

FRAMEWORK FOR THE FUTURE

SUFFOLK COUNTY Comprehensive Master Plan 2035

Suffolk County Executive
Hon. Steven Bellone

Suffolk County Department of Economic Development and Planning
100 Veterans Memorial Highway
P.O. Box 6100
Hauppauge, NY 11788-0099

2015

Prepared for:



Funded by:



Submitted by:



July 2, 2015

The preparation of this report has been financed through the U.S. Department of Transportation's Federal Transit Administration and Federal Highway Administration. This document is disseminated under the sponsorship of the New York Metropolitan Transportation Council in the interest of information exchange. The contents of this report reflect the views of the authors who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Federal Transit Administration, Federal Highway Administration or the State of New York. This report does not constitute a standard, specification or regulation.

This report, *Framework for the Future – Suffolk County Comprehensive Master Plan 2035*, was funded through the New York Metropolitan Transportation Council SFY 2014-2015 Unified Planning Work Program project (Suffolk County Comprehensive Plan 2035 and PTSU14D00.H02), which was funded through matching grants from the Federal Transit Administration and from the Federal Highway Administration.

Images: Fire Island National Seashore provided the aerial photo taken by Dr. Cheryl Hapke, USGS, that shows the impacts of Superstorm Sandy on the barrier beach near Smith Point County Park. All other photos in the mosaic and the report were provided by Suffolk County and AKRF, Inc.

Icons: Márcio Duarte, Edward Boatman, Wilson Joseph, Pavel Pavlov, Rémy Médard

OFFICE OF THE SUFFOLK COUNTY EXECUTIVE



STEVEN BELLONE
Suffolk County Executive

June 2015

Suffolk County's future is now. Building on our assets—world-class research institutions and universities, a highly educated workforce, rich soils, vast acres of preserved pristine habitats—passionate residents and leaders are coming together to create a resilient and sustainable region.

Superstorm Sandy focused our minds. The devastation challenged us to move forward in a resilient fashion and we have responded by building back stronger. We are determined to face the challenges to our region—the need to retain and attract young talent, embrace our diversity, confront our water quality crisis, protect our environment, enhance transit opportunities, diversify housing, and interconnect our assets—all of which must be done to contribute to a robust economy.

We cannot reach our economic potential as a region and prosper in the future if we cannot attract knowledgeable, skilled workers elemental to building an innovation economy. In order to be competitive, the factors combine to drive young people elsewhere—high cost-of-living, limited transportation options, lack of quality affordable, rental housing in enticing settings, a dearth of high paying jobs.

Our response is Connect Long Island, which will build a quality-of-life ecosystem linking walkable, transit-oriented downtowns with robust public transportation to universities, research centers, job centers, parks and open spaces. Our downtowns can only thrive when supported by high-caliber infrastructure in the form of sewers that support thriving business activity and affordable housing. We are seeing community approved transit oriented development plans where the County could invest in downtown sewer projects including—Sayville, Southampton Village, Flanders/Riverside, Ronkonkoma Hub, North Bellport, Smithtown, Huntington, Riverhead, Wyandanch, and Kings Park. The sea of parking surrounding our train stations should be converted into beautiful, mixed-use buildings which generate jobs, provide housing and expand our tax base.

As the Ronkonkoma Hub project moves forward, one of our region's greatest underutilized assets, LI MacArthur Airport will be augmented in ways to realize its potential. As the MTA moves forward with critical investments for projects like East Side Access and Double Track, we must be ready to take full advantage. By making improvements to Sagtikos Parkway, we can leverage hundreds of millions of public sector dollars to spur billions in private sector development with the Heartland project. The private sector has already stepped up in a big

way and recognized the opportunity for our region in investing in new mixed use downtowns around transit in Wyandanch, Patchogue, and Huntington Station.

The transit infrastructure investments laid out in the Connect Long Island plan must be prioritized to complement these developments. These investments include North-South Bus Rapid Transit systems along critical roadways like Nicolls Road, Route 110 and the Sagtikos, linking all three lines of the Long Island Railroad that move in an east west direction. Extensions to transit would include moving the Yaphank Train Station to Brookhaven National Laboratory (BNL)—linking this global institution to the region and also supporting efforts to electrify LIRR lines out to Port Jefferson, Patchogue and BNL. As a cornerstone of our economy, an East End transportation plan is vital.

Interconnecting the networks of hiking and biking trails stretching across Suffolk provides an alternate means of connecting our downtowns, utilizing our 50,000 acres of parkland and open spaces.

The *Framework for the Future—Suffolk County Comprehensive Master Plan 2035* highlights current trends, ideas, and works-in-progress as foundational for future strategies and actions in support of sustainable economic development. The dynamic of *Framework for the Future* is organic, and thus will evolve over time in response to changing circumstances.

This document's development spans several years and administrations. Special thanks go to the Chair of the County Planning Commission David L. Calone for his tireless leadership, and Joanne Minieri, Deputy County Executive and Commissioner of Economic Development and Planning, supported by a talented cross-Departmental County team.

Suffolk County is embracing its future. We are in action mode, building transit-oriented developments linked to tech hubs while Reclaiming Our Waters through upgrades to infrastructure, sound land use and the restoration of our surrounding ecosystems. Working together we are building a stronger Suffolk County.

Steven Bellone
County Executive

LOCATION:
H. LEE DENNISON BUILDING, 12th FLOOR
100 VETERANS MEMORIAL HIGHWAY

MAILING ADDRESS:
P.O. BOX 6100
HAUPPAUGE, NY 11788-0099

OFFICE (631) 853-4000
FAX (631) 853-4818

SUFFOLK COUNTY LEGISLATURE



DUWAYNE GREGORY
Presiding officer

June 2015

The Suffolk County Planning Commission, in drafting the new Suffolk County Comprehensive Master Plan 2035, has created a blueprint for the future of Suffolk County.

The priorities it identifies are ones we all share; economic development, environmental protection, transportation, housing diversity, public safety and energy usage. All those priorities are interconnected and the plan makes that clear. We face great challenges and great opportunities in the coming years and this Comprehensive Master Plan gives us a guidebook to help us deal with both.

I would like to extend my thanks to everyone who worked so hard to draw up the new Suffolk County Comprehensive Master Plan 2035. The County Legislature welcomed the opportunity to be an integral part of the process and I would like to thank Legislator Kara Hahn, Chairperson of the Legislature's Environment, Planning and Agriculture Committee, and her Co-chairperson, Legislator Al Krupski for their critical input.

Of course, thanks are also extended to the Suffolk County Planning Commission; Chairman, David L. Calone; Director of Planning, Sarah Lansdale and her entire staff; and Joanne Minieri, Deputy County Executive and Commissioner of Economic Development and Planning. Under their leadership, information

was gathered from departments across the county to enable the team to draft the new Suffolk County Comprehensive Master Plan 2035.

The report's title, "Framework for the Future, Suffolk County Comprehensive Master Plan 2035," is entirely appropriate because that is exactly what the new Comprehensive Master Plan is. Without a plan for the future, we would be stumbling into the unknown.

Ben Franklin once said, "If you fail to plan, you plan to fail." Now it's up to us!

DuWayne Gregory, Presiding Officer
SUFFOLK COUNTY LEGISLATURE

SUFFOLK COUNTY LEGISLATORS

Al Krupski
District 1

Jay H. Schneiderman
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Kate M. Browning
District 3

Thomas Muratore
District 4

Kara Hahn
District 5

Sarah S. Anker
District 6

Robert Calarco
District 7

William J. Lindsay III
District 8

Monica R. Martinez
District 9

Tom Cilmi
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Leslie Kennedy
District 12

Robert Trotta
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Kevin J. McCaffrey
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DuWayne Gregory
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Lou D'Amaro
District 17

William Spencer
District 18



COUNTY OF SUFFOLK



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Suffolk County Executive

SUFFOLK COUNTY PLANNING COMMISSION

DAVID L. CALONE
Chairman

SARAH LANSDALE
Director of Planning

June 2015

Suffolk County law tasks the Suffolk County Planning Commission with creating a Comprehensive Plan for Suffolk County and providing it to the Legislature for its consideration and adoption. Under the leadership of County Executive Steven Bellone, the County Planning Commission is pleased to have initiated the *Framework for the Future—Suffolk County Comprehensive Master Plan 2035*, the first effort to create a Suffolk County Comprehensive Plan in more than 40 years.

Much has changed since the last Comprehensive Plan—Suffolk is now one of the largest suburban counties in the country, and our population is larger than 11 states. The impact of storms in recent years has also made us acutely aware of our vulnerabilities. On an island like ours, how we use our limited land is a reflection of our values, our expectations and our goals. The purpose of this *Framework for the Future* is to create a strategic plan for our County by determining where we are as a region and where we want to be. As Yogi Berra said, "If you don't know where you are going, you will wind up somewhere else."

Over the last few years, the Suffolk County Planning Commission has identified six "critical county-wide priorities" that will impact the future of our County and that require regional policy solutions: environmental protection, economic development, housing diversity, transportation, energy and public safety. From fostering economic growth to ensuring housing options for all of our residents, and from increasing our energy efficiency to providing

adequate infrastructure and preserving our natural resources, Suffolk County's challenges are interconnected and require a comprehensive strategic plan to address them and to help us evaluate what should come next.

The people of Suffolk County are fortunate to be led in this Comprehensive Plan effort by our talented County Planning and Environment Division staff, headed by Director Sarah Lansdale. This Plan would not have been possible without the tremendous effort of Stephen Holley and his team at AKRF, Inc. Special thanks are also due to former Director of Planning Thomas A. Isles and former Deputy Director Daniel J. Gulizio for initiating work on this project.

The Long Island we inhabit today is the result of choices made by those who came before us. The future shape of Suffolk County is not dictated to us. Now is the time to set our community goals and—most importantly—to then enact policies to support those priorities that are critical to our common future. *Framework for the Future—Suffolk County Comprehensive Master Plan 2035* will provide us with a roadmap to do just that.

A handwritten signature in cursive script that reads "David L. Calone".

David L. Calone
Chairman

Suffolk County Executive
Hon. Steven Bellone



Suffolk County Department of Economic Development and Planning

Joanne Minieri
Deputy County Executive and Commissioner

Division of Planning and Environment
Sarah Lansdale, AICP
Director of Planning



Suffolk County Planning Commission

Towns

Ramon F. Accettella, Jr.
Babylon

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East Hampton

Matthew Chartrand
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Over 5,000 Population

Michael Kaufman
Under 5,000 Population

At Large

David L. Calone – Chairman

Samuel Chu

Kevin G. Gershowitz

Glynis Margaret Berry –
Former Commission Member

Report Prepared by:



AKRF, Inc.
3900 Veterans Memorial Highway Suite 331
Bohemia, NY 11716

IBI Group • Gruzen Samton
320 West 13th Street, 9th floor New York, NY 10014

L.K. McLean Associates, P.C.
437 South Country Road Brookhaven, NY 11719

ACKNOWLEDGEMENTS

Suffolk County Department of Economic Development and Planning

Joanne Minieri
Deputy County Executive and Commissioner

Sarah Lansdale
Director of Planning, AICP

PROJECT STAFF

DeWitt S. Davies, Ph.D.
Project Manager

Peter Lambert
Principal Planner

Barbara J. DelGiudice
Senior Clerk Typist

Suffolk County Departmental Participation

Department of Economic Development and Planning

Louis Bekofsky
Director of Project Development

Amy Keyes
Deputy Commissioner

Adam G. Santiago
Deputy Commissioner

Lisa Broughton
Energy Director & Bio-High Tech Dev. Spec.

Lauretta R. Fischer
Chief Environmental Analyst

Carl Lind
Cartographer

Anthony Ceglio
Francis S. Gabreski Airport Manager

Seth Forman, Ph.D.
Principal Planner

Jill Rosen-Nikoloff
Director of Real Estate

Dorian Dale
*Director of Sustainability-
Chief Recovery Officer*

Andrew Freleng
Chief Planner

August Ruckdeschel
*Economic Development
Spec.-Agriculture & Marine*

Carolyn Fahey (retired)
Intergovernmental Relations Coordinator

Department of Public Works

Gilbert Anderson, P.E.
Commissioner

Darnell Tyson, P.E.
Deputy Commissioner

William Hillman, P.E.
Chief Engineer

Garry Lenberger
Director of Transportation Operations

Department of Health Services

Walter Dawydiak, P.E.
Director, Division of Environmental Quality

Larry Stipp
Office Systems Analyst III

Department of Labor, Licensing & Consumer Affairs

Vanessa Pugh
Chief Deputy Commissioner

Department of Fire, Rescue and Emergency Services

Thomas O'Hara
Emergency Manager

Robert Sheron
Planning Aide

SUFFOLK COUNTY TOWNS AND VILLAGES

Town of Babylon

Amityville Village
Babylon Village
Lindenhurst Village

Town of Brookhaven

Belle Terre Village
Bellport Village
Lake Grove Village
Mastic Beach Village
Old Field Village
Patchogue Village
Poquott Village
Port Jefferson Village
Shoreham Village

Town of East Hampton

East Hampton Village

Town of Huntington

Asharoken Village
Huntington Bay Village
Lloyd Harbor Village
Northport Village

Town of Islip

Brightwaters Village
Islandia Village
Ocean Beach Village
Saltaire Village

Town of Riverhead

Town of Shelter Island

Dering Harbor Village

Town of Smithtown

Head of the Harbor Village
Nissequogue Village
Village of the Branch

Town of Southampton

North Haven Village
Quogue Village
Sag Harbor Village
(also Town of East Hampton)
Sagaponack Village
Southampton Village
West Hampton Dunes Village
Westhampton Beach Village

Town of Southold

Greenport Village

FORWARD

by Dr. DeWitt S. Davies, Chief Environmental Analyst, 2035 Comprehensive Plan
Project Manager, Suffolk County Dept. of Economic Development and Planning

Comprehensive planning in Suffolk County began in the 1960s under the leadership of Dr. Lee E. Koppelman. The *Nassau-Suffolk Comprehensive Development Plan* (NSCDP), completed in 1970, was the first comprehensive study of its kind and became the landmark study for the region. It advanced the planning concepts of Corridors, Clusters and Centers to improve and coordinate local land use decisions in response to dramatic population growth and landscape change.* Implementation demonstrated that a well-conceived plan produces positive results. Achievements over the ensuing years included:

- Creative use of zoning to foster higher density development and establishment of jobs in locations along corridors, centers of activity and established downtowns served by mass transit.
- Improvements in the transportation network via expansion of bus service, park and ride, electrification of portions of the LIRR, and limited access highways.
- Preservation of farmlands, and the protection of open space, wetlands, stream corridors, shorelines and greenbelts through acquisition and clustering.
- Improvements in sewage treatment infrastructure.
- Championing the provision of more multi-unit housing that is accessible to different groups.

The NSCDP was followed by many topic-specific studies, including seminal works in groundwater protection, farmland preservation and open space planning. These studies and many others were the foundation of important programs and policies that have greatly benefited the residents of Suffolk County.

The landscape of the County has changed dramatically over the last 45 years, and the need for an updated plan has been evident. As a whole, the vision contained in the *Framework for the Future – Suffolk County Comprehensive Master Plan 2035* is captured by three themes: **Revitalize**, **Rebuild** and **Reclaim**, i.e., **Revitalize** the economy, **Rebuild** our downtowns and infrastructure, and **Reclaim** the quality of our groundwater, surface water and terrestrial resources. These are the planning principles embodied in Suffolk County's new plan – *Framework for the Future*.

* Suffolk County adopted those portions of the NSCDP with certain exceptions that pertained to the County in July 1971 (Resolution No. 674-1971).

Suffolk County Comprehensive Plan Process Overview

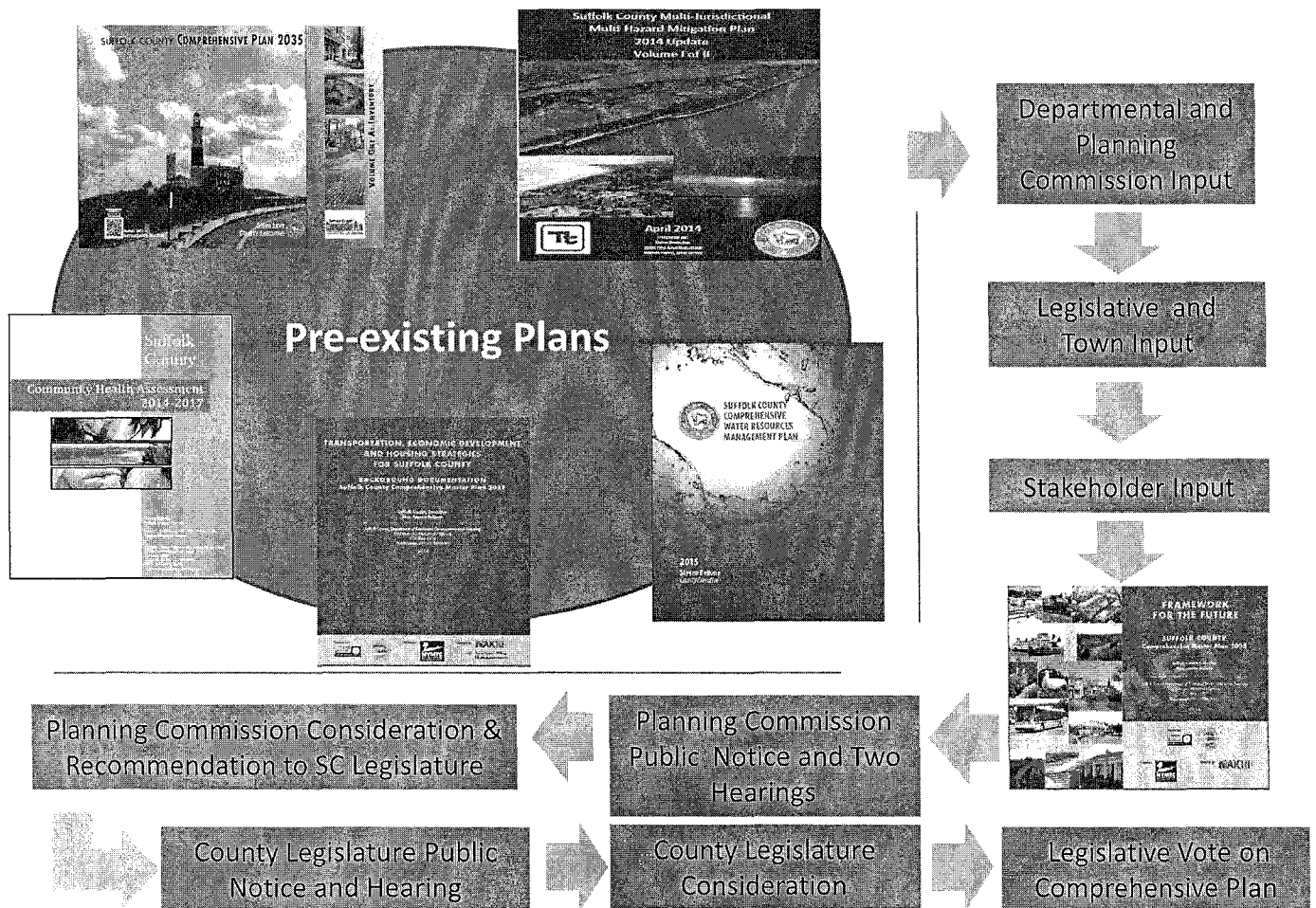
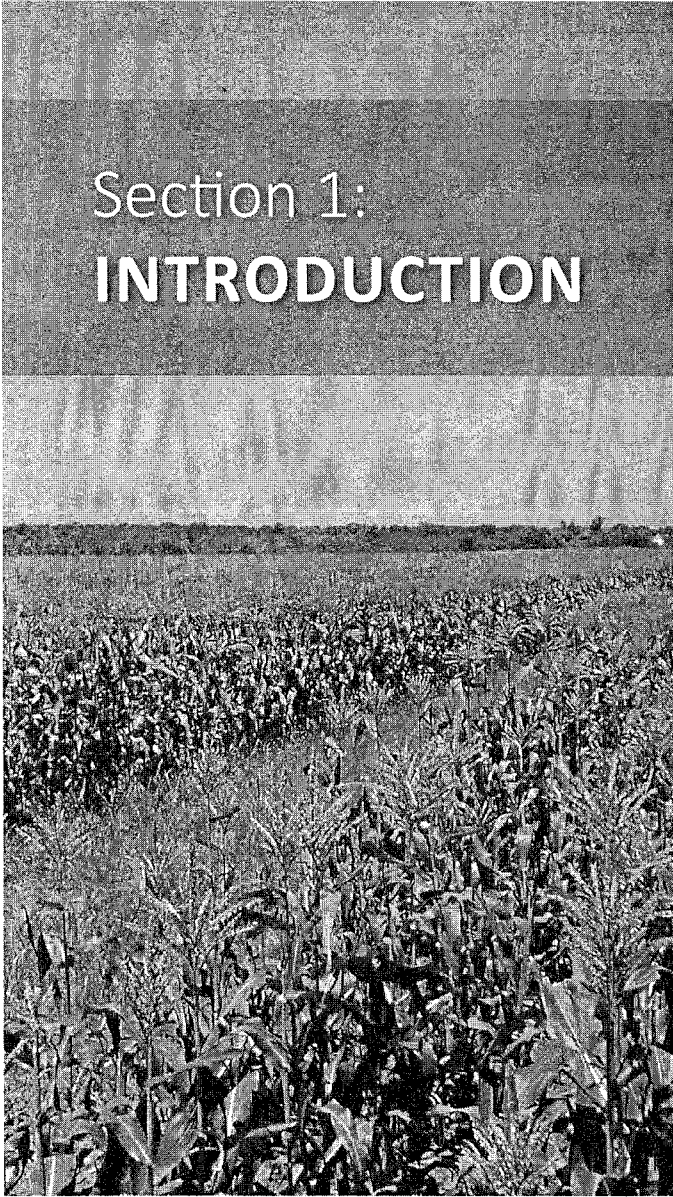


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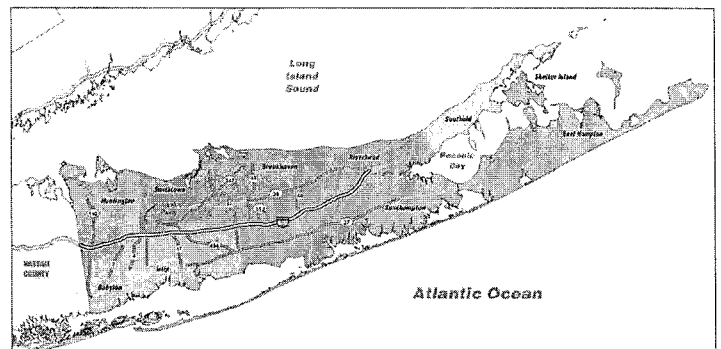
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Section 1: INTRODUCTION



Suffolk County has numerous qualities that make it a desirable location to live, work, and play. Its proximity to New York City, coupled with excellent connectivity by mass transit and the island's roadway network (e.g., Long Island Expressway, Northern and Southern State Parkways, and other arterial state and County roads), make it attractive to residents, businesses, and tourists. Amenities readily available in the County include numerous state and local parks and open spaces; world renowned beaches; a broad variety of colleges and universities; a burgeoning winery and agribusiness industry; historical sites; myriad shopping opportunities (from specialty, one-of-a-kind retail stores to destination outlet malls); high-tech technology centers (e.g., along the Route 110 corridor, near Stony Brook University, and Brookhaven National Laboratory, etc.); and various other attractions. All of these assets contribute to making Suffolk County the vibrant, dynamic place that it is.

Suffolk County is part of the Long Island region, located at the southern tip of New York State and 15 miles east of the New York City border. The County is bordered by Nassau County to the west, by the Long Island Sound to the north, the south shore bays and the Atlantic Ocean to the south, and the Peconic Bay system and Gardiner's Bay to the east. The eastern end of Suffolk County is divided into two peninsulas, the North Fork and the South Fork.



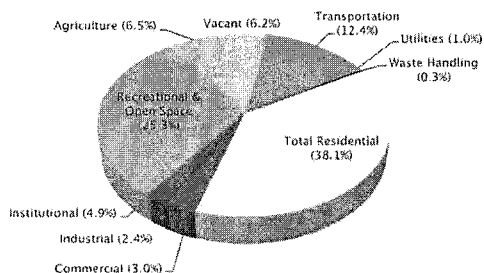


Notable Suffolk County Statistics:

- Comprises the eastern-most two thirds of Long Island
- 2012 population estimate of approximately 1.5 million
- Has a greater population than 11 U.S. states
- This represents almost 8 percent of the population of New York State
- Total land area is approximately 911 square miles (583,363 acres)
- The County is approximately 86 miles long
- Averages approximately 15 miles wide, and is 26 miles across at its widest point
- Has 980 miles of coastline that winds around two peninsulas, large bays and multiple inlets
- It is the 2nd largest county in New York State by area.

As shown in Figure 1, major land uses in Suffolk County include: Residential; Recreation & Open Space; and Transportation, with a mix of seven other land uses making up the balance.

Figure 1. General Land Use Composition, by Percentage

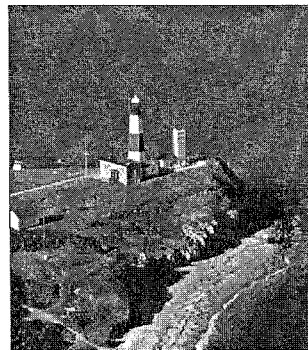


Source: Suffolk County Planning, 2011 Estimates

Suffolk County is at a turning point in its history; the existing pattern of low-density residential development with scattered single-use commercial areas can no longer be sustained by the network of transportation, water, and wastewater infrastructure, cannot easily accommodate any additional residential growth or economic development, and is not resilient to large-scale disruption such as that caused by Superstorm Sandy. Planning for the future will require a careful balancing of the relationship between land use, the overall economy, traffic and transportation systems, and natural and built resources.

