



Town of Apex 2035 Land Use Plan Update | Economic Study and Market Analysis



Final Report

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Kimley»Horn



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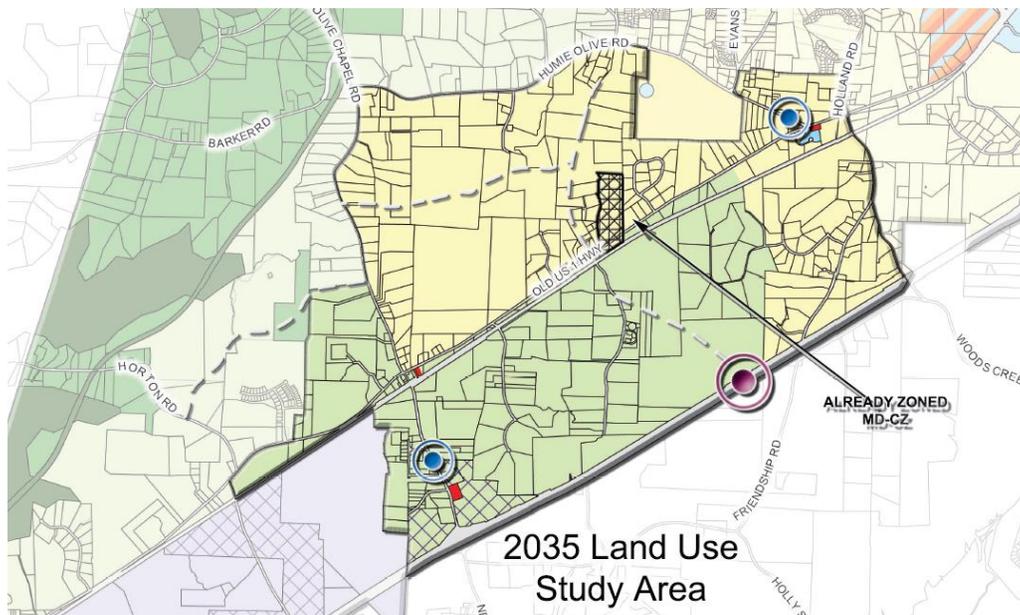
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Project Overview

Kimley-Horn was retained by the Town of Apex to prepare an economic study and market analysis for a 3,000-acre area near Friendship and New Hill, southwest of Apex's corporate limits. The identified area was not studied in depth during the development of *Peak Plan 2030: The Apex Comprehensive Plan*, adopted in 2013. The findings of the economic study and market analysis will be used by the Town of Apex to evaluate probable land use mixes in the Study Area through the 2035 horizon year.

As shown in the map below and as Map 1 in the appendix, the Study Area centers on Old US-1 west of Friendship Road, south of Humie Olive Road, and north of US-1. It includes the intersections of Old US-1 and New Hill Holleman/New Hill Olive Chapel Road and the future interchange at US-1 and the proposed Richardson Road Extension.



The *Peak Plan 2030: The Apex Comprehensive Plan* identified three future activity centers within the Study Area. A more specific mixture of uses around these areas will be identified through this process. Two of the activity centers (denoted by blue targets in the map above) were projected to be Neighborhood Mixed-Use with a variety of residential uses developed around a concentration of retail and commercial. The third node, located adjacent to US-1 and marked by a purple target in the map above, was defined as an Employment Mixed-Use node and could comprise a variety of uses, including light industrial, warehousing, office, research, and technology, as well as support retail.

To support this effort, the Town of Apex hosted two focus group sessions and a public workshop in February 2016 to gather feedback on the Study Area. Focus group sessions were attended by elected and appointed officials, as well as the larger development community. Feedback collected in these sessions helped to inform demand forecasts presented here.

This analysis documents existing conditions from a demographic and real estate market perspective, providing baseline market statistics to inform potential development opportunities within the Study Area. Real estate demand forecasts have been prepared through 2035 for residential, retail, office, and industrial uses. The analysis considers both local and regional market forces impacting the Town of Apex. Ultimately, this document can be used to inform future land uses and policy decisions in the Study Area.



Economic Anchors and Investments

This section describes major economic drivers and public and private investments that would impact future demand for real estate in Apex and southwestern Wake County.

Region Overview

The Raleigh-Durham-Chapel Hill region has become well known as being equally appealing as a place to live and a place to do business. The success of the region has been well documented, with unprecedented population and job growth in the last 20 years. The region is the second largest metropolitan area in North Carolina, ranking just behind Charlotte. Hosting three of the most well-known higher education research facilities, Duke University, University of North Carolina Chapel Hill, and North Carolina State University, the region has access to a highly educated workforce. This presence bolsters the region's reputation as a national leader in research, development, and innovation. The key economic hubs are downtown Raleigh and Durham, as well as Research Triangle Park, described separately below.

Downtown Raleigh

Containing over 5.0 million square feet of office space and more than 50,000 employees, downtown Raleigh is the hub of the region. In addition to traditional government and service-based jobs, downtown Raleigh has gained notoriety as a magnet for technology and innovation companies. New tech companies relocating to downtown have brought more than 2,200 jobs with an average salary of \$75,000.

As companies continue to seek locations that offer a mixture of uses, proximity to services, and residential opportunities to attract talent, downtown Raleigh has seen an upswing in construction activity. The technology company Red Hat chose to locate a majority of their employees in downtown Raleigh in 2012. Movement into downtown Raleigh was largely prompted by employee preferences, most notably a targeted effort to retain and attract talent.

Downtown Durham

Since 2000, \$1.3 billion has been invested in downtown Durham, an area that comprises approximately one square mile. Currently there is \$250 million in projects under construction and another \$200 million in planning phases.

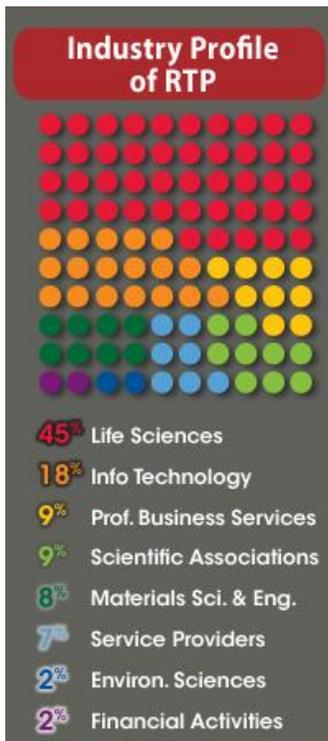
Downtown Durham has received numerous national recognitions: "America's leading creative class metro"- *The Atlantic*, 2012; "Top 10 places to live"- *U.S. News and World Report*, 2009;

Durham Performing Arts Center, DPAC ranked in "Top 5 U.S. Theatres"- *Billboard*, five consecutive years (ranked by size and type). In 2007, Durham was ranked by *Wired* as a "Top 10 Tech Town." Downtown Durham hosts 150 startups and boasts a 93% office occupancy rate. More than 175,000 people live within a five mile radius of downtown Durham. It is a place to both live and work with 1,700 housing units and 16,500 people employed downtown.





Research Triangle Park



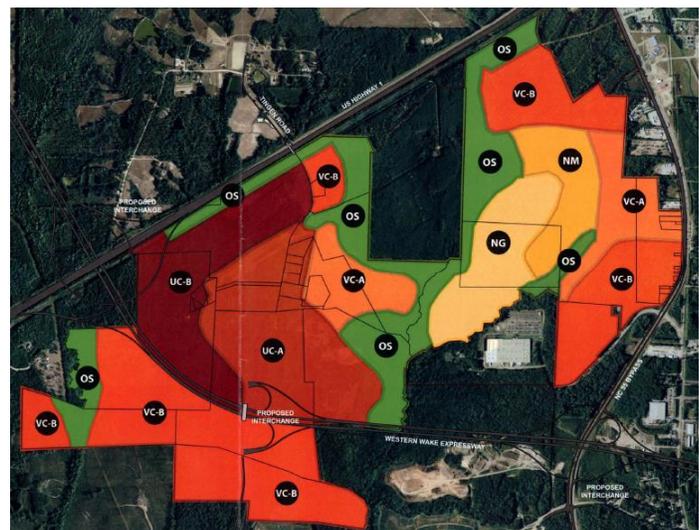
Research Triangle Park (RTP) is home to more than 190 companies, including IBM, GSK, Syngenta, RTI International, Credit Suisse, and Cisco. Started in 1959, the 7,000-acre campus is the largest research park in the United States, containing 22.5 million square feet of built space. More than 40,000 full-time employees work in RTP, with an estimated 10,000 additional contract workers. Since 1970, over 1,800 start-up companies have been created at RTP. Residents of Apex can reach employment opportunities in RTP within a 15 to 30 minute daily commute.

In 2012, a new Master Plan for RTP was approved. The plan provides a strategic vision to meet the needs of future employers at RTP. In 2015, the Research Triangle Foundation announced that \$50 million in funds had been secured to implement the master plan. The RTP Foundation bought nearly 100 acres off I-40 in 2014 and plans to introduce the first major residential and retail mixed-use development in the park's 60-year history. The development, referred to as Park Center, is planned to meet the needs for more dense and convenient living in close proximity to employment. Park Center will appeal to that market with plans for restaurants, apartments, and shopping. Hines has been identified as the development partner on the project and will serve as the master developer for the first phase of development; Gensler has been identified as the lead architect. The RTP master plan also calls for a commuter light rail that would connect Park Center with the three vertex cities of the Triangle, although at this time, no project plans have materialized.

Veridea

Veridea is a 1,012-acre mixed-use development proposed at the intersection of US-1, NC-55, and NC-540, approximately 3.5 miles south of downtown Apex.

While no site plan has been approved by the Town, a new zoning classification has been proposed that will allow Veridea to reach its sustainability goals. The Sustainable Development zoning classification is based on the concept map shown to the right. The concept map shows Veridea organized into eight distinct zones:



- Open Space / Civic Use
- Neighborhood General
- Neighborhood Mixed-Use
- Village Center A Grid
- Village Center B Grid
- Urban Core A Grid
- Urban Core B Grid
- Special Zone



Veridea is planned to include up to 8,000 residential units and over 16 million square feet of commercial space on 1,012 acres. Residential units are proposed at a variety of types, ownerships, and densities, ranging from single-family detached to high-density multi-family (Table 1).

Table 1: Residential Units by Type, Veridea, 2011

Land Use	Potential Units	Share of Total
High-Density	4,695	58.7%
Medium-Density	1,839	23.0%
Single-Family	1,017	12.7%
Townhouse	449	5.6%
Total	8,000	100.0%

Source: Lookout Ventures, Shook Kelley

As currently proposed, Veridea will contain 16.2 million square feet of commercial space at build-out (Table 2). The estimated 10,000,000 square feet of general office space makes up the largest share of non-residential uses at 61.5%. Retail makes up the second highest share at 21.5%. Approximately 161,000 square feet of institutional uses have been planned for education, and a public safety complex and community center could contain 49,600 square feet.

Table 2: Commercial Square Feet by Type, Veridea, 2011

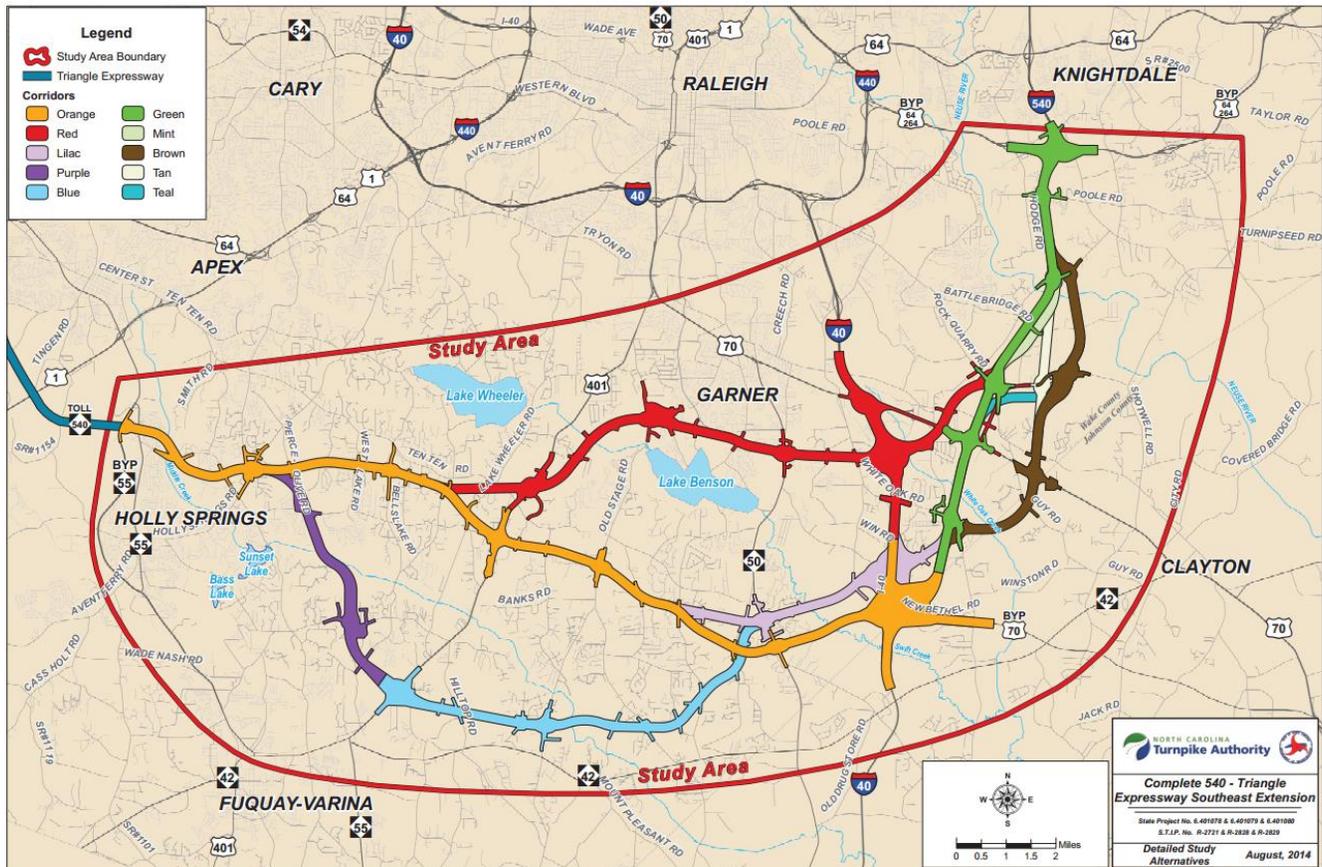
Land Use	Potential Sq.Ft.	Share of Total
Office - General	10,000,000	61.5%
Office - High-Tech	2,000,000	12.3%
Retail	3,500,000	21.5%
Lodging	560,000	3.4%
Institutional	161,000	1.0%
Government	49,600	0.3%
Total	16,270,600	100.0%

Source: Lookout Ventures, Shook Kelley

NC-540

Otherwise known as the Raleigh Outer Loop, NC-540 is a partially completed Interstate-grade beltway around the City of Raleigh in Wake County. Although planning began in the early 1970s, construction started on the first segment in 1992. When completed, the project will total 70 miles in length. The northern and western segments are completed with the southeast corridor still in the planning phases. The facility termini are currently at NC-55 in Apex and US-264 Bypass in Knightdale.

The southeast segment, known as the Triangle Expressway Southeast Connector, is currently in the planning phases by the North Carolina Turnpike Authority. The total project length is approximately 30 miles, extending from Apex to the US-64/US-264 Bypass. The final segment is to be completed in two phases: Phase 1 currently has a protected corridor, while the route for Phase 2 remains preliminary. As shown in the figure below, the North Carolina Turnpike Authority is still investigating a variety of routes for the Southeast Connector. When complete it would create a direct connection between Apex, Holly Springs, and Garner, and ultimately US-64 east of Raleigh.



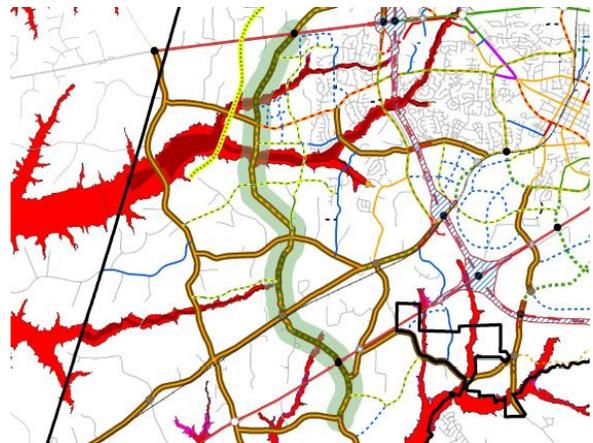
Construction is underway on a new interchange at Old Holly Springs-Apex Road and NC-540. The \$18.4 million contract was awarded in 2015 and the interchange is expected to be open to cars by 2017. This new interchange is expected to increase accessibility to the Veridea development, and draw new daily customers onto the toll facility.

Local Improvements and Investments

Richardson Road Extension

The Town of Apex has identified the need to create an additional north-south connection through the Study Area. The Richardson Road Extension is planned to become a major thoroughfare, connecting US-64 and US-1. No public financing is currently identified for the new alignment. The mixed-use Sweetwater development, approved for 165 acres in 2015, along with the Smith Farm development will fund a portion of the extension (Olive Chapel Road to US-64).

The alignment is ultimately planned to include a grade-separated interchange at US-1, providing additional access to the Study Area, as well as other areas in southwest Wake County and Holly Springs. The addition of a new interchange in this location would benefit both Apex and Holly Springs.





Western Wake Regional Wastewater Project

The Western Wake Regional Wastewater Management Facility is a system of wastewater pump stations and a water reclamation facility in the New Hill area of western Wake County. The facility is located on the south-side of Old US-1, immediately west of the Study Area. It provides additional wastewater treatment capacity of up to 18 million gallons per day for residents in Apex, Cary, and Morrisville. The \$300 million infrastructure project opened in 2014, and provides expanded service ability to areas in southwest Apex, including the Study Area.

Pleasant Park

The Town of Apex purchased 92 acres near the intersection of NC-540 and Old US-1 for a future regional park facility. Public workshops helped to shape the design and amenities that are planned to be offered. The conceptual design shows active and passive recreation opportunities, including ball fields, tennis courts, picnic shelters, running trails, playgrounds, and open space. The conceptual design, shown in the figure below, was approved by the Apex Town Council in 2016. There is currently no funding identified for construction of the facility.



Holly Springs Growth Area

The Town of Holly Springs identified a growth area across US-1 from the Study Area. The New Hill Road/Friendship Road Growth Area is envisioned to define new business park opportunities for southwestern Wake County in the future. The focus land uses are industrial and businesses, as well as supporting retail and higher-density residential. Industrial and business uses are to comprise at least 85% of the total land mixture. Transportation and utility infrastructure investments will be required to make this a viable development site for non-residential uses.



Demographic Profile

This section analyzes population and household trends by age, income, and tenure for the seven-county Raleigh-Durham-Chapel Hill Combined Statistical Area (CSA), and more specifically for Wake County and the Apex Planning Area. Ethnic diversity, educational attainment, and high-level lifestyle preferences through a Tapestry Segmentation analysis have also been provided.

Geographies for used in this analysis, demonstrate both regional and localized shifts in population characteristics. Understanding these shifts, both on regional and local scales, is important to accurately project future real estate demand for the Study Area. For the purpose of this analysis, geographies are described as follows:

- The **Raleigh-Durham-Chapel Hill CSA** is an aggregate geography containing the Raleigh Metropolitan Statistical Area (MSA) and the Durham-Chapel Hill MSA. It includes Chatham, Durham, Orange, and Person counties in the Durham MSA and Franklin, Johnston, and Wake counties representing the Raleigh MSA.
- Since many third-party sources, including the North Carolina State Office of Budget and Management, provide trend and forecast scenarios on a county-wide basis, measures for **Wake County** have been included in this analysis. Representing approximately 60% of the total population and jobs in the region, Wake County is one of the major economic engines driving real estate performance for the Triangle.
- The **Apex Planning Area** represents all properties in incorporated Apex, as some in western Wake County that are in or near Apex's Extra Territorial Jurisdiction (ETJ) and could be served by Apex in the future. Annexation agreements with the towns of Cary and Holly Springs have been taken into consideration in the definition of the Planning Area. Generally, it includes land from Apex proper, west to the Wake-Chatham county line. The boundaries of the Apex Planning Area are demonstrated in Map 2 in the appendix.
- The focus of this analysis, the **Study Area**, contains approximately 3,000 acres near Friendship and New Hill, southwest of Apex's corporate limits. The geography centers on Old US 1 Between west of Friendship Road, south of Humie Olive Road, and north of US 1. It includes the intersections of Old US 1 and New Hill Holleman/New Hill Olive Chapel Road and the future interchange at US 1 and the proposed Richardson Road Extension.

Population

The Apex Planning Area had over 50,000 residents in 2015, nearly double the 2000 population measure (Table 3). The increase of 24,484 residents over the 15-year period equates to a compound annual growth rate (CAGR) of approximately 4.6%. Comparatively, population in Wake County increased 58.7% since 2000 and the larger CSA experienced a growth rate of over 33%. Population in the Raleigh-Durham-Chapel Hill CSA exceeded 1.6 million in 2015. Overall, the Planning Area captured approximately 6.0% of the total regional growth since 2000.



Table 3: Comparison of Population Trends, 2000-2015

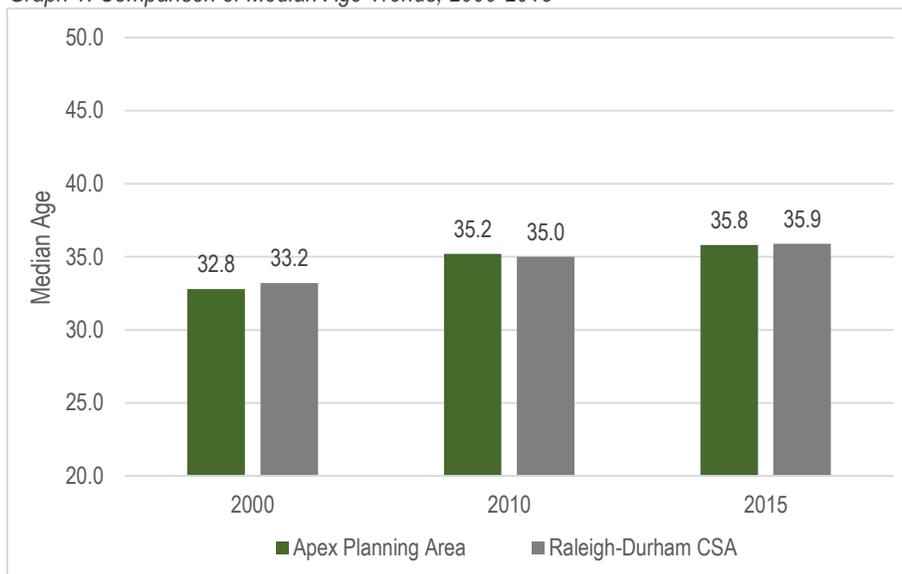
Area	2000	2015	2000-2015 Δ		
			#	%	CAGR
Apex Planning Area	25,640	50,124	24,484	95.5%	4.6%
Wake County	627,823	996,427	368,604	58.7%	3.1%
Raleigh-Durham CSA	1,223,541	1,634,847	411,306	33.6%	2.0%
Planning Area % of CSA	2.1%	3.1%	6.0%		

Source: ESRI; Kimley-Horn

Average Age

The average age in the Apex Planning Area in 2015 was estimated at 35.8, comparable to the 35.9 measure demonstrated in the larger Raleigh-Durham-Chapel Hill CSA (Graph 1). Since 2000, the average age in the Planning Area increased from 32.8 to 35.8, a slightly larger increase in average age than the larger region.

Graph 1: Comparison of Median Age Trends, 2000-2015



Population by Age Cohort

Between 2000 and 2015, every age cohort experienced an increase in population in the Apex Planning Area. As shown in Table 4, the strongest growth rates were measured in population aged 55 to 74, representing the Baby Boomer generation. Population identifying in these age groups more than quadrupled since 2000. Strong growth was also measured in population less than age 24, representing school-aged children and young adults. It should be noted that between 2000 and 2015, the population representing the older segment of the Millennial generation remained relatively unchanged. The stagnant growth in this population is likely related to the comparatively higher cost of housing in the Planning Area. This population is an important driver of the starter home and rental residential market.



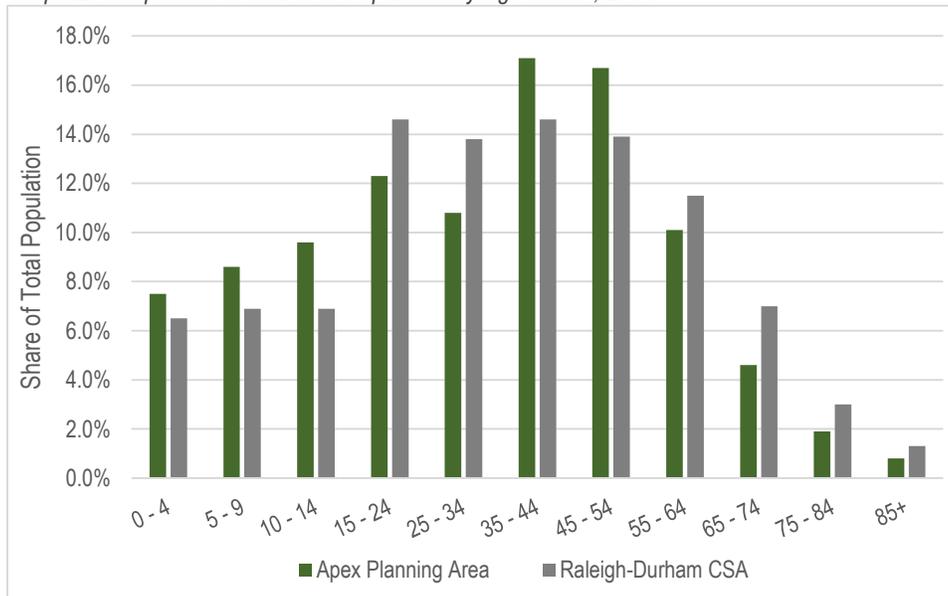
Table 4: Population by Age Cohort, Apex Planning Area, 2000-2015

Cohort	2000	2015	2000-2015 Δ	
			#	%
0 - 4	2,436	3,759	1,323	54.3%
5 - 9	2,354	4,311	1,956	83.1%
10 - 14	1,983	4,812	2,829	142.7%
15 - 24	2,303	6,165	3,863	167.7%
25 - 34	5,038	5,413	376	7.5%
35 - 44	5,501	8,571	3,070	55.8%
45 - 54	3,306	8,371	5,065	153.2%
55 - 64	1,525	5,063	3,537	231.9%
65 - 74	704	2,306	1,601	227.4%
75 - 84	374	952	578	154.6%
85+	116	401	285	244.4%
Total	25,640	50,124	24,484	95.5%

Source: ESRI; Kimley-Horn

Graph 2 compares the overall shares of population by age cohort in the Apex Planning Area to the larger Raleigh-Durham-Chapel Hill CSA. The Planning Area has higher shares of residents aged less than 14 years, and aged between 35 and 54. These cohorts typically correspond with family households. Conversely, the CSA has higher shares of Millennials, largely due to the region's strong representation of higher education facilities, and Baby Boomers. Approximately one-third of the Planning Area's population are children living at home.

Graph 2: Comparison of Shares of Population by Age Cohort, 2015



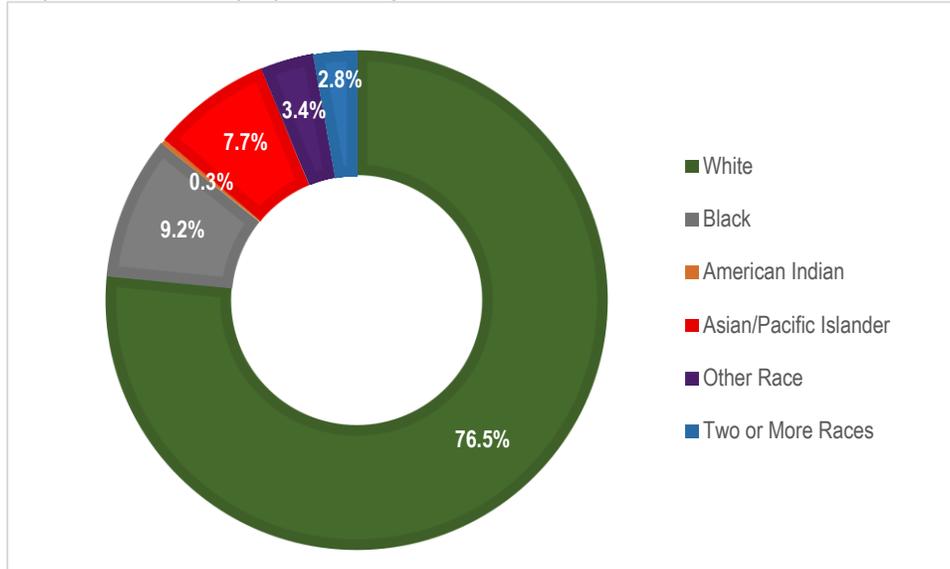
Ethnic Diversity

More than three-quarters of the total population in the Apex Planning Area identifies as white (Graph 3). As a point of comparison, 63.5% of the population in the larger Raleigh-Durham-Chapel Hill CSA are white. The Planning Area is diversifying with the share of white residents decreasing from 81.1% in 2000. Black and Asian/Pacific Islander residents



comprise another 16.9% of the total Planning Area population. Not noted in the graph below are residents of Hispanic origin, which can identify with any race. Approximately 7.8% of Planning Area residents were of Hispanic origin, compared to 10.9% for the CSA.

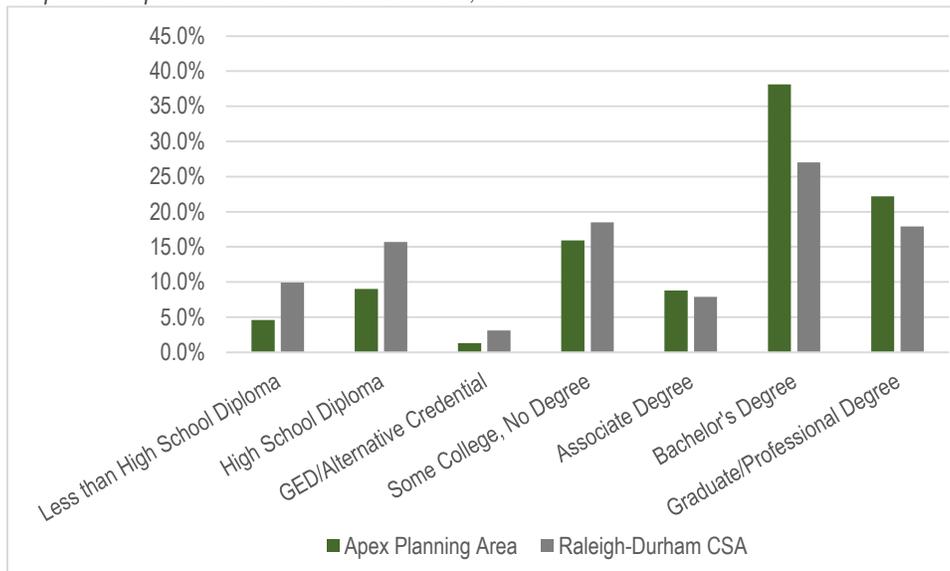
Graph 3: Ethnic Diversity, Apex Planning Area, 2015



Educational Attainment

Graph 4 compares educational attainment in the Apex Planning Area and the Raleigh-Durham-Chapel Hill CSA for population over the age of 25. The Planning Area has notably higher shares of residents with a Bachelor's or Graduate/Professional degree than the region, indicating a highly-trained labor force.

Graph 4: Comparison of Educational Attainment, 2015





Households

The Apex Planning Area had an estimated 17,762 households in 2015, comprising 2.4% of the total in the Raleigh-Durham-Chapel Hill CSA (Table 5). Household growth in the Planning Area has been strong, demonstrating an 88.5% increase since 2000. During the same time period, Wake County increased by 57.4% and the Raleigh-Durham-Chapel Hill CSA grew by 46.1%. Overall, the Planning Area captured 3.5% of the regional household growth between 2000 and 2015.

Table 5: Comparison of Household Trends, 2000-2015

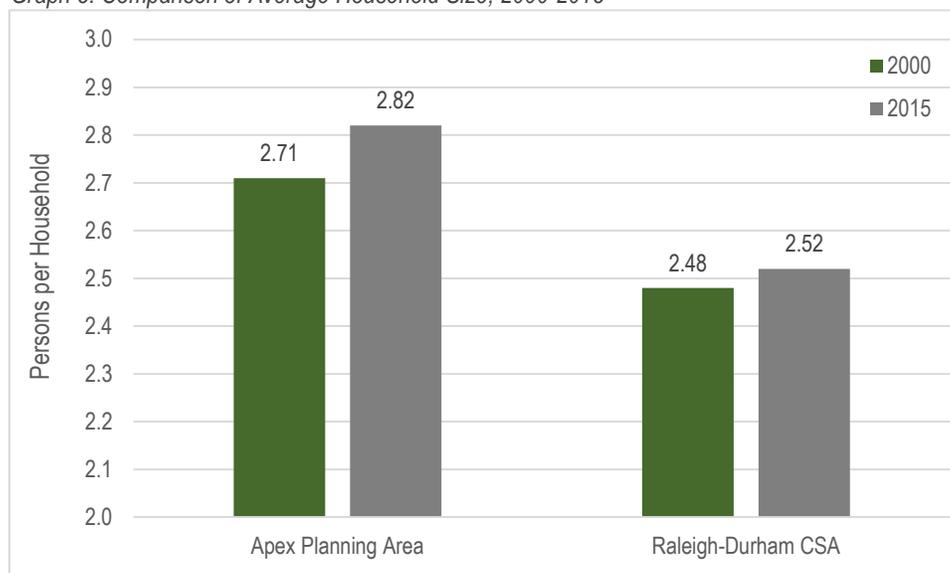
Area	2000	2015	2000-2015 Δ		
			#	%	CAGR
Apex Planning Area	9,425	17,762	8,337	88.5%	4.3%
Wake County	242,031	380,855	138,824	57.4%	3.1%
Raleigh-Durham CSA	511,107	746,967	235,860	46.1%	2.6%
Planning Area % CSA	1.8%	2.4%	3.5%		

Source: ESRI; Kimley-Horn

Household Size

Nationally, the increase in Millennial and Baby Boomer residents has caused a gradual decline in average household size. However, with children residing in nearly one-half of the households in the Planning Area, the average size over the last 15 years has increased from 2.71 in 2000 to 2.82 in 2015 (Graph 5). While the Raleigh-Durham-Chapel Hill CSA also experienced an increase, it has been much more gradual than the Planning Area. The average household size of 2.82 in the Planning Area is notably higher than 2.52 reported for the CSA in 2015.

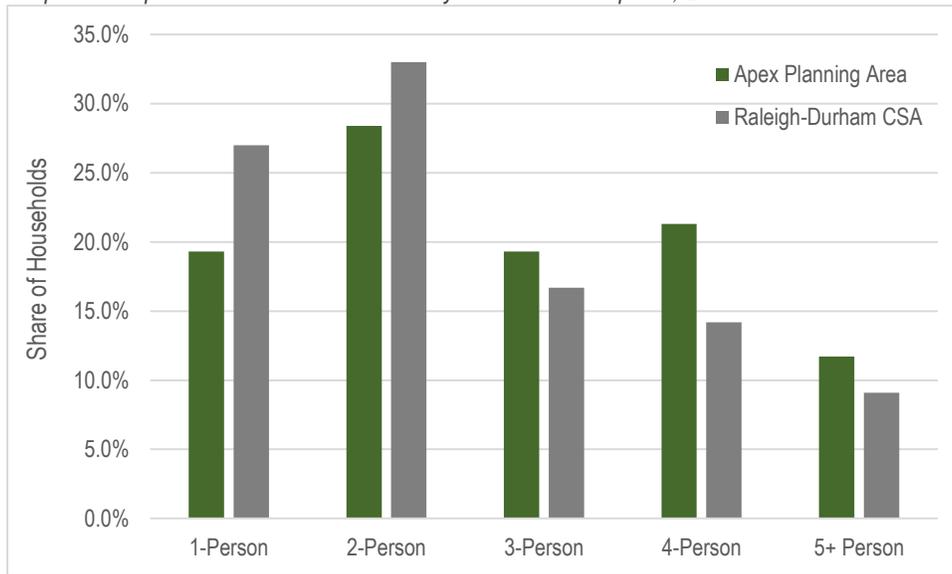
Graph 5: Comparison of Average Household Size, 2000-2015



As shown in Graph 6, two-person households are the most common in the Planning Area, followed by four-person family households. Generally, the Planning Area has higher shares of larger household sizes while the larger Raleigh-Durham-Chapel Hill CSA has higher shares of one- and two-person sizes.



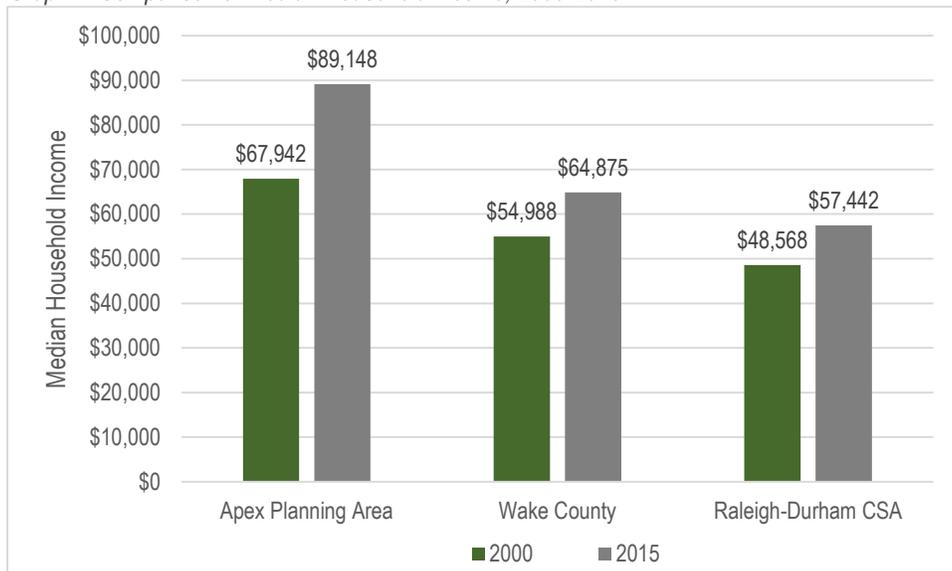
Graph 6: Comparison Shares of Household by Number of Occupants, 2015



Median Household Income

Graph 7 shows the median household incomes for the Apex Planning Area, Wake County, and the Raleigh-Durham-Chapel Hill CSA in 2000 and 2015. The Planning Area's median household income in 2015 was estimated at \$89,148, higher than \$64,875 for Wake County and \$57,442 for the CSA. While all three geographies experienced an increase in median income over the last 15 years, the Apex Planning Area demonstrated the strongest growth at 31.2%.

Graph 7: Comparison of Median Household Income, 2000-2015



Households by Income Cohort

Household gains were noted in all income cohorts between 2000 and 2015 in the Planning Area (Table 6). Households earning between \$100,000 and \$149,999 annually comprise the largest concentration in the Planning Area, followed by those earning



between \$50,000 and \$74,999. The number of households earning more than \$100,000 annually more than doubled since 2000. In fact, households earning more than \$150,000 annually increased by more than 450% over the 15-year period.

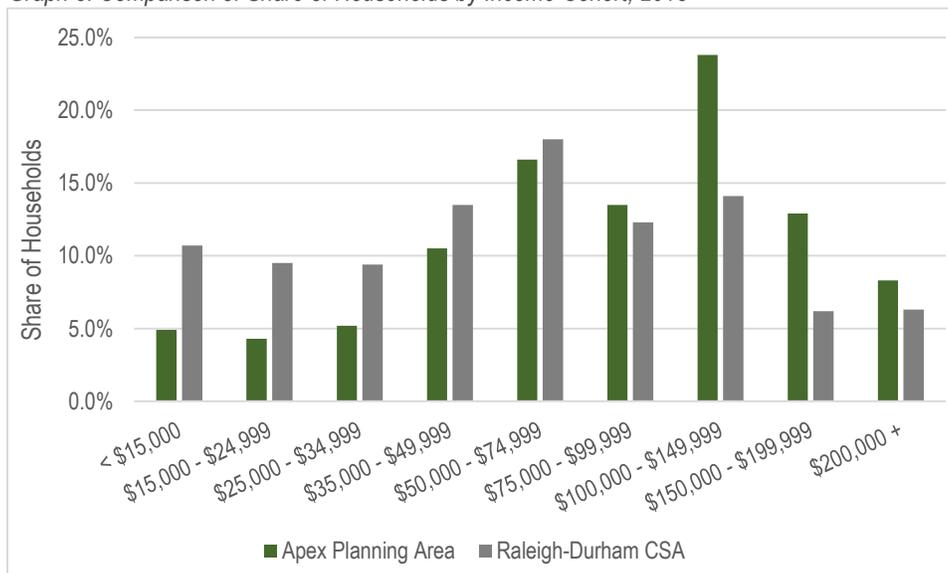
Table 6: Households by Income Cohort, Apex Planning Area, 2015

Cohort	2000	2015	2000-2015 Δ	
			#	%
< \$15,000	484	870	386	79.8%
\$15,000 - \$24,999	632	764	132	20.9%
\$25,000 - \$34,999	684	924	239	34.9%
\$35,000 - \$49,999	1,328	1,865	537	40.4%
\$50,000 - \$74,999	2,184	2,948	764	35.0%
\$75,000 - \$99,999	1,742	2,398	656	37.7%
\$100,000 - \$149,999	1,711	4,227	2,517	147.1%
\$150,000 - \$199,999	419	2,291	1,872	446.4%
\$200,000 +	240	1,474	1,234	513.1%
Total	9,425	17,762	8,337	88.5%

Source: ESRI; Kimley-Horn

Representing nearly one-quarter of all households in the Planning Area, the concentration in the \$100,000 to \$149,999 income cohort is notably higher than the larger Raleigh-Durham-Chapel Hill CSA (14.1%). Overall, the Planning Area has higher shares of all households earning more than \$75,000 annually (Graph 8). Conversely, it reported comparatively lower shares of lower income households. A common theme discussed in stakeholder interviews was the limited availability of housing stock that is affordable for lower income households. With fewer housing options, lower wage earners would have to commute into the Planning Area for many retail trade and service positions.

Graph 8: Comparison of Share of Households by Income Cohort, 2015



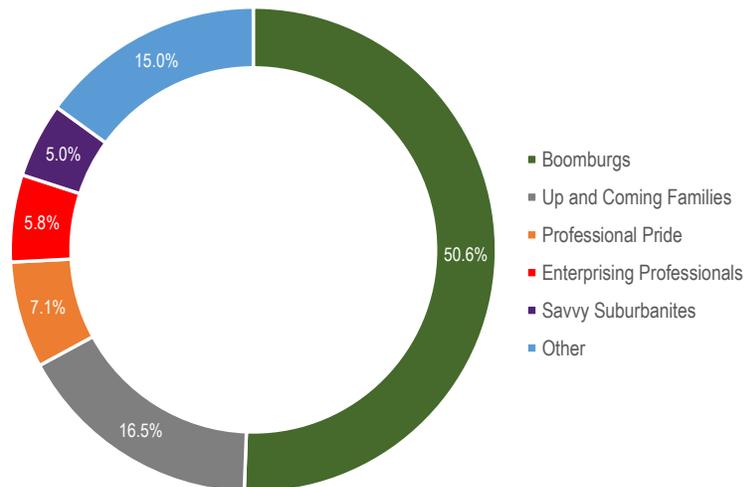
Tapestry Segmentation Analysis

Tapestry segmentation, provided by Environmental Systems Research Institute, divides households into 67 groups based on consumer spending patterns and lifestyle attributes. Data provided in this type of analysis is increasingly being used by developers, builders, and retail tenants in the site selection and due diligence process. Brief descriptions of the most common



tapestries in the Planning Area are provided below, and complete profiles for the top five most common tapestries in the Apex Planning Area are in Appendix 2.

As demonstrated in the figure below, the Apex Planning Area is relatively homogeneous from a tapestry standpoint, with more than half of the households represented by the Boomburg tapestry. Up and Coming Families comprise the tapestry with the next highest concentration of households. In total, only 10 of the 67 tapestries are represented in the Apex Planning Area.



BOOMBERGS (50.6%)

Defined by young professionals with families that have opted to trade up to the newest housing in the suburbs. Typically affluent, but these households often are likely to hold a mortgage. Growth markets for this segment are typically on the periphery of large metropolitan areas.

Distinguishing Traits

- High homeownership at 84%, but highest rate of mortgages at 78%
- Primarily seek single-family homes in new neighborhoods
- Cost of affordable new housing is at expense of long commute times (average over 30 minutes)
- Well-educated with 52% having college degrees
- Median income averages \$105,000, and net worth exceeds \$300,000
- Top market for modern technology purchases
- Physical fitness is a priority, with regular spending on club memberships and leisure
- Generous support of charitable organizations

UP AND COMING FAMILIES (16.5%)

Households are younger and more mobile and ethnically diverse than the previous generation. Defined by ambitious, hardworking go-getters that are willing to take some risks to achieve goals. Homes are typically new and families are young. Similar to Boomburgs, growth markets occur in the suburban periphery.

Distinguishing Traits

- Prefers single-family homes; median value of \$174,000
- Cost of affordable new housing is at expense of long commute times
- Highly-educated: 66% have some college education or degree
- Labor force participation is high at 71% and most households have two or more workers
- Median income averages \$64,000, and net worth is approximately \$96,000
- Seek the latest and best in technology
- Carry debt from credit card balances, student loans, and mortgages



PROFESSIONAL PRIDE (7.1%)

Defined by well-educated professionals that prospered through the Great Recession. Seeking upscale suburban lifestyles, these households are employed, often commuting far and working long hours. They are typically financially savvy, investing wisely and benefiting from interest and dividend income.

