approach with built-in redundancies can create added economic value when not in use, and protection when required.

Flood Protection

- Flood-Resistant Architecture
- Flood-Resistant Retrofits
- Line of Coastal Protection
- Protected Floodzone
- Sandy Storm Surge
- 2050 100yrs Flood Level*
- 2050 500yrs Flood Level*

*FEMA 2050 Flood Level With Sea Level Rise

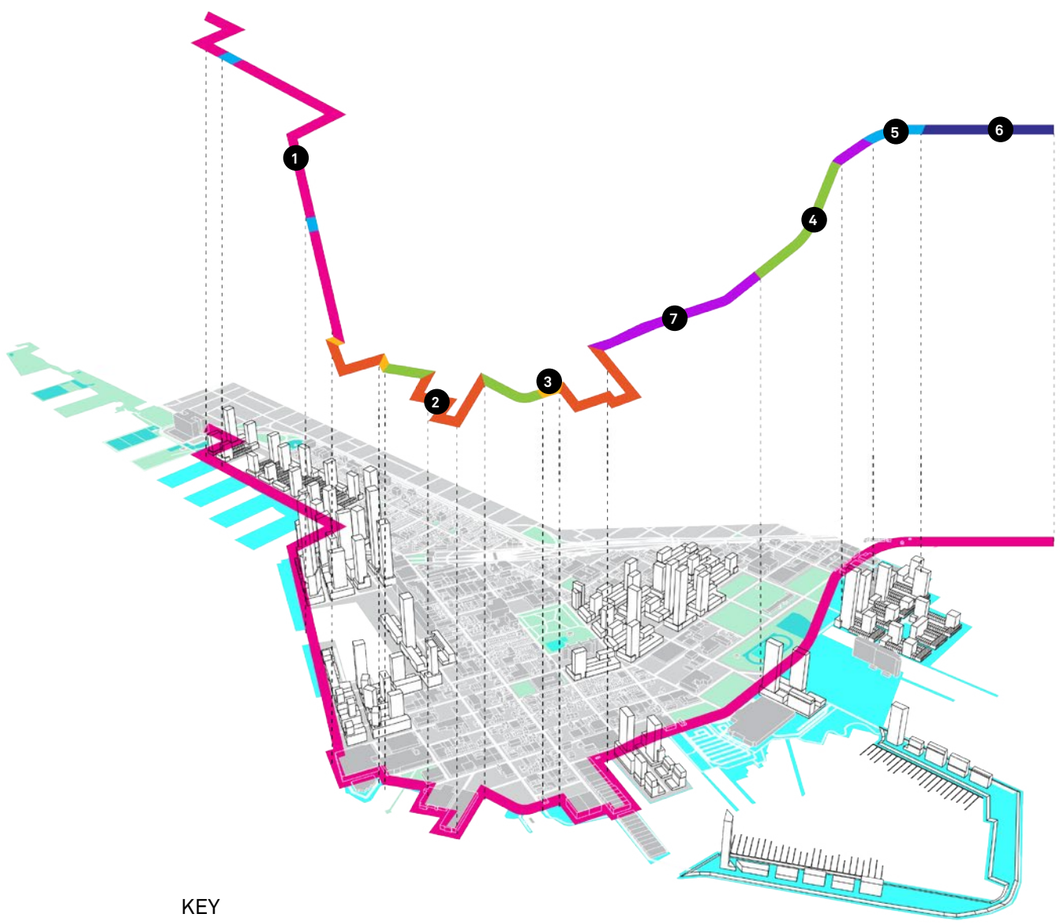


Data Sources: Sea Level Rise Maps 2050s 100 & 500-year Floodplain, NYC Open Data, City of New York, PLUTO June 2015 15V1, NYC Open Data, City of New York

ADAPT

Coastal Protection Typologies

Coastal protection must address both static sea level rise and increased periodic storm events similar to Hurricane Sandy. Measures to mitigate such impacts should integrate living reefs, wetlands, and mechanical flood control devices to create a continuous public waterfront.