Resiliency: Planning for a Better Tomorrow

In the wake of Superstorm Sandy, Suffolk County undertook this comprehensive planning effort to produce the *Framework for the Future – Suffolk County Comprehensive Master Plan 2035*. Long-term planning goals are intended to guide activities related to growth in Suffolk County. They define and describe the desired results for growth and the conditions to be achieved in the future. These goals center on sustainable and continued growth for Suffolk County, and are defined as follows:



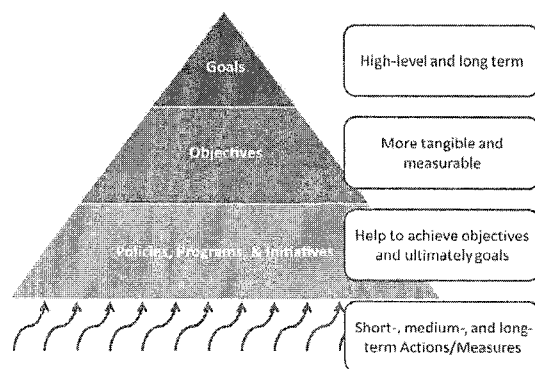
Goal 1: Provide the foundation for sustainable growth and resiliency of Suffolk County.

This goal addresses the need of all Suffolk County residents for a safe environment in which they can live and prosper. A desired environment needs to be safe, healthy, and foster the economic opportunities that will allow residents to provide for their families.

Goal 2: Encourage economic development that will help to retain and attract businesses and create jobs for Suffolk County residents.

A thriving economy does not only provide jobs to residents, it provides well-paying jobs and ensures that municipal and County governments are funded at levels necessary to provide the services needed by the public.

The goals described above are aspirational and long-term, and entail many different aspects, from housing to quality of life to economic development incentives, but provide only limited guidance for specific areas of concern. The objectives translate the aspirational goals into more tangible and measurable categories.



Key objectives of the *Framework for the Future – Suffolk County Comprehensive Master Plan 2035* are listed below and reflect the six Livability Principles adopted at the federal level by the U.S. Department of Housing and Urban Development, U.S. Environmental Protection Agency, and U.S. Department of Transportation. While the objectives are listed, the order **does not** reflect a priority ranking based on the relative importance of each objective.

1. Build a 21st Century Transit Network to Provide More Transportation Choices to Improve Mobility, Access, and Safety

Develop a range of transportation choices to decrease household transportation costs, improve air quality, reduce greenhouse gas emissions and promote public health.

2. Provide Equitable, Affordable Fair Housing

Expand the variety of housing choices for all people. Develop housing near transit to increase mobility and lower the combined cost of housing and transportation. Encourage energy efficient retrofits.

3. Enhance Economic Competitiveness and Capacity to Build an Innovation Economy

Enhance economic competitiveness through improving access to employment centers, educational opportunities, services, and other basic worker needs, as well as expanding business access to local, regional, national, and international markets.

4. Support Vibrant Communities

Target funding toward existing communities, for transit oriented development, expanded wastewater infrastructure, and land recycling—to promote community revitalization, resiliency, and preserve natural resources.

5. Streamline Government, Coordinate Policies, and Leverage Investment

Align policies and funding to remove barriers to collaboration. Streamline and coordinate governmental efforts, policies, and programs to better enable leveraging of investment of public and private funds expended.

6. Protect the Environment and Enhance Our Human Capital

Continue to promote open space preservation, and green and sustainable energy production and conservation; invest in human capital; mitigate threats to the quality of groundwater and surface waters; and address solid wastes.

This report includes Priority Actions that are based on technical analysis documented in several important regional studies, including *Transportation, Economic Development and Housing Strategies for Suffolk County (2014)*, *Connect Long Island—A Regional Transportation and Development Plan (2014)*, *Suffolk County Comprehensive Water Resources Management Plan (2015)*, *Suffolk County Community Health Assessment 2014-2017*, and *Suffolk County Multi-Jurisdictional Multi-Hazard Mitigation Plan 2014 Update*. The actions presented have benefitted from the review and input received from members of the Suffolk County Planning Commission and numerous staff from the following Suffolk County Departments: Economic Development and Planning; Public Works; Health Services; Fire, Rescue and Emergency Services; and Labor, Licensing & Consumer Affairs; Suffolk County Legislators, local government representatives, and stakeholders.

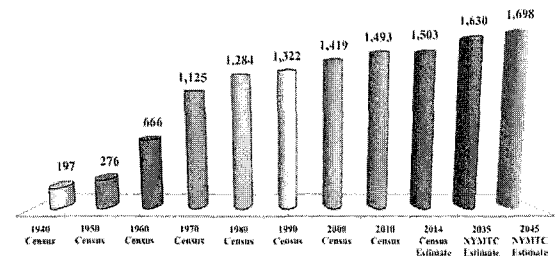
Suffolk County Yesterday and Today: Background



GEOGRAPHY

Prior to 1950, much of Suffolk County was characterized by a network of small villages located along the Long Island Rail Road lines and supported by the fishing and agricultural industries. In the decade between 1950 and 1960, fueled by national housing and transportation policies that favored suburban tract development, the landscape of the County began to be transformed as the population of Suffolk County increased from 275,000 to 666,000 residents—an unprecedented 140 percent. The population explosion of the 1950s and 1960s resulted in record-breaking single-family home construction, the emergence of strip mall developments, and the extension of the highway system—the Long Island Expressway and the Northern and Southern State Parkways. The car was king, and Suffolk County's transportation infrastructure developed accordingly. However, the decades that followed saw a drop in the annual population growth rate, down to single digits (Figure 2).

Figure 2. Population Trends, Historic and Future Estimates (in Thousands)



Sources: U.S. Census Bureau and NYMTC estimates.



Population Density:

According to the latest data available from the 2010 Census, Suffolk County's population density was 1,639 persons per square mile. Yet Suffolk's ten towns vary greatly in population size and density. The five western towns, Huntington, Babylon, Smithtown, Islip, and Brookhaven, contain 91% of the County's population but just 62% of its land area. The 2010 population density in western Suffolk was 2,403 persons per square mile, and in eastern Suffolk the density was 395 persons per square mile. While Suffolk's population density has been increasing, it is still significantly less than neighboring counties. Although Suffolk has more people than Nassau County, Suffolk is only about one-third as densely populated as Nassau.

Based on 2010 U. S. Census information



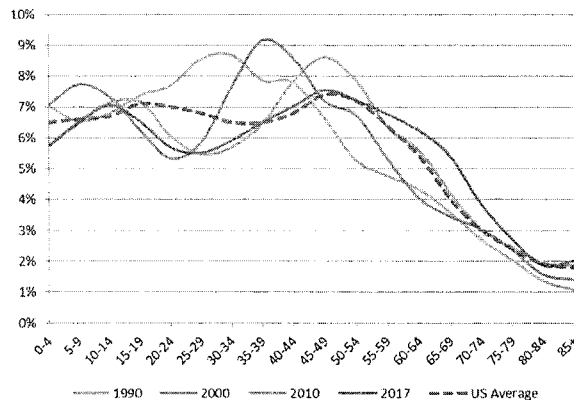
DEMOGRAPHICS

Population Projections

The most recent Census data indicate a population of 1.50 million. According to NYMTC, current population trends suggest that by 2035, approximately 1.63 million residents will live in Suffolk County. Suffolk County's population has increased by 6% since 2000. As the County's population profile continues to evolve and the population grows, so does the need for new and additional amenities such as improved public transportation, a variety of housing options, and economic growth and opportunity in and around transportation hubs.

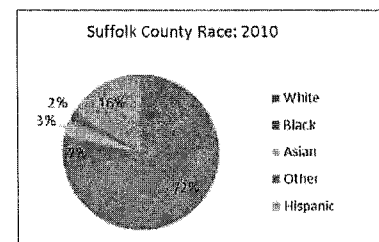
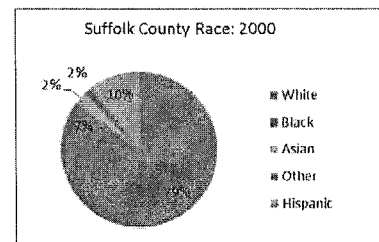
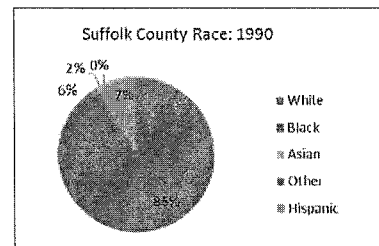
Like the rest of the country, shifts in demographics are changing the composition and population characteristics of Suffolk County. The changes in the diversity of Suffolk County over the past three decades are shown in Figure 3. Similarly, the shifting age distribution of the County's residents over the past three decades, and projected out to 2017, is illustrated in Figure 4.

Figure 4. Age Distribution for Suffolk County: 1990, 2000, 2010, and 2017 (Projected), Compared with U.S. Age Distribution in 2010



Sources: U.S. Census and American Community Survey (ACS)

Figure 3. Racial Profile for Suffolk County: 1990, 2000, and 2010



Sources: U.S. Census, 1990, 2000, 2010

Aging Population

Census data indicates that Suffolk County's population is aging:

- The population age 65 and over comprised 14.9% of the Suffolk County population in 2013, up from 10.7% in 1990.
- Between 1990 and 2013, the population age 65 and over increased by 57.7% in Suffolk County.
- 24.0 % of all households in Suffolk County were headed by a person age 65 and over in 2010.
- Nearly one-third of all Suffolk County households contain a senior citizen.
- 45,000 or 23% of the County's seniors (age 65 and over) live alone.
- In the five eastern Suffolk towns: 19% of the population is age 65 or over and 35% of all households contain a senior citizen. Future public transportation policy in the County should be examined with a view toward providing for a significant percentage of the population with changing transportation needs; presumably relying upon a more 'accessible' mass transit system.

Executive Order No. 04-2013 established the Suffolk County Age Friendly Commission administered by the Office of the County Executive. The Commission is responsive to research that shows that older Americans overwhelmingly want to remain in their homes and communities as they age and access to quality health care and long-term services and support is essential for individuals to live in their homes and communities. Preliminary recommendations are designed to identify areas in which modifications can be made to ensure that Suffolk County is an age friendly county and a community for people of all ages and abilities. The Commission partnered with AARP and conducted a survey of AARP members in Suffolk County. The Commission is developing recommendations on transportation, housing, social participation, communication and information, community support and health services, among others. The Suffolk County Complete Streets legislation and a Universal Design Model Code developed by the

Suffolk County Planning Commission, are two examples that have been adopted by the County which already have begun to address issues identified by the Commission.

Poverty

According to the 2010 Census, about 5.7% of Suffolk County residents are below the poverty level (4.7% of whites, 11.5% of African Americans/blacks, and 10.5% of Hispanics/Latinos). Poverty percentages among residents between the ages of 18 and 64 were 5.4%: for whites it was 4.5%, for African Americans/blacks it was 9.9%, and for Hispanics/Latinos it was 9.5%. For those under age 18, the Suffolk poverty rate was 6.7% (4.9% of whites, 15.7% of African Americans/blacks, and 12.5% of Hispanics/Latinos). For those 65 and older, the Suffolk poverty rate was 5.5% (5.1% of whites, 8.3% of African Americans/blacks, and 10.6% of Hispanics/Latinos).

Health Status

According to Suffolk County's 2014-2017 Community Health Assessment:

- Among the civilian non-institutionalized population in Suffolk County, 89.7% have health insurance coverage—91.8% of whites, 86.7% of African Americans/blacks, and 74.2% of Hispanics/Latinos. For those under 18 years of age, 4.6% of the total population had no health insurance coverage (3.4% of whites, 8.2% of African Americans/blacks, and 7.7% of Hispanics/Latinos). For those between 18 and 64 years of age, 14.5% of the total population are uninsured. 11.8% of adult whites, 17.2% of African Americans/blacks, and 36.1% of Hispanics/Latinos are uninsured. Of those who are under twice the poverty threshold, a staggering 44.5% are uninsured. Furthermore, of those who are uninsured, 40.9% are foreign-born and 31.5% of uninsured are not U.S. citizens.

- The disabled population represents 6.8% of those between the ages of 18 and 64: 6.6% of whites, 10.4% of African Americans/blacks, and 5.6% of Hispanics/Latinos. For children under 18 years of age, 3.4% are disabled: 2.5% of whites, 4.3% of African Americans/blacks, and 2.5% of Hispanics/Latinos. Among those who are older than 64, a larger portion of 29.5% are disabled (29.3% of whites, 34.4% of African Americans/blacks, and 27.7% of Hispanics/Latinos).
- Overall infant mortality declined from 85 to 72 deaths between 2007 and 2009 from a rate of 4.6 to 4.3 per 1,000 live births, a 6.5% drop.
- From the most recently available data, there were 11,336 deaths in Suffolk County in 2011. The leading causes of death were heart disease (3,248 deaths; age-adjusted rate of 187 per 100,000), cancer (2,776 deaths; age-adjusted rate of 162 per 100,000), unintentional injuries (642 deaths, age-adjusted rate of 41 per 100,000), chronic lower respiratory diseases (585 deaths; age adjusted rate of 35 per 100,000), and stroke (435 deaths, age-adjusted rate of 25 per 100,000). The age-adjusted total mortality rate for Suffolk County fell between 2007-2010— from 724.8 to 671.9 per 100,000, which is a 7.3% decline.
- Preventing misuse of prescription opioid drugs—namely the use of prescription opioids in manners other than prescribed and the use of these medications without prescriptions—is a major public health concern for Suffolk County. In Suffolk County, deaths involving opiates have risen by 30% in the period between 2007-2011. The incidence of one opiate in particular, oxycodone (which appears in 33% of opioid-related deaths), nearly doubled between 2007 and 2011.
- Based on data from 2008-2010, it is estimated that 16.5% of all students (elementary, middle, and high school) are obese, where another 15.2% are overweight (but not obese). 29.1% of all elementary school students are either overweight or obese (15.2% are obese), while 35.5% of middle and high school students are either overweight or obese (18.4%

are obese). Behavioral Risk Factor Surveillance System from 2008-2009 indicate that about 59.6% of Suffolk County adults are either overweight or obese, where 20.9% of adults are obese (these percentages are age-adjusted), as shown in Table 1.

Table 1. Comparing Selected Measures Relevant to Management of Chronic Disease in Suffolk County and New York State

	SUFFOLK COUNTY	NEW YORK STATE
	Percentage (Confidence Interval)	
Adults with physician diagnosed diabetes	9.0 (6.7-11.3)	9.0 (7.8-10.3)
Adults with high blood pressure	23.3 (19.4-27.2)	25.7 (23.8-27.5)
Adults with cholesterol checked in the last 5 years	82.1 (76.5-87.7)	77.3 (74.7-79.9)
Adults who smoke cigarettes	17.7 (12.7-22.7)	17.0 (15.3-18.8)
Adults with current asthma	7.8 (4.7-10.9)	9.7 (8.2-11.2)
Adults who are obese (BMI 30 or higher)	20.9 (16.1-25.6)	23.1 (21.0-25.1)
Adults who did not participate in leisure time physical activity in last 30 days	78.8 (74.3-83.3)	76.3 (74.1-78.5)
Adults eating 5 or more fruits or vegetables per day	26.0 (20.8-31.2)	27.1 (24.9-29.2)
Adults (50-75 years) who received a colorectal cancer screening based on the most recent guidelines	64.0 (57.1-70.3)	66.3 (63.5-69.1)
Women (40+ years) with a mammography screening in past 2 years	80.5 (74.8-86.2)	79.7 (76.9-82.5)

Source: 2008-2009 NYS Expanded Behavioral Risk Factor Surveillance System Data as of September 2013.

Education

There are 69 public school districts located in the County. Combined spending for these districts amounted to \$6.1 billion for the 2013-2014 school year. Enrollment was nearly 244,000, a 4% decrease in the five years since 2008-2009. Current enrollment is 26% lower than the peak level reached in 1976.

Based on data from the 2012 American Community Survey, the County has a relatively well-educated population. Among residents age 25 and over, 90% are high school graduates, and 34% hold a bachelor's degree or higher, which ranks the County in the top 10% of the nation's counties.

Crime

Suffolk is relatively safer than the average locale in the United States. Crime reported to the Suffolk County Police Department has declined markedly over the past twenty-five years. In 1987, the Suffolk Police reported a violent crime (e.g. murder, theft, rape) rate of 215.7 incidents per 100 thousand residents (Figure 5). By 2013 that rate had fallen by 47 percent, to 114 incidents per 100 thousand residents. The same is true of property crimes. In 1987 Suffolk police reported a property crime rate of 3,315 incidents per 100 thousand residents. By 2013 that rate had dropped by 59 percent to 1,369 incidents per 100 thousand residents. Suffolk's crime rates remain well below the average for the nation, and have fallen further than the nation's as a whole. The nation's violent crime rate dropped 39.9 percent between 1987 and 2013 (from 612.5 per 100 thousand residents to 368), compared to Suffolk's rate drop of 47 percent. The nation's property crime rate dropped by 45 percent (from 4,963 per 100 thousand residents to 2,730 per 100 thousand residents), compared to Suffolk's drop of 59 percent (Figure 6).

Figure 5. U.S. vs. Suffolk County Violent Crime Rate Per 100K Residents

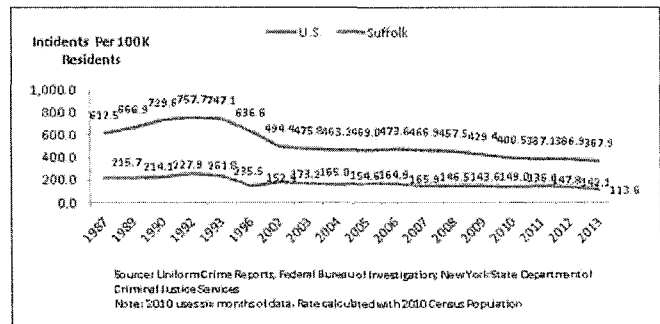
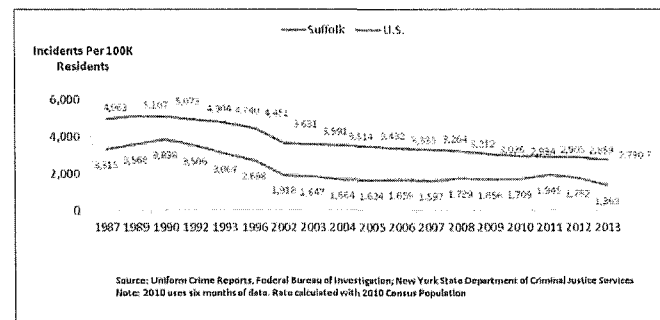


Figure 6. U.S. vs. Suffolk County Property Crime Rate Per 100K Residents



CURRENT ACTION: Connect Long Island

One of Suffolk County's greatest economic challenges derives from an outdated development model centered on the use of the personal automobile. Limited transportation is often seen to be the greatest single barrier to development, especially in auto-dependent suburban communities that equate new development with increased congestion. If Suffolk County is to develop effective and transformative solutions to suburban sprawl, an aging population, high cost of living, shortage of affordable housing, and economic and employment decline, then mass transit, a focus on pedestrian-scaled communities, smart growth and Transit Oriented Development (TOD) strategies will all need to play a role in the solution.

Since the early 2000s, government agencies and transportation organizations in the greater Long Island metropolitan area have conducted more than 20 transportation studies. Each of the previous studies served a different purpose, yet none specifically addressed the unrealized economic benefits of connecting the County's key assets. To address these challenges, Suffolk County developed Connect Long Island, a regional transportation and development plan aimed at creating sustainable economic growth through coordinated land use and transportation planning, and investments in transportation infrastructure that strategically connect Suffolk's nationally acclaimed educational and research institutions, TODs, and stations along the Port Jefferson, Ronkonkoma and Babylon/Montauk branches of the LIRR.

A major component of the Connect Long Island plan is the need to develop north-south mass transit connections between key County assets and existing east-west transportation modes, such as the LIRR. Suffolk County lacks a single major north-south mass transit connection, making travel without a car extremely difficult. Transforming mass transit commuting into a viable and attractive alternative for young job-seekers has the potential to drive economic growth.

In concert with Connect Long Island, the LIRR's Double Track project between Farmingdale and Ronkonkoma will facilitate more efficient movement of people to and from work, in both traditional and reverse commuting directions. The construction of TODs such as Wyandanch Rising, Patchogue Village, and downtown Riverhead will go a step further by recreating the traditional, pre-1960s, mixed-use developments in vibrant downtown areas where people can live, work, shop, and play by walking or biking, avoiding automobile use and its associated congestion entirely.



CASE STUDY: JUMPSTART SUFFOLK – Connect Long Island

There are exciting initiatives underway in Suffolk County to promote mixed-use residential and commercial development that maximizes access to public transportation and is located proximate to a train station, bus stop or other mass transit options. JUMPSTART SUFFOLK – Connect Long Island is a program sponsored by the Suffolk County Department of Economic Development and Planning that provides funding that is intended to encourage, foster and enhance the planning, development and/or new construction of regionally significant mixed-use transit-oriented development in and around downtowns, or light industrial and commercial areas adjacent to downtowns, or transit.



CASE STUDY: Ronkonkoma Hub Regional Planning Alliance

Suffolk County Executive Steve Bellone, Brookhaven Town Supervisor Ed Romaine, Islip Town Supervisor Angie Carpenter, and the Long Island Rail Road President Patrick Nowakowski signed a Memorandum of Agreement to form the Ronkonkoma Hub Regional Planning Alliance, allowing teams from multiple municipalities, agencies, and levels of government to meet on a regular, formal basis on a project of regional significance. While the core of the development at the Ronkonkoma Hub is in Brookhaven, it is adjacent to an airport in Islip and relies on a sewer connection from Suffolk County.



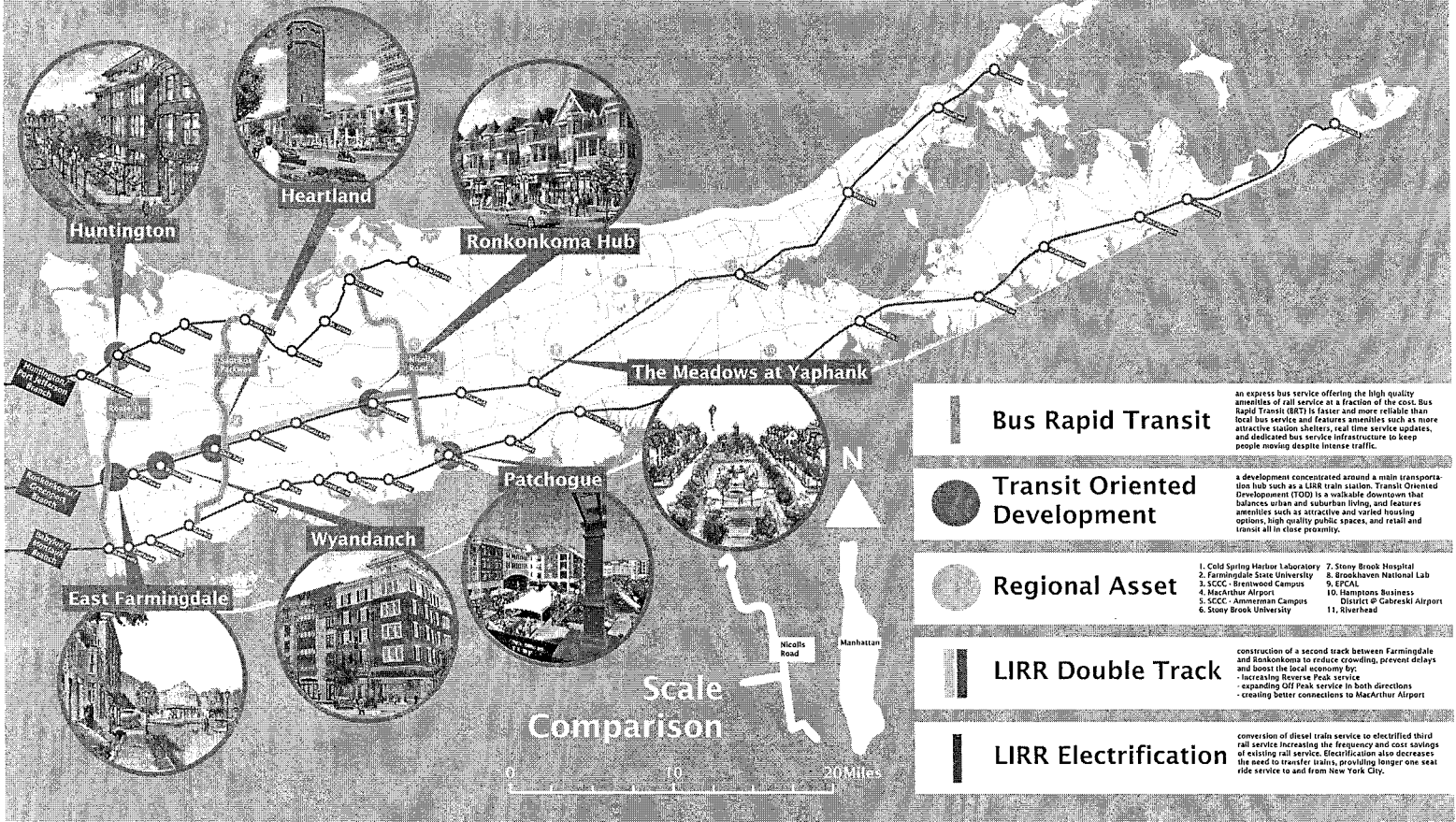
PRIORITY ACTION:

- Create planning alliances.



