December 2009

Long Island 2035

Visioning Initiative

Final Report

PREPARED FOR

Long Island
Regional Planning Council

BY THE LONG ISLAND 2035 STUDY TEAM

Regional Plan Association
University Transportation Research Center
Sustainable Long Island
Vision Long Island

FUNDED BY

NYMTC
NEW YORK METROPOLITAN TRANSPORTATION COUNCIL

LI2035 Executive Committee

Long Island Regional Planning Council
Nassau County
Suffolk County
Federal Highway Administration
New York State Department of Transportation
Metropolitan Transportation Authority
MTA Long Island Railroad

Contents

EXECUTIVE SUMMARY

Chapter 1: Organization and Direction of the Long Island 2035 Visioning Initiative

The Long Island 2035 Visioning Initiative was established to help achieve a regional public consensus on where the next generation of Long Islanders could live and work, the transportation systems needed to support these settlements and the public and private actions required to ensure a prosperous, equitable and environmentally sustainable Long Island. It was designed as a multi-phase project that would develop and implement a preferred vision for Long Island's future, a vision that would be determined through extensive public input drawn from a series of workshops that would construct and rigorously evaluate alternative scenarios of how the Island could develop over the next 25 years.

This report describes the results of an initial phase of work that was funded by the New York Metropolitan Transportation Council (NYMTC) and overseen by an Executive Committee chaired by the Long Island Regional Planning Council (LIRPC). Other committee members included Nassau and Suffolk Counties, the New York State Department of Transportation, the Metropolitan Transportation Authority (MTA), the MTA Long Island Rail Road and the Federal Highway Administration. A Municipal Committee of public officials and a Stakeholder Committee of private and non-profit leaders advised the Executive Committee and the study team.

The work included developing information, models and structures that could support a longer term effort to assist Long Islanders in future planning efforts. This included an initial visioning workshop that was used to develop and test some possible scenarios for 2035. The activities originally intended for future phases of the Visioning Initiative are not currently funded, but the results of this first phase can help inform other ongoing planning efforts, some of which are mentioned below.

The analysis and findings of this initiative to date will be incorporated into the work of a new study team contracted by the LIRPC to produce the Long Island 2035 Comprehensive Regional Sustainability Plan. Under the leadership of the LIRPC, the Sustainability Plan, which will be produced over the next year, is intended to secure the sustainable development of Long Island's economy and social and natural environment over the next 25 years.

The outcomes described in this report can best be described as a bridge between recent municipal and County visioning and planning projects and the forthcoming Sustainability Plan. Numerous local plans have been produced over the years that address future needs, often involving extensive public input. This initiative built on these efforts and added to them by visualizing potential alternative futures for the Island as a whole, while also identifying several challenges that would need to be addressed to reach a workable consensus on a long-term development plan. It also builds on recent regional initiatives, such as NYMTC's Shared Vision for its 10-County planning area that includes regional-level desired growth areas in both Nassau and Suffolk Counties. It is not intended to displace any previous or future community, village, town or county planning efforts, nor is there anything in this report that would mandate any actions by any municipal entity. Rather, it attempts to provide a framework for the region to grow in a coordinated, predictable and sustainable manner.

While the effort to date has been successful in generating the participation of multiple stakeholders and a substantial number of municipalities, it did not include the broad public outreach that is necessary to develop a consensus on priorities and actions. Rather, these initial results provide a starting point for future research and analysis that will take place as part of the Comprehensive Sustainability Plan. The Visioning Initiative was an integral first step in the process of achieving sustainable development on Long Island by assessing the priorities of participants in this process against existing conditions and trends, translating these priorities into potential future scenarios, and evaluating these alternatives against commonly held goals and objectives. To fully assess any future scenario, additional analysis is required. In particular, the feasibility, costs and impacts on different localities and different age, race, gender and income groups need to be detailed and debated by both citizens and public officials. This more extensive effort will be carried out during the process of producing the Long Island 2035 Comprehensive Sustainability Plan.

Chapter 2: Goals and Precedents for the Long Island 2035 Visioning Initiative

This Visioning Initiative drew from numerous other initiatives, plans and projects that have been undertaken on Long Island, as well as from lessons learned from large-scale visioning efforts in other regions of the United States. In the process, nearly 200 reports, plans, polls and studies from Long Island institutions, government agencies and communities were reviewed, and in-depth interviews were conducted with organizations leading visioning efforts in five other regions. From the priorities described in these efforts, and with input from the initiative's Municipal and Stakeholder Committees, three guiding principles for the project were enunciated:

- Enhance *economic prosperity* by retaining and creating well-paying jobs that provide upward mobility to residents, attracting and maintaining a highly productive workforce, and nurturing and rewarding innovation.
- Expand *social equity* through equal access to economic opportunity across race, ethnicity, class and age, fairly allocating public goods and services and access to housing and employment, and reducing geographic segregation by race and income.
- Ensure *a healthy environment* by attaining clean air and water, high quality ecosystems and attractive open spaces and recreational areas that are accessible to residents throughout Nassau and Suffolk.

- Other lessons from both local and national precedents include the need to design a transparent guiding framework, build leadership and stakeholder coalitions, provide objective information to define shared goals, develop future scenarios and ensure public involvement in the process to develop and evaluate any preferred vision.

Chapter 3: Opportunities and Constraints for Meeting Shared Goals

The overriding challenge for Long Island is to preserve and enhance what residents love about the Island—its sense of community, its suburban scale and natural resources, its economic opportunities—while embracing and adapting to challenges that can no longer be ignored. Approximately 87% of Long Island residents live in neighborhoods that are made up predominantly of single-family homes, and more than two-thirds of these neighborhoods consist largely of modest homes on small lots. Change is inevitable, but this essential character is unlikely to change over the next 25 years. Success will mean protecting Long Island's quality of life for future generations, while broadening prosperity and benefits for all, regardless of race, ethnicity, gender, age and income. Some of Long Island's opportunities and challenges are common to suburban areas across the United States, while others are unique to Nassau and Suffolk Counties.

Assets and Opportunities

- Long Island has a wealth of natural resources including 1,180 miles of shoreline, more than 800 public parks, and unique habitats like the Long Island Pine Barrens.
- One of Long Island's strengths in a knowledge-based economy is its highly skilled workforce, supported by a network of quality schools that have some of the highest test scores in New York State.
- Long Island is home to several university and research centers, including Brookhaven National Laboratory, Cold Spring Harbor Laboratory, North Shore-Long Island Jewish (LIJ) Hospital System's Feinstein Institute for Medical Research and over 20 colleges and universities.
- Long Island's economy has evolved into a diverse economy driven by business clusters in research and technology, professional services and trade as well as industrial, agricultural and tourist related sectors.
- Long Island's location in the New York metropolitan area—with its $1.1 trillion economy— provides a robust market for Long Island businesses and a source of career opportunities, cultural amenities and education resources.
- Long Island's highway and transit infrastructure includes an extensive network of parkways, expressways, highways and smaller roads, the United States' largest commuter rail system (i.e., the Long Island Rail Road), two county bus systems and Macarthur and Republic Airports.

Constraints and Challenges

- Even with recent drops in prices, housing costs remain a major challenge, with the number of households spending more than 35% of their income on housing increasing from 27% to 37% between 2000 and 2007.
- Tax levels are high relative to other regions and range widely across the Island, with average property tax levels rising faster than inflation in both municipalities and school districts.
- Growth rates in wages on Long Island have not kept up with those nationwide, and the gap in annual household income between Long Island's highest earners and its lowest earners has widened.
- Long Island's history has left it a legacy as one of the most racially segregated regions in the United States.
- Less than 9% of Long Island's total land—about 70,000 acres—is currently both undeveloped and available for the development of new residential, commercial or industrial activity.
- Long Island's transportation network is confronting its limitations as highway congestion increases and the transit system becomes increasingly unable to meet growing demand for reverse commutation and intra-Island – especially north-south – travel.
- With water supply coming from almost entirely from underground aquifers, threats to water quality can be particularly acute.
- Global energy prices are expected to rise over the long term, putting a higher premium on energy efficiency.
- As a coastal region, Long Island is particularly vulnerable to problems associated with climate change.

Chapter 4: What Will Long Island Be Like in 2035?

The Baseline Scenario for 2035 is a benchmark for assessing what can and should be changed. It attempts to show a probable outcome for the year 2035 by combining historic trends with current constraints and policies.

As its base forecast, the Baseline Scenario uses the population and employment forecasts of NYMTC, which produces federally-mandated forecasts of population, employment and labor force at five-year intervals that incorporate national economic projections, historic economic and demographic data for the region, and input from County planning departments. Using 2005 as the base year, NYMTC's forecast for 2035 has the following implications for Long Island:

- Population is expected to grow by approximately 461,000 between 2005 and 2035, including 154,000 new residents in Nassau and 307,000 in Suffolk. The approximate number of payroll jobs is projected to grow by 281,000 during this time horizon, including 89,000 in Nassau and 192,000 in Suffolk.

- Both population and employment will grow more slowly on Long Island than in other suburban parts of the New York metropolitan area.
- Most of the projected job growth on Long Island will be in professional, business, education, health, leisure and hospitality services.
- The number of individuals aged 65 or over is expected to increase from 14% of Long Island's population to 21%.
- Long Island will continue to become more racially and ethnically diverse.

To assess the impact of this forecast on Long Island's land use and related issues, the Visioning Initiative study team allocated population and jobs to specific areas and neighborhoods. Using the assumptions described on page "What will Long Island be Like in 2035?" on page 27, the Baseline Scenario would required the following changes in land use and development policies over the next 25 years:

- Multi-family units, including two-family homes, townhouses and larger apartment buildings, would need to be a much larger share of new construction. Under the Baseline assumptions, multi-family units would need to be about half of new housing construction, compared to 18% of existing housing.
- Much of Long Island's remaining unprotected developable land would be developed. Without changes in existing zoning, the Baseline Scenario estimates that more than 80% of unprotected land would be developed.
- Most places would experience little change in density, but some would require substantial increases.
- Over a third of population growth would occur more than two miles from a Long Island Rail Road station, compared to 17% of the Island's current population.
- More sewers and waste water facilities would need to be built. Under the baseline assumptions, only 38% of new housing units would be built in areas that already have sewers.
- Different outcomes are certainly possible, including lower or higher levels of population and economic growth or different patterns of development. However, each involves trade-offs within the constraints of Long Island's resources and a changing global economy.

Chapter 5: Workshop Findings and Alternatives

On March 26, 2009, the Long Island 2035 Visioning Initiative held a workshop designed to begin the process of eliciting input on future growth scenarios. The event brought together leaders from different sectors to articulate alternative scenarios for how Long Island should develop over the next 25 years.

Over 150 individuals participated in the workshop, including mayors, County and state officials, business and labor leaders, and representatives of major planning, environmental, developer, civic, social justice, housing, transportation, education and social service organizations. An effort was made to have balanced geographic representation, and all parts of the Island were represented. This gathering represented a broad cross-section of leaders who are knowledgeable and involved in planning and development issues on Long Island. However, their views and the outcomes cannot be equated to a comprehensive perspective representing the various views of all Long Island citizens, which could only be determined from a more extensive, widely advertized series of workshops.

Major Themes

Participants were asked to allocate the approximately 461,000 people and 281,000 jobs forecasted by NYMTC to 2035 in a 90-minute, small group exercise. Cross-cutting themes that emerged from all or nearly all of the 13 groups included the following.

- Many participants were skeptical that the predicted level of growth would occur.
- There was a strong emphasis on redeveloping already-developed areas and infill.
- Most wanted to preserve as much open space as possible.
- Mixed-use development in downtowns, near railroad stations and in large redevelopment sites was favored.
- Most groups avoided new large lot development in favor of multi-family and small/medium lot single-family development.
- There was a strong sentiment for avoiding new commercial strip development.
- System-wide improvements in public transportation, including rail, bus and ferry, were suggested by many participants.
- Improving north-south connectivity was a major transportation priority.
- Many were concerned with the increased congestion and parking problems that would come with denser development.

Chapter 6: Alternative Scenarios for 2035

Three alternative scenarios were constructed from the allocations of population and employment growth made by the 13 working groups at the Long Island 2035 Visioning Workshop. These scenarios - Distributed Growth, Transit Communities, and Growth Centers - portray different directions for Long Island's future development. However, to a greater or lesser extent, they all reflect the major themes that are described above.

Scenario A: Distributing Growth Throughout Long Island

The Distributed Growth Scenario would have the most dispersed population and job growth of the three alternatives, but would still concentrate more new development around existing downtowns and new centers than either existing land use patterns or the Baseline Scenario. Its attributes would include the following:

- Population and employment growth would occur throughout the Island, including on the East End.

- It would preserve much of the Island's remaining unprotected farmland and open space, but would use some of this undeveloped land to create new communities, often in clustered developments that make efficient use of both land and infrastructure.
- Traffic management policies aided by new technology would be needed to help move an increasing amount of auto and truck traffic, and improvements in commuter rail and bus service would be needed to provide faster and more reliable service in many parts of the Island.

Scenario B: Concentrating Growth Around the Existing Transit Network

Although the Transit Communities Scenario would accommodate some growth in redevelopment sites away from existing transit and neighborhood infill, its predominant focus would be on employment and population growth in downtowns and other areas around existing transit centers, including Long Island Rail Road stations, hubs for bus service and ferry terminals.

- Under this scenario, more than half of the projected population growth and nearly half of the projected employment growth would be located within one-half mile of a rail station.
- Most currently unprotected open space and farmland would be preserved.
- Needed transportation improvements would predominantly consist of enhancements to existing rail and bus service, such as a Third Track for LIRR Main Line, station renovations and expanded bus service.

Scenario C: Developing New Centers of Population and Jobs

A third alternative scenario emerging from the Visioning Workshop, the Growth Centers Scenario, would involve accommodating a large share of new population and employment in "growth centers," by redeveloping large underutilized spaces, such as former industrial sites or airports, and intensifying development in designated areas that are appropriate for larger-scale mixed-use environments.

- Although all of the scenarios would have some growth in these large redevelopment sites and industrial areas, the Growth Centers Scenario would put the highest share of growth in places such as the Nassau Hub, the site of the former Pilgrim State Hospital, Hauppauge Industrial Park, and the industrial area south of MacArthur airport.
- While many of these sites are locations with existing infrastructure, there would be more development outside of existing downtowns than under the Transit Communities Scenario.
- As in the Transit Communities Scenario, most currently unprotected open space and farmland would be preserved.

The scenarios are distinct, but they are not mutually exclusive. For example, development under the Distributed Growth Scenario would likely contain some of the redevelopment strategies emphasized under the Growth Centers Scenario. Similarly, although the Transit Communities Scenario would have the greatest emphasis on focusing growth around the existing rail transit infrastructure, development under the other scenarios would also contain some redevelopment around rail stations. This reinforces the purpose and limitations of the scenarios described above. They are intended to elicit discussion about trade-offs, issues and other perspectives that may not have been fully represented at the workshop.

Scenario Comparisons

- In all scenarios, the largest population growth would be in western Suffolk County. Nassau County would receive the most new residents in the Growth Centers Scenario, and eastern Suffolk would receive the most under the Distributed Growth Scenario.
- Multi-family units, including two-family homes, townhouses and larger apartment buildings, would account for the large majority of new housing units in all three workshop scenarios, ranging from 59% in the Distributed Growth Scenario to 94% in the Growth Centers Scenario.
- Each scenario would emphasize different forms of job concentration—downtown commercial centers, employment corridors, large-scale redevelopment sites and greenfield development.
- All of the alternative scenarios would protect most of Long Island's remaining undeveloped land that is currently unprotected, ranging from over 70% in the Distributed Growth Scenario to 97% and 98% in the Transit Communities and Growth Centers Scenarios, respectively.
- The Growth Centers Scenario would place the most population growth in high-poverty areas; the Distributed Growth Scenario would have the most balance between population and employment growth in these places.
- The Transit Communities Scenario would place a much higher share of new residents within a half mile of both a LIRR station and existing bus routes than either of the other two alternative scenarios.
- All three alternative scenarios would place a significant number of new housing units in areas that are currently without sewers, from 46% in the Transit Communities Scenario to 66% in the Distributed Growth Scenario.

Issues Requiring Further Analysis

The above comparison of the scenarios begins to identify issues that would require further exploration and dialogue – to be included in the process of producing the Long Island 2035 Comprehensive Regional Sustainability Plan – before any consensus could be reached on a preferred vision for Long Island's future. In particular, issues of feasibility and cost would require extensive analysis to engage in a dialogue over the trade-offs required to achieve multiple and sometimes conflicting objectives. Both the benefits and costs of different levels of growth are also needed to go beyond the differences in how growth is distributed. Impacts by race, gender, income and age also need further exploration.

Some specific issues raised by the scenarios include the following:

- Density Impacts: Changes in density affect a number of characteristics at both the neighborhood and regional level, including visual scale, auto traffic and pedestrian congestion, tax revenue and job and housing opportunities. In general, the scenarios move progressively toward concentrating density in fewer places. For example, the Baseline Scenario would have the most places with density increases of at least half a person per acre, but only a few places with increases of more than five persons per acre. By contrast, the Growth Centers Scenario would have fewer places that would see more than a marginal increase in density, but several places where density would increase by at least five persons per acre. These differences in density would affect both the Island as a whole and individual places, and the comparative impacts need to be fully examined.
- **Transportation Impacts and Costs:** Every growth scenario would require new transportation investments to accommodate changing commuting patterns and increased travel both by car and public transportation. It is a major undertaking to evaluate the implications of land use changes and demographic changes, as well as the cost effectiveness of different transportation options, but some preliminary assessments can help to start the analysis. The Growth Centers Scenario would likely require the most new transit and roadway investment to link places that currently have limited transit connections. The Transit Communities Scenario would likely require the most investment in existing transit infrastructure, and the Distributed Growth Scenario would likely require the most highway investments.
- **Housing Affordability:** As with transportation, there are a number of factors that will affect housing costs relative to income that need to be examined. These include the overall supply of housing, changes in income levels and distribution, and the level of subsidy provided by different branches of government. One variable that could have a major impact on housing affordability, and that is explicitly measured in the evaluation of the alternative scenarios, is the share and type of multi-family housing. All other factors being equal, an increase in multi-family units could help expand the number of rental units available and provide housing at a wider range of price levels.
- **Energy Consumption and Carbon Emission:** Energy use depends on a number of factors, including energy sources, changes in consumer behavior and technology. One factor that the scenarios can be used to assess is the amount of energy produced by the different numbers and types of single- and multi-family residential buildings projected in each alternative. Some data show that in the Northeast U.S., single-family lots consume the greatest amounts of energy and remain fairly consistent across lot sizes. Duplex and triplex units use close to 30% less energy than single-family lots and the average Northeast apartment lot uses around 45% less energy. Given that these data represent an average of the entire Northeast and that multi-family buildings on Long Island are likely to be much smaller than for the Northeast as a whole, it would be inaccurate to apply these numbers directly to multi-family developments on Long Island. However, it still demonstrates that based on existing building characteristics, scenarios that emphasize multi-family dwellings would produce less energy per household from residential uses. It does not account for the commercial and transportation sectors, nor does it account for the costs of designing energy-efficient buildings.
- **Water Quality:** Water quality is affected by a number of factors, including the location and type of development, wastewater treatment and stormwater runoff. Of the three alternatives introduced in this report, the Distributed Growth Scenario would place the greatest number of residential units into areas not currently served by sewers. Accordingly, this scenario is likely to require the greatest investment in new sewer infrastructure. Recent requests by municipalities for stimulus funds for these types of projects on Long Island ranged from $20 to $150 million. Similarly, the Growth Centers Scenario would place more growth into areas that are currently unsewered versus those that are sewered. Since the growth would be more concentrated, it is likely that less investment in connective infrastructure would be required than in the more dispersed Distributed Growth Scenario. The Transit Communities Scenario would place the largest amount of growth into areas that are currently served by sewers. Thus, this scenario would require larger investments in sewer infrastructure upgrades to allow for greater capacity than investment in new facilities. In recent requests for federal stimulus funds, upgrades ranged from as little as $1.5 million to as much as $300 million.

Chapter 7: Next Steps

The completion of Phase I of the Long Island 2035 Visioning Initiative comes as a new phase of research is getting underway. In particular, the resources developed during the Visioning Initiative will provide a foundation for ongoing analysis and outreach as part of the effort to produce the Long Island 2035 Comprehensive Regional Sustainability Plan. The following recommendations suggest ways that the resources developed by the Long Island 2035 Visioning Initiative can be maximized, not only in completion of the Sustainability Plan but also as they apply to County, municipal and community planning initiatives.

- **Broaden and focus participation on the Municipal and Stakeholder Committees:** Specific suggestions include incorporating the committees as an ongoing part of the Sustainability Plan effort, focusing on how the findings of the Visioning Initiative could impact specific localities, and using the networks of committee members to reach a broader group of stakeholders.
- **Maintain and update analysis of local plans and comparable efforts in other regions:** This would include keeping the inventory developed for the Visioning Initiative timely and widely available.
- **Conduct more detailed evaluations of existing conditions, trends and scenarios:** In particular, develop more detailed analyses of local conditions, estimate costs and feasibility of alternatives, and consider alternative levels of population and employment growth.
- **Consider holding public workshops modeled after the March 26 Visioning Workshop:** This could range from holding a single public workshop to a series of events.

1.

Organization and Direction of the Long Island 2035 Visioning Initiative

The Long Island 2035 Visioning Initiative is an effort that has evolved from a rich history of community and regional planning on Long Island. Long before most of America, Nassau and Suffolk Counties were confronting the paradox that comes with suburban growth. The appeal of these suburban communities drew succeeding generations looking for an attractive, affordable place to live and raise a family, most often as an alternative to the city environment from which they came. As early as the 1960s, however, the problems associated with growth in these communities, such as increased congestion and fewer unspoiled open spaces, threatened the very qualities that attracted people here in the first place. A succession of village, town, county and regional initiatives emerged to address these challenges, including the creation of the Long Island Regional Planning Board in 1965, one of the first institutions of its kind.

This history includes notable successes. The Central Pine Barrens Joint Planning and Policy Commission, for example, is a national model for how to balance development and open space protection in environmentally sensitive areas. However, any number of projects have not met expectations, often from an inability to reach an effective consensus among the number of governmental entities or private constituencies with a stake in the outcome.

The Long Island 2035 initiative was inspired by recent innovations in planning and consensus-building, both on the Island and in other regions around the United States. Beginning in the late 1990s, a growing number of community visioning projects on Long Island demonstrated the potential for new visualization techniques and public involvement processes in places such as Port Washington, Huntington and Wyandanch. Nationally, large-scale initiatives in regions as diverse as metropolitan Chicago, southern California and greater Boston were proving that these tools could achieve results and consensus on a regional scale. In 2005, a working group of Long Island planning, civic, business and advocacy organizations convened to assess the potential for an Island-wide visioning initiative. Following two stakeholder meetings, a proposal for a multi-phase visioning initiative was developed. Funding for the initial phase was approved by the New York Metropolitan Transportation Council (NYMTC) in 2007, and the project began in 2008.

Since its inception, the Long Island 2035 Visioning Initiative has evolved to synchronize its goals with those of other Long Island planning efforts. As part of its 2010-2035 Regional Transportation Plan, NYMTC, through its Principals, developed a Shared Vision for its 10-County planning area that includes regional-level desired growth areas in both Nassau and Suffolk Counties, along with related transportation investments. Nassau County launched a process to create a new Master Plan. The Long Island Regional Planning Board reconstituted itself into a larger Long Island Regional Planning Council (LIRPC) and began development of a long-term sustainability plan for its two-County planning area, comprising Nassau and Suffolk. The Long Island 2035 Visioning Initiative is being incorporated into this Long Island 2035 Comprehensive Regional Sustainability Plan, and it shares many of the objectives of this sustainability plan. The Sustainability Plan will go beyond the original goals of the Visioning Initiative by adopting specific recommendations for a broader range of policy issues.

The results of this initial phase of the Visioning Initiative, which are documented in this report, do not constitute a plan for Long Island. Nor do they represent the public consensus for a long-term vision that was intended for a future phase. While the effort to date was successful in generating the participation of multiple stakeholders and a substantial percentage of municipalities, much work must still be done in order to achieve the overarching goal of a public consensus on where the next generation of Long Islanders could live and work. Rather, these initial results provide a starting point for ongoing regional planning by assessing stakeholder priorities against conditions and trends, translating these priorities into future scenarios, and evaluating these alternatives against commonly held goals and objectives. The organization, structure and governance of this initiative are described below.

1.A. The Organization and Structure of the Visioning Initiative

The Long Island 2035 Visioning Initiative was originally conceived as a three-phase project extending over several years to build public consensus around a sustainable future for Long Island. Phase I, which is the subject of this report, was designed to develop the organizational structure, analytic tools and outreach processes needed to successfully develop and implement a broadly supported vision and implementation strategy. Phase II was planned to institute an extensive public education campaign centered around a series of public visioning workshops, culminating in the development of a preferred scenario for Long Island's future development. Phase III was planned to focus on implementation strategies, including designing and funding transportation projects that support the preferred scenario, designing demonstration projects and model zoning codes in interested communities, strengthening open space programs, and advocating for state and federal policies to support local and regional efforts.

With Phase I completed, any future activities related to the Visioning Initiative will be considered as part of the Long Island 2035 Comprehensive Regional Sustainability Plan, recently begun under the auspices of the Long Island Regional Planning Council. While using the information and tools developed for the Visioning Initiative, the Sustainability Plan

will expand the focus on physical development to include a range of critical issues that were beyond the Visioning Initiative's original scope, including energy usage and resources, solid waste management, climate change and governance reforms.

