

APPENDIX L
Market Analysis

SR 28 Corridor Study

Economic Analysis

Date August 16, 2022
To CDTC
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Introduction

The Chelan Douglas Transportation Council (CDTC), in coordination with WSDOT, Rock Island, East Wenatchee, Douglas County, and other local stakeholders, is studying the SR 28 Corridor from East Wenatchee to Batterman Road near Rock Island. The Study partners are looking at several long-term options for the corridor to understand the tradeoffs among the following transportation priorities:

- Maintain high-quality traffic operations,
- Improve and maintain the safety,
- Improve accessibility to local roads, and
- Improve pedestrian and bicycle access.

Leland Consulting Group (LCG) was engaged to help the project team and CDTC understand how regional growth and development will impact the specific corridor study area. The focus of LCG’s economic analysis is the Wenatchee Valley urbanized area and areas within greater Quincy and Grant County. The memorandum:

- Provides an overview of the jobs to housing balance between Grant County and Chelan-Douglas counties to characterize interregional commute patterns,
- Identifies future land use opportunities that may respond to potential transportation changes and other infrastructure investments,
- Describes the growth opportunities within the corridor and region more broadly, and
- Provides a forecast of household and employment growth for the corridor and region through 2045.

This memorandum is organized as follows.

Introduction.....	1
Executive Summary	2
Development Forecast.....	2
National Real Estate Context.....	7
Regional Context.....	9
Market Assessment	22
Land Capacity Analysis.....	42
Appendix: Market Based Projections by TAZ.....	48

Executive Summary

This analysis evaluates past and current development and growth trends to understand patterns of development and to inform an analysis of future development potential. This growth projection is then compared to a land capacity analysis to determine whether there is an adequate supply of land for each land use to meet the market potential.

Some of the key findings from this analysis are:

- There is significant growth across all land uses anticipated throughout the region between 2020 and 2045.
- Almost 10,000 new housing units are expected to be built in the region between 2020 and 2045. Almost 11,000 new jobs are expected during that same time frame.
- The unincorporated urban growth areas (UGAs) have significant growth potential for all land uses and could potentially support about 7,000 new housing units, 4.3 million square feet of commercial development, and 10.5 million square feet of industrial development.
- There is so much demand for industrial development today that there is not currently enough vacant land in incorporated cities to accommodate all that growth, however there is likely a significant excess of commercially zoned land currently.
- As a result of the booming data center industry, the greater Quincy area is expected to capture a disproportionate share of industrial development growth.
- Job growth is expected to outpace household construction as currently planned and zoned in the Quincy urban growth area, creating a jobs-housing imbalance. Long-distance commute trips on state highways to the Wenatchee Valley and other communities in Grant County will increase if housing isn't provided at a rate necessary and appropriate to meet job growth in the Quincy urban growth area.
- Most residential growth is expected to occur within existing cities, and there is adequate land capacity to meet that growth except for the East Wenatchee UGA, where most growth is expected north and east of the incorporated city.
- Generally, past patterns and trends are expected to continue, with accelerated growth in industrial development.

Development Forecast

Forecast Inputs

The methodology includes:

- Documenting household and employment projections from a variety of sources.
- Analyzing historical household, employment, and real estate trends to ensure compatibility with existing projections.
- Estimating regional levels of demand for a variety of land use sectors, including industrial, commercial (retail and office), and residential.
- Identifying prominent projects in the development pipeline and estimating job growth in each relevant TAZ.
- Calculating subarea "adjustment factors" based on overall market demand, development trends, and land availability and applying that factor to the other TAZ projections.

Existing Small Area Projections

As summarized in later pages, the existing TAZ data for the Wenatchee MSA includes household growth projections of 1.16 percent and employment growth at 1.04 percent, adding approximately 9,600 housing units and 11,400 jobs in total, respectively. **The vast majority of projected growth is anticipated within incorporated city limits:** Wenatchee is expected to account for 60 percent of the job growth and 41 percent of the household growth, and East Wenatchee is

expected to account for 28 percent of the job growth and 29 percent of the household growth. The rest of the growth is expected in the unincorporated county (including Malaga) and Rock Island and is primarily residential rather than employment.

Table 1. Area Capture Rate of Existing Projections

Location	Projected % of Total Employment Change	Projected % of Total Household Change
Wenatchee	60%	41%
East Wenatchee	28%	29%
Rock Island	6%	9%
Chelan County	1%	3%
Douglas County	1%	8%
Study Area	2%	8%
Malaga	2%	2%

Source: CDTC

These projections are relatively consistent with regional projections by the Washington Employment Security Department (ESD) and the Washington Office of Financial Management (OFM).