Connect Long Island

A Regional Transportation and Development Plan



Bus Rapid Transit

an express bus service offering the high quality amenities of rail service at a fraction of the cost. Bus Rapid Transit (BRT) is faster and more reliable than local bus service and features amenities such as more attractive station shelters, real time service updates, and dedicated bus service infrastructure to keep people moving despite intense traffic.

Transit Oriented Development

a development concentrated around a main transportation hub such as a LIRR train station. Transit Oriented Development (TOD) is a walkable downtown that balances urban and suburban living, and features amenities such as attractive and varied housing options, high quality public spaces, and retail and transit all in close proximity.

Regional Asset

1. Cold Spring Harbor Laboratory
2. Farmingdale State University
3. SCCC - Brentwood Campus
4. MacArthur Airport
5. SCCC - Amherst Campus
6. Stony Brook University
7. Stony Brook Hospital
8. Brookhaven National Lab
9. EPCAL
10. Hamptons Business District @ Cabeski Airport
11. Silverhead

LIRR Double Track

construction of a second track between Farmingdale and Ronkonkoma to reduce crowding, prevent delays and boost the local economy by:
- increasing Reverse Peak service
- expanding Off Peak service in both directions
- creating better connections to MacArthur Airport

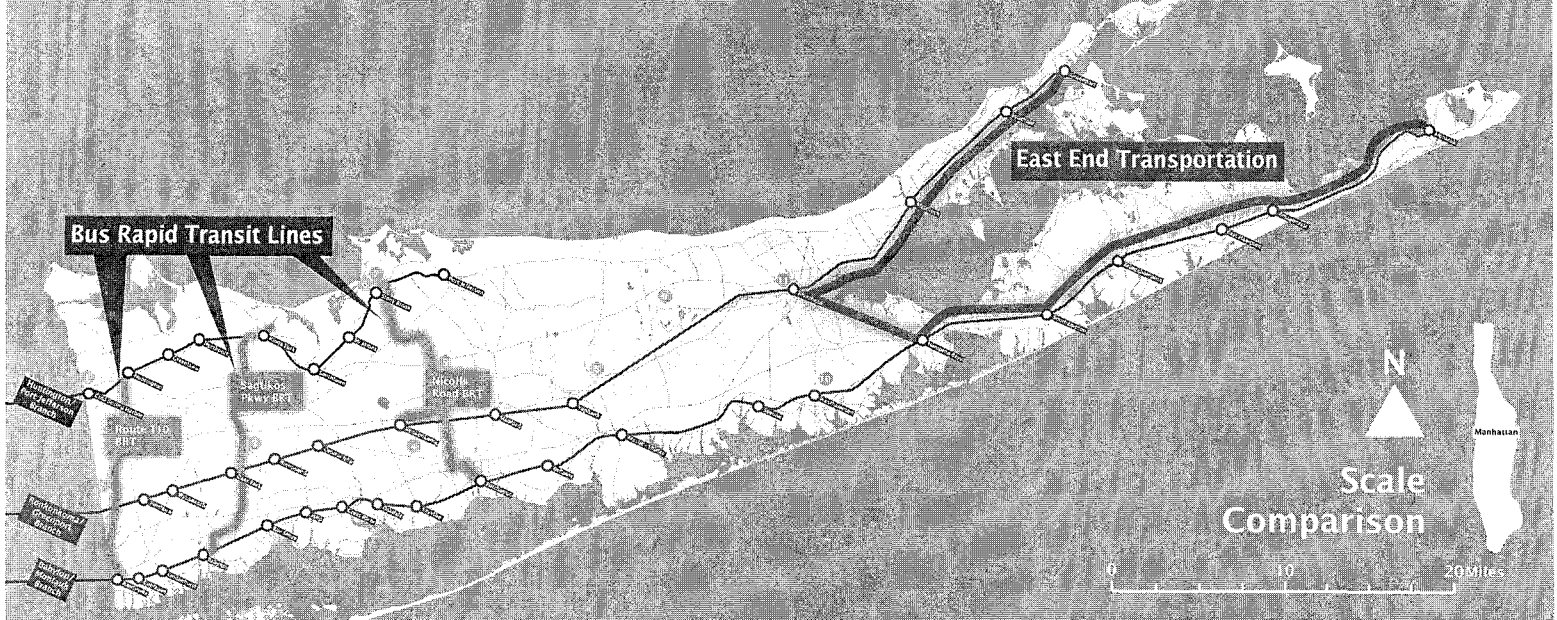
LIRR Electrification

conversion of diesel train service to electrified third rail service increasing the frequency and cost savings of existing rail service. Electrification also decreases the need to transfer trains, providing longer one seat ride service to and from New York City.



Connect Long Island

A Regional Transportation and Development Plan



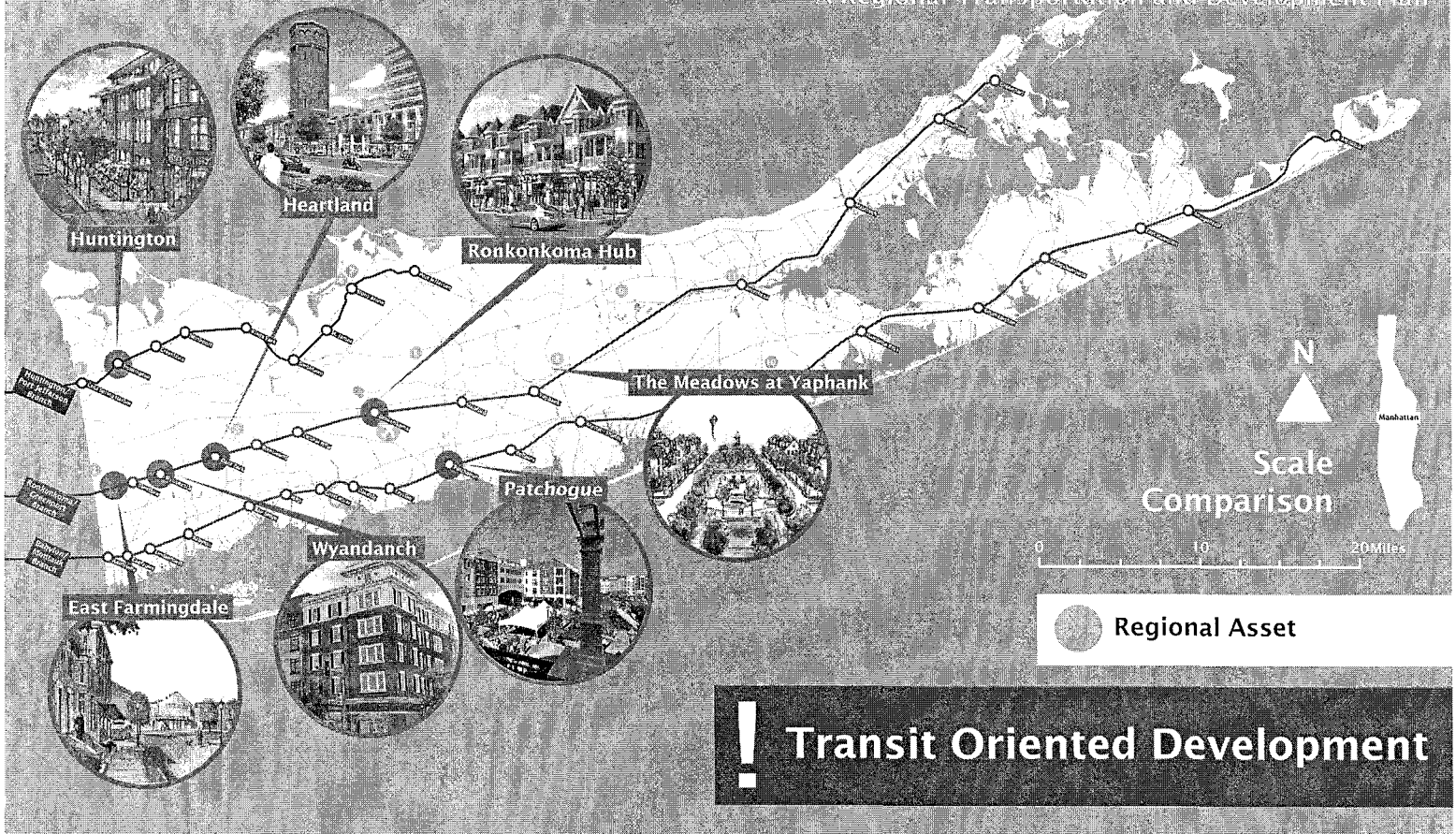
- Regional Asset**
- | | |
|----------------------------------|---------------------------------|
| 1. Cold Spring Harbor Laboratory | 7. Stony Brook Hospital |
| 2. Farmingdale State University | 8. Brookhaven National Lab |
| 3. SCCC - Brentwood Campus | 9. EPSCoR |
| 4. MacArthur Airport | 10. Hempstead Business District |
| 5. SCCC - Amherst Campus | 11. Riverhead |
| 6. Stony Brook University | |

! Regional Transportation



Connect Long Island

A Regional Transportation and Development Plan

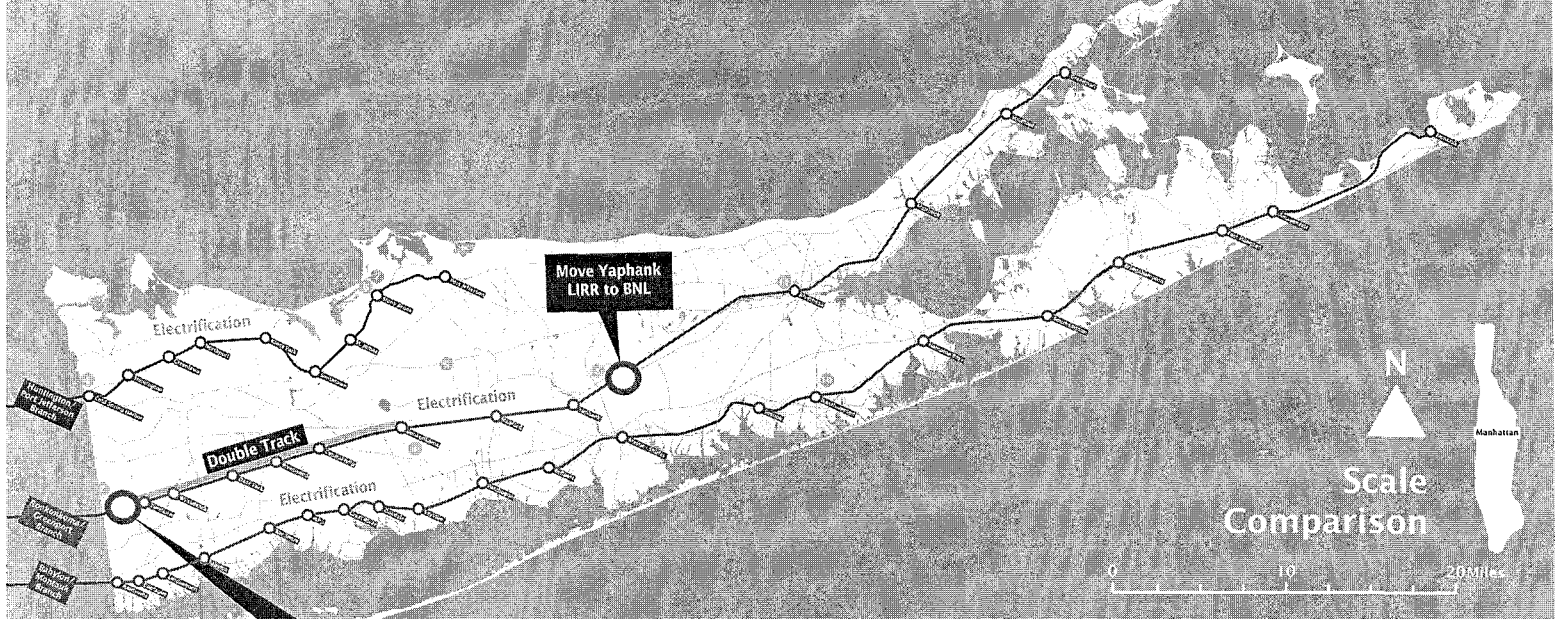


! Transit Oriented Development



Connect Long Island

A Regional Transportation and Development Plan



Regional Asset

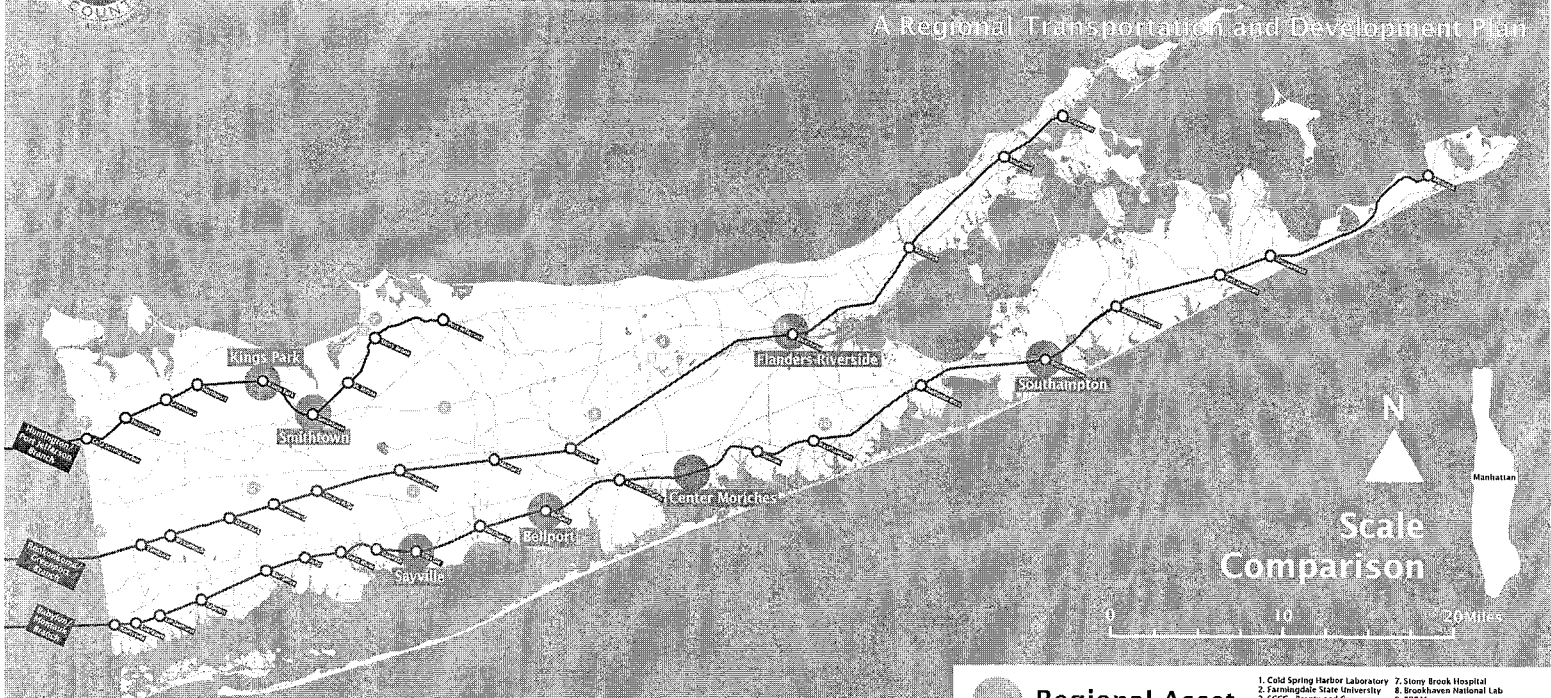
1. Cold Spring Harbor Laboratory
2. Farmingdale State University
3. SCCC - Brentwood Campus
4. MacArthur Airport
5. SCCC - Amherst Campus
6. Stony Brook University
7. Stony Brook Hospital
8. Brookhaven National Lab
9. EPCAL
10. Long Beach Business District
11. Riverhead

! MTA Capital Improvements



Connect Long Island

A Regional Transportation and Development Plan



Regional Asset

1. Cold Spring Harbor Laboratory
2. Farmingdale State University
3. SCCC - Brestwood Campus
4. MacArthur Airport
5. SCCC - Ammerman Campus
6. Stony Brook University
7. Stony Brook Hospital
8. Brookhaven National Lab
9. EPSCoR
10. Longhams Business District
11. Riverhead

Nitrogen Reduction
Advanced Wastewater Treatment Upgrades for Priority Areas
Cluster Systems
PACE - Fund for Water Treatment

! Water Quality

Section 2: KEY POLICY AREAS AND RECOMMENDATIONS



1. Build a 21st Century Transit Network to Provide More Transportation Choices to Improve Mobility, Access, and Safety

Steadily increasing traffic generation and its adverse effect on mobility is one of the most significant issues confronting Suffolk County and Long Island as a region. The lack of north-south connectivity has placed significant demands on the region's highways and roadways. The resulting congestion manifests itself in longer travel times, shifts of traffic to secondary and local roadways, as well as an overall degradation of traffic operating conditions, with an associated degradation in the quality of life in affected areas.



Data gathered as part of the 2014 Suffolk County Bus Rapid Transit (BRT) Feasibility Study indicate that travel patterns have changed; whereas historically a greater share of trips from Long Island were focused on New York City, today 88 percent of daily trips are intra-county. Less than one percent of the on-island trips have a Manhattan destination. This means a greater share is concentrated on traveling on Suffolk County's heavily congested roadways than historically has been the case. Key statistics that underpin congestion levels in Suffolk County include:

- Population growth from 1.3 million (1980) to 1.5 million (2013)
- Employment growth from 475,000 (1980) to 750,000 (2013) jobs

- 270,000 new residents by 2045 to 1.77 million residents
- 1.1 million jobs by 2040
- In 1993, there were 1,054,319 registered vehicles in Suffolk County. By 2003 that number rose to 1,173,042, and in 2013 it was 1,235,945.
- Vehicle miles travelled (VMT) projected growth of 14.4 percent in Suffolk County between 2014 and 2040
- By 2040, an estimated 14 percent change in VMT to 45.4 million, with a corresponding 49.3 percent change in vehicle hours of delay (VHD) to 374,850
- Daily person hours of delay up 49 percent, increasing from 439,350 (2014) to 655,980 (2040)


16

In each decade since 1970, the percentage of working Suffolk County residents who work in New York City has decreased, as shown in the chart, below. Since 1970 the number of Suffolk residents working in New York City increased from 63,756 to 80,865 in 2006-08.

The transportation needs of Suffolk County's residents in 2014, as well as in the future, differ significantly from those of the "baby boom" years of the 1950s and 1960s. The young couples who moved to Suffolk County to begin their families in the 1960s are nearing or have transitioned into retirement; some are staying in their homes, others are downsizing and/or relocating.

Transit Service

Suffolk County Transit (SCT) provides a majority of fixed route bus service throughout the County, with 30 regular routes (and one night route), 21 feeder routes and one express route, which serves Park-N-Rides at LIE Exits 63 and 58, the Hauppauge Industrial Park, the western-Suffolk Route 110 business corridor, and SUNY Farmingdale. Most service operates Monday through Saturday, while 10 routes operate seven days a week, and a few feeder routes and the Suffolk Clipper operate weekdays only. Legislative



Notable Mobility and Connectivity Statistics

- In 2011, Suffolk County had more than 27,000 households with no vehicle available (5.5%). At the same time, 26% of all households had three or more vehicles available.
- According to 2011 Census Bureau statistics, 79% of working Suffolk County residents drove alone to work. Another 7% carpoolled and 6% used public transportation. The remainder taxied, biked, walked, or worked at home.
- Because the County is surrounded on three sides by large waterbodies, it is not surprising that most Suffolk County residents work within the County's boundaries. According to 2011 Census Bureau statistics, 76% of working Suffolk County residents worked in Suffolk County. In similar counties, the comparable figure was 64% in Montgomery County, PA; 62% in Monmouth County, NJ; and 57% in Rockland County, NY. Just 9% of those who work in Suffolk County live in Nassau County, and 2% live in Queens. The remaining 2% live in Brooklyn and other areas off Long Island.
- The relative geographic isolation of Suffolk County as a result of natural barriers enhances the importance of investing in regional transportation networks.

Resolution 896-2012 directed the Department of Public Works to study alternative methods for purchasing transit fares.

Many of these routes serve businesses, retail outlets and residential neighborhoods that have developed around north-south arterials like NY Route 110, Nicolls Road and the Sagtikos Parkway. However, as the number of Transit Oriented Development (TOD) communities around Long Island Rail Road (LIRR) stations expands, it will be even more important to provide frequent, high quality and reliable bus service to enable local employers to access much of the labor force in the region, and improve travel for County residents. Currently, LIRR provides commuter rail service on three east-west lines through the County, but strong north-south transit connections between those lines are limited.



Before Long Island was a driving region, it was a transit region. At one point we were a Railroad Suburb, where transit connected jobs, shops, and homes. That transit—the 124 LIRR stations system-wide—still forms the basis for growth in the region, and indeed it was the presence of these stations in the first half

of the 20th century that catalyzed the development of its collection of mixed-use town and village centers. The LIRR is the busiest commuter railroad in North America, carrying an average of 287,000 passengers each weekday on 741 daily trains.



PRIORITY ACTION AREA: Strengthen the Transit System

Recognizing that the provision of transportation services is fragmented between a number of different agencies (e.g., SCT, SCDPW, LIRR, NYSDOT, private bus operators), Suffolk County should take a leadership position to ensure that the transportation needs of its residents are being met on a day-to-day basis. This point was highlighted by the response to Superstorm Sandy when Suffolk County residents were unable to find alternative modes of transportation during the time that the LIRR and other elements of the transportation infrastructure were disrupted, highlighting the critical need to plan for and ensure the resiliency of these critical systems. The County should continue to support such improvements as the East Side Access and Double Track projects, which will significantly augment the capacity of the rail system. For example, East Side Access, a \$10 billion investment to improve access to Manhattan, increase train service, and reduce travel time, will have a significant impact on the demand for housing and the economic vitality of Suffolk County.

Consistent with national planning theories and guidelines, as well as the County Executive's initiative to build an innovation economy, the best way to alleviate traffic congestion and create economic development initiatives is to develop a fully integrated public transportation system. Such a transportation system would provide seamless connections between modes of transportation and varied land uses, but would only work if a development approach that revitalizes or establishes high-density downtown areas around transit hubs and stations is also implemented. The overall objective is to enhance mobility and promote sustainable economic development, while maintaining the high quality environment that residents and visitors demand.



PRIORITY ACTIONS:

- Support LIRR track improvements, including completing the Double Track Project, Phases 1 and 2 and points east, advancement of the Main Line Corridor Project (Third Track) in Nassau County, and East Side Access.

- Invest in transit (bus/rail) to link employment to areas suitable for residential growth and areas with potential to support TODs.
- Develop transit infrastructure to meet various needs, including those of the local population and tourists that want to access the tremendous resources the County has to offer.
- Provide incentives for the building of mixed-use communities around LIRR stations to create walkable, transit friendly development hubs (i.e., TODs).
- Make transportation investments to improve LIRR connections and services between these development hubs.
- Connect these hubs to regional job centers by creating mass transit connections.
- Create new North-South connections to the LIRR, downtowns and other key county assets via Bus Rapid Transit.
- Identify transportation opportunities that support East End tourism and sustainable economic growth.
- Continue to expand SCT's Sunday, evening and holiday service operations.
- Promote electrification of the LIRR to Riverhead, Port Jefferson, and Patchogue with the MTA.
- Study ways to improve frequency—evaluate alternatives to electrification (i.e., double tracking) and provide an updated cost analysis.
- Implement roadway and transit improvements where appropriate to reduce congestion and improve traffic flows for all uses. Improve roadway and transit access to educational institutions.
- Expand public awareness of existing bus routes.
- Increase “last mile connectivity” by improving pedestrian and bike options, improving infrastructure, and expanding complete streets.
- Improve bus transit through targeted Bus Rapid Transit improvements, transfer stations, and better coordination with other transit options and transit providers.
- Promote and expand freight rail use, as appropriate, to reduce truck traffic.
- Continue MTA/LIRR and SCT collaboration to address Suffolk County's transportation needs.
- Work between departments to improve resiliency of County's transportation systems and limit expenditures in high hazard areas (e.g., within the 100-year floodplain).
- Work with LIRR to increase use of underutilized stations and to improve existing stations and proposed TODs.
- Expand and modernize train service on the North Fork. Support “scoot train” service in addition to regular train service in order to provide increased transit options on the South Fork.
- Explore the feasibility of scoot train service along the Port Jefferson branch between locations such as Cold Spring Harbor, Stony Brook University, and Port Jefferson Village.
- Support the reopening of the LIRR Republic Station/increased service to facilitate the creation of a TOD in East Farmingdale.
- Relocate the Yaphank LIRR Station near Brookhaven National Laboratory. Reopen the LIRR station that serves the Stony Brook University Southampton Campus, as conditions warrant.
- Explore options for alternative fare collection systems and possible monthly passes.