Phase I of the Long Island 2035 Visioning Initiative consisted of several interdependent core activities. Chief among these are:

- **Governance and Committee Structure:** As described in Section I.B below, the project sponsors and study team organized Executive, Municipal and Stakeholder committees to shape the initiative and provide multiple forums for participating in the activities and contributing to the work products.
- **Goals, Principles and Evaluation Benchmarks:** An initial focus was to articulate and adopt a set of guiding principles and a set of benchmarks for evaluating how well different actions are likely to meet the goals of the initiative. As described in Chapter II, a draft statement of Principles and Benchmarks was established by analyzing past planning and visioning efforts, both on Long Island and elsewhere. A final statement was adopted after circulation among stakeholders and input from LI 2035 committees.
- **Analysis of Current Trends:** An analysis of existing conditions and current trends on Long Island was conducted to indicate where the Island is likely headed if present patterns of development continue, and to provide a baseline against which to measure the impact of the various alternative scenarios. A central component of this analysis was codifying existing land uses into several recognizable types of development. This permits the evaluation of alternative futures by making it possible to assign attributes that are associated with certain kinds of neighborhoods or districts, such as large-lot neighborhoods or commercial strips, as well as with particular locations. Chapters III and IV describe the methodology and results for this analysis.
- **Visioning Workshop:** The preparatory work in Phase I culminated in a hands-on workshop held on March 26, 2009 and attended by over 150 participants and facilitators from the public and private sectors. Using information on existing conditions shown on a large base map and an illustrated atlas, participants allocated the projected population and job growth and supportive transportation improvements to undeveloped land, infill sites and redevelopment areas on Long Island. The outcomes of the workshop included both several common themes and a number of distinct development patterns, and are described in Chapter V.
- **Development and Evaluation of Alternative Scenarios:** The allocations of growth made in the workshop were analyzed and consolidated into three scenarios representing the range of preferred development patterns. To test the feasibility and implications of these scenarios, with each one representing distinct but overlapping sets of preferences, the alternatives were evaluated against the benchmarks established earlier in the initiative. The outcomes were compared both to each other and to the projection of current trends. The scenarios and their initial evaluation, which are described in Chapter VI, represent a first step in analyzing the implications of alternative futures and policy choices. The exercise also tests assumptions and helps to identify issues requiring further exploration.
- **Public Education Strategies:** In keeping with the goal of achieving a public consensus on Long Island's future, strategies for reaching and involving the public were developed and proposed. These included some actions that were implemented in this phase, including the development of a website (www.longisland2035.org), initial themes, media inventory and stakeholder lists. Other recommendations, such as a media strategy and broader grassroots outreach, would only be implemented in a second phase.

2.B. Governance and Participation in the Visioning Initiative

Executive Committee

The Long Island 2035 Visioning Initiative is guided by an Executive Committee working with both a Municipal Committee and a Stakeholder Committee. The Executive Committee, which is chaired by the Long Island Regional Planning Council, provides overall policy direction to the project; reviews and guides its technical tasks; approves key statements and reports; and integrates the input from public officials and stakeholders. Executive Committee members include:

- Long Island Regional Planning Council
- Nassau County
- Suffolk County
- New York State Department of Transportation
- Metropolitan Transportation Authority
- MTA Long Island Rail Road
- Federal Highway Administration

Municipal and Stakeholder Committees

The Municipal Committee is charged with ensuring the participation and input of local municipal governments in the Long Island 2035 Visioning Initiative, particularly on the elements of the work that directly impact or are directly affected by local municipal jurisdictions and responsibilities. The Stakeholder Committee represents private and non-profit sectors and is similarly charged with assisting the Executive Committee with the oversight and execution of the Visioning Initiative, and with disseminating information about the project to a larger circle of constituents. Specific tasks of the committees include:

- Advising the Executive Committee on the best ways of engaging and building consensus through participation in Long Island 2035;
- Assisting in providing data essential to the project's success;
- Participating in the visioning workshop to help articulate and evaluate alternatives for the Island's future development;
- Reviewing and commenting on materials developed for the initiative; and
- Advising the Executive Committee on the objectives and scope of future activities to be undertaken in conjunction with the Long Island 2035 Comprehensive Regional Sustainability Plan.

Thirty-one of the 109 cities, towns or villages in Nassau and Suffolk Counties responded to the Executive Committee's invitation to participate in the Municipal Committee and have been represented at one or more meetings, including the March 26 Visioning Workshop. Fifty-eight private organizations in the two Counties active in diverse areas such as the environment, business, education, social justice and housing have participated in the Stakeholder Committee to date.

In addition to these committees, outreach has been undertaken to a larger number of organizations and individuals that have been invited to and participated in the visioning workshop, or received outreach material and an opportunity to comment on the initiative's direction and products. This larger network could be the foundation for future outreach efforts, but would need to be actively expanded to include citizens from all parts of Long Island.

2.

Goals and Precedents for the Long Island 2035 Visioning Initiative

2.A. Goals and Principles

The overarching goal of the Long Island 2035 Visioning Initiative, as set by the Executive Committee, is to achieve a regional public consensus on where the next generation of Long Islanders could live and work, the transportation systems needed to support these settlements and the public and private actions required to ensure a prosperous, equitable and environmentally sustainable Long Island.

The initiative's emphasis is on the long-term physical development of Nassau and Suffolk Counties, with the recognition that changes in land use and infrastructure affect a broad range of economic and quality of life issues, including housing affordability, transportation, job access, energy consumption, air and water quality, education, segregation, property taxes and service costs. In this respect, it is similar to most regional planning efforts that try to anticipate changes in the economy and environment in order to identify investments, policies, and/or regulatory actions that are likely to take several years to implement.

But the focus of the Long Island 2035 Visioning Initiative, as it is with any regional visioning initiative, is less on the development of a plan itself than it is on reaching a workable consensus for action. The initiative recognizes that a plan is only as effective as the political support it receives from multiple levels of government. In a region that requires land use, regulatory and investment decisions by many government bodies, including counties, towns, cities, villages, school districts, fire and sewer districts, and a number of state and federal agencies—as well as investments by the private sector—the involvement of citizens and the development of broad-based public support is as important as the sophistication of the technical work and the logic of the policy prescriptions. In turn, this public involvement needs to be informed by detailed analysis and research that recognizes constraints and trade-offs, challenges assumptions, and provides both a local and regional context for decisions. By developing a dialogue on the choices faced by all Long Islanders and the beginnings of a truly shared vision of what Long Island should become, the initiative seeks to strengthen and coordinate the outcomes of municipal, county and regional plans and improve their chances for implementation.

To achieve sufficient consensus, the initiative needs to reflect the needs and aspirations of multiple constituencies. Most visioning initiatives, both on Long Island and elsewhere, are guided by a set of principles that incorporates goals of prosperity, fairness and environmental health that balance the priorities of different constituents. These are sometimes expressed as the "3Es", or "the triple bottom line" of Economy, Equity and Environment.

These principles enunciate widely shared values that are too often seen as competing with each other. In practice, however, they are mutually supportive and it is difficult to achieve one without the others. For example, without a flourishing economy it is almost impossible to raise the living standards of the poor and middle classes or to pay for the investments and programs needed to protect open space and assure clean air and water. A healthy and attractive environment is a prerequisite for attracting and retaining a skilled workforce as well as for protecting public health. Similarly, until everyone has equal access to job opportunities and good public services, Long Island will be unable to make full use of the capacities of its labor force and will have greater difficulty in agreeing on how to safeguard its natural resources.

The initiative enunciated three guiding principles:

- Enhance *economic prosperity* by retaining and creating well-paying jobs that provide upward mobility to residents, attracting and maintaining a highly productive workforce, and nurturing and rewarding innovation.
- Expand *social equity* through equal access to economic opportunity across race, ethnicity, class and age, fairly allocating public goods and services and access to housing and employment, and reducing geographic segregation by race and income.
- Ensure *a healthy environment* by attaining clean air and water, high quality ecosystems and attractive open spaces and recreational areas that are accessible to residents throughout Nassau and Suffolk.

These principles were developed through a three–step procedure. The first step was to review the dozens of regional, county and local plans, community visioning projects and related studies that have been undertaken on Long Island over the last decade. These were then analyzed to see how their issues and findings accorded with the themes of the Visioning Initiative, such as housing, the economy and transportation.

The second step was to evaluate a number of established and significant visioning initiatives from other metropolitan regions to learn how lessons from these efforts could best be applied to Long Island. The initiative's study team examined shared goals, objectives and themes; how the initiatives were organized and managed; how they communicated and involved various stakeholders and the public at large; and what type of results they achieved.

Based on the first two steps, a draft Statement of Principles and Benchmarks was prepared. This document was circulated for comment to the Municipal and Stakeholder committees and other organizations. After receiving and incorporating comments, the statement was revised and adopted by the project's Executive Committee as the guiding framework for the initiative.

2.B. Building on Long Island's Existing Plans and Initiatives

Over the past few decades, Long Island and its communities have been the focus of a great many policy reports, studies and planning initiatives. These include polls that examined the values and priorities of Long Island residents, studies of critical issues, and reports that benchmark and analyze key trends, including such noteworthy examples as the Rauch Foundation's Long Island Index series. They also include a great variety of local and regional plans, community visions, transportation studies and project plans. Many are ongoing initiatives that are still evolving.

The wealth of information contained in this body of work also represents the existing planning framework for Long Island. Any new initiative needs to take account of these efforts, not only to avoid "reinventing the wheel," but also to relate new findings and recommendations in a way that adds value to the progress that has already been made in advancing shared objectives, new projects and long-standing planning initiatives.

The initiative's study team carried out a systematic review of nearly 200 of these reports issued since 1999 in an effort to incorporate their overarching issues and findings into this initiative.[1] An initial objective was to identify common themes and objectives that should shape the goals and principles of the Visioning Initiative.

Overall, these reports covered a broad range of policy and planning topics, including:

- Demographics and population
- Economy
- Education
- Energy
- Environment
- Equity
- Housing
- Land use
- Transportation

For analysis purposes, the reports were divided into two categories - Indicator & Policy Reports and Place-Based Reports - and then summarized by author, geographic scope, goals and issues, and findings according to the policy and planning topics listed above. The following is a general summary of this analysis.

The 97 Indicator & Policy Reports reviewed included Island-wide or County-wide reports that examine current trends, analyze policy, and provide recommendations for the Island. Authors of these reports included educational institutions such as Adelphi University and the University of Wisconsin. A great many reports were authored by such civic, business and advocacy organizations as Alliance for Quality Education, Erase Racism, Institute on Race and Poverty, Long Island Association, Long Island Housing Partnership, Long Island Rail Road, Long Island Community Council and the Long Island Progressive Coalition.

Additionally, many reports were developed by governmental institutions and utilities such as the East End Supervisors and Mayors Association, Long Island Power Authority, Long Island Regional Planning Board, Nassau County, Suffolk County, New York Metropolitan Transportation Council, New York State Department of Environmental Conservation and New York State Department of Transportation.

The majority of the 85 Place-Based Reports came about as the result of community visioning efforts initiated by the local municipalities. Although each plan had a unique focus, several goals and themes recurred across the studies and plans.

In general, many of the same broader policy and planning themes summarized from the Indicator & Policy Reports were echoed in the Place-Based reports and are summarized below under the headings of "Economic prosperity," "Social equity & community" and "Healthy environment:"

Economic prosperity

- Benchmarking economic trends to other regions, often citing lagging performance compared to similar regions
- Need for multi-faceted strategy to create a strong business environment, including workforce quality, taxes and regulations
- Importance of downtown revitalization and smart growth to continued economic prosperity
- Identification of specific growth and development areas
- Workforce housing as an economic priority
- Importance of reducing congestion with rail investments and other transportation solutions
- Identification of federal transportation funding priorities
- Need to develop new research & technology development opportunities
- Addressing freight transportation needs
- Recruiting new businesses locally to provide jobs and meet residents' needs
- Balancing tax burdens and services provided, examining the tax-generating capacity of different development types
- Meeting infrastructure needs through capital improvement plans, improved management, modernization, and smart energy policy

Social equity & community

- Documenting the existence of and emphasizing the need to break down the barriers of historical segregation
- Focus on the inequities of school performance
- Promoting solutions to a shortage of affordable housing, expanding options that include both rental and owner-occupied dwelling units
- Expanding workforce opportunities through education initiatives, job training and career development, and job access
- The need to eliminate tax inequities through property tax reform

1 A list of these reports can be found in Appendix A.

- Preserving and enhancing community character with a focus on historic character and heritage
- Quality community design with attractive streetscapes, redeveloping and removing barriers that fragment underutilized or vacant sites
- Improving transportation in a variety of modes, including driving, walking, cycling, and mass transit

Healthy environment

- A strong emphasis on open space protection and programs
- Need to develop alternative energy sources and conservation to reduce carbon emissions
- The importance of protecting Long Island's aquifers and water quality
- Improving coastal ecosystem protection and stewardship
- Developing waterborne transportation that supports environmental goals
- Importance of balancing environmental and economic goals in Brownfield cleanup and redevelopment
- Providing recreational opportunities through better use of existing assets

Some of the Indicator & Policy Reports and the Place-Based Reports were limited to broad policy statements, but many also contained highly specific findings and recommendations. These reports helped shape the research and outreach activities of the first phase of the Long Island 2035 Visioning Initiative, and will become more important as the continuing work of the Long Island 2035 Comprehensive Regional Sustainability Plan focuses on specific places, policies and strategies.

2.C. Experiences from Other Regional Visioning Initiatives

Regional visioning is a tool that has now been applied in over two dozen metropolitan areas or states, from Greater Boston to Southern California, to stimulate thinking about future growth patterns and develop action strategies that involve a broad range of stakeholders. With a 15 year track record dating back to the first visioning effort in Utah, there is now a clear record of accomplishments, as well as lessons that can be applied to Long Island.

To incorporate these lessons into Long Island 2035, the project study team surveyed the literature and conducted in-depth interviews in five regions—Greater Boston, Metropolitan Chicago, Utah, Metropolitan Phoenix and Greater Atlanta. Project leaders from Southern California and visioning experts who have advised a number of other regions were also consulted. The literature included a 2005 report by the Urban Land Institute entitled *Translating a Regional Vision into Action*. Based on a forum with experts in the field, the report identifies broad principles for successfully implementing a regional vision.

While success has varied, a sampling of the outcomes from several of these regional visioning initiatives indicates the potential for success on Long Island:

Envision Utah, where it all started in 1995, was marked by heavy involvement and participation with elected officials, especially during the lengthy educational process at the beginning. In a state with almost no record of regional planning and open hostility to planning of any kind, this initiative managed to create a civic infrastructure and broad-based support for a vision of the Greater Salt Lake City area that was entirely different from the sprawling development that was taken as a given. Specific outcomes included:

- Construction of region-wide commuter rail and light rail transit systems.
- Several large communities adopted new transit-oriented master plans and zoning.
- Model zoning ordinances and other tools have been developed and a regional perspective is now part of the state's mindset.

The Southern California Compass project was created and led by the Southern California Association of Governments (SCAG), the Los Angeles area's metropolitan planning organization. In a region comparable in size, complexity and fragmentation to the New York region, it has achieved considerable progress since it was launched five years ago:

- The 2% Solution: Broad public support was gained by promoting the realization that a proficient change in regional development patterns could be achieved in a very few communities with both the physical capacity and the political will to accommodate projected growth.
- Completed demonstration projects adding significant new development in over a dozen communities.
- Used the visioning project as the basis for a new regional transportation plan for both people and goods.

Chicago's Metropolis 2020 represents a business and civic led initiative under the guidance of the Commercial Club of Chicago. Governed by an Executive Council of 45 members that includes representatives from business, labor, civic, religious and governmental organizations, it has already achieved the following:

- Over 100 of the Chicago region's largest employers have signed on to a pact—The Metropolis Principles—agreeing to consider the availability of and access to transit and housing when making location decisions.
- Created a regional workforce housing strategy with implementation underway in nine communities.
- Adopted new regional transportation and goods movement plans based on the consensus reached through the visioning process.

The research also identified several lessons that were incorporated into the design of the Long Island 2035 Visioning Initiative, including:

1. Design a transparent guiding framework.
In order to garner public support and leadership for the visualization process, a clear process must be visible illustrating where the process is intended to go and how we will get there. This was incorporated into the process for creating the Principles and Benchmark Statement and designing the initial Visioning Workshop. The challenge moving forward is to successfully

transition from an expanded phase of data analysis and public involvement to the final implementation stages. This transition is dependent on a concrete yet flexible process. The process needs to be specific enough to gain credibility and to efficiently guide public involvement yet flexible enough to respond to criticism, revising or redirecting the process, if need be. The process needs to set clear expectations which must be evident from the very start.

2. Build leadership and stakeholder coalitions.
Leadership needs to come from a variety of places: diverse citizenry, highly visible leaders from the business, philanthropic and government communities, elected officials, the media, and even skeptics to insure that the process is inclusionary and has a broad base of support from the outset. The organization of Municipal and Stakeholder Committees provided forums for input from local public officials and private stakeholders. The Long Island Regional Planning Council will provide the institutional infrastructure for developing consensus around the vision and implementation strategy for the Long Island 2035 Comprehensive Regional Sustainability Plan, which will build upon this initiative. Moving forward, one challenge will be to develop stronger participation and more visible leadership from the private sector. The business and philanthropic communities are among the most important sectors to get behind the effort. The private sector can provide the vision and plan with credibility and important "reality checks" at key stages in the process.

3. Provide objective information to define shared goals.
Any effort as qualitative and value-laden as visioning must be based on concrete data collection and analysis that is transparent, trustworthy, and impartial. Non-partisan data analysis provides the foundation for inclusive, consensus-based, public discourse which leads to identification of issues and goal setting. Here, public discussion leads to a new, shared definition of the problems and opportunities. The trend analysis and scenario evaluation developed for this first phase of the Visioning Initiative organized complex land use, demographic and economic data into a set of regional maps and preliminary indicators. Future analysis, perhaps to be undertaken as part of the Long Island 2035 Comprehensive Regional Sustainability Plan, will need to be based on more detailed analysis of constraints, costs and benefits to relate the regional analysis to local projects and issues.

Caution: There is a fine line between getting legitimate, extensive feedback from the public and getting too much input. In some other regions, the process of public outreach, consensus building, and goal setting became so involved and complex that little progress was made.

4. Develop future growth scenarios.
Most visioning efforts develop a "Preferred Growth Scenario" that is based on both expert-based growth projections and the consensus-based goals and objectives for future growth. Scenario development is important because it takes the qualitative and value-based discussions and translates them into a visual reality. Geographic Information Systems (GIS) mapping is generally the primary tool, but a variety of forecasting models and techniques can also be used. Phase I of the Visioning Initiative developed and evaluated a Baseline Scenario and an initial set of alternatives to demonstrate the process and provide the tools for a broader public input phase.

5. Ensure public evaluation of the vision
Once a visioning initiative has developed and evaluated a set of scenarios, the most effective efforts generate a second round of broad public outreach and education to get people thinking and talking about the implications of the scenarios. Some of the most successful visioning efforts, such as Envision Utah, have employed widespread marketing campaigns ranging from radio and television spots to modern-day town hall meetings and dynamic public websites. Others, such as in Chicago, have achieved success with more limited outreach. Both the goals of the initiatives and the particular circumstances of the places are important. This component needs to be carefully designed as the initial stages of the process progress.

Although the first phase of the Long Island 2035 Visioning Initiative did not reach this point, the study team identified several elements of an effective media strategy. These included:

- Explain the principles, goals and benchmarks in concrete, understandable language.
- Make clear how the results and recommendations are to be implemented.
- Look for stories that tie in LI 2035 to demographic and economic reports, such as Census data and predictions, or polls and surveys.
- The real challenge is in the story 'hook,' translating analysis into real-life stories of what is happening.
- Create op-ed opportunities for stakeholders to appear in various newspapers and speak at local conferences, meetings and other events.
- Find ways to localize data and stories for various communities.

6. Implementation, monitoring and evaluation.
This can be the most important yet difficult part of the process, and requires both committed leadership and an institutional structure with the staying power to see reforms enacted over a multi-year period. It is important to identify what state-mandated or community-driven planning efforts already exist that can help the visualization effort be realized. Intergovernmental contracts, which ask each signatory for the same level of commitment, can be effective ways of implementing change across jurisdictional boundaries.

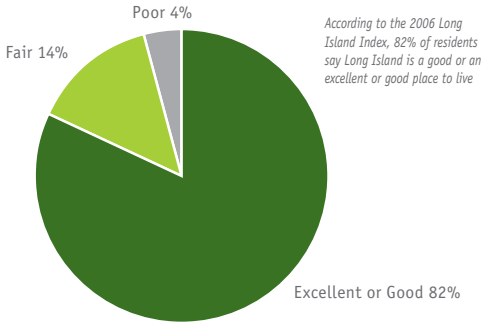
In order to meet one's goals, or know that one has met them, one must monitor progress. Progress or lack thereof needs to be visible to all involved. Implementing demonstration projects is one way to highlight progress in a "how to" manner.

3.

Opportunities and Constraints for Meeting Shared Goals

For generations, Long Island has offered a highly desirable and productive way of life. Natural beauty combined with proximity to Manhattan, one of the world's most dynamic economic engines, resulted in a quality of life that few places can match. Over time, this nurtured other assets that define Long Island today—a highly skilled workforce, extensive rail and highway networks, clusters of high-value industries, and attractive neighborhoods and downtowns. These qualities still make Long Island an attractive place for many. According to a 2005 poll by the Stony Brook Survey Research Center for the Long Island Index, 82% of Nassau and Suffolk residents thought Long Island was a good or excellent place to live. Furthermore, high home values, while they prevent many from coming or staying here, are also an indication that the Island still holds its appeal as a destination.

FIGURE 1: Share of Nassau and Suffolk Residents Saying Long Island is a Good or Excellent Place to Live



Source: Stony Brook Survey Research Center for 2006 Long Island Index

After six decades of postwar growth and development, however, Long Island is challenged by several cross-currents that will profoundly affect its future. Like many mature suburbs, the amount of undeveloped open space is rapidly disappearing, along with the transportation capacity that fueled two generations of low-density housing, shopping malls and office buildings. Water supply and other natural resources are under increasing stress as development encroaches on environmentally sensitive areas. High costs of living and the continued dispersal of employment opportunities are also exacerbating problems stemming in part from the historic economic and physical isolation of poor, largely African-American and Hispanic households. On top of these long-term trends, the deep global recession is creating uncertainty about the fundamentals of the economy.

The overriding challenge for Long Island is to preserve and enhance what residents love about the Island—its sense of community, its suburban scale and natural resources, its economic opportunities—while embracing and adapting to challenges that can no longer be ignored. Change is inevitable, and it is even necessary and desirable to preserve Long Island's assets. Success will also mean protecting this quality of life for future generations, while broadening prosperity and benefits across lines of race, ethnicity, gender, age, geography and income.

3.A. Current Land Use and Settlement Patterns

Contrary to its image of uniformity, Long Island has a diverse and textured landscape. Its recent history of suburbanization was overlaid on a unique ecosystem and an earlier history that included different waves of immigrants, the nation's earliest commuter rail system and village centers that anchored agricultural, tourist and manufacturing economies. The result is a settlement pattern that is both quintessentially suburban and unique.

While each place on Long Island has its own history and character, there are several recognizable types of neighborhoods, districts, commercial centers and natural areas that are common throughout the region. Residential areas include pre-WWII neighborhoods shaped by the streetcar system as well the early highway and rail networks, small-lot suburban neighborhoods such as Levittown that sprang up in the 1950s and 1960s, and communities in eastern Suffolk County that still retain much of their rural character. Commercial areas include small and large downtowns, many centered around the 99 Long Island Rail Road stations in Nassau and Suffolk, commercial strips along both major highways and smaller arterials, and large institutions and industrial areas. Natural and agricultural areas include highly productive farmland and recreational areas, some preserved by law and others that could be potentially developed as housing, offices, stores or other uses.

Place Typology Used for Current and Future Conditions

To make sense of this complex landscape, it is helpful to group similar types of places into categories that can be mapped and analyzed. This allows us to discern patterns of development for a region as large as Long Island that are not as readily apparent from fine-grained land use data. It also helps in making comparisons between places that are located in different parts of the Island but which may share common characteristics or needs. Using a typology of places is also necessary for analyzing and projecting attributes for Long Island as a whole, a central objective of the Long Island 2035 Visioning Initiative.

To create a workable place typology, land use data were grouped into 17 development types. "Development types" represent distinct and recognizable neighborhoods, districts or natural areas, such as commercial strips or small-lot single-family neighborhoods. To aggregate land use categories into development types, a set of typical development patterns were defined based on the existing forms of development on Long

Island (i.e., centers, corridors, single-family neighborhoods, etc) and the variables associated with them (i.e., density, land uses, street configuration). The objectives were to create a portfolio of easily recognizable place types that could facilitate a public discussion, and a sufficiently detailed set of characteristics that could be used to assess alternative futures.

One of the main differences between development types and parcel-level land use data is that the former contains a variety of uses, while the latter generally has a single use associated with it. For example, small parks or schools within a residential area are part of the fabric of a neighborhood, and so these land uses are contained within the larger neighborhood type. In creating the development types for this initiative, the typologies used in visioning exercises in other regions were used as a guide. However, these were tailored to conform to the specific settlement patterns and available data for Long Island.

Based on the considerations described above, the list and definitions of types underwent several iterations. Using development types from the visioning exercises in Southern California, Chicago and other regions, a working list of types was created that reflected Long Island's settlement patterns. Using aerial photography, tax parcel data and Census data, these types were tested and refined to get a better fit between the development type characteristics and actual conditions.

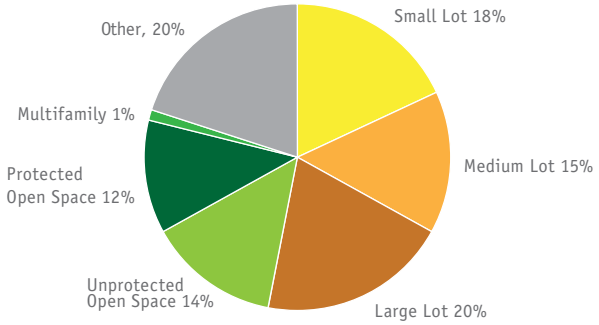
There were three main variables used to differentiate development types:

- **Mix of uses:** For some development types, one land use type predominates, such as single-family homes or open space. Others, such as mixed-use centers or commercial strips, have a wider range of land uses.
- **Density:** The residential types were further refined by density, creating a range extending from small to large estates.
- **Street and open space network:** The configuration of uses, particularly how closely they conformed or deviated from a typical grid street pattern, also helps characterize the neighborhood and influences factors such as walkability, auto use and storm water runoff.

The base data for the map of existing conditions include the most current data available from a number of sources. The primary sources are tax assessment data from Nassau and Suffolk Counties, which are from 2007 for Nassau and the five western Suffolk County towns and 2001 for the five eastern Suffolk County towns. Since the Counties use different coding systems, the data was standardized into summary classifications that were applicable to both County systems. Some attributes, such as some categories of multi-family housing, seasonal residences, central business districts, institutional uses and protected open space, were refined using data from the two County planning departments, aerial photographs, and data from private sources, such as the Long Island Nature Conservancy.

