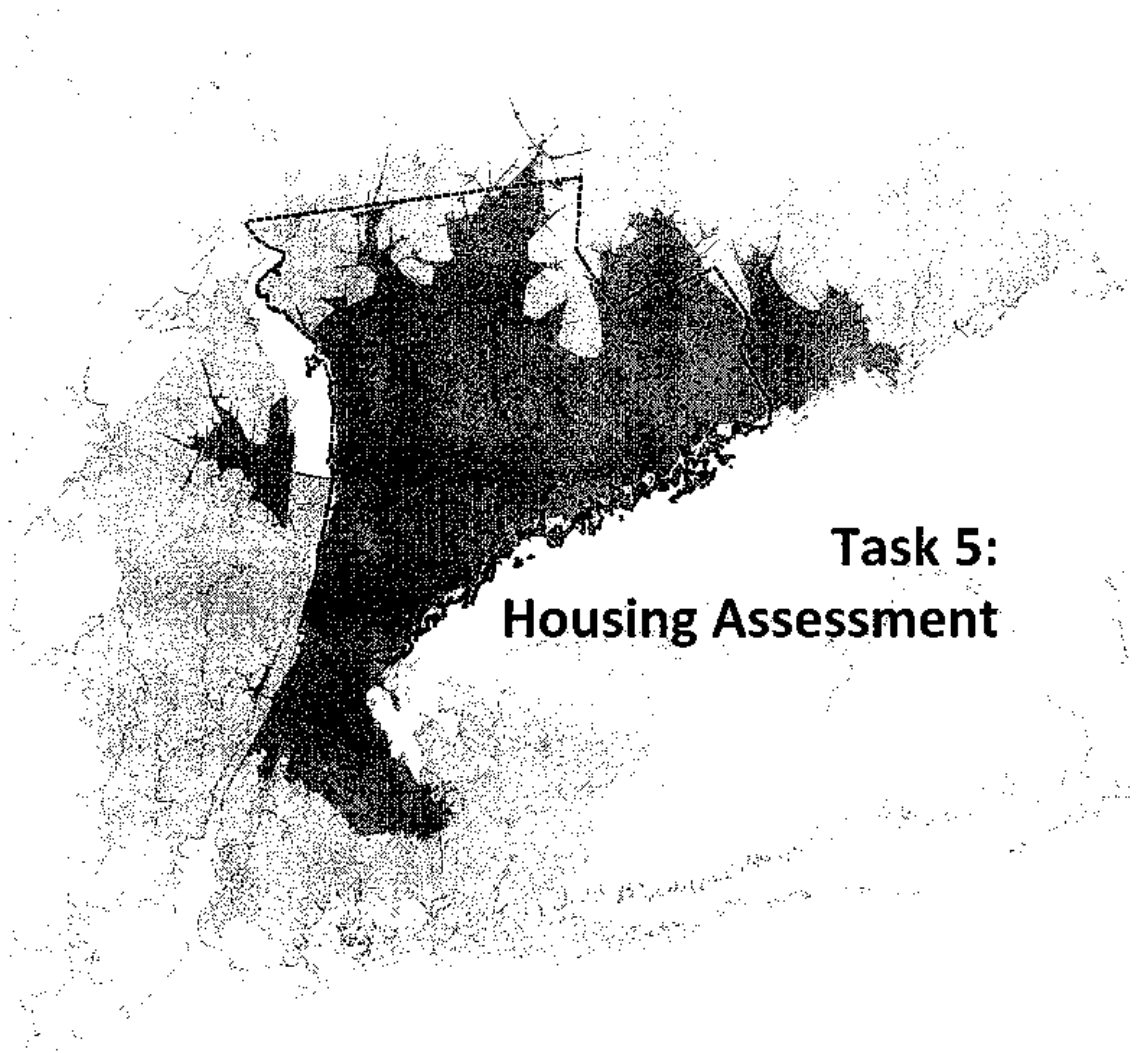


Appendix I I

**South Western Regional Planning Agency
[SWRPA] Study**

ACCESS TO EMPLOYMENT CENTERS STUDY



Task 5: Housing Assessment

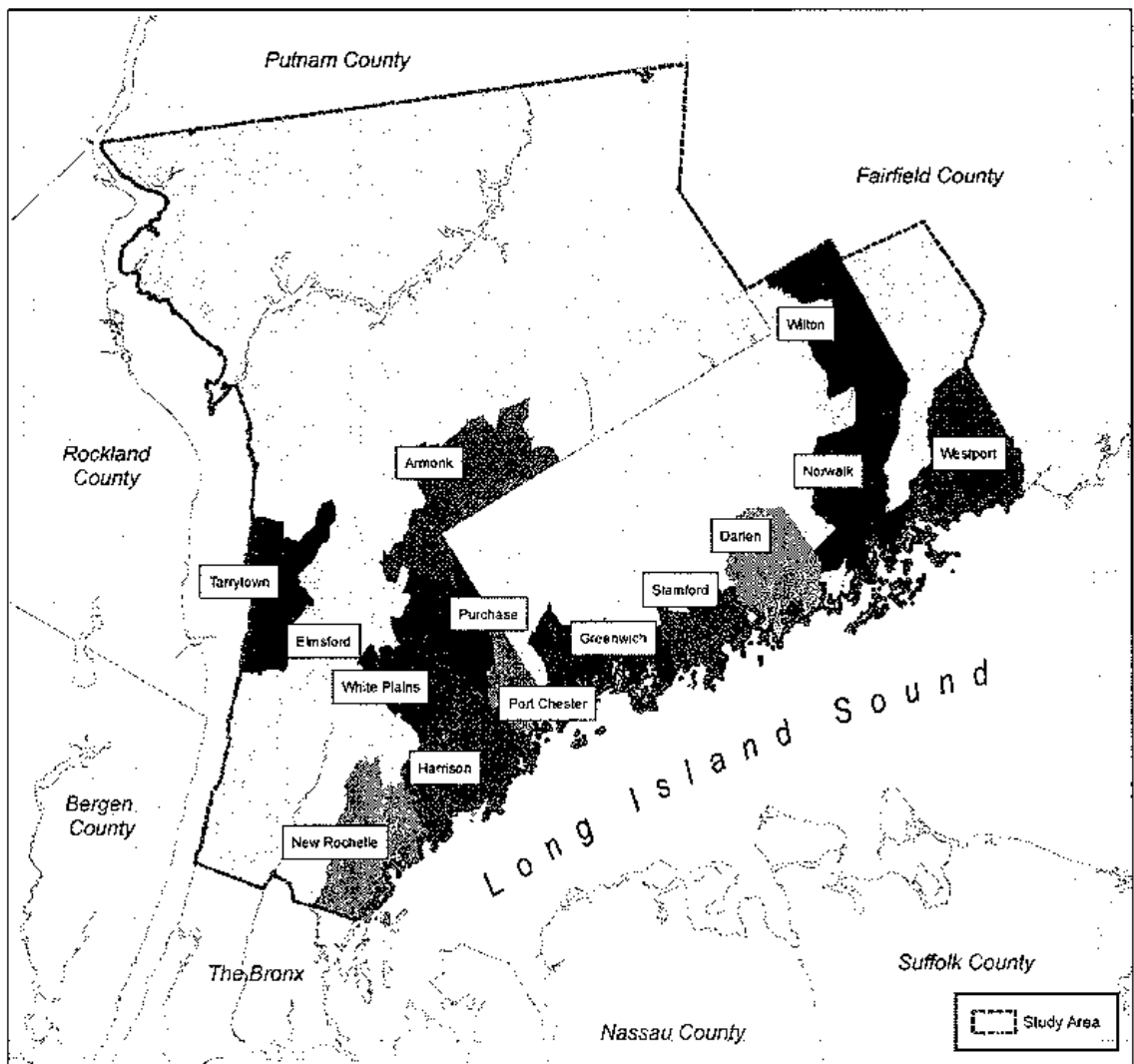
Prepared For
South Western Regional Planning Agency (SWRPA) and
Westchester County Department of Planning

Prepared by
AKRF, Inc.
March 2010

EXECUTIVE SUMMARY

This study works to identify the most effective locations for attainable housing within a study area comprised of Westchester County, New York and the eight Connecticut towns that constitute the SWRPA Region, i.e., Greenwich, Stamford, Darien, New Canaan, Norwalk, Wilton, Weston, and Westport (see **Figure ES-1**). Within this study area, the analysis focuses on “employment centers,” which are defined as groupings of zip codes (in Westchester County) and Census tracts (in the SWRPA Region) that contain a substantial number of businesses and workers.

Figure ES-1
Study Area and Study Area Employment Centers



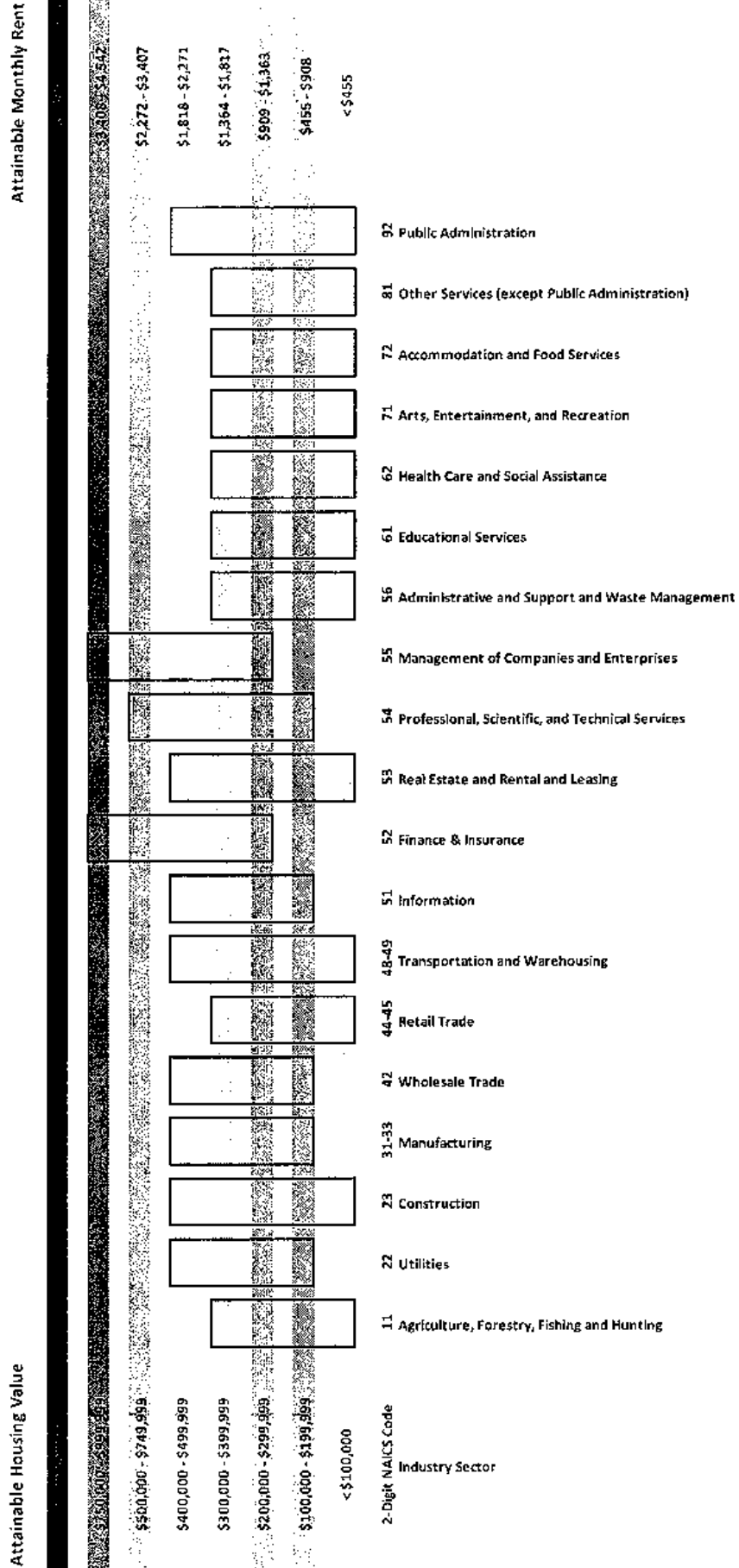
Collectively, there are an estimated 304,471 workers within these employment centers, representing approximately 47 percent of all employment in the study area. The distribution of employment by sector within the employment centers generally mirrors that of the overall study area, with some notable exceptions. By industry sector, the employment centers contain an average of 44 percent of each industry's total employment within the study area. However, nearly 60 percent of study area employees of both the Professional, Scientific, and Technical Services sector and the Administrative Support and Waste Management sector are located within employment centers. Conversely, only about 30 percent of study area employees of the Educational Services and Arts, Entertainment, and Recreation sectors are located within the employment centers.

The study evaluates the demand and supply relationship for housing in the region, and the role traffic conditions play in that relationship. This evaluation started by estimating the demand for attainable housing generated by employment center workers earning an average salary or less within their industry. **Figure ES-2** illustrates the estimated attainable monthly housing costs for those workers. The attainable monthly housing cost is roughly equivalent to gross monthly rent, and is referenced against a corresponding attainable housing value. The lower end of each range reflects the monthly housing costs attainable for a single wage-earning household with an entry-level salary within their industry sector, while the upper end of the range reflects households with one employment center worker earning the average salary for their industry, as well as at least one other wage-earner in the household.

The cumulative distribution of attainable demand from employees within the 14 employment centers who earn average industry salaries or less is presented in **Table ES-1**. **Table ES-1** shows that approximately 19 percent of employment center workers who earn an average salary or less within their industry can only afford to demand rental or for-sale housing with a monthly housing cost of less than \$800.

2009 Monthly Attainable Housing Costs	Unit Demand Distribution
< \$800	19%
\$800 – \$1,599	24%
\$1,600 – \$2,399	19%
\$2,400 – \$3,199	19%
\$3,200 – \$3,999	9%
\$4,000 – \$5,999	7%
\$6,000 – \$7,999	3%
\$8,000 +	0.4%

Figure A-2
Attainable Housing Values and Rents by Industry Sector
Employees Who Earn No More Than Average Salary



The area in which an employment center's workers would most likely demand housing is primarily a function of commuting time to and from their place of work. For purposes of this analysis, a 30-minute vehicle commute (one-way) was established as the outer-threshold for what would be considered a reasonable drive-time.¹ Given traffic conditions within the study area, the geographic coverage of a 30-minute drive-time to or from an employment center can vary significantly. AKRF developed an "uncongested commuter shed" that captures the 30-minute driving distance to/from an employment center based on uncongested traffic conditions, as well as a "congested commuter shed" that captures the same drive-time, but under typical congested conditions during peak commuting hours.

Many of these commuter sheds, particularly the uncongested commuter sheds, extend outside of the study area into areas that employment center workers may find less appealing, either because of distance, differences in the quality of schools, or other quality of life factors. Therefore, the supply analyses of the report consider commuter sheds that extend outside of the study area into New York City, New Jersey, and Long Island, as well as commuter sheds that stop at the Westchester County border.

Table ES-2 presents the total amounts and distribution of housing stock at various estimated monthly costs within the 30-minute commuter sheds for all employment centers. Housing inventories are presented for both the uncongested and congested 30-minute commuter sheds. For example, **Table ES-2** shows that within the study area's 30-minute uncongested commuter sheds there are an estimated 544,907 units (owner- and renter-occupied) with estimated monthly costs of less than \$800. These units represent approximately 43 percent of the total supply in the study area's 30-minute uncongested commuter sheds. An estimated 27,028 of those units (approximately 5 percent) are located within the study area's 30-minute congested commuter sheds (or conversely, 517,879 of these units are located beyond a 30-minute drive-time under typical congested conditions). Within the congested 30-minute commuter shed, units with an estimated monthly cost of less than \$800 represent only 5 percent of the total supply.

¹ A 30-minute drive-time commuting distance (one-way) was employed for this analysis because it captures the upper bound of commuting distance of a majority of resident-workers in the study area, and represents what is generally considered to be an outer-threshold for a "desirable" commuting time. While residential desirability factors such as proximity to an urban center can lengthen commuting distance, a 30-minute driving distance from any workplace within the study area affords access to an urban center that would satisfy most residents' needs.

2009 Estimated Monthly Housing Costs	Uncongested Commuter Shed Supply (housing units)	Uncongested Commuter Shed Distribution of Supply	Congested Commuter Shed Supply (housing units)	Congested Commuter Shed Distribution of Supply
< \$800	544,907	43%	27,028	5%
\$800 – \$1,599	187,819	15%	87,581	17%
\$1,600 – \$2,399	121,817	10%	83,920	16%
\$2,400 – \$3,199	108,687	9%	83,507	16%
\$3,200 – \$3,999	74,732	6%	52,418	10%
\$4,000 – \$5,999	105,841	8%	82,051	16%
\$6,000 – \$7,999	51,728	4%	43,260	8%
\$8,000 +	63,971	5%	54,872	11%

Table ES-3 shows the distribution of demand relative to supply for the study area's commuter sheds. As shown in Table ES-3, approximately 19 percent of employment center workers earning an average industry salary or less can afford only \$800 per month in housing costs. Approximately 43 percent of the housing supply within the uncongested commuter shed is within those employees' price range, while only 5 percent of the housing supply within the congested commuter shed is within those employees' price range. The results indicate that much of the housing that is attainable to entry-level employment center workers is supplied outside of the study area's typical congested commuter sheds.

2009 Estimated Monthly Housing Cost	Employment Center Worker Demand (Percentage)	30-Minute Uncongested Commuter Shed		30-Minute Congested Commuter Shed		Percentage Change in Supply (Uncongested to Congested)
		Supply (Units)	Supply (Percentage)	Supply (Units)	Supply (Percentage)	
< \$800	19%	544,907	43%	27,028	5%	-95%
\$800 – \$1,599	24%	187,819	15%	87,581	17%	-53%
\$1,600 – \$2,399	19%	121,817	10%	83,920	16%	-31%
\$2,400 – \$3,199	19%	108,687	9%	83,507	16%	-23%
\$3,200 – \$3,999	9%	74,732	6%	52,418	10%	-30%
\$4,000 – \$5,999	7%	105,841	8%	82,051	16%	-22%
\$6,000 – \$7,999	3%	51,728	4%	43,260	8%	-16%
\$8,000 +	0.4%	63,971	5%	54,872	11%	-14%

While these demand and supply comparisons are somewhat informative when considered in isolation, they are intended to serve as a metric for establishing the relative strength of commuter sheds in terms of their ability to provide housing that is attainable to employment center workforces. Commuter sheds in which demand at a given price point is greater than supply denotes an area that is in need of housing at that price point—relative to other price points where supply outpaces demand. The comparisons show that the region as a whole suffers from an under-supply of housing at the lowest attainable price point (i.e., housing costs less than \$800 per month), while there is some variance in the commuter sheds' provision of attainable housing at higher price points.

In terms of locations for attainable housing development, the lack of larger, vacant, undeveloped parcels in combination with factors such as unsuitable zoning and the desire of local residents to maintain a strong community character make it difficult to find suitable sites in the Southwestern Connecticut Region and Westchester County. Inadequate housing options can have a profound impact on the quality of life of residents and ultimately weaken the competitive position of the region's economic centers. Current economic challenges, including a softening real estate market and restricted access to capital for developers, are expected to further tighten the supply of attainable housing.

Identifying development sites for attainable housing within an acceptable distance of the employment centers will be crucial when tackling not only the region's housing challenges, but also its traffic problems. New development and redevelopment solutions will need to consider the region's lack of greenfield sites, be cost effective, have access to the local employment centers, ideally reduce traffic and congestion on the region's transportation network through higher utilization of transit, and provide sustainable redevelopment options. To generate new housing SWRPA's Regional Plan of Conservation and Development recommends to:¹

- Promote infill and mixed-use development in town and urban centers and the rehabilitation of existing substandard housing in these areas.
- Encourage the implementation of zoning mechanisms that promote the creation of affordable housing units, such as legalization of accessory apartments, density bonuses for developers that designate units for affordable housing, and payments in lieu of the provision of affordable units to be paid to a local housing trust fund.
- Promote the adaptive reuse of vacant, historic or underutilized buildings to increase the region's housing stock.

New concepts need to focus on opportunities within the existing development context. Two larger concepts offer the most promising options when selecting potential future development sites: (1) urban infill/Transit-Oriented Development (TOD) opportunities; and (2) grey-field or adaptive reuse opportunities.

Urban infill development refers to development that takes place on properties in more densely populated areas that are vacant or underutilized. Infill development provides an opportunity for communities and planning agencies to encourage development, including

¹ South Western Regional Planning Agency (2006): "Regional Plan of Conservation and Development, 2006 – 2015", page 36.

attainable and fair and affordable housing, in areas that are already served by public infrastructure.

To illustrate the potential for infill development in the Southwestern Connecticut Region and Westchester County, AKRF screened the eight towns in the Southwestern Connecticut Region and all towns and villages in Westchester County to identify potentially suitable workforce housing sites. Only vacant parcels that are larger than ½ acre and close to public transportation were included in the search.

The preliminary screening assessment identified approximately 105 potential infill development sites within the Connecticut portion of the study area and 442 potential infill properties in all of Westchester County, of which about 280 are in the vicinity of the I-287 and I-95 corridors. Applying a low-density development ratio of 10 units per acre to the selected properties results in a total of approximately 7,000 potential housing units in the study area. Applying the high-density ratio of 40 units per acre could yield up to approximately 28,150 new units on urban infill development sites in the study area.

In addition to infill opportunities, the study assessed potential adaptive reuse strategies, which focus on underperforming development sites. Properties screened are mainly situated outside of downtown areas, larger in size (i.e., over 5 acres), and typically vacant or show high vacancy rates because the buildings they accommodate are outdated and/or are not demanded by the market.

The screening was performed to illustrate the total number of potential sites to be considered for further investigation and to identify areas or clusters future studies should focus on. Since the analysis only screens for size, use, and proximity to highways, it can not determine if uses on properties are viable or not. Extended on-the-ground research will be necessary to determine the development potential for each individual property or property cluster.

Overall, there are more than 600 properties that are larger than 5 acres or part of cluster that extends over 5 acres or more. Almost 500 properties are in the Connecticut portion of the study area. All sites encompass more than 2,500 acres, which is almost evenly divided between Westchester County and Southwestern Connecticut. Norwalk is the town with the largest number of properties that fit the screening criteria, while the assessment identified only one potential site in Pelham.

I. INTRODUCTION

Residents and workers within the Southwestern Connecticut Region and Westchester County (collectively, the “study area”) play vital roles in the economic activities in the New York Metropolitan Area. In 2000 approximately 400,000 residents were employees of the over 66,000 businesses located within the study area.¹ Employment centers, primarily located along the I-287 and I-95 highway corridors, provide high-quality jobs to hundreds of thousands of employees. Within a one-mile radius of these two highways alone, there are approximately 30,000 businesses employing over 300,000 workers.²

While businesses in the study area provide many valuable jobs, the region is also home to some of the most affluent residential communities in the New York Metropolitan Area. Many of the homes in these communities are unattainable to the workforce employed by companies in the region’s employment centers. The lack of attainable housing affects not only low-income workers but middle-income families, municipal employees, volunteer firefighters, young families, single-parent households, apartment renters, and first-time homebuyers—groups that are important to community life but that may be unable to afford market-rate housing. Businesses that require skilled workers and a stable workforce suffer when workers cannot afford to live where they work. Communities suffer when teachers, police and fire personnel, local government workers, and young families cannot afford housing.

To retain the existing workforce and to attract new highly-skilled employees, the region and its employment centers need to stay competitive by providing an environment that is attractive to their labor force. Providing attainable housing options within an acceptable distance of employment centers is essential to maintaining and growing the economic activities within the study area.

The scarcity of attainable housing in the region is exacerbated by congestion on the region’s main transportation arteries (e.g., I-287, I-95, and the Merritt Parkway), which increases commuting times to and from the employment centers, thereby reducing the geographic areas in which workers can seek attainable housing. This report examines the effects of existing traffic conditions on the workforce’s ability to find attainable housing, and sets forth strategies to identify the most feasible and effective locations for attainable housing development. The analysis characterizes the overall supply of attainable units under both congested and uncongested traffic conditions, and identifies employment centers with the highest unmet demand for attainable housing. The findings of this analysis are then used to inform the site-selection process for locations most appropriate for attainable housing development. This study’s findings, as well as the evaluation methodologies and criteria developed for the analysis, are intended to guide future decision-making regarding site selection for attainable housing initiatives.

¹ Based on data from 2000 U.S. Census Transportation Planning Package.

² Based on ESRI Business Analyst 2009 business and employment estimates.

Following this introduction, the report is organized as follows:

- **Section II Methodology** summarizes the study area, methodologies, and data sources used in the analysis;
- **Section III Attainable Housing Demand** defines the demand for housing generated by workers within the region's employment centers;
- **Section IV Attainable Housing Supply** describes the amounts and price points of housing available to the workers within areas surrounding the employment centers;
- **Section V Analysis of Housing Attainability within Study Area Commuter Sheds** evaluates the availability of attainable housing within reasonable commuting distance of the region's employment centers; and
- **Section VI Attainable Housing Opportunities Assessment** recommends strategies for identifying the most suitable and most effective locations for attainable housing.

II. METHODOLOGY

The following summarizes the analytical approach used for this study. More detailed information regarding methodologies and data sources are found in **Appendix A**.

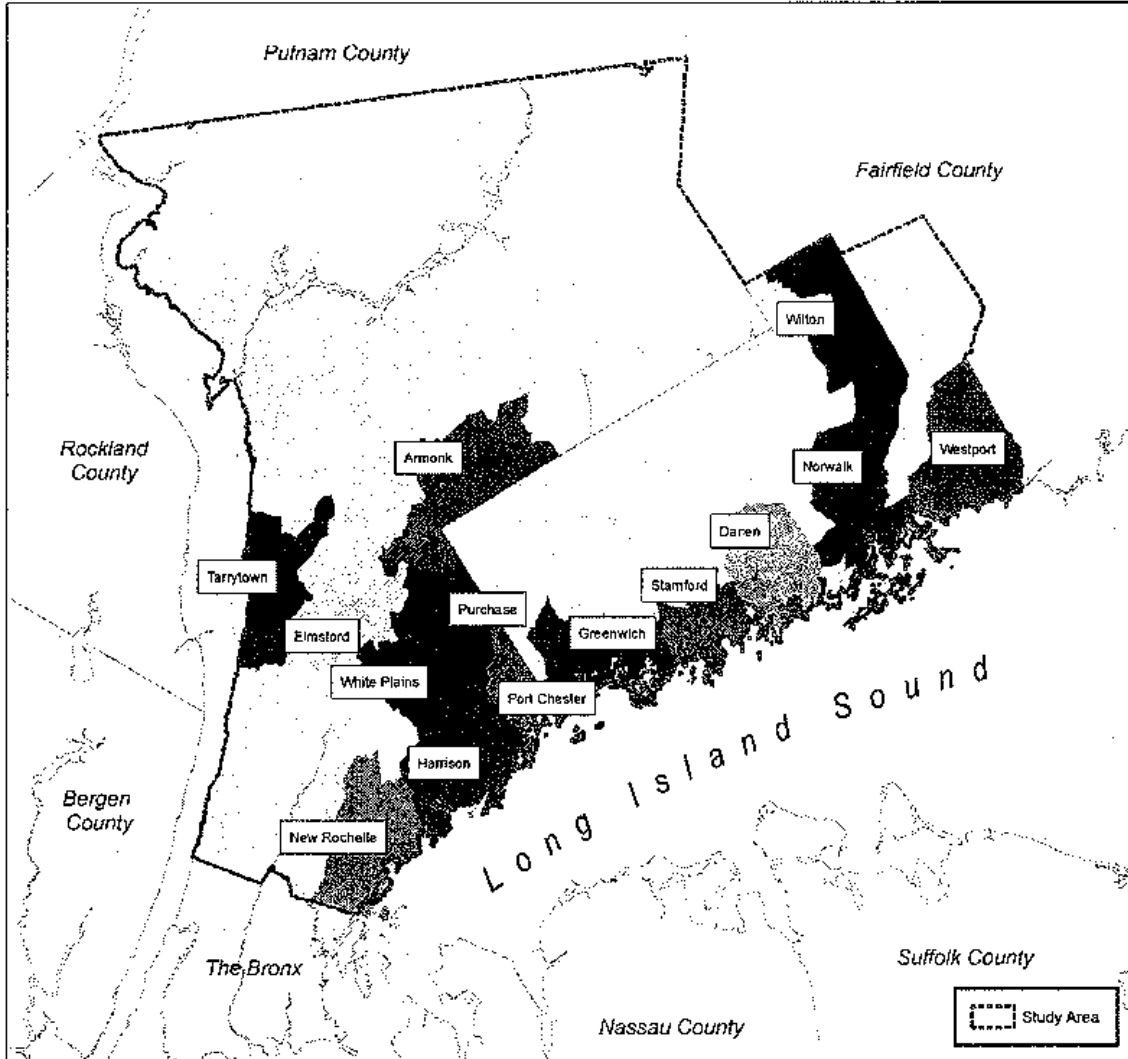
The study applies a two-tiered approach to identifying the most effective locations for "attainable housing"¹ within a "study area" comprised of Westchester County, New York and the eight Connecticut towns that constitute the SWRPA Region, i.e., Greenwich, Stamford, Darien, New Canaan, Norwalk, Wilton, Weston, and Westport (see **Figure 1**). Within this study area, the analysis focuses on "employment centers," which are defined as groupings of zip codes (in Westchester County) and Census tracts (in the SWRPA Region) that contain a substantial number of businesses and workers.

The study first examines the demand and supply relationship for housing in the region, and the role traffic conditions play in that relationship. This examination is detailed in Sections III through V of the report. The findings of these sections work to identify those employment centers that have the greatest need for attainable housing, and guide the location assessment in the second tier of the approach, presented in Section VI of the report. Section VI identifies specific development sites within the study area, differentiating between urban infill sites and grey and greenfield development opportunities along the highway corridors. The site-selection process for the urban infill parcels is based on physical characteristics, such as parcel size and vacancy, as well as strategic characteristics, such as proximity to public transportation and collocation with existing residential uses. Grey and

¹ For purposes of this report, "attainable" housing is defined as housing that costs no more than 30 percent of household income, a threshold consistent with U.S. Census Bureau and U.S. Department of Housing and Urban Development definitions. The term "fair and affordable housing" is used in this report to describe units that carry tenant eligibility requirements that are typically linked to a household's income in relation to the Area Median Income (AMI). While not all Fair and Affordable Housing is government-supported, a vast majority are developed and/or operated with support from one or more municipal, state, or federal government entities and programs, and carry rent restrictions or price restrictions to maintain affordability for the longest feasible time.

greenfield development opportunities identify larger parcels that are either part of an existing development or are undeveloped properties.

Figure 1
Study Area and Study Area Employment Centers



Section III Attainable Housing Demand

Section III of the report characterizes the demand for housing generated by employment center workers, assuming that they seek attainable housing based on their estimated household incomes. This objective was accomplished through a four-step process:

- (1) identifying the study area's major employment centers (the labeled zip code- and Census tract-based areas illustrated in **Figure 1**);
- (2) estimating the numbers and types of employment located within each employment center (summarized results shown in **Table 1**);

- (3) estimating personal and household incomes of employment center workers; and
- (4) estimating the geographic areas in which most employees would ideally seek housing.

Employment Center	Employment	Percent of Cumulative Employment Center Employment
New Rochelle	27,176	8.9%
Harrison	18,803	6.1%
Port Chester	12,162	4.0%
Purchase	7,470	2.4%
White Plains	50,007	16.3%
Elmsford	21,150	6.9%
Tarrytown	17,457	5.7%
Armonk	4,687	1.5%
Greenwich	26,868	8.8%
Stamford	53,961	17.6%
Darien	7,478	2.4%
Norwalk	34,281	11.2%
Wilton	10,355	3.4%
Westport	14,673	4.8%
Total	306,528	100.0%

Sources: Connecticut Department of Labor, Quarterly Census of Employment and Wages (QCEW) 2008 Annual Average by town; New York State Department of Labor QCEQ Second Quarter 2009 by zip code.

Section IV Attainable Housing Supply

Section IV characterizes the housing supply within “30-minute commuter sheds,” defined as the geographic areas surrounding employment centers that can be reached within a 30-minute vehicle travel time.¹ As discussed below, for purposes of analysis 30 minutes is considered the upper-threshold for a desirable commuting distance from a study area employment center. Within these commuter sheds, housing is characterized in terms of the total amounts and pricing distributions, with a focus on housing stock attainable to the employment centers’ workforces.

¹ This analysis focuses on vehicle commuting times, as opposed to commuting times on rail lines, because of the study’s emphasis on traffic congestion, and the effects of congestion. The supply of housing within a 30-minute commuting time for rail commuters to/from any given employment center will vary from the supply of housing estimated for employment centers in this report. To the extent that rail commuters can travel farther than the 30-minute distances estimated under congested commuting conditions, those employees will have greater access to attainable housing than estimated in the report.

Section V Analysis of Housing Attainability within Study Area Commuter Sheds

Section V evaluates the availability of attainable housing within each of the employment center commuter sheds, and analyzes the relative strength of commuter sheds in terms of attainable housing prices. Using the demand and supply analyses from Tasks III and IV, the section presents for each employment center the distribution of attainable housing demand relative to the employment center's supply at various price points. The demand distribution focuses on those employment center employees who earn an average salary or less within their industry sector, and assumes those workers would seek the highest attainable housing value for their estimated incomes.

Section VI Attainable Housing Opportunities Assessment

Section VI describes the attainable housing opportunities assessment, and recommends strategies for future identification of the most suitable and most effective locations for attainable housing in the study area. The opportunities assessment focuses on two major opportunity areas: 1) urban infill development; and 2) suburban grey and greenfield development. For both opportunity areas, a GIS analysis was conducted using parcel-level data for the study area. Complete data were available for all of Westchester County and for six out of the eight Connecticut towns (Greenwich, Darien, New Canaan, Norwalk, Stamford, and Westport). For the town of Wilton, property outlines but no property records were available, while the town of Weston provided property records.

III. ATTAINABLE HOUSING DEMAND

This section characterizes the demand for housing generated by employment center workers earning average industry salaries or less, assuming that they seek attainable housing based on their estimated household incomes.

Overview of Study Area Employment

In 2009 the study area had an estimated 66,277 businesses that employed 641,342 workers. Approximately 14 percent—an estimated 8,996 businesses—were in the Retail Trade sector (see **Table 2**). The Professional, Scientific, and Technical Services sector and Other Services sector followed with 7,475 and 7,460 establishments, respectively. The Construction sector had the fourth-highest concentration of businesses in the study area, with 5,847 establishments (9 percent of total study area businesses).

In terms of employment, in 2009 the Retail Trade sector employed an estimated 93,520 workers, representing 15 percent of employment in the study area (see **Figure 2**). The Health Care and Social Assistance sector followed with 82,787 employees (or 13 percent of the total). Other sectors with significant employment include: the Educational Services sector, which had 55,267 employees (9 percent); and the Professional, Scientific, and Technical Services sector, which had 49,375 employees (8 percent).

Similar to the national economy, Westchester County and Fairfield County experienced substantial job losses and higher office vacancy rates since the onset of the recession. According to the New York State Department of Labor, in Westchester County the number of unemployed persons increased from 5.3 percent of the workforce (26,200 workers) in September 2008 to 6.8 percent unemployment (33,100 workers) in September 2009. According to Cushman & Wakefield, Westchester County's commercial office vacancy rate increased from 12.5 percent in the second quarter 2008 to 17.2 percent in the second quarter 2009.¹ The White Plains Central Business District² has the highest availability rate, with 21.5 percent (X square feet) of its office space available. This is in contrast to the 11.2 percent availability rate for southern Westchester County³ as a whole.

According to the Connecticut State Department of Labor, in Fairfield County the number of unemployed persons increased from 4.6 percent of the labor force (21,518 workers) in March 2008 to 7.3 percent unemployment (34,579 workers) in March 2009. As of December 2009, there were 35,909 unemployed persons in Fairfield County, representing approximately 7.7 percent of the county's labor force. According to Cushman & Wakefield, Fairfield County's Class A office vacancy rate increased from 13.3 percent in the second quarter 2008 to 17.6 percent in the second quarter 2009. Despite job losses in the office-

¹ Cushman & Wakefield, Marketbeat Westchester County Office Reports, 2Q2009 and 2Q2008.

² The White Plains Central Business District consists of all buildings in the downtown area of White Plains including those on Hamilton Avenue, Main Street, Grand Street, North Lexington Avenue, Baker Avenue, and South Broadway.