Distinguishing Traits

- Typically owner-occupied (92%) single-family homes located in newer neighborhoods
- Homes are valued at more than twice the national average
- Households are mostly married couples (80%), and more than half of these families have kids
- Highly qualified in science, technology, law or finance fields
- Median income runs at more than twice the national level; average net worth is \$540,000
- Frequent travelers, taking domestic trips regularly
- Spend on credit, but maintain low or no balance on credit cards

ENTERPRISING PROFESSIONALS (5.8%)

Well educated and climbing the ladder in STEM (science, technology, engineering, and math) occupations. Changing jobs often, they typically prefer condos, townhouses, or apartments; many rent. Typically have smaller household sizes; almost half are married couples and 30% are single-person.

Distinguishing Traits

- Housing is a mixture of suburban single-family homes, townhouses, and apartments
- Renters make up nearly half of the households
- Median income 1.5x the US national average at \$77,000; net worth averages \$78,000
- Over half of households have a bachelor's degree or higher
- Typically work long hours in front of a computer
- Convenience shopping is key; often making purchases online
- Heavy reliance on service uses and eat out more often than other segments
- Travel regularly for work

SAVVY SUBURBANITES (5.0%)

Savvy Suburbanites are well educated, well read, and well capitalized. Families include empty nesters and empty nester wannabes, who still have adult children living at home. Gravitate towards older neighborhoods outside the urban core, these households are older in age than the other most common segments in the Apex Planning Area.

Distinguishing Traits

- High rate of homeownership at 91%; 71% of the households have mortgages
- Primarily gravitate towards single-family homes
- Well educated with 48.1% holding a college degree, and 76.1% having some college education
- Labor force participation higher at 68.5%; most households have two workers
- Incomes averages \$104,000; net worth is higher at \$502,000
- More likely to prefer 'do-it-yourself' home improvement projects
- Extensive use of personal care services; informed shoppers



Employment Profile

This section analyzes annual employment and wage trends by industry over the last ten years for the seven-county Raleigh-Durham-Chapel Hill CSA, and more specifically for Wake County and the Apex Planning Area, describing overall growth and shifts between economic sectors. A profile of area commuting patterns is also presented.

Annualized Employment Growth Trends

Raleigh-Durham-Chapel Hill CSA

As shown in Table 7, employment in the seven-county Raleigh-Durham-Chapel Hill CSA increased by 131,516 jobs, or 19.0%, between 2004 and 2014. The gain was attributable to strong growth in Healthcare and Social Assistance, Accommodation and Food Services, and Professional and Technical Services. Healthcare and Social Assistance grew by over 30,000 jobs over the last decade, driven largely by expansions at Duke University Health System and UNC Health Care System. The largest loss was experienced in the Manufacturing sector, with a decline of more than 12,000 jobs since 2004, a loss of 16.5%. Losses demonstrated in the Construction sector following the 2007-2009 Recession have stabilized with the return of new development projects.

Table 7: Annualized Employment by Industry, Raleigh-Durham-Chapel Hill CSA, 2004-2014

Industry	2004	2009	2014	2004-2014 Δ	
				#	%
Health Care and Social Assistance	85,495	104,509	116,391	30,896	36.1%
Accommodation and Food Services	51,766	60,396	73,421	21,655	41.8%
Professional and Technical Services	50,760	60,689	72,031	21,271	41.9%
Administrative and Waste Services	43,327	45,605	60,984	17,657	40.8%
Educational Services	76,826	87,577	90,914	14,088	18.3%
Retail Trade	76,369	78,732	87,921	11,552	15.1%
Public Administration	49,616	55,965	56,086	6,470	13.0%
Finance and Insurance	22,974	27,885	28,709	5,735	25.0%
Arts, Entertainment, and Recreation	8,434	11,500	13,349	4,915	58.3%
Wholesale Trade	27,731	28,598	32,631	4,900	17.7%
Other Services, Ex. Public Admin	21,391	22,248	23,993	2,602	12.2%
Information	20,565	20,820	22,795	2,230	10.8%
Management of Companies and Enterprises	10,692	11,229	12,040	1,348	12.6%
Transportation and Warehousing	15,246	15,504	16,029	783	5.1%
Real Estate and Rental and Leasing	10,603	11,273	11,303	700	6.6%
Utilities	2,737	2,477	3,346	609	22.3%
Mining	361	719	361	0	0.0%
Agriculture, Forestry, Fishing & Hunting	3,068	2,894	2,655	-413	-13.5%
Construction	41,299	37,271	37,924	-3,375	-8.2%
Manufacturing	73,566	64,779	61,459	-12,107	-16.5%
Total	692,826	750,670	824,342	131,516	19.0%

Source: NC Labor and Economic Analysis Division; Kimley-Horn and Associates



In 2014, the largest employment sectors in the Raleigh-Durham-Chapel Hill CSA included Healthcare and Social Assistance, Educational Services, and Retail Trade. The 295,228 jobs reported in these three sectors in 2014 made up 35.8% of the total jobs in the region.

Wake County

Hosting over 490,000 jobs, Wake County comprises nearly 60% of the seven-county CSA total. The County experienced a 25.6% increase in employment since 2004, equating to over 100,000 new jobs (Table 8). Retail Trade has consistently remained the largest industry sector in the County, followed by Professional and Technical Services, Accommodation and Food Services, and Administrative and Waste Services. Industries representing the largest increases in the last decade include:

- Administrative and Waste Services (+17,062)
- Professional and Technical Services (+16,436)
- Accommodation and Food Services (+15,316)
- Healthcare and Social Assistance (+13,183)

Table 8: Annualized Employment by Industry, Wake County, 2004-2014

Industry	2004	2009	2014	2004-2014 Δ	
				#	%
Administrative and Waste Services	28,302	32,068	45,364	17,062	60.3%
Professional and Technical Services	30,749	36,852	47,185	16,436	53.5%
Accommodation and Food Services	30,212	36,439	45,528	15,316	50.7%
Health Care and Social Assistance	37,192	45,889	50,375	13,183	35.4%
Educational Services	32,686	39,575	42,062	9,376	28.7%
Retail Trade	47,548	49,434	56,105	8,557	18.0%
Public Administration	35,013	39,551	40,138	5,125	14.6%
Arts, Entertainment, and Recreation	5,783	8,847	9,973	4,190	72.5%
Wholesale Trade	18,625	18,563	21,009	2,384	12.8%
Finance and Insurance	15,030	17,250	17,373	2,343	15.6%
Management of Companies and Enterprises	8,031	9,553	10,277	2,246	28.0%
Information	16,524	16,461	18,433	1,909	11.6%
Other Services, Ex. Public Admin	13,907	14,320	15,256	1,349	9.7%
Manufacturing	21,476	20,720	22,607	1,131	5.3%
Utilities	1,537	1,363	2,327	790	51.4%
Real Estate and Rental and Leasing	7,460	8,125	8,140	680	9.1%
Mining	241	548	231	-10	-4.1%
Agriculture, Forestry, Fishing & Hunting	1,068	899	858	-210	-19.7%
Transportation and Warehousing	10,678	10,707	9,998	-680	-6.4%
Construction	28,375	25,267	27,223	-1,152	-4.1%
Total	390,437	432,431	490,462	100,025	25.6%

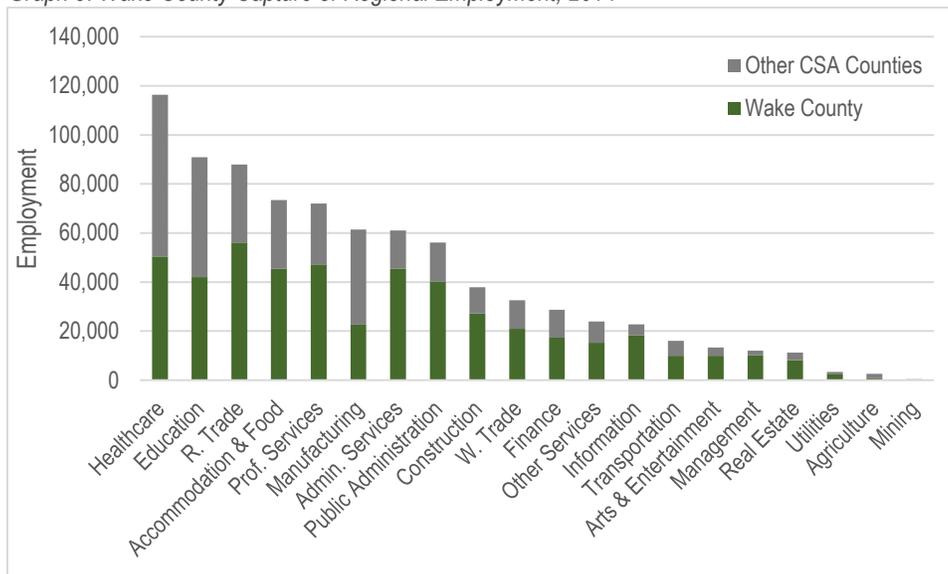
Source: NC Labor and Economic Analysis Division; Kimley-Horn and Associates

It should be noted that although Manufacturing represented by far the largest decline in the Raleigh-Durham-Chapel Hill CSA over the last 10 years, Wake County experienced a modest 5.3% increase. Growth in this sector has gained momentum since 2009, resulting in nearly 2,000 new Manufacturing jobs in the last five years. This is likely due to Wake County's centralized location with access to many major transportation thoroughfares.



As previously noted, Wake County accounts for nearly 60% of the total employment in the seven-county CSA. A significant job concentration in downtown Raleigh drives higher than average captures of Management of Companies, Information, Arts & Entertainment, and Administrative Services (Graph 9). Over 85% of all Management jobs are located in Wake County, followed by 80.9% of all Information jobs.

Graph 9: Wake County Capture of Regional Employment, 2014



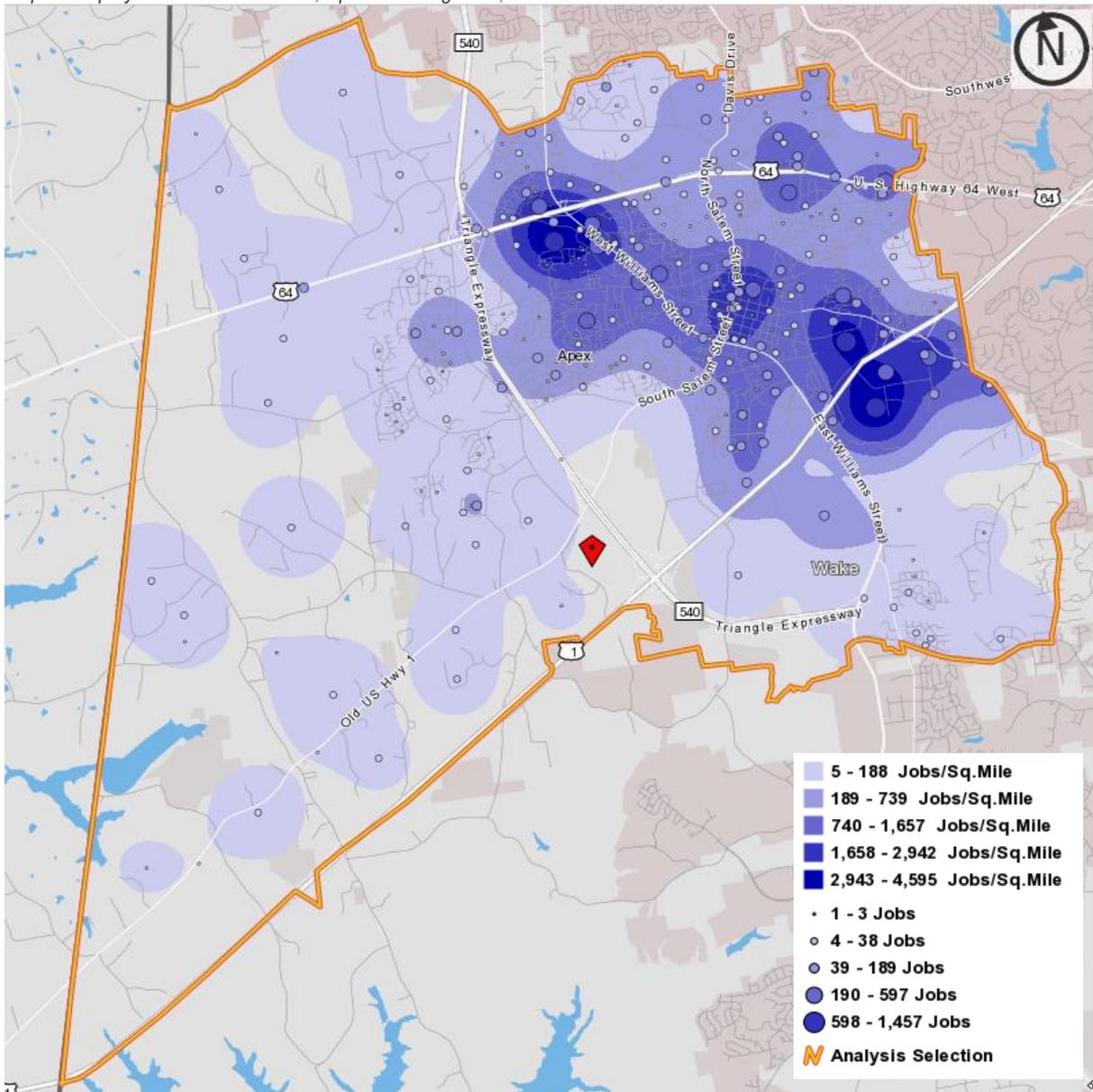
Apex Planning Area

Employment in the Apex Planning Area is largely concentrated in the central core of Apex, roughly between US 64 and US 1. The most notable nodes of employment, identified on Map 1, are as follows:

- **US 64 / NC 55:** Retail Trade, Accommodation and Food Services, and Healthcare jobs driven by Beaver Creek shopping centers and Apex Healthplex
- **Downtown Apex:** Apex's downtown core hosts a variety of jobs including (but not limited to) Public Administration, Retail Trade, Accommodation and Food Services, and Professional Services
- **NC 55 / US 1:** Including the Apex Business Park and Pinnacle Park, this area hosts a mixture of Manufacturing, Transportation and Warehousing, Wholesale Trade, Retail Trade, Accommodation and Food Services, and Education jobs



Map 1: Employment Concentrations, Apex Planning Area, 2014



The Apex Planning Area had over 14,000 jobs in 2014, more than double the 7,649 jobs reported in 2004. The largest sectors included Retail Trade, Construction, Accommodation and Food Services, and Administrative and Waste Services (Table 9). The prominent Construction industry is largely supported by single-family residential development in this fast-growing area. Sectors that experienced the most notable increases over the last ten years include:

- Retail Trade (+1,989)
- Accommodation and Food Services (+974)
- Construction (+795)
- Manufacturing (+760)
- Healthcare and Social Assistance (+634)



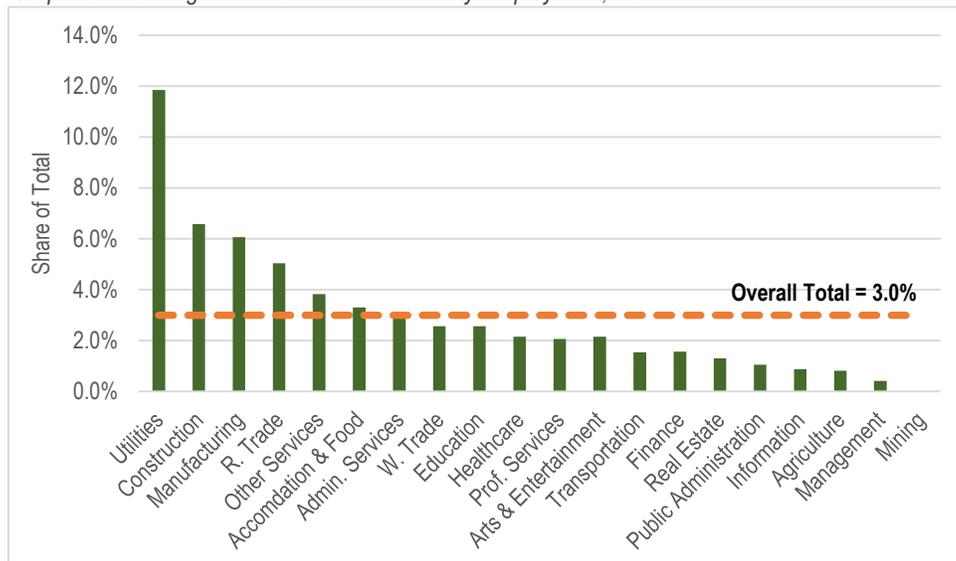
Table 9: Annualized Employment by Industry, Apex Planning Area, 2004-2014

Industry	2004	2009	2014	2004-2014 Δ	
				#	%
Retail Trade	840	1,755	2,829	1,989	236.8%
Accommodation and Food Services	527	987	1,501	974	184.8%
Construction	994	1,068	1,789	795	80.0%
Manufacturing	610	1,192	1,370	760	124.6%
Health Care and Social Assistance	450	539	1,084	634	140.9%
Administrative and Waste Services	814	887	1,304	490	60.2%
Professional and Technical Services	502	704	976	474	94.4%
Other Services, Ex. Public Admin	273	323	583	310	113.6%
Educational Services	781	373	1,077	296	37.9%
Utilities	27	36	276	249	922.2%
Public Administration	293	377	423	130	44.4%
Finance and Insurance	156	245	272	116	74.4%
Arts, Entertainment, and Recreation	103	128	214	111	107.8%
Information	78	101	161	83	106.4%
Wholesale Trade	522	576	539	17	3.3%
Real Estate and Rental and Leasing	89	83	106	17	19.1%
Mining	0	0	0	0	0.0%
Agriculture, Forestry, Fishing & Hunting	13	14	7	-6	-46.2%
Management of Companies and Enterprises	58	37	42	-16	-27.6%
Transportation, Warehousing, and Utilities	519	141	154	-365	-70.3%
Total	7,649	9,566	14,707	7,058	92.3%

Source: LEHD On the Map; Kimley-Horn and Associates

As shown in Graph 10, the Apex Planning Area makes up only 3.0% of the total employment in Wake County. With approximately 276 jobs in 2014, Utilities comprised nearly 12% of the Wake County total, this could be related to the presence of the nuclear facility outside the Planning Area (Graph 10). Other employment sectors comprise no more than 7% of the County total. Aside from Utilities, other higher than average sectors include Construction, Manufacturing, Retail Trade, and Accommodation and Food Services.

Graph 10: Planning Area Share of Wake County Employment, 2014





Annualized Wages by Industry

Raleigh-Durham-Chapel Hill CSA

In 2014, the average annual wage in the Raleigh-Durham-Chapel Hill CSA was \$52,757, an increase of \$11,482, or 27.8%, since 2004 (Table 10). With an average wage of \$93,472, Utilities is the highest paid sector in the CSA, followed closely by Manufacturing at \$92,750 per year. All industry sectors experienced an increase over the last decade, with the most notable changes including:

- Manufacturing (+\$25,450)
- Professional and Technical Services (+\$23,858)
- Management of Companies and Enterprises (+\$23,732)
- Finance and Insurance (+\$22,579)
- Information (+\$22,487)

Table 10: Annualized Average Wages, Raleigh-Durham-Chapel Hill CSA, 2004-2014

Industry	2004	2009	2014	2004-2014 Δ	
				#	%
Manufacturing	\$67,301	\$81,760	\$92,750	\$25,450	37.8%
Professional and Technical Services	\$58,900	\$72,508	\$82,768	\$23,868	40.5%
Management of Companies and Enterprises	\$65,525	\$84,834	\$89,257	\$23,732	36.2%
Finance and Insurance	\$57,533	\$66,399	\$80,111	\$22,579	39.2%
Information	\$64,220	\$71,242	\$86,707	\$22,487	35.0%
Wholesale Trade	\$62,883	\$70,604	\$84,450	\$21,567	34.3%
Agriculture, Forestry, Fishing & Hunting	\$29,966	\$35,985	\$46,312	\$16,345	54.5%
Utilities	\$79,751	\$84,204	\$93,472	\$13,721	17.2%
Construction	\$36,147	\$41,836	\$48,380	\$12,233	33.8%
Real Estate and Rental and Leasing	\$35,260	\$39,474	\$47,089	\$11,828	33.5%
Health Care and Social Assistance	\$39,396	\$45,270	\$50,852	\$11,457	29.1%
Educational Services	\$38,263	\$46,577	\$49,642	\$11,379	29.7%
Other Services, Ex. Public Admin	\$26,044	\$33,382	\$36,518	\$10,474	40.2%
Administrative and Waste Services	\$27,115	\$32,471	\$35,889	\$8,774	32.4%
Public Administration	\$40,982	\$48,413	\$49,740	\$8,758	21.4%
Transportation and Warehousing	\$39,162	\$41,640	\$44,716	\$5,555	14.2%
Mining	\$52,574	\$90,543	\$57,275	\$4,701	8.9%
Retail Trade	\$23,740	\$24,971	\$27,074	\$3,335	14.0%
Arts, Entertainment, and Recreation	\$19,782	\$19,931	\$22,616	\$2,834	14.3%
Accommodation and Food Services	\$13,977	\$15,222	\$16,502	\$2,525	18.1%
Average	\$41,275	\$47,852	\$52,757	\$11,482	27.8%

Source: NC Labor and Economic Analysis Division; Kimley-Horn and Associates

Although demonstrating the highest average wage at \$93,472, jobs in the Utilities sector make up only 0.4% of the regional total. Industries with the most jobs, Healthcare, Education, and Retail Trade had average annual wages of \$50,852, \$49,642, and \$27,042, respectively, in 2014.



Wake County

The average annualized wage in Wake County in 2014 was \$50,782, 3.8% lower than the measure for the larger Raleigh-Durham-Chapel Hill CSA (Table 11). Similar to the region, Utilities has the highest annual wage at nearly \$100,000, followed by Manufacturing, Information, and Wholesale Trade. The industries that experienced the largest increase over the 10-year period include:

- Manufacturing (\$37,086)
- Finance and Insurance (\$23,640)
- Information (\$20,311)
- Professional and Technical Services (\$20,245)
- Wholesale Trade (\$19,820)

Table 11: Annualized Average Wages, Wake County, 2004-2014

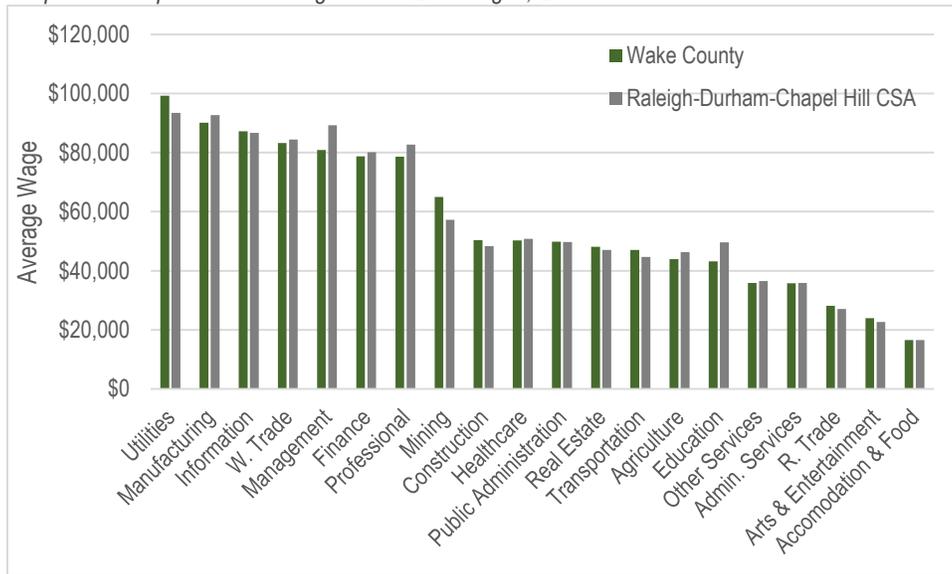
Industry	2004	2009	2014	2004-2014 Δ	
				#	%
Manufacturing	\$53,077	\$62,972	\$90,164	\$37,086	69.9%
Finance and Insurance	\$55,131	\$63,180	\$78,771	\$23,640	42.9%
Information	\$66,954	\$73,698	\$87,265	\$20,311	30.3%
Professional and Technical Services	\$58,411	\$71,766	\$78,656	\$20,245	34.7%
Wholesale Trade	\$63,388	\$69,103	\$83,208	\$19,820	31.3%
Management of Companies and Enterprises	\$62,266	\$74,585	\$80,946	\$18,679	30.0%
Construction	\$37,776	\$43,310	\$50,389	\$12,613	33.4%
Health Care and Social Assistance	\$38,744	\$45,364	\$50,211	\$11,468	29.6%
Real Estate and Rental and Leasing	\$36,832	\$40,515	\$48,140	\$11,308	30.7%
Other Services, Ex. Public Admin	\$26,567	\$32,900	\$35,827	\$9,260	34.9%
Public Administration	\$40,791	\$48,686	\$49,822	\$9,031	22.1%
Agriculture, Forestry, Fishing & Hunting	\$35,408	\$41,097	\$43,937	\$8,530	24.1%
Administrative and Waste Services	\$27,543	\$32,431	\$35,791	\$8,247	29.9%
Educational Services	\$35,244	\$41,078	\$43,156	\$7,912	22.5%
Transportation and Warehousing	\$39,994	\$41,935	\$47,006	\$7,012	17.5%
Mining	\$58,965	\$107,657	\$64,979	\$6,014	10.2%
Retail Trade	\$25,306	\$26,243	\$28,114	\$2,808	11.1%
Accommodation and Food Services	\$13,892	\$14,931	\$16,516	\$2,624	18.9%
Arts, Entertainment, and Recreation	\$22,003	\$20,547	\$23,942	\$1,940	8.8%
Utilities	\$98,505	\$97,879	\$99,228	\$723	0.7%
Average	\$39,569	\$45,205	\$50,782	\$11,213	28.3%

Source: NC Labor and Economic Analysis Division; Kimley-Horn and Associates

Comprising 60% of the total employment in the region, Wake County and the Raleigh-Durham-Chapel Hill CSA reported similar wages by sector in 2014. As shown in Graph 11, Wake County had slightly higher wages in the Utilities and Mining industries, while the CSA reported higher wages for Management of Companies and Enterprises, Professional and Technical Services, and Education Services.

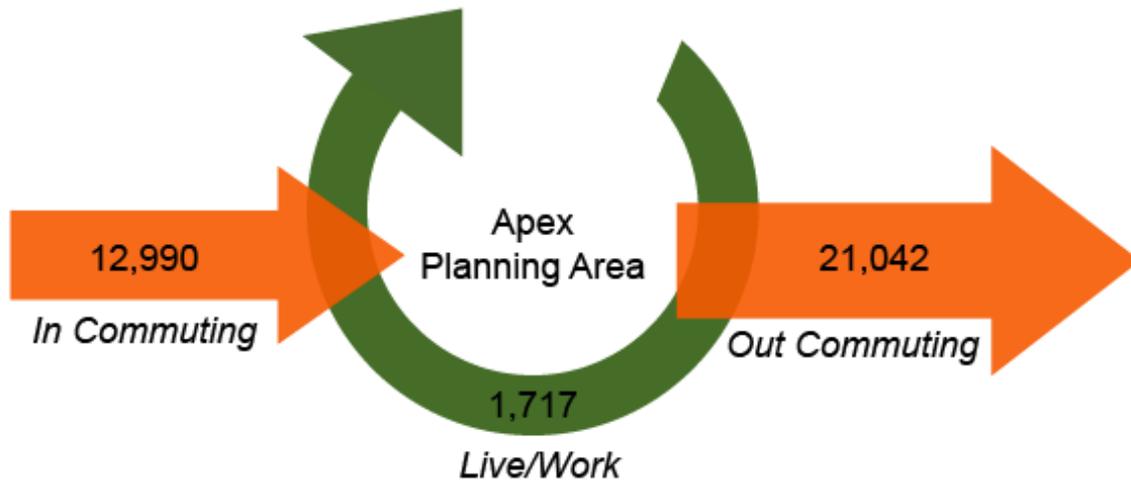


Graph 11: Comparison of Average Annualized Wages, 2014



Commuting Patterns

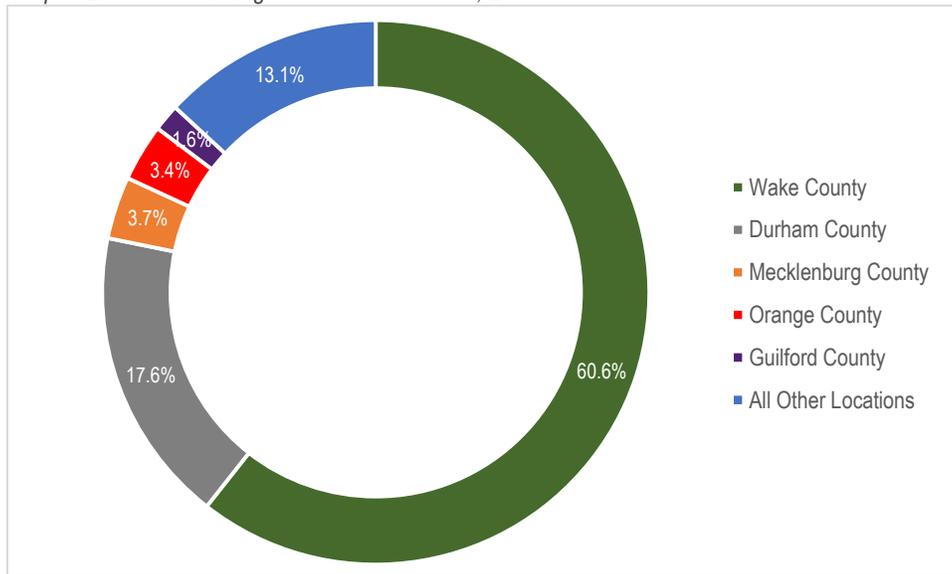
As of 2014, more than 13,909 people traveled into the Apex Planning for employment. However, over 21,000 of the Planning Area’s employed population commuted out. The Planning Area has an estimated 1,774 people that live and work there, making up only 8.4% of the total employed population.



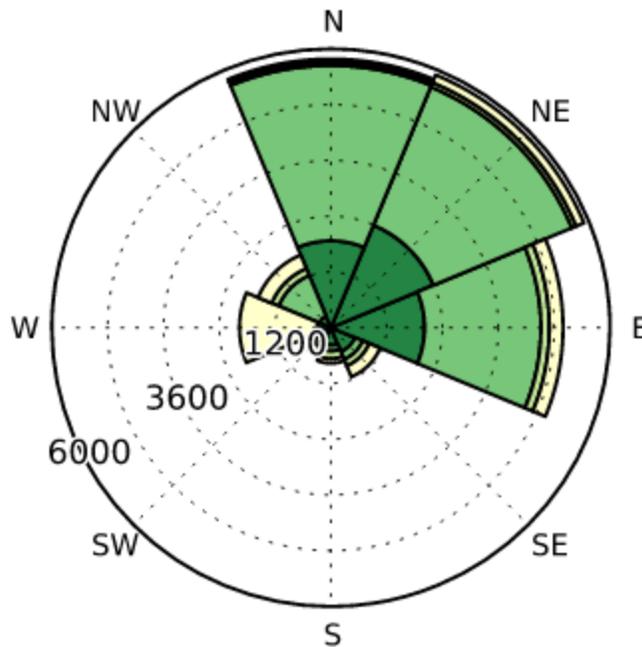
Of the 21,042 employed residents that commute outside of the Planning Area on a daily basis for jobs, more than 60% are traveling to Wake County (Graph 12). Durham County, where RTP is located, attracts another 17.6% of the commuters. Combined, these two counties attract 78.2% of the total commuters. The remaining 21.8% travel to other counties in and outside of the Raleigh-Durham-CSA.



Graph 12: Where Planning Area Residents Work, 2014



As demonstrated in the graphic below, the majority of commuting residents are traveling north or northeast of the Planning Area, to points in Raleigh, Durham, RTP, and beyond. More than 82% of the employed residents are traveling less than 24 miles to work.





Residential Profile

This section provides an overview of the residential market in the Apex Planning Area, including housing units by type, for-sale closing trends and price points, and a review of the rental multi-family market. As possible, housing unit trends are compared to performance in the larger region.

Housing Overview

As shown in Table 12, the Apex Planning Area experienced an increase in over 8,500 housing units between 2000 and 2015, reaching an estimated total of 18,745 units. During the same time period, the Raleigh-Durham-Chapel Hill CSA added over 235,000 housing units, equating to a 46.1% increase in 15 years. Capturing 3.6% of the 15-year growth, the Apex Planning area increased its share of the total regional housing units from 2.0% in 2000 to 2.5% in 2015.

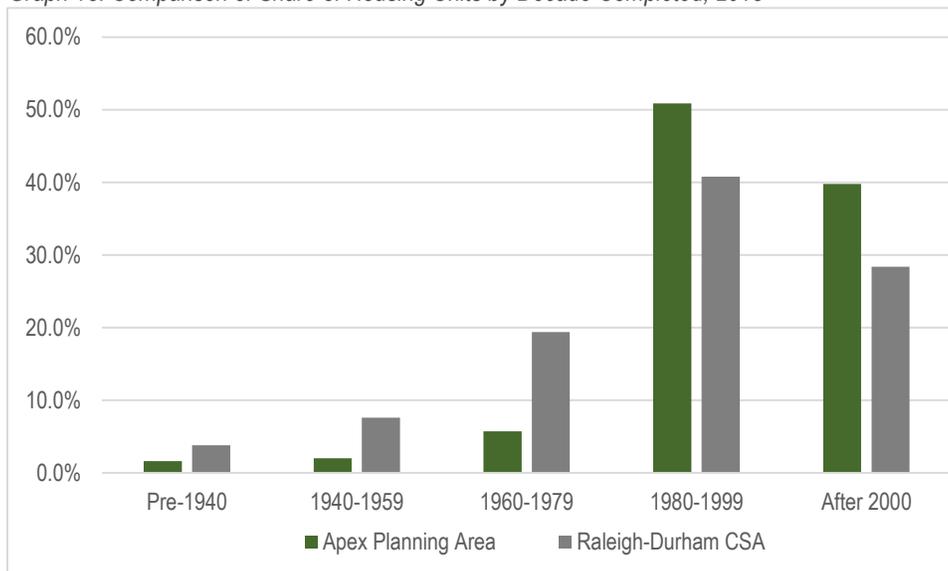
Table 12: Comparison of Housing Unit Trends, 2000-2015

Area	2000	2015	2000-2015 Δ		
			#	%	CAGR
Apex Planning Area	10,209	18,745	8,536	83.6%	4.1%
Wake County	258,944	408,479	149,535	57.7%	3.1%
Raleigh-Durham CSA	511,107	746,967	235,860	46.1%	2.6%
Planning Area % CSA	2.0%	2.5%	3.6%		

Source: ESRI; Kimley-Horn

Based on American Community Survey data from 2013, the median year of completion for housing stock in the Apex Planning Area was 1998, compared to 1993 for Wake County and 1991 for the Raleigh-Durham-Chapel Hill CSA. As shown in Graph 13, more than 90% of the total housing stock in the Planning Area has been completed since 1980, with 40% built in the last 15 years. Comparatively, 70% of the housing units in the Raleigh-Durham-Chapel Hill CSA were built since 1980. However, it should be noted that housing completions in the Planning Area have slowed since the Recession with only 2.3% of the housing stock delivered post-2010.

Graph 13: Comparison of Share of Housing Units by Decade Completed, 2013

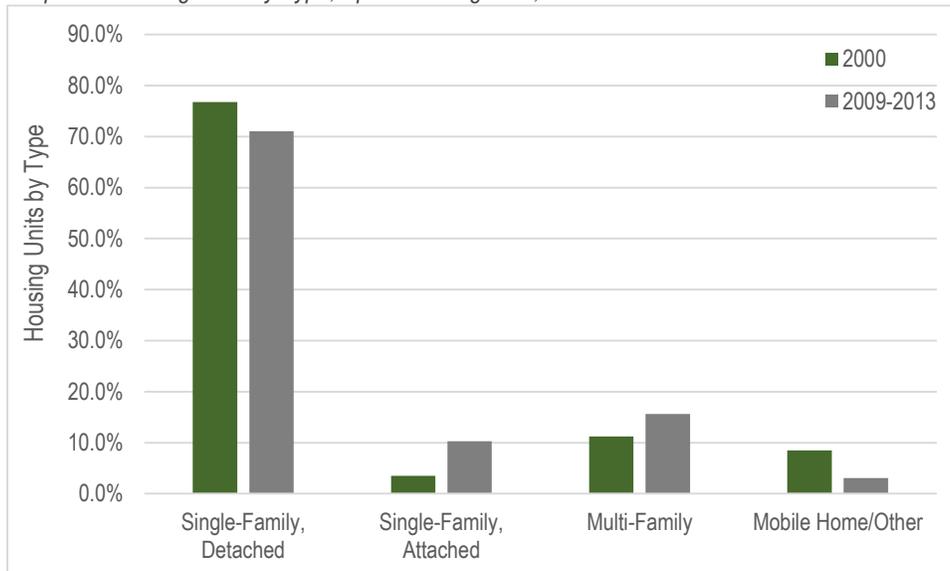




Units by Type

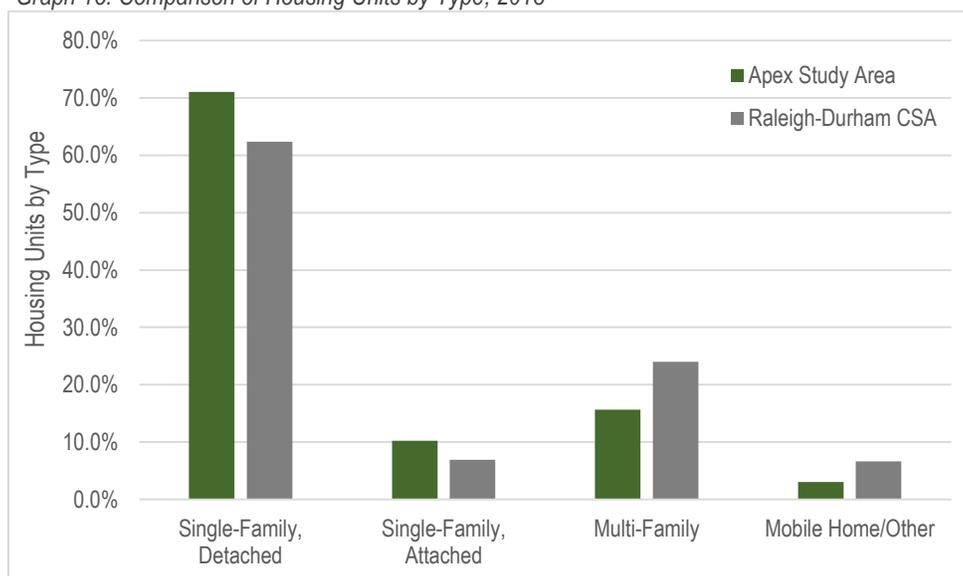
As shown in Graph 14, single-family detached housing makes up the largest share by type in the Planning Area at approximately 70% of the total stock. However, the share of single-family housing units experienced a slight decrease between 2000 and 2013, as other housing products increased in popularity. Both single-family attached product (townhouses) and multi-family communities increased in their total capture of housing units in the Planning Area since 2000. The share of mobile homes in the Planning Area declined to approximately 3.0% in 2013.

Graph 14: Housing Units by Type, Apex Planning Area, 2000-2013



Based on 2013 data, the Raleigh-Durham-Chapel Hill CSA reported higher shares of multi-family and mobile home housing units than the Apex Planning Area (Graph 15). These measures are largely due to more prominent urban cores and rural areas than currently exist in Apex. Conversely, the Planning Area had higher shares of single-family product, both detached and attached.

Graph 15: Comparison of Housing Units by Type, 2013

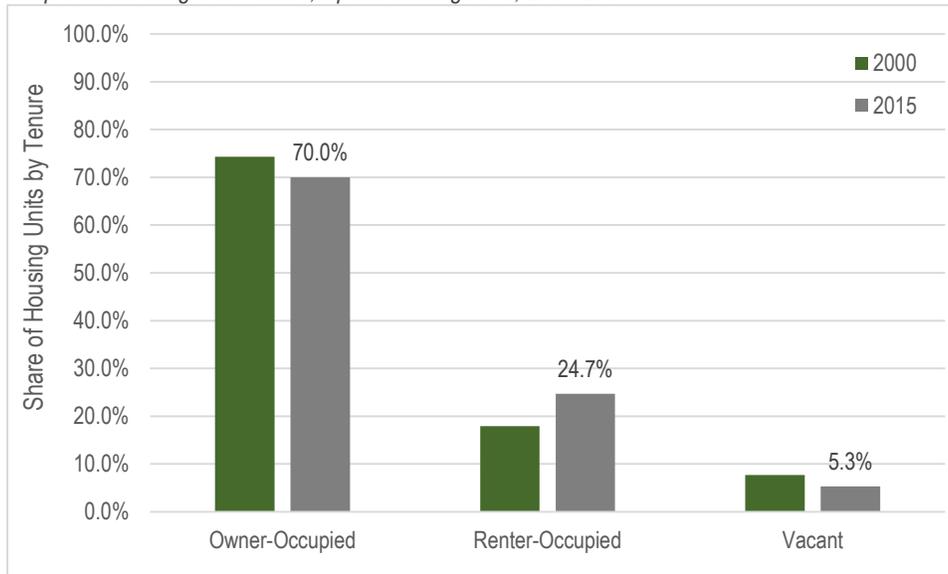




Tenure

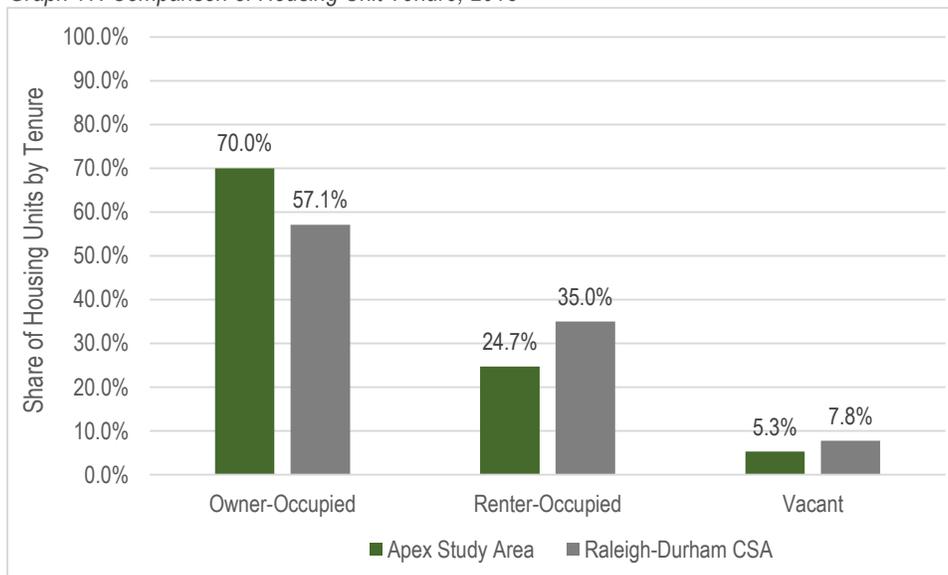
Consistent with national and statewide trends, the share of owner-occupied units have demonstrated a decline since 2000, reaching 70.0% in 2015 (Graph 16). Largely a result of the 2007-2009 Recession, and increased construction of higher-density housing in the Planning Area, the share of renter-occupied strongly increased in the 15-year period, from 17.9% in 2000 to 24.7% in 2015. Only 5.3% of the housing stock was vacant in 2015.

Graph 16: Housing Unit Tenure, Apex Planning Area, 2000-2015



As shown in Graph 17, even with a decline in the last 15 years, the 70% owner-occupied share in the Apex Planning Area in 2015 was higher than 57.1% in the larger Raleigh-Durham-Chapel Hill CSA. Due to concentrations of rental multi-family in and near urban cores and college campuses, the CSA has a higher share of renter-occupied housing at 35.0%. The share of vacant housing units was generally consistent in the two geographies.

Graph 17: Comparison of Housing Unit Tenure, 2015





For-Sale Housing

Performance Metrics

Raleigh Market. For the purpose of the residential analysis, largely based on data availability, the Raleigh market is defined as Durham, Orange, and Wake counties. Between 2005 and 2015, the three-county Raleigh market had nearly 285,000 for-sale residential closings (Table 13). Closings were highest in 2006, prior to the Recession, and lowest in 2009. Gradual recovery has resulted in increased closings in every year since 2011, reaching nearly 30,000 annual for-sale residential closings in 2015.

Table 13: For-Sale Residential Closings, Raleigh Market, 2005-2015

Year	Units		Total Units	New % of Total
	New	Resale		
2005	13,614	21,368	34,982	38.9%
2006	13,756	23,882	37,638	36.5%
2007	12,079	21,687	33,766	35.8%
2008	8,349	14,658	23,007	36.3%
2009	5,838	13,569	19,407	30.1%
2010	5,040	12,149	17,189	29.3%
2011	4,802	11,087	15,889	30.2%
2012	5,700	13,807	19,507	29.2%
2013	6,843	18,990	25,833	26.5%
2014	7,009	20,091	27,100	25.9%
2015	7,465	22,413	29,878	25.0%
Total	90,495	193,701	284,196	31.8%

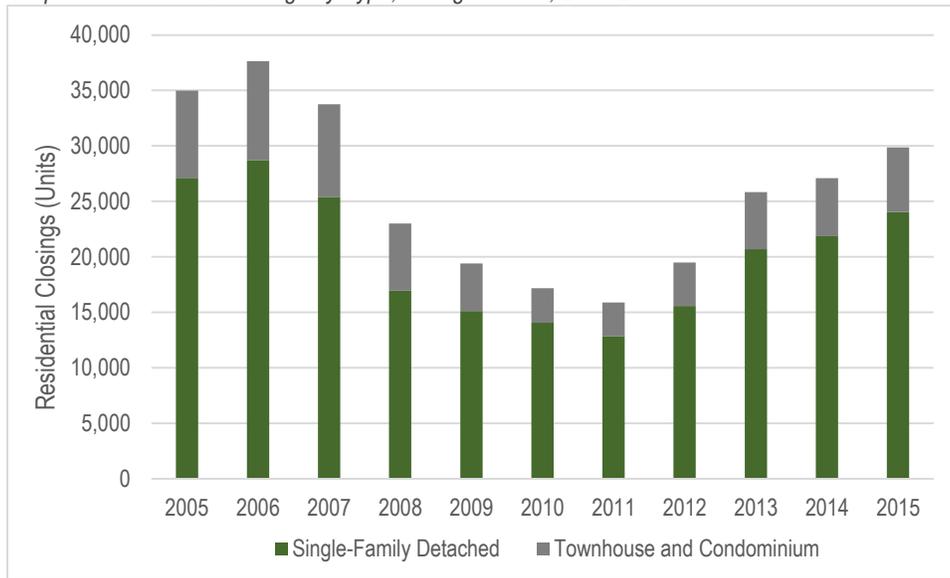
Source: M.O.R.E.; Kimley-Horn

Overall, new construction units made up over one-third of the total closings in the Raleigh market. The share of new construction was highest pre-Recession, and has stayed between 25% and 30% of the total during recovery as home builders gain confidence in the market.