KEY

- Coastal Line of Protection
- Flood Area
- Parks
- 1 Raise the Ground
- 2 Fortify Architecture
- 3 Deployable
- 4 Berm
- 5 Flood Gate
- 6 Fortify BQE with BQX
- 7 BQX Terrace

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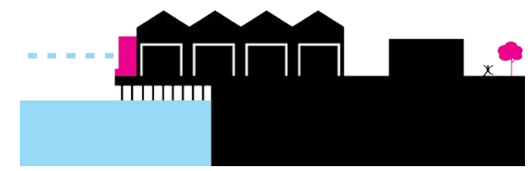
Scale

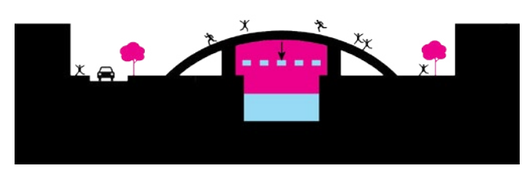
1 Raise the Ground - Gradual elevation changes from inland toward the waterfront creates coastal protection and waterfront access



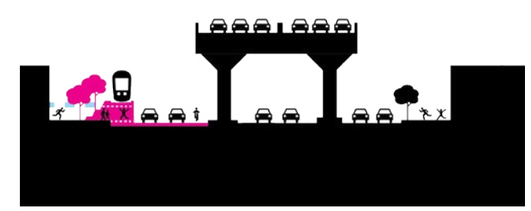
2 Fortify Architecture - Flood barriers will protect existing flood prone and exposed waterfront architecture

3 Deployable - Implemented only when needed, deployables fit within urban furniture, infrastructure and architecture to protect critical links

4 Berm - Mounded earthwork converges with open parkland to create a public amenity and flood protection



5 Flood Gate - Activated barriers prevent Gowanus Canal flooding

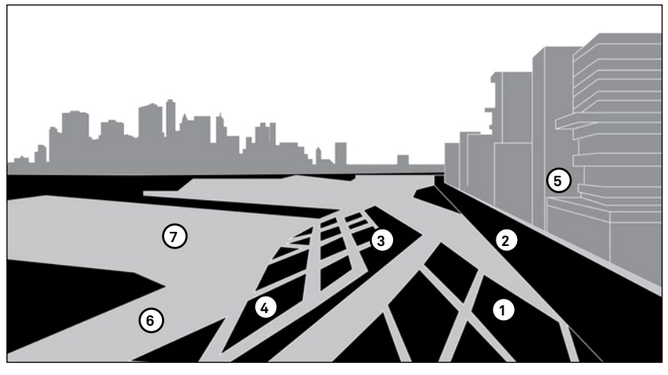


6 Fortify BQE - Protecting critical transportation infrastructure with flood barriers

7 BQX Terrace - Raised BQX tracks and stations serve as flood protection and social activity terraces

The Fields at Columbia Piers

Meadow Crests 1
Columbia Promenade 2
Performance amphitheater 3
Diamond Pond for model boats 4
Columbia Brownstones residential development 5
Columbia Piers Esplanade 6
The Fields 7