³ The Southern Westchester housing sub-market is defined as all the towns and cities bisected by or below I-287 excluding the City of Yonkers. These are the towns of Eastchester, Greenburgh, Harrison, Mamaroneck, Mount Vernon, Pelham, Rye, and Scarsdale, and the cities of New Rochelle, Rye, and White Plains.

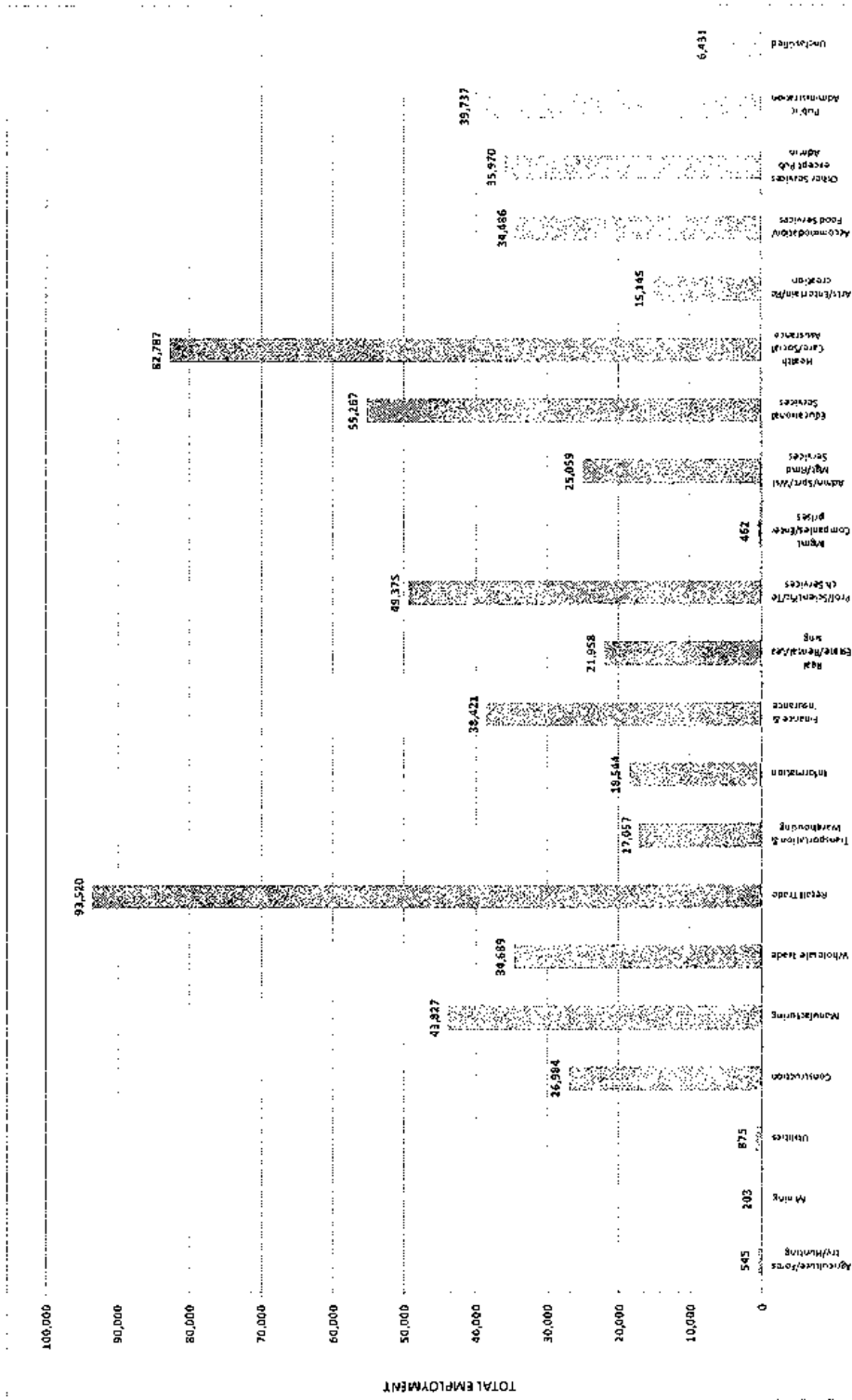
using industries like finance and insurance firms, the county's diversification in other sectors—particularly in the Manufacturing sector—has allowed the county to fare better than other areas.¹ In total, Fairfield County has approximately 40.3 million square feet of office space and an overall vacancy rate of 16.8 percent. Within the SWRPA region, overall office vacancy rates ranged from 12.6 percent in the Darien/New Canaan submarket to 23.6 percent in the Stamford non-CBD submarket.

Sector	Total Businesses	% of Total Businesses	Total Employment	% of Total Employment
Agriculture, Forestry, Fishing and Hunting	133	0%	545	0%
Mining	48	0%	203	0%
Utilities	68	0%	875	0%
Construction	5,847	9%	26,984	4%
Manufacturing	1,795	3%	43,827	7%
Wholesale Trade	2,723	4%	34,689	5%
Retail Trade	8,996	14%	93,520	15%
Transportation and Warehousing	1,398	2%	17,057	3%
Information	1,633	2%	18,544	3%
Finance and Insurance	4,003	6%	38,421	6%
Real Estate and Rental and Leasing	3,205	5%	21,958	3%
Professional, Scientific, and Technical Services	7,475	11%	49,375	8%
Management of Companies and Enterprises	87	0%	462	0%
Administrative and Support and Waste Management	3,974	6%	25,059	4%
Educational Services	1,783	3%	55,267	9%
Health Care and Social Assistance	4,910	7%	82,787	13%
Arts, Entertainment, and Recreation	1,255	2%	15,145	2%
Accommodation and Food Services	3,871	6%	34,486	5%
Other Services (except Public Administration)	7,460	11%	35,970	6%
Public Administration	1,640	2%	39,737	6%
Unclassified Establishments	3,973	6%	6,431	1%
Total	66,277	100%	641,342	100%

Source: ESRI Business Analyst, Business Summary Report.

¹ Cushman & Wakefield, Marketbeat Fairfield County Office Report, 2Q2009.

Figure 2
Study Area Employment by Industry Sector



Study Area Employment Centers

As detailed in Appendix A, AKRF identified 14 study area employment centers, which are the focus of this analysis. These employment centers are shown in **Figure 1, above**. Collectively, there are an estimated 304,471 workers within these employment centers, representing approximately 47 percent of all employment in the study area.

As shown in **Figure 3**, the distribution of employment by sector within the employment centers generally mirrors that of the overall study area, with some notable exceptions. By industry sector, the employment centers contain an average of 44 percent of each industry's total employment within the study area. However, nearly 60 percent of study area employees of both the Professional, Scientific, and Technical Services sector and the Administrative Support and Waste Management sector are located within employment centers. Conversely, only about 30 percent of study area employees of the Educational Services and Arts, Entertainment, and Recreation sectors are located within the employment centers.

Figure 3
Study Area and Employment Center Workers by Industry Sector

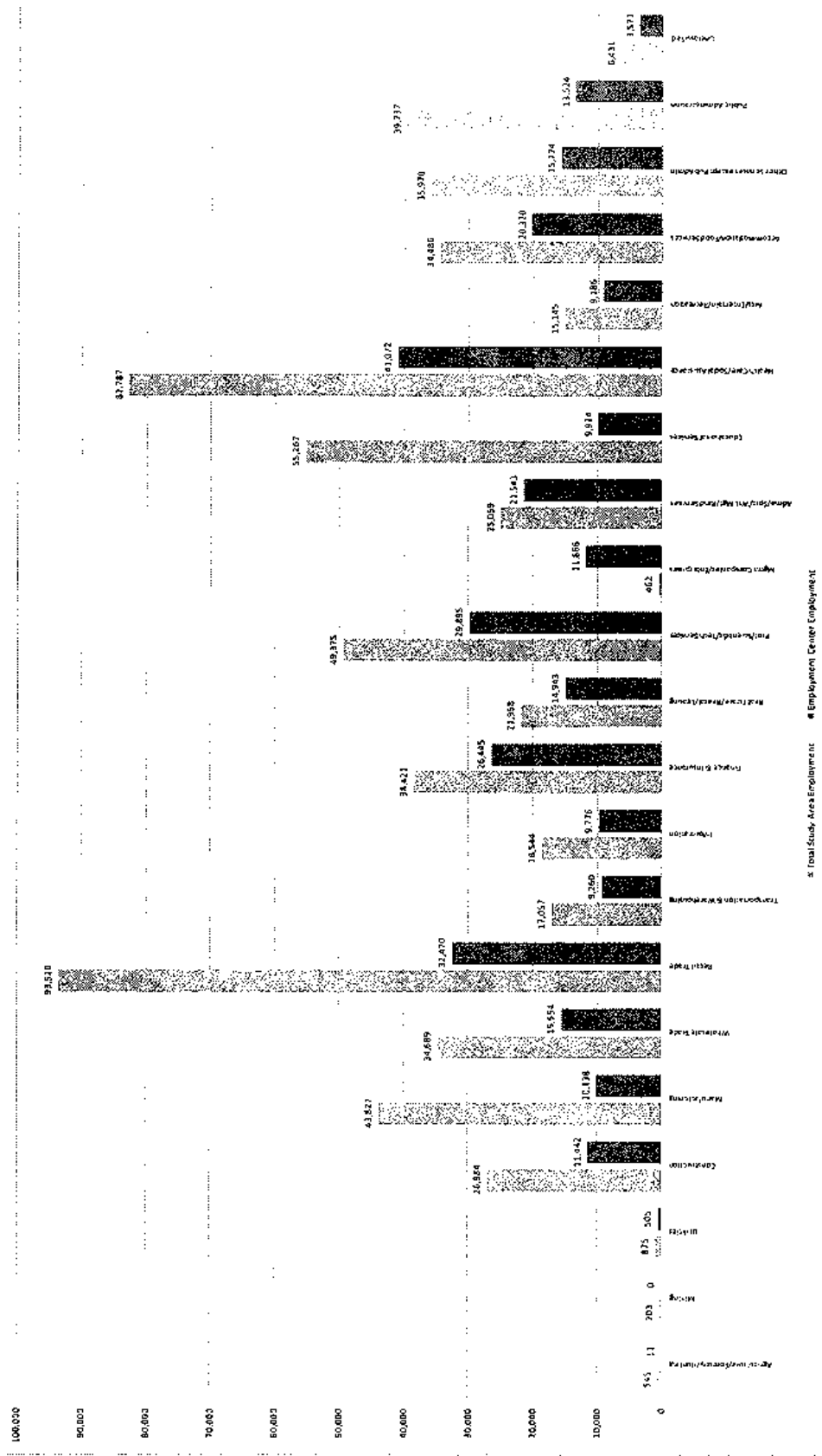


Table 3 provides an overview of the amount of distribution of employment by industry sector.

Table 3
Total Employment in the Study Area

	Total Employment	% of Total Employment
Agriculture, Forestry, Fishing and Hunting	11	0.0%
Mining	0	0.0%
Utilities	505	0.2%
Construction	11,442	3.8%
Manufacturing	10,138	3.3%
Wholesale Trade	15,554	5.1%
Retail Trade	32,470	10.7%
Transportation and Warehousing	9,260	3.0%
Information	9,776	3.2%
Finance and Insurance	26,445	8.7%
Real Estate and Rental and Leasing	14,943	4.9%
Professional, Scientific, and Technical Services	29,895	9.8%
Management of Companies and Enterprises	11,866	3.9%
Administrative and Support and Waste Management	21,543	7.1%
Educational Services	9,924	3.3%
Health Care and Social Assistance	41,072	13.5%
Arts, Entertainment, and Recreation	9,186	3.0%
Accommodation and Food Services	20,320	6.7%
Other Services (except Public Administration)	15,774	5.2%
Public Administration	13,579	4.5%
Unclassified	768	0.3%
Total	304,471	100.0%
Note:	N/A indicates a sector with suppressed data due to the limited (or lack of any) employment in the sector at the town or zip code level.	
Sources:	Westchester County employment center employment data was provided by Westchester County and Urbanomics. Westchester County wage data, which is annual 2008 data from Quarterly Census of Employment and Wages (QCEW), was obtained from New York State Department of Labor. Connecticut employment center data from Connecticut Department of Labor, 2008 Annual Average QCEW (employment) data by town. Wage data is also 2008 Annual Average QCEW, but for Fairfield County.	

The following provides detailed descriptions of the distribution and employment at the employment center businesses. For each employment center, the descriptions identify the largest employer(s) for each employment center, as well as the largest employers within the most prominent industry sector(s).

NEW ROCHELLE

There are an estimated 27,176 employees at businesses within the New Rochelle employment center. These employees represent approximately 9 percent of the total estimated employment within all study area employment centers. Based on Westchester County's 2008 average wages by sector, the average wage in New Rochelle was estimated at \$52,843—the lowest average wage of all the employment centers.

The Health Care and Social Assistance sector has an estimated 5,482 employees, representing approximately 20 percent of employment in the New Rochelle employment center (see Table 4). Approximately 25 percent of employment in this sector is at the Sound Shore Medical Center, which employs approximately 1,390 people. Approximately 15 percent of the area's employment is in the Retail Trade sector. The major retail trade employers include: Home Depot (500 employees); Tiffany (300 employees); and Costco (200 employees). The Educational Services sector has the third highest concentration of employment in the New Rochelle employment center with 2,791 employees (or 10 percent). This is largely attributable to Iona College, which has approximately 650 employees; the College of New Rochelle, which has approximately 450 employees; and New Rochelle High School, which has approximately 269 employees.

Table 4
New Rochelle Employment Center
Employment and Wages

Sector	Total Employment	% of Total Employment	2008 Annual Average Wages for Westchester County
Agriculture, Forestry, Fishing and Hunting	N/A	N/A	\$38,473
Utilities	N/A	N/A	\$105,954
Construction	2,187	8.0%	\$65,578
Manufacturing	1,032	3.8%	\$97,380
Wholesale Trade	1,275	4.7%	\$87,724
Retail Trade	3,975	14.6%	\$31,740
Transportation and Warehousing	269	1.0%	\$48,977
Information	521	1.9%	\$83,372
Finance and Insurance	712	2.6%	\$140,789
Real Estate and Rental and Leasing	959	3.5%	\$59,977
Professional, Scientific, and Technical Services	1,148	4.2%	\$89,112
Management of Companies and Enterprises	221	0.8%	\$198,134
Administrative and Support and Waste Management	1,106	4.1%	\$40,767
Educational Services	2,791	10.3%	\$44,661
Health Care and Social Assistance	5,482	20.2%	\$47,857
Arts, Entertainment, and Recreation	994	3.7%	\$34,039
Accommodation and Food Services	2,341	8.6%	\$22,632
Other Services (except Public Administration)	1,944	7.2%	\$32,251
Unclassified	219	0.8%	\$63,914
Total	27,176	100%	
Weighted Average Annual Wage for New Rochelle Employment Center			\$52,843
Note:	N/A indicates a sector with suppressed data due to the limited (or lack of any) employment in the sector at the zip code level.		
Sources:	Employment data was provided by Westchester County and Urbanomics. Westchester County wage data, which is annual 2008 data from Quarterly Census of Employment and Wages (QCEW), was obtained from New York State Department of Labor.		

HARRISON

There are an estimated 18,803 employees at businesses within the Harrison employment center. This represents approximately 6 percent of total employment in all employment centers. In 2008 the average wage in the Harrison employment center was \$66,687. Approximately 10 percent of Harrison's employment center employees work at The PSP Group, which is a payroll accounting service company that has 1,800 employees.

As shown in **Table 5**, approximately 10 percent of Harrison's employment is in the Health Care and Social Assistance sector. Major employers in this sector include Osborn Retirement Community, which has 500 employees, and St. Vincent's Hospital, which has 450 employees. About 9 percent of employment is in each of the following sectors: Accommodation and Food Services; Educational Services; Construction; Arts, Entertainment, and Recreation; and the Finance and Insurance sector. Rye Courtyard by Marriott and Apple Foods of Mamaroneck, both of which have 50 employees, are major employers in the Accommodation and Food Services sector. Mamaroneck Union Free School District, which has 255 employees, and Rye Country Day School, which has 180 employees, are major employers in the Educational Services sector. Laquila/Pinnacle and Felix Associates LLC are major employers in the Construction sector, with 300 employees and 220 employees, respectively. Sports & Fitness Ventures LLC has 200 employees and is a major employer in the Arts, Entertainment, and Recreation sector. Finally, New York Life and Citigroup are major employers in the Finance and Insurance sector, with 900 employees and 500 employees, respectively.

Table 5
Harrison Employment Center
Employment and Wages

Sector	Total Employment	% of Total Employment	2008 Annual Average Wages in Westchester County
Agriculture, Forestry, Fishing and Hunting	N/A	N/A	\$38,473
Utilities	N/A	N/A	\$105,954
Construction	1,710	9.1%	\$65,578
Manufacturing	541	2.9%	\$97,380
Wholesale Trade	622	3.3%	\$87,724
Retail Trade	1,393	7.4%	\$31,740
Transportation and Warehousing	66	0.4%	\$48,977
Information	350	1.9%	\$83,372
Finance and Insurance	1,619	8.6%	\$140,789
Real Estate and Rental and Leasing	654	3.5%	\$59,977
Professional, Scientific, and Technical Services	988	5.3%	\$89,112
Management of Companies and Enterprises	1,227	6.5%	\$198,134
Administrative and Support and Waste Management	964	5.1%	\$40,767
Educational Services	1,738	9.2%	\$44,661
Health Care and Social Assistance	1,954	10.4%	\$47,857
Arts, Entertainment, and Recreation	1,691	9.0%	\$34,039
Accommodation and Food Services	1,772	9.4%	\$22,632
Other Services (except Public Administration)	1,459	7.8%	\$32,251
Public Administration	55	0.3%	\$63,914
Total	18,803	100%	
Weighted Average Annual Wage for Harrison Employment Center			\$66,687
Note:	N/A indicates a sector with suppressed data due to the limited (or lack of any) employment in the sector at the zip code level.		
Sources:	Employment data was provided by Westchester County and Urbanomics. Westchester County wage data, which is annual 2008 data from Quarterly Census of Employment and Wages (QCEW), was obtained from New York State Department of Labor.		

PORT CHESTER

The Port Chester employment center has an estimated 12,162 employees, with an average wage of \$60,285 (see Table 6). This is the second-lowest average wage in the study area.

The Retail Trade sector, which has the highest concentration of employment in Port Chester, has approximately 2,602 employees, representing 21 percent of employment in the Port Chester employment center. Retail trade firms with the highest employment in Port Chester were Home Depot (300 employees); Costco (180 employees); and Pathmark (170 employees). The Accommodation and Food Services sector has 1,504 employees, representing 12 percent of employment in the Port Chester employment center. The major employers in this sector are Doral Arrowwood Hotel, which has 500 employees, and Hilton Hotels, which has 350 employees. The Health Care and Social Assistance sector follows with an estimated 1,273 employees (or 10 percent of the employment center's jobs). The major

employer in this sector (and the largest employer in the Port Chester employment center) is United Medical Mental Health, which has an estimated 813 employees. About 9 percent of employment is in the Construction sector. Century-Maxim Construction Corporation and Jpm Contracting Corporation are the major employers in this sector with 100 employees and 75 employees, respectively. About 8 percent of Port Chester's employment is in the Manufacturing sector (1,033 employees). Nantucket Nectars, with 399 employees, and Philip Morris, with 300 employees, are the major Manufacturing employers in the Port Chester employment center.

Sector	Total Employment	% of Total Employment	2008 Annual Average Wages in Westchester County
Agriculture, Forestry, Fishing and Hunting	N/A	N/A	\$38,473
Utilities	N/A	N/A	\$105,954
Construction	1,140	9.37%	\$65,578
Manufacturing	1,033	8.49%	\$97,380
Wholesale Trade	518	4.26%	\$87,724
Retail Trade	2,602	21.39%	\$31,740
Transportation and Warehousing	309	2.54%	\$48,977
Information	708	5.82%	\$83,372
Finance and Insurance	587	4.83%	\$140,789
Real Estate and Rental and Leasing	325	2.67%	\$59,977
Professional, Scientific, and Technical Services	500	4.11%	\$89,112
Management of Companies and Enterprises	317	2.61%	\$198,134
Administrative and Support and Waste Management	378	3.11%	\$40,767
Educational Services	127	1.04%	\$44,661
Health Care and Social Assistance	1,273	10.47%	\$47,857
Arts, Entertainment, and Recreation	128	1.05%	\$34,039
Accommodation and Food Services	1,504	12.37%	\$22,632
Other Services (except Public Administration)	626	5.15%	\$32,251
Unclassified	87	0.72%	\$63,914
Total	12,162	100%	
Weighted Average Annual Wage for Port Chester Employment Center			\$60,285
Note:	N/A indicates a sector with suppressed data due to the limited (or lack of any) employment in the sector at the zip code level.		
Sources:	Employment data was provided by Westchester County and Urbanomics. Westchester County wage data, which is annual 2008 data from Quarterly Census of Employment and Wages (QCEW), was obtained from New York State Department of Labor.		

PURCHASE

There are an estimated 7,470 employees at businesses in the Purchase employment center (see **Table 7**). The 2008 average wage for these employees was \$113,381—the highest

average wage of all employment centers. Approximately 20 percent of total employment in Purchase is at PepsiCo., Inc., which has approximately 1,500 employees.

The Finance and Insurance sector has the highest concentration of employment in the Purchase employment center, with 2,987 employees (or 40 percent of total employment center jobs). Major employers in this sector are Diversified Investment Advisors, which has 400 employees, and Apollo Management, which has 300 employees. The Professional, Scientific, and Technical Services sector has the second highest concentration of employment with 1,017 employees, representing 14 percent of employment in the Purchase employment center. Major employers in this sector include: Independent Financial Marketing Group Inc (200 employees) and Pfizer (100 employees). The Management of Companies and Enterprises sector follows with 980 employees. It should be noted that while not accounted for in the educational services sector in the QCEW data, SUNY Purchase employs approximately 950 workers.

Table 7
Purchase Employment Center
Employment and Wages

Sector	Total Employment	% of Total Employment	2008 Annual Average Wages in Westchester County
Agriculture, Forestry, Fishing and Hunting	N/A	N/A	\$38,473
Mining	N/A	N/A	\$0
Utilities	N/A	N/A	\$105,954
Construction	26	0.3%	\$65,578
Manufacturing	334	4.5%	\$97,380
Wholesale Trade	236	3.2%	\$87,724
Retail Trade	70	0.9%	\$31,740
Transportation and Warehousing	N/A	N/A	\$48,977
Information	88	1.2%	\$83,372
Finance and Insurance	2,987	40.0%	\$140,789
Real Estate and Rental and Leasing	239	3.2%	\$59,977
Professional, Scientific, and Technical Services	1,017	13.6%	\$89,112
Management of Companies and Enterprises	980	13.1%	\$198,134
Administrative and Support and Waste Management	219	2.9%	\$40,767
Educational Services	N/A	N/A	\$44,661
Health Care and Social Assistance	402	5.4%	\$47,857
Arts, Entertainment, and Recreation	462	6.2%	\$34,039
Accommodation and Food Services	213	2.9%	\$22,632
Other Services (except Public Administration)	186	2.5%	\$32,251
Unclassified	11	0.1%	\$63,914
Total	7,470	100%	
Weighted Average Annual Wage for Purchase Employment node			\$113,381
Note:	N/A indicates a sector with suppressed data due to the limited (or lack of any) employment in the sector at the zip code level.		
Sources:	Employment data was provided by Westchester County and Urbanomics. Westchester County wage data, which is annual 2008 data from Quarterly Census of Employment and Wages (QCEW), was obtained from New York State Department of Labor.		

WHITE PLAINS

The White Plains employment center has the second-largest employment concentration in the study area, with an estimated 50,007 employees. Based on Westchester County's 2008 average wages by sector, the average wage in the White Plains employment center was estimated at \$64,367.

As shown in **Table 8**, approximately 23 percent of jobs in the White Plains employment center are in the Health Care and Social Assistance sector. Much of this employment is at three establishments: White Plains Hospital Center, with 1,300 employees; New York Presbyterian Hospital Society Anxiety and Depression, with 981 employees; and Burke Rehabilitation Center, with 600 employees. The Retail Trade sector has an estimated 6,572

employees, the second-highest concentration of employment in the White Plains employment center. This employment was at several establishments, including: Bloomingdale's (500 employees); Nordstrom (450 employees); Macy's (400 employees); Wal-Mart (400 employees); JC Penney (275 employees); and Sears (275 employees). The Administrative and Support and Waste Management sector has the third highest concentration of employment with 5,646 employees (or 11 percent White Plains employment). A & A Staffing is a major employer in this sector with 600 employees.

Sector	Total Employment	% of Total Employment	2008 Annual Average Wages in Westchester County
Agriculture, Forestry, Fishing and Hunting	N/A	N/A	\$38,473
Mining	N/A	N/A	\$0
Utilities	N/A	N/A	\$105,954
Construction	832	1.7%	\$65,578
Manufacturing	565	1.1%	\$97,380
Wholesale Trade	2,192	4.4%	\$87,724
Retail Trade	6,572	13.1%	\$31,740
Transportation and Warehousing	769	1.5%	\$48,977
Information	2,396	4.8%	\$83,372
Finance and Insurance	3,468	6.9%	\$140,789
Real Estate and Rental and Leasing	1,580	3.2%	\$59,977
Professional, Scientific, and Technical Services	4,736	9.5%	\$89,112
Management of Companies and Enterprises	2,244	4.5%	\$198,134
Administrative and Support and Waste Management	5,646	11.3%	\$40,767
Educational Services	1,441	2.9%	\$44,661
Health Care and Social Assistance	11,546	23.1%	\$47,857
Arts, Entertainment, and Recreation	452	0.9%	\$34,039
Accommodation and Food Services	2,923	5.8%	\$22,632
Other Services (except Public Administration)	2,431	4.9%	\$32,251
Unclassified	214	0.4%	\$63,914
Total	50,007	100%	
Weighted Average Annual Wage for White Plains Employment Center			\$64,367
Note:	N/A indicates a sector with suppressed data due to the limited (or lack of any) employment in the sector at the zip code level.		
Sources:	Employment data was provided by Westchester County and Urbanomics. Westchester County wage data, which is annual 2008 data from Quarterly Census of Employment and Wages (QCEW), was obtained from New York State Department of Labor.		

ELMSFORD

The Elmsford employment center has an estimated 21,150 employees. This amount represents approximately 7 percent of total employment in the study area employment centers. The average wage in the Elmsford employment center was \$62,648—the third lowest average wage of the employment centers.

As shown in **Table 9**, approximately 13 percent of employment is in the Retail Trade sector. Major retailers in the Elmsford employment center include: Sam’s Club, which has 300 employees, Kmart, which has 286 employees, Robison Oil, which has 230 employees, Wal-Mart, which has 200 employees, and A&P, which has 200 employees. There are 2,597 employees in the Wholesale Trade sector. Top employers in this sector include Brunswick & Fils Inc (150 employees), Passport Collections (125 employees), and Poland Spring (100 employees). Another 12 percent of employment is in the Health Care and Social Assistance sector. The largest employers in this sector include Industrial Medicine Associates (178 employees), Dialysis Clinic (100 employees), and Cardinal McCloskey Services (100 employees). There are 2,214 employees in the Administrative and Support and Waste Management sector, representing 11 percent of Elmsford employment. Ken Cal Maintenance Corp is the major employer in this sector, and in the Elmsford employment center as a whole, with 450 employees.

Table 9
Elmsford Employment Center
Employment and Wages

Sector	Total Employment	% of Total Employment	2008 Annual Average Wages in Westchester County
Agriculture, Forestry, Fishing and Hunting	11	0.1%	\$38,473
Mining	N/A	N/A	\$0
Utilities	N/A	N/A	\$105,954
Construction	1,661	7.9%	\$65,578
Manufacturing	1,190	5.6%	\$97,380
Wholesale Trade	2,597	12.3%	\$87,724
Retail Trade	2,755	13.0%	\$31,740
Transportation and Warehousing	1,536	7.3%	\$48,977
Information	536	2.5%	\$83,372
Finance and Insurance	716	3.4%	\$140,789
Real Estate and Rental and Leasing	647	3.1%	\$59,977
Professional, Scientific, and Technical Services	1,175	5.6%	\$89,112
Management of Companies and Enterprises	467	2.2%	\$198,134
Administrative and Support and Waste Management	2,214	10.5%	\$40,767
Educational Services	667	3.2%	\$44,661
Health Care and Social Assistance	2,560	12.1%	\$47,857
Arts, Entertainment, and Recreation	734	3.5%	\$34,039
Accommodation and Food Services	886	4.2%	\$22,632
Other Services (except Public Administration)	676	3.2%	\$32,251
Unclassified	122	0.6%	\$63,914
Total	21,150	100%	
Weighted Average Annual Wage for Elmsford Employment Center:			\$62,648
Note:	N/A indicates a sector with suppressed data due to the limited (or lack of any) employment in the sector at the zip code level.		
Sources:	Employment data was provided by Westchester County and Urbanomics. Westchester County wage data, which is annual 2008 data from Quarterly Census of Employment and Wages (QCEW), was obtained from New York State Department of Labor.		

TARRYTOWN

The Tarrytown employment center has an estimated 17,457 employees, representing approximately 6 percent of the total estimated employment within study area employment centers. The average wage in this employment center was estimated at \$74,021.

The Professional, Scientific, and Technical Services sector has an estimated 4,432 employees representing 25 percent of employment in the Tarrytown employment center (see **Table 10**). Major employers in this sector are Regeneron and Oracle, which have 700 employees and 230 employees, respectively. The Health Care and Social Assistance sector has the second highest concentration of employment with 2,983 employees (or 17 percent of employment in the Tarrytown employment center). A significant portion of this

employment is at Phelps Memorial Hospital, which is the largest employer in the Tarrytown employment center with 1,055 employees. Approximately 12 percent of employment in the Tarrytown employment sector is in the Finance and Insurance sector (2,036 employees).

Sector	Total Employment	% of Total Employment	2008 Annual Average Wages in Westchester County
Agriculture, Forestry, Fishing and Hunting	N/A	N/A	\$38,473
Utilities	N/A	N/A	\$105,954
Construction	478	2.7%	\$65,578
Manufacturing	662	3.8%	\$97,380
Wholesale Trade	1,218	7.0%	\$87,724
Retail Trade	448	2.6%	\$31,740
Transportation and Warehousing	47	0.3%	\$48,977
Information	635	3.6%	\$83,372
Finance and Insurance	2,036	11.7%	\$140,789
Real Estate and Rental and Leasing	339	1.9%	\$59,977
Professional, Scientific, and Technical Services	4,432	25.4%	\$89,112
Management of Companies and Enterprises	239	1.4%	\$198,134
Administrative and Support and Waste Management	512	2.9%	\$40,767
Educational Services	346	2.0%	\$44,661
Health Care and Social Assistance	2,983	17.1%	\$47,857
Arts, Entertainment, and Recreation	328	1.9%	\$34,039
Accommodation and Food Services	1,469	8.4%	\$22,632
Other Services (except Public Administration)	1,170	6.7%	\$32,251
Unclassified	115	0.7%	\$63,914
Total	17,457	100%	
Weighted Average Annual Wage for Tarrytown Employment Center:			\$74,021
Note:	N/A indicates a sector with suppressed data due to the limited (or lack of any) employment in the sector at the zip code level.		
Sources:	Employment data was provided by Westchester County and Urbanomics. Westchester County wage data, which is annual 2008 data from Quarterly Census of Employment and Wages (QCEW), was obtained from New York State Department of Labor.		

ARMONK

As shown in Table 11, the Armonk employment center has an estimated 4,687 employees—the lowest number of employees of all study area employment centers. Based on Westchester County's 2008 average wages by sector, the average wage in the Armonk employment center was estimated at \$99,706—the second highest average wage in the study area.

The sectors with the highest concentrations of employment are the Management of Companies and Enterprises sector (921 employees or 20 percent of employment in the Armonk employment center), the Finance and Insurance sector (815 employees or 17 percent), and the Wholesale Trade sector (475 employees or 10 percent). The major employer in Armonk is IBM, which has an estimated 1,600 employees, representing 34 percent of employment in the employment center. The company with the second-highest number of employees in the Armonk employment center is Swiss Reinsurance America, which has 650 employees.

Table 11
Armonk Employment Center
Employment and Wages

Sector	Total Employment	% of Total Employment	2008 Annual Average Wages in Westchester County
Agriculture, Forestry, Fishing and Hunting	N/A	N/A	\$38,473
Utilities	N/A	N/A	\$105,954
Construction	204	4.4%	\$65,578
Manufacturing	187	4.0%	\$97,380
Wholesale Trade	475	10.1%	\$87,724
Retail Trade	306	6.5%	\$31,740
Transportation and Warehousing	63	1.3%	\$48,977
Information	102	2.2%	\$83,372
Finance and Insurance	815	17.4%	\$140,789
Real Estate and Rental and Leasing	N/A	N/A	\$59,977
Professional, Scientific, and Technical Services	362	7.7%	\$89,112
Management of Companies and Enterprises	921	19.7%	\$198,134
Administrative and Support and Waste Management	215	4.6%	\$40,767
Educational Services	96	2.0%	\$44,661
Health Care and Social Assistance	149	3.2%	\$47,857
Arts, Entertainment, and Recreation	295	6.3%	\$34,039
Accommodation and Food Services	309	6.6%	\$22,632
Other Services (except Public Administration)	188	4.0%	\$32,251
Unclassified	N/A	N/A	\$63,914
Total	4,687	100%	
Weighted Average Annual Wage for Armonk Employment Center:			\$99,706
Note:	N/A indicates a sector with suppressed data due to the limited (or lack of any) employment in the sector at the zip code level.		
Sources:	Employment data was provided by Westchester County and Urbanomics. Westchester County wage data, which is annual 2008 data from Quarterly Census of Employment and Wages (QCEW), was obtained from New York State Department of Labor.		

GREENWICH

The Greenwich employment center has 26,868 employees. These employees represent approximately 9 percent of the total estimated employment within the study area. Based on the 2008 average wages by sector in Fairfield County, the average wage in the Greenwich employment center was estimated at \$99,311, which is the third-highest average wage in the study area.

The greatest concentration of employment in the Greenwich employment center is in the Finance and Insurance sector, which has 5,840 employees, representing 22 percent of employment in Greenwich (see **Table 12**). The Ropart Group, a venture capital company that has 50 employees, is an employer in this sector. The Health Care and Social Assistance sector and the Retail Trade sector follow with 3,073 employees and 2,742 employees, respectively. The major employer in the Health Care and Social Assistance sector is Park Physical Therapy, which has 150 employees. Major employers in the Retail Trade sector are Porricelli's Food Mart, which has 80 employees; and A & P Food Store, which has 75 employees.

One of the major employers in the Greenwich employment center is Aptuit Inc., which is a pharmaceutical company that has 1,800 employees. Workflow Management Inc., another major employer in the Greenwich employment center, is a graphic design firm that has 1,000 employees.

**Table 12
Greenwich Employment Center
Employment and Wages**

Sector	Total Employment	% of Total Employment	2008 Annual Average Wages by Sector in Fairfield County
Agriculture, Forestry, Fishing and Hunting	N/A	N/A	\$38,046
Mining	N/A	N/A	\$72,739
Utilities	68	0.3%	\$121,683
Construction	927	3.4%	\$59,704
Manufacturing	487	1.8%	\$87,800
Wholesale Trade	958	3.6%	\$99,548
Retail Trade	2,742	10.2%	\$36,129
Transportation and Warehousing	362	1.3%	\$70,661
Information	410	1.5%	\$77,850
Finance and Insurance	5,840	21.7%	\$245,438
Real Estate and Rental and Leasing	803	3.0%	\$76,402
Professional, Scientific, and Technical Services	1,311	4.9%	\$99,749
Management of Companies and Enterprises	1,012	3.8%	\$178,321
Administrative and Support and Waste Management	724	2.7%	\$47,106
Educational Services	1,048	3.9%	\$43,226
Health Care and Social Assistance	3,073	11.4%	\$50,523
Arts, Entertainment, and Recreation	965	3.6%	\$40,101
Accommodation and Food Services	1,679	6.2%	\$21,677
Other Services (except Public Administration)	2,038	7.6%	\$31,787
Public Administration	2,377	8.8%	\$55,046
Total	26,868	100%	
Weighted Average Annual Wage for Greenwich Employment Center			\$99,311
Note:	N/A indicates a sector with suppressed data due to the limited (or lack of any) employment in the sector at the town level.		
Source:	Connecticut Department of Labor, 2008 Annual Average QCEW (employment) data by town. Wage data is also 2008 Annual Average QCEW, but for Fairfield County.		