As shown in Graph 18, single-family detached closings make up a large majority of all for-sale residential closings in the Raleigh market. In the time period between 2005 and 2015, closings on townhouses and condominiums accounted for 27.8% of the total. Closings on attached product was more prominent prior to the 2007-2009 Recession. Subsequent to the recovery, the share of attached for-sale unit closings has generally range from 23% to 25% of the total.

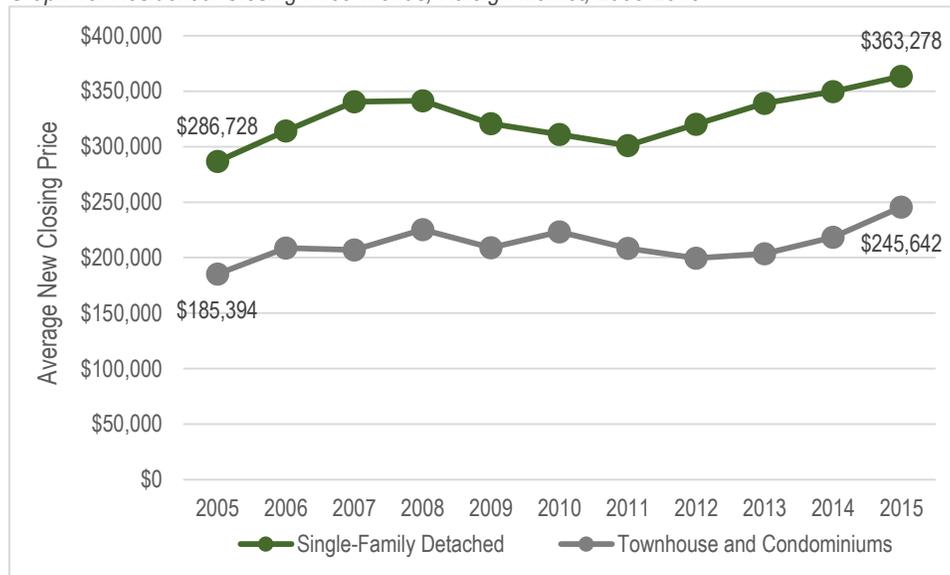


Graph 18: Residential Closings by Type, Raleigh Market, 2005-2015



Single-family detached units had an average annual closing price of over \$363,000 in 2015, representing the highest measure on record for the Raleigh market (Graph 19). Detached closing prices have increased 43.4% from a trough of \$253,227 in 2011, during a period of high supply and low demand after the Recession. On average, new closings demonstrate a 25% to 30% premium over resale properties.

Graph 19: Residential Closing Price Trends, Raleigh Market, 2005-2015



Attached for-sale residential units, including townhouses and condominiums, reported an average annual closing price of approximately \$245,000 in 2015. Similar to detached units, 2015 represents the highest average closing price on record. New townhouses and condominiums have a similar 25% to 30% premium over resale units.

White Oak Township. Data provided by Market Opportunities Research Enterprises (MORE) for for-sale closing and price point trends uses submarkets based on township boundaries. As shown in Map X, the White Oak Township in Wake County most closely aligns with the Apex Planning Area.



As shown in Table 14, there were nearly 13,000 residential closings in White Oak Township between 2005 and 2015, representing 6.7% of the total in the three-county market area. Similar to the larger Raleigh market, closings peaked in 2005-2006, prior to the Recession. However, unlike the market area, the White Oak Township has fully recovered, reaching similar measures for for-sale residential closings in recent years. New construction made up 45.1% of the total residential closings in White Oak Township between 2005 and 2015, higher than the market-wide average of 31.8%.

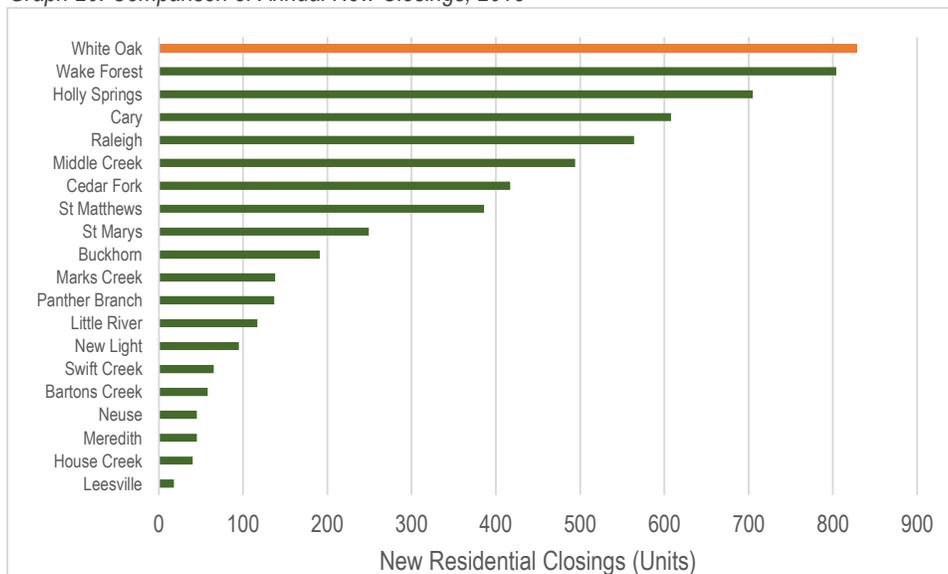
Table 14: For-Sale Residential Closings, White Oak Township, 2005-2015

Year	Units		Total Units	New % of Total
	New	Resale		
2005	649	1,056	1,705	38.1%
2006	960	1,191	2,151	44.6%
2007	1,009	1,041	2,050	49.2%
2008	861	759	1,620	53.1%
2009	739	692	1,431	51.6%
2010	617	692	1,309	47.1%
2011	560	636	1,196	46.8%
2012	613	797	1,410	43.5%
2013	856	1,149	2,005	42.7%
2014	959	1,170	2,129	45.0%
2015	828	1,347	2,175	38.1%
Total	8,651	10,530	19,181	45.1%

Source: M.O.R.E.; Kimley-Horn

White Oak Township recorded the largest number of new residential closings (828 units) of any submarket in the three-county Raleigh region in 2015 (Graph 20). Three of the top five submarkets demonstrating the largest number of new residential closings (White Oak, Holly Springs, and Cary), are located in southwestern Wake County, indicating strong demand for for-sale residential product in this area of the region.

Graph 20: Comparison of Annual New Closings, 2015

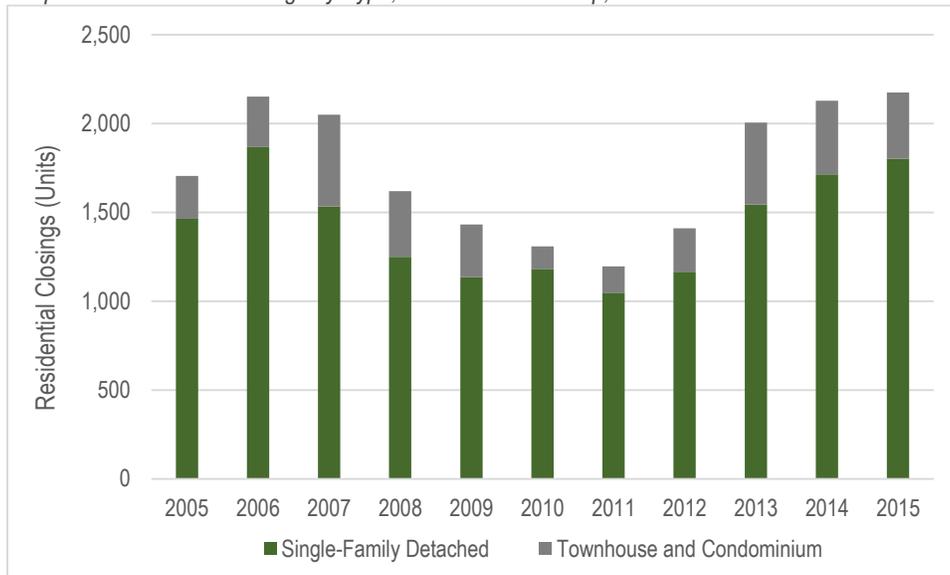


The number of residential closings in the White Oak Township has fully recovered to pre-Recession levels. Closings for attached product has made up 22.1% of the total between 2005 and 2015, but has typically ranged from 10%-15% during and



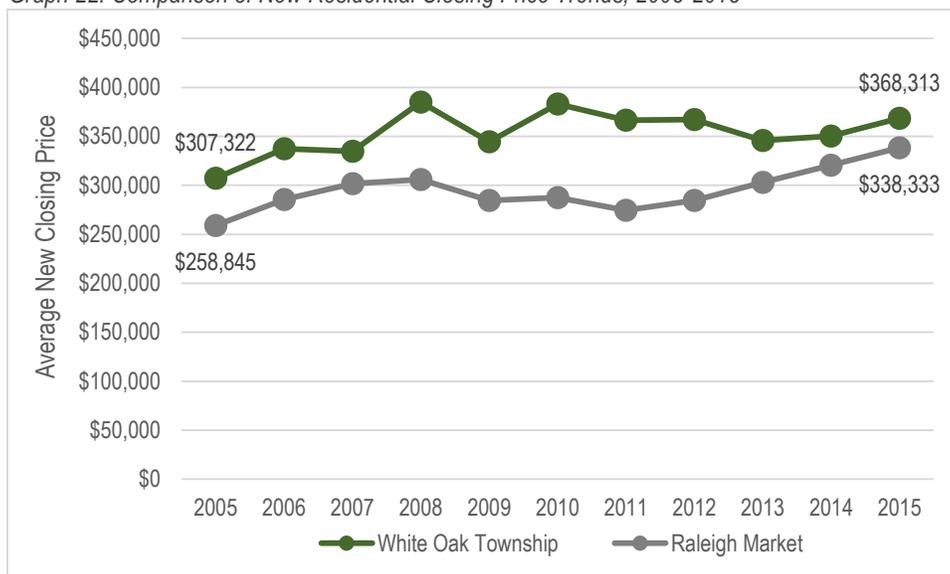
immediately following the Recession to 30%-32% pre-Recession (Graph 21). The share of attached for-sale closings in White Oak Township (22.1%) is lower than reported for the Raleigh market at 27.8%.

Graph 21: Residential Closings by Type, White Oak Township, 2005-2015



When combining all for-sale product types, White Oak Township has an 8.8% price point premium over the larger Raleigh market for new construction closings (Graph 22). The premium for new construction for-sale residential product in White Oak Township was highest immediately following the 2007-2009 Recession. For resale residential product, the premium in White Oak Township is consistently higher, ranging from 10% to 20% over the last decade.

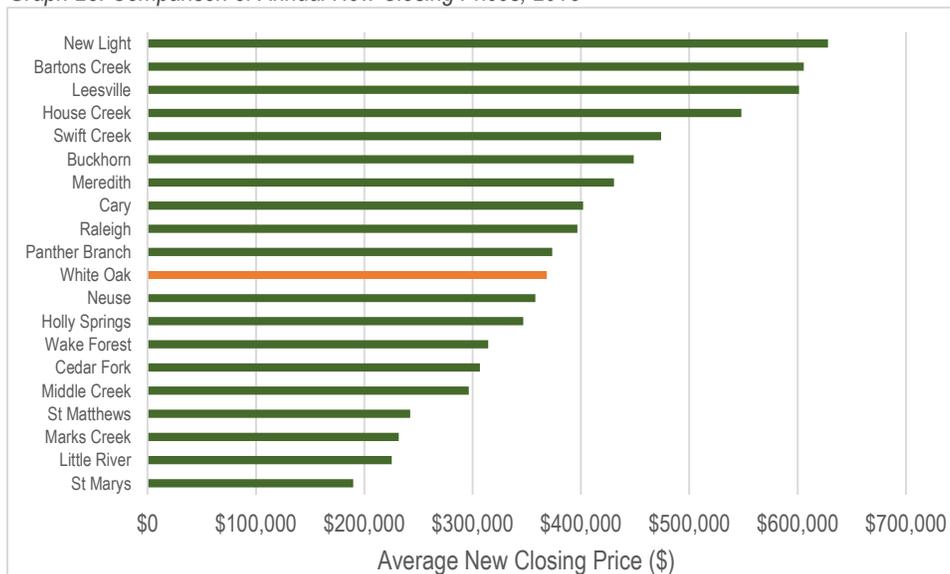
Graph 22: Comparison of New Residential Closing Price Trends, 2005-2015



When comparing White Oak Township to other submarkets in the Raleigh market, the average \$368,313 new construction closing price for residential units falls near average for the region. As shown in Graph 23, the for-sale closing prices in White Oak Township are generally consistent with neighboring areas, falling slightly lower than Cary but higher than Holly Springs.

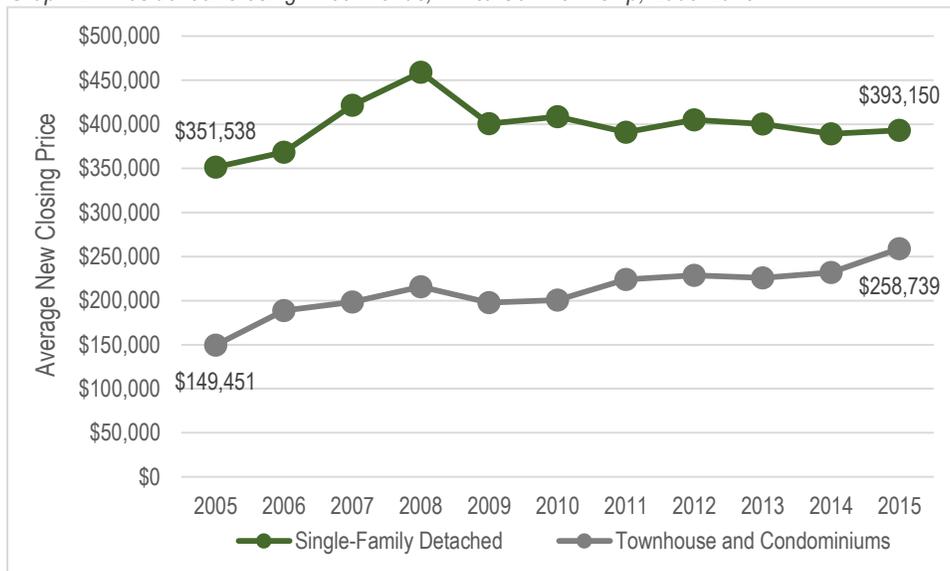


Graph 23: Comparison of Annual New Closing Prices, 2015



Single-family detached units had an average annual closing price of over \$393,150 in 2015 (Graph 24). Closing prices in White Oak Township have stayed relatively consistent since the Recession, ranging from \$390,000 to \$400,000 for a new single-family detached unit. Attached for-sale residential units, including townhouses and condominiums, reported an average annual new closing price of approximately \$258,739 in 2015. New attached product has experienced a notable increase since the Recession, increasing 30.8% from \$197,841 in 2009.

Graph 24: Residential Closing Price Trends, White Oak Township, 2005-2015



Comparable For-Sale Developments

This section provides insight into the most active single-family detached and townhouse developments in the Apex Planning Area, based on the number of new housing unit transactions in 2015. Data provided includes lot supply, total units, and price range. Based on the approved and available lot supply, remaining months of inventory has been calculated considering historic absorption levels.



Single-Family Detached. Ten single-family detached subdivisions were selected to highlight current trends in active developments in the Apex Planning Area. The subdivisions were selected based on location in the Planning Area, as well as the number of new home transactions that were recorded in the annual period ending December 31, 2015. As shown in Table 15, the ten comparable single-family developments have approval dates ranging from 2005 for Amberly, the largest of the subdivisions, to 2014 for Colvin Park, Covington, and Green Hope Crossing. The comparable developments have a total of 3,081 total lots, with approximately 1,000 lots currently available for development. The balance of the lots have either previously been built on or do not have infrastructure to support construction. Overall, the ten subdivisions have approximately 24.7 months of single-family detached lot supply remaining.

Table 15: Active Single-Family Development Lot Supply, 2015

Subdivision	First Approved	Lot Supply		Total	Months Supply
		Approved	Available		
Amberly	2005	1,041	890	1,931	218.0
Bristol Walk	2013	36	2	38	0.9
Colvin Park	2014	36	25	61	9.1
Covington	2014	75	0	75	0.0
Creekside Commons	2007	72	4	76	1.6
Evans Farm	2011	209	0	209	0.0
Green Hope Crossing	2014	72	0	72	0.0
Old Mill Village	2007	59	0	59	0.0
Salem Village	2011	255	23	278	3.6
Villages of Apex	2007	193	89	282	28.0
Total/Average		2,048	1,033	3,081	24.7

Source: MORE; Kimley-Horn

As shown in Table 16, the ten most active single-family detached developments in the Apex Planning Area have had a total of 1,926 new home transactions since approval. Approximately 473 of the transactions, or 24.5%, occurred in 2015. Salem Village and Green Hope Crossing had the most active transaction year in 2015, each development exceeding 70 units. The average closing price for new product in the ten comparable single-family subdivisions was nearly \$340,000, including activity in 2015. Price points generally range from \$226,569 at Bristol Walk to \$388,700 at Covington.

Table 16: Active Single-Family Development Transactions, 2015

Subdivision	New Home Transactions			Average Price
	Pre-2015	2015	Total	
Amberly	948	49	997	\$342,084
Bristol Walk	9	27	36	\$226,569
Colvin Park	3	33	36	\$387,958
Covington	38	37	75	\$388,700
Creekside Commons	40	30	70	\$229,993
Evans Farm	147	62	209	\$314,383
Green Hope Crossing	0	72	72	\$316,660
Old Mill Village	11	44	55	\$262,318
Salem Village	182	73	255	\$396,331
Villages of Apex	122	28	150	\$313,177
Total/Average	1,500	455	1,955	\$337,292

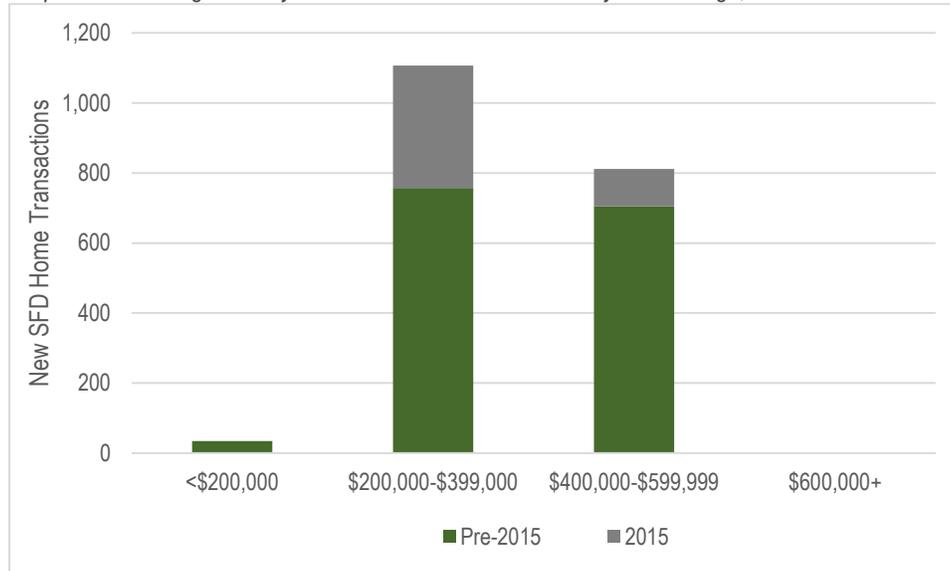
Source: MORE; Kimley-Horn

All of the new home transactions in the ten comparable single-family developments in 2015 fell within the \$200,000 to \$600,000 price range, with three-quarters priced between \$200,000 and \$400,000 (Graph 25). Transactions occurring prior to



2015 demonstrated a similar distribution, however, the distribution between \$200,000 to \$400,000 and \$400,000 and \$600,000 was more even than last year's measures. Only 34 transactions in the ten communities were at a price point less than \$200,000, and none were over \$600,000.

Graph 25: New Single-Family Detached Home Transactions by Price Range, 2015



Townhouse. Similar to single-family detached subdivisions, the most active townhouse developments were reviewed in order to demonstrate recent trends in the most comparable subdivisions. Five townhouse developments were identified in the Apex Planning Area for review.

As shown in Table 17, approval dates for the five selected communities range from 1993 for Scotts Mill to 2014 for Enclave and Green Hope Crossing. Both Amberly and Green Hope Crossing have single-family detached components that were also analyzed in this analysis based on transaction activity. The five developments have a total of 1,235 approved lots, of which, 270, or 21.8%, are available. Available lots are largely concentrated in the Amberly and Green Hope Crossing developments. Based on historic transaction trends, the five developments have over 30 months of supply remaining.

Table 17: Active Townhouse Development Lot Supply, 2015

Subdivision	First Approved	Lot Supply			Months Supply
		Approved	Available	Total	
55 James/Midtown	2012	109	0	109	0.0
Amberly	2005	576	109	685	93.4
Enclave/Trackside	2014	33	16	49	10.1
Green Hope Crossing	2014	40	137	177	44.7
Scotts Mill	1993	477	8	485	6.0
Total/Average		1,235	270	1,505	30.2

Source: MORE; Kimley-Horn

The five most active townhouse developments in the Apex Planning Area have had a total of 750 new home transactions since approval. Approximately 106 of the transactions, or 14.1%, occurred in 2015 (Table 18). Green Hope Crossing was the most active development with 36 transactions in 2015, followed by 55 James/Midtown with 21. The average closing price for new product in the ten comparable townhouse developments was \$207,075, including activity in 2015. Price points generally range from \$158,217 at Scotts Mill to \$284,569 at Green Hope Crossing.



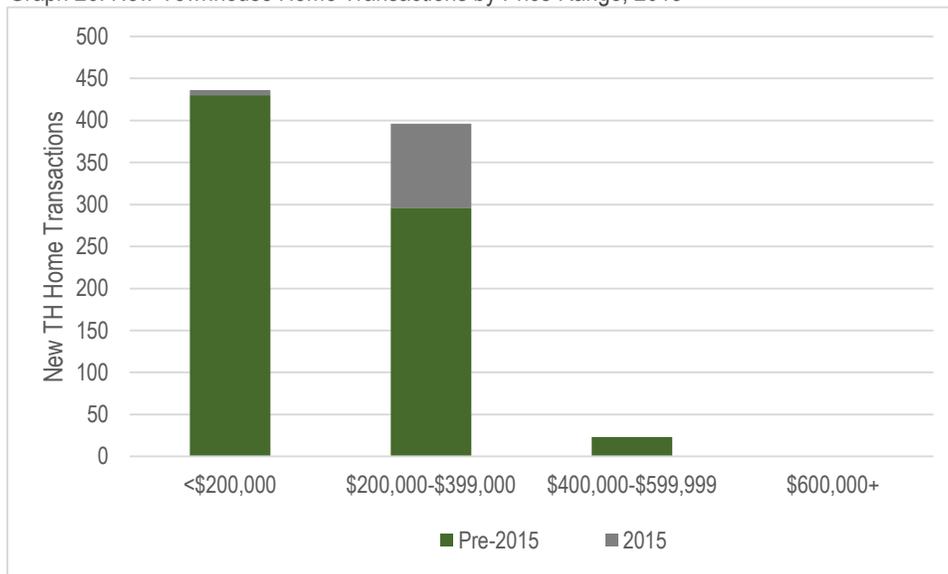
Table 18: Active Townhouse Development Transactions, 2015

Subdivision	New Home Transactions			Average Price
	Pre-2015	2015	Total	
55 James/Midtown	88	21	109	\$198,110
Amberly	448	14	462	\$225,176
Enclave/Trackside	0	19	19	\$262,974
Green Hope Crossing	0	36	36	\$284,569
Scotts Mill	214	16	230	\$158,217
Total/Average	750	106	856	\$207,075

Source: MORE; Kimley-Horn

Including all new townhouse transactions, units with closing prices less than \$200,000 have historically been the most common in the comparable developments, comprising one-half of the total (Graph 26). Transactions with closing prices between \$200,000 and \$400,000 were the second most common, with 46%. However, it should be noted that townhouse transactions in 2015 are far more heavily weighted in the \$200,000 to \$400,000 price point.

Graph 26: New Townhouse Home Transactions by Price Range, 2015



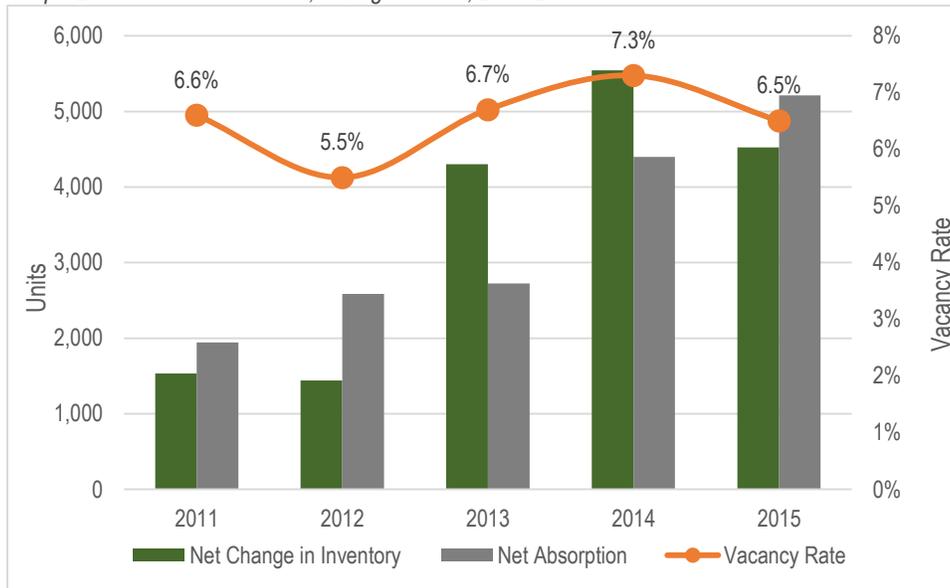
Rental Housing

Performance Metrics

Raleigh Market. The Raleigh market, as defined by the third-party apartment data source Real Data, includes Durham, Orange, and Wake counties. Apartment demand, or net absorption, in the Raleigh market has generally kept pace with new supply over the last five years. Inventory increased by an average of 3,500 units per year, ranging from 1,440 units in 2012 to 1,550 new units in 2014. The market averaged 3,400 units of net absorption over the five year period; demand was highest in the most recent annual period at over 5,000 units. This has marked the strongest annual performance in recent history. The consistently strong demand over the last five years is reflective of larger national trends toward rental housing following the Recession and a decline in homeownership rates.



Graph 27: Performance Trends, Raleigh Market, 2011-2015



Following the delivery of nearly 12,000 units between 2012 and 2014, the vacancy rate in the Raleigh market peaked at 7.4% in 2014. In the most recent annual period, demand outpaced supply of new units, causing the vacancy rate to recover down to 6.5% by year-end 2015. It is important to note that even with increased annual deliveries in the last five years, the vacancy rate has stayed within a reasonable range of the 7% industry standard representing a healthy market. Recent reports indicate that there are approximately 7,500 units currently under construction in the Raleigh market, with another 5,500 units proposed or in the planning stages.

Apex Planning Area. The Apex Planning Area contains over 2,600 apartments in communities of 25 or more units (Table 19). Nearly 70% of the inventory was completed between 1990 and 1999, making it the most active decade for apartment development. There have been 508 units completed since 2010, making up 19.0% of the inventory. The units built since 2010 are part of the Village at Broadstone Station and Bell Apex developments. The 2,672 apartments in the Apex Planning Area make up only 2.2% of the 120,700 units in the three-county Raleigh apartment market.

Table 19: Inventory by Decade Completed, Apex Planning Area, 2015

Year Built	Units	% of Total	
Before 1970	0	0	0.0%
1970-1979	0	0	0.0%
1980-1989	0	0	0.0%
1990-1999	1,848	69.2	69.2%
2000-2009	316	11.8	11.8%
2010+	508	19.0	19.0%
Total	2,672	100.0	100.0%

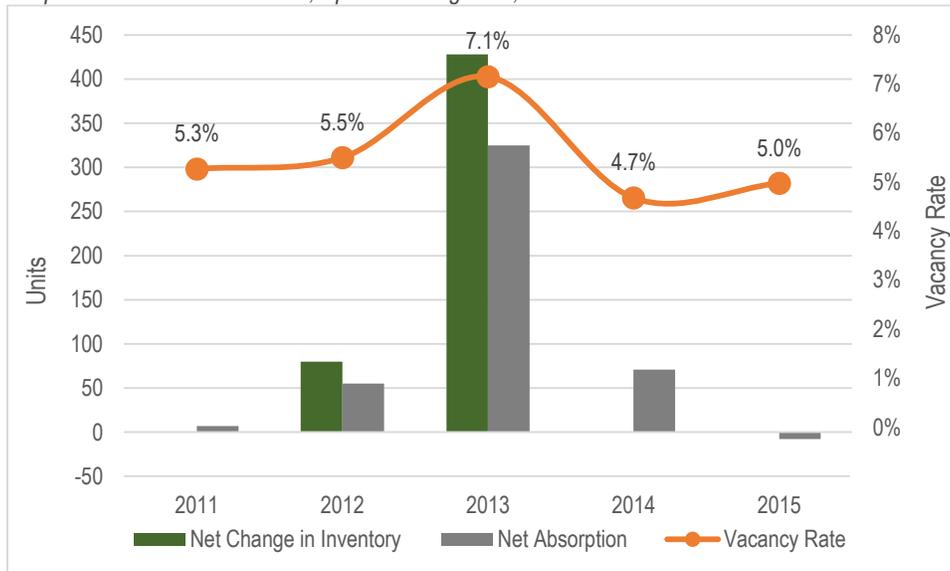
Source: Real Data Kimley-Horn

For the five-year period between 2011 and 2015, demand in the Apex Planning Area was roughly equivalent to new supply. As shown in Graph 28, the only new deliveries in the Apex Planning Area were approximately 500 units at Bell Apex and Village at Broadstone between 2012 and 2013. These new units were absorbed between over three years between 2012 and 2014; the communities both have stabilized occupancy rates. With the exception of 2013 when units at Bell Apex and Village



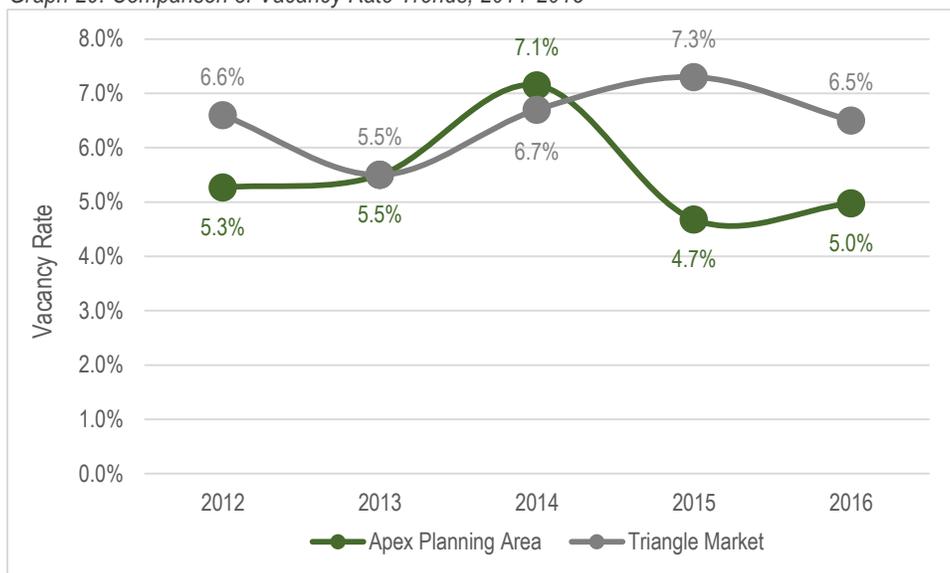
at Broadstone were delivered, apartment product in the Apex Planning Area remained consistently between 4.7% and 5.5%, measures well below the industry standard equilibrium rate of 7%.

Graph 28: Performance Trends, Apex Planning Area, 2011-2015



Graph 29 compares vacancy rate trends in the Apex Planning Area and the larger Raleigh market between 2011 and 2015. The Planning Area's 5.0% vacancy rate in January 2016 was 150 basis points lower than the 6.5% vacancy in the Raleigh market. Both geographies are performing below the industry-standard 7% equilibrium rate; however, net absorption in the Planning Area has likely been constrained by limited new supply over the last five years.

Graph 29: Comparison of Vacancy Rate Trends, 2011-2015

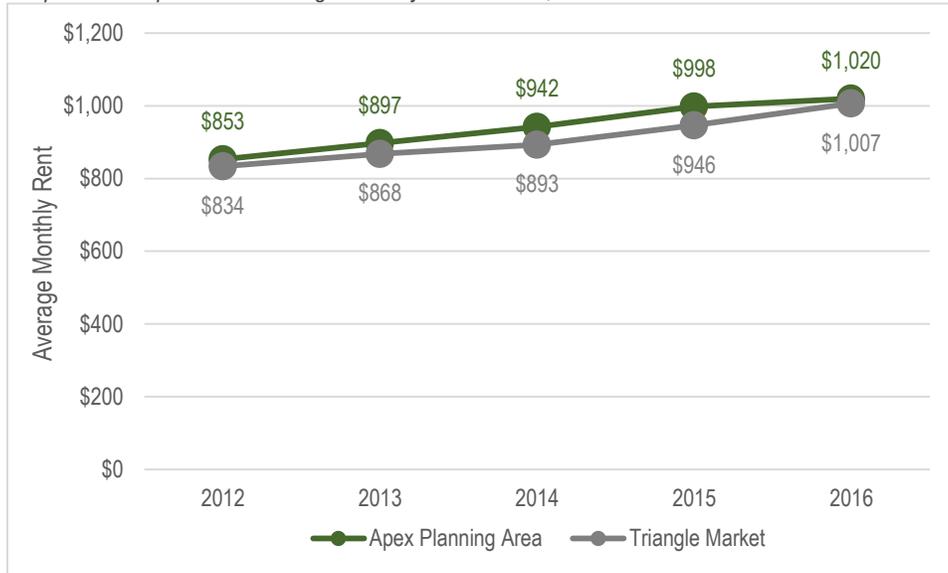


The average monthly rent in the Apex Planning Area in January 2016 was \$1,020, roughly comparable to \$1,007 in the larger Raleigh market (Graph 30). Both geographies have experienced a steady increase in average monthly rental rates in the last five years, equating to approximately 20% growth. Although the Planning Area's average monthly rent was \$1,020, rents at



the 10 local communities range from \$650 to \$1,200 per month. Rents in the two communities completed since 2010 average higher at \$1,156.

Graph 30: Comparison of Average Monthly Rent Trends, 2011-2015



Comparable Developments

This section analyzes current performance at five of the newest apartment communities in the Apex Planning Area. The communities, shown on Map 3 in the appendix, were selected based on age, location, and construction quality.

The five comparable developments contain a total of 1,572 units (Table 20). The average 1,014-square-foot unit currently rents for \$1,033 per month, or \$1.02 per square foot. It should be noted that the average unit size of the five most recently completed communities in the Planning Area is 5.5% larger than the average of 961 square feet in the Raleigh market. The aggregate unit mix of the five communities is 33.7% one-bedrooms, 52.5% two-bedrooms, and 13.8% three-bedrooms. There are no studio or efficiency units currently offered in the Planning Area. The sizes and mix are likely targeting households seeking more space, including young families.

Table 20: Comparable Apartment Communities, Apex Planning Area, 2016

Map Key	Community	Location	Management	Year Open	Unit Mix				Avg. Sq.Ft.	Avg. Rent	Rent/Sq.Ft.
					1BR	2BR	3BR	Total			
1	Camden Reunion Park	100 Reunion Park Dr	Camden Property Trust	1999	120	208	92	420	972	\$1,037	\$1.07
2	Lake Cameron	1000 Cameron Woods Dr	Preferred Apartment Communities	1999	128	164	36	328	940	\$914	\$0.97
3	Colonial Village at Beaver Creek	1000 Creekside Hills Dr	MAA Communities	2007	86	191	39	316	1,012	\$954	\$0.94
4	Village at Broadstone	1000 Broadstone Way	Kettler	2013	120	144	36	300	1,107	\$1,105	\$1.00
5	Bell Apex	4000 Spotter Dr	Bell Partners	2012	76	118	14	208	1,088	\$1,229	\$1.13
Total/Avg.					530	825	217	1,572	1,014	\$1,033	\$1.02
Share					33.7%	52.5%	13.8%				

Source: Real Data; Kimley-Horn and Associates

Camden Reunion Park and Lake Cameron are the oldest of the five comparable communities, completed in 1999, and Village at Broadstone is the newest, delivering units in 2013. The communities range in size from 208 units at Bell Apex to 420 units at Camden Reunion Park. The average community size for the newest apartment developments is 315 units.

All of the communities offer exterior breezeways in a more typical suburban garden-style development pattern, including surface parking. While residents most commonly consider monthly rents when finding an apartment, developers rely on rent



per square foot to measure success. Average monthly rents range from \$914 to \$1,229 per month and rents per square foot range from \$0.94 to \$1.13. Typical community amenities include a clubhouse, swimming pool, fitness facility, and business center. Most communities offer a mixture of surface parking spaces, as well as individual garages available for additional monthly rent.

The overall vacancy rate in the five comparable apartment communities is currently 5.3% (Table 21). Vacancy rates are relatively consistent, ranging from 2.8% at Colonial Village at Beaver Creek to 7.1% at Camden Reunion Park. There are 83 available units in the Apex Planning Area. More than one-third of the available units are located in the Camden Reunion Park development.

Table 21: Vacancy at Comparable Apartment Communities, Apex Planning Area, 2016

Community	Location	Owner/ Manager	Year Open	Total Units	Vac. Units	Vac. Rate
Camden Reunion Park	100 Reunion Park Dr	Camden Property Trust	1999	420	30	7.1%
Lake Cameron	1000 Cameron Woods Dr	Preferred Apartment Communities	1999	328	14	4.3%
Colonial Village at Beaver Creek	1000 Creekside Hills Dr	MAA Communities	2007	316	9	2.8%
Village at Broadstone	1000 Broadstone Way	Kettler	2013	300	17	5.7%
Bell Apex	4000 Spotter Dr	Bell Partners	2012	208	13	6.3%
Total/Avg.				1,572	83	5.3%

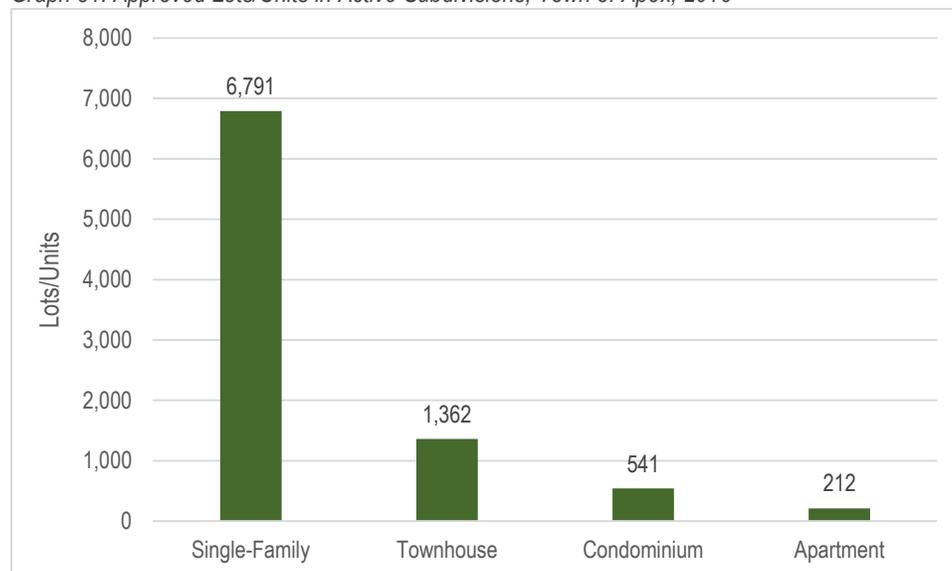
Source: Real Data; Kimley-Horn and Associates

Residential Development Pipeline

Approved Lots in Active Subdivisions

Based on development reports prepared monthly by the Town of Apex, there are 57 active subdivisions with available lots for future growth. These active residential developments contain over 8,900 approved lots or units, with 76.2% in a single-family land-use pattern (Graph 31). Another 1,362 lots are townhouses, 541 are condominium, and only 212 apartments are currently in the pipeline.

Graph 31: Approved Lots/Units in Active Subdivisions, Town of Apex, 2016





Remaining Lots in Residential Pipeline

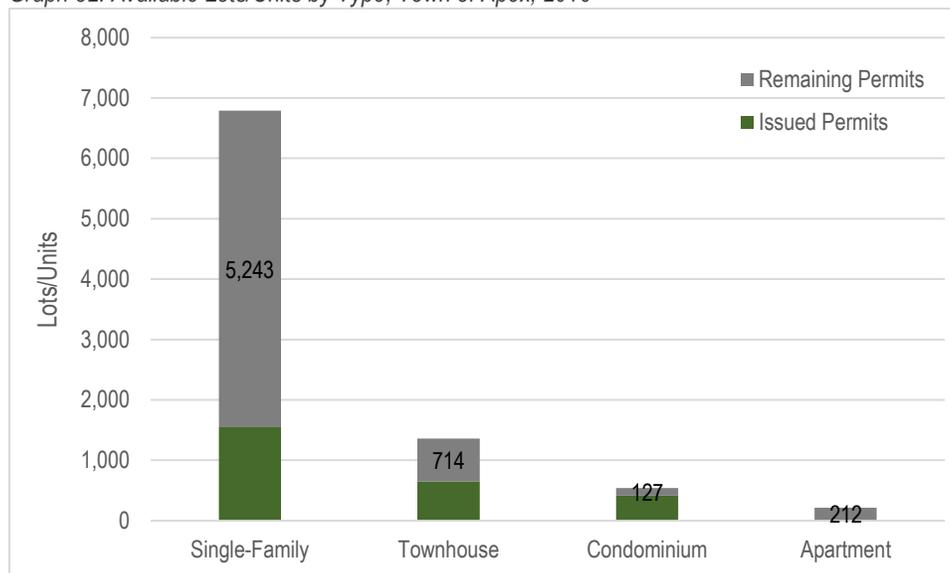
According to the Town of Apex, 2,610 residential permits have been issued within the 57 active subdivisions. Subtracting the issued permits from the total approved lots equates to future available lots or units in active developments. As shown below, there are nearly 6,300 lots/units that are in Apex's development pipeline.

Total Approved Lots/Units	8,906
Residential Permits Issued	- 2,610
Remaining Available Lots/Units	6,296

Source: Town of Apex

Based on issued permits, Graph 32 estimates the available lots/units by development pattern. In cases of active communities with multiple residential product types (five in total), estimates were made based on existing buildings from a windshield survey. Approximately 5,243 lots, or 83.3% of the total available, are single-family detached. Another 714 lots are townhouses, followed by 339 units for higher-density condominiums and apartments.

Graph 32: Available Lots/Units by Type, Town of Apex, 2016



Other Residential Developments

In addition to the approved lots/units in the 57 active developments highlighted above, there are additional developments that have been approved for rezonings that have not yet received official subdivision approval. Given the unknown nature of how the development will ultimately evolve, they were excluded from the counts above. The most notable of these include:

- Veridea:** Approved as a Sustainable Development Plan, the mixed-use Veridea project could have residential, retail, office, and flex/industrial space, as well as open and civic space. Veridea is planned to include up to 8,000 residential units at a variety of types, ownerships, and densities, ranging from single-family detached to high-density multi-family.
- Westford:** Westford is approved as a planned unit development on US-64, however, no specific site plans have been brought forward. The 100-acre project is approved to include a mixture of residential and non-residential uses. Up to 900 residential units could be developed on the site.



Retail Profile

This section provides an overview of retail vacancy and rent trends in the Raleigh market. Vacancy and rent trends are measured using data provided by REIS, which is a proprietary database that provides commercial market information for geographies across the United States. The data incorporates performance of multi-tenant retail product in a four-county Raleigh market (Durham, Johnston, Orange, and Wake) for properties over 25,000 square feet in size. Trends have also been provided for the Cary/SW Raleigh Submarket, as defined by REIS, and a smaller area that closely aligns with the Apex Planning Area. The area is generally bounded by the Wake County limits to the south and east, Cary Township boundary to the north, and Middle Creek Township to the east.

