

Real Estate Market Study

Appendix B

2020 real estate market data courtesy of CoStar

This study was funded through a 2016 USEPA Brownfield Assessment Grant received by Lehigh Valley Economic Development Corporation and Lehigh Valley Land Recycling Initiative. The Reuse Feasibility Study is being conducted independent of the Commonwealth of Pennsylvania's disposition process for the Allentown State Hospital Campus. Michael Baker International, Inc. is not acting as an agent of the Commonwealth while conducting the study.



TABLE OF CONTENTS

Executive Summary	3	Section 6: Industrial Market Analysis	40
Purpose	3	Key Market Indicators	41
Locational Advantages	3	Leasing	42
Geographic Study Areas	3	Rent	43
Socio-Economic Snapshot	3	Construction and Under Construction	44
Employment Trends	4	Deficit of Small-Footprint Industrial Space	45
Target Industry Sectors	4	Growth in Manufacturing Output	47
Industrial Market Potential	6	Industrial Market Potential	48
Office Market Potential	9	Section 7: Office Market Analysis	54
Retail Market Potential	11	Key Market Indicators	54
Housing Market Potential	11	Leasing	55
Section 1: Introduction	12	Rent	56
Methodology	13	Construction and Under Construction	57
Local and Regional Context	14	Competition with Downtown Office Space	57
Comprehensive Plan Recommendations	16	Office Market Potential	58
Section 2: Stakeholder Input	18	Section 8: Retail Market Analysis	62
Allentown Citizens	18	Overview	62
Local and Regional Stakeholders	19	Retail Growth Potential	64
Section 3: Community Profile	22	Retail Market Potential	65
Population Trends	22	Section 9: Housing Analysis	66
Age Trends	23	Multifamily Housing	66
Household Composition	24	Senior Housing	70
Household Income	25	Section 10: Suggested Commercial End Uses	72
Housing	25	Commercial - Public School	72
Population by Race and Ethnicity	27	Commercial - Regional Youth Sports Complex	72
Education	28	Section 11: Report Conclusions	74
Consumer Market Segmentation	29	Industrial	74
Section 4: Employment Trends	31	Office	74
Employment by Industry Sector	31	Retail	75
Trade Area Employment	32	Housing	75
Section 5: Target Industry Sectors & Analysis	37	Appendix A: Key Real Estate Market Analysis Terms	77
Potential for Attracting Target Industry Sector Businesses	38		

EXECUTIVE SUMMARY

Key real estate market study findings are summarized on the following pages. The full market study begins on page 12.

Purpose

The former Allentown State Hospital is located on an approximately 195-acre campus (ASH campus) in the City of Allentown's East Allentown neighborhood. Closed in 2010, this real estate market study was conducted to assess real estate market receptivity for potential redevelopment end uses including retail, office, industrial, and housing.

Locational Advantages

- The site represents one of the largest parcels available for development in the City of Allentown and surrounding communities and is uniquely located in an established residential community.
- The site is positioned between two urban centers, the City of Allentown and the City of Bethlehem, affording easy access between the two downtowns.
- The site is located within a planned node for transit-oriented development through LANTA EBS. Transit accessibility is reinforced through Allentown Vision 2030 Comprehensive and Economic Development Plan.
- The ASH campus is located within a 10-minute drive of Lehigh Valley International Airport, not only an air passenger and air cargo hub but an industrial hub as well.

Geographic Study Areas



Socio-Economic Snapshot

Population continues to grow, outpacing state growth

Population in all geographies surpasses state growth, reflecting the Lehigh Valley's location within the New York- New Jersey metropolitan area. Growth in the PMA is highest at nearly 8%, representing opportunity for future workforce.

People living near the Allentown State Hospital are younger

The median age in the study area is younger (35.1), with a greater number of Millennials compared to their Gen X counterparts in the PMA (41.3) and MSA (42.2). Median age across all geographies is expected to increase over the next 5 years.

Household income near the ASH campus is lower than the region, but projected to increase

The median household income in the study area is slightly lower than the MSA and PMA, suggesting lower consumer spending power compared to the region. By 2024 median household income is projected to increase by nearly 15% in all study areas, increasing by just 13% at the state level.

Home ownership is declining, renting is on the rise, and vacancy rates are increasing slightly

Owner occupied units in the study area and PMA have been declining since 2000 with decline projected to continue over the next 5 years. The number of renter occupied units currently exceeds home ownership in the study area, suggesting potential need for additional multi-family housing.

Median home values near the ASH campus are lower than surrounding study areas

The median home value within the study area is more than 40% lower than median home values within the MSA and PMA indicating that if housing is constructed at the ASH campus, price points should be comparable with the study area.

Residents living near the ASH campus are more ethnically diverse compared to the region

Based on an index that ranks diversity from low (0) to high (100), the study area has a diversity index of 83.0 compared to 62.4 (PMA) and 55.5 (MSA). The index represents the likelihood that two persons, chosen at random from the same area, belong to different race or ethnic groups.

Residents living near the ASH campus have lower levels of educational attainment

Compared to the PMA and MSA, the percentage of adults in the study area with less than a high school education is high at over 16%. Adults with a bachelor's degree or higher is slightly more than 20% in the study area, increasing to over 30% in the other geographies.

Employment Trends

Workforce demand in the Lehigh Valley is increasing

Online job postings increased from 3,759 to 5,907 between 2018 and 2019. According to LVEDC's Lehigh Valley Education & Talent Supply Report (2018), 71% of responding employers experienced challenges in recruiting, hiring, or retaining talent.

Jobs are increasing, particularly in the Health Care and Transportation & Warehousing industries

The MSA added 52,475 new jobs between 2010 and 2019, an 18% increase. The top employing industry in the MSA is Health Care & Social Assistance at over 63,000. Transportation & Warehousing had the greatest numeric and percent change in employment between 2010 and 2019, at 18,188 and 134%, respectively.

Lehigh Valley manufacturing jobs are rebounding, exceeding state level manufacturing growth

While manufacturing employment dipped after the 2008 national recession, it rebounded reflecting a 21% increase in employment between 2010 and 2019. State growth in manufacturing was only 3%, reinforcing the strength of the manufacturing sector in the Lehigh Valley. Over 40% of the state's 14,499 manufacturing sector jobs added since 2010 were created in the MSA.

The Lehigh Valley faces a deficit of nearly 10,000 workers

According to the Lehigh Valley Education & Talent Supply Report, 90,665 people in the workforce are expected to retire within the next 10 years, while only 80,952 people are likely to enter the talent market. This leaves the region with a deficit of nearly 10,000 workers over the next 10 years if no actions are taken to address workforce.

Additional goods producing jobs in the study area would provide residents jobs where they live

While the number of employees living and working within the MSA and Lehigh Valley Workforce Investment Area (WIA) has been increasing, Allentown officials report that many City residents, particularly those employed in the manufacturing sectors, travel outside the City to work. Census data reveals as many as 2,500 Allentown residents employed in manufacturing jobs work outside of the City. Creating new manufacturing job opportunities in Allentown would provide Allentown residents with jobs where they live. The ASH campus could be a potential site for locating these new jobs.

Target Industry Sectors

In 2018 LVEDC identified 5 target industry sectors for the Lehigh Valley based on: current employment figures, demonstrated growth in employment in the last five years, and opportunity for growth in the next five years. Each of the 5 target industry sectors was analyzed for potential compatibility at the ASH campus. Further analysis of real estate supply and demand is discussed later in this Executive Summary.



Target Industry Sector	Data ⁽¹⁾	Site Analysis
<p>Manufacturing (Advanced and Food & Beverage)</p> <p>Manufacturing will be highly influenced by new technology and processes, requiring highly skilled workers</p>	<ul style="list-style-type: none"> • 2nd largest economic sector in the Lehigh Valley • Greatest economic multiplier of any sector (1 manufacturing job equals 4 in other sectors) • High demand occupations: machinists, engineers, welders, electricians/ electrical engineers, general labor • Annual demand: 2,676 workers 	<ul style="list-style-type: none"> • The ASH campus is a potential candidate for industrial/flex space. • Small industrial users are situated in East Allentown on individual parcels or in business parks. • Real estate brokers and economic development professionals report the lack of small sized (less than 80,000 SF) manufacturing space throughout the Lehigh Valley. • Considering its location in a residential neighborhood, industrial vehicle access to the site should be carefully assessed. • The site could help meet the Lehigh Valley's need for high-value industrial/flex space.
<p>High-Value Business Services</p> <p>Corporate demands required to respond to rapid changes in customer expectations drive growth in this sector</p>	<ul style="list-style-type: none"> • The Lehigh Valley's location in proximity to the New York and Philadelphia metro areas combined with existing office facilities support industry sector growth. • Downtown Allentown is a significant regional driver for large corporate office. • High demand occupations: sales and marketing, engineers, accountants, attorneys/paralegals • Annual demand: 1,168 workers 	<ul style="list-style-type: none"> • The ASH campus is a potential candidate to locate business services workers requiring smaller office spaces to support local needs. • Any future office development at the ASH campus should not detract from reinvestment in either downtown Allentown or Bethlehem. • Near the ASH campus, tenants are requesting office space sized between 2,500 SF and 5,000 SF.
<p>Life Science Research & Manufacturing</p> <p>Life sciences is increasing nationally concurrent with increasing demand for health services</p>	<ul style="list-style-type: none"> • While over half of industry establishments in PA have fewer than 10 employees, the sector contributes a statewide economic output of \$88.5 billion. • Life sciences research and manufacturing are a critical sector for the Lehigh Valley's post-secondary educational institutions. • High demand occupations: Engineers, mechanical / mechanics, chemical operators/ chemical analysts, IT/Web Developer/ Software Developer • Annual demand: 167 	<ul style="list-style-type: none"> • The ASH campus is a potential candidate to locate life science research and manufacturing businesses. • A few small life science research and manufacturing firms have expanded in proximity to the ASH campus. • One firm has outgrown space at the nearby Ben Franklin Tech Incubator and will relocate to an existing 40,000 SF building in South Allentown creating 38 new jobs. • Industrial/flex space would accommodate industry sector needs. • The site could help meet future space needs for this high-value sector.
<p>Transportation, Warehousing, Logistics & Wholesale</p> <p>Fulfilling increasing customer e-commerce demands has intensified the importance of this sector</p>	<ul style="list-style-type: none"> • Fastest-growing sector in the Lehigh Valley's economy • 9.5% year-over-year growth in economic output, adding 10,000 jobs in the last 5 years • High demand occupations: CDL drivers, truck drivers, forklift operators and drivers, mechanical/ mechanics, warehouse workers • Annual demand: 4,384 workers 	<ul style="list-style-type: none"> • The ASH campus is not a potential candidate to site large scale warehouse and logistics users. • The ASH campus is situated in a residential neighborhood accessed by a two-lane road network. • The site is over 2.5 miles from a US 22 interchange. • Users of large-scale warehouses prefer locations near interstate connections. • Surrounding land uses and the local road network prevent the site from being a candidate to locate industrial warehouse use.
<p>Health Care</p> <p>Health care is a key component of the U.S. economy driven by over 98 million Americans age 65+ by 2060</p>	<ul style="list-style-type: none"> • Health Care is the Lehigh Valley's top industry by employment • High demand occupations: nurses, medical assistants, caregivers and home health aides, nurses, administrative assistant, psychologists • Annual demand: 1,451 workers 	<ul style="list-style-type: none"> • The ASH campus is a potential candidate to site health care operations requiring medical office space. • The site effectively provided health care services for more than a century. • Stakeholders report increasing need for medical office space. • Medical office space would meet the requirements for the health care industry sector.

⁽¹⁾ LVEDC, Lehigh Valley Education & Talent Supply Report (2018); Workforce Board Lehigh Valley, PA Occupational Wages, Lehigh Valley WDA (May 2019)

Industrial Market Potential

Industrial market trends are summarized below with key findings linked to potential market receptiveness at the ASH campus. Further analysis was conducted to quantify potential unmet industrial space demand and the likelihood the ASH campus could capture some of the unmet demand.

Findings	Data	Site Analysis
<p>The Lehigh Valley has documented demand for and limited availability of small-footprint industrial/flex space, particularly in the study area.</p>	<ul style="list-style-type: none"> • According to an LVEDC 2018 Commercial Real Estate Report, there is a shortage of small-footprint industrial buildings (40,000 – 80,000 SF) in the Lehigh Valley. • Per Allentown’s 2014 Re-Industrialization Strategy, the greatest demand for industrial space is for small sized space less than 80,000 SF. • Each of the economic development and real estate professionals contacted as part of this market study noted the shortage of small-footprint industrial/flex space. • LVEDC reports that at the end of 2019, only 1 building less than 100,000 SF in size was under construction. • Nearly half of LVEDC’s 2019 economic development projects (office and industrial) required buildings sized less than 80,000 SF. Based on industry type, 7 were manufacturing, 2 R & D, and 3 distribution. • Compared to an overall industrial vacancy rate of nearly 6%; the vacancy rate of industrial/flex space less than 80,000 SF is just 3%. • Current asking rents for industrial/flex buildings under 80,000 SF is \$6.78/SF compared to a lower rate of \$6.10/SF for all industrial buildings. • Industrial re-zoning in Allentown supports growing demand for new industrial space. 	<ul style="list-style-type: none"> • The ASH campus could help meet the Lehigh Valley’s need for industrial/flex space. • The lack of smaller sized industrial space in the Lehigh Valley presents a real estate market opportunity at the ASH campus. • Constructing industrial/flex space 80,000 SF in size or less would help meet current demand. Average building sizes are currently 42,000 SF.
<p>Smaller industrial buildings in the Lehigh Valley are older.</p>	<ul style="list-style-type: none"> • Of the 15.4 MSF inventory of small-footprint buildings in the Lehigh Valley, nearly 82% are older than 40 years with only 2% constructed in the past 10 years. • Of the 111 buildings constructed post-1980, 94 were 100% occupied in 2018. 	<ul style="list-style-type: none"> • The ASH campus provides an opportunity to construct new, modern small-footprint industrial/flex space. • Newer industrial building stock would help replace existing, older buildings.

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Findings	Data	Site Analysis
<p>The Lehigh Valley’s manufacturing sector as measured by Gross Domestic Product (GDP) is strong.</p>	<ul style="list-style-type: none"> • The Lehigh Valley’s GDP reached a record-high \$41.2 billion in 2018. • The manufacturing sector comprises nearly 18% of the region’s economic output, higher than the U.S. at 12.8%. • Durable goods manufacturing increased nearly 10% between 2015 and 2018, indicative of a strong manufacturing sector. 	<ul style="list-style-type: none"> • The ASH campus provides a location to continue expansion of the region’s economic output.
<p>Allentown’s Re-Industrialization Strategy points to advantageous industrial conditions in the study area</p>	<p>Allentown’s advantageous industrial conditions were documented as:</p> <ul style="list-style-type: none"> • Lower-cost space • Lower-cost labor • Access to a dense labor market within a short commute, often within walking distance • Access to city amenities for workers and entrepreneurs and increased commercial activity • An incubator and related services specifically dedicated to manufacturing and serving as a focal point for a manufacturing entrepreneurial network • Existing infrastructure 	<ul style="list-style-type: none"> • The ASH campus provides a location to increase Allentown’s, and Bethlehem’s, industrial space inventory.
<p>An inventory of industrial space is a key business retention factor.</p>	<ul style="list-style-type: none"> • Close to one-third of LVEDC’s economic development projects completed in 2018 were expansion projects for existing Lehigh Valley companies • Nearly all businesses interviewed for Allentown’s re-industrialization strategy noted growth and expansion plans within 5 to 10 years. 	<ul style="list-style-type: none"> • The ASH campus provides a location for existing Lehigh Valley and study area businesses to expand.
<p>Businesses requiring smaller industrial space have located in proximity to the ASH campus with out of state business attraction increasing as well</p>	<ul style="list-style-type: none"> • Within the past year, 8 industrial buildings under 35,000 SF have been leased in the vicinity of the ASH campus. • A specialty pharmaceutical manufacturer expanded from the Ben Franklin TechVentures incubator into an existing 40,000 SF building across the river from the ASH campus. The company is projected to employ 50 over 5 years. • A manufacturer recently relocated from Brooklyn, NY to an existing 80,000 SF building on Plymouth Street ½ mile from the ASH campus. The project will result in the creation of 80 jobs over 3 years. • Industrial businesses from the New York-New Jersey metropolitan area continue to seek locations in the Lehigh Valley due to lower cost space and workforce availability. 	<ul style="list-style-type: none"> • Constructing industrial/flex space at the ASH campus would serve the needs of businesses requiring smaller sized buildings near the site. • Additional industrial space would also provide sites for businesses relocating to the region from the New York-New Jersey metropolitan area.

Industrial Space Demand

A limited amount of industrial/flex space is available in the study area

With an estimated 19.5 MSF of industrial space available, under construction, or proposed in the Lehigh Valley, only 886,513 SF of industrial/flex space is available. Of this amount just 225,963 SF is available in the study area.

Continued growth in industrial GDP signals increasing industrial space needs

The growth in manufacturing output has been significant with the manufacturing sector comprising \$7.3 Billion, nearly 18%, of the Lehigh Valley's economic output. Durable goods manufacturing increased nearly 10% between 2015 and 2018, indicative of a strong manufacturing sector. With the region's manufacturing economic output growing, industrial/flex space is needed to keep pace with demand. The ASH campus provides a potential location for site manufacturers seeking industrial/flex space.

The demand for industrial/flex space is well-documented in the study area

There is documented demand for industrial/flex space in the study area based on recent LVEDC economic development projects, CoStar data, stakeholder discussions, and Allentown's re-industrialization strategy. While the regional supply of industrial/flex space (886,513 SF) exceeds calculated demand (281,400 SF), constructing industrial/flex space 80,000 SF in size or less would help develop an inventory to meet current and future demand in the study area. The ASH campus provides an opportunity to construct new, modern industrial/flex space to help replenish older industrial building stock. Recent industrial re-zoning in the City of Allentown also supports increased industrial/flex space demand. Further, as industrial businesses from the New York-New Jersey metropolitan area continue to seek locations in the Lehigh Valley due to lower cost space and workforce availability, finding suitable locations in the study area is necessary to meet ongoing demand.

Office Market Potential

Office market trends are summarized below with key findings linked to potential market receptiveness at the ASH campus. Further analysis was conducted to quantify potential unmet office space demand and the likelihood the ASH campus could capture some of the unmet demand.

Findings	Data	Site Analysis
<p>State and federal tax incentives in Allentown and Bethlehem have attracted office growth and revitalization in each city's downtown</p>	<ul style="list-style-type: none"> • Approximately 1.8 MSF of office space has been delivered in the Lehigh Valley market since 2010, and 92% is occupied. There is just over 1 MSF under construction or proposed. • Absorption is taking place throughout the Lehigh Valley, with sizable amounts occurring in downtown Allentown. • Current office vacancy of 8% is below the national average and has not been this low over the past 15 years. • Since the start of 2015, net absorption has averaged about 500,000 SF annually, which is close to double annual supply growth of 280,000 SF. • In Downtown Allentown, 272,700 SF of space was absorbed in one building in 2019. • Allentown's Neighborhood Improvement Zone (NIZ) is a 128-acre specialty tax zone in Downtown Allentown. • Businesses locating in the NIZ may potentially offset lease rates up to 30% - 40% • Additional tax incentive programs operating in Allentown and Bethlehem include state level Keystone Opportunity Zones (KOZs), City Revitalization & Improvement Zone (CRIZ), NIZ, and federal Qualified Opportunity Zones (QOZs) 	<ul style="list-style-type: none"> • The office market in the Lehigh Valley is active with recent large-scale corporate office development concentrated in downtown Allentown. • ASH campus would not be a candidate to site large corporate office development.
<p>Office development which would compete with revitalization in downtown Allentown or Bethlehem would detract from revitalization occurring in each city's central business district</p>	<ul style="list-style-type: none"> • Both Allentown and Bethlehem have active revitalization strategies in their central business districts. • Each city has added amenities such as retail, restaurants, and residential to meet needs of office employees and residents. • Community and economic development professionals note that large amounts of office space at the ASH campus would compete with downtown revitalization efforts. 	<ul style="list-style-type: none"> • Developing large scale office space at the ASH campus would compete with downtown revitalization efforts and should not be encouraged.

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Findings	Data	Site Analysis
The majority of office leases in the Lehigh Valley are for smaller spaces	<ul style="list-style-type: none"> Excluding office leases over 100,000 SF, the average size for an office lease in the Lehigh Valley is 8,334 SF Local real estate brokers report typical space requests near the ASH campus between 2,500 SF – 5,000 SF 	<ul style="list-style-type: none"> As the ASH campus is not a candidate for large scale office development, it could fill the need for small sized office users requiring 8,000 SF or less.
Medical office space is growing in the Lehigh Valley	<ul style="list-style-type: none"> 100% of office space inventory added in 2017 was medical office space 12.8% of the Lehigh Valley’s office space in 2017 was medical office. Stakeholders report the need for medical office space near the ASH campus. Health Care is a Lehigh Valley Target Industry Sector 	<ul style="list-style-type: none"> The ASH campus could provide office space to serve the Lehigh Valley’s Health Care target industry sector.

Office Space Demand

Over 3.6 MSF of office space is available, under construction, or proposed in the Lehigh Valley

An estimated 2.3 MSF of office space, including 512,586 SF of medical office space is available for sale or lease according to CoStar. Currently, 1.1 MSF of office space is under construction or proposed, with 925,259 SF in the study area (Allentown and Bethlehem).

Net new office workers are projected at 5,784

Employment growth projections by PA L&I Center for Workforce Information and Analysis indicate 17,740 net new jobs will be added to the Lehigh Valley by 2026. The percentage of these new employees working in an office is estimated at 5,784. Of those employees, 3,199 are estimated to be employed in the Health Care & Social Assistance industry, requiring medical office space.

By 2026 net new office demand is estimated at over 913K SF, with 759,967 SF of demand in Target Industry Sectors

Applying an average office space of 158 SF/worker per a 2018 Cushman & Wakefield study, net new office space demand in the Leigh Valley is estimated at 913,939 SF. This includes 505,409 SF of medical office space to accommodate workers from the Health Care target industry sector and 254,558 SF of professional office space to accommodate the High-Value Business Services target industry sector.

Medical office space is needed to accommodate estimated demand

While over 3.6 MSF of office space available for sale, lease, under construction or proposed in the Lehigh Valley, new office space demand is met. However, the supply of medical office space available for sale or lease is 512,586 SF, slightly higher than projected demand of 505,409 SF. No medical office space is proposed or under construction, signaling an opportunity to fill the reported demand for medical office space within the study area.

Retail Market Potential

- Overall, the market area surrounding the ASH campus (15-minute drive time) is well-served by current retail offerings. At the macro level Retail Trade and Food & Drink establishments show a surplus (retail establishments within the market area are drawing customers from outside the community to shop) of nearly \$850 million provided through 1,620 retail businesses.
- The large amount of retail offerings available in the market area is verified by regional real estate brokers. In their view, retail, particularly regional retail is not the best fit for the site as large amounts are in the market area.
- The market area is estimated to support an additional 154,270 SF of retail store space. The viability of locating a portion of this square footage at the ASH campus should be considered in the overall context of potential industrial, office, and residential end uses contemplated.
- Service retail supporting the eventual end uses at the site would be in keeping with the character of the surrounding residential neighborhoods.
- Neighborhood retail in the area leases between \$15.00/SF - \$18.00/SF with retail space leasing quickly according to regional real estate brokers.

Housing Market Potential

In terms of the multi-family housing market, Lehigh Valley has been outperforming by the standards of central and northeastern Pennsylvania. Employment growth in the transportation and healthcare sectors, combined with state and local tax incentives to spur downtown Allentown's development, has helped support healthy apartment leasing. Newly delivered projects lease at a healthy pace. Near the ASH project site, the Summit Ridge luxury apartments has a healthy 2.9 percent vacancy, demonstrating the demand for Allentown's multifamily housing market beyond the downtown.

Based on estimated demand generated by household growth and lost inventory (e.g., replacement demand), the project site is estimated to have demand for between 51 and 110 units between 2019-2025 and between 101 and 220 units by 2029. In addition, the project site has the potential to attract a long-term care facility, such as a Continuing Care Retirement Community (CCRC).

SECTION 1: INTRODUCTION

Michael Baker International (MBI) was retained by Lehigh Valley Economic Development Corporation (LVEDC) and Lehigh Valley Land Recycling Initiative (LVLRI) to provide professional services in conjunction with a 2016 USEPA Brownfield Assessment Grant. As part of the brownfield assessment grant, EPA has approved the completion of a Reuse Feasibility Study for the Allentown State Hospital campus (ASH campus).

Phase 2 of the Reuse Feasibility Study includes completion of this Real Estate Market Study (market study). The market study analyzes market conditions in proximity to the Allentown State Hospital campus and in the Lehigh Valley and identifies those types of land uses most receptive to the current real estate market.