STAMFORD

The Stamford employment center has the largest concentration of employment out of all study area employment centers. Its estimated 53,961 employees make up 18 percent of total employment in the employment centers. Based on the 2008 average wages by sector in Fairfield County, the average wage in Stamford was estimated at \$63,739, which was among the lowest average wages in the study area.

As shown in Table 13, approximately 16 percent of employment in the Stamford employment center is in the Real Estate, Rental, and Leasing sector. Major employers in this sector include Century 21 Access America, which has 120 employees, and Ashforth Company, which has 125 employees. The Administrative and support and Waste Management sector follows with 10 percent of jobs in the Stamford employment center. Two major employers in this sector are: Temco Service Industries, which has 750

employees, and US Security Associates, which has 300 employees. The Health Care and Social Assistance sector has the third highest concentration of employment with 9 percent of employment. This is largely due to Stamford Hospital, which is the largest employer in the Stamford employment center with 2,200 employees.

Table 13
Stamford Employment Center
Employment and Wages

Sector	Total Employment	% of Total Employment	2008 Annual Average Wages in Fairfield County
Agriculture, Forestry, Fishing and Hunting	N/A	N/A	\$38,046
Mining	N/A	N/A	\$72,739
Utilities	273	0%	\$121,683
Construction	199	0.4%	\$59,704
Manufacturing	1,831	3.4%	\$87,800
Wholesale Trade	3,214	6.0%	\$99,548
Retail Trade	1,964	3.6%	\$36,129
Transportation and Warehousing	4,538	8.4%	\$70,661
Information	1,326	2.5%	\$77,850
Finance and Insurance	1,580	2.9%	\$245,438
Real Estate and Rental and Leasing	8,563	15.9%	\$76,402
Professional, Scientific, and Technical Services	6,369	2.1%	\$99,749
Management of Companies and Enterprises	1,994	3.7%	\$178,321
Administrative and Support and Waste Management	5,332	9.9%	\$47,106
Educational Services	714	1.3%	\$43,226
Health Care and Social Assistance	4,976	9.2%	\$50,523
Arts, Entertainment, and Recreation	1,095	2.0%	\$40,101
Accommodation and Food Services	3,060	5.7%	\$21,677
Other Services (except Public Administration)	1,569	2.9%	\$31,787
Public Administration	4,486	8.3%	\$55,046
Non-classified Establishments	N/A	N/A	\$60,582
Total	53,961	100%	
Weighted Average Annual Wage for Stamford Employment Center			\$63,739
Note:	N/A indicates a sector with suppressed data due to the limited (or lack of any) employment in the sector at the town level.		
Source:	Connecticut Department of Labor, 2008 Annual Average QCEW (employment) data by town. Wage data is also 2008 Annual Average QCEW, but for Fairfield County.		

DARIEN

The Darien employment center has 7,431 employees—the second-lowest concentration of employment of all study area employment centers. In 2008 the average wage in the employment node was \$66,685.

As shown in **Table 14**, the Retail Trade sector employs an estimated 1,322 people, representing approximately 18 percent of employment in this employment center. Major employers in this sector are: Zotos International Inc., which has 200 employees; Ring’s End

Lumber, which has 180 employees; Shaw's Supermarket, which has 150 employees; and Compleat Angler, which has 100 employees. The Public Administration sector has the second-highest concentration of employment in the Darien employment center, with 1,063 employees. This includes 165 employees at the Noroton Heights Fire Department and Noroton Fire Department and 102 employees at the Darien Police Department and Darien Police Detective Bureau. The Accommodation and Food Services sector has the third highest concentration of employees with 10 percent of employment in the Darien employment center. McDonald's and Bertucci's Brick Oven Restaurant has 90 employees and 65 employees, respectively, in the Darien employment center.

Web Media Brands, Inc., an online media and design services company, is the largest employer in the Darien employment center, with 652 employees.

Sector	Total Employment	% of Total Employment	2008 Annual Average Wages in Fairfield County
Agriculture, Forestry, Fishing and Hunting	N/A	N/A	\$38,046
Mining	N/A	N/A	\$72,739
Utilities	N/A	N/A	\$121,683
Construction	188	2.5%	\$59,704
Manufacturing	N/A	N/A	\$87,800
Wholesale Trade	271	3.6%	\$99,548
Retail Trade	1,322	17.7%	\$36,129
Transportation and Warehousing	189	2.5%	\$70,661
Information	198	2.6%	\$77,850
Finance and Insurance	636	8.5%	\$245,438
Real Estate and Rental and Leasing	70	0.9%	\$76,402
Professional, Scientific, and Technical Services	574	7.7%	\$99,749
Management of Companies and Enterprises	37	0.5%	\$178,321
Administrative and Support and Waste Management	284	3.8%	\$47,106
Educational Services	117	1.6%	\$43,226
Health Care and Social Assistance	319	4.3%	\$50,523
Arts, Entertainment, and Recreation	600	8.0%	\$40,101
Accommodation and Food Services	754	10.1%	\$21,677
Other Services (except Public Administration)	809	10.8%	\$31,787
Public Administration	1,063	14.2%	\$55,046
Non-classified Establishments	N/A	N/A	\$60,582
Total	7,431		
Weighted Average Annual Wage for Darien Employment Center			\$66,685
Note:	N/A indicates a sector with suppressed data due to the limited (or lack of any) employment in the sector at the town level.		
Source:	Connecticut Department of Labor, 2008 Annual Average QCEW (employment) data by town. Wage data is also 2008 Annual Average QCEW, but for Fairfield County.		

NORWALK

The Norwalk employment center contains an estimated 34,236 employees, which represents 11 percent of total employment in the employment centers. This is the third highest concentration of employment out of all study area employment centers. In 2008 the average wage in this area was \$76,638.

As shown in **Table 15**, the sector with the highest concentration of employment in the Norwalk employment center is the Retail Trade sector, which has 4,840 employees or 14 percent of jobs in the Norwalk employment center. Establishments with the highest employment in these sectors are Stew Leonard's (500 employees); and Klaff's Inc (340 employees). The Health Care and Social Assistance sector has an estimated 4,097 employees (or 12 percent of total employment). A large portion of this employment is at Norwalk Hospital, which has approximately 2,000 employees and is the largest employer in the Norwalk employment center. The Professional, Scientific, and Technical Services sector has the third highest concentration of jobs in the Norwalk employment center, with 10 percent of jobs. Some major employers in this sector include: Vertrue Inc., an internet direct marketing services company (500 employees), Reed Exhibitions, an organizer of trade shows (400 employees), Ibase Consulting (100 employees) and Siemens IT Solutions and Services Inc (100 employees).

The employer with the second-highest number of employees in the Norwalk employment center after Norwalk Hospital is Diageo North America Inc, a beer wholesaler that has 750 employees. In addition, several companies in the employment center have approximately 500 employees, including: Northrop Grumman Electronic Systems, Covidien, Stew Leonard's, GE Real Estate, and Hewett Associates.

Table 15
Norwalk Employment Center
Employment and Wages

Sector	Total Employment	% of Total Employment	2008 Annual Average Wages in Fairfield County
Agriculture, Forestry, Fishing and Hunting	N/A	N/A	\$38,046
Mining	N/A	N/A	\$72,739
Utilities	164	0.5%	\$121,683
Construction	1,197	3.5%	\$59,704
Manufacturing	2,207	6.4%	\$87,800
Wholesale Trade	1,262	3.7%	\$99,548
Retail Trade	4,840	14.1%	\$36,129
Transportation and Warehousing	869	2.5%	\$70,661
Information	1,885	5.5%	\$77,850
Finance and Insurance	2,257	6.6%	\$245,438
Real Estate and Rental and Leasing	420	1.2%	\$76,402
Professional, Scientific, and Technical Services	3,306	9.6%	\$99,749
Management of Companies and Enterprises	1,564	4.6%	\$178,321
Administrative and Support and Waste Management	2,952	8.6%	\$47,106
Educational Services	359	1.0%	\$43,226
Health Care and Social Assistance	4,097	12.0%	\$50,523
Arts, Entertainment, and Recreation	768	2.2%	\$40,101
Accommodation and Food Services	1,873	5.5%	\$21,677
Other Services (except Public Administration)	1,169	3.4%	\$31,787
Public Administration	3,050	8.9%	\$55,046
Total	34,236	100%	
Weighted Average Annual Wage for Norwalk Employment Center			\$76,638
Note:	N/A indicates a sector with suppressed data due to the limited (or lack of any) employment in the sector at the town level.		
Source:	Connecticut Department of Labor, 2008 Annual Average QCEW (employment) data by town. Wage data is also 2008 Annual Average QCEW, but for Fairfield County.		

WILTON

The Wilton employment center has 10,355 employees, representing 3 percent of total employment in the employment centers. In 2008, the average wage for this center was \$89,734. This is the fourth-highest average wage of the employment centers.

As shown in **Table 16**, the Professional, Scientific, and Technical Services sector has an estimated 1,853 employees, representing 18 percent of employment in the Wilton employment center. Major employers in this sector include: Tracy Locke (an advertising agency), which has 350 employees; Ryan Partnership (a marketing company), which has 301 employees; Deloitte & Touche (250 employees); and Nielsen Trade Dimensions (250 employees). The Retail Trade sector follows with 1,143 employees, representing 11 percent of employment in the Wilton employment center. Super Stop & Shop, the largest employer in this sector, has 120 employees. In addition, there are car dealerships in the Wilton employment center, including Bob Sharp Motors (85 employees) and Chevrolet Buick of Wilton (52 employees). The Public Administration sector has 1,101 employees, which is about 11 percent of employment in the Wilton employment center. The Finance and Insurance sector follows with an estimated 1,001 employees, representing 10 percent of total employment. AIG Financial Products Corporation is the largest employer in this sector, and in the Wilton employment center as a whole, with 370 employees in Wilton.

Table 16
Wilton Employment Center
Employment and Wages

Sector	Total Employment	% of Total Employment	2008 Annual Average Wages in Fairfield County
Agriculture, Forestry, Fishing and Hunting	N/A	N/A	\$38,046
Mining	N/A	N/A	\$72,739
Utilities	N/A	N/A	\$121,683
Construction	401	3.9%	\$59,704
Manufacturing	N/A	N/A	\$87,800
Wholesale Trade	416	4.0%	\$99,548
Retail Trade	1,143	11.0%	\$36,129
Transportation and Warehousing	128	1.2%	\$70,661
Information	281	2.7%	\$77,850
Finance and Insurance	1,001	9.7%	\$245,438
Real Estate and Rental and Leasing	135	1.3%	\$76,402
Professional, Scientific, and Technical Services	1,853	17.9%	\$99,749
Management of Companies and Enterprises	281	2.7%	\$178,321
Administrative and Support and Waste Management	562	5.4%	\$47,106
Educational Services	79	0.8%	\$43,226
Health Care and Social Assistance	785	7.6%	\$50,523
Arts, Entertainment, and Recreation	187	1.8%	\$40,101
Accommodation and Food Services	423	4.1%	\$21,677
Other Services (except Public Administration)	548	5.3%	\$31,787
Public Administration	1,101	10.6%	\$55,046
Total	10,355	100%	
Weighted Average Annual Wage for Wilton Employment Center			\$89,734
Note:	N/A indicates a sector with suppressed data due to the limited (or lack of any) employment in the sector at the town level.		
Source:	Connecticut Department of Labor, 2008 Annual Average QCEW (employment) data by town. Wage data is also 2008 Annual Average QCEW, but for Fairfield County.		

WESTPORT

There are an estimated 14,658 employees in the Westport employment center, representing approximately 5 percent of total employment at major employers in all study area employment centers. In 2008 the average wage in the Westport employment center was \$86,562.

As shown in **Table 17**, approximately 16 percent of the jobs in this employment center are in the Retail Trade sector. Major employers in this sector are Mitchells of Westport, which has 225 employees; Shaw's Supermarket, which has 120 employees, and Whole Foods Market, which has an estimated 100 employees. The Finance and Insurance sector follows with approximately 2,191 employees (or 15 percent of employment in the Westport employment center). This sector's employment includes 250 employees at Met Life; and 170 employees at Phibro Incorporated. The third-highest concentration of employment in the Westport employment center is in the Professional, Scientific, and Technical Services sector, which has an estimated 2,124 employees. The establishments with the highest employment in this sector are Catapult Marketing Group, which has 80 employees, Triple Point Technology, which has 80 employees, and Nielsen BASES, which has 54 employees.

Velocity Express Corporation, a ground package delivery service company, is the largest employer in the Westport employment center, with 1,758 employees.

Table 17
Westport Employment Center
Employment and Wages

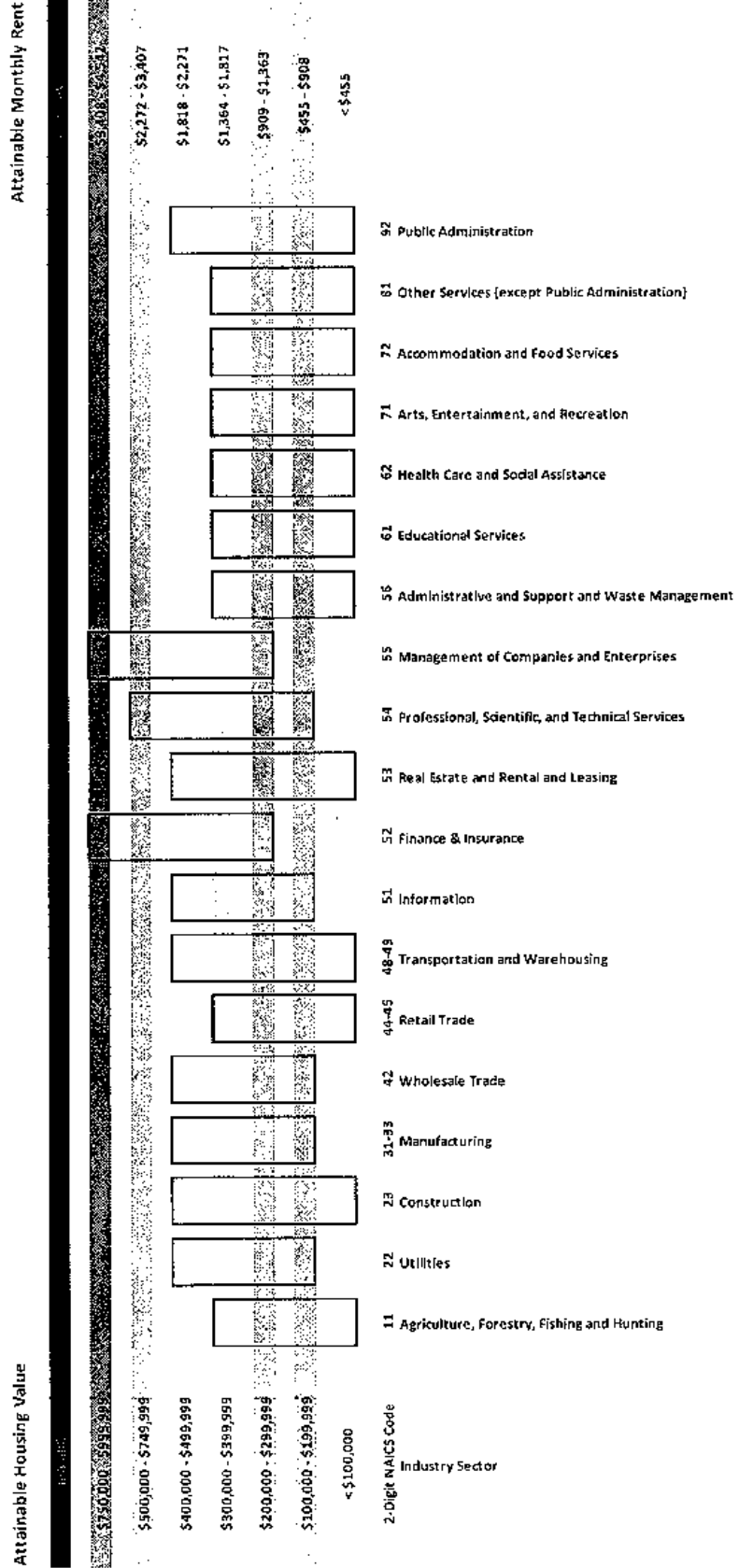
Sector	Total Employment	% of Total Employment	2008 Annual Average Wages by Sector in Fairfield County
Agriculture, Forestry, Fishing and Hunting	N/A	N/A	\$38,046
Mining	N/A	N/A	\$72,739
Utilities	N/A	N/A	\$121,683
Construction	292	2.0%	\$59,704
Manufacturing	69	0.5%	\$87,800
Wholesale Trade	300	2.0%	\$99,548
Retail Trade	2,338	16.0%	\$36,129
Transportation and Warehousing	115	0.8%	\$70,661
Information	340	2.3%	\$77,850
Finance and Insurance	2,191	14.9%	\$245,438
Real Estate and Rental and Leasing	209	1.4%	\$76,402
Professional, Scientific, and Technical Services	2,124	14.5%	\$99,749
Management of Companies and Enterprises	362	2.5%	\$178,321
Administrative and Support and Waste Management	435	3.0%	\$47,106
Educational Services	401	2.7%	\$43,226
Health Care and Social Assistance	1,473	10.0%	\$50,523
Arts, Entertainment, and Recreation	487	3.3%	\$40,101
Accommodation and Food Services	1,114	7.6%	\$21,677
Other Services (except Public Administration)	961	6.6%	\$31,787
Public Administration	1,447	9.9%	\$55,046
Total	14,658	100%	
Weighted Average Annual Wage for Westport Employment Center			\$86,562
Note:	N/A indicates a sector with suppressed data due to the limited (or lack of any) employment in the sector at the town level.		
Source:	Connecticut Department of Labor, 2008 Annual Average QCEW (employment) data by town. Wage data is also 2008 Annual Average QCEW, but for Fairfield County.		

Estimated Attainable Housing Demand Generated by Employment Center Workers

As detailed in **Appendix A**, incomes of employment center workers were estimated using the NAICS-based industry categorizations and QCEW data, and then adjusted by wage-earners per household to estimate household incomes. From these estimated household incomes, AKRF derived attainable housing costs, which represent the amount a household can afford to spend on housing expenses on a monthly basis.

Figure 4 illustrates the attainable monthly housing costs and corresponding housing value for those costs. The attainable monthly housing cost is roughly equivalent to gross monthly rent, and is referenced against a corresponding attainable housing value. These housing values were estimated assuming cost of mortgage and other homeowner expenses such as property taxes, home maintenance, and utilities.

Figure 4
Attainable Housing Values and Rents by Industry Sector
Employees Who Earn No More Than Average Salary



For each industry sector shown in **Figure 4**, there is a range of price-points identified as attainable based on salaries within that industry. The lower end of each range reflects the monthly housing costs attainable for a single wage-earning household with an entry-level salary within their industry sector, while the upper end of the range reflects households with one employment center worker earning the average salary for their industry, as well as at least one other wage-earner in the household. For example, an employment center worker in the retail industry who makes a starting salary for that industry can afford to spend no more than \$800 per month on housing costs (either on rent or on mortgage and other homeowner expenses associated with a home valued at less than \$100,000). Retail workers earning an average salary for the industry and/or having more than one wage-earner in their household can afford to pay as much as \$3,199 per month on housing costs (either on rent or on mortgage and other homeowner expenses associated with a home valued at between \$300,000 and \$399,999).

Figure 4 and the demand distributions estimated for this analysis do not account for attainable housing costs of households with wage-earners that make above-average salaries for their industry. Estimating demand generated by all employment center workers is made difficult by a lack of comprehensive data on the full distribution of incomes within industry sectors.

The cumulative distribution of attainable demand from employees within the 14 employment centers who earn average industry salaries or less is presented in **Table 18**. **Table 19** reports the combined results for employment centers in the Southwestern Connecticut region, and **Table 20** reports the combined results for employment centers in Westchester County. **Appendix A** presents similar tables for each of the 14 employment centers.

For example, **Table 18** shows that approximately 19 percent of employment center workers who earn an average salary or less within their industry can only afford to demand rental or for-sale housing with a monthly housing cost of less than \$800. It is assumed that workers would demand the highest attainable price point range, and would not seek housing that is below their attainable range.

Table 18	
Distribution of Attainable Housing Demand Employees Who Earn Average Industry Salary or Less All Employment Centers	
2009 Monthly Attainable Housing Costs	Unit Demand Distribution
< \$800	19%
\$800 – \$1,599	24%
\$1,600 – \$2,399	19%
\$2,400 – \$3,199	19%
\$3,200 – \$3,999	9%
\$4,000 – \$5,999	7%
\$6,000 – \$7,999	3%
\$8,000 +	0.4%

Table 19	
Distribution of Attainable Housing Demand Employees Who Earn Average Industry Salary or Less Southwestern Connecticut Region Employment Centers	
2009 Monthly Attainable Housing Costs	Unit Demand Distribution
< \$800	17%
\$800 – \$1,599	27%
\$1,600 – \$2,399	14%
\$2,400 – \$3,199	20%
\$3,200 – \$3,999	8%
\$4,000 – \$5,999	8%
\$6,000 – \$7,999	5%
\$8,000 +	1%

2009 Monthly Attainable Housing Costs	Unit Demand
< \$800	20%
\$800 – \$1,599	21%
\$1,600 – \$2,399	24%
\$2,400 – \$3,199	18%
\$3,200 – \$3,999	10%
\$4,000 – \$5,999	6%
\$6,000 – \$7,999	1%
\$8,000 +	0.0%

Geographic Areas of Housing Demand

The area in which an employment center’s workers would most likely reside is primarily a function of commuting time to and from their place of work. For purposes of this analysis, a 30-minute vehicle commute (one-way) was established as the outer-threshold for what would be considered a reasonable drive-time.¹

Given traffic conditions within the study area, the geographic coverage of a 30-minute drive-time to or from an employment center can vary significantly. AKRF developed an “uncongested commuter shed” that captures the 30-minute driving distance to/from an employment center based on uncongested traffic conditions, as well as a “congested commuter shed” that captures the same drive-time, but under typical congested conditions during peak commuting hours. The uncongested and congested commuter sheds for each employment center are depicted in **Figures 5 to 18**. Many of these commuter sheds, particularly the uncongested commuter sheds, extend outside of the study area into areas that employment center workers may find less appealing, either because of distance, differences in the quality of schools, or other quality of life factors. Therefore, the supply analyses in Sections IV and V of the report consider commuter sheds that extend outside of the study area into New York City, New Jersey, and Long Island, as well as commuter sheds that stop at the Westchester County border.

¹ A 30-minute drive-time commuting distance (one-way) was employed for this analysis because it captures the upper bound of commuting distance of a majority of resident-workers in the study area, and represents what is generally considered to be an outer-threshold for a “desirable” commuting time. While residential desirability factors such as proximity to an urban center can lengthen commuting distance, a 30-minute driving distance from any workplace within the study area affords access to an urban center that would satisfy most residents’ needs.