Mapping these development types allows us to visualize a number of important attributes, both opportunities and constraints, that will help determine Long Island's future. At first glance, the 2007 base map shows a number of patterns that are familiar to Long Islanders. The landscape is dominated by single-family residential neighborhoods, with communities becoming increasingly less dense as they progress from western Nassau to eastern Suffolk. Large tracts of undeveloped open space and agricultural land remain on the East End, with very little to the west. Single-family homes built on small lots dominate the south shore from Nassau through western Suffolk, while larger residential properties are prevalent on the north shore.

FIGURE 2: Share of Long Island's LAND AREA by Development Type



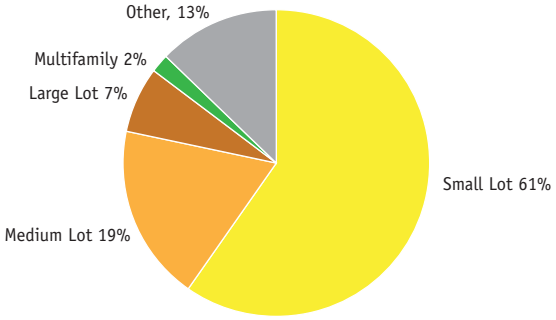
Other:	
Farm	**4%**
Protected Farm	**1%**
Mall	**1%**
Strip Commercial	**3%**
Transportation	**3%**
Office	**1%**
Mixed Use	**1%**
Industrial	**3%**
Civic	**4%**

Source: Long Island 2035 Visioning Initiative; calculations from tax assessment and other land use data provided by Nassau and Suffolk Counties, population data from the U.S. Census data, analysis of slopes, wetlands, coastlines and protected open space data from the U.S. Geological Service, the U.S. Fish and Wildlife Service, the New York State Departments of Environmental Conservation, Parks and Transportation, and the Nature Conservancy.

The degree to which single-family neighborhoods occupy land in Nassau and Suffolk is illustrated in Figure 2. Residential communities occupy over half of Long Island's land area, with roughly equivalent proportions in high-density neighborhoods with mostly single-family homes on less than quarter-acre lots; medium density neighborhoods; and low-density neighborhoods that are predominantly made up of homes on more than an acre of land. Districts that are made up predominantly of commercial, industrial and institutional uses make up about 15% of Long Island's land area. Areas that are mostly comprised of farmland and open space are divided between those that are substantially protected from further commercial and residential development by federal, state, county or local regulations (about 13% of all land), and those that are unprotected (18% of land).

By contrast, population is concentrated in higher density residential neighborhoods. As shown in Figure 3 below, 61% of Long Island's population lives in communities that are characterized by single-family homes on small lots. An additional 4% of the population lives in multi-family or mixed-use neighborhoods, which are generally relatively high density. 19% of the population lives in medium-density neighborhoods, and 7% in low-density areas. The remainder of the population lives in areas that are predominantly non-residential.

FIGURE 3: Share of Long Island's POPULATION in Different Development Types



Other:

Industrial	**1%**
Mixed-Use	**2%**
Farm, Open Space	**3%**
Transportation	**>1%**
Strip Commercial	**3%**
Civic	**1%**

Source: Long Island 2035 Visioning Initiative; calculations from tax assessment and other land use data provided by Nassau and Suffolk Counties, population data from the U.S. Census data, analysis of slopes, wetlands, coastlines and protected open space data from the U.S. Geological Service, the U.S. Fish and Wildlife Service, the New York State Departments of Environmental Conservation, Parks and Transportation, and the Nature Conservancy.

This existing settlement pattern, when combined with other economic, social and environmental characteristics, provides the armature for addressing the global and regional forces that will shape communities on Long Island over the next generation. They define the assets that could allow the region to take advantage of opportunities for an even better way of life. They also circumscribe these opportunities with a number of constraints that limit options and add costs to regional strategies designed to meet common goals.

3.B. Opportunity: Making the Most of Long Island's Assets

Long Island's unique combination of assets—its natural and human resources, its location and its physical infrastructure—provide it with a strong foundation for meeting shared goals and the challenges of a changing global economy and environment. What follows is a brief summary that highlights some of the most important of these assets.

Natural resources:

Long Island has a wealth of natural resources for its communities to enjoy and from which it draws essential resources necessary to both sustain its large population and support a dynamic economy in which agriculture, tourism and recreation generate a significant amount of jobs and income. The Island has 1,180 miles of shoreline along the Atlantic Ocean, the Long Island Sound, and numerous bays, lakes and inlets.[1] Slightly over one-fifth of land on Long Island is protected from development by federal, state, county or municipal programs. About half of this land represents the more than 800 public parks on the Island,[2] ranging from small community playgrounds to larger parks such as Fire Island National Seashore and Bethpage State Park.

The Long Island Pine Barrens, containing both dry upland areas and wetlands, are inhabited by myriad wildlife species, many of which are endangered or threatened, and help protect the underwater aquifers that are Long Island's sole source of drinking water. The Long Island Pine Barrens Protection Act is the framework through which Long Islanders have guided development away from this unique open space and towards more appropriate sites in the East End.[3]

Skilled workforce:

One of Long Island's strengths in a knowledge-based economy is its highly skilled workforce, supported by a network of quality schools. Thirty-five percent of Long Islanders ages 25 and older have a bachelor's degree or higher. Although this is the same as the Tri-State metropolitan area as a whole, educational attainment in the metropolitan area exceeds attainment nationwide. In the United States as a whole, about 27% of individuals ages 25 and older have a bachelor's degree.[4]

The Island is also known for its excellent schools. In Long Island public schools, students meet New York State standards at significantly higher rates than do students in the state as a whole. On the state's Grade 4 English and Language Arts exam in 2007, 81% of Long Island students met the standard as compared to 68% of students state-wide. On the state's Grade 8 Math exam that same year, 75% of Long Island students met the standard as compared to 52% of students nationwide.[5]

University and R&D centers:

The innovation and technology that have been essential to Long Island's economy have been driven by the research and educational institutions located in the region. Long Island is home to Brookhaven National Laboratory, where researchers have made six Nobel Prize-winning discoveries.[6] The Cold Spring Harbor Laboratory, which is home to seven Nobel Prize-winning researchers and runs a Ph.D.-granting program in molecular biology, is also located on Long Island. Researchers and patients at the North Shore-Long Island Jewish (LIJ) Hospital System's Feinstein Institute for Medical Research participate in more than 1,300 clinical research studies each year. North Shore-LIJ is also home to the National Institutes of Health-funded Feinstein General Clinical Research Center, in which 7,000 Long Islanders have participated in patient-oriented studies since 2003.[7]

Long Island has more than 20 colleges and universities, including high quality public institutions such as Stony Brook University, Farmingdale State University and Nassau and Suffolk Community Colleges. In 2008, *U.S. News & World Report* ranked Stony Brook University 45th in the category of "top public national universities" and 96th in the rating of "best national universities."[8] Additionally, Nassau and Suffolk

1 Empire State Development Corporation fact sheet on Long Island Region, http://www.empire.state.ny.us/Regions_and_Counties/longisland.asp

2 "What Happens When We Run Out of Land? A Build-Out Analysis for Nassau and Suffolk Counties," Regional Plan Association prepared for the Rauch Foundation, November 2004, http://www.longislandindex.org/fileadmin/pdf/WhatHappensWhenWeRunOutofLand.pdf

3 Long Island Pine Barrens Society Website, http://www.pinebarrens.org/pbsact.

4 2007 American Community Survey, US Census Bureau, www.census.gov

5 Long Island Index on "Performance Tests" , http://www.longislandindex.org/performance_tests0.0.html

6 Fact sheet on Brookhaven National Laboratory, US Department of Energy, July 2008, http://www.bnl.gov/bnlweb/pubaf/fact_sheet/pdf/FS_Discoveries.pdf

7 Long Island Jewish Medical Center Website, http://www.northshorelij.com/workfiles/newsletters/community_benefit09.pdf

8 "America's Best Colleges 2008" *US News and World Report*. September, 2007

Community Colleges enable many Long Islanders to get a strong start on their post-secondary education. About 70% of Nassau Community College graduates continue their education at a four-year institution.[9]

Long Island is also home to many private institutions, such as Hofstra University and Adelphi University. Hofstra University in Hempstead currently offers 145 undergraduate and 155 graduate programs and has partnered with the North Shore-LIJ Hospital System to establish a new school of medicine in 2011. Its campus is also 100% accessible to persons with disabilities. [10] Adelphi University, with campuses in Garden City and Hauppauge, has been ranked a "Best Buy" by the Fiske Guide to Colleges for the past four years."[11]

Business clusters:

Long Island's economy has evolved from an agricultural and manufacturing economy to a more diverse economy driven by research and technology, professional services and trade as well as industrial, agricultural and tourist related sectors. Small businesses have become more important to the Island's economy, particularly following the decline of large companies in Long Island's aerospace and defense sector.[12] A growing job base has also resulted in more Long Island residents working in Nassau and Suffolk as opposed to commuting to New York City. According to the 2000 Census, 77% of working Long Island residents work in Nassau or Suffolk.[13]

The industries with the most total employment on Long Island are trade, transportation and utilities (21%), education and health services (17%), government (16%), and professional and business services (13%).[14] Each of these industries also comprises a larger share of Long Island employment than it comprises in the nation as a whole.[15] Between 2003 and 2008, Long Island experienced its strongest employment growth in health services, education, business services, construction and building materials, and biomedical industries. Several of these industries—education, business services, and biomedical—pay higher than median wages.[16]

Proximity to resources in the New York metropolitan area:

Even though the share of Nassau and Suffolk residents working in New York City is declining,[17] Long Island's location in the New York metropolitan area—a global center for finance, media, film, tourism, publishing, fashion and culture—remains an asset to both its economy and the educational and recreational opportunities available to its residents. As both a market for Long Island businesses and a source of career opportunities, the size and dynamism of the New York area economy are important assets.

In 2006 the New York metropolitan area's gross domestic product was $1.1 trillion,[18] outpacing Los Angeles, the next largest metropolitan area, by nearly $450 billion. Despite the recent economic downturn, Manhattan remains a world financial center with six major stock, commodities and futures exchanges, including the two largest stock exchanges in the world (NYSE and NASDAQ).[19] New York City has 44 of the nation's Fortune 500 companies, more than any other city.[20] The metropolitan area also has a strong technology-based economy. In the last decade, institutions in the New York metropolitan area have created 6,800 biotechnology-related patents—more than any other U.S. metro area.[21]

Transportation infrastructure:

The quality of life and economic potential of Long Island are greatly enhanced by its transportation infrastructure. Many Long Islanders commute and meet their daily needs by car on the extensive network of parkways, expressways, highways and smaller roads. Public transit – comprised primarily of the 11-branch Long Island Rail Road (LIRR), 53-route MTA Long Island Bus in Nassau County,[22] and 56-route Suffolk Transit bus system in Suffolk County[23] – has an annual ridership of nearly 100 million people.[24] The LIRR, whose service area covers the Island in an east-west direction, provides the most direct access to Manhattan with branches serving the north, south and center of the Island. Smaller local bus systems and ferry services supplement these primary systems. Long Island also benefits from two main airports—MacArthur and Republic—and is easily accessible from LaGuardia Airport and JFK International Airport.

3.C. Constraints: Overcoming Challenges and Implementation Barriers

Long Island's challenges stem from a number of sources, some of which are global trends, from new international trading patterns to the effects of climate change. Others relate to Long Island's geographic constraints as an island with the majority of its land already developed. Still other challenges are in part by-products of the Island's success. Relative to most of the United States, Long Island is a high cost area. The reasons for this are complex, but are partly attributable to the desirability of the

9 Nassau Community College Website , http://www.ncc.edu/About/CollegeFacts.htm

10 Hofstra University Website, http://www.hofstra.edu/About/

11 "Adelphi University Rated a 'Best Buy' in the Fiske Guide to Colleges for the Fourth Consecutive Year," June 30, 2009, http://events.adelphi.edu/news/2009/20090630.php

12 Long Island Association Website, http://www.longislandassociation.org/doing_business.cfm

13 2007 American Community Survey, US Census Bureau, www.census.gov

14 Excludes agriculture. Selected Bureau of Labor Statistics Economic Indicators for Nassau and Suffolk Counties, US Bureau of Labor Statistics, July 29, 2009, www.bls.gov

15 US Department of Labor Bureau of Labor Statistics Website, http://www.bls.gov/emp/empmajorindustry.htm

16 Long Island Index on "Industry Clusters", http://www.longislandindex.org/industry_clusters0.0.html

17 2003 Rauch Foundation Long Island Profile Report www.longislandindex.org/fileadmin/pdf/LIProfile.pdf

18 US Department of Commerce Bureau of Economic Analysis Website, http://www.bea.gov/newsreleases/regional/gdp_metro/2008/gdpm_highlights_0908.htm

19 Claessens, Stijn, Thomas Glaessner and Daniella Klingebiel, "Electronic Finance: Reshaping the Financial Landscape Around the World," the World Bank, September 2000, http://www.worldbank.org/html/extdr/pos00/pdfs/Fs_04.pdf

20 New York City Economic Development Corporation Website, http://www.nycedc.com/BusinessInNYC/FactsFigures/Pages/FactsFigures.aspx

21 New York City Bioscience Initiative Website , http://www.nycbiotech.org/intellectual.html

22 New York State Metropolitan Transportation Authority Website, http://www.mta.info/libus/routes/routes.htm

23 Suffolk County Transit Website, http://www.sct-bus.org/schedules.html

24 Long Island Railroad http://www.mta.info/mta/ind-perform/annual/lirr-ridership.htm

Island as a place to live and work. The following summary highlights some of the main challenges facing Long Island, but is only a starting point for understanding and addressing these forces.

Cost of housing:

Even with the decline in housing prices since 2007, housing affordability remains a significant challenge on Long Island.[25] Increases in home values have outpaced increases in income, which has made homeownership unaffordable for many low- to middle-income families. The share of households with a high housing cost burden—defined here as spending more than 35% of household income on housing—has increased between 2000 and 2007, the last year available, from about 27% to about 37%. Over half of these households are spending more than 50% of their household income on housing.[26] Even considering the declines in prices over the last two years, housing cost burdens are likely to remain high by historical standards, and the rising toll of housing foreclosures adds a new challenge.

While these issues are similar in high-cost suburbs throughout the United States, they raise issues of economic competitiveness and social equity for Long Island. High costs relative to income and to other locations can make it more difficult to attract and retain the workforce that drives the economy, particularly for younger workers who have yet to accumulate savings or salary increases necessary to find what is being called "Next Generation" housing on Long Island. The burden falls most heavily on low-income households with few options for either affordable rentals or home ownership.

Tax levels:

Tax levels that are high relative to other regions are another challenge to Long Island's affordability and competitiveness.[27] On average, growth in real property tax levies has exceeded the rate of inflation. Whereas inflation drove the overall price level (as measured by the Consumer Price Index) between 1998 and 2006 up by 27%, on average real property tax levies increased by between 33% (town governments) and 72% (school districts). [28]

Communities across Long Island experience a wide range of tax levels. The share of the tax levy a local government must collect from residents depends significantly on the amount of tax revenue that can be raised from commercial and industrial properties in the municipality. Whereas school districts in Carle Place and Mineola raise over $10,000 per student through commercial and industrial revenue, districts with such as Cold Spring Harbor and Roosevelt raise less than $400 per student from these sources.[29]

School tax levels are also related to school district spending and income. Some of this difference is driven by state and federal aid, which is distributed in greater amounts to lower-income school districts. The lower-tax school districts fund on average 56% of their own costs, as compared to 89% among the higher-tax school districts. Despite state and federal aid, the lower-tax, predominantly lower-income districts do not provide educational resources to students at the same levels as do the higher-tax, predominantly higher-income districts. The 20% of school districts with the lowest-tax levies per household spend nearly $8,000 less per student each year than do the highest-tax districts.[30]

Wages and economic inequality:

Although the median household income on Long Island continues to exceed the figure nationwide, wage stagnation poses a challenge for Long Island. Adjusting for inflation, the median household income on the Island remained constant at about $95,000 between 1998 and 2007. However, in the more recent period—between 2003 and 2007—real wages earned by the median household of four declined by 6%.[31]

Growth rates in wages on Long Island have not kept up with growth rates nationwide. Although Long Island wages per employee grew 3% from 1999 to 2007, in the United States wages per employee grew 7% over this period. In more recent years—between 2007 and 2008—Long Island wages per employee fell 5% even as U.S. wages per employee increased 3%.[32]

In the past decade, the gap in annual household income between Long Island's highest-earners and its lowest-earners has widened. Between 1998 and 2007, incomes among the highest-earning 10% of Long Island households increased, even when controlling for inflation, by 9%. During this same period, incomes among the lowest-earning 10% of households dropped 4%.[33]

Diminishing supply of developable land:

Nearly 500,000 acres, almost two-thirds of Long Island's land surface, are covered with buildings, pavement and other man-made structures. (This includes yards, plazas and other small green spaces that are part of developed properties, so the figure somewhat underestimates the amount of green space on the Island.) Since significant portions of the remaining land are either preserved as open space or farms, or are unfeasible for development for topographical reasons, less than 9% of Long Island's total land—about 70,000 acres—is currently feasible for the development of new residential, commercial or industrial activity. Most of this land is in eastern Suffolk County, although significant amounts remain in Nassau and western Suffolk.

This constrains the Island's options for attracting and accommodating new employment or housing. Opportunities for new residential subdivisions, shopping malls or commercial development on vacant land are limited, so at some point new homes, offices, factories and stores can only be accommodated through redevelopment of previously developed land.

Transportation constraints:

Much of Long Island's transportation system, and particularly its commuter rail network, was designed to facilitate travel from east to west, most notably for commutation into Manhattan. However, as Long Island's job base has grown and as population has moved further east, this system is becoming increasingly ill-equipped to handle the markets where demand is growing fastest, such as intra-Island – specifically north-

25 Long Island Index on "Housing Affordability", http://www.longislandindex.org/housing_affordability0.html

26 2007 American Community Survey, US Census Bureau, www.census.gov

27 Long Island Index on "Expenditures and Revenues", http://www.longislandindex.org/expenditures_revenues.0.html

28 New York State Education Department Website, http://www.oms.nysed.gov/faru/Profiles/profiles_cover.html; NYS ORPS data supplied by NYSED

29 Ibid.

30 Ibid.

31 Long Island Index on "Household Income Distribution", http://longislandindex.org/household_income_distribution0.0.html

32 Long Island on "Growth in Wages of the Past 10 Years", http://longislandindex.org/growth_wages.0.html

33 Long Island Index on "Household Income Distribution", http://longislandindex.org/household_income_distribution0.0.html

south – travel and reverse commutation from west to east. In addition to these constraints imposed by the commuter rail network, much of the road network is at capacity, resulting in increasing congestion and travel times.

Water quality:

All Long Island aquifers receive their fresh water from precipitation. Long Island receives, on average, about 44 inches of precipitation a year. Of this, about half of the precipitation, or approximately 22 inches of rain, percolates into the ground and is recharged into the groundwater system. The remaining precipitation is either evaporated, taken up by plants, or runs off into creeks, bays and estuaries. In areas where the water table and the ground surface meet, streams, ponds and wetlands are formed. In an undisturbed natural setting (e.g., before human activities), all of Long Island's groundwater would ultimately reach the coast where the groundwater would mix with the ocean. Due to human activity, this process has been significantly changed so that not all water in the groundwater system is returned to the ocean.

Today, groundwater is withdrawn from the system constantly. Over 138 billion gallons of water are taken each year from beneath Nassau and Suffolk Counties. The greatest threat to the quality of this water is residential or commercial development in sensitive areas that adds pollutants and impedes the absorption of precipitation. In coastal areas, as water is drawn up for use, less groundwater is available to be discharged into the estuaries. The resulting loss of water and pressure allows saltwater from the ocean to flow into the aquifer, causing the groundwater to become saline and undrinkable, a condition called **"saltwater intrusion." With Long Island's drinking water drawn from "sole-source aquifers," contamination by saltwater is a significant threat to Long Islanders' only drinking water supply, particularly in Nassau County where saltwater intrusion is a greater threat.**

Long-term projections for rising national energy costs:

Energy prices impact Long Island's economic competitiveness and affordability for its residents, and can both dictate and reflect economic growth. High energy prices can limit businesses' ability to grow. On the other hand, high energy prices can also reflect high energy demand and high growth, either in the United States or elsewhere in the world.

The Energy Information Administration (EIA) at the U.S. Department of Energy expects rising real oil prices over the long term. The EIA projects that in 2030 world oil prices will rise to $130 per barrel in real 2007 dollars; however, due to significant uncertainty in the projection, their projected 2030 price range is between $50 and $200 per barrel.[34] The EIA projects that natural gas prices in the continental United States will increase by about one-third between 2007 and 2030.[35] The EIA also projects the price of electricity (most of which is generated by coal in the United States) to increase by 2030. Their primary projection is a 14% price increase between 2007 and 2030, although this projected increase ranges from 7% in a low economic growth scenario to 19% in a high economic growth scenario.[36]

Climate change:

Since Long Island is a coastal region with much of its land at a low elevation, it is particularly vulnerable to problems associated with climate change. According to a recent study by Columbia University and the City University of New York, sea level is expected to increase by four to 12 centimeters in the New York area by the 2020s and by 30 to 56 centimeters by the 2080s. Should polar icecaps melt rapidly, climate models project that sea levels will rise 104 to 140 centimeters by 2080.

Long Island is most vulnerable to sea level rise as it relates to storm surges. One hundred-year storms cause damaging floods that would threaten Long Island residents and property, and the frequency of these storms is expected to increase over time. Given current trends, climate models also predict temperature increases for the region will be between 1 to 1.5°C by 2020 and 2 to 4°C by the 2080s.

34 "Annual Energy Outlook 2009 with Projections to 2030: Executive Summary", Energy Information Administration, March 2009, http://www.eia.doe.gov/oiaf/aeo/execsummary.html

35 "Annual Energy Outlook 2009 with Projections to 2030: Natural Gas Demand", Energy Information Administration, March 2009, http://www.eia.doe.gov/oiaf/aeo/gas.html

36 "Annual Energy Outlook 2009 with Projections to 2030: Electricity Demand", Energy Information Administration, March 2009, http://www.eia.doe.gov/oiaf/aeo/electricity.html

FIGURE 4: Existing Long Island Development Types

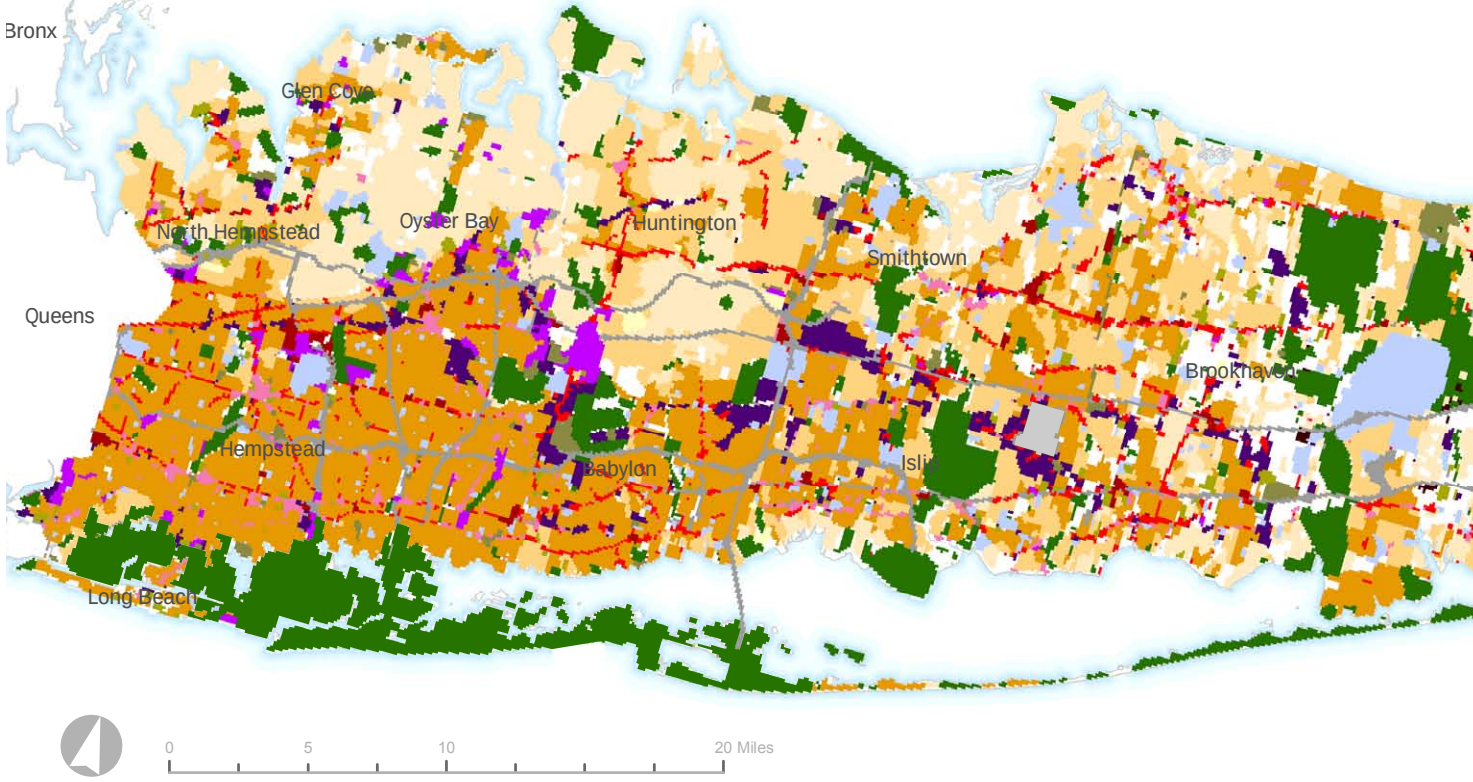
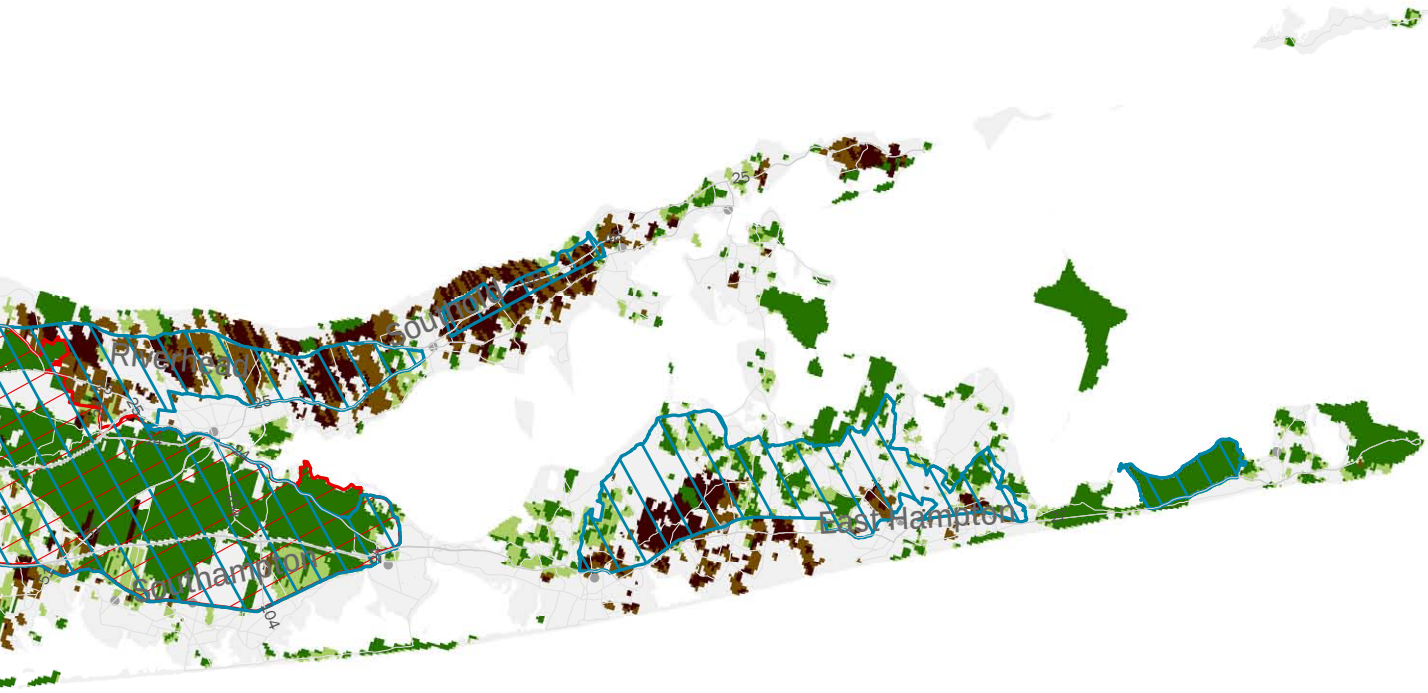


