

CREATING RESILIENCE: A PLANNING INITIATIVE



Draft City of Long Beach COMPREHENSIVE PLAN

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DRAFT



CAMERON ENGINEERING
& ASSOCIATES, LLP

LOCAL OFFICE
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SUSTAINABLE LONG ISLAND

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ACKNOWLEDGEMENTS

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FORWARD

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1. EXECUTIVE SUMMARY

Creating Resilience: A Planning Initiative is an update of the City's 2007 Comprehensive Plan (CP) with a clear focus on addressing resiliency post-Superstorm Sandy and a sustainable economy post-economic downturn.

In 2015, the City of Long Beach was awarded a grant from the New York State Energy Research and Development Authority (NYSERDA) to update the City's Comprehensive Plan. The City was also awarded a grant from the Department of State (DOS) to update the City's Local Waterfront Revitalization Program Plan (LWRP). This process has incorporated a coordinated and holistic planning approach – including both extensive public outreach as well as detailed analyses of planning strategies and policies.

Throughout the CP update process, public outreach was an important component that helped to formulate the policies and projects central to this planning initiative. Critical to this effort, a diverse Citizens Advisory Committee (CAC) was formed, which included civic representatives, local business owners and community activists/organizers. In addition to meetings of the CAC, eight public meetings were held to share key Plan concepts and gather feedback from residents. Public outreach also included the establishment of economics and arts focus groups, a city-wide survey conducted both in person and online, and the development of a project website where residents could provide input on all aspects of the plan - from general themes and focus areas to specific policies and projects.

The Comprehensive Plan has been developed to provide short-, mid- and long-term recommendations for the protection, enhancement, growth, and development of the City of Long Beach. While these recommendations include several strategies, approaches, and policies for implementation, each component of the Plan is firmly rooted in the concept of resiliency. Following the devastation of Superstorm Sandy, it became evident that the City's ability to adapt and recover had become central to the identity of Long Beach – and resiliency would serve as both a defining characteristic of the community and a planning strategy for looking towards the future. As such, the CP details resiliency strategies to protect the City's natural and built environments, to stimulate economic development, and to provide for the health, safety, and general welfare of its citizens.

This CP update includes many traditional aspects of a plan, such as background information on population, employment, demographic trends, housing, transportation, utilities, community facilities, natural/cultural resources, land use, and implementation strategies. However, the plan also includes several non-traditional aspects (climate adaptation, sustainability and resiliency, social health and well-being; community art, heritage, and culture); and a regional strengths, weakness, opportunities and threats (SWOT) analysis.

One of the primary challenges facing the City of Long Beach is the accommodation of future smart and sustainable growth and redevelopment while preserving access to its unique environment and natural resources. The CP acknowledges this challenge and has developed a range of development scenarios that are designed to balance these potentially conflicting concepts. By focusing on three key areas for development (while simultaneously preserving the character of existing residential neighborhoods), the scenarios proposed in the plan offer an opportunity to spur economic development, enhance public access, and increase the level of protection for vulnerable neighborhoods and critical assets.

The three areas explored for potential development include the Bayfront, the Central Business District, and the

Oceanfront. For each of the three areas, recommendations included analyses of land use changes and future growth scenarios. The Bayfront and Central Business District, items analyzed include zoning changes, streetscape enhancements, market analyses, multi-modal traffic enhancements utilizing Complete Streets principles, parking management strategies, stormwater management approaches, and various coastal resiliency measures tailored to Long Beach.

The central Bayfront, in particular, offers a unique opportunity for new economic development opportunities that could help to improve access and reduce existing neighborhood barriers facing the North Park Community. This area has been the focus of several earlier planning initiatives – both at the community level and from larger-scale City/State-funded initiatives. These earlier initiatives helped to shape the community’s principles for any future development – equitable housing opportunities, more resilient infrastructure focusing on storm water mitigation, enhanced public facilities/amenities, connectivity with the larger community, and new economic opportunities and job growth presented by Bayfront revitalization while preserving the community character.

The Central Business District is home to the commercial core of Long Beach, while also serving as the transit gateway and hub of the City. Well-planned, mixed use transit-oriented development in this area, including higher density housing, cultural/performance space, and retail/dining would increase the number of shoppers and workforce, activating the core of downtown and supporting a year-round economy. The reconfiguration of this area would also enable the creation of better connections between the North Park neighborhood and the CBD while creating a more walkable downtown.

Along the Oceanfront, a different type of development scenario was conceptualized, with the potential for a public-private partnership offering a unique opportunity to create a large-scale public space landmark adjacent to the City’s Ocean Beach Park and newly-reconstructed Boardwalk which will also include parking solutions for the beachfront.

Overall, the Plan is organized around four major topics: Environmental Resilience, Productive Sustainable Economy, Transportation and Parking, and Implementation Strategies.

- The Environmental Resilience section addresses stormwater management, water quality issues, storm surge and protection strategies along the ocean and the bay, critical infrastructure protection and upgrades, renewable and energy-efficiency programs, as well as larger regional issues such as sea level rise, climate change and the reduction of greenhouse gas emissions. This section also includes an outline of the City’s Local Hazard Mitigation Strategies within the Nassau County Hazard Mitigation Plan.
- The Productive Sustainable Economy section focuses on land use, zoning, housing, neighborhood preservation, streetscape and gateway improvements, and economic/market analyses. It also addresses economic development opportunities throughout the City, including the redevelopment of the Bayfront, revitalization of the Central Business District, Oceanfront and West End improvements, and opportunities for enhanced public spaces and expanded recreational/cultural opportunities.
- The Transportation and Parking section of the Plan focuses on improving congestion and circulation, providing a range of parking management strategies, and enhancing transit and multi-modal

connections throughout the City through the Complete Streets Policy.

- The final section of the Plan addresses implementation and the appropriate phasing of projects and policy changes. It also provides an overview of available funding sources, which will be critical to the success of the larger projects included in the Plan.

2. INTRODUCTION

The City's Comprehensive Plan Update - *Creating Resilience: A Planning Initiative* (CP) provides short, mid- and long-term recommendations for the protection, enhancement, growth, and development of Long Beach. The lasting economic and environmental impact of Superstorm Sandy conveyed the need for the City of Long Beach to develop new strategies and methods to increase coastal resiliency, improve infrastructure, and stimulate economic development in order to protect the health and safety of its residents. The CP details strategies and projects to protect the City's built and natural environments, to stimulate economic development, and to provide for the health, safety, and general welfare of its citizens. By calling for high standards for sustainability and coastal resiliency, the City of Long Beach has acknowledged that these critical issues must be addressed for the City to prosper and thrive.

The CP incorporates and builds upon numerous planning efforts over the last number of years including the New York Rising Community Reconstruction (NYRCR) plan that identified priority infrastructure and recovery related projects with community consensus. All comprehensive plans must start by defining the community's vision for its future. Public input was used to revise the vision from the NYRCR plan to reflect the evolving goals of the City. Goals and objectives to achieve this vision were defined and strategies, policies and project recommendations were developed based on an examination of existing conditions and the strengths, weakness, opportunities and threats (SWOT) associated with them. The CP is designed to provide guidance with a 30-year planning horizon. Recommendations are categorized into short-term (less than 5 years), mid-term (5-20 years), and long-term (20-30 years). Action items and funding options were developed for each of the recommendations that include timing, prioritization, potential funding sources, and responsible entities, so that the plan can be readily implemented.

2.1. Prior Planning

The City of Long Beach had already engaged in several significant planning efforts prior to Superstorm Sandy. These major initiatives included the 1997 Downtown Economic Development Plan, the 2007 Comprehensive Plan, the 2009 Local Waterfront Revitalization Plan (LWRP), Brownfield Opportunity Area (BOA) Study, Oceanside and Bayside Coastal Protection Studies, and the Sewage Treatment Plant Alternatives Study.

Immediately following Sandy, the City began several new planning initiatives with a renewed focus on storm preparedness and resiliency. Most notably, Long Beach participated in the New York Rising Community Reconstruction (NYRCR) program and developed a series of projects that would make the City more resilient to future storms and sea level rise impacts. The City also supplemented its major planning initiatives by engaging community-based organizations and educational institutions to perform specialized analyses and studies throughout the City. One of the initial steps of the planning process was to determine which elements of these plans and studies remain current, which have been implemented, and what must be revisited. In addition, the City has continued to participate in and utilize regionally-based planning initiatives, such as the three-part, 2015 Long Island Index report examining the state of multi-family housing across Long Island. The summaries

in Appendix C provide the key points from these initiatives. In turn, the relevant components have helped to inform the policies and projects recommended in the 2016 Comprehensive Plan update.

2.2. Coordination between the Comprehensive Plan and the LWRP

A Local Waterfront Revitalization Program (LWRP) was developed for the City of Long Beach in concert with the CP in order for the plans to have a consistent set of visions, goals, objectives, policies and actions. A Comprehensive Plan is a document designed to guide the future actions of a community and directs public policy in terms of transportation, utilities, land use, recreation, and housing. A Local Waterfront Revitalization Program consists of a planning document prepared by a municipality, and the program established to implement the plan. The coordinated development of a CP and an LWRP will ensure that the vision and goals of the community are reflected in both documents and the projects recommended in these documents will implement these goals.

Once the LWRP is adopted, federal and state permitting, funding, and direct actions must be consistent, to the maximum extent practicable, with the LWRP. This “consistency” provision is a strong tool that helps ensure all government levels work in unison to build a stronger economy and a healthier environment. This gives the City of Long Beach control over actions taking place within its boundaries and will strengthen the City’s ability to attract grant funding.

2.3. Community Engagement

Community outreach was a major component of the CP and LWRP effort, ensuring that the two plans reflect a shared vision of community’s needs, while keeping in mind the City’s goals for a resilient environment and economy.

Throughout the course of the project, a series of meetings were conducted with the project’s Community Advisory Committee (CAC). Open houses were held with the public, including neighborhood specific open houses. Two focus group meetings covering the targeted topics of the Arts and Culture and Economic Development were held. The Team also implemented a City-wide survey, which received over 1,200 responses, to receive feedback on the various planning concepts proposed for the CP and LWRP. The public open houses were widely advertised through flyers, advertisement, email blasts, automated phone calls, and the City’s online outlets.

CAC Meetings

The City established a Community Advisory Committee (CAC) with representatives from neighborhood, civic, religious, and other community organizations, local businesses, City departments, and other stakeholders. Goals accomplished by engaging the CAC throughout the course of the planning process included:

- Encouragement of public participation and facilitation of dialogue and communication
- Provision of local expertise, as the CAC served as liaisons to the community including sharing or bringing back information about the plans to the community

- Review of issues and opportunities for accuracy and completeness
- Review of policy and project recommendations for consistency with community visions

Appendix A provides a list of CAC members, meeting minutes, and other related information.

Public Open Houses

The first public engagement in April 2015 provided stations where community members had the opportunity to gain background information on the project, and provide feedback about specific areas of focus. The stations focused on CP & LWRP Processes and Interaction; Vision Statement & Word Cloud; Livable Built Environment; Harmony with Nature; Resilient Economy; Interwoven Equity; and Healthy Community.

Throughout June 2015, the Team hosted four (4) neighborhood public meetings to gain input on planning concepts prepared for the CP and LWRP in the East End, Central, West End, and North Park communities. Community members had the opportunity to gain background information on the project and planning concepts and to provide feedback about specific areas of focus, as well as participate in a survey.

The purpose of the final public open house was to share the draft CP and the draft LWRP with the public in order to solicit their input. Participants had the opportunity to review the products of their input and the Team's work. Residents unable to attend the open house were given the opportunity to see the information/slides and to provide feedback to the Team via email, available through Long Beach Listens. All of the input gained at the public open houses was incorporated as appropriate into the plans.

Appendix B provides a more detailed description and analysis of the public meetings.

Focus Group Meetings

During August 2015, the Team hosted separate focus group meetings on the Arts and Culture and on Economic Development. These two special focus groups were formed as both the City and local residents identified these topics as top priorities for the recovery and future growth of Long Beach. Over the last several years, there has been a strong interest in community-based arts initiatives, ultimately leading to the formal organization of the City's Arts Council (LBNY-ARTS). Similarly, local economic development issues have received renewed attention as the City continues to recover from Superstorm Sandy. The meetings utilized facilitated activities to gain feedback from attendees. Appendix B provides a more detailed description and analysis of the focus group meetings.

Citywide Survey

The Team implemented a City-wide survey to gain feedback on planning concepts for the CP and LWRP. The survey was made available by hardcopy and online in both English and Spanish with 1,215 responses received. The Team promoted the survey to stakeholders including community residents, small business owners, and neighborhood organizations. Hardcopy survey handouts in both English and Spanish were given out at each of the June neighborhood open houses. City interns distributed surveys to all community facilities, businesses,

religious organizations and civic organizations, and followed up to collect them. The survey served as an effective tool for capturing a broad range of relevant perspectives that might otherwise not be included in the CP and LWRP process, and allowed the Team to gain a better understanding of the present conditions throughout the City. Looking forward, the survey provided valuable insight about how stakeholders would like the City to be developed and protected, existing challenges associated with the waterfront, opportunities for growth, and how to shape City priorities. Appendix B provides the results of the survey.

2.4.A Vision for Long Beach



Figure 2-1: 2015 Refined Community Vision

The vision statement developed as part of the NY Rising Community Reconstruction Plan (NYRCR) in 2013 was refined based on community input during the CP process, and is summarized below:

- Increase in resilient infrastructure to reduce vulnerability to storms and flooding
- Increase in economic diversity and year-round attractions
- Development of the Bayfront, including more resources for the North Park community
- Improve transportation infrastructure to increase access for cyclists and/or public transit riders
- Increase in housing options to accommodate a variety of income levels
- Retain current residents looking for new housing options
- Increase green space and improve accessibility
- Ensure safety for current and future residents
- Increase parking options



Figure 2-2: Key Words Emphasized by Residents

2.5. Key Challenges and Opportunities

To identify challenges and opportunities within the City of Long Beach, a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis was completed during the early phases of the planning process. The SWOT analysis was prepared in conjunction with an extensive existing conditions inventory and analysis and included input and feedback from local residents. This process allowed the City to identify a broad range of issues for further analysis and eventually, the development of targeted strategies and projects. The challenges and opportunities identified by the SWOT analysis were used to identify the themes of the CP, and the City's top priorities looking towards the future: Environmental Resilience, Productive and Sustainable Economy, and Transportation and Mobility.

STRENGTHS

- Diverse population: ages, races, ethnicities, income levels
- Diverse housing stock
- Regional tourism destination (Ocean Beach Park, Boardwalk, community-oriented activities)
- Strong sense of civic pride
- Very active community organizations
- True multi-modal community: highly walkable, bicycle-friendly, easily accessible by public transportation, with the potential to be a regional/state model
- Proximity to New York City and John F Kennedy Int'l Airport
- Wealth of recreational and cultural resources and facilities
- Oceanfront and bayfront location
- Greater, and growing, share of young workers (prime labor force for new technologies) than rest of Nassau County
- Most redevelopment opportunity areas are owned/controlled by the City
- City's ability to move quickly to take advantage of opportunities

WEAKNESSES

- Lack of affordable housing options, particularly for young people and the elderly
- Analysis shows that residents tend to not spend locally
- Lack of major private-sector businesses/employers and lack of available space to attract such employers
- Three gateway entrances do not reflect character of the City
- Underutilized bayfront area
- Lack of marine/aquatic recreational use of the bay
- Lack of parking, particularly during the summer season
- Frequent stormwater flooding
- Seasonal economy struggles during the winter months
- Lack of a defined development approval process (i.e., site plan review, SEQRA) or development review board (planning board or commission)
- Lack of open space/recreational lawn space
- Lack of a retail anchor or major cultural draw
- Lack of higher education collaboration for emerging job sectors
- Distance to parkways/highways

OPPORTUNITIES

- Redevelop underutilized industrial/utility parcels, particularly along the bayfront
- Partner with key local and regional partners - local universities, advocacy groups and other communities
- Reuse obsolete buildings, repurpose underutilized office space and reintroduce residential mixed-use to the downtown area
- Expand promotion of recreational and tourism opportunities
- Increase number of recreational events (local, regional, national and international levels)
- Increase use of renewable and energy efficient technologies
- Increase resiliency of critical infrastructure systems - particularly strategies that plan for both typical and extreme events
- Increase parking options (e.g. structured parking, shared parking, valet parking)
- Create a unique cultural center/indoor performance space
- Create flex, light industrial and incubator space to attract new businesses
- Develop/enhance commercial and recreational fishing opportunities
- Develop multi-unit residential near the train station to fill gap in Nassau's housing demand, providing housing for both young workforce residents and retirees
- Introduction of green infrastructure to address stormwater management and improve water quality

THREATS

- Increases in National Flood Insurance Program (NFIP) policy premiums
- Anti-growth/anti-development attitude of some residents
- Negative perceptions regarding affordable housing
- Large businesses/employers have left the City
- Lack of jobs that attract younger people
- High cost of living will price all but the wealthiest residents out of the market
- Vulnerability of the Lloyd Aquifer
- Poor water quality in Reynolds Channel from regional stormwater runoff and wastewater facilities

Environmental Resilience

The key environmental challenge facing the City of Long Beach is becoming more resilient as the climate changes. Recent reports, such as the NYSERDA report: *Responding to Climate Change in New York State* (ClimAID), indicate that New York State will experience more intense and frequent rainfall events, higher temperatures, and rising sea level of two to six feet by 2080. A higher sea level will generate greater storm surge elevations during tropical storms and nor'easters. More intense rainfall will challenge the City's capacity to collect, treat and recharge or discharge stormwater. Flooding frequency and severity will rise without protective measures. Higher temperatures will subject its more vulnerable population to summer heat stress and will increase cooling needs and costs.

Resiliency measures which can mitigate these changes include upgrading the capacity to manage stormwater by adding green and gray infrastructure and preparing for higher storm surge by instituting new protective measures including new and modified bulkheads, berms, road repitching, seawalls, and more. Adaptive measures can also figure into the City's plans by instituting incentives or requirements for the use of resilient materials in new or substantially rebuilt structures. The City has continued to build upon its post-Sandy resiliency efforts by recently formalizing agreements (October 2015) on major coastal protection projects – the U.S. Army Corps of Engineers (ACOE) dune and storm protection plan and the City's large-scale bulkhead and drainage projects (funded through the Hazard Mitigation Grant Program and the New York Rising Community Reconstruction Program) along the north shore.

Productive and Sustainable Economy

Like many communities, Long Beach suffered from the effects of the recent economic recession. Many businesses did not recover from the economic downturn. Those that did recover were subjected to the effects of Superstorm Sandy. Many businesses were damaged by flooding and most suffered from a lack of customers as many residents/local customers did not return to their homes for months or longer. Businesses that cater to visitors must derive the majority of their income during the summer season or provide products and services that meet the needs of the year-round residents.

Residents, however, indicate that the existing businesses do not meet all the needs of the residents and that they must go off island for many products and services. This phenomenon is confirmed by economic analyses that found that local retail is not meeting the needs of Long Beach residents, as nearly two-thirds of resident retail spending is done outside of Long Beach. Retail suppliers of household and personal necessities are in short supply as are local shops representing major regional or national retailers.

The lack of adequate retail creates an opportunity for existing businesses to expand and new businesses to locate in Long Beach. Improvements to draw more shoppers to the City's retail corridors include transportation options, streetscape improvements, and public spaces and cultural events in and around the commercial centers. Businesses also need an adequate number of customers. New housing and reintroduction of mixed-use zoning can increase the customer base.

Transportation and Mobility

Convenient, frequent, attractive, and affordable transportation options are critically important to residents, visitors, commuters, and the businesses that depend on them. The City of Long Beach is fortunate to have multiple transportation options already in place including the Long Island Rail Road (LIRR), the City and Nassau County bus systems, a trolley, and a bicycle share program. Long Beach's grid-type roadway design lends itself well to efficient pedestrian and bicycle transportation.

A number of transportation enhancements are possible for the City. An improved bicycle network has wide support as does the new bicycle sharing program (9,000 new members in its first year). Parking is difficult and congestion is exacerbated throughout the City particularly during the beach season as visitors arriving by car circle City neighborhoods seeking parking spaces. Given space limitations throughout the City, new structured parking facilities are needed, as well as alternative parking strategies, such as shared parking for off-street parking facilities. Shared parking allows for more efficient configuration of off-street parking facilities. Options for improving both the public and private inventory of City parking are discussed further in Section 5.3.

3. ENVIRONMENTAL RESILIENCE

3.1. Sea Level Rise, Climate Change and Volatility, and Storm Surge

Creating environmental resilience in Long Beach does not offer a guarantee that the City will be protected from every natural threat all the time, but rather that the plans the City is putting into place now will defend against and mitigate the known threats of climate impacts and that the City will be prepared to respond and bounce back more quickly in times of disturbance when those defenses are breached. The primary threats to environmental resilience in Long Beach, which are addressed by this Comprehensive Plan update, are sea level rise, climate change, climate volatility, stormwater conveyance to the bay and storm surges.

According to National Oceanic and Atmospheric Administration (NOAA), the New York region has experienced about 1 foot of sea level rise since 1900. Current projections show sea level will rise another one to two feet by 2050 and two to four feet by 2100. As sea levels rise, the areas of Long Beach subject to flooding will grow and the frequency and intensity of flood events will increase.

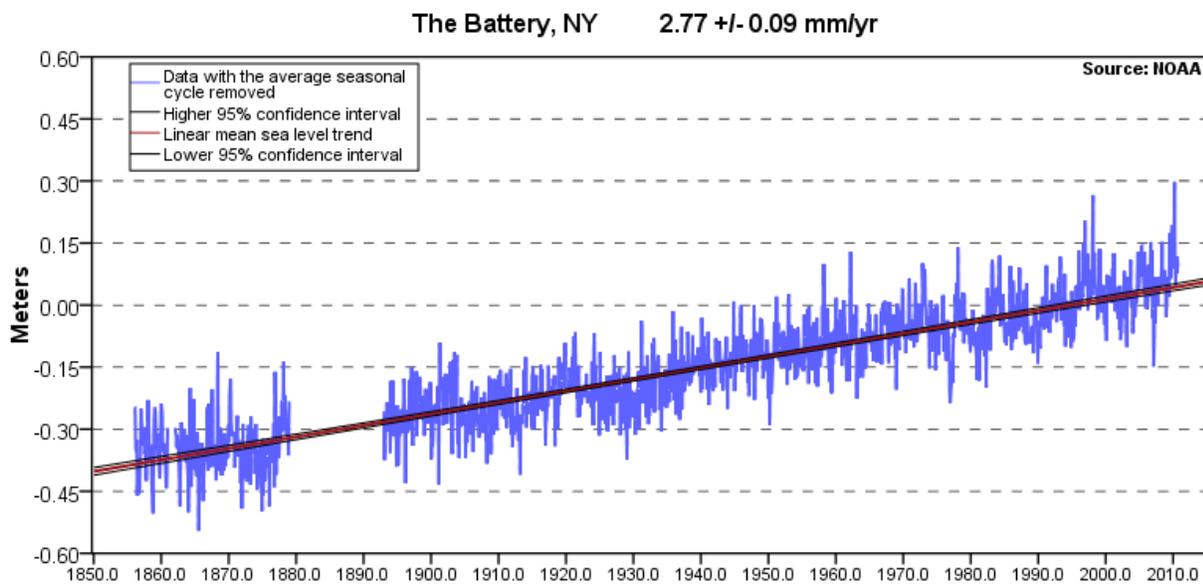


Figure 3-1: Historical Sea Level Rise Data (The Battery, NY)

Historic sea level rise data from the closest NOAA tidal monitoring station (The Battery, NY - Station ID: 8518750) provides a revealing look at the magnitude of change over the last 150+ years.

These vulnerabilities are further complicated by increased climate volatility. As a coastal barrier island, Long Beach is especially vulnerable to sudden, intense heavy precipitation events that overwhelm a stormwater management system that is located between two bodies of saltwater, laterally, and between the very high groundwater table and the surface accumulation of rainwater, vertically.

3.2. Managing Rainfall and Improving Water Quality

The impacts of Hurricane Sandy on the City of Long Beach underline the acute need to improve rainfall and groundwater management within the city. While storm surges created the initial risk, the subsurface water dynamics caused sustained flooding and foundation damage that contributed to environmental hazards and devastating property losses, including a hospital closure and long-term infrastructure failure. The CP and LWRP need to continue to consider coastal resiliency—both for mitigating disasters and for reducing ongoing damage to property from chronic flooding. An additional, essential consideration is reducing the environmental damage caused by human development on a landform where a high water table will continue to cause regular flooding, diminish efficacy of underground pipes and tanks, and increased hydrostatic pressure under impermeable paving, foundation, and slabs. Because of the high water table, flooding is a regular occurrence, made worse by a lack of open space and permeable surfaces for infiltration and without an adequate plant community to participate in groundwater management. While upgrades to the city’s “grey infrastructure” stormwater capture and conveyance systems are underway, the CP and LWRP also look to landscape-based solutions to provide increased long-term flooding relief. A broader strategy of “living with water” incorporates green infrastructure for infiltration, storage, and conveyance. The City’s master plan for trees and vegetation recently undertaken by the Department of Public Works can also be leveraged to support effective and efficient ground water management.

Sandy provided an extreme example of the hydrological dynamics in the city, which withstands flooding even during typical rainfall. Given climate change and rising sea levels extreme weather events can be expected to occur with increased frequency. The City is subject to water threats from all four sides, as illustrated in Section 3.2 below:

- Rainfall from above.
- Storm surge and underground salt water intrusion from the bayside, at Reynolds Channel.
- Storm surge and underground salt water intrusion from the Atlantic Ocean.
- Flooding and standing water from the fresh water lens beneath the City.

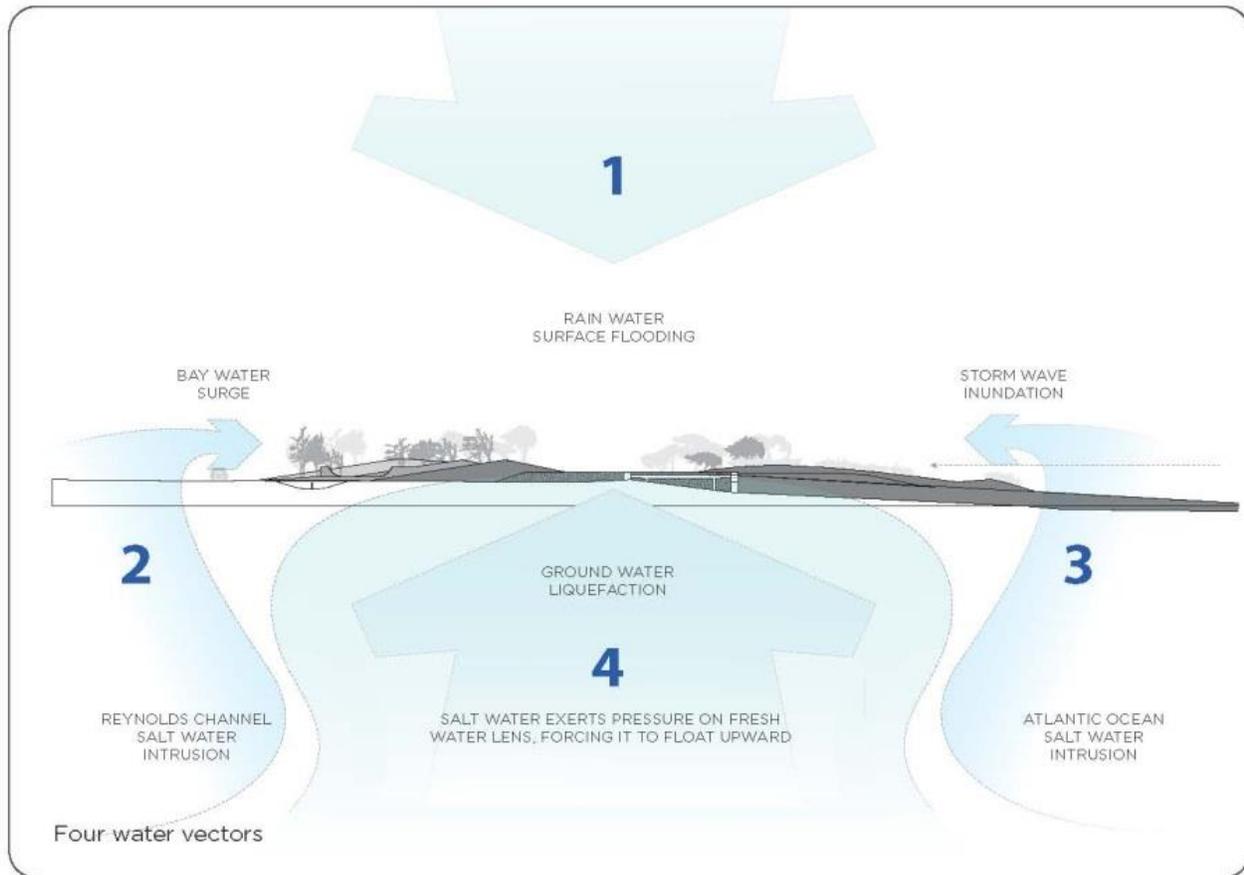


Figure 3-2: Four Vectors of Water Affecting Long Beach

This Comprehensive Plan explores a number of flood mitigation strategies that are drawn from nature. The predevelopment conditions of Long Beach can be understood by looking to similar undeveloped coastal areas, such as the Sunken Forest in Fire Island, as an analog to Long Beach. The Sunken Forest contains dune systems, pockets of freshwater, and both salt-tolerant and hydric plant life in maritime forests and marshes. The landscape is shaped by wind and water forces that operate on a number of time scales from one tidal cycle to seasonal changes to massive storm surges that occur once per century or less. In the City of Long Beach, dunes and maritime forests have been leveled to make way for human development, without consideration to water management, resulting in ongoing struggles with flooding and environmental burdens from stormwater runoff in Reynolds Channel.

Under the land in both Fire Island and Long Beach, salt water encroaches beneath fresh water aquifers from the bay and the ocean. Because the fresh water is less dense than the salt water, it floats above it. So in areas where the land elevation is low, this fresh water lens emerges above ground either as permanent water bodies or as flooding and ponding areas during climatic disturbances. Given the low elevation of the City and the significant aquifers, standing floods are common in Long Beach, even during minor showers, and require active

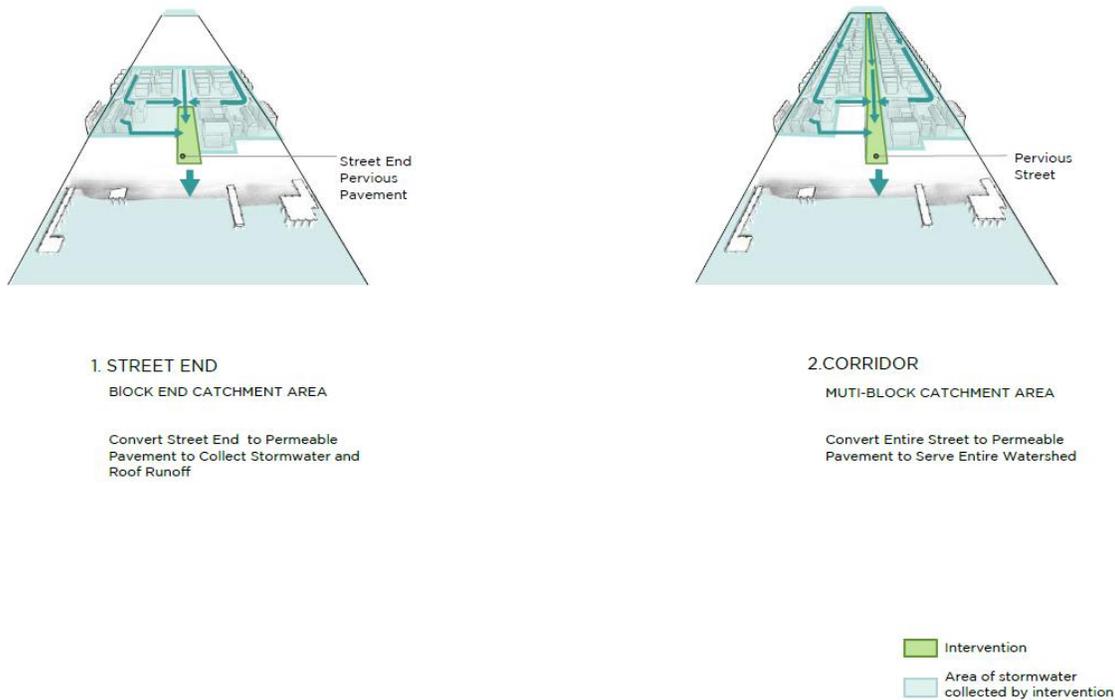
groundwater management to avoid ongoing damage to roadways, infrastructure and property, as well as potentially catastrophic flooding. This is a particularly persistent problem in the North Park neighborhood, and the Comprehensive Plan Update includes strategies to ameliorate the ongoing vulnerabilities of this low-lying area of the peninsula.

Studies of the predevelopment ecosystems in coastal Long Island and similar landforms show an interactive relationship between plant life and hydrology. Hydric trees contribute to evapotranspiration, actively drawing fresh water out of the groundwater stores and returning it to the atmosphere helping to cool the air in the hot summer. These hydric trees, such as poplars, black gums, and willows, act as ground water “pumps” and stabilizers. This relationship between groundwater and plant systems creates checks and balances against flooding at the coastal margin. Root systems act as water storage, preventing the system from overload during rainfall or after surges.