Figure 5
New Rochelle Employment Center 30-Minute Commuter Sheds

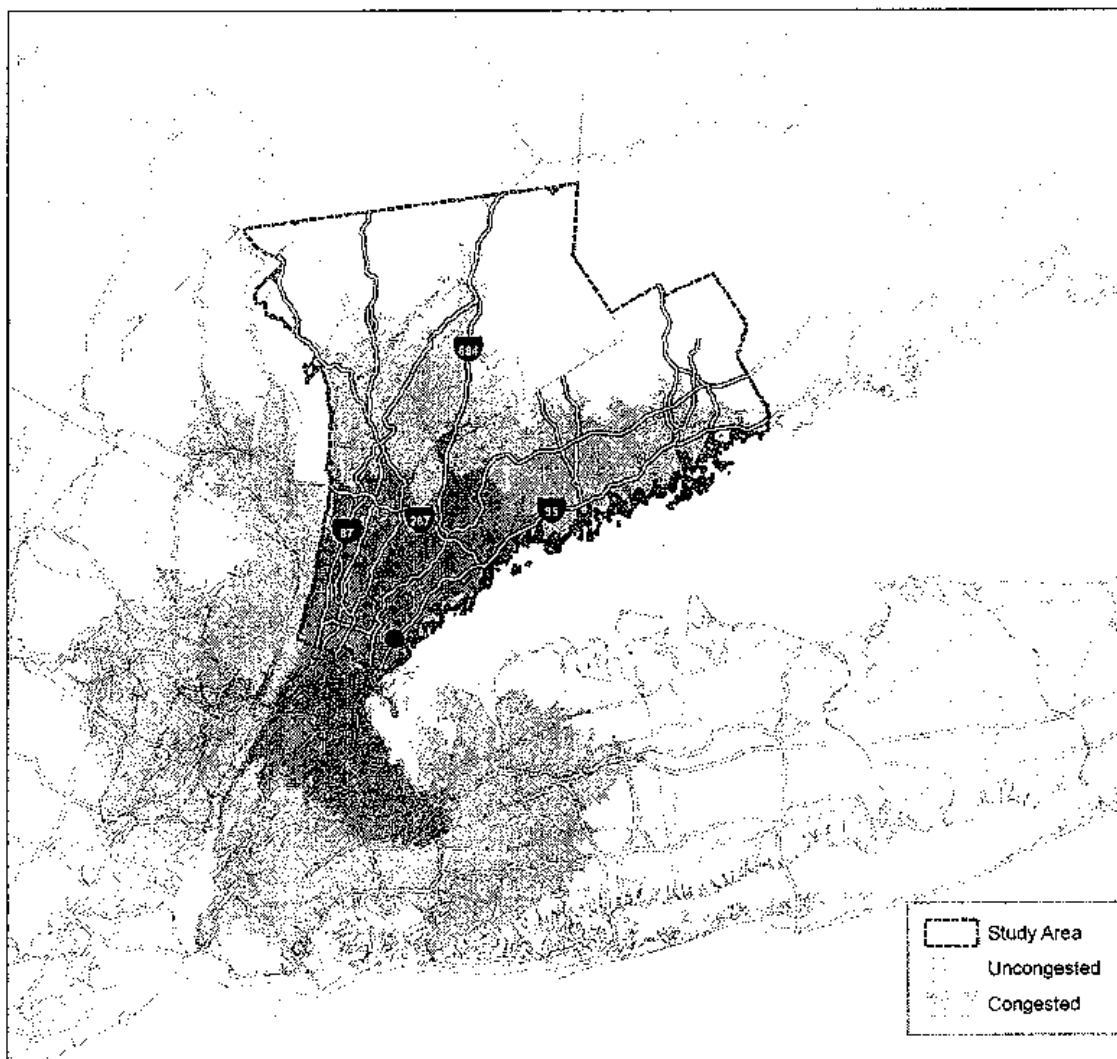


Figure 6
Harrison Employment Center 30-Minute Commuter Sheds

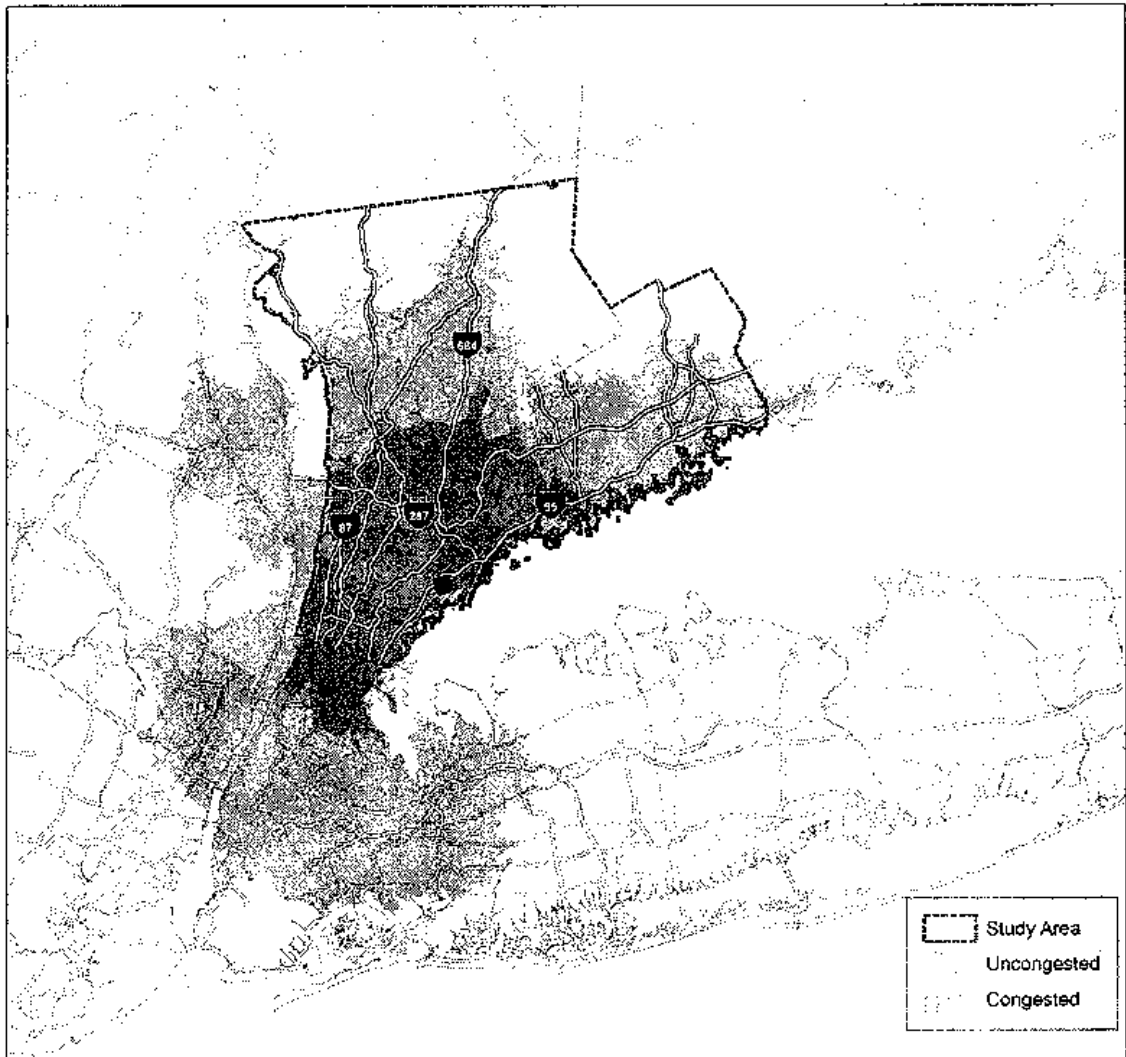


Figure 7
Port Chester Employment Center 30-Minute Commuter Sheds

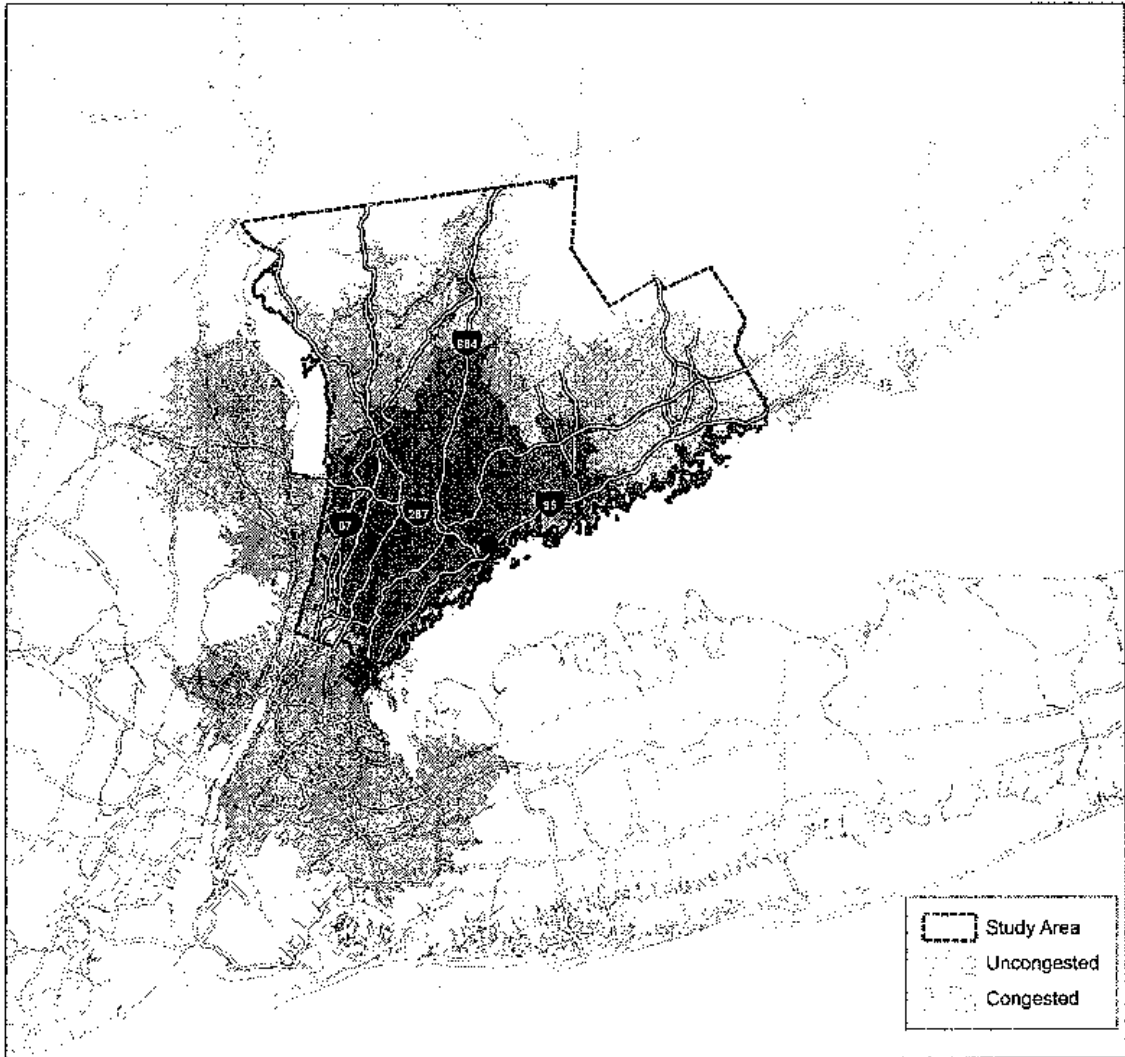


Figure 8
Armonk Employment Center 30-Minute Commuter Sheds

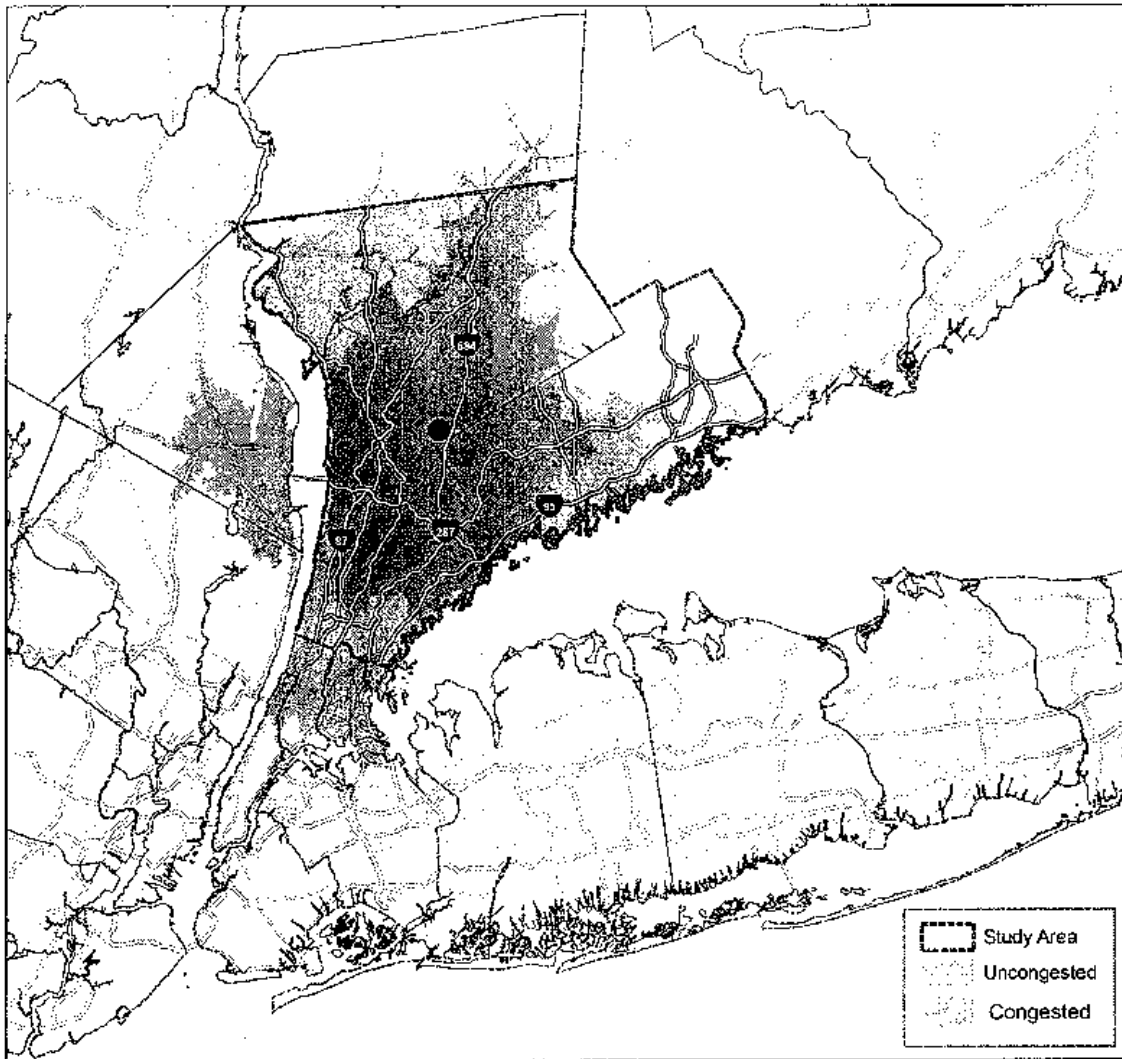


Figure 9
Greenwich Employment Center 30-Minute Commuter Sheds

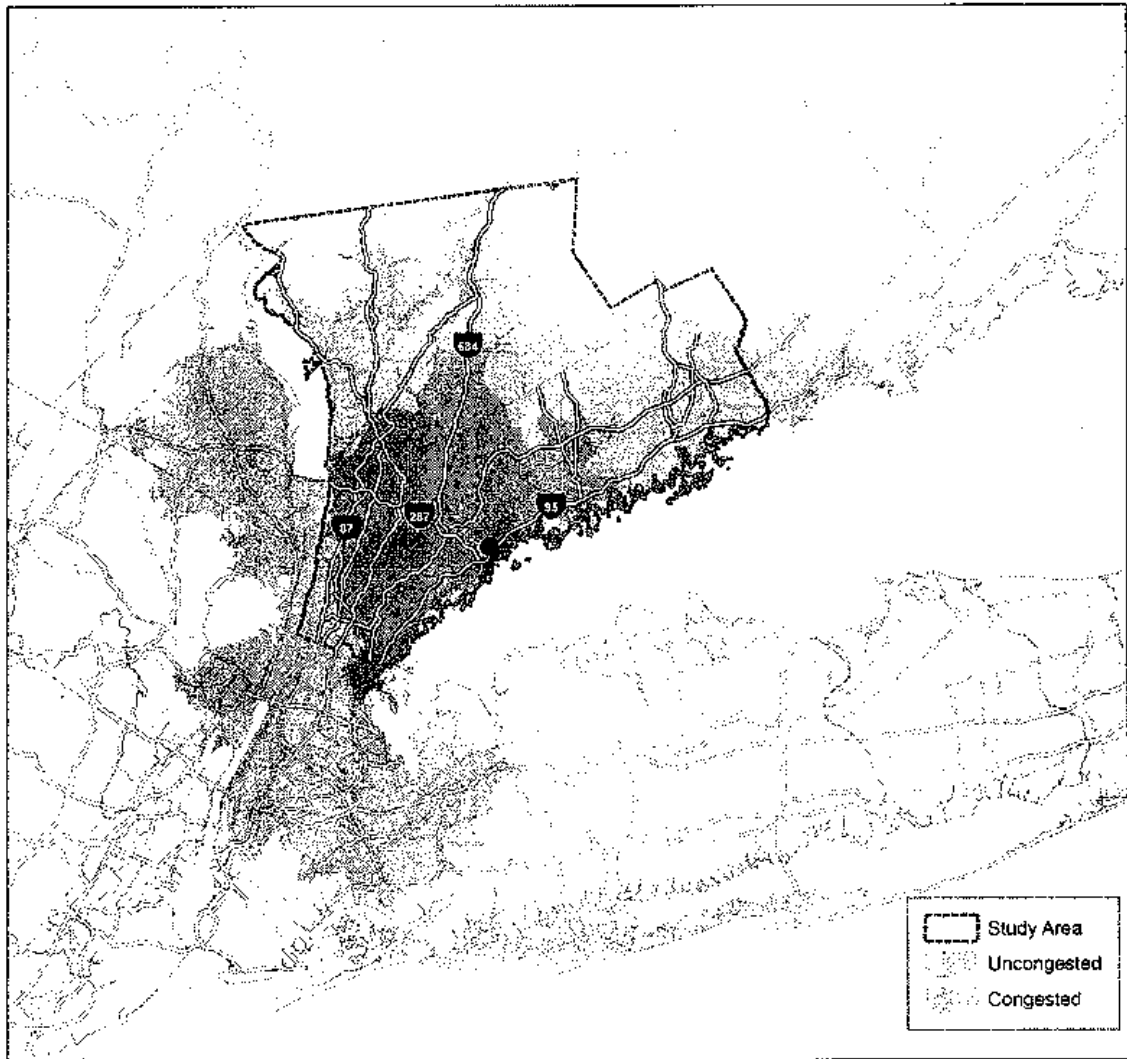


Figure 10
Purchase Employment Center 30-Minute Commuter Sheds

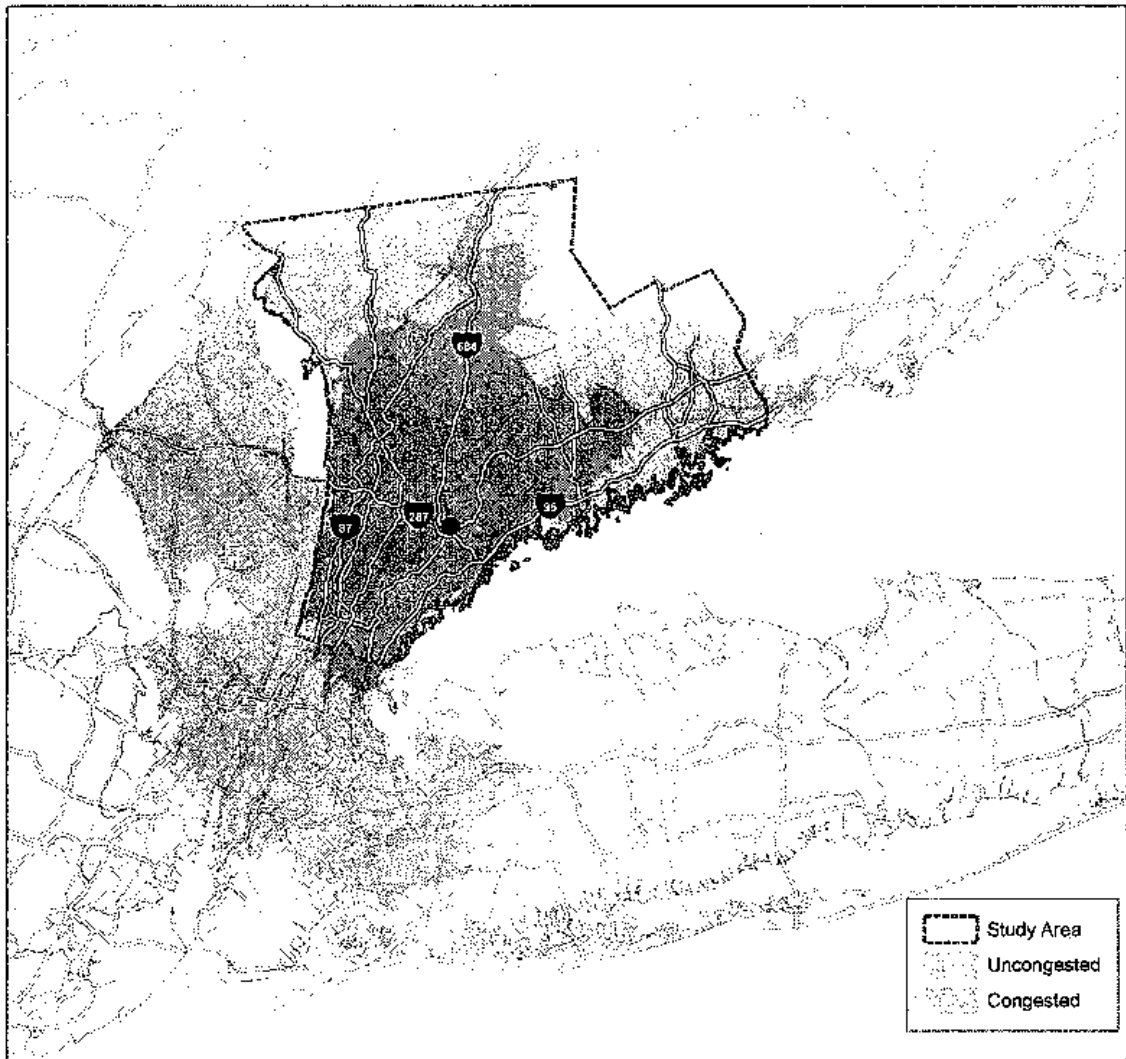


Figure 11
White Plains Employment Center 30-Minute Commuter Sheds

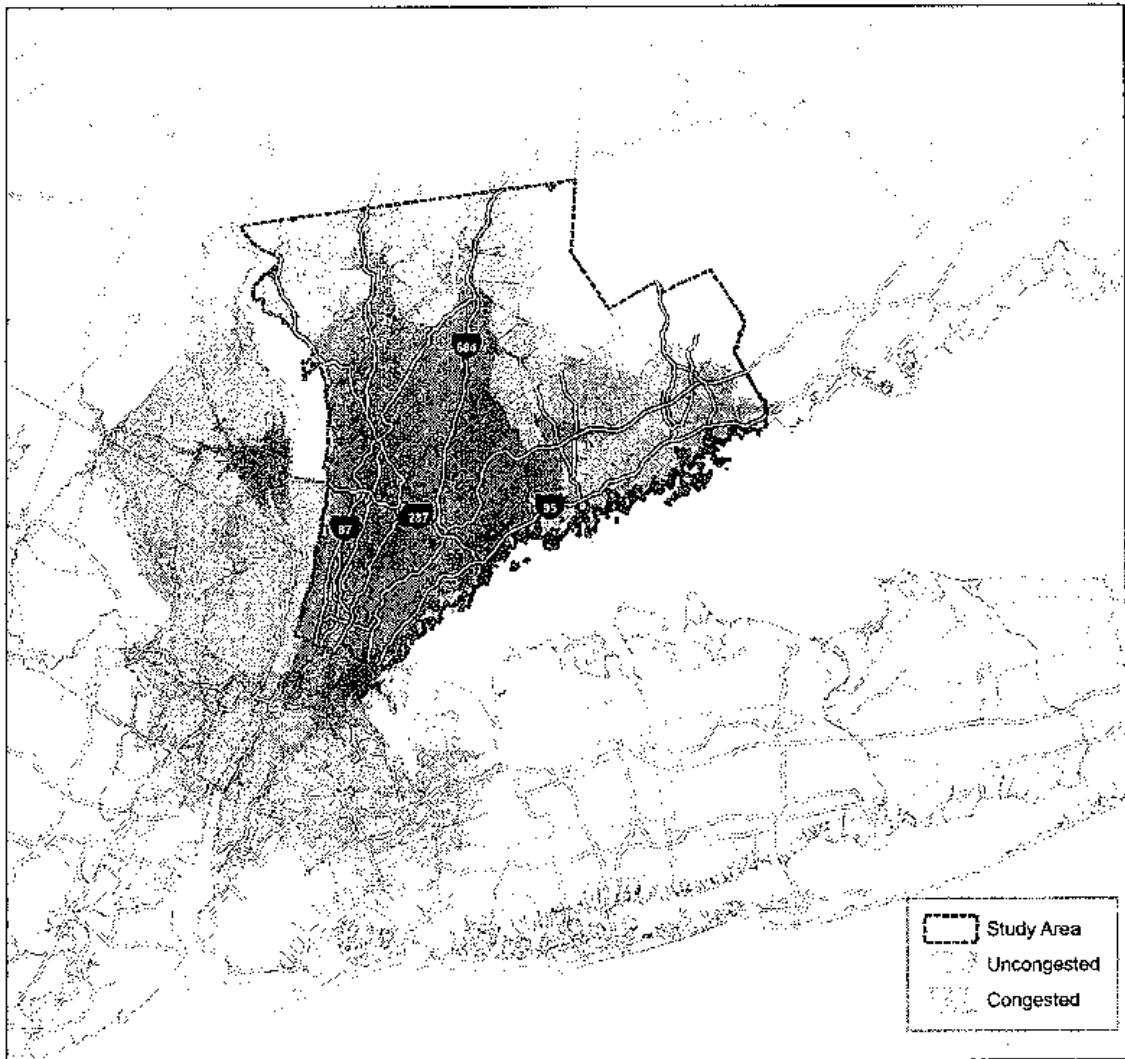


Figure 12
Elmsford Employment Center 30-Minute Commuter Sheds

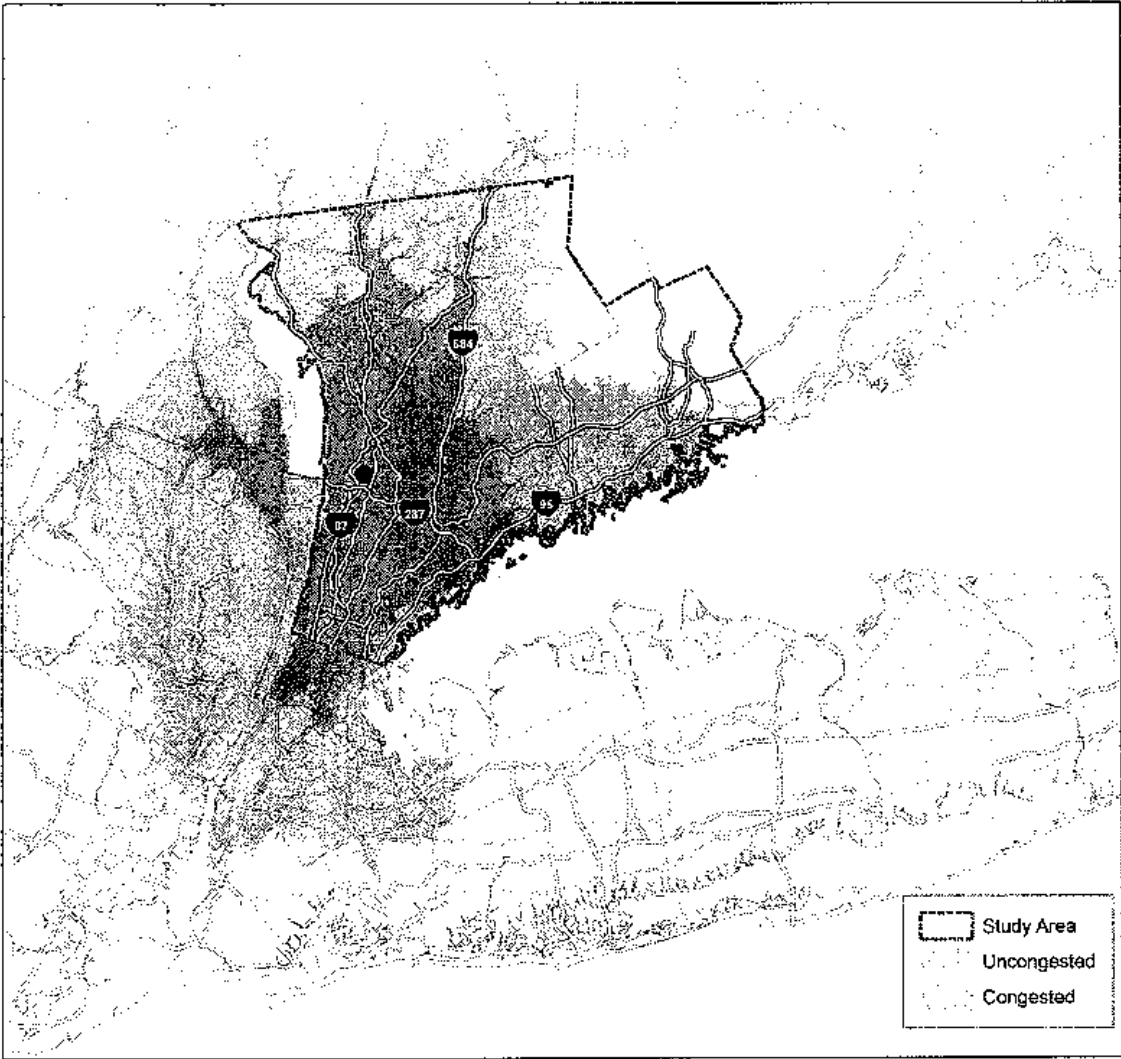


Figure 13
Tarrytown Employment Center 30-Minute Commuter Sheds

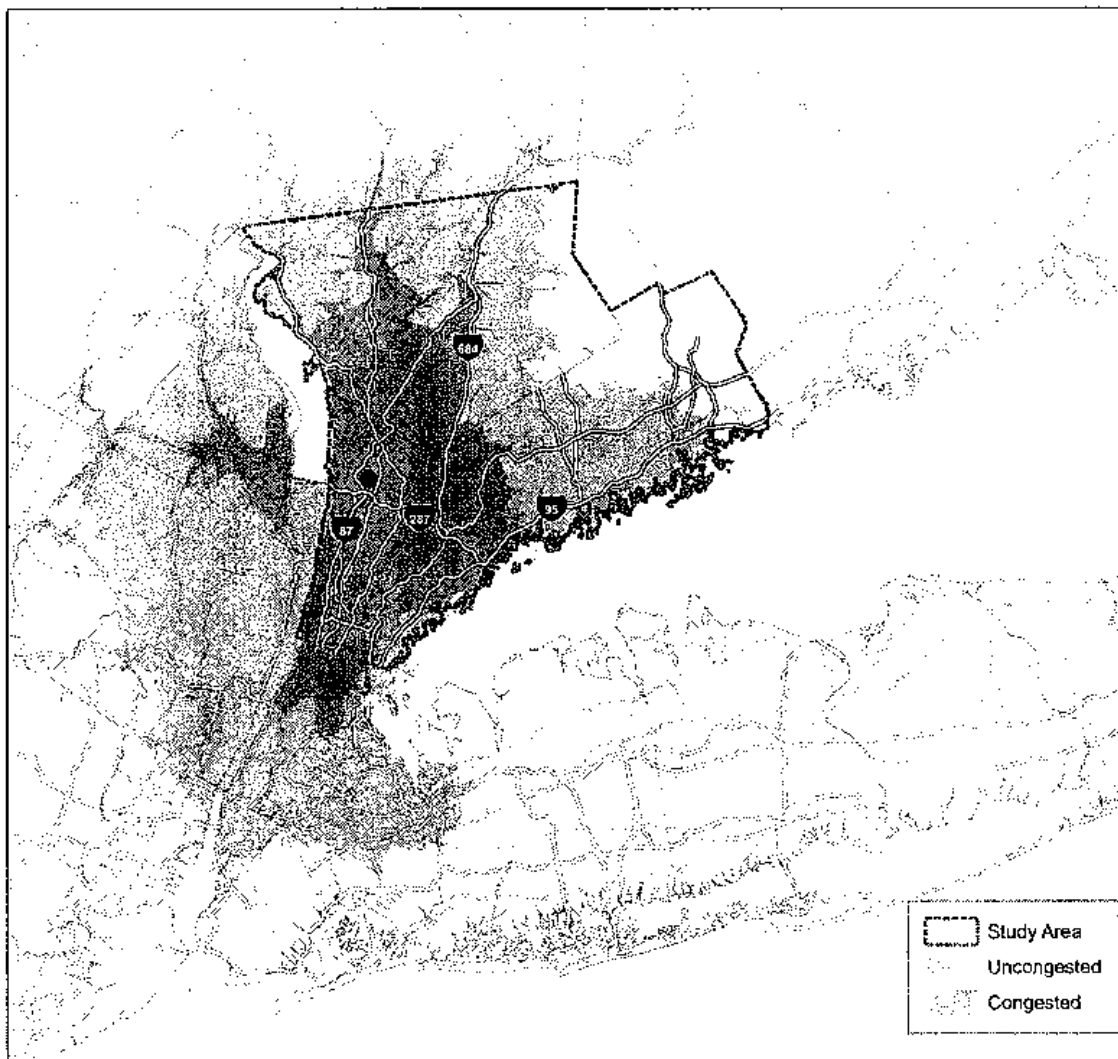


Figure 14
Stamford Employment Center 30-Minute Commuter Sheds

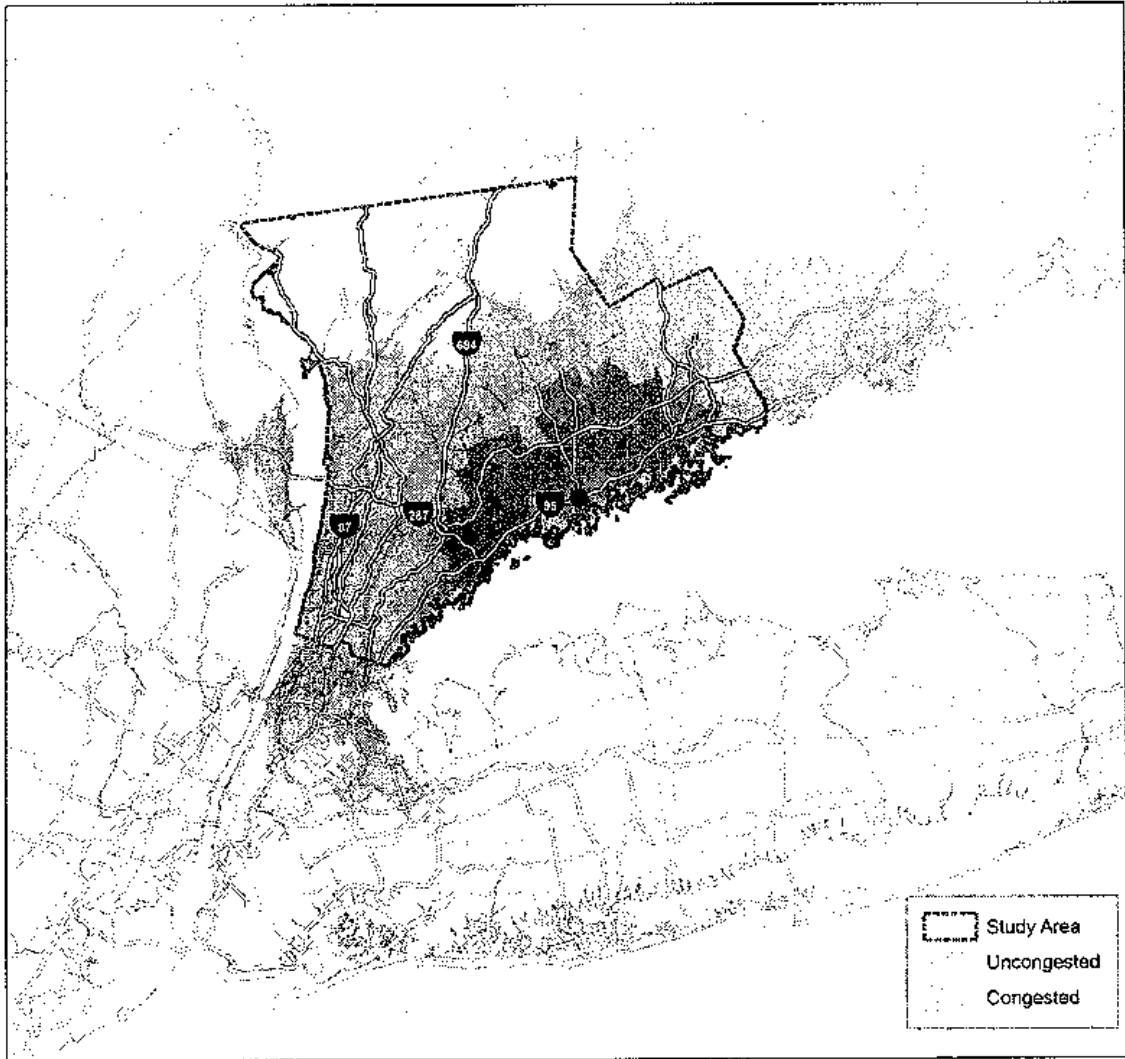


Figure 15
Darien Employment Center 30-Minute Commuter Sheds

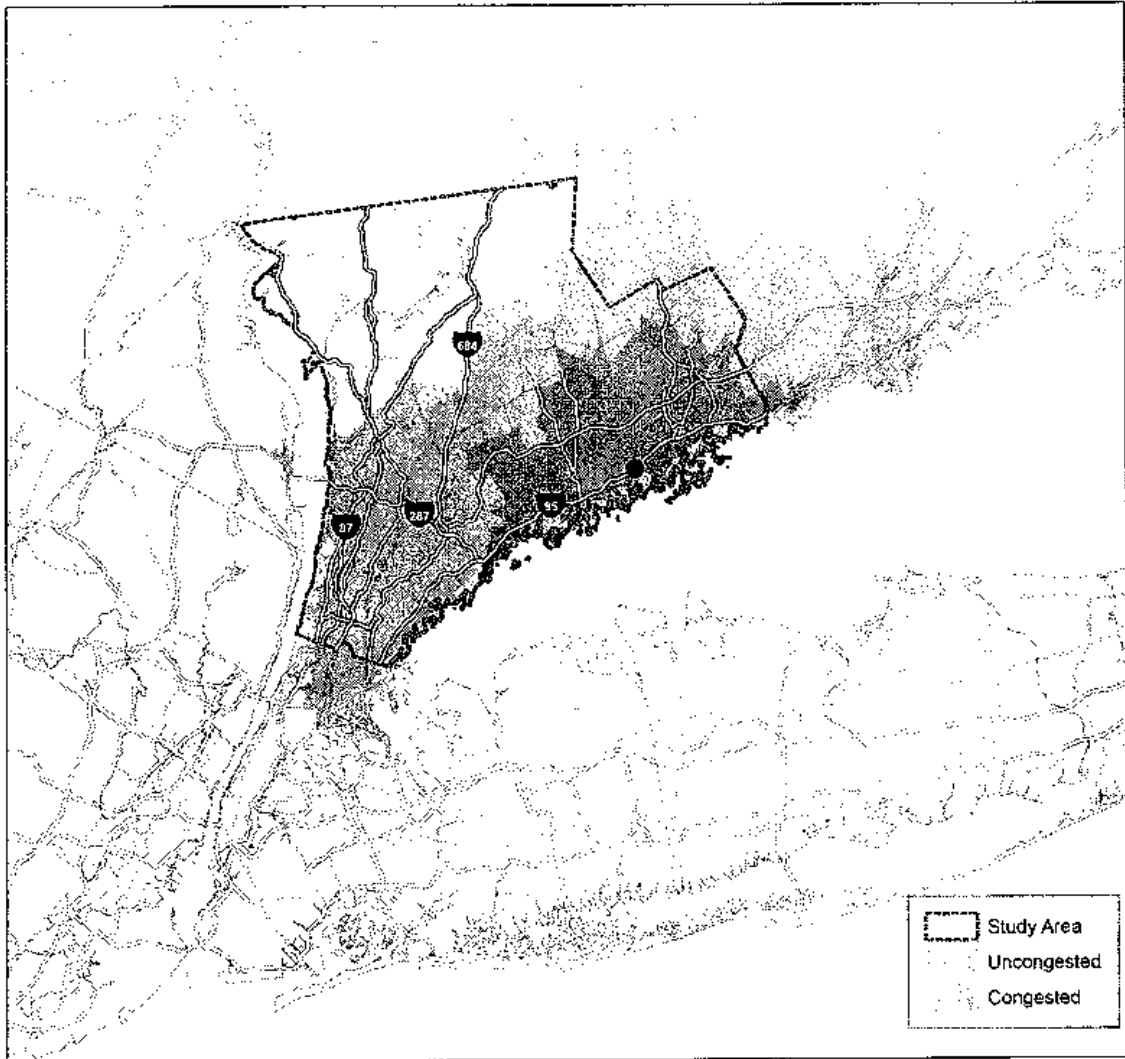


Figure 16
Norwalk Employment Center 30-Minute Commuter Sheds

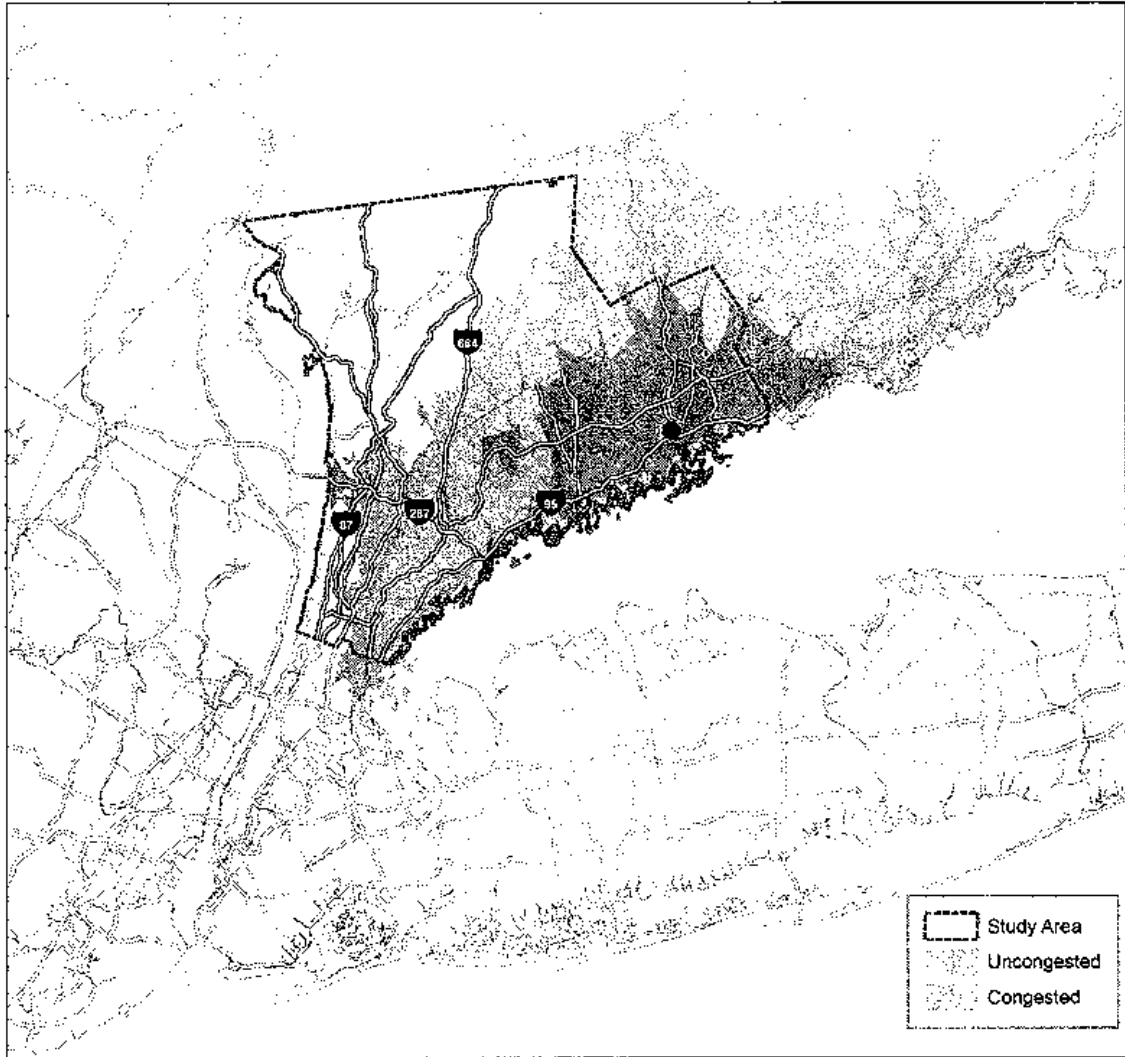


Figure 17
Wilton Employment Center 30-Minute Commuter Sheds

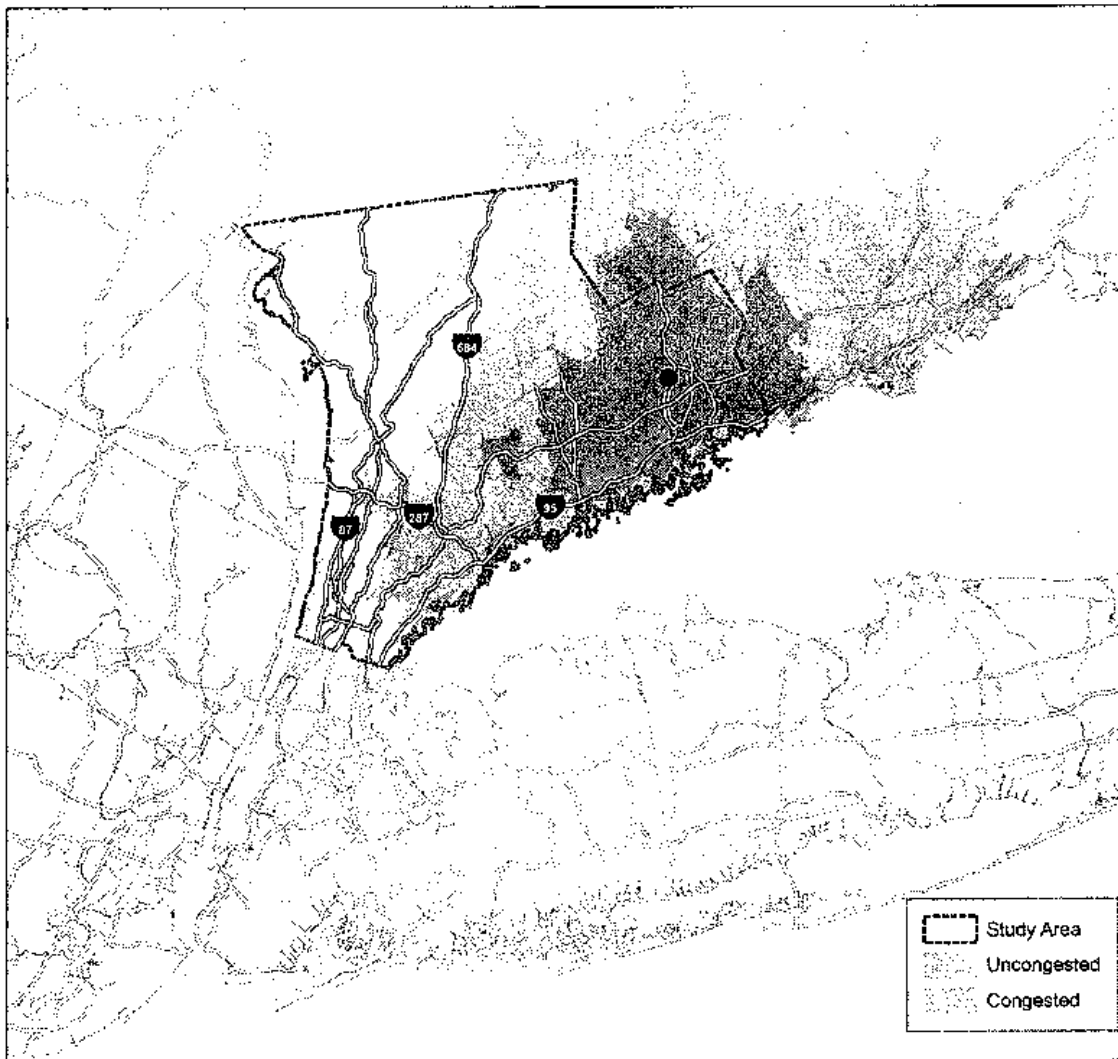
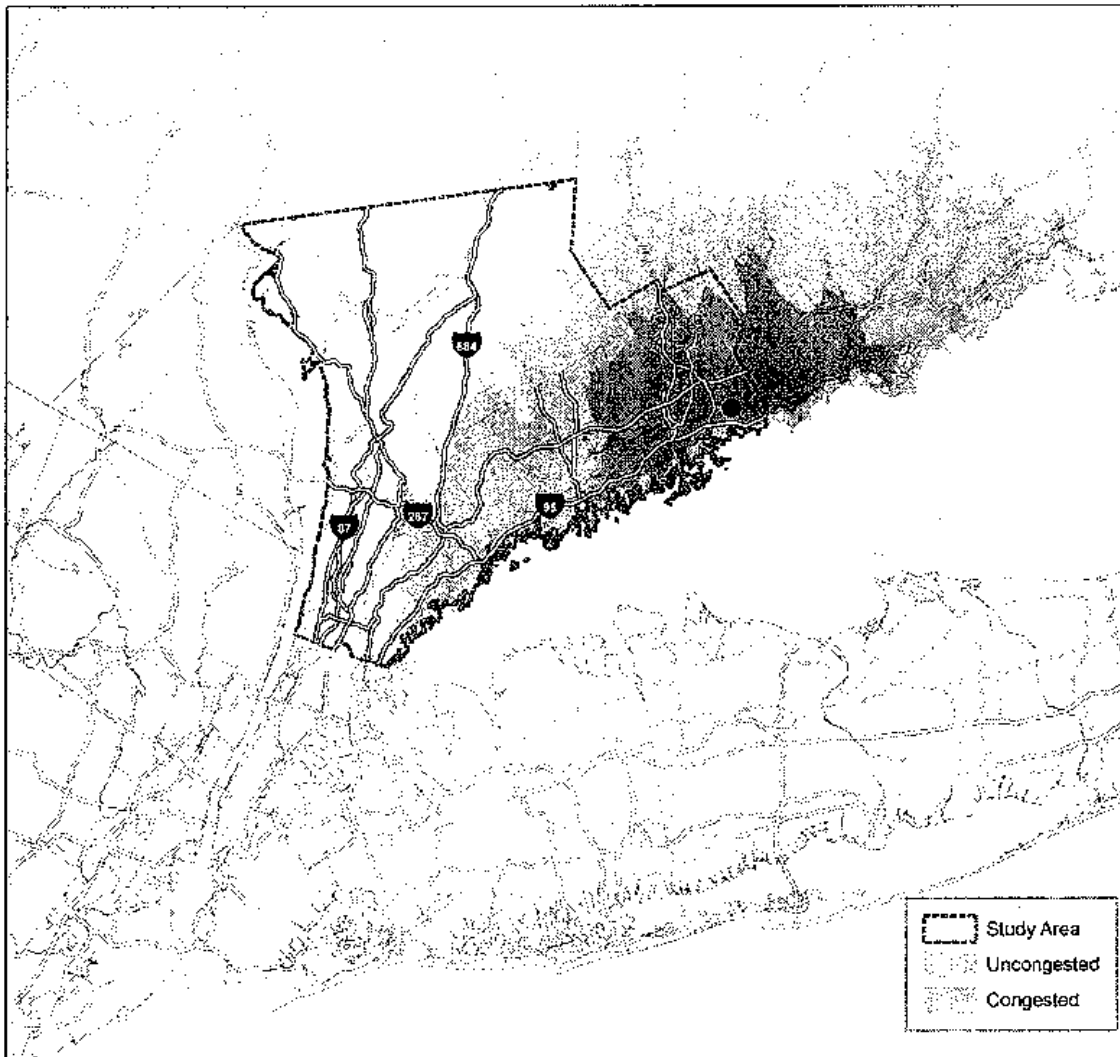


Figure 18
Westport Employment Center 30-Minute Commuter Sheds



IV. ATTAINABLE HOUSING SUPPLY

This section characterizes the housing supply within the overall study area, as well as the supply within the 30-minute commuter sheds in terms of total amounts of housing and pricing. As detailed in Section II Methodology, the analysis of housing supply within the 30-minute commuter sheds is based primarily on 2009 housing data from ESRI Business Analyst.