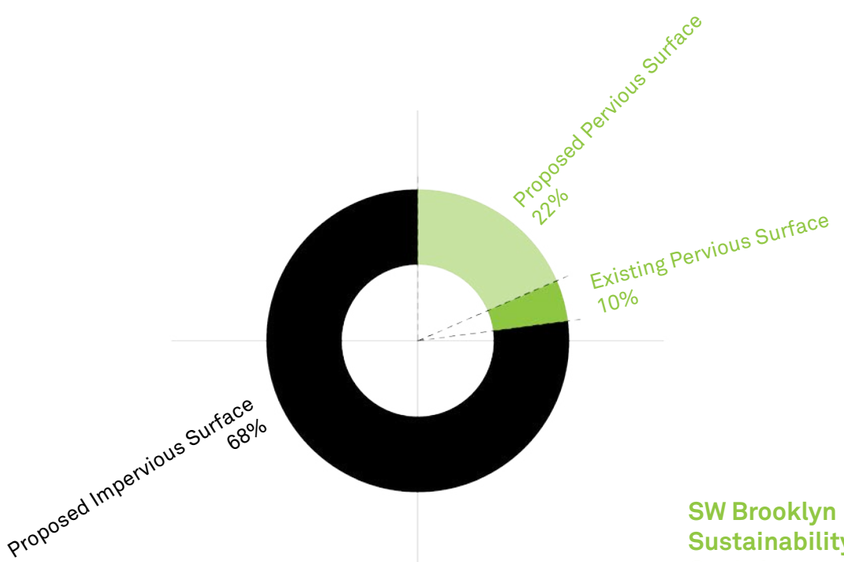


SOUTHWEST BROOKLYN *WILL* BE RESILIENT

Sustainable and Resilient

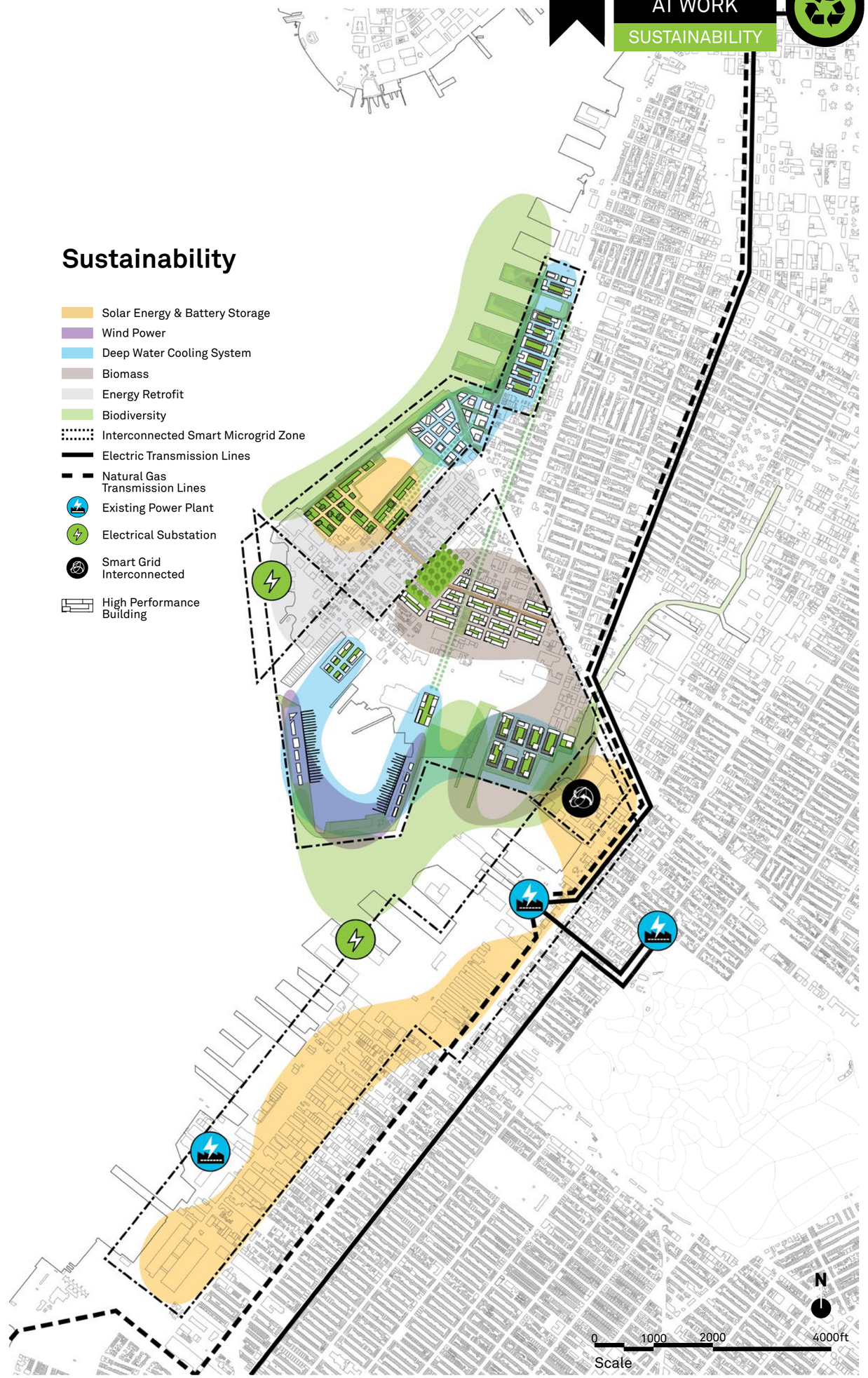
Sustainability is both an environmental and economic concern: resilient energy infrastructure, anchored by interconnected smart, microgrids. This approach would allow for the highest level of resilience through optimal use of distributed energy resources. It can deliver unprecedented reliability, empower energy customers, create jobs and establish a platform for a smart and connected community while providing for a healthier community that increases well-being.