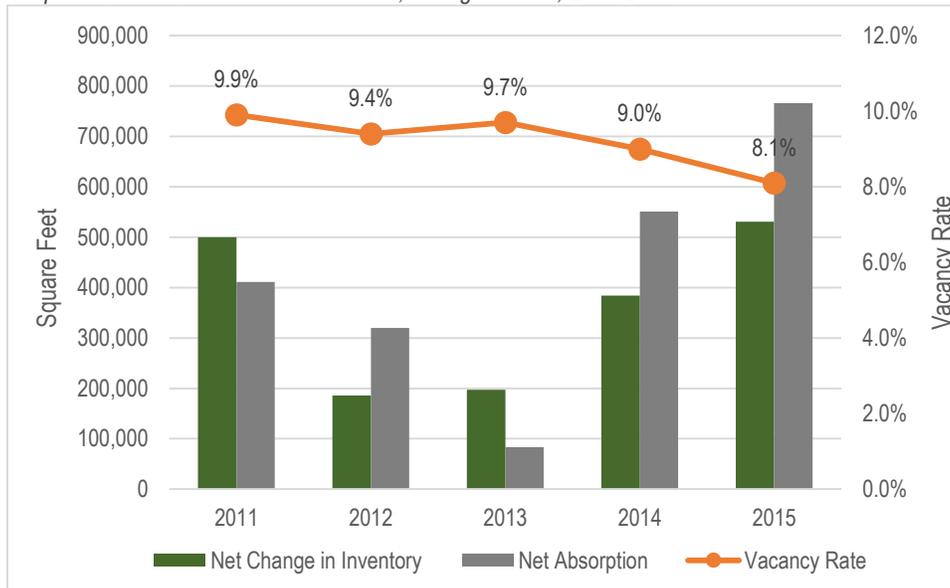
An inventory of competitive shopping centers in the Apex Planning Area has also been provided, helping to define the retail framework in the area. Center sizes, anchors, rents, and vacancy rates are provided for a set of comparable developments.

Performance Metrics

Raleigh Market

As shown in Graph 33, from 2011 to 2015 the vacancy rate in the Raleigh market experienced a notable decline, from 9.9% to 8.1%. This represents a decrease in 180 basis points over a five-year period. There has been nearly 1.8 million square feet of new retail space completed in the Raleigh market since 2011, with nearly one-third of the square footage delivered in 2015. Net absorption totaled over 2.1 million square feet between 2011 and 2015. Over the five-year period, demand for retail space exceeded supply, resulting in a declining vacancy rate.

Graph 33: Retail Performance Measures, Raleigh Market, 2011-2015



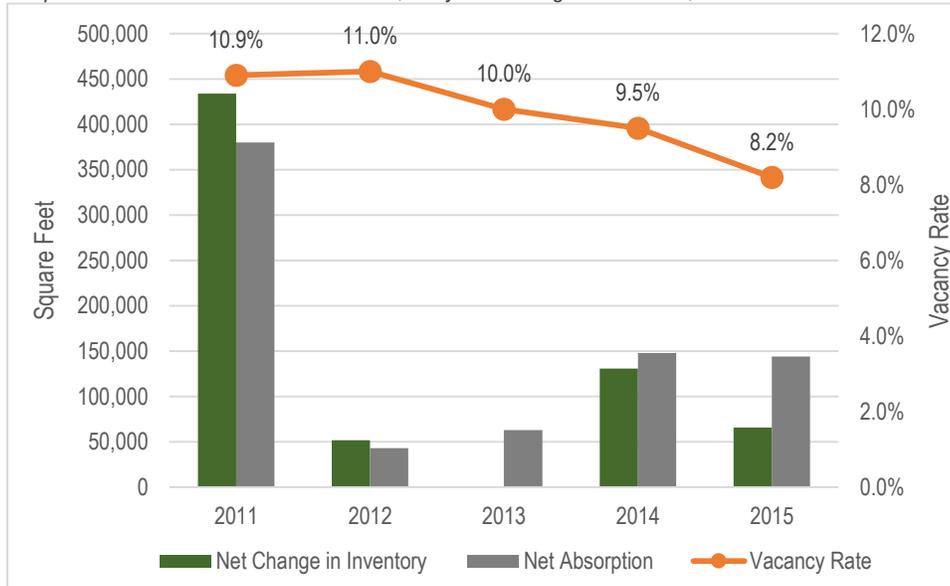
Cary/SW Raleigh Submarket

There was approximately 683,000 square feet of retail space completed in the Cary/SW Raleigh Submarket between 2011 and 2015, 38.0% of newly completed space in the Raleigh market (Graph 34). Two-thirds of the new retail space added in the last five years in the Submarket was delivered in 2011. Mimicking trends in the larger market, demand for retail space in the



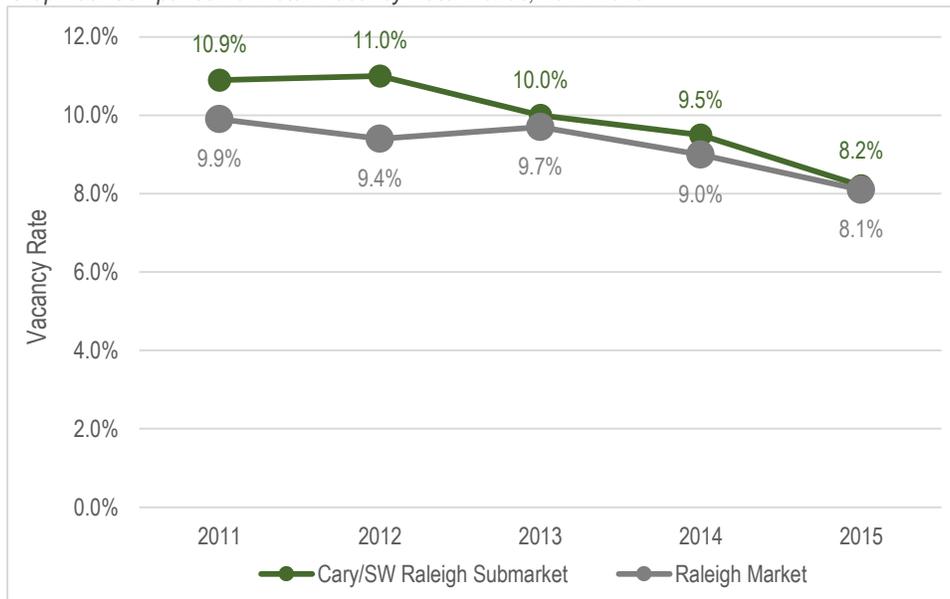
Cary/SW Raleigh Submarket exceeded supply, resulting in the vacancy rate declining from 10.9% in 2011 to 8.2% in 2015 (a 270 basis point decrease in five years).

Graph 34: Retail Performance Measures, Cary/SW Raleigh Submarket, 2011-2015



As shown in Graph 35, vacancy rates in both the Raleigh market and the Cary/SW Raleigh Submarket have followed a similar pattern over the last five years. Although the Submarket has historically reported a higher vacancy rate than the larger region, leasing momentum coupled with comparably fewer deliveries, has reduced the variance in the last three years. In fact, in 2015, the Cary/SW Raleigh Submarket's vacancy rate of 8.2% was only 0.1% higher than the Raleigh market.

Graph 35: Comparison of Retail Vacancy Rate Trends, 2011-2015



Similar to vacancy rate, the Cary/SW Raleigh Submarket closely mimicked market improvements demonstrated in the larger market area. The average monthly rent/square foot in the Submarket increased by 5.6% over the five year period, from \$16.43 in 2011 to \$17.35 in 2015 (Graph 36). The larger Raleigh market had a comparable 6.6% increase since 2011.



Graph 36: Comparison of Retail Rent/Square Foot Trends, 2011-2015



Competitive Retail Framework

This section provides a high-level inventory of key national and regional chain retailers to demonstrate presence and distribution throughout the Planning Area. There are limited retail services west of NC-540, with most shopping opportunities located in the core of Apex.

The Apex Planning Area is well-served by a variety of national retailers, as well as locally-owned and operated shops. Three key supercenters are located in the Planning Area: Target, Walmart, and Costco. Costco is the most recent retail addition to the Planning Area, opening as part of Nichols Plaza in 2015. There are five national and regional chain grocers in the Planning Area, a Harris Teeter, two Food Lions, Lowes Foods, and Kroger. Additionally, four pharmacies were also identified, including two Walgreens, a Rite Aid, and a CVS located inside the Target Supercenter.

Supercenters

Grocery Stores

Pharmacy

In addition to chain retailers, Downtown Apex has evolved to offer numerous locally-owned and operated shopping and dining experiences in an authentic setting. This concentration of retail hosts numerous community events throughout the year, drawing crowds from all over the region and state.



An inventory of competitive multi-tenant shopping centers was prepared to demonstrate current vacancy rates and rents for shopping centers in the Apex Planning Area. Five anchored centers were identified for investigation, containing over 1.0 million square feet of space (Table 22). Offering more than 417,000 square feet of gross leasable area, Beaver Creek Commons is the largest competitive center in the Planning Area. Lake Pine Plaza on US-64 is the oldest competitive center, completed in 1996, while Beaver Creek Crossings is the newest opening in 2006. The competitive centers are shown on Map 4 in the appendix.

Table 22: Competitive Retail Centers, Apex Planning Area, 2016

Name	Address	Year Built	Square Feet		Vacancy Rate	Anchor Tenants
			Total	Available		
Beaver Creek Commons	W. Williams Street	2004	417,402	3,000	0.7%	Super Target, Lowes
Beaver Creek Crossings	Beaver Creek Commons Drive	2006	320,629	7,491	2.3%	Regal Cinemas, Dick's Sporting Goods, Kohl's
Haddon Hall Commons	W. Williams Street	2004	122,288	1,400	1.1%	Harris Teeter
Lake Pine Plaza	US 64 West	1996	87,690	2,800	3.2%	Kroger
Olive Chapel Village	Apex Peakway	2001	79,754	2,438	3.1%	Lowes Foods
Total/Average			1,027,763	17,129	1.7%	

Source: Kimley-Horn; Wake County GIS

The five competitive centers have over 17,000 square feet of available retail space, equating to an aggregate vacancy rate of only 1.7%. Beaver Creek Commons has the lowest vacancy rate of less than 1%, while Lake Pine Plaza has the highest at 3.2%. Rents per square foot were quoted as negotiable by all centers. Based on feedback from brokers and real estate agents, rents at these centers typically range from \$18 to \$25 per square foot.

Retail Development Pipeline

The largest retail development currently under construction in the Planning Area is **Nichols Plaza**, anchored by Costco which opened last year. Small-shop retail spaces are currently under construction next to the Costco, with seven restaurants and retail suites currently with lease commitments, including Chipotle, Ruckus Pizza, Five Guys Burgers and Fries, Mattress Firm, Great Clips, and McCalister's Deli. Including Costco, the entire Nichols Plaza center is approved to contain approximately 300,000 square feet of inline and outparcel retail development.

In addition to smaller single-tenant retail developments, four approved plans could add significant new inventory to the Planning Area in the future:

- Approved in 2015, the 165-acre **Sweetwater** development is approved for shopping, restaurants, and one or two medium-sized office buildings; no specific site plans have been submitted to determine size or scale of the retail
- The **Pointe at Beaver Creek** is approved for 71,500 square feet of retail space, planned for a grocery anchor (Publix has been announced, adding a new grocery to the Planning Area)
- Similarly, **Villages at Apex South** is approved for 53,450 square feet of retail space, planned for a small-footprint grocery anchor
- Although no site plan has been submitted, **Westford PUD** is planned to have a retail component; the development is entitled for up to 550,000 square feet of commercial development
- Conceptual plans for **Veridea** have shown up to 3.5 million square feet of retail space at build-out of the property



Office Profile

This section includes an overview of office performance indicators, including completions, net absorption, vacancy rates, and average lease rates. Office performance trends are based on regional and submarket information provided by Xceligent, a local third-party data source that currently tracks employment-based uses in the Triangle. The Xceligent database tracks single- and multi-tenant office buildings containing at least 10,000 square feet within Durham, Wake, and Orange counties (Raleigh market). The inventory excludes buildings that are owner-occupied. Similar to retail, a smaller submarket was also investigated to determine how the Planning Area is performing from an office perspective. Xceligent’s Cary/SW Raleigh Submarket most closely aligns with the Planning Area boundary; the submarket’s boundaries are roughly consistent with the retail submarket. There is only 700,000 square feet in the area of the submarket that is west and south of Apex.

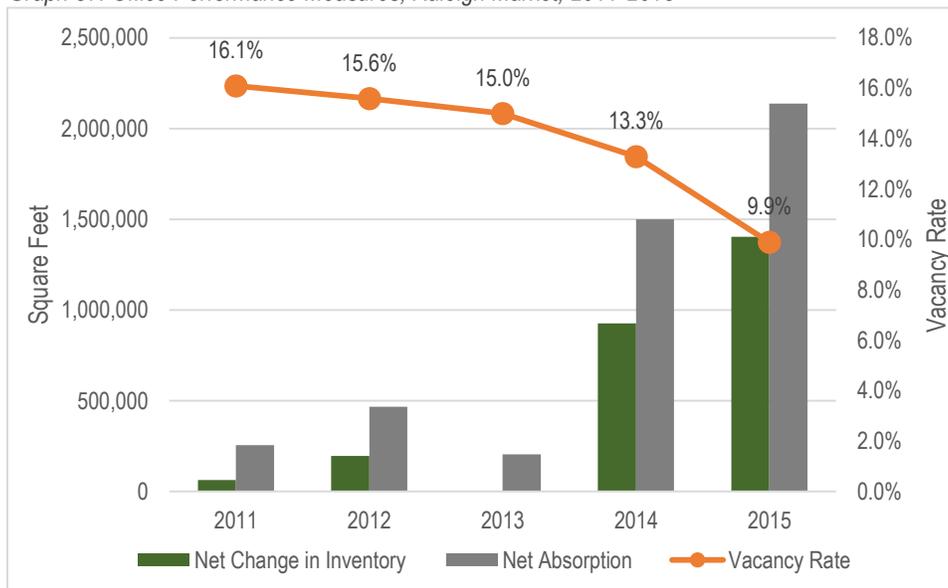
An inventory of competitive and available office space in the Planning Area has also been provided to determine specific performance for Apex. Based on data availability, the competitive inventory includes building size, lease rates, and vacancy.

Performance Metrics

Raleigh Market

The Raleigh market’s office inventory totaled almost 65.7 million square feet at year-end 2015, representing a 57.6% increase in total space from 41.7 million square feet in 2011. As shown in Graph 37, there was nearly 2.6 million square feet of office space completed in the Raleigh market between 2011 and 2015. Approximately 90% of the new inventory was delivered in the last two years, demonstrating increased momentum in the office market. Five year net absorption strongly outpaced new completions, causing the vacancy rate to decline by 620 basis points from 16.1% in 2011 to 9.9% in 2015.

Graph 37: Office Performance Measures, Raleigh Market, 2011-2015



Over 1.3 million square feet of office space was delivered during 2015 in the Raleigh market, with another 1.5 million square feet under construction at year-end. On a regional basis, the majority of under construction office buildings are located in or near the urban cores of Raleigh, Durham, and Chapel Hill, or in Research Triangle Park. All of the space currently under



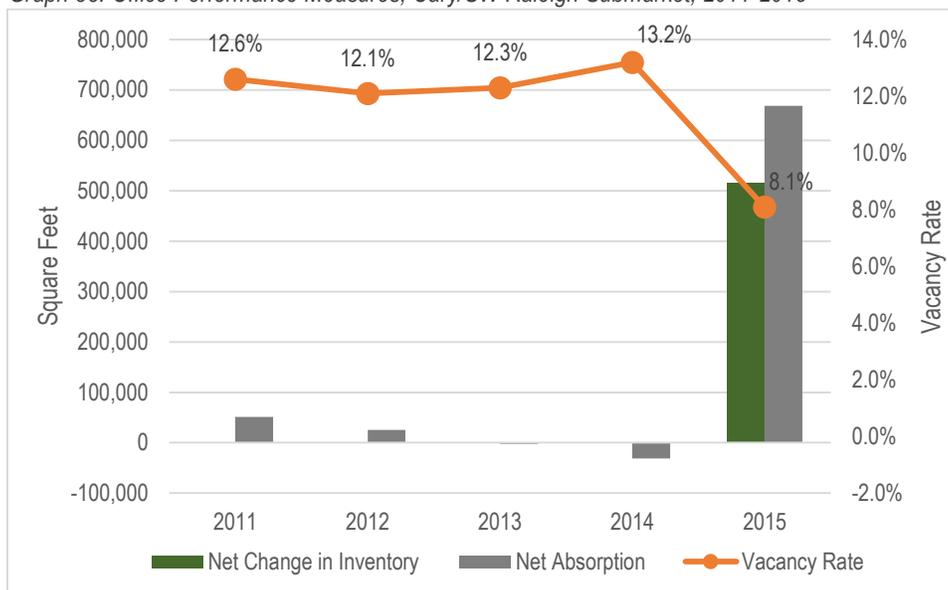
construction in the Raleigh Market is expected to be complete by mid-2017. In addition to the buildings currently under construction, there is an additional 3.0 million square feet of office space in the planning phase.

Cary/SW Raleigh Submarket

The Cary/SW Raleigh Submarket has 8.4 million square feet of single- and multi-tenant office inventory. It is the third-largest submarket in the region, behind Research Triangle Park and the area around Six Forks Road/Falls of the Neuse Road in urban Raleigh. The Research Triangle Park Submarket accounts for nearly one-quarter of the region’s inventory. It should be noted that approximately 90% of the Submarket’s office inventory is located northeast of Apex in and near the Town of Cary.

As shown in Graph 38, there were no new office buildings completed in the Cary/SW Raleigh Submarket between 2011 and 2014. However, over 500,000 square feet of space was completed in 2015. With no new deliveries and limited net absorption, the vacancy rate remained largely unchanged between 2011 and 2014, at between 12.1% and 13.2%. Increased demand caused net absorption to outpace demand in 2015, resulting in a rapid decline in vacancy (510 basis points).

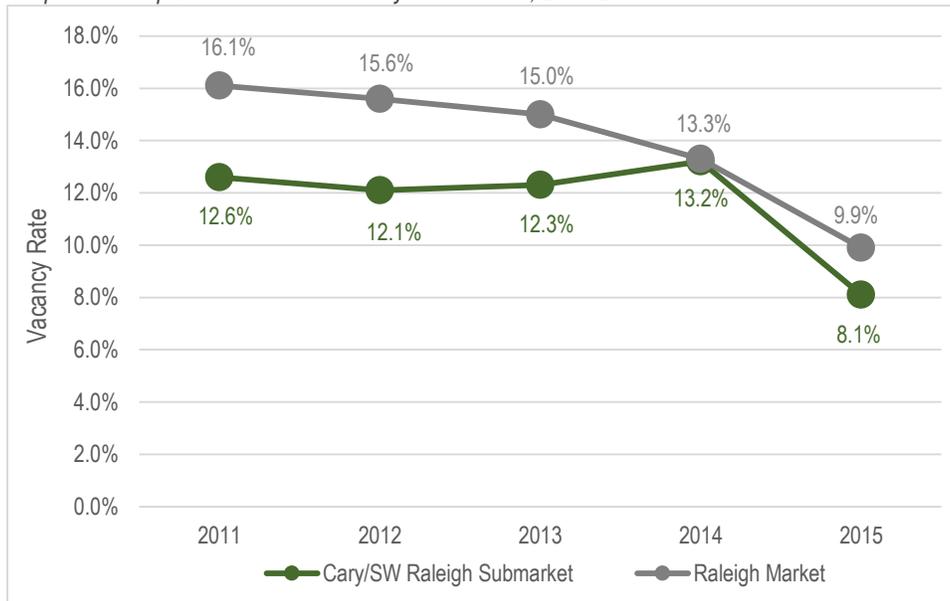
Graph 38: Office Performance Measures, Cary/SW Raleigh Submarket, 2011-2015



Graph 39 compares the vacancy rate of the Cary/SW Raleigh Submarket to the larger Raleigh market. The Raleigh market has historically reported a higher aggregate vacancy rate than the Cary/SW Raleigh Submarket. Both geographies generally followed similar recover patterns, demonstrating notable declines in the last 12 months. At year-end 2015, the Raleigh market’s 9.9% vacancy rate was slightly higher than 8.1% reported in the Cary/SW Raleigh Submarket. Compared to the other submarkets in the region, Cary/SW Raleigh falls in the middle of the pack; Downtown Durham has the lowest vacancy rate at 4.3% and North Durham has the highest at 21.5%.



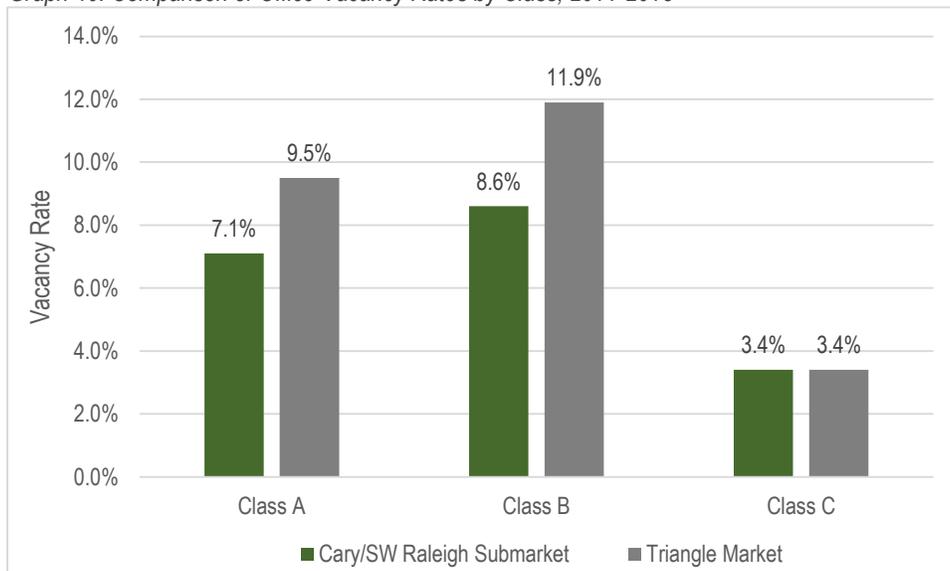
Graph 39: Comparison of Office Vacancy Rate Trends, 2011-2015



Office space is divided into classes to define product quality. Class A space is the most prestigious buildings, offering high-quality standard finishes, state of the art technology systems, and exceptional accessibility. Building finishes in Class B buildings are fair to good, but lease rates are lower than Class A. Class C buildings are defined as those competing for tenants requiring functional space at rents below the average for the area. Approximately 53.1% of the Submarket's inventory is classified as Class A space, with another 41.2% classified as Class B.

As shown in Graph 40, Class A space in the Cary/SW Raleigh Submarket had a 7.1% vacancy rate at year-end 2015, lower than 9.5% for the larger Raleigh market. Similarly, Class B space reported a comparatively lower vacancy rate of 8.6%. The limited Class C inventory had a year-end vacancy rate of 3.4%, comparable with the Raleigh market.

Graph 40: Comparison of Office Vacancy Rates by Class, 2011-2015





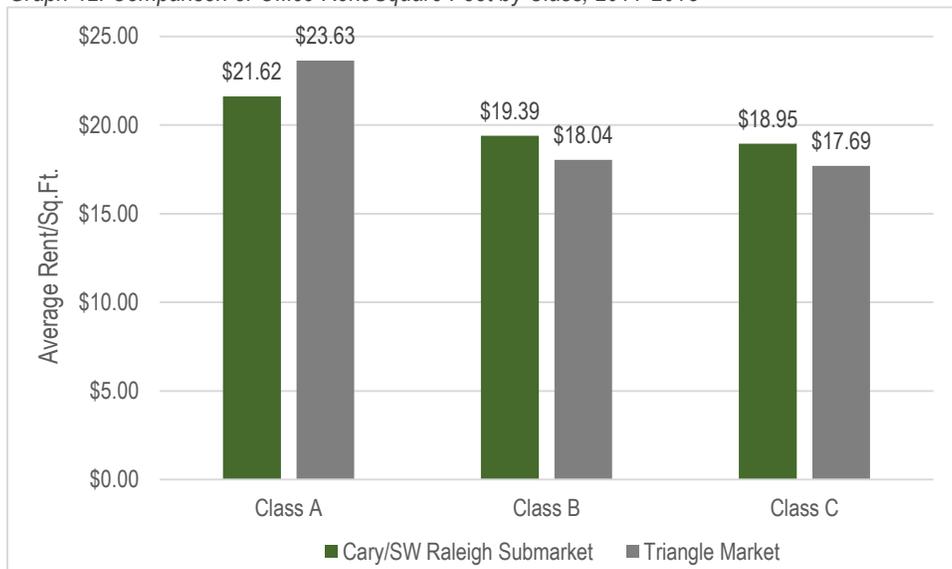
Average rents per square feet in the Cary/SW Raleigh Submarket are equivalent with the Raleigh market (Graph 41). Both geographies experienced a roughly 3.0% increase in average office lease rates over the last five years. Comparatively, Hillsborough/Orange County has the lowest average rent per square foot at \$12.50 and Downtown Raleigh has the highest at \$27.38.

Graph 41: Comparison of Office Rent/Square Foot Trends, 2011-2015



Class A office space has an average lease rate of \$21.62, lower than \$23.63 for the larger Raleigh market (Graph 42). Higher lease rates in the Raleigh market are likely driven by concentrations of Class A space in downtown Raleigh and Durham, as well as in Research Triangle Park. Class B and Class C space in the Cary/SW Raleigh Submarket has higher average lease rates than the Raleigh market.

Graph 42: Comparison of Office Rent/Square Foot by Class, 2011-2015





Competitive Office Space

More specific multi-tenant office performance was analyzed for the Apex Planning Area through a review of currently available spaces. Nearly 15,000 square feet of available multi-tenant office space was identified within the Planning Area with an overall average quoted lease rate of \$18.25 per square foot (Table 23). Based on a total leasable area of 52,225 square feet, the five competitive office buildings have an aggregate vacancy rate of 28.1%. The location of the competitive office buildings are shown in Map 5 in the appendix.

Table 23: Competitive Office Space, Apex Planning Area, 2016

Location	Location	Year Built	Square Feet		Vacancy Rate	Quoted Lease Rate	Building Class
			Total	Available			
1011 Pemberton Hill Drive	1011 Pemberton Hill Drive	1999	3,000	939	31.3%	\$16.00	Class B
Apex Professional Building	307 S. Salem Street	1984	6,500	2,053	31.6%	\$15.00	Class B
2021 Shepherds Vineyard Drive	2021 Shepherds Vineyard Drive	2006	6,020	2,715	45.1%	\$15.00	Class B
1-2-Story Subtotal/Average			15,520	5,707	36.8%	\$15.19	
Bradley Commons	112 Salem Towne Court	2016	18,000	8,000	44.4%	\$17.00	Class A
Village Station	56 Hunter Street	2008	18,705	948	5.1%	\$22.00	Class A
2+-Story Subtotal/Average			36,705	8,948	24.4%	\$19.55	
Overall Total/Average			52,225	14,655	28.1%	\$18.25	

Source: Kimley-Horn; LoopNet

Available spaces were divided between buildings with two or less stories and those three or more stories. The three competitive buildings that have less than three stories are all classified as Class B space. Of the 15,520 total square feet, 5,700 is available equating to a vacancy rate of 36.8%. Average lease rates range from \$15.00 to \$16.00 per square foot. The two office developments with more than two stories, Bradley Commons and Village Station, contain a total of 36,705 square feet. Nearly all of the 8,948 available square feet is part of Bradley Commons that was just completed. These two Class A buildings have an average lease rate of \$19.55, 28.7% higher than the Class B product.

Office Development Pipeline

There are a limited number of office developments in the planning stages in the Apex Planning Area, and only a few have submitted firm site plans. Major developments that have office components include:

- Approved in 2015, the 165-acre **Sweetwater** development is approved for shopping, restaurants, and one or two medium-sized office buildings; no specific site plans have been submitted to determine size or scale of the retail
- Although no site plan has been submitted, **Westford PUD** is planned to have a retail component; the development is entitled for up to 550,000 square feet of commercial development, including retail or office uses
- Conceptual plans for **Veridea** have shown up to 10 million square feet of general office space and two million square feet of high-tech office space at build-out of the property



Industrial Profile

Similar to office space, industrial data is provided by Xceligent and compares the larger Raleigh market to the Cary/SW Raleigh Submarket, which most closely aligns with the Apex Planning Area. The database includes single- and multi-tenant industrial buildings that contain at least 5,000 square feet within Durham, Wake, and Orange counties. Current and trend performance for three types of industrial space are profiled in this section:

- **Warehouse:** Warehouse space includes bulk warehouse, distribution, manufacturing, and truck terminal uses. They typically have larger footprints and require the largest tracts of land for development.
- **Office/Flex:** This type of industrial building is popular in high-technology industries, such as computers, electronics, and biotechnology. They are generally a hybrid of office, manufacturing, and warehouse space housed in appealing, newer, high-quality buildings that are characterized by a location in a campus-like industrial park with extensive landscaping and open space. This category also includes incubator space for entrepreneurs.
- **Warehouse/Flex:** These properties are typically used for light assembly and houses industries with less extensive plant requirements and less objectionable operations than heavy industry. They can be small to medium in size.

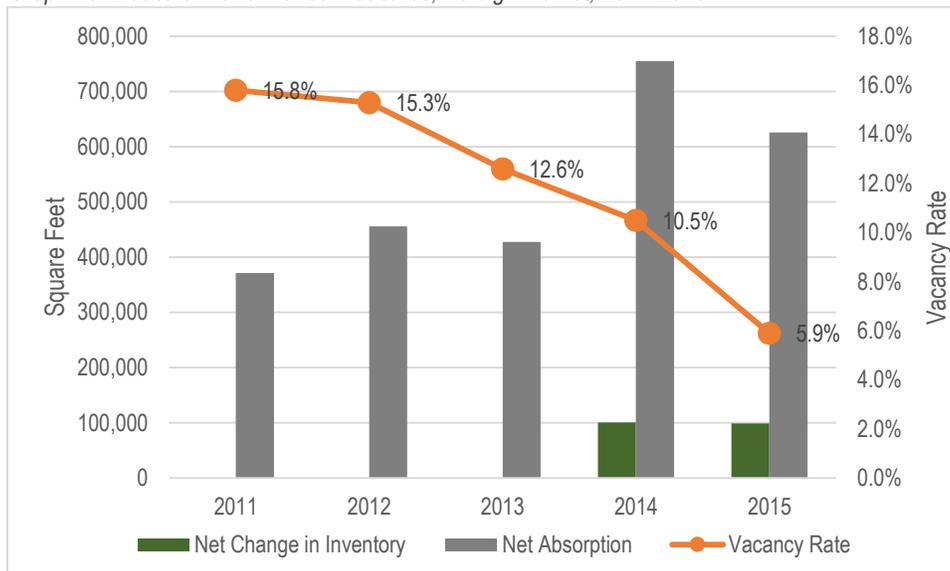
This section of the analysis highlights industrial performance, including completions, net absorption, vacancy rate, and average rents per square foot. An overview of available industrial or business park properties in the Apex Planning Area has also been provided.

Performance Metrics

Raleigh Market

The Raleigh market had over 2,400 industrial buildings at year-end 2015, containing over 76 million square feet of single- and multi-tenant space. As shown in Graph 43, there was less than 200,000 square feet of new industrial buildings completed in the Raleigh market between 2011 and 2015, however, demand was consistently strong in each annual period. This resulted in a rapid decline in vacancy from 15.8% in 2011 to 5.9% in 2015.

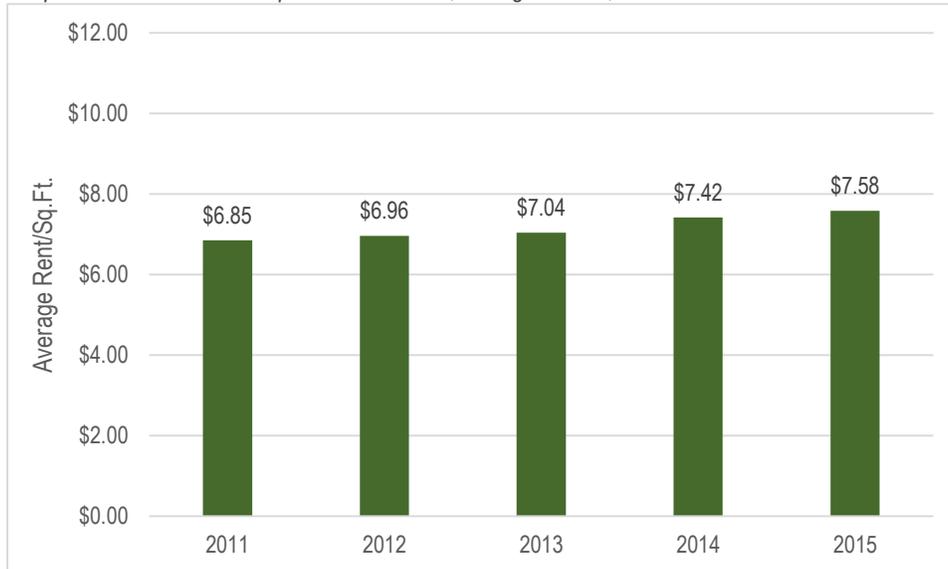
Graph 43: Industrial Performance Measures, Raleigh Market, 2011-2015





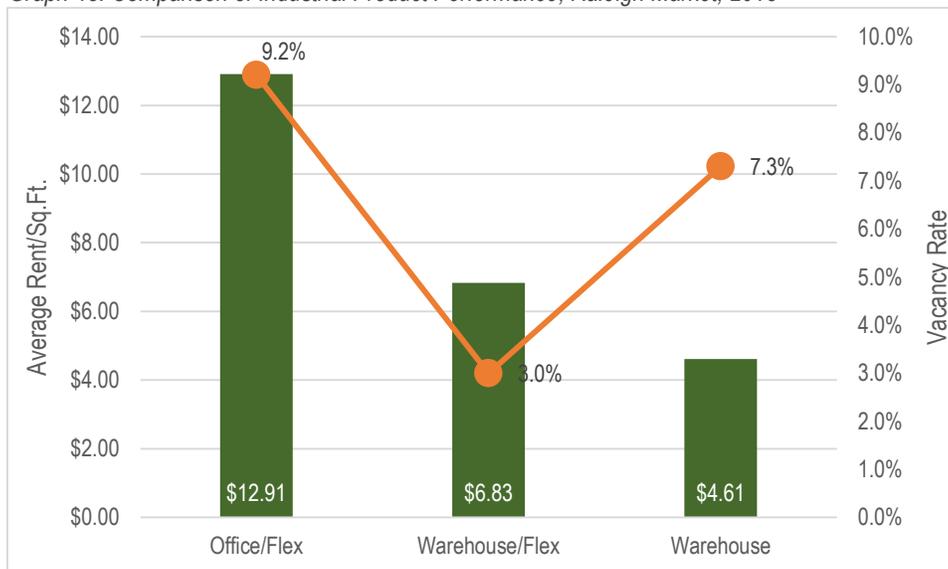
Average lease rates for an aggregate of all types of industrial space in the Raleigh market have increased 10.6%, from \$6.85 in 2011 to \$7.58 in 2015 (Graph 44). Lease rates are expected to continue to increase given the low vacancy rate across industrial product types in the market.

Graph 44: Industrial Rent/Square Foot Trends, Raleigh Market, 2011-2015



Graph 45 compares year-end 2015 performance for the three industrial types in the Raleigh market. At the end of 2015, there was approximately 17.3 million square feet of **office/flex** space in the Raleigh market. Just over 1.6 million square feet of the inventory was vacant. Comparing across product types, office/flex space had the highest average rent per square foot at \$12.91, but also the highest vacancy rate at 9.2%. There are three office/flex buildings under construction in the region, totaling approximately 45,000 square feet. All three buildings are expected to be complete in mid-2016. One of the buildings, is part of the 540 Flex and Business Park on Olive Chapel Hill in the Planning Area.

Graph 45: Comparison of Industrial Product Performance, Raleigh Market, 2015





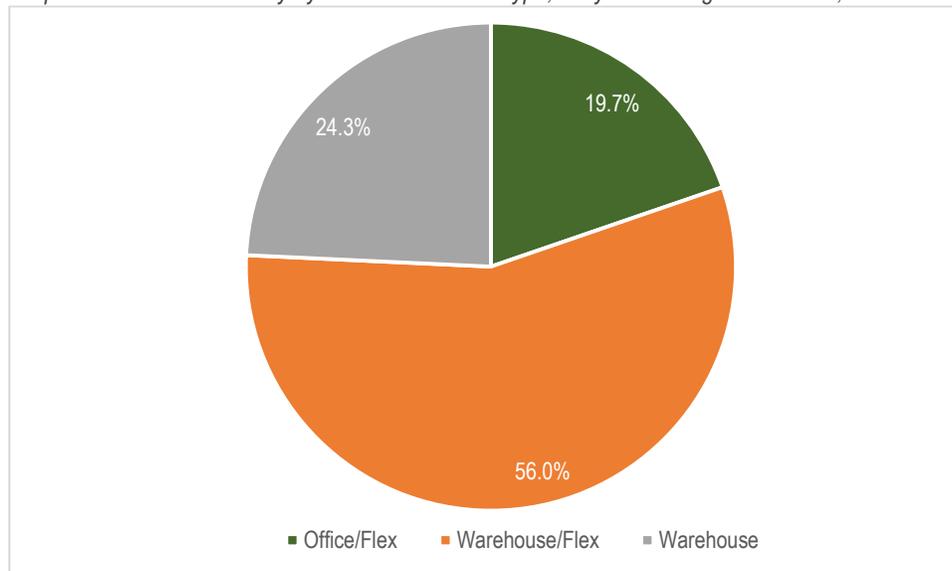
There is over 32.2 million square feet of **warehouse/flex** space in the Raleigh market. Just over 975,000 square feet, or 3.0%, was available at the end of 2015. Warehouse/flex space has the second highest average lease rate, and the lowest vacancy rate of any industrial product type at 3.0%. There are currently no warehouse/flex buildings currently under construction in the Raleigh market.

Warehouse space totals over 26.7 million square feet at year-end 2015, approximately 35% of the total industrial inventory. At the end of 2015, warehouse space had a vacancy rate of 7.3% and the lowest average rent per square foot of any industrial product type at \$4.61. There is nearly 950,000 square feet of warehouse space under construction in the Raleigh market, all expected to deliver in the first-half of 2016. New construction of warehouse space is geographically concentrated between Research Triangle Park and areas in eastern Wake County.

Cary/SW Raleigh Submarket

The Cary/SW Raleigh Submarket had 9.4 million square feet of industrial space at the end of 2015. As shown in Graph 46, approximately 56.0% of the total Submarket inventory is warehouse/flex, followed by 24.3% for warehouse, and 19.7% for office/flex. There is over 560,000 square feet of available industrial space in the Submarket, equating to a year-end 2015 vacancy rate of 6.0% for the aggregate of all industrial space.

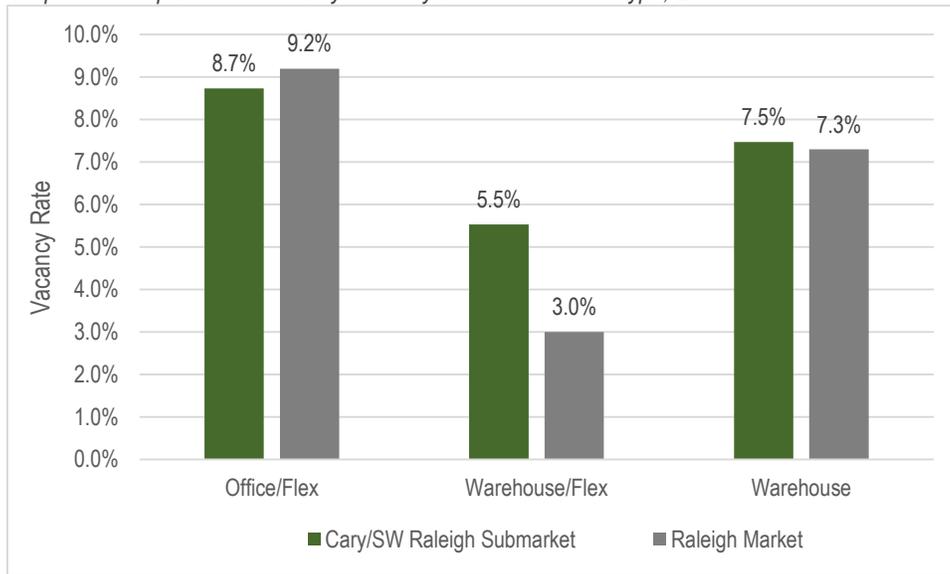
Graph 46: Share of Inventory by Industrial Product Type, Cary/SW Raleigh Submarket, 2015



Graph 47 compares vacancy rates by product type in the Cary/SW Raleigh Submarket to the larger Raleigh market. As previously noted, the vacancy rate for all industrial product types combined was 6.0%, lower than 7.3% for the Raleigh market. Overall, vacancy rates for industrial space in the Submarket are low, ranging from 8.7% for office/flex space to 5.5% for warehouse/flex. The Submarket has a lower vacancy rate for office/flex than the larger region, but higher vacancies for warehouse/flex and warehouse.

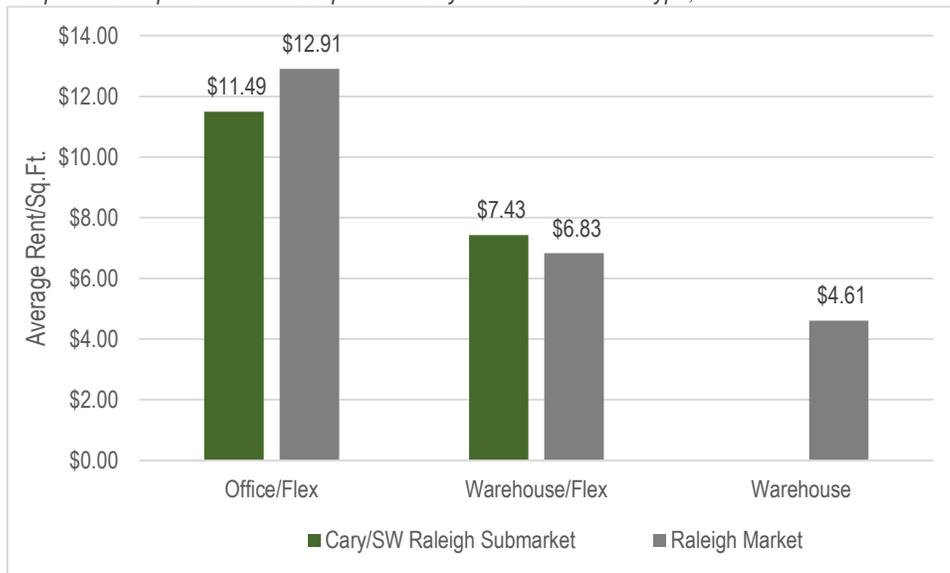


Graph 47: Comparison of Vacancy Rates by Industrial Product Type, 2015



The aggregate industrial rent per square foot in the Cary/SW Raleigh Submarket was \$7.13 at year-end 2015, slightly less than \$7.58 for the Raleigh market. Office/flex space in the Submarket has an average lease rate of \$11.49 per square foot, less than \$12.91 for the larger market, but warehouse/flex space achieves a premium. There was no warehouse lease rate data available for the Submarket, but it is estimated at \$2.50 to \$4.50 per square foot.

Graph 48: Comparison of Rent/Square Foot by Industrial Product Type, 2015





Population and Employment Forecasts

This section provides population and employment forecasts for the Apex Planning Area. Forecasts, presented in two scenarios, consider Apex’s geographic location in the region, demographic and economic trends, tourism, and real estate market performance. The forecasted population growth is used to project demand for housing and retail in the following section, and future increases in employment are used to determine supportable amounts of office and industrial space.

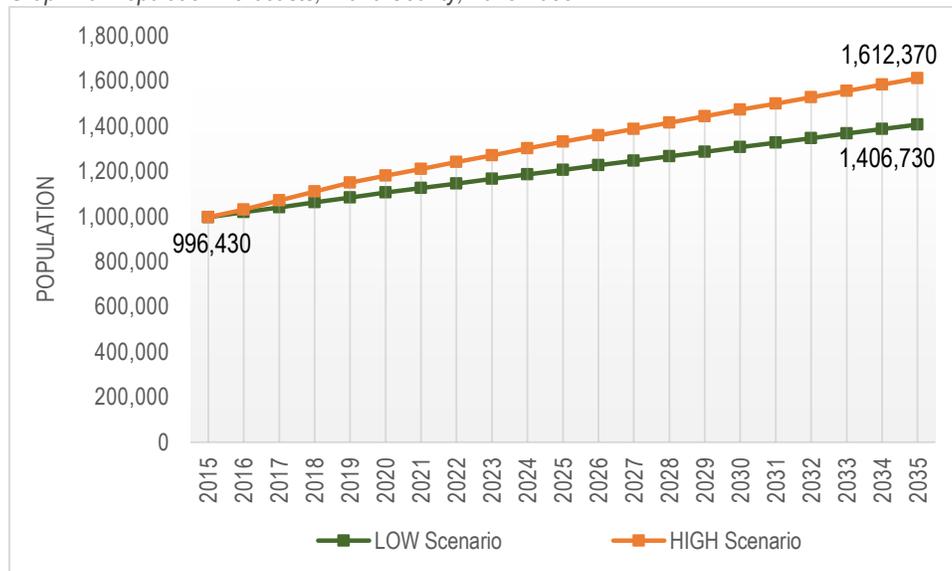
Population

Two population growth scenarios are provided in this analysis, representing a low and high forecast of future population growth. The starting point for the population forecasts are 2015 population estimates, provided by ESRI. Based on a 20-year planning horizon, forecasts have been prepared for both Wake County and the Apex Planning Area.

Wake County

Based on data provided by ESRI, Wake County had an estimated 996,430 residents in 2015. The ‘low’ forecast based on interpretation of projections provided by the North Carolina Office of Budget and Management, while the more aggressive ‘high’ scenario is based on forecasts provided by Woods & Poole, a third-party population and employment forecasting firm. As shown in Graph 49, the low scenario projections population in Wake County to exceed 1.4 million residents by 2035, an increase of 41.2% over 20 years. The high scenario forecasts the addition of over 615,000 new residents through 2035, reaching a total population in Wake County of over 1.6 million.