Overview of Study Area Housing¹

In 2009 there were an estimated 505,260 housing units in the study area, of which 349,445 units (approximately 69 percent) were located in Westchester County and 155,815 units (31 percent) were located in the Southwestern Connecticut Region. In 2009 there were an estimated 26,247 vacant units in the study area, representing approximately 5.2 percent of the entire housing stock. This percentage was much lower than the proportions of vacant housing in both Connecticut (7.5 percent) and New York State (9.9 percent).

Sales Information

In 2009 there were an estimated 295,373 owner-occupied housing units in the study area. Home values in the study area are high compared to Connecticut and New York State as a whole. In 2009, the estimated median home value in the study area was \$585,913, significantly higher than the state medians for Connecticut (\$273,826) and New York State (\$269,816). Assuming that the status of vacant housing has remained unchanged since the 2000 Census, in 2009 approximately 3,753 of the 26,247 vacant units in the study area were available for purchase.

Table 21 presents a breakdown of the study area's owner-occupied units by housing value.

2009 Housing Value	Number of Units	Percentage of Total Owner-Occupied Units
< \$100,000	4,294	1.5%
\$100,000 – \$199,999	15,446	5.2%
\$200,000 – \$299,999	22,095	7.5%
\$300,000 – \$399,999	39,511	13.4%
\$400,000 – \$499,999	41,880	14.2%
\$500,000 – \$749,999	71,178	24.1%
\$750,000 – \$999,999	43,364	14.7%
\$1,000,000 +	57,605	19.5%
Total	295,373	100%

Source: ESRI Business Analyst.

¹ Housing data in this overview section from ESRI Business Analyst, 2009 estimates.

Rental Information

Similar to home values, gross rents in the study area are generally higher compared to Connecticut and New York State as a whole. In 2009, the estimated average gross rent in the study area was \$1,777, significantly higher than the state averages for Connecticut (\$1,243) and New York State (\$1,362). In 2009 there were an estimated 8,137 study area homes for rent.

Table 22 presents a breakdown of the study area’s renter-occupied units by estimated 2009 monthly rents.

2009 Gross Monthly Rent	Number of Units	Percentage of Total Renter-Occupied Units
< \$455	12,302	7.0%
\$455 – \$908	19,279	10.9%
\$909 – \$1,363	45,352	25.6%
\$1,364 – \$1,817	49,208	27.8%
\$1,818 – \$2,271	24,604	13.9%
\$2,272 – \$3,407	11,047	6.2%
\$3,408 – \$4,542	8,451	4.8%
\$4,543 +	6,725	3.8%
Total	176,968	7.0%

Source: ESRI Business Analyst.

Fair and Affordable Housing in the Study Area

Based on data from Connecticut’s Department of Economic and Community Development and Westchester County Department of Planning, there are an estimated 41,263 “fair and affordable” housing units in the study area, representing approximately 8.2 percent of the study area’s total housing stock. These units are developed and/or operated with support from one or more municipal, state, or federal government entities and programs; carry rent restrictions or price restrictions to maintain affordability for the longest feasible time; and carry tenant eligibility requirements during that time that are typically linked to a household’s income in relation to the Area Median Income (AMI).

As shown in **Table 23**, there are approximately 28,731 fair and affordable housing units in Westchester County, representing approximately 8.2 percent of the county’s housing stock. A majority of the units are located within major urban centers such as Yonkers, Mount Vernon, New Rochelle, and White Plains.

Table 23	
Fair and Affordable Housing in Westchester County	
Municipality	Number of Units
Ardasley village	2
Bedford town	233
Croton-on-Hudson village	33
Cortlandt town	153
Dobbs Ferry village	144
Eastchester town	118
Elmsford village	90
Greenburgh town	518
Hastings-on-Hudson village	24
Irvington village	22
Larchmont village	2
Lewisboro town	22
Mamaroneck town	54
Mamaroneck village	783
Mount Kisco village/town	408
Mount Pleasant town	115
Mount Vernon city	3,947
North Castle town	54
New Rochelle city	3,490
New Castle town	80
Ossining village/town	1,299
Port Chester village	1,060
Peekskill	1,193
Pleasantville village	24
Rye Brook village	36
Rye city	11
Scarsdale town/village	1
Sleepy Hollow village	628
Tuckahoe village	571
White Plains city	2,110
Yonkers city	10,797
Yorktown town	709
Total	28,731¹
Notes:	1) County rent/sales price ceiling requirements on 294 these units have expired; in the absence of other affordability restrictions imposed by other funding sources, these units could be rented or sold at market rates.
Sources:	Westchester County Department of Planning.

As shown in **Table 24**, in 2008 there were approximately 12,533 fair and affordable housing units in the Southwestern Connecticut Region, representing approximately 9.0 percent of the 2008 housing stock in the region.

Municipality	Number of Units
Darien	123
Greenwich	1,230
New Canaan	178
Norwalk	3,818
Stamford	6,801
Weston	1
Westport	219
Wilton	163
Total	12,533
Sources: SWRPA, <i>South Western Region Housing Report – September 2009</i> ; original data from Connecticut Department of Economic and Community Development.	

Attainable Housing Supply in Commuter Sheds

Tables 25 and 26 present the total amounts and distribution of housing stock at various estimated monthly costs within the 30-minute commuter sheds for all employment centers. **Table 25** expresses the supply inclusive of areas outside of the commuter shed within New York City, New Jersey, and Long Island. **Table 26** expresses the supply exclusive of these areas. **Appendix A** contains similar tables for each of the employment centers separately.

Housing inventories are presented for both the uncongested and congested 30-minute commuter sheds. For example, **Table 25** shows that within the study area's 30-minute uncongested commuter sheds there are an estimated 1,161,064 units (owner- and renter-occupied) with estimated monthly costs of less than \$800. These units represent approximately 37 percent of the total supply in the study area's 30-minute uncongested commuter sheds. An estimated 143,778 of those units (approximately 12 percent) are located within the study area's 30-minute congested commuter sheds (or conversely, 1,017,286 of these units are located beyond a 30-minute drive-time under typical congested conditions). Within the congested 30-minute commuter shed, units with an estimated monthly cost of less than \$800 represent only 9 percent of the total supply.

2009 Estimated Monthly Housing Costs	Uncongested Commuter Shed Supply (housing units)	Uncongested Commuter Shed Distribution of Supply	Congested Commuter Shed Supply (housing units)	Congested Commuter Shed Distribution of Supply
< \$800	1,161,064	37%	143,778	9%
\$800 – \$1,599	737,799	23%	382,014	24%
\$1,600 – \$2,399	322,241	10%	276,349	18%
\$2,400 – \$3,199	338,102	11%	319,563	20%
\$3,200 – \$3,999	189,167	6%	141,862	9%
\$4,000 – \$5,999	242,132	8%	178,544	11%
\$6,000 – \$7,999	84,064	3%	61,996	4%
\$8,000 +	101,856	3%	72,517	5%

Because Table 25 captures housing supply outside of the study area within New York City, New Jersey, and Long Island, it contains larger supplies of attainable housing within both the uncongested and congested commuter sheds as compared to Table 26, which excludes these areas.

2009 Estimated Monthly Housing Costs	Uncongested Commuter Shed Supply (housing units)	Uncongested Commuter Shed Distribution of Supply	Congested Commuter Shed Supply (housing units)	Congested Commuter Shed Distribution of Supply
< \$800	544,907	43%	27,028	5%
\$800 – \$1,599	187,819	15%	87,581	17%
\$1,600 – \$2,399	121,817	10%	83,920	16%
\$2,400 – \$3,199	108,687	9%	83,507	16%
\$3,200 – \$3,999	74,732	6%	52,418	10%
\$4,000 – \$5,999	105,841	8%	82,051	16%
\$6,000 – \$7,999	51,728	4%	43,260	8%
\$8,000 +	63,971	5%	54,872	11%

V. ANALYSIS OF HOUSING AFFORDABILITY WITHIN STUDY AREA COMMUTER SHEDS

Sections III and IV of the report describe the demand for, and supply of, attainable housing within the commuter sheds of study area employment center workers earning at or below average industry salaries. This section evaluates the availability of attainable housing with each of the commuter sheds by comparing the distribution of demand among employees earning average salary or less against the distribution of supply, and in doing so characterizes the relative strength of the employment center commuter sheds in terms of housing attainability. As detailed in Section II Methodology, this comparative evaluation is performed for both the 30-minute uncongested and congested commuter sheds of each employment center, in order to help evaluate the effects of traffic congestion on the provision of attainable housing.

Table 27 shows the distribution of demand relative to supply for the study area's commuter sheds, including areas within New York City, New Jersey, and Long Island that fall outside the study area boundary. Similar information is provided for each employment center separately in **Appendix A**.

As an example of how to read **Table 27**, approximately 19 percent of employment center workers earning an average industry salary or less can afford only \$800 per month in housing costs. Approximately 37 percent of the housing supply within the uncongested commuter shed is within those employees' price range, while only 9 percent of the housing supply within the congested commuter shed is within those employees' price range.

2009 Estimated Monthly Housing Cost	Employment Center Worker Demand (Percentage)	30-Minute Uncongested Commuter Shed		30-Minute Congested Commuter Shed		Percentage Change in Supply (Uncongested to Congested)
		Supply (Units)	Supply (Percentage)	Supply (Units)	Supply (Percentage)	
< \$800	19%	1,161,064	37%	143,778	9%	-88%
\$800 – \$1,599	24%	737,799	23%	382,014	24%	-48%
\$1,600 – \$2,399	19%	322,241	10%	276,349	18%	-14%
\$2,400 – \$3,199	19%	338,102	11%	319,563	20%	-5%
\$3,200 – \$3,999	9%	189,167	6%	141,862	9%	-25%
\$4,000 – \$5,999	7%	242,132	8%	178,544	11%	-26%
\$6,000 – \$7,999	3%	84,064	3%	61,996	4%	-26%
\$8,000 +	0.4%	101,856	3%	72,517	5%	-29%

Table 28 presents the same demand, but assumes that employment centers workers would not be interested in any supply that lies within New York City, New Jersey, or Long Island. The results are dramatic by comparison, and point to the fact that much of the housing that is attainable to entry-level workers is supplied outside of the study area.

Table 28
Employment Center
Attainable Housing Ratios
(Excludes Supply in New York City, Long Island, and New Jersey)

2009 Estimated Monthly Housing Cost	Employment Center Worker Demand (Percentage)	30-Minute Uncongested Commuter Shed		30-Minute Congested Commuter Shed		Percentage Change in Supply (Uncongested to Congested)
		Supply (Units)	Supply (Percentage)	Supply (Units)	Supply (Percentage)	
< \$800	19%	544,907	43%	27,028	5%	-95%
\$800 – \$1,599	24%	187,819	15%	87,581	17%	-53%
\$1,600 – \$2,399	19%	121,817	10%	83,920	16%	-31%
\$2,400 – \$3,199	19%	108,687	9%	83,507	16%	-23%
\$3,200 – \$3,999	9%	74,732	6%	52,418	10%	-30%
\$4,000 – \$5,999	7%	105,841	8%	82,051	16%	-22%
\$6,000 – \$7,999	3%	51,728	4%	43,260	8%	-16%
\$8,000 +	0.4%	63,971	5%	54,872	11%	-14%

While these demand and supply comparisons are somewhat informative when considered in isolation, they are intended to serve as a metric for establishing the relative strength of commuter sheds in terms of their ability to provide housing that is attainable to employment center workforces. In this respect they have great value, as the comparisons can be utilized to help identify the most effective locations for future development of attainable housing.

For example, **Tables 29 and 30** compares the distribution of demand for attainable housing against the distribution of supply for congested conditions across all employment centers' individual commuter sheds. Commuter sheds in which demand at a given price point is greater than supply denotes an area that is in need of housing at that price point—relative to other price points where supply outpaces demand. The comparisons show that the region as a whole suffers from an under-supply of housing at the lowest attainable price point (i.e., housing costs less than \$800 per month), while there is some variance in the commuter sheds' provision of attainable housing at higher price points.

Table 29
Attainable Housing Comparison Table
30-Minute Congested Commuter Sheds in Westchester County
(Includes Supply in Study Area, New York City, Long Island, and New Jersey)

2009 Estimated Monthly Housing Cost	New Rochelle		Harrison		Port Chester		Purchase		White Plains		Elmsford		Tarrytown		Armonk	
	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply
< \$800	22%	14%	21%	11%	25%	7%	7%	7%	23%	11%	20%	10%	15%	10%	9%	3%
\$800 - \$1,599	24%	36%	20%	35%	17%	13%	21%	21%	20%	33%	22%	36%	22%	36%	18%	11%
\$1,600 - \$2,399	22%	16%	23%	16%	26%	21%	15%	15%	24%	15%	25%	16%	26%	16%	22%	12%
\$2,400 - \$3,199	19%	13%	19%	13%	20%	15%	16%	16%	16%	13%	21%	13%	17%	13%	18%	15%
\$3,200 - \$3,999	9%	5%	10%	6%	7%	10%	10%	10%	10%	8%	7%	7%	13%	7%	11%	8%
\$4,000 - \$5,999	3%	10%	7%	10%	5%	19%	15%	15%	6%	11%	4%	9%	7%	9%	16%	23%
\$6,000 - \$7,999	0.2%	3%	2%	4%	1%	4%	7%	7%	1%	4%	1%	4%	0.4%	4%	5%	12%
\$8,000 +	0.0%	3%	0.0%	5%	0.0%	0.0%	10%	10%	0.0%	6%	0.0%	5%	0.0%	5%	0.0%	16%

Table 30
Attainable Housing Comparison Table
30-Minute Congested Commuter Sheds in Southwestern Connecticut Region
(Includes Supply in Study Area, New York City, Long Island, and New Jersey)

2009 Estimated Monthly Housing Cost	Greenwich		Stamford		Darien		Norwalk		Wilton		Westport	
	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply	Demand	Supply
< \$800	19%	7%	14%	3%	25%	5%	17%	5%	16%	1%	20%	8%
\$800 - \$1,599	25%	16%	27%	7%	30%	12%	30%	14%	26%	5%	26%	27%
\$1,600 - \$2,399	8%	15%	20%	11%	11%	18%	13%	18%	12%	8%	11%	16%
\$2,400 - \$3,199	20%	16%	21%	15%	18%	11%	18%	11%	23%	11%	21%	12%
\$3,200 - \$3,999	7%	10%	8%	12%	8%	11%	10%	11%	9%	12%	8%	8%
\$4,000 - \$5,999	8%	17%	8%	25%	4%	18%	8%	17%	7%	25%	6%	11%
\$6,000 - \$7,999	10%	9%	2%	12%	4%	11%	3%	11%	5%	18%	7%	7%
\$8,000 +	2%	11%	0.3%	16%	1%	15%	1%	13%	1%	21%	1%	9%

VI. ATTAINABLE HOUSING OPPORTUNITIES ASSESSMENT

Reuse and Redevelopment Strategies

Finding suitable sites for attainable and fair and affordable housing remains a challenge in the Southwestern Connecticut Region and Westchester County. Although the two housing types are targeting different constituencies, physical requirements such as density and property size are often very similar. The lack of larger, vacant, undeveloped parcels in combination with factors such as unsuitable zoning and the desire of local residents to maintain a strong community character makes it difficult to develop attainable as well as fair and affordable housing in the study area. Previous studies—such as the *Affordable Housing Needs Assessment* by the Westchester Department of Planning, the *Regional Plan of Conservation and Development* and the biannual *South Western Region Housing Report* produced by SWRPA, and the *Workforce Housing Study* by United Way of Greenwich Community Planning Council—show that the various planning and governing bodies in the region are aware of the issues connected to both attainable and fair and affordable housing. Stakeholders in the region are conscious of the potential impact the lack of attainable housing can have on the quality of life of residents and on the competitive position of the region’s economic centers.

Identifying development sites for attainable housing within an acceptable distance of the employment centers will be crucial when tackling not only the region’s housing challenges, but also its traffic problems. Current economic challenges, including a softening real estate market and restricted access to capital for developers, are expected to further tighten the supply of attainable housing. Remaining greenfield sites, in particular within the major highway and parkway corridors, are often protected or unsuitable because of physical site characteristics (e.g., steep slopes and wetlands).

Given these impediments, creative and new approaches are required to bridge the attainable housing gap. New development and redevelopment solutions will need to consider the region’s lack of greenfield sites, be cost effective, have access to the local employment centers, ideally reduce traffic and congestion on the region’s transportation network through higher utilization of transit, and provide sustainable redevelopment options. To generate new housing SWRPA’s Regional Plan of Conservation and Development recommends to:¹

- Promote infill and mixed-use development in town and urban centers and the rehabilitation of existing substandard housing in these areas.
- Encourage the implementation of zoning mechanisms that promote the creation of affordable housing units, such as legalization of accessory apartments, density bonuses for developers that designate units for affordable housing, and payments in lieu of the provision of affordable units to be paid to a local housing trust fund.
- Promote the adaptive reuse of vacant, historic or underutilized buildings to increase the region’s housing stock.

As recommended, new concepts should focus on opportunities within the existing development context. Two larger concepts offer the most promising options when selecting potential future

¹ South Western Regional Planning Agency (2006): “Regional Plan of Conservation and Development, 2006 – 2015”, page 36.

development sites: (1) urban infill/Transit-Oriented Development (TOD) opportunities; and (2) grey-field or adaptive reuse opportunities.

1. Urban Infill/Transit-Oriented Development Opportunities

Urban infill development refers to development that takes place on properties in more densely populated areas that are vacant or underutilized. Infill development provides an opportunity for communities and planning agencies to encourage development in areas that are already served by public infrastructure. This type of development can also provide opportunities for the construction of attainable and fair and affordable housing. Infill development can range from construction of single-family housing on one or two adjacent lots to an entire city block containing mixed residential and commercial uses.

Benefits of Infill Development:

- Since residents within close proximity to public transportation tend to make more use of available transit options, infill development decreases vehicle trips and reduces traffic and congestion.
- Most infill sites are already served by public infrastructure and other public services, which may help to lower up-front cost for developers. However, costs for the public are almost always lower, since public entities are responsible for the long-term maintenance of infrastructure and services. Reducing overall development costs is crucial for development of attainable housing.
- New residents in infill developments can strengthen existing downtowns and retail centers. People in higher-density infill locations, close to public transportation, tend to shop more locally, which translates into higher sales at local retail stores.
- By developing vacant and underutilized properties, infill development can help to reintroduce a productive use and reduce “problem properties” that may have negative effects on the entire neighborhood.
- Depending on the incentive program available, developers of attainable housing may receive tax credits when providing below-market-rate housing.

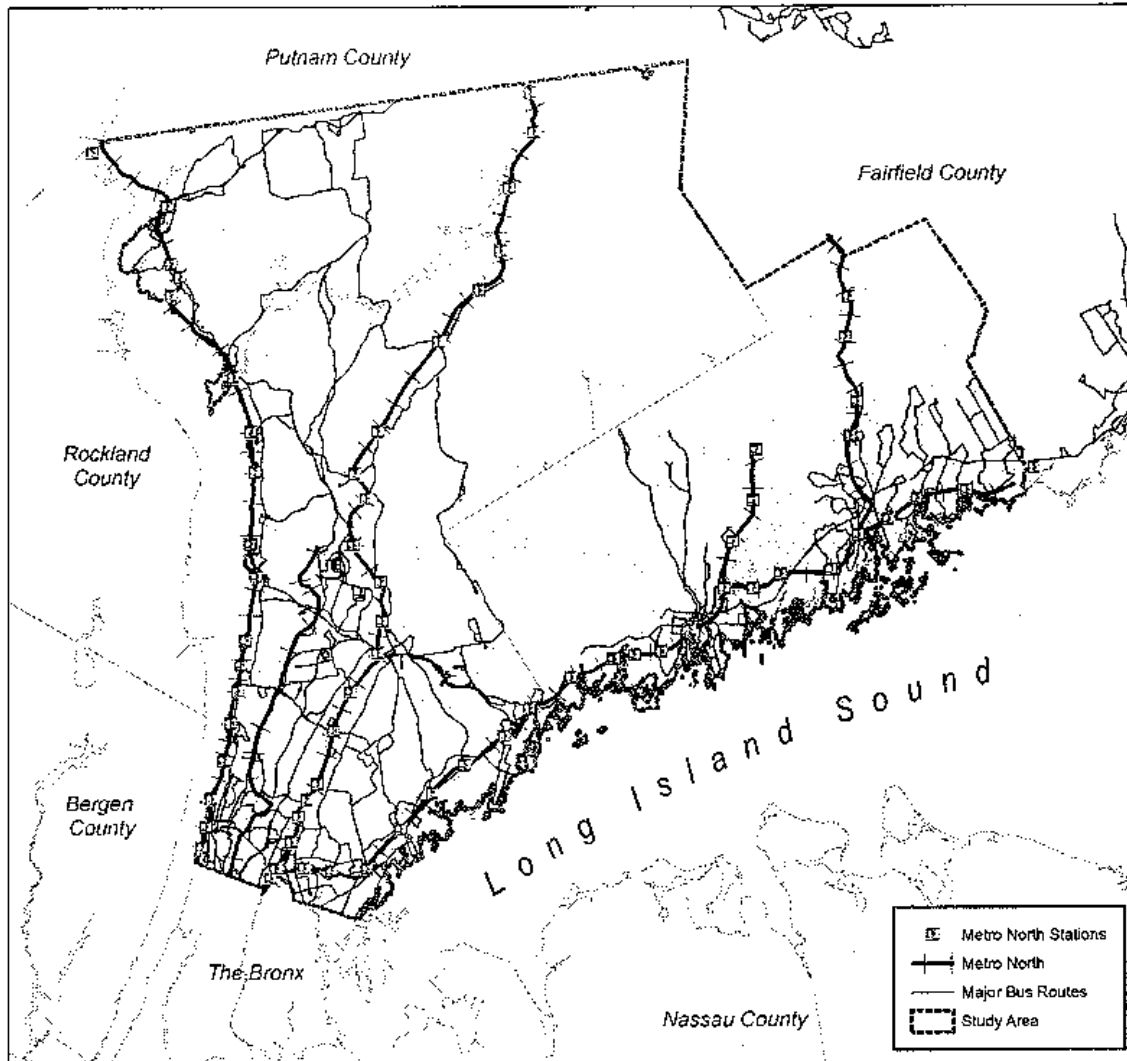
To illustrate the potential for infill development in the Southwestern Connecticut Region and Westchester County, AKRF screened the eight towns in the Southwestern Connecticut Region and all towns and villages in Westchester County to identify potentially suitable workforce housing sites.

The search for suitable urban infill opportunities centered on sites with access to public transportation and potentially higher zoning densities. To identify development opportunities, a GIS analysis was conducted using parcel-level data for the study area. Complete data were available for all of Westchester County and for six out of the eight Connecticut towns (Greenwich, Darien, New Canaan, Norwalk, Stamford, and Westport) included in the study area. For the Town of Wilton, property outlines but no property records were available, while the Town of Weston provided only property records.

To identify potential development sites the following process was applied:

1. In a first step, all vacant parcels within the study area were identified using parcel-level land use data where available. To broaden the universe of potential locations, zoning regulations were not treated as critical criteria. Although zoning changes can be difficult to achieve, zoning regulations were assumed to be adjustable in terms of both use and density. In many instances, zoning changes are even required when creating a mix-use environment (i.e. commercial and residential uses), increasing existing residential densities, or providing support for transit related uses.

Figure 19
Major Public Transportation Modes



2. Potential opportunity sites were limited to parcels within ½-mile of train stations and bus routes to identify sites that could potentially take advantage of the existing public transportation infrastructure and help to reduce traffic. Sites within ½-mile of bus lines were overlaid with 2005 population density data to select only sites within high-density areas, i.e., areas with more than 5,000 residents per square mile. Properties within close proximity to bus lines and train stations are listed under properties within ½-mile of train stations.
3. To achieve meaningful densities that are attractive and feasible for developers and public agencies, attainable housing needs to be developed on properties that are large enough to accommodate a sufficient number of units. Therefore, a threshold of 0.5 acres was established to screen out parcels too small for higher-density development.

4. To determine the potential number of units that could be built on the identified infill development sites, a high- and low-scenario ratio of units per acre was established. Based on AKRF's research and experience with TOD and infill projects in the study area, the low-scenario ratio was set at 10 units per acre, while the high-scenario ratio was determined to 40 units per acre. **Figures 21 and 22** illustrate various density ratios for attainable housing developments throughout the country and the study area.

Figure 20: National Density Examples for Selected Attainable Housing Developments



East Boston, Maverick Landing – 88 units per acre



Morgan Woods, Edgartown, MA – 5 units per acre



Coggins Square, Walnut Creek, CA – 42 units per acre



San Paulo, Irvine, CA – 24 units per acre

Note: Photographs and unit per acre ratios for examples are from the "Affordable Housing Design Advisor" at www.designadvisor.com

Figure 21: Local Density Examples for Selected Attainable Housing Developments



Burnham Building, Irvington, NY – 22 units per acre



Mount Airy, Croton-on-Hudson, NY – 12 units per acre



Waterside Green, Stamford, CT – 27 units per acre



Metro Park, Stamford, CT – 47 units per acre

Note: Photographs and unit per acre ratios for Westchester County examples are from the Westchester County Workforce Housing website at <http://www.westchestergov.com/PLANNING/housing/WorkforceHousingFiles/HousingSheetsweb.htm> and pictures and ratios for Connecticut examples are from "Affordable Housing Design Advisor" at www.designadvisor.com

Table 30 shows the number of potentially suitable infill properties for each town in the Southwestern Connecticut Region and by proximity to transportation mode. Determining the suitability of any individual site(s) that comprise this listing would require a more detailed site analysis to clarify ownership and other site-specific development criteria. The number of properties potentially available for development in towns in Connecticut ranges from four properties in the Town of New Canaan to 28 potential properties in Darien.

Since there is no Metro-North train station in Weston and the density threshold for bus parcels was not reached, none of the properties qualified to be included. Parcel data for the Town of Wilton was unavailable.

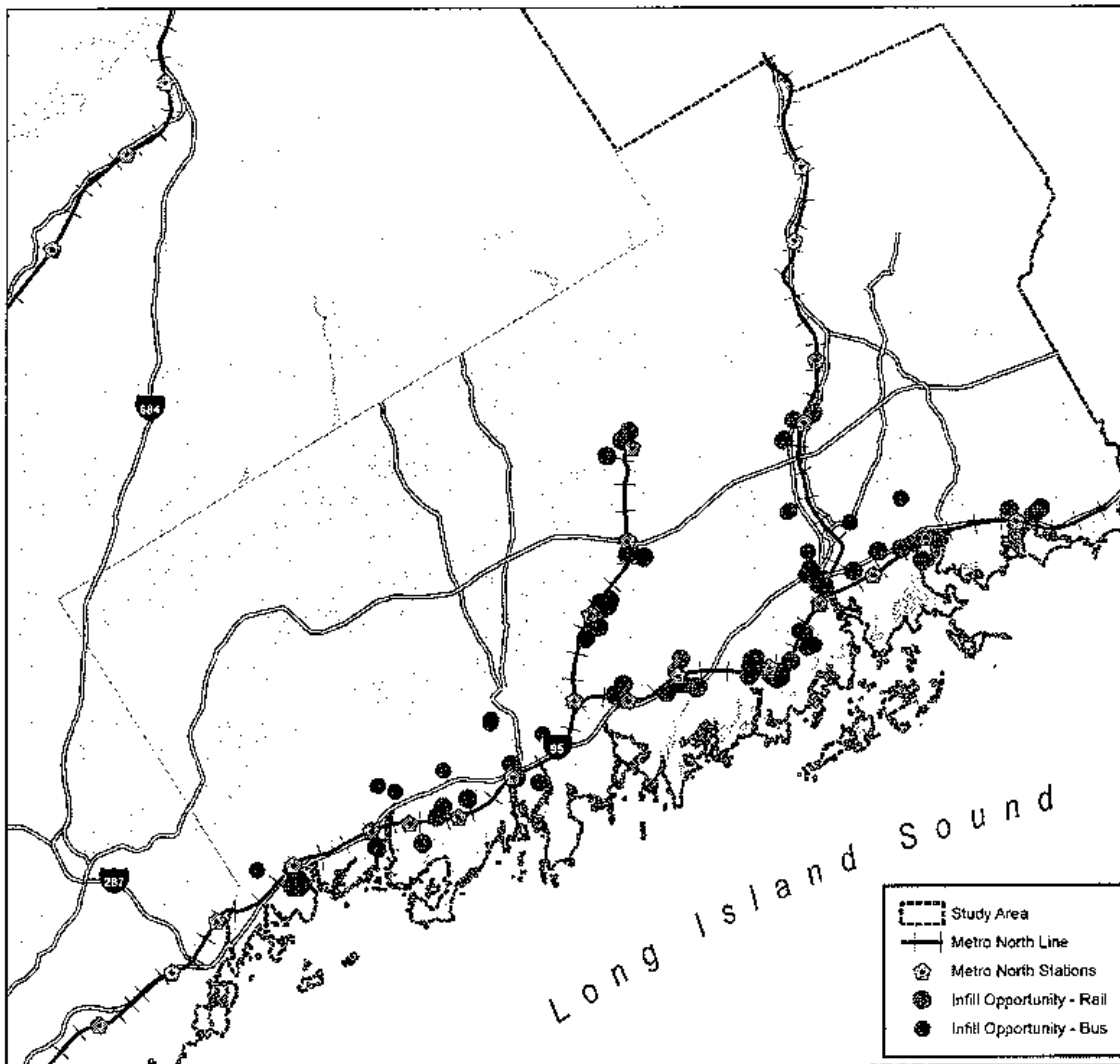
Table 30				
Infill Opportunities in Southwestern Connecticut and Westchester County				
SWRPA REGION	Number of Properties	Total Acres	Number of Units/ Low-Scenario	Number of Units/ High-Scenario
Near Bus Route	30	20	180	710
Near Metro-North	80	150	1,540	6,140
TOTAL	110	170	1,720	6,850
WESTCHESTER COUNTY				
All of Westchester County	Number of Properties	Total Acres	Number of Units/ Low-Scenario	Number of Units/ High-Scenario
Near Bus Route	120	170	1,900	6,920
Near Metro-North	320	770	7,680	30,730
TOTAL	440	940	9,580	37,650
I-287 and I-95 Corridor Only				
	Number of Properties	Total Acres	Number of Units/ Low-Scenario	Number of Units/ High-Scenario
Near Bus Route	90	130	1,280	5,120
Near Metro-North	190	400	4,040	16,170
TOTAL	280	530	5,320	21,290
Notes: Includes only vacant sites or if identified by GIS data, properties with minor improvements.				

Overall, the preliminary screening assessment identified approximately 105 potential infill development sites within the Connecticut portion of the study area. All sites occupy a total of approximately 170 acres of land, and range in size from 0.5 acres to more than 5 acres.

Table 31 shows the results of applying the two density ratios to the potentially available redevelopment sites in the study area towns. Based on the low-density ratio, available properties in the Southwestern Connecticut Region could produce a total of approximately 1,700 potential housing units. Applying the high-density ratio could yield up to approximately 6,850 new units on urban infill development sites in Southwestern Connecticut.

Figure 23 shows the distribution of potential infill sites through out Southwestern Connecticut. The vast majority of potential opportunity sites can be found in the southern portion of the area, which is better served by public transportation and more densely populated than the northern more rural areas.

Figure 22
 Distribution of Potential Infill Sites throughout Southwestern Connecticut



Based on a countywide search, we identified 442 potential infill properties in all of Westchester County, of which about 280 are in the vicinity of the I-287 and I-95 corridors (see **Table 30**). Approximately 941 acres are potentially available for infill development in all of Westchester County and 532 acres in the corridor area.