In developed areas such as Long Beach, we can take a cue from these natural systems and strategically incorporate open space and vegetation on both public and private land to reduce flooding and standing water. The city strategy for managing groundwater will need to address the systemic pressures created by all four vectors, including surge protection from the sea, stormwater management, and fresh water lens overload causing flooding and standing water.

Over time, the dynamic hydrology in Long Beach will strain the hard-piped stormwater system; therefore the City must weigh the ongoing costs of maintenance and repairs to this system against a phased investment in green infrastructure systems. A cost-effective long term strategy will include green systems for infiltration, storage and surface stormwater conveyance. These systems can serve both storm surge preparedness for coastal resiliency, as well as the larger goal of sustainability, while increasing open space in the city. With increased infiltration and storage capacity, upgrades to the hard-piped systems in concert with new green infrastructure systems will prevent storm water overloads and decrease the frequency and volume of outfalls of polluted runoff directly into Reynolds Channel.

Resilient Infrastructure
West End Stormwater Strategies



1. STREET END
BLOCK END CATCHMENT AREA

Convert Street End to Permeable Pavement to Collect Stormwater and Roof Runoff

2. CORRIDOR
MUTI-BLOCK CATCHMENT AREA

Convert Entire Street to Permeable Pavement to Serve Entire Watershed

These concepts are subject to change based on final approvals, market conditions, etc.

Figure 3-3: Phased Conceptual Green Stormwater Management Strategy

Potential Projects/Action Items

- Continue to install stormwater infiltration and retention chambers as street restoration projects move forward throughout the City.
- Establish pilot programs to study the efficacy of landscape-based stormwater infrastructure for both infiltration and conveyance in the City of Long Beach.
 - Green infiltration zones are landscape-based infrastructure visible at the ground level and appearing as plant beds. These can be incorporated into street right-of-ways as well as on open parcels. Green infiltration zones are proposed primarily in areas at the center of the city, where there is enough depth for storage and infiltration. Along the East-West street corridors, where rainwater can collect during high-intensity events, preventing flooding. This stored rainwater can then slowly be absorbed into the groundwater, passing through plant roots and filtration beds on its way and thereby returning to the aquifer at a slower rate, with a cooler

- temperature, and with many deleterious elements removed.
- Blue conveyance zones are also pervious, planted areas that are very similar in appearance at the surface to green infiltration zones. The key difference is that the primary purpose of blue zones is conveyance, rather than storage and infiltration. Blue zones are proposed mainly at the street ends and along North-South corridors in Long Beach with poor drainage and high risk of flooding during rainwater events. Rather than creating green zones or other means of absorbing flood water in these already overburdened areas, blue zones are proposed to convey the excess water to locations where there is enough storage capacity for it to be absorbed into the groundwater over time. The proposed blue zones follow the existing topography of the bayside street grid, which alternates elevated (Lindell, Lafayette, Magnolia) and sunken (Washington, Laurelton, National) north-south corridors. The elevated streets form the edges of blue street rainwater catchment zones, while the sunken streets will be transformed to blue streets to collect and convey the rainwater from the surrounding blocks.
 - A fundamental strategy for creating resiliency is investment in systems with multiple benefits that protect against multiple hazards. The proposed blue and green infrastructure work together not only to ameliorate rainwater flood risk and improve groundwater quality, but also to create continuous network of planted spaces along the existing street corridors that is a visual amenity for the community and is much easier to assess, expand and repair than a traditional system of underground pipes.
- Prioritize conveyance to the bay in the North Park neighborhood. This low-lying area is subject to chronic ponding and occasional flooding in intense rain events due to bay-side and ocean-side pressure on the groundwater lens.
 - The City is establishing a pilot program for pervious infiltration zones at street ends within the West End. Many of these locations are extremely vulnerable to flooding and the location of many of the City's repetitive loss properties.
 - Install a stormwater pumping system to discharge stormwater during extreme flood events. (Originally proposed in 2014 NYRCR Plan)
 - Seek opportunities to convert underground, piped utilities to surface, green-infrastructure-based utilities wherever possible. Such systems have multiple benefits; primary among them is the benefit of resiliency as they are far less vulnerable to collapse and contamination issues.
 - As part of the pervious pavement and green and blue zone pilot programs, a comprehensive stormwater management study is being established, with an emphasis on repetitive flooding areas. The study includes the use of green infrastructure such as retention and infiltration zones (planted, sloped areas for water conveyance and storage), porous paving, rain gardens and underground storage.

3.3. Renewables, Energy Efficiency and Reducing Greenhouse Gas Emissions

In August 2013, the City of Long Beach passed a resolution pledging to participate in NYSERDA's Climate Smart Communities program. The City is currently working on a Draft Climate Action Plan outlining the various strategies, actions, and projects designed to reduce greenhouse gas (GHG) emissions, increase energy efficiency and allow the City to become more resilient in the face of sea level rise and climate change.

The City of Long Beach has direct control over a significant number of buildings, other facilities and a fleet of vehicles. Investment in and management of these assets can make significant changes in energy use and GHG emissions. Recognizing the importance of sustainability in all of its operations, the City has made sustainability a dedicated budget priority. As such, the City has begun to develop a detailed inventory of greenhouse gas emissions associated with municipal buildings, facilities and services. By using a variety of data sources, including utility records and municipal purchase orders, the City will be able to track and quantify future changes in emissions. This type of detailed local inventory would set Long Beach apart from other local communities and could help provide key supporting data for grant applications and future projects.

The Long Beach city government also has direct control of the policies that impact community emissions, including zoning authority and control over land use. This level of authority allows the City to pursue emissions reductions both for the built environment and the transportation sector.

There is reason to be somewhat optimistic concerning community-wide reductions in GHG emissions. The Long Island Carbon Footprint Project found that overall emissions in Long Beach dropped from 249,125 metric tons CO₂e in 2005 to 229,251 metric tons CO₂e in 2010, a reduction of nearly 8%. Analysis by the Sustainability Institute at Molloy College indicates that already planned changes to the LIPA electric generation fleet on Long Island, along with projected reductions from energy efficiency programs and investments in renewable energy, would reduce the carbon emitted by electric generation by an amount approximately equal to 10% of Long Island's overall GHG emissions in 2010. Long Beach has been forward-thinking in terms of encouraging and facilitating residential solar installations, especially in the wake of Superstorm Sandy. From November 2009 to November 2012 (pre-Sandy), Long Beach issued 17 residential solar permits. From November 2012 to 2015, however, the City issued 150 permits.

Vehicle-related emissions make up about 31% of Long Island's total GHG emissions. Emissions from on-road vehicles dropped from 12,960,118 MT CO₂e in 2005, to 10,854,420 in 2010, a drop of 16.25%, even though vehicle miles traveled increased slightly during that period. This is believed to be due primarily to consumers choosing more fuel-efficient vehicles. It is anticipated that increases in federal fuel efficiency standards for new vehicles (new CAFE standard of 54.5 mpg by 2025) will have a significant effect on reducing GHG emissions in Long Beach, as these more efficient vehicles displace the existing fleet. However, it's important to note that the impact of these changes will not be fully realized in Long Beach for several years, since many vehicles in the City were replaced with a new model after Hurricane Sandy. In addition to the introduction more fuel-efficient cars, the City's SoBi Long Beach bike rental/sharing program also helped to significantly reduce emissions in 2015. In just under six months, (length of the SoBi Long Beach "season"), the program resulted in a carbon

offset of over 66,000 metric tons and saved an estimated \$43,550 in fuel costs.

Potential Projects/Action Items

- Establish a solar pilot program with a goal of 1,000 solar roofs in Long Beach over the next 30 years. The City has already adopted a fast-track solar permitting process to facilitate this process.
- Participate in the Solarize NY campaign, a community-based solar initiative that is part of the NY-Sun Incentive Program.
- Explore additional incentives and public-private partnerships to increase both residential and commercial solar installations. Eventually, solar energy generation equipment can be linked to form a microgrid, allowing Long Beach to be continuously-powered even during grid outages. The NYSERDA Microgrid Feasibility Study awarded to the City can assist in assessing and planning for this initiative.
- Establish specific policies within the City Code of Ordinances to allow for green roofs.
- Where green roofs are not feasible or not desired, the conversion of traditional black rooftops to white roofs could reduce electricity and heating/cooling costs for commercial properties, especially given the relatively dense pattern of development in Long Beach.
- Establish a pilot waste to energy program for the City's various waste streams. If the existing Water Pollution Control Plant (WPCP) is converted to a Nassau County pump station, this could free up enough space to develop a series of waste digesters on that property while also accommodating the City's economic development goals for the parcel. Such a program would complement the City's recent switch to single-stream recycling by maximizing its use of available resources. An initial program with 3 waste-to-energy systems could include commercial grease deposits (an identified problem within the CBD/West End), organic waste, and wastewater.
- Continue to participate in NYSERDA's Climate Smart Communities program and adopt and implement a Climate Action Plan.
- As recommended by the NYRCR Plan, encourage property owners to increase energy efficiency and sustainability as buildings and homes are rebuilt. Specific initiatives to incentivize include: passive house standards for energy efficient building, roofs that either incorporate or anticipate solar arrays, and rainwater collection and reuse elements such as green roofs and rain barrels.
- Enhance the City's efforts to reduce its carbon footprint by reducing energy consumption and increasing its use of renewable energy. Continue with the NYSERDA lighting program for LED street lights and lighting upgrades in City Hall (nearly complete), and consider the Municipal Green and Healthy Living campaign.
- Continue implementation of the Tree Master Plan, while updating it to address both oceanfront and bayfront conditions.
- Install electric vehicle charging stations throughout the City. Preliminary locations could include City Hall,

the Recreation Center and the West End.

- Explore the feasibility of a solar-shade project over the Long Island Rail Road parking garage.
- Explore opportunities to update the City Procedures and Policies to encourage conservation of energy, alternative energy generation, and other methods of community-wide reduction of GHG emissions.

3.4. Protecting the Oceanfront

In the wake of Sandy, the City of Long Beach was quick to repair and rebuild previously existing dunes larger than before, replant the East and West End dunes with grass, and the City recently formalized an agreement with the U.S. Army Corps of Engineers (ACOE) to build additional dune protection. The Corps also plans to stabilize existing rock groins, and infill the beach with an elevated berm in front of the boardwalk providing 100-year flood protection. This berm will complement the existing boardwalk retaining wall, which helps to collect sand and protect the boardwalk from water damage due to storm surges. By designing features like the retaining wall to complement the future ACOE project, the City has increased overall resiliency of both the beach and its critical physical assets, such as the boardwalk and oceanfront residential housing.

Due to these efforts, the City's oceanfront vulnerabilities have been or will be addressed in large measure (with the exception of water access through the inlets, which are located well-outside of the City of Long Beach limits). However, there are additional landscape-based opportunities that can not only strengthen the protection, but also safeguard these recent investments in hard infrastructure with a layer of sacrificial green infrastructure. Unlike hard infrastructure – which requires heavy capital investment, and which deteriorates over time – landscape-based infrastructure requires minimal upfront investment and its value increases over time as plants mature and topographic features become more deeply-stabilized.

Superstorm Sandy tested the limits of Long Beach's previously-existing, soft-infrastructure-based oceanfront protection. A clear pattern emerged: dunes that withstood the storm coincided with clusters of robust woody vegetation, including pine trees. The dunes that were washed away were unplanted or planted with herbaceous vegetation – dune grass – only. Further evidence of the enhanced resilience provided by woody plants is seen in the neighboring communities of Lido Beach and Point Lookout, where a strip of continuous coastal forest coincides with a dune system that remains intact post-Sandy.

This underscores the value of robust coastal plantings to stabilize the dunes and deflect wave energy. While, the recent FEMA-funded Master Tree Plan for the City of Long Beach only addressed the replacement of trees lost during Sandy, the City has also developed a supplemental planting strategy for areas not included in the FEMA Master Tree Plan. Given the correlation between woody vegetation and dune resilience, the City's

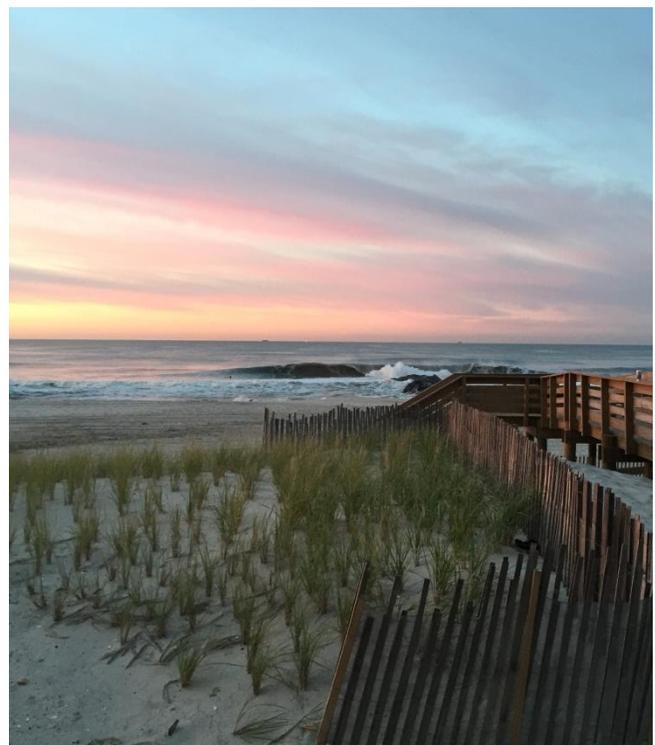
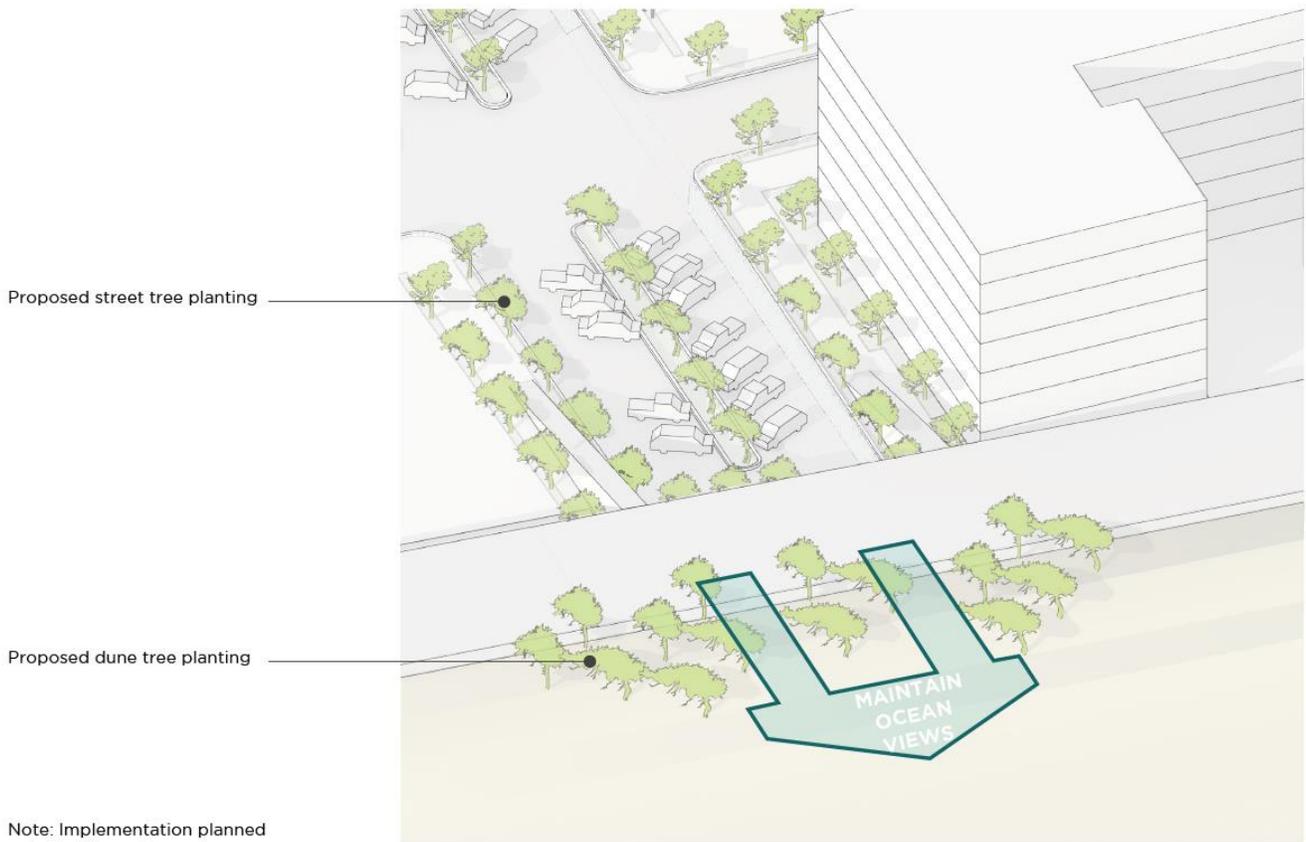


Figure 3-4: New Dune Plantings and ADA-Compliant Walkover at Roosevelt Boulevard

planting strategy for these blocks includes species that can thrive in this zone and withstand occasional salt water inundation.

Landscape systems can also be employed to address oceanfront vulnerabilities related to the morphology of the urban form meeting the coastal beach. The alignment of the urban blocks, which meet the beach perpendicular to the coastline, create a channel effect that can focus wave energy into the streets. Building masses deflect wave energy, intensifying the force and volume of water which channels into the streets. The Army Corps of Engineers’ planned activities in Long Beach will remedy this vulnerability through the construction of a beach-side berm in front of the boardwalk. The Department of Public Works will follow the ACOE plan to strengthen this dune by continuing the street-end plantings of clustered pines and low, woody plants onto the leeward side of this dune to stabilize it and deflect wave energy.

Resilient Infrastructure
Ocean Front Surge Protection Planting



Note: Implementation planned to follow Army Corps dune project.

These concepts are subject to change based on final approvals, market conditions, etc.

Figure 3-5: Ocean Front Surge Protection Planting

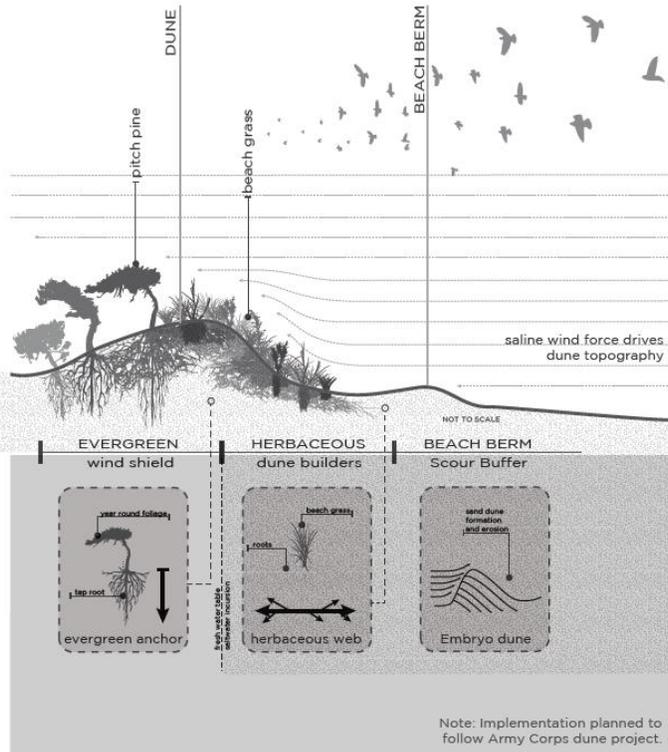
Resilient Infrastructure
Ocean Front Surge Protection Precedents

PRECEDENT

Location: Copacabana Rio, Brazil



HOW IT WORKS



These concepts are subject to change based on final approvals, market conditions, etc.

Figure 3-6: Ocean Front Surge Protection Precedents

Proposed Projects/Action Items

- Continue to support the ACOE dune reconstruction project that will help provide a storm barrier on the oceanfront.
- Preserve and expand existing dunes and plantings, which provided critical protection during Superstorm Sandy by continuing the recent efforts to replenish beach sand, build a dune and berm system, and install additional dune plantings.
- Introduce tree plantings for vulnerable oceanfront blocks. A recommended approach south of the boardwalk is to create clusters of *Pinus rigida* (pitch pine) at the street ends, to preserve key view corridors. Within the view corridors, recommendations for low woody plants include *Prunus maritima* (beach plum), *Myrica pennsylvanica* (bayberry), *Rhus coppalina* (dwarf sumac), and *Arctostaphylos uva-ursi* (bearberry). North of the boardwalk, street tree plantings will be planted at much tighter intervals than customary in the urban context, because of the dwarfing effects of wind-borne sea salt. Planting street

trees at 12-15' spacing in staggered (rather than linear) formation also improves the ability of the planted mass to deflect wave energy by increasing the coefficient of friction as waves hit the scattered field of dense tree trunks. Suggested species for the beachfront blocks include *Prunus virginiana* (chokecherry), *Prunus serotina* (black cherry) and *Amalanchier spp.* (serviceberry or shadbush).

3.5. Protecting the Bayside Coast

The bayside coast of Long Beach presents a unique challenge for creating resilience due to the varied nature of its land use and ownership conditions. What unites the myriad typologies of this coastline, however, is the need for defense from surges in times of disturbance and the need for better stormwater drainage and conveyance during regular rain events. Since the bayside coast has the lowest elevation in Long Beach, this area is the most vulnerable section of City coastline. Certain neighborhoods, including the Canals, North Park and the northern section of the West End are particularly affected by these low elevations and unique conditions. Not surprisingly, these neighborhoods are also home to several Federal Emergency Management Agency (FEMA) National Flood Insurance Program (NFIP)-identified repetitive loss properties.

Recognizing the vulnerability of the bayfront, the City has recently initiated several large-scale projects and studies aimed at increasing resiliency along the bayfront. One of the City's key projects is a \$40 million bulkhead and shoreline protection plan, which comprises a range of resiliency improvements. This multi-phased project includes: City-wide bulkhead installation (developed through the 2014 NYRCR process and funded through the Governor's Office of Storm Recovery), a City-designed shoreline protection/restoration project (utilizing FEMA Section 404 Hazard Mitigation Grant Program funding, this project is designed to enhance protection for critical bayfront utilities and restore the Reynolds Channel shoreline), improvements for critical infrastructure, and drainage system enhancements. The City has also reached an agreement with the U.S. Army Corps of Engineers to participate in a regionally-based reconnaissance study of Reynolds Channel/the back bays and affected communities.

Reimagining the Bayfront: Developing the "Bay Mile"

To link the City's efforts to increase resiliency with future growth and development opportunities, the concept of an accessible "Bay Mile" was developed. The Bay Mile concept aims to leverage one of the City's most underutilized assets, the bayfront, by tying together storm protection, economic development, transportation/mobility, and recreational opportunities. Portions of the Bay Mile correspond to the area of where a combination of FEMA and State funding will be used to implement a flood protection measures along Long Beach's north shore. The Bay Mile traverses a long expanse of public land, including the waterfront open space extending east from Washington Boulevard along the waterfront north of West Bay Drive, through the parks and playing fields of the Long Beach Recreation Center and the city sewage treatment plant, all the way to Franklin Boulevard.

In these areas, the City can most readily prioritize re-pitching streets, parkland and all new development to provide an additional flood barrier. Additionally, these areas would be targeted for strategies to create flood storage, including major and minor conveyance connections to the bay, especially at the end of the proposed "Blue Streets." Re-purposing this tract of land not only enhances flood protection for the City, it creates an opportunity to improve pedestrian and bicycle connections – for example, the Comprehensive Plan proposes a pedestrian bridge over the LIRR, an extension under Long Beach Boulevard, and in the long-term, a Bayfront Esplanade leading all the way to Franklin Boulevard. The potential to relocate and consolidate utilities would

be explored in order to further this concept.

At the eastern extent of the proposed Bay Mile is the former Long Beach Medical Center property occupying the bayfront blocks between Monroe Boulevard and Franklin Boulevard. This area can be considered, or it can have incentives for development that comply with the principles of the Bay Mile resilience strategies, including public access. A portion of this parcel and its facilities will be retained by South Nassau Communities Hospital for a medical pavilion facility.

While the Bay Mile addresses the bulk of Long Beach’s vulnerable bay coast, two unique areas remain that require individualized intervention strategies: the West End bayfront and the Canal district bayfront. In these critical areas, a strategy of infiltration pocket parks can partially ameliorate flooding risks. Wherever possible, vacant parcels and street ends could be excavated and filled with gravel beds, then re-covered with porous surfaces to the maximum extent possible. This will allow infiltration, subterranean storage capacity, and increased flood protection.

Similar to the oceanfront, the recent FEMA-funded Master Tree Plan for the City of Long Beach does not address the bayfront blocks. Given the ability of woody vegetation to take up floodwater and create soil porosity for infiltration, a planting strategy would be developed for these blocks including species that can thrive in this zone and withstand occasional salt water inundation.

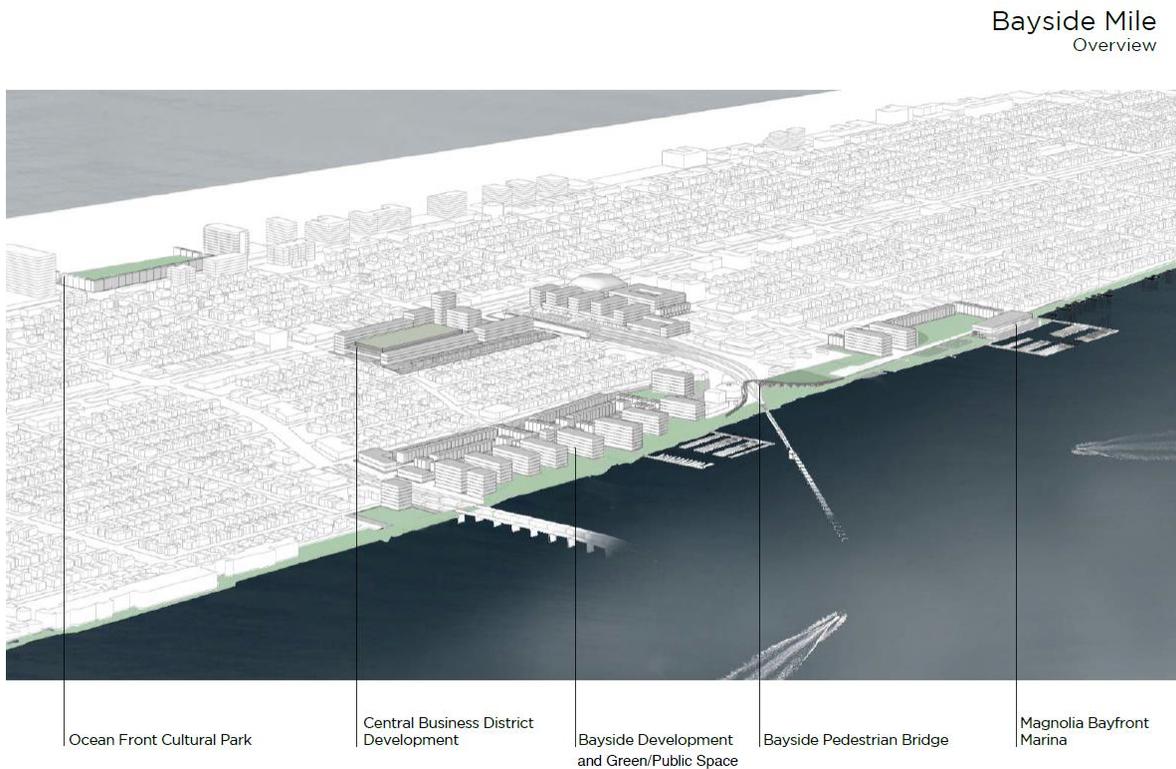


Figure 3-7: Bay Mile Redevelopment Concept Overview

Potential Projects/Action Items

- Create a Bay Mile that integrates the current flood protection barrier work with other real estate and landscape-based strategies. The Bay Mile, through the NYSCRP and FEMA funding projects will reduce flood and surge impacts to public and private properties and allow the provision of recreational amenities and pedestrian and bicycle connectivity.
- Continue to work with the ACOE to advance the bayside reconnaissance study by providing data and anecdotal evidence from events like Superstorm Sandy and Hurricane Irene, as well as nor'easters and other weather events that result in storm surge flooding.
- Continue to explore and apply for grant funding for resiliency measures along the bayfront (such as the continued installation of tide-flex valves).
- Expand tree-planting efforts to include bayfront blocks and recreational areas.
- Continue to explore various defense solutions for the Canals neighborhood, including removable dams or collapsible gates.
- Continue to pursue the consolidation and/or relocation of bayfront infrastructure and utilities. While properties such as the Water Purification Plant have been recently updated and will not be relocated, nearly all of the other infrastructure and utility properties could potentially be moved or reconfigured. This would greatly reduce vulnerability to critical infrastructure, which is a vital component in protecting not only the bayfront but the entire City.

3.6. Protecting and Upgrading Infrastructure

Existing Conditions

Much of the City's critical infrastructure was damaged during Sandy, including the Water Pollution Control Plant, Water Purification Plant, natural gas pipeline and electrical substations. Due to their location along the north shore bayfront, these facilities were highly vulnerable to storm surge and flooding impacts from the storm. In addition to damages at these critical facilities, much of the citywide infrastructure was also damaged, including water and sewer lines, fire hydrants, pump stations, electrical transmission lines and traffic lights. The City's Water Pollution Control plant was inoperable for roughly one week and the Water Purification Plant was out of service for over two weeks. While emergency repairs were completed at these facilities as quickly as possible, there are still many infrastructure repairs, retrofits and upgrades that would help to make Long Beach more resilient.

Potable Water

The City's water supply relies on groundwater from the Lloyd Aquifer. Water from the aquifer is pumped from eight public wells that are located throughout the City. In 2014, the City drew 1.15 billion gallons of water from these wells. With minor exceptions, water from the Lloyd Aquifer is considered good to excellent. After

treatment, the City's potable water quality is generally very good to excellent quality.

Despite this, preliminary reports from the United States Geological Survey (USGS) indicate that saltwater intrusion is encroaching upon the Lloyd Aquifer. This, in addition to attempts by other water districts, such as New York City, to pump from the Lloyd, threatens the City's water source. Recently funds were awarded to the USGS to study and monitor Long Island's groundwater levels and movement, sample chloride concentrations which indicate saltwater intrusion, and determine the current location, thickness, and chloride concentration of the freshwater-saltwater interface. The study is to take place over the next 5 years, and may offer crucial insight into the state of the aquifer and provide possible action steps the City could take to address any potential impacts to water quality. Until then, necessary steps should be taken to conserve water consumption

Following Sandy, the City re-initiated a system-wide potable water improvement program. A major part of this initiative has been the replacement of water mains throughout the City. The Department of Public Works typically replaces water mains anytime road reconstruction occurs. The City has continued the installation of corrosion-resistant Sigelock Spartan fire hydrants, which have greatly improved the reliability and lifespan of the City's hydrants. In addition, the City is planning a series of upgrades on the system's water tower and standpipe and is currently performing a study of the current system.

The NYRCR Plan also emphasized the importance of replacing older water mains throughout the City. The NYRCR Plan identified certain neighborhoods, such as the Walks, as critical locations for water main upgrades. Since the water mains in the Walks are located beneath the neighborhood's many 'walks', as well as on private property, this project will require careful coordination with local residents.

Wastewater

The City's wastewater infrastructure comprises ten facilities – including three pump stations located throughout the City. The City of Long Beach Water Pollution Control Plant was originally built in 1951 with an overall design capacity capable of treating roughly 6.5 million gallons of sewage per day (mgd). The Plant was expanded in the late 1980s to accept an average daily design flow of 7.5 mgd. Despite this increased capacity, average flows have decreased in recent years, averaging 5.3 mgd in 2011 and 4.1 mgd in 2015, which can be partially attributed to the City's water conservation efforts and infrastructure improvements, such as pipe replacements. Following this expansion, a series of upgrades were performed throughout the 1990s and early 2000s to address SPDES permit requirements and improve the overall quality of effluent discharged to Reynolds Channel.

The City's wastewater collection system, with approximately 50 miles of pipes, serves the entirety of Long Beach and a portion of Lido Beach. In general, the collection system is gravity-based. The system comprises pipes of various sizes, from six-inch pipes in the Walks neighborhood and along various easements to 48-inch pipes entering the plant. These pipes are made from a variety of materials, including clay tile, concrete, transite and PVC. There are several key issues facing the collection system:

- Many pipes are located within groundwater and thus are susceptible to infiltration. The City's 2007

Comprehensive Plan specifically cited the concrete pipes north of Park Avenue as an area of concern. Due to particularly shallow depth to groundwater in this area, the older concrete pipes throughout the northern half of the City have started to degrade and collapse, leading to system inefficiencies and the contamination of local groundwater.

- The City has also identified grease as a major issue for the system – particularly from the restaurants within the commercial districts.
- Settling of pipes has led to back flow conditions – potentially impacting homeowners in vulnerable areas.
- Many laterals connecting private homes to the collection system are in poor condition. The City recently initiated a program to assist homeowners in the replacement of problematic laterals, which if unmitigated, can also lead to groundwater contamination.

In total, Superstorm Sandy resulted in approximately \$7 million in damages to the City's sewage treatment facilities (not including damages to pipes and laterals). Each of the ten facilities was infiltrated with salt water and several contaminated with raw sewage. Despite these damages, there were not significant structural damages to the facilities – with most repairs focusing on mechanical, electrical and plumbing systems or architectural repairs. Overall, post-Sandy repairs have been ongoing and the Plant is considered to be in good working condition.