The market study includes analysis of quantitative data associated with people, their retail spending habits, and area employment and real estate conditions.

The data is supplemented with qualitative insights gathered through stakeholder interviews and review of the City of Allentown's recently adopted comprehensive and economic development plan, Allentown Vision 2030.

Community Profile

Socioeconomic assessment of demographic data pertaining to population and consumers.

Employment and Industry Trends

Outlines past, current, and future employment levels by industry. To offer additional insight on employment trends and the opportunity to attract industries to the East Allentown neighborhood where the Allentown State Hospital campus is located, the Lehigh Valley's target industry sectors are also analyzed.

Real Estate Market Analysis

Current real estate market conditions for the Lehigh Valley are presented to identify current strengths and weaknesses for different types of land uses strengths and weaknesses for different types of land uses.

Real Market

A Retail Gap Analysis was performed to compare the supply (sales to customers) and demand (potential for consumer spending) based on disposable income in the study area, segregated by retail categories to provide insight into where unmet market demand is most evident.

Industrial, Office, and Housing Markets

Regional and localized trends for the industrial, office, and housing markets are analyzed to identify unmet needs that could potentially be addressed through development at the ASH campus.

DISCLAIMER: The Reuse Feasibility Study including this Real Estate Market Study has been conducted solely with EPA funding and has been conducted independently of the Commonwealth of Pennsylvania's disposition of the Allentown State Hospital campus.

Methodology

Study Areas and Data Sources

To evaluate real estate market conditions for potential industrial, office, housing, and retail uses at the ASH campus, several study areas were identified.

Industrial, Office, and Housing Market

The following study areas were selected to identify socio-economic and labor data trends to inform the site's strength for attracting industrial, office, and housing uses:

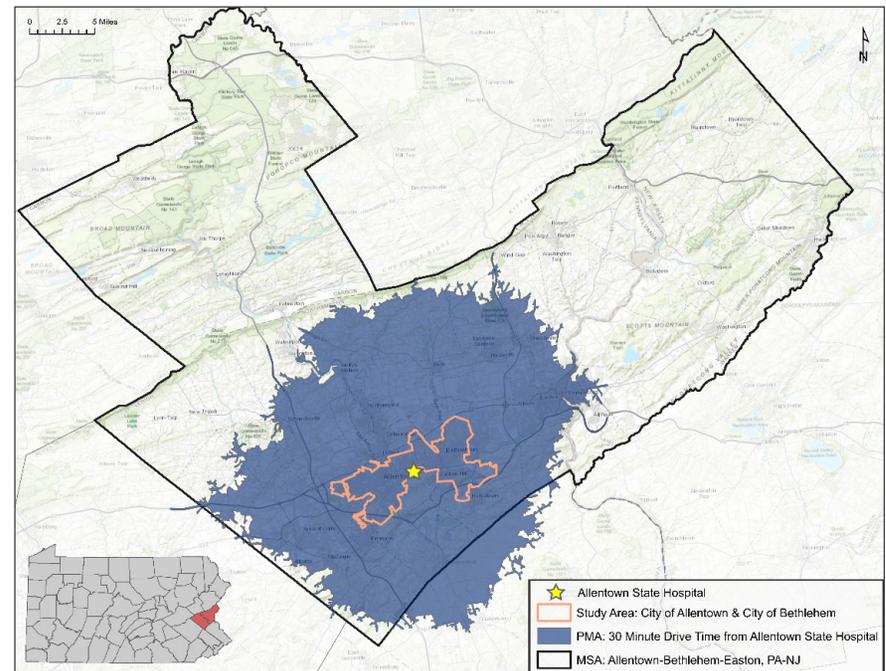
- Allentown-Bethlehem Study Area (study area) – Includes the City of Allentown and the City of Bethlehem which reflects the location of the ASH campus between both city centers.
- 30-Minute Drive Time Primary Market Area (PMA) - A 30-minute drive time radius from the ASH campus (Esri Business Analyst). A 30-minute drive time is reflective of the Lehigh Valley residents' mean travel time to work, 26.2 minutes (U.S. Census, Population Estimates July 2019).
- Allentown-Bethlehem-Easton, PA-NJ Metropolitan Statistical Area (MSA) - The MSA includes the Pennsylvania counties of Carbon, Lehigh, and Northampton and Warren County, New Jersey and provides a regional comparison for local data.

State level data was also used for context and comparison, as required.

The Lehigh Valley's real estate market was evaluated with industrial and workforce data provided by Lehigh Valley Economic Development Corporation (LVEDC) and Lehigh Valley submarket area real estate data provided by CoStar. CoStar data reflects that the real estate industry has divided major metropolitan areas into real estate markets for the purposes of comparison and statistical analysis. These market areas are often broken into smaller submarkets based upon geographic barriers and local dynamics. The ASH campus is in the Lehigh Valley submarket, which is part of the larger Philadelphia market.

Once each real estate market type was assessed for market receptiveness at the site and potential uses within that market type, further analysis was conducted to quantify potential unmet demand and the likelihood the ASH campus could capture some of the unmet demand.

Exhibit 1: Study Areas – Industrial, Office, Housing Analysis



Source: Esri Business Analyst, Michael Baker International

Retail Market Analysis

A 15-minute drive time radius market area was selected for conducting a retail gap analysis. This distance is the primary trade area for the analysis of the retail market and was selected to reflect the site's location in a residential neighborhood, with a neighborhood-scale street network, and distance from a major highway (over 2.5 miles from US 22).

Data Source

Primary data sources for the market study included the following.

Allentown Vision 2030 Comprehensive and Economic Development Plan

Esri Business Analyst Market Profiles and Retail MarketPlace Profiles

U.S. Census Bureau LEHD Origin Destination Employment Statistics (LODES)

Pennsylvania Department of Labor and Industry Center for Workforce Information & Analysis (CWIA) occupational employment long-term projections and industry employment long-term projections

LVEDC Lehigh Valley Education & Talent Supply Report and additional industry reports, as referenced

Workforce Lehigh Valley wage and labor data reports

CoStar real estate market data

U.S. Bureau of Economic Analysis, Gross Domestic Product data

Stakeholder Input

Quantitative data used to evaluate market conditions was validated, expanded upon, or adjusted through qualitative information collected from local and regional stakeholders. Stakeholders included representatives from local government, local and regional economic development, workforce development, and regional real estate brokers.

The market study draws upon findings from Allentown's recently completed comprehensive and economic development plan, Allentown Vision 2030, for insights into the community's interest about future development at the ASH campus.

Local and Regional Context

The ASH campus is located on approximately 195 acres in the City of Allentown's East Allentown neighborhood. Known historically as Rittersville, the neighborhood has been a connector between Allentown and Bethlehem since the 1800s. There are a limited number of open, larger parcels available for development in Bethlehem and Allentown, a fact that community and economic stakeholders pointed out as part of outreach conducted for this market study.

With direct access to Hanover Avenue, the ASH campus is strategically positioned in proximity to employment centers in downtown Allentown and Bethlehem and is within a 10-minute drive of the Lehigh Valley International Airport. Residential land surrounding the campus is primarily single family along with duplexes and multi-family. Development along Hanover Avenue is a mix of commercial, residential, and institutional uses.

Existing Site Conditions

Allentown State Hospital closed in 2010. The property and buildings are maintained by the Pennsylvania Department of General Services (DGS). Interior roadways, either deteriorating or unimproved, traverse the site. Wildlife, predominantly deer, are prevalent throughout the campus taking advantage of limited human interaction and overgrown vegetation.

A Pennsylvania Department of Environmental Protection (PADEP) Air Monitoring Station is located on the property and will remain in the future.

Property currently occupied and operated by Community Services for Children will remain. This campus property is 195± acres in size, is currently owned by the DGS. The total campus includes three individual properties containing a total of 44 buildings of which are contracted to be 100% demolished in 2020-21.

Undeveloped portions of the ASH campus are located along River Road with steep slopes in this area a constraint to development. While Norfolk Southern’s busy Allentown Terminal is located along River Road adjacent to the campus, the steep slope conditions have prevented industrial use in this portion of the property in the past. For reference, the ASH campus at its high point is approximately 540 feet above mean sea level (AMSL) while the Norfolk Southern Allentown Terminal sits along the Lehigh River at approximately 260 feet AMSL (USGS US Topo 7.5-minute map for Allentown East, PA 2019).

Unique to the ASH campus, as well as some of the surrounding neighborhoods, is its high elevation. The vistas at the apex of the ASH campus near Dutch Hill are impressive with views of surrounding mountains and the City of Bethlehem.

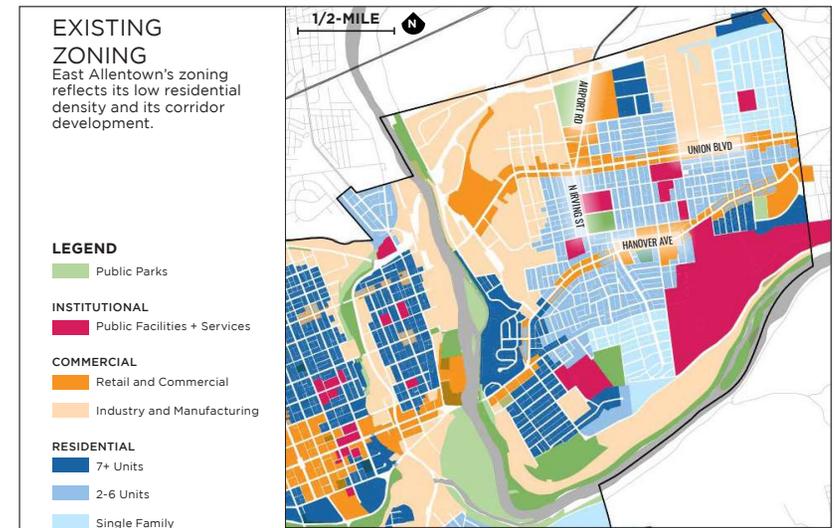
Further details pertaining to former state hospital operations, former building and development remnants, and utilities are included in the Environmental, Geotechnical, and Stormwater Evaluation portions of the Reuse Feasibility Study.

Zoning and Land Use

As part of the City’s recently completed comprehensive and economic development planning process, four defined neighborhood areas of the city were identified. The ASH campus is located in the East Allentown neighborhood and is currently zoned Institutional.

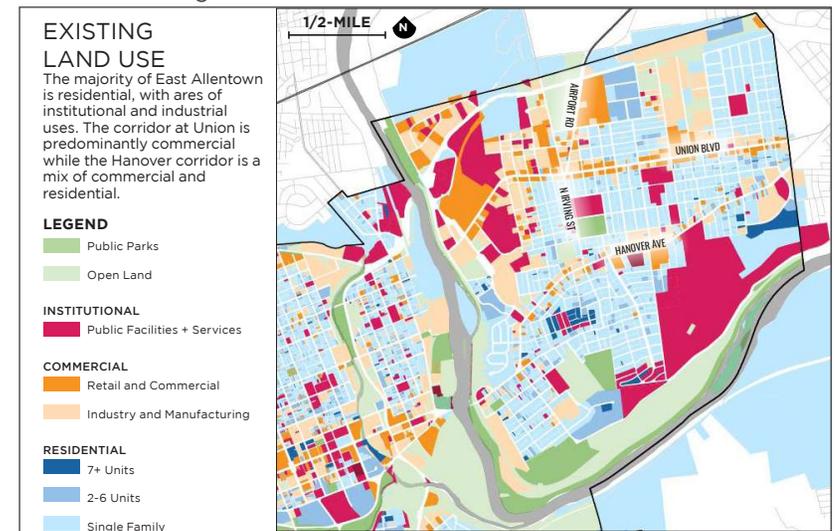
While relatively consistent with current zoning, existing land use identified through the comprehensive and economic development plan reflects many areas of institutional land use and not as much residential, industry, and manufacturing as zoned for. This signals the need to change zoning to reflect existing market conditions or a change in planning to reflect desired market conditions. As part of the City’s recent planning process, a City-wide zoning code update will be completed to help direct future market conditions. The update will focus on prioritizing development encouraging different types of housing and transportation options. The zoning update will emphasize ‘quality, mixed use’ development resulting in increased municipal taxes and provide residents with land uses that meet their preferences (Allentown Vision 2030).

Exhibit 2: Zoning in East Allentown



Source: Allentown Vision 2030 Comprehensive and Economic Development Plan (November 2019)

Exhibit 3: Existing Land Use in East Allentown



Source: Allentown Vision 2030 Comprehensive and Economic Development Plan (November 2019)

Changes in zoning have already started to take place in Allentown with recent re-zoning supportive of industrial uses. Nearly 30 acres of property have been recommended for rezoning to general industrial.¹ Changes in zoning to attract economic development focused on industrial uses was an objective in a re-industrialization strategy completed for the City in 2014.²

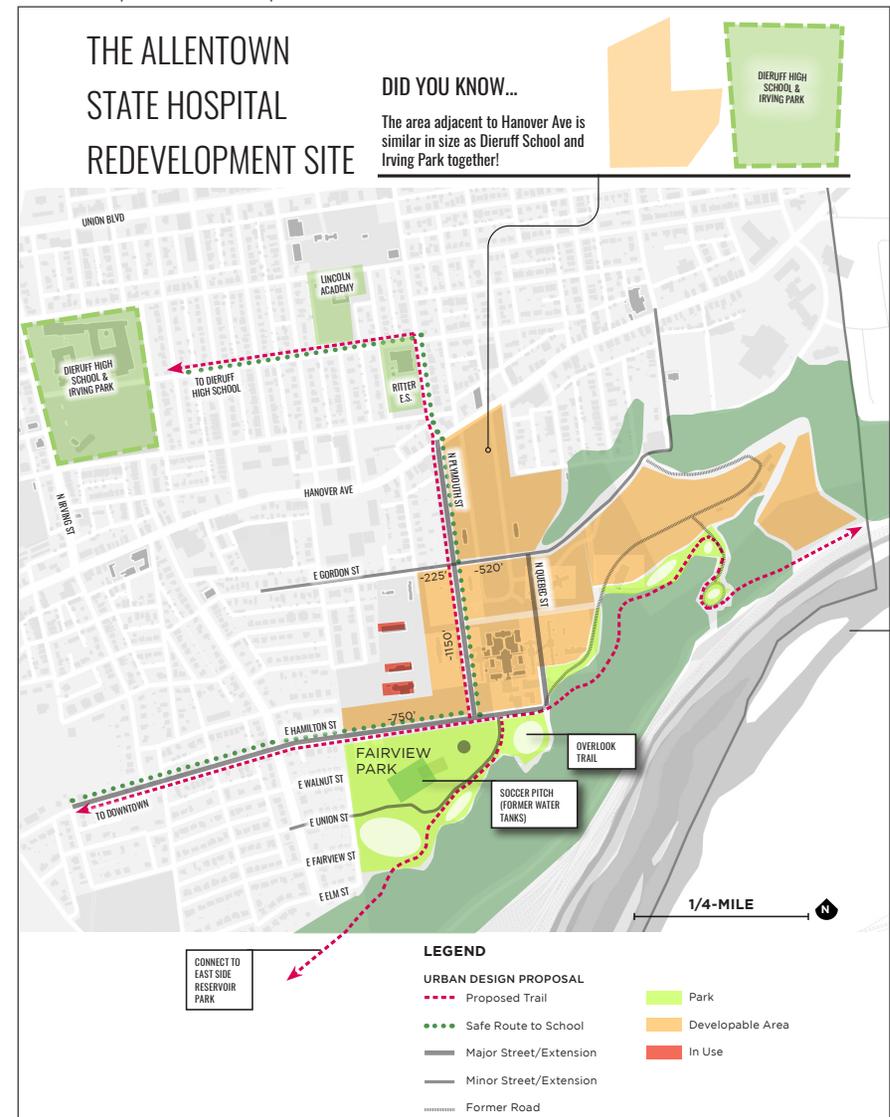
Comprehensive Plan Recommendations

Allentown Vision 2030 identifies several 'catalytic actions' - broad, structural programs or policies impacting multiple urban systems. Urban systems are functional areas such as housing, economic development, services, transportation, and the environment. Two catalytic actions are considered foundational to implementing the plan: a zoning code update, referenced above, and a neighborhood planning framework.

The neighborhood planning framework allows Allentown officials to work with Allentown's distinct neighborhoods. As noted above, the ASH campus is in the East Allentown neighborhood and its redevelopment is identified as a key project in the planning area. The comprehensive and economic development plan's vision for the future of East Allentown includes a priority on transit, destinations improving the neighborhood's sense of place, and redevelopment which includes amenities and adds to the local economy.

Allentown Vision 2030 envisions redevelopment parcels such as the ASH campus will bring "schools, housing, commercial space, and leisure activities and connect East Allentown to parks and greenways."³ A high level conceptual redevelopment framework was prepared for the ASH campus including establishing a grid network tying into existing neighborhood roads, creation of a park and trails, and identifying developable area. It was accompanied by several development principles.

Exhibit 4: Allentown Vision 2030: Urban Design Proposal for Allentown State Hospital Redevelopment

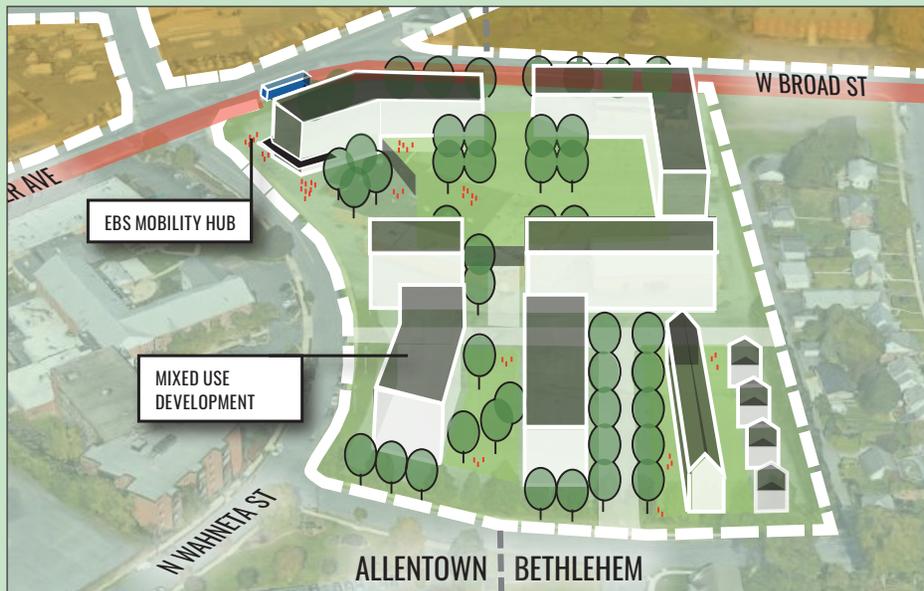
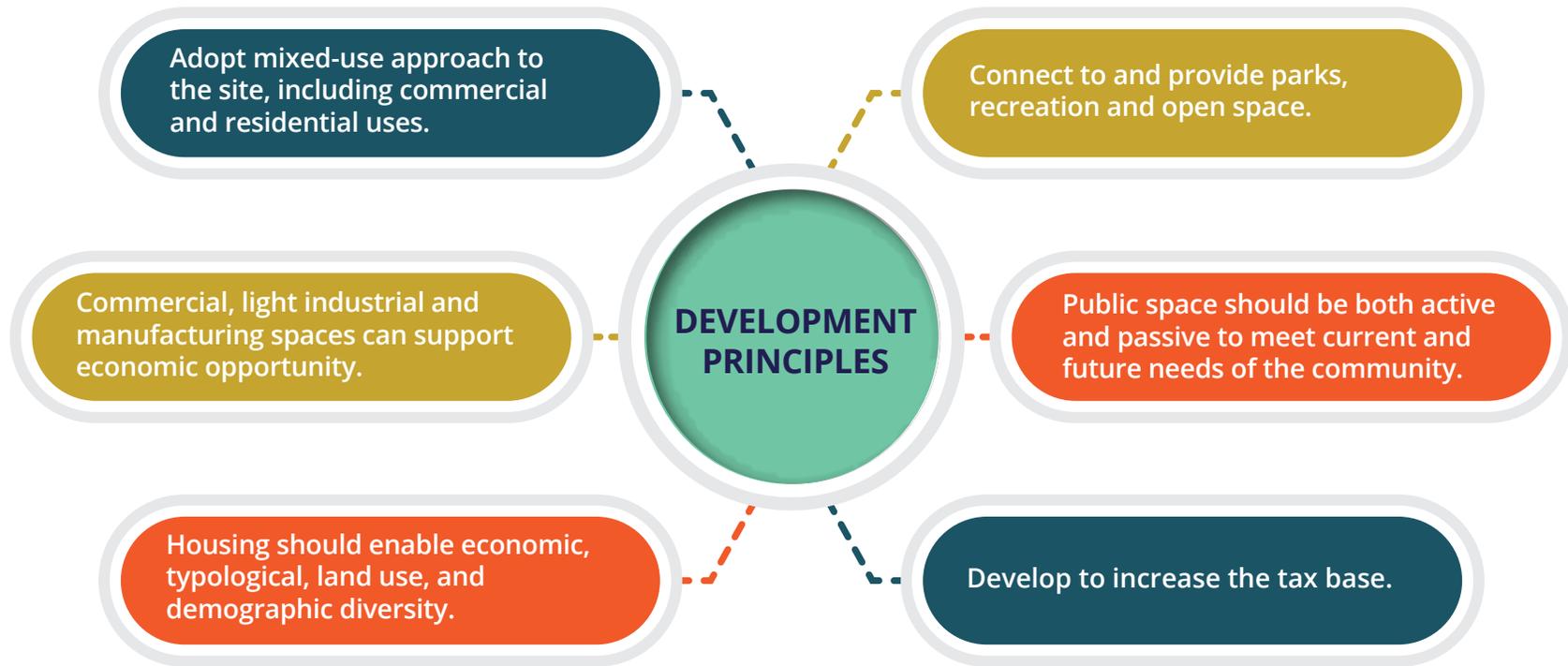


Source: Allentown Vision 2030, p. 194.

¹ WFMZ.com, *Allentown planners back industrial rezoning requests*, April 9, 2019. Accessed 08//12/20 at: https://www.wfmz.com/business/allentown-planners-back-industrial-re-zoning-requests/article_5037d30a-e443-50cb-a538-7b34ed1a2af7.html.

² Allentown Economic Development Corporation, *Envision Lehigh Valley, City of Allentown Re-Industrialization Strategy*, April 2014, p. 1.

³ Allentown Vision 2030, *Comprehensive and Economic Development Plan*, November 2019, p. 192.



The comprehensive plan also envisions other vacant parcels as opportunities for transit-oriented development including a mix of uses with a transit focus. The former Toyota dealership at the corner of Hanover Avenue and North Wahneta Street is an example.

Community input about the future use of the Allentown State Hospital was collected as part of comprehensive and economic development plan outreach. Input is included in the Stakeholder Input section.

SECTION 2: STAKEHOLDER INPUT

Prior to presenting and analyzing the socio-economic and real estate market conditions near the ASH campus and in the region, stakeholder input is presented. This input provides context for the real estate analysis information presented throughout the market study.

Allentown Citizens

Allentown Vision 2030 included community input engaging thousands of community members through meetings, surveys, neighborhood events, and online tools. The redevelopment opportunity available at the ASH campus was included as part of the comprehensive planning process.

Through the planning process the City heard that redevelopment of the property would be a success if it: serves, strengthens, and diversifies the community; establishes East Allentown as a destination; and creates a culture of forward progress.

More specifically, participants in the planning process voiced a few concerns and questions regarding redeveloping the ASH campus.

Community Concerns & Questions

How can the development serve the existing community?

Can the redevelopment prioritize training and workforce development opportunities?

Is the environment produced appropriate for a multigenerational population?

Does development craft a neighborhood identity?

Is the resulting development multi-use and does it include different housing types?

Can the development reconnect the neighborhood to natural sites, trails, and the river?

Is the result transformative?

Local and Regional Stakeholders

Interviews, in person and via phone, were conducted with local real estate brokers, workforce development providers, and municipal and economic development representatives. The interviews were helpful to gather the following type of information and supplement community input:

- Elements that make the ASH campus a good location for redevelopment
- Constraints limiting potential redevelopment
- Types of end uses that would be the most marketable (residential/retail/office/industrial)
- Incompatible land uses
- Local programs supporting workforce development
- Real estate trends such as square footage requirements, lease rates, and demand

Key findings from stakeholder input are summarized below.

Location Advantages

- The site's location equidistant between the downtowns of the City of Allentown and City of Bethlehem is advantageous, creating interaction between the two communities.
- The property is a large piece of contiguous land in a land constrained area. Large parcels in urban areas are rare.
- The property has infrastructure and population in place. It is infill development and minimizes sprawl and environmental concerns associated with sprawl.

