— *Economic Analysis*

PART I: Economic Well-Being

Aging, Increasingly Diverse Population

Nashua's population pyramid (Dem_Figure11) indicates that the bulk of the city's population lies in the working-age, 35-65 age group and is nearing retirement. The pyramid also demonstrates the steep drop-off in population under the age of 25, and the pyramid's narrow "base" indicates that the population's average age will increase in the coming years. Nashua's population growth rate (.3%) is significantly lower than the state or metropolitan region's. Though it is probably unsurprising that the rate is lower than Boston's (9.2%), it is notable that Nashua's population growth lags behind even the state of New Hampshire at large (Dem_Figure 12).
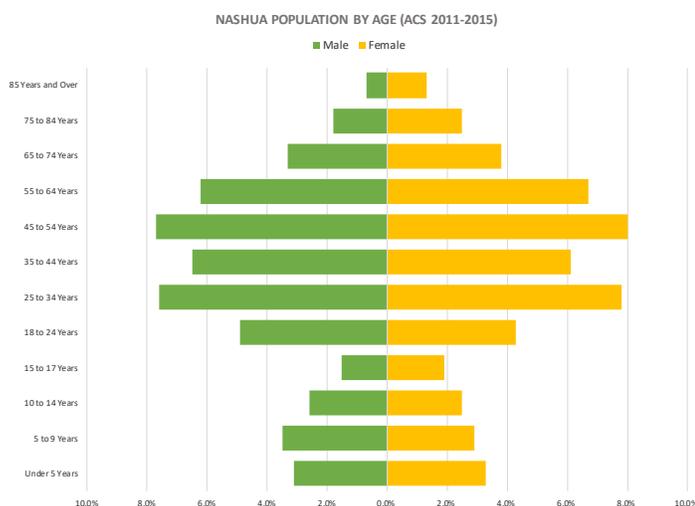
Nashua is the most diverse city in New Hampshire, and Dem_Figure 18 shows this growth has occurred across multiracial, Black, Asian, and Latino groups. Among these groups, the Latino population has seen the most significant growth, having experienced 41% growth between 2011-2016 (Dem_Figure18).

Fig 9. Minority Ethnic Composition of the City of Nashua Over time: 2011 and 2016
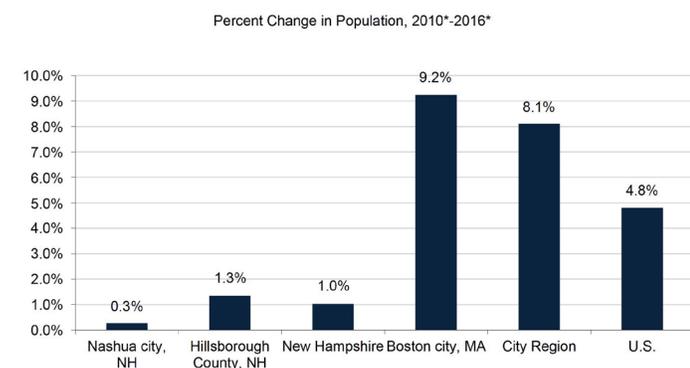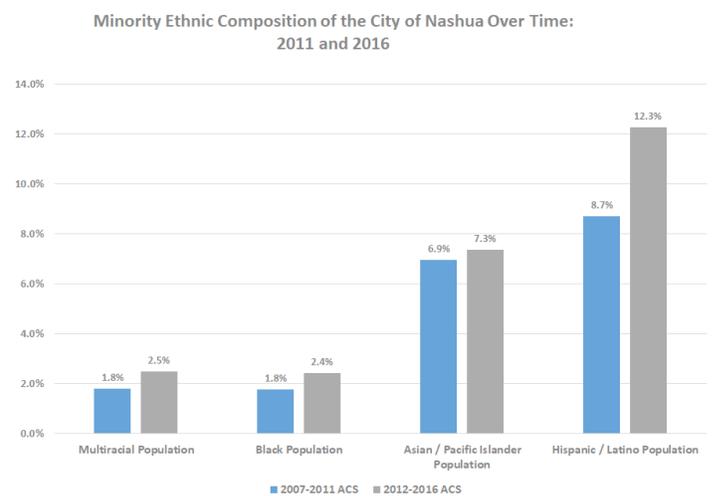

Fig 9. Nashua Population Age. (ACS 2011-2015)

Fig 9. Percentage Change in Population, 2010-2016

At the same time, Nashua has become an increasingly ethnically diverse city in recent years.