Nevertheless, the City is continuing to pursue the conversion of the Plant to a regional pumping station for the Nassau County wastewater collection system. Nassau County's Bay Park facility is currently undergoing extensive upgrades including an 18-foot high perimeter wall to protect the plant from flooding. Consolidation of the vulnerable Long Beach Plant to the upgraded County plant is an important resiliency action for the City which will also have environmental benefits of more advanced treatment and the elimination of a bay outfall. This conversion would significantly reduce the vulnerability of Long Beach, lower costs and eliminate the need to perform future upgrades to the aging Water Pollution Control Plant.

Solid Waste

As a barrier island, the proper collection and disposal of solid waste is vital to preserving the health and well-being of the coastal environment. Garbage and debris accumulation in the City's stormwater sewer system is particularly problematic. Drainage structures and outfalls often become blocked; exacerbating flood impacts in a community already plagued by low elevations, high groundwater and a lack of pervious recharge zones.

Recently, the City of Long Beach has taken significant steps to improve solid-waste management throughout the community. In 2014, the City converted its recycling program to a single-stream operation. This has both increased recycling rates among residents and eliminated the need for the City's large sorting yard.

Potential Projects/Action Items

- Continue to harden and elevate components of wells and sewer lift stations. Although submersible pumps and other resiliency improvements have been installed in the stations to provide some protection from flooding, additional flood mitigation measures at the stations would be beneficial.
- Continue to pursue the consolidation and/or relocation of bayfront infrastructure and utilities. While properties such as the Water Purification Plant have been recently updated and will not be relocated, nearly all of the other infrastructure and utility properties [with significant investment and collaboration from all stakeholders] could potentially be moved or reconfigured. This would greatly reduce vulnerability to critical infrastructure, which is a vital component in protecting not only the bayfront but the entire City.
- Wastewater treatment plant effluent and untreated stormwater have deteriorated aquatic habitat and water quality, which limits recreational uses. Until a long-term infrastructure consolidation plan is developed, the City should continue to seek funding for centrifugal separation chambers needed to help improve water quality.
- Explore the feasibility of low-flow mandates within the City Code.
- Continue to upgrade underground utilities including water, sewer, drainage, gas and electric as major sections of streets are reconstructed.
- Continue to evaluate the need for environmental remediation activities along the bayfront as NYS funds become available and in conjunction with infrastructure relocation/consolidation efforts.

3.7. Protecting Municipal Buildings and Facilities

As detailed in the New York Rising Community Reconstruction (NYRCR) Plan, all of the City’s municipal buildings are in extreme and high risk areas.

Table 3-1: City of Long Beach Municipal Buildings and Facilities At Risk

| | |
|---|---------|
| Fire Station #3 | Extreme |
| Long Beach Bus Garage/Vehicle Maintenance | Extreme |
| Long Beach Ice Arena | Extreme |
| Long Beach Recreation Center | Extreme |
| Martin Luther King Jr. Community Center | Extreme |
| Water Purification Plant | Extreme |
| City Hall | High |
| Fire Station #1 | High |
| Fire Station #2 | High |
| Magnolia Senior/Community Center | High |
| Police Station | High |
| Public Works Facility | High |
| Water Pollution Control Plant | High |

The City has undertaken several resiliency efforts including lighting upgrades to City Hall and the Long Beach Recreation Center, as well as solar and battery backup power at the Martin Luther King Jr. Community Center. As described in Section 3.8 below, the City is working towards a centralized Office of Emergency Management (OEM) facility.

Potential Projects/Action Items

- The NYRCR Plan includes several resiliency projects which the City plans to pursue with funding from New York Rising. Where New York Rising funding is not available, the City will continue to seek grant funds to accomplish these resiliency projects. The NYRCR projects include:
 - Long Beach Fire Stations - raise electrical panels and conduit; floodproof and wind protect all doors including Bay doors, window protection from wind, and fixed/stationary generator where needed
 - Ice Arena/Recreation Center – Raise electrical panels and conduit, glass door replacement and flood shield, window protection from wind, and fixed/stationary generator
 - Community Centers – Flood protect and wind retrofit community center buildings, including louvre floodshield, door floodproofing, and window and door wind protection, raise electrical panels, conduit, and telecommunications equipment, provide emergency power and other necessary fixed equipment needed for disaster recovery, and repurpose centers with second floors as community assistance centers.

- City government offices, courts, police and fire facilities, and the future OEM facility, are located in City Hall. This six story building is located in the central business district and is flanked by Kennedy Plaza and parking to the south and parking to the north. The City Hall building is outdated, inefficient and located on prime real estate. The Comprehensive Plan recommends that that these government functions be relocated as part of a reinvention of the City Hall/Kennedy Plaza property. This concept is discussed in greater detail in Section 4.4 of the Plan. This would not only provide the opportunity to make these essential government facilities more functional and resilient, but would also provide for additional economic development in the CBD, furthering the economic resiliency of the City.
- It is noted that there are other important community facilities which are not City owned and operated, including the public libraries, schools, post office, railroad station and others. The City encourages these facilities to develop and implement the appropriate resiliency measures.

3.8. LOCAL HAZARD MITIGATION PLAN

Immediately following Superstorm Sandy, the City lost internet access and telephone service, which made the dissemination of information from emergency responders and City officials extremely difficult. Emergency service providers, both from local and outside agencies, were largely unable to contact residents to provide information about key health and safety issues, such as the provision of food, water and shelter. It also created an extremely dangerous situation for vulnerable segments of the population including those with special needs.

City Initiatives

In response, the City of Long Beach displayed a strong commitment to improving and expanding emergency communication protocols and resources. One of the City's primary initiatives has been the formation of the Neighborhood Emergency Team (NET) Program. The NET Program is a partnership between the City of Long Beach, the Long Beach Police Department and local residents and aims to prepare residents and business owners in Long Beach with vital information during storms and other types of emergencies. The Program is based upon the participation of Long Beach residents and allows volunteers to assist within their own neighborhoods prior to and following a disaster by ensuring that every household receives important emergency information.

The NET Program connects volunteers with a network of fellow volunteers all working together for a common cause: making sure that every household has the information they need to be prepared in the case of an emergency. The program creates partnerships with existing community groups that have demonstrated long-standing commitment to Long Beach and its residents.

The primary responsibility of a NET volunteer is to aid the City of Long Beach in ensuring that every household is aware of important information prior to and following an emergency situation. The duties of each position are as follows:

Area Coordinator: Distributes information given by the City of Long Beach to the Neighborhood Coordinators of their designated Area.

Neighborhood Coordinator: Distributes information given by Area Coordinator to the Block Coordinators of their designated Neighborhood

Block Coordinator: Distributes information given by Neighborhood Coordinator to households on designated Block.

Assistant Block Coordinator: Aids Block Coordinator and performs responsibilities of Block Coordinator in case of absence.

The City has also improved the capacity of its community-based centers to provide emergency services and shelter. The City has recently partnered with Global Green USA and National Grid to create climate resilient disaster preparedness hubs by installing advanced energy efficiency technologies. The program includes the highly-used Martin Luther King Center and Magnolia Community Center.

These community centers are centrally-located in Long Beach and have been upgraded to provide emergency light, heat and power indefinitely during crises. Advanced technologies, including solar photo-voltaic electric power and electric storage systems, as well as gas and electric efficiency improvements, will ensure that power is available during grid outages.

In addition to the NET program and community center upgrades, the City has expanded lines of communications to residents, particularly regarding the importance of emergency preparedness. The City is utilizing the Swift 911 rapid emergency notification system to alert residents of potential hazardous events and deliver other critical information. The City has also developed a smartphone-based app, called Long Beach Response that provides informational updates and allows residents (and other users) to communicate with City officials and employees. In addition to the app, the City, in partnership with the Long Beach Police Department, Long Beach Fire Department and Trivirtus Solutions, has established the Long Beach Preparedness Project along with an associated website LBPrepared.com to establish a dedicated form of electronic communication for residents and business-owners.

The Long Beach Preparedness Project includes a year-long curriculum of courses, events and certifications including First-Aid and CPR, Severe Weather Awareness, Home Emergency Plan Development, and Business Continuity strategies. The City launched this initiative with a series of free courses throughout the month of September – which is both National Preparedness Month and the traditional peak of the North Atlantic hurricane season. The courses covered the following topics: Emergency Preparedness & Response, Coastal Storms & Hurricanes, Using Social Media in Disasters, and Community CPR & AED.

Local & Community-Based Initiatives

One of the defining characteristics of Long Beach has always been the civic pride of local residents. As a result, there are many active community organizations operating throughout the City. In the wake of Superstorm

Sandy, many of these organizations provided community-based lines of communication and provided essential services to residents in need. In addition, it was quite common for organizations, including both local and outside groups, to work together to share and distribute information. While it would be impossible to document all of the heroic efforts of these groups in this plan, it is important to recognize the importance of community-based organizations in providing communication during storms and emergencies.

With a renewed focus on resiliency and the importance of communication, community-based organizations have begun to formalize many of the emergency protocols and partnerships formed during Sandy. One of the key initiatives has been the formation of the Long Beach Community Organizations Active in Disaster (COAD). The mission of the COAD is to help Long Beach make the best use of its resources in a disaster by organizing and deploying community resources in an effective and timely manner, in response to the needs of community in such times.¹ In addition to maximizing and leveraging local resources, one of the most important parts of the COAD is the creation of a centralized communication network for the many active groups within Long Beach. The COAD includes a diverse network of non-profit and community-based organizations, government entities, religious institutions, and individual volunteers. This type of collaboration is particularly valuable as local organizations often have the best understanding of local needs and are able to provide quick assistance to those with special needs.

Enhancing Emergency Communication

Despite these City-supported and community-based preparedness efforts, there are still several strategies to enhance both pre- and post-emergency management. Most notably, the City is working towards a centralized Office of Emergency Management (OEM) facility. Such a facility would provide a secure, flood-resistant location to provide critical communication and manage emergency operations throughout the City. An OEM center would also reduce the City's reliance on outside agencies and organizations to provide such services. The City works closely with Nassau County to develop and implement the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan* but given Long Beach's vulnerability and relative isolation, a separate OEM facility in Long Beach is necessary for the health and safety of Long Beach residents.

The OEM facility would have a dedicated backup power system, with any utilities, power sources and fuel supplies located above the floodplain. Provisions would be made to ensure continuous water supply to the facility. While such a facility would likely require a diesel generator, the City is also working on a feasibility study exploring the potential of a microgrid system that would ensure uninterrupted power to the OEM center and key City facilities and infrastructure.

In conjunction with a City-operated OEM facility, a full-time Local Disaster Recovery Manager (LDRM) or Emergency Management Officer could be hired. One of the key functions of the LDRM would involve the coordination of organizations to provide post-disaster services. Both the Long Beach COAD and Long Island Voluntary Organizations Active in Disaster (LIVOAD) of Nassau County could assist in leveraging resources and

¹¹ LB Community Organizations Active in Disasters. 2015. < <http://www.lbcoad.org/about.html> >

providing services during emergency situations. Such a position would generally focus on pre- and post-emergency operations but could also serve as a local resiliency manager, ensuring that new development/significant alterations are constructed to handle storm/emergency situations.

Coordination with the Nassau County Multi-Jurisdictional Hazard Mitigation Plan

In accordance with Part 201.6 of the Disaster Mitigation Act of 2000 (DMA 2000), the City of Long Beach is required to develop and submit mitigation plans for FEMA approval in order to be eligible for Hazard Mitigation Grant Program (HMGP) funding or Pre-Disaster Mitigation (PDM) funding. Working with Nassau County, who serves as the lead agency for this planning process, the City participated in FEMA hazard mitigation planning meetings and provided critical local data to be incorporated in the *Nassau County Multi-Jurisdictional Hazard Mitigation Plan*. A draft *Plan* was completed in 2014 and is currently in the public comment and review phase. The *Plan* is designed to guide county and local officials in preparing, mitigating, planning for, and managing natural disasters. While the City's last formal adoption of the County's *Plan* occurred in September 2008, the City intends to adopt the updated *Plan* once it is determined complete. Key components of the plan are summarized below.

As part of the implementation of a multi-jurisdictional mitigation strategy, the following measures were adopted as goals for each municipality participating in the *Plan* update. The goals are as follows:

- Promote disaster-resistant development.
- Build and support local capacity to enable the public to prepare for, respond to, and recover from disasters.
- Reduce the possibility of damage and losses due to drought.
- Reduce the possibility of damage and losses due to flooding caused by floods and coastal storms.
- Reduce the possibility of damage and losses due to earthquakes.
- Reduce the possibility of damage and losses due to landslides.
- Reduce the possibility of damage and losses due to coastal erosion.
- Reduce the possibility of damage and losses due to winter storms.
- Reduce the possibility of damage and losses due to tornadoes and high winds caused by windstorms and hurricane winds.
- Reduce the possibility of damages to emergency facilities from flooding and wind damage.

4. PRODUCTIVE SUSTAINABLE ECONOMY

4.1. Existing Land Use

The City of Long Beach is laid out in a traditional grid pattern featuring wide boulevards and narrower side streets. While the City is predominately residential (approximately 81% of total land area), there are several distinct commercial areas, as well as a wide range of parks and recreational areas spread throughout the City.

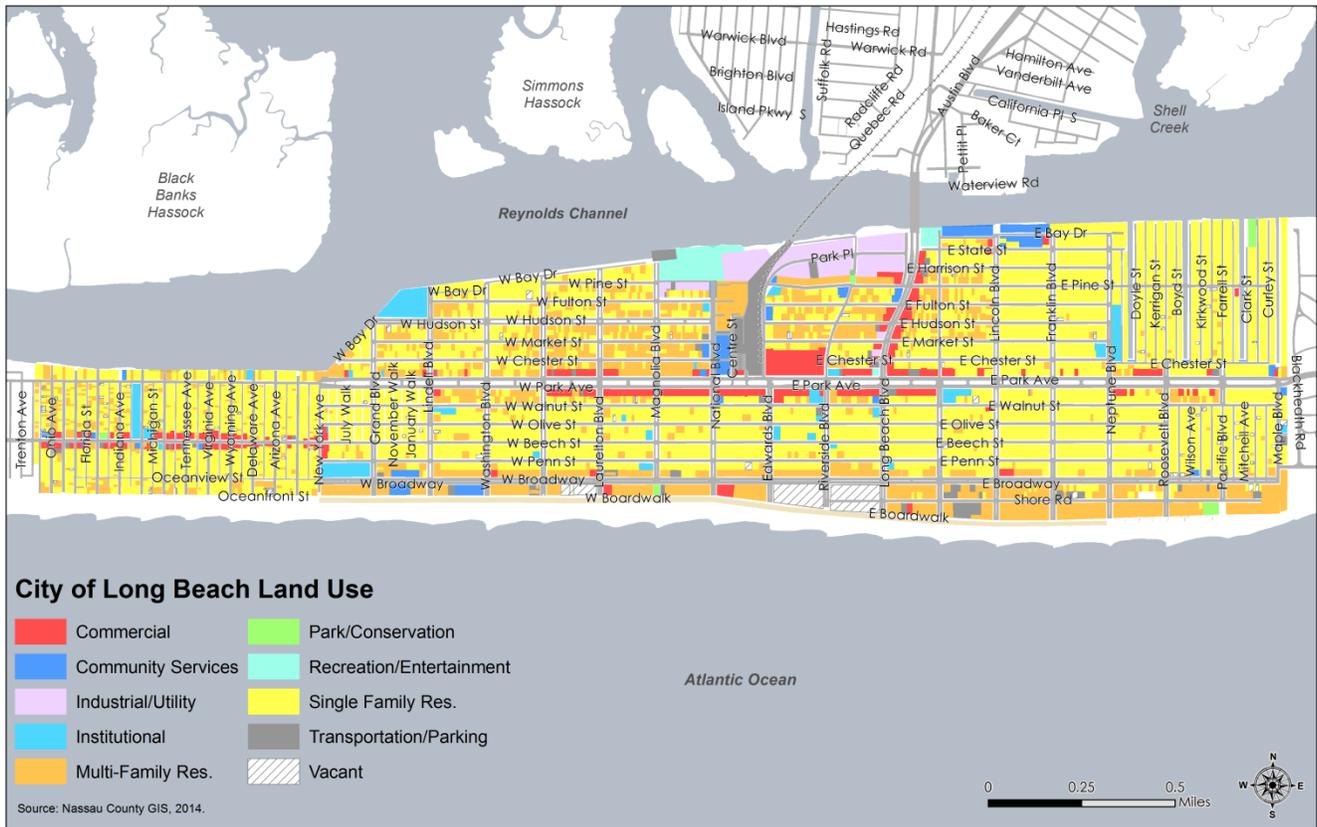


Figure 4-1: Current Land Uses in the City of Long Beach

Residential

Compared to the rest of Long Island, Long Beach has a rather diverse housing stock, with significant variations in residential density, age and housing typologies.

In terms of multi-family residential uses, many of the City’s higher density residences are located near the water, particularly along the oceanfront. These residences are generally located along Broadway between New York Avenue and Maple Boulevard, and along Shore Road between Long Beach Boulevard and Maple Boulevard. There is also a significant concentration of multi-family housing in the North Park neighborhood, located in the northern part of the City and in close proximity to the bayfront. In total, approximately half of Long Beach residents live in multi-family housing, with multi-family housing units comprising just under 42% of the City’s total stock.

The West End is also quite dense in terms of residential land uses. The parcels and homes are generally smaller in the West End in comparison to the rest of Long Beach but the neighborhood’s compact form helps to create one of the most vibrant parts of the City. This area features a mix of both single-family and multi-family residences, with properties generally located very close to each other (average distance of four to eight feet). Currently, the West End is in a significant transition period, as many of the traditional low-rise bungalows are being replaced with elevated, FEMA compliant homes.

The remaining parts of the City are characterized by predominately single and two-family residences with a more typical suburban-level of density. However, these areas are still quite unique when compared to other communities on Long Island. Such neighborhoods include the Walks (which feature houses oriented

towards community “walks” rather than the streets), and the Canals (originally marshland that was filled in and designed by City founder William Reynolds as part of “the future Venice of America”).

Commercial

The City of Long Beach has two main commercial corridors, Park Avenue (between Lafayette Boulevard and Monroe Boulevard) and Beech Street in the West End (between Nevada Avenue and New York Avenue). In addition to these major districts is the Long Beach Boulevard gateway area (between the Long Beach Bridge and Park Avenue), and two East End commercial areas (Park Avenue between Monroe Boulevard and Lincoln Boulevard and Park Avenue between Roosevelt Boulevard and Neptune Boulevard). These secondary areas play important roles in

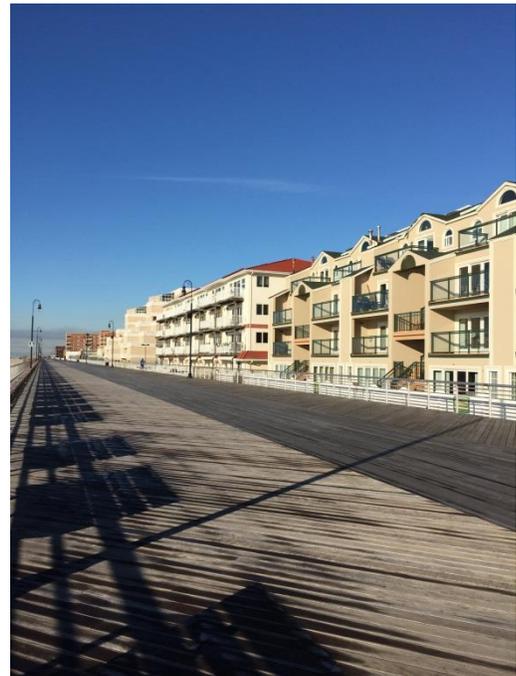


Figure 4-2: Multi-family Housing along the Boardwalk

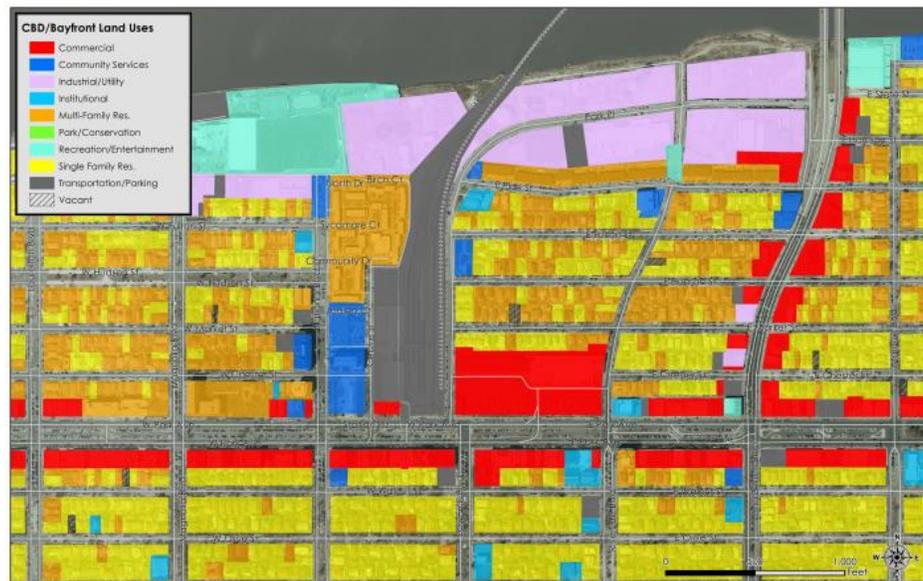


Figure 4-3: CBD and Bayfront Land Uses

the economic health of the City as they are located near the City's primary entry points.

Industrial Land/Utilities

Much of the City's key infrastructure and utility properties are located within close proximity to Reynolds Channel. This industrial area spans roughly from National Boulevard to Long Beach Boulevard. There is strong potential for changes in land use in this area, particularly for City-owned properties. While some of the critical infrastructure will remain in the area, several properties have already begun to transition towards other uses. The City Recycling/Sorting Yard is a large property that could be repurposed as the City has stopped sorting recyclables and has transitioned to a single-stream recycling system. Other properties, such as the Water Pollution Control Plant, have the potential to transition to other uses but would require more detailed infrastructure consolidation plans.

Parks and Recreation

As a barrier island, Long Beach is largely characterized by its oceanfront and bayfront environments. The south side of the island is home to the City's largest park, Ocean Beach Park, as well as its 2.25-mile elevated Boardwalk. Both facilities are frequented by residents and visitors year-round but see a large spike in activity during the summer months. Perhaps the most unique aspect of the Ocean Beach Park is its accessibility to the public. In many other coastal communities on Long Island, coastal access is limited by private properties, residency restrictions and geographic barriers. The Beach Park and Boardwalk are complemented by smaller community parks, including the Magnolia and Pacific Playgrounds and the Georgia Avenue Playground in the West End.

The bayfront is also home to several parks and recreational amenities. The City's Recreation Center is located at the northern terminus of Magnolia Boulevard and includes a pool, weight room and ice arena, all of which are available for use by both residents and non-residents. Veterans Memorial Park (which includes a bayfront esplanade, municipal fishing pier, boat launch, outdoor roller hockey rink, ball fields/courts, and a recently redesigned skate park), Leroy Conyers Park, Sherman Brown Park and Clark Street Playground are all highly used facilities located in close proximity to the bayfront. There is also a short esplanade extending west from National Boulevard to Washington Boulevard. Despite the popularity of these parks and amenities, much of the bayfront remains difficult to access, particularly along the industrial stretch spanning from National Boulevard to the Long Beach Boulevard Bridge. Just east of the Long Beach Boulevard Bridge, there are eight City-owned tennis courts, which, are leased to a private operator.

Public Facilities and Community Services

In addition to the parks and open spaces discussed above, the City of Long Beach owns numerous facilities and provides a range of community-oriented services. Key City facilities serving the public include: the Magnolia Center, West End Community Center, and the Martin Luther King Jr. Community Center. The Magnolia Center provides services for both children and seniors and is also frequently used for community meetings and events. The West End Community Center provides services primarily for children and is located adjacent to the

West Elementary School on Maryland Avenue. The Martin Luther King Community Center is located on Riverside Boulevard in the North Park neighborhood. The MLK Center offers a range of child care services, human/social services, career development resources, education programs, and recreational activities. Despite sustaining significant damage from Superstorm Sandy, the MLK Center played an important role throughout the City's recovery, serving as a resource and information center for the community. The MLK Center has since been repaired and rebuilt, using resilient solar and battery power to create a more resilient community center.

Historic and Scenic Resources

The City has several historic properties and districts, as designated by either the local, state or national historic registers. There is a designated historic district located on Penn Street, which features red brick stone roadways. The following buildings have historic designations:

- Granada Towers - 305 Riverside Boulevard - National/State Register
- 151 West Penn Street - National/State register; Local landmark
- 226 West Penn Street (Long Beach Historical Museum) - Local landmark
- 220 West Penn Street (St. James Church) - Local landmark
- 257 West Olive Street - Local landmark
- LIRR Station Building – Local landmark
- 101 East Park Avenue (Long Beach Post Office) - National/State register
- 657 Laurelton Boulevard (Cobble Villa) – National/State register

Underwater Lands

The northerly border of the City of Long Beach extends to the midpoint of Reynolds Channel. However, the underwater lands of Reynolds Channel fall under the jurisdiction of the Town of Hempstead. A small section of the north shore of Long Beach is designated by the NYS Department of Environmental Conservation (NYS DEC) as a tidal wetland - SM Zone: Coastal Shoals, Bars and Mudflats.

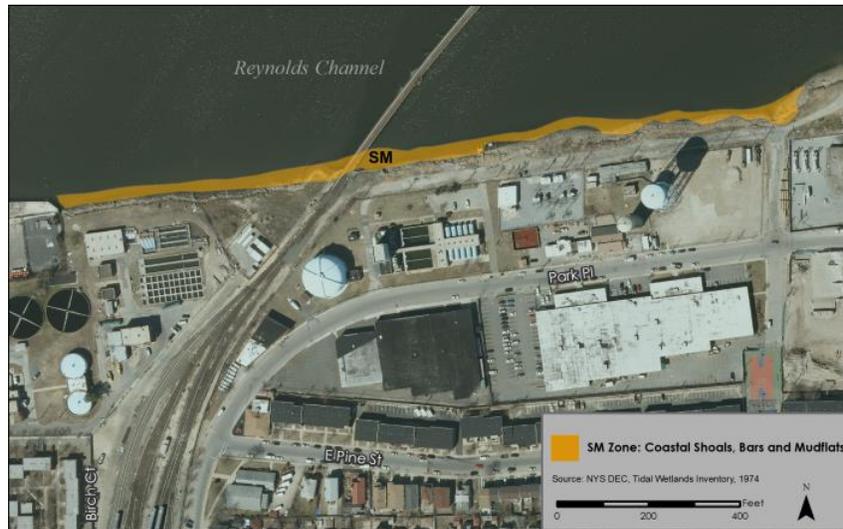


Figure 4-4: City of Long Beach Tidal Wetland Zone

This area is approximately one acre in size. Despite this designation, the area has been covered in rip-rap and other assorted materials for several decades and provides none of the benefits that a healthy wetland provides. The City of Long Beach has prepared a design to restore and protect the shoreline in this area, which would make this area safer and more accessible to residents.

Abandoned, Deteriorated or Underutilized Sites and Buildings

In general, Long Beach is a highly-developed community, particularly for a city located on a relatively small barrier island. While most of the residential neighborhoods are fully built-out, there are significant development opportunities along the bayfront industrial area and within the Central Business District (CBD). The Long Beach Boulevard corridor has also been identified as a key area for potential redevelopment as it is the primary gateway to the City and would provide a key link between the bayfront and CBD. Along the oceanfront, there are currently three large vacant parcels – the Laurelton/Broadway site (2.87 acres located between Lafayette and Laurelton Boulevards and Broadway), the Foundation Block (4.8 acres located between Edwards-Riverside Boulevard and Broadway) and the Superblock site (6.04 acres located between Riverside Boulevard-Long Beach Boulevard and Broadway). There is a development proposal in progress for the Superblock, which is currently awaiting a determination from the Nassau County Industrial Development Agency (IDA) regarding a PILOT (payment in-lieu of taxes) for the project. There are currently no redevelopment plans for the Laurelton/Broadway site or the Foundation Block.

The bayfront industrial area includes several parcels that have been identified in preliminary redevelopment studies and proposals. The 2007 Comprehensive Plan and 2009 Brownfield Opportunity Areas Pre-Nomination Study (BOA) identifies several of these parcels. One of the most significant sites in terms of potential bayfront redevelopment is the City's Water Pollution Control Plant (WPCP). This seven-acre site is owned and operated by the City of Long Beach, and provides sewage treatment for all properties in the City and portions of Lido Beach. The City, in partnership with Nassau County, has been investigating the feasibility of converting the

WPCP to a pump station and redirecting the City's sewage flow to the County's Bay Park Sewage Treatment Plant. This conversion would play a key role in the future redevelopment of the bayfront by freeing up a significant portion of the seven-acre site.

From the Long Island Railroad (LIRR) tracks east to the Long Beach Boulevard Bridge, there are approximately 19 acres of potential land for redevelopment. These parcels include a mix of private, public and utility-owned land. Immediately east of the LIRR tracks, lies a small privately-owned warehouse (0.26 acres). The City's Water Purification Plant (2.05 acres) is located on the Reynolds Channel bayfront. However, the Water Purification Plant is unlikely to be modified or relocated as it is in relatively good condition and located in close proximity to a series of underground wells.

Just west of the Water Purification Plant, there is a small PSEG/National Grid site (0.46 acres) which has been considered as a potential opportunity to consolidate the existing utility infrastructure to another PSEG/National Grid parcel further east or to the grounds of the Water Pollution Control Plant.

Further east, between Park Place and Water Street, the City owns a 0.59-acre parcel which contains the City's Water Administration building, Water Tower/Standpipe, decommissioned Gun Range, and Animal Shelter. The demolition of the Gun Range is likely to commence as the North Shore Bulkheading project moves forward. The water infrastructure on this site is outdated and needs to be upgraded to increase capacity. The other uses on site could be relocated to more appropriate locations within the City. This entire parcel is anticipated to be available for redevelopment.

Further east on Water Street, there is a 0.63-acre City-owned parcel, which was the former home of the City's incinerator. While the Incinerator building was demolished in late 2007/early 2008, the City's BOA Study identified possible contamination concerns on this parcel, as well as adjacent parcels.

As mentioned earlier, there is a larger PSEG/National grid parcel (2.8 acres) located at the intersection of Water Street and Park Place. This parcel houses both gas and electric utilities. Since a significant portion of the site is vacant, there is an opportunity to consolidate the various utilities into a smaller area. The City has also noted that the electrical substations are not dependent upon their current bayfront location and could be relocated elsewhere.

Further east, adjacent to Park Place, there is a vacant City yard which is currently used for storage and could be targeted for redevelopment. This is the final bayfront parcel before the Long Beach Boulevard Bridge.

There are also several underutilized parcels located just south of the Reynolds Channel waterfront. Just east of Magnolia Boulevard on West Pine Street, the privately-owned Whitbread Sons Lumber Yard is roughly one acre and could also be a key parcel in future redevelopment scenarios. It is currently zoned Industrial.

To the east of the LIRR tracks, there are several large parcels identified as potential redevelopment sites. Most notably, the City's former Solid Waste and Recycling Transfer Yard (2.02 acres) could provide a large, publically-owned site for future redevelopment opportunities, as the City transitioned to single-stream recycling in January 2015 has eliminated the need for this property.

Also along the south side of Park Place, the Chem Rx factory (3.41 acres) and the Diamond Window Factory (1.1 acres) are Industrial zone parcels that could be targeted for redevelopment. However, these are private businesses that provide local jobs – and any redevelopment efforts would have to assess the potential for relocation of businesses and provide new economic development opportunities.

The City has also identified the Long Beach Boulevard gateway as a key area for redevelopment. While the potential redevelopment parcels along Long Beach Boulevard have not been extensively analyzed within the 2007 Comprehensive Plan or 2009 BOA Study, the City, as well as private business owners, have expressed interest in redeveloping the area that forms the City's main gateway. These parcels include: the City tennis courts, Centre Millwork, the Long Beach Bus Garage and Vehicle Maintenance Garage, Planet Payment, Lang Signs, and Mavis Discount Tire. Further south, there are several more automobile-repair related uses. Based on the existing land use patterns, the City envisions the creation of a gateway innovation district. Based upon analysis of Nassau County real estate trends, flex space (zoned for mixed use/office/light industrial) is currently the high demand sector of the market, with an average rental rate of \$18.80 per square foot. Because Long Beach already has a higher than standard share of young workers and easy access to New York City, it has an opportunity to become a new innovation center as long as the flex-space and housing requirements of millennial employees can be met. There is evidence that this area has already begun to redevelop and transition. In 2015, the development of Bridgeworks - an 8,000 SF flex space/business incubator space helped to provide critical economic development resources while also improving the physical environment of this gateway area.

4.2. Zoning

The Code of Ordinances of the City of Long Beach² (Code) states that zoning regulations are designed with the following intent:

For the purpose of promoting the public health, safety, morals and general welfare, regulating and restricting the location, construction and use of land in the City of Long Beach and by regulating and restricting the height, number of stories and bulk of buildings and other structures, the percentage of lot that may be occupied, the size of courts, yards and other open spaces, the density of population, the location and use of buildings, structures and land for residence, business, industry and other purposes..."