New energy infrastructure combined with greener buildings and planning that promotes open pervious vibrant green spaces will help to ensure the sustainable future of the Southwest Brooklyn area and provide a model for other New York City neighborhoods. By linking together smart, microgrids in the same areas that other infrastructure investments are planned, economic efficiencies can be generated to more effectively promote clean, reliable energy At the same time, clean and distributed local energy generation will keep critical facilities in operation and anchor additional investments for homes and businesses. Distributed solar with battery backup and clean cogeneration will serve critical facilities as well as homes and businesses. Expanded energy efficiency programs will cut energy costs for residents and businesses. Smart, high performance buildings will manage demand and send power back to the grid. Networked smart streetlights will help pinpoint power outages and support city services from smart traffic management to public safety (e.g. outage notification and parking management). Electric vehicle charging infrastructure and supporting infrastructure will align with developing initiatives on market transformation. The clean energy additions and increased building energy efficiencies will help to reduce greenhouse gas emissions, and the green infrastructure will provide healthy amenities and promote important biodiversity in the region.



SW Brooklyn Sustainability Goals increase pervious surface by 22% - an increase of 110 acres

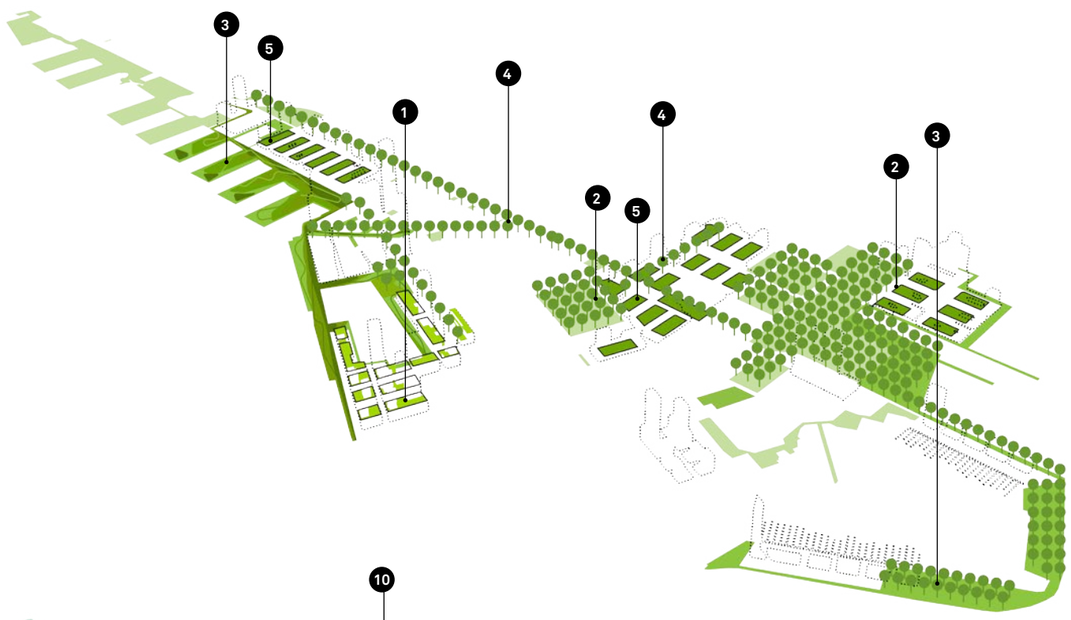
Sustainability

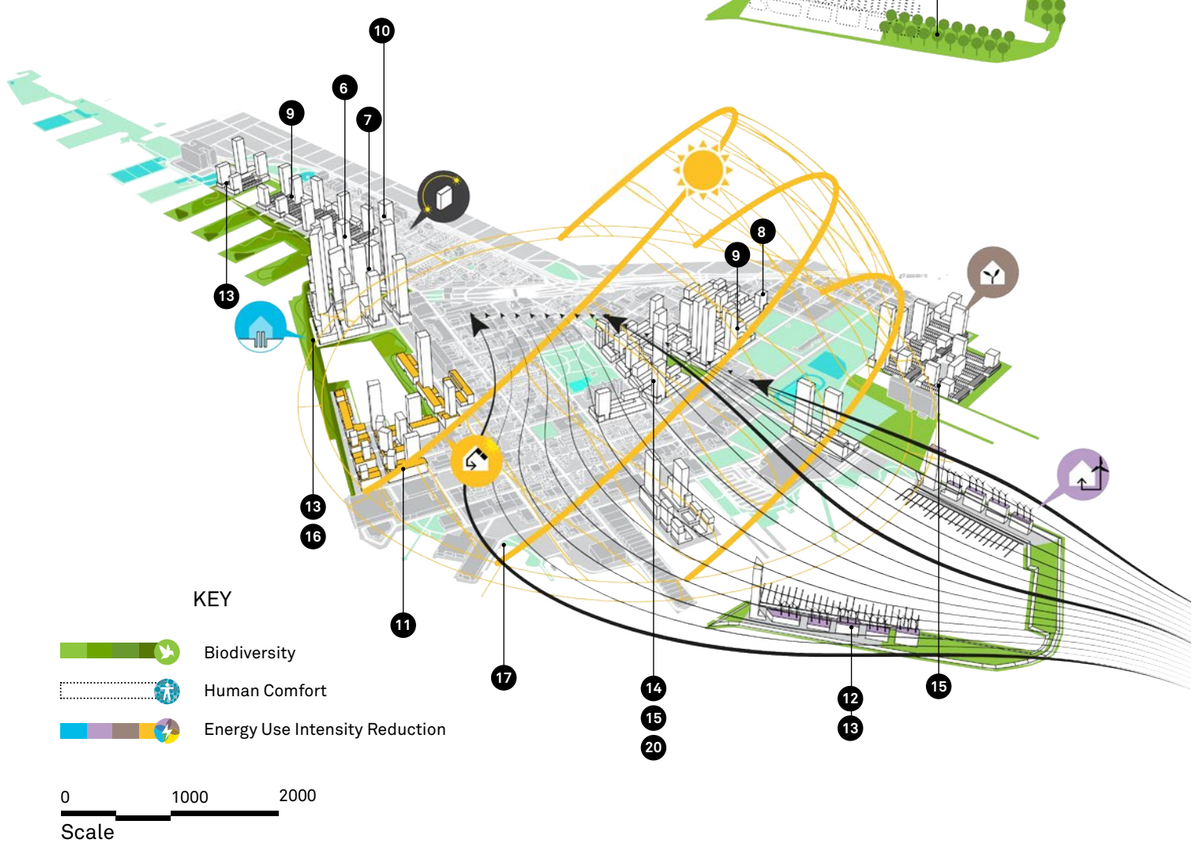


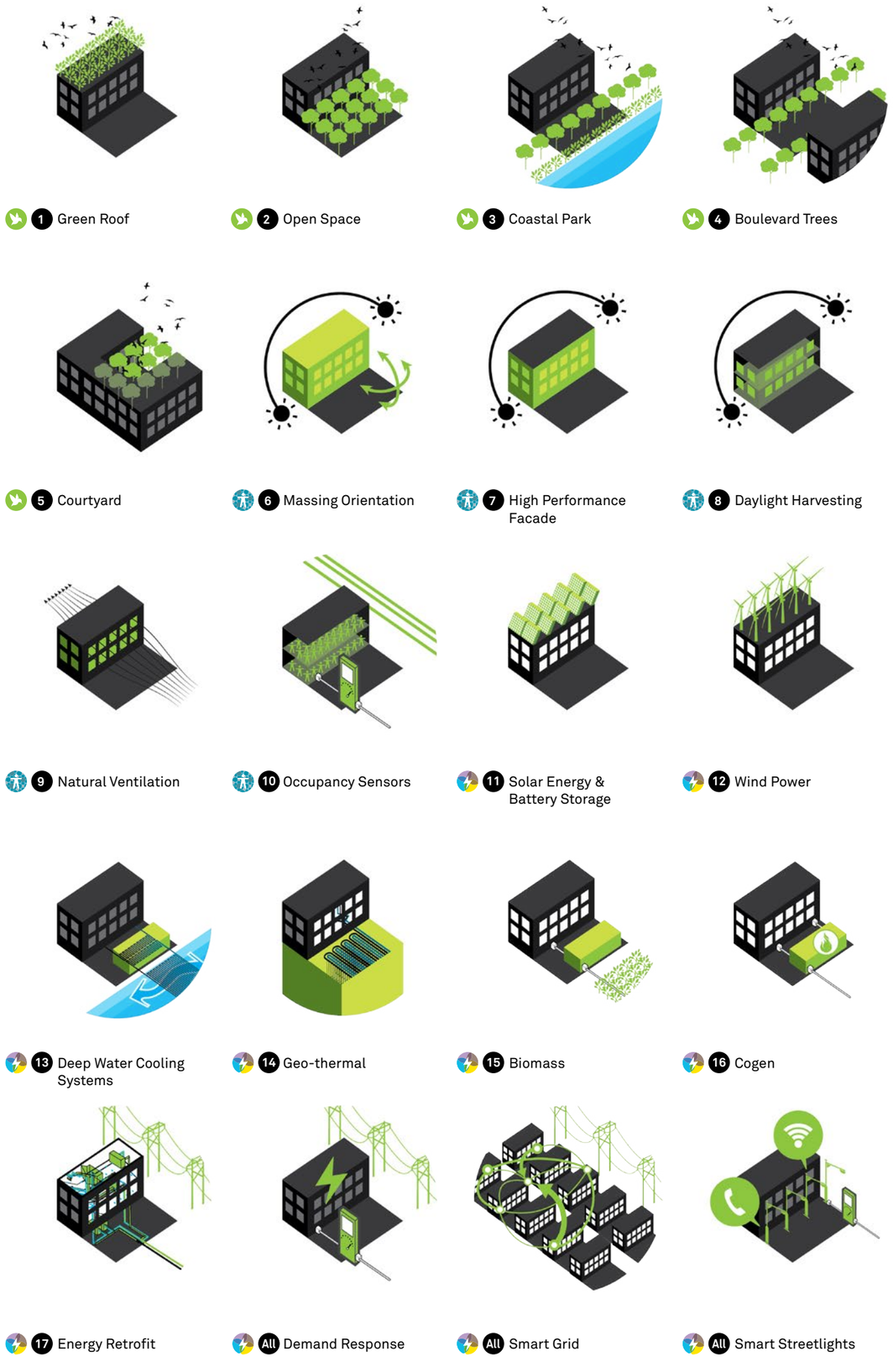
BE RESILIENT

New Integrated Sustainable Technologies

Clean, local energy builds smart communities. Transformative energy investments do more than keep the lights on. Connected microgrids, distributed generation, high performance buildings and networked streetlights generate jobs and are the platform for a smart and connected community.