Community Needs

- **Revenue Generation** – Uses maximizing revenue generation would be beneficial and are needed.
- **Job Creation** – Uses which create jobs for local residents would be beneficial.
- **Access for Community Services for Children** – Dedicated road access is needed for Community Services for Children.

Concerns/Constraints

- **Surrounding Neighborhoods** - Identifying access points having minimal disruption to the surrounding neighborhoods should be the goal. Impacting local streets could be a concern for area residents.
- **Transportation Access** – Making local road connections might be difficult. Vehicular accessibility concerns can be addressed by connecting to the existing street network at multiple access points, rather than creating one or two congestion points.
- **Topography** – The site includes many areas with steep slopes resulting in physical limitations to future development. Development should be planned considering steep slope conditions. The topography, as well as the narrow roadbed along River Drive, impedes any potential development opportunities linking Norfolk Southern's adjacent railyard along the Lehigh River to the site.
- **Geotechnical Issues** – After buildings are demolished, the backfill may not be suitable for development, requiring potential re-excavation by a developer. Some areas of the site are known to have shallow bedrock. These locations will need to be quantified as bedrock excavation would significantly increase development costs.

- **Public Perception** – The public’s perception about what can actually be developed at the site is a potential impediment. It is important to identify the gap between the public’s vision and what is realistic in the real estate market. The site will not be a corporate campus; therefore, citizens need to be realistic about redevelopment opportunities. Unrealistic expectations can impede actual progress.
- **Competition** – Redevelopment should not compete with revitalization efforts in downtown Allentown or Bethlehem.
- **Open Space** - The site should maintain natural greenspace and habitat buffers. However, the City of Allentown does not need additional large-scale parks and recreation space. As part of Allentown Vision 2030 residents discussed the need for trails through the site and the Allentown School District expressed the need for a practice field.

Real Estate Market Viability

Office

- The site is not a viable corporate location for office space, particularly for multi-national, traded companies.
- In addition, downtown locations like Allentown and Bethlehem provide more walkable areas and things to do. This is not the case for the neighborhood surrounding the ASH campus. The site does not lend itself to large regional office spaces, but rather smaller spaces that could serve needs of the surrounding community.
- While large regional office space is not needed, there may be opportunities for smaller medical office space to support the community.
- Office space is typically not sought out in the area. When tenants are seeking locations in the area the space is typically 2,500 SF – 5,000 SF in size with lease rates of \$18.00/SF.
- Lease rates of \$13.00/SF - \$14.00/SF, triple net were also identified.

Industrial

- The site is not suited from a transportation perspective to serve the burgeoning warehouse and logistics industry in the Lehigh Valley.
- While larger regional and national companies are looking for big boxes; smaller, local businesses are looking for flex, light industrial space. Local businesses are looking to expand.
- Smaller industrial space is lacking in the Lehigh Valley.
- Regional demand is for smaller industrial space ranging between 30,000 SF to 80,000 SF. Industrial space size between 6,000 SF and 12,000 SF was also identified.
- Industrial inventory in the area is older, outdated, and requires investment.
- Warehouse/light industrial space in the area currently rents for \$6.00/SF - \$7.00/SF. Consider looking at the small industrial park across from Iron Pig Stadium/American Parkway for reference. The industrial park is older but has a mix of businesses.
- Business owners would rather lease than buy as building is very expensive due to land and infrastructure. However, some small businesses would like to own. Industrial and flex is the hottest market in the Lehigh Valley.
- Companies are looking for flex space sized between 5,000 SF and 25,000 SF leasing at \$10.00/SF - \$12.00/SF triple net. Some clients buy buildings or some lease space and prefer not to buy. It depends on each client’s needs.

Retail

- Regional retail use is not the best fit for the site as there are many regional retailers in the area.
- Service retail focused on the retail gap of the surrounding community and redeveloped site would be more appropriate.
- Neighborhood retail in the area leases between \$15.00/SF - \$18.00/SF. Spaces rent rather quickly, depending on the previous use.

Mixed-Use

- Mixed-use development including industrial, housing dictated by market conditions would be appropriate for the site. Service retail should be the focus, not regional retail.
- A right mix of residential and business development could work at the property.
- A mixed-use business park could be viable, but not residential. Flex, office, distribution, manufacturing, and warehouse retail (like kitchen cabinets, countertops) would be good a good mix of uses at the site.

Housing

- Senior and mixed income housing would complement current trends in the City of Bethlehem. Growth in the senior housing market in Bethlehem has been large.
- Residential development unless it was transitional or continuum care senior housing (70s, 80s), would not be realistic. The Lehigh Valley has waiting lists for senior housing with medical support.

Regional Youth Sports Complex

- Both Allentown and Bethlehem receive routine (bi-monthly) requests for land to support a regional youth sports complex. There are concerns that this type of facility would not be attractive for Allentown as would absorb a large amount of property but would not create a substantial number of jobs or ratables.

SECTION 3: COMMUNITY PROFILE

Population Trends

Population continues to grow, outpacing state growth

To understand the demographic characteristics of people who live not only in the City of Allentown and City of Bethlehem (study area) but within the surrounding areas, data was pulled at several study areas. While Allentown’s population trends were analyzed in detail as part of Allentown Vision 2030, assessing the potential to draw population from outside the City required data analysis at the regional and state levels to help measure real estate market strength in addition to the local workforce that could potentially be tapped to support retail, industrial, office, or housing development.

Population within the study area, the Allentown-Bethlehem-Easton PA-NJ MSA (MSA), and the 30-minute drive time (PMA) have been growing with continued growth projected to 2024. Population increase within the PMA is nearly 8%, outpacing growth in the study area, and the MSA. Population growth in the Lehigh Valley surpasses state growth and reflects the Lehigh Valley’s location within the New York- New Jersey metropolitan area.

Exhibit 5: Population Trends

Market Area	2000	2010	2019	2024 Projected	% Change (2010-2024)
PMA	543,107	605,996	637,838	654,143	7.95%
MSA	740,398	821,173	855,812	872,121	6.20%
Study Area	178,010	193,014	201,675	205,520	6.48%
Pennsylvania	12,281,054	12,702,379	13,012,438	13,160,675	3.61%

Source: Esri Business Analyst

Exhibit 6: Daytime Population (2019)

	PMA	MSA	Study Area
Total	654,143	814,100	198,105
Workers	323,606	384,772	87,126
Residents	321,843	429,328	110,979

Source: Esri Business Analyst

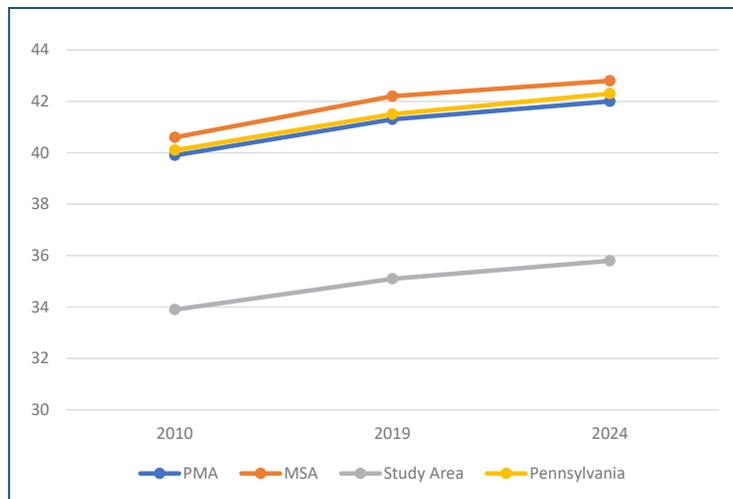
The PMA pulls a large commuter population (daytime population) and has a relatively equal daytime resident population. The percentage of workers and residents for daytime population in the MSA is close to that of PMA, while the study area’s daytime population is predominantly residents. The large numbers of workers within the PMA signals potential workforce opportunities for the ASH campus. Additional workforce information is included in the Employment Trends section.

Age Trends

People living near the Allentown State Hospital are younger

Population in each study area is steadily aging, approximately 5.4% on average projected between 2010 and 2024. The median age in the study area is younger (35.1), with a greater number of Millennials compared to their Gen X counterparts in the PMA (41.3) and MSA (42.2).

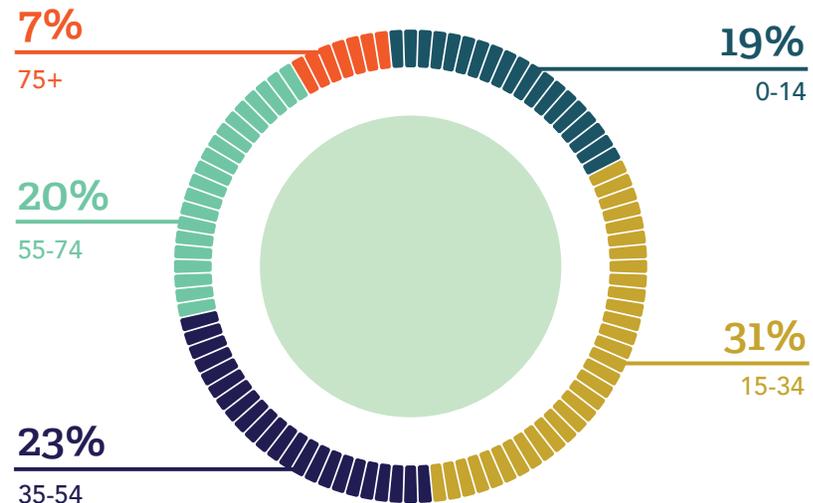
Exhibit 7: Median Age (2010 – 2024)



Source: Esri Business Analyst

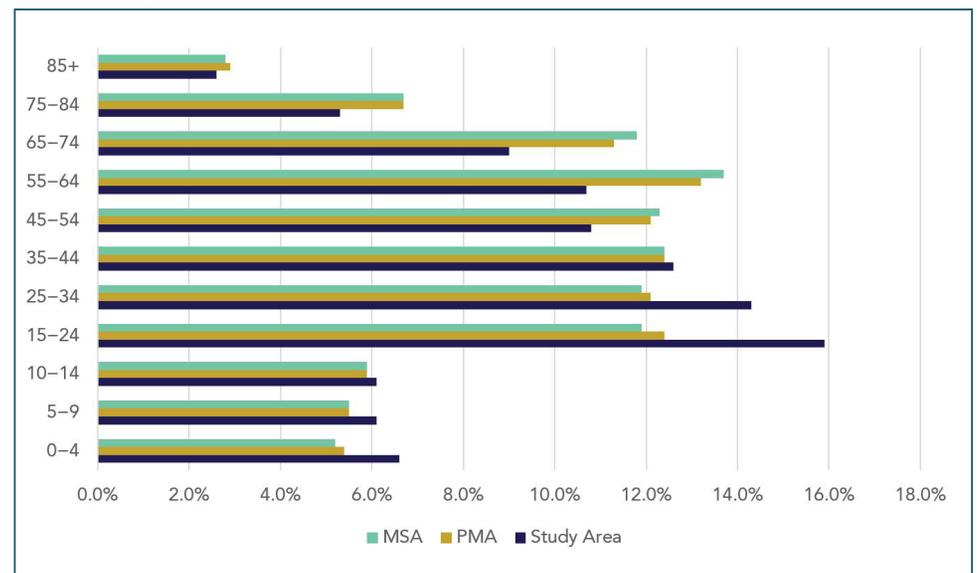
A younger age distribution in the study area is reinforced by looking at the change in age distribution by cohort. Nearly half of the population was younger than 35 years of age in 2019. By 2024 over 60% of residents within the study area are projected to be younger than age 45. Over 50% of population in the MSA and the PMA will be younger than age 45 in 2024 as well. A younger population bodes well for the region, providing an opportunity to educate, train, and retain citizens in the area.

Exhibit 8: Study Area Age Distribution (2019)



Source: Esri Business Analyst

Exhibit 9: Population Distribution by Age Cohort (2024)



Source: Esri Business Analyst

Household Composition

The Lehigh Valley's household size is increasing

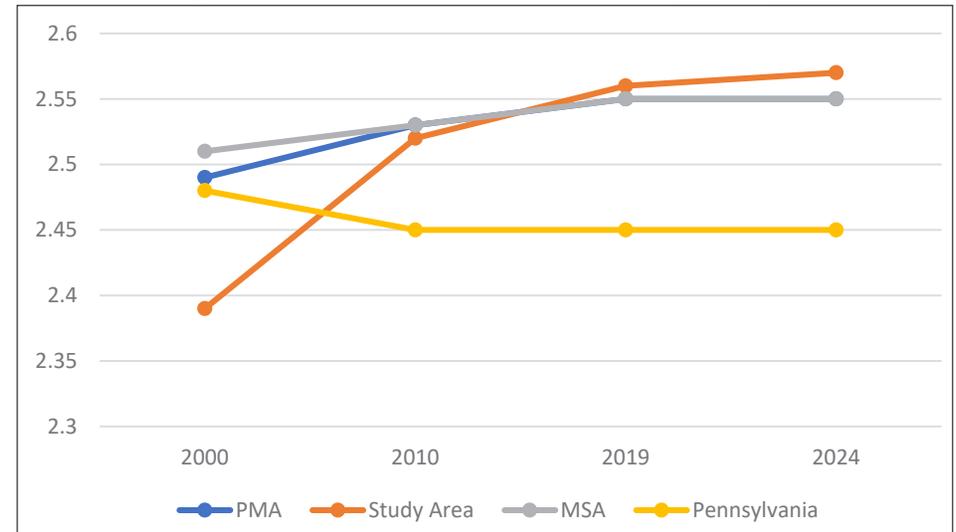
Understanding household composition is important to identify the type of housing and level of community services required in the future. According to the U.S. Census, a household consists of all the people who occupy a housing unit (house, apartment, other group of rooms, or a single room). A household includes both the related and unrelated people who share the housing unit.

- Family households include a group of two or more people living together who are related by birth, marriage, or adoption, with or without children, including married couples and other families such as single parent households.
- Non-family households represent households where unrelated persons live together, or a single person lives alone.
- Group quarters refers to a place where people live or stay in a group living arrangement that is owned or managed by an entity or organization providing housing and/or services for the residents. Group quarters include places such as college residence halls, residential treatment centers, skilled nursing facilities, group homes, military barracks, correctional facilities, and workers' dormitories.

As of 2019, there were a total of 242,352 households within the PMA with an average household size of 2.55. Of these households, 67.4% were family households.

Household size in the study area, the PMA, and MSA have increased slightly and is projected to increase further. Comparatively, household size at the state level has decreased, holding at 2.45 persons per household since 2010.

Exhibit 10: Average Household Size



Source: Esri Business Analyst

Household Income

Household income near the ASH campus is lower than the region, but projected to increase

Median household income, and changes in median household income over time, can provide insight into the potential spending power of consumers in an area. The MSA has the highest median household income of all study areas at \$63,855 and is projected to increase to \$73,350 by 2024. Median household income within the PMA is slightly lower than the MSA at \$62,176. Income levels are higher than the state and are likely tied to the proximity to the New York – New Jersey metropolitan area.

The median household income in the study area is slightly lower than the MSA and PMA suggesting lower consumer spending power compared to the region. By 2024 median household income is projected to increase by nearly 15% in all study areas, increasing by just 13% at the state level.

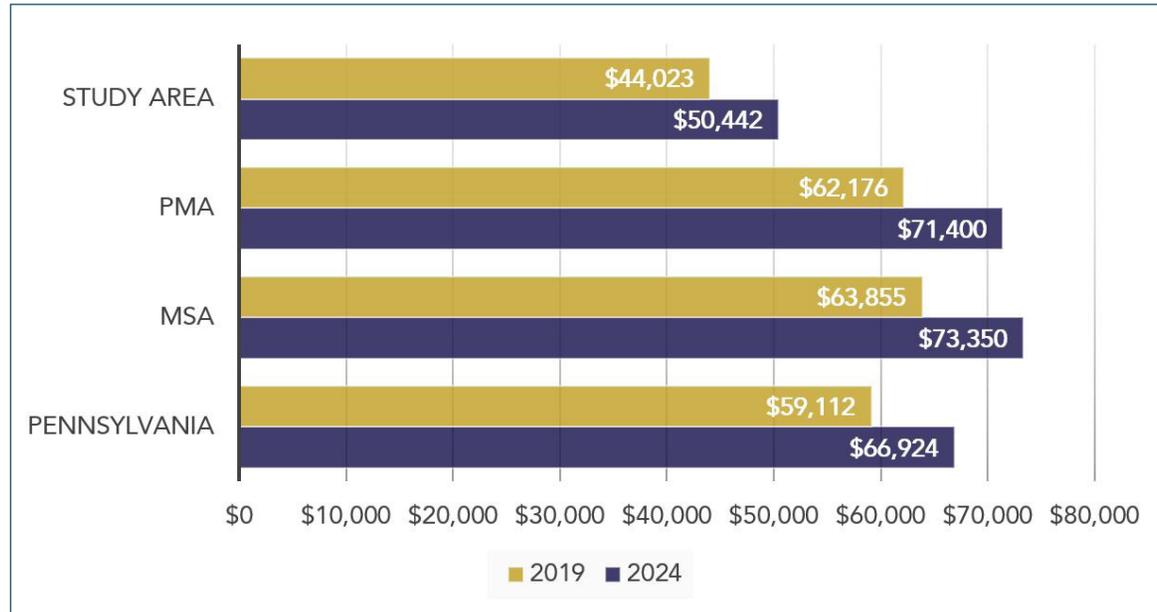
Housing

Home ownership is declining, renting is on the rise, and vacancy rates are increasing slightly

The number of housing units within the study area and PMA has been increasing since 2000. Renter occupied units within the study area are projected to increase by more than 20% between 2010 and 2024, representing potential demand for rental housing options near the ASH campus.

Compared to the state, the percentage of vacant housing units within the PMA and study area is much lower. However, vacancy has been rising in both the PMA and study area, representing the need to address potential deteriorating housing conditions.

Exhibit 11: Median Household Income



Source: Esri Business Analyst

Exhibit 12: Housing Units by Tenure (2000 – 2024)

	2000	2010	2019	2024 (Projected)	% Change (2010-2024)	Numerical Change (2010-2024)
PMA	221,530	246,615	257,365	263,805	7.0%	17,190
Owner Occupied Units	53.7%	49.9%	46.6%	46.0%	-7.8%	
Renter Occupied Units	39.4%	42.9%	46.2%	46.7%	8.9%	
Vacant Units	6.8%	7.2%	7.2%	7.3%	1.4%	
Study Area	75,608	78,142	80,520	81,922	4.8%	3,780
Owner Occupied Units	51.0%	46.7%	43.1%	42.4%	-9.2%	
Renter Occupied Units	41.7%	45.7%	49.2%	49.7%	8.8%	
Vacant Units	7.2%	7.6%	7.7%	7.9%	3.9%	
Pennsylvania	5,249,750	5,567,315	5,736,358	5,832,239	4.8%	264,924
Owner Occupied Units	64.9%	62.7%	60.3%	59.5%	-5.1%	
Renter Occupied Units	26.1%	27.4%	29.4%	29.7%	8.4%	
Vacant Units	9.0%	9.9%	10.4%	10.8%	9.1%	

Source: Esri Business Analyst

Median home values near the ASH campus are lower than surrounding study areas

Median home values in the study area are lower than the MSA, PMA, and the state. Home values at the regional level are higher than the state, reflecting the proximity to the New York – New Jersey metropolitan area. However, the median home value within the study area is more than 40% lower than median home values within the MSA and PMA indicating that if housing is constructed at the ASH campus, price points would be consistent with the study area.

Exhibit 13: Median Home Values (2019, 2024)



Source: Esri Business Analyst

Population by Race and Ethnicity

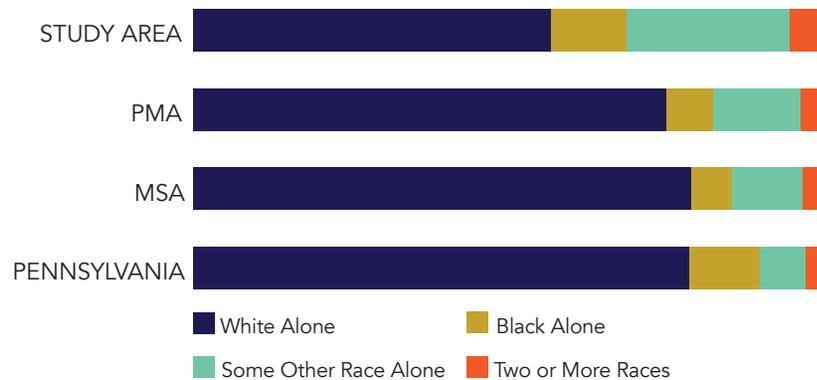
Residents living near the ASH campus are more ethnically diverse compared to the region

U.S. Census Bureau data reflects the race or races with which residents most closely identify. The community surrounding the ASH campus exhibits greater ethnic diversity compared to the PMA or MSA. While 79.4% of residents within the MSA identify they are white alone, this rate drops to 75.3% within the PMA and 56.9% within the study area.

The racial and ethnic composition of the area is also documented through Esri’s Diversity Index which represents the likelihood that two persons, chosen at random from the same area, belong to different race or ethnic groups. The index ranks diversity from 0 to 100, the higher the number the greater amount of diversity in an area. The basis of the diversity index is that as the country’s non-Hispanic white population ages, non-Hispanic whites marry later in life and have fewer children. Natural decrease (more deaths than births) for non-Hispanic whites is increasing. At the same time, increases in marriages across race and ethnicity raises the level of diversity in younger generations. The index reinforces that areas with older populations are less diverse than areas with younger populations.

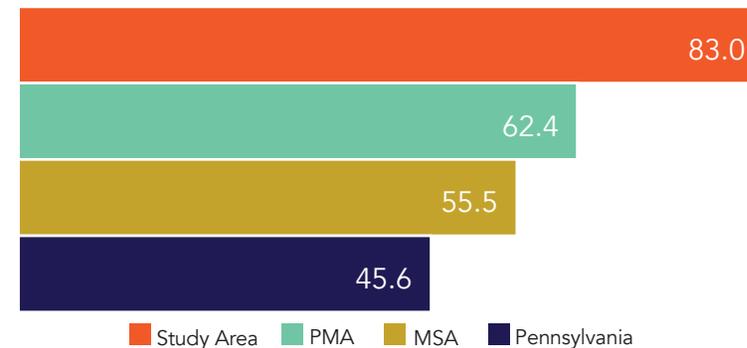
The study area reflects the greatest amount of diversity across study areas at 83.0. The diversity index drops to 45.6 at the state level.

Exhibit 14: Population by Race and Ethnicity (2019)



Source: Esri Business Analyst

Exhibit 15: Diversity Index (2019)



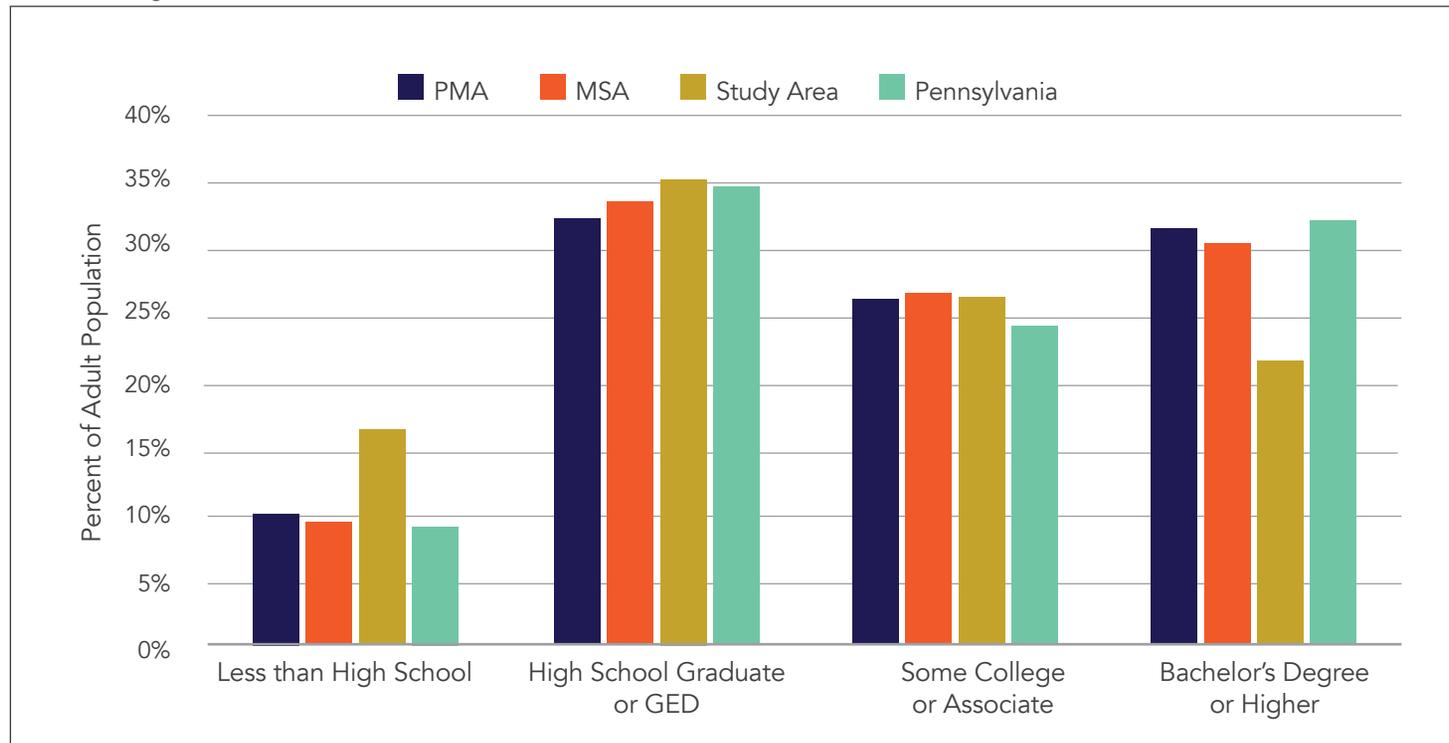
Source: Esri Business Analyst

Education

Residents living near the ASH campus have lower levels of educational attainment

Compared to the PMA and MSA, the percentage of residents with less than a high school education is high at over 16%. Based on 2019 estimates, more than 50% residents in the study area and PMA have earned a high school diploma/equivalent and have completed some advanced education. The attainment of associates, bachelors and advanced degrees is lower; however, than the surrounding region.