FIGURE 5: Open Space, Farmland and Ecological Constraints

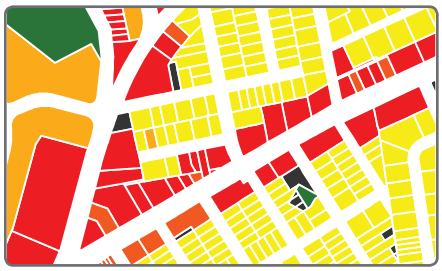
Small lot single family
Medium lot single family
Large lot single family
Estate single family
Multi-family
Civic and Institutional
Education
Hospital
Strip commercial
Mall
Mixed use
Office
Unprotected open space
Protected open space
Unprotected agricultural
Protected agricultural
Transportation
Utilities
Industrial



Agricultural land
Open space
Protected agricultural land
Protected open space
Special Ground Water Areas
Pine Barrens

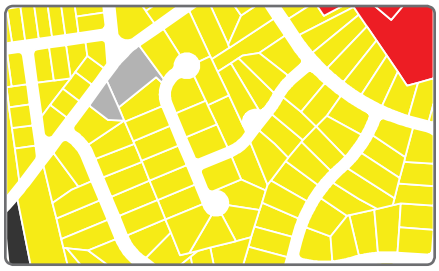
RESIDENTIAL DEVELOPMENT TYPES AND CHARACTERISTICS

1. SMALL LOT SINGLE-FAMILY NEIGHBORHOODS



- Small lot residential (mostly smaller than 0.23 acre lots) with primarily straight streets in a gridded street pattern with four-way intersections and some small pocket parks and non-residential uses.
- Typical land uses: Residential, open space, retail

2. MEDIUM LOT SINGLE-FAMILY NEIGHBORHOODS

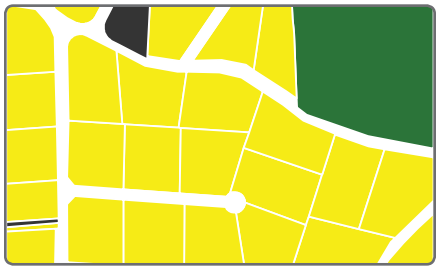


- Single-family residential development with average lots between 0.23 and 0.80 acres.
- Streets are curved with some cul-de-sacs and there are some small pocket parks and non-residential uses.
- Typical land uses: Residential, open space

3. LARGE LOT SINGLE-FAMILY NEIGHBORHOODS

- Similar to small and medium lot development type, with larger lots primarily between 0.8 and 7.5 acres.
- Typical land uses: Residential, open space

4. LARGE ESTATE NEIGHBORHOODS



- Single-family residential use with lot sizes greater that 7.5 acres.
- Typical land uses: Residential, open space

5. MULTI-FAMILY NEIGHBORHOODS

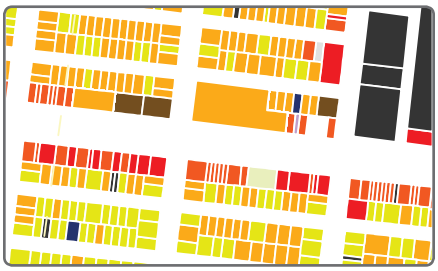
- Multi-family units in residential areas where multi-family units or blocks are the primary or sole land use
- Typical land uses: Multi-family residential, single-family residential, open space, retail

LAND USE LEGEND

- Single Family > 7.5 acres
- Single Family < 7.5 acres
- Multi-family
- Civic and Institutional
- Commercial
- Mixed use
- Open Space
- Agriculture
- Vacant
- Transportation
- Utilities
- Industrial

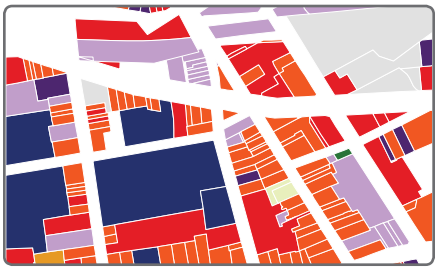
NON-RESIDENTIAL DEVELOPMENT TYPES AND CHARACTERISTICS

6. MIXED-USE DISTRICTS



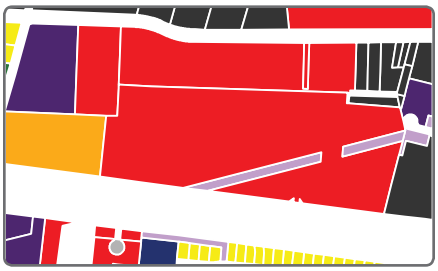
- No single use greater than 50% of land use
- All lots similarly-sized.
- Small lots
- More than two non-residential lots
- High mixing between residential and other uses

7. COMMERCIAL STRIPS



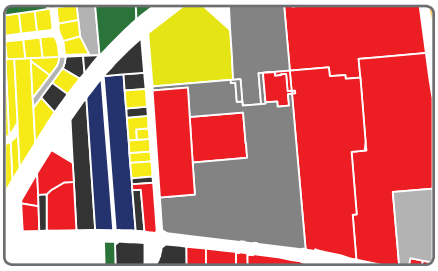
- Large retail lots comprising at least 50% of land use
- Lots arranged linearly along road; or lots concentrated in retail-only area
- Few mingled non-retail uses between the retail lots
- Some residential lots around the borders (e.g. behind strip)
- No open space

8. OFFICE DISTRICTS



- Large footprint commercial office buildings found either in commercial office parks or as stand-alone structures near highway off-ramps, with ample auxiliary parking. This development type includes commercial land not identified as commercial strip.
- Medium diversity of land use, with office as the typical land use

9. MALLS



- Large footprint retail centers including traditional malls as well as “big box” destination retail, including large parking lots.
- Low diversity of land uses; predominantly retail

10. INDUSTRIAL DISTRICTS

- All industrial land uses, including industry, light industry and logistics.
- Low diversity of land uses; predominantly industrial and logistics

11. EDUCATION CAMPUSES

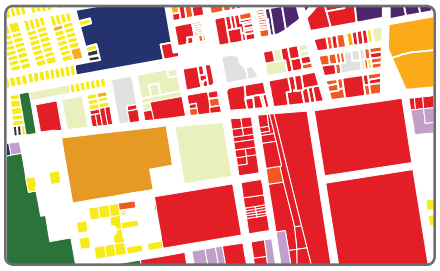
- University sites and large school campuses
- Low diversity of land uses

NON-RESIDENTIAL DEVELOPMENT TYPES AND CHARACTERISTICS

12. HOSPITAL COMPLEXES

- Large medical campus and hospital sites
- Low diversity of land uses

13. CIVIC AND INSTITUTIONAL

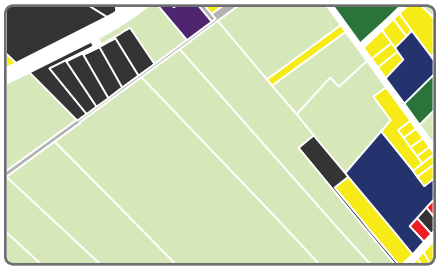


- Public uses such as churches, libraries, and other civic uses.
- Medium diversity of land uses, such as church, civic, and library

14. OPEN SPACE, PROTECTED AND UNPROTECTED

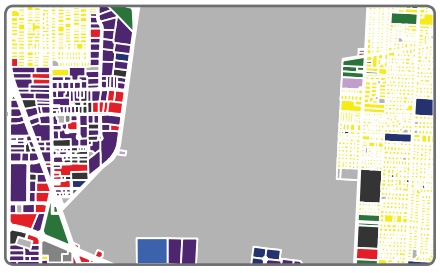
- Public and private open space, including protected areas.
- Low diversity of land uses; predominantly open space and residential

15. FARMLAND



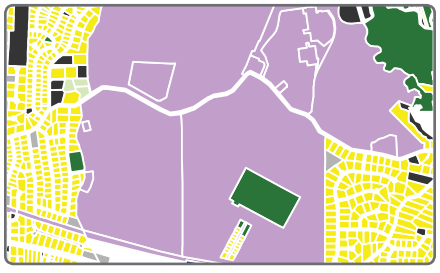
- Agricultural land, including associated buildings and some residential uses
- Low diversity of land uses; predominantly agriculture, with some open space and residential

16. TRANSPORTATION



- Highway, rail and parking.

17. UTILITY



- Large sites and buildings in use by utility companies and local municipal, County, and state Departments of Public Works (DPW), including waste and water treatment sites. Small utility and DPW sites are included in other development types.
- Low diversity of land uses; mostly DPW and utility

4.

What will Long Island be Like in 2035?

No one knows for certain what type of place Long Island will be some 25 to 30 years from now. We do not know how changes in the world economy will affect job growth, family incomes or migration patterns. We cannot say for sure how global warming will change the Island's coastline or natural habitats. We can only guess at how technology and changing preferences will affect how we live, work and travel.

What we do know is that some trends are almost certain to continue. We know, for example, that the number of senior citizens will grow, not only on Long Island but throughout the United States. As a result of increasing life expectancy and the extraordinarily high birth rates in the two decades after World War II, there are simply more people between the ages of 45 and 65 who will be in their 70's and 80s come 2035. We can also say with some certainty that we will not build nearly as many subdivisions or shopping malls as we did in the last 25 years. There just is not enough undeveloped land remaining to support that kind of development. Other long-standing trends, from the growing racial and ethnic diversity of Long Island's population to the increasing educational requirements of jobs and careers, can be predicted with almost as much certainty.

While it is extremely rare for regional or local policies to stop or reverse these powerful economic and social forces, it is possible to respond to these trends with laws, regulations, public programs and voluntary civic efforts. At the local and County levels, changes in zoning, taxes, schools and other services provide some means of encouraging, constraining or altering these outcomes. State and federal policies, such as those that determine where and how infrastructure dollars are spent, can also have an enormous influence.

The Baseline Scenario for 2035, described in this section, is a benchmark for assessing what can and should be changed. It attempts to show a probable outcome for the year 2035 by combining historic trends continue with current constraints and policies. It does not assume the implementation of proposed policies or projects that have not yet been enacted, such as new master plans, unfunded infrastructure projects or development projects awaiting approval. Accordingly, a number of government or private initiatives are already being advanced or studied at the municipal, county or regional level that could alter these outcomes if implemented. The Baseline Scenario incorporates three types of projections:

- Economic and demographic forecasts from the New York Metropolitan Transportation Council;
- Allocations of population, housing and employment to the development types described in Chapter III; and
- Projections of other variables that can be predicted from changes in employment, population and land use.

4.A. Economic and Demographic Forecasts

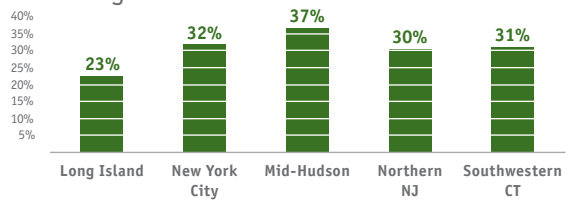
The New York Metropolitan Transportation Council (NYMTC), whose members include the Nassau and Suffolk County Executives, produces federally-mandated forecasts – at five-year intervals – of population, employment and labor force for long-term analyses of transportation and land use. They are also needed for the Regional Transportation Plan that NYMTC develops and approves for the 10-County downstate New York region. The current forecast to 2035 was prepared by Urbanomics and approved by NYMTC in 2008. Although it was developed prior to the current economic recession, it assumes that multiple recessions will occur during its 30-year time horizon (i.e., 2005 – 2035).

The forecasts were developed for the region, counties and sub-county areas using models that incorporate both national economic projections and historic economic and demographic data for the region. Population inputs include historic data by race, age, sex, fertility, births, deaths and migration. The employment model includes both national and regional data for variables such as gross domestic product, inflation, income and wages. Forecasts were also vetted with County planning departments and regional transportation agencies prior to adoption. The County forecasts for Nassau and Suffolk were then disaggregated into 474 small zones used to analyze and forecast travel patterns. Factors used in making these small zone allocations include historical growth, major developments in the pipeline, environmental constraints, and proximity to train stations, historic centers and vacant land. Earlier projections for towns and cities by the Long Island Regional Planning Board were also considered.[1]

Several results are particularly important for assessing where Long Island is headed:

Jobs will grow more slowly on Long Island than in any other part of the New York metropolitan area.

FIGURE 6: Percent Change in Number of Jobs, 2005 - 2035, for Long Island and Other Parts of the Tri-State Region



Source: New York Metropolitan Transportation Council

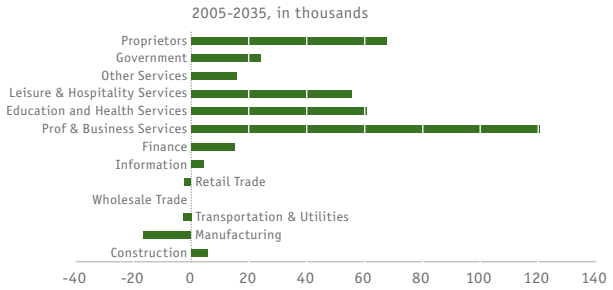
The number of jobs in Nassau and Suffolk are forecasted to grow by 23% over the next 30 years while New York City and other New York suburbs will grow between 30% and 37%. This is due in part to a less favorable industry mix than in other

1 For a more complete description of NYMTC's forecast methodology, see Technical Memorandum Task 1.4.5.2 by Urbanomics for the New York Metropolitan Transportation Council, October 19, 2007.

parts of the region (i.e., Long Island has a higher proportion of jobs in declining or slow growth industries, like manufacturing and retail trade, and less in fast growing industries, like professional and business services). It is also due to slower growth in its labor force than other parts of the region, a function of both the age distribution of the population and housing supply. The rate of job growth is also slower than it was between 1990 and 2005 (an estimated 0.7% per year to 2035 versus 1.0% since 1990).[2] Employment will grow in both Counties, although Suffolk will continue to grow faster than Nassau.[3]

Most of the projected job growth on Long Island will be in professional, business, education, health, leisure and hospitality services.

FIGURE 7: Employment Change by Industry for Long Island

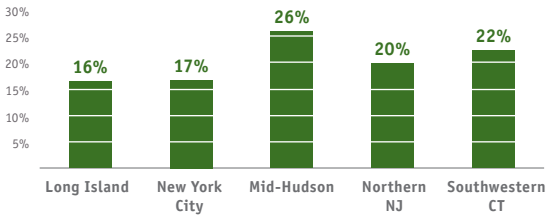


Source: New York Metropolitan Transportation Council

This is largely a continuation of recent trends in industry growth, but it signals a growing challenge for workers without post-secondary education. Industries with the highest concentration of middle-income career paths that do not require advanced education – such as manufacturing, construction or transportation – are either shrinking or growing slowly. The growing industries are generally those with the highest education requirements, although industries such as health care and hospitality also have large numbers of lower-skill jobs. It also indicates that more new workers will work in offices, hospitals, school buildings and labs than in stores, factories or warehouses.

Population growth will be slower on Long Island than in other suburban areas of the Tri-State region.

FIGURE 8: Percent Change in Population, 2005 - 2035

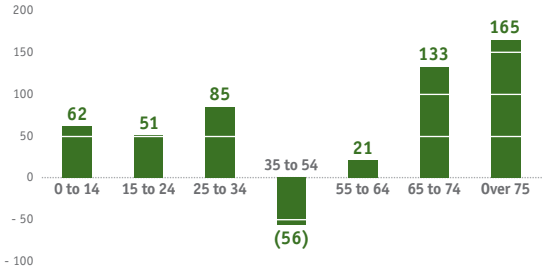


Source: New York Metropolitan Transportation Council

Overall, Long Island's projected annual rate of population growth through 2035, 0.5% per year, is about the same as its rate of growth since 1990. This would be the lowest rate of growth in the Tri-State region, just below New York City's growth rate and less than the range of 0.6% to 0.8% projected for the other suburban portions of the region. As a whole, these other areas have more undeveloped land and more city and village centers that have added housing stock in recent years. Suffolk County is projected to grow at nearly twice the rate of Nassau County.[4]

Nearly two-thirds of Long Island's population growth will be from individuals age 65 or older.

FIGURE 9: Population Change by Age, in thousands, for Long Island, 2005 - 2035

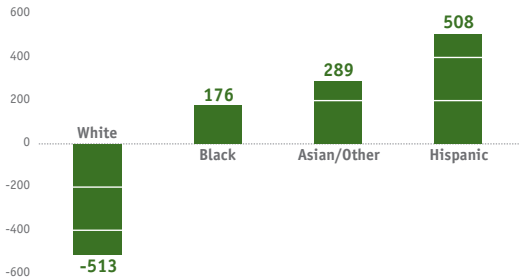


Source: New York Metropolitan Transportation Council

Like the rest of the United States, Long Island is getting older, the result of longer life spans and the aging of the baby boom generation born in the two decades after World War II. By 2035, everyone born in that time period will be over 70. In fact, the "Over 75" age group will experience the largest growth. Other age groups will grow more modestly, except for the age group comprising people in their prime work years, those 35-54, which will decline, the result primarily of low fertility rates in the generation following the baby boom.[5] This has profound implications, not only for medical care and the type of housing and services required, but also for the economy. With fewer people of working age, there is likely to be a growing tendency for labor shortages, particularly for places that do not attract working age individuals and families.

Long Island will continue to become more racially and ethnically diverse.

FIGURE 10: Population Change by Race, in thousands, for Long Island, 2005 - 2035



Source: New York Metropolitan Transportation Council

2 Long Island Index on "Industry Clusters", http://www.longislandindex.org/industry_clusters0.0.html

3 New York Metropolitan Transportation Council

4 New York Metropolitan Transportation Council

5 "The Baby Boom and Baby Bust" http://www.econ.rochester.edu/Faculty/GreenwoodPapers/bb.pdf

Continuing a pattern of the last two decades, the white population of Long Island will decline while the number of African-Americans, Hispanics and Asians increase. This is the likely result of outmigration of whites to other parts of the country, strong immigration from overseas, and second and third generation immigrants growing up and forming families on Long Island. By 2035, the white population is projected to comprise 47% of Long Island's total population. Hispanics would be the next largest group at 26%. African-Americans and Asians would each comprise about 13% of the total population.[6]

4.B. Allocation of Population, Housing and Employment to Development Types

Using NYMTC's overall forecasts for population and employment, the LI 2035 study team allocated population and employment growth to each of the development types described in Chapter III to form the Baseline Scenario. This entailed assessing how the projected growth from 2005 to 2035 of 461,000 additional residents (i.e., 154,000 in Nassau and 307,000 in Suffolk) and 281,000 additional payroll jobs (89,000 in Nassau and 192,000 in Suffolk) – rounded to the nearest thousand – could be accommodated given Long Island's current land use and prior trends.

Allocation Method

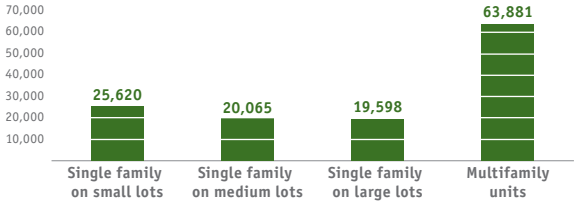
The 2007 base map depicts existing land use and neighborhood types, including density of residential areas, vacant land, protected and unprotected open space, and areas that are unsuitable for development. From this map, existing density and development patterns were combined with available information on zoning and the NYMTC allocations for small geographic areas to estimate how future growth will be distributed.[7] The town and city totals for population and employment projections resulting from an aggregation of these small area forecasts were held constant.

During the allocation of growth to form the Baseline Scenario for 2035, no changes were assumed to the amount of protected land, the predominant development types in a particular area or the density of future growth. The settlement patterns used in the model closely resemble the existing trends of growth. Working on each town or city individually, the model carries out the following steps:

1. The projected 2035 population is converted into housing units, using NYMTC's projected household size. The number of units in each town or city represents the target to be accommodated in the modeling process.
2. The existing residential density is calculated for each neighborhood development type (small lot, medium lot, large lot, multi-family) and the composition of the development types (e.g. how many multi-family dwellings are found in the small lot type). The existing density is used to allocate future growth at densities representing a continuation of current trends. Where zoning information is available, the total potential for future growth is limited to conform to the permitted build out under existing zoning.
3. Growth is initially assumed to take place equally through open space development, infill and redevelopment:
   - Development in open space occurs where existing unprotected open space or agricultural land is converted to residential and employment uses, such as the conversion of farmland into a single lot subdivision.
   - Within existing residential areas, infill development converts vacant and unprotected open space into residential uses. Within non-residential areas, infill creates employment uses. An example of infill is the conversion of a vacant corner lot into a duplex residential use.
   - Within development types that are predominantly non-residential, redevelopment converts existing lots into residential or employment use. An example of redevelopment is the conversion of a former industrial parcel into a multi-family residential building.
4. For housing units assigned to unprotected open space, units are allocated based on existing zoning. Where zoning data is unavailable, units are assigned based on current densities within the town or city.
5. For infill units, infill capacity is determined by assuming that vacant land could be filled at existing residential densities.
6. For redevelopment, the initial share of one-third growth is accommodated through additional population and employment in mixed-use areas, strip mall and office areas.
7. If unprotected open space or infill capacity are completely used before the town's population or employment total is reached, then any remaining population or employment is allocated to redevelopment in mixed-use, strip mall and office areas.
8. The allocation process stops once every town's total forecasted units are accommodated.

Allocations by Development Type

FIGURE 11: New Units in 2035 by Development Type: Baseline Scenario



Source: Long Island 2035 Visioning Initiative

This process resulted in a distribution of new growth that differs from the present distribution. Whereas 87% of Long Island's population currently lives in neighborhoods dominated by single-family homes,[8] only an estimated 57% of the

6 New York Metropolitan Transportation Council

7 NYMTC disaggregates its forecasts for the two Counties of Nassau and Suffolk into 474 small areas called traffic analysis zones (TAZs). Some conform to the boundaries of one or two Census tracts while others overlap different Census tracts.

8 2006 American Community Survey, US Census Bureau, www.census.gov

growth would take place in these traditional types of neighborhoods. The remainder would be in multi-family, mixed-use or existing commercial areas. Of the 65,000 homes that would be added to the stock of single-family neighborhoods, about 60%, or 39,000 homes, are estimated to result from infill in existing communities while the other 40%, or 26,000 homes, would be in new communities built on unprotected farmland or open space.

These ratios are sensitive to changes in any of the assumptions. For example, an assumption that more unprotected open space or infill will be developed would result in a higher share of growth in single-family neighborhoods. However, with a limited amount of unprotected open space and infill capacity, it would be difficult to accommodate much more single-family development without changes in existing zoning to allow higher densities in new single-family neighborhoods.

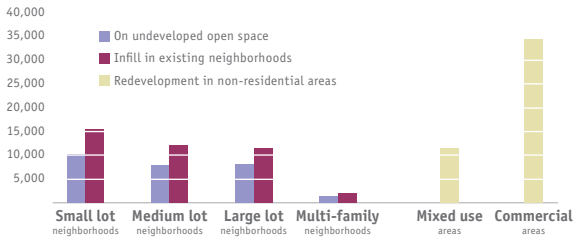
The projections below, as expressed in the Baseline Scenario, are also based on these assumptions. They are indicative of the direction that current trends, land availability and zoning regulations are taking us, and they should not be used as estimates for planning new development and infrastructure. However, they do suggest certain challenges that a comprehensive regional planning effort, such as the Long Island 2035 Comprehensive Regional Sustainability Plan, would need to address.