Graph 49: Population Forecasts, Wake County, 2015-2035



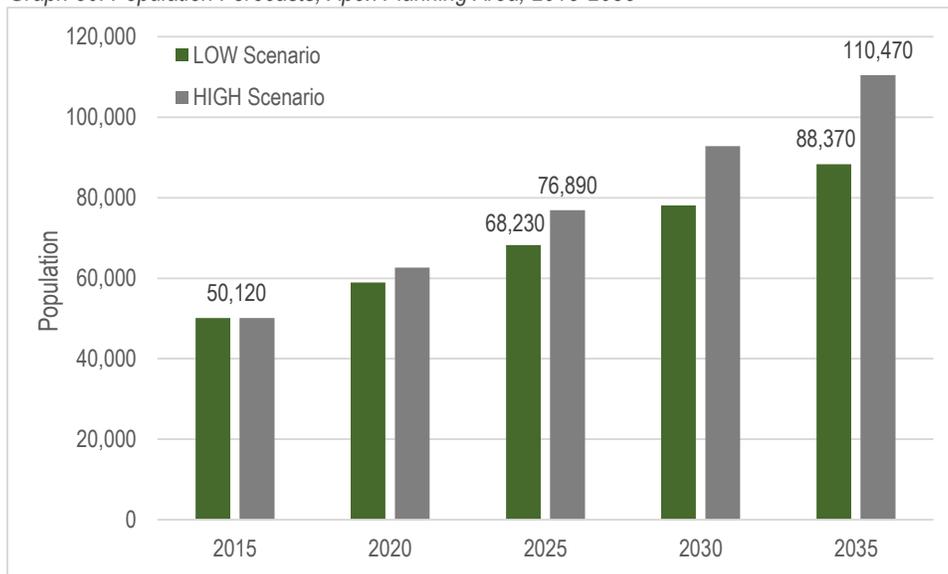
Apex Planning Area

Residents in the Apex Planning Area make up approximately 5% of Wake County’s total population. Given the higher than average rate of growth in Apex, the Planning Area’s capture of the total County population has increased from 4.0% in 2000. Population forecasts for the Planning Area consider future growth rates, as well as lot entitlements as previously demonstrated in the Residential Profile section.



The Apex Planning Area had an estimated 50,120 residents in 2015 (Graph 50). The low scenario forecasts a total population of 88,370 residents by 2035, equating to a 76.3% increase over 20 years. The high scenario demonstrates a more aggressive view of future population growth, and projects a total population in the Planning Area of over 110,000 in 2035, a 120% increase over the 2015 measure.

Graph 50: Population Forecasts, Apex Planning Area, 2015-2035



It should be noted that approximately 8,000 residential units could be completed at build-out of the Veridea development. No start date has been announced by the developer, but the project is expected to be completed over a period of at least 20 years. If residential development at Veridea begins in the early phases, it is likely that the forecast numbers presented in this section would trend towards the more aggressive scenario.

Employment

Employment forecasts are based on interpretations of datasets prepared by Woods & Poole for each member county of the Raleigh-Durham-Chapel Hill CSA. Economic development and job growth is a function of regional success and partnership. As such, this section provides employment forecasts for the larger region because understanding regional momentum is vital to achieving accurate real estate demand projections for the Apex Planning Area.

Based on data provided by Woods & Poole, the Raleigh-Durham-Chapel Hill CSA is expected to exceed 1.2 million total jobs by 2035, a 47.0% increase from an estimated 841,130 jobs in 2015 (Table 24). With more than 197,000 total jobs, the Healthcare and Social Assistance sector is expected to remain the largest industry in 2035. All industries are expected to experience growth over the 20-year period. The strongest growth sectors through 2045 are forecasted to be:

- Healthcare and Social Assistance (+77,542)
- Administrative and Waste Services (+50,429)
- Educational Services (+45,679)
- Accommodation and Food Services (+45,431)
- Retail Trade (+44,203)
- Professional and Technical Services (+42,399)



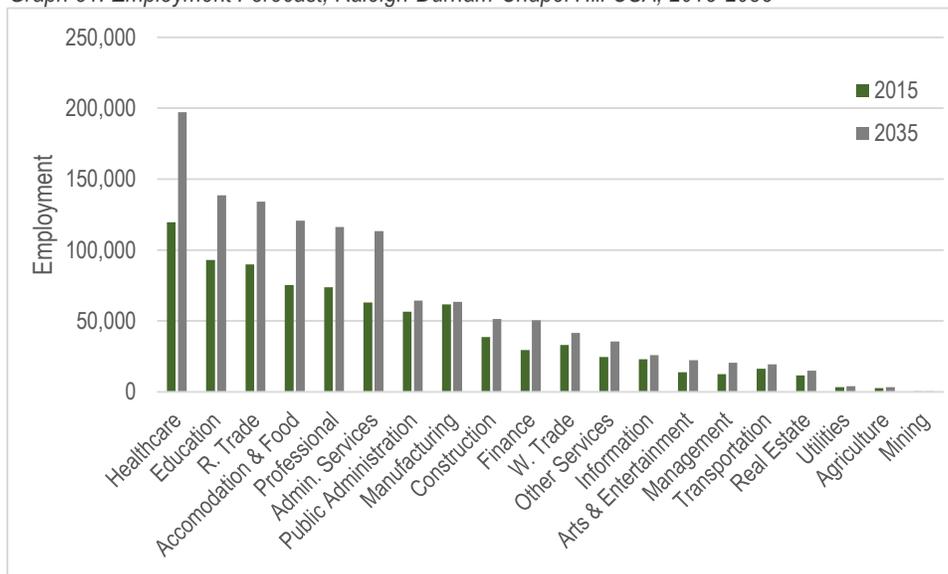
Table 24: Employment Forecast, Raleigh-Durham-Chapel Hill CSA, 2015-2035

Industry	2015	2025	2035	2015-2035 Δ	
				#	%
Agriculture, Forestry, Fishing & Hunting	2,671	2,940	3,216	545	20.4%
Mining	367	372	377	10	2.6%
Utilities	3,372	3,666	3,941	568	16.9%
Construction	38,521	44,703	51,277	12,756	33.1%
Manufacturing	61,638	62,965	63,503	1,864	3.0%
Wholesale Trade	33,039	37,194	41,456	8,417	25.5%
Retail Trade	89,845	110,569	134,048	44,203	49.2%
Transportation and Warehousing	16,200	17,827	19,358	3,158	19.5%
Information	22,949	24,425	25,791	2,841	12.4%
Finance and Insurance	29,529	38,833	50,467	20,937	70.9%
Real Estate and Rental and Leasing	11,462	13,095	14,855	3,393	29.6%
Professional and Technical Services	73,771	93,077	116,170	42,399	57.5%
Management of Companies and Enterprises	12,371	16,045	20,501	8,130	65.7%
Administrative and Waste Services	62,887	84,921	113,316	50,429	80.2%
Educational Services	93,004	114,802	138,683	45,679	49.1%
Health Care and Social Assistance	119,577	154,847	197,101	77,524	64.8%
Arts, Entertainment, and Recreation	13,691	17,537	22,229	8,538	62.4%
Accommodation and Food Services	75,248	95,721	120,679	45,431	60.4%
Other Services, Ex. Public Admin	24,473	29,631	35,476	11,003	45.0%
Public Administration	56,513	60,626	64,418	7,905	14.0%
Total	841,130	1,023,793	1,236,862	395,732	47.0%

Source: NC Labor and Economic Analysis Division; Woods & Poole; Kimley-Horn and Associates

As shown in Graph 51, the largest employment sectors in the Raleigh-Durham-Chapel Hill CSA in 2035 are expected to be Healthcare, Education, Retail Trade, Accommodation and Food Services, and Professional and Technical Services. While some sectors are forecasted to grow slower than others, none of the industries are anticipated to demonstrate a net decline over the next 20 years.

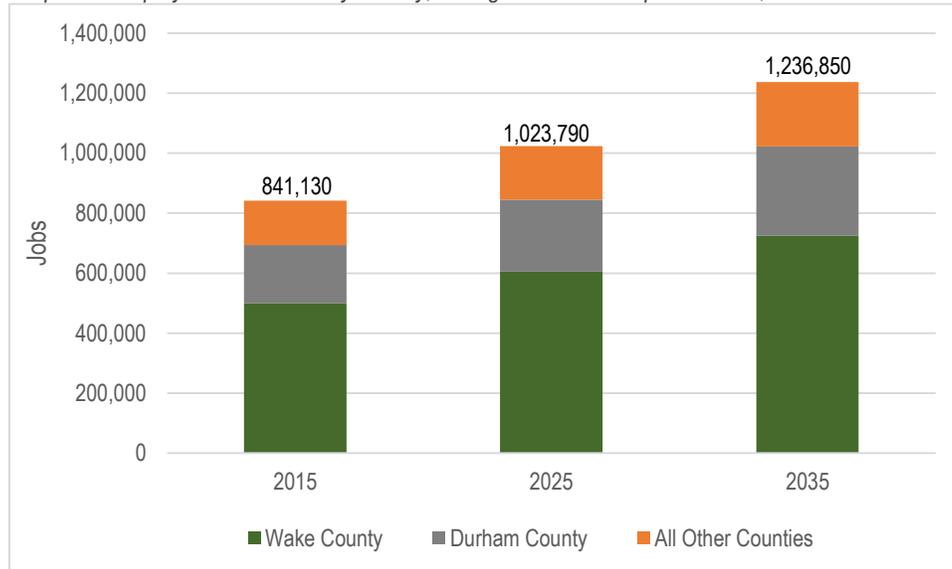
Graph 51: Employment Forecast, Raleigh-Durham-Chapel Hill CSA, 2015-2035





In 2015, the 500,209 jobs in Wake County comprised 59.5% of the CSA total (Graph 52). Durham County's 193,175 jobs made up another 23.0% of the CSA total, with the remaining five counties comprising hosting the other 17.6%. The Raleigh-Durham-Chapel Hill CSA is expected to add more than 395,000 jobs through 2035. Approximately 57.0% of the new jobs added in the region are forecasted to be in Wake County, with another 26.1% in Durham. These forecasts indicate that Wake and Durham counties will continue to be the economic hubs of the region in the future.

Graph 52: Employment Forecast by County, Raleigh-Durham-Chapel Hill CSA, 2015-2035





Planning Area Market Demand Forecasts

Housing Units

Residential housing unit demand is based on the population projections for the Apex Planning Area presented in the previous section. Similar to the population projections, housing unit demand is presented in low and high scenarios. The Planning Area’s performance within the forecast range could be impacted by policy decisions, public and private investment, and utility and transportation infrastructure.

Located on the suburban periphery of Raleigh, Apex has a high share of single-family detached units catering to young families willing to trade longer commutes for comparatively affordable new housing stock with access to a desirable school district and a high quality of life. However, as land and housing prices have increased, attached for-sale product, primarily townhouses, have offered an option for first-time buyers. Apartments are more limited, and have typically been suburban garden-style product with outdoor breezeways. A recent site plan approval would introduce a more urban-style apartment development with interior hallways and elevators.

Low Scenario

As demonstrated in the previous section, the low scenario forecasts approximately 38,250 new residents between 2015 and 2035, representing a 76.3% growth rate (Table 25). As a point of comparison, the Apex Planning Area added 24,636 people since 2000 (a 15-year period), equating to a growth rate of 95.7%. Based on the forecasted growth, total population in the Planning Area could increase from 50,120 people in 2015 to 88,370 people in 2035.

Table 25: Low Scenario Residential Forecast, Apex Planning Area, 2015-2035

Measure	2015	2025	2035	2015-2035 Δ	
				#	%
Population	50,120	68,230	88,370	38,250	76.3%
Households	17,760	24,190	31,340	13,580	76.5%
Housing Units	18,750	25,400	32,900	14,150	75.5%

Source: BEBR; ESRI; Kimley-Horn

Housing unit forecasts are based on average household sizes and a 5% vacancy rate. This analysis assumes that the average household size will remain relatively constant over the next 20 years at 2.82 persons per household. It should be noted that the average household size in Apex increased 2.71 to 2.82 between 2000 and 2015. Holding the household size constant acknowledges the growing Baby Boomer population that typically has a smaller household size. Residential vacancy rates have been consistent at approximately 5%; this analysis holds this constant in future projections.

Under the low scenario, housing units in the Apex Planning Area could increase from 18,750 in 2015, to 32,900 in 2035. This represents growth of over 14,150 units in 20 years. This housing unit growth would include the 6,300 residential lots that have been approved, but not completed in the current pipeline.

High Scenario

The high scenario presents a more aggressive forecast of housing unit growth in the Apex Planning Area, but uses the same household size and vacancy rate assumptions as the low scenario. As shown in Table 26, the high scenario projections more than 60,000 new residents in the Planning Area through 2035. Based on this population forecast, the high scenario equates to



demand for 22,380 residential units over the next 20 years. This equates to a total housing stock more than double the current measure of 18,750 units.

Table 26: High Scenario Residential Forecast, Apex Planning Area, 2015-2035

Measure	2015	2025	2035	2015-2035 Δ	
				#	%
Population	50,120	76,890	110,470	60,350	120.4%
Households	17,760	27,270	39,170	21,410	120.6%
Housing Units	18,750	28,630	41,130	22,380	119.4%

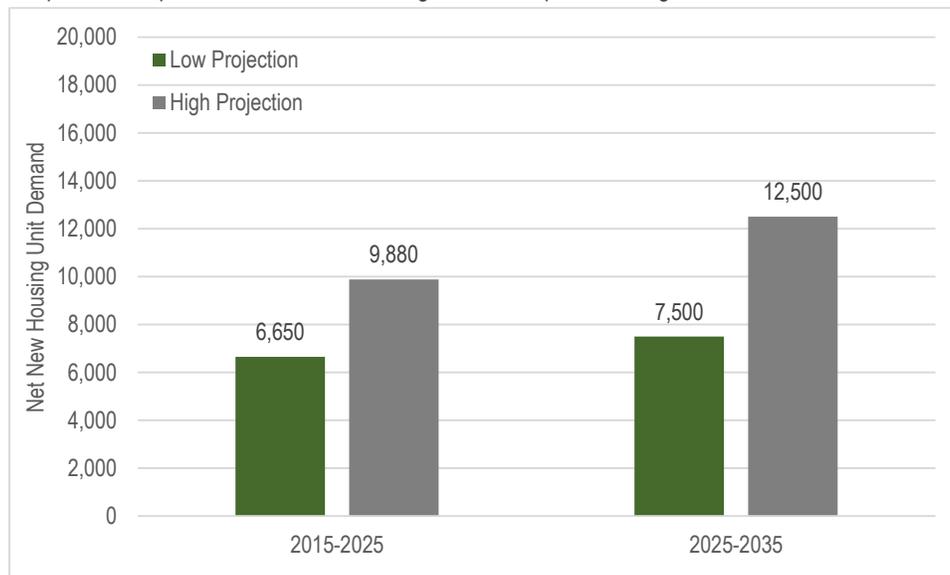
Source: BEBR; ESRI; Kimley-Horn

Similar to the low scenario, the high scenario would include the 6,300 housing units currently approved, but un-built. It is likely that a rapid pace of development at Veridea would equate to future growth forecasts more in-line with the high scenario given the 8,000 proposed units.

Net New Housing Unit Demand

Future projections indicate that housing in the Apex Planning Area could increase by between 14,150 and 22,380 units over the next 20 years, depending on scenario. Graph 53 compares the potential net new housing increases for the two forecast scenarios. For the low scenario, housing unit delivery is expected to equate to 6,650 new units between 2015 and 2025 and another 7,500 units between 2025 and 2035. The increase in demand for housing units between 2025 and 2035 over the next ten years is due to future momentum as part of Veridea. The high scenario forecasts 9,880 units in the next ten years, and another 12,500 units between 2025 and 2035.

Graph 53: Comparison of Net New Housing Demand, Apex Planning Area, 2015-2035



Future residential demand will be accommodated in a variety of product types and tenures. Based on 2009-2013 American Community Survey data, approximately 71.0% of the total housing stock in the Planning Area is single-family detached, townhouses represent 10.3%, and multifamily units comprise 15.6% of the total. Single-family detached and townhouse closings have returned to pre-Recession levels, with average pricing gradually increasing. Apartments in the Apex Planning Area have a low vacancy rate of 5.0%.



Detailed forecasts by housing unit are provided for the Study Area in the next section. Based on demographic trends and recent market performance the following break-out of the forecasted net new residential demand in the larger Apex Planning Area would be appropriate:

- Single-family detached: 60% to 65% of total demand
- Single-family attached (townhouse and condominium): 20%-25% of total demand
- Multi-family: 20% to 25% of total demand

Continued increase in population over the age of 55 will drive demand for product that offers reduced maintenance. This age group typically seeks a maintenance-free lifestyle close to family, friends, shopping, dining, church, and cultural amenities. Because of continued national issues related to financing and liability for condominium construction, and shifting preferences toward rental housing among all age cohorts, many active lifestyle households are gravitating to apartments. Providing opportunities for residents to age in place, including housing that offers a continuum of care from independent to assisted living will be important over the planning horizon period.

Retail

The 2015-2035 retail demand for the Apex Planning Area was forecasted using the following method:

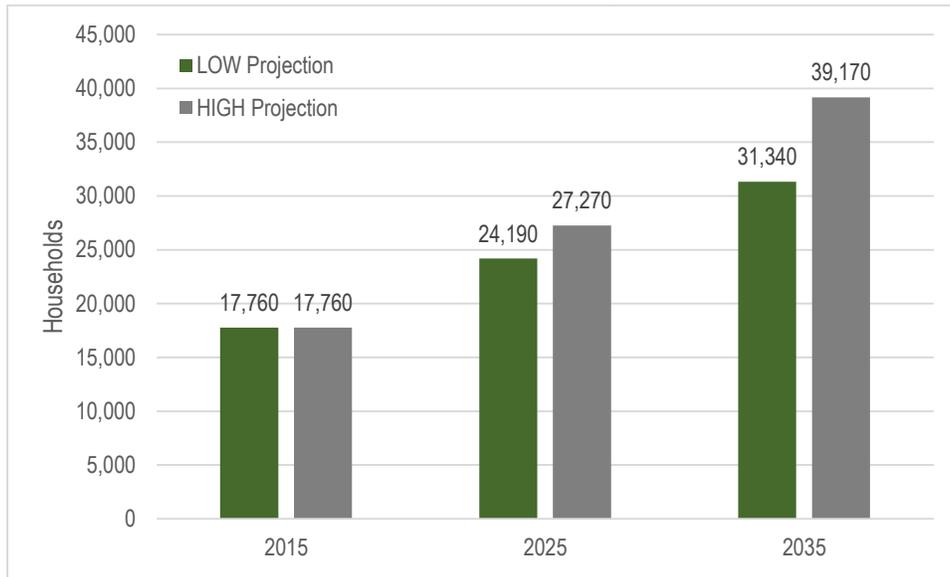
1. Calculating the Area's total household income in 2015, 2025, and 2035 by applying the forecasted households to average income projections derived from ESRI
2. Estimating the Area's expenditure potential based on reported data that indicates the percentage of income spent on various retail goods and services
3. Determining the Apex Planning Area's sales through 2035, taking into account leakage resulting from resident commuting patterns
4. Estimating sales inflow from non-Planning Area residents, include those who work there and commuters traveling through the Planning Area to reach other destinations
5. Converting retail sales to square feet based on sales per square feet data by type of retail

Household and Income Forecasts

Household forecasts utilized in the retail demand forecasts presented in this section include measures for both the low and high growth scenarios. As shown in Graph 54, the Apex Planning Area had 17,760 households in 2015. The low scenario forecasts the addition of 13,580 households over the next 20 years, reaching a total of 31,340 households in 2035. The high scenario forecasts a total of 39,170 households in 2035, more than double the current measure.

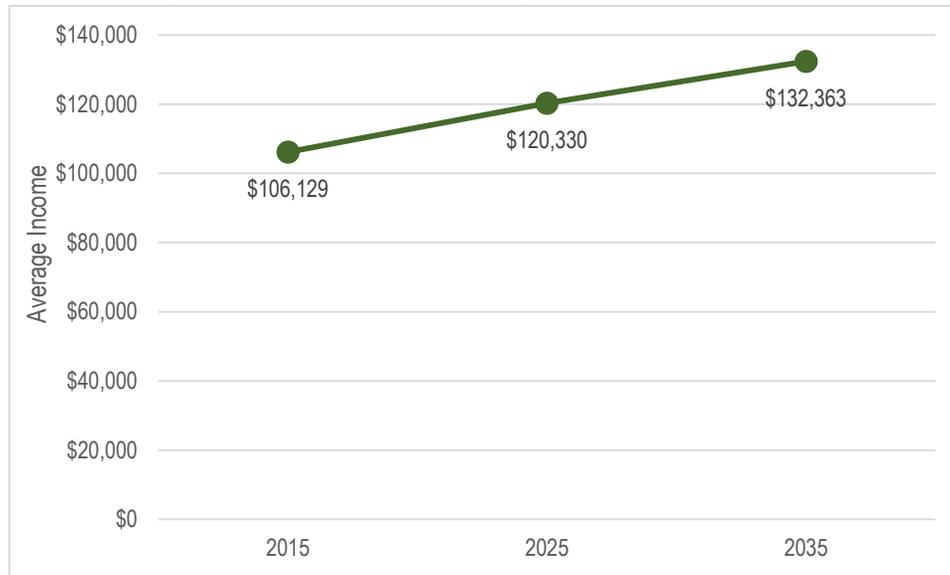


Graph 54: Comparison of Household Forecasts, Apex Planning Area, 2015-2035



Retail demand forecasts generally rely on average household income, which is typically higher than the median household income statistics reported previously in this analysis. According to ESRI, the Apex Planning Area had an estimated average household income of over \$105,000 in 2015. Based on income projections derived from US Census and ESRI trends, the area is expected to have an average household income of more than \$130,000 by 2035 (Graph 55).

Graph 55: Average Household Income, Apex Planning Area, 2015-2035



Low Demand Forecast

Based on the methodology outlined above, under the low scenario the Apex Planning Area has a forecasted demand of over 2.2 million square feet of retail space between 2015 and 2035. Detailed retail demand forecasts are provided in Appendix 3 of this report. New retail demand could be accommodated in existing center vacancies, but also through development of new structures. It is also possible that consumers would travel outside the Planning Area if supply is constrained by lack of



available product. As shown in Table 27, Restaurants (16.0%), Building Materials and Supply Dealers (15.5%), Discount Stores (15.2%), and Supermarkets (11.4%) make up the largest demand categories for net new demand in the Planning Area.

Table 27: Low Scenario Retail Forecast, Apex Planning Area, 2015-2035

Retail Category	Net New Retail Sq.Ft. 2015-2035		Change	% of Total
	2015-2025	2025-2035		
Food Services - Restaurants	165,869	193,983	359,852	16.0%
Building Material & Supply Dealers	160,727	187,969	348,696	15.5%
Discount Stores	157,721	184,454	342,174	15.2%
Supermarkets & Other Groceries	118,763	138,893	257,656	11.4%
Other General Merchandise Stores	74,822	87,504	162,326	7.2%
Clothing Stores	55,728	65,173	120,901	5.4%
Department Stores	42,798	50,052	92,851	4.1%
Furniture Stores	36,624	42,831	79,455	3.5%
Pharmacies & Drug Stores	27,962	32,701	60,663	2.7%
Sporting Goods and Toy Stores	25,353	29,650	55,003	2.4%
All Other Categories	171,025	200,013	371,038	16.5%
Total	1,037,391	1,213,224	2,250,615	100.0%

Source: Kimley-Horn

Under the low scenario, demand for 257,656 square feet in the Supermarket & Other Groceries classification would be supportive of five to six stores over the next 20 years given the average size of approximately 50,000 square feet. Additional demand for grocery could be accommodated through other categories, such as discount stores and other general merchandise stores. Grocery-anchored shopping centers follows the development of new residential, making the Apex Planning Area an attractive target for future sites.

High Demand Forecast

Based on a more aggressive household forecast, the high scenario projects net new retail demand of over 3.3 million square feet over the next 20 years (Table 28). Because the retail demand model used the same inputs applied to more households, retail categories indicating the highest demand remain the same (Restaurants, Building Materials and Supply Dealers, Discount Stores, and Supermarkets). As a point of comparison, the high scenario's Supermarkets and Other Groceries category would equate to seven to eight stores over the next 20 years.

Table 28: High Scenario Retail Forecast, Apex Planning Area, 2015-2035

Retail Category	Net New Retail Sq.Ft. 2015-2035		Change	% of Total
	2015-2025	2025-2035		
Food Services - Restaurants	229,692	303,859	533,551	16.0%
Building Material & Supply Dealers	222,571	294,439	517,010	15.5%
Discount Stores	218,408	288,932	507,341	15.2%
Supermarkets & Other Groceries	164,461	217,565	382,026	11.4%
Other General Merchandise Stores	103,612	137,068	240,679	7.2%
Clothing Stores	77,170	102,089	179,259	5.4%
Department Stores	59,266	78,403	137,670	4.1%
Furniture Stores	50,716	67,092	117,808	3.5%
Pharmacies & Drug Stores	38,721	51,224	89,945	2.7%
Sporting Goods and Toy Stores	35,108	46,445	81,553	2.4%
All Other Categories	236,832	313,305	550,137	16.5%
Total	1,436,558	1,900,423	3,336,980	100.0%

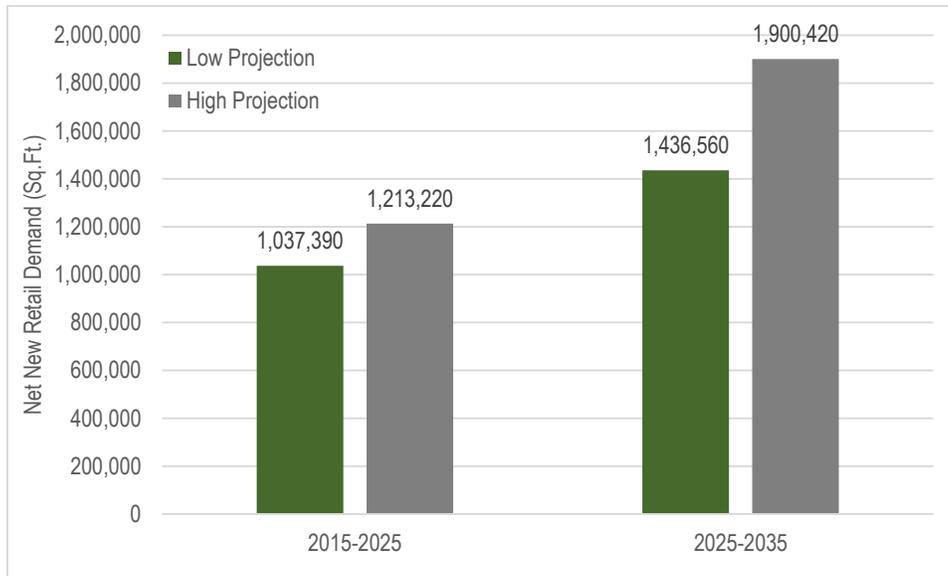
Source: Kimley-Horn



Net New Retail Demand

Graph 56 compares the net new retail demand in the low and high scenarios for the Apex Planning Area through 2035. The two scenarios forecast between one million and 1.2 million square feet in the next decade (2015-2025), and between 1.4 and 1.9 million square feet between 2025 and 2035. The variance between the two scenarios equates to over one million square feet, primarily concentrated in growth projections between 2025 and 2035. The forecasts take into consideration the potential 3.5 million square feet of retail space that could be completed as part of the Veridea development.

Graph 56: Comparison of Net New Retail Demand, Apex Planning Area, 2015-2035



Office

Office demand for the Apex Planning Area was based on employment growth forecasted for the Raleigh-Durham-Chapel Hill CSA. The employment growth scenarios are used to forecast both office and industrial demand by considering the types of jobs that would require different development types.

Office-Occupying Employment Forecast

To forecast the increase in office-occupying employment, office shares were applied to each industry projection for the Raleigh-Durham-Chapel Hill CSA (as demonstrated in the employment projections in the previous section). Finance and Insurance, Professional and Technical Services, Management of Companies and Enterprises, and Real Estate and Rental and Leasing have the highest shares of office-occupying employment, ranging from 85% to 90%. As shown in Table 29, the Raleigh-Durham-Chapel Hill CSA is projected to have an increase of more than 160,000 office-occupying employees, or 53.0%, between 2015 and 2035. Office-occupying jobs in Administrative and Waste Services and Professional and Technical Services could account for nearly one-half of the 20-year increase.



Table 29: Office-Occupying Employment Forecast, Raleigh-Durham-Chapel Hill CSA, 2015-2035

Industry	Office Share	2015	2025	2035	2015-2035 Δ	
					#	%
Agriculture, Forestry, Fishing & Hunting	5.0%	134	147	161	27	20.4%
Mining	5.0%	18	19	19	1	3.4%
Utilities	15.0%	506	550	591	85	16.9%
Construction	10.0%	3,852	4,470	5,128	1,276	33.1%
Manufacturing	5.0%	3,082	3,148	3,175	93	3.0%
Wholesale Trade	25.0%	8,260	9,299	10,364	2,104	25.5%
Retail Trade	10.0%	8,985	11,057	13,405	4,420	49.2%
Transportation and Warehousing	25.0%	4,050	4,457	4,840	790	19.5%
Information	30.0%	6,885	7,327	7,737	852	12.4%
Finance and Insurance	90.0%	26,576	34,950	45,420	18,843	70.9%
Real Estate and Rental and Leasing	75.0%	8,597	9,821	11,142	2,545	29.6%
Professional and Technical Services	90.0%	66,394	83,769	104,553	38,159	57.5%
Management of Companies and Enterprises	90.0%	11,134	14,440	18,451	7,317	65.7%
Administrative and Waste Services	80.0%	50,309	67,937	90,653	40,343	80.2%
Educational Services	15.0%	13,951	17,220	20,802	6,852	49.1%
Health Care and Social Assistance	30.0%	35,873	46,454	59,130	23,257	64.8%
Arts, Entertainment, and Recreation	15.0%	2,054	2,630	3,334	1,281	62.4%
Accommodation and Food Services	10.0%	7,525	9,572	12,068	4,543	60.4%
Other Services, Ex. Public Admin	25.0%	6,118	7,408	8,869	2,751	45.0%
Public Administration	70.0%	39,559	42,438	45,093	5,534	14.0%
Total		303,861	377,113	464,934	161,073	53.0%

Source: NC Labor and Economic Analysis Division; Woods & Poole; Kimley-Horn and Associates

Low Scenario

Forecasted office-occupying jobs have been used to estimate demand for square footage. National trends indicate a declining amount of office space per employee, with companies seeking to more efficiently utilize space. Estimates for office demand are based on a 225-square-foot per employee average between 2015 and 2025 and 215 square feet per employee between 2025 and 2035.

The Raleigh-Durham-Chapel Hill CSA is forecasted to add over 160,000 new office jobs between 2015 and 2035 in the low scenario. At an average space per employee of 215 to 225 square feet, this equates to demand of approximately 35.4 million square feet of net new single- and multi-tenant office space over the 20 year period (Table 30). It is important to have vacant space offerings for inter- and intra-market moves. This analysis uses an average vacancy rate of 10% to show total net new office space demand. Based on this vacancy measure, the CSA could support the development of nearly 39 million square feet of new office space over the next 20 years under the low scenario.

Table 30: Net New Office Demand, Raleigh-Durham-Chapel Hill CSA, 2015-2035

Measure	New Office Demand		2015-2035
	2015-2025	2025-2035	Total
Office-Occupying Jobs	73,253	87,821	161,074
Square Feet/Employee	225	215	
Net Demand (Sq.Ft)	16,481,977	18,881,482	35,363,459
Net Office Space Demand	18,130,175	20,769,630	38,899,805

Source: NC Labor and Economic Analysis; Woods & Poole; Kimley-Horn



Table 31 demonstrates the potential capture of the regional office demand forecast in the Apex Planning Area under the low scenario. The Apex Planning Area currently contains approximately 1.25% of the jobs in the Raleigh-Durham-Chapel Hill CSA that are heavily depended on office space. This analysis uses a 1.5% capture rate for forecasted demand between 2015 and 2025, increasing to 2.25% between 2025 and 2035. The increase could be attributable to increased development momentum at Veridea, which is planned to have over 10 million square feet of office space at build-out. Based on these captures the low scenario projects that the Apex Planning Area could support approximately 740,000 square feet of office space over the next 20 years. It is important to note that this forecast is based on organic job growth, and excludes large “drop-in” corporate office users which are difficult to forecast.

Table 31: Low Scenario Net New Office Demand, Apex Planning Area, 2015-2035

Measure	New Office Space Demand 2015-2035		
	2015-2025	2025-2035	Total
Raleigh-Durham-Chapel Hill CSA	18,130,175	20,769,630	38,899,805
Capture Rate	1.50%	2.25%	
Apex Planning Area	271,953	467,317	739,269

Source: NC Labor and Economic Analysis; Woods & Poole; Kimley-Horn

Demand for office space in the Planning Area is likely to initially be focused on small- to medium-scale professional services and entrepreneurs. Some of the tenants that would be attracted to the Planning Area would seek to co-locate in flex industrial spaces, especially science, technology, engineering and math companies with a focus on research, development, and technology. Larger-scale corporate relocations will likely be focused in more urbanized areas of Raleigh, Durham, and Research Triangle Park offering employees more immediate access to retail goods and services, restaurants, and a variety of housing product and price points. However, the mixed-use nature of the Veridea development, coupled with superior access and visibility, would provide a key location in Apex for Class A, corporate office in the future.

High Scenario

The high scenario for office demand in the Apex Planning Area uses more aggressive captures of the Raleigh-Durham-Chapel Hill CSA’s future office demand. Identical employment forecasts were used for both scenarios. As shown in Table 32, a 2.0% capture rate was used for office demand between 2015 and 2025, increasing to 3.0% between 2025 and 2035. The high scenario for the Apex Planning Area equates to nearly 1.0 million square feet of office demand through 2035, 33.3% higher than the low scenario.

Table 32: High Scenario Net New Office Demand, Apex Planning Area, 2015-2035

Measure	New Office Space Demand 2015-2035		
	2015-2025	2025-2035	Total
Raleigh-Durham-Chapel Hill CSA	18,130,175	20,769,630	38,899,805
Capture Rate	2.00%	3.00%	
Apex Planning Area	362,603	623,089	985,692

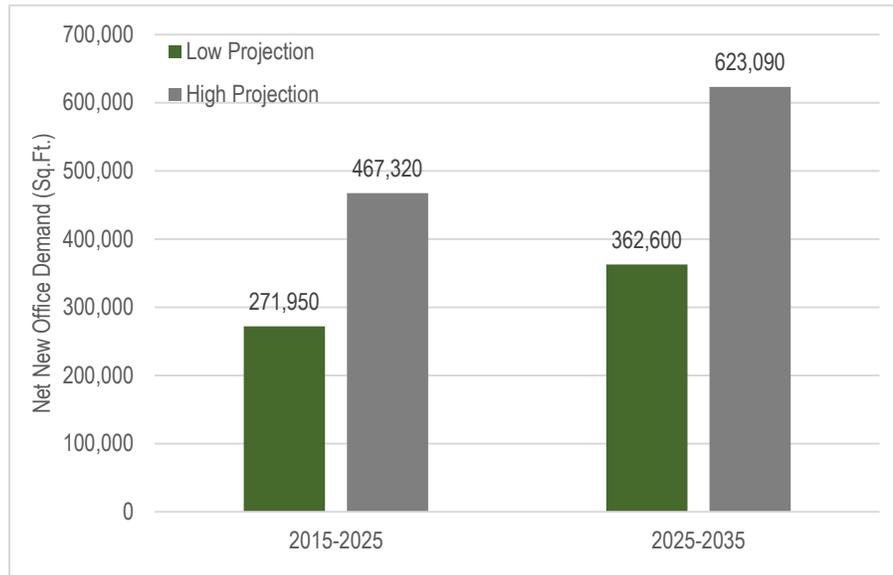
Source: NC Labor and Economic Analysis; Woods & Poole; Kimley-Horn

Net New Office Demand

Graph 57 compares the net new office demand in the low and high scenarios for the Apex Planning Area through 2035. The two scenarios forecast between 275,000 and 365,000 square feet in the next decade (2015-2025), and between 465,000 and 625,000 square feet between 2025 and 2035. The variance between the two scenarios equates to nearly 250,000 square feet, primarily concentrated in growth projections between 2025 and 2035.



Graph 57: Comparison of Net New Office Demand, Apex Planning Area, 2015-2035



Industrial

Industrial market performance in the Raleigh-Durham-Chapel Hill CSA has demonstrated strong recovery following the 2007-2009 Recession. For all industrial product combined, the aggregate vacancy rate at year-end 2015 was only 5.9%. Feedback during the development community focus group sessions was that there is strong demand and limited supply of modern, flex industrial space for research and development and technology.

Industrial-Occupying Employment Forecast

Similar to office demand, industrial-occupying employment projections are based on the employment forecasts presented previously. New industrial jobs in the Raleigh-Durham-Chapel Hill CSA are based on shares of industrial-occupying employees by industry. These shares range from 0% for Financial Activities and Professionally-focused Services to 90 for industries like Manufacturing and Wholesale Trade. Industrial demand forecasts includes future need for office/flex, warehouse/flex, distribution, and manufacturing facilities.

The Raleigh-Durham-Chapel Hill CSA is expected to have an increase of nearly 38,000 new industrial occupying jobs in the 20-year period between 2015 and 2035, representing a 24.0% increase (Table 33). Notable increases are expected in the Wholesale Trade and Administrative and Waste Services sectors.



Table 33: Industrial-Occupying Employment Forecast, Raleigh-Durham-Chapel Hill CSA, 2015-2035

Industry	Industrial Share	2015-2035 Δ			2015-2035 Δ	
		2015	2025	2035	#	%
Agriculture, Forestry, Fishing & Hunting	5.0%	134	147	161	27	20.4%
Mining	5.0%	18	19	19	1	3.4%
Utilities	50.0%	1,686	1,833	1,970	284	16.9%
Construction	15.0%	5,778	6,706	7,692	1,913	33.1%
Manufacturing	90.0%	55,475	56,668	57,152	1,678	3.0%
Wholesale Trade	90.0%	29,735	33,475	37,310	7,575	25.5%
Retail Trade	10.0%	8,985	11,057	13,405	4,420	49.2%
Transportation and Warehousing	70.0%	11,340	12,479	13,551	2,211	19.5%
Information	65.0%	14,917	15,876	16,764	1,847	12.4%
Finance and Insurance	0.0%	0	0	0	0	0.0%
Real Estate and Rental and Leasing	0.0%	0	0	0	0	0.0%
Professional and Technical Services	0.0%	0	0	0	0	0.0%
Management of Companies and Enterprises	0.0%	0	0	0	0	0.0%
Administrative and Waste Services	15.0%	9,433	12,738	16,997	7,564	80.2%
Educational Services	5.0%	4,650	5,740	6,934	2,284	49.1%
Health Care and Social Assistance	5.0%	5,979	7,742	9,855	3,876	64.8%
Arts, Entertainment, and Recreation	5.0%	685	877	1,111	427	62.4%
Accommodation and Food Services	5.0%	3,762	4,786	6,034	2,272	60.4%
Other Services, Ex. Public Admin	10.0%	2,447	2,963	3,548	1,100	45.0%
Public Administration	5.0%	2,826	3,031	3,221	395	14.0%
Total		157,849	176,137	195,724	37,875	24.0%

Source: NC Labor and Economic Analysis Division; Woods & Poole; Kimley-Horn and Associates

Low Scenario

Forecasted industrial-occupying jobs have been used to estimate square footage demand. Estimates for industrial demand are based on an average of 700 square feet per employee. Square feet per employee estimates typically vary from 300 square feet to 1,000 square feet, depending on use. Typically, the manufacturing and wholesale trade/distribution sectors require the most industrial space per employee.

Table 34 demonstrates the expected increase in new industrial-occupying employees and required square footage through 2035 for the Raleigh-Durham-Chapel Hill CSA. The CSA is forecasted to have demand for approximately 26.5 million square feet of industrial space between 2015 and 2035. Similar to office, this analysis incorporates a 10% vacancy factor to support movement into and within the market by existing and new companies. The total net industrial space demand for the larger CSA is forecasted at approximately 29.1 million square feet over the next 20 years. It is important to note that this forecast is based on organic job growth, and excludes large “drop-in” manufacturing and distribution relocations.

Table 34: Net New Industrial Demand, Raleigh-Durham-Chapel Hill CSA, 2015-2035

Measure	New Industrial Demand 2015-2035		
	2015-2025	2025-2035	Total
Industrial-Occupying Jobs	18,288	19,588	37,876
Square Feet/Employee	700	700	
Net Demand (Sq.Ft)	12,801,785	13,711,343	26,513,128
Net Industrial Space Demand	14,081,964	15,082,477	29,164,441

Source: NC Labor and Economic Analysis; Woods & Poole; Kimley-Horn



Captures of regional industrial demand consider Apex’s current estimated share of industrial jobs (2.0%), as well as the Planning Area’s proximity to major thoroughfare corridors and access to infrastructure and workforce. Land affordability is an important aspect for industrial developments. With the rising cost of land throughout Wake County, heavy manufacturing users are likely to seek properties on the periphery of the region where prices per acre are lower. Feedback from the developer focus group indicated that land in Chatham and Lee counties could be up to 10% of what offerings the Planning Area are.

As shown in Table 35, capture rates in the low scenario are projected to be 2.25% between 2015 and 2025, increasing to 3.0% between 2025 and 2035. The Planning Area could support approximately 770,000 square feet of net new industrial space, particularly flex/office and flex/warehouse, through 2035. As previously noted, the forecasts provided in this section are based on organic job growth and exclude major “drop-in” relocations.

Table 35: Low Scenario Net New Industrial Demand, Apex Planning Area, 2015-2035

Measure	New Industrial Demand 2015-2035		
	2015-2025	2025-2035	Total
Raleigh-Durham-Chapel Hill CSA	14,081,964	15,082,477	29,164,441
Capture Rate	2.25%	3.00%	
Apex Planning Area	316,844	452,474	769,318

Source: NC Labor and Economic Analysis; Woods & Poole; Kimley-Horn

Having shovel-ready development sites, with access to transportation and utility infrastructure, as well as completed building inventory is important for competitiveness. Companies looking at the Raleigh-Durham-Chapel Hill CSA are requiring quick occupancy, often within six months to one year of lease execution.

High Scenario

The high scenario for industrial demand in the Apex Planning Area uses more aggressive captures of the Raleigh-Durham-Chapel Hill CSA’s projected future square footage needs. Identical employment forecasts were used for both scenarios. As shown in Table 36, a 3.25% capture rate was used for industrial demand between 2015 and 2025, increasing to 4.25% between 2025 and 2035. The high scenario for the Apex Planning Area equates to nearly 1.1 million square feet of office demand through 2035, 43.0% higher than the low scenario.

Table 36: Low Scenario Net New Industrial Demand, Apex Planning Area, 2015-2035

Measure	New Industrial Demand 2015-2035		
	2015-2025	2025-2035	Total
Raleigh-Durham-Chapel Hill CSA	14,081,964	15,082,477	29,164,441
Capture Rate	3.25%	4.25%	
Apex Planning Area	457,664	641,005	1,098,669

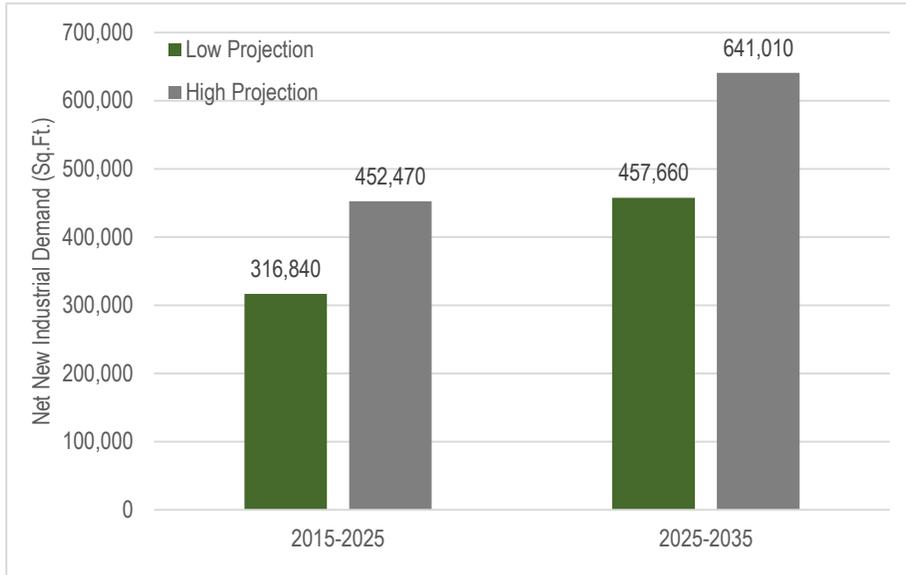
Source: NC Labor and Economic Analysis; Woods & Poole; Kimley-Horn

Net New Industrial Demand

Graph 57 compares the net new industrial demand in the low and high scenarios for the Apex Planning Area through 2035. The two scenarios forecast between 315,000 and 450,000 square feet in the next decade (2015-2025), and between 455,000 and 640,000 square feet between 2025 and 2035. The variance between the two scenarios equates to over 325,000 square feet, primarily concentrated in growth projections between 2025 and 2035.