The City is currently divided into 20 distinct zoning districts. Each of the zoning districts includes a defined number of parcels (organized according to Section, Block, and Lot within the Code). The zoning districts include: 15 residential districts, three business districts, one mixed multifamily/business use district, and one industrial district. One of the most notable features of the City zoning regulations is the prohibition of mixed-uses within all zoning districts except within the Residence-Business A District (Code - Sec. 9-106.2.). Despite this regulation, the City has many pre-existing mixed-use structures, particularly within the CBD.

² Code of Ordinances of the City of Long Beach. Appendix A Zoning. June 21, 2014.

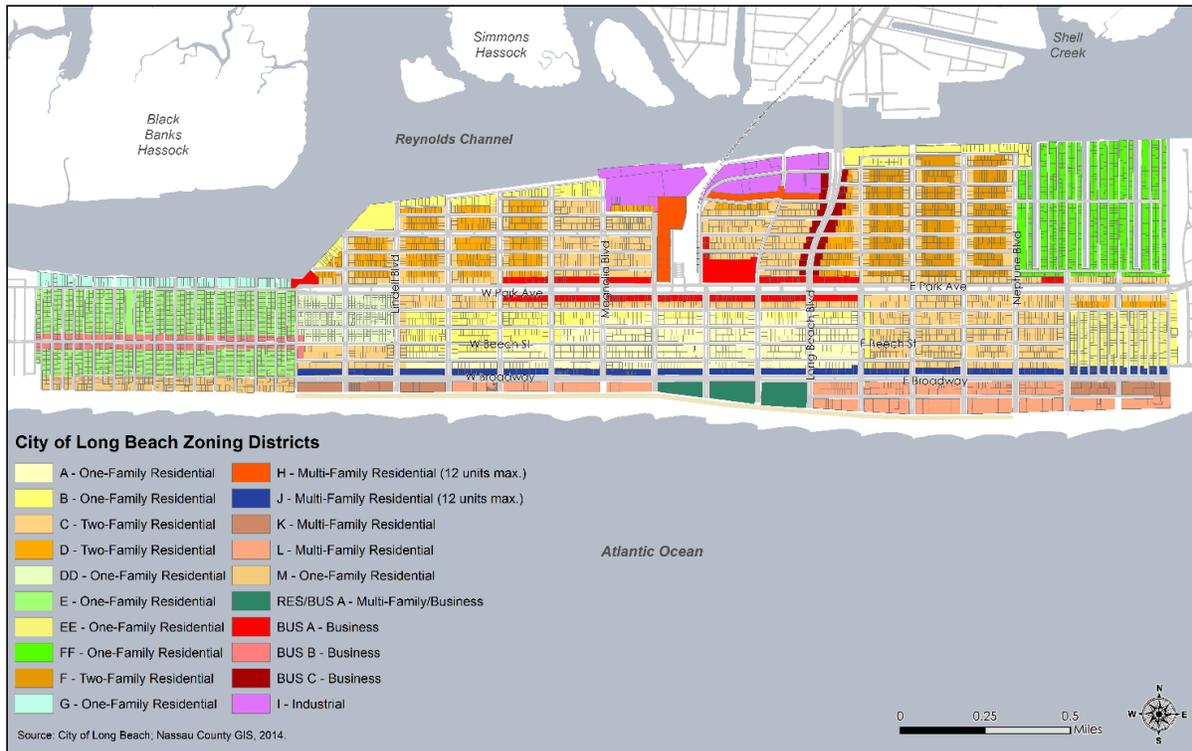


Figure 4-5: City of Long Beach Current Zoning Districts

Following Superstorm Sandy, the City amended regulations in several residential districts to allow for residents to meet FEMA flood hazard zone rebuilding standards. Most notably, the City changed the allowable height limit in the Residential DD, Residential E, Residential EE and Residential FF to 23 feet. The post-Sandy changes also modified off-street parking requirements by requiring “two off street parking spaces where technically feasible”. Both of these changes have streamlined the development process by reducing the need for variances for common projects (e.g., the construction of a FEMA-compliant home).

General zoning descriptions are provided in the Appendix and present a summary of the use and dimensional regulations for each of the 20 zoning districts within the City.

Historic Resource Review Process

The City passed a Landmark Preservation Ordinance in 1995 that created a Landmarks Preservation Commission, composed of members of the Architectural Review Board. This Commission reviews applications for landmark designations which must be requested by the property owner. Approved applications then have a public hearing and are voted on by the City Council. The Commission is also responsible for reviewing all plans for the moving, exterior construction, addition, alteration or repair, landscaping or demolition of landmarks. The Commission is only allowed to review the publicly visible exterior of a structure. The Commission reviews plans for consistency with the materials and style of the architectural period of which the building is characteristic. Owners of landmark sites are eligible to apply for community development fund loans for

rehabilitation, repair, and/or preservation.

Subdivision Review, Site Plan Review and Design Standards

Land use and development standards are generally overseen by the City Council and the Zoning Board of Appeals. Zoning amendments and permanent legislative changes are managed by the City Council. The Commissioner of Buildings is charged with the issuance of building permits and general compliance issues. The City also has an Architectural Review Board (ARB) which acts as an advisory committee that reports to the City Council.

If a proposed project is not an as-of-right project, or the applicant is seeking zoning variances, the project must be presented before the Zoning Board of Appeals (ZBA). The ZBA has seven members and meets monthly to review these discretionary cases.

The City of Long Beach does not have a separate planning commission or formal procedure for site plan or special permit review. The City also lacks a formally-appointed planning board or commission to act as the lead agency to determine State Environmental Quality Review Act (SEQRA) compliance.

As a result, both the City Council and ZBA spend a significant amount of time addressing variances for projects. Many of these variance requests are for similar and relatively straightforward projects, such as off-street parking requirements for commercial businesses.

The current Zoning Ordinance requires off-street parking for commercial uses, even though the City recognizes that it is difficult for the businesses to meet this requirement. As such, any new commercial business must apply for a parking variance and follow the procedural guidelines associated with such variances. While the City almost always grants these variances, this impediment means lost time and money for both the City and local business owners. Further exacerbating the issue, depending on overall commercial frontage, these variance requests are approved by different bodies - businesses with less than 20 feet of frontage need a waiver from the City Council while businesses with frontage over 20 feet need a waiver from the ZBA.

Overall, these impediments could be greatly reduced by establishing a defined site plan review process within the City Code of Ordinances. This would streamline the development process, particularly for common types of applications. With many areas still in transition due to Sandy, the City has an opportunity to both reduce these impediments and increase opportunities for resilient development. The establishment of a governing body dedicated to land use and development issues, such as a Planning Commission or reconstructed Architectural Review Board, would also help to improve the development process. This would allow the City Council and ZBA to focus on larger issues and projects affecting the City, while the Planning Commission could provide greater analysis of land use and development issues. The Planning Commission could also help to determine the compatibility and consistency of new development with the goals and objectives outlined within the Comprehensive Plan.

Zoning Recommendations

The City of Long Beach Zoning Ordinance has not been substantially amended since 1987. Due to a variety of factors, including market and economic shifts and Long Beach's renewed focus on resiliency, the City has been reviewing the existing Ordinance and identifying areas that must change. As discussed in the previous section, the City has made amendments to several districts following Sandy – principally to allow for FEMA-compliant/flood-resistant reconstruction of damaged homes. In February 2016, the City passed several additional amendments to further streamline the elevation process and remove a previously-existing loophole from the Ordinance. The new amendments will allow homeowners impacted by Superstorm Sandy to elevate their pre-existing one or two family homes, without having to apply to the City's Zoning Board of Appeals. This will save those homeowners the time and expense associated with applying to the ZBA and retaining either an attorney or architect. These structures must comply with all FEMA requirements, New York State Building Code requirements and City Code requirements. Secondly, the City modified the definition ascribed to a "Building" in the Zoning Ordinance to ensure "a single standalone foundation" for all new structures.

While the new FEMA-compliant homes are more flood resistant, and owners far less burdened by flood insurance, other changes, such as increased heights and new curb cuts have restricted views, parking availability and altered the small-scale neighborhood feel of certain districts. In neighborhoods like the West End, these changes in the residential districts also have a direct effect on local businesses – as parking availability continues to be reduced throughout the district.

Recognizing these issues, the City, beginning in 2014, developed a strategy to utilize the services of Touro Law School externs to comprehensively review the existing Zoning Ordinance and develop recommendations for new "green zoning" codes with a focus on coastal resiliency and green infrastructure enhancements.³ The City has applied for and was granted additional zoning technical assistance which will begin in late-2016. One of the key goals of the City's updated Zoning Ordinance will be to redefine the purpose of each zoning district/neighborhood. This process will allow the City to assess the historical background of each neighborhood, identify elements that must be preserved, develop neighborhood and site-specific methods for increasing resiliency and finally, develop updated regulations that present a clear vision for the future of each district.

Potential Projects/Action Items

- Develop a defined site plan review process and explore the possibility of creating a separate planning commission/board to manage this process. Adapt this updated review process to better fit the needs of a highly-developed barrier island community. Developing a clearly-defined SEQRA and coastal consistency review process will allow the City to identify and analyze the resiliency impacts of proposed projects. The establishment of a dedicated planning commission/board will also help to

³ City of Long Beach "Green Codes" Analysis: Zoning Options for Green Infrastructure and Waterfront Resiliency. April 2015.

ensure consistency with the Comprehensive Plan, Local Waterfront Revitalization Program and other community-based planning initiatives.

- Amend the City Zoning Ordinance to designate a bayfront overlay zone to guide development in this critical area. In general, the bayfront overlay zone would expand allowable uses along the industrially-zoned and underutilized bayfront. Give special consideration to the preservation and enhancement of public access. In addition to increasing access and use of the waterfront, such a policy would also provide flood mitigation and help to reduce impacts to private properties.
- Amend the City Zoning Ordinance to permit housing or live/work lofts above commercial operations within the Central Business District and West End.
- Amend the City Zoning Ordinance to establish a transit-oriented/city center zoning district, which would allow for increased allowable height and density within the core of the CBD.
- Remove restrictions on the use of green infrastructure, particularly for stormwater management, from the current Code of Ordinances.
- Develop a performance-based green infrastructure rating system that would set clear goals for new development and provide sustainability incentives for existing properties. Key performance indicators could include: energy efficiency, green infrastructure/stormwater management, emissions reductions, and overall flood resilience. A performance-based rating system also provides a mechanism for homeowners and business owners to learn about new technologies and see locally-based case studies. Incentives for this type of development will go a long way towards making the community more resilient and more environmentally friendly.
- Designate certain critical waterfront areas, such as the West End and the Canals, with special zoning characteristics to account for erosion and compliance with FEMA regulations – particularly as these areas contain nearly all of the repetitive loss properties in the City. Such special districts could also require new development to provide waterfront public access areas. Given the amount of property along the bayfront that could be developed in the near future, such a provision for public access would help to create dedicated waterfront easement that could be used to enhance flood protection measures and enhance local recreational opportunities. The City’s updated site plan review process would outline special procedures for development within these waterfront districts, ensuring that the waterfront remains accessible and development adheres to the specified resiliency requirements.
- Align the City Code of Ordinances more closely with Federal, State and Local regulations. This will help to clarify and/or remove certain sections of the Code that overlap or conflict with Federal or State regulations, including FEMA and SEQRA requirements. In addition, recognize local factors influencing zoning and development decisions, such as the Town of Hempstead’s ownership of underwater lands in Reynolds Channel. Since there are no clearly defined procedural requirements for the City/Town relationship within the Code, Future Bayfront will require careful coordination with the Town on these

issues. It is also important to align local regulations with Federal and State requirements to ensure that the City is eligible for incentives including tax breaks and grant opportunities.

- Include a significant amount of community outreach concerning the proposed code changes, focusing on homeowners, business owners and interested developers.

4.3. Economic Outlook

Building upon feedback received at public meetings, the Economic Focus group identified several areas to improve economic resiliency.

- There was recognition of the need for additional entry level housing to attract and retain younger workers, as well as housing for empty nesters that want to remain in Long Beach but no longer needed large homes.
- Opportunity sectors of professional, scientific, technical and information technology were identified as potential growth areas.
- Strategies to make tourism a year-round economic driver included art and cultural attractions, and winter based events, along with a waterfront or water-view catering facility.
- A retail gaps analysis showed that local stores are not fully capturing local household expenditures in any retail category. In fact the households of Long Beach have a consumer expenditure potential of \$614.5 million, yet local stores report only \$122.9 million in retail sales—a loss or leakage of almost half a billion dollars.

Areas of economic development focus were identified as the Central Business District, the Bayfront, and the Oceanfront. Strategies to support economic resiliency throughout the city included enhancing streetscapes and recreational and cultural opportunities, discussed below, as well as parking and transportation (pedestrian, vehicle and bicycle) discussed in Chapter 5.

4.4. Revitalizing the Central Business District

The train station, City Hall and the Stop and Shop (formerly Waldbaums) shopping center form the heart of the central business district (CBD) and the transit gateway to the City of Long Beach for visitors and workers. Well-planned, mixed use transit-oriented development in this area, including higher density housing, cultural/performance space, and retail/dining would increase the number of shoppers and workforce, and activate the core of downtown, supporting a year-round economy. The reconfiguration of this area would also enable the creation of better connections between the North Park neighborhood and the CBD. Reconfigured development on these sites must include transitions from the commercial space into the existing neighborhood to ensure better access for existing residents.

A **Central Business District Conceptual Development Program** proposes four key principles for the creation of a thriving central business district at the heart of Long Beach:

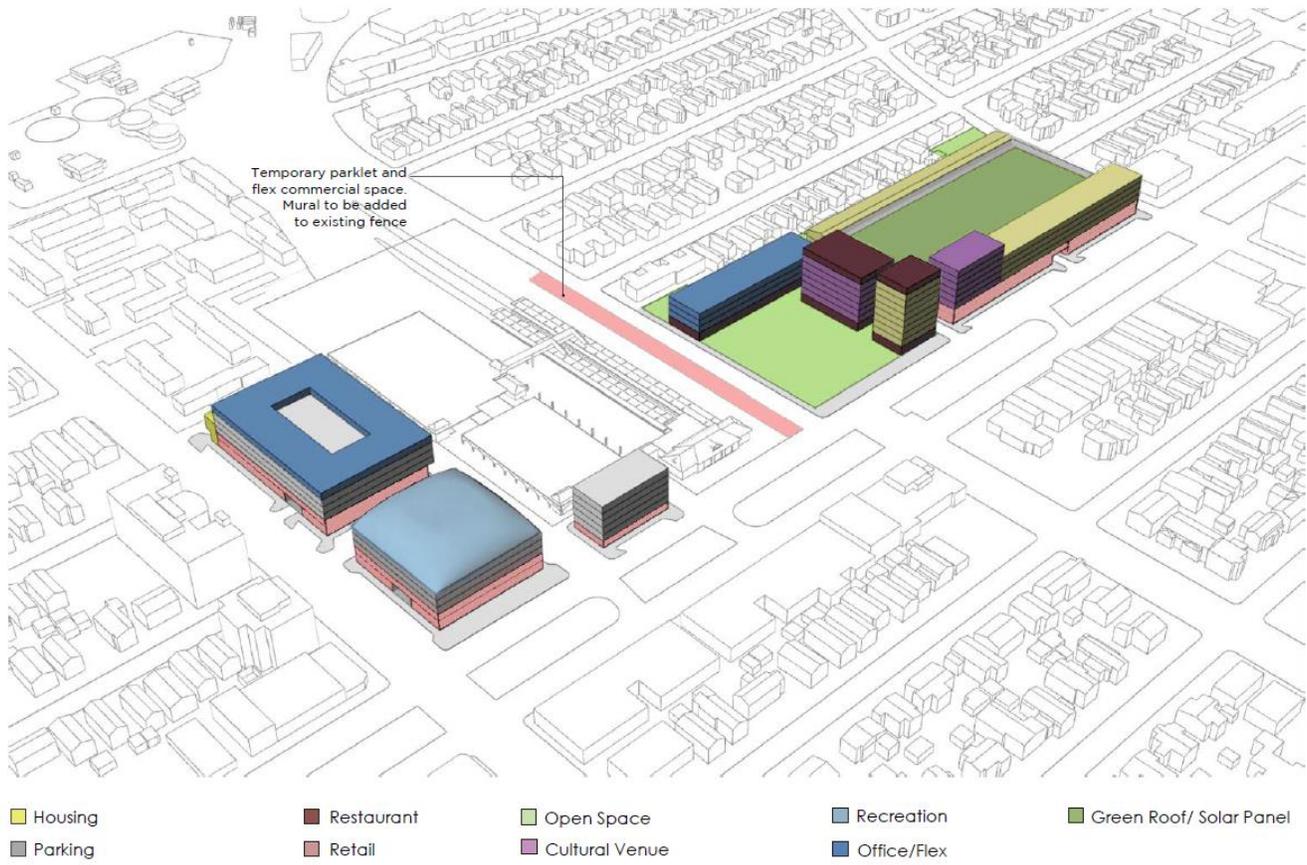
1. Relocate Kennedy Plaza to the arrival point of the Long Island Rail Road. This frees the current Kennedy Plaza parcel to become a building site.
2. Create mixed-use, transit-oriented development on the relocated Kennedy Plaza to serve as a landmark, visible from the bay to the ocean that orients residents and visitors to the central business district location.
3. Bring together a mix of uses around the relocated Kennedy Plaza: a government office building, a mixed-use cultural facility, and residential. All of the buildings fronting on the plaza would have commercial use to enliven the street level.
4. Create appropriate transitions to the neighborhood context to ensure the new development does not overwhelm the scale of, or turn its back on, the neighboring city fabric. Strategies for uniting the new development to its context include creating setbacks for parkland and open space, and modulating building heights and facades.

CBD Development Models

The Stop and Shop shopping plaza site presents an opportunity to create a new center of commerce and activity in the heart of Long Beach, while also providing increased parking capacity, housing, expanded and improved office space to replace the current City Hall building, and a lively public green to welcome residents and visitors as they arrive from the Long Island Rail Road. Two development scenarios have been prepared to show the potential of this area, presented as Alternative 1 and Alternative 2.

Central Business District

Alternative 1: Kennedy Plaza, Stop and Shop Program Twenty Year Scenario



These concepts are subject to change based on final approvals, market conditions, etc.

Figure 4-6: Conceptual CBD Development Model (Alternative 1)

Central Business District

Alternative 2: Kennedy Plaza, Stop and Shop Program Twenty Year Scenario

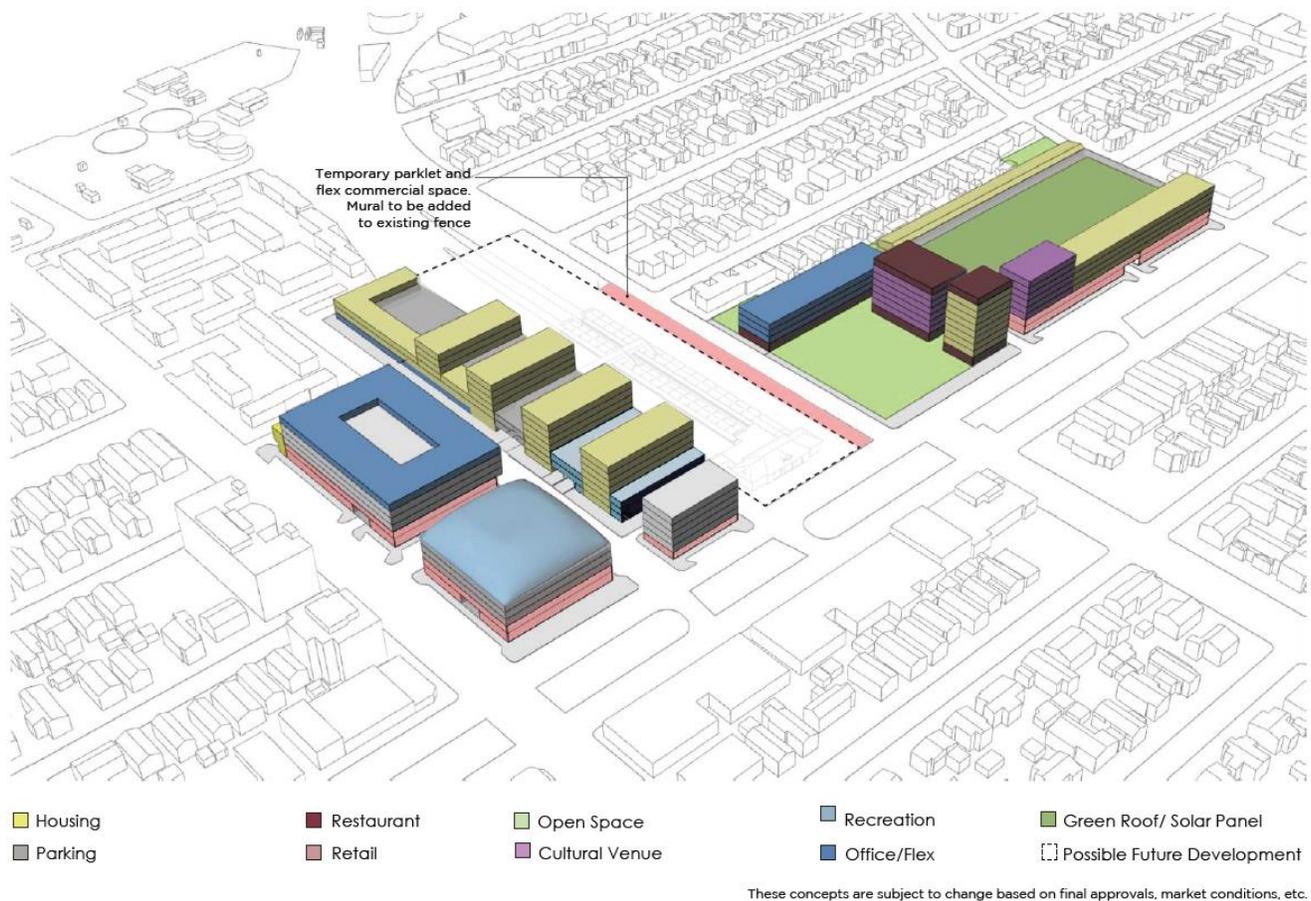


Figure 4-7: Conceptual CBD Development Model (Alternative 2)

An expansive town green – replacing the current Kennedy Plaza – is the first point of arrival from the train station. Surrounded by ground-floor retail, the plaza would accommodate City-wide events and day-to-day passive use. The north edge of the plaza is the hub of the City government: a low-rise building housing over city offices, to replace and expand upon the current City Hall facility, above one story of restaurant space (or similar commercial use). The eastern edge of the plaza accommodates a mid-rise mixed use cultural facility, as well as a mixed-use commercial and residential transit-oriented development proportioned to serve as a landmark, visible from the oceanfront and the bayfront. Each of these facilities is topped by an event space, taking full advantage of the long vistas to Long Beach’s two waterfronts.

Another cultural building flanks the landmark transit-oriented development to the east. It is sited atop a three-story plinth spanning the majority of the block, with parking on the first- and third-floors, and a major commercial anchor tenant on the second floor. Additional residences complete the mid-rise street wall along East Park Avenue. At the north edge of the block, the building acknowledges the scale shift to the residential fabric of the North Park neighborhood. It steps down in scale to townhouse-like residential units of a maximum

of three stories, fronted by a linear open space that provides a gracious streetscape knitting together the new and the old city blocks.

The new Kennedy Plaza would be flanked by the Long Island Rail Road station to the west, busy Park Avenue to the south, the new seat of the City government to the north, and new landmark cultural and living spaces to the east. It would be surrounded on all sides by vibrant commercial activity.



Figure 4-8: Kennedy Plaza Rendering - Overview

The new Kennedy Plaza is imagined as a cultural heart for the City, with space for City-wide events as well as passive daily use by residents and visitors alike.

Both Kennedy Plaza and City Hall sites would be redeveloped with new, expanded buildings on the former Stop and Shop site, leaving both of these sites available for redevelopment at the highest and best use. The massing model proposes two full-parcel, mid-rise mixed-use buildings. At the former Kennedy Plaza, commercial, parking and residential uses could be accommodated, while at the former City Hall site, a mix of commercial, parking, and office space could be built.



Figure 4-9: Kennedy Plaza Rendering – Street View

Kennedy Plaza Site Massing Model

In the event that the Stop and Shop site is not able to be developed initially, an additional scenario was prepared which retains Kennedy Plaza in its current location and orients the new development around the Plaza. While the uses are the same, the overall development program would be less as the land area is smaller.

The overall program would include redesigned City offices, a 1,000 seat cultural venue, restaurants, retail, office/flex/medical office space, mid-to high-rise residential and parking decks to serve these uses. Over two acres of open space would be provided including a linear park to connect with North Park.

4.5. Redeveloping the Bayfront

The bayfront area of the City is home to the majority of non-retail businesses in the City. It is also the area most prone to flooding, both during major events as well as during high tides and ordinary rain storms.

The Bayfront West section is made up of 11 properties, five of which are owned by the City of Long Beach and the remainder by private interests. The City properties include the Ice Rink and the municipal boat launch as well as baseball and soccer fields. While this area is considered the recreational heart of Long Beach, it is disconnected from the rest of the bayfront and lacks amenities beyond those provided within the recreation centers.

The area referred to as Bayfront East, running between the Long Island Rail Road tracks and Long Beach Boulevard is home to three private employers, all of which are located on the south side of Park Place: the CHEM Rx manufacturing plant, Centre Millwork & Supply Co, and the McDonald's on Long Beach Boulevard. In addition to these three active uses, the area is the location of the City's former recycling center, the water treatment facility as well as several empty lots.

Potential development sites include underutilized and vacant sites on the water which, if supported with better infrastructure, have the potential to be a stronger job center for Long Beach. Many of these sites currently house critical infrastructure, which, as noted in the NYRCR Plan need to be protected or relocated, where feasible. For example, a downsized water treatment plant would allow space for a marina/restaurant/event venue with potential to continue the greenway along the bayside waterfront.

Potential Projects/Action Items

A **Bayfront Conceptual Development Program** was developed comprising several phases of development. This conceptual development program is designed to repurpose this underutilized area and leverage one of the City's greatest untapped assets – the Reynolds Channel bayfront. The following sections present a series of preliminary design concepts and renderings for the redevelopment of the bayfront.

The bayfront presents an unrealized opportunity for resilient redevelopment of Long Beach. The Comprehensive Plan proposes greatly improved recreational and open space amenities, the addition of residential and retail space built on high ground to withstand climate change and disturbances, and landscape-based flooding solutions that serve double-duty as drainage corridors and connective passageways for



Figure 4-10: Reynolds Channel and the Long Beach Branch LIRR Bridge

pedestrians and cyclists.

Redevelopment along the bayfront, including the proposed plans for the former Long Beach Medical Center property should include a commitment to construct open space along the Bay Mile in accordance with the City’s planning objectives and design guidelines.

At the same time, two blocks of Riverside Boulevard could be dedicated public open space that would double as a drainage corridor, creating a low point on the lowest street that passes through the North Park neighborhood. When the corridor is dry, it will provide a social connection between the heart of the City leading toward the amenities of the Bay Mile. This open space would include additional improvements, such as new park features and amenities based on feedback from the community.

Also during this phase, the Comprehensive Plan proposes construction of a marina in the bay east of the LIRR Bridge. This low-cost, quick construction project can immediately activate the bayside along the Bay Mile and generate revenue for the City.

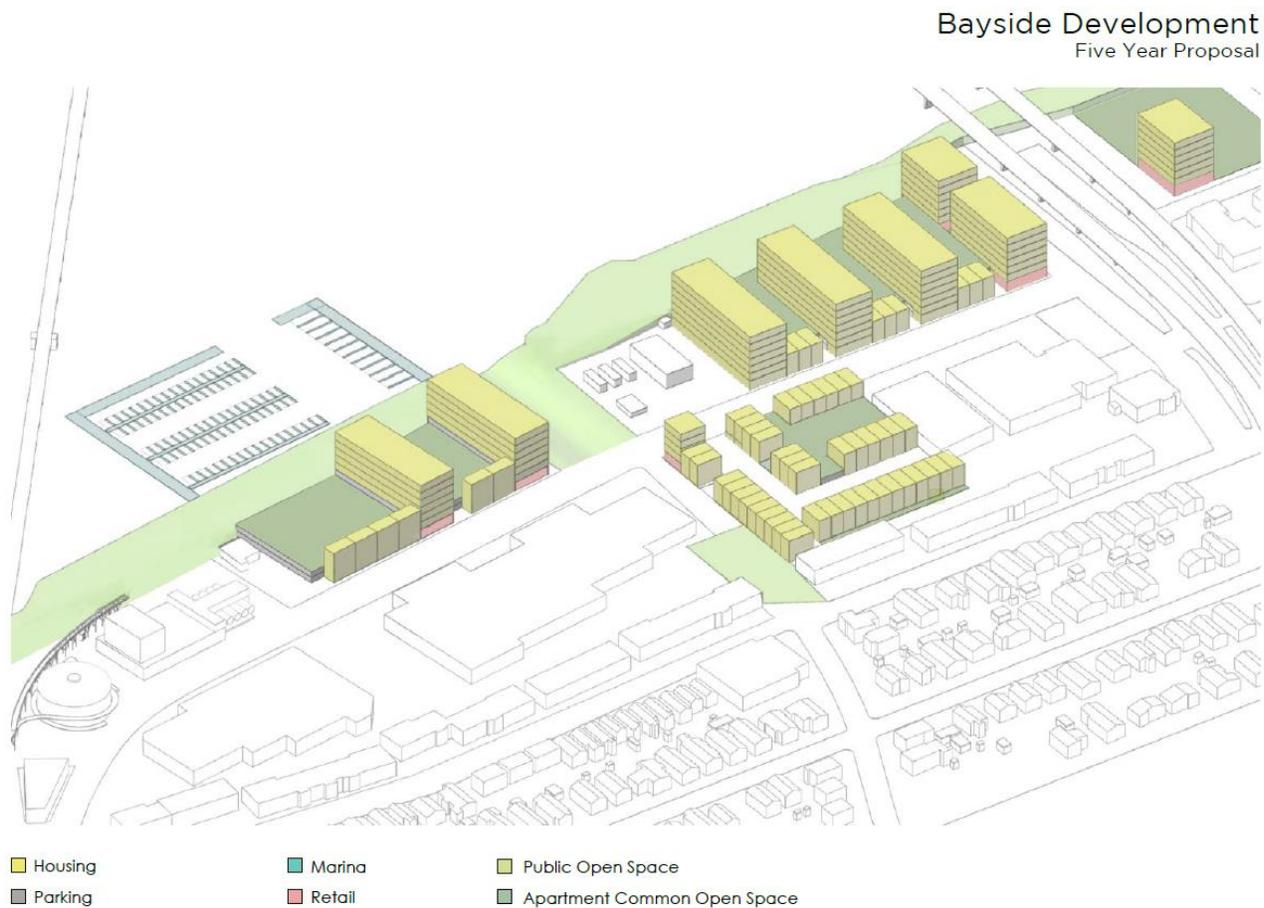


Figure 4-11: Bayfront Conceptual Design Five-Year Massing Model

Landscape strategies are proposed to supplement the existing and proposed bulkheading along the Bay Mile: opportunistic structures attached to the seawall support habitat for oysters and mussels, while an esplanade inland of the seawall activates the Bay Mile as an amenity for passive recreation. Redevelopment between the bay and Pine Street is proposed atop a plinth of landfill that serves as an additional barrier to surges and a benchmark well above the forecasted sea level rise and its attendant disturbances. Slicing through this new elevated mixed-use neighborhood is a linear park, running north-south in the current location of Riverside Boulevard. This park would be programmed with pedestrian and bike paths, as well as active recreation inland of Pine Street and passive recreation, including a kayak launch and new open space areas along the Bayfront. This additional open space would also assist in stormwater management in the area of the new development as well as the existing North Park neighborhood. Additional protection would be provided to the North Park community from the City’s planned North Shore Critical Infrastructure Bulkheading/Shoreline redesign project. This project will span from the City’s Water Pollution Control Plant to the City-owned property located on the east side of the Long Beach Boulevard Bridge (currently home to the Long Beach Tennis Center). The project is designed to provide flood protection and shoreline stabilization for both critical infrastructure facilities and the residential neighborhoods located just south of the utility properties.