4.C. Baseline Scenario Projections

The following charts describe estimates for housing type and location, open space consumption and other variables assuming that Long Island experiences the population and employment growth projected by NYMTC for 2005 to 2035 (i.e., approximately 461,000 people and 281,000 jobs). They are dependent on both the level of growth assumed in these forecasts and the method described above for assigning this growth to locations and different types of development.

Multi-family units, including two-family homes, townhouses and larger apartment buildings, would be about half of new housing construction, compared to 18% of existing housing.

FIGURE 12: New Housing Units, 2005 – 2035, by housing type and lot size: Baseline Scenario

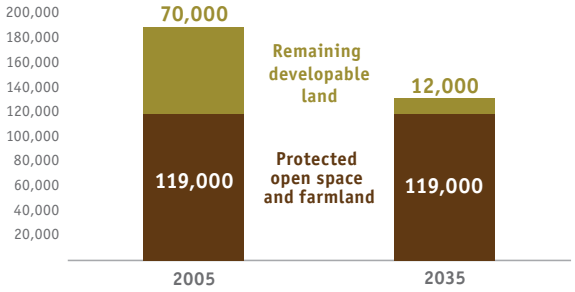


Source: Long Island Visioning Initiative

As explained above, an increasing share of multi-family housing is the most likely way that the Island could accommodate future population growth considering the limited amount of undeveloped land remaining. Much of the growth in multi-family housing would likely be in two- and three-family homes, garden apartments and townhouses, with larger apartment buildings in some downtowns and large development projects. Even with this growth, Long Island would still largely consist of traditional single-family neighborhoods. Multi-family units would still comprise less than 20% of Long Island's housing stock in 2035, still considerably less than the current share in suburban areas such as Westchester, northern New Jersey and Connecticut.[9] The additional single-family homes would largely be on small and medium-sized lots.

More than 80% of Long Island's remaining unprotected developable land would be developed.

FIGURE 13: Acres of Open Space, Farmland and Vacant Land, 2005 & 2035: Baseline Scenario



Source: Long Island 2035 Visioning Initiative

Even with a substantial increase in the amount of new housing and commercial buildings that would be built through redevelopment, new development would still consume much of the Island's remaining developable land. Of the 190,000 acres of farmland, open space and vacant land on Long Island, 119,000 or 63% are either geologically unsuitable for development or preserved through some form of federal, state, county or local open space protection regulations.[10] Over the next 30 years, most of the other 70,000 acres of currently unprotected land will likely be either developed or protected. In this Baseline Scenario, 58,000 of the 70,000 acres would be developed. This would represent 31% of all remaining open land, and 83% of the unprotected space. While the large majority of this development would be in the East End, every town would experience some loss of unprotected land. It is assumed that the remaining 12,000 acres would likely be protected through preservation regulations, transfer of development rights (TDR) programs or other zoning tools.

The following table shows how this would break out by town under the Baseline Scenario. Towns that have small amounts of open space or vacant land, or a large proportion that is already protected from development, would see relatively small amounts of land developed. The towns with the largest amount of currently unprotected, developable land are Brookhaven and Riverhead, which would also see the largest amount of land consumed in the Baseline Scenario. Six of the 13 towns would exhaust all of their unprotected, developable land.

9 2006 American Community Survey, US Census Bureau, www.census.gov

10 Long Island 2035 Visioning Initiative

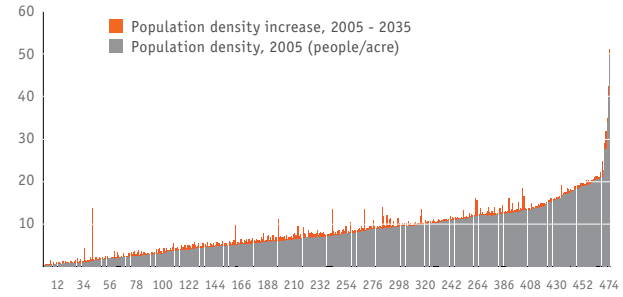
FIGURE 14: Acres Of Open Space, Farm and Vacant Land

	All in 2005	Protected in 2005	Developed Under Base-line Scenario
North Hempstead	533	246	202
Hempstead	598	422	176
Long Beach	4	4	0
Ovster Bav	950	479	273
Glen Cove	84	38	46
Babvlon	5,233	3,547	1,180
Huntinqton	11,153	6,541	4,612
Smithtown	7,394	4,066	2,204
Islip	11,599	7,881	3,718
Brookhaven	54,032	28,636	25,397
Riverhead	26,907	15,444	11,463
Southampton	31,722	23,444	2,756
Southold	16,044	10,490	3,829
Shelter Island	1,862	1,316	547
East Hampton	21,373	16,667	1,830

Source: Long Island 2035 Visioning Initiative

Most places would experience little change in density, but some would see substantial increases.

FIGURE 15: Persons per acre by Traffic Analysis Zone, 2005 and 2035: Baseline Scenario

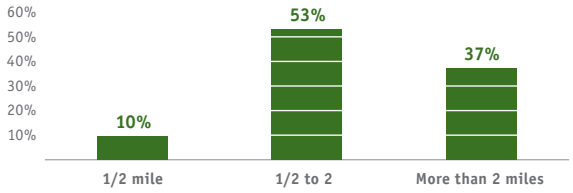


Source: Long Island Visioning Initiative

Residential densities currently range from an average of less than one person per acre on the East End to more than 10 times that amount in much of Nassau. The average density of Long Island would increase by 23% in the Baseline Scenario, but this would vary considerably among different municipalities. Since every town and both cities are projected to experience some population growth, all would see an increase in density. At a neighborhood level, most communities would see little if any changes in density, but a few would increase substantially. Density would increase by less than 10% in nearly three-fifths of the 474 zones that were used to analyzed density changes. In a few of the places with major development projects in the pipeline, like the Nassau Hub area near Mitchel Field, densities could more than double.

Over a third of population growth would occur more than two miles from a Long Island Rail Road station.

FIGURE 16: Share of Population Growth, 2005 – 2035, By Distance to a LIRR Station: Baseline Scenario

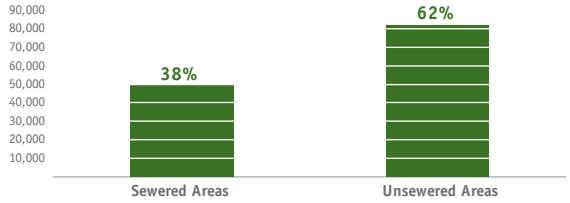


Source: New York Metropolitan Transportation Council

This projection would shift the population farther from rail transit. Currently, 83% of Long Island's population lives within two miles of a train station, with 14% living within a half-mile and 69% living between one-half and two miles from a train station.[11] At first glance, this aspect of the Baseline Scenario would seem contradictory with the earlier findings that redevelopment would represent a higher share of overall new development. However, much of the Island's early settlement occurred close to rail, and much of the remaining open space available for development, as well as some redevelopment areas, are more than two miles from a train station.

Only 38% of new housing units would be built in areas that already have sewers.

FIGURE 17: Share of New Housing Units with and without Sewers, 2005 – 2035: Baseline Scenario



Source: Long Island 2035 Visioning Initiative

Much of Long Island does not currently have sewage and wastewater treatment systems that would allow higher density development without compromising water quality and public health. Currently, unsewered areas are not only in low density areas of the East End, but also in much of western Suffolk and Nassau. Nearly two-thirds of the development in the Baseline Scenario would likely occur in places that are unsewered. Even in sewered areas, substantial new development could require upgrades in wastewater treatment and disposal capacity, but providing sewers where they do not currently exist can add substantially to the costs of development, not only for capital expenses but especially for the ongoing operational costs of sewage treatment.

11 Estimated from census block data from the 2000 U.S. Census, updated using 2005-2007 County population estimates by the American Community Survey.

5.

Workshop Findings and Alternatives

On March 26, 2009, the Long Island 2035 Visioning Initiative held a workshop in Melville, NY at the Long Island Regional Planning Council's first annual Regional Planning Summit. The workshop provided a forum for testing the process designed to elicit public input by bringing together leaders from different sectors to articulate alternative scenarios for how Long Island should develop over the next 25 years.

5.A. Workshop structure, method and participation

The major objectives of the Visioning Workshop were to:

- Help clarify areas of consensus and differences among Long Island stakeholders
- Test the implications of alternative land use and transportation choices
- Allow the LI 2035 committees and study team to design the most productive program for engaging the public in this process

The major components of the Visioning Workshop included the following:

- Materials – which included a 12-foot long base map of Long Island that highlighted potential areas of development and redevelopment, a variety of chips that represented future residents and jobs in different types of development, and resource materials and maps with critical information;[1]
- Participants – a diverse cross-section of elected officials, civic, business and environmental leaders from across the Island; and
- Facilitators – chosen from amongst study team members along with representatives of the Executive Committee, who guided discussions and oversaw allocation of the chips by participants at their respective tables.

Over 150 individuals participated in the workshop, including mayors, County and state officials, business and labor leaders, and representatives of major planning, environmental, developer, civic, social justice, housing, transportation, education and social service organizations.[2] An effort was made to have balanced geographic representation from across the Island. This gathering represented a broad cross-section of leaders who are knowledgeable and involved in planning and development issues on Long Island. However, their views and the outcomes cannot be equated to a comprehensive perspective representing the various views of all Long Island citizens, which could only be determined from a more extensive, widely advertized workshop or series of workshops.

Participants worked in 13 groups to develop Island-wide strategies for allocating the NYMTC projections of residential and employment growth on Long Island, while considering the many important values that development patterns influence, including economic prosperity, social equity and environmental quality. Participants were pre-assigned to particular tables in a way that ensured both geographic and interest-based diversity as they considered how to allocate the projected growth in residents and jobs. Such diversity was intended to produce consensus decisions that reflected the varied interests across the Island.

Participants expressed their strategies by placing chips representing people and jobs in different types of development—new single- and multi-family neighborhoods, new commercial and industrial development, infill development and redevelopment of existing commercial or residential areas—onto large maps showing existing development patterns and open space on Long Island. Many groups also recommended transportation strategies they envision for the Island.

Participants were asked to allocate the approximately 461,000 people and 281,000 jobs forecasted by NYMTC to 2035. The rules of the exercise prohibited putting development in open space that was protected or unbuildable, and certain types of growth in developed areas, such as multi-family redevelopment in single-family neighborhoods. In addition to these "hard" constraints, participants were also provided with maps showing environmentally sensitive land and unsewered areas, as well as information that could be considered desirable or undesirable for growth, depending on the priorities of the participants, including, existing job centers, racial and ethnic composition, high poverty areas and the location of rail lines and stations, as well as highways. However, the participants were not constrained by these maps, or by existing zoning or proposed development projects.[3]

Final allocations of development to 2035 were recorded by the study team and digitized into GIS for analysis and development of the alternative scenarios described in Chapter VI. The following summarizes the major themes that emerged from each of the 13 visions and that are inherent in the alternative scenarios.

5.B. Major Themes

At the conclusion of the exercise, each group summarized its conclusions, areas of consensus and points of contention. Several common themes emerged, which were confirmed by study team analysis of workshop notes and chip allocations. Interpretation of these themes should take into account the constraints of the process—participation by an invited group of Long Island leaders, limited time to present and discuss issues and constraints, and limited time to come to consensus on how to allocate people and jobs. Even with these caveats, there was a striking consistency of major themes given the diversity of interests represented.

1 A description of the materials and process can be found in Appendix B and C.

2 The participants are listed in Appendix D.

3 These "opportunities and constraints" maps can be found in Appendix B.

Emphasis on patterns of development rather than levels of growth

While participants were encouraged to allocate all of their chips if possible, it was more important for participants to clearly delineate the desired pattern for new development. As a result, the groups defined what type of growth should be encouraged in what type of place. A clear pattern emerged from each table that demonstrated how Long Island could grow by 2035 and where the most important places to grow – whether it be undeveloped land, downtowns or large redevelopment sites – should be.

Skepticism over growth forecasts

A number of participants voiced concern that the projected growth tabulated by NYMTC seemed too high, given current economic and demographic trends. Some expressed interest in seeing scenarios that anticipated growth at lower levels. Whether as a result of this skepticism or the time limits of the 90 minute exercise, only two of the 13 tables allocated all of the projected population and jobs.

Redevelop already-developed areas & infill

A common theme among almost all tables was the focus on redeveloping already-developed areas rather than developing entirely new neighborhoods in unprotected open spaces. Participants identified large-scale redevelopments, such as the Nassau Hub, Pilgrim State Psychiatric Center and unused airports, as good sites for mixed-use development. Many groups also emphasized infill development of existing neighborhoods in the chip allocation exercise. Additionally, most groups identified existing employment centers or transit-accessible locations as targets for employment intensification in a mixed-use setting. Many focused on large-scale development and redevelopment of employment at sites including old airports, the Nassau Hub, and Pilgrim State. They also identified university neighborhoods and the Brookhaven Labs as opportunities to build on existing technology-driven employment centers.

Many groups expressed a particular need to develop housing accessible at a variety of income levels, in addition to housing for seniors, young people, and empty-nesters.

Preserve as much open space as possible

Nearly all groups prioritized open space preservation. Some groups sought to preserve nearly all existing unprotected open space, or "as much as possible," while others envisioned developing some of the open land while still preserving the remainder. Several tables were particularly interested in preserving unprotected farmland and other open space on the East End. Several tables suggested a transfer of development rights (TDR) program to help preserve open space. Although many groups advocated residential infill development, some participants were concerned that this would take away from neighborhood pocket parks. As with other issues, the discussion focused on desired outcomes rather than feasibility or implementation challenges, such as the costs of land preservation or complexity of implementing TDR programs.

Mixed-use in downtowns, near railroad stations & at major redevelopment sites

Most participants selected more intense mixed-use development around existing downtowns and Long Island Rail Road stations as a good way to accommodate growth, although there was variation in the degree of intensity they advocated in these areas.

Avoid new large lot development in favor of multi-family and small/medium lot

Although most groups focused on multi-family housing and infill development, a few envisioned some new single-family housing development. They generally advocated that this take place on small-to-medium sized rather than large estates.

Avoid new commercial strip development

An overwhelming theme from nearly every group was to avoid any new commercial strip development. Each table was provided with a number of development chips that included new commercial strip, and few to none of the participants added any new commercial strip development, many emphatically declaring their decision to keep this chip off the table.

System-wide improvements in public transportation

With a near unanimous focus on increasing development in downtowns around rail stations, participants also recommended system-wide improvements to the Long Island Rail Road and other transit systems. From the proposed improvements to the LIRR Main Line to electrification of lines out east and the reopening of closed stations like Republic Airport, the groups made the connection between improved and expanded rail service and the accommodation of population and jobs in downtowns with rail stations. Recommendations for improved bus and ferry service were also common.

Improved north-south connectivity

While many groups expressed their appreciation of the extensive east-west connections provided by the Long Island Rail Road's commuter network, many also highlighted the deficiency in north-south connections. There was an overwhelming interest in finding solutions for north-south connectivity on corridors such as Route 110 and Route 112 through enhanced bus service, new Bus Rapid Transit (BRT) or Light Rail systems.

Address congestion and parking concerns of denser development

While groups found ways to accommodate increased population through new development and redevelopment, they expressed concerns about the exacerbation of existing problems such as congestion and parking capacity. Many hoped that solutions could be found that would alleviate these issues through improved mass transit, smart roadway enhancements and thoughtful parking solutions. Many also thought it was important to find the right balance between increased density and the suburban ideals that add value to living on Long Island. Additionally, many participants pointed out that the more intense development types would not be possible without investment in sewer infrastructure. As with open space acquisition, the issue of infrastructure costs was generally only a peripheral part of the discussion, so there was no clear sense of how participants would weigh alternative uses of tax revenues and other resources.

FIGURE 18: Population & Employment Allocations in Visioning Workshop by Table Groups

By:	Development Type						Geography						Proximity to Rail					
Table	Redevelop-ment		Open Space		Infill		Nassau		Western Suffolk		Eastern Suffolk		Less than 1/2 mile		1/2 to 2 miles		More than 2 miles	
	POP	EMP	POP	EMP	POP		POP	EMP	POP	EMP	POP	EMP	POP	EMP	POP	EMP	POP	EMP
1	77%	85%	10%	15%	13%		23%	15%	54%	58%	22%	26%	50%	17%	22%	51%	28%	32%
2	72%	88%	10%	12%	18%		26%	12%	62%	60%	11%	28%	38%	11%	36%	48%	26%	41%
3	76%	89%	6%	11%	18%		51%	38%	41%	51%	8%	11%	55%	31%	30%	49%	15%	20%
4	96%	97%	4%	3%	0%		46%	26%	42%	64%	13%	10%	65%	28%	19%	40%	16%	32%
5	85%	93%	6%	7%	9%		40%	44%	36%	39%	24%	17%	76%	69%	9%	15%	15%	15%
6	64%	88%	20%	12%	17%		24%	31%	60%	55%	16%	15%	38%	38%	36%	38%	26%	25%
7	52%	77%	32%	23%	15%		29%	32%	54%	47%	17%	20%	30%	9%	39%	57%	31%	33%
8	53%	75%	27%	25%	20%		23%	23%	60%	58%	18%	19%	18%	21%	50%	46%	33%	33%
9	65%	71%	16%	29%	19%		28%	24%	58%	61%	14%	14%	45%	29%	30%	46%	25%	26%
10	79%	93%	8%	7%	13%		32%	22%	56%	66%	12%	12%	56%	16%	27%	52%	17%	32%
11	61%	88%	21%	12%	18%		36%	30%	59%	59%	5%	11%	30%	51%	44%	24%	26%	24%
12	73%	96%	11%	4%	16%		33%	32%	47%	45%	20%	24%	42%	28%	35%	42%	23%	31%
13	53%	76%	27%	24%	20%		34%	22%	44%	50%	22%	28%	20%	23%	47%	54%	33%	23%

5.C. Summary Diagnostics of 13 Table Groups

In spite of the common themes, table groups made different judgments on where to place different kinds of development. The range of these judgments can be seen in the above tables. Some of the most noteworthy disparities among table groups are as follows:

- The share of new residential development placed in unprotected open space ranged from 4% to 32%, with all but five tables putting less than 20% in these areas. The range for employment was 3% to 29%.
- Similarly, in all cases the groups accommodated the majority of new growth through redevelopment, ranging from 52% to 96% for population and 71% to 96% for jobs.
- Geographically, population allocations ranged from 23% to 51% in Nassau, 36% to 60% in western Suffolk, and 5% to 24% in eastern Suffolk.
- The share of population growth placed within half a mile of a LIRR station ranged from 20% to 76%, with five tables putting 50% or more in these locations.

The Visioning Workshop represented an important beginning of a process to evaluate alternatives and reach consensus on a common vision. Completing the process will require much greater outreach to the public and an assessment of the costs and constraints, as well as the benefits, associated with development and policy choices. Visioning processes in other regions have achieved impressive results, but generally unfold over several years of outreach, analysis, consensus-building and implementation. In particular, the next phase would generally involve a more specific discussion of trade-offs among goals similar to the ones expressed at this workshop—preserving open space versus expanding the housing stock, investing in infrastructure versus immediate fiscal implications, etc. The findings from the workshop should therefore be seen as only the first step in this process, to be continued through the development of the Long Island 2035 Comprehensive Regional Sustainability Plan.

6.

Alternative Scenarios for 2035

The March 26 Visioning Workshop yielded 13 distinct allocations of population and jobs generated by small groups of public, private and non-profit sector leaders for the year 2035. As described in the preceding chapter, these allocations shared a number of overlapping themes even though they differed about the share of development assigned to different locations. Analysis of each group's output—including chip placement on the maps, suggestions for transportation projects, and notes taken by facilitators—enabled the study team to synthesize the outcomes into three alternative scenarios. These alternatives capture the range of decisions made by the separate groups and differentiate alternative patterns of growth that could represent Long Island's future. The following discussion describes these potential futures and the issues that could emerge if citizens and municipal and stakeholder leaders try to achieve desired outcomes similar to those expressed at the workshop. This type of scenario planning has been useful in other regions; however, it must be noted that an exercise such as the March 26 Visioning Workshop would typically represent only an initial step used in this type of planning to formulate and evaluate alternatives. Both the function and limits of the work completed to date are described below.

6.A. Purpose and Limitations of LI 2035 Scenarios

Scenarios represent visualizations of what might be; they are not forecasts, nor are they predictions. They are possible futures that are based on what already exists, on trends that are evident, and on the values and preferences of the participants who create them. The primary purpose of developing alternative scenarios is to provide stakeholders with a way to visualize and better understand the tradeoffs inherent in different policy and program decisions.

The scenarios that emerged from the LI 2035 Visioning Workshop were intended to test and refine a process that could be used in a large-scale public visioning process. Since they are the results of a single workshop attended by 150 individuals, they do not represent the full range of choices that could be developed from a broader effort that would involve multiple workshops with input from a larger number and greater diversity of citizens. An assessment of the outcomes also needs to take account of the constraints of the exercise itself. The half-day workshop provided very limited time for presenting and discussing the complex issues that could affect participant choices—from the costs of developing under different conditions to the wide range of local factors that could impact both what is feasible and what is desirable. In fact, at this scale the alternative scenarios have to generalize conditions in a broad range of distinct communities. Further analysis would be required to evaluate the multiple ways in which each scenario could play out for specific places. Thus, both the creation of the scenarios themselves and the analysis of their implications only begin to explore the many impacts and implementation challenges for alternative futures.

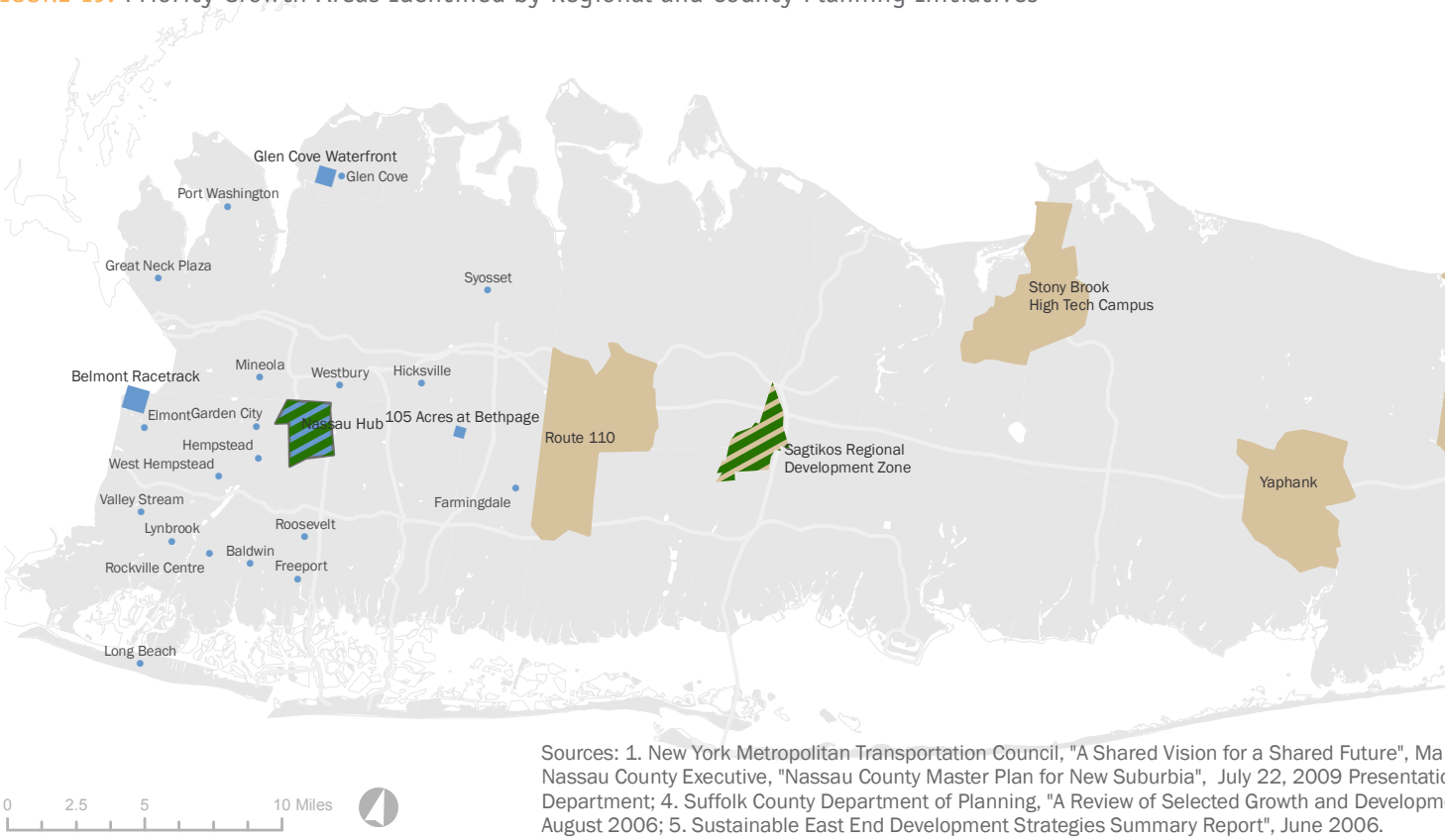
With these constraints in mind, the scenarios represent the collective priorities of knowledgeable and involved leaders from a broad cross-section of Long Island's communities and interest groups. They can help decision-makers, stakeholders and residents to visualize one set of alternative futures that flow from objectives frequently expressed on the Island, from the preservation of open space to the development of affordable housing. At the same time, they can test and challenge assumptions about what these different visions of the future would really mean for different constituencies, while identifying issues that require further analysis. Perhaps most importantly, they can provide the guiding framework for a more constructive dialogue about policy choices and trade-offs, and stimulate thinking on other alternatives and the actions required to achieve a workable consensus on a shared vision and implementation strategy.