Persistent Poverty and Inequality

Though the household income distribution in Nashua has trended towards more households in the upper-middle class in the past decade (Dem_Figure 1), our research indicates that Nashua's non-white populations experience disproportionate poverty levels. Though Nashua's overall poverty rate is 11%, 22% of the Latino population and nearly 18% of the Black population lives below the poverty line (Dem_Figure19). These trends are likely related to diverging educational attainment among racial groups; Latino residents are more than twice as likely to lack a high school degree than residents overall (Dem_Figure 20.1).
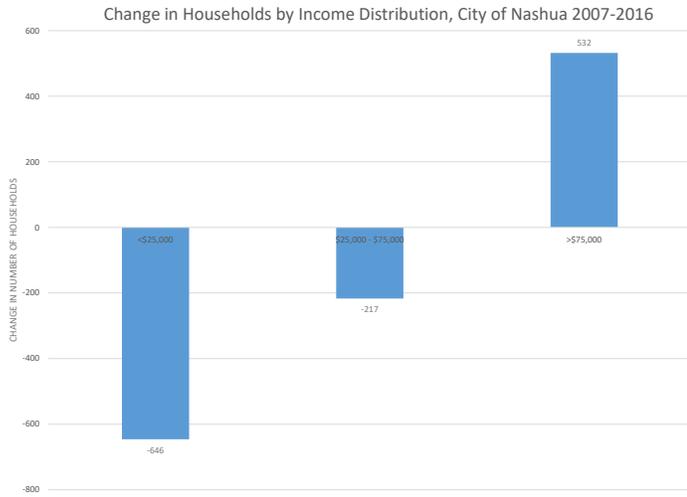
Fig 9. Change in Households by income Distribution, City of Nashua, 2007-2016
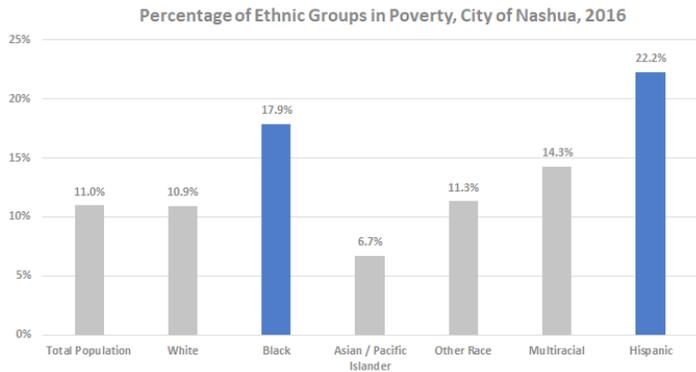

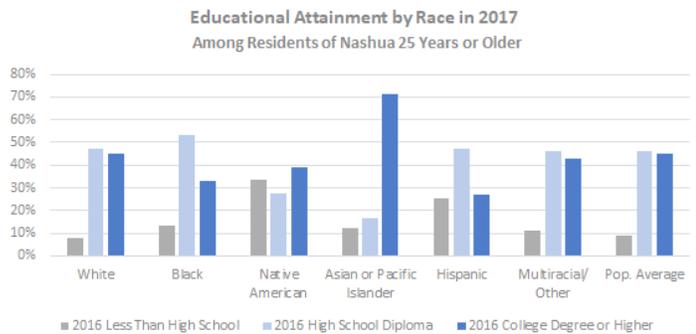Fig 9. Percentage of Ethnic Groups in Poverty, City of Nashua, 2016

Fig 9. Educational Attainment by Race in 2017.

These differences reflect larger duality of Nashua residents' economic fortunes. On one hand, Nashua has seen a growth in affluent residents (Dem_Figure 2). And while the number of residents earning less than $25,000 annually has dramatically decreased by nearly 40% (Dem_Figure 5), the poverty rate of Nashua (11%) is above the New Hampshire average (8%) and is increasing more rapidly; Nashua's poverty rate increased by