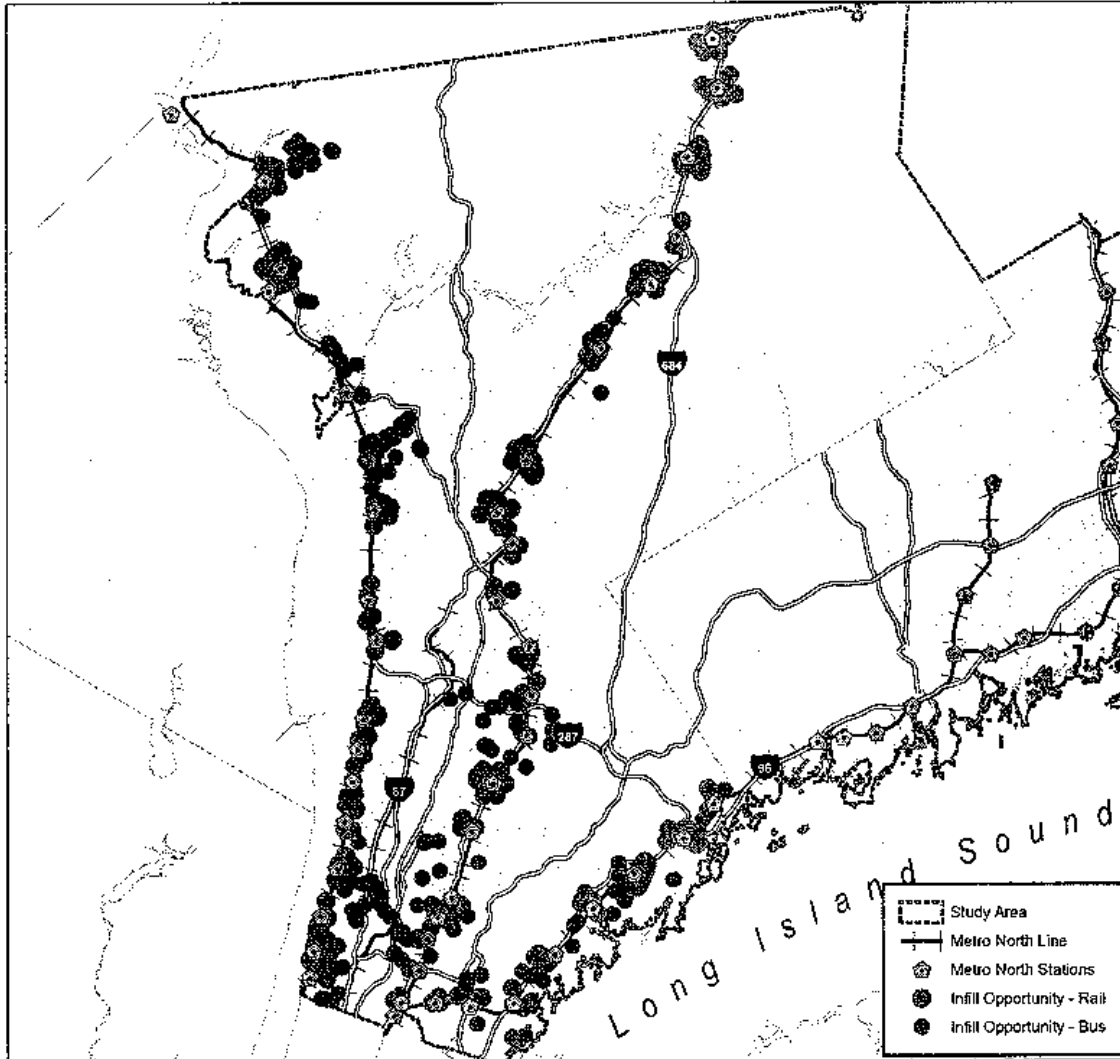
Applying the low-density unit-per-acre ratio results in approximately 9,600 units in all of Westchester County, of which approximately 5,300 are located in the lower portion of the county. The high-density ratio yields approximately 37,600 for all of Westchester and 21,300 for the lower portion of the county.

Figure 24 illustrates the distribution of potential infill sites around train stations and along major bus routes in Westchester County. The distribution of potential opportunity sites close to major bus

routes reflects the fact that a large portion of eastern Westchester is not served as well by the county bus system as the lower and western portions of the county.

Figure 23

Distribution of Potential Infill Sites throughout Westchester County



2. Grey-field or Adaptive Reuse Opportunities

Adaptive reuse strategies focus on underperforming development sites. Properties screened are mainly situated outside of downtown areas, larger in size (i.e., over 5 acres), and typically vacant or show high vacancy rates because the buildings they accommodate are outdated and/or are not demanded by the market. High real estate prices in the New York Metropolitan Area and the lack of greenfield development sites make larger underperforming or vacated properties attractive targets for reuse and redevelopment.

Typical reuse activities involve the conversion of surplus space and/or outmoded buildings to economically viable new uses. In its broadest application, adaptive reuse projects seek to conserve, preserve, and recycle surplus land and buildings by adapting the property to current or projected

future needs. To implement a reuse strategy, suitable sites need to be inventoried and local zoning regulations changed or amended. Potential zoning changes may include:

- Allowance for mixed-use development;
- Allowance for higher Floor Area Ratio (FAR);
- Reduced parking space requirements;
- Relaxed dimensional standards, i.e., heights and/or setbacks; and
- Inclusionary zoning requirements.

Another important step when pursuing adaptive reuse for attainable housing is the identification of adequate funding sources such as loans, grants, and subsidies. Publicly owned properties often provide the best opportunities for attainable housing development because property acquisition procedures are typically less costly and time consuming.

Benefits of Grey-field or Adaptive Reuse Opportunities

- Adaptive reuse strategies can introduce new residential uses into non-residential areas. Steering residential development toward already developed areas helps to limit sprawl and encourages development in accordance with “smart growth” policies and principles.
- Infrastructure and other site improvements are already in place and can decrease development costs.
- In some instances, existing structures can be reused and may lower construction costs. Potential cost savings can help to lower overall development costs for residential units.
- Historically or architecturally significant structures may qualify for preservation tax credits, which may provide an incentive for private investors to develop attainable housing.
- Adaptive reuse projects can assist in revitalizing declining areas by breathing new life into deteriorating buildings and by bringing in new residents into the neighborhood.
- Generally, there are greater opportunities for mixed-use projects with adaptive reuse, and commercial uses can help subsidize the attainable housing components of projects. The inclusion of commercial uses often may be necessary because of high urban land prices and development costs.

Within Westchester County and the Southwestern Connecticut Region there are a number of use clusters, which occupy several acres of land that offer the potential for reuse and redevelopment. In particular, suburban office parks, built in the late 1970s and early 1980s, are equipped with large parking areas and excess space that could potentially be reused and redeveloped into attainable housing. However, before a specific site can be redeveloped, intensive due diligence is required to identify those properties that do not satisfy current market demand and that are not physically constrained. Similar to the infill analysis, this report provides only the total acreage of properties that meet the screening criteria to illustrate the development potential.

2.1. Office Properties

The Westchester County Department of Planning has explored the potential reuse and redevelopment of office parks within its jurisdiction. In its 2008 *Office Park Housing Study*, the agency assessed the feasibility of housing at three office parks along Route 119 in Westchester County. Housing next to major office clusters can be viable, as illustrated by residential townhouse

development next to the Tappan Zee Bridge in Westchester County, where housing development coexists adjacent to the offices buildings at the intersection of I-87 and I-287. In Southwestern Connecticut, the Westinghouse Norden site in Norwalk may provide such an opportunity, where large parking areas and adjacent undeveloped land abut I-95.

Suburban office developments typically offer easy access to the transportation network. Located next to a highway, potential new residents would be able to travel quickly to the surrounding employment centers. However, they would also contribute to existing congested traffic conditions. To encourage fewer vehicles per households potential redevelopment, targets should be integrated in the region's public transportation network.

Office parks are equipped with public infrastructure, such as water and sewer and electrical systems. These systems could be expanded to accommodate new residential uses. Co-locating residential with office uses and sharing infrastructure can reduce development costs for developers and/or the community.

Office parks are often built in phases, allowing developers to better adjust their product to changes in demand. In cases where a developer has not built out the site to capacity, remaining plots could be redesignated and used for attainable housing.

At the same time, campus office buildings tend to be multi-storied and constructed to satisfy more stringent building standards. Demolishing an office building is likely to cost more than demolishing retail structures, and may deem a project unfeasible, particularly when offering a below market residential product.

2.2. Retail Strips

Larger retail strips can also provide potential redevelopment opportunities for attainable housing. Co-locating housing with retailers provides retail businesses with additional customers and residents with convenient shopping opportunities.

Single-story retail buildings are easier and less expensive to demolish, easier to vacate, and therefore offer greater development flexibility than other redevelopment opportunities. Older and outdated retail strips are often dispersed with vacant storefronts and shops that have difficulties attracting a sufficient customer base. Businesses within stagnating strips tend to limit their property investments, contributing to the deterioration of the strip. New housing can bring new activity and updates to the building stock and can help to counter further disinvestment trends.

While the concept of adding housing to retail clusters has already been applied at a number of developments throughout the country, the housing units typically provided within this context are market rate. Resulting "lifestyle centers" are striving to combine traditional shopping functions with amenities of a downtown/main street environment. By introducing housing, outdated retail strips can be once again transformed into vibrant and active centers that can help to better integrate retail clusters with the surrounding neighborhoods.

In Westchester, Route 119 between Sprain Brook Parkway and Bronx River Parkway provides a good example for potential retail reuse opportunities. At this stretch, a number of larger outdated retailers are adjacent to each other connected by vast parking areas, which could provide room for potential new housing development.

2.3. Institutional Uses

In any jurisdiction, public and private institutions hold surplus or underutilized property that could potentially be used for the development of attainable housing. Opportunities presented by institutional properties extend beyond available vacant land. In addition, housing development opportunities can be found on sites with outdated institutional structures. Hospitals, public housing, libraries, or schools often have extra land or surface parking lots that could be redeveloped as attainable housing. Original uses could also be integrated with attainable housing, creating a new mixed-use development.

In Westchester County, the reuse of portions of New York Presbyterian Hospital Westchester Division Hospital has been proposed. The current proposal for instance includes approximately 400,000 square feet of research and development space and housing. In Port Chester, the United Hospital stands vacant and waits to be reused.

There are a number of examples in Southwestern Connecticut Region illustrating that institutional buildings can be successfully converted into attainable housing. For instance, in New Canaan, CT a former high school was converted into the School House Apartments, providing housing for seniors, while in Westport, CT a former elementary school now offers 36 affordable units.

Potential Site Screening

To illustrate the potential for larger-scale grey-field and adaptive reuse development, AKRF screened the eight towns in the Southwestern Connecticut Region and towns in Westchester County for sites potentially suitable for attainable housing.

The screening considered only larger office and retail sites (i.e., sites or clusters larger than 5 acres) that are within a one-mile radius of I-95, I-287, and the Merritt Parkway. Institutional properties were excluded from the screening because institutional uses are not coded consistently in land use databases provided by the various jurisdictions. A preliminary visual screening was performed once properties were identified by the GIS analysis. The assessment focused on the suburban opportunities and did not include office and retail concentration in urban centers, where access space is unavailable.

The screening was performed to illustrate the total number of potential sites to be considered for further investigation and to identify areas or clusters future studies should focus on. Since the analysis only screens for size, use, and proximity to highways, it can not determine if uses on properties are viable or not. Extended on-the-ground research will be necessary to determine the development potential for each individual property or property cluster.

SWRPA Region	Number of Properties
Greenwich	10
Stamford	140
New Canaan	30
Darien	60
Norwalk	220
Weston	NA
Wilton	NA
Westport	40
Total	500
WESTCHESTER COUNTY	
Greenburgh	40
Harrison	20
New Rochelle	5
Pelham	NA
Rye	20
White Plains	20
Total	105

- Overall, there are more than 600 properties that are larger than 5 acres or part of cluster that extends over 5 acres or more. Almost 500 properties are in the Connecticut portion of the study area. Properties in Southwestern Connecticut tend to be smaller and be part of a larger contiguous strip, while sites in Westchester County tend to be larger and owned by a single owner. All sites encompass more than 2,500 acres, which is almost evenly divided between Westchester County and Southwestern Connecticut. Norwalk is the town with the largest number of properties that fit the screening criteria, while the assessment identified only one potential site in Pelham.

Figure 24
Opportunity Areas for Potential Reuse Sites in the Southwestern Connecticut

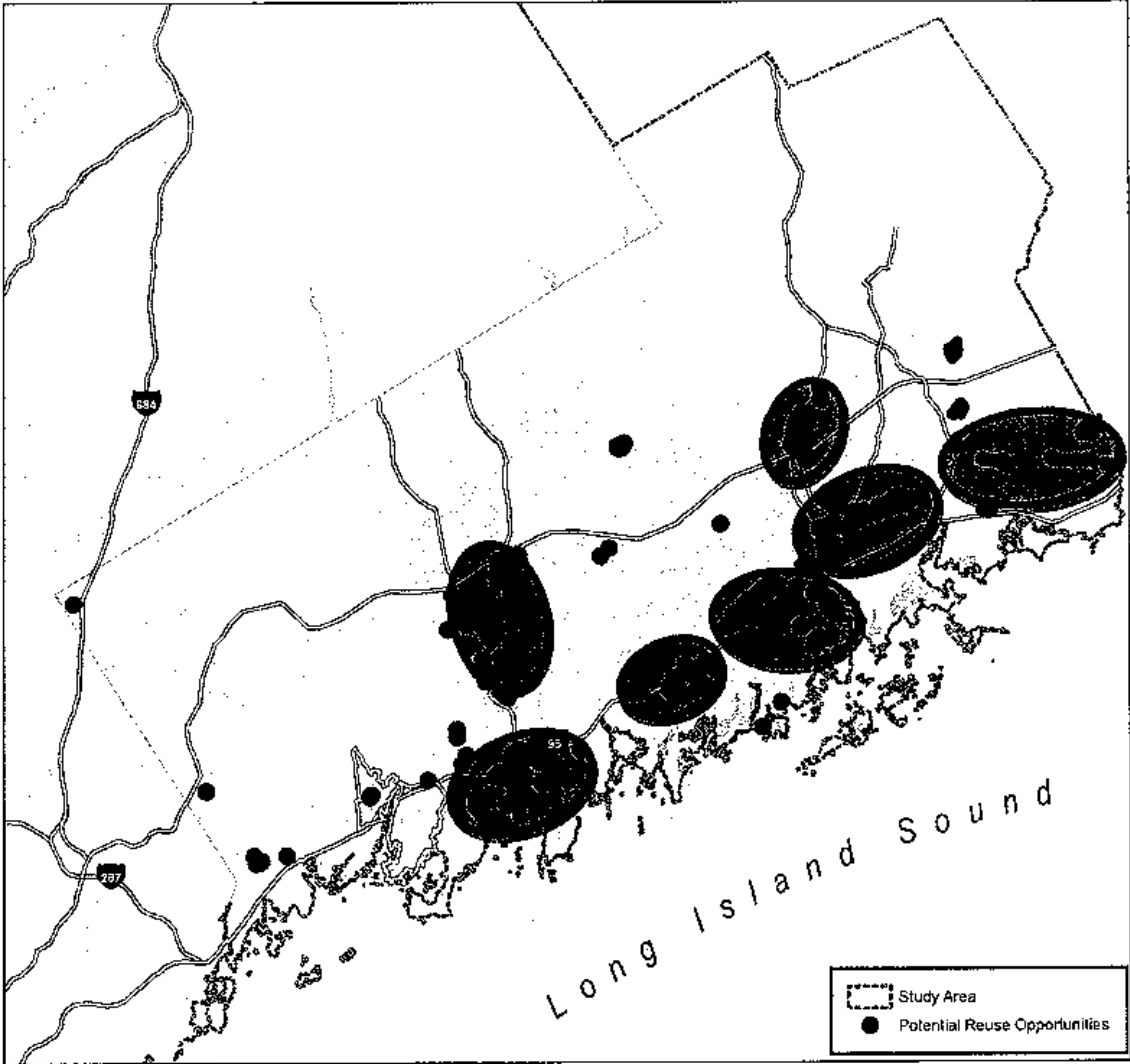
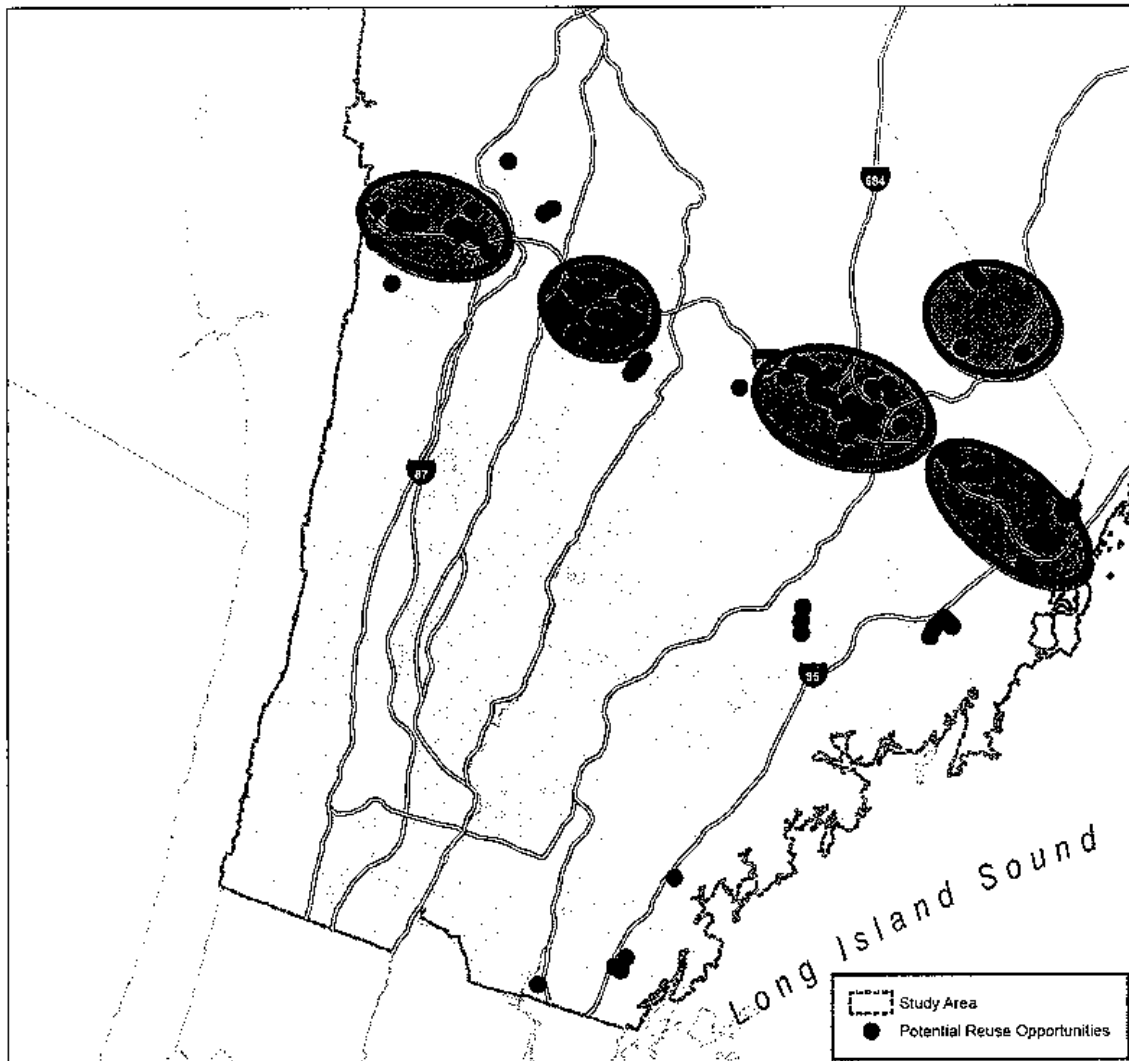


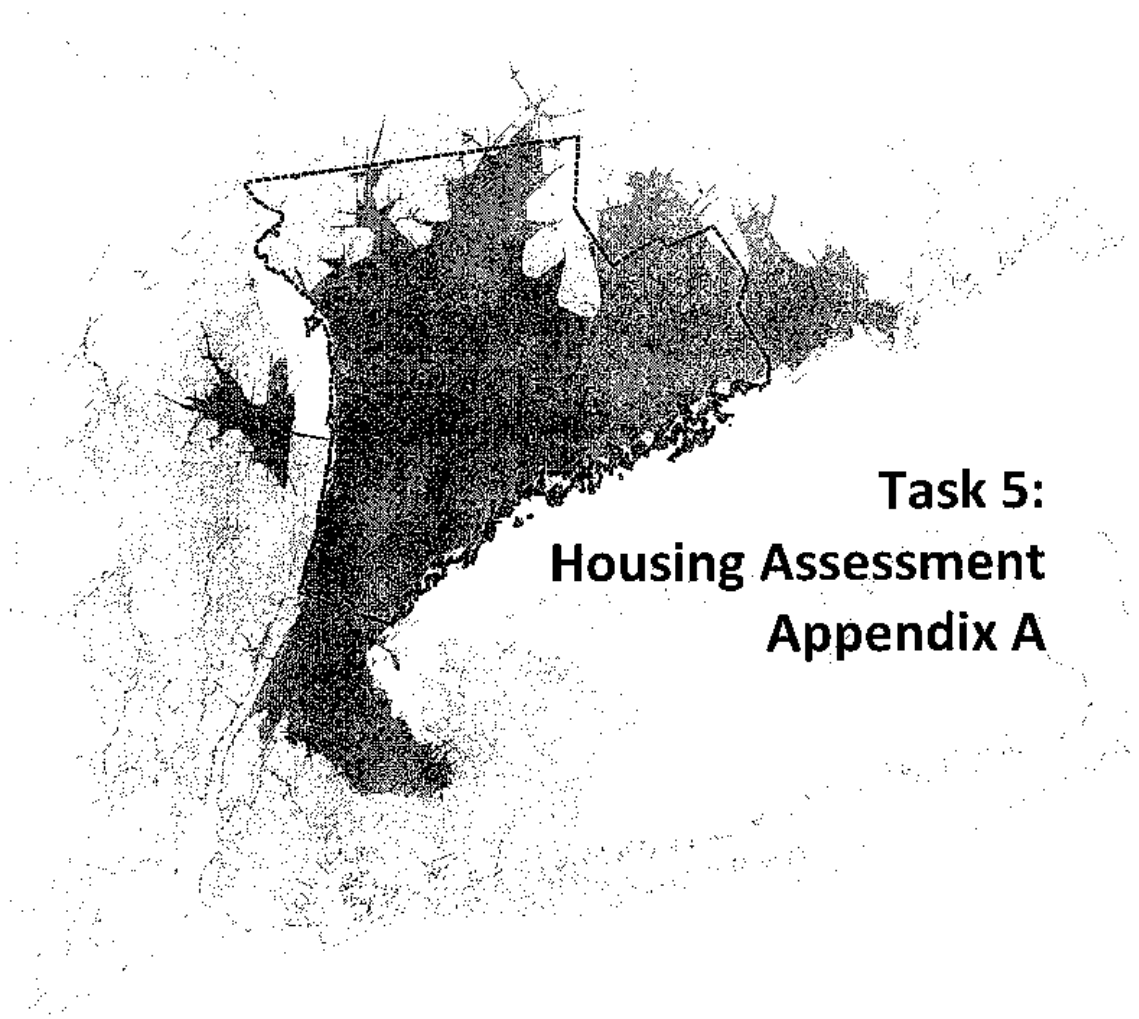
Figure 25
Opportunity Areas for Potential Reuse Sites in Westchester County



Figures 24 and 25 illustrate the distribution of potential opportunity sites within the study area. In Southwestern Connecticut, potential opportunities are concentrated within close proximity of I-95. The predominately rural towns of New Canaan, Wilton, and Weston only show limited potential in terms of adaptive reuse. Based on the screening, Norwalk and Stamford have the highest potential for potential grey-filled and adaptive reuse.

In Westchester, significant potential reuse opportunities are only available within the I-287 corridor, while the I-95 corridor south of Greenwich offers only a few single-site opportunities. The largest clusters a future study should focus on are the office cluster at the intersection of the Hutchinson Parkway and I-287 and at the westernmost section of I-287 in the study area. *

ACCESS TO EMPLOYMENT CENTERS STUDY



**Task 5:
Housing Assessment
Appendix A**

APPENDIX A

This appendix is organized by report section and provides greater detail on certain elements of the report, as referenced in the body of the report.

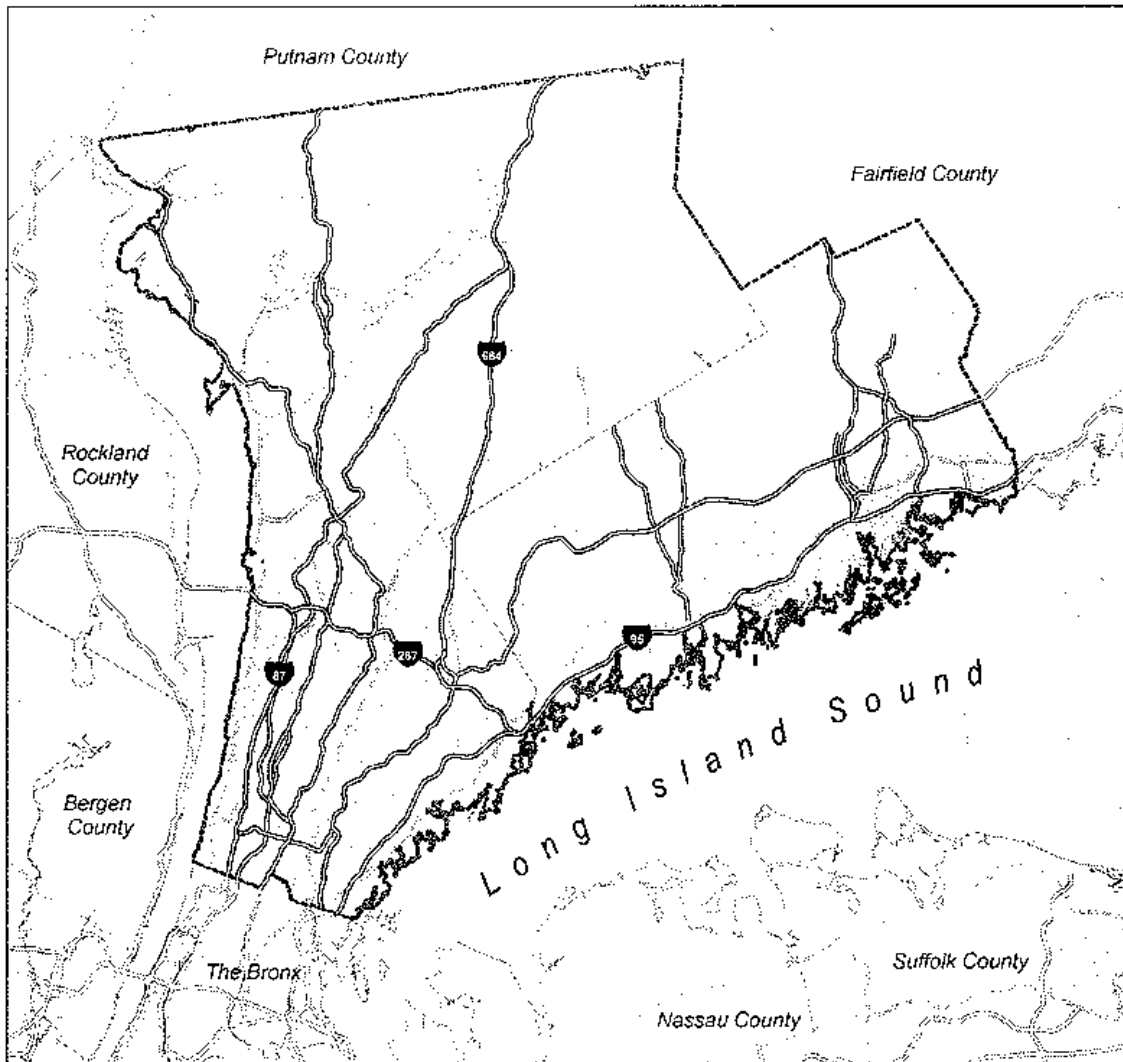
A-II. METHODOLOGY

Study Area

A number of geographic areas were utilized in this analysis, most of which fall within the “study area” comprised of Westchester County, New York and the eight Connecticut towns that constitute the SWRPA Region, i.e., Greenwich, Stamford, Darien, New Canaan, Norwalk, Wilton, Weston, and Westport (see **Figure A-1**).¹ Although all of Westchester County is included in the assessment, the study will focus on the lower portion of the county (from the Bronx border to the municipalities immediately above I-287) and the eight Connecticut towns that are connected by I-287 and I-95. This portion of the study area contains the largest employment centers, and also contains the most traffic and congestion. In addition to commuter traffic, the vast majority of transient traffic from the New England to Mid-Atlantic States has to pass through the region and contributes to already high traffic volumes that choke the area’s transportation network. Large traffic volumes are responsible for bottleneck conditions along I-287, which feeds on to the Tappan Zee Bridge, further worsening traffic conditions. Future solutions that will help to sustain the region’s workforce and increase the quality of life for residents and employees will have to center on the concentrated employment areas along these important transportation corridors, by providing housing closer to the employment centers and by applying new housing concepts that put a larger emphasis on public transportation than on individual transportation options.

¹ There are a number of “commuter sheds” (defined below) used in the analysis that extended beyond the study area boundaries.

Figure A-1: Study Area



Analytical Approach

The study applies a two-tiered approach to identifying the most effective locations for “attainable housing.”¹ The study first examines the demand and supply relationship for housing in the region, and the role traffic conditions play in that relationship. This examination is

¹ For purposes of this report, “attainable” housing is defined as housing that costs no more than 30 percent of household income, a threshold consistent with U.S. Census Bureau and U.S. Department of Housing and Urban Development definitions. The term “fair and affordable housing” is used in this report to describe units that carry tenant eligibility requirements that are typically linked to a household’s income in relation to the Area Median Income (AMI). While not all Fair and Affordable Housing is government-supported, a vast majority are developed and/or operated with support from one or more municipal, state, or federal government entities and programs, and carry rent restrictions or price restrictions to maintain affordability for the longest feasible time.

detailed in Sections III through V of the report. The findings of these sections work to identify those employment centers that have the greatest need for attainable housing, and guide the location assessment in the second tier of the approach, presented in Section VI of the report. Section VI identifies specific development sites within the study area, differentiating between urban infill sites and “grey” and “greenfield” development opportunities along the highway corridors.¹ The site-selection process for the urban infill parcels is based on physical characteristics, such as parcel size and vacancy, as well as strategic characteristics, such as proximity to public transportation and collocation with existing residential uses. Grey and greenfield development opportunities identify larger parcels that are either part of an existing development or are undeveloped properties.

Section III Attainable Housing Demand

Section III of the report characterizes the demand for housing generated by employment center workers, assuming that they seek attainable housing based on their estimated household incomes. This objective was accomplished through a four-step process: (1) identifying the study area’s major employment centers; (2) estimating the numbers and types of employment located within each employment center; (3) estimating personal and household incomes of employment center workers; and (4) estimating the geographic areas in which most employees would ideally seek housing.

(1) Identifying Study Area Employment Centers

For purposes of this analysis, an employment center is defined as a concentrated location containing a substantial number of businesses and workers. In order to identify the study area’s employment centers, AKRF requested from the Westchester County Office of Economic Development an infoUSA-based dataset containing information on businesses located in Westchester County that employ 50 or more workers. For the Connecticut portion of the study area, AKRF purchased a similar dataset directly from infoUSA (i.e., listing businesses that employ 50 or more workers), which was then reviewed by the Business Council of Fairfield County at the request of AKRF.

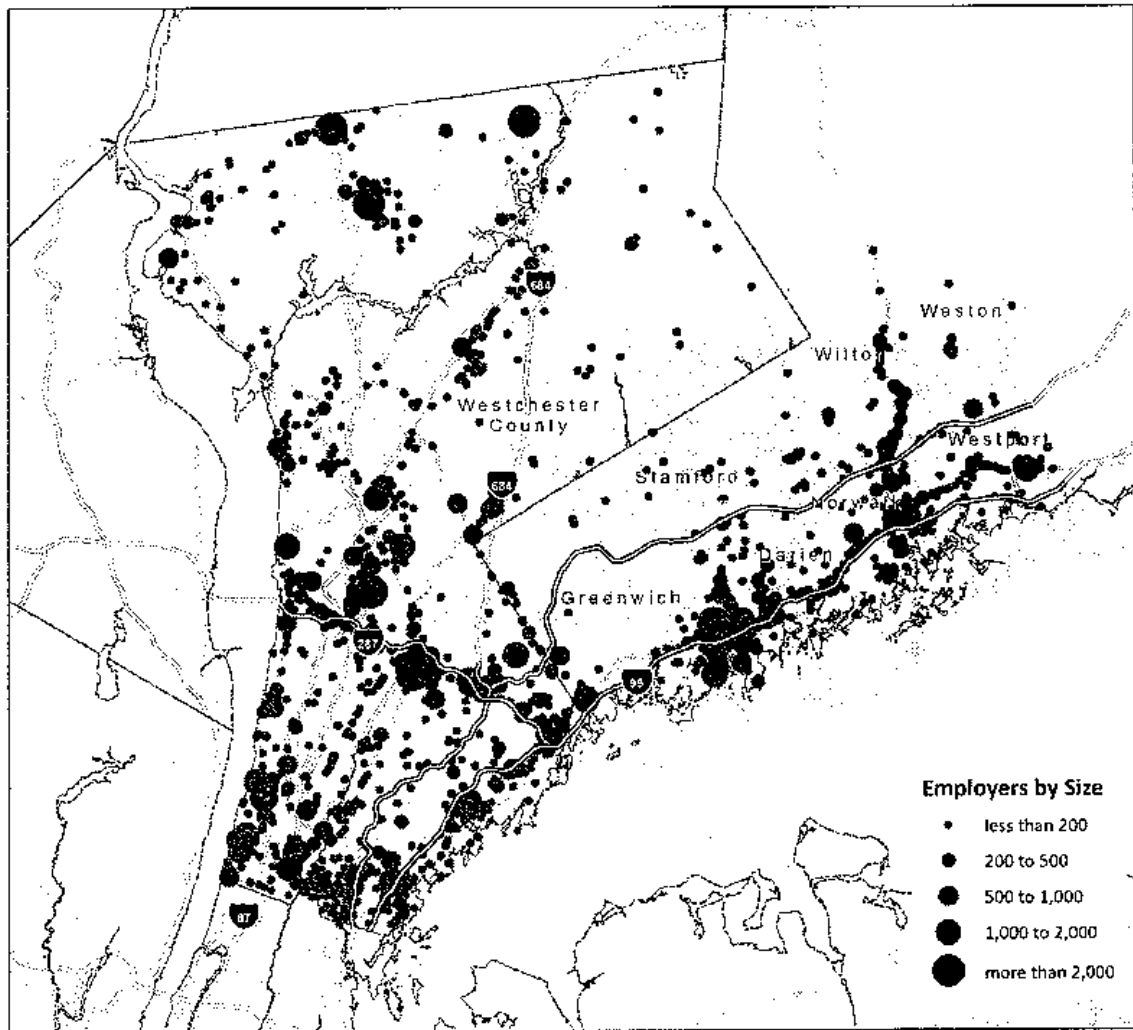
AKRF then combined and geo-coded the reviewed datasets in order to produce a spatial representation of the locations of study area businesses with 50 or more workers. The results, illustrated in **Figure A-2**, show that a vast majority of businesses with 50 or more workers are located along the I-287 and I-95 corridors. From these results, AKRF selected 12 clusters of businesses located primarily along these corridors that contain a critical mass of employment meriting evaluation. These clusters are shown in **Figure A-3**. The centers of these business clusters are not necessarily the traditional downtowns for the municipalities identified in **Figure A-3**.

These business clusters were assumed to be the start- and end-points of the commuter shed drive-time analyses for employment centers, as described in Section III of the report. In two cases (the Tarrytown and Elmsford employment clusters and the Port Chester and Greenwich

¹ The term greyfield is used to describe properties that have been developed, and typically have infrastructure in place, but whose use is outdated or blocks access to the best approach to the real estate. Unlike “brownfields,” greyfields typically have little or no environmental contamination. Unlike “greenfields,” greyfields have already gone through at least one development cycle.