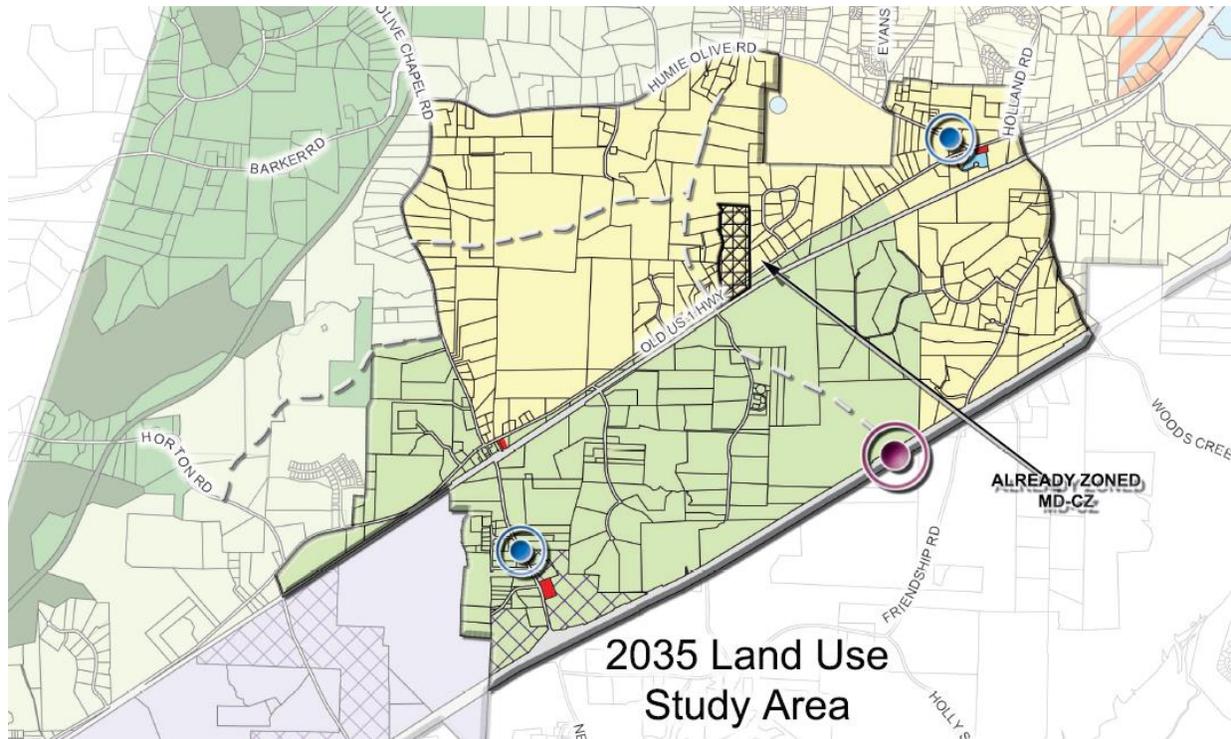
Graph 58: Comparison of Net New Industrial Demand, Apex Planning Area, 2015-2035





Study Area Capture and Node Recommendations

Based on the 20-year forecasts for the Apex Planning Area, this section presents reasonable captures for the Study Area. The study area centers on Old US 1 west of Friendship Road, south of Humie Olive Road, and north of US 1. It includes the intersections of Old US 1 and New Hill Holleman/New Hill Olive Chapel Road and the future interchange at US 1 and the proposed Richardson Road Extension.



More specifically, demand and land use recommendations are provided for the three activity centers identified in the Study Area in *The Peak Plan 2030: The Apex Comprehensive Plan*. Two of the activity centers (denoted by blue targets in the map above) were projected to be Neighborhood Mixed-Use with a variety of residential uses developed around a concentration of retail and commercial. The third node, located adjacent to US-1 and marked by a purple target in the map above, was defined as an Employment Mixed-Use node and could comprise a variety of uses, including light industrial, warehousing, office, research, and technology, as well as support retail.

The following assumptions were made in determining potential capture rates for the Study Area:

- Richardson Road will be extended, connecting US 64 with US 1
- The planned interchange at US 1 and Richardson Road Extension is completed, offering access to the north and south of the Study Area
- Access to public utilities is expanded throughout the Study Area due to increased capacity from the Western Wake Regional Wastewater Treatment facility



Study Area Capture

Housing Units

Capture rates were applied to the low and high scenario housing unit delivery forecasts for the Apex Planning Area to determine potential future demand for the Study Area. As shown in Table 37, given the amount of available land, the Study Area is expected to capture between 20% and 25% of the total Planning Area demand through 2035. Based on these capture rates, the Study Area could support between 1,330 and 2,500 new housing units in the low scenario, equating to nearly 3,800 new units.

Table 37: Low Scenario Net Housing Demand, Study Area, 2015-2035

Measure	New Housing Unit Demand		2015-2035
	2015-2025	2025-2035	Total
Apex Planning Area	6,640	9,870	16,510
Capture Rate	20.0%	25.0%	
Study Area	1,328	2,468	3,796

Source: NCOBM; Woods & Poole; ESRI; Town of Apex; Kimley-Horn

The high scenario relies on the same capture rates as the low, but is based on a more aggressive base population and household forecast. Under the high scenario, the Study Area could support between 1,500 and 3,125 new housing units through 2035 (Table 38).

Table 38: High Scenario Net Housing Demand, Study Area, 2015-2035

Measure	New Housing Unit Demand		2015-2035
	2015-2025	2025-2035	Total
Apex Planning Area	7,500	12,500	20,000
Capture Rate	20.00%	25.00%	
Study Area	1,500	3,125	4,625

Source: NCOBM; Woods & Poole; ESRI; Town of Apex; Kimley-Horn

Housing in the Study Area is expected to be majority single-family detached at approximately 70% of the total (Table 39). This equates to demand of 2,600 to 3,200 new single-family detached units through 2035. It should be noted that no carrying capacity analysis was prepared as part of this assignment. In order to determine potential future land allocation, a test for single-family detached demand was done based on an average density of six units per acre. Under this assumption, approximately 450 to 540 acres would be required to support this demand, well within the available acreage in the Study Area. A higher density measure would result in reduced land consumption, leaving additional acreage for open space or future housing demand outside the 20-year horizon. Lowering the density of residential development in the Study Area would result in single-family detached demand consuming more of the total acreage, resulting in fewer rooftops to drive retail and professional service office space.

Table 39: Comparison of Housing Units by Type, Study Area, 2015-2035

Type	Share Units	Units	
		LOW	HIGH
Single-Family	70%	2,657	3,238
Townhouse	15%	569	694
Multi-Family	15%	569	694
Total		3,796	4,625

Source: Kimley-Horn



Comprising approximately 15% of future demand, both townhouses and multi-family units would each have demand for 550 to 700 units. Based on an average apartment community of 250 to 300 units, this would equate to two to three new multi-family developments in the Study Area over the next 20 years. Higher-density developments would be dependent on the expansion of public water and sewer infrastructure.

Retail

In order to forecast retail demand specifically for the Study Area, capture rates were applied to each ten-year period between 2015 and 2035. As the western portion of the Apex Planning Area continues to develop, demand for future retail will increase. Currently, there is an extremely limited inventory of retail space west of NC-540. Housing unit growth will make the area more attractive for future supply.

Blanket density restrictions in the Study Area could reduce the number of residential units at build-out. Since retail demand is largely based on household growth, coupled with measurements of traffic counts, limiting residential development could restrict retail demand in the area.

Given accessibility on US-1 and the high-quality school system which will perpetuate housing development, the Study Area could capture between 10% and 15% of the Planning Area demand over the next 20 years. Under the low scenario, the Planning Area is forecasted to have demand for 1.0 to 1.2 million square feet of retail demand. Based on the assumed capture rates, the Study Area could support between approximately 104,000 to 182,000 square feet of retail in the low scenario. The total 20-year demand would be approximately 285,723 square feet.

Table 40: Low Scenario Net Retail Demand, Study Area, 2015-2035

Measure	New Retail Demand		2015-2035 Total
	2015-2025	2025-2035	
Apex Planning Area	1,037,391	1,213,224	2,250,615
Capture Rate	10.0%	15.0%	
Study Area	103,739	181,984	285,723

Source: NCOBM; Woods & Poole; ESRI; Town of Apex; Kimley-Horn

Based on the same 10% to 15% capture rates, under the high scenario the Study Area could support between 143,656 and 285,063 square feet of retail space (Table 41). The total 20-year retail demand under the high scenario would be nearly 430,000 square feet.

Table 41: High Scenario Net Retail Demand, Study Area, 2015-2035

Measure	New Retail Demand		2015-2035 Total
	2015-2025	2025-2035	
Apex Planning Area	1,436,558	1,900,423	3,336,980
Capture Rate	10.00%	15.00%	
Study Area	143,656	285,063	428,719

Source: NCOBM; Woods & Poole; ESRI; Town of Apex; Kimley-Horn

Office

Table 42 demonstrates the Study Area's potential capture of the Planning Area's future office demand. Capture rates in the Study Area assume the expansion of public utilities to unserved areas, as well as improved connectivity through the Richardson Road project and the construction of a new interchange on US-1. Corporate, Class A office will likely gravitate to



more urbanized areas within the Planning Area. However, given projected household growth, the Study Area would be attractive to locally-based professional service space. The low scenario forecasts demand for approximately 13,600 to 46,700 square feet of office space in the Study Area through 2035. This forecasts is based on a 5% capture of the Planning Area demand between 2015 and 2025, increasing to 10% between 2025 and 2035.

Table 42: Low Scenario Net Office Demand, Study Area, 2015-2035

Measure	New Office Demand		2015-2035
	2015-2025	2025-2035	Total
Apex Planning Area	271,953	467,317	739,269
Capture Rate	5.00%	10.00%	
Study Area	13,598	46,732	60,329

Source: NC Labor and Economic Analysis; Woods & Poole; Kimley-Horn

The high scenario for office demand could support over 80,000 square feet of office space in the Study Area (Table 43). There is demand for approximately 18,000 square feet in the next ten years, and an additional 62,309 square feet of office space between 2025 and 2035.

Table 43: High Scenario Net Office Demand, Study Area, 2015-2035

Measure	New Office Demand		2015-2035
	2015-2025	2025-2035	Total
Apex Planning Area	362,603	623,089	985,692
Capture Rate	5.00%	10.00%	
Study Area	18,130	62,309	80,439

Source: NC Labor and Economic Analysis; Woods & Poole; Kimley-Horn

Industrial

Industrial space in the Study Area would likely be flex/office or flex/warehouse. Land prices would likely dissuade larger heavy manufacturing users, and distribution uses would be challenged by the accessibility impacts of the railroad. Flex users would be attracted to the space due to proximity to Research Triangle Park, and UNC-Chapel Hill, users could be focused in research and development or technology. Additionally, the business park proposed by Holly Springs on the south side of US-1 could create synergy in the immediate area. Success for both areas from an industrial standpoint would be heavily impacted by access to US-1 via a new interchange.

As shown in Table 44, the Study Area could capture between 15% and 25% of the Planning Area's net industrial demand through 2035, equating to over 160,000 square feet in the low scenario. Approximately 47,527 square feet of demand could be generated in the next 10 years, prior to full completion of connectivity improvements. Another 113,119 square feet could be accommodated between 2025 and 2035.

Table 44: Low Scenario Net Industrial Demand, Study Area, 2015-2035

Measure	New Industrial Demand		2015-2035
	2015-2025	2025-2035	Total
Apex Planning Area	316,844	452,474	769,318
Capture Rate	15.0%	25.0%	
Study Area	47,527	113,119	160,645

Source: NC Labor and Economic Analysis; Woods & Poole; Kimley-Horn



The high scenario forecasts future industrial demand in the Study Area of 228,900 square feet (Table 45). Approximately 68,650 square feet of demand could be generated in the next 10 years, and another 160,250 square feet accommodated between 2025 and 2035.

Table 45: High Scenario Net Industrial Demand, Study Area, 2015-2035

Measure	New Industrial Demand 2015-2035		
	2015-2025	2025-2035	Total
Apex Planning Area	457,664	641,005	1,098,669
Capture Rate	15.0%	25.0%	
Study Area	68,650	160,251	228,901

Source: NC Labor and Economic Analysis; Woods & Poole; Kimley-Horn

Study Area Demand Summary

Table 46 presents a summary of the demand forecasts by land use for the Study Area for a 20-year period between 2015 and 2035. Ranges are provided to provide for flexibility in land use planning based on shifting market forecasts and demand over the forecast period.

Table 46: Demand Summary of Land Uses for the Study Area, 2015-2035

Type	Measure	20-Year Demand	
		Low	High
Residential	Units	3,796	4,625
Retail	Square Feet	285,723	428,719
Office	Square Feet	60,329	80,439
Industrial	Square Feet	160,645	228,901

Source: Kimley-Horn

Node Recommendations

As part of this analysis, Kimley-Horn reviewed the nodes recommended under *Peak Plan 2030*. Based on this review, we agree that the three locations identified as part of the previous process are the most likely to develop as an activity center within the 20-year planning horizon. Development of these nodes from a non-residential standpoint would be driven by growth in the area from a residential standpoint, as well as visibility from transportation corridors and access to utilities. It is possible that as growth and development occurs in western Wake County, a new node could develop along the Richardson Road extension, connecting US-64 to US-1. However, non-residential land uses along this corridor, especially north of Old US-1 are unlikely within the 20-year horizon of this analysis.

Humie Olive Node

The *Peak Plan 2030: The Apex Comprehensive Plan* identified the Humie Olive area as a future Neighborhood Mixed-Use activity center, offering a variety of residential uses developed around a concentration of retail and commercial. Given this area's proximity to the central core of Apex, as well as accessibility to utility infrastructure, the Humie Olive activity node is likely to developed sooner than other nodes in the Study Area. Based on future growth patterns, the concept developed for Humie Olive in The *Peak Plan 2030* is appropriate. The following land use ranges would be appropriate:



- **Residential.** Given the node's proximity to the Friendship High School campus, this area will be attractive for a variety of residential types. With access to transportation thoroughfares and public utilities, higher-density single-family detached, townhouse, and apartments will provide a range of price points for families. Up to 250 small-lot single-family detached or townhouses could be supported, plus one to two apartment communities (250 to 500 units).
- **Retail.** As additional residential development occurs west of NC-540, retail developers will seek centrally-located and accessible community-serving locations. The Humie Olive activity node would be appropriate for a grocery-anchored center, and supporting in-line and outparcel tenants. Total retail square footage could be between 100,000 and 150,000 square feet.
- **Professional Office.** Professional office will also follow residential development, seeking to be closer to their target clients. Up to 25,000 square feet of professional office space could be supported in the activity center. It would likely be developed as part of or with proximity to the retail.



US-1 Node

Located adjacent to US-1, the Study Area's Employment Mixed-Use node is planned in *The Peak Plan 2030* to host a variety of uses, including light industrial, warehousing, office, research, and technology, as well as support retail. Creating synergy with Holly Springs' designated growth area, this node would be a viable site for employment-based uses. However, it is important to note that the interchange on US-1 and the Richardson Road Extension, as well as the expansion of public utilities, will be critical components to the marketability of this site. Non-residential employment uses will look for access to shovel ready sites, meaning that access to transportation corridors and provision of public utilities are in place. This may need to be initiated as a public investment.

- **Industrial.** With direct access to US-1, provision of public utilities, and the synergy created from proximity to the Holly Springs targeted growth area, the US-1 node would be an appropriate location for flex/office and flex/warehouse users. These users are generally a hybrid of office, manufacturing, and warehouse space housed in appealing, newer, high-quality buildings that are characterized by a location in a campus-like industrial park with extensive landscaping and open space. This category also includes incubator space for entrepreneurs. With the assumed improvements the US-1 node could support nearly all of the forecasted Study Area demand, up to 230,000 square feet over the next 20 years. However, lacking transportation and utility infrastructure this site will be difficult to market to key tenants.
- **Office.** Class A, corporate office space is unlikely to develop in this node given the limited amenities and services available. Class A space is more likely to gravitate towards the Veridea development, especially once the interchange to NC-540 opens. Given the US-1 node's potential future proximity to an interchange on US-1, some



limited professional service and entrepreneurial space could be supported with demand up to 10,000 to 20,000 square feet.

- **Retail.** Support retail for employees would be appropriate at this node. Support retail would likely be accommodated in inline spaces and outparcels. Highway-oriented retail users could also be appropriate. In total, up to 30,000 square feet of retail could be supported.
- **Residential.** In addition to non-residential development, this node could also support some higher-density residential, providing a variety of housing types near a major employment center and an interchange on US-1. Given total Study Area projections one 250- to 350-unit apartment community or a smaller townhouse development could be accommodated.

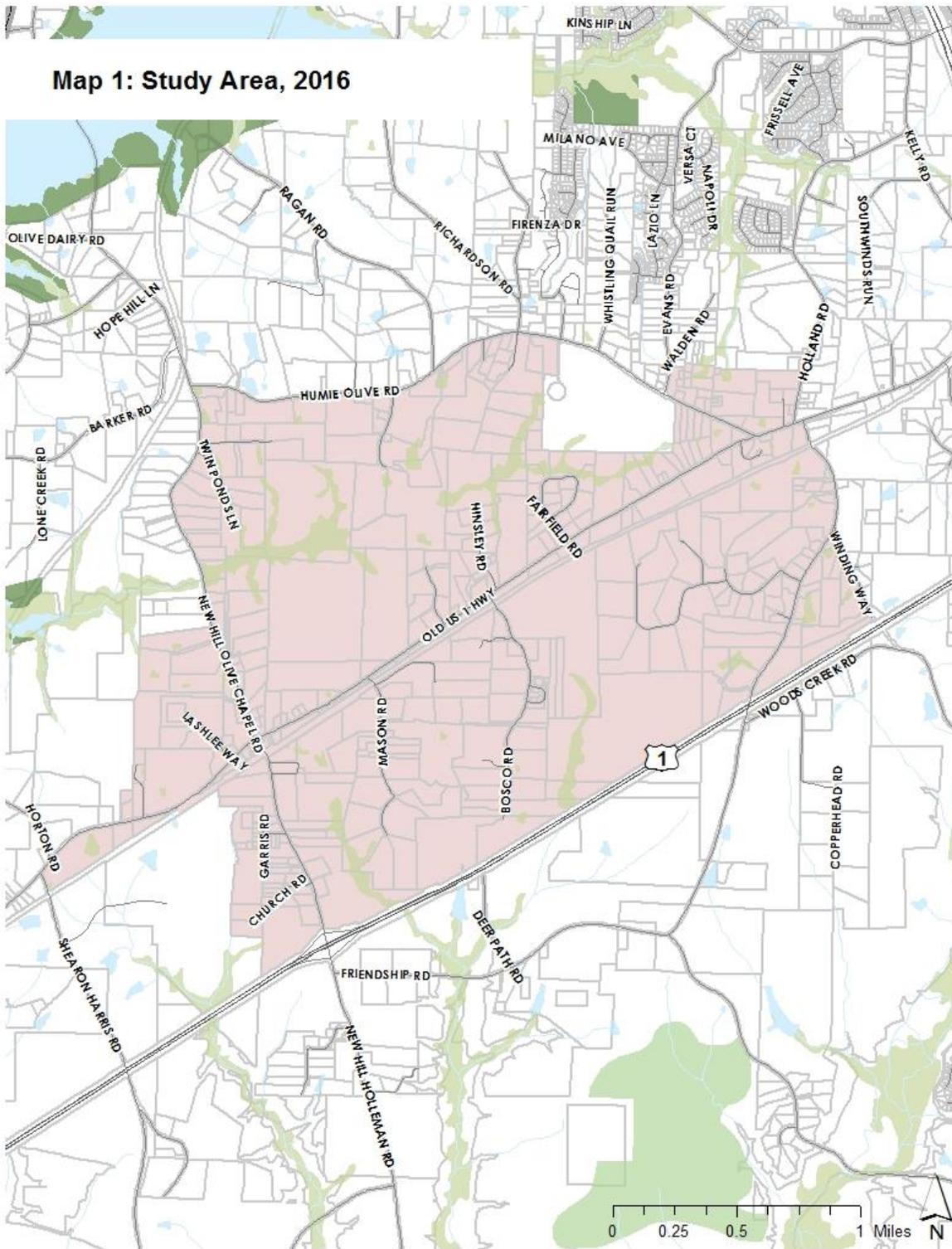
New Hill Node

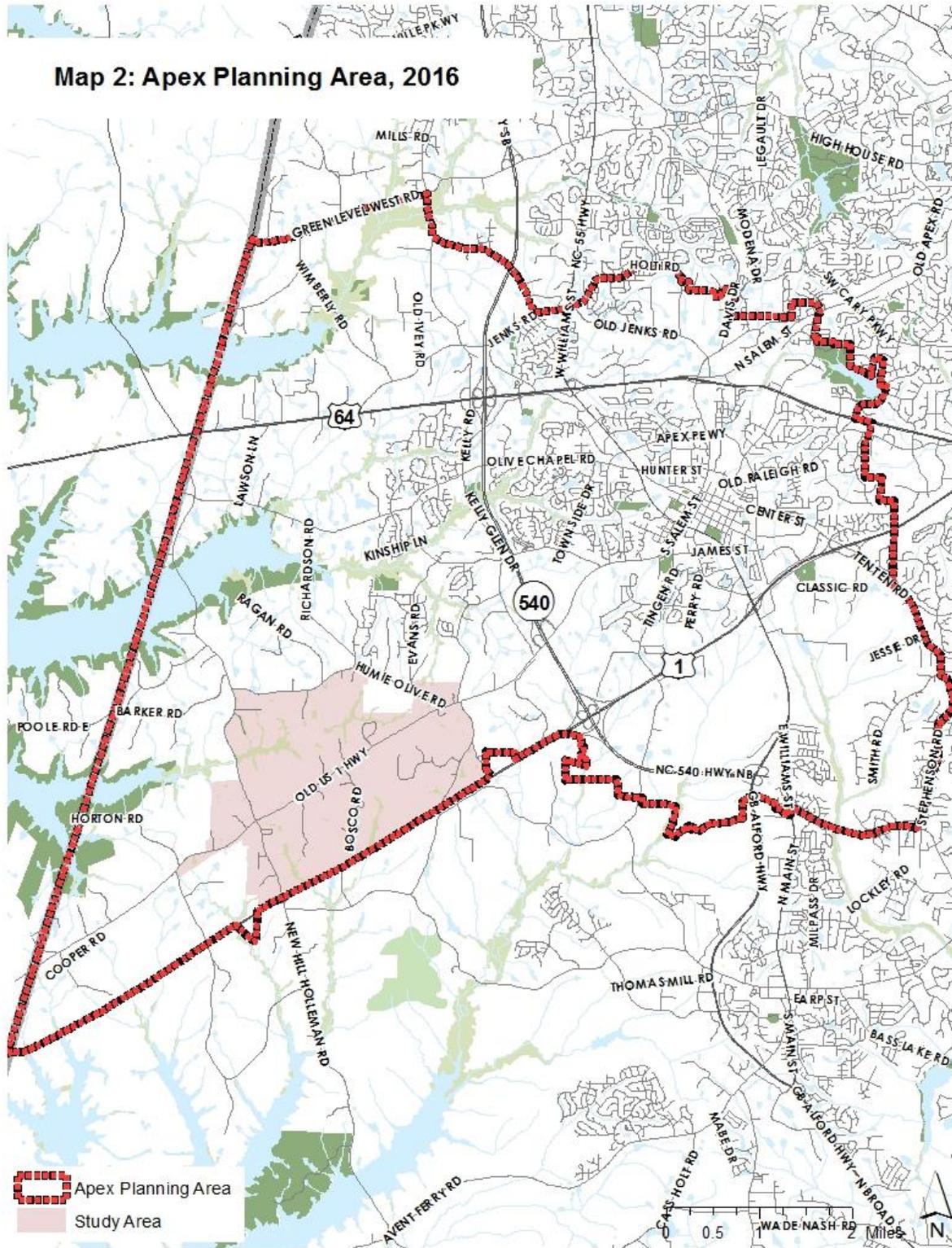
Representing the furthest activity node from an urbanized area, the New Hill Node will likely develop incrementally over time. Non-residential development in this area will be driven by traffic traveling along US-1, and is likely to grow north along New Hill Holleman Road from the interchange. Another benefit of this node is the proximity to the Western Wake Regional Wastewater Reclamation Facility, and therefore public utility infrastructure. The New Hill node was designated as Neighborhood Mixed-Use by *The Peak Plan 2030*. This designation is appropriate, but densities of residential and intensities of non-residential development will likely be less than the Humie Olive node. The following land uses would be appropriate in the New Hill node:

- **Residential.** Similar to Humie Olive, the New Hill node would be appropriate for a variety of residential types and tenure. Higher-density residential, most likely small-lot detached single-family and townhouses, should buffer non-residential development at the center of the node. As the area grows in the future, there could be demand for a multi-family development.
- **Retail.** Neighborhood-serving retail will be attracted to the New Hill node as residential development expands to support new development. The New Hill activity node could support total retail of 50,000 and 100,000 square feet.
- **Professional Office** could be appropriate in addition to retail. Office space would likely be developed as part of the retail, with total demand of up to 10,000 square feet.



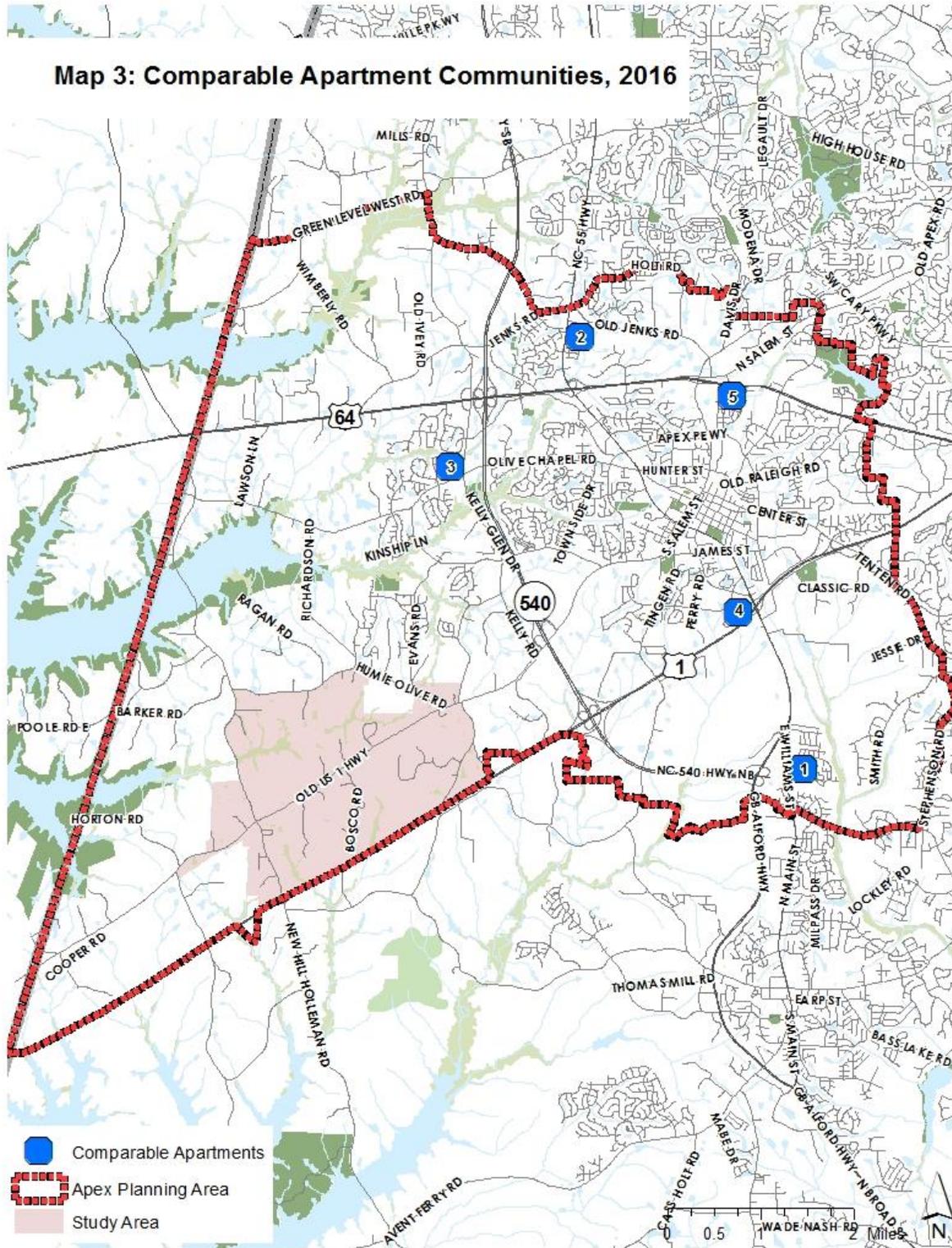
Appendix I: Analysis Maps

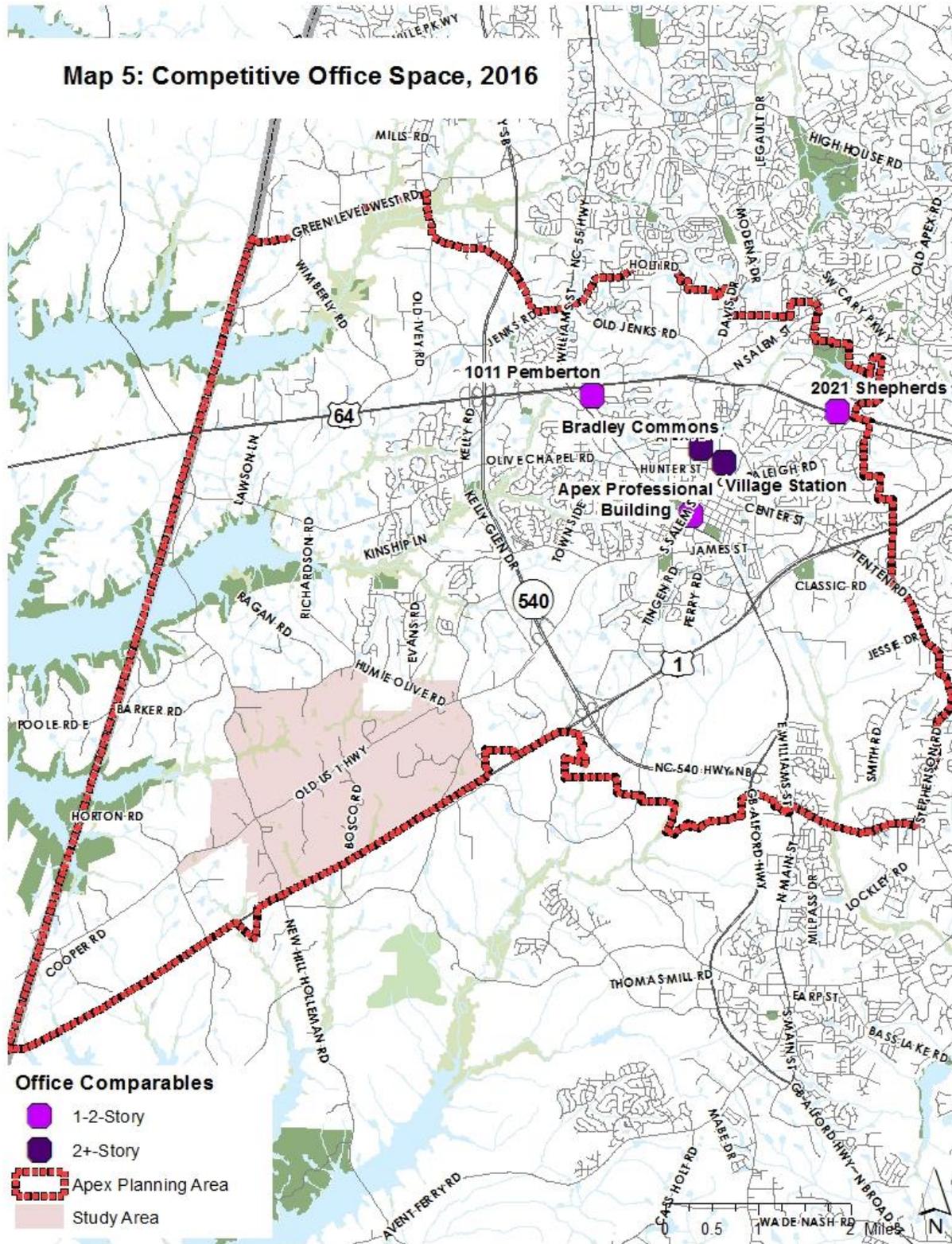






Map 3: Comparable Apartment Communities, 2016



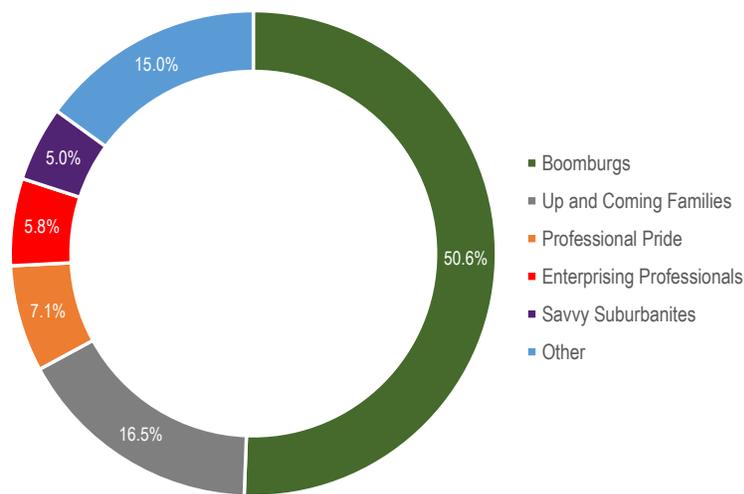




Appendix 2: Tapestry Segmentation Reports (top five segments)

Tapestry segmentation, provided by Environmental Systems Research Institute, divides households into 67 groups based on consumer spending patterns and lifestyle attributes. Data provided in this type of analysis is increasingly being used by developers, builders, and retail tenants in the site selection and due diligence process. Brief descriptions of the most common tapestries in the Planning Area are provided below. This appendix describes the five segments most commonly represented.

As demonstrated in the figure below, the Apex Planning Area is relatively homogeneous from a tapestry standpoint, with more than half of the households represented by the Boomburg tapestry. Up and Coming Families comprise the tapestry with the next highest concentration of households. In total, only 10 of the 67 tapestries are represented in the Apex Planning Area.





LifeMode Group: Affluent Estates

Boomburbs



Households: 1,695,000

Average Household Size: 3.22

Median Age: 33.6

Median Household Income: \$105,000

WHO ARE WE?

This is the new growth market, with a profile similar to the original: young professionals with families that have opted to trade up to the newest housing in the suburbs. The original *Boomburbs* neighborhoods began growing in the 1990s and continued through the peak of the housing boom. Most of those neighborhoods are fully developed now. This is an affluent market but with a higher proportion of mortgages. Rapid growth still distinguishes the *Boomburbs* neighborhoods, although the boom is more subdued now than it was 10 years ago. So is the housing market. Residents are well-educated professionals with a running start on prosperity.

OUR NEIGHBORHOOD

- Growth markets are in the suburban periphery of large metropolitan areas.
- Young families are married with children (Index 221); average household size is 3.22.
- Home ownership is 84% (Index 133), with the highest rate of mortgages, 78% (Index 173).
- Primarily single-family homes, in new neighborhoods, 72% built since 2000 (Index 521).
- Median home value is \$293,000 (Index 165).
- Lower housing vacancy rate at 5.3%.
- The cost of affordable new housing comes at the expense of one of the longest commutes to work, over 30 minutes average, including a disproportionate number (34.5%) commuting across county lines (Index 146).

SOCIOECONOMIC TRAITS

- Well educated young professionals, 52% are college graduates (Index 185).
- Unemployment is low at 5.2% (Index 60); high labor force participation at 72% (Index 115); most households have more than two workers (Index 123).
- Longer commute times from the suburban growth corridors (Index 121) have created more home workers (Index 154).
- They are well connected: own the latest devices and understand how to use them efficiently; biggest complaints—too many devices and too many intrusions on personal time.
- Financial planning is well under way for these professionals.



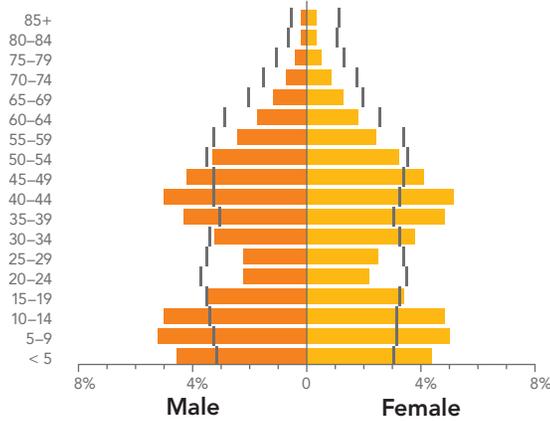
Note: The Index represents the ratio of the segment rate to the US rate multiplied by 100. Consumer preferences are estimated from data by GfK MRI.



AGE BY SEX (Esri data)

Median Age: **33.6** US: 37.6

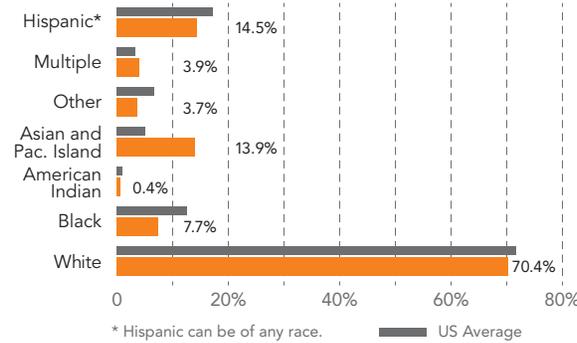
I Indicates US



RACE AND ETHNICITY (Esri data)

The Diversity Index summarizes racial and ethnic diversity. The index shows the likelihood that two persons, chosen at random from the same area, belong to different race or ethnic groups. The index ranges from 0 (no diversity) to 100 (complete diversity).

Diversity Index: **60.9** US: 62.1



INCOME AND NET WORTH

Net worth measures total household assets (homes, vehicles, investments, etc.) less any debts, secured (e.g., mortgages) or unsecured (credit cards). Household income and net worth are estimated by Esri.

Median Household Income

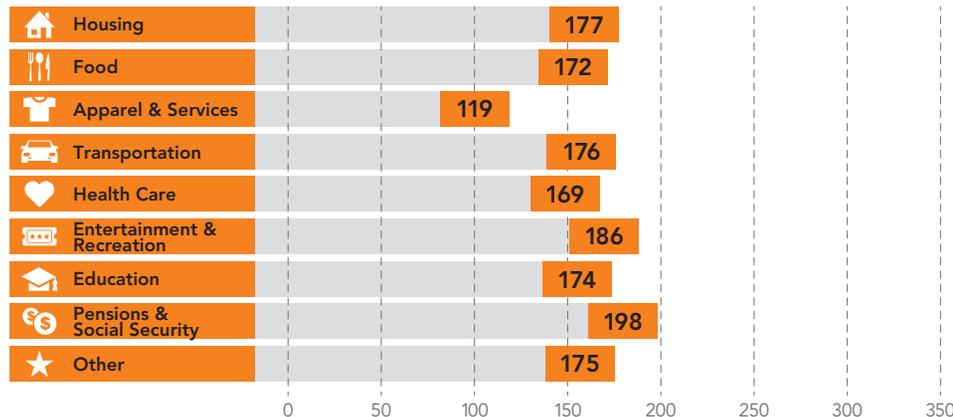


Median Net Worth



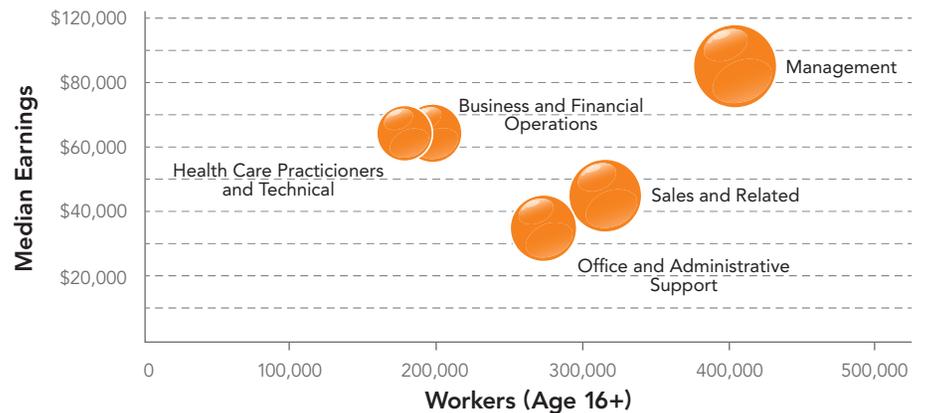
AVERAGE HOUSEHOLD BUDGET INDEX

The index compares the average amount spent in this market's household budgets for housing, food, apparel, etc., to the average amount spent by all US households. An index of 100 is average. An index of 120 shows that average spending by consumers in this market is 20 percent above the national average. Consumer expenditures are estimated by Esri.



OCCUPATION BY EARNINGS

The five occupations with the highest number of workers in the market are displayed by median earnings. Data from the Census Bureau's American Community Survey.





MARKET PROFILE (Consumer preferences are estimated from data by GfK MRI)

- *Boomburbs* residents prefer late model imports, primarily SUVs, and also luxury cars and minivans.
- This is one of the top markets for the latest in technology, from smartphones to tablets to Internet connectable televisions.
- Style matters in the *Boomburbs*, from personal appearance to their homes. These consumers are still furnishing their new homes and already remodeling.
- They like to garden but more often contract for home services.
- Physical fitness is a priority, including club memberships and home equipment.
- Leisure includes a range of activities from sports (hiking, bicycling, swimming, golf) to visits to theme parks or water parks.
- Residents are generous supporters of charitable organizations.

HOUSING

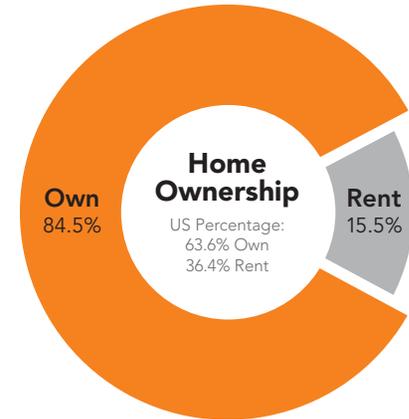
Median home value is displayed for markets that are primarily owner occupied; average rent is shown for renter-occupied markets. Tenure and home value are estimated by Esri. Housing type and average rent are from the Census Bureau's American Community Survey.



Typical Housing:
Single Family

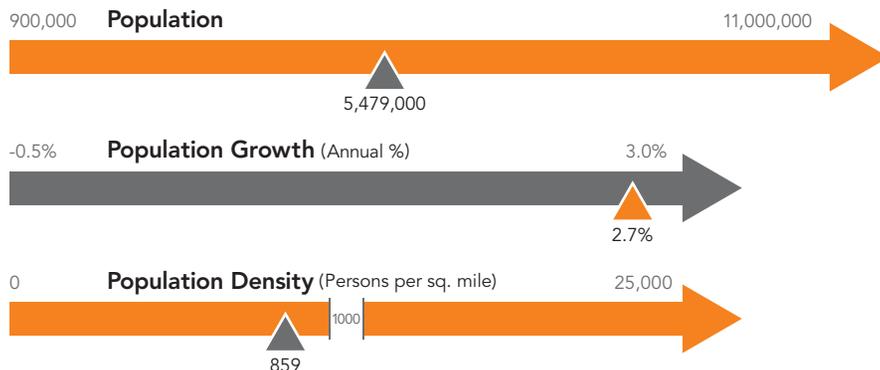
Median Value:
\$293,000

US Median: \$177,000



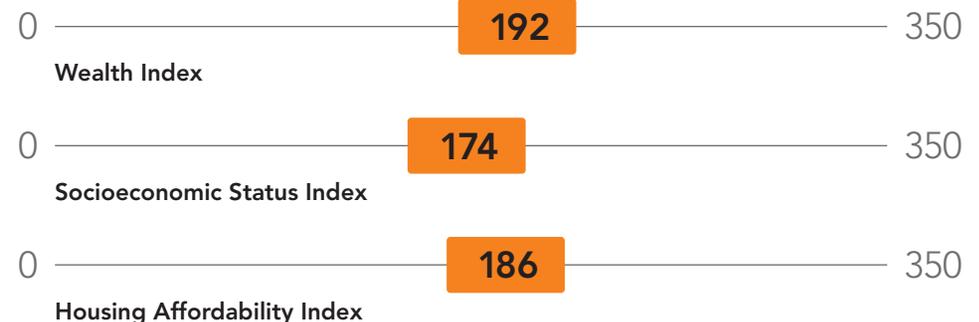
POPULATION CHARACTERISTICS

Total population, average annual population change since Census 2010, and average density (population per square mile) are displayed for the market relative to the size and change among all Tapestry markets. Data estimated by Esri.



ESRI INDEXES

Esri developed three indexes to display average household wealth, socioeconomic status, and housing affordability for the market relative to US standards.