Exhibit 16: Highest Level of Educational Attainment (2019)



Source: Esri Business Analyst

Consumer Market Segmentation

Consumer market segmentation is commonly used by the real estate and retail industries to describe the typical consumer lifestyle and spending habits of customers within a retail trade area. Esri Business Analyst provides tapestry segmentation to categorize consumer markets based on socioeconomic characteristics and psychological profiling of consumer behaviors. The information is collected through point of sale (POS) data and consumer surveys and generally represent the activity of the top 75% of consumers in an area. Within the study area, the top tapestry segments are Fresh Ambitions, Front Porches, and Parks and Rec. Descriptions of each segment, which describe the average person, are provided below from Esri Business Analyst.

Fresh Ambitions

These residents tend to be young families who focus on their children. Many are immigrants, and multigenerational families are prevalent. These residents spend what they can on their children and on occasional trips to visit family. They are predominantly renters and most households have at least one vehicle. Unemployment is high, and consumers are price conscious.



LifeMode Group: Next Wave

Fresh Ambitions

13D

Households: 794,600

Average Household Size: 3.17

Median Age: 28.6

Median Household Income: \$26,700

WHO ARE WE?

These young families, many of whom are recent immigrants, focus their life and work around their children. *Fresh Ambitions* residents are not highly educated, but many have overcome the language barrier and earned a high school diploma. They work overtime in service, in skilled and unskilled occupations, and spend what little they can save on their children. Multigenerational families and close ties to their culture support many families living in poverty; income is often supplemented with public assistance and Social Security. Residents spend more than one-third of their income on rent, though they can only afford to live in older row houses or multiunit buildings. They budget wisely not only to make ends meet but also to save for a trip back home.

OUR NEIGHBORHOOD

- Resides in mostly row houses or 2-4 unit buildings; many were built before 1950, located in major urban cities.
- They predominantly rent; average gross rent is a little below the US average.
- Most households have at least one vehicle, and commuters drive alone to work. Walking to work or taking public transportation is common too.
- Nearly half of the households have children of all ages and are comprised of more single-parent than married-couple families. There are more than three persons per household; the proportion of multigenerational families is twice that of the US.

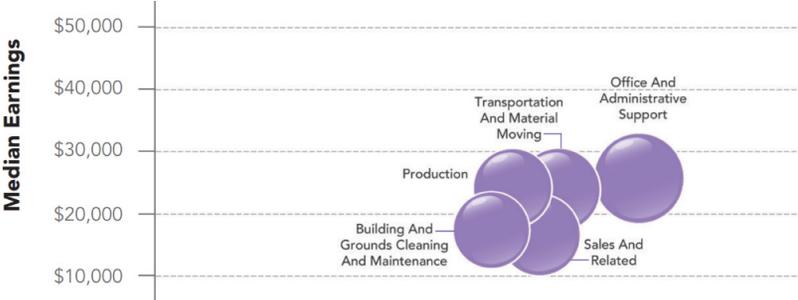
SOCIOECONOMIC TRAITS

- Nearly one in four is foreign-born, supporting a large family on little income. *Fresh Ambitions* residents live on the edge of poverty but are an ambitious community. They will take on overtime work when they can.
- Unemployment is high for these recent immigrants.
- One in three has overcome the language barrier and earned a high school diploma.
- Price-conscious consumers, they budget for fashion, not branding. However, parents are happy to spoil their brand savvy children.
- These residents maintain close ties to their culture; they save money to visit family, but seek out discount fares over convenience.



TAPESTRY SEGMENTATION
esri.com/tapestry

Median Earnings



Job Category	Approximate Median Earnings
Building And Grounds Cleaning And Maintenance	\$18,000
Production	\$28,000
Transportation And Material Moving	\$32,000
Sales And Related	\$25,000
Office And Administrative Support	\$35,000

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

Front Porches

This segment reflects a young households comprised primarily of single-parent families or singles living alone. Households own one vehicle and tend to be blue collar with strong labor force participation. Most households rent townhouses or duplexes in older, established neighborhoods.



LifeMode Group: Middle Ground

Front Porches

8E

Households: 1,960,300
 Average Household Size: 2.57
 Median Age: 34.9
 Median Household Income: \$43,700

WHO ARE WE?

Front Porches blends household types, with more young families with children or single households than average. This group is also more diverse than the US. More than half of householders are renters, and many of the homes are older town homes or duplexes. Friends and family are central to Front Porches residents and help to influence household buying decisions. Households tend to own just one vehicle but used only when needed. Income and net worth of these residents are well below the US average.

OUR NEIGHBORHOOD

- Nearly one in five homes is a duplex, triplex, or quad; half are older single-family dwellings.
- Just over half the homes are occupied by renters.
- Older, established neighborhoods; three quarters of all homes were built before 1980.
- Single-parent families or singles living alone make up almost half of the households.

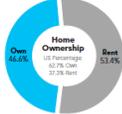
SOCIOECONOMIC TRAITS

- Composed of a blue-collar work force with a strong labor force participation rate, but unemployment is slightly high at 7.1%.
- Price is more important than brand names or style to these consumers.
- With limited incomes, these are not adventurous shoppers.
- They would rather cook a meal at home than dine out.
- They seek adventure and strive to have fun.



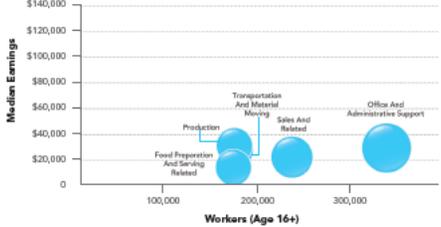
Note: The bubble represents the size of the segment relative to the US, size multiplied by 100. Consumer preferences are estimated from data by CRM, LLC.

Typical Housing:
Single Family, Multi-Units
Average Rent:
\$913
US Average: \$1,038



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.



Parks and Rec

Many of the households in this market are two-income married couples approaching retirement. Homes are primarily owner occupied and more than half of the population in this segment are college educated professionals in health care, retail trade, and education or skilled workers in manufacturing and construction.



LifeMode Group: GenXurban

Parks and Rec

5C

Households: 2,449,600
 Average Household Size: 2.51
 Median Age: 40.9
 Median Household Income: \$60,000

WHO ARE WE?

These practical suburbanites have achieved the dream of home ownership. They have purchased homes that are within their means. Their homes are older, and town homes and duplexes are not uncommon. Many of these families are two-income married couples approaching retirement age; they are comfortable in their jobs and their homes, budget wisely, but do not plan on retiring anytime soon or moving. Neighborhoods are well established, as are the amenities and programs that supported their now independent children through school and college. The appeal of these kid-friendly neighborhoods is now attracting a new generation of young couples.

OUR NEIGHBORHOOD

- Homes are primarily owner occupied, single-family residences built prior to 1970; town homes and duplexes are scattered through the neighborhoods.
- Both median home value and average rent are close to the national level.
- Households by type mirror the US distribution; married couples, more without children, dominate. Average household size is slightly lower at 2.51, but this market is also a bit older.

SOCIOECONOMIC TRAITS

- More than half of the population is college educated.
- Older residents draw Social Security and retirement income.
- The work force is diverse: professionals in health care, retail trade, and education, or skilled workers in manufacturing and construction.
- This is a financially shrewd market; consumers are careful to research their big-ticket purchases.
- When planning trips, they search for discounted airline fares and hotels and choose to vacation within the US.
- These practical residents tend to use their cell phones for calls and texting only.



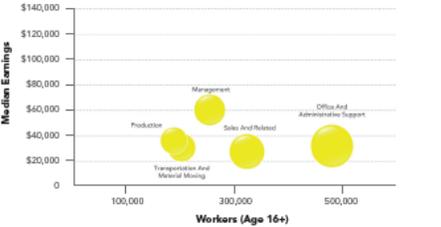
Note: The bubble represents the size of the segment relative to the US, size multiplied by 100. Consumer preferences are estimated from data by CRM, LLC.

Typical Housing:
Single Family
Median Value:
\$198,500
US Median: 200,200



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.



SECTION 4: EMPLOYMENT TRENDS

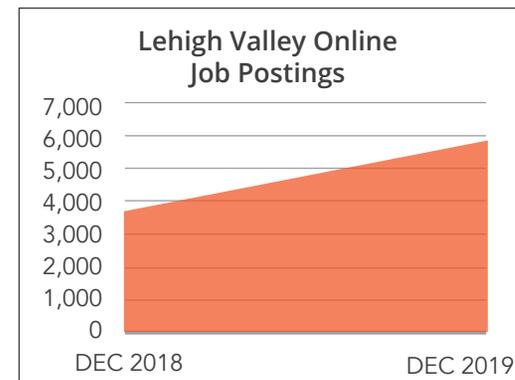
When assessing the dynamics of a local economy, an important factor is the employment growth in its economic base. Past, current, and projected employment data from the U.S. Census Bureau was reviewed for the Allentown-Bethlehem-Easton, PA-NJ MSA (MSA) and the Pennsylvania Department of Labor & Industry data was reviewed for the Lehigh Valley Workforce Development Area (WDA) which includes Lehigh and Northampton counties. In addition, findings from a recent report for the Lehigh Valley’s Talent Supply Initiative were reviewed to identify key employment trends for target industries.

The increasing need for workforce in the Lehigh Valley is demonstrated through online job posting information published by the PA Center for Workforce Information & Analysis. The need for employees increased 57.1% between December 2018 and 2019.

Exhibit 17: Online Job Postings (2018 – 2019)

	LWVDA	Pennsylvania
December 2019	5,907	98,250
December 2018	3,759	98,249
Annual % Change	57.10%	1.00%

Source: PA CWIA, Lehigh Valley WDA Profile, January 2020.



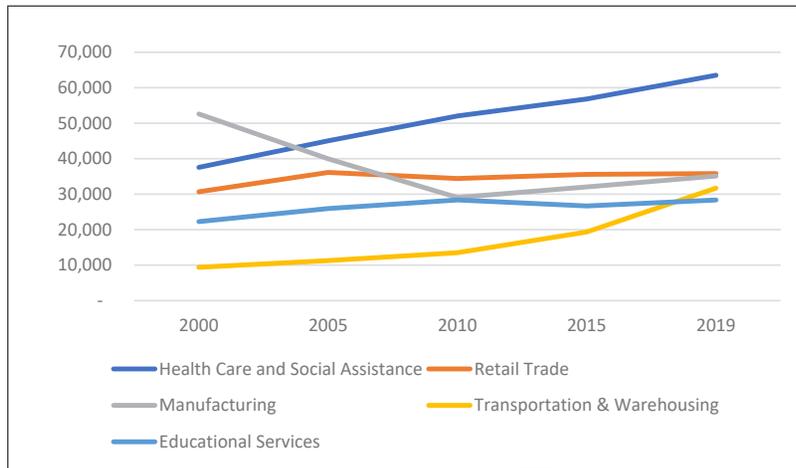
Employment by Industry Sector

Between 2010 and 2019 the MSA added 52,475 new jobs, an 18% increase. The increase is greater than the Commonwealth’s job increases during the same period, at only 10%.

Jobs are increasing, particularly in the Health Care and Transportation & Warehousing industries

Within the MSA, the top five industry sectors for employment in 2019 were Health Care & Social Assistance; Retail Trade; Manufacturing; Transportation & Warehousing; and Educational Services. Like the nation, the Health Care & Social Assistance sector has been rapidly increasing. Except for Manufacturing, employment in each of the top five industry sectors has increased since 2000. While Manufacturing dropped between 2000 and 2010, most likely due to the national recession, the sector is continuing to rebound.

Exhibit 18: Top 5 Employing Industry Sectors (2000 - 2019)



Source: Local Employment Dynamics

Not surprisingly, the industry with the greatest numerical increase in employment is the Transportation & Warehousing sector, with a change in employment of 18,188 between 2010 and 2019 or 134%. Industries rounding out the top 5 sectors in terms of employment change include: Health Care and Social Assistance, Administrative and Support and Waste Management and Remediation Services, Manufacturing, and Accommodation and Food Services. Again, increasing employment levels in these industries suggest the potential need for additional facilities to expand.

Exhibit 19: Top 5 Industries for Employment Growth MSA (2010 – 2019)

Industry (2-digit NAICS)	Numeric Change	% Change
Transportation & Warehousing	18,188	134%
Health Care & Social Assistance	11,457	22%
Administrative & Support/ Waste Management & Remediation Services	6,556	35%
Manufacturing	6,047	21%
Accommodation & Food Services	5,206	24%

Source: Esri Business Analyst

Lehigh Valley manufacturing jobs are rebounding, exceeding state level manufacturing growth

While manufacturing employment dipped after the 2008 national recession, it rebounded reflecting a 21% increase in employment between 2010 and 2019. During the same period state growth in manufacturing was only 3%, reinforcing the strength of the manufacturing sector in the Lehigh Valley. Over 40% of the state’s 14,499 manufacturing sector jobs added since 2010 were created in the MSA.

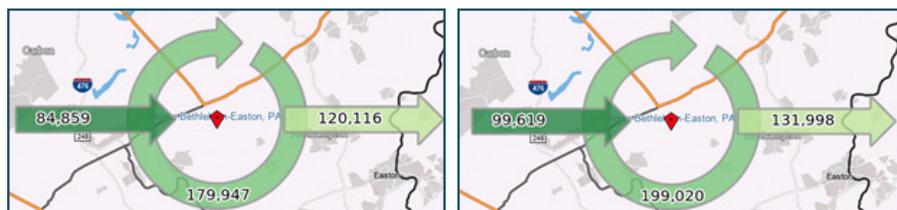
Industries trending stagnant or negative include Finance and Insurance; Management of Companies & Enterprises; Retail Trade; Education; and Public Administration.

Trade Area Employment

While the MSA has gained employment it has also been retaining more residents who both live and work in the region. The same holds true for the Leigh Valley Workforce Investment Area (WIA) which includes Lehigh and Northampton counties.

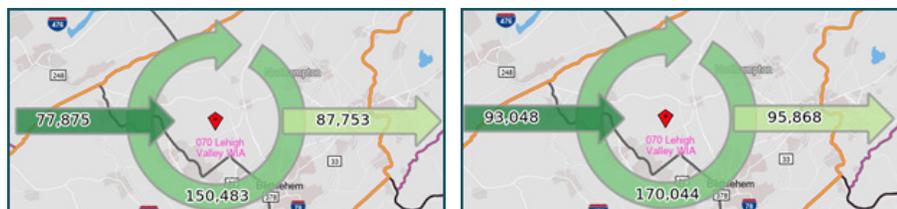
Inflow/Outflow data from the U.S. Census Bureau (LEHD Origin-Destination Employment Statistics available via OnTheMap) demonstrates these trends. Employee inflow, represented by the left arrow on the following exhibits, reflect employees travelling into the area but residing elsewhere. Employee outflow, represented by the right arrow, reflects employees living in the area but travelling to another location for work. Employees living and working in the area represented at the bottom of the diagram. Data from 2000 and 2017 demonstrates the increased numbers of people living and working in the MSA and Lehigh Valley WIA.

Exhibit 20: Job Inflow and Outflow Allentown-Bethlehem-Easton, PA-NJ MSA, 2010 (Left) and 2017 (Right)



Source: U.S Census Bureau, LEHD Origin Destination Employment Statistics

Exhibit 21: Job Inflow and Outflow in Lehigh Valley WIA, 2010 (Left) and 2017 (Right)



Source: U.S Census Bureau, LEHD Origin Destination Employment Statistics

While the number of employees living and working within the MSA and WIA has been increasing, Allentown officials note that many city residents, particularly those employed in the manufacturing sectors, travel outside the City to work. Increasing more job opportunities in the City by developing new industrial properties, would provide local residents increased opportunity to live and work in the City, reducing commute times and providing employers with needed employees. To document City residents travelling to other locations for manufacturing jobs, 2017 LEHD Origin-Destination Employment Statistics data for Allentown were reviewed. The data shows there were 6,910 workers in the goods producing industry sectors living in Allentown and 4,324 workers in the goods producing industry sectors working in Allentown. Creating new manufacturing job opportunities in Allentown could potentially provide up to 2,586 Allentown residents with jobs where they live. The ASH campus could be a potential location for locating these new jobs.

Talent Supply Trends

Recognizing that availability of skilled labor and the gap between the existing workforce and the skills employers need are a challenge, LVEDC in conjunction with Workforce Board Lehigh Valley (WBLV) developed a talent supply initiative. The purpose of the initiative is to identify talent (workforce) supply and demand issues and partner with local employers, educators, and other stakeholders to align talent with industry needs.

LVEDC and WBLV commissioned a regional study to formulate a strategic action plan to improve the Lehigh Valley talent market. The study focused on 5 target industry sectors and included outreach with businesses and other regional stakeholders. Findings from the study, Lehigh Valley Education & Talent Supply Report (Summer 2018), document workforce conditions in each target industry sector.

FIVE TARGET INDUSTRY SECTORS



Source: LVEDC, Lehigh Valley Education & Talent Supply Report (2018)

Several key findings from the study demonstrate an active labor market with challenges, but significant opportunities that can be catalyzed through the existing partnerships between businesses and economic, workforce, and education partners. The following information summarizes employer views about the Lehigh Valley's workforce and augments quantitative real estate information presented in upcoming sections of this market study.

Skilled Workforce

Skilled workforce is required for future growth of businesses. Among the more than 300 Lehigh Valley employers surveyed for the study, 89.8% responded that skilled workforce is important.

Hiring

Ninety-one percent of employers surveyed for the study said they hired workers within the past 12 months; and 89% indicated they plan to hire within the next 12 months. The number of employees hired varied by target industry sector, with transportation and warehousing companies hiring the greatest number of employees.

Labor Availability

Most employers responding to the study survey reported hiring difficulties with 71% experiencing challenges in recruiting, hiring, or retaining talent over the past 12 months. Each of the target industry sectors overwhelmingly reported hiring challenges.

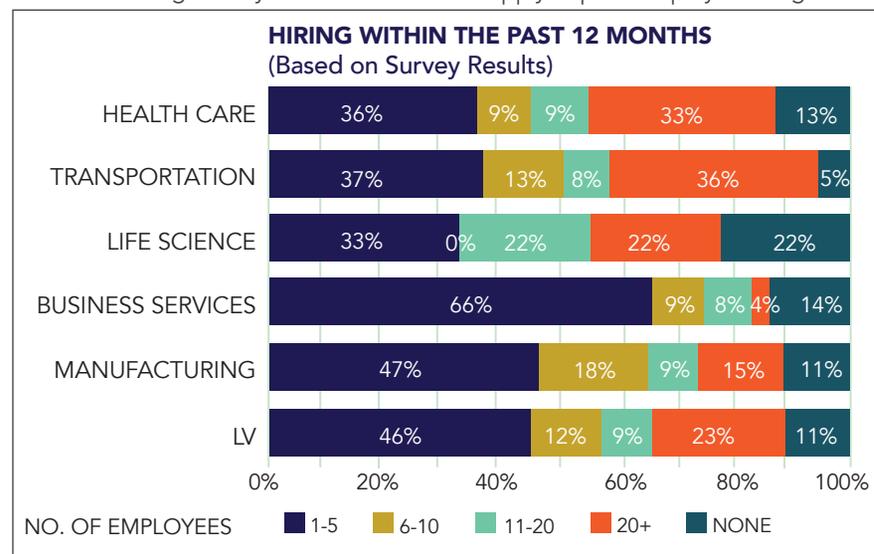
Need to Address Workforce

A key finding from the Lehigh Valley Education & Talent Supply Report was that 90,665 people in the 55 to 64 age group could reasonably be expected to retire within the next 10 years, while only 80,952 people were in the 6 to 15 age group and are likely to enter the talent market in the next 10 years. This leaves the region with a deficit of nearly 10,000 workers over the next 10 years if no actions are taken to address workforce.

Employment Forecast

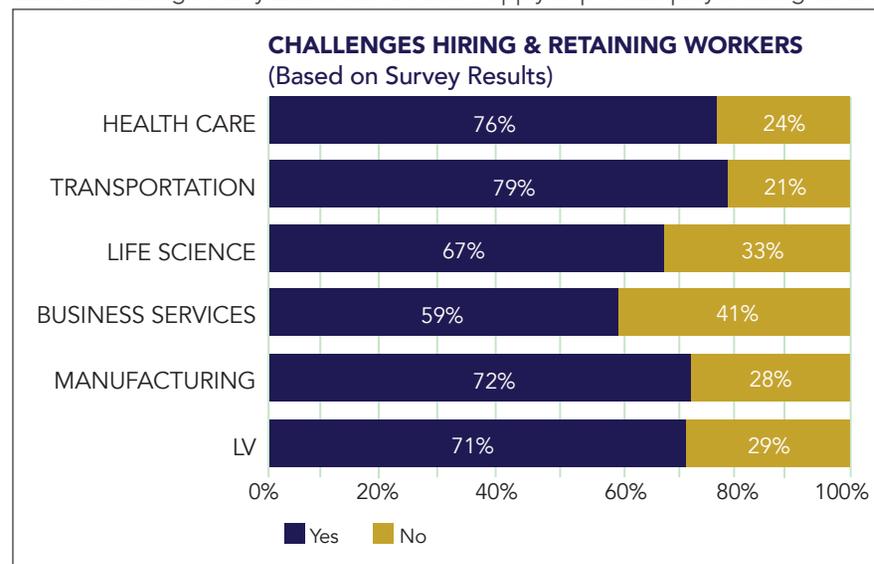
The study estimated replacement demand, which is the sum of employment growth, the number of workers exiting the sector (retirement), and the number of workers transferring from the sector (to jobs in other sectors). Across all target industry sectors replacement demand totals over 96,000 workers.

Exhibit 22: Lehigh Valley Education & Talent Supply Report: Employer Hiring Patterns



Source: LVEDC, Lehigh Valley Education & Talent Supply Report (2018)

Exhibit 23: Lehigh Valley Education & Talent Supply Report: Employer Hiring Challenges



Source: LVEDC, Lehigh Valley Education & Talent Supply Report (2018)

Exhibit 24: Replacement Demand for Target Industry Sectors

	Current Employment	Forecast Employment in 2022	Expected Growth	Replacement Demand ¹
 Manufacturing	24,764	23,955	-809	11,956
 Business Services	53,126	54,835	1,709	28,952
 Life Science	10,388	10,953	565	5,354
 Transportation	34,271	35,734	1,463	20,586
 Health Care	53,056	57,395	4,339	29,586
Total Target Sectors	175,605	182,872	7,287	96,826

Source: LVEDC, Lehigh Valley Education & Talent Supply Report (2018); Chmura JobsEQ® Platform

Occupational Wages & Education Requirements

Occupational wages and employment were assessed for the Lehigh Valley WDA cross referenced with corresponding target industries. The wages and employment forecasts reinforce sectors with employment opportunity over the next 5 years. Specific occupations under each target industry sector are discussed in the Target Industry Sectors & Analysis section.

Exhibit 25: Occupational Wages for Target Industry Sectors

Target Industry Sector	Occupational Title	Average Hourly Wage	Average Annual Wage	Employment Estimated 2016	Employment Projected 2026	Annual Demand
 Manufacturing	Production	\$19.55	\$40,670	24,050	23,830	2,676
 Business Services	Business & Financial Operations	\$35.45	\$73,730	11,820	12,650	1,168
 Life Science	Life, Physical & Social Science	\$34.65	\$72,080	1,690	1,840	167
 Transportation	Transportation & Material Moving	\$17.36	\$36,100	31,680	35,060	4,384
 Health Care	Healthcare Support	\$16.10	\$33,490	10,880	12,470	1,451

Source: Workforce Board Lehigh Valley, PA Occupational Wages, Lehigh Valley WDA (May 2019); Lehigh Valley WDA Occupational Employment 2016-2026 Long-Term Projections.