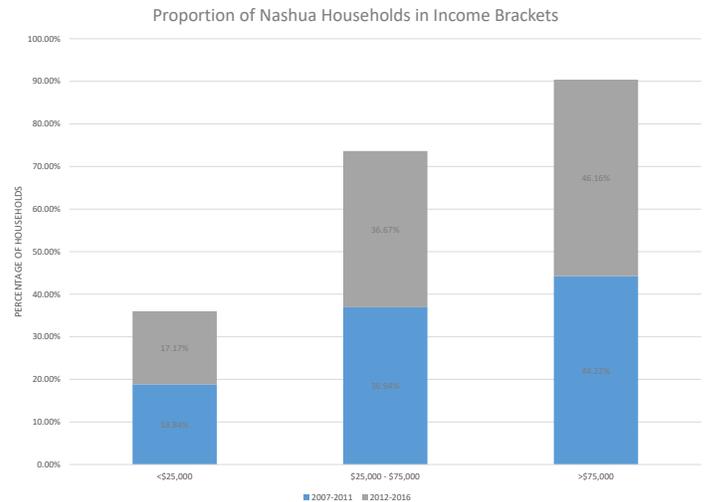over 3% 2012-2016, while New Hampshire's increased by .8% during the same period (Dem_Figure 3).

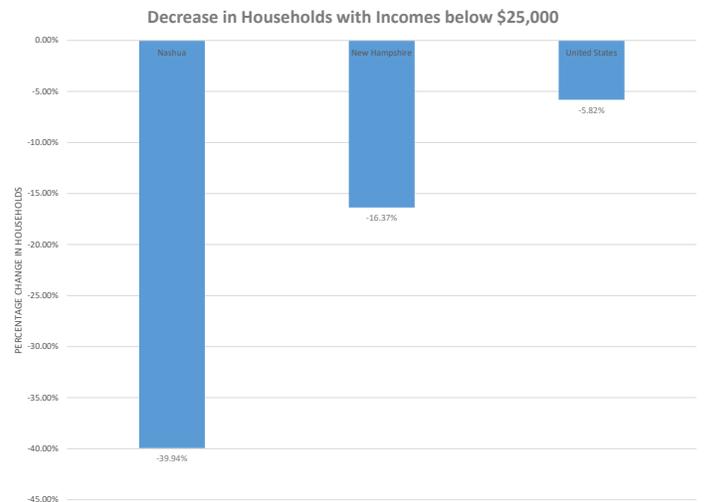Fig 9. Proportion of Nashua Households in income Brackets
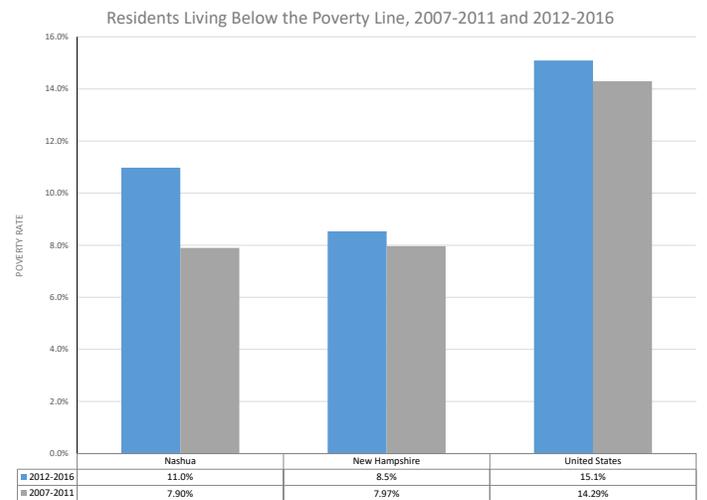

Fig 9. Decrease in Households with income below $ 25,000

Fig 9. Residents Living Below the Poverty Line, 2007-2011 and 2012-2016

PART II: Workforce Analysis

Education and Skills

Our supply-side analysis of Nashua's workforce compares the skills of regional and local workers to open jobs that correspond to that particular program. In order to better understand how local and regional educational institutions are preparing students for the job market, we examined how program completions from the 14 institutions in the Manchester-Nashua Metropolitan Statistical Area (MSA) compared to job openings in Nashua and in the larger MSA in 2017 (Dem_Figure14).
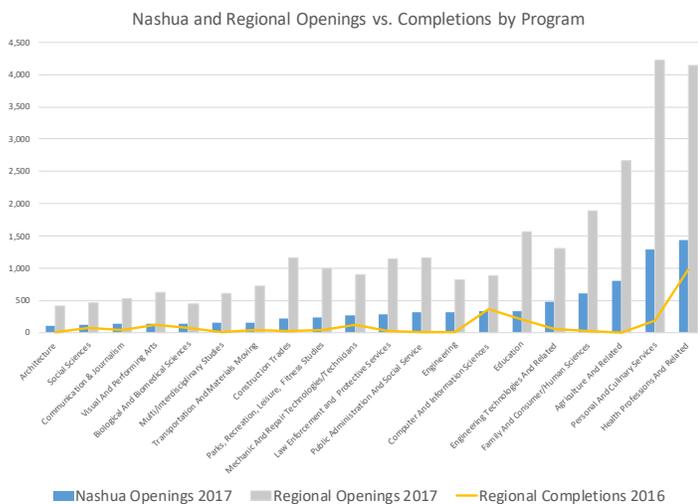