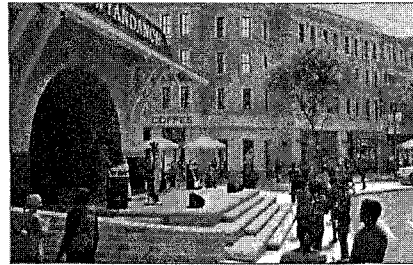
- Continue exploration of rail yard locations and turnabouts to increase frequency on all lines, especially the Port Jefferson branch, due to the need to accommodate East Side Access.
- Incorporate Suffolk County's Bus Rapid Transit initiative into the LIRR's long-term capital plan.
- Assess the viability of water taxi service in the Peconic Estuary, and fast ferry service for commuting purposes.
- Incentivize development of industry and businesses in and around airports.
- Support capital investments to address airport infrastructure and facilitate connections between rail and airports.
- Facilitate train to plane connections at Long Island MacArthur Airport. Support the re-location of the airport terminal, closer to the Ronkonkoma train station.
- Explore the feasibility of implementing managed lanes in Suffolk County.



Photo Credit: Joe Palazzo

The Priority Actions listed above identify a broad set of transportation investments. Many of the investments mentioned will be explored more thoroughly by the LIRR and the County with respect to ridership potential, operational feasibility, cost and relative priority. Suffolk County looks forward to its ongoing collaboration with the LIRR, local municipalities and the private sector relative to these potential transportation investments, as the LIRR embarks on its strategic plan for the future.

PRIORITY ACTION AREA: Foster Walkable, Bikeable Communities



According to the Governor's Traffic Safety Committee, 122 pedestrians were killed in Suffolk County between 2010 and 2012. In response, the County should move forward with initiatives and programs (as out-

lined below) that address the high rate of accidents involving pedestrians and bicyclists that can affect anyone in the County, anywhere and at any time. Mobility and the safety of pedestrians and cyclists will be improved when roadways are designed with multiple users and modes in mind.



PRIORITY ACTIONS:

- Continue education programs and data analysis to make transportation safer.
- Expand bicycle and pedestrian networks. Map bikeways and bike lanes along New York State, Suffolk County and town roads.
- Develop model design standards for Complete Streets, given local conditions, and include amenities such as benches, bus shelters, and bike racks for transit, bicycles, and pedestrians to improve safety.
- Develop a set of model bicycle parking standards.
- Produce an interactive map identifying sidewalks, hiking trails, biking routes, blueways, and equestrian trails within Suffolk County.

CURRENT ACTION: Suffolk County Complete Streets Fund

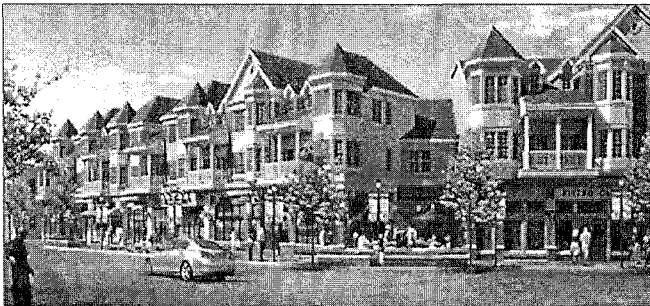
In 2014, Suffolk County established a Complete Streets Fund in the 2015-2017 Capital Program, creating a yearly fund of \$250,000 to implement pedestrian, cyclists, and transit user improvements on County roads.

PRIORITY ACTION AREA: Explore Feasibility for Alternate Means of Ingress and Egress

Suffolk County's relative geographical isolation has an impact on the costs and ability to move people and goods to and from the region, and therefore, limits economic activity. The need to develop additional means of ingress and egress (i.e., bridges, tunnels, or additional ferry terminals), for the Long Island region, has been the subject of many studies and debates over the past several decades. Most recently the Federal Railroad Administration is exploring a variety of options in its Northeast Corridor Future program to extend long-distance passenger rail onto Long Island.

**PRIORITY ACTION:**

- Review prior studies and explore means to mitigate traffic congestion between Suffolk County and the New York Metropolitan Area. Investigate the feasibility of improving deep water port access in the County.

**2. Provide Equitable, Affordable, Fair Housing**

Housing provides an essential service—shelter—but it is also a defining element of community. Many of the housing-related issues in Suffolk County, such as the shortfall in workforce and senior housing, as well as a lack of multi-family housing, have manifested themselves over the past several decades and are now posing an obstacle for the County on its path to continued, sustainable growth. The County believes that there is a need for increased affordable, fair housing.

**Notable Suffolk County Housing Statistics:**

- 2011 Median housing value was approximately \$425,000 (adjusted to 2013 dollars)
- North Shore and East End generally exhibit the highest home values
- Trends indicate that home values have started to move above \$500,000 in many towns (making it increasingly difficult for medium-income earners to own their homes)
- Median contract rents are above \$1,300 per month in eight of the ten towns (pricing many renters out of the housing market)
- Two-bedroom apartments are tending to rent for at least \$2,000 per month (making it difficult for many households to find suitable and affordable rental housing).

In many areas, Suffolk County also lacks affordable housing options and thus, some existing as well as potential residents are priced out of the market. The lack of affordable housing options is a serious threat to Suffolk County's continued success, as a diverse workforce that includes younger workers and a broad spectrum of skills and experience is vital to any community's economic stability and overall vibrancy. In addition, as a result of

the disastrous effects of Superstorm Sandy in October 2012, consideration of resiliency and adaptation to the effects of climate change has been brought to the forefront of comprehensive local and regional planning efforts.

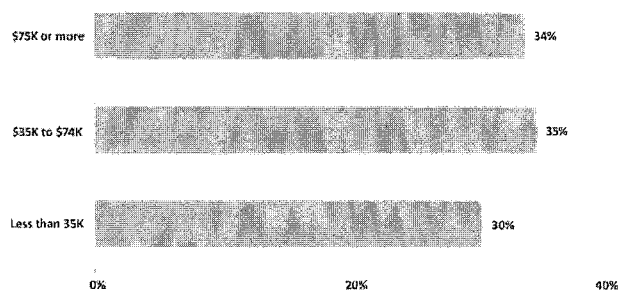
Demographic changes occurring within Suffolk County over the past two decades have created a new housing demand profile that includes a higher proportion of smaller, multi-family units, a higher proportion of rental units, and more units that are priced at levels that are affordable to households earning under \$75,000 annually (Figure 7). Meanwhile, the County's housing supply is inadequate to meet this demand. Eighty percent of the approximately 570,000 housing units in Suffolk County (as of 2010) are single-family detached homes; the vacancy rate for rental housing on Long Island is very low (approximately 4 percent compared with 6 to 8 percent in other New York City suburbs); and many of the County's renter households, with a median household income of about \$47,770 per year, are currently cost-burdened or are being priced out of the market altogether.

According to national data provider, Lender Processing Services, in July of 2013, 8.2 percent of all homes with mortgages in Suffolk County were in the foreclosure pipeline (Figure 8), compared with 5.7 percent of homes in New York State and 2.8 percent of homes with mortgages nationwide.¹

Overall, while single-family homes continue to be built at a faster pace than multi-family housing in Suffolk County, the demand and necessity for multi-family housing has grown dramatically. According to the Census Bureau (housing unit data) between 2000 and 2006-2010 (American Community Survey), approximately 35 percent of the new housing units were multi-family homes—an increase from the period between 1990 and 2000 when 11.2% of new housing units were multi-family homes.

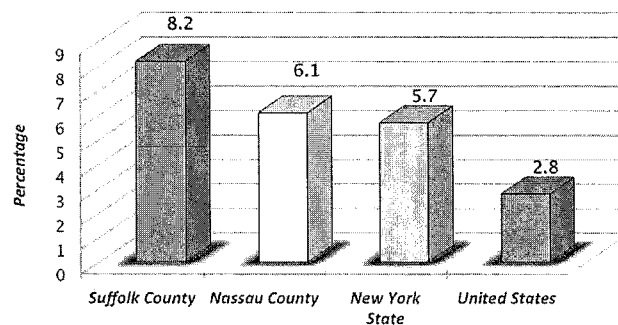
1. <http://www.newsday.com/classifieds/real-estate/rising-foreclosures-hurt-island-as-nation-recovers-1.6159638> (Accessed September 15, 2014).

Figure 7. Income Distribution of Suffolk County Households Paying 30 Percent or More of Income for Housing: 2007–2011



Sources: U.S. Census and ACS

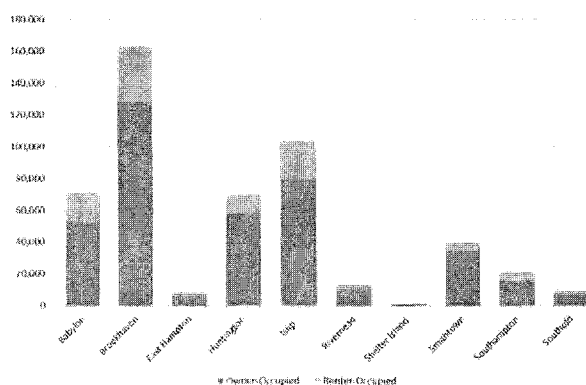
Figure 8. Percentage of Homes with Mortgages Either in Foreclosure or Referred to Bank Attorneys as of July 2014



Source: Information from www.newsday.com (accessed, September 15, 2014.)

In 2010, Suffolk County's housing stock was heavily dominated by owner-occupied units (79 percent of units). Combined with the low vacancy rate for rental housing on Long Island (6 percent based on 2007-2011 ACS data), this condition makes it challenging for many renters to find housing (Figure 9).

Figure 9. Housing Tenure: 2010



Source: U.S. Census

While the current demand-supply mismatch already is exhibiting a substantial effect on the composition of the County's residential population (e.g., under representation of younger people), if existing trends continue into the future there is the marked potential for the current concerns related to housing to be further magnified.

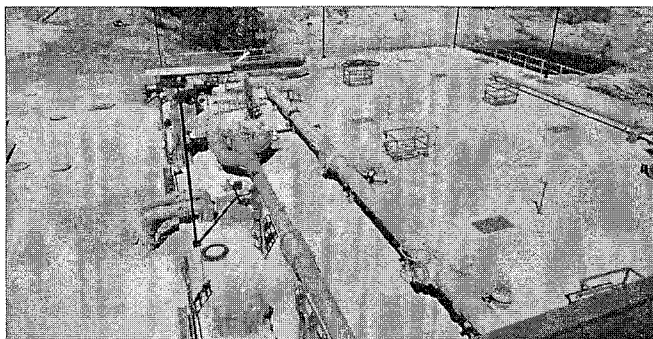
PRIORITY ACTION AREA: Promote and Support Areas that Best Accommodate Multi-Family Housing

Single-family detached housing will remain a preferred choice for many Suffolk County residents in the foreseeable future and market forces will continue to drive the development and turnover of the County's single-family home inventory. In contrast, while demand for multi-family rental housing is recognized by communities and developers, overall inventory and development activity of these types of units is still low.

While areas that can accommodate denser housing exist, particularly in downtown areas in and around transit hubs throughout the County, development of multi-family housing is not meeting demand. The lack of such development can be traced in part to constraints from existing zoning, permitting regulations, and infrastructure—constraints that make it difficult to accommodate more diverse and denser housing options. Technical assistance that informs municipal governments and local residents on the favorable cost/benefit aspects of denser housing in and around transit, as well as financial incentives can foster the implementation of new housing.

Supporting infrastructure development and infrastructure planning projects is another critical aspect when planning for the siting and development of denser housing. In support of this goal, under County Law, Section 740-38, B., sewer connection fees are waived when a municipality builds sewer infrastructure with a collection system that sewers an area that includes "urban renewal areas," and TOD in a downtown with a train station (other requirements that must be satisfied to secure waivers are detailed in the law). The infrastructure demand profile of multi-family developments differs significantly from single-family housing developments. Denser development patterns require infrastructure that can handle increased volumes on smaller footprints. This includes not only (public) transportation and sewer/wastewater infrastructure, but also communication and social infrastructure (parks and amenities), which are critical for modern communities. Providing planning support and funding will accelerate the process of

developing the wider range of housing types that are being demanded by changes in the market, and ensuring that they are developed in appropriate and desirable locations.



PRIORITY ACTIONS:

- Coordinate efforts to provide wastewater treatment in locations that are suitable for a range of housing types.
- Work with interested municipalities to review and update policies and zoning codes that support higher density residential and mixed-use development near transit stations and a range of housing options, while preserving community character.
- Assist towns, villages, developers, and organizations in securing funding sources for housing that meets different needs, i.e., low-to-moderate income, mixed-income, veterans, LGBT, workforce, senior housing, and persons with disabilities.
- Create expedited approval processes for affordable, accessible, and appropriate housing projects to promote integrated, least restrictive housing choices near transit.
- Enhance regional housing data collection to better inform policy making and goal setting and assist municipalities with assessing the regional need for housing of different types.
- Utilize the Suffolk County Landbank to acquire and redevelop bank foreclosed and “zombie” properties.

CASE STUDY: RONKONKOMA HUB

The Ronkonkoma Hub Project is a new transit-oriented development (TOD) to be built around the LIRR Ronkonkoma Station at the end of the electrified rail service to Manhattan and immediately south of the Long Island Expressway (I-495).



The Ronkonkoma Train Station is the busiest train station on the LIRR, serving more than 17,000 riders/day. The 50-acre area is located adjacent to the Long Island MacArthur Airport and includes a mix of under-utilized land, residential, retail, industrial, and commercial uses.

Siting new mixed-use development near major transportation routes allows a greater choice of transportation options for residents and employers; a reduction of automobile miles traveled resulting in less congestion, reduced use of petroleum products and lower emissions; and a more efficient use of land and infrastructure through compact design. TOD also fosters a sense of place through the creation of mixed-use centers that combine residential uses with economic activity, generating expanded housing and business opportunities. By requiring high quality urban design with safe and attractive pedestrian connections between uses, TOD's create a vibrant sense of place with diverse economic activity providing both employment and living options for a wide range of people.

The Ronkonkoma Hub was named a “Transformative Project” by the Long Island Regional Economic Development Council in 2011.

The TOD is close to major research assets including Stony Brook University and Brookhaven National Laboratory. The TOD has the potential to become the next home, office, or trendy and exciting destination for these new young workers and spin-off companies.

The proposed redevelopment will transform the Ronkonkoma Long Island Rail Road station into a transportation-oriented, pedestrian-friendly centerpiece of the community.

PRIORITY ACTION AREA: Plan for Community Resiliency and Climate Adaptation

In the wake of Superstorm Sandy in October 2012, it is more important than ever to plan for community adaptation to climate change and resiliency. Ensuring that communities are resilient in the face of natural disasters has a direct bearing on the economic prosperity of a region. The more resilient communities are, the more likely the region would fare well in a natural or other disaster and be able to move forward without undue housing damage in the aftermath. As was seen during the aftermath of Sandy, many homes were damaged or destroyed, and the costs necessary to repair or replace housing can be prohibitive. Developing effective tools to make communities more resilient to the effects of such natural events is vital. Such activities would include planning for and implementing measures and systems that can serve as buffers or barriers to the effects of storms and flooding (e.g., bio-swales, wetland expansion and restoration, shoreline hardening, drainage, recharge, natural shoreline restoration and stabilization) that make the areas more resilient and enhance their capacity to process stormwater, as well as providing advanced wastewater treatment in flood prone areas where applicable.



PRIORITY ACTIONS:

- Update the Suffolk County Planning Commission's Resource Guide on *Managing Stormwater: Natural Vegetation and Green Methodologies* based on the latest research.
- Pursue New York State and Federal funding for resiliency.
- Provide funding for the implementation of Green Infrastructure (i.e., bioswales, permeable pavers, wetland restoration) and wastewater treatment upgrades in unsewered, flood prone areas.

CURRENT ACTION: Wetlands Restoration in Suffolk County

In 2014, Suffolk County was awarded three grants for wetlands restoration/coastal resiliency:

The Hazard Mitigation Grant Program Tidal Wetlands Restoration at Smith Point County Park to Improve Protection against Flooding and Storm Damage: approximately 77 acres of tidal salt marsh will be restored with approximately \$540,000 in federal funds.

The National Fish and Wildlife Foundation awarded Suffolk County \$1,310,000 to support the Wetland Restoration in Great South Bay.

The National Resources Conservation Service, Hurricane Sandy Emergency Watershed Protection Program awarded Suffolk County \$5.6 Million to acquire 62 acres of flood prone properties that were inundated/damaged by Hurricane Sandy totaling 40 acres in the Mastic Beach area, and to ecologically restore them as wetlands to provide coastal resiliency for future storm events.

PRIORITY ACTION AREA: Build Capacity to Increase Fair Housing

A housing market that provides safe, affordable housing in an equitable manner to people of all incomes, races and ethnicities needs to be a priority for Suffolk County if the County is to thrive economically and socially. As articulated by HUD, all residents should be afforded an opportunity "to live in a variety of neighborhoods and not be confined to affordable housing choices in areas of high poverty or areas that are not racially or ethnically diverse." Currently, nearly two thirds of villages on Long Island do not permit accessory housing.² Suffolk County and local communities need to work both collectively and individually to revise policies and processes to affirmatively further fair housing and encourage its continued future development in high opportunity communities for low and moderate income residents.

2. Mullon, Sharon. *Long Island Fair and Affordable Housing Report and Proposed Action Plan: A Report to the Long Island Regional Planning Council and the New York-Connecticut Sustainable Communities Consortium*. May 16, 2014.



PRIORITY ACTIONS:

- Encourage municipalities to apply community-based planning to update zoning laws to expand affordable housing options. Link Suffolk County infrastructure grants and other incentives with locally supported projects that address regional housing needs.
- Develop housing visualization and informational materials to help towns address the negative public perception of greater density for housing/mixed-use development options and of affordable housing.
- Review County and town expedited approval processes for affordable housing projects, and examine the feasibility of establishing a coordinated County-town expedited review process for such projects.
- Encourage designation of projects with large affordable housing components near transit with quality of life amenities, such as open space, as Projects of Regional Significance, opening doors for expedited permitting, priority funding, and additional points in the State's Consolidated Funding Application (CFA).
- Analyze and encourage the provision of life cycle/senior housing, e.g., independent and assisted living, where needed.
- Analyze where and the type of multi-family housing is being constructed in Suffolk County, and the impediments to fair housing.



CURRENT ACTION: Strengthening Suffolk County's Human Rights Law

Suffolk County Executive Bellone signed a bill that was unanimously approved by the Suffolk County Legislature to codify amendments to Suffolk County's Human Rights Law. The approved amendments will provide consistency between Suffolk County local law and New York State Human Rights Law and will include a process for administrative hearings in the County on all founded complaints of discrimination.



HIGHLIGHTS OF THE AMENDMENTS INCLUDE:

- Military and Veteran Status-protected category in all sections of the law (housing, employment, public accommodations and credit).
- Prohibits discrimination against people of disabilities based on their use of a guide dog, hearing dog or service dog.

Employment:

- Adds protected status for: victims of domestic violence in employment, and familial status in employment.
- Employers to make reasonable accommodations for pregnancy related conditions.
- Prohibits fire departments and companies from discriminatory practices based on a limited number of protected categories.
- Adds coverage for Domestic Workers.

Housing:

- Adds lawful source of income as a protected category.
- Addresses post-acquisition harassment.
- Defines unlawful discriminatory practices for Real Estate Brokers and Real Estate Sales Persons.

Public Accommodations:

- Requires reasonable accommodations be made for people with disabilities.



Jurisdiction and Procedures—Complaint and Hearing Procedures:

- Provides mechanism for imposing and collecting fines and penalties.
- Simplifies the structure of the civil fines and penalties which can be imposed in all cases where probable cause is found.

3. Enhance Economic Competitiveness and Capacity to Build an Innovation Economy

Economic opportunities are the foundation of all sustainable growth. Such opportunities and a better quality of life were the reasons why so many people chose to move to Suffolk County in the early 1950s through the early 1970s. In the past two decades, however, the shift from an industrial economy to one that is more knowledge-based, combined with increased global competition, altered demands on regional and local infrastructure and labor markets.



Employment Sector Trends

Over the past 11 years, Suffolk County's total employment has increased by approximately 6 percent, including both private (6.8 percent increase) and public (3.3 percent increase) sector employment. Private sector employment has grown from about 480,000 to 520,000 employees in comparison to a growth of only 1.2 percent nationwide. However, not all sectors experienced the same growth (see Table 2). While many of the sectors in Suffolk County experienced double-digit growth (e.g., professional, scientific, and technical services; health care and social assistance; arts, entertainment, and recreation; and accommodation and food services), others declined over the past 11 years. Overall, when the expansion and decline of sectors in relation to average wages are considered, it can be concluded that the County is losing high paying jobs and replacing them with lower skill and wage jobs.

Table 2. Number of Employees and Average Wages by Sector, Suffolk County, 2001 and 2012

SECTOR	SUFFOLK COUNTY			US	AVERAGE ANNUAL WAGE PER WORKER IN COUNTY (\$)
	2001	2012	PERCENT CHANGE	PERCENT CHANGE	2012, IN THOUSANDS
Total employment for all sectors¹	581,938	618,205	6.2%	1.6%	53,288
Private	483,899	516,941	6.8%	1.2%	51,167
Public	98,039	101,264	3.3%	3.5%	64,115
Private employment by sector:					
Agriculture, forestry, fishing and hunting	2,459	2,342	-4.8%	1.7%	34,585
Mining, quarrying, and oil and gas extraction	165	177	7.3%	49.1%	87,599
Utilities	N/A ²	1,563	N/A	-8.4%	99,173
Construction	34,676	34,536	-0.4%	-17.5%	59,430
Manufacturing	62,611	54,357	-13.2%	-27.3%	61,018
Wholesale trade	34,935	35,564	1.8%	-1.3%	73,444
Retail trade	74,348	77,417	4.1%	-2.1%	31,136
Transportation and warehousing	N/A ²	16,432	N/A	0.5%	41,254
Information	15,420	9,521	-38.3%	-25.5%	68,928
Finance and insurance	21,537	21,570	0.2%	-1.4%	148,601
Real estate and rental and leasing	4,517	4,615	2.2%	-4.6%	51,051
Professional, scientific, and technical services	34,067	41,107	20.7%	14.9%	63,932
Management of companies and enterprises	7,777	7,542	-3.0%	16.7%	94,920
Administrative and support and waste management and remediation services	33,760	36,647	8.6%	3.2%	39,439
Educational services	8,892	9,729	9.4%	38.5%	33,411
Health care and social assistance	65,010	83,535	28.5%	29.5%	47,576
Arts, entertainment, and recreation	7,967	10,049	26.1%	10.7%	26,916
Accommodation and food services	31,328	43,661	39.4%	16.5%	20,119
Other services (except public administration)	20,913	22,454	7.4%	8.1%	28,039

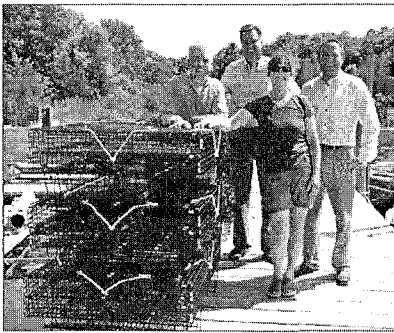
Notes: 2001 is the earliest year and 2012 is the latest year for which annual county-level data is available.
1. Total employment includes private and public employment in all sectors (including Public Administration and Unclassified, which are not listed in this table) as reported by BLS.
2. In accordance with BLS policy, data reported under a promise of confidentiality are not published in an identifiable way and are used only for specified statistical purposes.
Data for the first three sectors shown in the table was suppressed from public reporting because of the limited number of employees employed in these sectors.

 Green shading indicates an increase in the percent change for a category.  Rose shading indicates a decrease in the percent change for a category.

Sources: Bureau of Labor Statistics (BLS), Quarterly Census of Employment and Wages.

Tourism, Fishing, and Agriculture

Long Island is well-known for tourism, fishing, and agriculture. One of the key strategies for economic growth is to produce a new generation of sustainable, well-paying jobs in the legacy sectors of agriculture, aquaculture, fisheries, and tourism by expanding access to critical infrastructure, recreation facilities, research partnerships, and workforce training.



Tourism in Long Island is a \$5.1 billion industry, supporting more than 74,128 jobs. In the entirety of New York State, only New York City generates more tourism dollars. Nearly 6% of all Long Island employment is directly or indirectly tied to tourism.

According to a 2012 analy-

sis conducted by Tourism Economics, an Oxford Economics Company, Suffolk-specific tourism generates \$2.7 billion in revenues, \$1.4 billion in labor income, 38,447 jobs, \$186 million in local tax revenue, and \$149 million in state tax revenue. Tourism revenue is generated through spending on transportation, lodging, food service (restaurants and bars), recreational activities (parks, beaches, golf, concert, theaters, amusement parks, museums, etc.), retail sales, and service stations.

The tourism industry has fed the continued success of Suffolk County's agriculture and fishing industries. The rural beauty of Suffolk County attracts visitors who enjoy bathing beaches, fishing, boating and other water sports as well as hiking, bicycling, adventure tourism, and other outdoor recreation or simply viewing the scenery and historic hamlets. The importance of the water features within and surrounding the County highlights the significance of protecting these water-related natural resources from degradation and pollution, including nitrogen loading. The abundant water related natural resources and activities are a major attraction to tourists and visitors alike.