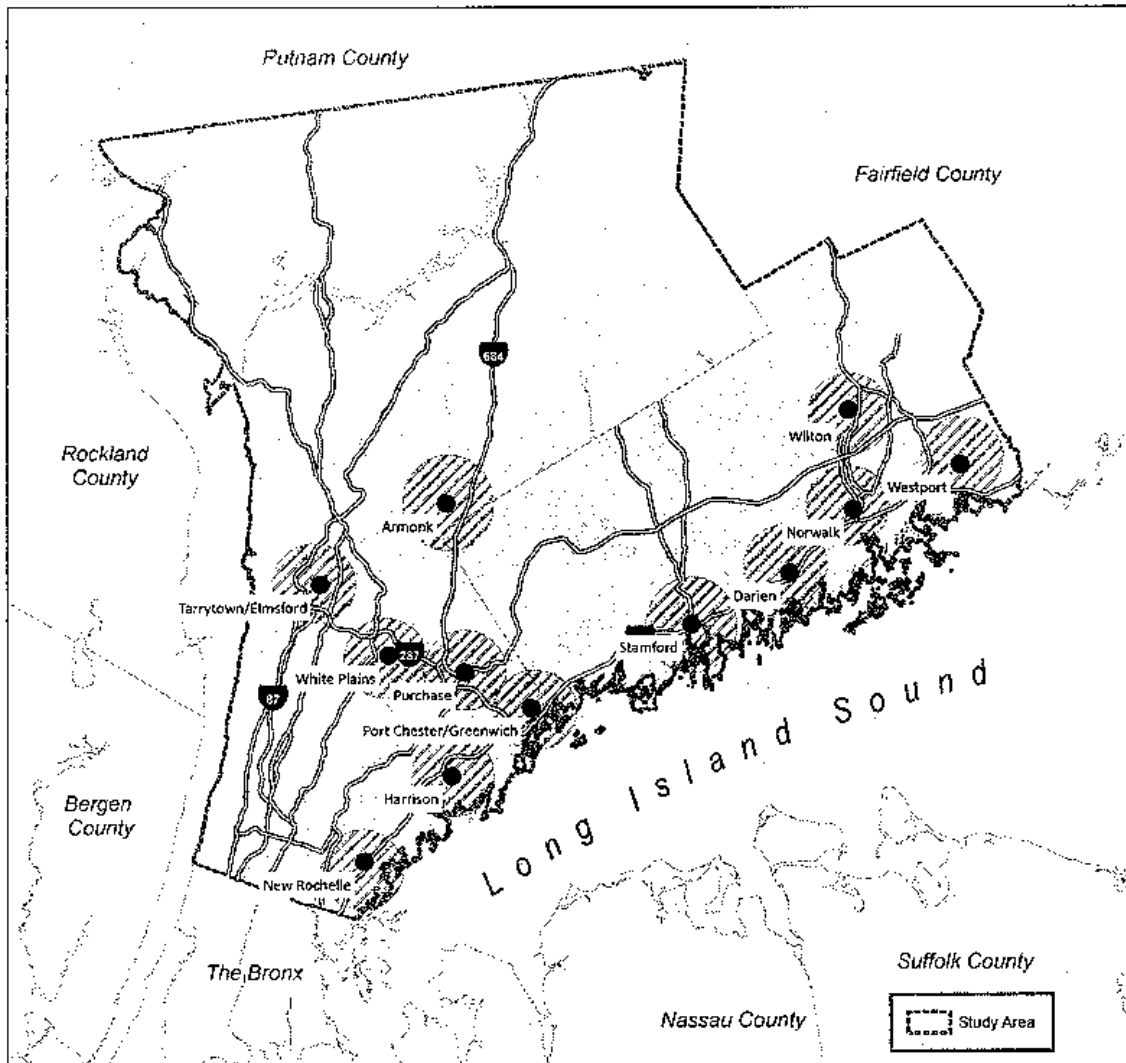
employment centers) the business cluster serves as the center-point for adjacent employment centers' drive-time analyses.¹

Figure A-2
Geographic Distribution of Largest Study Area Employers



¹ While the actual geographic center of any given employment center may differ from the center-point of a business clustering, the latter is a more appropriate start- and end-point for this study's drive time analyses because it represents a greater density of workers. In addition, businesses with 50 or more workers are, in general, more likely to require skill sets from their labor force that are not wholly available from the workforce in the immediate geographic area. These businesses will more often draw from a broader labor pool, and will have greater percentages of employees that relocate their place of residence for a job.

Figure A-3
 Employment Clusters Selected for Analysis



The employment clusters also informed the delineation of the study's 14 employment centers, which are shown in Figure A-4. The employment center geographies are based on zip code areas (in Westchester County) and U.S. Census tract areas (in Connecticut) to allow for estimates of total employment and employment types. The geographic areas for employment centers are defined in Table A-1, below.

Figure A-4
Employment Center Geographies

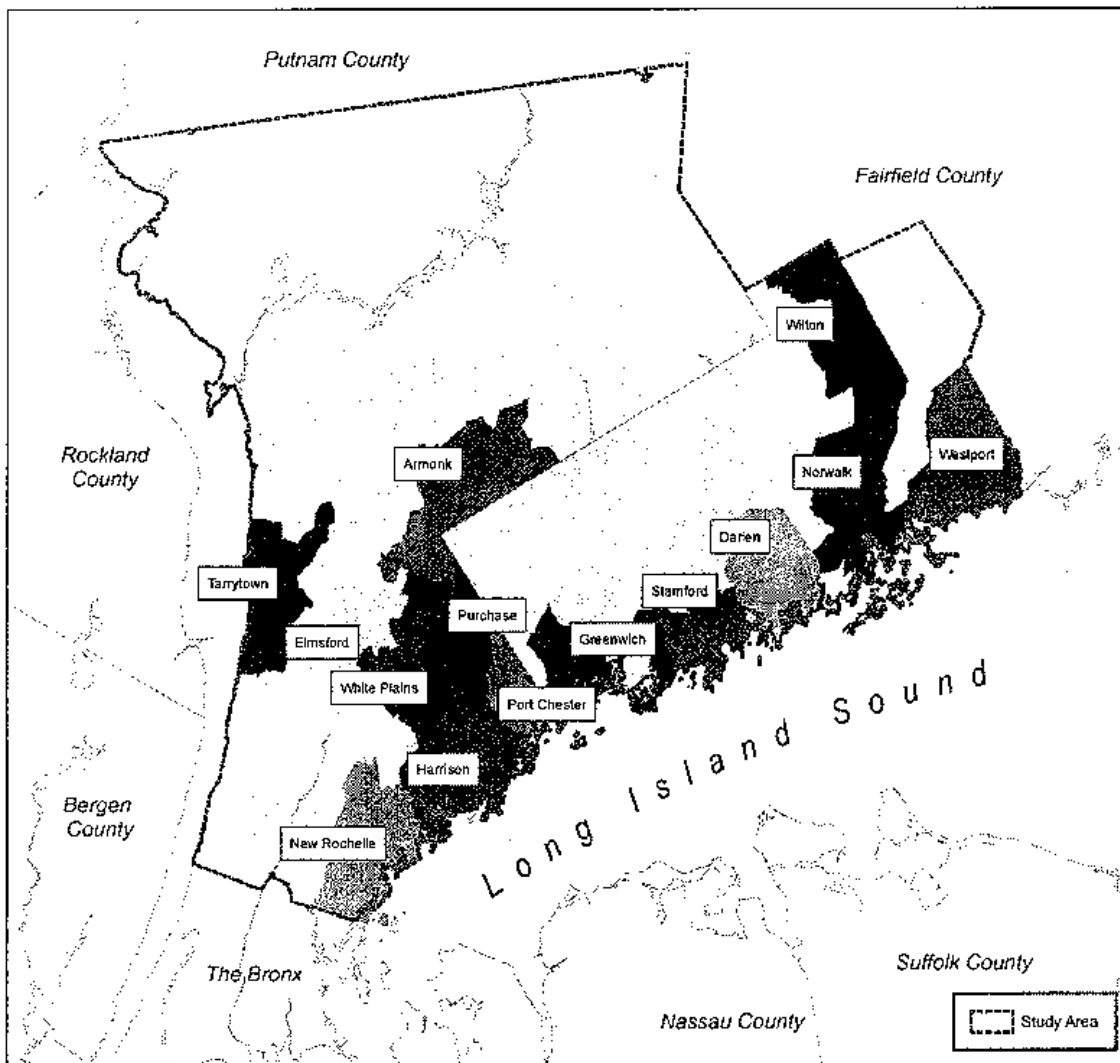


Table A-1		
Employment Center Geographies		
Employment Center	Geography Type	Geographies Used
New Rochelle	Zip Codes	10538 (Larchmont) 10801 (New Rochelle) 10803 (Pelham) 10804 (New Rochelle) 10805 (New Rochelle)
Harrison	Zip Codes	10528 (Harrison) 10543 (Mamaronack) 10580 (Rye)
Port Chester	Zip Codes	10573 (Port Chester)
Purchase	Zip Codes	10577 (Purchase)
White Plains	Zip Codes	10601 (White Plains) 10605 (White Plains) 10604 (White Plains) 10606 (White Plains)
Elmsford	Zip Codes	10523 (Elmsford) 10603 (White Plains) 10607 (White Plains) 10530 (Hartsdale)
Tarrytown	Zip Codes	10533 (Irvington) 10591 (Tarrytown)
Armonk	Zip Codes	10504 (Armonk)
Greenwich	Census Tracts	10300, 10500, 10600, 10700, 10800, 11000, 11100, 11200
Stamford	Census Tracts	20100, 21400, 21500, 21600, 21700, 21801, 21802, 21900, 22000, 22100, 22200, 22300, 22400
Darien	Census Tracts	30100, 30200, 30300, 30400, 30500
Norwalk	Census Tracts	42500, 42700, 42800, 42900, 43200, 43300, 43400, 43600, 43700, 43800, 43900, 44000, 44100, 44200, 44300, 44400, 44500
Wilton	Census Tracts	45102, 45200, 45400
Westport	Census Tracts	50200, 50300, 50400, 50500, 50600

(2) Estimating Employment within Employment Centers

Employment estimates for each employment center are based on Quarterly Census of Employment and Wages (QCEW) data, which are organized by NAICS two-digit industry code, and which were obtained from the Connecticut Department of Labor and the New York State Department of Labor. For employment centers located in Connecticut, the analysis uses 2008 Annual Average QCEW data by town. For employment centers located in Westchester, the analysis uses Second Quarter 2009 QCEW data by zip code (for those zip codes within each employment center's delineated boundary). The infoUSA-based datasets described above also were used to identify and characterize the largest employers within employment centers. **Table A-2** shows the estimated numbers of workers within each employment center.

Employment Center	Employment	Percent of Cumulative Employment Center Employment
New Rochelle	27,176	8.9%
Harrison	18,803	6.1%
Port Chester	12,162	4.0%
Purchase	7,470	2.4%
White Plains	50,007	16.3%
Elmsford	21,150	6.9%
Tarrytown	17,457	5.7%
Armonk	4,687	1.5%
Greenwich	26,868	8.8%
Stamford	53,961	17.6%
Darien	7,478	2.4%
Norwalk	34,281	11.2%
Wilton	10,355	3.4%
Westport	14,673	4.8%
Total	306,528	100.0%
Sources: Connecticut Department of Labor, Quarterly Census of Employment and Wages (QCEW) 2008 Annual Average by town; New York State Department of Labor QCEQ Second Quarter 2009 by zip code.		

The types of employment were characterized using two-digit North American Industry Classification System (NAICS) codes, which are shown in **Table A-3**.

Table A-3	
North American Classification System (NAICS) Two-Digit Industry Codes	
Two-Digit Code	Industry
11	Agriculture, Forestry, Fishing and Hunting
21	Mining
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information
52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Food Services
81	Other Services (except Public Administration)
92	Public Administration
Source: U.S. Office of Management and Budget	

(3) Estimating Incomes of Employees

Incomes of employment center workers were estimated using the NAICS-based industry categorizations and average employee salary by industry sector from QCEW data. Because the zip code-based (for Westchester) and town-based (for Connecticut) QCEW data contain instances of limited sample size within specific industry sectors, the analysis uses average employee salaries from QCEW data reported for all of Westchester and Fairfield Counties. The 2008 average wages by industry sector within Westchester County and Fairfield County are shown in **Table A-4**.

Industry Sector	Average Wage, Fairfield County	Average Wage, Westchester County
Agriculture, Forestry, Fishing and Hunting	\$38,046	\$38,473
Mining	\$72,739	NA ¹
Utilities	\$121,683	\$105,954
Construction	\$59,704	\$65,578
Manufacturing	\$87,800	\$97,380
Wholesale Trade	\$99,548	\$87,724
Retail Trade	\$36,129	\$31,740
Transportation and Warehousing	\$70,661	\$48,977
Information	\$77,850	\$83,372
Finance and Insurance	\$245,438	\$140,789
Real Estate and Rental and Leasing	\$76,402	\$59,977
Professional, Scientific, and Technical Services	\$99,749	\$89,112
Management of Companies and Enterprises	\$178,321	\$198,134
Administrative and Support and Waste Management	\$47,106	\$40,767
Educational Services	\$43,226	\$44,661
Health Care and Social Assistance	\$50,523	\$47,857
Arts, Entertainment, and Recreation	\$40,101	\$34,039
Accommodation and Food Services	\$21,677	\$22,632
Other Services (except Public Administration)	\$31,787	\$32,251
Public Administration	\$55,046	\$63,914
Non-classified Establishments	\$60,582	\$36,897
Average, All Industries	\$79,764	\$62,351
Notes:	1) The New York State Department of Labor does not report employment and wages for the mining industry in Westchester County.	
Sources:	Connecticut Department of Labor and New York State Department of Labor.	

These QCEW data serve as the baseline for household income estimates used in the analysis. However, the QCEW data reports only average salaries; it does not indicate starting salaries, which is an important statistic for this analysis. Therefore, 2009 occupational and wage data from the Connecticut Department of Labor—which provides both average and entry-level hourly wages by occupation—was applied to the average industry wages in order to estimate an entry-level salary within each industry sector.

Household income estimates must also account for the fact that not all employment center workers rely solely on their individual salaries when making housing payments. Other family members, primarily spouses, may contribute to household income and housing payments. Therefore, the incomes of individual employment center workers were converted to household incomes by applying U.S. Census information on numbers of wage-earners per household. Based on 2000 Census data for the study area, the ratios used to convert individual incomes to household incomes are as follows:

- **55.3 percent** of employment center workers rely on only their salary for housing. Single wage-earning households have a higher percentage of younger workers who are early in

their career. Therefore, for purposes of this analysis it is assumed that 50 percent of this subset earns the estimated starting salary within their industry, while the remaining 50 percent earn the average industry salary.

- **35.4 percent** of employment center workers rely on two salaries for housing. For purposes of analysis this combined income was assumed to be that of the employment center worker (assuming 50 percent earn the estimated starting salary and 50 percent earn an average salary for their industry), plus the 2008 average annual salary for Fairfield County (\$79,764) or Westchester County (\$62,531), depending on the employment center location.
- **9.3 percent** of employment center workers rely on three or more salaries for housing. For purposes of analysis this combined income was assumed to be that of the employment center worker (earning an average salary for their industry) plus 1.5 times the 2008 average annual salary for the county.

This distribution does not account for the estimated household incomes for those households whose employment center workers earn above-average salaries for their industry. However, given the relatively high household incomes for these individuals and their households, and the relatively large supply of high-end housing stock in the study area, this population is less of a concern for this analysis.

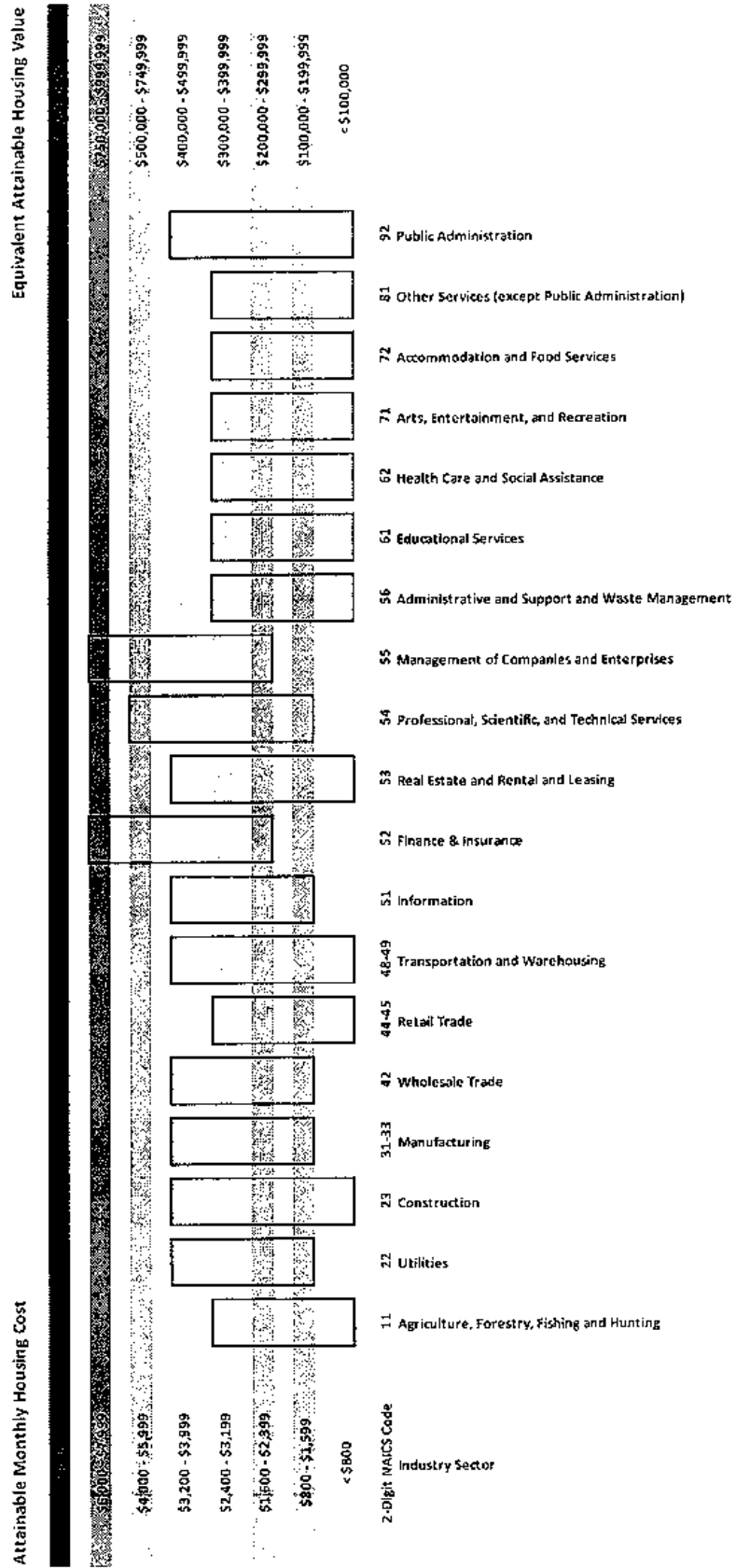
AKRF then used the resulting household income estimates to derive the maximum amounts of monthly housing expenses¹ that would not create a burden (i.e., over 30 percent of monthly household income) for these employment center workers and their households. **Figure A-5** illustrates the attainable monthly housing costs and corresponding housing value for those costs. The attainable monthly housing cost is roughly equivalent to gross monthly rent, and is referenced against a corresponding attainable housing value. These housing values were estimating assuming cost of mortgage and other homeowner expenses such as property taxes, home maintenance, and utilities.

For each industry sector, there is a range of price-points identified as attainable based on salaries with that industry. The lower end of each range reflects the monthly housing costs attainable for a single wage-earning household with an entry-level salary within their industry sector, while the upper end of the range reflects households with one employment center worker earning the average salary for their industry, as well as at least one other wage-earner in the household. For example, an employment center worker in the retail industry who makes a starting salary for that industry can afford to spend no more than \$800 per month on housing costs (either on rent or on mortgage and other homeowner expenses associated with a home valued at less than \$100,000). Retail workers earning an average salary for the industry and/or having more than one wage-earner in their household can afford to pay as much as \$3,199 per month on housing costs (either on rent or on mortgage and other homeowner expenses associated with a home valued at between \$300,000 and \$399,999).

Figure 4 and the demand distributions estimated for this analysis do not account for attainable housing costs of households with wage-earners that make above-average salaries for their industry. Estimating demand generated by all employment center workers is made difficult by a lack of comprehensive data on the full distribution of incomes within industry sectors.

¹ Housing expenses included mortgage interest and charges, property taxes, as well as maintenance, repairs, and other expenses as defined by the Bureau of Census' American Consumer Expenditure Survey.

Figure A-5
Attainable Monthly Housing Cost and Housing Value by Industry Sectors
Households with Employees Whom Earn Average Industry Salaries or Less



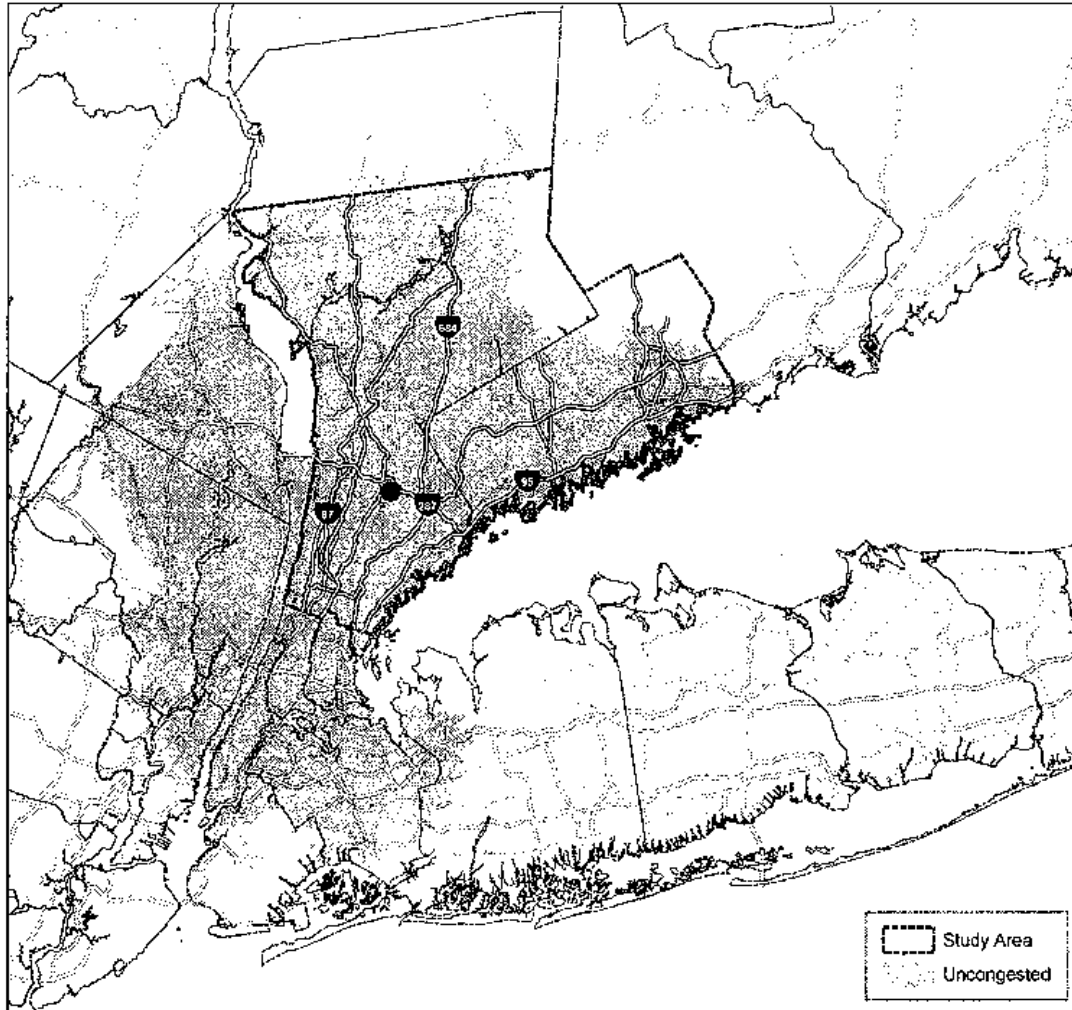
(4) Estimating Geographic Areas of Housing Demand

The area in which an employment center's workers would most likely reside is primarily a function of commuting time to and from their place of work. According to the U.S. Census, in 2000 approximately 64 percent of Fairfield County residents and 51 percent of Westchester County residents who work away from home traveled less than 30 minutes to work. A 30-minute drive-time commuting distance¹ (one-way) was employed for this analysis because it captures the upper bound of commuting distance of a majority of resident-workers in the study area, and represents what is generally considered to be an outer-threshold for a "desirable" commuting time. While residential desirability factors such as proximity to an urban center can lengthen commuting distance, a 30-minute driving distance from any workplace within the study area affords access to an urban center that would satisfy most residents' needs.

Given traffic conditions within the study area, the geographic coverage of a 30-minute drive-time to or from an employment center can vary significantly. AKRF developed an "uncongested commuter shed" that captures the 30-minute driving distance to/from an employment center based on uncongested traffic conditions. The commuter sheds were derived using ESRI's network analyst, which provides the driving distance for any given drive-time assuming an individual is able to travel at the legal speed limits for all roadways used. It should be noted that even under the best travel conditions it is difficult to achieve these distances within a 30-minute drive time. By way of illustration, the uncongested 30-minute commuter shed for the White Plains employment center is depicted in **Figure A-6**.

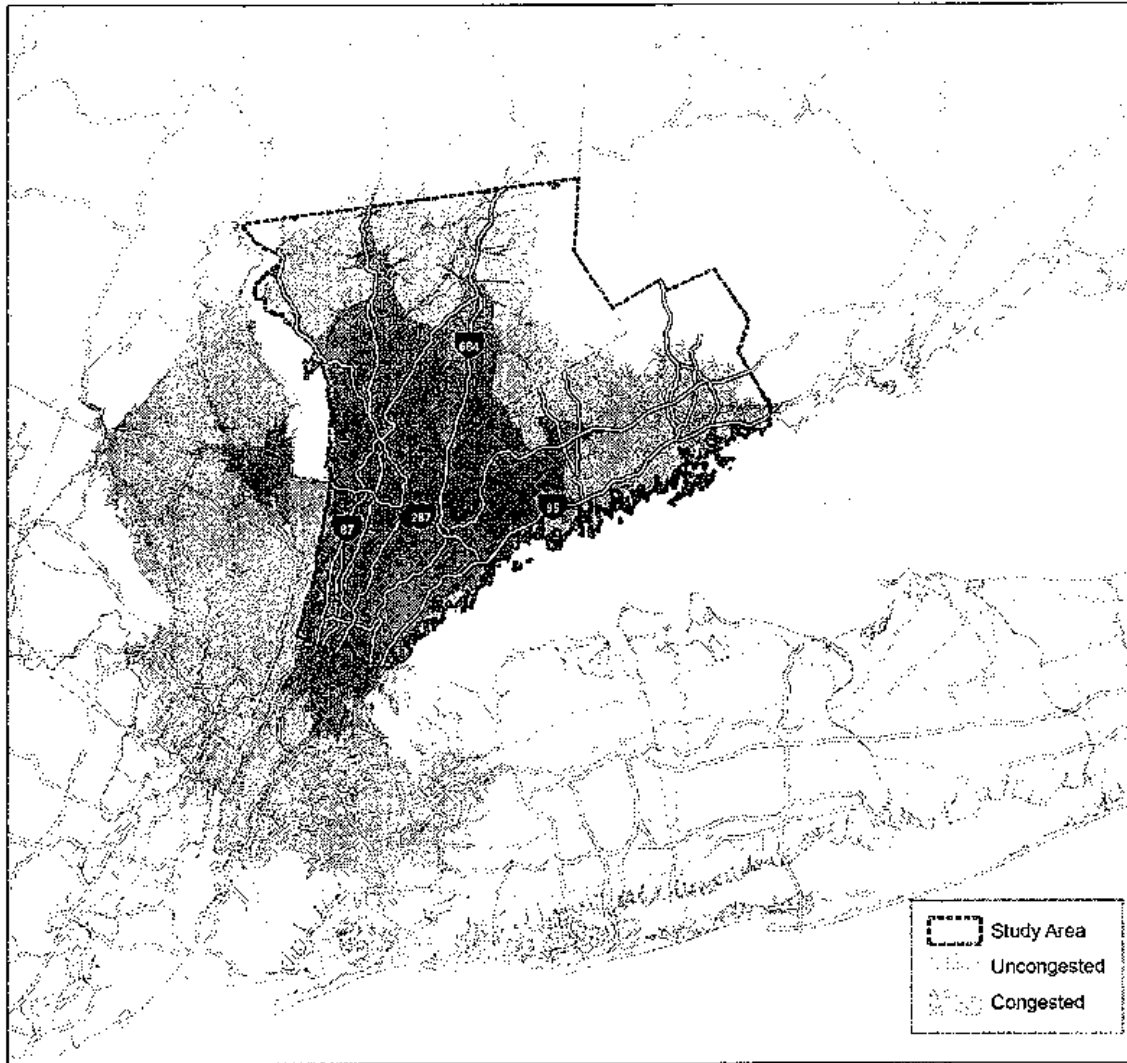
¹ This analysis focuses on vehicle commuting times, as opposed to commuting times on rail lines, because of the study's emphasis on congestion, and the effects of congestion. The supply of housing within a 30-minute commuting time for rail commuters to/from any given employment center will vary from the supply of housing estimated for employment centers in this report. To the extent that rail commuters can travel farther than the 30-minute distances estimated under congested commuting conditions, those employees will have greater access to attainable housing than estimated in the report.

Figure A-6
White Plains 30-Minute Uncongested Commuter Shed



AKRF also developed a “congested commuter shed” that represents the same 30-minute travel time, but under modeled, actual average traffic conditions during weekday peak-hour travel times. This distance was derived using NYMTC data on average vehicle speeds during weekday peak-hour travel times for all major road segments in the study area. **Figure A-7** illustrates the congested 30-minute commuter shed for the White Plains employment center, overlaid with the uncongested commuter shed. While the uncongested commuter shed reaches far into New Jersey, New York City and Nassau County, realistic travel conditions would only allow commuters to reach the closest portions of Rockland County and the Northern Bronx. Given that the congested 30-minute commuter shed is based on actual vehicle speeds on the study area’s road network during peak-hour travel, this is considered the more realistic commuter shed—i.e., the geographic area in which an employment center’s workers are most likely to desire residence.

Figure A-7
White Plains Employment Center 30-Minute Uncongested
and Congested Commuter Sheds



Section IV Attainable Housing Supply

Section IV characterizes the housing supply within the 30-minute commuter sheds in terms of the total amounts and pricing distributions, with a focus on housing stock attainable to the employment centers' workforces. Information on the amounts of housing and housing values within each commuter shed was collected from ESRI Business Analyst, which provides current-year demographic and business estimates. However, while ESRI provides current-year estimates of housing values, it does not provide current-year estimates of housing rental rates. Therefore, AKRF estimated current rental rates by escalating 2000 Census gross rent data by the same growth rate experience in the for-sale housing market between 2000 (from Census) and 2009 (from ESRI). These rental-rate estimates were verified using online brokerage services

such as craigslist.com, as well as SWRPA's *October 2009 South Western Region Housing Report* and the *Westchester County Databook*.

Inventories of fair and affordable housing—including Connecticut Housing Finance Authority (CHFA) mortgages and deed-restricted units—were based on data provided by Connecticut's Department of Economic and Community Development's Office of Housing Development and Finance, and Westchester County Department of Planning. The datasets provided comprehensive information on government assisted housing, and inventories of this housing are presented in the report. However, AKRF was unable to geo-code these datasets, so they have limited applicability within the report's spatial analyses.

Section V Analysis of Housing Attainability within Study Area Commuter Sheds

Section V evaluates the availability of attainable housing within each of the employment center commuter sheds, and analyzes the relative strength of commuter sheds in terms of attainable housing prices. Using the demand and supply analyses from Tasks III and IV, the section presents for each employment center and its commuter sheds the distribution of attainable housing demand relative to the employment center's housing supply at various price points. The demand distribution focuses on those employment center employees who earn an average salary or less within their industry sector, and assumes those workers would seek the highest attainable housing value for their estimated incomes.

Section VI Attainable Housing Opportunities Assessment

Section VI describes the affordable housing opportunities assessment conducted by AKRF, and recommends strategies for future identification of the most suitable and most effective locations for attainable housing in the study area. The opportunities assessment focuses on two major opportunity areas: 1) urban infill development; and 2) suburban grey-field or adaptive reuse opportunities. For both opportunity areas, a GIS analysis was conducted using parcel-level data for the study area. Complete data were available for Westchester County and for six out of the eight Connecticut towns (Greenwich, Darien, New Canaan, Norwalk, Stamford, and Westport). For the town of Wilton, property outlines but no property records were available, while the town of Weston provided property records. The methodologies for the two opportunity area assessments are described below.

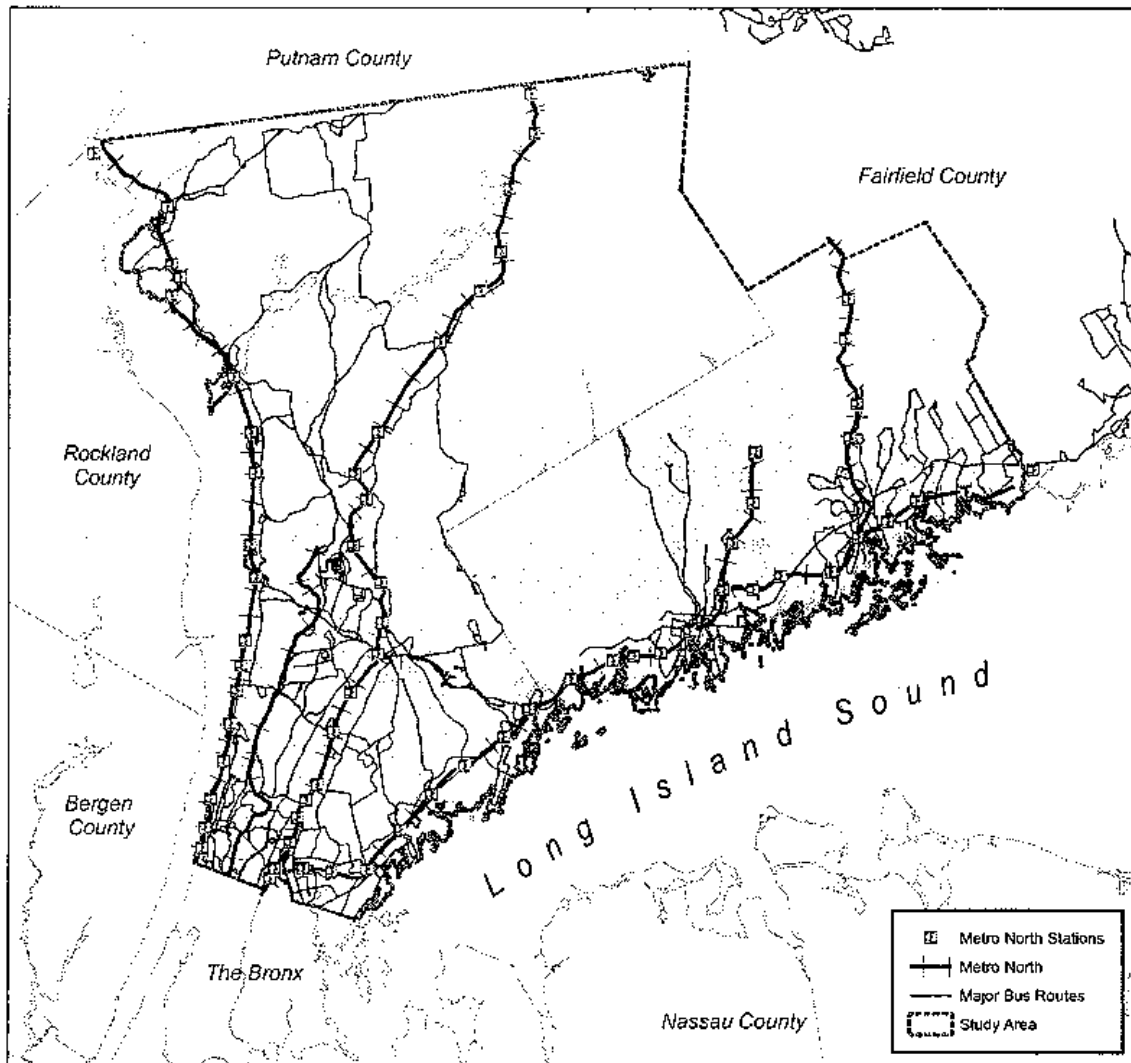
Urban Infill Development Opportunities Assessment

The search for suitable urban infill opportunities centered on existing population centers with access to public transportation and potentially higher zoning densities.

To achieve meaningful densities that are attractive and feasible for developers and public agencies, attainable housing needs to be developed on properties that are large enough to accommodate a sufficient number of units. Therefore, a threshold of 0.5 acres was established to screen out parcels too small for higher-density development.