Occupational wage data also provides insight into the level of education required. Many of the occupations required for the target industry sectors require basic on the job training while others require higher educational requirements. This information is beneficial for employers/employees to assess workforce training needs.

Exhibit 26: Education Requirements for Target Industry Sectors

Target Industry Sector	Manufacturing	Business Services	Life Sciences	Transportation	Healthcare
Doctoral or professional degree			✓		
Master's degree plus experience					
Master's degree			✓		
Bachelor's degree plus experience		✓			
Bachelor's degree		✓	✓		
Associate degree plus experience			✓		
Associate degree			✓		✓
Postsecondary training plus experience					
Postsecondary training or apprenticeship	✓			✓	✓
HS diploma plus work experience	✓			✓	
Long-term training or apprenticeship	✓	✓		✓	
Moderate-term on-the-job-training	✓	✓		✓	✓
Short-term on-the-job-training	✓			✓	✓

Source: Workforce Board Lehigh Valley, PA Occupational Wages, Lehigh Valley WDA (May 2019)

SECTION 5: TARGET INDUSTRY SECTORS & ANALYSIS

As noted above in the Employment Trends section, LVEDC and WBLV began an initiative to proactively link business and education to ensure the Lehigh Valley has a talent pipeline in place to meet existing and future needs of key economic sectors. In 2018 the Lehigh Valley Talent Supply and Industry Sector Analysis & Strategic Action Plan Strategy was developed to define trends and gaps within the talent supply of specific industry sectors in the region. Five target industry sectors were identified with each industry sector aligned to the region's competitive advantages.⁴ The target industry sectors were selected based on the following criteria:

- Current employment figures
- Demonstrated growth in employment in the last five years
- Opportunity for growth in the next five years

FIVE TARGET INDUSTRY SECTORS



Manufacturing
(Advanced and
Food & Beverage)



**High-Value
Business Services**



**Life Science Research
& Manufacturing**



**Transportation,
Warehousing, Logistics
& Wholesale**



Health Care

Source: LVEDC, Lehigh Valley Education & Talent Supply Report (2018)

Target industry sectors were defined using the North American Industry Classification System (NAICS) at the four-digit level. Occupations were defined by the U.S. Department of Labor Standard Occupational Classification (SOC) system.

Each of the 5 target industry sectors, along with workforce needs, has been analyzed for potential compatibility at the ASH campus. The analysis demonstrates the likelihood that each target industry sector and its workforce are potentially geographically compatible with the site and surrounding areas. The 'Site Analysis' column draws from stakeholder findings included in the Stakeholder Input section as well as industrial and office real estate data presented in the Industrial Market Analysis and Office Market Analysis sections.

⁴ Note: While the market study originally scoped analysis of the Lehigh Valley's industry clusters according to methodology developed per the U.S. Cluster Mapping Project, the targeted industry sectors identified as part of the Lehigh Valley Talent Supply and Industry Sector Analysis and Strategic Action Plan were analyzed to ensure consistency with regional strategies.

Potential for Attracting Target Industry Sector Businesses

Target Industry Sector	Data ⁽¹⁾	Site Analysis
<p>Manufacturing (Advanced and Food & Beverage)</p> <p>Manufacturing will be highly influenced by new technology and processes, requiring highly skilled workers</p> 	<ul style="list-style-type: none"> • 2nd largest economic sector in the Lehigh Valley • Greatest economic multiplier of any sector (1 manufacturing job equals 4 in other sectors) • High demand occupations: machinists, engineers, welders, electricians/ electrical engineers, general labor • Annual demand: 2,676 workers 	<ul style="list-style-type: none"> • The ASH campus is a potential candidate for industrial/flex space. • Small industrial users are situated in East Allentown on individual parcels or in business parks. • Real estate brokers and economic development professionals report the lack of small sized (less than 80,000 SF) manufacturing space throughout the Lehigh Valley. • Considering its location in a residential neighborhood, industrial vehicle access to the site should be carefully assessed. • The site could help meet the Lehigh Valley's need for high-value industrial/flex space.
<p>High-Value Business Services</p> <p>Corporate demands required to respond to rapid changes in customer expectations drive growth in this sector</p> 	<ul style="list-style-type: none"> • The Lehigh Valley's location in proximity to the New York and Philadelphia metro areas combined with existing office facilities support industry sector growth. • Downtown Allentown is a significant regional driver for large corporate office space. • High demand occupations: sales and marketing, engineers, accountants, attorneys/ paralegals • Annual demand: 1,168 workers 	<ul style="list-style-type: none"> • The ASH campus is a potential candidate to locate business services workers requiring smaller office spaces to support local needs. • Any future office development at the ASH campus should not detract from reinvestment in either downtown Allentown or Bethlehem. • Near the ASH campus, tenants are requesting office space sized between 2,500 SF and 5,000 SF.
<p>Life Science Research & Manufacturing</p> <p>Life sciences is increasing nationally concurrent with increasing demand for health services</p> 	<ul style="list-style-type: none"> • While over half of industry establishments in PA have fewer than 10 employees, the sector contributes a statewide economic output of \$88.5 billion. • Life sciences research and manufacturing are a critical sector for the Lehigh Valley's post-secondary educational institutions. • High demand occupations: Engineers, mechanical /mechanics, chemical operators/ chemical analysts, IT/Web Developer/ Software Developer • Annual demand: 167 	<ul style="list-style-type: none"> • The ASH campus is a potential candidate to locate life science research and manufacturing businesses. • A few small life science research and manufacturing firms have expanded in proximity to the ASH campus. • One firm has outgrown space at the nearby Ben Franklin Tech Incubator and will relocate to an existing 40,000 SF building in South Allentown creating 38 new jobs. • Industrial/flex space would accommodate industry sector needs. • The site could help meet future space needs for this high-value sector.

⁽¹⁾ LVEDC, Lehigh Valley Education & Talent Supply Report (2018); Workforce Board Lehigh Valley, PA Occupational Wages, Lehigh Valley WDA (May 2019)

Target Industry Sector	Data ⁽¹⁾	Site Analysis
<p>Transportation, Warehousing, Logistics & Wholesale</p> <p>Fulfilling increasing customer e-commerce demands has intensified the importance of this sector</p> 	<ul style="list-style-type: none"> • Fastest-growing sector in the Lehigh Valley's economy • 9.5% year-over-year growth in economic output, adding 10,000 jobs in the last 5 years • High demand occupations: CDL drivers, truck drivers, forklift operators and drivers, mechanical/mechanics, warehouse workers • Annual demand: 4,384 workers 	<ul style="list-style-type: none"> • The ASH campus is not a potential candidate to site large scale warehouse and logistics users. • The ASH campus is situated in a residential neighborhood accessed by a two-lane road network. • The site is over 2.5 miles from a US 22 interchange. • Users of large-scale warehouses prefer locations near interstate connections. • Surrounding land uses and the local road network prevent the site from being a candidate to locate industrial warehouse use.
<p>Health Care</p> <p>Health care is a key component of the U.S. economy driven by over 98 million Americans age 65+ by 2060</p> 	<ul style="list-style-type: none"> • Health Care is the Lehigh Valley's top industry by employment • High demand occupations: nurses, medical assistants, caregivers and home health aides, nurses, administrative assistant, psychologists • Annual demand: 1,451 workers 	<ul style="list-style-type: none"> • The ASH campus is a potential candidate to site health care operations requiring medical office space. • The site effectively provided health care services for more than a century. • Stakeholders report increasing need for medical office space. • Medical office space would meet the requirements for the health care industry sector.

SECTION 6: INDUSTRIAL MARKET ANALYSIS

The market area is a geography that a property (in this case the ASH campus) serves. Major metropolitan areas have been divided into real estate markets for the purpose of comparison and statistical analysis. These market areas are often broken into smaller submarkets based upon geographic barriers and local dynamics. The ASH campus is in the Lehigh Valley submarket, which is part of the larger Philadelphia market.

The industrial market analysis for the ASH campus began with an overview of the Lehigh Valley real estate market with data provided by CoStar and LVEDC. Key terms for the industrial and office real estate analysis are included in Appendix A. Industrial data was then supplemented with localized findings obtained from discussions with local and regional real estate and economic development professionals.

Industrial GDP trends from the U.S. Bureau of Economic Analysis (BEA) were also analyzed to measure the strength of manufacturing output, signaling the overall economic performance of the real estate. The resultant market trends were summarized with key findings linked to potential market receptiveness in the study area and at the ASH campus.

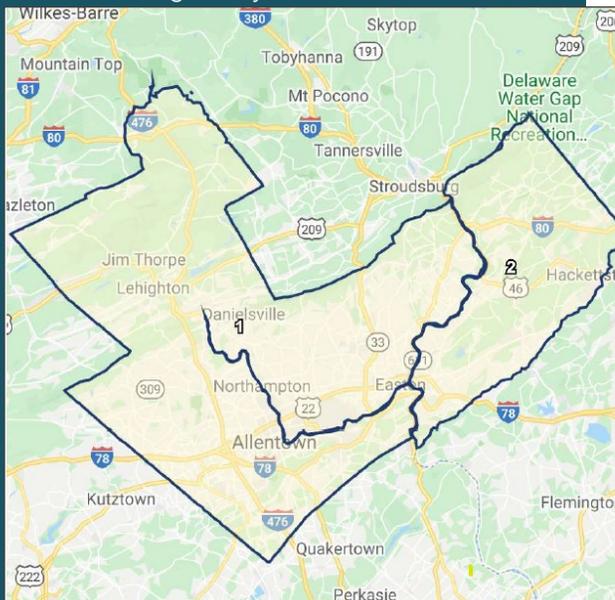
Worth noting at the beginning of the industrial market analysis is the type of industrial activity that could potentially take place at the ASH campus. The site is limited by its location adjacent to existing residential neighborhoods and limited access to major transportation corridors. Therefore, an industrial warehouse distribution facility requiring large amounts of land in proximity to a limited access highway would not be suitable at the site, nor would resource intensive, heavy manufacturing. Instead industrial/flex space, smaller sized industrial buildings housing light manufacturing, research and development manufacturing/facilities, industrial showrooms, and data centers would be suitable types of industrial uses at the ASH campus. Further analysis was conducted to quantify potential unmet industrial/flex space demand and the likelihood the ASH campus could capture unmet demand.

As the Lehigh Valley is comprised of two (2) submarkets, Lehigh Valley plus Carbon County and Warren County, NJ, only Lehigh Valley data (Lehigh and Northampton counties) was used in the supply/demand analysis. Subtracting out these geographies provided consistency with WDA employment data used in the analysis.

The Lehigh Valley is within the Philadelphia Market Area which includes portions of southeast Pennsylvania, southern New Jersey, and northern Delaware.

The Lehigh Valley includes two industrial submarkets Lehigh Valley plus Carbon County and Warren County, NJ.

Exhibit 27: Lehigh Valley Real Estate Market Area



Source: CoStar

Key Market Indicators

Consumers’ increasing preference for online shopping is bringing international attention to the Lehigh Valley with the market’s shipping location attracting international investors, developers, and tenants. While a significant new supply has been placed into the market over the past decade, demand has managed to keep up with millions of SF of speculative supply. Rents have increased correspondingly and though growth has slowed over the past two years; rents remain well over the inflation rate. Sales volume has surpassed expectations for several years as both international and institutional entities purchase large logistics facilities. Since 2010, central and eastern Pennsylvania have delivered more large-scale warehouses than any other regions in the country, the majority in Lehigh Valley. The proximity to international ports in New York-New Jersey, Boston, Philadelphia, and Baltimore are driving growth.

Exhibit 28: Key Industrial Indicators for the Lehigh Valley Market



Source: CoStar (January 2020)

KEY INDICATORS

Current Quarter	RBA	Vacancy Rate	Market Rent	Availability Rate	Net Absorption SF	Deliveries SF	Under Construction
Logistics	103,065,044	5.0%	\$5.49	11.5%	31,408	0	8,167,899
Specialized Industrial	23,628,490	2.0%	\$6.20	4.0%	(37,600)	0	205,000
Flex	7,740,700	5.8%	\$10.31	10.2%	28,308	150,000	419,000
Market	134,434,234	4.5%	\$5.88	10.2%	22,116	150,000	8,791,899

Annual Trends	12 Month	Historical Average	Forecast Average	Peak	When	Trough	When
Vacancy Change (YOY)	0.6%	8.1%	4.6%	14.1%	2003 Q2	3.9%	2018 Q4
Net Absorption SF	1.7 M	2,527,697	4,328,460	8,497,578	2017 Q1	(1,677,442)	2009 Q1
Deliveries SF	3.1 M	2,693,923	5,045,694	7,940,185	2017 Q3	324,160	2011 Q2
Rent Growth	1.5%	1.9%	0.8%	6.0%	2000 Q3	-3.4%	2010 Q3
Sales Volume	\$381 M	\$134.8 M	N/A	\$466.6M	2017 Q4	\$0	2004 Q2

Source: CoStar (January 2020)

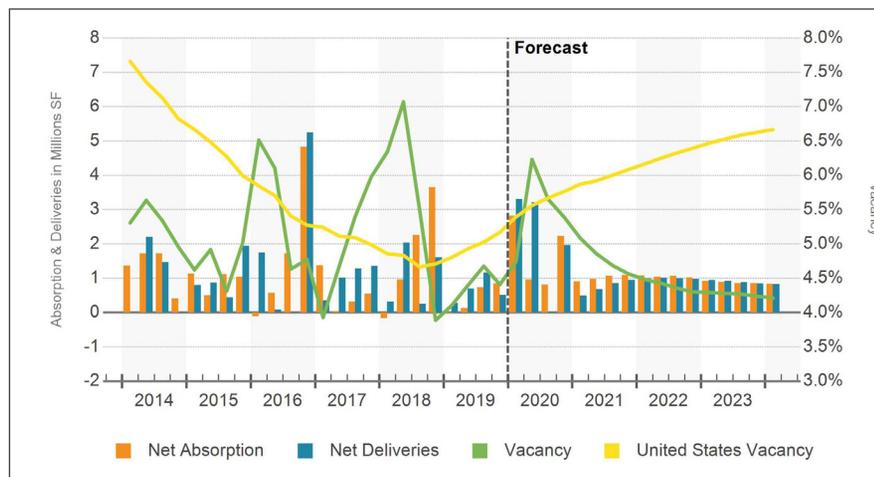
Leasing

The Lehigh Valley’s industrial vacancy rate has increased in recent quarters reaching 4.5% at the beginning of 2020. While vacancy rates should not be dismissed, rates are much lower than the historical average of 8.5% since 2000. The market’s demand drivers of prime location and increasing e-commerce have not weakened and vacancies are tight for an area that has received a significant amount of supply.

Representative industrial leases in 2019 demonstrate absorption is occurring throughout the Lehigh Valley with a few buildings leased in proximity to the ASH campus. Many of these leases are for smaller industrial space below 80,000 SF in size.

Recent market trends reflect that while the overall vacancy rate for industrial buildings is trending upward, there is a continuing decline in vacancy rates for smaller sized industrial buildings. The vacancy rate for industrial buildings less than 80,000 SF in size is currently 3.1% compared to 5.9% for all industrial buildings and 4.5% for buildings greater than 300,000 SF.

Exhibit 29: Lehigh Valley Industrial Net Absorption, Net Deliveries & Vacancy



Source: CoStar (January 2020)

Exhibit 30: Lehigh Valley Industrial Building Vacancy Rates (Q2 2019 – Q2 2020)

	Overall	Over 300,000 SF	Under 80,000 SF
Q2 2019	4.8%	4.2%	3.4%
Q3 2019	5.0%	4.2%	3.3%
Q4 2019	4.5%	3.4%	3.5%
Q1 2020	4.3%	1.5%	3.2%
Q2 2020	5.9%	4.5%	3.1%

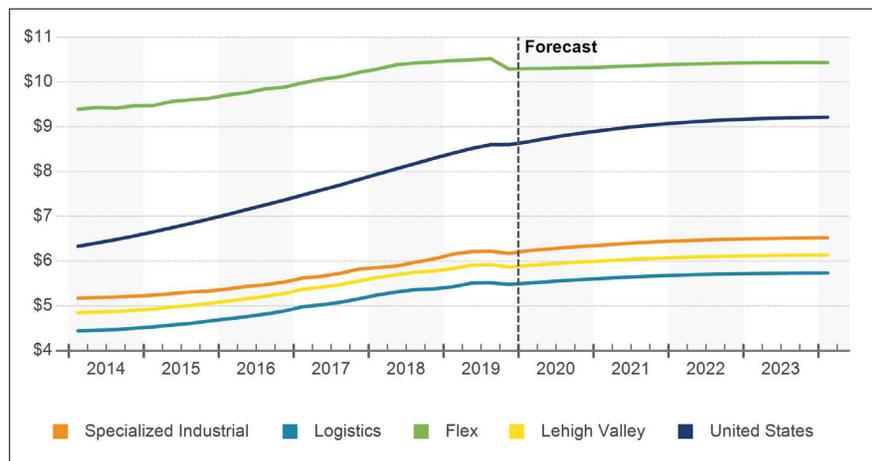
Source: CoStar, LVEDC

Rent

Year-over-year rent gains are 1.5%, with the average tenant signing for space at \$5.90/SF. Growth over the past four years demonstrates annual gains over 4% every year since 2015. Until leasing of new construction slows, rent growth is likely to be ahead of the pace of inflation. While there are signs that industrial leasing is slowing down, shipping demand drivers are still strong in the Lehigh Valley.

While recent market trends reflect a general increase in asking rent per SF across all industrial buildings, the asking rent for smaller size industrial buildings is higher. Current asking rents for Industrial buildings under 80,000 SF in size is \$6.78/SF compared to \$6.10/SF for all industrial buildings and \$6.40/SF for buildings greater than 300,000 SF. This reflects the overall demand for smaller sized industrial buildings in the Lehigh Valley.

Exhibit 31: Lehigh Valley Industrial Rent Per SF



Source: CoStar (January 2020)

Exhibit 32: Lehigh Valley Industrial Building Asking Rent per SF

	Overall	Over 300,000 SF	Under 80,000 SF
Q2 2019	\$5.64	\$5.01	\$6.13
Q3 2019	\$5.58	\$4.95	\$6.36
Q4 2019	\$5.73	\$4.95	\$6.71
Q1 2020	\$5.94	\$5.63	\$7.01
Q2 2020	\$6.10	\$6.40	\$6.78

Source: CoStar, LVEDC

Construction and Under Construction

Except for the Inland Empire in California, the Lehigh Valley has seen the fastest growth in its industrial rentable building area (RBA) since 2010 of any market in the U.S. The Lehigh Valley's industrial RBA has grown 25% since 2010, reaching 134 MSF as of 1st quarter 2019. Among the roughly 28 MSF of projects that have been delivered since 2010, only about 10% are listed as available for lease. Meanwhile, the market's overall vacancy rate remains well below its historical average of 8.5% since 2000.

The dominance of industrial warehouse distribution space is further demonstrated by reviewing properties under construction and proposed. Thirteen (13) industrial projects are under construction totaling over 4.5 MSF. An additional 26 projects are proposed totaling nearly 7.2 MSF. Most of the projects under construction and proposed serve the needs of the industrial warehouse industry. Of the over 4.5

MSF of industrial space under construction, nearly 91% is warehouse distribution with a small amount manufacturing (105,000 SF). Only 9% is industrial/flex space including uses such as light manufacturing, research and development manufacturing/facilities, industrial showrooms, and data centers. Due to the ASH campus' location within a residential neighborhood and limited access to major transportation corridors, industrial/flex space would be the more appropriate industrial use at the site.

Only 37,000 SF of industrial space (warehouse) is under construction in the study area and over 2.4 MSF is proposed with nearly 1.8 MSF in Bethlehem. No industrial/flex space is under construction or proposed in the study area.

The lack of small-footprint industrial space is documented by LVEDC. At the end of 2019, only 1 building less than 100,000 SF was under construction, while 8 buildings in the 100,000 SF – 300,000 SF size range and 7 buildings greater than 300,000 SF were under construction.⁵

Exhibit 33: Industrial Properties Under Construction and Proposed in the Lehigh Valley Market Area

	Properties Under Construction	Building SF Under Construction	Properties Proposed	Building SF Properties Proposed
Industrial	10	4,153,409	24	7,007,975
Industrial/Flex	3	419,000	2	173,100
Total	13	4,572,409	26	7,181,075

Source: CoStar (January 2020)

⁵ LVEDC 2019 Annual Report.

Deficit of Small-Footprint Industrial Space

Several trends and data points document the demand for and limited availability of new, small-footprint industrial/flex space in the Lehigh Valley and study area. The ASH campus could serve as a potential location to house this type of industrial space.

- Per the 2014 Allentown re-industrialization strategy, the greatest demand for industrial space is for smaller sized space 8,000 SF or less and 20,000 to 40,000 SF up to 80,000 SF.⁶
- Each of the economic development and real estate professionals contacted as part of this market study noted the shortage of small-footprint industrial/flex space. The actual size needed varied by stakeholder: 6,000 SF – 12,000 SF; 5,000 SF – 25,000 SF; 30,000 SF – 80,000 SF; but it was clearly reported that smaller sized industrial/flex space as a gap in the Lehigh Valley's current industrial real estate market, particularly in the study area.
- LVEDC began tracking the issue of limited availability of small manufacturing space in 2017. According to an LVEDC 2018 commercial real estate report, there was a documented shortage of small-footprint industrial buildings between 40,000 SF and 80,000 SF in size.⁷
- Nearly half of LVEDC's 35 economic development projects completed in 2019 (office and industrial) were for companies requiring a building less than 80,000 SF, with an average of 36,000 SF.
- Nearly 70% of businesses seeking smaller locations in 2019 were manufacturers requiring industrial space. Of the 16 businesses working with LVEDC in 2019 and seeking smaller sized industrial space, 11 (or 69%) were smaller manufacturers. The type of manufacturing varied from medical supply to pharmaceutical manufacturing to commercial machinery to food manufacturing. Review of NAICS associated with each company demonstrates consistency with the Lehigh Valley's targeted sectors of Manufacturing (Advanced and Food & Beverage); High-Value Business Services; Life Science; Transportation, Warehousing, Logistics & Wholesale; and Health Care.
- CoStar data indicates that 25 of the 37 top industrial leases in the Lehigh Valley submarket in the past 12 months were for companies requiring a building sized 80,000 SF or less, nearly 67%. The average industrial space leased in this size range over the past 12 months was 42,000 SF.
- The shortage smaller sized industrial space is also documented by recent vacancy rates. According to LVEDC, the overall vacancy rate for industrial property in the 2nd quarter 2020 was nearly 6%. For industrial/flex space smaller than 80,000 SF, the vacancy rate dropped to 3.1%.
- The demand for or small-footprint industrial/flex buildings is also documented by an increase in asking rents. Current asking rents for industrial buildings under 80,000 SF in size is \$6.78/SF compared to \$6.10/SF for all industrial buildings and \$6.40 for buildings greater than 300,000 SF.
- The construction of new, small-footprint buildings is limited. At the end of 2019, only 1 building less than 100,000 SF was under construction, while 8 buildings in the 100,000 SF – 300,000 SF size range and 7 buildings greater than 300,000 SF were under construction.

⁶ Allentown Economic Development Corporation, *Envision Lehigh Valley, City of Allentown Re-Industrialization Strategy*, April 2014, p. 10.

⁷ LVEDC, *Commercial Real Estate Report for the Office & Industrial Markets Issue #013, 1st Quarter 2018*.

- Smaller industrial buildings are also older. According to LVEDC's 2019 Annual Report, of the 15.4 MSF inventory of small-footprint buildings in the Lehigh Valley, nearly 82% are older than 40 years with only 2% constructed in the past 10 years. Of the 111 buildings constructed post-1980, 94 were 100% occupied in 2018. Newer industrial building stock would help replace existing, older buildings.
- Industrial re-zoning in Allentown further documents the demand for new manufacturing space. Nearly 30 acres of property were rezoned to general industrial in 2019. Changes in zoning to attract economic development focused on industrial uses was an objective in the City's 2014 re-industrialization strategy.
- Finally, LVEDC has made a concerted effort to educate real estate brokers and developers on the deficit of smaller sized industrial space in the region. In 2017 after LVEDC identified and began to track the limited availability of small-footprint industrial/flex space, a panel discussion was convened by LVEDC's Brokers & Developers Council to discuss challenges and opportunities. Nearly 100 developers, real estate brokers, and other Lehigh Valley professionals attended to learn more about the issue and the importance for developing speculative small-footprint industrial/flex space.⁸

Developing an inventory of industrial space is also a factor in retaining existing businesses. Close to one-third of LVEDC's economic development projects completed in 2018 were expansion projects for existing Lehigh Valley companies, reflecting that business retention is an active and key component of the industrial base. Further, nearly all businesses interviewed for Allentown's re-industrialization strategy noted growth and expansion plans within 5 to 10 years. Therefore, unless additional industrial space is identified, Allentown and the region will likely face business retention challenges.⁹

From a geographic perspective, many businesses requiring smaller industrial space have located in proximity to the ASH campus. Within the last year, 8 industrial buildings under 35,000 SF have been leased in the vicinity of the ASH campus according to CoStar. This reinforces stakeholder comments identifying the need for smaller industrial/flex space in the study area.