Restaurants featuring local produce and seafood, wine tastings, special events and festivals, farm stands and "pick-your-own" attract tourists throughout the year.

PRIORITY ACTION AREA: Strengthen the Tourism and Adventure Recreation Sector

Twenty New York State parks, which together welcome millions of visitors each year, are located in the County. According to the New York State Department of Parks and Recreation, the State parks located in the County that were most frequently visited in 2011–2012 (the most recent data available) are Robert Moses State Park (with 3.4 million visitors), Sunken Meadow State Park (with 1.7 million visitors), Heckscher Park (with 1.2 million visitors) and Captree State Park (with 1.0 million visitors). Many of the other State, County, Town and Village parks are located on beaches which attract hundreds of thousands of visitors each year. Moreover, one beach in the County has been ranked number one on a list of the top ten beaches in the United States based on 50 factors rated by a professor at Florida International University. With 986 miles of shoreline, industries such as recreational boating, boat sales and service, marinas, and charter boat fishing are prominent in the County. Each summer thousands of visitors are transported by ferry to the various summer communities located on Fire Island.

Presently there are 69 golf courses located in the County, including several courses constructed since the mid-1990s. The U.S. Open will be held at the Shinnecock Hills Golf Club in Southampton in 2018. In 2009, the U.S. Open was held at the Bethpage State Park Golf Club in nearby neighboring Nassau County, affording additional tourism-related commerce to the County. The Women's US Open golf tournament was held at Sebonack Golf Club in the County in 2013, and the PGA Championship and the Ryder Cup are coming to Bethpage in 2019 and 2024, respectively.

The County's 6,000-seat ballpark in Central Islip is home to the Long Island Ducks independent league baseball team. Hundreds of thousands of patrons attend games there every year and nearly every Ducks game is sold out.

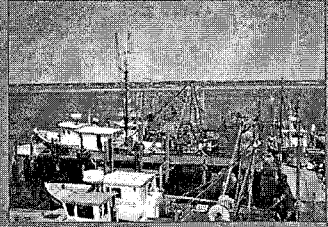
Eastern Suffolk County is a popular tourist destination. In addition, the County is home to one of the largest concentrations of second homes of any county in the nation. There are 37,000 second homes in eastern Suffolk, which draw approximately 160,000 part-time residents to the area during the summer months and on weekends. Only eight counties nationwide have more seasonal homes than the County. There are more than 5,600 lodging rooms located in eastern Suffolk, ranging from luxurious boutique hotels and bed & breakfast inns to traditional motels. These lodging properties draw thousands of tourists to the County's east end throughout the year, but primarily in the summer months. The Suffolk County Division of Planning & Environment estimates that the population in eastern Suffolk increases by more than 230,000 people during peak summer times due to tourism, which more than doubles the year-round population. Due to its proximity to New York City, the County is well situated to serve the vacation needs of this market.



PRIORITY ACTIONS:

- Continue to collaborate with the tourism sector to better address Suffolk County's tourism needs, including use of technology to improve connectivity between transit users and tourism destinations.
- Develop incentives to grow the tourism industry.
- Develop regional marketing strategy.
- Work with Long Island MacArthur Airport to assist in the growth of the tourism industry.

The agricultural character of Suffolk County is unique. While access to land is limited, and affordability is a concern, Long Island hosts rich agricultural soils and a temperate climate suited to a diverse palate of agricultural industries. Suffolk County enjoys some strategic advantages in the marketplace thanks to the nature of local tourism, weekend travel, proximity to lucrative markets (Manhattan, Brooklyn, the South Fork) and the strong "locavore" movement (the trend toward eating food that is locally produced). When



The Suffolk County fishing industry is also an important segment of the Long Island economy and one, like agriculture, that feeds off Suffolk County's important tourism industry. According to 2011 National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center data, ocean-related businesses provided 4.4% of total jobs in Suffolk County. 85.4% of those ocean-sector jobs were related to tourism and recreation, and 12.1% were related to Marine Transportation. The marine industry produced 26,690 jobs, \$776 million in wages, and approximately \$1 billion in goods and services sold. Since 2005, the tourism and recreation component has created approximately 4,000 new jobs, a 19% increase. The Suffolk County commercial fisheries industry landed 26,892,905 pounds of live catch in 2012, for a landed value of \$33,800,657³.

3. Atlantic Coastal Cooperative Statistics Program (ACCSPP)

combined with local seafood, poultry, and wineries, Long Island has a distinctive locavore brand that lends itself to a robust agritourism industry.

However, as the 2013 *State of the Suffolk County Agriculture Industry* survey indicates, increased land values fueled by developmental pressures threaten agricultural sustainability, as owners of farmland or shorefront property where aquaculture could be practically considered are under financial pressure to sell or develop their property. USDA data indicates that farm real estate values have grown by 51 percent since 2003⁴. These pressures grow increasingly acute when property landowners pass away and inheriting landowners are faced with substantial estate taxes that may rule out continued agricultural usage.

4. Northeast State Region, according to the "Northeast Agriculture 2014: Insights and Perspectives," by Farm Credit East.

Business Sector Trends

Table 3 illustrates that trends in the composition of business sectors generally mirror the major trends in sector employment, over the period between 2001 and 2012. While there were significant gains in the accommodation and food services; health care and social assistance; and arts, entertainment, and recreation sectors, the biggest gains over the period between 2001 and 2012 were in management of companies and enterprises and educational services. While businesses in the management of companies and enterprises increased by nearly 74 percent, employment in this sector actually decreased by 3 percent over the same time period. Employment in the education sector increased by 9.4 percent, while the number of businesses in the same sector increased by over 30 percent. Similarly, while there was a significant gain in establishments providing administrative and support and waste management and remediation services (27.1 percent), employment in this sector increased by only 8.6 percent from 2001 to 2012. The number of businesses in accommodation and food services increased by only 17.4 percent, which is significantly lower than the employment growth of over 39 percent in that sector. Similar to employment, establishments in the manufacturing and information sectors experienced significant declines, by 12.3 and 15 percent, respectively.

In addition, between 2001 and 2012, the share of businesses in the financial sector has increased by 8.4 percent while employment has decreased by 0.2 percent, suggesting that primarily smaller financial offices with few employees have emerged. In the retail sector, while employment in the retail sector was still growing at over 4 percent, the number of shops actually decreased by nearly 2 percent, which suggests a number of factors may contribute to this trend including the economic recession, internet and other variables. Suffolk County has also been focused on enhancing its capacity to encourage and support technology-related business, building on existing technology assets, including Brookhaven National Laboratory, SUNY Stony Brook and its incubators, and the corporate headquarters of Canon Americas, CA Technologies, Motorola, and Leviton Manufacturing Company. This sector

has exhibited gains over the period between 2001 and 2012 (professional, scientific, and technical services) of 19.7 percent.

Employment Location/Clusters

Understanding the geographic distribution of employment is a major factor when planning for smart growth. Major job clusters determine commuting patterns, potential demand for housing in the vicinity of the clusters, and potential supporting infrastructure. Businesses and employment in Suffolk County followed the general historic settlement patterns on Long Island. Business activities in the middle of the last century were concentrated in the western portion, where spillover from the more densely developed Nassau County formed the first dense development clusters in Suffolk County. Business also followed the LIRR, which was (and continues to be) an important mode of transportation to deliver freight and move people east to west. In particular, the distribution of industrial uses that dominated in the 1960s and 1970s illustrates that pattern and is still visible today. For instance, Hauppauge Industrial Park, the largest on Long Island and the second largest in the nation, was created in the early 1960s. This park has more than 1,300 companies, and employs over 55,000 Long Islanders.



EMPLOYMENT FORECAST



In terms of future private sector employment, projections by NYMTC show that by 2020, the County's employment is estimated to be at 600,000 employees working in Suffolk County. This represents an increase of approximately 80,000 employees since 2010 (compared with approximately 30,000 between 2000 and 2010 based on BLS data). By 2030, NYMTC projects that Suffolk County's economy will have added an additional 55,000 employees and is expected to have reached a total of about 713,000 employees by 2040.

Table 3. Number of Businesses by Sector, Suffolk County, 2001 and 2012

SECTOR	SUFFOLK COUNTY			US
	2001	2012	PERCENT CHANGE	PERCENT CHANGE
Total employment for all sectors¹	44,711	50,524	13.0%	14.2%
Private	44,014	49,774	13.1%	14.3%
Public	697	750	7.6%	14.0%
Private employment by sector:				
Agriculture, forestry, fishing and hunting	248	248	0.0%	-5.4%
Mining, quarrying, and oil and gas extraction	20	18	-10.0%	31.8%
Utilities	N/A ²	45	N/A	6.3%
Construction	6,046	6,690	10.7%	-3.8%
Manufacturing	2,373	2,082	-12.3%	-15.8%
Wholesale trade	3,302	3,131	-5.2%	7.1%
Retail trade	6,371	6,254	-1.8%	-1.8%
Transportation and warehousing	N/A ²	1,046	N/A	6.2%
Information	655	557	-15.0%	-5.6%
Finance and insurance	2,298	2,492	8.4%	12.7%
Real estate and rental and leasing	1,103	1,274	15.5%	11.8%
Professional, scientific, and technical services	4,567	5,466	19.7%	27.9%
Management of companies and enterprises	119	207	73.9%	51.3%
Administrative and support and waste management and remediation services	2,804	3,564	27.1%	22.4%
Educational services	455	595	30.8%	52.2%
Health care and social assistance	3,688	4,538	23.0%	33.7%
Arts, entertainment, and recreation	659	838	27.2%	20.0%
Accommodation and food services	2,712	3,183	17.4%	21.5%
Other services (except public administration)	4,050	4,533	11.9%	32.2%

Notes: 2001 is the earliest year and 2012 is the latest year for which annual county-level data is available.
1. Total establishments include private and public establishments in all sectors (including Public Administration and Unclassified, which are not listed in this table) as reported by BLS.
2. In accordance with BLS policy, data reported under a promise of confidentiality are not published in an identifiable way and are used only for specified statistical purposes.
Data for the first three sectors shown in the table was suppressed from public reporting because of the limited number of employees employed in these sectors.

Sources: BLS, Quarterly Census of Employment and Wages.

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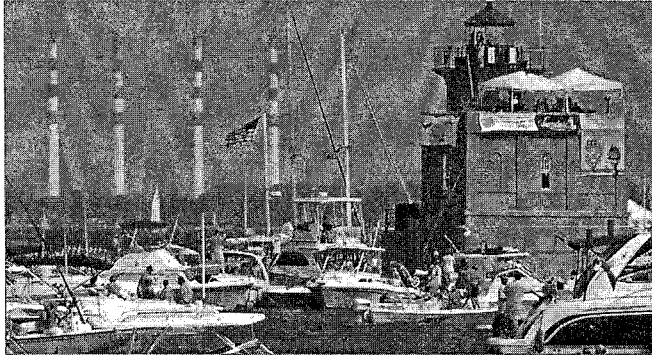


Photo Credit: Barry Mines

Suffolk County contains 17 communities⁵, which each contained more than 10,000 private sector jobs in 2009, according to the U. S. Census Bureau. Employment in these areas is high because of concentrations of office, industrial, or institutional development. The largest employment centers in Suffolk County are Melville, Hauppauge, and East Farmingdale, which each contain more than 30,000 jobs. Melville alone has 55,000 jobs.

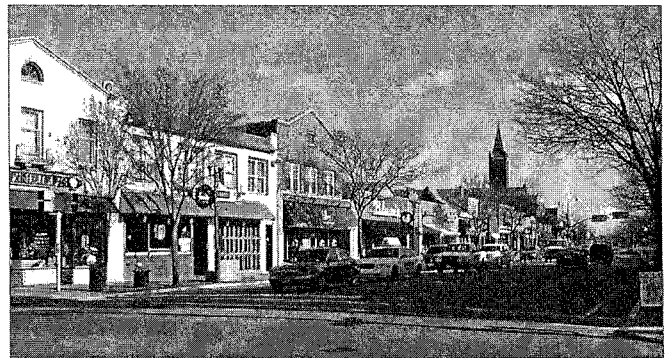
Employment growth between 2000 and 2010 was not evenly distributed throughout the County. Overall, while the pattern from 2000 remains very similar in 2010, the “center of gravity” for employment has shifted slightly toward the eastern portion of Suffolk County, with more people working in the Central Suffolk County region. In particular, since 1998 there are three areas that have received a relatively large share of the County’s employment growth:

- a) The Route 97 corridor between Stony Brook and Patchogue;
- b) The triangular area between Riverhead, Hampton Bays and Manorville; and
- c) The South Fork around Sag Harbor.

5. Melville, Hauppauge, Farmingdale, Bay Shore, Huntington, Ronkonkoma, Bohemia, Patchogue, Smithtown, Commack, Huntington Sta./Dix Hills, Stony Brook, Riverhead, Brentwood, Deer Park, West Babylon, Amityville.

PRIORITY ACTION AREA: Build an Innovation Economy

Some target industry sector businesses (i.e., business in Agricultural, High-Tech/Green-Tech Industry, Innovation, Advanced Manufacturing, and Tourism sectors) have difficulty attracting and retaining employees with the required education and skill sets. Major reasons for the lack of available talent are: (1) some young adults are leaving the County; (2) local trade schools and colleges are unable to produce enough graduates that can satisfy the employment demand generated by the target industry sectors; and (3) the lack of housing for young people needed to fill these jobs at the salaries offered. According to the *Long Island Regional Economic Development Council (LIREDC) Plan*, there is an identified gap between the skilled employees that companies demand and those available in the regional labor force. In addition, students with engineering and computer science majors are scarce. Providing an environment that will encourage young people to live in Suffolk County will ultimately increase the size of the labor pool available for target industry sector businesses. Revitalizing the County’s downtowns with multifamily housing can help to attract students and young workers, as well as seniors looking to downsize, and breathe new economic vitality into otherwise underutilized downtown areas.





PRIORITY ACTIONS:

Help companies start and grow in Suffolk County, by:

- Attracting target sector businesses, visitors, and tourists through marketing and publicity campaigns.
- Exploring the feasibility of establishing an indoor convention center in Suffolk County.
- Creating local financing mechanisms for regional businesses.
- Sharing governmental public data and information with local companies.
- Strengthening industrial corridors and protecting water quality by providing wastewater infrastructure to spur economic development.
- Helping to foster local industries connected to agriculture and aquaculture.
- Providing additional opportunities to link shorelines and water-related businesses (i.e., docks, marinas, restaurants) to open spaces and downtowns.
- Working with local municipalities to encourage the development of affordable housing in appropriate locations.
- Improving and increasing educational opportunities for computer science and engineering.



CASE STUDY: The Enterprise Park at Calverton (EPCAL)

The Town of Riverhead is a rural municipality with a population of approximately 34,000, located on the east end of Long Island in Suffolk County. Riverhead is within a commutable distance of all of Suffolk and Nassau County.

The Enterprise Park at Calverton (EPCAL) located in the Town of Riverhead is a planned redevelopment of a 2,900-acre property formerly owned by the federal government and leased to the Grumman Corporation for final assembly and flight-testing of military aircraft. In 1996, defense downsizing resulted in closure of the Grumman facility and the U.S. Government transferred the site to the Town of Riverhead Community Development Agency (CDA) in September 1998 for economic development with the goals of:

- *Attracting private investment in the site;*
- *Maximizing real property tax ratable base;*
- *Maximizing skilled, high paying employment opportunities; and*
- *Protecting natural environment and the sustaining of the regional quality of life.*

A 1998 comprehensive reuse planning study of the EPCAL site identified a mix of industrial and regional recreational uses as the best means to achieve these goals. The Town of Riverhead sold the industrial core at EPCAL in 2001 to M-GBC, LLC, which subdivided the parcel into approximately 40 lots and sold to industrial users – with many interested in additional expansion at EPCAL. Today, approximately 36 businesses with 600 employees exist in the industrial core.

EPCAL provides a shovel ready site with 90 day permit approval pursuant to newly created NYS legislation that incentivizes private investment into an Urban Renewal Area by streamlining the approval process and in turn, lowering the cost of doing business. Given the large size of undeveloped acreage and the existing infrastructure, the EPCAL site is well suited to attract “game changer” industries for an enhanced development rather than just a conventional industrial park. The EPCAL site is well buffered with access to main thoroughfares, an on-site sewage treatment plant, ample water supply, a 10,000 foot active runway, and freight rail access. The Town is exploring Foreign Trade Zone status to attract international businesses to locate at EPCAL.

Projections indicate total non-residential square footage build out at EPCAL to be approximately 2 million square feet on 150 acres by 2025 based on a rate of absorption of 132,000 square feet on ten acres per year.

The Reuse & Revitalization of EPCAL is the largest economic development project for the eastern region of Suffolk County. The goals and objectives of the EPCAL Reuse & Revitalization Plan are consistent with the local and regional goals and promise to promote and encourage uses that promote environmental quality and reduce reliance on imported fuels, i.e., solar; high-tech energy and/or green technology businesses; compliment and support the local agricultural economy, i.e., food processing; food distribution; appropriate industrial and commercial development to accommodate regional growth influences; use of the rail spur to support investment and development and reduce and/or mitigate traffic; and strengthen relations and coordinate with Stony Brook University (SBU), which operates the Calverton Business Incubator on 50 acres of the EPCAL site along NYS Route 25, and the Brookhaven National Laboratory for creation of and promotion of the site, i.e., high-tech business/research park.

PRIORITY ACTION AREA: Strengthen and Connect Employment Centers

The County has a number of successful business clusters and innovation centers that should be supported through infrastructure investments and incentives that encourage additional housing options.

In addition, business centers need to be connected with each other. Connections between clusters should include physical infrastructure (i.e., public transportation but also roadway infrastructure) and technical infrastructure, such as high speed data connections. Better connected clusters allow for a more efficient exchange of people, goods, data, and ideas. Sharing skill sets through a common labor market, supply chain efficiencies, and cross-application of new technologies across multiple industries are only a few of the benefits that can be achieved by better connecting business clusters.

Employment centers also need to be better connected with surrounding residential concentrations through more efficient public transportation options. Connecting residential and employment areas will increase the attractiveness of the business clusters for employees and decrease congestion, which has become an ever-increasing soft cost for conducting business in Suffolk County.



PRIORITY ACTIONS:

- Connect regional job centers to mass transit options.
- Invest in transit (bus/rail) to link employment to areas suitable for residential growth and areas with potential to support TODs.

CURRENT ACTION: Agriculture Capital Equipment Grant Program

The Agriculture Capital Equipment Grant Program is a Long Island-based program that will create a financial pool of resources to assist farmers making capital investments in their farming operation. The program was developed by the Suffolk County Planning Commission and the County Executive's office, in conjunction with the Peconic Land Trust and other agriculture partners such as Farm Credit East, Farm Bureau and Cornell Cooperative Extension. The program is being established and funding has been secured through the LIREDC. The program will help between 100 and 150 emerging and established farmers over three years acquire the equipment needed to start or grow their business and meet the increasing demands for food quality and safety standards.

This cost share program offers an excellent opportunity to protect and steward Long Island's natural assets. Improving the economic viability of local agriculture will help ensure that protected agricultural soils remain in production. It will also encourage our farmers to make capital investments that will: improve environmental stewardship, including potential reduction in nitrogen fertilization and leaching, thereby protecting our groundwaters; facilitate the adoption of innovative practices and technologies that protect our natural resources, including sustainable farming or organic practices; encourage the installation of renewable energy sources in structures like greenhouses; and increase investment in fuel efficient vehicles for on-site production and delivery. Additionally, the program can help fund shellfish aquaculture investments. Shellfish aquaculture removes nitrogen from our waterways and filters pollutants. The equipment associated with shellfish aquaculture can create artificial reefs in Long Island waterbodies and help reestablish damaged ecosystems and wetlands. Investment in this re-emergent sector will result in cleaner waters, with restored habitats, and will ultimately reinvigorate the recreational and commercial fisheries as well.



CASE STUDY: Creating Economic Opportunities on Preserved Farmland



The Suffolk County Farmland Development Rights program began in 1974 and is the oldest purchase of development rights (PDR) program in the nation. The Suffolk County PDR program continues to be a

model for PDR programs across the nation. The farmland PDR program serves many vital functions but most importantly, it ensures that rich, viable agricultural soils and properties within Suffolk County will be preserved permanently for farming use. Suffolk County has successfully protected over 10,745 acres of farmland since the program's inception.

When Suffolk County purchases a property's "agricultural development rights," the land is permanently preserved as Suffolk County farmland. Only agriculture activities, as determined by the Suffolk County Farmland Committee, are permitted on preserved property. Unfortunately, developmental pressures and rising production costs continue to threaten the long-term economic viability of the agricultural industry in Suffolk County, including those acres preserved in the County PDR program.

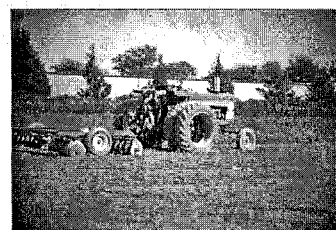
The nature of Suffolk County farming continues to change in response to new technologies, environmental forces, cultural norms and economic opportunities. An industry previously characterized by wholesale potato farming now includes an extraordinarily diverse array of produce and commodities. These new products create a need for new marketing and direct sales avenues, including an increasing reliance on value-added goods, on-site farmstands and tasting rooms,

and agricultural tourism. Of course, an evolving industry needs an evolving farmland preservation program.

In 2013, Suffolk County updated Chapter 8 of the Suffolk County Administrative Code, the law that governs the County's "Purchase of Development Rights" (PDR) program to respond to the changing needs of farmers and ensure that current and future generations of Suffolk County farmers will have the economic tools necessary to succeed on Long Island.

To accommodate these new economic opportunities, the following changes were passed:

- Modification of farm stand regulations—the Suffolk County Farmland Committee may approve farm stand structures up to 1,000 square feet (previously limited to 500 square feet).
- Limited on-site processing—the Suffolk County Farmland Committee may approve onsite processing of products grown on the farmer's operation such as canning, cooking, packaging, etc.
- Agri-tourism activities—"U-Pick" operations, Crop mazes (such as corn mazes), Hayrides and Agricultural Educational Tours shall be permitted on preserved land.
- "Abandonment of Agricultural Use" Prohibition—preserved land must remain cultivated and in agricultural production.



PRIORITY ACTION AREA: Decrease Barriers to Employment

To ensure that all Suffolk County residents have an opportunity to secure and maintain gainful employment and that existing and future employers have access to the labor force they need to succeed, it is important to decrease common employment barriers, ranging from education and training to transportation to childcare. For certain employment barriers, for example those related to transportation, there is a well-established role for the County. For others, such as education, the County's role may be one of organizer or initiator, with the implementation carried out by other organizations or municipal agencies.



PRIORITY ACTIONS:

Take advantage of regional technology assets by helping companies start and grow in Suffolk County, by:

- Continuing to collaborate with the MTA/LIRR and SCT to better address Suffolk County's transportation needs, including use of technology to improve connectivity between bus service and underserved railroad stations.
- Advancing Bus Rapid Transit priority corridors in connection with north-south road capacity improvements.
- Partnering with businesses, colleges, universities, and high schools to promote careers in high opportunity occupations and fields; encourage provision of educational resources, such as English as a Second Language instruction, as well as workforce development programs.
- Establishing a network of schools and businesses that can work to provide internship opportunities for high school seniors and college students. Such internships would help students acquire the skill sets needed by Suffolk County businesses, increasing post-graduation job placement.
- Developing workforce opportunities to retrain unemployed or under-employed individuals in the growing technology sectors.

4. Support Vibrant Communities

The County has many thriving communities that should be supported through infrastructure investments and incentives that encourage additional housing options. For example, the communities of Patchogue, Huntington, and Port Jefferson are models of what can be accomplished when existing communities receive this type of support. Funding needs to be targeted toward existing communities, for multi-family transit oriented development, expanded wastewater infrastructure, and land recycling—to support community revitalization and increase resiliency. The beginnings of how this can positively affect a community and help it reach these goals can be seen in Wyandanch and downtown Riverhead, which both have ambitious initiatives being planned and already underway.

PRIORITY ACTION AREA: Promote Community Revitalization

Promoting responsible and sustainable community revitalization is essential to the economic, cultural, and environmental health of Suffolk County. Wyandanch Rising is a model example of how grassroots community planning and targeted public investments—in wastewater infrastructure, roadway modifications and improvements, and transit-related parking amenities—at a “downtown” transit hub, can galvanize a community, engender private investment, and foster public-private partnerships that tangibly demonstrate a commitment to revitalizing an economically and environmentally distressed area.





CASE STUDY: Wyandanch Rising

WYANDANCH is a 4.4 square-mile hamlet located in the Town of Babylon, approximately 35 miles east of Midtown Manhattan and a one hour train ride from Penn Station on the LIRR. Approximately 65 percent of its nearly 12,000 residents are African-American. Wyandanch is also home to a growing Latino population, with 28 percent of residents identifying as Hispanic or Latino in the last Census.

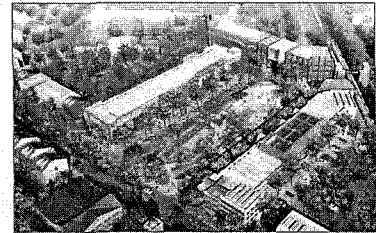
Following a long period of economic decline and disinvestment, Wyandanch was ranked by the Suffolk County Planning Commission in 2000 as the most economically distressed community on Long Island. Though nearby communities were stable and relatively affluent, Wyandanch suffered from high concentrations of poverty, high crime rates, and a general lack of new development and growth. These problems were compounded by geographic and land use conditions that included a concentration of brownfields and heavy industrial uses along the central business corridor and in the downtown area, auto-centric development patterns, and a high water table and lack of sewer infrastructure that made business and economic development prohibitively costly.