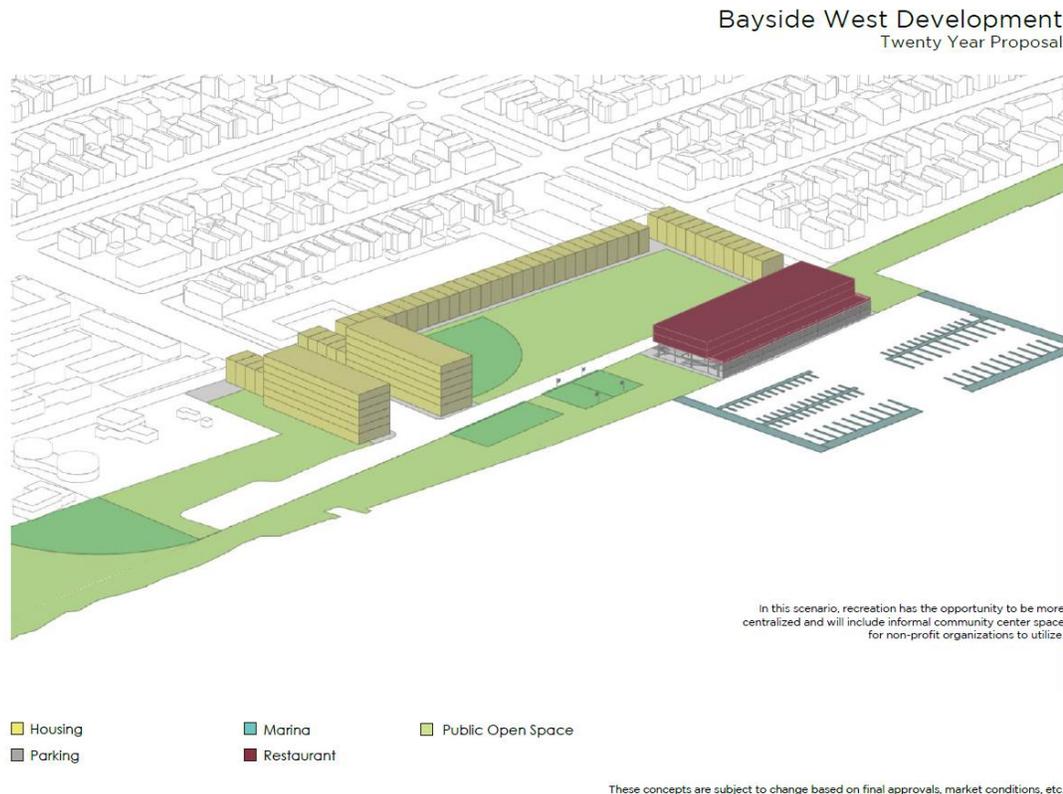


Figure 4-12: Bayfront West Conceptual Redevelopment

Local residents of the North Park community have been particularly active in developing a long-term plan for the Bayfront. The Concerned Citizens of North Park, in partnership with Erase Racism and Harvard University,

created a conceptual plan for the redevelopment of the Bayfront, with a clear focus on job creation and increased mixed-income housing options. The City has also established the Empower North Park initiative, which seeks to advance these community-based planning efforts. Residents recognize that new housing and development could potentially lead to gentrification and/or displacement in the area. However, by adopting a more balanced approach – which places job creating, training and education at the forefront of any project – the community hopes to take advantage of these new economic opportunities. Redevelopment of the Bayfront would also play a key role in connecting the North Park community to the Central Business District and civic core of the City.

Ultimately, however, the long term bayfront plan (twenty year outlook) would depend on utility relocations. This plan for the long term bayfront redevelopment relies on several utility and infrastructure parcels becoming available for development over the twenty year period and includes completing the elevated residential and retail development of the blocks north of Pine Street and connecting the low-lying north-south corridor from Pine Street to the bay. It is anticipated that the twenty year plan would be constructed in stages as parcels became available for redevelopment.

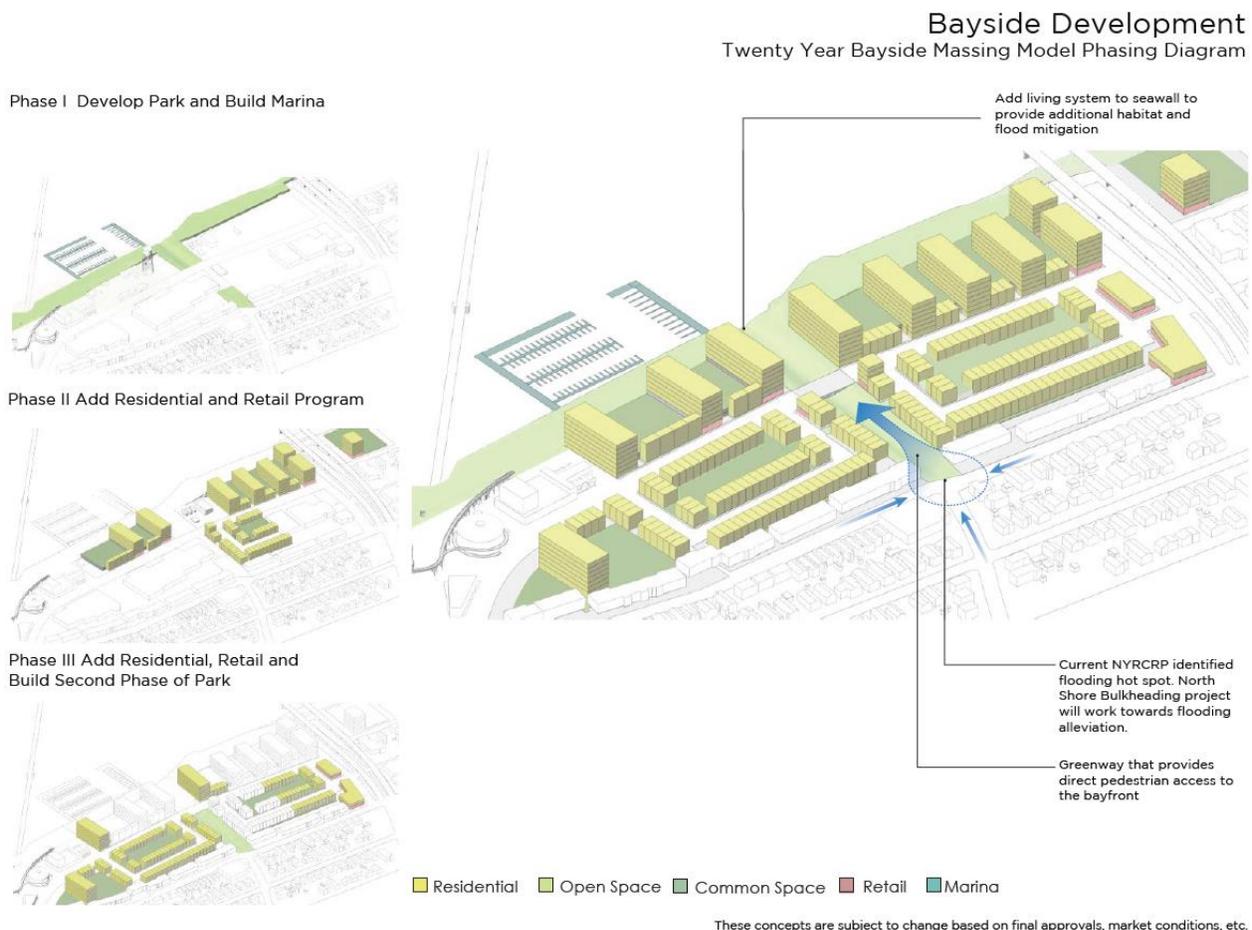


Figure 4-13: Bayfront Conceptual Design Twenty-Year Massing Model

The Magnolia Marina incorporates parking and commercial facilities on land, contributing to a festive, active, urban scene. Figure 4-14 shows a conceptual rendering of Magnolia Marina looking towards the north shore bayfront from Reynolds Channel.



Figure 4-14: Magnolia Marina Rendering

The overall program could include retail/restaurant/catering/ event space, Mid-Rise Residential, boat slips, and parking decks to serve these uses. Forty percent of the lot area would be set aside for accessible open space.

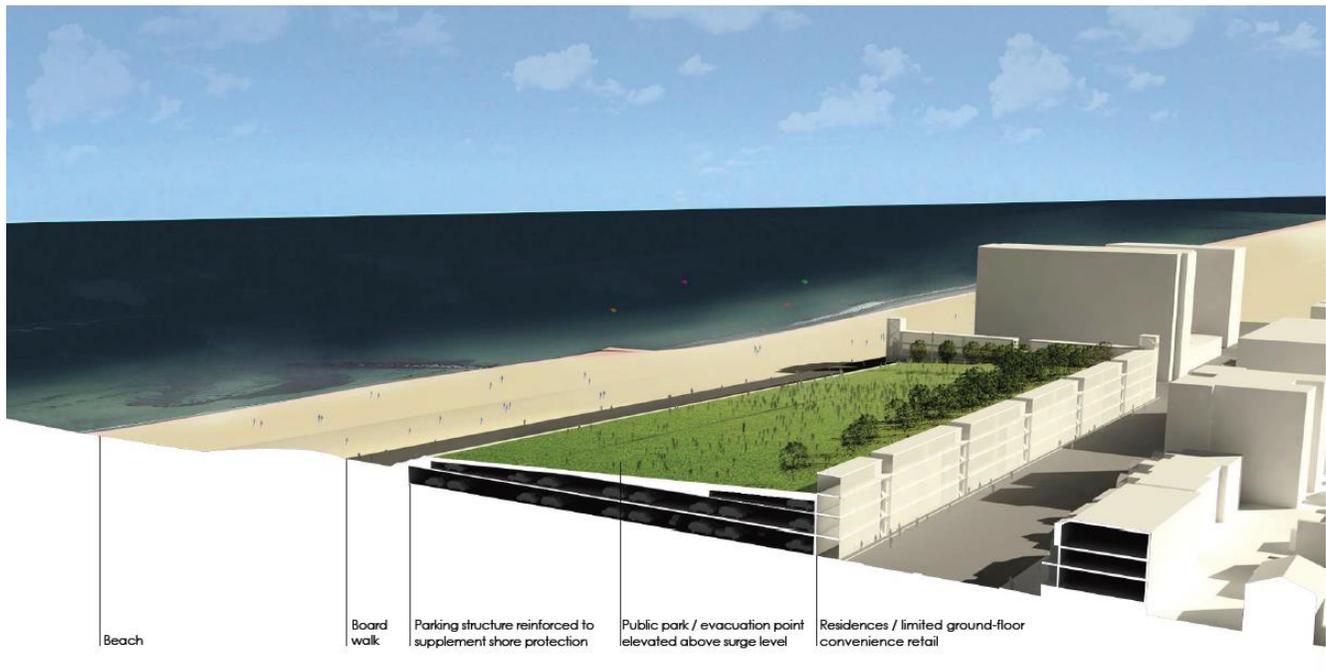


Figure 4-15: Magnolia Marina Conceptual Development

4.6. Building the Future of the Oceanfront

Not all coastal storms and disturbances can be predicted in advance. For this reason, the CP proposes an Oceanfront Cultural Park as a high point of refuge to provide immediate evacuation of the beach. The park and its underlying structure offer multiple benefits. The pristine Boardwalk and Ocean Beach Park are Long Beach’s greatest assets. Yet, while the beach draws many visitors, it does not generate much revenue for the City beyond the sale of beach passes. Economic activity along the Boardwalk would provide a boost to the City’s overall economy and tax base. With sizable residential, commercial, and parking space, the building provides multiple revenue streams and serves the demand for these functions at the beachfront. Above the building, overlooking the Atlantic Ocean, the City of Long Beach has the rare opportunity to create a major recreation and gathering space right next to the boardwalk at little or no cost to the government.

Ocean Front Cultural Park
Development Proposal: Integrated Resiliency Strategies



These concepts are subject to change based on final approvals, market conditions, etc.

Figure 4-16: Ocean Front Cultural Park: Integrated Resiliency Strategies

Potential Projects/Action Items

An **Oceanfront Recreation/Event Space Conceptual Development Program** was developed to simultaneously address Long Beach’s lack of parking and open space, while maximizing use of the Boardwalk and Ocean Beach Park. The conceptual design program includes:

- A park space sloping up from the boardwalk, providing much needed park space in the City can also be used for a seasonal performance venue several times a year. The City lacks this type of open space, which could be purposed to serve a variety of needs, from informal ball fields to cutting-edge outdoor performance space. The greatest remaining opportunity for this is on the Foundation Block; however a park of this nature can be scaled to any size space available.

Ocean Front Cultural Park
Development Proposal



These concepts are subject to change based on final approvals, market conditions, etc.

Figure 4-17: Ocean Front Cultural Park Conceptual Development Program

- One of the main advantages of a sloped park is that the design would allow up to three levels of parking underneath the park, providing much needed parking options for residents and beachgoers as well as parking revenues to the City. The parking would be wrapped with housing, as well as a small amount of convenience retail and restaurants to maintain the neighborhood context for residents and provide needed amenities to beachgoers. Despite the overall size of such a development, the scale of the project has been designed to match the surrounding residential neighborhood.



Figure 4-18: Oceanfront Conceptual Development Program Rendering

A five acre oceanfront park could include retail, mid-rise Residential with parking decks below, with adequate parking to support the housing and retail as well as parking for beachgoers with income from paid parking. 4 acres of sloped open space connected to the boardwalk and beach would be used as open space most of the year, and as event space periodically for income to support the open space.

4.7. Enhancing the West End

The West End has an entirely different feel from the other beach-oriented areas of Long Beach. The streets are narrower and the commercial spine is supported by a mix closely situated homes extending from West Beech Street. It is well-known as tight-knit residential community but it is also an area that has undergone significant changes since Superstorm Sandy. Most notably, a significant number of homes have been elevated above the base flood elevation. The character of the neighborhood has also changed due to larger, more modern homes replacing many of the historic bungalows and cottages. While the West End continues to have one of the highest concentrations of rental housing within the City, many rentals were lost following Sandy (both legal and illegal), which has impacted the affordability of rentals in the area.

The commercial strip on West Beech Street is the night life center of Long Beach. More pedestrian friendly than the Central Business District—there is a wide variety of restaurants and bars as well as retail that caters to seasonal visitors—in general, the commercial stores are not broken up by other uses; and the area is quite walkable.

Challenges for the area include the high concentration of seasonal housing in the immediate vicinity, which limits consumer market potential during the off season between Labor Day and Memorial Day. The US Census 2013 American Community Survey shows that there were 348 housing units vacant for seasonal use in the West End. Other challenges facing the West End include changes to community character due to elevated homes, lack of parking, perceived lack of affordability (exacerbated by potential flood insurance rate increases and increased tax burdens following renovations) and balancing commercial/residential quality of life issues.

The high prevalence of rental (and seasonal) housing in the West End also means that it has been slower to be rebuilt after Sandy, as many owners looked to their primary residences and workplaces first.

Potential Projects/Action Items

While enhancing the year-round economy is a goal for Long Beach as a whole, it is particularly important for small businesses and commercial operations in the West End.

- Explore potential locations for additional parking – including structured, on-street and within lots. The parking opportunities for restaurant and store-goers in the West End are extremely limited. Many of the West End homes, particularly the older bungalows and cottages, do not have enough parking for their own use, let alone visitors from outside of the immediate vicinity. Without additional parking, the ability to extend the season by catering to year round residents as well as beach goers is severely limited. Parking options for the West End are addressed in further detail in Section 5.3 of the plan.
- Expand housing options to allow for new residences above retail. There are already several existing mixed-use retail/residential structures in the West End. Allowing residences above retail on West Beech will fortify the commercial area with additional consumers and provide housing options for residents and workers who wish to be close to the beach and the nightlife scene year-round. Any subsequent additional height above commercial establishments will not appear out of context because many West End homes

have been elevated or will be elevated to better withstand future storms.

4.8. Protecting Existing Housing and Expanding Future Choices

Preserving Housing Diversity to Meet the Needs of Future Generations

Long Beach has always had greater housing diversity than the rest of Nassau County and includes range of housing types, from historic single family homes, to beach cottages, to smaller multi-family homes and to large apartment buildings.

While there is a greater concentration of multi-family housing in Long Beach (particularly when compared to other communities on Long Island), there is still an unmet demand for workforce housing that is affordable for young professionals. Based on demographic and economic analyses of Long Beach, the greatest demand for housing for young working people is studio or 1-bedroom rental apartments in proximity to restaurants and recreation as well as jobs. Despite having such amenities concentrated in a relatively compact area, this type of housing is currently lacking in Long Beach and its development would be beneficial in several ways, such as:

- Allowing residents' children to stay in Long Beach after graduating,
- Providing options for residents hoping to downsize after their children have moved out,
- Providing housing for a new workforce that would like to locate in Long Beach, but is not yet interested in a single-family home and children, and
- Alleviating tax burden on existing residents by adding new tax ratable properties to the tax rolls.

These residents who are remaining in Long Beach, or moving here for the first time will also bolster the retail economy of the City. It would also assist in enhancing the viability of local small businesses within the City.

Protecting the Housing Stock

It is of primary importance to protect the homes of Long Beach residents. Long Beach does not require protection just from major events, but also from regular flooding that occurs in areas at high tide or anytime there are moderate rain events. Since Sandy, zoning has been relaxed and some NYS grants have been provided to allow residents to raise their houses. However, these remedies are on a case by case basis and do not protect entire neighborhoods. To address this residential flooding on a larger scale, the City has begun work on the community's top-priority project from the New York Rising Community Reconstruction (NYRCR) Program – the North Shore Bulkheading Project. This citywide bulkhead rebuilding plan has been funded by the Governor's Office of Storm Recovery (GOSR) and together with the City's North Shore Critical Infrastructure Bulkheading/Shoreline restoration project will significantly enhance the level of protection across the entire north shore.

Housing for Low to Moderate Income Households

As in many parts of Long Island, more than 40 percent of all Long Beach households pay more than is considered affordable on housing. Overextending to pay housing costs such as NYS property taxes and

increasing flood insurance rates is especially common for households of longtime residents who have service sector jobs or have retired even if they own their own homes. Providing housing options for working people and retirees to stay in Long Beach is of utmost importance.

Potential Projects/Action Items

- Continue to participate in the National Flood Insurance Program (NFIP) Community Rating System (CRS) to secure flood insurance premium discounts for residents. The City of Long Beach has been continually working to lower its CRS score by enhancing flood protection and preparedness measures throughout the City. In turn, the CRS program provides flood insurance discounts to all premium holders in the City. Having recently lowered the City's rating to a 7, City residents now receive a 15% discount on flood insurance. The City is continuing to pursue additional actions to lower the CRS rating with the ultimate goal of reaching Level 5 within five years.
- To meet the needs of both younger and older residents and to better align with New York State affordable housing goals, require workforce housing to be a component of each new development within the City of Long Beach. The New York State Housing Finance Agency (HFA) offers tax-exempt financing to multifamily rental developments in which at least 20% of the units are set aside as workforce housing. These projects are also known as "80/20" projects. These types of developments can help to retain younger workers in Long Beach and provide lifers the option of downsizing to an apartment or condo rather than being forced to leave Long Beach entirely. Explore the feasibility of an incentive-based program for such developments, as these projects help to both meet the needs of residents and provide favorable financing terms for developers.
- Consider medium-density housing with the CBD and along the Bayfront, with higher density housing allowed in select appropriate areas. The CBD could see the greatest concentration due to the proximity to the LIRR Station as well as the taller buildings already surrounding the area. Slightly taller residential buildings would also be appropriate on the bayfront as imagined in the Conceptual Bayfront Development Program, as well as the design prepared for the ERASE Racism North Park Community plan.
- Modify the City's existing zoning code to allow mixed-use residential/commercial buildings within Long Beach's primary commercial corridors of Park and West Beech Streets. While there were good reasons at one point in time to disallow residential over retail, those conditions no longer exist and the decision hampers the year-round health of commercial corridors. It is important to note, however, that such changes would have to be coordinated with recently updated building and fire codes (primarily associated with floodplain management) within the City.

4.9. Enhancing Streetscapes and Gateways

The City of Long Beach is characterized by a diverse collection of neighborhoods and districts within a relatively small area. Due to its compact overall form, many of the streets in Long Beach must perform multiple functions and support a wide range of users. The City's primary commercial districts, in particular, have numerous roles that are important to the overall health and well-being of the City.

The City's main commercial districts, including the Park Avenue Central Business District (CBD) and the West End/Beech Street Corridor both play vital roles as both gateways to the City and as centers of commerce and activity. At the same time, these districts must also manage stormwater and storm surge, maintain multi-modal circulation, and serve as the barrier island's primary evacuation route. Space restrictions, particularly in the West End, further complicate the numerous functions of these thriving districts. As a result, streetscape design within the City's commercial districts must take into account the effects and usage of residents, visitors, local businesses, infrastructure requirements, and the preservation of an efficient multi-modal transportation system.

It is also important to recognize that the functions and uses of these districts frequently change – both throughout the course of the day, and as a result of larger external forces such as severe storm events and seasonal economic patterns.

Streetscape design must also recognize the unique character of each district and seek to enhance and develop the visual environment. The Arts Council, which brings together a diverse group of Long Beach artists, activists and stakeholders, has been active in developing both design concepts and locational preferences for the City's gateways. In addition to ensuring that the gateways are related to the local Long Beach arts community, the Arts Council identified its top priorities for the development of distinctive gateways for the City's main districts and entry points:

- art highlighting neighborhood characteristics at each gateway
- art created by local artists from Long Beach
- celebrate creativity and the artistic process at each gateway

Central Business District (CBD)

The central business district is home to several City facilities, including City Hall, the main branch of the City of Long Beach Public Library, the local Post Office, religious institutions, cultural facilities, social services, apartments, restaurants, offices and a mix of small businesses and larger retail establishments. While mixed-use residential is not permitted under the current zoning code, there are many second and third-floor office uses and a limited number of upper-floor apartments that remain from earlier eras. This variety of uses creates a downtown landscape that is quite diverse. Unlike many communities which strive to create a uniform look within their downtown area, Long Beach offers a unique environment where historic structures, modern community facilities, local small businesses, and open spaces co-exist within a relatively small area.

As Long Beach has transitioned throughout the years, the CBD has remained the center of day-to-day activity within the City. Compared to most communities on Long Island, the Long Beach CBD places a greater emphasis on public space and interaction. Much of this activity can be attributed to an overall streetscape design that promotes walkability. The wide sidewalks along Park Avenue are the key design element that support both pedestrian circulation and social and commercial activity within the CBD. However, despite these positive attributes, the CBD is also centered on a six-lane boulevard with very wide vehicular travel lanes and large areas devoted to surface parking. These features contribute to potential conflicts, particularly for pedestrians.

Looking forward, there are a number of streetscape design and façade improvements that could enhance the downtown area, particularly with a reconfigured Kennedy Plaza and civic center. A reimagined Park Avenue would open up additional possibilities for local markets, festivals, concerts and al fresco dining, all of which would complement an enhanced pedestrian environment. The following recommendations are designed to take advantage of the public-oriented nature of the CBD and seek to provide for improved interactions between the various users and functions in the downtown area.

The City of Long Beach has traditionally sought diversity over uniformity within the CBD. The result is a bustling, vibrant downtown district that is not only unique among Long Island communities, but also unique among barrier island communities across the eastern seaboard. However, without proper design guidelines, Long Beach’s diverse downtown environment has the potential to create conflicts among the different users. Recognizing this key issue, the Long Beach City Council unanimously adopted a Complete Streets resolution on July 16, 2013, which stated:

A Complete Streets Program Policy is hereby adopted, to provide safe, comfortable and convenient access and mobility for all users within the City of Long Beach, particularly pedestrians, bicyclists and individuals of all ages and abilities.

The resolution recognizes that steps must be taken to enhance access and safety for pedestrians and bicyclists within the CBD and represents a key first step in restoring the balance between pedestrian, or “human-scale” activity and vehicular circulation along the City’s main thoroughfare as grant funding is available and roads are reconstructed. Ultimately, the resolution will be implemented by focusing on three priorities:

- pedestrian and bicyclist safety
- economic resiliency
- stormwater management

This approach to streetscape improvements will ensure that design projects produce multiple co-benefits within the CBD. As an example, stormwater management improvements, such as bump-out rain gardens at street corners, provide key pedestrian safety improvements including reduced crossing distances and improved sight lines. Such a project can also help to stimulate and support private investment within the downtown. The City is currently developing streetscape design guidelines to advance these efforts.

In addition, as part of its commitment to becoming more energy-efficient, the City is seeking to implement streetscape improvements that take advantage of newer, more energy-efficient technologies and more resilient materials:

- Street lamp and planter poles made with materials such as high quality aluminum, so they are able to resist corrosion from saltwater. These fixtures would be in accordance with the City’s updated streetscape design guidelines.
- LED lighting for new fixtures is almost complete, including street lights and bus shelter lights. Conversion to LED lighting will save Long Beach a significant amount of money and decrease municipal electricity use substantially. Conversion of street lights in the City has already resulted in a 33% cost savings on electricity use. As another nearby example, the City of Kingston in upstate New York (population 23,000) is replacing 2,400 streetlights with LED’s and will be saving \$300,000/year as a result. This type of LED installation would also be considered a significant “impact action” for NYSERDA’s upcoming *Model Communities* program.
- Solar PV panels for lighting along the City’s emergency evacuation routes, to reduce system vulnerability during emergency situations. One of the main benefits of solar PV is a lack of underground wiring, thereby eliminating risks from flooding and ensuring safety along such critical routes.

Potential Projects/Action Items

- As part of a broader Park Avenue/Beech Street Streetscape Drainage Study and Infrastructure Improvement Project, the following streetscape recommendations have been developed for Park Avenue:
 - Raised landscaped islands next to each crosswalk, to maintain a level path for pedestrians. These landscaped islands would enhance pedestrian safety and improve the level of pedestrian comfort in the crosswalk by providing better separation from oncoming traffic and from vehicles using the parking lane.
 - Enhanced, colored crosswalks and new pedestrian traffic signals with countdown timers.
 - A renewed focus on the City’s “gateway” intersection of Park Avenue at Edwards Boulevard (located at the City’s Long Island Rail Road station). A focus on this key intersection would improve safety for all users by making pedestrian crossings more visible to drivers, creating a comfortable environment for pedestrians and bicyclists, alerting pedestrians to the amount of time they have to cross the street, discouraging mid-block pedestrian crossing, and reducing traffic volume by encouraging alternate modes of travel.
 - The City has received a Federal Highway Administration Transportation Alternatives Program (FHWA TAP) grant to redesign the Edwards Boulevard corridor, spanning from the transit station to

the oceanfront.

- Bus shelters featuring informational panels and kiosks to display updated transit and travel information.
- Streetscape and circulation enhancements, such as protected bicycle lanes, additional bicycle racks, new sidewalks, and bus shelters would encourage increased pedestrian and bicycle activity in the CBD, which in turn will enhance local economic development initiatives. Numerous studies have shown that downtown businesses benefit most from increased foot traffic. These amenities would also benefit bus riders – both on the local City of Long Beach system and the regional Nassau Inter-County Express (NICE) system.
- Continue to expand the use of LED street-lighting within the City. The City has already installed energy-efficient LED lighting along the Boardwalk as well as key areas within the CBD, which have already resulted in significant energy savings and reduced maintenance costs for the City.
- Incorporation of permeable pavement and other stormwater mitigation measures.

The proposed recommendations would help to transform the City's primary commercial corridor into a vibrant, more livable multi-modal district, stimulating economic activity and re-investment into the City. While Park Avenue has long served as the main commercial district in Long Beach, numerous improvements could be made to create a more active central business district.

The improvements would also be designed to complement the existing transit hub and enhance both local and regional connectivity. Bike lanes will be provided and pedestrian improvements will encourage ridership on the City's bus system, offering an opportunity to promote specialty routes, such as the City's trolley service, East Loop, West End, Shoppers' Special and Late Night Express routes, while strengthening connections to the County bus system.

Together, these new streetscape amenities and improvements will contribute to a safer and more inviting downtown. They will introduce greener, more sustainable approaches to stormwater management and replace existing infrastructure with more resilient materials. The end goal is to create an easily accessible, active central business district that serves a wide-range of users

West End/Beech Street

The West End of Long Beach is a well-known regional destination, particularly during the summer months. In addition to stimulating economic activity and re-investment back into the West End, streetscape enhancements would help to transform the Beech Street corridor into a more walkable and distinct cultural district. Beech Street is an intimately scaled street corridor with short block distances and one-travel lane in each direction with on-street parallel parking.

Potential Projects/Action Items

- The City’s large-scale Park Avenue/Beech Street Streetscape Drainage Study and Infrastructure Improvement Project would implement slightly different streetscape elements along Beech Street. Given the spatial challenges of the West End, the following streetscape recommendations are designed to enhance the Beech Street “shared” street corridor:
 - Transform street intersection areas into “public art” displays representative of Long Beach’s unique personality and physical environment. The intersections represent a large percentage of the visible road area to motorists, bicyclists and pedestrians and will have a significant impact on the neighborhood’s aesthetic character, while providing a traffic calming effect.
 - Provide bicycle parking areas where space allows. Where feasible, as City-owned parking lots are redesigned, usable space could integrate multi-modal infrastructure.
 - Establish official bicycle lanes along Oceanview Avenue. Since vehicular-through traffic is prohibited on this route, it is commonly used as a bicycle route. However, since it lacks necessary striping and signage, bicycle safety remains a concern along this “informal” route.
 - Enhance pedestrian crosswalks by utilizing colored concrete patterns for increased visibility.
 - Introduce a custom contextualized hardscape sidewalk treatment in coordination with outdoor seating areas.
 - Introduce designated curbside loading zone areas in key areas to reduce double parking of commercial vehicles.
 - Install pedestrian signal improvements such as count down timers, audible warnings and improved crossing signal visibility.
 - Where feasible, augment the sidewalks with more resilient street furnishings, including bike racks, planters, trash receptacles and decorative poles with hanging planter baskets and banner signs. While space is limited throughout the West End, many of these furnishings can be scaled to fit within the compact Beech Street corridor.

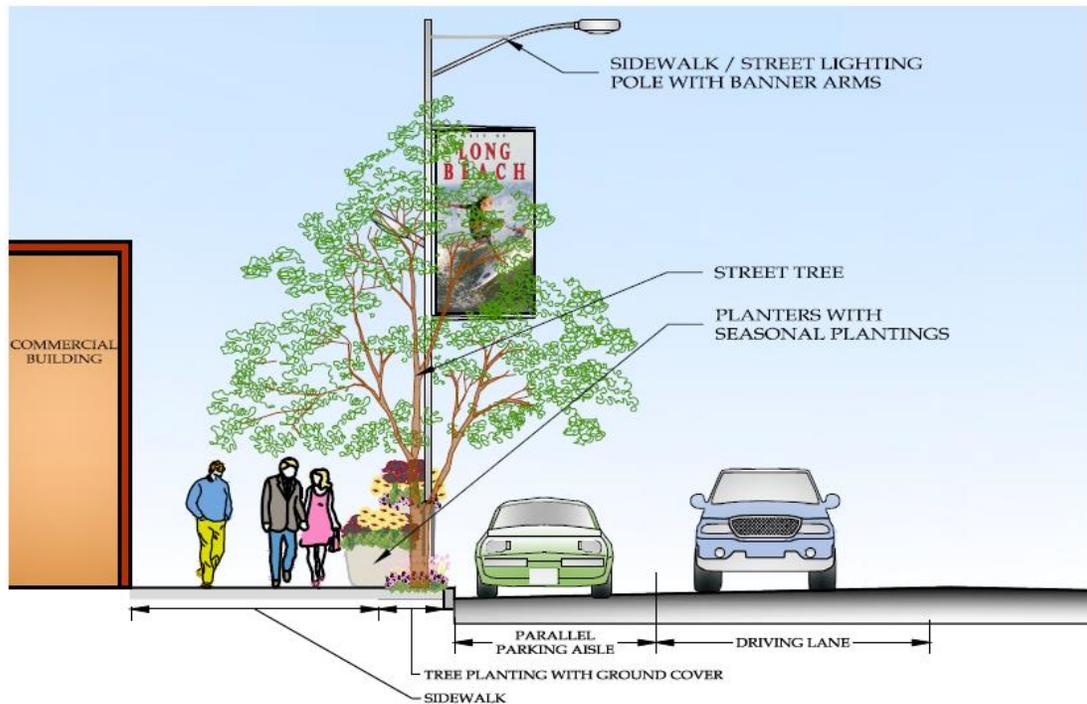


Figure 4-19: Conceptual Beech Street Enhanced Streetscape Cross-Section

4.10. Enhancing Public Spaces and Expanding Recreational and Cultural Opportunities

Atlantic Ocean

One of the most visible and valued public recreational resources is the boardwalk along the Atlantic Ocean shoreline. The boardwalk was reconstructed after being destroyed by Superstorm Sandy, following an extensive public visioning process. Together with the reconstructed dunes and walkovers, the 2¼ mile boardwalk provides access to the oceanfront for residents and visitors to the community. Showers and restrooms are provided along the boardwalk, or adjacent to it on the beach, and food vendors are located along the boardwalk as well. The boardwalk is the site of many local festivals, craft fairs and cultural events.

Entrance to the beach (Ocean Beach Park) requires the purchase of a daily or seasonal pass (available for residents and non-residents). The beach can be accessed from most of the roads ends on the Atlantic side, with the exception of Maple Boulevard on the eastern end of the City and certain blocks in the West End which are one way streets.

Bayfront

The City of Long Beach Municipal Recreation Center, together with Veterans Memorial Park, forms a recreational complex that incorporates a playground, municipal boat launch, playing fields, ice rink, fishing

pier, dog park, and a newly renovated skate park. The Center offers a weight room, a pool, locker rooms and fitness classes.

While kayaks, canoes and stand-up paddleboards are allowed to launch from the municipal boat ramp, there is potential for several additional locations where the installation of a kayak float could be considered. Kayak floats can be installed adjoining an existing float or pier or connected via gangway ramp from a bulkhead to a float that is secured by pilings. For the 2016 summer season, the Department of Public Works is planning to install a kayak/canoe launch at Clark Street Park in the Canals neighborhood.

The Esplanade along Reynolds Channel provides access to the Bayfront. There is potential for extending the Esplanade when the bulkhead project on the Bayfront is complete. Currently the bayfront esplanade runs the length of Veteran's Memorial Park and along West Bay Drive from Magnolia Boulevard west to Washington Boulevard.

Other key recreational facilities include the City-owned tennis courts located on Monroe Boulevard, adjacent to the Bridge. These courts are leased to a private operator who makes the facility available on a fee basis to the public.