6.B. Currently Identified Growth Areas

Before considering the alternative scenarios, it is important to recognize that regional, County and municipal processes have already identified areas where growth is preferred based on planning principles and other guidelines. Below is a description of four regional and County processes that identified targeted growth areas for large portions of Long Island. Since these maps and growth areas were not provided to participants of the March 26 workshop, the scenarios that emerged from the workshop do not take them into account. One of the values of the visioning exercise was to see how closely the judgments of participants aligned with those embodied in these extensive planning efforts. The sources of the four regional and County initiatives are as follows:

- **NYMTC Desired Growth Areas:** Through a consensus of its principals, including the County Executives from Nassau and Suffolk, in 2008 NYMTC designated areas in each of the 10 Counties that it would target as desired growth areas. These included the Nassau Centre (also known as the Nassau Hub) and Brentwood/Hauppauge, which has also been labeled as the Sagtikos Redevelopment Zone. The identification of these areas was part of a larger effort by NYMTC to make a stronger link between its transportation planning responsibilities and land use goals.
- **Suffolk County Growth and Development Areas:** In 2006, the Suffolk County Planning Department undertook a planning study of five major growth and development areas that were identified in collaboration with NYMTC: the Sagtikos Redevelopment Zone, the Route 110 Office-Industrial Corridor, the hamlet of Yaphank in the Town of Brookhaven, the Town of Riverhead and the Stony Brook

FIGURE 19: Priority Growth Areas Identified by Regional and County Planning Initiatives



Sources: 1. New York Metropolitan Transportation Council, "A Shared Vision for a Shared Future", Ma
Nassau County Executive, "Nassau County Master Plan for New Suburbia", July 22, 2009 Presentatio
Department; 4. Suffolk County Department of Planning, "A Review of Selected Growth and Developm
August 2006; 5. Sustainable East End Development Strategies Summary Report", June 2006.

High Tech Campus. The study found that tremendous development potential still exists in these areas and made recommendations to encourage well-planned growth in each area.

- **Nassau County Growth Areas:** As part of its new Master Plan effort, Nassau County has identified four mega-projects and more than 15 downtowns to target growth, primarily through redevelopment. The four mega-projects include the Nassau Hub, 105 acres at Bethpage, the Glen Cove Waterfront, and Belmont Racetrack. The more than 15 downtowns are being promoted as existing or potential "Cool Downtowns" that either have or could develop the housing and amenities to attract a new generation of young adults and families.
- **SEEDS Growth Areas:** On the East End of Suffolk County, the NYMTC-funded Sustainable East End Development Strategy (SEEDS) released a summary report in June 2006 following a multi-year effort to produce consensus on a development strategy for the five eastern Suffolk towns. Its Preferred Land Use Scenario encourages mixed-use and commercial development in designated growth areas that emphasize downtown centers and hamlets. The plan continues to guide implementation efforts in the area.

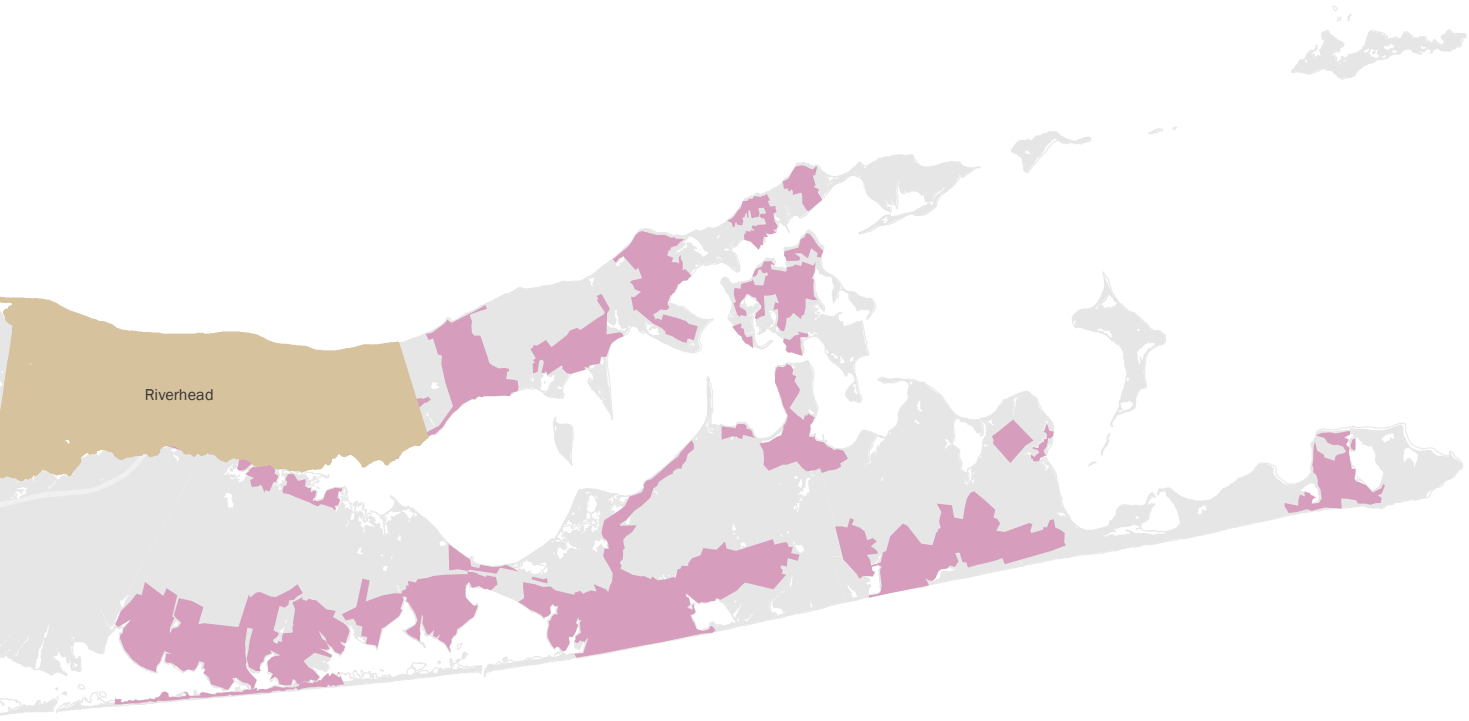
The designations shown on the map below represent projects of varying scope, intent and completion. In each case, the designation of a priority growth area has a different context and meaning; it is generally not intended to show the *only* place that growth should occur, nor does it prescribe the level, type and location of development that should occur within these areas. Rather, the designation of a priority growth area indicates an area where planning guidelines suggest that growth is preferable.

6.C. Three Alternative Scenarios for 2035

The three alternative scenarios that were synthesized from the workshop results – Distributed Growth, Transit Communities, and Growth Centers – portray different directions for Long Island's future development. However, to a greater or lesser extent, they all reflect the following preferences that were common to most workshop participants:

- Emphasize redevelopment and multi-family housing over new single-family development;
- Focus housing and commercial activity in existing downtowns;
- Make system-wide improvements in public transportation;
- Preserve as much open space as possible; and
- Avoid new commercial strip development

The scenarios are distinct, but they are not mutually exclusive. For example, development under the Distributed Growth Scenario would likely contain some of the redevelopment strategies emphasized under the Growth Centers Scenario. Similarly, although the Transit Communities Scenario would have the greatest emphasis on focusing growth around the



rch 2009; 2 & 3. Thomas R. Suozzi,
on, and Nassau County Planning
ent Areas, Suffolk County, New York",

1. NYMTC Desired Growth Areas
2. Nassau County Mega Projects
3. Nassau County Cool Downtowns
4. Suffolk County Growth & Development Areas
5. Sustainable East End Development Strategies Growth Areas

existing rail transit infrastructure, development under the other scenarios also contains some redevelopment around rail stations. This reinforces both the purpose and limitations of the scenarios described above. They are intended to elicit discussion about trade-offs, issues and other perspectives that may not have been fully represented at the workshop. Any attempt to "pick the right scenario" would be considerably premature, given the need for further analysis and extensive public outreach. It is also possible that a different scenario, not discussed in this report, could emerge as the consensus vision for the future development of Long Island.

The first step in using these scenarios is to visualize the kind of futures they represent. The following discussion attempts to create these mental images using a variety of means—hypothetical vignettes for citizens living in 2035, maps, descriptions and case studies of existing places or plans that exemplify the most important features of these alternative futures.

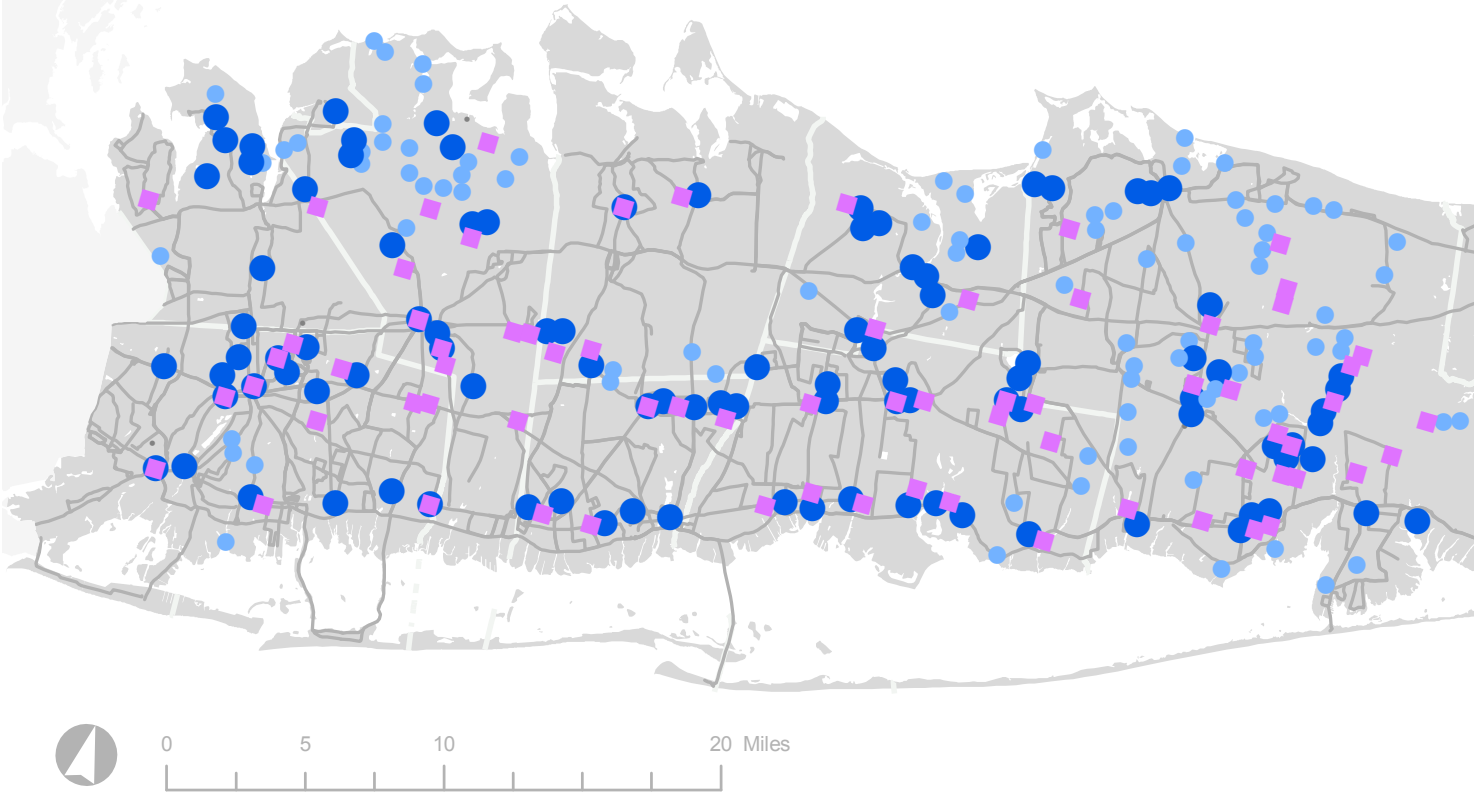
Scenario A – Distributing Growth Throughout Long Island

Distributed Growth Scenario

It's the first Tuesday after Labor Day, 2035, and you head into work after the long holiday weekend. Getting into your car, you begin what you hope will be a 30-minute drive to your job at Brookhaven National Lab. You are grateful that you were able to find a starter home that you could afford in a new planned unit development (PUD) on the outskirts of downtown Riverhead. On your drive, you take a moment to appreciate the lush vineyards and farmland in late summer. There were more of these farms when your parents had immigrated to Long Island from Central America in 2000, and without decades of aggressive farm preservation programs, most would be gone by now. The traffic starts to thicken as you approach the lab where you work as an environmental technician at the Long Island Institute for Climate Change Research, an internationally recognized research center that was created with federal and state grant programs in 2012. A decade ago, the traffic had become nearly intolerable, but with the institution of high-occupancy toll lanes on the Long Island Expressway and the electrification of the Ronkonkoma line of the Long Island Rail Road, the commute has become far more manageable and predictable.

This hypothetical vignette describes how one of the alternative scenarios coming out of the Visioning Workshop could impact someone growing up on the Island today. Under this Distributed Growth Scenario, population and employment growth would occur throughout the Island, including on the East End. It would preserve much of the Island's remaining unprotected farmland and open space, but would use some of this undeveloped land to create new communities, often in clustered developments that make efficient use of both land and infrastructure. Traffic management policies aided by new technology would help move an increasing amount of auto

FIGURE 20: Scenario A: Distributed Growth



and truck traffic, and improvements in commuter rail and bus service, such as expanded bus service to communities with sufficient population and employment growth, would provide faster and more reliable service in many parts of the Island.

As is the case in the other two scenarios, the Distributed Growth Scenario would avoid new commercial strip development; however, it would include additional employment growth along existing commercial strips <<*photo of an intensified commercial strip*>>. Mixed-use development would be less of a priority for implementing this scenario than for the other two alternatives.

Although some growth under this scenario would take place near rail stations, in downtowns, or in redevelopment sites, none of these strategies would be particularly emphasized. A larger share of new housing would be accommodated through neighborhood infill than in the other two scenarios. As in the other scenarios, a large share of population growth would be accommodated through multi-family housing, although less than in the other two alternatives. Where new single-family homes are built, the lot sizes would be small compared to the current trend toward building homes on larger and larger lots.

The two case studies below—one a plan that has been developed by the Town of Brookhaven and the other a successful development in an area of Orange County, New York with many similarities to lower-density parts of Long Island—help to illustrate the type of new development that would be common under this scenario. While similar types of growth could also occur in the other two scenarios, it would be more common in this Distributed Growth alternative.

The **Middle Country Road Corridor Land Use Plan** in the **Town of Brookhaven** is a plan to develop employment centers along the corridor in a manner that reduces traffic congestion, preserves open space, and creates a sense of place in hamlet centers located along the road. The plan aims to accomplish these goals by intensifying employment and adding residential development to existing strip commercial areas, while preserving open space between hamlet centers. To implement this plan, communities plan to adopt policies such as commercial development tax incentives, transfer of development rights (TDR), payments in lieu of adding parking capacity, expedited review and approvals, and public assembly and acquisition of lots. Developed by the Longwood Central Schools and the Middle Island Rotary, the Town of Brookhaven, Longwood Public Library, the Neighborhood Network, and Vision Long Island., The Middle Country Road Land Use Plan was adopted by the Town Board in March 2006 and is now the official guide for future development for the Town of Brookhaven. [1]

1 Town of Brookhaven website, http://www.brookhaven.org/PressRoom/tabid/56/mid/970/newsid970/19/Default.aspx; Middle Country Road Renaissance Project website, http://middlecountryrdproject.org/

Note: One of three potential scenarios developed from the input of 150 participants at a Long Island 2035 Visioning Workshop on March 26, 2009, this map shows the location and density of population and employment growth that synthesizes the allocations of several workshop participants. The circles and squares on the map represent approximate locations of people and jobs, respectively, that were placed in that vicinity, as well as the recommended density of development at these locations.

FIGURE 21: Site plan of Coram town center, by Town of Brookhaven's Middle Country Road Corridor Land Use Plan

Warwick Grove in Orange County, NY is an age-restricted (55+) residential, greenfield development consisting of 215 townhouses, condos, single-family homes, and live-work spaces. Much like the Town of Brookhaven in Suffolk County, Orange County is facing substantial development pressure – with NYMTC-forecasted increases of 42% more residents and 44% more jobs by 2030. Opened in 2005, the development's relatively compact design—with houses sitting on small lots and adhering to traditional neighborhood design principles—facilitated the preservation of the surrounding 130-acre wooded site, much of which is a conservation area. The Warwick Grove development has its own town green and shared private amenities such as a pool, party room and library. Residents are within walking distance of parks and retail establishments on Warwick Village's historic Main Street.[2]

FIGURE 22: Example of Single-Family Homes in Orange County, New York

Warwick-Grove Development in Warwick in Orange County, New York

2 RPA report "Illustrating Smart Growth for Orange County", http://www.rpa.org/pdf/SEOC_Report_LoRes.pdf; Warwick Grove website, http://www.warwick-grove.com/

FIGURE 24: Scenario B: Transit Communities

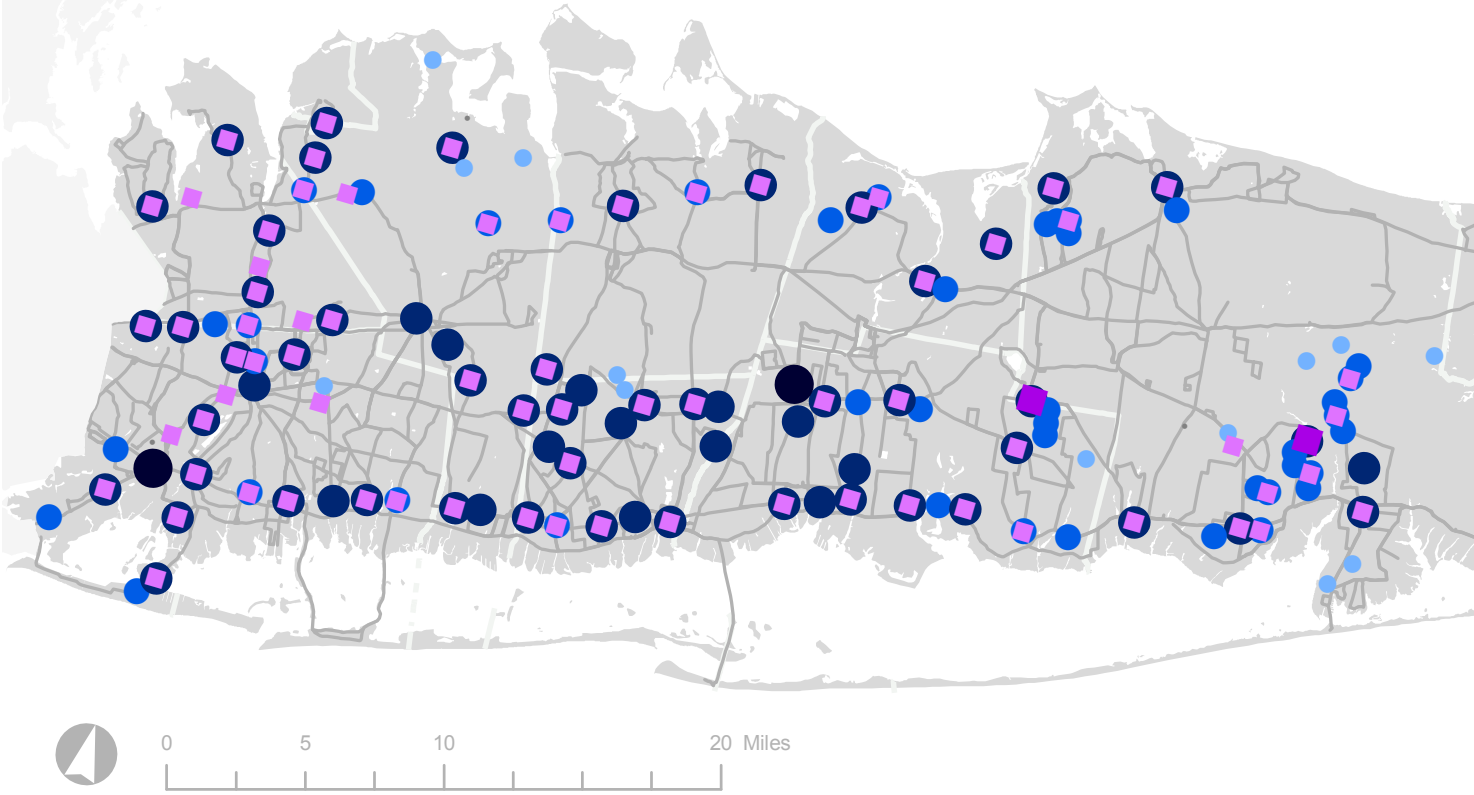


FIGURE 23: Example of Multi-Family Homes in Orange County, New York

Warwick-Grove Development in Warwick in Orange County, New York

Scenario B – Concentrating Growth Around the Existing Transit Network

Transit Communities Scenario

It is a snowy day in 2035. You embark on the 10-minute walk from your townhouse to the Long Island Rail Road station before settling in for the 35-minute commute to your job on the east side of midtown Manhattan. The recent completion of the Long Island Rail Road East Side Access project has given you an extra 40 minutes each day to tend to personal affairs, while the completion of a Third Track on the LIRR Main Line allows your husband to commute eastward to his job in Ronkonkoma. On the walk to the train station, you pick up breakfast and drop some clothes off at the cleaners, a bit chilly but thankful not to have had to shovel a car out of the driveway this morning. You and your husband were able to afford your three-bedroom townhouse because you cut expenses by sharing one car. Your yard is smaller than it was in your parents' house growing up, but it is worth it to be able to walk just a few minutes to pick up groceries or grab some dinner. Your teenage children ride their bikes to and from school, sports activities, and part-time jobs on most days, leaving you free to stop by the gym after work or pay a visit to your neighbors.

This vignette illustrates the type of lifestyle that many workshop participants hoped could be more common in the future. These are accentuated in a second alternative developed from the visioning workshop called "Transit Communities." Although this scenario would accommodate some growth in redevelopment sites and neighborhood infill, its predominant focus is on employment and population growth in downtowns and other areas around existing transit centers, including Long Island Rail Road stations, hubs for bus service and ferry terminals. Under this scenario, more than half of the projected population growth and nearly half of the projected employment growth would occur within one-half mile of a rail station.

Note: One of three potential scenarios developed from the input of 150 participants at a Long Island 2035 Visioning Workshop on March 26, 2009, this map shows the location and density of population and employment growth that synthesizes the allocations of several workshop participants. The circles and squares on the map represent approximate locations of people and jobs, respectively, that were placed in that vicinity, as well as the recommended density of development at these locations.

Transportation improvements would predominantly consist of enhancements to existing rail and bus service, such as a Third Track on the LIRR Main Line, station renovations and expanded bus service.

Some population growth under this scenario would occur in the five towns in the East End; however, the vast majority would occur in Nassau and the western part of Suffolk County. This distribution would enable Long Island to accommodate projected growth while consuming very little of the remaining unprotected farmland and open space.

This Transit Communities Scenario would contain a moderate amount of mixed-use development. As is the case under the other two scenarios, the bulk of housing growth would be in the form of multi-family homes. Of the three scenarios, this one would have the largest increase of employment in downtown areas. Little to no employment growth would occur along commercial strips.

The following case studies illustrate the type of successful transit-oriented developments that would be common under this scenario. The first is in the village of Patchogue, a frequently cited example of downtown revitalization that incorporates affordable housing. The second is in South Orange, New Jersey, a place with similarities to some of the older village centers in Nassau County, and has been redeveloped under the state of New Jersey's Transit Village Initiative.

The Village of Patchogue is implementing a downtown revitalization program. Through partnerships with private developers and non-profit organizations, this program has brought about significant mixed-use redevelopment in the downtown, including market-rate and affordable multi-family housing, a hotel, and a performing arts center. Some projects have been facilitated by the Village's adoption of a Downtown Redevelopment Zone, which offers added flexibility to potential developers. The Village is also preparing a Local Waterfront Revitalization Program (LWRP) and Harbor Management Plan (HMP) with the aim of better taking advantage of its downtown waterfront and ferry station.[3]

FIGURE 25: Rendering of future developments in Downtown Patchogue,

Tri-Tec Corporation for the Village of Patchogue

3 Suffolk County Press Release, http://www.co.suffolk.ny.us/departments/CountyExec/2009 Press Releases/Move Forward on Innovative Downtown Housing Initiatives.aspx; Long Island Index, "Five Case Studies of Downtown Development", http://longislandindex.org/fileadmin/user_upload/2008_Graphics/Case_Studies_of_Downtown_Development.pdf

FIGURE 29: Scenario C: Growth Centers

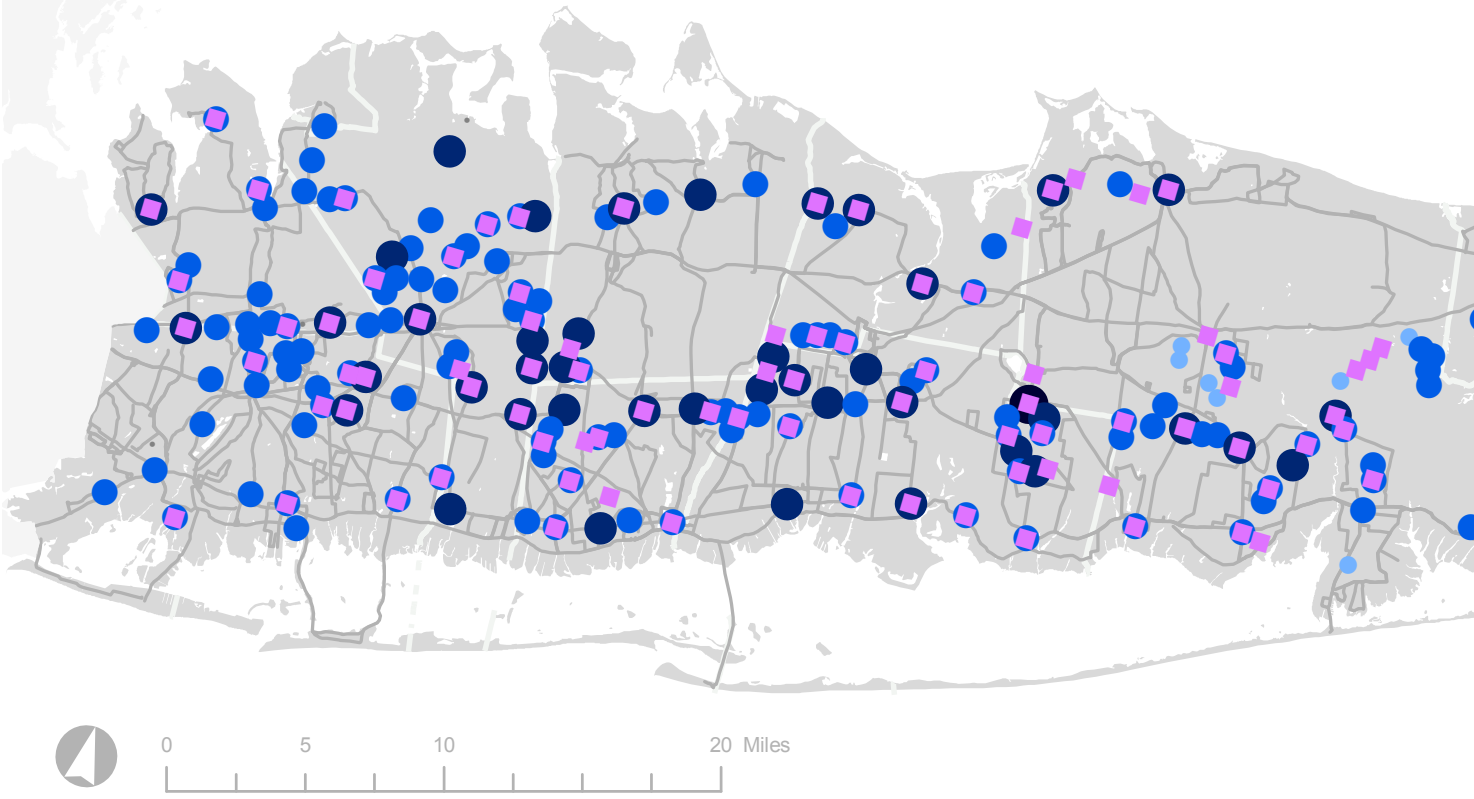


FIGURE 26: Multi-Family Housing in Village of Patchogue

© Long Island Housing Partnership, Inc

South Orange, New Jersey has been implementing a transit-oriented development plan since the 1990s. In 1999, based on its commitment to walkable, mixed-use redevelopment in the neighborhood surrounding its train station, the village became a state-designated Transit Village. This enabled it to obtain state technical assistance and priority funding from some state departments.