- One smaller company expanding in the Lehigh Valley and locating near the ASH campus is U.S. Specialty Formulations, LLC. An LVEDC 2019 project, the company relocated from the Ben Franklin TechVentures incubator in Bethlehem into an existing 40,000 SF building in Allentown's Southside neighborhood, across the river from the ASH campus. The company is in the Life Science Research & Manufacturing target industry sector and its current staff of 12 employees is expected to increase to over 50 in 5 years.¹⁰
- Another company, Royal Industries, is a business promotional products manufacturer that recently relocated from Brooklyn, New York to an existing 80,000 SF building on Plymouth Street 0.67 miles from the ASH campus. The project was announced in 2017 and was projected to result in the creation of 80 new jobs.¹¹ As industrial businesses from the New York-New Jersey metropolitan area continue to seek locations in the Lehigh Valley due to lower cost space and workforce availability, providing additional industrial space would meet ongoing space demand.

In summary, the location of smaller manufacturers in proximity to the ASH campus combined with a documented lack of industrial/flex space presents a potential market opportunity at the site.

⁸ LVEDC, *Panelists Discuss Shortage of Lehigh Valley Small-Footprint Manufacturing Space*. November 3, 2017.

⁹ *Ibid.*, p. 10.

¹⁰ LVEDC, *U.S. Specialty Formulations Moving Into New Allentown Space*, May 16, 2019. Accessed 02/20/20 at:

¹¹ *The Morning Call*, *Brooklyn company relocating to Allentown, bringing 80 jobs*. October 10, 2017. Accessed 02/20/20 at: <https://www.mcall.com/business/mc-biz-allentown-royal-industries-relocating-20171010-story.html>.

Growth in Manufacturing Output

An additional measure of an area's industrial market strength is its growth in manufacturing output as measured by GDP. Data from the BEA was analyzed to identify GDP particularly from the manufacturing sector.

According to LVEDC, the Lehigh Valley's GDP reached a record-high \$41.2 billion for 2018, a 2.7% gain from 2017. The manufacturing sector comprises \$7.3 Billion nearly 18% of the region's economic output, higher than the U.S. at 12.8%.¹²

Over the past several years, the Lehigh Valley's manufacturing sector has been strong with respect to both durable and non-durable goods production. Durable goods are products consumers do not need to purchase often and are generally, higher priced items such as cars, appliances, furniture, and electronics. Non-durable goods are products that are used or consumed more quickly such as paper products, cleaning products, clothes, and shoes. Typically, if a product lasts more than three years it is a durable good. In general, businesses and consumers generally place orders for durable goods when they are confident an economy is good. An increase in durable goods is a signal of a strong economy and manufacturing sector.

Durable goods manufacturing in the Lehigh Valley increased nearly 10% between 2015 and 2018, from \$2.7 Billion to \$3.0 Billion. This is indicative of a strong manufacturing sector and is another measure to document the need for increased manufacturing space. The development of additional industrial property will continue to support the Lehigh Valley's strong manufacturing output.

¹² TLVEDC. Accessed 08/12/20 at: <https://lehighvalley.org/about-lehigh-valley/economy/#:~:text=Balanced%2C%20Diversified%2C%20%26%20Growing,a%20total%20of%2045%20billion.>

Industrial Market Potential

Findings	Data	Site Analysis
<p>The dominant real estate driver in the Lehigh Valley continues to be industrial warehouse distribution space.</p>	<ul style="list-style-type: none"> • Approximately 28 million SF of industrial warehouse space has been delivered since 2010 with only 10% available for lease. • 13 industrial properties are under construction totaling over 4.5 MSF, 91% is warehouse distribution. • 26 industrial properties are proposed totaling over 7.2 MSF, 98% is warehouse distribution. 	<ul style="list-style-type: none"> • The ASH campus is in a residential neighborhood, accessed by a two-lane road network. • It is located over 2.5 miles from a US 22 interchange. Users of large-scale industrial warehouses prefer a location near limited access highways. • Surrounding residential land uses and the local road network prevent the site from being a candidate to locate industrial warehouse space.
<p>The Lehigh Valley has documented demand for and limited availability of small-footprint industrial/flex space, particularly in the study area.</p>	<ul style="list-style-type: none"> • According to an LVEDC 2018 Commercial Real Estate Report, there is a shortage of small-footprint industrial buildings (40,000 – 80,000 SF) in the Lehigh Valley. • Per Allentown’s 2014 Re-Industrialization Strategy, the greatest demand for industrial space is for small sized space less than 80,000 SF. • Each of the economic development and real estate professionals contacted as part of this market study noted the shortage of small-footprint industrial/flex space. • LVEDC reports that at the end of 2019, only 1 building less than 100,000 SF in size was under construction. • Nearly half of LVEDC’s 2019 economic development projects (office and industrial) required buildings sized less than 80,000 SF. Based on industry type, 7 were manufacturing, 2 R & D, and 3 distribution. • Compared to an overall industrial vacancy rate of nearly 6%; the vacancy rate of industrial/flex space less than 80,000 SF is just 3%. • Current asking rents for industrial/flex buildings under 80,000 SF is \$6.78/SF compared to a lower rate of \$6.10/SF for all industrial buildings. • Industrial re-zoning in Allentown supports the demand for new industrial space. 	<ul style="list-style-type: none"> • The ASH campus would help meet the Lehigh Valley’s need for industrial/flex space. • The lack of smaller sized industrial space in the Lehigh Valley presents a real estate market opportunity at the ASH campus. • Constructing industrial/flex space 80,000 SF in size or less would help meet current demand. Average building sizes are currently 42,000 SF.
<p>Smaller industrial buildings in the Lehigh Valley are older.</p>	<ul style="list-style-type: none"> • Of the 15.4 MSF inventory of small-footprint buildings in the Lehigh Valley, nearly 82% are older than 40 years with only 2% constructed in the past 10 years. • Of the 111 buildings constructed post-1980, 94 were 100% occupied in 2018. 	<ul style="list-style-type: none"> • The ASH campus provides an opportunity to construct new, modern small-footprint industrial/flex space. • Newer industrial building stock would help replace existing, older buildings.

Continued on the following page

Findings	Data	Site Analysis
<p>The Lehigh Valley’s manufacturing sector as measured by GDP is strong.</p>	<ul style="list-style-type: none"> • The Lehigh Valley’s GDP reached a record-high \$41.2 billion in 2018. • The manufacturing sector comprises nearly 18% of the region’s economic output, higher than the U.S. at 12.8%. • Durable goods manufacturing increased nearly 10% between 2015 and 2018, indicative of a strong manufacturing sector. 	<ul style="list-style-type: none"> • The ASH campus provides a location to continue expansion of the region’s economic output.
<p>Allentown’s Re-Industrialization Strategy points to advantageous industrial conditions in the study area.</p>	<p>Allentown’s advantageous industrial conditions were documented as:</p> <ul style="list-style-type: none"> • Lower-cost space • Lower-cost labor • Access to a dense labor market within a short commute, often within walking distance • Access to city amenities for workers and entrepreneurs and increased commercial activity • An incubator and related services specifically dedicated to manufacturing and serving as a focal point for a manufacturing entrepreneurial network • Existing infrastructure 	<ul style="list-style-type: none"> • The ASH campus provides a location to increase Allentown’s, and Bethlehem’s, industrial space inventory.
<p>An inventory of industrial space is a key business retention factor.</p>	<ul style="list-style-type: none"> • Close to one-third of LVEDC’s economic development projects completed in 2018 were expansion projects for existing Lehigh Valley companies • Nearly all businesses interviewed for Allentown’s re-industrialization strategy noted growth and expansion plans within 5 to 10 years. 	<ul style="list-style-type: none"> • The ASH campus provides a location for existing Lehigh Valley and study area businesses to expand.
<p>Businesses requiring smaller industrial space have located in proximity to the ASH campus with out of state business attraction increasing as well.</p>	<ul style="list-style-type: none"> • Within the past year, 8 industrial buildings under 35,000 SF have been leased in the vicinity of the ASH campus. • A specialty pharmaceutical manufacturer expanded from the Ben Franklin TechVentures incubator into an existing 40,000 SF building across the river from the ASH campus. The company is projected to employ 50 over 5 years. • A manufacturer recently relocated from Brooklyn, NY to an existing 80,000 SF building on Plymouth Street ½ mile from the ASH campus. The project will result in the creation of 80 jobs over 3 years. • Industrial businesses from the New York-New Jersey metropolitan area continue to seek locations in the Lehigh Valley due to lower cost space and workforce availability. 	<ul style="list-style-type: none"> • Constructing industrial/flex space at the ASH campus would serve the needs of businesses requiring smaller sized buildings near the site. • Additional industrial space would also provide sites for businesses relocating to the region from the New York-New Jersey metropolitan area.

Industrial Space Demand

Methodology

Potential industrial space demand is focused on the amount of industrial/flex space available and the amount of industrial/flex space in demand.

Since substantial amounts of industrial warehouse distribution facilities have been constructed in the Lehigh Valley, each requiring sizable amounts of land and access to limited access highways, it was determined that warehouse space is not compatible with the ASH campus. Therefore, industrial warehouse space is referenced for context, but not included in the calculation of industrial space demand.

Further, heavy manufacturing is not a candidate at the ASH campus due to the site's location in a residential neighborhood. Heavy manufacturing uses were not included in calculating industrial space demand.

The following methodology was used to quantify potential unmet industrial/flex space demand and the likelihood the ASH campus could capture unmet demand. For purposes of this analysis, industrial/flex space includes light manufacturing, research and development manufacturing/facilities, industrial showrooms, and data centers.

Document the amount of industrial/flex space available in the Lehigh Valley

CoStar data was used to assess the existing amount of industrial space under construction, proposed, and available for sale or lease in the Lehigh Valley submarket. The location of industrial/flex space available in the study area (Allentown and Bethlehem) was identified to determine localized space availability.

Estimate the number of new workers

PA Center for Workforce Information & Analysis long-term industry employment projections (2016 – 2026) were used to identify the number of new workers in growing industrial sectors, subtracting those employed in the Transportation & Warehousing industries and those employed in heavy manufacturing industries.

Calculate future industrial/flex space demand

An employee space requirement of 469 SF/worker was used to estimate the total new flex space demand for new workers estimated. In addition, GDP data was analyzed to determine the level of growth in manufacturing output that could likely be attributed to the study area.

Assess industrial/flex space availability versus demand

The amount of flex space available in the Lehigh Valley was compared to future demand driven by new workers to determine the potential demand for new space. Study area level data was identified, as available. Qualitative information from stakeholder outreach was used to supplement data analysis findings.

Available Industrial Space

According to CoStar data for the Lehigh Valley submarket, 4,572,409 SF of industrial space is under construction with 37,717 SF located in the study area, in Bethlehem. An additional 7,181,075 SF is proposed with over 2.4 MSF proposed in the study area. Subtracting out warehouse distribution space, 419,000 SF of industrial/flex space is under construction and 173,100 SF is proposed. None of the space is located within the study area.

Existing industrial property for sale totals 560,115 SF through 17 properties and approximately 7.7 MSF of industrial space available for lease through 97 properties. Subtracting warehouse distribution space, 294,413 SF of industrial/flex space is available for sale or lease in the Lehigh Valley with nearly 77% located in the study area. Annual average lease rates are close to \$10.00/SF.¹³

¹³ For lease rate data presented as a range or an estimate, the higher rate was selected to determine average lease rate per square foot per year.

Exhibit 34: Industrial/Flex Space Available for Sale and Lease in the Lehigh Valley

	Properties	Building SF	Building SF (Study Area)	Average Rent/SF/Yr
Sale	2	39,106	39,106	\$9.98
Lease	19	255,307	186,857	\$9.83
Total	21	294,413	225,963	

Source: CoStar (March 2020), Michael Baker International

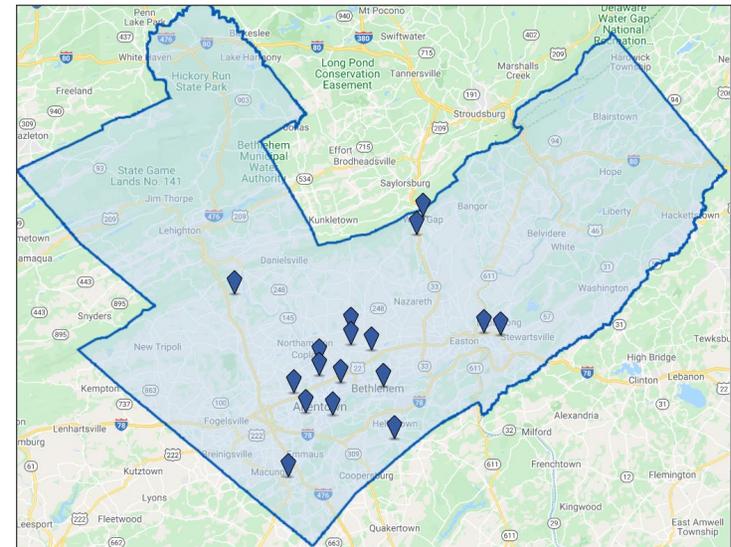
A total of 886,513 SF industrial/flex space is available or will soon come onto the market in the Lehigh Valley. Of this amount, 225,963 SF is in the study area of Allentown and Bethlehem. The available industrial/flex supply is relatively new with only 6 of 21 properties for sale or lease constructed prior to 1980.

New Industrial/Flex Space Demand

The PA Center for Workforce Information & Analysis prepares 10-year, long-term industry employment projections for all industries in Pennsylvania. Long-term industry projections are prepared for the state, workforce development areas (WDAs), and metropolitan statistical areas (MSAs). The Lehigh Valley WDA is comprised of Lehigh and Northampton counties. WDA data was selected for this analysis as the Lehigh Valley WDA includes the same geographic area as the Lehigh Valley real estate submarket.

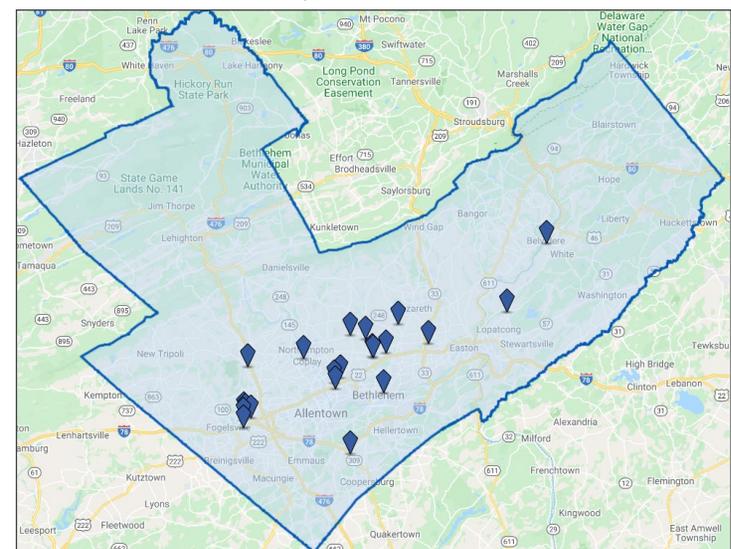
Employees working in industrial sectors were identified based on the Lehigh Valley WDA long-term industry employment projections for 2016 – 2026. The Transportation & Warehousing sector was removed from this analysis, as the ASH campus is not a viable location for the warehouse distribution industry.

Exhibit 35: Industrial/Flex Space Available for Sale



Source: CoStar

Exhibit 36: Industrial/Flex Space Available for Lease



Source: CoStar

Industries analyzed included those in the Manufacturing sector that would likely require industrial/flex space. Light industrial buildings are typically used for the assembling, finishing, packaging, and repairing of materials. Space size requirements for light industrial buildings vary. Currently, the size of small-footprint manufacturing space required by companies working with LVEDC averages 42,000 SF.

A flex building typically houses research and development facilities, data centers, and showrooms.

- **Research & Development** – Research and development (R&D) space is the first stage in developing new products; used to test and refine new products. Pharmaceutical and software/technology companies tend to occupy R&D space and space requirements vary. Currently, the average space required for R&D companies working with LVEDC is 30,000 SF.
- **Data Centers** - Also known as Switching Center, Cyber Center, and Web Hosting Facility, this type of flex building is used exclusively to house telecommunications equipment for outside companies. Data centers have floors that can handle heavy loads, extremely heavy power to run large amounts of electrical equipment, backup generators, and air conditioners, and have very little need for office space. Up to 200 Watts of power/SF (residential properties require 5 to 7 Watts/SF) and proximity to fiber optic lines are also required. Verizon provides fiber in zip code 18109, the location of ASH campus. Building size ranges from 130,000 SF to 150,000 SF.
- **Showroom** - A building where merchandise is exhibited for sale or where samples are displayed. Showroom buildings could include up to 30% office space and have clear ceiling heights, from 14 feet and up. which may include office with up to 50% site coverage and office areas up to 30%. Building size ranges from 25,000 SF to 150,000 SF.

In calculating new jobs, it is important to note that the manufacturing sector is projected to shed 700 net jobs by 2026. Apparel Manufacturing

is projected to lose 530 jobs alone. Therefore, in order to demonstrate future space demand only those industries in the manufacturing sector which are projected to gain new jobs were analyzed. In addition, industries identified as heavy manufacturers were not analyzed as heavy manufacturing is not a suitable use for the site considering its location in a residential neighborhood.

The estimated amount of space demand was derived by identifying industries employing workers requiring industrial/flex space and applying long term WDA employment projections for each industry. Manufacturing sector industries projected to lose jobs and heavy manufacturing industries were subtracted from the calculation. Using industry projections, a total of 600 jobs are projected. Applying an industrial space standard of 469 SF/employee per BOMA, a total demand of 281,400 SF of flex space is estimated.¹⁴

In summary by 2026, industrial/flex space demand (excluding industrial warehouse) to house 600 new workers is estimated at 281,400 SF.

Exhibit 37: New Industrial/Flex Space Demand by Jobs (2026)

Industry	New Jobs	New Space Demand (SF)
Machine Shops & Threaded Products	40	18,760
Architectural & Structural Metals	30	14,070
Beverage Manufacturing	30	14,070
Office Furniture & Fixtures Mfg	30	14,070
Other Food Manufacturing	10	4,690
Other Fabricated Metal Product Mfg	10	4,690
Merchant Wholesalers, Durable Goods	260	121,940
Scientific Research & Development Svc	120	56,280
Data Processing & Related Services	70	32,830
TOTAL INDUSTRIAL/FLEX	600	281,400

Source: PA CWIA, Lehigh Valley WDA 2016-2026 Long-Term Industry Employment Projections; Michael Baker International

¹⁴ BOMA International, 2018 Industrial Experience Exchange Report.

Assessment

While an estimated 821,513 SF of industrial/flex space is available, under construction, or proposed, and the projected demand is less at 281,400, no industrial/flex space is under construction or proposed in the study area and several properties were constructed prior to 1980. There is opportunity to construct industrial/flex space to meet the demand documented by recent LVEDC economic development projects and identified by stakeholders.

Calculating space demand by employee provides an estimation of space requirements, but it does not consider the overall growth in the Lehigh Valley's GDP. While some manufacturing industries in the Lehigh Valley have reported job losses, manufacturing remains strong is the second highest employing industry in the Lehigh Valley behind health care.¹⁵ The growth in manufacturing output has been significant with the manufacturing sector comprising \$7.3 Billion, nearly 18%, of the Lehigh Valley's economic output. Durable goods manufacturing increased nearly 10% between 2015 and 2018, indicative of a strong manufacturing sector.¹⁶ As the economic output from the Lehigh Valley's manufacturing sector increases, the ASH campus provides a potential location for site manufacturers seeking industrial/flex space.

Key Findings

A limited amount of industrial/flex space is available in the study area

With an estimated 19.5 MSF of industrial space available, under construction, or proposed in the Lehigh Valley, only 886,513 SF of industrial/flex space is available. Of this amount just 225,963 SF is available in the study area.

Continued growth in industrial GDP signals increasing industrial space needs

The growth in manufacturing output has been significant with the manufacturing sector comprising \$7.3 Billion, nearly 18%, of the Lehigh Valley's economic output. Durable goods manufacturing increased nearly 10% between 2015 and 2018, indicative of a strong manufacturing sector. With the region's manufacturing economic output growing, industrial/flex space is needed to keep pace with demand. The ASH campus provides a potential location for site manufacturers seeking industrial/flex space.

The demand for industrial/flex space is well-documented in the study area

There is documented demand for industrial/flex space in the study area based on recent LVEDC economic development projects, CoStar data, stakeholder discussions, and Allentown's re-industrialization strategy. While the regional supply of industrial/flex space (886,513 SF) exceeds calculated demand (281,400 SF), constructing industrial/flex space 80,000 SF in size or less would help develop an inventory to meet current and future demand in the study area. The ASH campus provides an opportunity to construct new, modern industrial/flex space to help replenish older industrial building stock. Recent industrial re-zoning in the City of Allentown also supports increased industrial/flex space demand. Further, as industrial businesses from the New York-New Jersey metropolitan area continue to seek locations in the Lehigh Valley due to lower cost space and workforce availability, finding suitable locations in the study area is necessary to meet ongoing demand.

¹⁵ LVEDC, *Commercial Real Estate Report, Issue #019, 3rd Quarter 2019*.

¹⁶ U.S. Department of Commerce, Bureau of Economic Analysis, *CAGDP2 GDP by County and Metropolitan area*.

SECTION 7: OFFICE MARKET ANALYSIS

Key Market Indicators

The office market analysis began with an overview of the Lehigh Valley market with data provided by CoStar. Key terms for the industrial and office real estate analysis are included in Appendix A. The data was then supplemented with localized findings obtained from local and regional real estate and economic development professionals. Office market trends were summarized with key findings linked to potential market receptiveness at the ASH campus. Further analysis was conducted to quantify potential unmet office space demand and the likelihood the ASHs could capture some of the demand.

Exhibit 38: Key Office Indicators for the Lehigh Valley Market

12 Mo Deliveries in SF	12 Mo Net Absorption in SF	Vacancy Rate	12 Mo Rent Growth
296 K	(448 K)	8.0%	0.3%

Source: CoStar (January 2020)

KEY INDICATORS

Current Quarter	RBA	Vacancy Rate	Market Rent	Availability Rate	Net Absorption SF	Deliveries SF	Under Construction
4 & 5 Star	4,257,478	10.7%	\$25.3	10.5%	44,722	0	762,000
3 Star	14,480,557	9.2%	\$19.09	11.1%	(2,333)	0	246,600
1 & 2 Star	10,671,746	5.3%	\$17.67	6.1%	41,570	0	0
Market	29,409,781	8.0%	\$19.57	9.2%	83,959	0	1,008,600

Annual Trends	12 Month	Historical Average	Forecast Average	Peak	When	Trough	When
Vacancy Change (YOY)	0.4%	8.5%	7.7%	11.0%	2004 Q2	3.5%	1997 Q3
Net Absorption SF	(448K)	220,334	385,850	1,894,436	2006 Q4	(804,644)	2019 Q3
Deliveries SF	296 K	333,809	438,400	1,288,398	2006 Q4	0	2013 Q1
Rent Growth	0.3%	1.1%	0.1%	7.3%	2001 Q1	-7.2%	2010 Q2
Sales Volume	\$84.1 M	\$56.3M	N/A	\$206.2M	2008 Q3	\$0	2005 Q3

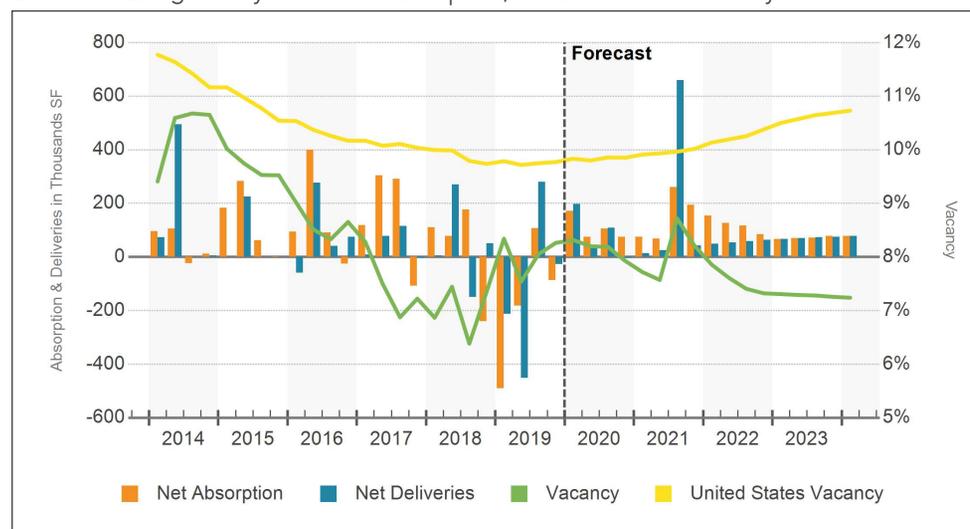
Source: CoStar (January 2020)

Leasing

Vacancy and availability trends reflect that office market conditions are tight throughout most areas of the Lehigh Valley. The current vacancy rate of 8.0% is below the U.S. average and has only been this low once in the past 15 years. Since the beginning of 2015, net absorption has averaged about 500,000 SF annually which is almost double annual supply growth of 280,000 SF.