While there are no public or private marinas located along Reynolds Channel, there are many privately owned docks associated with residences adjacent to Reynolds Channel.

In the Canals neighborhood, there is City owned land located along the eastern side of the canals along Doyle Street, Heron Street and Clark Street, and the playground at the end of Clark Street has been newly renovated. Individual property owners who live along the canals have traditionally utilized the City-owned strips of land adjacent to the canals for personal use. This City-owned land was originally intended to be used by homeowners contingent upon an annual fee paid to the City. The fees would then be used to pay for bulkhead and canal maintenance. However, fees were never collected regularly and there are no formal plans to reintroduce the annual fee to homeowners. Moving forward, the City is proposing to offer this land to adjacent homeowners, which would add this land to the City tax rolls. If a homeowner declines this offer, the City-owned land would be used as a public access point for the canal.

Other Recreational Resources

There are seven playgrounds in the city including the Georgia Avenue Park on West Beech Street, Magnolia Boulevard Playground adjacent to the boardwalk, Veteran's Memorial Park along the Bayfront, Leroy Conyers Park on Park Place, Sherman Brown Park on Riverside Boulevard/East Pine Street, Pacific Playground on Shore Road/Pacific Boulevard, and the Clark Street Playground on Clark Street.

The green malls located on Park Avenue, Hudson Street, Grand Boulevard, Lindell Boulevard, Washington Boulevard, Lafayette Boulevard, Laurelton Boulevard, Magnolia Boulevard, Monroe Boulevard, Lincoln Boulevard, Franklin Boulevard, Neptune Boulevard, Roosevelt Boulevard, and Pacific Boulevard give a sense of open space along this boulevard style roadway. The green malls are used for memorial gardens which are individually constructed and maintained. All of the gardens appear to have signs, though several of the green

malls observed have signs without gardens. These areas have the potential to provide a greater resource for the community, in that memorial gardens could be implemented as rain gardens which are both aesthetically pleasing and provide a benefit for stormwater management. Additionally, as a concept that was raised during several community outreach meetings, these green malls could also serve as highly visible locations to feature sculptural/public art installations created by local artists.

Green Infrastructure and Public Spaces

Green infrastructure can be combined with passive recreation spaces including walkways, linear parks, and pocket parks established in underutilized open spaces. All bay and ocean access points create opportunities for recreation, sustainability education, and orientation at street ends in the north and south of the city. Currently, recreation spaces do not incorporate green infrastructure (water conveyance, permeable surfaces, active landscapes), but they create an important opportunity for infiltration zone expansion given the City's extremely limited open spaces. Where possible, underutilized land could be reclaimed for pocket parks, providing active and passive recreation in floodable open spaces that double as infiltration zones.

Potential Projects/Action Items

- Explore various ways to enhance and expand the use of the City's green malls. The green malls are one of the defining characteristics of Long Beach and could be utilized to reflect the character of each street or neighborhood. Enhancements to green malls could include art installations, new landscaping and stormwater storage and infiltration chambers, pocket parks, and the expansion of the City's fitness and exercise trails. As part of its planned roadway improvement program, the City is incorporating many of these principles into its design for the next major reconstruction project - Neptune Boulevard.
- Engage local developers to explore the possibility of a public-private oceanfront park with a covered parking garage. Following the recent trend in public-private park construction, such a facility would provide an opportunity to create a large-scale, multi-purpose open space in an area that would otherwise be targeted for limited-access private residential development. By providing oceanfront park and event space that seamlessly links to the existing Ocean Beach Park, Long Beach has an opportunity to create a public space that is completely unique to the region and provided needed green open space for the community. This concept is explored in greater detail in Section 4.6 of the Plan.

5. TRANSPORTATION

5.1. Improving Congestion and Circulation

Beginning in 2012, the City instituted a series of traffic code modifications and commissioned a traffic study to improve safety and circulation throughout Long Beach. Following the approval of a City-wide 25 mph maximum speed limit⁴ and the adoption of a Complete Streets Program Policy in 2013⁵, Long Beach partnered with Nassau County to further examine the existing traffic and pedestrian conditions. The study focused on Long Beach's primary thoroughfare, Park Avenue, and was designed to address both traffic circulation and congestion, while improving safety for pedestrians, bicyclists, and motorists. The study, in conjunction with signal improvements completed by the County in 2014, has laid the groundwork for a safer and more efficient transportation network.

Potential Projects/Action Items

To further improve the Long Beach transportation network for all users, traffic congestion can be addressed using a three-pronged approach:

- Continue to utilize traffic controls and physical changes to enhance or smooth traffic flow. Signals west of Long Beach Boulevard have been integrated into the Nassau County Traffic Management Center (TMC) and adjusted to better suit prevailing traffic patterns and the signals east of Long Beach Boulevard are planned to be added to the TMC and will be better coordinated to improve circulation. Improved coordination of traffic lights also encourages drivers to use the City's primary thoroughfares rather than residential side streets.
- Continue to seek opportunities that align with the City's existing Complete Streets Policy, including enhanced pedestrian and bicycle accommodations to encourage people to walk or bicycle instead of drive. This includes dedicated bicycle facilities (ranging from dedicated lanes where pavement width allows, to "share the road" signs to alert drivers to cyclists in the street) as well as pedestrian accommodations (ranging from hand/man signals with countdown timers to enhanced crosswalks and streetscape elements). Prioritizing and improving pedestrian facilities and signal timing is particularly important, as none of the intersections along Park Avenue provide adequate time for pedestrians to cross (north-south). With the width of Park Avenue ranging from 152-156 feet and current pedestrian crossing intervals set at 29 seconds (central segment) or 39 seconds (east and west segments), the average pedestrian will only reach 101 or 136 feet, respectively.⁶

⁴ Exceptions: Park Avenue, which was reduced from 35 to 30 mph; Broadway, which will continue to have a 30 mph limit; and the Presidents Streets and Canals neighborhoods, which have a speed limit of 15 mph.

⁵ City Council Resolution No. 108/13: Complete Streets Program Policy designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities (Adopted July 16, 2013).

⁶ DRAFT Traffic Signal Operations Study: Park Avenue Corridor, City of Long Beach, Nassau County, September 2014. Prepared by RBA Group, Inc. for the City of Long Beach.

- Parking management improvements to reduce the need for drivers to make repeated, circuitous searches for parking instead of a single, direct trip. While options for expanded parking are discussed in both Sections 0 and 5.3, the City does have several existing options for managing parking more efficiently, such as use of the LIRR garage/City trolley service for beachgoers.

5.2. Transportation Enhancements in the Central Business District

Park Avenue is the City's major commercial corridor with many shops and restaurants and several municipal buildings. It is also home to the sixth-busiest Long Island Railroad (LIRR) station on Long Island. Long Beach has a large number of pedestrians and bicyclists and enhancing multi-modal facilities in the Central Business District (CBD) will promote a reduction in vehicle use and an increase in foot traffic. Based on US Census American Community Survey (ACS) data, the City of Long Beach far outpaces the national average in terms of workers who use public transit, bicycle or walk to work. Among workers age 16 and older, Long Beach residents are roughly four times as likely to use public transit to commute to work and more than twice as likely to walk or ride a bicycle to work.⁷ New pedestrian and bicycle facilities in the CBD can serve as a catalyst to incorporate these types of facilities throughout the city, eventually connecting the CBD to the boardwalk, the recreation center on the bay, and the west side of the city.

In general, Park Avenue has three through lanes and one parking lane in each direction and wide center medians that separate eastbound and westbound traffic. In the CBD the center medians function as parking areas, while the medians along the rest of Park Avenue are large grassy malls.

Potential Projects/Action Items

Park Avenue is an ideal candidate for a "road diet" – which would be accomplished by reducing the width of the vehicular travel lanes and repurposing that space to provide bicycle lanes. The road diet would also have a traffic calming effect by narrowing the travel lanes on Park Avenue from 12 feet to 10 or 11 feet and moving loading/unloading activity out of the right-most travel lane and into designated parking/loading areas. To help implement these changes, the City recently applied for and was awarded a \$500,000 New York State Department of State bicycle lane grant. The project will be called *Downtown Long Beach: Resilient Connectivity for Park Avenue – Phase 1*.

The proposed roadway improvements are in line with the City's adopted Complete Streets Policy and include the following elements:

- The addition of a new, protected bicycle lane. Park Avenue would retain three travel lanes; however the width of the lanes would be reduced from 12 feet to 10 or 11 feet to accommodate the new bicycle lane. Since double-parking and commercial deliveries are a longstanding source of conflict along Park Avenue, deliveries and loading/unloading activities should be restricted during peak commuting periods to better accommodate pedestrians and bicyclists and improve traffic flow. Select

⁷ U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates, Table S0801: Commuting Characteristics By Sex.

crosswalks would be repaved with a patterned concrete treatment to make them more conspicuous to drivers;

- Raised “bump-outs” would be installed adjacent to all crosswalks to provide a buffer between pedestrians and parked vehicles. These bump-outs would be landscaped with low shrubbery, so as not to block the view of pedestrians and oncoming vehicles;
- Bump-outs would effectively shorten the crossing distance for pedestrians by allowing them to wait without fear of being hit by oncoming vehicles. Landscaped bump-outs would be installed in a manner that does not obstruct the new bicycle lanes;
- Enhanced pedestrian signals with countdown timers would be installed at every intersection, with timing adjustments as needed to provide sufficient crossing times per current standards.
- Introduction of additional green infrastructure features as roadway/intersection improvements continue throughout the City.

5.3. Managing Parking

Parking Garages and Off-Street Parking

The first approach for improving parking conditions is to search for ways to maximize off-street surface parking, including increasing parking yield through the reconfiguration of public off-street surface lots, if practical. Lots used for long-term parking (such as LIRR/commuter parking) can function with 8½-foot wide stalls instead of 9-foot wide stalls and yield would increase by approximately 5%. The Institute of Transportation Engineers (ITE) and other national organizations regularly utilize 8½-foot stall widths for parking lots.

The next approach could be to amend the City code and the Building Department permit process to allow the use of parking stackers (also known as lifts) in residential lots and garages (if ceiling height allows), and in long-term parking lots. This will nearly double localized parking yields at a lower cost than permanent garage structures. Typically, the smallest 2-level lifts fit two vehicles within a 12- to 14-foot ceiling height and can accommodate two passenger cars, or one passenger car and one SUV.



Figure 5-1: Example of Two-Level Parking Lift

The third approach would be to consider one or more additional permanent parking garages with certain design and location constraints. Given the shallow groundwater depth and the propensity for flooding during major events, new underground parking would not be advisable.

It would be necessary to determine an appropriate height limit for any parking garage, given the City's beachside location and the need to maintain the community aesthetic. Given the height of the larger downtown buildings, the City could consider allowing parking garages to be up to four levels above the ground floor. This would maximize the efficiency of the parking layout.

City code would require any garage façade to have aesthetic design for approval by the City Council, as opposed to solid concrete walls. Aesthetic design features could include wall color, concrete stamping, a mix of materials, banners, open walls (with screens or glass), and avoidance of block "massing."

Garage locations are appropriate where they would be the least disruptive and most convenient for users. Location considerations include minimizing displaced land uses and not obstructing views of the beach, the bay, or other important features downtown. Walking distances to major uses (LIRR, beach, shopping and dining, etc.) would be considered, along with appropriate setbacks from walkways, provision of vegetative/landscaped buffers and minimizing impacts to existing utility infrastructure.

Parking structures could be either a robotic structure or a typical self-park garage. In a robotic structure each driver pulls onto a pad, leaves the structure and the pad is transported internally to a stacked parking cubicle, to be transported back when the driver inserts a card into an electronic reader. Robotic structures provide a greater number of spaces than a self-park garage.

A self-park structure requires level surfaces for parking, plus a way to maneuver from one level to the next. Self-park garage heights are typically a minimum of 10 feet per level, floor to floor. Parking is typically described in terms of "modules" where each module is a travel aisle plus its adjacent row(s) of parking. A robotic structure requires lower headways, with a central transport aisle open to the ceiling, and bays that cover some of the ground level.



Figure 5-2: Sample Interior View of a Robotic Parking Garage

The most efficient self-park garage layout would comprise 3 or more levels (surface plus 2 upper levels) and 3 or more adjacent parking modules. A “module” refers to a drive aisle plus the parking on either side of the aisle. For sizing purposes, modules are typically 60 feet wide: two rows of 18-foot long parking spaces next to a 24-foot aisle. Maximum ramp slopes would be set at ten percent. Garages can have flat parking levels connected by sloped exterior ramps, or they can use sloped parking levels without needing separate ramps to go up or down a level. The goal is to maximize the number of parking spaces in the available footprint size where potential garages could be located.

Robotic structures have different yield and dimensional standards:

- Shorter headways required (6.5 feet for cars, 7.5 feet for SUVs), with a 9-foot high ground level for SUVs and 7-foot high upper levels for passenger cars only
- Modules only require a 20-foot aisle in between
- No minimum length or width because movements between levels are entirely vertical
- Some ground level space must be dedicated to entry pads, with more pads required for larger garages

Parking garages provide the highest parking yields in the smallest footprints, and also provide a visual destination for visitors who are unfamiliar with the area. Multiple possible garage locations were identified by the public at the open houses, as depicted in Figure 5-3 below. These locations include six public lots and additional parcels identified throughout the West End. A garage in any of these locations would ease parking conditions in the West End.

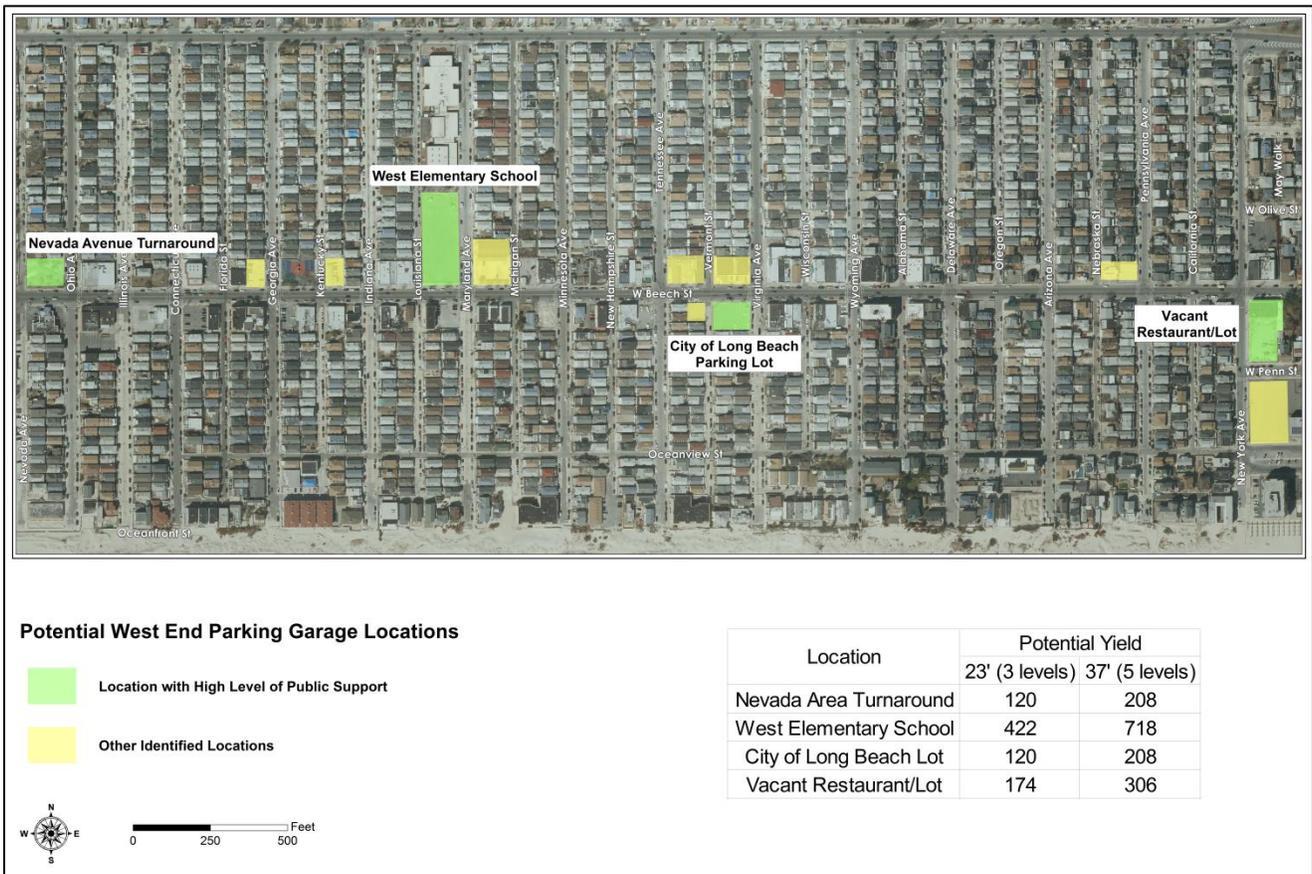


Figure 5-3: Potential Parking Garage Locations in the West End

The current zoning allows for 23-foot building heights near Beech Street. This limits the number of self-park garage levels to two (surface plus one), while a robotic parking structure could fit up to three levels (surface plus two), based on a 9-foot tall ground floor and two 7-foot upper levels. Taller structures, up to 37 feet high (similar to the height of an elevated home), would allow up to three (surface plus two) self-parking garage levels, or up to five (surface plus four) robotic parking levels. Based on the significant additional yield, preference could be given to the use of robotic parking structures, with potential yields as follows:

Table 5-1: Potential West End Parking Garage Yield Calculations

| Area | Name | Size | Potential Yield | | Entry bays |
|------|------------------------|-------------|-----------------|----------------|------------|
| | | | 23' (3 levels) | 37' (5 levels) | |
| A | Nevada Area Turnaround | 90' x 120' | 120 | 208 | 4 |
| B | City of Long Beach Lot | 60' x 90' | 60 | 104 | 2 |
| C | Verdeschi Realty | 60' x 90' | 60 | 104 | 2 |
| D | West School Playground | 120' x 300' | 422 | 718 | 8 |
| E | Temple Zion | 120' x 150' | 189 | 333 | 3 |
| F | The Inn & adj. parcels | 90' x 120' | 120 | 208 | 4 |
| G | City of Long Beach Lot | 60' x 60' | 39 | 67 | 1 |
| H | West End Automotive | 90' x 120' | 120 | 208 | 4 |
| I | City of Long Beach Lot | 90' x 120' | 120 | 208 | 4 |
| J | Ice Cream Shop | 60' x 120' | 78 | 134 | 2 |
| K | Vacant Restaurant/Lot | 60' x 200' | 174 | 306 | 2 |
| L | W. Broadway School | 120' x 200' | 273 | 473 | 3 |

Managing On-Street Parking

Given Long Beach's spatial constraints, the management of on-street parking is key to sustaining local businesses and preserving residential quality of life. Throughout the Comprehensive Plan community outreach meetings, it became clear that improving on-street parking was a key focal point of the community. The concepts presented below are largely the result of community feedback and discussion. While these concepts have been identified as potential solutions, many will require further study/analysis and should be implemented using a pilot or small-scale test basis.

One of the most common on-street parking management strategies is the striping of public parking spaces. This strategy could result in more efficient parking arrangements and help to improve demarcation for loading/unloading zones throughout the City. This strategy could be particularly successful along Park Avenue, which has considerably more roadway and curb area than other streets in the City. A more efficient configuration of this curb area could provide several benefits, including more public parking spaces, improved circulation and fewer vehicle conflicts.

The on-street parking capacity along the north-south boulevards throughout the City can be increased by utilizing the wide grassy center medians that separate many of these streets. Currently, those blocks with wide medians accommodate a total of 16 parked vehicles along the median (8 vehicles on each side). The majority of these roads have posted parking restrictions on the right side of the road to ensure that there is sufficient roadway width for through vehicles to travel. Roads without posted restrictions currently function as though the parking restrictions are in place.

The narrowing of a wide median to allow for 45-degree angled parking significantly increases the number of legal parking spaces that can be accommodated on-street. In fact, the number of parking spaces increases to 34-36 (depending on the inclusion of a handicapped accessible space and aisle), more than double the original number of legal parking spaces.

A preliminary review of an aerial of the City yielded a total of 91 north-south blocks that would allow for the potential narrowing of wide medians to accommodate angled parking. These blocks currently provide approximately 1,456 legal on-street parking spaces. If all 91 blocks were converted to angled parking, the number of legal on-street parking spaces would increase to 3,185 parking spaces, providing an additional 1,729 on-street parking spaces. It is important to note that any potential median conversion would require further study to balance parking demand with the need for green open space throughout the City. It is envisioned that such conversions would only occur in targeted problem areas – which would be vetted through feedback from local residents and business owners.

While these conversions would alleviate the parking shortage in several of the City's neighborhoods, they would also increase the amount of impervious surfaces in the City. Mitigation measures, such as permeable pavement, to increase the City's green spaces and to offset any subsequent drainage issues along the boulevards would need to be implemented in conjunction with these parking improvements.

Another issue to consider when analyzing on-street parking is that many homeowners have raised their homes in the aftermath of Superstorm Sandy and have created on-site parking areas underneath their newly raised homes where no parking previously existed. Based on the potential layout of such "under-the-house" parking areas, these new parking areas could require wider or new curb cuts compared to a typical driveway apron, subsequently reducing the number of legal on-street parking spaces available in the area. It is important to amend the City's zoning code to ensure that on-street parking is preserved as much as possible (e.g. ensuring that there is at least 20 feet between curb cuts to allow for parked vehicles, requiring that there be room for multiple vehicles to be stored on-site, restricting curb cut widths, permitting shared access where adjacent homeowners provide half the required access width along their common property line, etc.).

Residential Parking Districts

One way to limit non-residents from parking on residential streets is to create residential parking districts in which a parking permit would be required to park. Permits can be sold to residents and the proceeds can be deposited into a City "parking fund" that can be used to fund the construction of the proposed West End parking garage and other parking facility upgrades.

Permit fees can be offered at a flat rate, regardless of the number of household vehicles. However, to encourage households to utilize the City's extensive public transportation and bicycle network, it is also possible to offer permits on a sliding scale. For example, a permit for the household's first vehicle could be lower, while the household's second vehicle would incur a higher fee, the household's third vehicle would incur a significantly higher fee, and so on. As an incentive to encourage hybrid, electric and alternative fuel

vehicles in the City, permit fees could be reduced for these types of low-emission vehicles. Similarly, the City's potential sliding scale permit fee schedule could relate to vehicle size to encourage smaller vehicles, since a street parking segment can accommodate a higher number of smaller/compact vehicles than it can with larger trucks. The additional revenue from this type of permit fee structure would also help to offset the annual maintenance costs associated with these parking spaces. Given the City's relatively vulnerable location and exposure to elements, these it is vital to have a sustainable source of funding for these required maintenance costs.

There are several variations of this concept that can be implemented:

- West End summer restrictions – limit parking in the “state streets” to residents-only during the peak summer season to ensure that residents can find parking in their own neighborhood. This can be achieved with proper signage, the distribution of parking stickers for resident's vehicles, and the enforcement/ticketing of illegally parked vehicles.
- Signage can direct non-residents to park in a central location (e.g. new parking garage, LIRR parking lot, municipal lots, etc.) where a shuttle will pick them up and bring them to their destination.
- East Side summer restrictions south of Park Avenue on the east-west residential streets (Including all “president streets”) – these restrictions can be similar to the West End parking restrictions described above.

These parking restrictions, along with allowing non-residents to utilize the newly installed angle parking on north-south boulevards, would benefit residents and non-residents, alike.

5.4. Transit and Multi-Modal Connections

Ease of access is one of the distinguishing features that set Long Beach apart from other coastal communities on Long Island. It is the only beach on Long Island that is accessible via public transit from New York City in less than an hour. It is also the only south shore beach within comfortable walking distance from an LIRR station/transit hub. As a result, the City and its beaches are visited by an incredibly diverse range of people from all parts of the Tri-State area.

Existing Transit Service

The City of Long Beach operates buses along five city-wide bus routes: East Loop, West End, Shopper's Special, Late Night Express, and Point Lookout. Service on the East Loop and West End routes runs 7-days a week, while the Shoppers Special runs Monday through Friday and the Late Night Express and Point Lookout routes run Monday through Saturday. Seasonal trolley service supplements these routes and is available for free to riders with a valid beach pass. The City also runs a paratransit bus system for disabled residents and a specialty trolley route that provides free service for beachgoers during the summer months. In addition to the City-run busses, Nassau County/Veolia Transportation operates two Nassau Inter-County Express (NICE) buses that stop in Long Beach - the N33/Far Rockaway and the N15/Long Beach-Roosevelt Field routes.

Enhancing Bicycle Connections

Ideally, the roadway improvements discussed in Section 5.2 above would be made in conjunction with north-south bicycle connections to encourage bicycle riding to the boardwalk and bay. For example, the creation of a designated bike route on Magnolia Boulevard would create a direct route for bicyclist to travel between the boardwalk and the Long Beach Recreation Center on the bay and a designated bike route along Monroe or Neptune Boulevard can provide residents of northeast Long Beach access to the boardwalk. Designated bike routes are safer for bicyclists than typical roadways, as roadway signage is installed along bike routes to alert drivers of the potential presence of bicycles on the roadway. Bike route signage can also be used to alert bicyclists of the distance to popular destinations (e.g. Boardwalk 0.5 miles ↑ or LIRR 0.3 miles ←).

These improvements, along with enhanced bicycle infrastructure and local bicycle rental/share (SoBi Long Beach) options located in close proximity to the LIRR, would greatly increase ridership throughout the City.

Bicycle access can be enhanced by establishing and promoting the concept of a multi-purpose, City-wide bicycle network. The Boardwalk and the bicycle sharrow along Broadway are well used and help to connect the current West End/Oceanview Avenue bikeway to eastern destinations in the city. W Broadway/E Broadway provides a painted sharrow in each direction, as curbside parking is not allowed on this street. However, these two routes are the only east-west routes with any type of bicycle lane and/or designation as a bicycle route. A potential concept for this type of comprehensive bicycle network is outlined below in the *Potential Projects/Action Items* section.

Beginning in the spring of 2015, the City reintroduced a citywide bike-sharing program named SoBi Long Beach. The program is owned and operated by Social Bicycles, a Brooklyn-based national bike-sharing company. Use of the program has exceeded the expectations of both City officials and Social Bicycles and has quickly become one of the company's most popular bike-sharing networks. Kiosks are located throughout the City, with the Boardwalk-based locations seeing the highest number of users. Overall, in 2015, SoBi Long Beach had 9,204 members, 41,942 total bicycle rentals amounting to over 22,700 trips taken throughout the City. The 2015 season spanned approximately six months - from May 23, 2015 to November 15, 2015. For 2016, SoBi Long Beach plans to expand and improve operations. This program has been a major contributor towards an increase in local bike ridership and a decrease in local vehicle miles traveled (VMT).

Enhancing Walkability within the Central Business District

One way to increase foot traffic in the CBD is to amend the City's zoning regulations to allow for residential units above first-floor retail along Park Avenue. The City's Zoning Code currently allows for only office space to be located over retail. Locating residential units in close proximity to the City's major commercial corridor will decrease residents' reliance on vehicles and will help create a more cohesive "downtown" feel.

Potential Projects/Action Items

- To help facilitate the reduction of residents' reliance on personal vehicles, bus service can be modified and/or extended to better serve the community. The City's most recent ridership satisfaction survey

was completed in 2015 and showed an overall high level of satisfaction with the current system. Ongoing analysis of the current ridership and responses to rider questionnaires helps the City to ensure that the bus system continues to meet the needs of residents, visitors, commuters and shoppers.

- Create a bicycle network featuring different designs/purposed based on intended use. Cycling in Long Beach can generally be divided into three categories: leisure/recreation, serious cyclists and commuters. It is envisioned that the City would develop and define its bicycle network based on the needs of these three distinct user groups. The Boardwalk is the primary recreational route, which could be further enhanced by new striping and signage (without striping, pedestrian/bicyclist conflicts are very common on the recently reconstructed Boardwalk. A route for serious, higher-speed cyclists could be provided along Walnut Street, which is a one-way street just south of Park Avenue. Walnut Street is already commonly used by cyclists, as it is wide enough to support parked cars, cyclists, and motorists and has relatively low traffic volumes. As a result, Walnut Street provides a safer environment for bicyclists and could support dedicated bicycle lanes along its length. For commuters, it is envisioned that Park Avenue would be the primary route – as this route would minimize distance traveled and aid in transit connections.

6. IMPLEMENTING THE PLAN

6.1. Next Steps

Implementation of the Comprehensive Plan will require a “phased” approach. This approach will be designed to target near-term actionable items within the City’s purview while continuing to seek outside partnerships and resources for larger, more complex projects. The City has been particularly successful with this approach following Superstorm Sandy – with the City’s recovery requiring coordination and collaboration among local residents, businesses and private sector stakeholders, non-profit organizations, and federal, state and local agencies.

Many of the action items identified within the Plan are relatively low-cost and could be implemented without outside funding or partnerships. Furthermore, as a City independent from the Town of Hempstead, Long Beach has direct control over many of these items, such as zoning and code changes. The City also has the ability to finance and appropriate funds for projects as needed. As such, wherever possible, the City should look to implement Comprehensive Plan actions and projects through existing mechanisms. As an example, the City’s capital project plan, which is a key component of each annual budget, could be modified to include resiliency and mitigation actions in addition to typical capital expenditures (hard infrastructure, maintenance costs etc.). Since these resiliency measures would have a direct effect on capital costs and operations (particularly for infrastructure life-cycle costs). This approach has several advantages. First, rather than looking at resiliency projects as separate/additional budget costs, the costs and benefits of these measures can be quantified and incorporated as an integral part of the annual budget. Second, by using existing mechanisms within the City, which already have support from the public and policymakers, planning and project administration costs can be reduced. Third, such an approach would help to guarantee/allocate funding for top priority resiliency projects, rather relying on less-stable/frequently-changing outside funding sources. Lastly, since resilience incorporates both mitigation measures and recovery plans, this process would allow the City to pursue both mitigation and post-disaster recovery initiatives concurrently and in a more predictable manner.

While the City should utilize existing mechanisms, plans and policies wherever possible, it will still be necessary to prioritize actions (with an emphasis on the extent of benefits provided by the proposed action), identify how specific actions will be implemented (including the agency/department/individual who is responsible for the action), what additional funding sources are available and when actions can be completed. Part of this prioritization process includes estimating the timeline of projects and actions. The timeline is a critical component that would allow the City to best align its projects and actions with both local and external funding cycles. Successful implementation of these projects and actions will also require the use of often overlooked resources, such as technical assistance (i.e., local academic institutions, non-governmental organizations) and other community-based service groups.

6.2. Funding Options

To implement the concepts and projects discussed in the Comprehensive Plan, the City will need to engage both public and private agencies and organizations. The City has been very successful in partnering with federal and state agencies to secure funding for post-Sandy repairs and resiliency initiatives. Many of the City's large-scale projects (including future planned projects) would not be possible without these partnerships and public funding sources. However, the larger economic development projects discussed in Section **Error! eference source not found.** Will require the engagement of private sector developers and funding sources.

Many of the projects identified in this Comprehensive Plan, such as drainage work or other stormwater management projects, can be implemented as capital improvement work which will best utilize limited public funds and achieve multiple objectives. The City of Long Beach may wish to consider a regular budget line which will dedicate funds to CP projects and could fund small capital improvement projects or design studies. This could also serve to fulfill match requirements and leverage additional funding.

The available funding sources for the recommended projects can be found in Appendix D. Table A is a list of governmental sources that the City of Long Beach could apply to for funding. However, with all of these identified funding sources, the availability of local match from the City of Long Beach is key in building successful fiscal partnerships with government agencies or the private sector. Match is essential in leveraging public or private sector grant funding. Local match can be supplied either through direct appropriations, provisions of materials or public works labor by the City or the use of volunteers and staff time as a monetary equivalent. Table A includes the City's Community Development Block Grant (CDBG) funding (A-21) which can be used as a match for many federal and state funding programs. The New York State Economic Regional Development Agency (NYSERDA) "Cleaner Greener Communities Program" (A-1) is listed for informational purposes. This was the funding source for the Comprehensive Plan Update. NYSERDA officials have indicated that they do not project any further implementation funding at this time. However they will entertain large scale energy savings projects and the City can contact the agency to find the appropriate program for such projects. Table B is a list of sources that private entities could apply to for funding. This may be appropriate for any private redevelopment projects in the downtown and in the existing Brownfield Opportunity Area (BOA).

Based on the unique conditions surrounding each of the proposed development areas, it is envisioned that these development projects would be most successful utilizing public-private partnerships. The concepts presented in these projects are all focused around the principles of public access and maximizing the potential of these areas through multi-functional and mixed-use development. Along the Bayfront, any private project will need to work with both the City and utility service providers to maximize the development potential of the area. In addition, through publicly-oriented concepts like the Bay Mile, the City has emphasized their desire to enhance and expand public access along the Bayfront, which would require coordination between both public and private entities throughout the design and construction of any project. Similarly, the oceanfront development concept, which features a large-scale public park, would require an agreement between private landowners, developers and the City to construct a multi-purpose park and mixed-use development.

Ultimately, these two areas and development concepts have the potential to serve as regional landmark projects. For projects of this scale and impact, public-private partnerships can help to provide an optimal mix of funding sources, public participation and access and regional visibility.