Nashua and Regional Openings vs. Completions by Program

Fig 9. Nashua and regional completions CC openings compared with all completions from 14 postsecondary institutions in the Nashua-Manchester MSA. The industries represented are those with over 1,000 jobs in Nashua. Business, management, and marketing is omitted due to large volume, but has a similar trend: with only 408 completions, there were about 3,000 and 10,000 open jobs in Nashua and regionally, respectively, in 2017. Source: ESMI.

Dem_Figure14 Caption: Nashua and regional completions CC openings compared with all completions from 14 postsecondary institutions in the Nashua-Manchester MSA. The industries represented are those with over 1,000 jobs in Nashua. Business, management, and marketing is omitted due to large volume, but has a similar trend: with only 408 completions, there were about 3,000 and 10,000 open jobs in Nashua and regionally, respectively, in 2017. Source: ESMI.

Dem_Figure14 indicates that there are is an underproduction of graduates compared to available jobs across all sectors — in many cases,

all regional completions do not account for the number of Nashua openings, let alone those in the wider region. This gap widens noticeably as the number of openings increases, indicating that there might be a lag between fast-growing industries and educational institutions' offerings.

There is a clear gap between completions and openings in health professions. Although regional completions in health professions in 2016 (976) was more than double that of the next highest-producing program (business, management and marketing; 408), there were 1,431 jobs to be filled that next year in Nashua alone and 4,138 at the regional scale. There are also gaps in personal and culinary services; engineering and engineering technologies; agriculture; and human sciences. Though many of these sectors are low-paid, engineering technologies in particular might be an avenue for future exploration should Nashua decide to expand its focus beyond the healthcare sector.

PART III: Economic Structure

Job and Economic Base Analysis

The City of Nashua experienced stronger growth than New Hampshire as a whole 2010-2017, but lagged the Boston-NH Metropolitan Statistical Area (MSA) and national job growth during the same period [Dem_Figure 8]. The city's 2008 economic development plan found that Nashua had fallen behind all other relevant geographies (state, MSA, national) in job growth. As such, Nashua's growth signals a healthier economy relative to the state. Nashua's economy tends to follow similar economic trends as the Boston MSA, and Boston's overall growth by sector (Dem_Figure35) is largely reflected in Nashua. One area of discrepancy, though, is in educational services; Nashua saw extreme growth (77%) in its education sector
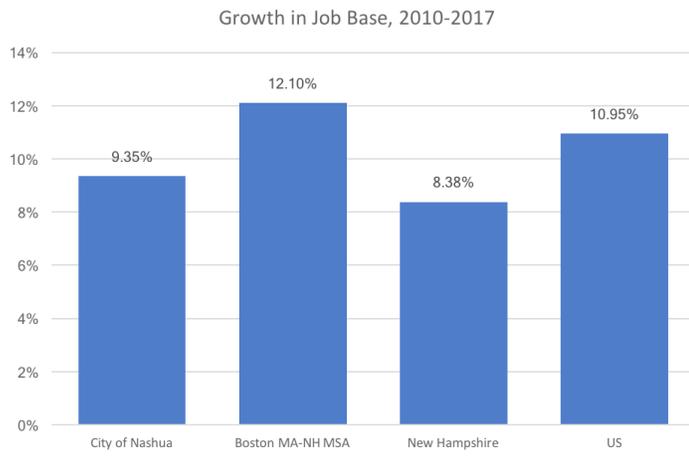
Fig 9. Growth in Job Base, 2010-2017
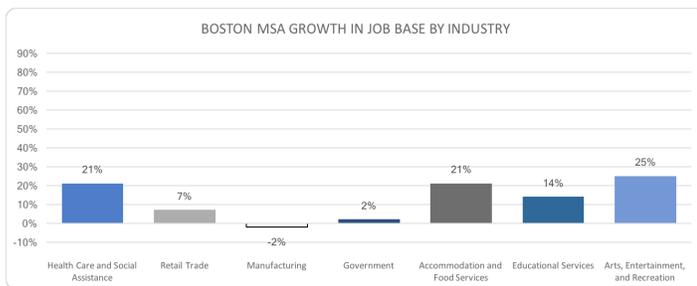2010-2017.