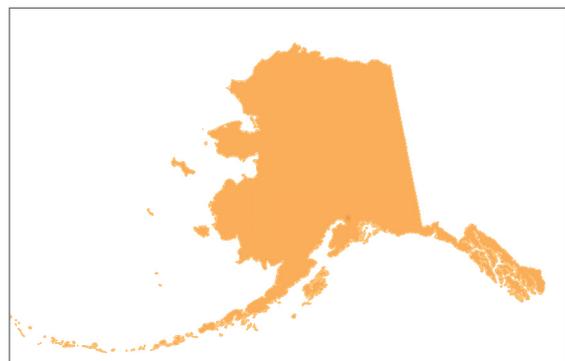
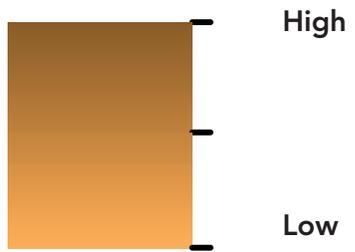
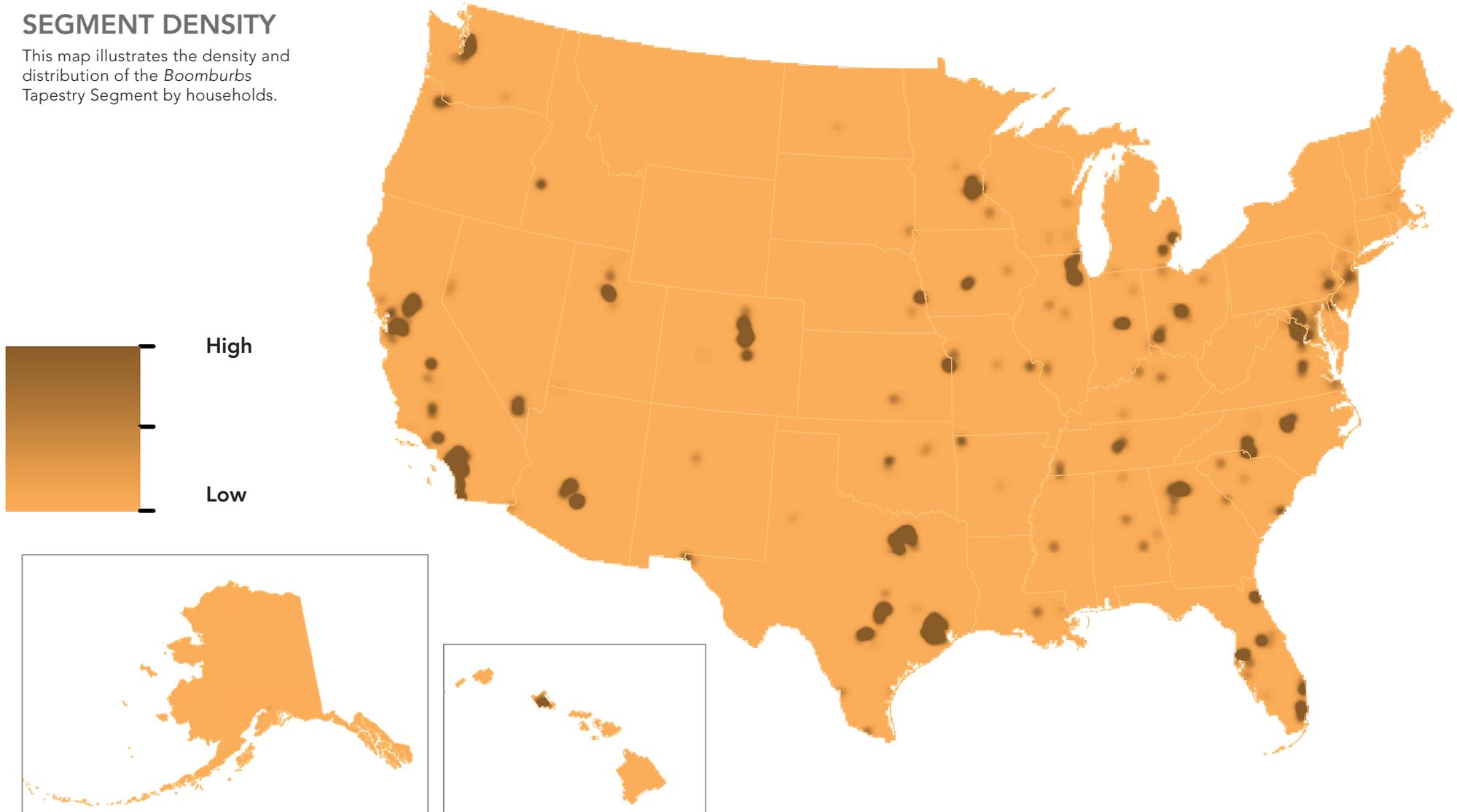


Boomburbs



SEGMENT DENSITY

This map illustrates the density and distribution of the *Boomburbs* Tapestry Segment by households.



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info@esri.com
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LifeMode Group: Ethnic Enclaves

Up and Coming Families

7A

Households: 2,562,000

Average Household Size: 3.10

Median Age: 30.7

Median Household Income: \$64,000

WHO ARE WE?

Up and Coming Families is a market in transition—residents are younger and more mobile and ethnically diverse than the previous generation. They are ambitious, working hard to get ahead, and willing to take some risks to achieve their goals. The recession has impacted their financial well-being, but they are optimistic. Their homes are new; their families are young. And this is one of the fastest-growing markets in the country.

OUR NEIGHBORHOOD

- New suburban periphery: new families in new housing subdivisions.
- Building began in the housing boom of the 2000s and continues in this fast-growing market.
- Single-family homes with a median value of \$174,000 and a lower vacancy rate.
- The price of affordable housing; longer commute times (Index 116).

SOCIOECONOMIC TRAITS

- Education: 66% have some college education or degree(s).
- Hard-working labor force with a participation rate of 71% (Index 114) and low unemployment at 7% (Index 81).
- Most households (63%) have 2 or more workers.
- Careful shoppers, aware of prices, willing to shop around for the best deals and open to influence by others' opinions.
- Seek the latest and best in technology.
- Young families still feathering the nest and establishing their style.



Note: The Index represents the ratio of the segment rate to the US rate multiplied by 100. Consumer preferences are estimated from data by GfK MRI.

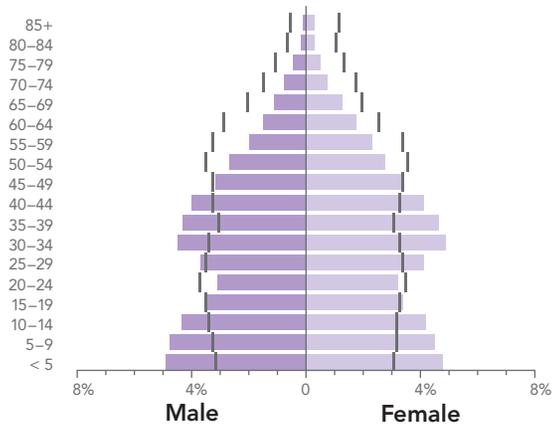
Up and Coming Families



AGE BY SEX (Esri data)

Median Age: **30.7** US: 37.6

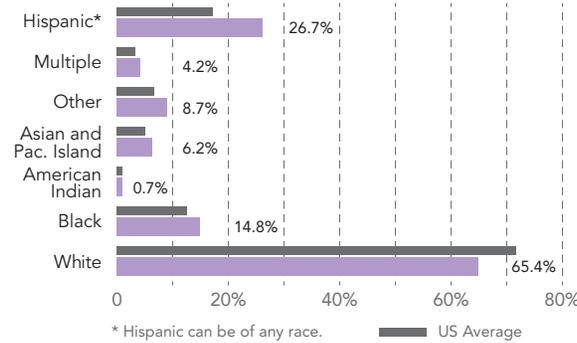
I Indicates US



RACE AND ETHNICITY (Esri data)

The Diversity Index summarizes racial and ethnic diversity. The index shows the likelihood that two persons, chosen at random from the same area, belong to different race or ethnic groups. The index ranges from 0 (no diversity) to 100 (complete diversity).

Diversity Index: **72.4** US: 62.1



INCOME AND NET WORTH

Net worth measures total household assets (homes, vehicles, investments, etc.) less any debts, secured (e.g., mortgages) or unsecured (credit cards). Household income and net worth are estimated by Esri.

Median Household Income

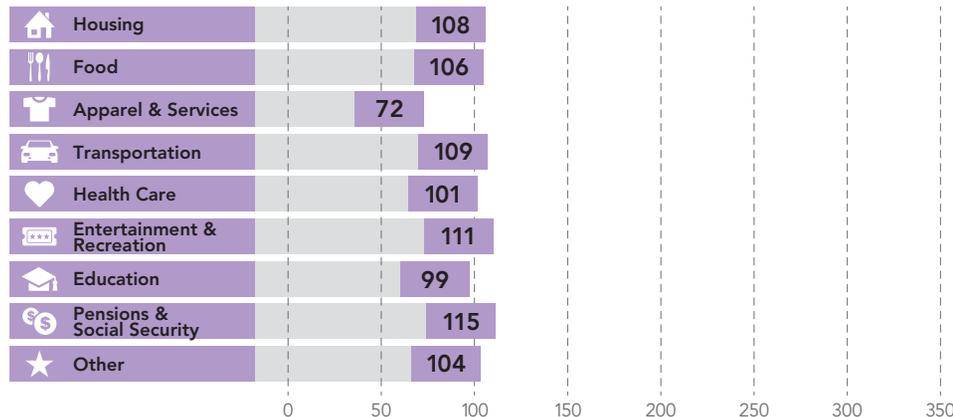


Median Net Worth



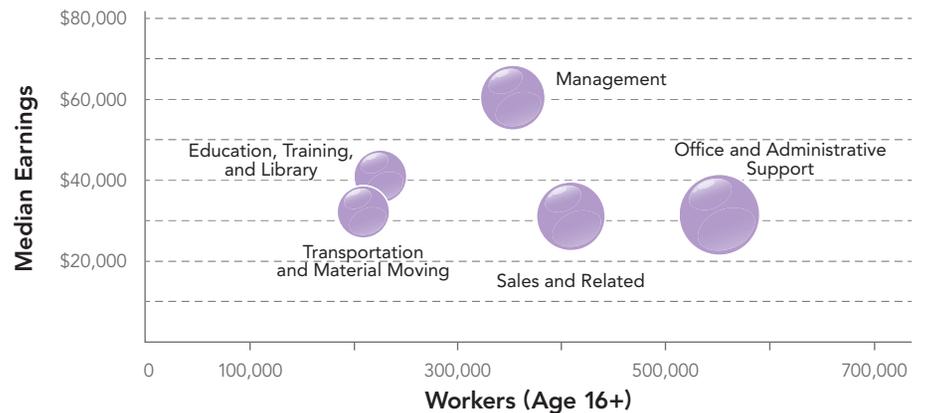
AVERAGE HOUSEHOLD BUDGET INDEX

The index compares the average amount spent in this market's household budgets for housing, food, apparel, etc., to the average amount spent by all US households. An index of 100 is average. An index of 120 shows that average spending by consumers in this market is 20 percent above the national average. Consumer expenditures are estimated by Esri.



OCCUPATION BY EARNINGS

The five occupations with the highest number of workers in the market are displayed by median earnings. Data from the Census Bureau's American Community Survey.





MARKET PROFILE (Consumer preferences are estimated from data by GfK MRI)

- Rely on the Internet for entertainment, information, shopping, and banking.
- Prefer imported SUVs or compact cars, late models.
- Carry debt from credit card balances to student loans and mortgages, but also maintain retirement plans and make charitable contributions.
- Busy with work and family; use home and landscaping services to save time.
- Find leisure in family activities, movies at home, trips to theme parks or the zoo, and sports, from backpacking and baseball to weight lifting and yoga.

HOUSING

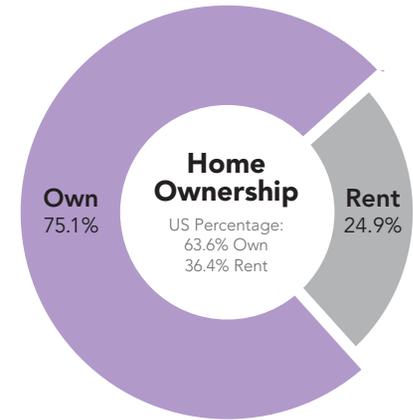
Median home value is displayed for markets that are primarily owner occupied; average rent is shown for renter-occupied markets. Tenure and home value are estimated by Esri. Housing type and average rent are from the Census Bureau's American Community Survey.



Typical Housing:
Single Family

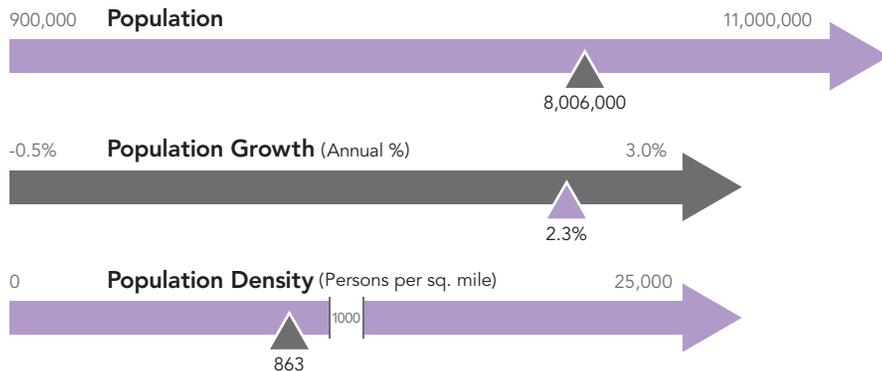
Median Value:
\$174,000

US Median: \$177,000



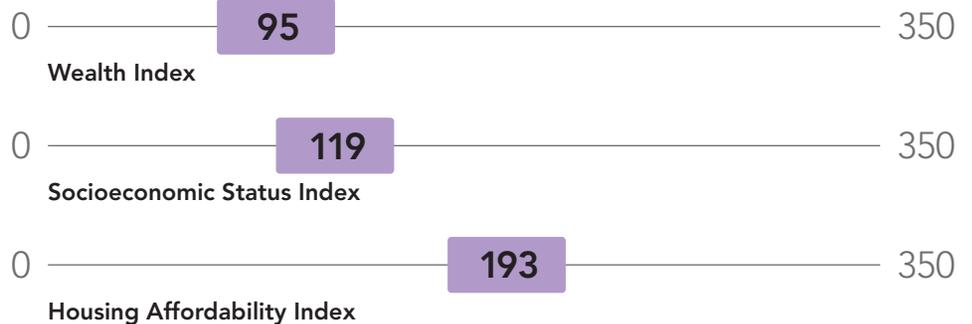
POPULATION CHARACTERISTICS

Total population, average annual population change since Census 2010, and average density (population per square mile) are displayed for the market relative to the size and change among all Tapestry markets. Data estimated by Esri.



ESRI INDEXES

Esri developed three indexes to display average household wealth, socioeconomic status, and housing affordability for the market relative to US standards.

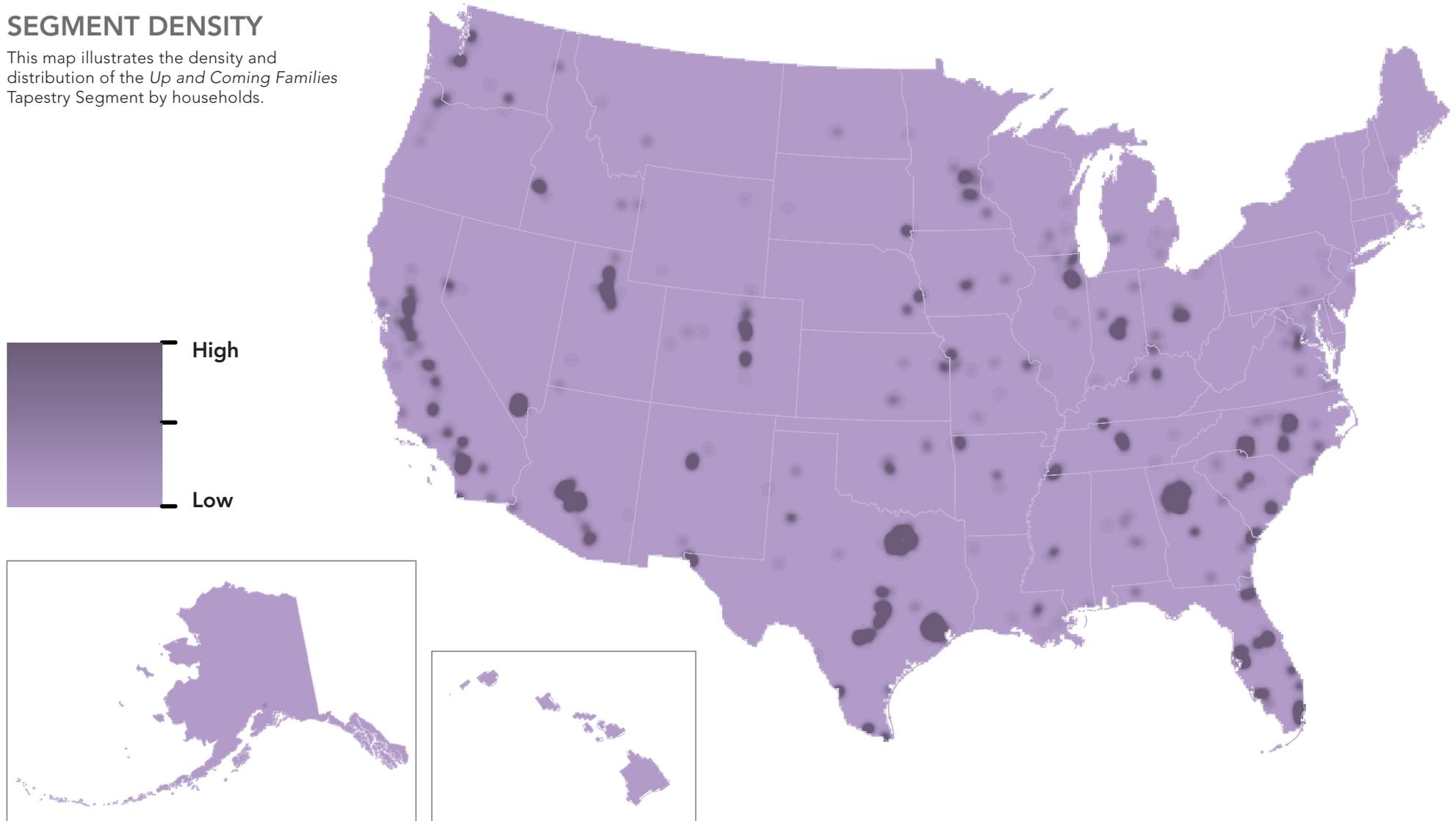


Up and Coming Families



SEGMENT DENSITY

This map illustrates the density and distribution of the *Up and Coming Families* Tapestry Segment by households.



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LifeMode Group: Affluent Estates

Professional Pride

1B

Households: 1,878,000

Average Household Size: 3.11

Median Age: 40.5

Median Household Income: \$127,000

WHO ARE WE?

Professional Pride consumers are well-educated career professionals that have prospered through the Great Recession. To maintain their upscale suburban lifestyles, these goal oriented couples work, often commuting far and working long hours. However, their schedules are fine-tuned to meet the needs of their school age children. They are financially savvy; they invest wisely and benefit from interest and dividend income. So far, these established families have accumulated an average of 1.5 million dollars in net worth, and their annual household income runs at more than twice the US level. They take pride in their newer homes and spend valuable time and energy upgrading. Their homes are furnished with the latest in home trends, including finished basements equipped with home gyms and in-home theaters.

OUR NEIGHBORHOOD

- Typically owner occupied (Index 173), single-family homes are in newer neighborhoods: 59% of units were built in the last 20 years.
- Neighborhoods are primarily located in the suburban periphery of large metropolitan areas.
- Most households own two or three vehicles; long commutes are the norm.
- Homes are valued at more than twice the US median home value, although three out of four homeowners have mortgages to pay off.
- Families are mostly married couples (almost 80% of households), and more than half of these families have kids. Their average household size, 3.11, reflects the presence of children.

SOCIOECONOMIC TRAITS

- *Professional Pride* consumers are highly qualified in the science, technology, law, or finance fields; they've worked hard to build their professional reputation or their start-up businesses.
- These consumers are willing to risk their accumulated wealth in the stock market.
- They have a preferred financial institution, regularly read financial news, and use the Internet for banking transactions.
- These residents are goal oriented and strive for lifelong earning and learning.
- Life here is well organized; routine is a key ingredient to daily life.

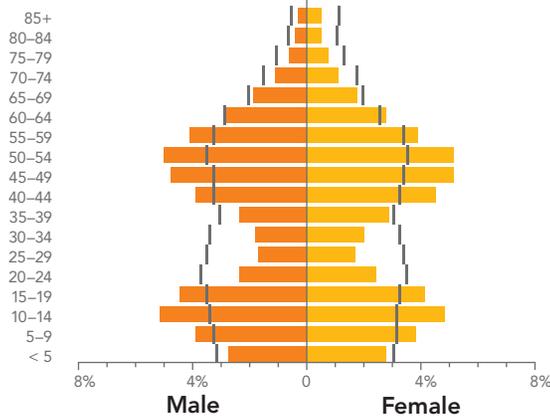


Note: The Index represents the ratio of the segment rate to the US rate multiplied by 100. Consumer preferences are estimated from data by GfK MRI.

AGE BY SEX (Esri data)

Median Age: **40.5** US: 37.6

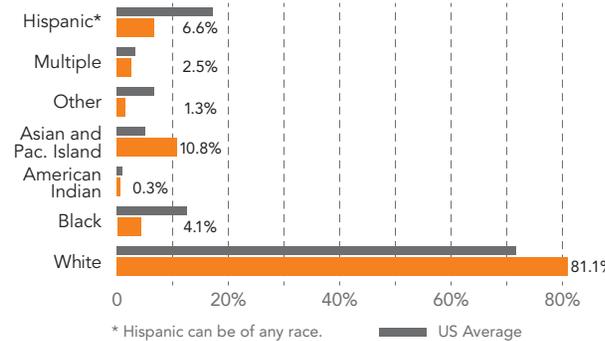
I Indicates US



RACE AND ETHNICITY (Esri data)

The Diversity Index summarizes racial and ethnic diversity. The index shows the likelihood that two persons, chosen at random from the same area, belong to different race or ethnic groups. The index ranges from 0 (no diversity) to 100 (complete diversity).

Diversity Index: **41.2** US: 62.1



INCOME AND NET WORTH

Net worth measures total household assets (homes, vehicles, investments, etc.) less any debts, secured (e.g., mortgages) or unsecured (credit cards). Household income and net worth are estimated by Esri.

Median Household Income

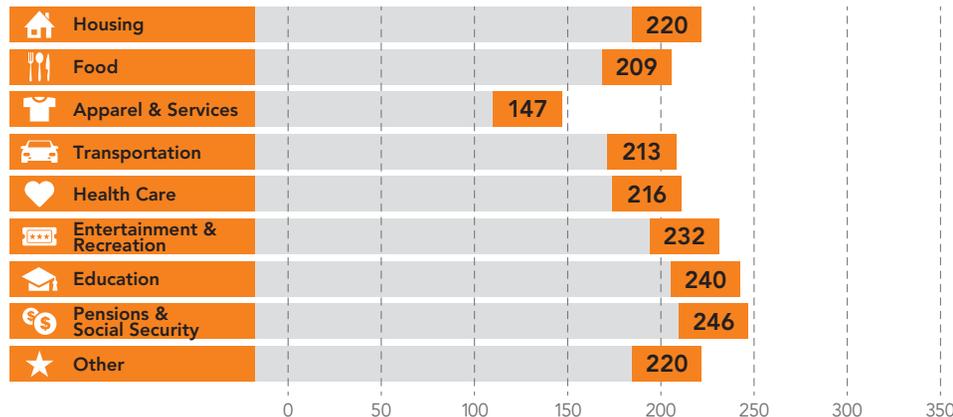


Median Net Worth



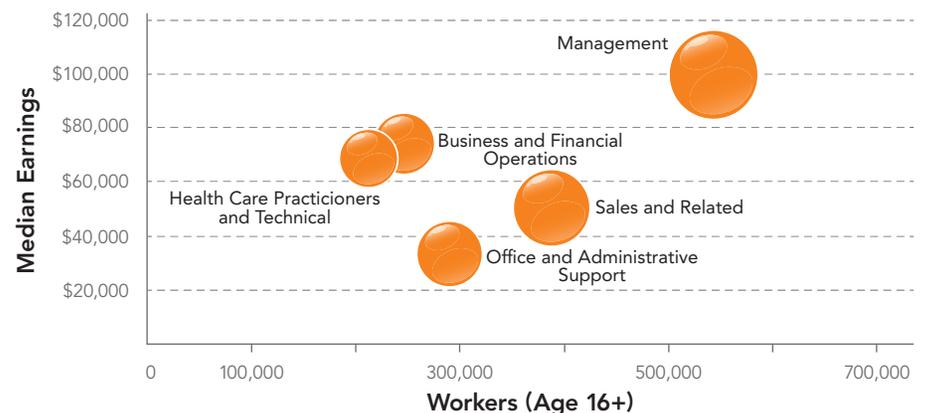
AVERAGE HOUSEHOLD BUDGET INDEX

The index compares the average amount spent in this market's household budgets for housing, food, apparel, etc., to the average amount spent by all US households. An index of 100 is average. An index of 120 shows that average spending by consumers in this market is 20 percent above the national average. Consumer expenditures are estimated by Esri.



OCCUPATION BY EARNINGS

The five occupations with the highest number of workers in the market are displayed by median earnings. Data from the Census Bureau's American Community Survey.



MARKET PROFILE (Consumer preferences are estimated from data by GfK MRI)

- These frequent travelers take several domestic trips a year, preferring to book their plane tickets, accommodations, and rental cars via the Internet.
- Residents take pride in their picture-perfect homes, which they continually upgrade. They shop at Home Depot and Bed Bath & Beyond to tackle the smaller home improvement and remodeling tasks but contract out the larger projects.
- To keep up with their busy households, they hire housekeepers or professional cleaners.
- Residents are prepared for the ups and downs in life; they maintain life insurance; homeowners and auto insurance; as well as medical, vision, dental, and prescription insurance through work. They are actively investing for the future; they hold 401(k) and IRA retirement plans, plus securities.
- Consumers spend on credit but have the disposable income to avoid a balance on their credit cards. They spend heavily on Internet shopping; Amazon.com is a favorite website.
- Consumers find time in their busy schedules for themselves. They work out in their home gyms, owning at least a treadmill, an elliptical, or weightlifting equipment. They also visit the salon and spa regularly.
- All family members are avid readers; they read on their smartphones, tablets, and e-readers but also read hard copies of epicurean, home service, and sports magazines.
- Residents, both young and old, are tech savvy; they not only own the latest and greatest in tablets, smartphones, and laptops but actually use the features each has to offer.

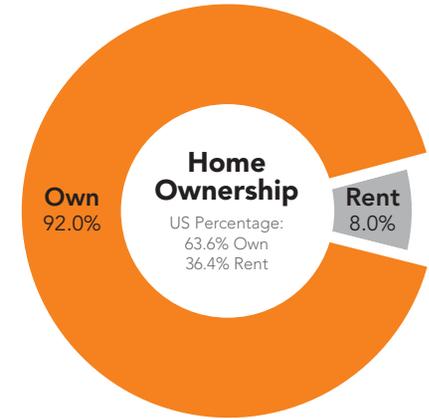
HOUSING

Median home value is displayed for markets that are primarily owner occupied; average rent is shown for renter-occupied markets. Tenure and home value are estimated by Esri. Housing type and average rent are from the Census Bureau's American Community Survey.



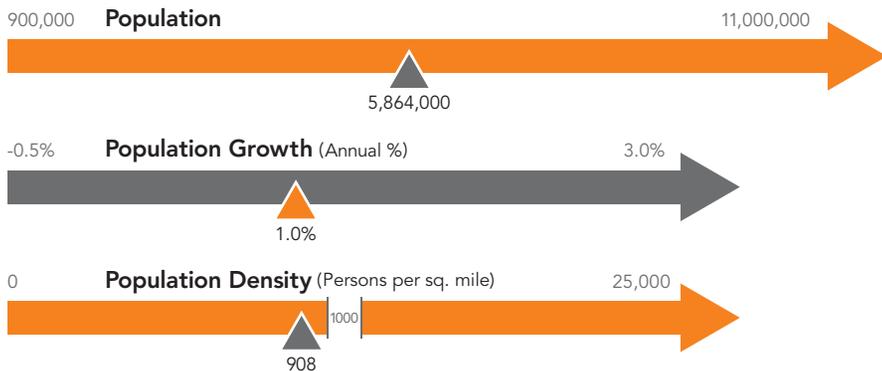
Typical Housing:
Single Family

Median Value:
\$387,000
US Median: \$177,000



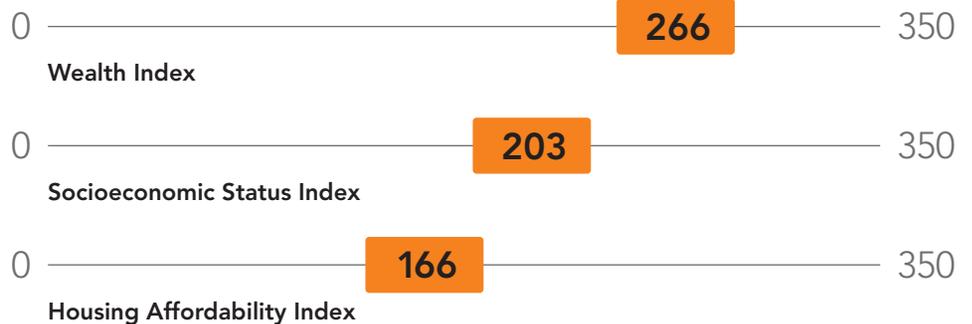
POPULATION CHARACTERISTICS

Total population, average annual population change since Census 2010, and average density (population per square mile) are displayed for the market relative to the size and change among all Tapestry markets. Data estimated by Esri.



ESRI INDEXES

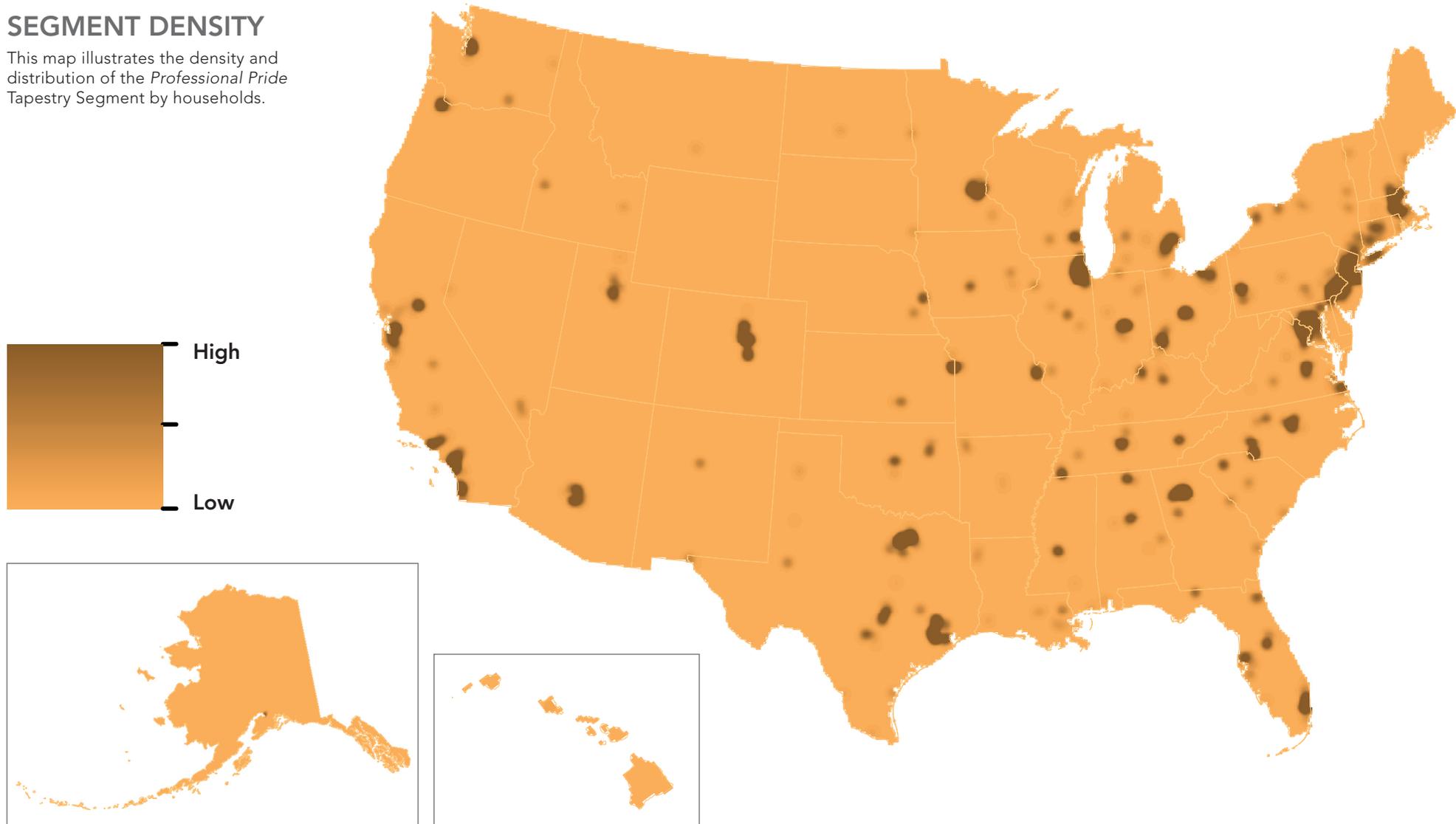
Esri developed three indexes to display average household wealth, socioeconomic status, and housing affordability for the market relative to US standards.





SEGMENT DENSITY

This map illustrates the density and distribution of the *Professional Pride* Tapestry Segment by households.



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LifeMode Group: Upscale Avenues

Enterprising Professionals



Households: 1,627,000

Average Household Size: 2.46

Median Age: 34.8

Median Household Income: \$77,000

WHO ARE WE?

Enterprising Professionals residents are well educated and climbing the ladder in STEM (science, technology, engineering, and mathematics) occupations. They change jobs often and therefore choose to live in condos, town homes, or apartments; many still rent their homes. The market is fast-growing, located in lower density neighborhoods of large metro areas. *Enterprising Professionals* residents are diverse, with Asians making up over one-fifth of the population. This young market makes over one and a half times more income than the US median, supplementing their income with high-risk investments. At home, they enjoy the Internet and TV on high-speed connections with premier channels and services.

OUR NEIGHBORHOOD

- Almost half of households are married couples, and 30% are single person households.
- Housing is a mixture of suburban single-family homes, row homes, and larger multiunit structures.
- Close to three quarters of the homes were built after 1980; 22% are newer, built after 2000.
- Renters make up nearly half of all households.

SOCIOECONOMIC TRAITS

- Median household income one and a half times that of the US.
- Over half hold a bachelor's degree or higher.
- Early adopters of new technology in hopes of impressing peers with new gadgets.
- Enjoy talking about and giving advice on technology.
- Half have smartphones and use them for news, accessing search engines, and maps.
- Work long hours in front of a computer.
- Strive to stay youthful and healthy, eat organic and natural foods, run and do yoga.
- Buy name brands and trendy clothes online.



Note: The Index represents the ratio of the segment rate to the US rate multiplied by 100. Consumer preferences are estimated from data by GfK MRI.



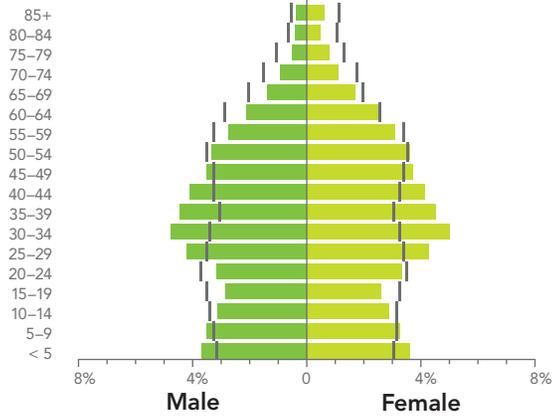
Enterprising Professionals



AGE BY SEX (Esri data)

Median Age: **34.8** US: 37.6

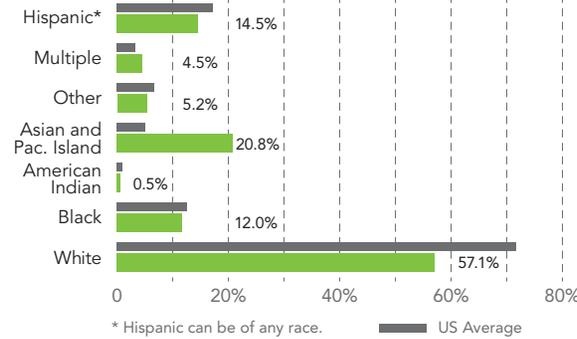
I Indicates US



RACE AND ETHNICITY (Esri data)

The Diversity Index summarizes racial and ethnic diversity. The index shows the likelihood that two persons, chosen at random from the same area, belong to different race or ethnic groups. The index ranges from 0 (no diversity) to 100 (complete diversity).

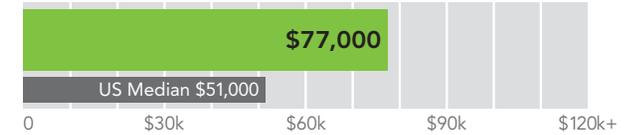
Diversity Index: **71.2** US: 62.1



INCOME AND NET WORTH

Net worth measures total household assets (homes, vehicles, investments, etc.) less any debts, secured (e.g., mortgages) or unsecured (credit cards). Household income and net worth are estimated by Esri.

Median Household Income

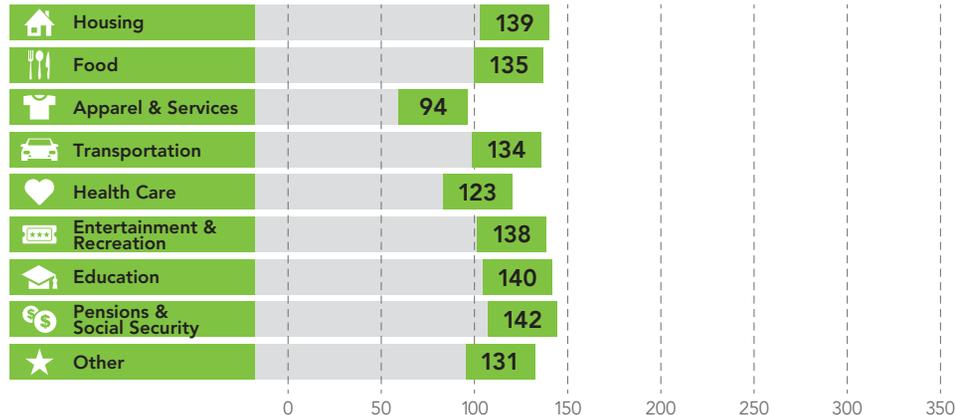


Median Net Worth



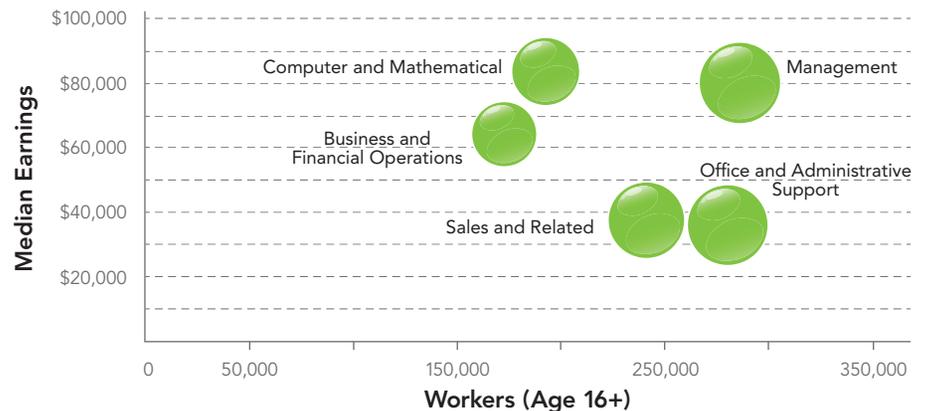
AVERAGE HOUSEHOLD BUDGET INDEX

The index compares the average amount spent in this market's household budgets for housing, food, apparel, etc., to the average amount spent by all US households. An index of 100 is average. An index of 120 shows that average spending by consumers in this market is 20 percent above the national average. Consumer expenditures are estimated by Esri.



OCCUPATION BY EARNINGS

The five occupations with the highest number of workers in the market are displayed by median earnings. Data from the Census Bureau's American Community Survey.





MARKET PROFILE (Consumer preferences are estimated from data by GfK MRI)

- Buy digital books for tablet reading, along with magazines and newspapers.
- Frequent the dry cleaner.
- Go on business trips, a major part of work.
- Watch movies and TV with video-on-demand and HDTV over a high-speed connection.
- Convenience is key—shop at Amazon.com and pick up drugs at the Target pharmacy.
- Eat out at The Cheesecake Factory and Chick-fil-A; drop by Starbucks for coffee.
- Leisure activities include gambling, trips to museums and the beach.
- Have health insurance and a 401(k) through work.

HOUSING

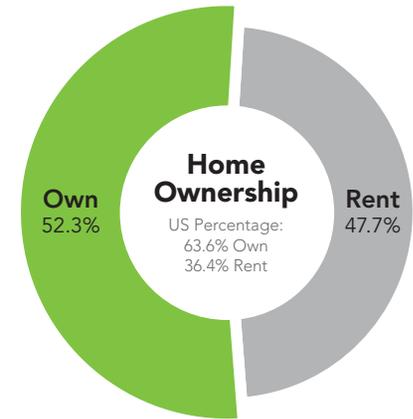
Median home value is displayed for markets that are primarily owner occupied; average rent is shown for renter-occupied markets. Tenure and home value are estimated by Esri. Housing type and average rent are from the Census Bureau's American Community Survey.



Typical Housing:
Multiunits;
Single Family

Median Value:
\$295,000

US Median: \$177,000



POPULATION CHARACTERISTICS

Total population, average annual population change since Census 2010, and average density (population per square mile) are displayed for the market relative to the size and change among all Tapestry markets. Data estimated by Esri.



ESRI INDEXES

Esri developed three indexes to display average household wealth, socioeconomic status, and housing affordability for the market relative to US standards.





LifeMode Group: Upscale Avenues

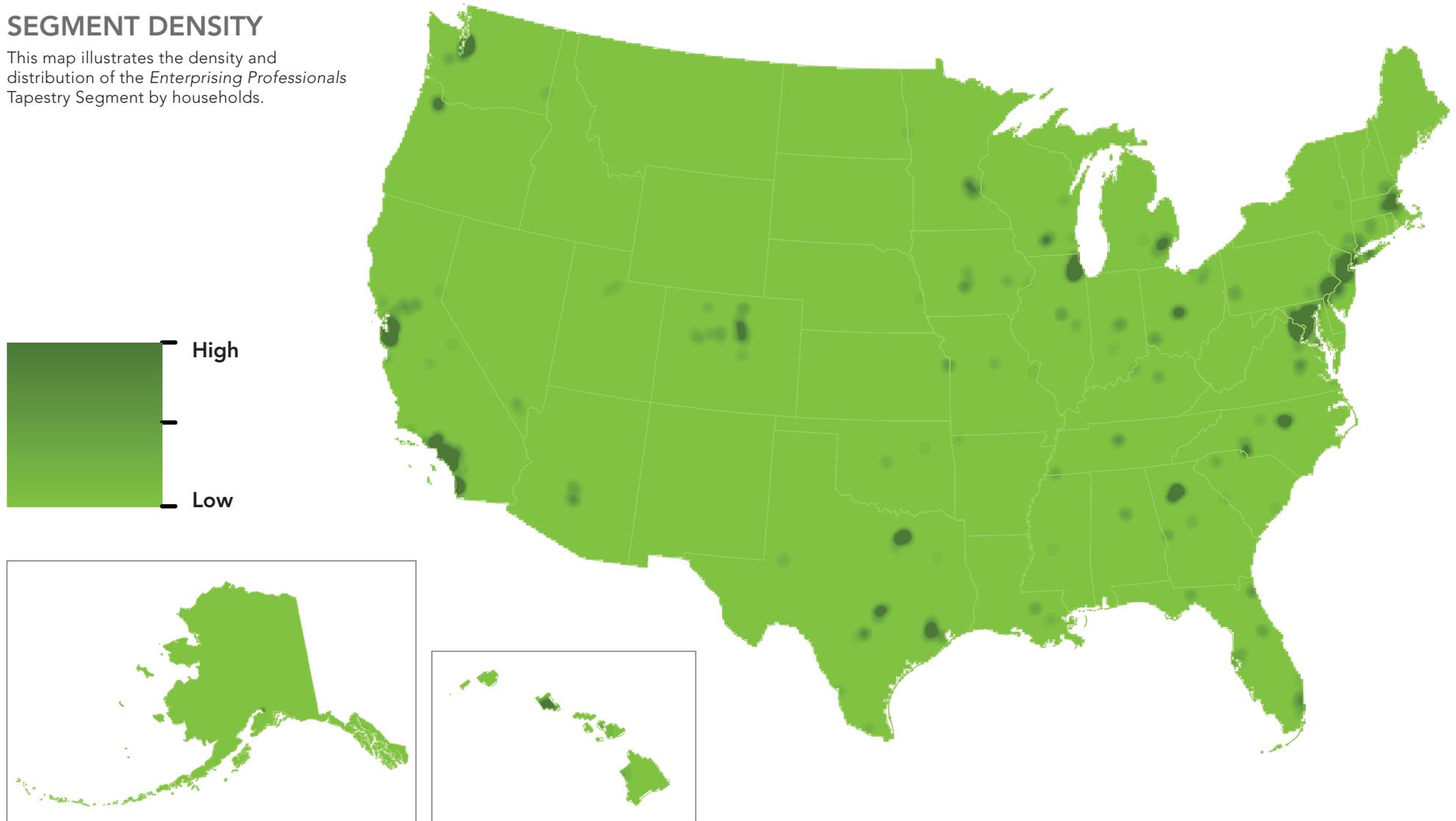
Enterprising Professionals



TAPESTRY
SEGMENTATION
esri.com/tapestry

SEGMENT DENSITY

This map illustrates the density and distribution of the *Enterprising Professionals* Tapestry Segment by households.



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LifeMode Group: Affluent Estates

Savvy Suburbanites



Households: 3,543,000

Average Household Size: 2.83

Median Age: 44.1

Median Household Income: \$104,000

WHO ARE WE?

Savvy Suburbanites residents are well educated, well read, and well capitalized. Families include empty nesters and empty nester wannabes, who still have adult children at home. Located in older neighborhoods outside the urban core, their suburban lifestyle includes home remodeling and gardening plus the active pursuit of sports and exercise. They enjoy good food and wine, plus the amenities of the city's cultural events.

OUR NEIGHBORHOOD

- Established neighborhoods (most built between 1970 and 1990) found in the suburban periphery of large metropolitan markets.
- Married couples with no children or older children; average household size is 2.83.
- 91% owner occupied; 71% mortgaged (Index 156).
- Primarily single-family homes, with a median value of \$311,000 (Index 175).
- Low vacancy rate at 4.5%.

SOCIOECONOMIC TRAITS

- Education: 48.1% college graduates; 76.1% with some college education.
- Low unemployment at 5.8% (Index 67); higher labor force participation rate at 68.5% (Index 109) with proportionately more 2-worker households at 65.4%, (Index 122).
- Well-connected consumers that appreciate technology and make liberal use of it for everything from shopping and banking to staying current and communicating.
- Informed shoppers that do their research prior to purchasing and focus on quality.



Note: The Index represents the ratio of the segment rate to the US rate multiplied by 100. Consumer preferences are estimated from data by GfK MRI.