Although faced with these redevelopment constraints, Wyandanch was identified by residents as a prime location for high density, transit oriented development. In 2002, the Town of Babylon undertook an extensive revitalization, beginning with the development of a comprehensive plan through a community visioning process led by Sustainable Long Island. The Wyandanch Hamlet Plan, adopted by the Town Board in 2004, identified a community desire to redevelop the downtown Wyandanch area surrounding the train station into a pedestrian-friendly, mixed-use neighborhood with new housing, retail and office space in a traditional downtown style.

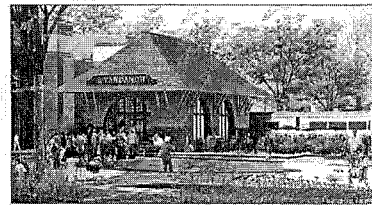
Since that time, the Town has invested nearly \$26 million in property acquisition, \$15 million in sewer construction, and \$4 million in Community Development funds to provide the necessary site and infrastructure improvements to facilitate redevelopment. The Town's Wyandanch Community Resource Center opened in November 2009, offering GED-equivalency programs, job training and placement services, credit and housing counseling and small business development counseling. The Town has also committed Housing Trust funds in combination with HOME funds for down payment assistance to enable renters to purchase homes in Wyandanch.

The Town leveraged its own investment to secure millions of dollars in federal, state and local grants, which have been used to complete necessary site and

infrastructure planning and to further revitalization efforts. The Town received funding from the NYS Brownfield Opportunity Areas Program to complete a Conceptual Area Plan and Form-Based Code for the core redevelopment area and to implement the community redevelopment vision.



Wyandanch Rising will be the first 21st Century TOD in the ground on Long Island. Wyandanch, long plagued by environmental degradation, neglect, and disinvestment, will be a model for development and transportation planning, a model for community and economic revitalization, a model for social and environmental justice, and a model for community investment and partnership making.



In 2013, the first phase of development commenced with a five story mixed use development comprising 91 units of rental residences on four floors, above a floor of retail and residential common areas. The rental units are a mix of one-bedroom, two-

bedroom and three bedroom units targeted for a mix of incomes, with 60 of the units designated as affordable to households earning up to 90% HUD Area Median Income. Construction on a second building, containing 86 residential units and 18,000 square feet of retail began in Spring 2014. As a result of a First Source Labor Agreement between the Town of Babylon and the Town's selected master developer, the Albanese Organization, local residents have been employed on these construction sites.

The LIRR also began construction on a 900+ space commuter parking garage in May, 2014. This \$29 million investment will support the TOD at this location and meet the future demand generated by the anticipated future growth in ridership.



CASE STUDY: Patchogue Revitalization

The Village of Patchogue has a population of 12,000 with a density of 6,000 per square mile. Patchogue is a diverse community with 30% of its residents being of Hispanic or Latino descent. The median age of the village is 37.3 years. Of the 5,023 housing units in the Village, 2,131 or 45.4 percent are rental units. This is substantially greater than the majority of communities in Suffolk County where the rental unit rate is 18%. Over 50% of the housing stock is more than 50 years old. Patchogue Village is a low-moderate income community with a median income of \$67,167, which is 64% of HUD AMI, and 14.6% of individuals in the village have incomes below the poverty level.

In 2002 the Village of Patchogue vacancy rate was over 18% by number of properties and because of the size of many of these properties, there was over a 30% vacancy by sq. footage. In the prior 15 years the downtown had lost its long time Main St. anchor, Sweezy Department Store (55,000 square feet), the Patchogue Theatre was closed (reopened in 1999), but there were still eight retail stores (four that had been in Patchogue for over 60 yrs), three restaurants and a number of small retailers; beauty salon, karate school, luncheonette, etc. On most nights the downtown was dark. The revitalization started with the opening of the Theatre, but the downtown needed more; it needed people. Since 2004, with support of the Suffolk County Work Force Housing Commission, 600 residential units have been built (or are under construction) in the downtown area with 200 units (30%) designated as affordable. A major component of this was the addition of Artspace, a 45 unit affordable housing project for artists. Artspace along with the Patchogue Theater for the Performing Arts (140,000 in attendance in 2013) and the construction of New Village, 291 rental units and 40,500 sq. feet of retail and 10,000 sq. feet of office space has spurred the resurgence of downtown into a place where entertainment and arts come together. During this period the downtown has gone from three restaurants to 16 with three slated to open in New Village in the future. Within the Village there has been over \$350,000,000 of new construction supported by \$50,000,000 in grants; \$11,000,000 upgrade of wastewater treatment plant, \$3,500,000 in road repairs, \$2,500,000 investment in parks (new public pool, recreation center and playground equipment) and the construction of 150 condominiums just outside of our downtown. To quote former Mayor Norman Lechtrecker... "As goes the downtown goes the residential and as goes the residential goes the downtown". It is about the whole community.



PRIORITY ACTIONS:

- Eliminate blight by addressing abandoned residential structure "zombie properties"
- Expand the County's downtown revitalization program

There are a number of projects underway in Suffolk County that have the shared goal of supporting existing communities and promoting community revitalization, including the following:

- Riverhead
- East Hampton
- Riverside
- Huntington

PRIORITY ACTION AREA: Utilize the Suffolk County Landbank to Repurpose Vacant and Tax Delinquent Environmentally Challenged Sites

The Suffolk County Landbank Corporation (SCLBC) was established in 2013 under the New York State Land Bank Program. Land banks are public benefit corporations which can acquire and dispose of real property. The SCLBC takes a broad based approach toward the revitalization of previously unmarketable blighted properties. While most land banks are focused on community renewal from a residential perspective, Suffolk County was faced with a unique challenge: efficiently returning tax delinquent and environmentally challenged commercial and industrial properties (also known as Brownfields) to productive tax paying uses. The SCLBC provides an innovative approach to this process by allowing for site assessment, lien transfer, and sale, while keeping Suffolk County's government out of the chain of title, and therefore eliminating the risk of environmental liability. Once on the market, the tax liens will be sold to qualified private developers who will

then remediate and redevelop each site. While still in its early stages, the SCLBC has gained federal and state support, while also helping to spur millions in back tax payments from delinquent property owners in its first year.



GOALS OF THE SCLBC:

- Facilitate community revitalization
- Protect the quality of Suffolk's sole source drinking water through the clean-up of Brownfields
- Create short term remediation jobs, mid-term construction jobs, and long-term employment, by returning neglected properties to productive reuse
- Redeveloping Brownfields, which are scattered throughout the County, will increase surrounding property values, will stabilize the tax base, and will improve the quality of life for neighborhood residents.



PRIORITY ACTIONS:

- Continue to coordinate between *New York Rising* and the County.
- Use the Suffolk County Planning Commission's review authority under New York State General Municipal Law 239 (Sections l, m, and n) to review development projects' conformance with the *Framework for the Future – Suffolk County Comprehensive Master Plan 2035*.
- Consider strategies to preserve a range of housing opportunities in areas subject to rapid growth.
- Identify the catalytic potential of tax delinquent, environmentally challenged properties in the Suffolk County Land Bank, especially in environmental justice areas.
- Rehabilitate bank-owned zombie properties.



5. Streamline Government, Coordinate Policies, and Leverage Investment

Coordinated planning initiatives across municipal boundaries are essential to foster a more efficient use of resources and to mitigate the potential adverse effects of development and growth in Suffolk County.

A few of the catalyst projects identified by the LIREDC illustrate the success that can be achieved through regional coordination. In particular, Wyandanch Rising shows how Federal, State, and local coordination can generate momentum that is visible beyond municipal boundaries. With planning efforts funded by the New York State Brownfield Opportunity Area (BOA) program, the project was advanced under the cooperative leadership of the Town of Babylon and Suffolk County. The project's momentum convinced local business leaders of the unique opportunity in this area to create a redeveloped downtown for Wyandanch, with the result that construction of the sewer infrastructure improvements are nearing completion, and construction of the first phase of the mixed-use development commenced in the fall of 2013.

Coordination and collaboration is also one of the central elements of Suffolk County's transportation plan "Connect Long Island," which encourages, and indeed will require collaboration between various government entities. Collaboration and coordination between government, and private initiatives and programs, are also highlighted and supported by initiatives such as Accelerate Long Island, which was created to better match the County's highly educated workforce and education institutions with potential companies and business start-ups in the innovation sector.

Streamlining permitting processes, such as the County Planning Commission's Unified Solar Permit Initiative (see Case Study, on page 29), which was adopted by all ten towns, and the Planning Commission-led East End Wind Code, which was created by town officials working together, enhances economic development and makes it easier to create jobs.

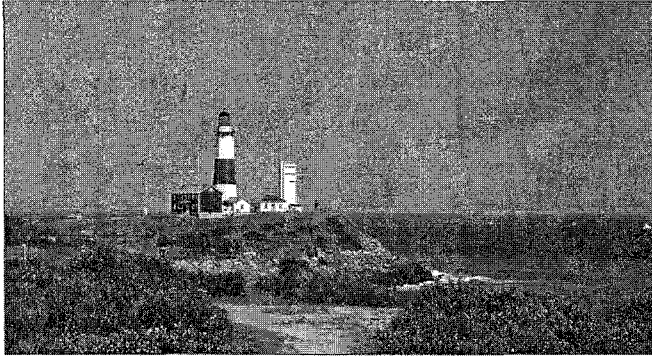


Photo Credit: Harold S. Vrooman

Streamlining the Wastewater Permitting Process (see Case Study below), is another example of how Suffolk County has taken the lead to improve the coordination between departments and the public relative to the permitting process.

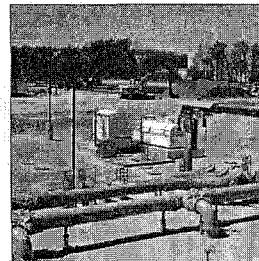


PRIORITY ACTION:

- Provide mechanisms (regional planning alliance) and incentives to promote intermunicipal planning.



CASE STUDY: Streamlining the Wastewater Permitting Process



The overhaul of the permitting process in the Office of Wastewater Management, a division of the Department of Health Services, represents a true achievement and was a result of effective collaboration among the County Executive's Office, Health Services, Department of Public Works and most importantly, the design community.

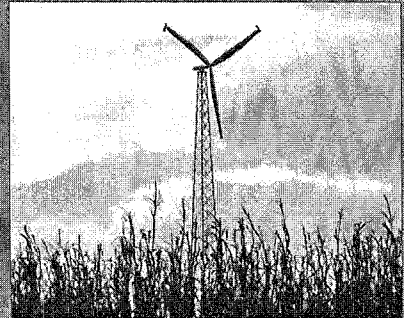
The way to issue permits in Suffolk County was re-envisioned and revamped. A comprehensive analysis process that was conducted as part of this revamping process revealed that most of the waiting time related to obtaining a permit was being spent on reworks and back and forth interactions as a result of inadequate and/or incomplete permit application submissions. This new process, which went into effect July 1, 2014, incentivizes quality submissions and provides clear, concise guidance to support the granting of permits in an efficient, quick and mutually beneficial manner. Policies were revamped, and concise and understandable checklists were developed as a result of close collaboration and assistance between design professionals, LIBI, ABLI and County staff. Achieving a 50 percent reduction in the Office of Wastewater Management's backlog and a 50 percent reduction in permitting process duration for quality applications is anticipated by the end of 2014.



INTERMUNICIPAL PARTNERSHIPS:

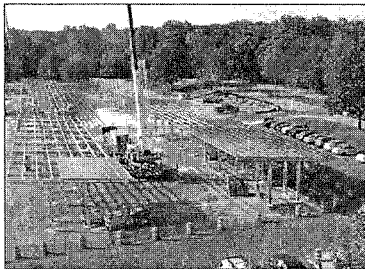
The Suffolk County Planning Commission is a leader in facilitating inter-municipal partnerships in order to address regional priorities, including:

- *Streamlining Government Review Processes:* The Planning Commission adopted guidelines to focus its review of regionally significant projects and entered into inter-municipal agreements to streamline the referrals that are sent to the County Planning Commission, reducing overall paperwork for applicants by 80%.
- *East End Wind Model Code:* The Planning Commission convened East End towns and energy leaders to develop a model code that could be adopted by local municipalities in order to allow wind turbines in appropriate locations while protecting public safety.
- *Geo-Thermal Model Code:* The Planning Commission developed a model code for geo-thermal installations with municipalities and industry leaders that would standardize approval processes and help support renewable energy and create green job opportunities.
- *Public Security:* In conjunction with the New York State Attorney General's Office, the Planning Commission is creating a model public security design code which will help municipalities make sure that new development projects are designed with public security principles in mind.
- *Housing:* After bringing Suffolk's municipalities together as part of Suffolk County's first Housing Summit, the Planning Commission is creating an inter-municipal housing data collection effort to help inform regional housing goals and strategies.
- *Green Methodologies for Storm Water Runoff:* The Planning Commission issued a guidance document for Suffolk municipalities and developers about how they can use environmentally sensitive methods to control storm water.
- *Suffolk County Downtown Parking Symposium:* The Planning Commission organized a conference where Suffolk's municipalities could share experiences in dealing with downtown parking issues.
- *Universal Design Model Code:* The Planning Commission created a model code that municipalities could use to encourage housing developments where Suffolk residents can age in place.
- *Suffolk County Decentralized Wastewater Symposium:* The Planning Commission and Peconic Green Growth organized a conference to educate municipalities and developers about new technologies and policy ideas for decentralized wastewater systems.
- *Utility Solar:* In partnership with several towns, community stakeholders and PSEG/LIPA, the Planning Commission developed utility RFP process recommendations and a model municipal code in order to improve the process for siting large-scale solar arrays.





CASE STUDY: Suffolk County Unified Solar Permit Initiative



Suffolk County is committed to achieving improvements in market conditions for rooftop solar photovoltaic (PV) systems. Land use decisions, including solar permitting, take place at the local town and village level. With 10 Towns and 33 Villages, there are a

variety of permitting processes and zoning regulations. These overlapping permitting processes create confusion, delays and extra costs for many County residents wishing to install photovoltaic solar systems (solar panels for generating electricity and heating water) on their homes with the hopes of improving the environment and lowering their energy bills. Recognizing that the largest impediment to scaling up solar in Suffolk County was the permitting process, the Suffolk County Planning Commission and the Long Island Power Authority launched the Long Island Unified Solar Permit Initiative (LIUSPI). As an incentive, the Long Island Power Authority committed to providing implementation assistance of \$15,000 to each town in Suffolk that adopted the authorizing legislation sufficient to accomplish the five key components of the LIUSPI plan, which was adopted by all ten towns in Suffolk County. This new permitting process, which has covered more than 80 percent of residential solar systems, will reduce costs, save time, and improve public safety.

This ground-breaking solar initiative emanated from a Suffolk County Planning Commission-led working collaborative of stakeholders and municipal officials from across Suffolk County to develop a model process that could be used by all municipalities throughout Long Island to effectively and uniformly handle the application for and approval of residential

solar electric and solar hot water systems in each respective jurisdiction. This regional collaboration, which includes government officials, industry representatives, renewable energy advocates and the Island's utility as partners, is among the first effort of its kind in the country.

The LIUSPI application process required that municipalities adopt a plan for "standard" residential solar electric and solar hot water systems: (a) waived or minimal application fees, (b) permit issuance within 14 days of complete submittal, and (c) utilizing the "Solar Energy System Fast Track Permit Application" as an alternative to existing building permit forms. The Fast Track Application gathers targeted information about the proposed installation including a Professional Engineer or Registered Architect certified drawing of panel location and layout while not requiring a new property survey or other information not relevant to the solar energy system installation. In addition, in order to aid first responders, for all solar installations (including commercial and "non-standard" residential installations) the municipality will (d) create a central registry of solar installations and (e) require warning labels on the utility meter and any AC disconnect.



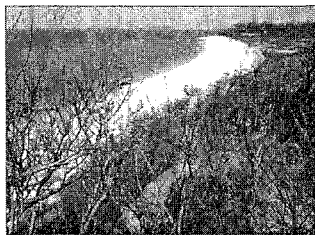
6. Protect the Environment and Enhance Our Human Capital

Suffolk County's existing communities and neighborhoods give the County its unique sense of place, and are part of the reason people want to live, work, play and visit the area. For these reasons, it is essential that consideration be given to actions that can be taken that will enhance the unique characteristics of all Suffolk County communities. This includes undertaking strategic planning and investment to support and enhance healthy, safe, walkable neighborhoods—suburban and rural—throughout the County. Additionally, valuing our communities will involve providing for new or improved wastewater treatment and conveyance systems, as well as promoting green and sustainable energy production and conservation, which all contribute to the protection of the environment.

PRIORITY ACTION AREA: Protect the Region's Environment



RECLAIM OUR WATER



Water is at the heart of everything on Long Island. It is critical to our health and our quality of life. The water that we drink is beneath our feet. The water, which sustains our multi-billion dollar tourism industry and is central to our quality of life, surrounds us. And in the wake of

Superstorm Sandy, we now know more than ever, that water can also be a threat to us. The recently released *2015 Suffolk County Comprehensive Water Resources Management (CWRM) Plan* demonstrated that we have been polluting this precious resource in a way that has caused negative trends in the quality of our drinking water, and that has devastated our surface waters—our bays and river corridors, and even has left us more

vulnerable to future storms, like Superstorm Sandy, by degrading tidal marshes that help to protect us. For the health of our region today and for the sake of future generations we must reverse these trends.



KEY WATER QUALITY TRENDS:

- The vast majority of Suffolk County residents rely on on-site wastewater disposal systems that discharge to groundwater. Suffolk County, a region with a federally designated sole source aquifer (deriving its drinking water from the ground) must pay particular attention to the damaged septic systems and cesspools by Superstorm Sandy as well as the septic systems and cesspools that are degrading our marshland habitats that act as a second line of defense during storm events like Sandy. Septic and cesspool systems are particularly problematic in areas with high water tables and in close proximity to surface waters. When flooded or submerged in groundwater, septic systems do not function as designed and they fail to adequately treat pathogens. Excess nitrogen from this sewage threatens our valuable natural resources, coastal defenses, and human health.
- The *2015 CWRM Plan*, found that nitrogen, which primarily flows from these on-site disposal systems as well as from fertilizers, is the principal culprit that degrades groundwater quality and thus drinking water supplies, spurs hypoxia, creates harmful algal blooms, diminishes commercial landings of finfish and shellfish, and damages protective natural infrastructure—wetlands and seagrass beds that act as wave and storm surge buffers. Sea level rise, which also contributes to marshland degradation, is projected to raise groundwater levels, increasing vulnerability to saltwater infiltration, and compromising on-site wastewater treatment infrastructure largely composed of cesspools and septic tanks. Other factors contributing to the degradation of groundwater quality include volatile organic chemicals (VOCs), pesticides, and pharmaceuticals and personal care products.
- The entire 60-mile South Shore Estuary Reserve was declared an impaired waterbody (under Section 303(d) of the Clean Water Act) in 2008 by the New York State Department of Environmental Conservation (NYSDEC).

- Since 1985, brown tide algae, thought to be triggered by excess nitrogen, has been invading Long Island estuaries (i.e., Quantuck Bay, Moriches Bay and Great South Bay) in late spring/early summer, obliterating shellfish habitats that once produced over half the clams eaten in the United States.
- The Great South Bay experienced a loss of tidal wetlands of 18 to 36 percent between 1974 and 2001.
- Long Island seagrass has decreased from 200,000 acres in 1930 to 22,000 acres today.
- The Forge River, a Section 303(d) impaired water body, has been declared the worst case of anoxia (absence of oxygen) ever according to Dr. Larry Swanson, a professor at Stony Brook School of Marine and Atmospheric Sciences due to algal blooms fed by exceptionally high nitrogen discharged from groundwater from inputs such as septic systems and fertilizer use that is years or tens of years old. Seasonal low dissolved oxygen levels are also problematic in Long Island Sound.

The 2015 CWRM Plan found that Suffolk County's groundwater quality is remarkably good even though Suffolk County's 1.5 million residents live directly above their sole-source aquifer. However, particular attention should be paid to the 360,000 sub- and non-performing septic/cesspools in Suffolk County, accounting for approximately 75 percent of the homes. These systems are particularly problematic in areas with high water tables and in close proximity to surface waters. When flooded or submerged in groundwater, septic systems do not function as designed and they fail to adequately treat pathogens. Excess nitrogen, noted as the principal culprit in degrading groundwater quality, from this sewage threatens our valuable natural resources, coastal defenses, and human health.

The majority of Suffolk County community supply wells is vulnerable to nitrate contamination demonstrating a need for additional groundwater protection measures. Due to the widespread use of VOCs in the County, the susceptibility ratings show nearly seventy percent of community supply

wells are rated as high or very high for contamination by VOCs. Susceptibility to pesticides is rated at low to medium throughout most of Suffolk County, except on the North Fork, where community supply wells are highly or very highly susceptible to pesticide contamination introduced to the aquifer by the agricultural lands present. However, because the entire County depends on the groundwater as its sole-source of drinking water the issue of pesticide and other nitrate contamination is of great concern even in areas of the County that are not agricultural.



PRIORITY ACTIONS:

Comprehensively implement the recommendations contained in the 2015 CWRM Plan including:

- As a result of Superstorm Sandy, in an effort to promote resilience, create and/or expand sewer districts for existing communities identified as priority areas and upgrade current wastewater infrastructure to improve coastal resiliency, water quality, and/or targeted economic development supported by local communities.
- Develop a range of approvable advanced wastewater treatment options (onsite, decentralized, sewers, non-proprietary) available for residential and non-residential properties. Gain acceptance and encourage participation.
- Develop criteria for the use of clustered and single on-site systems.
- Establish watershed-specific goals for nitrogen and other contaminants.
- Review and evaluate the feasibility of updating the Sanitary Code based on the recommendations in the 2015 CWRM Plan, to prohibit the in-kind replacement of sanitary systems.
- Develop new standards for decentralized and innovative alternative septic systems.
- Develop financial incentives and countywide mechanism for the replacement and upgrade of cesspools and septic systems, for new and existing development.

CURRENT ACTION: Reclaim Our Water – Suffolk County Septic Upgrade Demonstration Program

On Long Island, economic prosperity, public health and safety, and our quality of life rely upon the integrity of water that surrounds us. While all sources of water pollution have an impact on water quality, nitrogen pollution from failing septic systems has clearly emerged as the most widespread and least effectively addressed of the region's growing cocktail of water pollutants. Suffolk County, with a population larger than 11 states and a region that derives its drinking water from the ground, must pay particular attention to the 360,000 septic/cesspools in Suffolk, accounting for 74% of the homes.

Suffolk County is fully committed to its stated mission to reduce nitrogen loadings to our surface and ground water from all sources. Excessive nitrogen loadings from septic systems and cesspools are the most substantial sources of nitrogen in our waters. Suffolk County is preparing for the installation of new, improved onsite septic systems to reduce nitrogen loadings from sanitary waste.

Suffolk County launched a state-of-the-art septic demonstration pilot program in 2014 after touring septic programs in other states in the Northeast. A copy of the Septic Tour is available on the County's website. The County conducted a lottery to select 19 homeowners to receive a free advanced wastewater treatment system that greatly reduces nitrogen contamination – including free installation, monitoring and maintenance for five years.

The 19 systems were donated by four national manufacturers, BUSSE Green Technologies, Norweco, Orenco Systems and Hydro-Action Industries, all of whom have extensive experience across the country, as well as Europe, in removing excess nitrogen from residential and commercial properties.

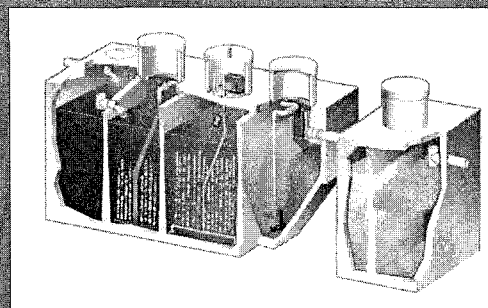
In addition, Suffolk County is financially supporting the work of partner organizations, through the 477 program, to reduce nitrogen from septic systems.

- *Pilot for Alternative Drainfields for Onsite Sanitary Systems:* For properties with existing onsite wastewater treatment, eight alternative recharge dispersal fields will be installed by Peconic Green Growth, replacing the typical leaching pits currently used

throughout Suffolk County. The goal is to discharge wastewater to the top soil layer (6-18") where microbial activity and nutrient adsorption are highest. Also, by dispersing high in the soil profile, the wastewater can potentially replace potable water used for irrigation. This form of treatment has the potential to reduce excess nitrogen being discharged to groundwater and surface waters, reduce draw on aquifers or public water supply through reuse of the effluent, and reduce the need for fertilizers, as nutrients in the effluent will be made more available for plant uptake due to the microbial activity in the soils.

- *Pilot Non-Proprietary Vegetated Gravel Recirculating Filtered Wastewater Treatment System:* The Sylvester Manor Educational Farm on Shelter Island will install a non-proprietary vegetated gravel recirculating wastewater treatment system. This pilot project will help achieve a Peconic Estuary Program goal for the reduction of nitrogen entering groundwater and surface waters from sanitary systems.

In accordance with a key recommendation of IBM's Smarter Cities Challenge report to Suffolk County the Septic Pilot lays the foundation that will "implement a framework for the selection, deployment and management of appropriate local wastewater handling solutions for both individual and cluster systems."