Fig 9. Boston MSA Growth in Job Base By Industry

Nashua's strong job base is dominated by a few major industries (Dem_Figure 9). With around 10,000 jobs each, health care and social assistance, retail trade, and manufacturing account for 51% of the jobs in the city. In order to better understand which of these industries might prove to offer the highest growth potential in the future, we constructed a Blakely Green-Leigh Quadrant diagram. Blakely Green-Leigh Quadrant diagrams plot location quotients against percent change in regional share over time to help identify industries that are transforming, growing, declining, or emerging. Nashua's diagram (Dem_Figure 10) indicates that many of the cities are declining, or in the bottom left hand side of the quadrant. Those in the bottom right are "emerging," and industries in this category include construction and educational services. Manufacturing and healthcare are "emerging" according to this methodology; they have relatively high location quotients and have seen an increasing degree of local specialization in recent years.
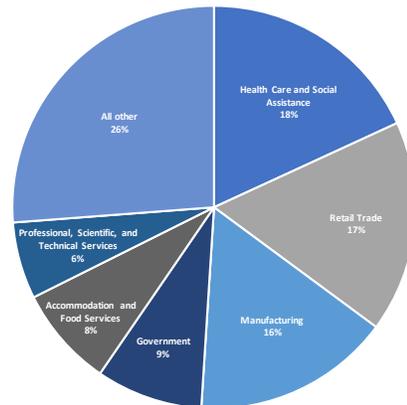
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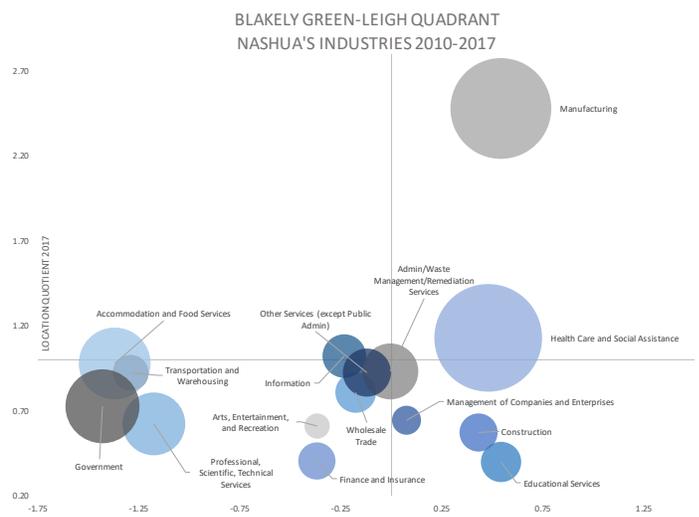Fig 9. Portion of Total Jobs in Nashua's Major Industries, 2017

Fig 9. Blakely GreenLeigh Quadrant Nashua's Industries 2010-2017

Healthcare Sector Analysis

While all of Nashua's major industries have experienced growth in recent years, healthcare saw the most significant job growth and accounted for an increasingly large share of the city's jobs (Dem_figure 36). While both healthcare and retail accounted for 17% of local jobs in 2010, healthcare overtook both retail and manufacturing between 2010-2017 to become the city's largest industry. Furthermore, the healthcare sector's rise has been relatively constant since 2010, while manufacturing has seen fluctuations. Within the sector, the largest growing area is care for the elderly; 2010-2017, jobs in elderly patient care rose 128%. The

sector also saw significant growth in areas such as general medical and surgical hospitals, physician offices. and mental health services.
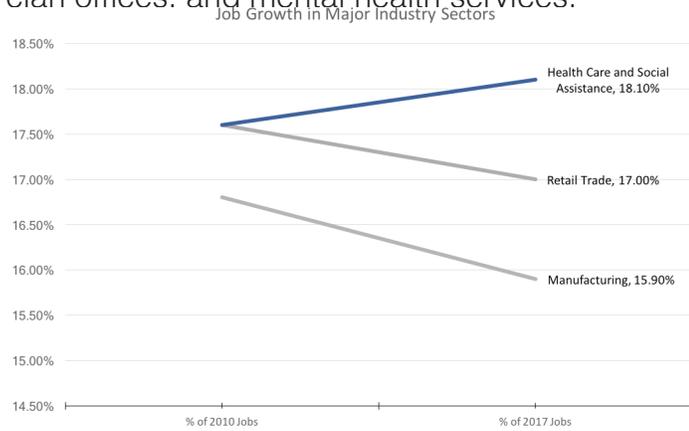
Job Growth in Major Industry Sectors