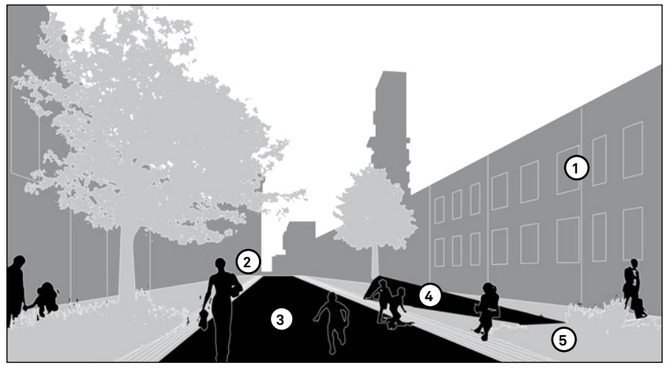


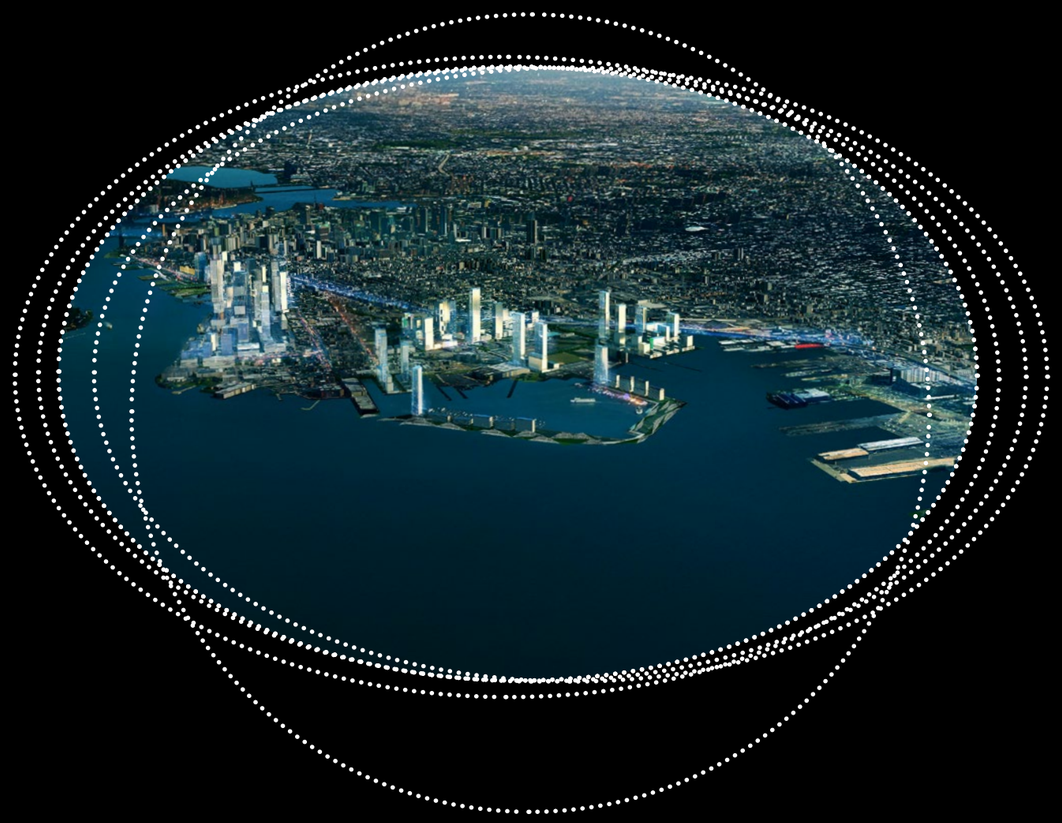




Red Hook Rambla pedestrian corridor connecting Red Hook Houses to the waterfront

Red Hook residential neighborhood (1)
Community market space (2)
Red Hook Rambla (3)
Social seating (4)
Green infrastructure (5)





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A special thanks goes to Fred Werner, Vahid Ownjazayeri, Mike Donnelly, Tom Scerbo, Josh Sawislak, and Joy Woo for their time, commitment, and support in developing this document. Renderings by By-Encore and AECOM NYC Landscape & Urban Design Studio.

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