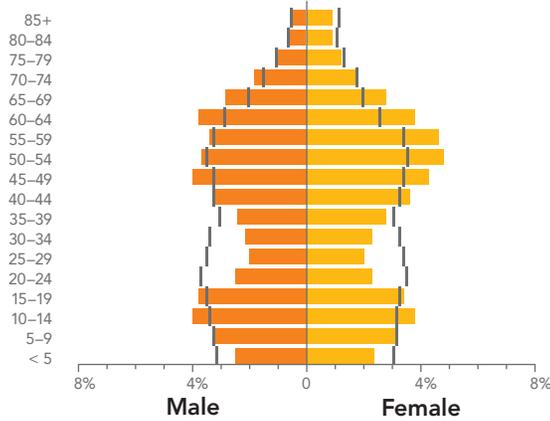
Savvy Suburbanites



AGE BY SEX (Esri data)

Median Age: **44.1** US: 37.6

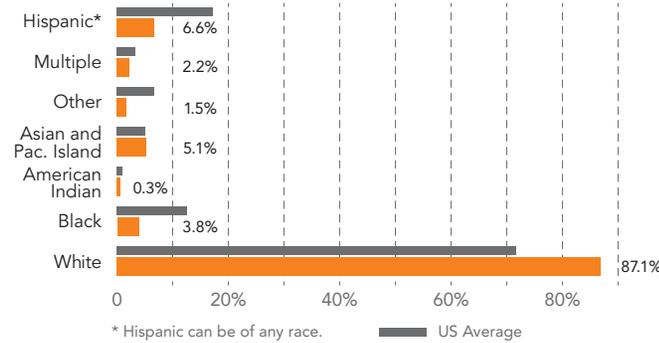
I Indicates US



RACE AND ETHNICITY (Esri data)

The Diversity Index summarizes racial and ethnic diversity. The index shows the likelihood that two persons, chosen at random from the same area, belong to different race or ethnic groups. The index ranges from 0 (no diversity) to 100 (complete diversity).

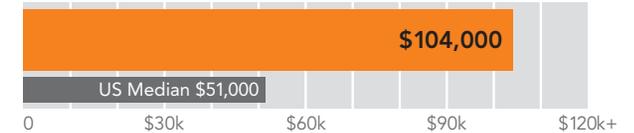
Diversity Index: **33.2** US: 62.1



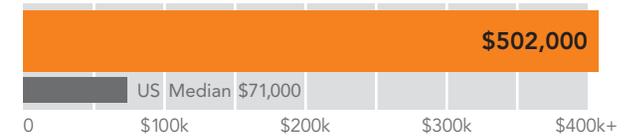
INCOME AND NET WORTH

Net worth measures total household assets (homes, vehicles, investments, etc.) less any debts, secured (e.g., mortgages) or unsecured (credit cards). Household income and net worth are estimated by Esri.

Median Household Income

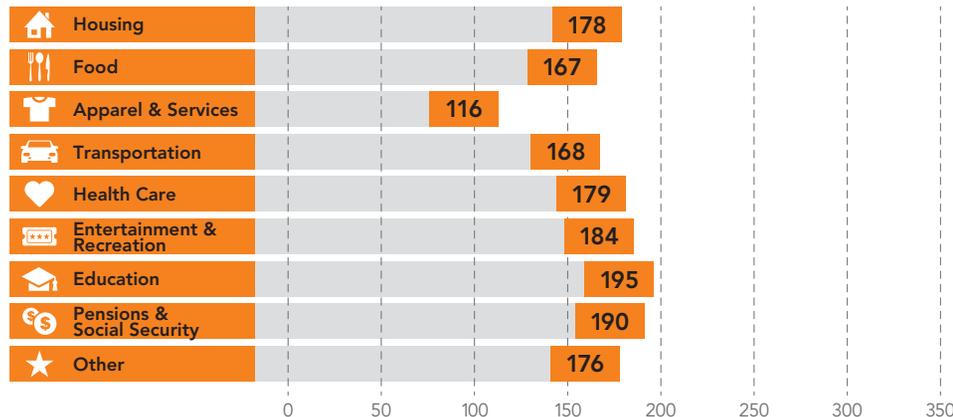


Median Net Worth



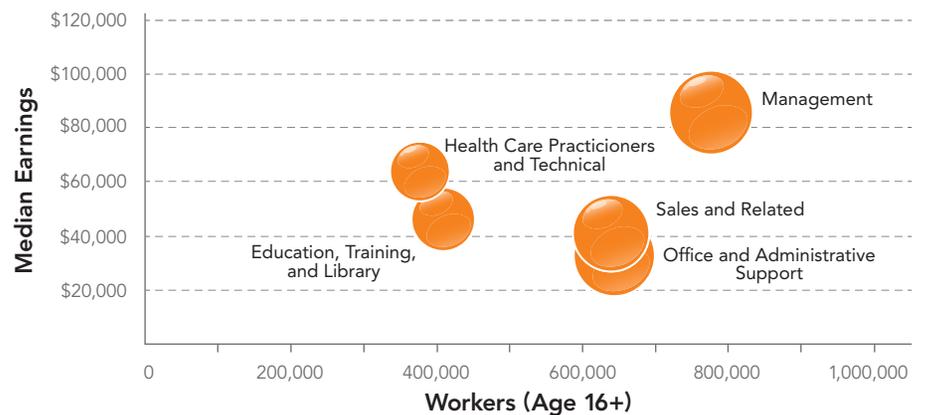
AVERAGE HOUSEHOLD BUDGET INDEX

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OCCUPATION BY EARNINGS

The five occupations with the highest number of workers in the market are displayed by median earnings. Data from the Census Bureau's American Community Survey.





MARKET PROFILE (Consumer preferences are estimated from data by GfK MRI)

- Residents prefer late model, family-oriented vehicles: SUVs, minivans, and station wagons.
- Gardening and home remodeling are priorities, usually DIY. Riding mowers and power tools are popular, although they also hire contractors for the heavy lifting.
- There is extensive use of housekeeping and personal care services.
- Foodies: They like to cook and prefer natural or organic products.
- These investors are financially active, using a number of resources for informed investing. They are not afraid of debt; many households carry first and second mortgages, plus home equity credit lines.
- Physically fit, residents actively pursue a number of sports, from skiing to golf, and invest heavily in sports gear and exercise equipment.

HOUSING

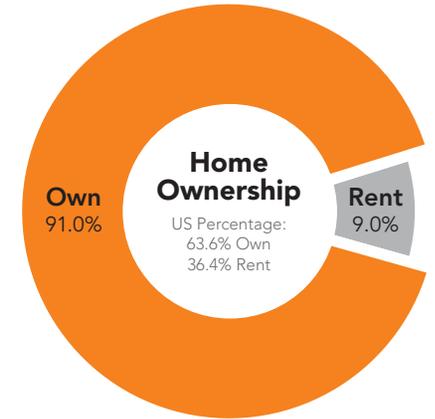
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Typical Housing:
Single Family

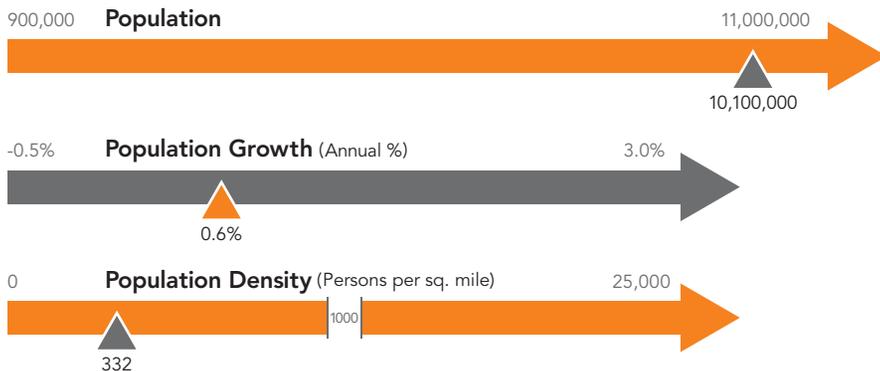
Median Value:
\$311,000

US Median: \$177,000



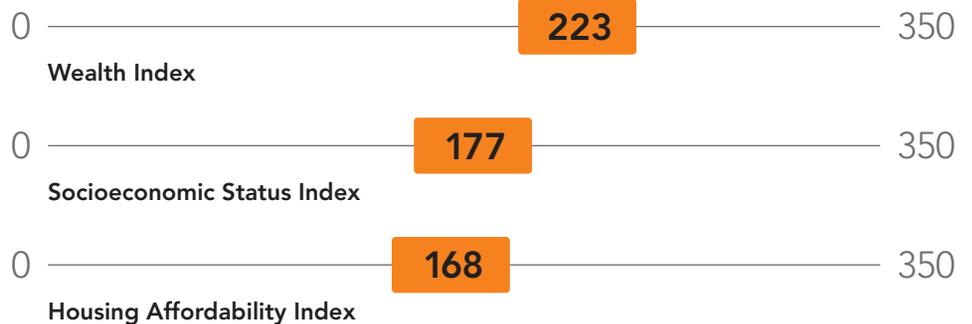
POPULATION CHARACTERISTICS

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ESRI INDEXES

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LifeMode Group: Affluent Estates

Savvy Suburbanites

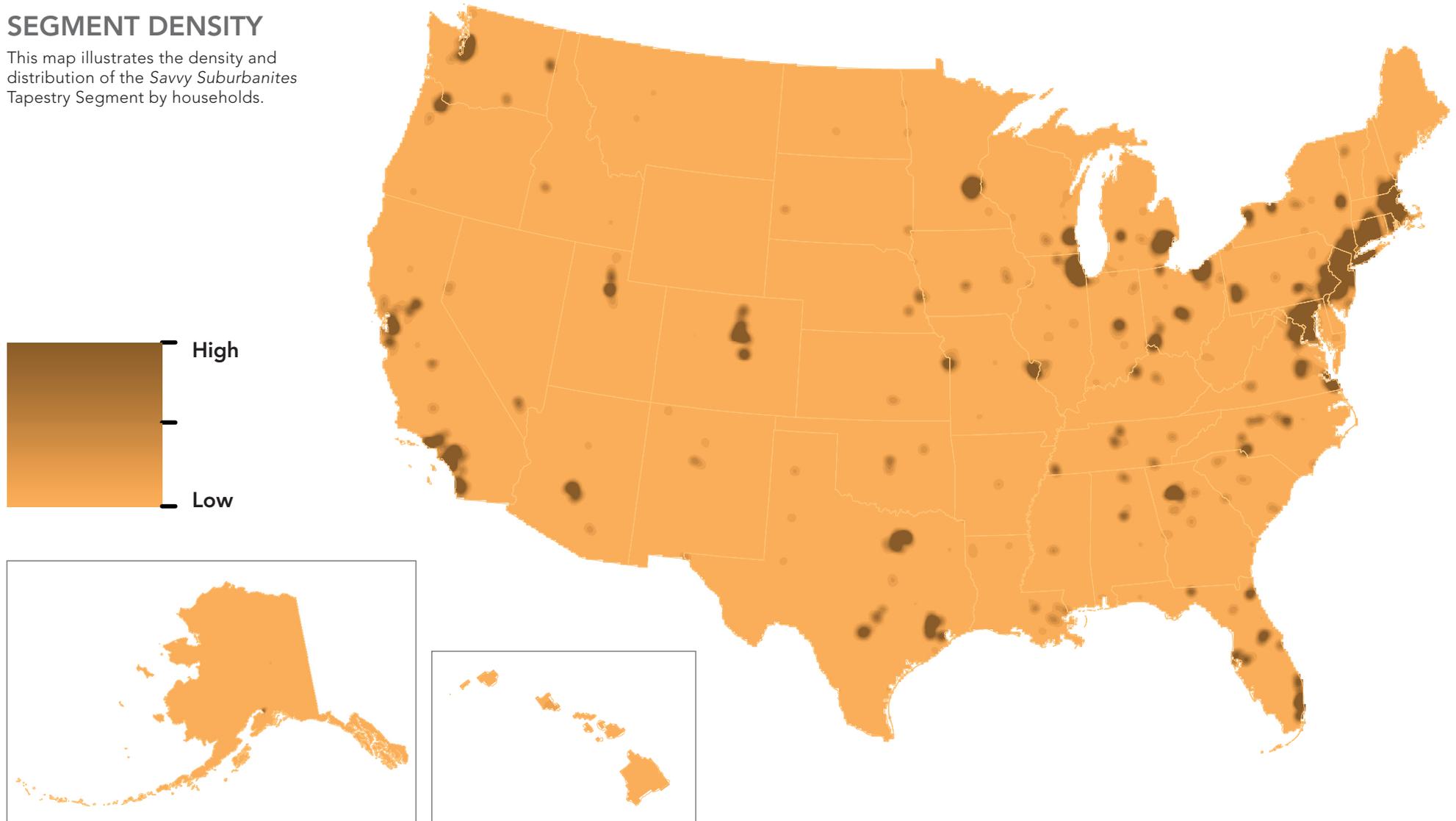


TAPESTRY
SEGMENTATION

esri.com/tapestry

SEGMENT DENSITY

This map illustrates the density and distribution of the *Savvy Suburbanites* Tapestry Segment by households.



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Appendix 3: Retail Demand Forecast Detailed Tables

Low Scenario

Table 1: Low Scenario Taxable Sales by Business Category, Planning Area, 2015-2035

Business Category	% of Income	Taxable Sales			2015-2035 Change
		2015	2025	2035	
Food Services - Restaurants	5.63%	\$106,117,114	\$163,877,066	\$233,546,836	\$127,429,723
Supermarkets & Other Groceries	4.95%	\$93,244,296	\$143,997,524	\$205,215,819	\$111,971,523
Building Material & Supply Dealers	4.46%	\$84,024,644	\$129,759,581	\$184,924,837	\$100,900,192
Discount Stores	4.41%	\$83,057,247	\$128,265,625	\$182,795,749	\$99,738,502
Other General Merchandise Stores	3.34%	\$63,042,996	\$97,357,541	\$138,747,576	\$75,704,580
Clothing Stores	1.63%	\$30,814,013	\$47,586,198	\$67,816,725	\$37,002,713
Department Stores	1.26%	\$23,664,933	\$36,545,847	\$52,082,742	\$28,417,809
Pharmacies & Drug Stores	0.81%	\$15,333,524	\$23,679,620	\$33,746,640	\$18,413,116
Furniture Stores	0.70%	\$13,255,055	\$20,469,833	\$29,172,262	\$15,917,207
Convenience Stores	0.53%	\$9,905,729	\$15,297,455	\$21,800,928	\$11,895,200
Household Appliances	0.42%	\$7,877,016	\$12,164,507	\$17,336,056	\$9,459,040
Sporting Goods and Toy Stores	0.41%	\$7,646,594	\$11,808,664	\$16,828,933	\$9,182,339
Home Furnishings	0.36%	\$6,741,437	\$10,410,828	\$14,836,828	\$8,095,391
Book Stores	0.34%	\$6,409,663	\$9,898,467	\$14,106,645	\$7,696,982
Pet, Hobby, and Craft Stores	0.34%	\$6,346,401	\$9,800,771	\$13,967,416	\$7,621,015
Shoe Stores	0.29%	\$5,375,053	\$8,300,716	\$11,829,635	\$6,454,582
Office Supplies & Stationary	0.28%	\$5,277,583	\$8,150,192	\$11,615,118	\$6,337,535
Fitness Centers	0.25%	\$4,748,771	\$7,333,546	\$10,451,288	\$5,702,517
Drinking Places - Bars	0.25%	\$4,645,010	\$7,173,307	\$10,222,927	\$5,577,916
Jewelery Stores and Repair	0.22%	\$4,076,593	\$6,295,499	\$8,971,932	\$4,895,338
Specialty Food Stores	0.20%	\$3,835,167	\$5,922,663	\$8,440,591	\$4,605,424
Photofinishing	0.20%	\$3,749,386	\$5,790,192	\$8,251,801	\$4,502,415
Florists	0.17%	\$3,291,454	\$5,083,005	\$7,243,964	\$3,952,511
Gift & Novelty Stores	0.14%	\$2,677,000	\$4,134,102	\$5,891,651	\$3,214,650
Laundries and Dry Cleaners	0.12%	\$2,261,473	\$3,492,402	\$4,977,142	\$2,715,669
Motion Picture Theaters	0.07%	\$1,327,321	\$2,049,787	\$2,921,222	\$1,593,901
News Dealers & Newstands	0.06%	\$1,166,229	\$1,801,012	\$2,566,684	\$1,400,455
Luggage & Leather Goods	0.01%	\$252,298	\$389,625	\$555,268	\$302,970
Total	31.84%	\$600,164,001	\$926,835,572	\$1,320,865,213	\$720,701,212

Source: North Carolina Department of Revenue; Kimely-Horn



Table 2: Low Scenario Square Feet Demand by Business Category, Planning Area, 2015

Retail Category	Total Sales (2015)	Sales Per Sq.Ft.	Square Feet Demand
Food Services - Restaurants	\$106,117,114	\$350	303,192
Supermarkets & Other Groceries	\$93,244,296	\$410	227,425
Building Material & Supply Dealers	\$84,024,644	\$260	323,172
Discount Stores	\$83,057,247	\$275	302,026
Other General Merchandise Stores	\$63,042,996	\$440	143,280
Clothing Stores	\$30,814,013	\$275	112,051
Department Stores	\$23,664,933	\$275	86,054
Pharmacies & Drug Stores	\$15,333,524	\$300	51,112
Furniture Stores	\$13,255,055	\$180	73,639
Convenience Stores	\$9,905,729	\$230	43,068
Household Appliances	\$7,877,016	\$255	30,890
Sporting Goods and Toy Stores	\$7,646,594	\$150	50,977
Home Furnishings	\$6,741,437	\$275	24,514
Book Stores	\$6,409,663	\$140	45,783
Pet, Hobby, and Craft Stores	\$6,346,401	\$245	25,904
Shoe Stores	\$5,375,053	\$275	19,546
Office Supplies & Stationary	\$5,277,583	\$300	17,592
Fitness Centers	\$4,748,771	\$200	23,744
Drinking Places - Bars	\$4,645,010	\$275	16,891
Jewelry Stores and Repair	\$4,076,593	\$300	13,589
Specialty Food Stores	\$3,835,167	\$400	9,588
Photofinishing	\$3,749,386	\$345	10,868
Florists	\$3,291,454	\$300	10,972
Gift & Novelty Stores	\$2,677,000	\$140	19,121
Laundries and Dry Cleaners	\$2,261,473	\$300	7,538
Motion Picture Theaters	\$1,327,321	\$350	3,792
News Dealers & Newstands	\$1,166,229	\$100	11,662
Luggage & Leather Goods	\$252,298	\$350	721
Total	\$600,164,001		2,008,711

Source: North Carolina Department of Revenue; Kimely-Horn



Table 3: Low Scenario Square Feet Demand by Business Category, Planning Area, 2025

Retail Category	Total Sales (2025)	Sales Per Sq.Ft.	Square Feet Demand
Food Services - Restaurants	\$163,877,066	\$360	455,689
Supermarkets & Other Groceries	\$143,997,524	\$421	341,814
Building Material & Supply Dealers	\$129,759,581	\$267	485,718
Discount Stores	\$128,265,625	\$283	453,937
Other General Merchandise Stores	\$97,357,541	\$452	215,345
Clothing Stores	\$47,586,198	\$283	168,409
Department Stores	\$36,545,847	\$283	129,337
Pharmacies & Drug Stores	\$23,679,620	\$308	76,820
Furniture Stores	\$20,469,833	\$185	110,678
Convenience Stores	\$15,297,455	\$236	64,731
Household Appliances	\$12,164,507	\$262	46,427
Sporting Goods and Toy Stores	\$11,808,664	\$154	76,617
Home Furnishings	\$10,410,828	\$283	36,844
Book Stores	\$9,898,467	\$144	68,811
Pet, Hobby, and Craft Stores	\$9,800,771	\$252	38,933
Shoe Stores	\$8,300,716	\$283	29,377
Office Supplies & Stationary	\$8,150,192	\$308	26,440
Fitness Centers	\$7,333,546	\$206	35,686
Drinking Places - Bars	\$7,173,307	\$283	25,387
Jewelry Stores and Repair	\$6,295,499	\$308	20,423
Specialty Food Stores	\$5,922,663	\$411	14,410
Photofinishing	\$5,790,192	\$354	16,334
Florists	\$5,083,005	\$308	16,490
Gift & Novelty Stores	\$4,134,102	\$144	28,739
Laundries and Dry Cleaners	\$3,492,402	\$308	11,330
Motion Picture Theaters	\$2,049,787	\$360	5,700
News Dealers & Newstands	\$1,801,012	\$103	17,528
Luggage & Leather Goods	\$389,625	\$360	1,083
Total	\$926,835,572		3,019,037

Source: North Carolina Department of Revenue; Kimely-Horn



Table 4: Low Scenario Square Feet Demand by Business Category, Planning Area, 2035

Retail Category	Total Sales (2035)	Sales Per Sq.Ft.	Square Feet Demand
Food Services - Restaurants	\$233,546,836	\$370	632,037
Supermarkets & Other Groceries	\$205,215,819	\$433	474,093
Building Material & Supply Dealers	\$184,924,837	\$274	673,687
Discount Stores	\$182,795,749	\$290	629,607
Other General Merchandise Stores	\$138,747,576	\$465	298,682
Clothing Stores	\$67,816,725	\$290	233,583
Department Stores	\$52,082,742	\$290	179,390
Pharmacies & Drug Stores	\$33,746,640	\$317	106,548
Furniture Stores	\$29,172,262	\$190	153,509
Convenience Stores	\$21,800,928	\$243	89,781
Household Appliances	\$17,336,056	\$269	64,394
Sporting Goods and Toy Stores	\$16,828,933	\$158	106,268
Home Furnishings	\$14,836,828	\$290	51,103
Book Stores	\$14,106,645	\$148	95,440
Pet, Hobby, and Craft Stores	\$13,967,416	\$259	53,999
Shoe Stores	\$11,829,635	\$290	40,745
Office Supplies & Stationary	\$11,615,118	\$317	36,672
Fitness Centers	\$10,451,288	\$211	49,497
Drinking Places - Bars	\$10,222,927	\$290	35,211
Jewelery Stores and Repair	\$8,971,932	\$317	28,327
Specialty Food Stores	\$8,440,591	\$422	19,987
Photofinishing	\$8,251,801	\$364	22,655
Florists	\$7,243,964	\$317	22,871
Gift & Novelty Stores	\$5,891,651	\$148	39,861
Laundries and Dry Cleaners	\$4,977,142	\$317	15,714
Motion Picture Theaters	\$2,921,222	\$370	7,906
News Dealers & Newstands	\$2,566,684	\$106	24,311
Luggage & Leather Goods	\$555,268	\$370	1,503
Total	\$1,320,865,213		4,187,380

Source: North Carolina Department of Revenue; Kimely-Horn



Table 5: Low Scenario Net New Demand by Business Category, Planning Area, 2015-2025

Retail Category	2015-2025 Net Sq.Ft. Demand	Net Inflow/ Outflow	2015-2025 Total Net Demand
Food Services - Restaurants	152,497	10.0%	167,747
Supermarkets & Other Groceries	114,388	5.0%	120,108
Building Material & Supply Dealers	162,546	0.0%	162,546
Discount Stores	151,911	5.0%	159,506
Other General Merchandise Stores	72,066	5.0%	75,669
Clothing Stores	56,359	0.0%	56,359
Department Stores	43,283	0.0%	43,283
Pharmacies & Drug Stores	25,708	10.0%	28,279
Furniture Stores	37,038	0.0%	37,038
Convenience Stores	21,662	10.0%	23,828
Household Appliances	15,537	0.0%	15,537
Sporting Goods and Toy Stores	25,640	0.0%	25,640
Home Furnishings	12,330	0.0%	12,330
Book Stores	23,028	0.0%	23,028
Pet, Hobby, and Craft Stores	13,029	0.0%	13,029
Shoe Stores	9,831	0.0%	9,831
Office Supplies & Stationary	8,848	0.0%	8,848
Fitness Centers	11,942	0.0%	11,942
Drinking Places - Bars	8,496	5.0%	8,920
Jewelery Stores and Repair	6,835	0.0%	6,835
Specialty Food Stores	4,822	5.0%	5,064
Photofinishing	5,466	0.0%	5,466
Florists	5,518	5.0%	5,794
Gift & Novelty Stores	9,618	5.0%	10,098
Laundries and Dry Cleaners	3,792	5.0%	3,981
Motion Picture Theaters	1,907	0.0%	1,907
News Dealers & Newstands	5,866	5.0%	6,159
Luggage & Leather Goods	363	0.0%	363
Total	1,010,326		1,049,136

Source: Department of Revenue; Kimely-Horn



Table 6: Low Scenario Net New Demand by Business Category, Planning Area, 2025-2035

Retail Category	2025-2035 Net Sq.Ft. Demand	Net Inflow/ Outflow	2025-2035 Total Net Demand
Food Services - Restaurants	176,348	10.0%	193,983
Supermarkets & Other Groceries	132,279	5.0%	138,893
Building Material & Supply Dealers	187,969	0.0%	187,969
Discount Stores	175,670	5.0%	184,454
Other General Merchandise Stores	83,337	5.0%	87,504
Clothing Stores	65,173	0.0%	65,173
Department Stores	50,052	0.0%	50,052
Pharmacies & Drug Stores	29,729	10.0%	32,701
Furniture Stores	42,831	0.0%	42,831
Convenience Stores	25,050	10.0%	27,555
Household Appliances	17,967	0.0%	17,967
Sporting Goods and Toy Stores	29,650	0.0%	29,650
Home Furnishings	14,258	0.0%	14,258
Book Stores	26,629	0.0%	26,629
Pet, Hobby, and Craft Stores	15,067	0.0%	15,067
Shoe Stores	11,368	0.0%	11,368
Office Supplies & Stationary	10,232	0.0%	10,232
Fitness Centers	13,810	0.0%	13,810
Drinking Places - Bars	9,824	5.0%	10,316
Jewelery Stores and Repair	7,904	0.0%	7,904
Specialty Food Stores	5,577	5.0%	5,856
Photofinishing	6,321	0.0%	6,321
Florists	6,381	5.0%	6,701
Gift & Novelty Stores	11,122	5.0%	11,678
Laundries and Dry Cleaners	4,385	5.0%	4,604
Motion Picture Theaters	2,206	0.0%	2,206
News Dealers & Newstands	6,783	5.0%	7,122
Luggage & Leather Goods	419	0.0%	419
Total	1,168,343		1,213,224

Source: Department of Revenue; Kimley-Horn



High Scenario

Table 7: High Scenario Taxable Sales by Business Category, Planning Area, 2015-2035

Business Category	% of Income	Taxable Sales			2015-2035 Change
		2015	2025	2035	
Food Services - Restaurants	5.63%	\$106,117,114	\$184,742,769	\$291,896,285	\$185,779,172
Supermarkets & Other Groceries	4.95%	\$93,244,296	\$162,332,058	\$256,487,033	\$163,242,737
Building Material & Supply Dealers	4.46%	\$84,024,644	\$146,281,264	\$231,126,543	\$147,101,898
Discount Stores	4.41%	\$83,057,247	\$144,597,090	\$228,465,523	\$145,408,276
Other General Merchandise Stores	3.34%	\$63,042,996	\$109,753,623	\$173,412,334	\$110,369,338
Clothing Stores	1.63%	\$30,814,013	\$53,645,127	\$84,760,087	\$53,946,075
Department Stores	1.26%	\$23,664,933	\$41,199,059	\$65,095,118	\$41,430,185
Pharmacies & Drug Stores	0.81%	\$15,333,524	\$26,694,636	\$42,177,916	\$26,844,392
Furniture Stores	0.70%	\$13,255,055	\$23,076,161	\$36,460,673	\$23,205,618
Convenience Stores	0.53%	\$9,905,729	\$17,245,208	\$27,247,682	\$17,341,953
Household Appliances	0.42%	\$7,877,016	\$13,713,357	\$21,667,304	\$13,790,288
Sporting Goods and Toy Stores	0.41%	\$7,646,594	\$13,312,206	\$21,033,481	\$13,386,887
Home Furnishings	0.36%	\$6,741,437	\$11,736,390	\$18,543,668	\$11,802,231
Book Stores	0.34%	\$6,409,663	\$11,158,792	\$17,631,055	\$11,221,393
Pet, Hobby, and Craft Stores	0.34%	\$6,346,401	\$11,048,658	\$17,457,041	\$11,110,640
Shoe Stores	0.29%	\$5,375,053	\$9,357,607	\$14,785,157	\$9,410,103
Office Supplies & Stationary	0.28%	\$5,277,583	\$9,187,917	\$14,517,044	\$9,239,461
Fitness Centers	0.25%	\$4,748,771	\$8,267,292	\$13,062,443	\$8,313,671
Drinking Places - Bars	0.25%	\$4,645,010	\$8,086,651	\$12,777,027	\$8,132,017
Jewelry Stores and Repair	0.22%	\$4,076,593	\$7,097,075	\$11,213,483	\$7,136,890
Specialty Food Stores	0.20%	\$3,835,167	\$6,676,768	\$10,549,392	\$6,714,225
Photofinishing	0.20%	\$3,749,386	\$6,527,430	\$10,313,435	\$6,564,049
Florists	0.17%	\$3,291,454	\$5,730,200	\$9,053,800	\$5,762,346
Gift & Novelty Stores	0.14%	\$2,677,000	\$4,660,478	\$7,363,624	\$4,686,623
Laundries and Dry Cleaners	0.12%	\$2,261,473	\$3,937,073	\$6,220,633	\$3,959,160
Motion Picture Theaters	0.07%	\$1,327,321	\$2,310,777	\$3,651,061	\$2,323,740
News Dealers & Newstands	0.06%	\$1,166,229	\$2,030,326	\$3,207,945	\$2,041,716
Luggage & Leather Goods	0.01%	\$252,298	\$439,234	\$693,996	\$441,698
Total	31.84%	\$600,164,001	\$1,044,845,227	\$1,650,870,785	\$1,050,706,784

Source: North Carolina Department of Revenue; Kimley-Horn



Table 8: High Scenario Square Feet Demand by Business Category, Planning Area, 2015

Retail Category	Total Sales (2015)	Sales Per Sq.Ft.	Square Feet Demand
Food Services - Restaurants	\$106,117,114	\$350	303,192
Supermarkets & Other Groceries	\$93,244,296	\$410	227,425
Building Material & Supply Dealers	\$84,024,644	\$260	323,172
Discount Stores	\$83,057,247	\$275	302,026
Other General Merchandise Stores	\$63,042,996	\$440	143,280
Clothing Stores	\$30,814,013	\$275	112,051
Department Stores	\$23,664,933	\$275	86,054
Pharmacies & Drug Stores	\$15,333,524	\$300	51,112
Furniture Stores	\$13,255,055	\$180	73,639
Convenience Stores	\$9,905,729	\$230	43,068
Household Appliances	\$7,877,016	\$255	30,890
Sporting Goods and Toy Stores	\$7,646,594	\$150	50,977
Home Furnishings	\$6,741,437	\$275	24,514
Book Stores	\$6,409,663	\$140	45,783
Pet, Hobby, and Craft Stores	\$6,346,401	\$245	25,904
Shoe Stores	\$5,375,053	\$275	19,546
Office Supplies & Stationary	\$5,277,583	\$300	17,592
Fitness Centers	\$4,748,771	\$200	23,744
Drinking Places - Bars	\$4,645,010	\$275	16,891
Jewelery Stores and Repair	\$4,076,593	\$300	13,589
Specialty Food Stores	\$3,835,167	\$400	9,588
Photofinishing	\$3,749,386	\$345	10,868
Florists	\$3,291,454	\$300	10,972
Gift & Novelty Stores	\$2,677,000	\$140	19,121
Laundries and Dry Cleaners	\$2,261,473	\$300	7,538
Motion Picture Theaters	\$1,327,321	\$350	3,792
News Dealers & Newstands	\$1,166,229	\$100	11,662
Luggage & Leather Goods	\$252,298	\$350	721
Total	\$600,164,001		2,008,711

Source: North Carolina Department of Revenue; Kimely-Horn



Table 9: High Scenario Square Feet Demand by Business Category, Planning Area, 2025

Retail Category	Total Sales (2025)	Sales Per Sq.Ft.	Square Feet Demand
Food Services - Restaurants	\$184,742,769	\$360	513,709
Supermarkets & Other Groceries	\$162,332,058	\$421	385,335
Building Material & Supply Dealers	\$146,281,264	\$267	547,562
Discount Stores	\$144,597,090	\$283	511,735
Other General Merchandise Stores	\$109,753,623	\$452	242,764
Clothing Stores	\$53,645,127	\$283	189,852
Department Stores	\$41,199,059	\$283	145,805
Pharmacies & Drug Stores	\$26,694,636	\$308	86,601
Furniture Stores	\$23,076,161	\$185	124,770
Convenience Stores	\$17,245,208	\$236	72,972
Household Appliances	\$13,713,357	\$262	52,339
Sporting Goods and Toy Stores	\$13,312,206	\$154	86,373
Home Furnishings	\$11,736,390	\$283	41,536
Book Stores	\$11,158,792	\$144	77,572
Pet, Hobby, and Craft Stores	\$11,048,658	\$252	43,890
Shoe Stores	\$9,357,607	\$283	33,117
Office Supplies & Stationary	\$9,187,917	\$308	29,807
Fitness Centers	\$8,267,292	\$206	40,230
Drinking Places - Bars	\$8,086,651	\$283	28,619
Jewelery Stores and Repair	\$7,097,075	\$308	23,024
Specialty Food Stores	\$6,676,768	\$411	16,245
Photofinishing	\$6,527,430	\$354	18,414
Florists	\$5,730,200	\$308	18,589
Gift & Novelty Stores	\$4,660,478	\$144	32,398
Laundries and Dry Cleaners	\$3,937,073	\$308	12,772
Motion Picture Theaters	\$2,310,777	\$360	6,426
News Dealers & Newstands	\$2,030,326	\$103	19,760
Luggage & Leather Goods	\$439,234	\$360	1,221
Total	\$1,044,845,227		3,403,437

Source: North Carolina Department of Revenue; Kimely -Horn



Table 10: High Scenario Square Feet Demand by Business Category, Planning Area, 2035

Retail Category	Total Sales (2035)	Sales Per Sq.Ft.	Square Feet Demand
Food Services - Restaurants	\$291,896,285	\$370	789,945
Supermarkets & Other Groceries	\$256,487,033	\$433	592,540
Building Material & Supply Dealers	\$231,126,543	\$274	842,001
Discount Stores	\$228,465,523	\$290	786,909
Other General Merchandise Stores	\$173,412,334	\$465	373,305
Clothing Stores	\$84,760,087	\$290	291,941
Department Stores	\$65,095,118	\$290	224,208
Pharmacies & Drug Stores	\$42,177,916	\$317	133,168
Furniture Stores	\$36,460,673	\$190	191,862
Convenience Stores	\$27,247,682	\$243	112,212
Household Appliances	\$21,667,304	\$269	80,482
Sporting Goods and Toy Stores	\$21,033,481	\$158	132,818
Home Furnishings	\$18,543,668	\$290	63,870
Book Stores	\$17,631,055	\$148	119,285
Pet, Hobby, and Craft Stores	\$17,457,041	\$259	67,490
Shoe Stores	\$14,785,157	\$290	50,925
Office Supplies & Stationary	\$14,517,044	\$317	45,835
Fitness Centers	\$13,062,443	\$211	61,863
Drinking Places - Bars	\$12,777,027	\$290	44,008
Jewelry Stores and Repair	\$11,213,483	\$317	35,404
Specialty Food Stores	\$10,549,392	\$422	24,981
Photofinishing	\$10,313,435	\$364	28,315
Florists	\$9,053,800	\$317	28,586
Gift & Novelty Stores	\$7,363,624	\$148	49,820
Laundries and Dry Cleaners	\$6,220,633	\$317	19,640
Motion Picture Theaters	\$3,651,061	\$370	9,881
News Dealers & Newstands	\$3,207,945	\$106	30,385
Luggage & Leather Goods	\$693,996	\$370	1,878
Total	\$1,650,870,785		5,233,558

Source: North Carolina Department of Revenue; Kimely-Horn



Table 11: High Scenario Net New Demand by Business Category, Planning Area, 2015-2025

Retail Category	2015-2025 Net Sq.Ft. Demand	Net Inflow/ Outflow	2015-2025 Total Net Demand
Food Services - Restaurants	210,518	10.0%	231,569
Supermarkets & Other Groceries	157,910	5.0%	165,806
Building Material & Supply Dealers	224,391	0.0%	224,391
Discount Stores	209,709	5.0%	220,194
Other General Merchandise Stores	99,485	5.0%	104,459
Clothing Stores	77,801	0.0%	77,801
Department Stores	59,751	0.0%	59,751
Pharmacies & Drug Stores	35,489	10.0%	39,038
Furniture Stores	51,131	0.0%	51,131
Convenience Stores	29,904	10.0%	32,894
Household Appliances	21,448	0.0%	21,448
Sporting Goods and Toy Stores	35,395	0.0%	35,395
Home Furnishings	17,021	0.0%	17,021
Book Stores	31,789	0.0%	31,789
Pet, Hobby, and Craft Stores	17,986	0.0%	17,986
Shoe Stores	13,571	0.0%	13,571
Office Supplies & Stationary	12,215	0.0%	12,215
Fitness Centers	16,486	0.0%	16,486
Drinking Places - Bars	11,728	5.0%	12,314
Jewelery Stores and Repair	9,435	0.0%	9,435
Specialty Food Stores	6,657	5.0%	6,990
Photofinishing	7,546	0.0%	7,546
Florists	7,618	5.0%	7,999
Gift & Novelty Stores	13,277	5.0%	13,941
Laundries and Dry Cleaners	5,234	5.0%	5,496
Motion Picture Theaters	2,633	0.0%	2,633
News Dealers & Newstands	8,098	5.0%	8,502
Luggage & Leather Goods	501	0.0%	501
Total	1,394,726		1,448,302

Source: Department of Revenue; Kimely-Horn



Table 12: High Scenario Net New Demand by Business Category, Planning Area, 2025-2035

Retail Category	2025-2035 Net Sq.Ft. Demand	Net Inflow/ Outflow	2025-2035 Total Net Demand
Food Services - Restaurants	276,236	10.0%	303,859
Supermarkets & Other Groceries	207,205	5.0%	217,565
Building Material & Supply Dealers	294,439	0.0%	294,439
Discount Stores	275,174	5.0%	288,932
Other General Merchandise Stores	130,541	5.0%	137,068
Clothing Stores	102,089	0.0%	102,089
Department Stores	78,403	0.0%	78,403
Pharmacies & Drug Stores	46,567	10.0%	51,224
Furniture Stores	67,092	0.0%	67,092
Convenience Stores	39,239	10.0%	43,163
Household Appliances	28,144	0.0%	28,144
Sporting Goods and Toy Stores	46,445	0.0%	46,445
Home Furnishings	22,335	0.0%	22,335
Book Stores	41,713	0.0%	41,713
Pet, Hobby, and Craft Stores	23,601	0.0%	23,601
Shoe Stores	17,808	0.0%	17,808
Office Supplies & Stationary	16,028	0.0%	16,028
Fitness Centers	21,633	0.0%	21,633
Drinking Places - Bars	15,389	5.0%	16,159
Jewelery Stores and Repair	12,381	0.0%	12,381
Specialty Food Stores	8,735	5.0%	9,172
Photofinishing	9,902	0.0%	9,902
Florists	9,996	5.0%	10,496
Gift & Novelty Stores	17,421	5.0%	18,292
Laundries and Dry Cleaners	6,868	5.0%	7,211
Motion Picture Theaters	3,455	0.0%	3,455
News Dealers & Newstands	10,625	5.0%	11,157
Luggage & Leather Goods	657	0.0%	657
Total	1,830,121		1,900,423

Source: Department of Revenue; Kimely-Horn



Appendix 4: Follow-Up Questions from Town Council

1. “Ideal” balance of jobs in a community?

Reviewing the balance of jobs and households in a community has often been used as a tool to consider commuting patterns and potential vehicle miles traveled. A higher the share of jobs typically increases the potential that residents do not need to commute outside of the community for employment, which can result in congestion and transportation delays. Benefits typically related to an ‘ideal’ balance of jobs and households include:

- Reduced driving and congestion
- Fewer air pollution emissions
- Lower costs to businesses and commuters
- Lower public expenditures on facilities and services
- Greater family stability
- Higher quality of life

At the most basic level having roughly one job for each household would offer opportunities to decrease commuting to other areas. Suburban markets typically range from 1.0 to 1.2 jobs per household. The current ratio in the Apex Planning Area is 0.83, compared to 1.29 in Wake County and 1.10 in the Raleigh-Durham Combined Statistical Area (CSA). It’s important to note a future challenge for Apex will be matching the highly skilled and educated labor force with available jobs in the community.

2. “Ideal” balance of non-residential tax base in a community?

Targets for an ‘ideal’ balance of non-residential and residential tax base in a community should be determined through a review of goals unique to the area. However, increasing the share of non-residential tax base can help to support more local jobs, and grow the community more sustainably. Higher-shares of non-residential land uses increase opportunities for people to live and work in a community, balancing the cost of delivering services and typically bringing in more revenue.

A balanced target for the Town of Apex should be an individual goal; however, reviewing state-wide ratios could provide a starting point for discussion. As of 2010, approximately 54% of the total tax base on the State of North Carolina was attributable to residential uses, versus 46% for non-residential. The often-quoted rule of thumb representing a balanced tax base is 60% residential, 40% non-residential, roughly consistent with the state-wide metric.

Based on a high-level review of tax data for the Apex Planning Area, the share of residential to non-residential assessed values is estimated at 88% to 12%. This excludes assessed values for vacant properties that are currently not attributable to either residential or non-residential uses.



3. Examples of new construction tech/flex buildings.





4. Demographic data resources.

Much of the demographic information profiled in this analysis relies on data provided by Environmental Systems Research Institute (ESRI) and their Business Analyst Online platform. This paid service allows Kimley-Horn to provide demographic details for custom-defined geographies (the Apex Planning Area). The following websites are available free of charge for standard US Census geographies, including census tracts, municipal limits, and counties.

US Census American FactFinder:

<http://factfinder.census.gov>

US Census American Community Survey:

<https://www.census.gov/programs-surveys/acs/>

US Census Residential Building Permit Data:

<http://www.census.gov/construction/bps/>

US Census Longitudinal Employer-Household Dynamics (allows for custom geographies):

<http://lehd.ces.census.gov/>

<http://onthemap.ces.census.gov/>

Bureau of Labor Statistics:

<http://www.bls.gov/>

5. Land Requirements for Demand Forecasts in Activity Nodes

Floor area ratios (FAR) and densities used to determine the land requirements for 20-year demand projections are based on actual development patterns as exhibited in the Town of Apex. Floor area ratio, used for non-residential projections, is defined as the ratio of a building's total floor area to the size of the property upon which it is built. Residential densities reflect zoning and constructed product. It should be noted that the Town of Apex may consider reserving additional acreage for non-residential uses based on demand beyond a 20-year period. Leaving additional acreage would be particularly relevant for the US-1 node, which is highly dependent on the construction of a new interchange. Timing for interchange completion is unknown. The following FARs and densities are assumed:

- Single-family detached residential – four to six units per acre
- Townhouse residential – eight to 12 units per acre
- Multi-family residential – 15 to 20 units per acre
- Retail – 0.20 to 0.25 FAR
- Office – 0.25 to 0.30 FAR
- Industrial/Flex – 0.15 to 0.20 FAR

Humie Olive Node

Given this area's proximity to the central core of Apex, as well as accessibility to utility infrastructure, the Humie Olive activity node is likely to be developed sooner than other nodes in the Study Area. It would be appropriate for a mixture of residential, retail, and professional office uses. Based on the density and FAR ranges outlined above, the 20-year demand for the node would require between 70 and 97 acres of land.



Table 13: Projected Demand and Land Requirements, Humie Olive Node, 2015-2035

Land Use	Projected Demand		Required Acreage	
	Units	Sq.Ft.	Low	High
Single-Family Detached	100		16.7	25.0
Townhouse	150		12.5	18.8
Apartments	500		25.0	33.3
Retail		150,000	13.8	17.2
Office		25,000	1.9	2.3
Industrial/Flex		0	0.0	0.0
Total	750	175,000	70	97

Source: Kimley-Horn; Wake County GIS

US-1 Node

Located adjacent to US-1, this node would be appropriate to host a variety of uses, including light industrial, warehousing, office, research, and technology, as well as support retail. However, it is important to note that the interchange on US-1 and the Richardson Road Extension, as well as the expansion of public utilities, will be critical components to the marketability of this site. Non-residential employment uses will look for access to shovel ready sites, meaning that access to transportation corridors and provision of public utilities are in place. This may need to be initiated as a public investment by the Town of Apex. The 20-year projected demand equates to between 49 and 67 acres of required land. As previously noted, additional acreage could be set aside for demand beyond a 20-year period or for unexpected drop-ins that are difficult to forecast.

Table 14: Projected Demand and Land Requirements, US-1 Node, 2015-2035

Land Use	Projected Demand		Required Acreage	
	Units	Sq.Ft.	Low	High
Single-Family Detached			0.0	0.0
Townhouse	75		6.3	9.4
Apartments	250		12.5	16.7
Retail		30,000	2.8	3.4
Office		20,000	1.5	1.8
Industrial/Flex		230,000	26.4	35.2
Total	325	280,000	49	67

Source: Kimley-Horn; Wake County GIS

New Hill Node

Representing the furthest activity node from an urbanized area, the New Hill Node will likely develop incrementally over time. Non-residential development in this area will be driven by traffic traveling along US-1, and is likely to grow north along New Hill Holleman Road from the interchange. Another benefit of this node is the proximity to the Western Wake Regional Wastewater Reclamation Facility, and therefore public utility infrastructure. Based on the density and FAR assumptions shown above, forecasted demand for the New Hill Node would require between 54 and 76 acres.



Table 15: Projected Demand and Land Requirements,
New Hill Node, 2015-2035

	Projected Demand		Required Acreage	
	Units	Sq.Ft.	Low	High
Single-Family Detached	150		25.0	37.5
Townhouse	75		6.3	9.4
Apartments	250		12.5	16.7
Retail		100,000	9.2	11.5
Office		10,000	0.8	0.9
Industrial/Flex		0	0.0	0.0
Total	475	110,000	54	76

Source: Kimley-Horn; Wake County GIS