The incentives discussed above have helped to catalyze more than 1 MSF of office development since 2014, anchored by big named firms such as Morgan Stanley and Merrill Lynch. The impact of the downtown incentives is leading to the increase in office vacancy rates around other portions of the Lehigh Valley, however. According to CoStar, the vacancy rate for properties over 50,000 SF in size is over 15% in some areas along I-78 south of downtown Allentown.

Exhibit 39: Lehigh Valley Office Net Absorption, Net Deliveries & Vacancy



Source: CoStar (January 2020)

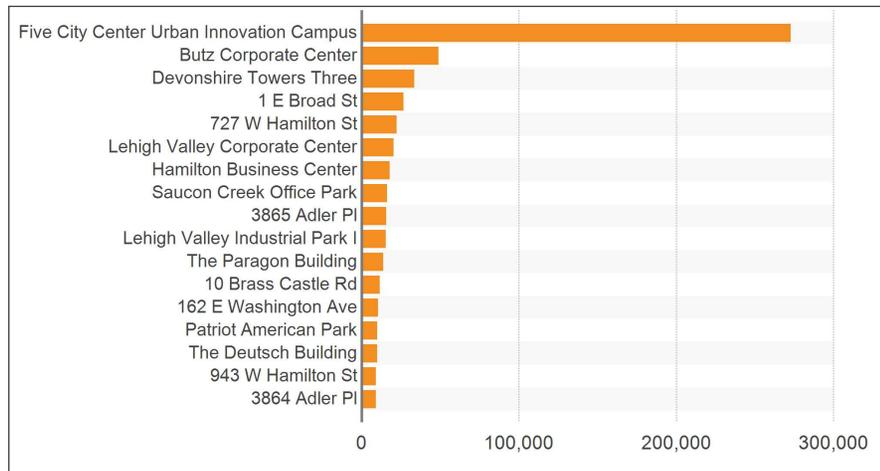
Absorption is taking place throughout the Lehigh Valley, but sizable amounts are occurring in downtown Allentown and Bethlehem. The 295,000 SF Five City Center building in downtown Allentown absorbed 272,700 SF of office space in 2019, when ADP relocated from Iron Run Corporate Center in Upper Macungie Township. Beyond Allentown, 1 East Broad Street in downtown Bethlehem absorbed 26,570 SF of office.

Review of several office leases demonstrates availability of smaller sized office spaces, less than 10,000 SF in size. Of the 189 properties available for lease, 124 are less than 10,000 SF in size.

Rent

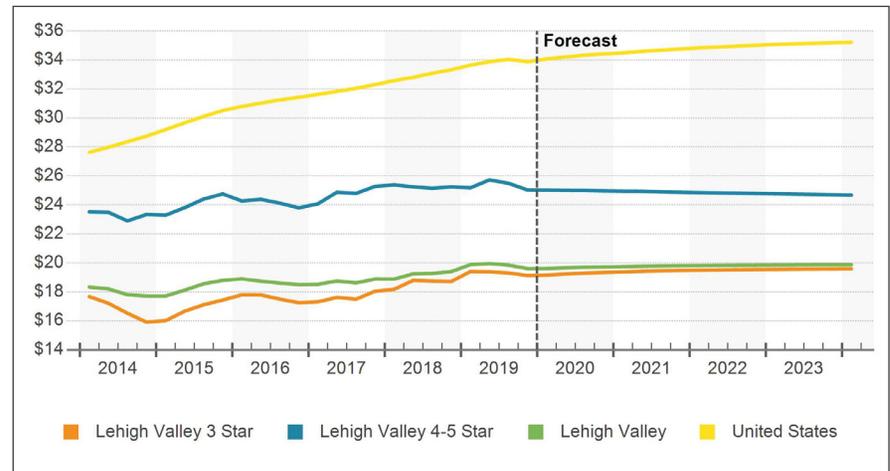
Over the past three years, rent has grown 1.0% on average annually. Year-over-year rent growth is 0.3% with average space leasing for \$19.60/SF. Among properties over 80,000 SF, some of the highest rents listed on CoStar range from \$21.00/SF–\$24.00/SF plus electricity. These properties are typically found in newer buildings throughout the Lehigh Valley market, particularly built after 1990 such as Crown Pointe Corporate Center in Bethlehem and Roma Corporate Center in Allentown. Local real estate brokers report that office space near the ASH campus leases for around \$18.00 SF, with lease rates of \$13.00/SF - \$14.00/SF, triple net also identified.

Exhibit 40: Lehigh Valley Absorption in Select Buildings (2019)



Source: CoStar (January 2020)

Exhibit 41: Lehigh Valley Office Rent Per SF



Source: CoStar (January 2020)

Construction and Under Construction

Since office development began to increase in 2014, the Lehigh Valley's office inventory has grown by about 1% (or 250,000 SF) per year, with larger new construction projects concentrated in Center City Allentown, due in large part to economic incentives. Approximately 1.8 million SF of office space has been delivered since 2010, and 92% of it is occupied. There is just over 1.1 MSF of office space under construction or proposed.

Competition with Downtown Office Space

Community and economic development professionals note that constructing large amounts of office space at the ASH campus would not be attractive for current office real estate developers and their tenants. It would also compete with downtown revitalization efforts. The site is not viewed as a viable corporate location for office space, particularly for multi-national, traded companies. Rather than large regional office spaces, the site lends itself to smaller office inventory that could serve needs of the surrounding community.

It was reported that office space is typically not sought in the East Allentown area. However, when tenants are seeking locations, the amount of space needed typically ranges between 2,500 SF – 5,000 SF. Excluding office leases over 100,000 SF, the average size for an office lease in the Lehigh Valley was 8,334 SF in 2019.

Local real estate brokers report that office space near the ASH campus leases for approximately \$18.00/SF triple net with lease rates of \$13.00/SF - \$14.00/SF triple net also identified. The average space in the Lehigh Valley leases for close to \$19.60/SF.

The medical office market was identified as a potential need in the Lehigh Valley, and near the ASH campus. Stakeholders report that there may be opportunity for small medical office space to support the community. As reported by LVEDC in 2018, 100% of office space added in the Lehigh Valley in 2017 was medical office space, and of the total 26.5 million SF of office space in the Lehigh Valley, 3.4 million SF (12.8%) was medical.¹⁷ From an occupation perspective, Health Care & Social Assistance employed 63,526 in 2019.

From a community health care perspective, the closest urgent care health center is approximately 2 miles from the site (Airport Road EmergiCenter).

¹⁷ LVEDC, *Commercial Real Estate Report for the Office & Industrial Markets Issue #013, 1st Quarter 2018*.

Office Market Potential

Findings	Data	Site Analysis
<p>State and federal tax incentives in Allentown and Bethlehem have attracted office growth and revitalization in each city's downtown</p>	<ul style="list-style-type: none"> • Approximately 1.8 MSF of office space has been delivered in the Lehigh Valley market since 2010, and 92% is occupied. There is just over 1 MSF under construction or proposed. • Absorption is taking place throughout the Lehigh Valley, with sizable amounts occurring in downtown Allentown. • Current office vacancy of 8% is below the national average and has not been this low over the past 15 years. • Since the start of 2015, net absorption has averaged about 500,000 SF annually, which is close to double annual supply growth of 280,000 SF. • In Downtown Allentown, 272,700 SF of space was absorbed in one building in 2019. • Allentown's NIZ is a 128-acre specialty tax zone in Downtown Allentown. • Businesses locating in the NIZ may potentially offset lease rates up to 30% - 40% • Additional tax incentive programs operating in Allentown and Bethlehem include state level KOZs, CRIZ, NIZ, and federal QOZs. 	<ul style="list-style-type: none"> • The office market in the Lehigh Valley is active with recent large-scale corporate office development concentrated in downtown Allentown. • ASH campus would not be a candidate to site large corporate office development.
<p>Office development which would compete with revitalization in downtown Allentown or Bethlehem would detract from revitalization occurring in each city's central business district</p>	<ul style="list-style-type: none"> • Both Allentown and Bethlehem have active revitalization strategies in their central business districts. • Each city has added amenities such as retail, restaurants, and residential to meet needs of office employees and residents. • Community and economic development professionals note that large amounts of office space at the ASH campus would compete with downtown revitalization efforts. 	<ul style="list-style-type: none"> • Developing large scale office space at the ASH campus would compete with downtown revitalization efforts and should not be encouraged.
<p>The majority of office leases in the Lehigh Valley are for smaller spaces</p>	<ul style="list-style-type: none"> • Excluding office leases over 100,000 SF, the average size for an office lease in the Lehigh Valley is 8,334 SF • Local real estate brokers report typical space requests near the ASH campus between 2,500 SF – 5,000 SF 	<ul style="list-style-type: none"> • As the ASH campus is not a candidate for large scale office development, it could fill the need for small sized office users requiring 8,000 SF or less.
<p>Medical office space is growing in the Lehigh Valley</p>	<ul style="list-style-type: none"> • 100% of office space inventory added in 2017 was medical office space • 12.8% of the Lehigh Valley's office space in 2017 was medical office. • Stakeholders report the need for medical office space near the ASH campus. • Health Care is a Lehigh Valley Target Industry Sector 	<ul style="list-style-type: none"> • The ASH campus could provide office space to serve the Lehigh Valley's Health Care target industry sector.

Office Space Demand

Methodology

The following methodology was used to quantify potential unmet office space demand and the likelihood the ASH campus could capture unmet demand.

Document the amount of office space available in the Lehigh Valley

CoStar data was used to assess the existing amount of office space under construction, proposed, and available for sale or lease in the Lehigh Valley submarket. The location of space constructed in the study area (Allentown and Bethlehem) was also identified.

Estimate the number of new office workers in the Lehigh Valley

PA Center for Workforce Information & Analysis long-term industry employment projections (2016 – 2026) were used to identify the number of new workers added to each industry. Applying a percentage of workers by industry that were assumed to work in an office setting, the number of new office workers was estimated.

Calculate future office space demand for new office workers

An office employee space requirement of 158 SF was used to estimate the total office space demand for the number of new office workers estimated.

Assess office space availability versus office space demand

The amount of office space available in the Lehigh Valley was compared to future office demand driven by new workers to determine if new office space is needed. Qualitative information from stakeholder outreach was used to supplement data analysis findings.

Available Office Space

Medical office space was noted as a need based on industry projections and stakeholder observations; therefore, available medical office space was identified.

According to CoStar data for the Lehigh Valley, 1,134,504 MSF of office properties are under construction or proposed with 925,259 SF located in the study area (Allentown and Bethlehem). None of the space was specifically identified as medical office.

There is approximately 170,570 SF of office space available for sale with average annual rent of \$7.76/SF, approximately 70% is in the study area.¹⁸ Close to 60% of total office space available is medical office. Over 2.3 MSF of office space available for lease through 189 properties. Because there were so many properties, the amount located in the study area was not determined. A total of 45 medical properties are available for lease totaling just over 400,000 SF, with nearly 70% in the study area.

A total of 3.6 MSF of office space is available or will soon come onto the Lehigh Valley market. Of this amount, just over 1 MSF is in the study area. Currently 512,586 SF of medical office space is available for sale or lease with 343,895 SF in the study area.

Exhibit 42: Office Space Available for Sale and Lease in the Lehigh Valley

	Properties	Building SF for Sale	Building SF (Study Area)	Average Rent/SF/Yr
Total Office Space for Sale	15	170,570	118,572	\$7.76
Medical Office Space for Sale	7	100,319	53,520	\$8.68
Total Office Space for Lease	189	2,336,675	N/A	\$19.60
Medical Office Space for Lease	45	412,267	290,375	\$17.33

Source: CoStar (March 2020), Michael Baker International

¹⁸ For lease rate data presented as a range or an estimate, the higher rate was selected to determine average lease rate per square foot per year.

New Office Space Demand

The PA Center for Workforce Information & Analysis prepares 10-year, long-term industry employment projections for all industries in Pennsylvania. Long-term industry projections are prepared for the state, workforce development areas (WDAs), and metropolitan statistical areas (MSAs). The Lehigh Valley WDA is comprised of Lehigh and Northampton counties. WDA data was selected for this analysis as the Lehigh Valley WDA includes the same geographic area as the Lehigh Valley real estate submarket.

Employees for each industry sector were identified based on the Lehigh Valley WDA long-term industry employment projections for 2016 – 2026. The data shows that 17,740 net new jobs will be added by 2026. To determine what percentage of new workers will be performing their work from office space, U.S. Department of Labor, U.S. Bureau of Labor Statistics (Workforce Statistics, 2018) data was reviewed. The percentage of occupations in industry sectors that typically work in an office setting was derived. This percentage was applied to total new jobs in those industry sectors typically employing office workers to calculate new office workers. Of the 17,740 net new jobs added by 2026, 12,570 are estimated to be in industry sectors employing offices workers and 5,784 of those workers are estimated to be working from an office space.

An office employee space requirement of 158 SF was used to estimate the total office space demand for the number of new office workers estimated. A total of 158 SF was identified in a 2018 Cushman & Wakefield as office space employee requirements for the Philadelphia market.¹⁹ By 2026 an estimated 913,939 SF of new office space will be needed to house 5,784 net new office workers.

Demand for new office space should also consider the type of office space required by various industry sectors. For example, workers in the Health Care & Social Assistance sector, the sector with the highest amount of estimated office jobs in the Lehigh Valley, typically require medical office space. Professional office space would suit the needs of those working in the Professional & Technical Services and Finance & Insurance sectors. Different office types were considered and compared to Lehigh Valley's target industry sectors.

Exhibit 43: Net New Office Space Demand (2026)

Sector	New Jobs	New Office Jobs	New Office Space Demand (SF)
Health Care & Social Assistance	5,910	3,199	505,409
Accommodation & Food Services	2,220	73	11,470
Administrative & Waste Services	1,940	172	27,158
Educational Services	1,210	902	142,502
Professional & Technical Services	1,010	1,010	159,580
Management of Companies & Enterprises	320	320	50,560
Real Estate & Rental & Leasing	140	140	22,120
Finance & Insurance	100	100	15,800
Information	-280	-194	-30,666
Manufacturing	-700	-131	-20,660
	12,570	5,784	913,939

Source: PA CWIA, Lehigh Valley WDA 2016-2026 Long-Term Industry Employment Projections; U.S. Bureau of Labor Statistics, Workforce Statistics (2018); Michael Baker International

There will be an estimated new demand of 505,409 SF in medical office space required to meet the needs of the Health Care & Social Assistance sector (Health Care target industry sector). Professional office space demand of 254,558 exists to meet the needs of the Professional & Technical Services; Finance & Insurance; Administrative & Waste Services; Management of Companies & Enterprises; Real Estate & Rental & Leasing; and Information sectors (High-Value Business Services target industry sector).

The ASH campus could potentially accommodate some of the new office space demand (estimated at 759,967 SF) required by the Health Care, High-Value Business Services, and Life Science Research & Manufacturing target industry sectors. However, with over 3.6 MSF SF of office space is either under construction, proposed, or available for sale or lease, the supply exceeds the estimated demand for space.

¹⁹ Cushman & Wakefield, *Space Matters: Key office trends and metrics for U.S. occupiers*. 2018

While the demand for office space is met, the ASH campus could still fill the reported need for medical office space within the study area. The closest community health center is approximately 2 miles from the site.

Key Findings

Over 3.6 MSF of office space is available, under construction, or proposed in the Lehigh Valley

An estimated 2.3 MSF of office space, including 512,586 SF of medical office space is available for sale or lease according to CoStar. Currently, 1.1 MSF of office space is under construction or proposed, with 925,259 SF in the study area (Allentown and Bethlehem). No medical office space is under construction.

Net new office workers are projected at 5,784

Employment growth projections by PA L&I Center for Workforce Information and Analysis indicate 17,740 net new jobs will be added to the Lehigh Valley by 2026. The percentage of these new employees working in an office is estimated at 5,784. Of those employees, 3,199 are estimated to be employed in the Health Care & Social Assistance industry, requiring medical office space.

By 2026 net new office demand is estimated at over 913K SF, with 759,967 SF of demand in Target Industry Sectors

Applying an average office space of 158 SF/worker per a 2018 Cushman & Wakefield study, net new office space demand in the Leigh Valley is estimated at 913,939 SF. This includes 505,409 SF of medical office space to accommodate workers from the Health Care target industry sector and 254,558 SF of professional office space to accommodate the High-Value Business Services target industry sector.

Medical office space is needed to accommodate estimated demand

While over 3.6 MSF of office space available for sale, lease, under construction or proposed in the Lehigh Valley, new office space demand is met. However, the supply of medical office space available for sale or lease is 512,586 SF, slightly higher than projected demand of 505,409 SF. No medical office space is proposed or under construction, signaling an opportunity to fill the reported demand for medical office space within the study area.

SECTION 8: RETAIL MARKET ANALYSIS

Overview

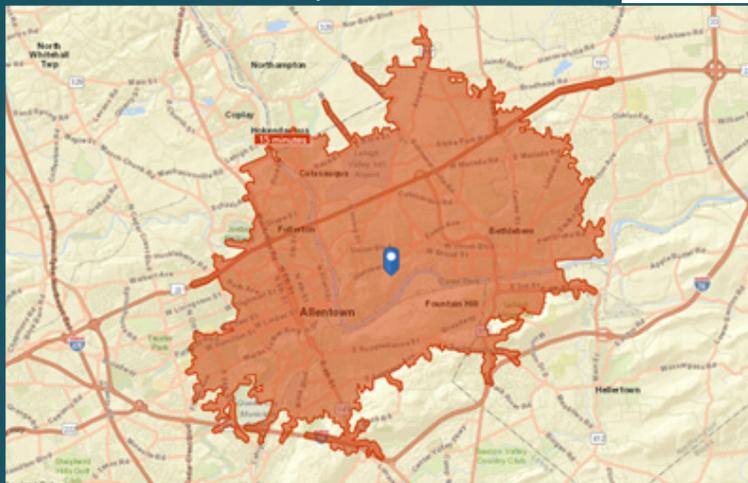
To gain a clear understanding of which retail uses could potentially be attracted to the ASH campus, a retail gap analysis was performed. A retail gap analysis is used to understand the potential for new retail stores and restaurants in a community. The analysis compares the supply, represented by the number of sales to customers, and demand, represented by consumer spending. The data can show a “leakage” (residents leave the community for their shopping needs) and a “surplus” (stores within an area are drawing customers from outside the community to shop).

The market area for the retail gap analysis was conducted at the 15-minute drive time radius from the ASH campus. A 15-minute drive time was selected to reflect the site’s distance from a major highway (over 2.5 miles from US 22) and transportation access from a neighborhood scale street network.

The following exhibits show industry groups exhibiting retail leakage (residents leave the study area to shop elsewhere) and retail surplus (those sectors that draw outside customers into the neighborhood for specific retail). Data is presented for the year 2019.

A few subgroups within each industry group (represented by 4-digit NAICS) present retail opportunity. In most cases the main industry group (3-digit NAICS) presents a retail opportunity; however, in some cases the main industry group does not. For example, Food & Beverage Stores reflect an overall retail market opportunity with a retail leakage of over \$25 million. Within that industry group, Grocery Stores are a greater retail market opportunity with a retail leakage of over \$62 million. The subindustry groups within the Food & Beverage Stores sector (Specialty Food Stores and Beer, Wine & Liquor Stores); do not demonstrate a retail leakage. To streamline the data presented, retail surplus is shown for 3-digit NAICS only.

Exhibit 44: Retail Market Study Area



Source: Esri Business Analyst; Michael Baker International

Exhibit 45: Market Area Leakage (Market Opportunity)

	NAICS	Demand	Supply	Retail Gap
Automobile Dealers	4411	\$350,184,302	\$230,158,991	\$120,025,311
Motor Vehicle & Parts Dealers	441	\$429,515,579	\$322,237,887	\$107,277,692
Grocery Stores	4451	\$357,157,167	\$294,511,432	\$62,645,735
Gasoline Stations	447, 4471	\$205,707,400	\$165,105,664	\$40,601,736
Food & Beverage Stores	445	\$392,989,734	\$367,872,561	\$25,117,173
Other Motor Vehicle Dealers	4412	\$44,219,095	\$25,096,010	\$19,123,085
Other Miscellaneous Store Retailers	4539	\$57,988,623	\$44,148,559	\$13,840,064
Miscellaneous Store Retailers	453	\$91,323,484	\$83,822,330	\$7,501,154
Lawn & Garden Equip & Supply Stores	4442	\$9,913,552	\$3,372,768	\$6,540,784
Special Food Services	7223	\$5,182,606	\$2,553,965	\$2,628,641
Office Supplies, Stationery & Gift Stores	4532	\$20,764,334	\$20,095,439	\$668,895
Used Merchandise Stores	4533	\$8,265,445	\$8,250,150	\$15,295

Source: Esri Business Analyst

Exhibit 46: Market Area Surplus

	NAICS	Demand	Supply	Retail Gap
Nonstore Retailers	454	\$44,011,126	\$473,929,779	-\$429,918,653
Clothing & Clothing Accessories Stores	448	\$120,766,638	\$304,315,992	-\$183,549,354
General Merchandise Stores	452	\$316,519,093	\$444,730,366	-\$128,211,273
Health & Personal Care Stores	446	\$128,328,465	\$230,093,561	-\$101,765,096
Food Services & Drinking Places	722	\$218,731,536	\$311,796,994	-\$93,065,458
Sporting Goods, Hobby, Book & Music Stores	451	\$61,063,103	\$103,917,264	-\$42,854,161
Furniture & Home Furnishings Stores	442	\$73,515,496	\$113,589,716	-\$40,074,220
Electronics & Appliance Stores	443	\$69,404,190	\$73,265,633	-\$3,861,443
Bldg Materials, Garden Equip. & Supply Stores	444	\$126,077,561	\$129,392,532	-\$3,314,971

Source: ESRI Business Analyst. To streamline the data presented, retail surplus is shown for 3-digit NAICS only.

A few caveats should be considered when using retail data. The first is that area consumers may not spend what might be considered a typical amount on retail products. For example, residents in urban, walkable communities might spend less disposable income on automobiles than residents in suburban areas. Similarly, spending per square foot for retail in a given area may not match what is typical. Finally, consumers are likely more willing to drive longer distances to shop for some retail items. As an example, for higher priced consumer goods like appliances or automobiles, consumers might be more willing to shop in a larger trade area, rendering a local retailer not as important. Therefore, while there is a large dollar amount of leakage for automobile dealers and other motor vehicle dealers in the retail market area, establishing a new automotive dealer might not be successful due to competition with auto dealers in other communities. This is substantiated by the closure and relocation of the former Toyota dealership on Hanover Street near the ASH campus.

Retail Growth Potential

While leakage by retail store type has been identified, additional analysis was conducted to determine the overall viability of the market area to support additional retail establishments.

Certain retail store types were not included in this additional analysis due to a variety of factors such store types as having highly localized demand (i.e., gas stations), requiring more extensive analysis (i.e., hospitality, automobile dealers), or limited or no service to local customers (e.g., internet sales only, catering only, etc.). While data was available for the following retail subsectors, the subsectors were not included within this analysis:

- Automobile Dealers (NAICS 4411)
- Other Motor Vehicle Dealers (NAICS 4412)
- Gasoline Stations (NAICS 447, 4471)
- Non-Store Retailers (NAICS 454)
- Special Foodservices (NAICS 7223)

This analysis was completed by quantifying the dollar value of the gap for retail industry types with a leakage. Additional square feet of retail supported was determined by applying sales per square foot for each retail type for those retail types exhibiting a leakage. A median gross leasable area was then applied to each retail type to determine the number of additional retail establishments that could be potentially supported by the projected square footage.

While the 'Additional Establishments Supported' is a guide based on average retail store type size, there is considerable range in most retail store type categories. Therefore, greater emphasis should be placed upon additional square feet supported rather than number of establishments.