Innovative/Alternative Septic System

- Expand appropriately scaled, advanced wastewater infrastructure (onsite, decentralized, sewers) to existing communities.
- Upgrade or replace the Bergen Point outfall pipe.
- Implement the Reducing Toxics Capital and Volatile Organic Compound Action programs.
- Investigate the feasibility of incentivizing fertilizer, pesticide, and noise reduction programs and regulations for homeowners and commercial landscapers.
- Expand education and outreach programs and promote safer alternative management practices for household hazardous waste, pesticides, personal care products, and pharmaceuticals.
- Update the Agricultural Stewardship Plan and incentivize farmers to participate in best management practices to reduce fertilizer and pesticide use.
- Implement Harmful Algal Bloom Action Plan to minimize blooms and mitigate impacts.
- Evaluate tax delinquent properties for advanced wastewater treatment.



SPOTLIGHT ON SEA LEVEL RISE:

Sea level rise will adversely affect coastal communities and on-site wastewater treatment infrastructure.

- Sea level on Long Island is projected to rise:
 - » Two to five inches by the 2020s;
 - » Seven to 12 inches by the 2050s; and
 - » 12 to 23 inches by the 2080s.
- It is projected that coastal erosion will also be accelerated by rising sea levels.

(Source: Suffolk County Multi-Jurisdictional Multi-Hazard Mitigation Plan)



CURRENT ACTION: Fertilizer Reduction Efforts in Suffolk County

- 25,906 tons of fertilizer were purchased in Suffolk for non-farm use in 2012.
- Averaging the five years, '08-'12, Suffolk County applied 17.5% of NYS residential fertilizer.

FERTILIZER SOLD IN SUFFOLK COUNTY AS A PORTION OF NEW YORK STATE			
Year	Total Fertilizer (tons)	Farm (tons)	Non-Farm (tons)
2008	5.9%	1.9%	17.8%
2009	8.9%	2.8%	18.9%
2010	6.6%	2.0%	19.4%
2011	5.8%	1.7%	15.4%
2012	5.5%	1.5%	16.0%

Suffolk County Local Law 41-2007 has been implemented to reduce nitrogen loadings to surface and ground waters throughout the County from fertilizer usage:

- All renewals, or new applicants for a Suffolk County Home Improvement Contractors License, who apply fertilizer, must take a Suffolk County approved turf management class. To date a total of 28 classes had been offered and 1,470 certificates had been issued. As part of the course landscapers learn about the prohibition dates on fertilizer application, the environmental consequences of nitrogen runoff, alternatives to turf grass such as native plantings, proper use and application techniques of fertilizer, and information on soils.
- In 2014 signs and brochures were updated and translated into Spanish and redistributed to all county retail locations that sell fertilizer informing the public of the prohibition dates for fertilizer use, how to manage their lawns properly with less fertilizer, why nitrogen pollution is detrimental to our water resources, and when is the best time to apply fertilizer.

SUFFOLK COUNTY EXECUTIVE
STEVE BELLONE

**Protect our drinking water...
Be wise when you fertilize!**

Suffolk County Law 41-2007
This law was passed to reduce nitrogen pollution in our groundwater and surface water caused by improper lawn fertilization.
Between November 1st and April 1st, fertilizer applications to lawns are prohibited.
Violators may be fined up to \$1,000.

Healthy Lawns
Clean Water




Photo courtesy of the Washington State Department of Ecology;
Adapted by the Suffolk County Department of Economic Development and Planning

- Over-fertilizing introduces harmful levels of nitrogen to groundwater and surface waters.
- Pollution can be reduced by applying the proper amounts of fertilizer at the right time.
- Strategic landscaping can lead to healthy lawns with little or no fertilizer usage.
- The best time to apply fertilizer to your lawn is late spring and/or early fall.
- Avoid applying water soluble fertilizer if heavy rainfall is expected.
- Consider the use of native plants which require less water and fertilizer to thrive.

Suffolk County Department of Economic Development and Planning
Division of Water Quality Improvement
H. Lee Desimone Building • 100 Veterans Memorial Highway • P.O. Box 6100 • Hauppauge, NY 11788
<http://healthylawns.suffolkcountyny.gov>

CURRENT ACTION: Encouraging Renewable Energy & Greening Public Infrastructure, and Facilitate Cooperation with Local Energy Utilities



POWERING SUFFOLK

As of 2015, Suffolk hosts 12.83 MW of installed solar PV on car-ports at County parking lots. A 4.2 MW ground-mount project is planned at the County-owned Francis S. Gabreski Airport in Westhampton. There is approximately 230 kW of installed solar PV panels at several Suffolk County facilities. The total annual savings is 17,000,000kWhr of energy, 152,457mmBtu of fuel, 43,667,469lbs CO² that reduces cost by \$4,800,000. There are 110 hybrid vehicles in the County fleet. In addition to cost savings, projects implemented by the County demonstrate to residents and business owners some of the measures from which they might benefit.

The Suffolk County Planning Commission has developed project review guidelines which call for all new residential, commercial, and industrial buildings to be designed and constructed to reduce energy consumption and improve environmental quality. Renewable energy guidelines for solar, wind and/or geothermal for new developments are recommended when practicable, in addition to positioning buildings for solar gain.

The state of utility-scale power generation on Long Island (LI) is hamstrung by the magnitude of debt standing at \$7.8B (with remaining Shoreham debt in the neighborhood of \$2B). With the governor securitizing debt in exchange for lower interest rates, bankruptcy will not be an option. Though not binding, the new LI office of the NYS Department of Public Service (DPS) recommended that a rate increase proposed by PSEG in early 2015 be cut by almost 80%. On the credit side of the ledger, \$730 million in post-Sandy FEMA grant funds is earmarked to make the transmission & distribution (T&D) system more resilient with an outage management system (OMS) to redress the current analog system of calling in to identify where outages are.



CASE STUDY: IBM Smarter Cities Challenge/Suffolk County Water Quality Initiative

IBM Smarter Cities Challenge named Suffolk County, NY as an IBM 2014 Smarter Cities Challenge grant recipient. Smarter Cities Challenge is a competitive grant program that sends teams of some of IBM's most talented experts to select cities and regions worldwide to provide pro bono consulting expertise on the most critical issues faced by communities today. In 2014, the company helped Suffolk County and at least 16 cities and regions around the world address issues ranging from clean water, healthy food, and revenue generation, to job development, efficient transportation, and public safety.

In June 2014, a team of six IBM experts spent three weeks meeting with more than 90 stakeholders representing 38 organizations to help solve key water quality challenges.



REPORT FINDINGS:

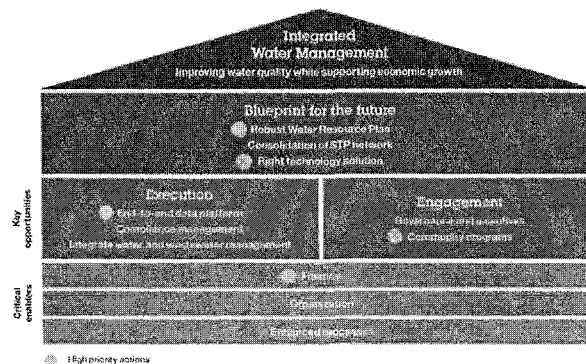
"Water quality impacts not only the ecological aspects of Suffolk County but also the lifestyle, economy and health of its residents and visitors. Current levels of nitrogen and other pollutants in local bodies of water are the result of water infrastructure and septic systems that evolved over many years with no overall plan. If Suffolk County wants to continue to grow its economy, attract tourists and deliver a high quality of life for its residents, it must tackle water management with common goals, shared information and an integrated approach to managing water and wastewater services."

HIGHLIGHTS:

These recommendations will help Suffolk County accomplish the following:

- Agree on common nitrogen load goals and actions for reduction

- Establish a Water Resource Plan "living template" that sets out the infrastructure and architecture for robust water and wastewater management
- Optimize the water and wastewater management network/infrastructures in a cohesive manner to ensure the full water cycle is regulated with improved operations, capacity and costs and minimize nitrogen output
- Increase the number of septic systems with nitrogen removal technology
- Share water-related data more easily with key stakeholders through the implementation of a data integration model
- Increase civic engagement and active public participation in solving water quality issues
- Reduce nitrogen levels in ground and surface waters



IBM Smarter Cities Challenge

New data from the U.S. Department of Energy (4/19/15) projects that overall U.S. energy consumption is slowing and is not expected to grow much at all over the next 25 years despite both a growing economy and population. The flatlining of energy consumption parallels projected population growth on LI over the next twenty years, underscoring PSEG's lack of appetite for new baseload generation. At present, NYISO mandates 5,800MW for LI peak capacity. To continue meeting this requirement will require remediation of load-pockets either through traditional T&D and New York Public Service Commission's newly formed 'Reforming the Energy Vision' (REV) committed "to overhauling the regulations that govern utility companies and designing new energy markets."

Though far and away the most prolific of low-carbon energy technologies, solar still accounts for only 1% of U.S. generation. Given that it produces optimally during the summer months of peak usage, its future is certainly bright, with voltage overload a concern that will need to be managed. 40% of all solar photovoltaic PV systems installed in New York are on LI, according to the state's Energy Research and Development Authority. "The Future of Solar Energy," a study released May, 2015 by the MIT Energy Initiative (MITEI), underscores the need for federal research and development support to advance low-cost, large-scale electricity storage technologies and transformative system cost reductions. With its 32MW solar installation, Brookhaven National Laboratories can be expected to make significant technical contributions, particularly in terms of increased efficiency over the next two decades. To address its needs in combat theaters, the Department of Defense will be developing much more robust battery systems that can be transferred to the commercial market, enabling peak shaving, load shedding, and enhanced reliability. One of the respondents to a 2010 LIPA Generation and Transmission RFP proposed a bank of batteries capable of storing 400MW of power at multiple locations, but it was not accepted.

Meanwhile, the jury is out on utility-scale solar on LI. In a world where fertile land is increasingly scarce, is it really strategic to cover a sod farm for 20yrs+

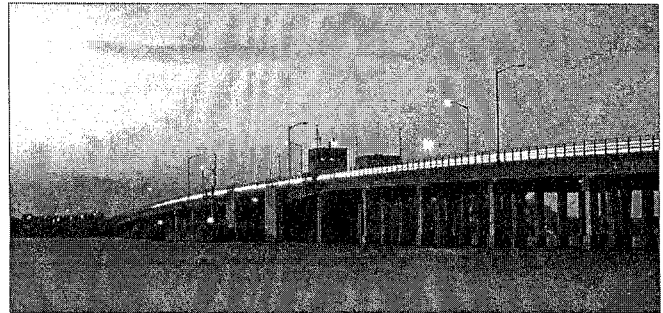


Photo Credit: George Rigby

with 9.5MW of solar panels with the lion's share of profits going to installers? Would a 24MW solar installation at Shoreham be proposed if not for the feed-in tariff of 22¢kWhr, approximately four times what LIPA pays for energy generated by energy-from-waste facilities? Solar is a dilute form of energy that requires lots of real estate; for the most part it should be consigned to dual use like rooftops. The utility scale plant that is most practicable is concentrated solar/thermal power (CSP), a single large-scale installation, typically with a generating capacity of 100MW or more, that can be designed to store thermal energy and use it to generate power in hours with little or no sunshine.

Clearly, commercial and residential solar has momentum and from a cost standpoint is on its way to grid parity. A study (1/9/15) conducted by the Lawrence Berkeley National Laboratory reveals that buyers were willing to pay a premium of \$15,000 for a home topped by the average-size solar PV system (3.6 kW). One energy sector reporter observed that there are more solar personnel on LI than LIPA employees and that industry leader "Solar-City is selling like Amway." With NYS financing to the tune of \$750M, Solar-City's 1.2Msf solar panel factory in Buffalo will have the capacity to produce the equivalent 1,000 MW of electricity, one of the world's largest. Seemingly, the ground has shifted since Evergreen Solar shuttered its factory in

2011 and shifted production to China after receiving \$58M in Massachusetts state aid.

Given the debt-laden character of aged baseload generation, facilities will be gradually mothballed and energy consumers will seek various forms of decentralized community and distributed generation. With US producers moving in the near future to export natural gas and facing higher, environmentally sound production costs, prices will level out with petroleum on a Btu/Btu basis. In February, 2015, Gov. Andrew Cuomo announced a \$40 million energy competition, NY Prize, to construct community microgrids, designed to provide power independent of the larger electric grid. As the financing is coming via Sandy Recovery funding, the stated objective is to provide redundant power in extreme storm events, but the broader implication is to enable Long Islanders to 'go off the grid' and, ostensibly, realize economies and enhanced reliability. At present, most solar owners can't draw power from their PV as it is tied to the grid and goes down during power outages.

Smart grid uptake will be slow. \$7M is currently allocated for the installation of smart meters and will provide the backbone; DPS has recommended installation of 180,000 meters out of 1.1M for phase one. But a robust, networked power infrastructure will likely be limited due to too an array of legal, political, and business roadblocks. Surrounded by LI Sound and Atlantic Ocean, with a good number of inlets and estuaries, tidal power could afford real potential for future electricity generation. Tides are more predictable than wind energy and solar power and a number of European countries are already running tidal pilots. Most substantive change will be market driven coming from the lowest levels at the customer-to-appliance interface.

Energy efficiency remains the most doable, cost-effective means of optimizing power usage. In 2006, Babylon was the first town on LI to implement Energy Star standards for new home construction; ten out of the thirteen Island towns have adopted. Later that year, Babylon required LEED standards for all new commercial construction of 4,000sf. The efficacy of that

standard has been borne out by the 800,000sf Tangier Outlet Mall in Deer Park whose Silver certification was tops of its kind in the nation and, according to the developer, has paid substantial dividends. Other LI towns would be well-advised to follow suit. Babylon also pioneered a financing mechanism for energy efficiency retrofits – property-assessed clean energy or PACE – and that principle has been adopted in many places across the nation and Canada. Applying tried-and-true methods, energy efficiency can save trillions, put hundreds of thousands to work and reduce the national carbon footprint by a whopping 10%.

PRIORITY ACTION AREA: Build for Resiliency



Because Suffolk County has nearly 1,000 miles of shoreline, the issues of resiliency and flood protection of residences and other public and private assets are of great importance to the County. The *Suffolk County Multi-Jurisdictional Multi-Hazard Mitigation Plan (SC HMP)* notes that there

are 24,279 residences in the A-zone and an additional 1,811 residences in the V-zone for a total of 26,090 residences located in the 1 percent Annual Chance Flood Event (100 year storm) exposure area with an exposed population of 43,968. The replacement cost value of the residential and commercial buildings in the 62,005-acre special flood hazard area is \$21.8 billion.

The expansion of sewer systems to serve new concentrated developments (such as has occurred in Wyandanch, and is proposed for the Ronkonkoma Hub project), as well as coastal residential areas, will help to protect the quality of Suffolk's underground aquifer, its drinking water supply. Similarly, preserving Suffolk County's open space, while simultaneously encouraging these more densely-developed areas, will help to optimize the availability of a high-quality water supply for decades to come; and also help to improve surface water habitat conditions that are crucial for healthy shellfish and finfish populations.

Concentrated densities in smart, transit-oriented communities can also reduce overall land demand, protect land affordability, and ensure the continued viability of Suffolk County's vibrant agricultural industry.



PRIORITY ACTIONS:

Wastewater, Stormwater & Water Resources

- Identify locations for wastewater upgrades to protect water quality and promote resurgence of coastal wetlands.
- Facilitate the development of stormwater management projects (rain gardens, permeable pavement, etc.) for enhanced coastal resiliency.
- Assess and implement a demonstration program for alternative wastewater treatment technologies.
- Evaluate opportunities for decentralized waste treatment and recharge facilities.
- Identify locations suitable for new water/sewer infrastructure near growth centers and hamlet areas with transit connections.
- Explore alternative financing models for sewer infrastructure.
- Identify locations for regional solid waste infrastructure facilities.
- Promote burial of utilities for resiliency and community beautification.
- To the greatest extent possible, leave shorelines in a natural state, where appropriate and feasible.



Photo Credit: Salvatore Delquaglio



CASE STUDY: East Hampton Wastewater Management Plan

The Town of East Hampton completed a Town-wide Comprehensive Wastewater Management Plan (CWMP). The Plan includes a lot by lot analysis of wastewater management needs and solutions for each of the Town's approximate 20,000 developed properties. Each property is classified as to its adequacy of its wastewater system and its impact on water quality. Each property was evaluated to assess its compliance with each of eleven (11) needs categories, which ranged from groundwater bacterial contamination, legal compliance, nitrogen impact acceptability to having sufficient space for a code compliant system. Solutions were developed for properties that had needs and could rely upon individual systems. Community solutions were developed for needs areas, in particular for downtown Montauk, the Docks and Ditch Plains, that cannot rely on individual systems. Treatment and disposal/reuse sites were identified and preliminary project cost and user charge estimates prepared.

An initial assessment of water quality issues in each of the Town's eight (8) major watersheds was performed along with the degree to which nitrogen and phosphorus loadings from various sources are affecting water quality. Additional watershed evaluations that are needed to refine water quality needs were identified.

CURRENT ACTION: Planning for Sea Level Rise

Suffolk County Resolution 554-2013 required the Department of Public Works to assess the vulnerability of County infrastructure to sea level rise.



PRIORITY ACTION AREA: Optimize Open Space Investments

Suffolk County's Open Space Land Acquisition Program is one of the most successful programs for land preservation in the Country. The County has been at the forefront of farmland preservation through the acquisition of development rights starting in the 1970s and open space preservation through the acquisition of environmentally sensitive lands starting on a grand scale in the 1980s. Being an area that has experienced rapid growth since the mid-20th Century, the importance to preserve and protect environmentally sensitive lands, parklands and historic farmland uses has been a high priority to the citizens of this County over the last several decades. It is essential that we continue to balance the needs of our large population with the need to protect those resources that sustain us, our groundwater and surface waters, our farming and tourism industries, and our recreational opportunities, in order to preserve the fundamental well-being of the residents of Suffolk County.



Recently the County completed an effort to review and update prior Open Space "Master Lists" that consisted of properties proposed for acquisition that were identified by the County as important for the preservation of open space. The 2012 *Comprehensive Master List Update (Resolution*

298-2012) identified 86 proposed open space sites and assemblages for future open space acquisition throughout the County which represents a total of 4,650 acres that are recommended for future open space acquisitions.

In 2013, the Suffolk County Legislature amended Chapter 1070 of the Code of Suffolk County for Real Estate Appraisal, Acquisition and Disposition to streamline the acquisition of open space, farmland and active recreation parcels. The procedure, known as "Triple A"—which references the appraisal, acquisition and approval steps of the planning process—provides more information to lawmakers earlier in the acquisition process, and allows

for the prioritization of properties to be acquired by Suffolk County through the Drinking Water Protection Program, which funds open space, farmland and active recreation acquisitions.



The procedural refinement builds on work by the Department of Economic Development and Planning to evaluate and rank all properties on the County's four master lists. Taken together, the new procedural tool and the Comprehensive Master

List will be used to determine the best use of limited funds based on objective criteria, including environmental rating, appraisal value, recommendations from planning staff and funds available.



PRIORITY ACTIONS:

ACQUISITION

- Continue to acquire land for open space and farmland preservation.
- Continue to prioritize the acquisition of land for open space utilizing the Master List, as well as Pine Barrens Core parcels, important watersheds to our three main estuaries, and flood-prone properties adjacent to County holdings .
- Develop a priority acquisition list for farmland preservation based on productive soil types and proximity to adjacent preserved farmland.
- Coordinate with New York State, towns and villages to develop wildlife management plans to protect public health and environmental quality.
- Target priority areas for open space acquisition based on resiliency, water quality, fish and wildlife habitat, and rare/endangered species criteria.



SUFFOLK COUNTY OPEN SPACE ASSETS & PRESERVATION:

- As of 2014, approximately 20 percent, of Suffolk County has been preserved for open space, recreation and parkland, which equals about 116,500 acres.
- There are almost 133,000 acres, or 23%, of preserved open space and protected farmland in Suffolk County.
- Since 1959, Suffolk County has preserved almost 43,000 acres of parkland and protected open space with an additional 10,500 acres of protected farmland, through the purchase of development rights, that totals nearly 53,500 acres, at a cost of more than \$1 Billion.
- The Trust for Public Land recently released a survey of open space expenditures made by counties across the United States between 1998 and 2011, which indicates that Suffolk County has spent the most amount of money on open space preservation.
- Suffolk County spent a total of \$657,561,662.48 from 1998 through 2011. The only other county that came close was Lake County in Illinois at \$594,201,252.77 for the same time period.
- The County is home to the Fire Island National Seashore, 14 New York State parks, over 275 County parks and open space assemblage areas, and numerous town and village parks and recreational areas.
 - As of 2014, a total of 25.21%, or about 147,000 acres of land in Suffolk County is devoted to both public and privately owned open space, recreation and parkland uses.

FUNDING and PARTNERSHIPS

- Identify financial incentives and mechanisms to encourage homeowners and farmers to implement best management practices and effective alternatives to reduce nitrogen and pesticide application.
- Explore opportunities to expand greenhouse production in Suffolk County to extend the growing season, utilize renewable energy sources while reducing environmental impacts and realizing potential economic benefits.
- Create new methods for funding open space and farmland preservation. Explore the feasibility of expanding the use of transfer of development rights programs as a tool to finance the protection of open space.
- Continue to partner with municipalities and nonprofit organizations to acquire open space.
- Identify funding mechanisms for park and open space maintenance to promote accessibility, stewardship, and safety.
- Link passive and active parks to downtowns by strengthening a regional biking and hiking trail network.



AN OVERVIEW OF TRANSFER OF DEVELOPMENT RIGHTS WITHIN SUFFOLK COUNTY

A development right is equal to the unused development potential of a parcel. A transferred development right (TDR) is a development right that has been moved (transferred) from its parent parcel to another. The development potential is removed from the parent (sending) parcel and legally transferred to the receiving parcel whereby additional incremental development is allowed.

The Sending Area is defined as the area or properties sought to be protected from development. As a consequence, these parcels "send" or transfer their development rights to properties in the receiving area. Once the development right is removed from the sending property, the land of the sending parcel is encumbered by a protection mechanism, to prohibit further development, such as a conservation easement. Whether or not the ownership of the (sending parcel) land remains with the original parcel owner or goes to a conservation entity or governmental body would be determined by the land owner at the time of the placing of the conservation easement. The Receiving Area is located where additional density can be accommodated with a minimum of adverse consequences. Receiving Areas "receive" transferred rights, therefore allowing development to occur at a density greater than would normally be allowed without resulting in a "net" increase to the density of the region.

There are a total of 18 TDR programs in the County, of which the County operates 3 programs and the Towns have 15. All the programs balance preservation with the recognition that certain properties will be improved and therefore development rights are channeled into certain nodes of development where infrastructure is available (see Table 4).

Suffolk County's Transfer of Development Rights Study recommends: 1) developing a publicly accessible database of County TDR's; 2) exploring the feasibility, interest, cost, and revenue potential to create a countywide TDR clearinghouse and bank with local towns and the Pine Barrens Commission; 3) exploring the feasibility of requiring the use of TDRs for increases in development density or intensity; 4) exploring local support for standardizing TDR floor area equivalents; and 5) exploring the feasibility of creating a public/private open space Master List TDR program.

Table 4. Inventory of TDR Programs in Suffolk County

REGIONAL TDR PROGRAMS	
New York State Central Pine Barrens Program	
Suffolk County Save Open Space Program	
Suffolk County ¼ % Drinking Water Protection Program	
Suffolk County Sanitary Credit Program	

TOWN	TOWN TDR PROGRAM(S)
Babylon	No TDR Programs
Brookhaven	Transfer of Development Rights Program
East Hampton	Affordable Housing Credit Program
Huntington	Transfer of Density Flow Rights
	Transfer of Development Rights
Islip	Planned Landmark Preservation Overlay District (PLP)
Riverhead	Transfer of Development Rights Program
Shelter Island	Community Preservation Fund
Smithtown	Transfer of Development Flow Rights
Southampton	TDR Program Community Preservation Fund
	Transfer of Permitted Residential Development Rights
	Old Filed Map Transfer of Development Program
	Special Old Filed Map Transfer of Development Right Program
	Increased Residential Density to Establish Low and Lower Middle Income Housing
Southold	Southold Community Preservation Fund and Transfer of Development Rights (Sanitary Flow Credits)

PRIORITY ACTION AREA: Foster Healthy Communities

An emerging body of evidence and best practices increasingly links planning decisions associated with land use and transportation to environments that allow people to be physically active, eat nutritious food, and live in safe and healthy places. In essence, there is a growing realization that “place” does matter and that the leading and actual causes of death and disability are linked.



PRIORITY ACTIONS:

Suffolk County is committed to offering healthy food options in its concession stands (Resolution 580-2014). In addition, Suffolk County established programs to connect patients and children with local recreational activities to promote healthy lifestyles (Resolution 959-2014 and Resolution 32-2015).