Fig 9. Job Growth in Major Industry Sectors

HEALTHCARE OCCUPATIONS (WITHOUT DOCTORS), WAGES V. LQ

Fig 9. Healthcare Occupation (without doctors), Wages vs. LQ

More than other sectors, healthcare occupations tend to see a wider range of hourly wages (Dem_Figure17). Registered nurses represent the largest occupational group in this category, followed by nursing assistants, a trait that is linked to both Rivier University's strong nursing program and the greater Boston MSA's wealth of world-class hospitals and medical research facilities. Nurse Practitioners have by far the highest hourly wage and highest location quotient of all occupations represented in Dem_Figure17, but have only a fraction of the employees as the nursing assistant and registered nurse occupations. Nursing Assistants have seen rapid job growth and are projected to continue growing substantially as a group (Dem_Figure38). This occupation provides a foot in the door to the healthcare industry for those without a bachelor's degree, but it is worth noting that nursing assistants' average hourly wage is only $13.57. In order to provide a living wage career path for these individuals, Nashua should consider policies to link the Nursing Assistant, Registered Nurse, and Nurse Practitioner occupations into a continuum of career advancement.

Dem_Figure38 Caption: Actual and projected percent change in jobs among occupational groups with highest location quotient values, indicating a local agglomeration and/or competitive advantage. Source: ESMI.
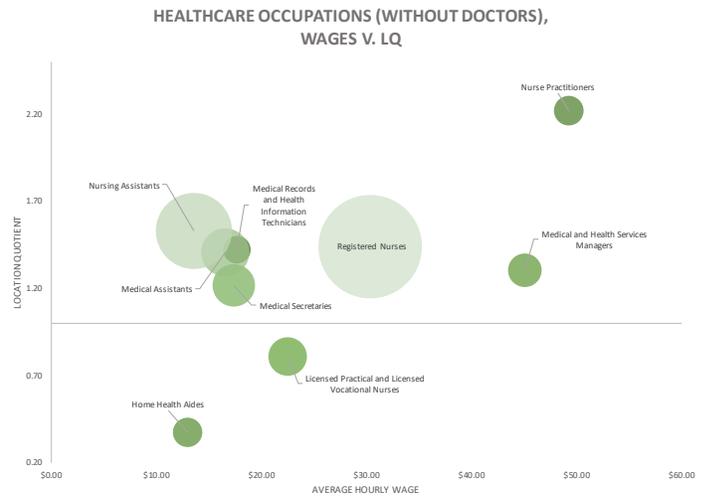
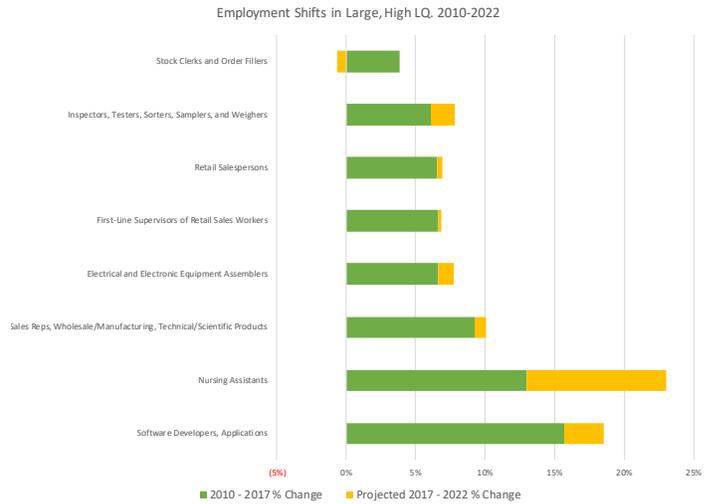**Employment Shifts in Large, High LQ. 2010-2022**

Fig 9. Actual and projected percent change in jobs among occupational groups with highest location quotient values, indicating a local agglomeration and/or competitive advantage. Source: ESMI.