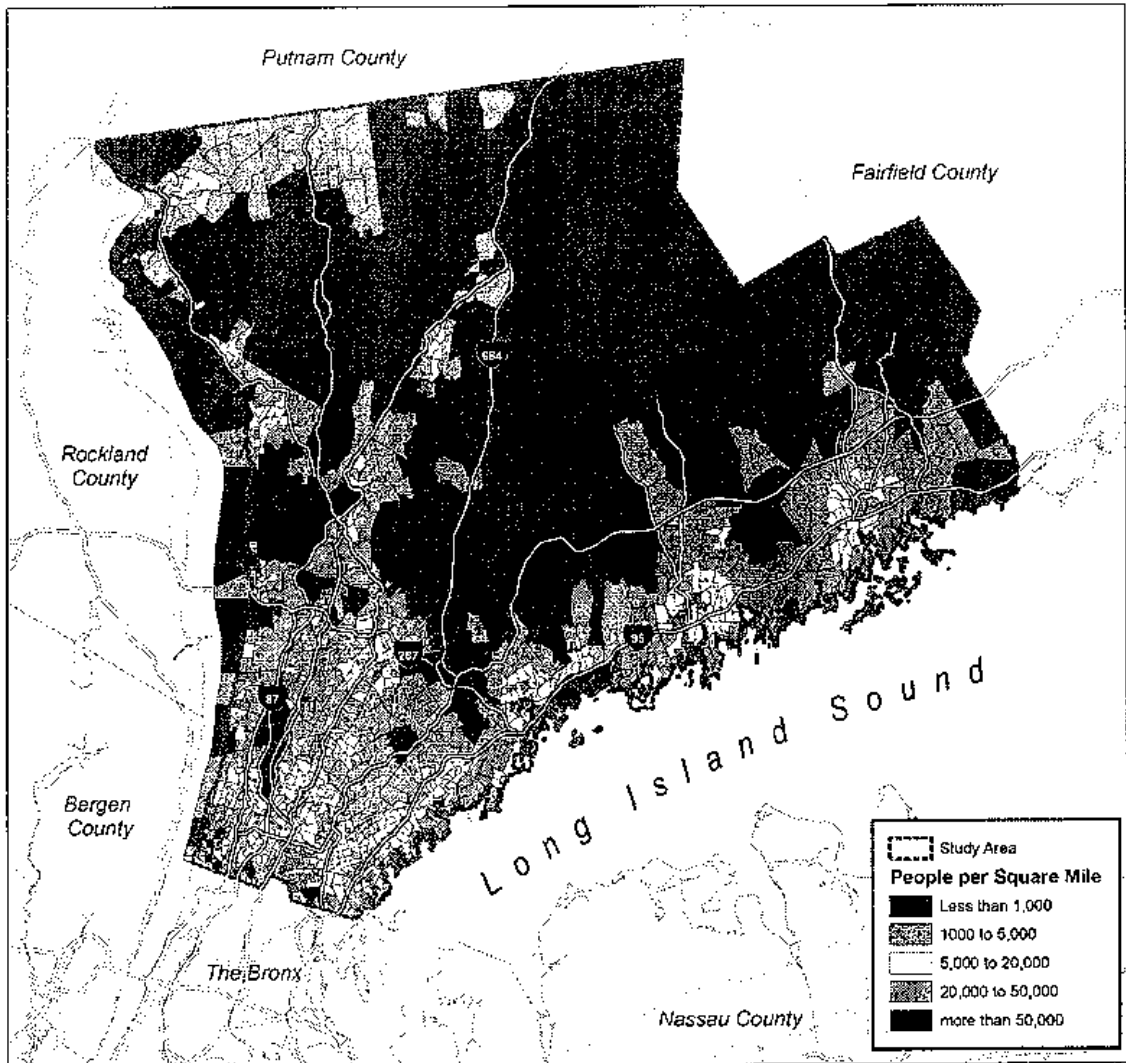
Potential opportunity sites were limited to parcels within a ½-mile radius of train stations and bus routs in order to identify sites that could potentially take advantage of the existing public transportation infrastructure and help to reduce traffic (see **Figure A-8**).

Figure A-8
Metro North and Bus Routes



Potential opportunity sites along bus routes were overlaid with U.S. Census population data to select only those properties that are located within a higher-density urban context. Using block group-level data and Census 2005 American Community Survey population information, AKRF calculated residents per square mile for the study area, as illustrated in Figure A-9. Only those locations that are located within a ½-mile of bus routes and that are within block groups with 5,000 or more residents per square mile were included in the search. Since the towns of New Canaan, Darien, Weston, Wilton, and Westport do not have block groups that satisfy the above-described density requirements, only sites within close proximity to train stations were considered.

Figure A-9
Population Density by Block Group



Where available, parcel-level land use data for jurisdictions in the study area were assessed to identify undeveloped and underdeveloped land. All land use categories identifying vacant land, with the exception of protected and agricultural categories, were included in the query to identify undeveloped and underdeveloped properties. In order to broaden the universe of potential locations, zoning regulations were not treated as critical criteria. Although zoning changes can be difficult to achieve, zoning regulations were assumed to be adjustable in terms of both use and density. In many instances, zoning changes are even required when creating a mix-use environment (i.e. commercial and residential uses), increasing existing residential densities, or providing support for transit related uses.

High- and low-density scenarios were established to determine the potential number of units that could be built on the identified infill development sites. Based on AKRF's research and

experience with transit-oriented development (TOD) and infill projects in the study area, the low-density ratio was set at 20 units per acre, while the high-density ratio was determined to be 50 units per acre.

Suburban grey and green-field development

- Select all larger parcels within 1 mile of the corridors
- The screening for suburban grey and greenfield development opportunities assesses the co-development of attainable housing at existing larger scale, underperforming developments, such as outmoded or abandoned office and retail developments, and analyzes potential development opportunities on vacant undeveloped land.

The screening considered only larger office and retail sites (i.e., sites or clusters larger than 5 acres) that are within a one-mile radius of I-95, I-287, and the Merritt Parkway. Institutional properties were excluded from the screening because institutional uses are not coded consistently in land use databases provided by the various jurisdictions. A preliminary visual screening was performed once properties were identified by the GIS analysis. The assessment focused on the suburban opportunities and did not include office and retail concentration in urban centers, where access space is unavailable.

A-III. ATTAINABLE HOUSING DEMAND

Table A-5	
Distribution of Attainable Housing Demand Employees Who Earn Average Industry Salary or Less New Rochelle	
2009 Monthly Attainable Housing Costs	Unit Demand Distribution
< \$800	22%
\$800 – \$1,599	24%
\$1,600 – \$2,399	22%
\$2,400 – \$3,199	19%
\$3,200 – \$3,999	9%
\$4,000 – \$5,999	3%
\$6,000 – \$7,999	0.2%
\$8,000 +	0.0%

Table A-6	
Distribution of Attainable Housing Demand Employees Who Earn Average Industry Salary or Less Harrison	
2009 Monthly Attainable Housing Costs	Unit Demand Distribution
< \$800	21%
\$800 – \$1,599	20%
\$1,600 – \$2,399	23%
\$2,400 – \$3,199	19%
\$3,200 – \$3,999	10%
\$4,000 – \$5,999	7%
\$6,000 – \$7,999	2%
\$8,000 +	0.0%

Table A-7	
Distribution of Attainable Housing Demand Employees Who Earn Average Industry Salary or Less Port Chester	
Owner-Occupied Housing	
2009 Monthly Attainable Housing Costs	Unit Demand Distribution
< \$800	25%
\$800 – \$1,599	17%
\$1,600 – \$2,399	26%
\$2,400 – \$3,199	20%
\$3,200 – \$3,999	7%
\$4,000 – \$5,999	5%
\$6,000 – \$7,999	1%
\$8,000 +	0.0%

Table A-8	
Distribution of Attainable Housing Demand Employees Who Earn Average Industry Salary or Less Purchase	
2009 Monthly Attainable Housing Costs	Unit Demand Distribution
< \$800	7%
\$800 – \$1,599	13%
\$1,600 – \$2,399	21%
\$2,400 – \$3,199	15%
\$3,200 – \$3,999	22%
\$4,000 – \$5,999	19%
\$6,000 – \$7,999	4%
\$8,000 +	0.0%

Table A-9
Distribution of Attainable Housing Demand
Employees Who Earn Average Industry Salary or Less
White Plains

2009 Monthly Attainable Housing Costs	Unit Demand Distribution
< \$800	23%
\$800 – \$1,599	20%
\$1,600 – \$2,399	24%
\$2,400 – \$3,199	16%
\$3,200 – \$3,999	10%
\$4,000 – \$5,999	6%
\$6,000 – \$7,999	1%
\$8,000 +	0.0%

Table A-10
Distribution of Attainable Housing Demand
Employees Who Earn Average Industry Salary or Less
Elmsford

2009 Monthly Attainable Housing Costs	Unit Demand Distribution
< \$800	20%
\$800 – \$1,599	22%
\$1,600 – \$2,399	25%
\$2,400 – \$3,199	21%
\$3,200 – \$3,999	7%
\$4,000 – \$5,999	4%
\$6,000 – \$7,999	1%
\$8,000 +	0.0%

Table A-11
Distribution of Attainable Housing Demand
Employees Who Earn Average Industry Salary or Less
Tarrytown

2009 Monthly Attainable Housing Costs	Unit Demand Distribution
< \$800	15%
\$800 – \$1,599	22%
\$1,600 – \$2,399	26%
\$2,400 – \$3,199	17%
\$3,200 – \$3,999	13%
\$4,000 – \$5,999	7%
\$6,000 – \$7,999	0.4%
\$8,000 +	0.0%

Table A-12
Distribution of Attainable Housing Demand
Employees Who Earn Average Industry Salary or Less
Armonk

2009 Monthly Attainable Housing Costs	Unit Demand Distribution
< \$800	9%
\$800 – \$1,599	18%
\$1,600 – \$2,399	22%
\$2,400 – \$3,199	18%
\$3,200 – \$3,999	11%
\$4,000 – \$5,999	16%
\$6,000 – \$7,999	5%
\$8,000 +	0.0%

Table A-13

**Distribution of Attainable Housing Demand
Employees Who Earn Average Industry Salary or Less
Greenwich**

2009 Monthly Attainable Housing Costs	Unit Demand Distribution
< \$800	19%
\$800 – \$1,599	25%
\$1,600 – \$2,399	8%
\$2,400 – \$3,199	20%
\$3,200 – \$3,999	7%
\$4,000 – \$5,999	8%
\$6,000 – \$7,999	10%
\$8,000 +	2%

Table A-14

**Distribution of Attainable Housing Demand
Employees Who Earn Average Industry Salary or Less
Stamford**

2009 Monthly Attainable Housing Costs	Unit Demand Distribution
< \$800	14%
\$800 – \$1,599	27%
\$1,600 – \$2,399	20%
\$2,400 – \$3,199	21%
\$3,200 – \$3,999	8%
\$4,000 – \$5,999	8%
\$6,000 – \$7,999	2%
\$8,000 +	0.3%

Table A-15
Distribution of Attainable Housing Demand
Employees Who Earn Average Industry Salary or Less
Darien

2009 Monthly Attainable Housing Costs	Unit Demand Distribution
< \$800	25%
\$800 – \$1,599	30%
\$1,600 – \$2,399	11%
\$2,400 – \$3,199	18%
\$3,200 – \$3,999	8%
\$4,000 – \$5,999	4%
\$6,000 – \$7,999	4%
\$8,000 +	1%

Table A-16
Distribution of Attainable Housing Demand
Employees Who Earn Average Industry Salary or Less
Norwalk

2009 Monthly Attainable Housing Costs	Unit Demand Distribution
< \$800	17%
\$800 – \$1,599	30%
\$1,600 – \$2,399	13%
\$2,400 – \$3,199	18%
\$3,200 – \$3,999	10%
\$4,000 – \$5,999	8%
\$6,000 – \$7,999	3%
\$8,000 +	1%

Table A-17
Distribution of Attainable Housing Demand
Employees Who Earn Average Industry Salary or Less
Wilton

2009 Monthly Attainable Housing Costs	Unit Demand Distribution
< \$800	16%
\$800 – \$1,599	26%
\$1,600 – \$2,399	12%
\$2,400 – \$3,199	23%
\$3,200 – \$3,999	9%
\$4,000 – \$5,999	7%
\$6,000 – \$7,999	5%
\$8,000 +	1%

Table A-18
Distribution of Attainable Housing Demand
Employees Who Earn Average Industry Salary or Less
Westport

2009 Monthly Attainable Housing Costs	Unit Demand Distribution
< \$800	20%
\$800 – \$1,599	26%
\$1,600 – \$2,399	11%
\$2,400 – \$3,199	21%
\$3,200 – \$3,999	8%
\$4,000 – \$5,999	6%
\$6,000 – \$7,999	7%
\$8,000 +	1%

A-IV. ATTAINABLE HOUSING SUPPLY

Table A-19				
Housing Supplies in 30-Minute Commuter Sheds (shown in Figure 5)				
New Rochelle Employment Center				
2009 Estimated Monthly Housing Costs	Uncongested Commuter Shed Supply (housing units)	Uncongested Commuter Shed Distribution of Supply	Congested Commuter Shed Supply (housing units)	Congested Commuter Shed Distribution of Supply
< \$800	448,677	12%	187,496	14%
\$800 – \$1,599	1,242,183	35%	486,760	36%
\$1,600 – \$2,399	565,322	16%	212,702	16%
\$2,400 – \$3,199	415,950	12%	170,424	13%
\$3,200 – \$3,999	316,128	9%	66,571	5%
\$4,000 – \$5,999	364,266	10%	132,478	10%
\$6,000 – \$7,999	112,399	3%	36,945	3%
\$8,000 +	134,058	4%	40,251	3%

Table A-20				
Housing Supplies in 30-Minute Commuter Sheds (shown in Figure 6)				
Harrison Employment Center				
2009 Estimated Monthly Housing Costs	Uncongested Commuter Shed Supply (housing units)	Uncongested Commuter Shed Distribution of Supply	Congested Commuter Shed Supply (housing units)	Congested Commuter Shed Distribution of Supply
< \$800	375,770	13%	65,634	11%
\$800 – \$1,599	946,488	33%	208,024	35%
\$1,600 – \$2,399	415,559	15%	96,365	16%
\$2,400 – \$3,199	443,347	16%	78,293	13%
\$3,200 – \$3,999	236,949	8%	35,645	6%
\$4,000 – \$5,999	216,167	8%	59,310	10%
\$6,000 – \$7,999	90,571	3%	21,855	4%
\$8,000 +	115,402	4%	27,774	5%

Table A-21				
Housing Supplies in 30-Minute Commuter Sheds (shown in Figure 7)				
Port Chester Employment Center				
2009 Estimated Monthly Housing Costs	Uncongested Commuter Shed Supply (housing units)	Uncongested Commuter Shed Distribution of Supply	Congested Commuter Shed Supply (housing units)	Congested Commuter Shed Distribution of Supply
< \$800	1,161,064	37%	18,723	7%
\$800 – \$1,599	737,799	23%	42,694	16%
\$1,600 – \$2,399	322,241	10%	39,628	15%
\$2,400 – \$3,199	338,102	11%	41,661	16%
\$3,200 – \$3,999	189,167	6%	25,843	10%
\$4,000 – \$5,999	242,132	8%	45,881	17%
\$6,000 – \$7,999	84,064	3%	22,753	9%
\$8,000 +	101,856	3%	29,299	11%

Table A-22				
Housing Supplies in 30-Minute Commuter Sheds (shown in Figure 8)				
Purchase Employment Center				
2009 Estimated Monthly Housing Costs	Uncongested Commuter Shed Supply (housing units)	Uncongested Commuter Shed Distribution of Supply	Congested Commuter Shed Supply (housing units)	Congested Commuter Shed Distribution of Supply
< \$800	332,543	12%	27,706	7%
\$800 – \$1,599	898,205	32%	82,436	21%
\$1,600 – \$2,399	407,726	14%	61,343	15%
\$2,400 – \$3,199	438,799	15%	62,617	16%
\$3,200 – \$3,999	242,481	9%	38,261	10%
\$4,000 – \$5,999	299,324	11%	60,074	15%
\$6,000 – \$7,999	103,437	4%	29,738	7%
\$8,000 +	120,580	4%	38,831	10%

Table A-23				
Housing Supplies in 30-Minute Commuter Sheds (shown in Figure 9)				
White Plains Employment Center				
2009 Estimated Monthly Housing Costs	Uncongested Commuter Shed Supply (housing units)	Uncongested Commuter Shed Distribution of Supply	Congested Commuter Shed Supply (housing units)	Congested Commuter Shed Distribution of Supply
< \$800	259,141	12%	68,856	11%
\$800 – \$1,599	700,990	32%	216,602	33%
\$1,600 – \$2,399	303,051	14%	100,456	15%
\$2,400 – \$3,199	318,219	14%	81,228	13%
\$3,200 – \$3,999	184,713	8%	48,777	8%
\$4,000 – \$5,999	245,728	11%	70,133	11%
\$6,000 – \$7,999	88,392	4%	27,992	4%
\$8,000 +	99,702	5%	35,753	6%

Table A-24				
Housing Supplies in 30-Minute Commuter Sheds (shown in Figure 10)				
Elmsford Employment Center				
2009 Estimated Monthly Housing Costs	Uncongested Commuter Shed Supply (housing units)	Uncongested Commuter Shed Distribution of Supply	Congested Commuter Shed Supply (housing units)	Congested Commuter Shed Distribution of Supply
< \$800	310,815	12%	62,393	10%
\$800 – \$1,599	801,811	31%	220,418	36%
\$1,600 – \$2,399	362,603	14%	98,124	16%
\$2,400 – \$3,199	389,513	15%	77,716	13%
\$3,200 – \$3,999	230,849	9%	44,879	7%
\$4,000 – \$5,999	286,495	11%	58,215	9%
\$6,000 – \$7,999	97,916	4%	24,206	4%
\$8,000 +	106,673	4%	28,803	5%

Table A-25				
Housing Supplies in 30-Minute Commuter Sheds (shown in Figure 11)				
Tarrytown Employment Center				
2009 Estimated Monthly Housing Costs	Uncongested Commuter Shed Supply (housing units)	Uncongested Commuter Shed Distribution of Supply	Congested Commuter Shed Supply (housing units)	Congested Commuter Shed Distribution of Supply
< \$800	310,815	12%	62,393	10%
\$800 – \$1,599	801,811	31%	220,418	36%
\$1,600 – \$2,399	362,603	14%	98,124	16%
\$2,400 – \$3,199	389,513	15%	77,716	13%
\$3,200 – \$3,999	230,849	9%	44,879	7%
\$4,000 – \$5,999	286,495	11%	58,215	9%
\$6,000 – \$7,999	97,916	4%	24,206	4%
\$8,000 +	106,673	4%	28,803	5%

Table A-26				
Housing Supplies in 30-Minute Commuter Sheds (shown in Figure 12)				
Armonk Employment Center				
2009 Estimated Monthly Housing Costs	Uncongested Commuter Shed Supply (housing units)	Uncongested Commuter Shed Distribution of Supply	Congested Commuter Shed Supply (housing units)	Congested Commuter Shed Distribution of Supply
< \$800	135,122	13%	6,604	3%
\$800 – \$1,599	369,293	34%	21,100	11%
\$1,600 – \$2,399	161,852	15%	23,680	12%
\$2,400 – \$3,199	135,689	13%	29,117	15%
\$3,200 – \$3,999	65,921	6%	16,587	8%
\$4,000 – \$5,999	110,689	10%	44,576	23%
\$6,000 – \$7,999	43,656	4%	23,285	12%
\$8,000 +	51,194	5%	32,570	16%

Table A-27				
Housing Supplies in 30-Minute Commuter Sheds (shown in Figure 13)				
Greenwich Employment Center				
2009 Estimated Monthly Housing Costs	Uncongested Commuter Shed Supply (housing units)	Uncongested Commuter Shed Distribution of Supply	Congested Commuter Shed Supply (housing units)	Congested Commuter Shed Distribution of Supply
< \$800	1,161,064	37%	18,723	7%
\$800 – \$1,599	737,799	23%	42,694	16%
\$1,600 – \$2,399	322,241	10%	39,628	15%
\$2,400 – \$3,199	338,102	11%	41,661	16%
\$3,200 – \$3,999	189,167	6%	25,843	10%
\$4,000 – \$5,999	242,132	8%	45,881	17%
\$6,000 – \$7,999	84,064	3%	22,753	9%
\$8,000 +	101,856	3%	29,299	11%

Table A-28				
Housing Supplies in 30-Minute Commuter Sheds (shown in Figure 14)				
Stamford Employment Center				
2009 Estimated Monthly Housing Costs	Uncongested Commuter Shed Supply (housing units)	Uncongested Commuter Shed Distribution of Supply	Congested Commuter Shed Supply (housing units)	Congested Commuter Shed Distribution of Supply
< \$800	92,802	7%	3,403	3%
\$800 – \$1,599	164,304	13%	8,190	7%
\$1,600 – \$2,399	294,539	23%	13,113	11%
\$2,400 – \$3,199	292,830	23%	18,583	15%
\$3,200 – \$3,999	111,891	9%	14,418	12%
\$4,000 – \$5,999	173,230	14%	31,189	25%
\$6,000 – \$7,999	64,164	5%	15,406	12%
\$8,000 +	69,972	6%	19,153	16%

Table A-29				
Housing Supplies in 30-Minute Commuter Sheds (shown in Figure 15)				
Darien Employment Center				
2009 Estimated Monthly Housing Costs	Uncongested Commuter Shed Supply (housing units)	Uncongested Commuter Shed Distribution of Supply	Congested Commuter Shed Supply (housing units)	Congested Commuter Shed Distribution of Supply
< \$800	67,834	9%	5,609	5%
\$800 – \$1,599	197,395	26%	13,570	12%
\$1,600 – \$2,399	86,805	11%	20,574	18%
\$2,400 – \$3,199	161,063	21%	12,330	11%
\$3,200 – \$3,999	61,462	8%	13,000	11%
\$4,000 – \$5,999	85,711	11%	20,788	18%
\$6,000 – \$7,999	42,200	6%	12,392	11%
\$8,000 +	54,761	7%	17,268	15%

Table A-30				
Housing Supplies in 30-Minute Commuter Sheds (shown in Figure 16)				
Norwalk Employment Center				
2009 Estimated Monthly Housing Costs	Uncongested Commuter Shed Supply (housing units)	Uncongested Commuter Shed Distribution of Supply	Congested Commuter Shed Supply (housing units)	Congested Commuter Shed Distribution of Supply
< \$800	34,070	7%	6,177	5%
\$800 – \$1,599	94,015	21%	17,506	14%
\$1,600 – \$2,399	72,180	16%	22,573	18%
\$2,400 – \$3,199	65,105	14%	13,220	11%
\$3,200 – \$3,999	41,628	9%	13,116	11%
\$4,000 – \$5,999	65,659	14%	20,686	17%
\$6,000 – \$7,999	35,855	8%	13,134	11%
\$8,000 +	48,635	11%	16,571	13%

2009 Estimated Monthly Housing Costs	Uncongested Commuter Shed Supply (housing units)	Uncongested Commuter Shed Distribution of Supply	Congested Commuter Shed Supply (housing units)	Congested Commuter Shed Distribution of Supply
< \$800	6,218	2%	444	1%
\$800 – \$1,599	27,514	10%	3,993	5%
\$1,600 – \$2,399	44,987	16%	7,135	8%
\$2,400 – \$3,199	35,675	13%	9,466	11%
\$3,200 – \$3,999	31,354	11%	10,537	12%
\$4,000 – \$5,999	52,859	19%	21,037	25%
\$6,000 – \$7,999	32,460	12%	15,026	18%
\$8,000 +	42,677	16%	18,172	21%

2009 Estimated Monthly Housing Costs	Uncongested Commuter Shed Supply (housing units)	Uncongested Commuter Shed Distribution of Supply	Congested Commuter Shed Supply (housing units)	Congested Commuter Shed Distribution of Supply
< \$800	29,731	8%	11,746	8%
\$800 – \$1,599	97,841	25%	39,660	27%
\$1,600 – \$2,399	68,313	17%	23,844	16%
\$2,400 – \$3,199	53,763	14%	17,042	12%
\$3,200 – \$3,999	33,714	9%	11,776	8%
\$4,000 – \$5,999	49,107	12%	16,483	11%
\$6,000 – \$7,999	25,992	7%	10,876	7%
\$8,000 +	34,794	9%	13,612	9%

A-V. ANALYSIS OF HOUSING ATTAINABILITY WITHIN STUDY AREA COMMUTER SHEDS

2009 Estimated Monthly Housing Cost	Employment Center Worker Demand (Percentage)	30-Minute Uncongested Commuter Shed		30-Minute Congested Commuter Shed		Percentage Change in Supply (Uncongested to Congested)
		Supply (Units)	Supply (Percentage)	Supply (Units)	Supply (Percentage)	
< \$800	22%	448,677	12%	187,496	14%	-58%
\$800 – \$1,599	24%	1,242,183	35%	486,760	36%	-61%
\$1,600 – \$2,399	22%	565,322	16%	212,702	16%	-62%
\$2,400 – \$3,199	19%	415,950	12%	170,424	13%	-59%
\$3,200 – \$3,999	9%	316,128	9%	66,571	5%	-79%
\$4,000 – \$5,999	3%	364,266	10%	132,478	10%	-64%
\$6,000 – \$7,999	0.2%	112,399	3%	36,945	3%	-67%
\$8,000 +	0.0%	134,058	4%	40,251	3%	-70%

2009 Estimated Monthly Housing Cost	Employment Center Worker Demand (Percentage)	30-Minute Uncongested Commuter Shed		30-Minute Congested Commuter Shed		Percentage Change in Supply (Uncongested to Congested)
		Supply (Units)	Supply (Percentage)	Supply (Units)	Supply (Percentage)	
< \$800	21%	375,770	13%	65,634	11%	-83%
\$800 – \$1,599	20%	946,488	33%	208,024	35%	-78%
\$1,600 – \$2,399	23%	415,559	15%	96,365	16%	-77%
\$2,400 – \$3,199	19%	443,347	16%	78,293	13%	-82%
\$3,200 – \$3,999	10%	236,949	8%	35,645	6%	-85%
\$4,000 – \$5,999	7%	216,167	8%	59,310	10%	-73%
\$6,000 – \$7,999	2%	90,571	3%	21,855	4%	-76%
\$8,000 +	0.0%	115,402	4%	27,774	5%	-76%

2009 Estimated Monthly Housing Cost	Employment Center Worker Demand (Percentage)	30-Minute Uncongested Commuter Shed		30-Minute Congested Commuter Shed		Percentage Change in Supply (Uncongested to Congested)
		Supply (Units)	Supply (Percentage)	Supply (Units)	Supply (Percentage)	
< \$800	25%	1,161,064	37%	18,723	7%	-98%
\$800 – \$1,599	17%	737,799	23%	42,694	16%	-94%
\$1,600 – \$2,399	26%	322,241	10%	39,628	15%	-88%
\$2,400 – \$3,199	20%	338,102	11%	41,661	16%	-88%
\$3,200 – \$3,999	7%	189,167	6%	25,843	10%	-86%
\$4,000 – \$5,999	5%	242,132	8%	45,881	17%	-81%
\$6,000 – \$7,999	1%	84,064	3%	22,753	9%	-73%
\$8,000 +	0.0%	101,856	3%	29,299	11%	-71%

2009 Estimated Monthly Housing Cost	Employment Center Worker Demand (Percentage)	30-Minute Uncongested Commuter Shed		30-Minute Congested Commuter Shed		Percentage Change in Supply (Uncongested to Congested)
		Supply (Units)	Supply (Percentage)	Supply (Units)	Supply (Percentage)	
< \$800	7%	332,543	12%	27,706	7%	-92%
\$800 – \$1,599	13%	898,205	32%	82,436	21%	-91%
\$1,600 – \$2,399	21%	407,726	14%	61,343	15%	-85%
\$2,400 – \$3,199	15%	438,799	15%	62,617	16%	-86%
\$3,200 – \$3,999	22%	242,481	9%	38,261	10%	-84%
\$4,000 – \$5,999	19%	299,324	11%	60,074	15%	-80%
\$6,000 – \$7,999	4%	103,437	4%	29,738	7%	-71%
\$8,000 +	0.0%	120,580	4%	38,831	10%	-68%

2009 Estimated Monthly Housing Cost	Employment Center Worker Demand (Percentage)	30-Minute Uncongested Commuter Shed		30-Minute Congested Commuter Shed		Percentage Change in Supply (Uncongested to Congested)
		Supply (Units)	Supply (Percentage)	Supply (Units)	Supply (Percentage)	
< \$800	23%	259,141	12%	68,856	11%	-73%
\$800 – \$1,599	20%	700,990	32%	216,602	33%	-69%
\$1,600 – \$2,399	24%	303,051	14%	100,456	15%	-67%
\$2,400 – \$3,199	16%	318,219	14%	81,228	13%	-74%
\$3,200 – \$3,999	10%	184,713	8%	48,777	8%	-74%
\$4,000 – \$5,999	6%	245,728	11%	70,133	11%	-71%
\$6,000 – \$7,999	1%	88,392	4%	27,992	4%	-68%
\$8,000 +	0.0%	99,702	5%	35,753	6%	-64%

2009 Estimated Monthly Housing Cost	Employment Center Worker Demand (Percentage)	30-Minute Uncongested Commuter Shed		30-Minute Congested Commuter Shed		Percentage Change in Supply (Uncongested to Congested)
		Supply (Units)	Supply (Percentage)	Supply (Units)	Supply (Percentage)	
< \$800	20%	310,815	12%	62,393	10%	-80%
\$800 – \$1,599	22%	801,811	31%	220,418	36%	-73%
\$1,600 – \$2,399	25%	362,603	14%	98,124	16%	-73%
\$2,400 – \$3,199	21%	389,513	15%	77,716	13%	-80%
\$3,200 – \$3,999	7%	230,849	9%	44,879	7%	-81%
\$4,000 – \$5,999	4%	286,495	11%	58,215	9%	-80%
\$6,000 – \$7,999	1%	97,916	4%	24,206	4%	-75%
\$8,000 +	0.0%	106,673	4%	28,803	5%	-73%

Table A-39						
Tarrytown Employment Center						
Attainable Housing Analysis						
2009 Estimated Monthly Housing Cost	Employment Center Worker Demand (Percentage)	30-Minute Uncongested Commuter Shed		30-Minute Congested Commuter Shed		Percentage Change in Supply (Uncongested to Congested)
		Supply (Units)	Supply (Percentage)	Supply (Units)	Supply (Percentage)	
< \$800	15%	310,815	12%	62,393	10%	-80%
\$800 – \$1,599	22%	801,811	31%	220,418	36%	-73%
\$1,600 – \$2,399	26%	362,603	14%	98,124	16%	-73%
\$2,400 – \$3,199	17%	389,513	15%	77,716	13%	-80%
\$3,200 – \$3,999	13%	230,849	9%	44,879	7%	-81%
\$4,000 – \$5,999	7%	286,495	11%	58,215	9%	-80%
\$6,000 – \$7,999	0.4%	97,916	4%	24,206	4%	-75%
\$8,000 +	0.0%	106,673	4%	28,803	5%	-73%

Table A-40						
Armonk Employment Center						
Attainable Housing Analysis						
2009 Estimated Monthly Housing Cost	Employment Center Worker Demand (Percentage)	30-Minute Uncongested Commuter Shed		30-Minute Congested Commuter Shed		Percentage Change in Supply (Uncongested to Congested)
		Supply (Units)	Supply (Percentage)	Supply (Units)	Supply (Percentage)	
< \$800	9%	135,122	13%	6,604	3%	-95%
\$800 – \$1,599	18%	369,293	34%	21,100	11%	-94%
\$1,600 – \$2,399	22%	161,852	15%	23,680	12%	-85%
\$2,400 – \$3,199	18%	135,689	13%	29,117	15%	-79%
\$3,200 – \$3,999	11%	65,921	6%	16,587	8%	-75%
\$4,000 – \$5,999	16%	110,689	10%	44,576	23%	-60%
\$6,000 – \$7,999	5%	43,656	4%	23,285	12%	-47%
\$8,000 +	0.0%	51,194	5%	32,570	16%	-36%

2009 Estimated Monthly Housing Cost	Employment Center Worker Demand (Percentage)	30-Minute Uncongested Commuter Shed		30-Minute Congested Commuter Shed		Percentage Change in Supply (Uncongested to Congested)
		Supply (Units)	Supply (Percentage)	Supply (Units)	Supply (Percentage)	
< \$800	19%	1,161,064	37%	18,723	7%	-98%
\$800 – \$1,599	25%	737,799	23%	42,694	16%	-94%
\$1,600 – \$2,399	8%	322,241	10%	39,628	15%	-88%
\$2,400 – \$3,199	20%	338,102	11%	41,661	16%	-88%
\$3,200 – \$3,999	7%	189,167	6%	25,843	10%	-86%
\$4,000 – \$5,999	8%	242,132	8%	45,881	17%	-81%
\$6,000 – \$7,999	10%	84,064	3%	22,753	9%	-73%
\$8,000 +	2%	101,856	3%	29,299	11%	-71%

2009 Estimated Monthly Housing Cost	Employment Center Worker Demand (Percentage)	30-Minute Uncongested Commuter Shed		30-Minute Congested Commuter Shed		Percentage Change in Supply (Uncongested to Congested)
		Supply (Units)	Supply (Percentage)	Supply (Units)	Supply (Percentage)	
< \$800	14%	92,802	7%	3,403	3%	-96%
\$800 – \$1,599	27%	164,304	13%	8,190	7%	-95%
\$1,600 – \$2,399	20%	294,539	23%	13,113	11%	-96%
\$2,400 – \$3,199	21%	292,830	23%	18,583	15%	-94%
\$3,200 – \$3,999	8%	111,891	9%	14,418	12%	-87%
\$4,000 – \$5,999	8%	173,230	14%	31,189	25%	-82%
\$6,000 – \$7,999	2%	64,164	5%	15,406	12%	-76%
\$8,000 +	0.3%	69,972	6%	19,153	16%	-73%

2009 Estimated Monthly Housing Cost	Employment Center Worker Demand (Percentage)	30-Minute Uncongested Commuter Shed		30-Minute Congested Commuter Shed		Percentage Change in Supply (Uncongested to Congested)
		Supply (Units)	Supply (Percentage)	Supply (Units)	Supply (Percentage)	
< \$800	25%	67,834	9%	5,609	5%	-92%
\$800 – \$1,599	30%	197,395	26%	13,570	12%	-93%
\$1,600 – \$2,399	11%	86,805	11%	20,574	18%	-76%
\$2,400 – \$3,199	18%	161,063	21%	12,330	11%	-92%
\$3,200 – \$3,999	8%	61,462	8%	13,000	11%	-79%
\$4,000 – \$5,999	4%	85,711	11%	20,788	18%	-76%
\$6,000 – \$7,999	4%	42,200	6%	12,392	11%	-71%
\$8,000 +	1%	54,761	7%	17,268	15%	-68%

2009 Estimated Monthly Housing Cost	Employment Center Worker Demand (Percentage)	30-Minute Uncongested Commuter Shed		30-Minute Congested Commuter Shed		Percentage Change in Supply (Uncongested to Congested)
		Supply (Units)	Supply (Percentage)	Supply (Units)	Supply (Percentage)	
< \$800	17%	34,070	7%	6,177	5%	-82%
\$800 – \$1,599	30%	94,015	21%	17,506	14%	-81%
\$1,600 – \$2,399	13%	72,180	16%	22,573	18%	-69%
\$2,400 – \$3,199	18%	65,105	14%	13,220	11%	-80%
\$3,200 – \$3,999	10%	41,628	9%	13,116	11%	-68%
\$4,000 – \$5,999	8%	65,659	14%	20,686	17%	-68%
\$6,000 – \$7,999	3%	35,855	8%	13,134	11%	-63%
\$8,000 +	1%	48,635	11%	16,571	13%	-66%

Table A-45
Wilton Employment Center
Attainable Housing Analysis

2009 Estimated Monthly Housing Cost	Employment Center Worker Demand (Percentage)	30-Minute Uncongested Commuter Shed		30-Minute Congested Commuter Shed		Percentage Change in Supply (Uncongested to Congested)
		Supply (Units)	Supply (Percentage)	Supply (Units)	Supply (Percentage)	
< \$800	16%	6,218	2%	444	1%	-93%
\$800 – \$1,599	26%	27,514	10%	3,993	5%	-85%
\$1,600 – \$2,399	12%	44,987	16%	7,135	8%	-84%
\$2,400 – \$3,199	23%	35,675	13%	9,466	11%	-73%
\$3,200 – \$3,999	9%	31,354	11%	10,537	12%	-66%
\$4,000 – \$5,999	7%	52,859	19%	21,037	25%	-60%
\$6,000 – \$7,999	5%	32,460	12%	15,026	18%	-54%
\$8,000 +	1%	42,677	16%	18,172	21%	-57%

Table A-46
Westport Employment Center
Attainable Housing Analysis

2009 Estimated Monthly Housing Cost	Employment Center Worker Demand (Percentage)	30-Minute Uncongested Commuter Shed		30-Minute Congested Commuter Shed		Percentage Change in Supply (Uncongested to Congested)
		Supply (Units)	Supply (Percentage)	Supply (Units)	Supply (Percentage)	
< \$800	20%	29,731	8%	11,746	8%	-60%
\$800 – \$1,599	26%	97,841	25%	39,660	27%	-59%
\$1,600 – \$2,399	11%	68,313	17%	23,844	16%	-65%
\$2,400 – \$3,199	21%	53,763	14%	17,042	12%	-68%
\$3,200 – \$3,999	8%	33,714	9%	11,776	8%	-65%
\$4,000 – \$5,999	6%	49,107	12%	16,483	11%	-66%
\$6,000 – \$7,999	7%	25,992	7%	10,876	7%	-58%
\$8,000 +	1%	34,794	9%	13,612	9%	-61%