- Promote mixed-use communities where housing, healthcare facilities, schools, jobs, parks, and commercial and public services are within walkable proximity of neighborhoods and transit.
- Encourage the development of Complete Streets to allow for safe walking and biking paths.
- Develop a robust local farm to table chain, including community gardens and other food growing opportunities in more urbanized areas, including tax delinquent properties.
- Continue the long-term preservation of farm land.
- Continue to support the Suffolk County Food Policy Council’s efforts to expand the number and location of healthy food retail outlets including healthy food retail in low income communities.
- Establish safe and reliable transportation options to healthy food retail outlets, jobs, education, and housing.
- Promote water resource management that provides safe water for drinking, recreation, and fisheries.
- Promote the safe management and disposal of solid and hazardous waste, and overall reduction in the generation of solid and hazardous waste.
- Develop and maintain safe, inviting, and accessible venues and community places that encourage beneficial social interaction and community cohesiveness.
- Maintain parks and green spaces that provide stress relief, rest, and relaxation.
- Facilitate the mitigation of noise levels, especially near residential neighborhoods, schools, and health care facilities.



PRIORITY ACTION AREA: Educational Potential through 2035

While Suffolk has no direct authority over primary and secondary education, the County could act as a convener in facilitating the challenges and opportunities facing K-12. 69 school districts educate 78% of County students of all ages, or close to a quarter million. That number is trending downward given the enrollment drop between 2009-2014 and declining birth rates in the County. 26,000 are enrolled at Suffolk Community College with 43,000 at the undergrad and grad levels at the County’s five four-year colleges and one law school. 34% of Suffolk residents hold bachelor degrees or higher, placing the County in the top 10% nationally. Connect LI will enhance interactions between Suffolk’s premier academic/research assets such as Brookhaven National Laboratory, Stony Brook University and Cold Spring Harbor Laboratories.

Long Island Association’s (LIA) tenth update of *Long Island Education: Costs and Outcomes* summarized its 2014 assessment: “Students attending Long

Island schools outperform students from across the rest of the State.” (However,) “student outcomes in Long Island’s least wealthy school districts are significantly below student outcomes within the Island’s wealthiest school districts, and in some areas, the gap has continued to widen.” LIA’s comparison of Long Island’s nine wealthiest and nine poorest school districts delineate that the former expends 38.6% more per student. Notably, of Suffolk’s nearly quarter million students, LIA reports that 51.5% are enrolled in “low wealth school districts.” Long Island receives almost a third less of New York aid per child educated than the rest of the state. Note that with the vast majority of Long Island students doing well, reform needs to be targeted, not system-wide.



PRIORITY ACTION AREA: Waste In/Waste Out – 2035

In 2009, Suffolk County’s Regional Solid Waste Management Commission reflected on an existential reality in the wake of the Long Island Landfill Law of 1983, and the Solid Waste Management Act of 1988: “The result is significant variations in the level of involvement on a day-to-day basis in waste management activities among the town and village governments in Suffolk County. This includes an increased reliance on both private sector haulers and processors, and, more significantly, a growing dependence on disposal facilities in other states which accept thousands of tons each day of Suffolk County’s solid waste.”

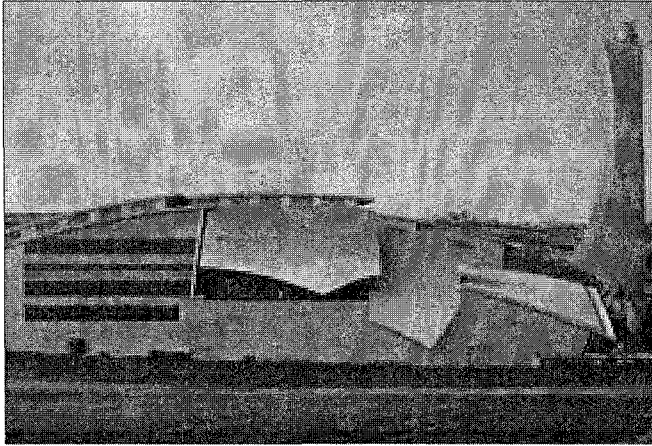
In the face of the market vicissitudes of fundamentally ad-hoc circumstances, the commission offered a number of recommendations, featuring, in modified version, the following:

- Facilitate more environmentally responsible alternatives to the long-haul trucking of waste, including rail and the long-range promise presented by cleaner, waste-to-energy technologies for processing waste on Long Island, such as plasma gasification and anaerobic digestion (with its decided limitations).

- It would behoove Suffolk County to promote volume-based pricing programs such as the ‘pay-to throw’ in tandem with more aggressive recycling and reuse programs.
- Given that 28% of the waste stream is compostable, justifies commercial scale composting that is closely monitored for leaching to groundwater. The county could take the lead, in tandem with Stony Brook University, in evaluating innovative pilot projects.
- Support new applications for recovered materials and process ash in ways that make it utilizable as aggregate, etc.
- In conjunction with Nassau County, Suffolk would be advised to convene a Summit of Resource Recovery stakeholders to coordinate regional initiatives that would be of mutual benefit.

Suffolk County’s 1.5M residents produce 3,000t of solid waste every day, exclusive of recyclables. Approximately a third is reduced to ash in energy-from-waste facilities, only one of which, in Islip, is publicly owned. The balance of waste is transported off Island, largely by truck with its collateral impact on congestion, road wear and air pollution. Rail has been touted as an alternative with principal spurs in Brookhaven and Farmingdale both capable of handling a daily maximum of 5,000t. Rail is, reportedly, limited to few routes on the way to distant landfills that may be subject to bottlenecks. ‘Garbage trains’ have also provoked opposition in neighborhoods, like Jamaica, that object to the odor and possible toxic effect.

The four energy-from-waste (EfW) plants on Long Island have been called incinerators by their detractors while proponents say the process is combustion. Both generally agree with the EPA that EfW is more desirable than landfills. Europe, which has no space for landfills, has embraced EfW with abandon. While there were 87 such plants in the U.S. as of 2011, there are 29 in Denmark with its population of 5.5M. The downside for Denmark, which incinerates 80% of its waste, is its meager recycling rate of 22%. Contract extensions for Long Island’s EfW facilities are coming up in the coming



Waste-from-Energy facility – Isle of Man

years and some have suggested that, given a cost premium for EfW over trucking, the lower price option will be on table. Another factor that might be more pressed in the future is the beneficial reuse of the mounting ash being generated. The EPA test, Toxicity Characteristic Leaching Procedure (TCLP), is applied with particular rigor in New York which precludes reuse of ash. Elsewhere in the U.S., nearly 3MMt of ash are being reused annually for such applications as landfill roadbed material, landfill cover, road aggregate, and asphalt-mixture.

What is the optimal approach to waste recovery and reuse? New York City reports that commercial, which thoroughly monetizes its waste, recycles at a rate of 63% while residential does a mere 15%. Waste stakeholders observe that only a finite percentage of homeowners will go beyond separating out containers and paper products. In fact, in a nod to a world that sets and forgets, ‘single-streaming’ is garnering attention. Sorting machines akin to super-sized supermarket infrared scanners read the chemical makeup of

bottles and automatically separates ‘flats’ (paper) from ‘rounds’ (containers) with a magnetic belt capturing steel and spinning magnets repelling aluminum. A notable downside of single stream is that corrugated cardboard and paper, which are 34% of the waste stream, have real value (cardboard-\$75/t) but not when they are contaminated. Factor in the increase rather than reduction of packaging owing to ever-growing on-line delivery by Amazon, et al. While one large waste operator has been touting single stream, another is sticking with dual stream in view of continued conventional recycling. Volume-based disposal fees for residential waste, aka ‘pay-per-bag,’ have gained only marginal acceptance, though its effectiveness is demonstrable.

The legislator who chaired the Commission observed that overhauling Long Island’s solid waste routine would be “like turning around a barge,” alluding to Islip’s infamous garbage barge, the Mobro, which for months in 1987 was turned away everywhere before returning to the Island. Perhaps, European approaches, absent excess land, need to be heeded. Necessity is the mother of invention; as options are curtailed and costs prove prohibitive, solutions will be revealed.



Section 3: IN CONCLUSION

The *Framework for the Future – Suffolk County Comprehensive Master Plan 2035* provides guidance that can be followed to achieve the following broad regional goals:

- Provide the foundation for sustainable growth and resiliency of Suffolk County.
- Encourage economic development that will help to retain and attract businesses and create jobs for Suffolk County residents.

This guidance can stimulate discussion and inform the development and adoption of policies and programs by public officials that will result in coordinated, targeted and expedited governmental and private actions that will be effective in making real progress toward attaining these goals. Successful implementation of actions to achieve these goals will depend on people from both the public and private sectors working together toward achieving the shared goals articulated in this *Framework for the Future*. This partnership will allow for municipalities to work in concert with public and private interests, to effectively leverage resources, and coordinate investments for the best possible outcomes.

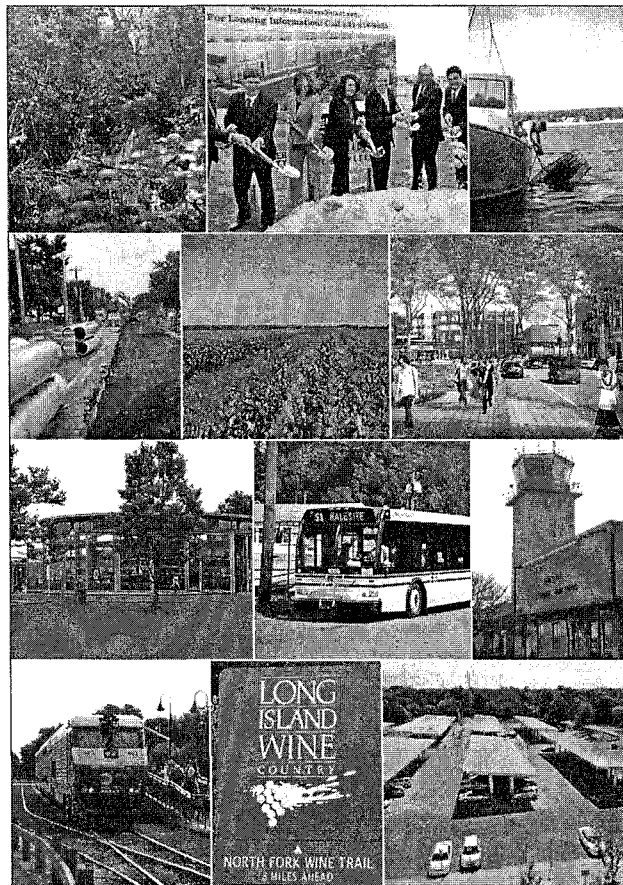
The transportation, economic development, housing and environmental initiatives outlined in the *Framework for the Future – Suffolk County Comprehensive Master Plan 2035*, whether they are regional or local in scale; high or modest cost; long- or short-term duration, will change the landscape in ways that will improve how people live, work and play in Suffolk County.

The initiatives help to address how and where:

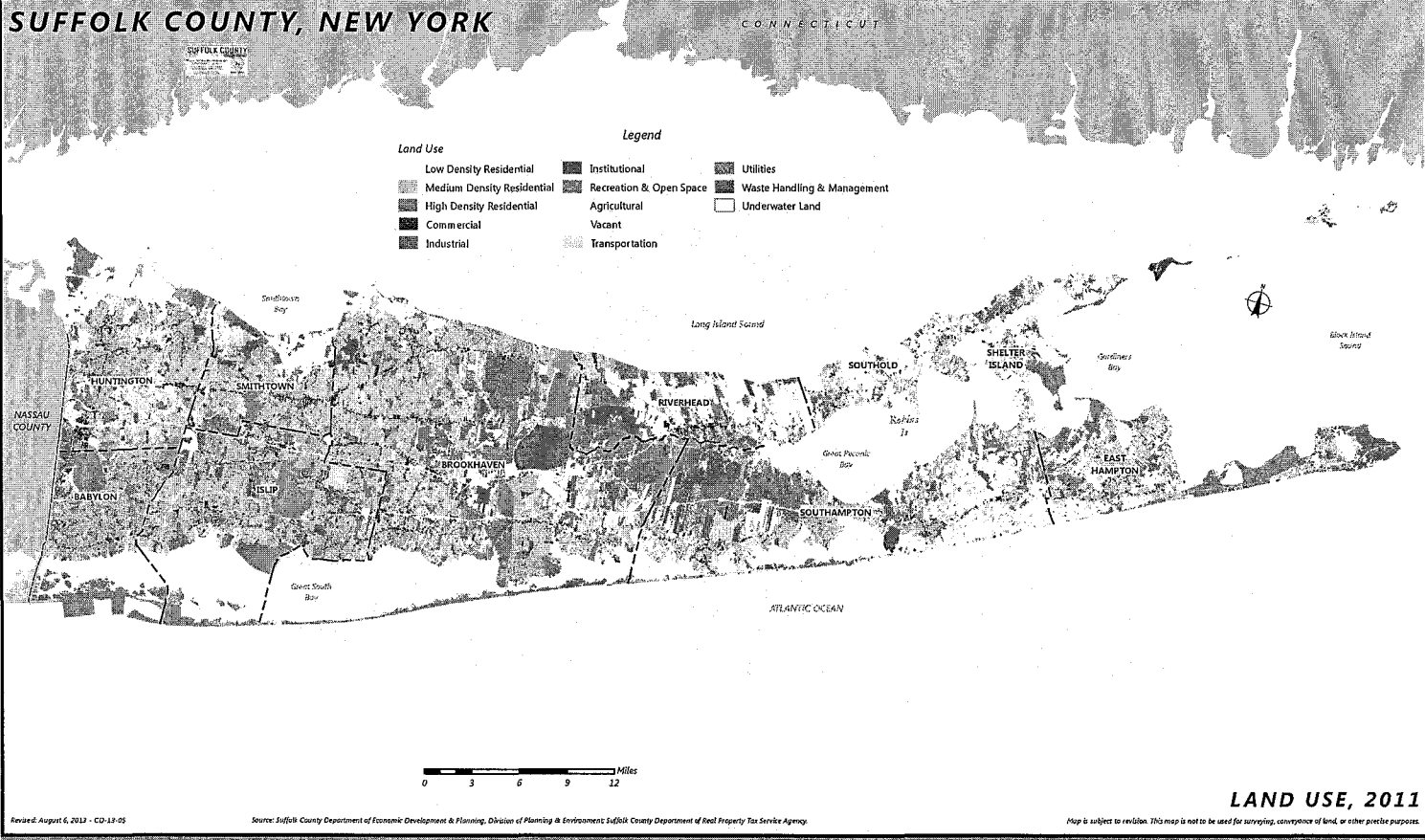
- Transit and transportation infrastructure and facilities are provided and improved.
- Economic development occurs and jobs are created.
- Demands for housing are met.

- Natural resources are protected and managed to meet the essential needs for safe drinking water, clean air, protected open space and productive marine ecosystems.
- Transportation, economic development, housing and environmental protection improvements are designed to achieve sustainable and resilient benefits that will accrue to the region in the event of severe storm occurrence and climate change in the future.

Connect Long Island; Bus Rapid Transit; Wyandanch Rising, the Ronkonkoma Hub and other Transit Oriented Developments; LIRR and highway infrastructure and safety improvements; provision of a business environment that attracts new employers (e.g., JUMPSTART SUFFOLK – Connect Long Island); provision of equitable and affordable multi-family housing; reclaiming our water through provision of wastewater infrastructure and the use of decentralized alternative wastewater treatment technologies; prioritized open space and farmland protection acquisitions—all of these and many other recommendations in the *Framework for the Future – Suffolk County Comprehensive Master Plan 2035* will contribute to how Suffolk County should change and evolve over the next 20 years, to encourage controlled growth and economic prosperity, provide more diversified housing options, retain our youth and elderly, and protect our natural resources and other unique characteristics. Implementation will contribute to maintaining and enhancing Suffolk County as a prosperous, resilient, and sustainable place to live, work, and play.



SUFFOLK COUNTY, NEW YORK



SUFFOLK COUNTY, NEW YORK



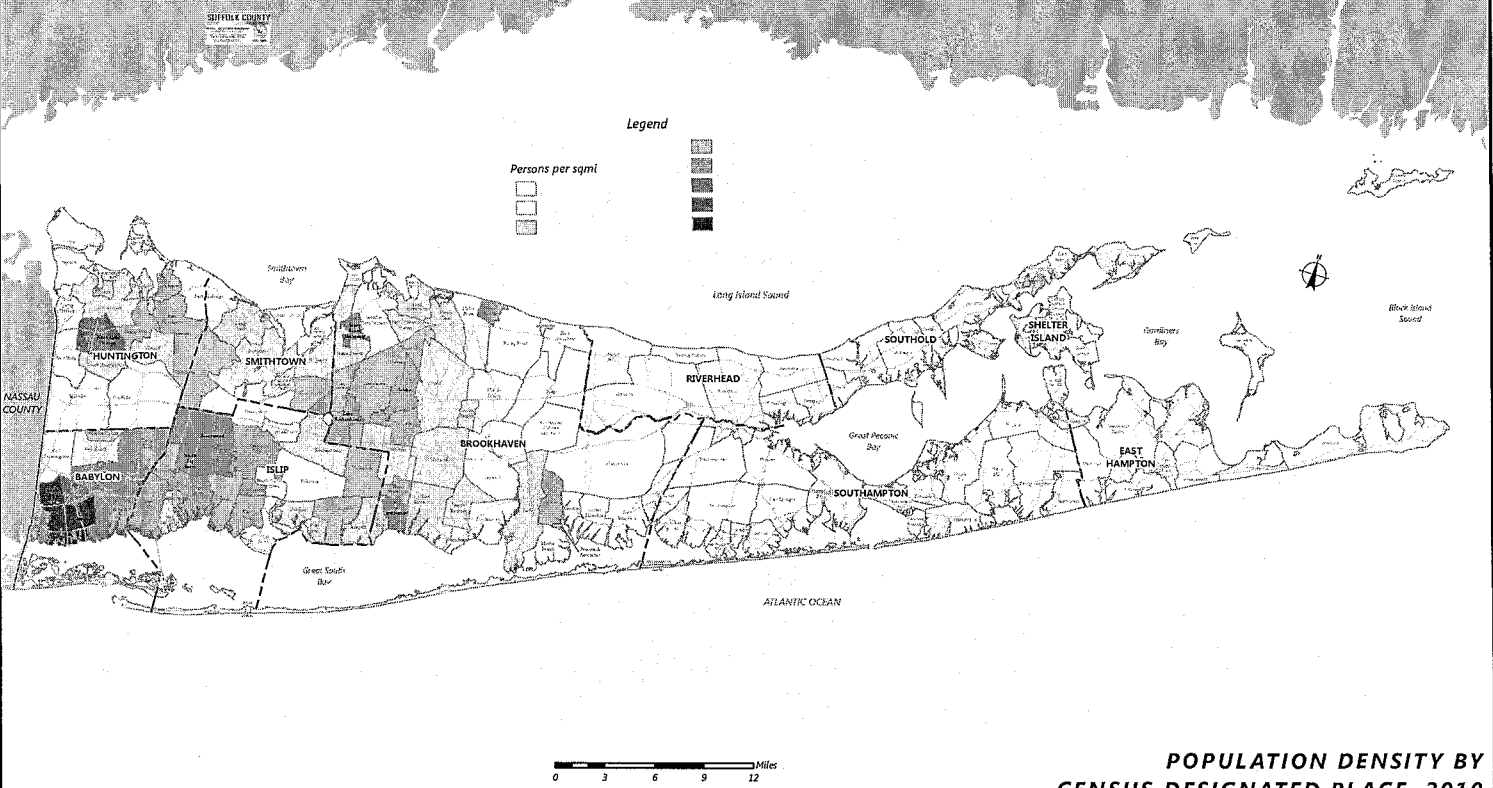
**CENSUS DESIGNATED
PLACES, 2010**

Revised: August 2, 2013 - CD-13-05

Source: Suffolk County Department of Economic Development & Planning, Division of Planning & Environment; US Census Bureau; NYS Office of Information Technology Services.

Map is subject to revision. This map is not to be used for surveying, conveyance of land, or other precise purposes.

SUFFOLK COUNTY, NEW YORK



POPULATION DENSITY BY CENSUS DESIGNATED PLACE, 2010

Revised: August 5, 2013 - CD-13-03

Source: Suffolk County Department of Economic Development & Planning, Division of Planning & Environment; US Census Bureau; NYS Office of Information Technology Services.

Map is subject to revision. This map is not to be used for surveying, conveyance of land, or other precise purposes.

Legend

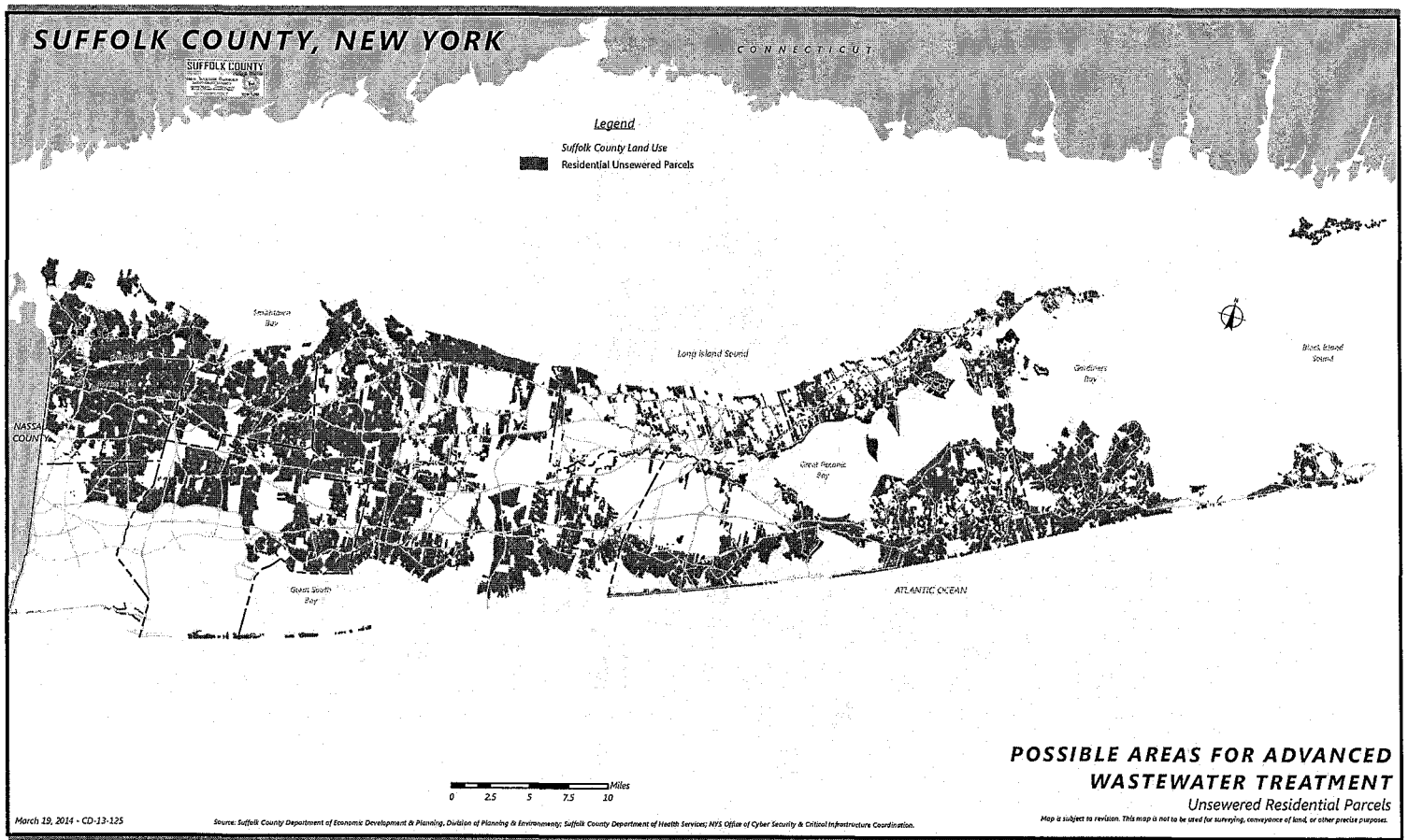
- SC Sewerage Treatment Plants
- SC Sewer Districts 2012
- SCSD Sewer Areas
- SC Sewer Districts Constructed
- Town Sewerage Treatment Plants
- Town Sewer Districts
- Town Sewer Areas
- Town Sewer Districts Constructed
- Out Parcels
- Federal Sewerage Treatment Plants
- Federal Sewer Areas
- Village Sewerage Treatment Plants
- Village Sewer Districts
- Village Sewer Districts Constructed
- Private Sewerage Treatment Plants
- Private Sewer Areas
- Nassau County Sewerage Constructed

Suffolk County, New York

Scale: 1" = 10 Miles

February 1, 2013

THE MAP has been presented by the South Eastern Association of Regional Development and Planning, Officers of Planning and Transport Committees, and the South Eastern Regional Development Corporation. The objectives of the map are to provide the public with information on the South Eastern Region, to provide a guide to the region's transport and planning services, and to provide a guide to the region's transport and planning services. The map is available in a number of formats, including a printed map, a CD-ROM, and a web-based map. The map is available in a number of formats, including a printed map, a CD-ROM, and a web-based map. The map is available in a number of formats, including a printed map, a CD-ROM, and a web-based map.





3900 Veterans Memorial Highway
Suite 331
Bohemia, NY 11716
T: (631) 285-6980
F: (631) 285-6919
www.akrf.com

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Gruzen Samton • IBI Group
320 West 13th Street, 9th Floor
New York NY 10014
T: (212) 477-0900
F: (212) 477-1257
www.ibigroup.com

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L.K. McLean Associates, P.C.
437 South Country Road
Brookhaven, New York 11719
T: (631) 286-8668
F: (631) 286-6314
www.lkma.com



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Suffolk County Executive
Hon. Steven Bellone