For smaller projects, local sponsorship of specific projects may be sought from the business and civic communities, such as Business Improvement Districts, Chambers of Commerce, environmental organizations and civic organizations. The availability of local match from the City of Long Beach is key in building successful fiscal partnerships with government agencies or the private sector. Match is essential in leveraging public or private sector grant funding. Local match can be supplied either through direct appropriations, provisions of materials or public works labor by the City or the use of volunteers and staff time as a monetary equivalent.

APPENDICES

Appendix A. Citizens' Advisory Committee

Appendix B. Public Engagement

Appendix C. Prior Planning Studies

Appendix D. Implementation Timeline and Project Funding Source Tables

Appendix A

Citizen’s Advisory Committee (CAC)

| Community Representative |
|---------------------------------|
| John McNally |
| Stephen J. Kohut |
| Karen Adamo |
| Diane Sedat |
| Helen Dorado Alessi |
| Dr. Greg Fried |
| Jamie Lynch |
| Elizabeth Connolly |
| Barry Alton |
| Elder Mark Moses, Pastor |
| Clifford Richner |
| Edward Glister |
| Michael Cruz |
| Runnie Myles |

Appendix B

Public Engagement: Community Participation Plan

The purpose of this Community Participation Plan is to describe the City and Project Team's approach to foster communication, engage City of Long Beach residents, business owners, and other stakeholders in order to involve them in the process, to gain feedback, better understand issues, and facilitate participation in the drafting of the CP. Below is a summary description of each of the proposed community participation components and activities to engage and involve the community, including techniques, tools, and communication methods.

Scope of Community Engagement

The City established a Community Advisory Committee (CAC) with representatives from neighborhood, civic, religious, and other community organizations, local businesses, City departments, and other stakeholders. The CAC helped the City identify other stakeholders and the most effective ways to engage them, ensuring that the public has ample opportunity to provide input on the CP and LWRP. Please see [Appendix A](#) for a current list of CAC representative agencies and organizations. Over the course of the project the CAC has helped to:

- Encourage public participation and facilitate dialogue and communication
- Provide local expertise, serving as liaisons to the community including sharing or bringing back information about the plans to the community
- Review issues and opportunities for accuracy and completeness
- Review policy and project recommendations for consistency with community visions

To complete the CPU and LWRP, the Team has worked with the City and CAC to accomplish the following:

- Utilize the Long Beach Listens webpage to share project information and updates
- Conduct and analyze a community-wide survey
- Hold meetings with the CAC
- Gather and monitor feedback from stakeholders
- Plan and facilitate nine public information meetings
- Plan and facilitate two focus groups

Throughout the project, the Team and the CAC met to discuss the program's progress and kept the community informed about activities and the status of the project. In collaboration with the City, the Team coordinated the following meetings: five Community Advisory Committee meetings; nine public information meetings; and two focus groups. These meetings helped focus the Team's efforts and ensure that community input is considered on City-wide issues and opportunities and potential programs, policies, and projects for economic and resilient development. The Team, working with the City, will conduct outreach through a variety of media to ensure broad and consistent participation over the course of the project.

CAC Meetings:

| Date | Time | Meeting | Location |
|----------|--------------|------------------------------|-------------|
| 04/20/15 | 7:00-9:00 PM | Community Advisory Committee | West End CC |
| 05/28/15 | 7:00-9:00 PM | Community Advisory Committee | Library |
| 06/22/15 | 7:00-9:00 PM | Community Advisory Committee | Library |
| 07/25/16 | 7:00-9:00 PM | Community Advisory Committee | Magnolia CC |
| 09/19/16 | 6:30-8:30 PM | Community Advisory Committee | Library |

The first CAC meeting served as the initial kick-off meeting with the committee to introduce the Team and discuss the project scope and schedule, data needs and the community outreach plan. In addition, the first meeting had the following objectives:

- Establish the purpose of the CAC
- Review the tasks required and the differences between the LWRP and the CPU
- Identify issues and opportunities
- Discussion of previous plans' relevant vision statements
- Provide feedback and direction regarding the first Public Information Meeting

The second CAC meeting was held following the first public information meeting and prior to the four neighborhood-specific public information meetings in order to share what was learned from the public input. The Team will propose next steps to the CAC and receive input and direction about proposed strategies and actions.

The third CAC meeting was held following the set of four neighborhood-specific Public Information meetings in order to share what was learned from the public's reaction to the proposed projects for both the LWRP and the CP. The Team shared the trends, comments and areas of concern identified by the public and presented their proposed next steps to the CAC for their review. The CAC then had an opportunity to provide their guidance about next steps.

The fourth CAC was held the following summer after the development of draft plans by the Team for review and discussion and to prepare for the next set of public information meetings. The CAC provided feedback on the plan overall and helped to prepare the Team for possible public inquiries.

The fifth CAC meeting was held following three Public Information meetings that reintroduced the plan and its process to the public. This meeting with the CAC was held to report and discuss the public feedback received.

Communication & Information Sharing

Routine and consistent communication is essential for building trust, maintaining a transparent process, and ensuring stakeholders have sufficient opportunities to participate. Communication from the Team and City has served to inform community members about and build understanding of the CP and LWRP, and provided

updates on project status and announcements about upcoming events or activities. Understanding that the project needed to adapt to information learned over time and changing circumstances, the specific work plan for each public workshop evolved as the project moved forward. All public workshops were announced in advance using a combination of online and print media outlets. To facilitate effective communication and information sharing about the project, the Team and the City used a range of methods to engage the local community, including email, meetings and workshops, focus groups, website updates, flyers, and social media. Sustainable Long Island (SLI) was responsible for the following:

Community Contact Database: SLI had an existing database of over 900 Long Beach stakeholders and community members has maintained and added to this database throughout the life of the project. This included adding contact information for people who signed up to receive email updates about the project and who participated in stakeholder interviews, public meetings and workshops, and other project-related activities. The community contact database served as an address list for all email announcements and updates sent out regarding public workshops and opportunities to get involved in the CP and LWRP.

Outreach Materials: In order to maximize public participation in the CP and LWRP, SLI designed outreach materials to ensure community members were consistently engaged over the course of the project. Print and electronic outreach materials such as flyers, advertisements, automated phone calls when appropriate, announcements, email messages, and the City's social media outlets were used to promote activities and events, and encourage public participation. Printed materials were distributed by the City and posted via community organizations, local businesses, City facilities, and at community destinations such as the Magnolia Community Center, the Library, and the LIRR station, as feasible. The City's interns distributed flyers to community facilities, civic organizations, religious institutions, and businesses. The City has also gone door-to-door in North Park, the City's most disadvantaged community, as an extra measure of engagement. Flyers for public meetings were also given to the CAC members for distribution.

Announcements, updates, and articles were published in local print and online media outlets, such as the Long Beach Herald, Long Beach Tribune, and local entertainment guides (community events section). Efforts were also made to post events and public workshops on online calendars, including the City of Long Beach, and other local establishments.

Long Beach Listens Website: The City and its consultant team have utilized the Long Beach Listens website as a clearinghouse for information sharing throughout this process. The website served as the "go to" place to track progress with the LWRP and CP. In addition, surveys, meetings and updates were available through this site. This webpage included background information about the project, maps, and information for how to contact the team and find out more information about the project. As the CP and LWRP progressed, the webpage was amended to include announcements about and summaries of the public workshops, and other project updates.

Webpage on SLI Website: In consultation with the consultant team and the City, SLI created, and maintained throughout the course of the project a section of its website dedicated to the CP and LWRP. This webpage has

included background information about the project, project updates, and linked to the materials provided on Long Beach Listens. To see the page, please visit: <http://sustainableli.org/what-we-do/community-revitalization/long-beach/comprehensive-plan-and-lwrp/>.

Email the Project team: Project stakeholders interested in becoming involved, learning more about the CP and LWRP, or sharing input with the Project Team were encouraged to send an email to info@sustainableli.org or info@longbeachlistens.com. SLI staff monitored the email addresses each day and made sure all communication about the project was shared with the Project Team and with the City as appropriate.

Social Media: SLI will work with the consultant team and the City to produce project announcements and updates that can be posted on social media outlets.

The consultant team worked with the City to utilize all methods of community engagement and outreach prior to facilitation of each event.

Community Participation Activities

The CP and LWRP is a consensus-based process, taking into consideration the community's concerns over and vision for the coastal area while remaining consistent with state and local government goals. To ensure that the CP and LWRP is reflective of a consensus-based process, the consultant team worked with the CAC and the City to engage the public using a variety of outreach mechanisms, including flyers, email communication, meetings and workshops, and in-person stakeholder sessions, as well as other print, visual and electronic media to inform them about the CP and LWRP process, asking for their participation in key meetings and input into the project objectives.

This section of the document summarizes the strategies and techniques that were used to foster effective communication between the Team, CAC, and the broader community throughout the project.

Public Information Meetings:

Interactive public workshops and collaborative visioning processes are effective methods for engaging the public and gathering meaningful community input, identifying shared values, goals, and building consensus. The project team and the City were responsible for coordinating and facilitating nine public open house meetings, including outreach, meeting logistics, activities, and collecting stakeholder input and feedback with the City conducting additional meetings. The combination of different meeting dates and locations provided a range of opportunities for the public to share their ideas and let their voices be heard throughout this important planning process.

| Date | Time | Meeting | Location |
|-------------|--------------|-------------------------------|-----------------|
| 04/28/15 | 6:00-8:30 PM | Public Information Meeting | Magnolia Center |
| 06/08/15 | 7:00-9:00 PM | East – Public Info Meeting | East School |
| 06/11/15 | 7:00-9:00 PM | Central – Public Info Meeting | Library |
| 06/15/15 | 7:00-9:00 PM | West – Public Info Meeting | West End CC |

| | | | |
|----------|--------------|----------------------------------|------------|
| 06/18/15 | 7:00-9:00 PM | North Park – Public Info Meeting | MLK Center |
| | | | |
| 8/1/16 | 7:00-9:00 PM | Public Information Meeting | Library |
| 8/9/16 | 6:30-8:30 PM | Public Information Meeting | Library |
| 8/23/16 | 6:30-8:30 PM | North Park – Public Info Meeting | MLK Center |
| | | | |
| 10/13/16 | 6:30-8:30 PM | Final Public Information Meeting | Library |

First Public Information Meeting: The purpose of the first public meeting was to review the data collection and analysis process with the public and solicit public input such as the local waterfront issues and opportunities for the LWRP. The meeting was an open house format. The benefit of having an open house format is that it allowed the public to easily absorb the information and to react to it at their own pace. The Team prepared information about the data collection and analysis and sought community input via a variety of mechanisms such as post-its, push pins, note taking, and discussion based activities. Public input was solicited about local waterfront issues and opportunities for the LWRP and the guiding comprehensive planning principles for the CP. The public was asked to review the data collected and to share input about the draft vision, goals and objectives for both plans. The Team educated participants about the CP and LWRP and provided information on the status of the project thus far. SLI was primarily responsible for arranging meeting logistics and activities, and working with the Team and the City to structure the meeting to maximize participation in developing project goals and objectives.

Second, Third, Fourth and Fifth Public Information Meetings: These four public information meetings were held in different sectors of the City to make it convenient for residents to participate. Meetings were held in the following neighborhoods: East End (Long Beach Blvd to Maple Blvd); Central (Grand Ave to Long Beach Blvd); West End (Nevada Ave to Grand Ave); and North Park (North of Park Ave between Magnolia Blvd and Long Beach Road). A City-wide survey was released concurrently with the four community-focused public meetings and survey handouts were provided at each of the meetings to encourage participation. Residents from anywhere in Long Beach are welcome to attend any of the meetings, though the material will be enhanced for the specific area in which the Team will be presenting. Sharing the information in a neighborhood-specific manner will be important because each area of the City reacts differently to issues of environmental and economic resiliency, development, infrastructure, transportation, housing, equity, etc.

These four community-focused public meetings elaborated on the concerns and opportunities that were identified in the first public meeting, and refined the vision for each area. SLI collaborated with the Team to coordinate meeting dates, times, locations, and activities. Each meeting was structured as an open house, with participants able to explore planning concepts, both City-wide and neighborhood specific, around the room with facilitators to ensure ample opportunities for community engagement and participation. A handout provided the public with the opportunity to share project specific concerns, and exit surveys allowed the community to provide additional feedback. Through the open houses and City-wide survey, the public had an

opportunity to share their opinions on the proposed future development scenarios for the CP/LWRP effort and truly let their voices be heard.

Sixth, Seventh and Eighth Public Information Meetings: The purpose of these meetings was to reintroduce the plans and their concepts to the public following an exhaustive review period by the City of the draft plans. The sixth and seventh meetings were held at the central location of the Public Library and the eighth meeting was a neighborhood focused meeting, held at the MLK Center. These meetings were also held in an open house format and feedback was sought on the three prominent concepts contained within the draft plan alongside the challenges and goals that they aimed to address. Exit surveys were collected to capture public feedback.

Ninth Public Information Meeting: The purpose of the final meeting was to share the draft LWRP and the draft CP with the public and to solicit their input. Information about the draft LWRP was set up on one side of the room and participants had an opportunity to review the products of their input and the Team's work. Information for the draft CP was set up on the other side of the room, and participants had a variety of different ways to provide input and feedback on the draft CP, such as filling out comment cards and handouts, selecting preferences with sticker dots, etc. Any of the identified changes were carefully noted and evaluated. Staff members and Subject Matter Experts (SMEs) from the City and the Team will be on-hand to answer questions and provide expertise throughout the session. Residents unable to attend had an opportunity to see the information/slides and to provide feedback to the Team via email, available through Long Beach Listens. All of the input was incorporated into the minutes, shared with the City, and incorporated as appropriate into the plans.

Focus Groups: The Team held two focus group meetings to solicit input from key stakeholders on two important topics that emerged from the public feedback collected: the feasibility of and issues surrounding the City's art and cultural assets; and measures proposed in the LWRP and CP to improve the Long Beach economy. Stakeholders invited to the arts focus group included, but was not limited to local art organizations and art teachers. Stakeholders invited to the economic development focus group included, but was not be limited to community leaders, local businesses, and hotels. The City was responsible for invitations and communication with stakeholders as well as finalizing an invitee list for each focus group. Focus group summaries were prepared, shared with the City, and ultimately incorporated into the CP and LWRP as appropriate. The City conducted a business survey of City local businesses to gather data to support the economic development focus group.

Community Survey: SLI developed a City-wide survey in consultation with the City, the Team, and the CAC. The survey was available online in both English and Spanish through Long Beach Listens and was released during the timeframe of the June neighborhood open houses. The City and the Team promoted the survey to stakeholders including community residents, small business owners, and neighborhood organizations and hardcopy survey handouts in both English and Spanish was given out at each of the June neighborhood open houses. City interns distributed surveys to all community facilities, businesses, religious organizations and civic organizations, and follow-up to collect them. 1200 survey responses were collected.

In addition, exit surveys were provided at each Public Information Meeting for participants who could attend.

The surveys served as an effective tool for capturing a broad range of relevant perspectives that might otherwise not have been included in the CP and LWRP process, and allowed the Team to gain a better understanding of the present conditions surrounding the project area- how it is currently utilized, how stakeholders would like it to be developed and protected, existing challenges associated with the waterfront, opportunities for growth, and how to shape City priorities.

The Team analyzed and compiled survey feedback, and shared survey results with City officials.

Appendix C

Prior Planning Studies

PRIOR PLANNING STUDIES

The City of Long Beach had already engaged in several significant planning efforts prior to Superstorm Sandy. These major initiatives included the 1997 Economic Development Plan, 2007 Comprehensive Plan and 2009 Local Waterfront Revitalization Plan (LWRP), the 2009 Brownfield Opportunity Area (BOA) and Oceanside and Bayside Coastal Protection studies, and the 2009 Sewage Treatment Plant Alternatives Study.

Immediately following Sandy, the City began several new planning initiatives with a renewed focus on storm preparedness and resiliency. Most notably, Long Beach participated in the New York Rising Community Reconstruction (NYRCR) program and developed a series of projects designed that would make the City more resilient to future storms and sea-level rise impacts. The City also supplemented its major planning initiatives by engaging community-based organizations and educational institutions to perform specialized analyses and studies throughout the City. One of the initial steps of the planning process was to determine which elements of these plans and studies remain current, which have been implemented, and what must be revisited. The summaries below provide the key points from these initiatives. In turn, the relevant components have helped to inform the policies and projects recommended in the 2015 Comprehensive Plan update.

Downtown Long Beach Economic Development Plan

Prepared by Abeles Phillips Preiss & Shapiro, Inc., Spring 1997

The Economic Development Committee of the Long Beach Island Neighborhood Advisory Council, in cooperation with the City of Long Beach had a Downtown Long Beach Economic Development Plan prepared in 1997. Focusing on bolstering retail activity in the Central Business District (CBD), the plan assessed retail demand through a series of surveys of retailers, residents and weekend visitors as well as retail supply through analysis of land use, retail mix, public transportation, parking urban design, cultural and event space as well as real estate trends.

The determination of the plan was that, despite a robust potential primary residential market and strong visitor economy, the Downtown was not as successful as it should be in capturing residential, worker nor visitor expenditures. The goals of the plan were to 1) maximize the convenience and drawing power for local residents, 2) making it a “celebratory place” that people would “go out of their way” to patronize.

Key recommendations, many of which would still be beneficial to implement include:

- Programming Kennedy Plaza to be the heart of a thriving downtown;
- Working with Waldbaum’s to redesign their shopping center;
- Attracting new anchor tenants, including a catering hall, a cineplex, and the post office expansion;

- Creation of a business improvement district;
- Enforcing parking regulations;
- Expanding and improving public and other non-vehicular transportation options;
- Improving pedestrian environment with plantings, benches, neck downs at intersections, safer crosswalks; and, increasing density by establishing residency requirements in new development and focusing non-retail commercial uses near downtown.

City of Long Beach Comprehensive Plan

Prepared by Saccardi & Schiff, Inc., April 2007

A Comprehensive Plan was adopted by the City of Long Beach on April 4, 2007. The Plan was based on an analysis of conditions existing in 2005 as described in a May 2005 Technical Memorandum. The effort included a citizen engagement process that asked stakeholders to examine the existing conditions and develop goals and objectives that could then be shaped into recommendations. A series of policy and project proposals was developed for areas identified as subject to change.

The 2007 CP recommended zoning changes. It made proposals for the waterfront and for visual character improvements. An economic development plan was included in the CP that addressed the Bayfront, downtown government center, Waldbaum's Shopping Center, the Medical Center, Long Beach Boulevard, the West End, and commercial areas in general.

Infrastructure was discussed in the Plan and recommendations made for roadways and sidewalks, water treatment and storage facilities, wastewater collection and treatment, and stormwater management.

The 2007 Comprehensive Plan recommended a number of changes to improve traffic, transportation, and parking in the City. Proposals addressed traffic flow, pedestrian and bicycle activity, parking, and public transportation.

Housing and neighborhood stabilization were addressed by the 2007 Plan. Zoning changes were recommended for the single-, two-, and multi-family districts as well as the business districts. Several new zoning districts were suggested including the following:

- Mixed Use Bay Waterfront Development District
- Mixed Use Ocean waterfront development District
- Boardwalk Seasonal Commercial Overlay District
- Hospital District
- Downtown Government Center District

The Comprehensive Plan recommended workforce housing legislation, specific zoning map changes, and a new special permit use in the Business B District for live-work units. A number of additional housing recommendations were made that addressed specific housing developments, affordable housing programs, code enforcement, and rehabilitation needs.

Parks, recreation, and open space proposals were made in the 2007 Plan. A capital improvement plan was recommended along with proposals specific to the existing parks, playgrounds, recreational facilities and public spaces.

Community facilities, historic and cultural resources were addressed in the 2007 Plan. Suggestions were posed for public safety, municipal property and facilities, historic and cultural resources and various community services.

City of Long Beach Draft Local Waterfront Revitalization Program

Prepared by Saccardi & Schiff, Inc., February 2009

A Draft Local Waterfront Revitalization Program (LWRP) was prepared for the City of Long Beach in 2009. This draft was not adopted by the City or by New York State. The Draft LWRP included an inventory and analysis of the conditions of the City's environmental conditions, infrastructure, cultural and historic resources and demographic conditions. The LWRP boundary was described, and a brief history of the development of City of Long Beach was given, which provided a regional and historical context for the recommendations made in the LWRP. The Draft 2009 LWRP made policy recommendations for the City of Long Beach which were developed from New York State Coastal Management Policies, as well as projects to implement those policies.

The 2009 Draft LWRP reviewed the 2007 Comprehensive Plan, as well as other previous planning studies, and made recommendations based upon the recommendations made in these studies, and from information gathered during the performance of the inventory and analysis. Meetings were held with the City of Long Beach Waterfront Advisory Committee and the public, and comments on the draft Inventory and Analysis was solicited through the City of Long Beach website.

Some of the key recommendations of the Draft LWRP included changes in land use (which were consistent with the 2007 Comprehensive Plan). A proposed redevelopment of the Bayfront area was to include residential, commercial, civic and water development which would revitalize the Bayfront and improve quality of life for residents of the area, as well as attract private development, and provide more public access to the Bayfront. Land use changes were also recommended for the oceanfront area. Recommendations to create new zoning districts complemented those made in the Comprehensive Plan. These new districts included a Mixed Use Bay Waterfront Development District, Mixed Use Ocean Waterfront Development District, Boardwalk Seasonal Commercial Overlay District, Hospital District and Downtown Government Center District. Other projects to implement the LWRP included the promotion of the downtown as the economic core of the City, design alternatives for the Waldbaum's shopping center and streetscape and façade improvements.

Projects to increase public access included providing additional docks and piers, enhancements to the boardwalk, constructing a private marina on Reynolds Channel, constructing private parks on the canal ends and other park improvements were suggested in the LWRP. Other means to enhance public

access included recommendations to reduce dependence on automobiles provide clearly marked bicycle and pedestrian routes, increase bicycle use, improve pedestrian safety and provide a shuttle bus.

Flood and erosion control measures included recommendations to raise bulkheads in the Canals neighborhood to uniform height, and to continue implementing the City's street improvement program, to regularly clean and maintain storm drains and tide flex valves and install additional tide flex valves.

The 2009 LWRP provided a management structure to implement the LWRP, consistency review procedures, suggestions for financial resources necessary to implement the LWRP and a discussion of which State and Federal actions and programs would be likely to affect the implementation of the LWRP, how those actions would be reviewed for consistency the LWRP, and how any conflicts might be resolved.

City of Long Beach Brownfield Opportunity Areas (BOA) Pre-Nomination Study

Prepared by Gannett Fleming, February 2009

The City's BOA Pre-Nomination Study focused on the North Park neighborhood, which is bounded by Magnolia Boulevard to the west, Long Beach Boulevard to the east, Reynolds Channel to the north, and Park Avenue to the south.

The Pre-Nomination Study sought improvements in four major areas: business and job development, housing, recreation and open space, and infrastructure. Business and job development intends to provide a wider range of jobs with a focus on career training, provide local hiring opportunities for redevelopment projects, while continuing to provide diverse retail options. For housing, the BOA study seeks to utilize traditional and innovative planning strategies to provide diverse housing options, with an affordable component that is responsive to the existing neighborhood context. Recreation and Open Space recommendations include both new and expanded community facilities designed to provide recreational and educational opportunities for the community as a whole, and children in particular. Infrastructure recommendations include a focus on preserving existing housing stock and flood mitigation.

The BOA study area includes residential, recreational, commercial, industrial, and community land uses. Residential uses are clustered in the center of the BOA while the boundary consists primarily of commercial uses. Recreation, industrial, and community uses are dispersed throughout the area.

The proposed BOA contains five areas that have been identified because they have sizes large enough for viable redevelopment potential and are consistent with the goals of the BOA program. Figure 32 shows the location of the five areas.

Figure 32: BOA Pre-Nomination Study Areas



Area 1 is located on West Pine Street from Magnolia Boulevard to National Boulevard. This area contains a Whitbread's Lumber Yard, a private lumber facility, and the city-owned Long Beach Maintenance Facility. The lumber facility is a potential brownfield site because of the possible historical use of hazardous substances. The City holds a Resource Conservation and Recovery Act permit for the Maintenance Facility which is required for storage of hazardous materials (which does not necessarily indicate site contamination).

Area 2 is located next to Veteran's Memorial Park and Reynolds Channel. It contains the Long Beach Water Pollution Center, which is considered a potential brownfield because of the nature of this industrial activity.

Area 3 contains the former Long Beach Incinerator which was demolished in 2007. A Phase II Environmental Site Assessment indicated the presence of SVOC and metal concentrations from historic fill material and some metal concentrations from the Incinerator.

Area 4 consists of Keyspan Energy and Long Island Power Authority sites. At the time the BOA Pre-Nomination was prepared, Keyspan was required to complete Phase I and II Environmental Assessments because they were operating under a Consent Order with the NYS Department of

Environmental Conservation. (Note - 2016 update: The Final Site Characterization Report was submitted to NYSDEC on March 25, 2010. The NYSDEC issued a No Further Action letter on March 31, 2010. No additional work is required for this site).

Area 5 contains primarily industrial uses. Long Beach Recycling segregates and stockpiles recyclable materials that are exposed to precipitation which could contaminate groundwater. Long Beach Salt/Sand Depot stores sand and silt stockpiles which when exposed to precipitation can also contribute to groundwater contamination. Centre Millwork True Value Hardware houses lumber; therefore there is potential contamination from historical use of hazardous substances. (Note - 2016 update: The City has switched to single-stream recycling and no longer separates or stockpiles recyclables at this location.)

These five areas contain numerous potential brownfield sites which if redeveloped could act as catalysts for redevelopment of the area as a whole. A greater emphasis was placed on Areas 3 and 4 due to the strong community support for redevelopment of these areas. All of the potential environmental contamination issues need to be examined in greater detail as part of a BOA Nomination Study or as redevelopment plans are considered.

The City continues to pursue grant funding for Phase II however these opportunities when offered have been highly competitive and otherwise limited by NYS.

Parking Study Phase One – West End

Prepared by Level G Associates, August 2008

This study was prepared to develop new parking management strategies that would benefit residents, shoppers, visitors, and workplace employees in the West End. There were four identified issues that the recommended strategies were designed to address:

Parking supply: The study identified several potential locations for new or expanded/reconfigured parking lots. Leasing and “shared parking” opportunities were also mentioned. Total potential new parking yield was projected at several dozen new spaces.

“Off Site Parking”: There are potential parking areas outside the West End (e.g. the LIRR station) and people should be encouraged to utilize that parking and then take a “West End Express” shuttle to the West End (Note – 2016 update: West End Bus service).

Bicycle use and bicycle parking supply: Bicycle parking areas and supportive bicycle ordinances would make it easier for people to use bicycles for day-to-day transportation (Note – 2016 update: This is being addressed through the City’s Complete Streets Policy and Streetscape Initiative).

Parking regulations: Beech Street meters would improve finances and parking turnover for spaces meant to serve short-term patrons. Residential Parking Zones (RPZs) are areas with

specific permitted numbers of parking permits per household, depending on household type (single family home, legal apartment). Non-permit holders would need to utilize metered parking.

The study examined overall benefits vs. detractions from individual vs. area-wide muni-meters, and examined other Long Island parking meter rates, but did not project potential meter revenue.

The study then touched upon enforcement requirements (number of personnel, potential equipment needs, and potential use of bicycles).

Coastal Protection Study: Oceanside Shore Protection Plan

Prepared by Coastal Planning & Engineering, Inc., November 2009

Coastal Planning & Engineering authored this report at the behest of City of Long Beach based on concerns over the Army Corps' 2006 Limited Reevaluation Report (LRR) that recommended shifting the dune structure under the boardwalk and the beach berm landward for flood prevention. The city's concerns about volume and fill quality prompted this study, which seeks locally acceptable solutions (Locally Preferred Plan or LPP) close enough to the LRR to avoid triggering a project reformulation, with funding and timing implications. The LRR plan is the culmination of studies undertaken since 1989. State, federal, county, and multiple municipalities have interests in the shoreline, Reynolds channel, and inlets. Requirements tied to funding streams and incompatible aims for shoreline access and development have stalled numerous efforts.

Based on the Army Corps 1998 feasibility study, Long Beach residents expressed concerns about a proposed vegetated dune system impacting beach access and recreation. LIDAR analysis shows vegetated dunes at the east and west ends of the boardwalk, indicating that a natural dune system would exist on the sites of the boardwalk and many oceanfront buildings in Long Beach. Beach stability and erosion are also major concerns for Long Beach's shoreline. FEMA's flood zone analysis in 2009 showed that the entire City of Long Beach is now at a high risk of flooding. The report suggests implementing flood protection measure at least to the height of the boardwalk (+17 ft. NGVD) to prepare for 100 year storm events. Note that since this report was completed in 2009, FEMA's flood maps have been updated to reflect higher flood risk.

The beach is subject to overtopping during moderate storm events. The beach itself is accretional and stable due to groin fields created in the 1940s. This report suggests further geotechnical and wave analysis studies to document the beach conditions. The study looked at compatible sand sources for fill to complete the necessary flood protection improvements. The 1998 feasibility study offered cost estimations for eight strategies to address the beach and groins. It proposed nine possible beach nourishment conditions. The study recommended 41,000 feet of beach and dune fill, including

vegetation. The recommended plan length was shortened when the neighboring city of East Atlantic Beach withdrew participation prior to the 2006 LRR plan revision. An alternative plan was proposed to preserve recreation, surfability, and sea views from the boardwalk, incorporating a sand barrier landward of the boardwalk in addition to a smaller dune and berm system.

Variations on a hard infrastructure or sand fill barrier under the boardwalk were proposed for shoreline protection measures. The Locally Preferred Plan included a flood wall with groin rehabilitation and fill only as needed. This report suggests that data on accretion gathered between 1998 and 2009 may reduce the need for berming that could interfere with surf and other beach recreation, and recommends accepting the Army Corps' LRR with additional studies on sand and beach stability.

Coastal Protection Study: Bayside Flood Protection Plan

Prepared by Coastal Planning & Engineering, Inc., November 2009

Suggestions to increase bayside resiliency include raising and filling gaps in bulkheads, installing check valves, and establishing emergency flood gates in the canal areas. The “*Nassau County Multi-Jurisdictional Hazard Mitigation Plan*” calls for disaster preparedness planning and outreach.

The report discusses some plans for waterfront development as well as government control of a number of disconnected bayside parcels. Flooding issues are centralized at the street ends, which are predominantly controlled by the city, though some are under county control. Stormwater is managed by a combination of open gutters and underground pipes that discharge directly to the bay. Combined, 60% of rainfall is discharged directly to the bay.

(Note – 2016 update: check valves are addressed through the Capital Improvement Plan while Bulkheading is being addressed through NY Rising Community Reconstruction and FEMA funding.)

Long Beach Sewage Treatment Plant Alternatives Feasibility Study

Prepared by Dvirka and Bartilucci Consulting Engineers, October 2009

A study was completed in October 2009 that proposed a number of ways for the City's wastewater treatment plant (WWTP) to meet more stringent ammonia and residual chlorine effluent discharge limits within a schedule proscribed by the WWTP's State Pollution Discharge Elimination System (SPDES) modified 2008 permit.

Five different scenarios were evaluated for their feasibility and estimated costs. The scenarios are reproduced below:

- The WWTP is upgraded to include nitrification and ultraviolet disinfection facilities.
- Nassau County assumes control of the City's collection system and builds a new pump station and force main to send the City's wastewater to the Nassau County Bay Park Sewage Treatment Plant.

- The City continues to operate its wastewater collection system and builds a new pump station and sends its wastewater through a County constructed force main to the Bay Park Sewage Treatment Plant.
- The City rehabilitates and upgrades its Sewage Treatment Plant to include nitrification and ultraviolet disinfection facilities, expands the plant to include the Greater Atlantic Beach Water Reclamation District (GABWRD), Point Lookout and Jones Beach State Park, and continues to serve the Lido Beach Collection District.
- The City rehabilitates and upgrades its Sewage Treatment Plant to include nitrification and ultraviolet disinfection facilities, expands the plant to serve Point Lookout and continues to serve the Lido Beach Collection District.

After evaluation on a conceptual basis, Scenarios 1, 2, and 3 were found to be the most viable options. Scenario 1 would potentially have the highest cost to Long Beach residents, while Scenarios 2 and 3 would require additional coordination with Nassau County.

(Note – 2016 update: The City is currently in discussion with Nassau County on the potential for consolidation.)

Conditions Evaluation of Bulkheads & Outfall Structures in the City of Long Beach, New York

Prepared by Sidney B. Bowne & Son Consulting Engineers, August 2013

An inspection of the marine bulkhead structures along Reynolds Channel and the adjacent canals was conducted to evaluate these structures for damage resulting from recent storm episodes, including Superstorm Sandy, and to observe the drainage outfall structures and other pipe penetrations along these bulkhead areas throughout the project area. Each structure was evaluated for the condition of the structure, the amount of damage (if any) at each location and an evaluation was made as to whether the observed damage was caused by recent storm events or the result of normal wear and degradation.

Marine Bulkheads: During the course of the evaluation, no evidence was found of damage that could be conclusively attributed to recent storm episodes. The structures that were most severely degraded appeared to be quite old and it seemed apparent that these degraded structures had been in a substandard state for quite some time. A possible conclusion was made that the state of disrepair was most likely exacerbated by the high tidal surge heights caused by Superstorm Sandy and that at least some of these locations would still be functioning, or functioning at a more acceptable level should Sandy not have occurred.