Based upon existing conditions, the market area can support approximately 154,270 SF of additional retail. Considering the average establishment size, average sales by establishment, and average sales per square foot for each retail store type, the trade area may be able to currently support 1 grocery store and several miscellaneous retail stores (examples: art supply store, collectors' items, trophy shop, flower shop).

Retail Market Potential

Overall, the market area surrounding the ASH campus, is well-served by current retail offerings. At a macro level Retail Trade and Food & Drink establishments show a surplus of nearly \$850 million provided through 1,620 retail businesses. The large amount of retail offerings available in the market area is verified by regional real estate brokers. In their view, retail, particularly regional retail is not the best fit for the site as large amounts are in the market area.

The market area is estimated to support an additional 154,270 SF of retail store space. The viability of locating a portion of this square footage at the ASH campus should be considered in the overall context of potential industrial, office, and residential end uses contemplated. Service retail supporting the eventual end uses at the site would be in keeping with the character of the surrounding residential neighborhoods.

Neighborhood retail in the area leases between \$15.00/SF - \$18.00/SF with retail space leasing quickly according to regional real estate brokers.

Exhibit 47: Additional Retail Space Supported in the Market Area (2019)

	NAICS	Retail Gap	Additional SF Retail Supported	Additional Establishments Supported
Lawn & Garden Equip & Supply Stores	4442	\$6,540,784	19,642	2.0
Grocery Stores	4451	\$62,645,735	75,996	1.5
Office Supplies, Stationery & Gift Stores	4532	\$668,895	1,635	0.1
Used Merchandise Stores	4533	\$15,295	42	0.0
Other Miscellaneous Store Retailers	4539	\$13,840,064	56,955	19.0
TOTAL			154,270	

Source: Esri Business Analyst; Michael Baker International

SECTION 9: HOUSING ANALYSIS

Multifamily Housing

The Lehigh Valley has reported strong population growth for over 20 years. With that national trend of urbanization, where the United States' metropolitan areas are continuing to grow at a much faster pace than rural areas, it is plausible that the study area will continue to grow in the long-term, given the Lehigh Valley's central location between the City of Philadelphia and New York City. The Lehigh Valley also boasts a lower cost of living than its metropolitan neighbors, particularly New Jersey, making it an attractive location.

In terms of the multi-family housing market, Lehigh Valley has been outperforming by the standards of central and northeastern Pennsylvania. Employment growth in the transportation and healthcare sectors, combined with state and local tax incentives to spur downtown Allentown's development, has helped support healthy apartment leasing. Newly delivered projects lease at a healthy pace, and investors from New York and across the mid-Atlantic chase mid-sized and large apartment communities which are trading at cap rates well above the national average. One of the market's newest properties, the 95-unit 4 Star Five 10 Flats began leasing units in January of 2019 and was close to being fully occupied by the end of the year. Of five properties delivered in 2018, only one has vacancies higher than 5%. Near the ASH project site, the Summit Ridge luxury apartments has a healthy 2.9 percent vacancy, demonstrating the demand for Allentown's multifamily housing market beyond the downtown. Summit Ridge has 204 units.

Methodology

For purposes of the housing analysis, a 15-minute drive time from the ASH campus is used as the primary market area. To estimate residential demand for the primary market area, this analysis utilizes two primary components:

- Estimated demand generated by household growth
- Estimated demand generated by lost inventory (e.g., replacement demand)

Household Growth

Demand for new housing units is driven by household growth within a primary market area. According to Esri Business Analyst 5-year household growth projections, the primary market area is estimated to gain an additional 1,411 households by 2024, or an annualized growth rate of 0.34%. Using the 2019-2024 annualized growth rate and projecting forward to 2029, households are projected to grow to 84,906 by 2029. This equates to a projected increase of 2,866 new households over the 10-year period. This study assumes that for each new household projected, there is a corresponding demand for one new housing unit in the primary market area.

Lost Inventory

In addition to estimating demand generated by household growth, additional demand is generated by the need to replace lost inventory. Each year, residential units are lost through demolition, natural disasters, conversion to non-residential uses, units falling into disrepair, and other reasons resulting in obsolescence. The U.S. Department of Housing and Urban Development (HUD) estimates lost inventory at the national level through its Components of Inventory Change (CINCH) data. Based on the most recent CINCH data set, the annual rate of loss is 0.59%.

Utilizing the projected number of occupied housing units present in each year (obtained through the household growth calculations), a total of 4,933 units in the study area will be lost between 2019 and 2029, or approximately 500 units per year.

Summary of Demand

The housing analysis calculations are shown below.

Exhibit 48: Primary Market Area Demand for Housing, 2019-2029

Year	# of Households Annualized Growth Estimated at 0.34%	Demand for New Residential Units Accumulated Demand from 2019 Base Year	Lost Inventory Estimated 0.59% of Units Lost Each Year	Total Demand Accumulated Demand plus Needed Replacement units
2019	82,040			
2020	82,322	282	486	768
2021	82,605	565	487	1,053
2022	82,890	850	489	1,339
2023	83,175	1,135	491	1,625
2024	83,461	1,421	492	1,913
2025	83,748	1,708	494	2,202
2026	84,036	1,996	496	2,492
2027	84,325	2,285	498	2,782
2028	84,615	2,575	499	3,074
2029	84,906	2,866	501	3,367

The analysis suggests a total of 2,202 new housing units will be needed by 2024 in the primary market area, or approximately 440 units per year. The 10-year projection estimates a total 3,367 new housing units will be needed by 2029, or approximately 337 units per year. The annual average increase of units is applied to create “conservative” and “high” demand scenarios, shown below.

Exhibit 49: Housing Demand Scenarios

	5 Year Estimated Housing Demand	Demand for New 10 Year Estimated Housing Demand
High Demand Scenario: 5-year Annual Demand Scenario = 440 Units	2,202	4,404
Conservative Demand Scenario: 10-year Annual Demand Scenario = 337 Units	1,684	3,367

Capture Rate

To estimate demand capture rate, this analysis looks at two scenarios assuming 3% and 5% capture rate. As noted throughout the City's Comprehensive Plan, the ASH campus is a large property prime for redevelopment in a built-out urban area. There are not many competing sites of this magnitude in the City.

Utilizing the demand scenarios and a 3% and 5% capture rate for the ASH campus, the project site is estimated to have demand for between 51 and 110 units between 2019-2025 and between 101 and 220 units by 2029.

Exhibit 50: Capture Rate Assumption, 2025-2029

	Conservative Demand Scenario 2025 1,684 Units	High Demand Scenario 2025 2,202 Units	Conservative Demand Scenario 2029 3,367 Units	High Demand Scenario 2029 4,404 Units
3% Capture Rate	51	66	101	132
5% Capture Rate	84	110	168	220

Based on the capture rates, the project site could absorb up to 220 units by 2029. For purposes of the alternatives analysis, a capture rate of 3% of 2029 demand is used to estimate potential absorption of up to 101 units.

Senior Housing

An aging population is a trend occurring across the country as America's baby boomer generation reaches retirement age. At the national level, residents age 65 and over grew from 35.0 million in 2000 to 49.2 million in 2016, accounting for 12.4 percent and 15.2 percent of the total population, respectively. By 2030, all baby boomers will be older than age 65. This will expand the size of the older population so that 1 in every 5 residents will be retirement age.

With the aging of the baby boomer generation, it is estimated the country will need nearly 881,000 new senior housing units between now and 2040. Pennsylvania, ranked as the 8th oldest state in the nation, is positioned to capture a portion of this demand, especially in the populous northeast and southeastern portions of the state.

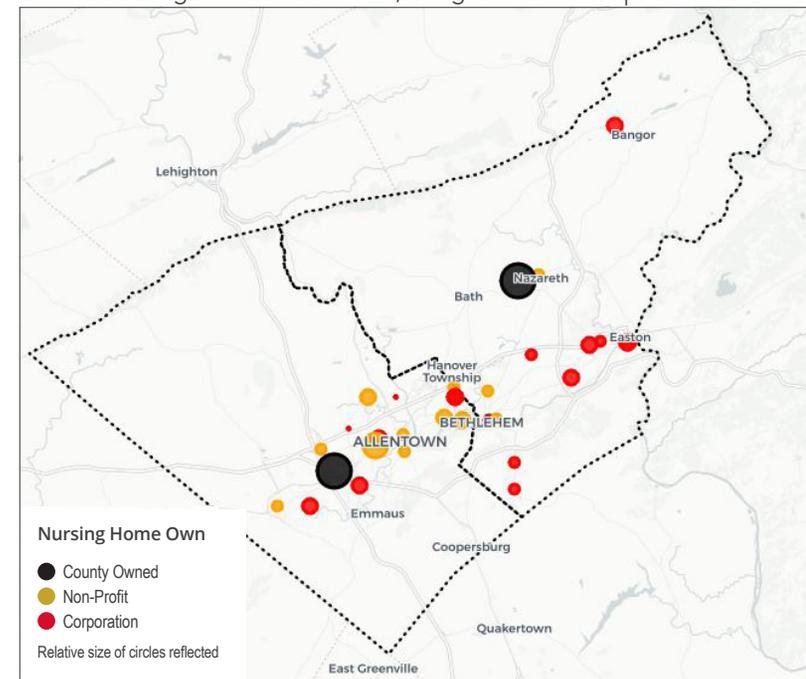
Based on Pennsylvania Department of Health Data, there are currently a total of 4,841 senior living beds in Lehigh and Northampton Counties, largely concentrated near the Cities of Allentown and Bethlehem. That map below shows the location and size of each.

Types of Senior Housing

There are five categories of senior living based on the level of care provided, including:

- Independent living
- Assisted living
- Memory care
- Long-term care
- Nursing care

Exhibit 51: Long-term Care Facilities, Lehigh and Northampton Counties



Continuing Care Retirement Communities (CCRC) represent a hybrid model, offering a community campus that features typically all five categories of care. The model enables seniors to age in place, beginning their tenure in an independent living apartment and then transiting to higher levels of care as needed. Interestingly, CCRC's are more common in Pennsylvania, being home to 15% of all CCRC facilities in the nation.

According to the Pennsylvania Bar Association in 2019, there were approximately 290 licensed CCRCs in the Commonwealth, an increase from the 230 operations reported in 2011. While new construction of CCRCs remains relatively slow nationally, the Philadelphia regional market has shown growth. It is also reported that independent living communities demonstrate stronger growth than its counterparts, which "report significant decreases both in the number of operations and number of residents in stand-alone skilled care and assisted living facilities".²⁰

²⁰ https://dickinsonlaw.psu.edu/sites/default/files/2019-10/PA-BAR-Pearson-Sarcone-Jan-2019_RevB.pdf

The ASH campus fits the CCRC site selection criteria nicely, given the open space of the site, transit access to both Allentown and Bethlehem, and proximity to hospitals.

Methodology

For purposes of estimating the demand for senior housing, Lehigh County was utilized as the primary market area, given senior housing facilities serve a broader market (e.g., extending beyond a 15-minute drive time). To estimate senior housing demand for the primary market area, this analysis utilizes two primary components:

- Estimated demand generated by 75+ household growth, and
- Extrapolating the current ratio of 75+ citizens to current long-term care beds.

According to Esri Business Analyst 5-year population growth projections, the primary market area (Lehigh County) is estimated to gain an additional 1,978 age 75+ households by 2024, or an annualized growth rate of 3%. Using the 2019-2024 annualized growth rate and projecting forward to 2029, age 75+ households are projected to grow to 16,106 by 2029. This equates to a projected increase of 4,454 new households age 75+ over the 10-year period. Senior housing penetration rates vary. For purposes of this study, a 10% penetration rate is utilized. That is, 10% of the 75+ age households in Lehigh County will reside in local long-term care living facilities. Using this 10% penetration rate assumption, a total of 445 new beds will be needed.

As a comparison to present day data, currently there are 0.07 long-term care beds (2,104) for every Lehigh County resident age 75+ (30,061). If the ratio of beds to residents age 75+ stays constant, by 2029 there will be 2,909 long-term care beds, an increase of 805 beds.

Exhibit 52: Primary Market Area (Lehigh County) Demand for Long-term Care Beds, 2019-2029

Year	75+ Population Assumption: Annualized Growth Estimated at 3%	Number of Households Assumption: Average Household Size of 2.68 Persons	Accumulated Demand for New Residential Units	Total Demand Assumption: 10% Penetration Rate
2019	30,061	11,651		
2020	31,081	12,047	396	40
2021	32,136	12,456	805	80
2022	33,228	12,879	1,228	123
2023	34,356	13,316	1,665	166
2024	35,164	13,629	1,978	198
2025	36,358	14,092	2,441	244
2026	37,592	14,571	2,919	292
2027	38,868	15,065	3,414	341
2028	40,188	15,577	3,925	393
2029	41,552	16,106	4,454	445

Based on the above two analyses, this study estimates there is demand for between 445 and 805 long-term care beds in the County. Of the long-term care facilities located in Lehigh County, the average facility size is 124 beds. It is plausible the ASH project site could attract one new long-term care facility with approximately 124 beds.

SECTION 10: SUGGESTED COMMERCIAL END USES

The focus of this market study tested the receptiveness of the real estate market for the industrial, office, retail, and residential sectors. Stakeholder input and local media reports have identified a few additional end uses in the commercial real estate market. These end uses are briefly assessed in this section.

Commercial - Public School

The ASH campus was identified as a possible location for a new Allentown School District middle school.²¹ A school is classified under the Educational Services industry sector according to NAICS.

According to local government officials, the location of a school at the ASH campus is no longer being considered by the Allentown School District.

Commercial - Regional Youth Sports Complex

Stakeholders identified receiving requests, approximately every two months, for a location to site a regional youth sports complex. Such facilities like Spooky Nook in Lancaster County are large indoor and outdoor venues providing real estate locations for the growing youth sports market and provide areas in which they are located additional conference space as well. While the ASH campus would likely not fit operator requirements to site such a facility, a cursory review of this type of facility was conducted.

These types of facilities are classified under the Arts, Entertainment, and Recreation industry sector as Fitness and Recreational Sports Centers. They are closely aligned with the Accommodation and Food Services sector as they can help create demand for new and existing hotels and restaurants and would require workers primarily classified under the personal care & service occupations.

Local economic development professionals referenced the lack of jobs and tax revenues as compared to manufacturing establishments as a deterrent to locate such a facility in Allentown. While a regional youth sports complex' long-term sustainability to create jobs and generate tax revenues is hard to predict as such facilities of this scale are relatively new to the real estate market, they nonetheless create jobs and generate tax revenue. According to a 2017 economic impact study prepared for Spooky Nook's Lancaster County facility by Tourism Economics, revenue and off-site ancillary spending was estimated to result in 1,391 jobs (direct, indirect, and induced) and state and local tax revenue of \$7 million.²²

²¹ *The Morning Call*. Possible sale of Allentown State Hospital in the works. October 23, 2017. Accessed 02/20/20 at: <https://www.mcall.com/news/pennsylvania/capitol-ideas/mc-nws-allentown-state-hospital-browne-sale-20171023-story.html>.

²² *Spooky Nook Sports*. Accessed 02/20/20 at: <https://www.spookynooksports.com/blog/manheim/spooky-nook-sees-record-numbers-in-first-half-of-2019>.

Parcel size and building requirements needed to locate such a complex have been drawn from Spooky Nook's Lancaster County facility. It is 700,000 SF in size and was a former industrial warehouse located on over 50 acres.

While job creation, revenue potential, and the ability to spark growth in nearby accommodation and dining establishments is documented, as of summer 2019 Spooky Nook employed 750 and has sparked development in hotels and restaurants, a significant limiting factor for such a facility at the ASH campus, and one that limits it from future consideration, is transportation.

- The facility is located directly adjacent to I-283, a prime location for warehouse and distribution.
- While parking analysis conducted as part of local land development review when the facility was opened recommended parking for 600 cars, during peak demand parking for 2,500 cars is required.²³
- Attendance can reach as high as 20,000 per day.
- In 2017, 2018, and 2019 the number of annual visitors was over 1 million. In 2019, 1 million visitors were reached in July.²⁴

While the ASH campus certainly has the acreage required to site a regional youth sports complex, it is limited by transportation and site access. Locating such a facility at the ASH campus would essentially be placing a warehouse distribution sized facility in an urban area along with significant parking space requirements. With the potential to generate well over 1 million visitors per year, it would also likely generate more traffic than tractor trailers serving such facilities in suburban locations throughout the Lehigh Valley.

²³ Urban Land Institute, Technical Assistance Panel. *Spooky Nook Corridor: Planning for a Sustainable Future*. 2015.

²⁴ *Spooky Nook Sports, Ibid.*

SECTION 11: REPORT CONCLUSION

The real estate market study was conducted to assess market receptivity for potential redevelopment end uses including retail, industrial, office, and housing at the Allentown State Hospital campus. Based on the analysis conducted the site would likely attract each real estate type at varying amounts.

Industrial

Industrial/Flex. Constructing small-footprint (80,000 SF or less) industrial/flex space would help alleviate the documented deficit in the Lehigh Valley and study area.

- The average industrial space leased in this size range over the past 12 months was 42,000 SF.
- The vacancy rate of small-footprint industrial/flex space is 3%, compared to an overall industrial vacancy rate of nearly 6%.
- An inventory of industrial space is a key business retention factor as nearly all businesses interviewed for Allentown's re-industrialization strategy noted expansion plans within 5 to 10 years.

Office

Large Corporate. Although, the office market in the Lehigh Valley is active with recent large-scale corporate office development concentrated in downtown Allentown and Bethlehem, the ASH campus would not be a candidate for large corporate office development due to competition and proximity of the two downtowns.

Health Care. The ASH campus could provide medical office space to serve the Lehigh Valley's Health Care target industry sector. The supply of medical office space available for sale or lease is 512,586 SF, slightly higher than projected demand of 505,409 SF. No medical office space is proposed or under construction, signaling an opportunity to fill the reported demand for medical office space.

Retail

Service Retail. The Market Analysis shows there is support for additional retail space. The viability of locating a portion of this square footage at the ASH campus should be considered in the overall context of potential industrial, office, and residential end uses contemplated. Service retail supporting the eventual end uses at the site would be in keeping with the character of the surrounding residential neighborhoods.

- The 15-minute drive time retail market area is estimated to support an additional 154,270 SF of retail store space.
- Neighborhood retail in the area leases between \$15.00/SF - \$18.00/SF with retail space leasing quickly according to regional real estate brokers.

Housing

The potential market for new housing in the area is strong for several reasons.

Vacancy rates are low. Vacancy rates have dropped indicating that not enough homes exist in the region.

Incomes are increasing. The median income in the area, according to block group Census data, is categorized as low-income, however, area incomes are expected to increase 13% by 2024, raising the income level to a more moderate classification. Although the census blocks surrounding the campus are currently low-income, redevelopment of the campus using a more integrated approach to residential development would begin to create a healthier mix of income levels in this area of Allentown.

Overabundance of Jobs. The projected increase in jobs is significant (example: 57% increase in Health Care jobs). Local studies indicate that employers are having trouble filling existing available positions creating a shortage of nearly 10,000 workers. If these job shortages are filled in the near future, this adds more support and need for additional housing in Allentown. Residential development on the Allentown State Hospital campus can help fill the housing gap Allentown is experiencing.

Mortgage rates are low. According to Greater Lehigh Valley Realtors Group, Dec. 2019, home seekers are entering the housing market at a time of historically low mortgage rates and a strong economy. Millennials face a very limited supply of existing homes available for sale, especially homes in the entry-level price range. In 2019 the median price a homebuyer expected to pay was \$254,000 however one quarter of the total homebuyers were hoping to buy a home for under \$150,000.

Current home sales, Realtor.com, range between \$130,000 to \$170,000. The median home sales price is \$152,000 for a 3-bedroom single family selling. According data related to current housing needs, future residential development should include a variety of unit sizes particularly 3-bedroom units. It should be noted, a majority of the households living in the census blocks surrounding the project site are low median income and are considered cost burdened spending more than 30% of their income on housing costs.

Population Increase. There is a projected 7-8% rise in population and households within the 30-minute drive time area, this in combination with low vacancy rates also indicate there is and will be a low supply of available housing.

Strong Rental Market. Roughly 50% of the dwelling units in the project area are rental. The median rent in Allentown is \$968.

Public Transportation. Hanover Avenue is located within a priority Enhanced Bus Service corridor that is projected to experience significant population growth through increased development densities that support transit.

Senior Population. Stakeholder interviews report there are waiting lists for senior housing with medical support. There is a current market and growth for the development of senior and mixed income housing in Bethlehem.

APPENDIX A: KEY REAL ESTATE MARKET ANALYSIS TERMS

Absorption Rate: The amount of real estate that will be leased or sold in a given period, typically one year. This does not include lease renewals, unless the renewal would result in an increase in occupied space, or pre-lease of non-existing space. For example, if the absorption rate is lower than the availability, then there will be an expected increase in vacant properties or a potential downward pressure on rents or sales prices.

Asking Rent: The rent that a landlord is asking, typically per square foot, for a property. This does not mean the asking rent represents the actual rent that would be paid.

Availability Rate: This is the percentage of property that is currently available for sale or lease on the market as a percentage of total inventory in the market. It is measured on the last day of each quarter or the current date of the current quarter. Low availability rates mean an extremely tight market and less choice for lessees or buyers. A high availability rate means more choice.

Cap Rate: The income rate of return for a property that divides the net operating income (the actual or anticipated rental income after operating expenses are deducted, but before debt service or other expenditures are deducted) by the sale price or value of the property. This is a way to compare investment returns on an annual basis similar to comparing different loans with an annual percentage rate. This is important to developers, investors, and landlords as it indicates potential profit.

Comparables: These are properties similar to the subject property or study area that can be compared to reach an estimate on the study area or subject property's market value. It is important that similar types of properties, with sales or leases within a reasonable time period (typically one to two years) and a proximate geographic area are studied to help determine potential rents or sales prices as these are recent indicators of what the market commands.

Deliveries: This is the amount of construction, typically in square feet, that was built during a period, typically one year.

Demolition: The deletion of available building stock in the market due to destruction of property, typically measured in one year.

Flex: A type of building that is capable of multiple uses, typically in a single facility, including office, research and development, retail sales, light manufacturing, and small warehousing and distribution space.

Inventory: The total amount, typically in square feet, of a particular structure type in the market at a given point in time.

Logistics: Industries that deal with the supply chain, including shipping, transport, warehousing and distribution.

Market Rent: This is the rent that a landlord would receive, typically per square foot, for a property (what the market would command). This differs from asking rent in that this is the actual negotiated rent, and not what is being asked.

Net Absorption: The change in square feet of occupied inventory over a specified period, including the addition or deletion of building stock during that period of time, typically one year. This also includes subtraction for properties that are vacated during the same period of time, such as a tenant moving out.

Price per Square Foot: Sale price divided by the rentable square feet of the building. This is used in properties for sale or sold as opposed to properties leased or for lease.

Pro forma: A financial statement that projects gross income, operating expenses, and net operating income for a future period for a specific property or development. A pro forma considers a specific building or development, construction costs, operations and maintenance, financing and debt, permitting, and expected income through lease or sale. It also considers a time period assumption for vacancy to full occupancy. A real estate market analysis can help inform inputs into a pro forma, such as expected rent, sales, and vacancy rates. The pro forma helps a developer or investor determine the performance of the potential investment, risk, and whether it is financially feasible.

RBA (Rentable Building Area): This is the actual square footage of a building that is available for rent. This includes all usable portions of the building and shared common spaces. This is like gross leasable area in retail estate market analysis.

Real Estate Market Analysis: The study of demand and supply of real estate including property and/or buildings. The demand consists of users or would be users of the property, and the supply consists of a mix of existing property, buildings and future buildings that will be coming onto the market soon. The market analysis provides a snapshot on what could potentially be built or leased. This serves as part of the cash flow analysis that developers and investors use when calculating their proformas (calculations of costs and profits for individual development).

Rent Growth: The change in actual rent per square foot within a given period, typically one year.

Risk: The potential that the return on an investment or loan will not be as high as expected.

Sales Volume: This is the total amount of dollars, in nominal value, of real estate sales in a given period, typically one year.

Specialized Industrial: Buildings typically built to house specific industry types that require highly customized environments such as specialized food manufacturing.

Tenant Improvements: Improvements made to the property either at the tenant's expense or made by the landlord as part of the lease agreement negotiation.

Under Construction: This is the amount, typically in square feet, of promised new inventory that is currently still in the construction phase. Construction phasing typically means that permits have been obtained and at least a foundation has been completed. For example, the mass grading of land with no structural construction is not considered "under construction."

Vacancy Rate: The amount of existing inventory by square feet of structure that is unoccupied and available for sale or lease.

ⁱ <https://www.census.gov/newsroom/press-releases/2017/cb17-100.html>

ⁱⁱ <https://seniorhousingnews.com/2019/10/07/nearly-1-million-new-senior-living-units-needed-by-2040/>