South Orange's land use strategy since 1999 has successfully brought about a variety of new multi-family residential development – including apartments, condos and townhouses – within one-half mile of its New Jersey Transit station. Village zoning, redevelopment plans, infrastructure investments and transportation initiatives have also encouraged mixed-use development, resulting in 33 new businesses and eight retained businesses, including a performing arts center, theater, and a gourmet market.

FIGURE 27: Transit Station in South Orange, New Jersey

Note: One of three potential scenarios developed from the input of 150 participants at a Long Island 2035 Visioning Workshop on March 26, 2009, this map shows the location and density of population and employment growth that synthesizes the allocations of several workshop participants. The circles and squares on the map represent approximate locations of people and jobs, respectively, that were placed in that vicinity, as well as the recommended density of development at these locations.

FIGURE 28: New Multi-Family Residential Development in South Orange, New Jersey

Scenario C – Developing New Centers of Population and Jobs

Growth Centers Scenario

You live in a two-bedroom apartment in the new town center development about 15 miles away from the neighborhood where you raised your family. It was not easy to leave your old neighborhood, but after you retired it made sense to get a place with lower costs that required less maintenance. You do the day's errands on foot, walking to a dental appointment and the market and then meeting up with some friends for lunch. For now, living in the town center is appealing because it is economical, convenient, and a bit livelier than your old street. Looking forward, you also realize that living here may be key to maintaining your independence should your health someday limit your ability to drive. Most of what you need on a daily basis is a short walk away. For bigger trips, such as catching a show in New York City or doing extensive shopping, the town center's shuttle takes you directly to both the Long Island Rail Road station and the nearby mall.

A third alternative scenario emerging from the visioning workshop involved accommodating a large share of new population and employment in "growth centers," by redeveloping large underutilized spaces, such as former industrial sites or airports, and intensifying development in designated areas that are appropriate for larger-scale mixed-use environments. The Lighthouse at Long Island project in the area known as the Nassau Hub and the Heartland Town Square project at the site of the former Pilgrim State Hospital are examples of these types of potential developments. The above vignette describes how this Growth Centers Scenario might benefit someone of retirement age, which will be the largest age group on Long Island in 2035,[4] but these centers would also be locations that would have significant concentrations of employment and affordable housing. While many of these sites are locations with existing infrastructure, new transit and road connections would be most likely under this scenario.

4 New York Metropolitan Transportation Council

Of the three scenarios for 2035, Growth Centers assumes that the least amount of development would take place in eastern Suffolk and that nearly all of the existing unprotected farmland and open space would be protected. Since many of these redevelopment sites are not directly adjacent to rail, a greater percentage of the population and employment would be located greater than one-half mile from LIRR stations, when compared to the other two scenarios. This is likely to require new bus routes, additional ferry services, and potentially the use of light rail and bus rapid transit (BRT) to reach locations that are not accessible via the LIRR. However, it would still place significant amounts of population and employment growth within one-half mile of a rail station in downtowns and nearby redevelopment sites.

Neighborhood infill would be relatively low, with more of the population growth taking place in denser mixed-used redevelopment sites containing predominantly multi-family housing. There would also be little new employment in commercial strips.

The two case studies below – the proposed Lighthouse at Long Island project and a large, mixed-use development that has been built in Addison, Texas, a suburb of Dallas – illustrate the type of new centers that would be more common under this scenario.

The Lighthouse at Long Island is a proposed 150-acre mixed-use development in the Nassau County Hub area. Conceived by private developers in coordination with Nassau County, the Lighthouse project plans to revitalize the existing Nassau Coliseum site and surround it with residential neighborhoods, retail, parks, entertainment venues, hotel space, office space, conference and exhibition facilities, and a minor league ballpark. The development expects to generate 19,000 jobs both off-site and in its one million square feet of new office space and 500,000 square feet of retail space. The proposed Lighthouse project also plans to contain about 2,300 condos and townhomes, with the following approximate breakdown: 1,725 units for sale at market rate; 460 for sale as "Next Generation" units, which will include an affordability component; and 115 rental units for seniors and students. The Long Island Bus system serves the site, and the developer plans to provide vehicular traffic mitigation infrastructure along with transportation alternatives such as trolleys, shuttle buses, carpool networks, and bicycle/pedestrian amenities.[5]

FIGURE 30: Aerial Rendering of the Lighthouse Development in Nassau County

Lighthouse Development Group

FIGURE 31: Rendering of Lighthouse Development in Nassau County , by Lighthouse Development Group

Lighthouse Development Group

Addison Circle is a new mixed-use development in Addison, Texas, a suburban community north of Dallas. This development arose out of a community visioning process in which Addison residents sought to guide infill and growth in a way that would expand the variety of housing choices available, create a sense of place, and create spaces for community events. Addison updated its comprehensive plan to align with this vision and partnered with a private developer to carry out this vision on 124 acres, 74 of which were previously undeveloped land. Addison Circle contains 4,800 residential units (4.7 million square feet) of various types, including apartments, condos, and townhomes. It also contains 6.0 million square feet of mixed commercial space (office and retail) and 18 acres of public parks.6

FIGURE 32: Mixed-use development in Addison, Texas

© RTKL.com/David Whitcomb

5 Long Island Lighthouse Draft Generic Environmental Impact Statement http://www.lighthouseli.com/m/finalscope.pdf

6 Presentation by Paris Rutherford IV, Icon Partners, http://www.environment.ok.gov/lid/Rutherford.pdf

FIGURE 33: Mixed-use housing in Addison, Texas, © RTKL.com/David Whitcomb

© RTKL.com/David Whitcomb

6.D. Scenario Comparisons

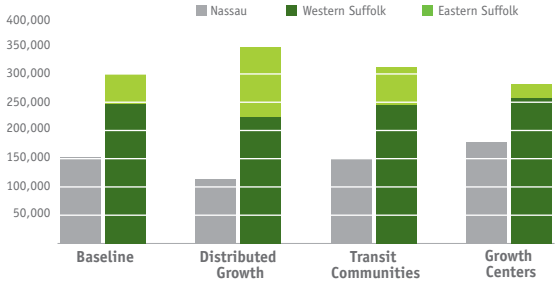
In order to evaluate the impact that any of the alternative scenarios could have on the quality of life of Long Islanders and to begin to measure the different costs and benefits of each, a variety of indicators were used to compare the scenarios with each other and with the Baseline Scenario. Each of the three alternative scenarios is compared to the Baseline Scenario in the charts below. All are based on the same level of growth, the approximately 461,000 additional residents and 281,000 new jobs projected by NYMTC.

Population growth and distribution

Population growth is a key indicator that helps to estimate the number of housing units that will need to be added, where population increases will occur geographically, and the additional infrastructure and services necessary to accommodate the needs of new residents.

In all scenarios, the largest population growth would be in western Suffolk County. Nassau would experience the most population growth in the Growth Centers Scenario, and eastern Suffolk would experience the most under the Distributed Growth Scenario.

FIGURE 34: Population Growth, 2005 – 2035, for Baseline and Alternative Scenarios



Source: Long Island 2035 Visioning Initiative

This outcome would result because the Transit Communities and Growth Centers Scenarios emphasize redevelopment to a greater degree than the Distributed Growth Scenario, and the large downtowns and other locations with the most redevelopment capacity are in Nassau and western Suffolk.

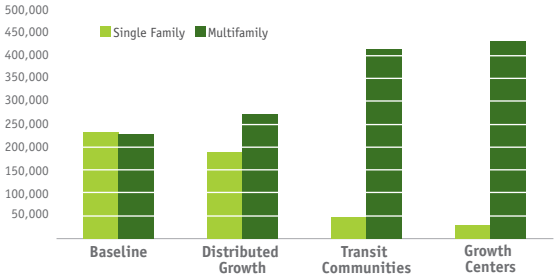
The Baseline Scenario would have less growth in eastern Suffolk than the Distributed Growth and Transit Communities Scenarios because of the type of growth that each scenario assumes. The Baseline Scenario would have the most "greenfield" development (i.e., on undeveloped open space or farmland) at lower densities in eastern Suffolk, but the alternatives would have more redevelopment and higher density developments.

Housing type

Housing type, including various forms of single-family and multi-family dwellings, can affect the variety and cost of housing options available across the spectrum of income, age and family type. The mix of housing types also affects how much land and energy is consumed.

Multi-family units, including two-family homes, townhouses and larger apartment buildings, would account for the large majority of new housing units in all three workshop scenarios, ranging from 59% in the Distributed Growth Scenario to 94% in the Growth Centers Scenario.

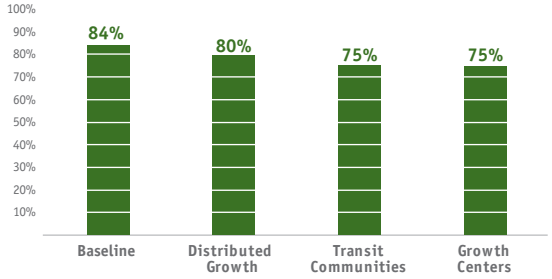
FIGURE 35: Growth in Population by Housing Type, 2005 – 2035, for Baseline and Alternative Scenarios



Source: Long Island 2035 Visioning Initiative

The Distributed Growth Scenario would depart least from the Baseline Scenario, with close to 40% of new housing units being single-family dwellings. However, more of these new single-family homes would be on small and medium-sized lots, often in clustered developments. Since the other two scenarios would have very little greenfield development, they would result in very few single-family units. The large growth in the multi-family housing stock would also cover a diversity of outcomes. In all of the scenarios, two- and three-family homes, garden apartments and townhouses would represent a large share of the multi-family units. Larger apartment buildings would be most likely under the Growth Centers Scenario, and least likely in the Distributed Growth Scenario.

FIGURE 36: Share of Population Living in Single-Family Homes in 2035 for Baseline and Alternative Scenarios



Source: Long Island 2035 Visioning Initiative

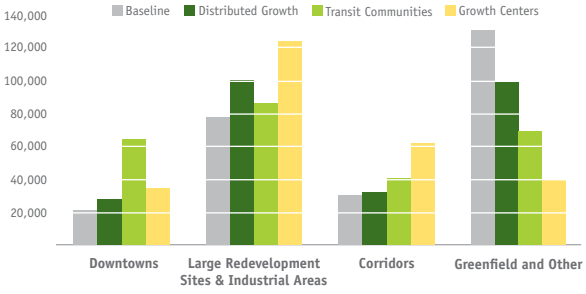
Under all of the scenarios, Long Island would remain a region made up predominantly of single-family neighborhoods. Even in the scenarios with the largest share of new multi-family development, three-fourths of the total housing stock would remain single-family in 2035. In both the Transit Communities and Growth Centers Scenarios, 75% of housing units would be single-family in 2035. The corresponding numbers for the Baseline and Distributed Growth Scenarios are 84% and 80%, respectively.

Employment growth and distribution

Where employment growth takes place affects transportation patterns, job access and the types of employment opportunities that can be developed on the Island. As well as its settlement patterns, Long Island's economic geography would vary among the different scenarios.

Each scenario emphasizes different forms of job concentration—downtown commercial centers, employment corridors, large-scale redevelopment sites and greenfield development.

FIGURE 37: Employment Growth by Type of Development Location, 2005 – 2035, for Baseline and Alternative Scenarios



Source: Long Island 2035 Visioning Initiative

While there are significant differences in degree between the different scenarios, there are also broad similarities in where each would concentrate job growth. Major redevelopment areas include places like the Nassau Hub, the former Pilgrim State Hospital site and Yaphank that have received significant attention and recent major development proposals. They also include industrial and Brownfield areas such as the Bethpage Industrial area, and areas with potential for reuse like Gabreski Airport. Since these sites have already been developed for some form of commercial use, they attract proposals for commercial, industrial and mixed-use development. All of the scenarios would place a major share of employment growth in these areas, with the Growth Centers Scenario giving it the greatest emphasis.

Both large and small downtown areas would receive the greatest emphasis for new employment under the Transit Communities Scenario, which would also place the highest share of population growth in downtowns. However, the relatively modest proportion of employment that would go into downtowns in the other alternative scenarios appears to reflect a reluctance to turn Long Island's existing downtowns into much denser employment centers. Interestingly, workshop participants often placed a higher share of new housing, rather than employment, in downtowns.

Highway corridors would receive only modest amounts of new employment growth in all scenarios except for the Growth Centers Scenario. This reflects the reluctance of participants at the Visioning Workshop to create new commercial strips, and most of the employment that was allocated to corridors went to large existing commercial corridors such as Route 110.

The remainder of jobs went to new greenfield developments, institutional campuses, neighborhood establishments and a few miscellaneous locations. The Baseline Scenario would have the greatest amount of employment allocated to these locations, followed in order by the Distributive Growth, Transit Communities and Growth Centers Scenarios.

Land Consumption and Open Space

Long Island's existing open space and natural landscape are important economic and environmental resources, and preserving open space was one of the leading concerns for the participants at the Visioning Workshop. All of the scenarios reflect this priority to different degrees.

All of the alternative scenarios would protect most of Long Island's remaining undeveloped land that is currently unprotected, ranging from over 70% in the Distributed Growth Scenario to 97% and 98% in the Transit Communities and Growth Centers Scenarios, respectively.

FIGURE 38: Percent of Open Space, Farmland and Vacant Land that is Protected or Developed by 2035, Baseline and Alternative Scenarios

Source: Long Island 2035 Visioning Initiative

One of the assumptions for all scenarios is that the 70,000 acres of farmland, open space and vacant land where development is not restricted in 2005[7] will either be developed or protected by government regulations by 2035. Considering the relatively small amount of Long Island's land that these acres represent (less than 9%), it is unlikely that they will remain

7 Long Island 2035 Visioning Initiative

undeveloped and unprotected over the next 30 years. All three alternative scenarios depart from the Baseline Scenario, which is projected to protect only 17% of remaining unprotected land. The Transit Communities and Growth Centers Scenarios would concentrate nearly all of new population and employment growth into areas that have already been developed for commercial, industrial or residential use, especially in places that have been abandoned or are underutilized. The Distributed Growth Scenario would use 20,000 of the remaining unprotected acres for new development while protecting 50,000 acres.

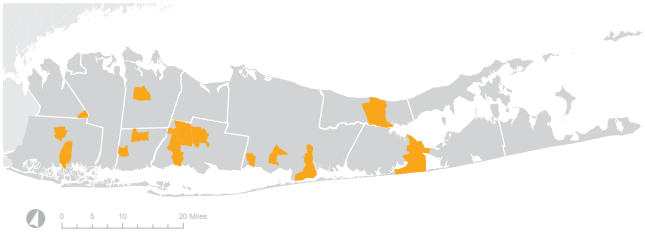
When added to the acres that are already protected, the Baseline Scenario would leave 69% of Long Island's remaining open space, farms and vacant land undeveloped. By contrast, the Distributed Growth Scenario would leave 89% undeveloped and the other two scenarios would each leave 99% undeveloped. This level of protection would require substantial investments in land acquisition and other protection measures. In 2007 alone, Long Island cumulatively spent $285 million on land acquisition according to the 2007 Long Island Index.

Growth in Low-Income Areas

Raising the level of social equity on Long Island was another major issue participants at the Visioning Workshop discussed. Accordingly, it is important to compare how each scenario would impact existing low-income areas identified below.

High-Poverty Areas Identified: As highlighted in Figure 25 below, places on Long Island with more than 10% of households below poverty level are as follows, in alphabetical order: Bay Shore, Brentwood, Central Islip, Freeport, Hampton Bay, Hempstead Village, Huntington Station, Mastic Area, New Cassel, North Amityville, North Bellport, Patchogue, Riverhead, Roosevelt and Wyandanch.

FIGURE 39: Map of High Poverty Areas

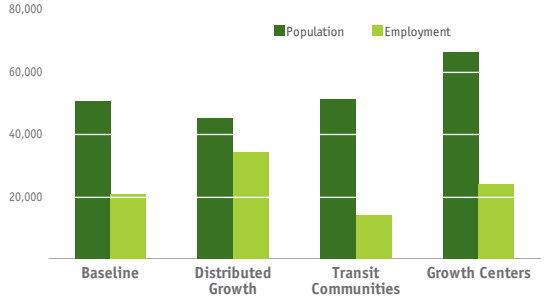


Source: 2000 U.S. Census

The implications of the different scenarios depend on the circumstances of individual places. Commercial development can improve job opportunities and relieve residential tax burdens, and new residential development can revitalize neighborhoods and expand housing options. However, new development can also bring displacement if housing becomes less affordable, and residents may or may not have the skill requirements or access to new job opportunities.

The Growth Centers Scenario would place the most population growth in high-poverty areas; the Distributed Growth Scenario would have the most balance between population and employment growth in these places.

FIGURE 40: Population and Employment Growth in High Poverty Areas, for Baseline and Alternative Scenarios



Source: Long Island 2035 Visioning Initiative

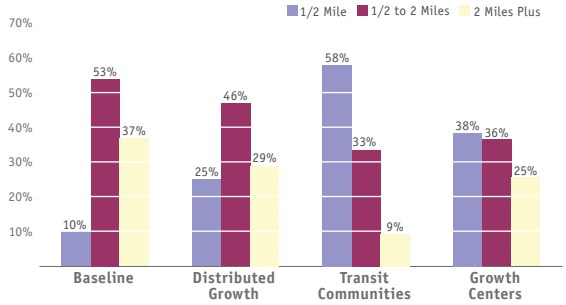
The Growth Centers Scenario would place the most population growth in high-poverty areas. This would provide an opportunity to diversify the housing options in these areas, and the benefits for existing residents would depend in part on the price levels of new housing and how they would affect existing property values. The Distributed Growth Scenario would add the most employment in high-poverty areas, which in theory should improve the tax base and the number of local job opportunities. The Transit Communities Scenario would locate more jobs and housing near transit, which could improve job access for residents across the Island who do not have access to a car to commute to work. All of these scenarios would impact individual communities differently, and the relative benefits and costs would be dependent on the types of new jobs and housing in each place.

Distance From Transit

The location of population and employment relative to commuter rail stations, bus routes and ferries can affect the type of development that occurs, job access and the use of both transit and automobiles. The following chart shows proximity of new residential growth near Long Island Rail Road stations under the different alternative scenario.

The Transit Communities Scenario places a much higher share of new residents within a half mile of both a LIRR station and existing bus routes than either the Baseline Scenario or the other two alternative scenarios.

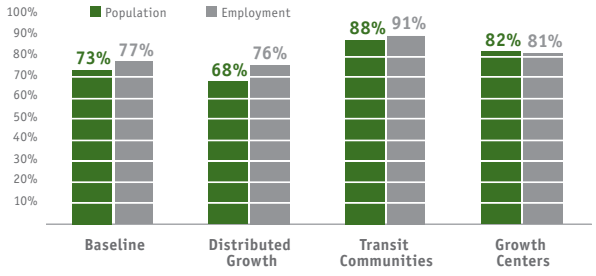
FIGURE 41: Percent of Population Growth, 2005 – 2035, by Distance to a LIRR Station, for Baseline and Alternative Scenarios



Source: Long Island 2035 Visioning Initiative

All three of the alternatives would put a much higher share of new residential growth near rail transit than the Baseline Scenario. While only 10% of residential growth would be within a half-mile of a rail station under the Baseline Scenario, 25% would be in this proximity in the Distributed Growth Scenario, 38% in the Growth Centers Scenario and 58% in the Transit Communities Scenario. Within two miles of a station, the differences are less dramatic. Compared to 63% in the Baseline Scenario, the Distributed Growth and Growth Centers Scenarios would have 71% and 75% of residential growth within two miles of a rail station, respectively, while the Transit Communities Scenario would have 91% within two miles.

FIGURE 42: Percent of Population and Employment Growth, 2005 – 2035, within Half a Mile of an Existing Bus Route, for Baseline and Alternative Scenarios



Source: Long Island 2035 Visioning Initiative

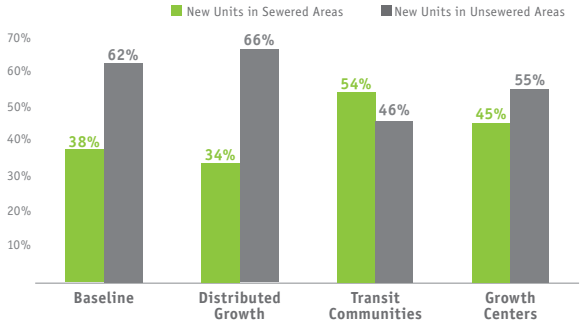
The Transit Communities Scenario would also place the highest share of new population, as well as jobs, within a half mile of existing bus service—88% of population and 91% of employment. For the Growth Centers Scenario, 82% of population and 81% of jobs are within this distance, while for the Distributed Growth Scenario the shares are 68% and 76%, respectively. Bus routes, of course, can change to respond to new concentrations of jobs and population, and the number of areas that could support bus service would likely increase in all scenarios.

Growth in Areas With and Without Sewers

Growth in areas without adequate wastewater treatment infrastructure can have a serious detrimental impact on water quality, and the provision of sewers and treatment facilities can be expensive. How much of the growth projected by the scenarios in places that do not currently have sewers is one indication of the costs and environmental issues that would need to be addressed.

All three alternative scenarios, as well as the Baseline Scenario, would place a significant number of new housing units in areas that are currently without sewers, ranging from 46% in the Transit Communities Scenario to 66% in the Distributed Growth Scenario.

FIGURE 43: Percent of New Housing Units, 2005 – 2035, in Areas with and without Sewers, Baseline and Alternative Scenarios



Source: Long Island 2035 Visioning Initiative

The Distributed Growth Scenario, with the least amount of new housing from redevelopment and the most in eastern Suffolk County, would have two-thirds of new housing units in currently unsewered areas, slightly higher than the Baseline Scenario. The Transit Communities and Growth Centers Scenarios would also have significant amounts, 46% and 55%, respectively. Even in areas that are currently sewered, increased density could require increased capacity for wastewater treatment.

6.E. Issues Requiring Further Analysis

The above comparison of the scenarios begins to identify issues that would require further exploration and dialogue before any consensus could be reached on a preferred vision for Long Island's future. This would need to include an in-depth analysis of what different choices would mean for Long Island's economy, environment and quality of life, both for Long Island as a whole and for specific communities and constituencies. It would also require a robust public discussion that reaches both the general public and decision-makers, that provides opportunities for meaningful input, and that has mechanisms for reaching consensus and implementing actions to support that consensus.

The following discussion provides an initial list of issues to be addressed, as well as some preliminary information developed in the process of evaluating the three alternative scenarios that represent the Visioning Workshop results. Before elaborating on several specific topics, it is important to consider the following cross-cutting issues:

- **Feasibility:** As discussed previously, the three alternative scenarios, while they established some guidelines for where growth could and could not be projected, were not constrained by issues of resources, political will or complexity. Several aspects of the scenarios would depart significantly from current trends, indicating that significant hurdles would need to be overcome if they are to be implemented.
- **Costs:** Even where feasible, all of the scenarios come with costs that would need to come from some revenue source, presumably taxes, fees or grants from the state or federal government. These would need to quantified and weighed against other priorities. They would also have to be weighed against the costs of not pursuing the goals identified in the scenarios. To the degree that continuation of current trends makes Long Island less attractive or economically competitive, the costs of doing nothing could well exceed those of investing in the infrastructure, land acquisition, amenities and other public goods, but a detailed quantitative analysis would be necessary to make this determination.
- **Level of Growth:** To create a fair comparison of different patterns of growth, the scenarios used the same forecast of overall increases in jobs and population based on a regional projection, produced by NYMTC, of what is most likely to occur. This is not the same as saying that this will happen or that is the most desirable level of growth. Many participants in the process felt that the projected level of growth was too robust, either for Long Island as a whole, for Nassau and Suffolk Counties individually, or for particular communities. Others felt that growth of this magnitude was important for maintaining economic opportunities and the Island's tax base. With further and more in-depth analysis of the specific issues described below, these scenarios can be a starting point for assessing the "right" level of growth and pattern of development.
- **Impacts by Race, Age, Gender and Income:** The scenario comparisons provide some indications of the geographic distribution of new development under different assumptions. However, this only scratches the surface for assessing how different courses of action would affect different constituencies. In addition to the impacts on specific groups and communities, there is the larger question of whether particular strategies will lessen or expand disparities between different jurisdictions, generations, racial and ethnic groups, individuals and families with different incomes, and other constituencies. Strategies that promote overall growth, open space protection or other goals can have profoundly different impacts on particular constituencies, including the fiscal burdens of distressed communities, access to employment opportunities and services, and the housing choices that are available to persons of color, low and moderate income families, young adults and seniors.