Outfalls: The outfalls that penetrate the bulkheads also showed no damage that could be directly attributed to recent storm activity, but it was concluded that several would benefit from upgrading or replacement in order to 'Harden' the associated upland areas against future storm damage. No obvious evidence was found of any bulkhead outfall pipe being dislocated or exhibiting any settlement. However, as with the distressed bulkheads, it is not unreasonable to conclude that certain observed outfall conditions such as missing tide valves and invert elevations that were below existing mud line

elevations might also be attributed to Superstorm Sandy. One observation was made that the majority of outfall pipes needed to be re-sealed at the penetrations through the bulkheads.

Shoreline Erosion: An area of significant erosion exists along the Reynolds Channel shoreline, and a severely eroded outfall structure lies at the end of Riverside Boulevard. It appears that this erosion is the result of the high tide elevations resulting from tidal storm surge. The erosion extended up to the existing Water Street service road that runs parallel to the shore line.

Recommendations were made in this report to implement repairs or replacements of the bulkheads and outfalls, and to address the shoreline erosion (Note – 2016 update: check valves are addressed through the Capital Improvement Plan while Bulkheading is being addressed through NY Rising Community Reconstruction and FEMA funding.).

Long Beach, NY: Sustainable Neighborhood Assessment for Long Beach

Prepared by Global Green USA, May 2014

This report is the result of a zoning/history analysis that utilized LEED-ND (Leadership in Energy and Environmental Design – Neighborhood Development; United States Green Building Council) and three-day site visit in Long Beach’s West End neighborhood. Since the West End’s dunes are not maintained and the neighborhood is within the 100 year floodplain, the neighborhood was particularly devastated during Sandy. The West End contains almost no unpaved space, and residents are raising structures for protection. Standing water accumulates during typical rainfall, and the water table is 1-5’ below land. The report recommends strategies for “living with water,” including incorporating green infrastructure, tree planting, and upgrading grey infrastructure. The report suggests establishing a Business Improvement District to support the streetscape upgrades and increasing density on Beech Street by building residential units above commercial. The report also suggests maintaining continuous bulkheading, improving bay side connections, and hiring full-time planning staff to implement new efforts.

Long Beach NY Rising Community Reconstruction Plan

Prepared by the NY Rising Community Reconstruction Long Beach Planning Committee, March 2014

In July of 2013 New York State initiated the New York Community Rising Program. This program, with input from the residents of the City of Long Beach, sought to:

- Assess the community’s vulnerability to the adverse effects of future natural disasters and sea-level rise;
- Identify strategies, projects and actions that will increase the community’s resilience, provide protection to vulnerable populations, and promote sound economic development by protecting the community’s assets;
- Identify where funds should be used to repair or reconstruct essential public assets damaged or destroyed by Superstorm Sandy;

- Assess the need for future economic development.

The New York Community Rising Process resulted in a vision for the future of the City of Long Beach, which is to rebuild and redevelop in a manner that addresses resiliency, sustainability, and greater prosperity to ensure Long Beach's long-term success. Some of the specific elements of the vision include:

- Increase protection from both coastal and stormwater flooding;
- Increase housing resiliency;
- Protect the north shore and then maximize the potential for land use by relocating some of the infrastructure including the sewage treatment plant and downsizing the infrastructure footprint of some of the other utilities in the area;
- Connect the north shore area from the Recreation Center vicinity to the central business district along Park Avenue and then to the beach with more pedestrian and bike options as well as other transit options;
- Maximize waterfront usage, where possible, in a manner appropriate to Long Beach's community while emphasizing recreational and cultural opportunities;
- Maximize the use of the land when large-scale redevelopment occurs in strategic areas;
- Expand Long Beach's emergency preparedness operations;
- Develop dual-purpose facilities such as using community centers as community assistance centers and parking garages as elevated safe havens for emergency vehicles;
- Address multiple needs at once when replacing or redeveloping infrastructure;

The recommendations of the vision are geared towards rebuilding for resilience and sustainability and to maximize use of the waterfront areas. As such, these objectives have served as a key foundation for the development of the City's Comprehensive Plan.

Rebuild by Design Competition

Prepared by the Interboro Team, 2014

Living with the Bay: A Comprehensive Regional Resiliency Plan for Nassau County's South Shore was a winning project in the Rebuild by Design Competition. It contained many components to mitigate damage from storm surge, storm water runoff, and sea level rise. Protective measures included constructed marshes and dikes, managing storm water and expanding housing options near public transportation. In Long Beach, protective infrastructure that doubles as a landscape amenity to provide access to the shoreline was one of the components. While this portion of the proposal was not ultimately funded by Rebuild by Design, that concept was considered in the design of the Bayfront advanced in the City's Comprehensive Plan.

Appendix D

Implementation Timeline and Project Funding Source Tables

Implementation Timeline

Action Items - Short Term: Less than 5 years, Medium Term: 5-10 years, Long Term: Over 10 years

Resilience and Hazard Mitigation

Short Term Action Items

- Continue to support the ACOE dune reconstruction project that will help provide a storm barrier on the oceanfront.
- Establish pilot programs to study the efficacy of landscape-based stormwater infrastructure (rain gardens, etc.) for both water infiltration and redirection in the City of Long Beach.
- Send water to the bay in the North Park neighborhood. This low-lying area is subject to chronic ponding and occasional flooding in intense rain events due to bay-side and ocean-side pressure on the groundwater levels.
- Establish a pilot program for permeable infiltration zones at street ends within the West End. Many of these locations are extremely vulnerable to flooding and the location of many of the City's repetitive loss properties.
- Continue to harden and elevate components of City wells and sewer lift stations.

Short to Medium Term Action Items

- The NYRCR Plan includes several resiliency projects which the City plans to pursue with funding from New York Rising and any additional funding available. The NYRCR projects include in addition to the bulkheading project, implementing storm mitigation measures for the Long Beach Fire Stations, Ice Arena/Recreation Center, and the Community Centers.
- The City encourages other important community facilities, including the public libraries, schools, post office, railroad station and others to develop and implement the appropriate resiliency measures.
- A comprehensive stormwater management study is an outlined priority in NYRCRP, with an emphasis on repetitive flooding areas, including the use of green infrastructure improvements.
- Continue to install stormwater infiltration and retention chambers as street restoration projects move forward throughout the City.
- Preserve and expand existing dunes and plantings and introduce tree plantings for vulnerable oceanfront blocks
- Continue to explore, and obtain funding for various defense solutions for the Canals neighborhood, including removable dams or collapsible gates.

Medium Term Action Items

- Continue to work with the ACOE to advance the bayside study for stormwater protection and health of the bay.

Medium to Long Term Action Items

- Continue to pursue the consolidation and/or relocation of bayfront infrastructure and utilities.
- City government offices, courts, police and fire facilities, and the future OEM facility, are located in City Hall. The Comprehensive Plan recommends that that these government functions be relocated as part of a redevelopment of the City Hall/Kennedy Plaza property, which is currently outdated and inefficient.

Short to Long Term Action Items

- Continue to upgrade underground utilities including water, sewer, drainage, gas and electric as major sections of streets are reconstructed.

Long Term Action Items

- Create a Bay Mile, Bayfront esplanade for walking, biking, etc. extending from Washington Blvd to Franklin Blvd, which integrates the current flood protection barrier work with other real estate and landscape-based strategies.

Environmental Sustainability

Short Term Action Items

- Establish specific policies within the City Code of Ordinances to allow for green roofs.
- Continue to participate in NYSEERDA's Climate Smart Communities program and adopt and implement a Climate Action Plan which will improve efficiency and mitigate greenhouse gas emissions.
- Implement pilot program for electric vehicle charging stations.
- Explore the feasibility of a solar-shade project within parking lots and structures.
- Continue to expand the use of LED street-lighting within the City.

Short to Medium Term Action Items

- Explore additional incentives and public-private partnerships to increase both residential and commercial solar installations.
- Continue implementation of the Tree Master Plan and look to provide additional trees.
- Explore various ways to enhance and expand the use of the City's green malls, look to maximize parking while maintaining green space, which could include art installations, new landscaping and stormwater storage and infiltration chambers, pocket parks, and the expansion of the City's fitness and exercise trails.

Short to Long Term Action Items

- Enhance the City's efforts to reduce its carbon footprint.

- Explore opportunities to update the City Procedures and Policies to encourage conservation of energy, alternative energy generation, and other methods of community-wide reduction of GHG emissions.
- Continue to evaluate the need for environmental remediation activities along the bayfront as NYS funds become available, in conjunction with infrastructure relocation/consolidation efforts and/or new or updated private development.

Long Term Action Items

- Establish a solar pilot program with a goal of 1,000 solar roofs in Long Beach over the next 30 years. The City has already adopted a fast-track solar permitting process to facilitate this process.

Zoning and Land Use

Short Term Action Items

- Integrate the planning and development review processes to be more efficient. Adapt this updated review process to better fit the needs of an already highly-developed barrier island community.
- Amend the City Zoning Ordinance to designate a bayfront overlay zone to guide development in this critical area to encourage mixed use and waterfront uses and scaled residential to fit the neighborhood context. Give special consideration to the preservation and enhancement of public access. In addition to increasing access and use of the waterfront, such a policy would also provide flood mitigation and help to reduce impacts to private properties.
- Amend the City Zoning Ordinance to allow mixed-use residential/commercial buildings within Long Beach's primary commercial corridors of Park and West Beech Streets with appropriate parking. It is important to note that such changes would have to be coordinated with recently updated building and fire codes (primarily associated with floodplain management) within the City.
- Amend the City Zoning Ordinance to include affordable housing as a component of any new major residential development. The City will look into the use of inclusionary zoning.
- Amend the City Zoning Ordinance to establish a transit-oriented/city center zoning district, which would allow for increased allowable height and density within the core of the CBD.
- Remove restrictions on the use of green infrastructure, particularly for stormwater management, from the current Code of Ordinances.
- Develop a performance-based green infrastructure rating system that would set clear goals for new development and provide sustainability incentives for existing properties. Key performance indicators could include: energy efficiency, green infrastructure/stormwater management, emissions reductions, and overall flood resilience.

- Designate certain critical waterfront areas, such as the West End and the Canals, with special zoning characteristics to account for erosion and compliance with FEMA regulations.
- Align the City Code of Ordinances more closely with Federal, State and Local regulations.
- Include a significant amount of community outreach concerning the proposed code changes, focusing on homeowners, business owners and interested developers.

Economic Development

Short Term Action Items:

- Expand housing options to allow for new residences above commercial on Park Ave. and West Beech St. Allowing residences above commercial fortify the business area with additional consumers and provide housing options for residents and workers.

Medium to Long Term Action Items:

- Recommend the relocation of Kennedy Plaza to the arrival point of the LIRR, on a portion of the current Stop and Shop property. Potential to create mixed-use, transit oriented development that brings together a mix of uses around this site: a redeveloped City Hall, a mixed-use cultural and performing arts facility, retail and residential. All of the buildings fronting Kennedy Plaza could have commercial use to liven the street level.
- Recommend the remainder of the current Stop and Shop property then be utilized for commercial, residential, and adequate parking, all incorporating green infrastructure measures.
- Recommendations could potentially free up the current Kennedy Plaza and City Hall parcel to become a building site. This site could be utilized for commercial space, housing, office space, and adequate parking.
- Redevelopment along the bayfront to include the bay mile, an esplanade used for walking, biking, etc., and open space. Also during this phase the construction of a marina and restaurant in the bay east of the LIRR Bridge could be a construction project that can immediately activate the bayside along the Bay Mile, generate revenue for the City and create jobs.
- An additional marina located on the bay at the end of Magnolia Boulevard could incorporate parking and commercial facilities on land, contributing to an active scene.
- The overall redevelopment program for the bayfront could include retail/restaurant/catering/ event space, Mid-Rise Residential with a sufficient affordable housing component, boat slips, and parking decks to serve these uses. Forty percent of the lot area would be set aside for accessible open space.
- Development of a multi-acre oceanfront park which could include retail, mid-rise Residential with parking decks below, with adequate parking to support the housing and retail as well as parking for

beachgoers with income from paid parking. Sloped open space connected to the boardwalk and beach would be used as open space most of the year, and as event space periodically for income to support the open space.

Transportation and Pedestrian Improvements

Short Term Action Items

- Introduce designated curbside loading zones in key commercial areas to reduce double parking of commercial vehicles.
- While a 2015 bus ridership satisfaction survey showed an overall high level of satisfaction with the current system, to help facilitate the reduction of residents' reliance on personal vehicles, bus service can be reevaluated to better serve the community more effectively. The City may look to retire outdated, inefficient routes or extend service in areas.
- Create a bicycle network featuring different designs/purposes on selected streets based on safety for bicyclists and motorists. This network would include a system of signage, sharrows, dedicated bicycle lanes and protected bicycle lanes based on the following criteria: ridership, street design/space, safety and connectivity, amongst others.

Short to Medium Term Action Items

- Continue to utilize traffic controls and physical changes to enhance or smooth traffic flow.
- The following streetscape recommendations have been developed for Park Avenue and/or West Beech Street, as well as other critical streets:
 - The addition of a new, protected bicycle lane on Park Avenue.
 - Raised "bump-outs" installed adjacent to crosswalks to provide a buffer between pedestrians and parked vehicles.
 - Raised landscaped islands next to each crosswalk, to maintain a level path for pedestrians. These would enhance pedestrian safety and improve the level of pedestrian comfort in the crosswalk by providing better separation from oncoming traffic and from vehicles using the parking lane.
 - Enhanced, colored crosswalks and new pedestrian traffic signals with countdown timers.
 - A renewed focus on the City's "gateway" intersections, including Park Avenue at Edwards Boulevard (located at the City's Long Island Rail Road station), Long Beach Bridge, East Park Avenue and West Beech Street.
 - Using a Federal Highway Administration Transportation Alternatives Program (FHWA TAP) grant the City will redesign and rebuild the Edwards Boulevard corridor, spanning from the transit station to the oceanfront.

- Bus shelters featuring informational panels and kiosks to display updated transit and travel information.
- Streetscape and circulation enhancements such as, additional bicycle racks, new sidewalks, and bus shelters would encourage increased pedestrian and bicycle activity in the West End and Central Business District.
- Transform street intersection areas into “public art” displays representative of Long Beach’s unique personality and physical environment.
- Provide bicycle parking areas where space allows. Where feasible, as City-owned parking lots are redesigned, usable space could integrate multi-modal infrastructure, such as bicycle racks and bus stops.
- Establish official bicycle lanes along Oceanview Avenue. Since vehicular-through traffic is prohibited on this route, it is commonly used as a bicycle route. However, since it lacks necessary striping and signage, bicycle safety remains a concern along this “informal” route.

Short to Long Term Action Items

- Explore potential locations for additional parking – including structured, on-street and within lots.
- Identify a possible location for a parking garage in the West End.
- Continue to seek opportunities that align with the City’s existing Complete Streets Policy – Complete Streets provide safe, comfortable, convenient access and mobility for users of all abilities and all modes, including pedestrians, bicyclists, motorists and transit riders.
- Parking management improvements to reduce the need for drivers to make repeated, circuitous searches for parking instead of a single, direct trip.

Housing

Short Term Action Items

- Consider zoning to allow medium-density mixed-use housing within the CBD and along the Bayfront, with higher density housing allowed in select appropriate areas, all with an affordable component.

Short to Medium Term Action Items

- With development pressures making housing less affordable, provide additional tools and resources, such as counseling for: first-time homebuyers, financial literacy, etc.

Medium to Long Term Action Items

- Continue to participate in the National Flood Insurance Program (NFIP) Community Rating System (CRS) to secure flood insurance premium discounts for residents. Having recently lowered the City’s rating to a

7, City residents now receive a 15% discount on flood insurance. The City is continuing to pursue additional actions with the ultimate goal of reaching Level 5 within five years.

- To meet the needs of both younger and older residents and to better align with New York State affordable housing goals, require workforce/affordable housing to be a component of each new development within the City of Long Beach.

A. Potential Funding Sources
for Municipal Sponsored Projects

| # | Funding Agency | Program | Eligible Activities | Funding Amounts | Website | Contact |
|----|--|---|--|--|---|---|
| 1 | NYSERDA | Cleaner Greener Communities Implementation Grant | Cat1: Adopt Streamline Permitting for Photovoltaic & Electric Vehicle Supply Equipment. Cat 2: Immediate and long-term impact on carbon mitigation. Cat 3: Reduce Carbon Emissions with economic development projects. Funding for sustainability projects that are recommended in NYSERDA funded Comprehensive Plans | Cat1: \$10,000 per applicant. Cat 2: \$25,000 to \$250,000 grants with a 25% match. Cat 3: \$500,000 to \$3,000,000 with a 25% match. (Note there are no funds appropriated for future implementation projects.) | http://www.nyserda.ny.gov/All-Programs/Programs/Cleaner-Greener-Communities | CGC@nyserda.ny.gov |
| 2 | NYSDOS | Local Waterfront Revitalization Program | Implementation funding for various waterfront and water quality improvement projects recommended in the approved LWRP. | EPF funding: 50% matching grants, apply thru CFA. | http://www.dos.ny.gov/opd/ | Jamie Ethier 518-473-3656 |
| 3 | New York State Office of Community Renewal | Main Street New York | Private Building Renovations and Commensurate Public Improvements. Must be in an economically distressed area and have a mixed use component in downtown areas | 75%/25% funding shares for projects between 50K and 200K | http://www.nyshcr.org/Programs/NYMainStreet/ | Crystal Loffler, Program Director - 518-474-2057 |
| 4 | Empire State Development Corporation | Strategic Planning & Feasibility Studies | Assessment of site or sites for economic development purposes consistent with the L.I. Regional Economic Development Council's Opportunity Agenda | 50/50 matching grants. Applicant is also responsible for a 10% cash equity. | https://www.ny.gov/sites/ny.gov/files/atoms/files/RESOURCES_AVAILABLE_GUIDE_FINAL_V3.pdf | Barry Greenspan ESDC Long Island Region 631-435-0717 |
| 5 | Empire State Development Corporation | ESDC Grant Funds | Funding can be used for infrastructure projects that support economic development and job creation | 20% grant funding 80% municipal or private development funding. 10% cash equity contribution by applicant. | https://www.ny.gov/sites/ny.gov/files/atoms/files/RESOURCES_AVAILABLE_GUIDE_FINAL_V3.pdf | Barry Greenspan ESDC Long Island Region 631-435-0717 |
| 6 | U.S. Department of Commerce, Economic Development Administration | Investments for Public Works and Economic Development Facilities | Characteristic projects include investments in facilities such as water and sewer systems, industrial access roads, business parks, port facilities, rail spurs, skill-training facilities, business incubator facilities, brownfield redevelopment, eco-industrial facilities, and telecommunications and broadband infrastructure improvements necessary for business creation, retention and expansion. To be eligible, a project must be located in or benefit a region that, on the date EDA receives an application for investment assistance, satisfies one or more of the economic distress criteria set forth in 13 C.F.R. § 301.3(a). All investments must be consistent with a current EDA- approved Comprehensive Economic Development Strategy (CEDS) or equivalent strategic economic development plan for the region in which the project will be located, | Grant funding in the amount of 50% to 80% of the project costs depending on the needs of the region | www.eda.gov | Andrew Reid, 267-687-4317, areid@eda.gov |
| 7 | FEMA | A.. Flood Mitigation Assistance Program B. Hazard Mitigation Grant Program C. Pre-Disaster Mitigation Program D. Severe Repetitive Loss Grant Program | Eligible mitigation projects must be cost efficient based on Benefit/Cost analysis (BCA). Projects must be listed in the local (Nassau County) Multi-Jurisdictional Hazard Mitigation Plan. | 75% federal/25% local. | http://www.fema.gov/grants | Marlene White NYSEMO 518-242-5000 |
| 8 | NYSDEC | Water Quality Improvement Project | 1. Municipal Wastewater Treatment, 2. Municipal Separate Storm Sewer Systems (MS4s), 3. Nonagriculture Nonpoint Source Abatement and Control, and 4. Aquatic Habitat Restoration, | 75/25 funding, | http://www.dec.ny.gov/pubs/4774.html | 518-402-8267 (Different contact officials for each program component) |
| 9 | NYSDEC | Urban & Community Forestry Program | Tree Planting - funds can be used for downtown parks | 50% matching grants, \$50,000 grant limit for large Towns. Municipal forces can be used as the match or part of the match. | http://www.dec.ny.gov/lands/5285.html | Debra Gorka, NYS DEC, 518-402-9425 |
| 10 | NYSDEC | Environmental Restoration Program | Brownfield Site Investigation and remediation for commercial, industrial, residential and public use. | 90% State Funding/10% local funding | http://www.dec.ny.gov/chemical/8444.html | 518-402-9764 |
| 11 | FHWA/New York Metropolitan Planning Organization | Map-21 Transportation Alternatives | 1. Construction, planning & design of on-road and off-road trail facilities for pedestrians, bicyclists, and other nonmotorized forms of transportation, 2. Infrastructure related projects regarding Safe-Routes for non-drivers, 3. Conversion and use of abandoned railroad corridors for trails for pedestrians, bicyclists, or other non-motorized transportation users, 4. Construction of turnouts, overlooks and viewing areas, 5. Community Improvement Activities: removal of outdoor advertising, historic preservation and historic transportation facilities, vegetation management practices in transportation rights-of-way to improve roadway safety, prevent invasive species and provide erosion control, 6. Any environmental mitigation activity, including prevention and pollution abatement activities and mitigation to address stormwater management, water pollution prevention related to highway construction or runoff or reduce vehicle-caused wildlife mortality or to restore and maintain connectivity among terrestrial or aquatic habitats, 7. Safe Routes to School Program, 8. Recreational Trails Program (administered by NYS Office of Parks, Recreation and Historic Preservation). | 80% federal funding/20% applicant share | http://www.nymtc.org/ | Howie Mann - 631-952-6115 |

A. Potential Funding Sources
for Municipal Sponsored Projects

| # | Funding Agency | Program | Eligible Activities | Funding Amounts | Website | Contact |
|----|---|--|--|---|---|---|
| 12 | FHWA/NYS DOT (through New York Metropolitan Planning Organization) | 1. Surface Transportation Program (STP) 2. Congestion Mitigation & Air Quality (CMAQ) | 1. Highway Reconstruction, drainage and streetscape improvements. 2. Traffic flow reduction and Alternative Fueled Vehicles | 80/20 federal funding. The NYS DOT will fund part of the local match in the construction phase under the NYS Marchiselli Program. Project must be included in the Nassau-Suffolk Transportation Improvement Program and Town must coordinate this with the Suffolk County Department of Public Works. For New York State roads, On-State road system funding may be available. The Town should meet with State officials in order to pursue this. | http://www.nymtc.org/ | NYS DOT Planning Unit 631-952-6108 and the Nassau County Department of Public Works |
| 13 | U.S.D.O.T. | Transportation Generating Economic Recovery (TIGER) | Large construction projects for Port, Rail, Road, Transit and Bicycle & Pedestrian. Planning funding is available. | 80/20 funding shares. \$10 million minimum application (\$200 million maximum) that must prove five year long-term outcomes for safety, economic competitiveness, state of good repair, livability and environmental sustainability. Applicant must document a positive benefit/cost ratio - a key component for a successful application. | http://www.dot.gov/tiger | US DOT Office of Infrastructure, Finance & Innovation 202-366-0301 |
| 14 | NYS DOT | Industrial Access Program | Necessary highway, bridge or rail projects which facilitate economic development that create jobs. | 60% grant, 40% interest free loan that must be paid back in 5 years. \$1,000,000 grant/loan limit for project. Eligible projects must be an integral part of an economic development effort which seeks to retain, attract, expand an industrial facility. | https://www.dot.ny.gov/divisions/operating/opdm/local-programs-bureau/iap | NYS DOT Region 10 Planning Unit - 516-952-6108 |
| 15 | NYS DOT | Multi-Modal Program | Road Reconstruction, Drainage, Highway Safety, Streetscape | 100% funding. Projects should be requested by the municipality to their State legislators prior to or in January of each year. | NA | Ronnie Wilgeroth, NYS DOT 631-952-6189 |
| 16 | NYS DOT | CHIPS Program | Road Reconstruction and Drainage | 100% funding annual allocation determined by formula | https://www.dot.ny.gov/programs/chips | Ronnie Wilgeroth, NYS DOT 631-952-6189 |
| 17 | NYS Environmental Facilities Corporation | Green Innovation Grant Program | Permeable Paving, Bioretention (Rain Gardens, Bioswales), Green Roofs/Green Walls, Stormwater Street Trees, Downspout Disconnection, Stormwater Harvesting and Reuse. | 90% federal EPA funding/10% local share | http://www.nysefc.org/ | Suzanna Randall, Green Innovation Coordinator, NYS EFC, 518-402-7461 |
| 18 | NYS Office of Parks, Recreation & Historic Preservation | Environmental Protection Fund | 1. Land Acquisition for Parks Purposes, 2. Parks Development for active or passive parks 3. Historic Preservation Projects, 4. Recreational Trails Program (including pedestrian and bicycle trails) | 50% matching grants except for the Recreational Trails Program which is 80% federal/20% applicant. | http://nysparks.com/ | Traci Christian, NYS OPRHP, Long Island Region 631-321-3543 |
| 19 | NA | Tax Incremental Financing (TIF) | A Municipality can create a TIF district and issue bonds for improvements based on future revenues resulting from increase assessments. The bonding now applies to both Town and School District assessments | With bond revenues, the municipality can make public improvements that support the district | NA | NA |
| 20 | U.S. Department of Housing & Urban Development (HUD) - Funded through the Governor's Office of Storm Recovery | New York Rising Community Reconstruction Plan | Eligible projects are included in the Long Beach section of the plan. | Project budget included in the plan per estimates established during planning phase. | http://stormrecovery.ny.gov/sites/default/files/crp/community/documents/long_beach_nyrcr_plan.pdf | Governor's Office of Storm Recovery 1-855-697-7263/info@stormrecovery.ny.gov |
| 21 | City of Long Beach | Community Development Block Grant Program | Commercial Improvements, business development incentives, Improvements to municipal-owned land that would support business development, streetscape improvements | Varies depending on budget and federal allocation | http://www.longbeachny.gov/index.asp?Type=B_DIR&SEC=%7BE9948833-2FA3-4D5B-B7BC-B9A7DCF923CE%7D&DE=%7BDDF3E7B5-2B07-4022-A45D-4C912D560AA4%7D | Michael H. Robinson, Deputy City Manager 516-431-1001 |
| 22 | NYS Environmental Facilities Corporation | A. Clean Water State Revolving Fund B. Drinking Water State Revolving Fund | 1 Wastewater Treatment, STPs, and Sewer Infrastructure Improvements (not for sewerage new areas.) 2. Drinking Water Facilities Improvements | Low Interest Loans, Market Rate Loans, Hardship (possible grant funding or principal forgiveness) if area meets income criteria. New in 2015, separate source of NYS grant and loan funding for wastewater and water facilities projects under the Critical Water and Wastewater infrastructure upgrades. \$200 million added to the program for the next three fiscal years. | http://www.nysefc.org/ | Dwight Brown 518-402-6924 (Clean Water) /Michael Montysko, P.E., NYS DOH (Drinking Water) |

B. Potential Private Redevelopment/Brownfield Funding Sources

| # | Funding Agency | Program | Eligible Activities | Funding Amounts | Website | Contact |
|---|---|---|--|---|---|--|
| 1 | New York State Department of Environmental Conservation/New York State Department of Taxation & Finance | New York State Brownfield Clean Up Program | 1. Site Preparation and On-Site Groundwater Remediation Credits. 2. Tangible Property Credit Component (Redevelopment Credit) | Tax credit varies depending on use, level of clean-up, and if project is in a BOA or Economic Development Zone http://www.empire.state.ny.us/BusinessPrograms/BrownfieldCleanup.html | http://www.dec.ny.gov/chemical/8450.html | Walter Parish, PE, NYS DEC, 631-444-0241, wjparish@gw.dec.state.ny.us |
| 2 | Nassau County Industrial Development Agency | Financial Assistance to Businesses | Relocating or starting a business in Nassau county | Incentives Package: Real Estate Tax Exemptions, 2. Sale and Use Tax Exemptions, 3. Mortgage Recording Tax Exemption, 4. Tax Exempt Financing | http://www.nassauida.org/Public/Home.aspx | Nicholas Terzulli 516-571-1945 |
| 3 | Empire State Development Corporation | Taxes & Incentives | Relocating, Starting or Expanding a Business in New York State | 1. Investment Tax Credit, 2. Lower Corporate Tax for Manufacturers, 3. Real Property Tax Abatement, 4. Research & Development Tax Credit, 5. Sales Tax Exemptions, 6 | http://www.empire.state.ny.us/BusinessPrograms/Taxes_Incentives.html | Barry Greenspan, ESDC Long Island Region, 631-435-0717 |
| 4 | Empire State Development Corporation | Excelsior Jobs Program | Job creation, Job Retention and Significant Capital Investment (On-going enrollment) | Tax and Wage credits based on new jobs created and include the following: 6.85% wage credit per new job created, 2% Investment Tax Credit, 3% Research & Development Tax Credit, and Real Property Tax credit | http://www.empire.state.ny.us/BusinessPrograms/Data/Excelsior/06272013_ExcelsiorJobsProgramOverview.pdf | Barry Greenspan, ESDC Long Island Region, 631-435-0717 |
| 5 | Empire State Development Corporation | Empire State Development Grant Funds | Projects must create jobs. and application is available competitively thru the CFA and include the following: 1. Business Investment, 2. Infrastructure Investment, & 3. Economic Growth Investment. | 20% grant funding/80% other investment for the following: Acquisition or leasing of land, buildings, machinery and/or equipment; Acquisition of existing business and/or assets; Demolition and environmental remediation; New construction, renovation or leasehold improvements; Acquisition of furniture and fixtures; Soft costs of up to twenty-five percent (25%) of total project costs; and Planning and feasibility studies related to a capital project. Public projects that support development that lead to job creation such as sewers, STP's, drinking water system upgrades, etc. | http://regionalcouncils.ny.gov/sites/default/files/documents/2013/new-available_resources_2013.pdf | Barry Greenspan, ESDC Long Island Region, 631-435-0717 |
| 6 | Empire State Development Corporation | New York State Business Incubator and Innovation Hot Spot Support Program | Projects must create jobs. and application is available competitively thru the CFA to become a designated Incubator and/or Innovation Hot Spot for start-up companies | 2:1 funding share: Incubators: \$125,000 annually for operations. Hot Spots: 250,000 annually. Hot Spots businesses must be affiliated with colleges, universities and independent research institutions and the incubators within the hot spots are also eligible for significant State income and sales tax benefits for 5 years. | http://regionalcouncils.ny.gov/sites/default/files/documents/2013/new-available_resources_2013.pdf | Barry Greenspan, ESDC Long Island Region, 631-435-0717 |
| 7 | Empire State Development Corporation | ESD Strategic Planning and Feasibility Studies | For economic and employment opportunities and stimulating development of communities by developing 1. Strategic Development Plans, 2. studies for Site or Facility Assessment Planning. Eligible Applicants thru the CFA include: Municipalities, Local Development Corporations, & Not-For Profit Economic Development Organizations. | 50% matching grants. | http://regionalcouncils.ny.gov/sites/default/files/documents/2013/new-available_resources_2013.pdf | Barry Greenspan, ESDC Long Island Region, 631-435-0717 |
| 8 | New York Business Development Corporation | Small Business Administration Section 504 Business Loans | Low Interest federal government Small Business Administration Loans | Loans for small and medium sized businesses - plant, equipment and working capital | http://www.nybdc.com/ | Jim Goldrick, 534 Broad hollow Road, Suite 430, Melville, New York, 11743 516-845-2700 |
| 9 | New York State Department of Labor | Workforce Development | Employee Training (for both existing employees and unemployed and On-the-Job Training | Maximum cost per trainee is \$5,000 maximum cost of On-the-Job Training is 50% of the employees salary for a period not grater than 6 months. Maximum grant award per private company is \$100,000. | http://labor.ny.gov/cfa/index.shtml | Andrew Gehr, NYS DOL - 518-457-0361 |

B. Potential Private Redevelopment/Brownfield Funding Sources

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| 10 | NYS Environmental Facilities Corporation | Green Innovation Grant Program | Permeable Paving, Bioretention (Rain Gardens, Bioswales), Green Roofs/Green Walls, Stormwater Street Trees, Downspout Disconnection, Stormwater Harvesting and Reuse. | 90% federal EPA funding/10% local share | http://www.nysefc.org/ | Suzanna Randall, Green Innovation Coordinator, NYS EFC, 518-402-7461 |
| 11 | Long Island Development Corporation | Financial Assistance to Businesses | 1. Fastrak - Provides incentives to lenders to make small business loans up to \$100,000 with an SBA. 2. L.I. Targeted Industries Revolving Loan Program - Low fixed rates for targeted industries, including defense diversification, fisheries, biomedical, pharmaceutical, software development and high-end electronics. 3. Micro Loan revolving loans for women owned businesses - provides short-term loans ranging from \$2,000 to \$25,000 for working capital needs, purchase of equipment or inventory for start-up and expanding businesses. 4. Capital Asset financing | Both short and long term loans available | http://www.lidc.org/ | 1-866-433-5432, info@lidc.org |
| 12 | Community Development Corporation | Financial Assistance to businesses and potential home buyers | 1. Residential lending. Rental Housing Assistance, 3. Affordable Workforce Housing, 4. Small Business Training, 5. Business Assistance Program, 6. Home Energy Incentives, 7. Home Improvement Program, 8. Weatherization Assistance Program, 8 Sandy Housing Recovery Program | Assistance varies with each program | http://www.cdcli.org/ | 631-471-1215, info@cdcli.org |