The following discussion of specific issues includes some preliminary analysis by the Long Island 2035 Visioning Initiative study team of how the scenarios might affect the above-referenced cross-cutting concerns. Further study of the issues will be incorporated as part of the next phase of research being conducted by the Long Island 2035 Comprehensive Regional Sustainability Plan study team.

Density Impacts

Changes in density affect a number of characteristics at both the neighborhood and regional level, including visual scale, auto traffic and pedestrian congestion, tax revenue and job and housing opportunities. Whether or not changes are seen as beneficial often depends on whether they are being viewed from a local or regional perspective. The impacts are determined not just by the level of density, but also by the form that it takes and how it is distributed. Two of the objectives in creating and comparing the alternative scenarios are to examine how the same overall level of growth can result in varying distributions and forms of density, and to establish a backdrop for discussion of the relative benefits and costs of these differences.

By definition, if the population of Long Island increases by 23% from 2005 to 2035, as the Baseline Scenario assumes, then the overall residential density of Long Island will also increase by 23%. However, the Baseline Scenario and the three alternatives would each result in different ranges and levels of concentration. In general, in moving from the Baseline to the Distributed Growth to the Transit Communities to the Growth Centers Scenarios, the alternatives move towards higher densities in a smaller number of places that receive a larger share of the growth. For example, in the Distributed Growth Scenario, the largest increase in residential density for any of the 474 zones used for the analysis would be seven persons per acre. In the Growth Centers Scenario, a few places would experience increases of more than 10 persons per acre. However, the Growth Centers Scenario also would have more places with negligible increases (i.e., 73% of zones would experience increases of one-tenth of a person per acre or less) than the Distributed Growth Scenario, in which 45% of zones would experience increases of one-tenth of a person per acre or less.

How these differences in density would affect both the Island as a whole and individual places needs to be fully examined. It is quite possible, for example, that concentrating density in fewer places could bring less congestion to the Island as a whole but greater congestion in and around the centers of growth. However, these places would also presumably benefit from, for instance, increased tax revenue. The potential realization of these effects will depend on how new developments are designed and what type of transportation and other infrastructure are put in place to support them.

Transportation Impacts and Costs

Every growth scenario would require new transportation investments to accommodate changing commuting patterns and increased travel both by car and public transportation. These investments will also be necessary to address existing deficiencies in the transportation network and to maintain an efficient and competitive economy. There are also several transportation projects that are already underway, such as the Long Island Rail Road's East Side Access project, that could have a significant impact on both travel and development patterns. It is a major undertaking to evaluate the implications of land use and demographic changes, as well as the cost effectiveness of different transportation options, but some preliminary assessments can help to start the analysis.

To help assess the overall impact of the scenarios on automobile travel, the study team conducted a literature review and tested several variables using demographic and auto ownership data from the U.S. Census, NYMTC data on the number of vehicle miles traveled (VMT), and GIS data on street networks, distance from transit and other factors. Two

of the stronger relationships found were the positive associations between auto ownership per household and the number of VMT, and between household income and the number of automobiles owned per household. Thus, all other things being equal, affluent households drive considerably more miles than less affluent households. Population density and distance from transit had some effects on auto ownership and VMT, but these were much smaller than for income. Since the alternative scenarios were not differentiated by either level of growth or income, they produced only slight differences in estimated VMT when using these estimates. Since the Transit Communities and Distributed Growth Scenarios would have higher densities and more people within half a mile of a train station, these scenarios would produce slightly fewer miles traveled. However, there are a number of other factors that would need to be considered to develop a more definitive estimate. The equations used to estimate VMT assumed that households with the same number of automobiles would drive the same number of miles regardless of distance to work or level of transit service. Also, the number of miles traveled is only an interim variable for determining highway congestion and driving times, which tend to be people's primary concerns.

Transit ridership is another travel characteristic that is dependent on many of the same variables as the amount of auto travel—level of job and population growth, income, distance and access to transit, the level of transit service, and the relative cost and convenience of transit compared to automobile travel and other types of transportation. The alternative scenarios can provide some measure of a few of these variables—density, type of development and distance to transit. The Transit Communities Scenario would be likely to produce the largest increases in transit ridership, not only because it would place more people and jobs within walking distance of a train station, but also because it assumes that new developments would emphasize design features that would facilitate walkable, mixed-use communities and transit use. The extent of the potential effects of these factors requires further analysis, including examination of how successful other places have been in encouraging transit use by implementing similar strategies.

Transportation Cost Implications

The greatest investment in transit will most likely be required to accommodate the Growth Centers Scenario. The Distributed Growth Scenario may place a greater share of the population more than two miles from rail stations, but the distribution of population would be more dispersed than in the Growth Centers Scenario. The large concentrations of residents and jobs in sites that would make up the Growth Centers Scenario would require that a greater network of bus and rail be instituted to connect the centers to rail stations and other job centers. This could include the construction of new or reestablished rail stations, which, according to the LIRR, could cost between $15-20 million for new stations on the East End or up to $60 million for reopening stations like the one at Republic Airport. As for improvements to bus service, cost estimates cover a wide range, up to as much as $49 million per mile for different degrees of Bus Rapid Transit (BRT), based on projects around the country.[8]

The Transit Communities Scenario would also require transit investments, but more targeted at and around existing rail stations, as well as for improvements in the service provided at these locations. These investments range from station-area improvements – which can cost around $1-2 million – to major service improvements like the Main Line improvements and Third Track, which is estimated to cost about $1.5 billion. As more of the population would be focused in downtowns with rail stations under this scenario, the need for more frequent and reliable train service would likely become a priority. As the East Side Access project (estimated to cost $7.2 billion) is implemented, the number of LIRR riders is likely to increase substantially, potentially creating demand for further improvements. These could include electrification of rail lines that are now serviced by diesel trains (or updating the diesel service), new rail yards and greater track capacity. The LIRR estimates that electrification costs approximately $18 million per mile.[9] In addition, the stations that serve these residents would also need to be updated to accommodate the expected additional riders.

Investments in roadways and in parking to accommodate more cars would also be required under each of the scenarios, but to different degrees. The Distributed Growth Scenario would require increased investment in new and expanded roadways that serve to connect the population, which would be most widely distributed under this scenario, to their destinations. Additionally, greater investment in parking would be required at these destinations. Structured parking is one solution to help accommodate increased populations. **Depending on the size, design and number of uses, constructing structured parking can range from $4-$13 million, based on recent estimates.**[10]

Similarly, under the Growth Centers Scenario, population and job growth would occur in areas that are further from transit. These new centers would require significant investment in new roadways and parking facilities, particularly on and in the vicinity of the redevelopment sites. While it is likely that less investment in new roadways would be required under the Growth Centers Scenario when compared to the Distributed Growth Scenario, it is likely that greater investment would be needed to expand the capacity of existing roads that serve these concentrated areas. By contrast, since the Transit Communities Scenario would experience more population growth in downtowns with existing rail service, it is likely that investments in new and expanded roadways would be less significant under this scenario.

Housing Affordability

The issue of housing affordability – not just for low-income residents but also for middle-class families, young adults and seniors – is a high-priority, not only for the participants of the Visioning Workshop, but also to Long Islanders generally according to public opinion polls and the study team's review of recent reports. As with transportation, there are a number of factors that will affect housing costs relative to income in the future. These include the overall supply of housing, changes in income levels and distribution, and the level of subsidy provided by different branches of government.

8 Van Ness Avenue Bus Rapid Transit, http://www.sfcta.org/content/view/306/152/; Schaller Consulting, "Bus Rapid Transit for New York City", http://www.schallerconsult.com/pub/BRT_for_NYC.pdf; April 2006 Metro Magazine, "Analysis of Top Bus Rapid Transit Projects in North America", http://www.metro-magazine.com/files/top25_2006.pdf.

9 LIRR Planning.

10 Vision Long Island, "Preliminary Transportation, Wastewater & Green Infrastructure Priority Recommendations", http://www.scribd.com/doc/14027320/Vision-Long-Island-Infrastructure-List.

One variable that could have a major impact on housing affordability, and that is explicitly measured in the evaluation of the alternative scenarios, is the share and type of multi-family housing. In regions with few constraints on land availability for new housing, single-family housing can often be built as cheaply as buildings with multiple units. Indeed, for decades Long Island's success was predicated on its ability to provide moderately-priced single-family homes to a growing population. However, as land becomes increasingly scarce and expensive, building at higher densities can sometimes be the only economical way to construct units that are affordable to moderate income households. Multi-family buildings, whether a detached house with an accessory apartment or an apartment building, are much more likely to provide rental housing. Since renting a unit does not require the capital and credit history that purchasing a home requires, rental units can be more attainable for younger adults and for low and moderate income households.

As described earlier, all of the scenarios, and particularly the Transit Communities and Growth Centers Scenarios, weigh heavily toward the development of multi-family housing. All other factors being equal, this could help expand the number of rental units available and provide housing at a wider range of price levels. However, there are a number of other factors that could come into play. The overall growth in income and land values over time will be important considerations. Ultimately, government decisions to subsidize less expensive housing, either through direct cash subsidy or by requiring developers to sell or rent a certain share of units at below market prices, will be some of the key variables.

The scenarios also raise the issue of whether it is feasible to transition the Island from producing primarily single-family housing to primarily multi-family housing. At some point, the depletion of land available for single-family housing will force the change, but to implement the changes implied in some of the scenarios would require very aggressive land acquisition and transfer of development rights (TDR) programs in the near-term.

Energy Consumption and Carbon Emission

Energy use is a key variable for the economy as well as the environment. It also depends on a number of factors, including energy sources, changes in consumer behavior and technology. However, changes in building type and construction, and in transportation use, are central issues. One factor that the scenarios can be used to assess is the amount of energy produced by the different numbers and types of single- and multi-family residential buildings projected in each alternative. Energy consumption data has been collected according to building type by the federal government, and can be applied to the projections for Long Island. For example, the U.S. Department of Energy publishes data that lists average energy consumption by housing type by region. These data show that in the Northeast U.S., single-family lots consume the greatest amounts of energy and remain fairly consistent across lot sizes. Duplex and triplex units use close to 30% less energy than single-family lots and the average Northeast apartment lot uses around 45% less energy.[11] Given that these data represent an average of the entire Northeast and that multi-family buildings on Long Island are likely to be much smaller than for the Northeast as a whole, it would be inaccurate to apply these numbers directly to multi-family developments on Long Island. However, it still demonstrates that based on existing building characteristics, scenarios that emphasize multi-family dwellings would produce less energy per household from residential uses. It does not account for the commercial and transportation sectors, nor does it account for the costs of designing energy-efficient buildings. Most of the energy used comes from existing buildings, and retrofitting them for greater energy efficiency is more difficult and costly. There are some arguments, for example, that it is cheaper to improve the energy efficiency of single-family homes through window treatments and tree plantings. A full analysis of the energy implications of alternative futures would need to take all of these factors into account.

Measuring carbon emissions is a more direct method of determining the contribution of different development types to climate change. Similar to the data analyzed for energy consumption, inventories were developed by the study team for amounts of carbon emissions of different development types. In particular, estimates of carbon emissions per development type and land use were calculated using data from the American Housing Survey (2007) and The Department of Energy's Residential Energy Consumption Survey (RECS 2001)[12] and run through the Environmental Protection Agency's Carbon Emissions Calculator (from U.S. Inventory of Greenhouse Gas Emissions and Sinks, 2007).[13] These calculations indicate slight reductions in the amount of carbon emitted by multi-unit developments. Thus, it could be said that the Growth Centers Scenario, which would have the most multi-family units, would emit slightly less than the Distributed Growth Scenario, which would have more single-family homes. As with energy use, a full analysis of carbon emissions would need to account for commercial and transportation sectors, energy sources, and the costs of retrofitting different types of existing buildings.

Water Quality

Water quality is affected by a number of factors, including the location and type of development, wastewater treatment and stormwater runoff. The Visioning Initiative examined some of the factors in relation to the scenarios. As with the other issues cited in this section, the assessments were preliminary and require further analysis.

Stormwater runoff occurs when precipitation flows over the ground. As it does so, it picks up pollutants – such as sediment, nutrients, pathogens, debris and hazardous waste – that are present on the surface and transports them to our waterbodies and coastal areas where they have deleterious environmental impacts. Paved surfaces, due to their impervious nature, exacerbate the impacts of stormwater runoff. Thus, development that uses larger areas of impervious surface can often have a more harmful impact on waterbodies and coastal ecosystems. Data compiled by the National Oceanic and Atmospheric Administration and used by the Visioning Initiative study team, associates different development types with amount of runoff.[14] As would be expected, those development types that have less impervious surface – such as large lot single-family homes – tend to have lower stormwater runoff rates than those with greater amounts of impervious surface – like malls. Small lot single-family homes and multi-family units tend to have the highest

11 US Department of Energy website, http://www.eia.doe.gov/emeu/consumption/index.html.

12 US Department of Energy Residential Consumption Survey, http://www.eia.doe.gov/emeu/recs/.

13 US Environmental Protection Agency, http://epa.gov/climatechange/emissions/usinventoryreport07.html.

14 National Oceanic and Atmospheric Administration, http://www.csc.noaa.gov/crs/cwq/pdf_nspect/N-SPECT_TechnicalGuide.pdf.

amount of stormwater runoff. However, analyzing these rates at the individual lot level fails to incorporate the cumulative effect of development across the Island. For instance, the Growth Centers Scenario would likely add a large amount of impervious surface to a number of areas across the Island. But before concluding that this would have a more negative impact than the Distributed Growth Scenario – which has less multi-family development and is spread across the Island – one would have to consider other factors, such as the amount of open space – which absorbs stormwater – preserved by each scenario, as well as the proximity to waterways and efforts made to capture and treat stormwater at the individual lot level.

Wastewater Treatment Costs

With only 9.5% of Suffolk County's and 69% of Nassau County's land area served by sewage treatment facilities,[15] sewer infrastructure investment in new and upgraded facilities will be required to accommodate population and employment growth, regardless of the scenario. But since the scenarios differ in their placement of growth, it can be assumed that scenarios that would place more of their growth into areas not currently served by sewers would require greater investment than those that would place more of their growth in sewered areas.

Of the three alternatives introduced in this report, the Distributed Growth Scenario would place the greatest number of residential units into areas not currently served by sewers. Accordingly, this scenario is likely to require the greatest investment in new sewer infrastructure. Recent requests by municipalities for stimulus funds for these types of projects on Long Island ranged from $20 to $150 million.[16] Similarly, the Growth Centers Scenario would place more growth into areas that are currently unsewered versus those that are sewered. Since the growth would be more concentrated, it is likely that less investment in connective infrastructure would be required than in the more dispersed Distributed Growth Scenario.

The Transit Communities Scenario would place the largest amount of growth into areas that are currently served by sewers. Thus, this scenario would require larger investments in sewer infrastructure upgrades to allow for greater capacity than investment in new facilities. In recent requests for federal stimulus funds, upgrades ranged from as little as $1.5 million to as much as $300 million.[17]

15 Long Island 2035 Visioning Initiative.

16 Vision Long Island, "Preliminary Transportation, Wastewater & Green Infrastructure Priority Recommendations", http://www.scribd.com/doc/14027320/Vision-Long-Island-Infrastructure-List.

17 Vision Long Island, "Preliminary Transportation, Wastewater & Green Infrastructure Priority Recommendations", http://www.scribd.com/doc/14027320/Vision-Long-Island-Infrastructure-List.

7.

Next Steps

The completion of Phase I of the Long Island 2035 Visioning Initiative comes as a new phase of research is getting underway. The analysis and findings of this initiative to date will be incorporated into the work of a new study team contracted by the Long Island Regional Planning Council to produce the Long Island 2035 Comprehensive Regional Sustainability Plan. In particular, the resources developed during the Visioning Initiative will provide a foundation for ongoing analysis and outreach. The following recommendations suggest ways that the value of these resources can be maximized, not only in completion of the Sustainability Plan but also as they apply to County, municipal and community planning initiatives.

1 Broaden and focus participation on the Municipal and Stakeholder Committees

These two committees were successful in establishing a forum for communicating progress on the initiative and obtaining feedback from municipal officials and private and non-profit stakeholders. The committees helped to keep the activities of the initiative grounded in the realities of local concerns and were a good sounding board for preliminary findings and future activities. They also established a network of interested individuals that can be more fully utilized in the future during the Sustainability Plan process.

Outreach efforts for the committees were intended to be inclusive. Materials and meeting invitations were sent to all town supervisors, city and village mayors, county and town legislators and planning commissioners, school district supervisors and over 300 non-governmental stakeholders. Representatives from just under a third of municipalities on Long Island and 58 private organizations attended one or more of five sessions between January and June. Participation varied, peaking at the March workshop. Given the logistical challenges of ensuring broad participation from across the Island at meetings and events, these efforts mark a good beginning but need to be scaled up if the committees are to represent a full range of perspectives.

As with most regional initiatives that are largely advisory in nature, there is a challenge to providing local leaders with the right incentives to participate. Many public officials may see it as an optional exercise with little direct application to future planning in their communities. There may also be a level of concern that the goals of the sponsoring regional entities will supercede the goals of localities, particularly around where key growth areas should be sited and how much growth should be accommodated. Phase I of the Long Island 2035 Visioning Initiative started to address these issues, and the outreach effort – not only to the general public and stakeholder leaders, but also to municipal officials – will continue and expand during the Long Island 2035 Comprehensive Regional Sustainability Plan process.

Recommendations to make the Municipal and Stakeholder committees from the Visioning Initiative most useful to the participants, as well as a resource to the Sustainability Plan process, include the following:

- **Incorporate the committees as an ongoing part of the Sustainability Plan effort:** The committees were established to help shape recommendations and participate in implementation efforts. The Visioning Initiative did not reach the point of making policy and program recommendations, but it would be a natural extension of the committees' charges to participate in the shaping the Sustainability Plan. This recommendation would also eliminate the need for the LIRPC and the Sustainability Plan study team to establish new committees with similar functions.
- **Provide the committees with meaningful opportunities to shape recommendations:** More than any other factor, participation on the committees will depend on the degree to which members expect to be able to influence the recommendations of the Sustainability Plan. This suggests that they be given early opportunities to propose potential actions to be evaluated, and adequate time to discuss and comment on draft recommendations of the Sustainability Plan.
- **Discuss the findings of this report with individual elected officials, and specifically the ways in which different scenarios would affect their areas:** Some municipalities may not have seen the need to participate in this initiative because their area was already engaged in a master plan process. Providing information as to how the development of Long Island as a whole may affect their municipalities could be useful to the officials.
- **Focus on how jobs and economic growth can be created for specific geographic areas:** The dual concern across Long Island right now is jobs and economic growth. Delving into the economic development implications of the alternative scenarios may be a good way to engage the committees on this topic.
- **Work toward self-governing committees:** To the extent that the committees begin setting their own agendas and developing their own leadership and communication mechanisms, they will be much more likely to remain active through both the creation and implementation of the Sustainability Plan.
- **Use the networks of committee members as an education tool for the Sustainability Plan:** Several committee members offered to disseminate information and facilitate discussions with their constituents. This is probably one of the most effective communication tools that the LIRPC will have for engaging the public in a discussion of goals, findings and recommendations of the Sustainability Plan.

- **Help make connections between public officials and civic groups in their areas:** In many cases, local organizations or leaders either support the visioning and sustainability efforts, or might do so if they had additional information, such as correspondence or other materials from civic and community groups that could help them assess overall support for the effort.
- **Provide a projected timeline of how long, when, and in what capacity the municipalities will need to participate as well as specific details regarding their input:** Providing a timeline with specific dates and descriptions of activities will allow municipal leaders to better assess time commitments and enhance participation.
- **Make it clear that, although these are regional processes, the Visioning Initiative and Sustainability Plan efforts are aimed more to look at Long Island through its individual communities:** Community identity will be enhanced rather than compromised. Make reference to their existing master plans and proposed projects and discuss how these can be linked into the regional planning efforts.

2 Maintain and update analyses of local plans and comparable efforts in other regions

Nearly 200 reports of Long Island studies and local plans were collected, reviewed and inventoried by the Visioning Initiative study team. However, this collection is already missing important recent reports released after this initiative began. In addition, regions with large visioning initiatives were surveyed and provided lessons that were important for shaping the Long Island 2035 Visioning Initiative. Pursuing the following actions would help to keep these resources current and accessible as part of the Sustainability Plan effort:

- **Update the inventory of local plans, with both the list and links to reports made available on the LI 2035 and forthcoming LIRPC websites:** A mechanism to add new reports and plans as they are released would keep the inventory current, making periodic updates necessary. Regular monitoring of the media for new studies can be useful, in conjunction with an invitation to agencies, municipalities, universities and others to submit new materials.
- **Periodically update evaluations of progress and innovations in other regions:** Comparable efforts in other parts of the world continue to evolve, and new initiatives are constantly emerging. As the nation's first large-scale postwar suburb, Long Island also has much to teach other regions. Exchange visits, conferences and periodic surveys of other regional sustainability plans and visions can help inform the development, adjustments and implementation of the Sustainability Plan.

3 Conduct more detailed evaluations of existing conditions, trends and scenarios

The Visioning Initiative developed baseline condition maps, an extrapolation of current trends to 2035 and a model for evaluating alternative scenarios. The scenarios drawn from the Visioning Workshop were used to test the model and assess both its capabilities and limitations. In general, these resources are most useful for relating different distributions of employment and population to existing land use and infrastructure conditions at a regional scale. Since variables are assigned at a fine-grained geographic scale, the model also has the capability to assess future scenarios at different levels of geography. Outputs can also be used to help measure how changes in development and land use can affect transportation, environmental, social and economic conditions.

To use these tools to fully assess future scenarios—either those that resulted from the workshop or other alternatives—additional analysis is required, particularly if different levels of population or employment were to be tested. The process of developing and evaluating the initial set of scenarios helped clarify the subsequent actions that would be needed, including the following:

- **Develop more detailed analyses of local conditions, constraints and opportunities:** The maps and data of baseline conditions, opportunities and constraints used in this initiative relied on comprehensive regional data sources and the knowledge of the Executive Committee and study team. However, a more detailed analysis of local conditions with input from local planning officials would improve the understanding of what is possible and likely to occur, thereby making it more feasible to apply the findings to specific areas of Long Island.
- **Test implications of alternative transportation investments:** Several recommendations were made at the workshop and at other points in the project for transportation investments to support desired land use outcomes. Testing the interactions of these transportation investment alternatives with the land use scenarios would require transportation modeling that is beyond the scope of this initial phase. However, the resources and scenarios developed for the Visioning Initiative can provide inputs for assessing these alternatives as part of the ongoing transportation analysis of NYMTC and its member agencies, as well as for the Sustainability Plan effort.
- **Estimate costs and the feasibility of alternative scenarios:** The development of alternative scenarios did not explicitly consider costs or the feasibility of implementation. An evaluation of the costs of new infrastructure, land acquisition and private development, the need for regulatory changes and trade-offs between potentially competing objectives within the scenarios are needed to make more informed choices about alternative development strategies.
- **Continue development of social, environmental and fiscal indicators:** Preliminary estimates were made of the impacts of the scenarios on a wide range of indictors, such as energy consumption and vehicle miles traveled. However, in most

cases the results indicated the need for additional analysis before reaching conclusions. Many of these indicators will be analyzed in greater detail during the process of creating the Sustainability Plan.

- **Consider additional indicators:** The indicators for assessing the scenarios were selected early in the process and released in a Statement of Principles and Benchmarks in March. However, other indicators – such as time traveled to work, job access by income, and the localized congestion impacts of increased density – may illuminate additional aspects of these alternatives that warrant analysis.
- **Consider alternate levels of population and employment growth:** The NYMTC forecasts that provided the baseline projections in this project represented the metropolitan planning organization's best estimation of growth according to current and past trends. Future work may want to consider implications of lesser or greater population and employment growth.

4 Consider holding public workshops modeled after the March 26 Visioning Workshop

The workshop provided a good initial sense of the priorities of a broad cross-section of Long Island's public and private sector leadership. However, it should not be confused with the large scale public input that was intended for a second phase of this initiative. Although current resources do not permit an effort of this scale as part of this initiative, there are other options that could be considered during the Sustainability Plan process that would allow input from a wider group of Long Island residents, including the following:

- **Hold a "civic summit" to inform and get input from civic associations:** Local civic organizations from across the Island would be invitees to such a summit to discuss the findings of this report of Phase I of the Long Island 2035 Visioning Initiative. This would reach another layer of local constituencies that are currently underrepresented in the project's committee structure.
- **Conduct a second Island-wide workshop, but open and advertised to the general public:** This supplemental workshop would follow the same format as the March 26 Visioning Workshop. However, instead of targeting public officials, planning professionals, and stakeholder leaders, the workshop would be geared toward an audience of the general public. Results could be compared to those of the Visioning Workshop.
- **Conduct a series of public workshops in different parts of Long Island:** The original scope for a second phase of the Visioning Initiative anticipated a series of between six and eight workshops to be held in different parts of Nassau and Suffolk Counties. This would have been accompanied by a large-scale media and public education campaign. A smaller number of workshops, even without a large public education campaign, would still make it possible for a large number of interested citizens to express their priorities through this hands-on exercise.

The Long Island 2035 Visioning Initiative is neither the beginning nor the end of developing and implementing a shared vision for Long Island's future. The project was inspired by the numerous planning initiatives and innovations of the past, and is intended to support future planning efforts on Long Island. While this report introduces development alternatives synthesized from a visioning process, these approaches are not wholly new to Long Island. From the extensive regional and community visioning processes - documented in this report - that have been conducted over the years, to the forward-thinking efforts of local elected officials to revitalize a number of the Island's downtowns and hamlet centers, there is growing evidence that Long Island is beginning to embrace new ways of thinking about and planning for its future. The products of Phase I of the Long Island 2035 Visioning Initiative will hopefully demonstrate how to take these efforts to a larger scale, and lead to a Comprehensive Regional Sustainability Plan that is both visionary and implementable.

Index of Figures / Tables