Historical Trends

The past 10 to 20 years have seen jobs increase by 2.06 percent annually in the market area and the number of households by 1.10 percent annually. Northwest Grant County added jobs and households fastest at 3.40 percent and 1.56 percent, respectively. Southwest Douglas County grew second fastest at 2.37 percent and 1.43 percent, and Southeast Chelan County grew the slowest at 1.71 percent and 0.82 percent. Despite the slower rate of growth, Southeast Chelan County remains the dominant area with the majority of jobs and households.

From a real estate perspective, there has been a major upward trend in residential development, with multifamily construction now trending well over 100,000 square feet of development per year and upwards of 300 single-family homes getting built per year. Industrial real estate has generally averaged around 60,000 square feet of development per year, but this is expected to drastically increase as planned industrial projects come online in the next few years. Retail and office, on the other hand, are seeing stagnating trends, with very little development.

Given the long-term nature of these trends and the strength of the industrial and residential markets, LCG assumes a continuation into the future, with significant industrial employment and household growth, especially in Douglas and Grant counties.

Development Project Pipeline

Projects in Douglas and Chelan counties were manually factored into the household and job projections for each TAZ they are located (if deemed to be likely to develop within the planning horizon). These projects, which are either industrial or residential in nature, have been identified in earlier pages of this report.

Proposed projects in Douglas and Chelan counties total almost 2,500 housing units (25 percent of the current projected housing growth for the area) and approximately 2,900 jobs (more than one-third of total employment growth currently projected). An additional 3,250 jobs may be generated by the proposed developments in Quincy and 800 housing units are currently proposed.

The project pipeline includes projects that were built in 2020, 2021, or 2022, as well as proposed projects that will be built through 2025 (and beyond). This five-year increment is one-fifth of the 25-year planning horizon (2045). As such,

the projects should, in theory, total at least 20 percent of the existing projections. At present, total proposed housing and employment projects account for approximately 20 and 24 percent of the projected totals, respectively, with data centers and fruit packing facilities accounting for most of the jobs. Certain areas account for a much higher proportion of existing projected totals. These areas include Pangborn and the northern unincorporated UGA area of East Wenatchee for employment, and East Wenatchee, the unincorporated section of the SR 28 corridor, and several areas in and around Wenatchee (including downtown and the northern unincorporated UGA) for housing.

Land Capacity

LCG conducted a high-level land capacity analysis based on existing uses, zoning, and location for the three-county subareas of Chelan, Douglas, and Grant.

Based on the vacant land within existing city limits, there is enough land to support about 6,360 new housing units, 3.6 million square feet of commercial space, and 3.5 million square feet of industrial space. **The unincorporated UGA areas have significant growth potential for all land uses** and could potentially support about 7,000 new housing units, 4.3 million square feet of commercial development, and 10.5 million square feet of industrial.

There is 5.3 million square feet of industrial development proposed in the market area (both city and unincorporated UGA land). This exceeds LCG's estimate of available vacant industrial land within city limits. As unincorporated UGA land continues to develop with industrial uses, additional industrial land will need to be found, either through the identification of expansion areas or through rezoning other land for industrial uses. **Currently, there is likely a significant excess of commercially zoned land.**

Market-Based Forecast Summary

The following table shows household and employment projections by TAZ groups in Douglas and Chelan Counties based on the known project pipeline and LCG's market-based analysis of opportunities and trends. The development forecast for Northwest Grant County (including Quincy) is only provided in Table 3 at the regional level due to the lack of TAZ shapefiles for the area. **LCG projects significant job growth in Northwest Grant County, largely driven by the continuation of industrial construction led by the data center sector.** Residential construction is also likely to continue but will soon face land constraints as developable land within both the city limits and the unincorporated UGA is developed. **This jobs/housing imbalance will need to be met with housing growth in communities in Grant, Chelan, and Douglas counties.**

A full summary of each county subregion is provided below, which is followed by a map showing the groupings. The full TAZ table is provided as an appendix to this memorandum.

Table 2. Douglas and Chelan County Projections

District	Total Jobs 2045	Total Housing 2045	Job Growth 2020-2045	Housing Growth 2020-2045
Sunnyslope	2,268	2,458	278	711
Olds Station	6,805	7	1,499	0
North Wenatchee Avenue Corridor	3,290	65	805	1
North Wenatchee	1,950	4,751	141	1,016
Wenatchee Riverfront	3,148	1,532	929	1,367
Central Wenatchee Commercial Corridor	3,735	696	411	13
Downtown Wenatchee	4,944	692	351	256
Central Wenatchee	2,105	5,839	176	488
South Wenatchee/Wenatchee Heights	5,162	4,893	701	635
Malaga	1,631	1,026	601	160
Baker Flats	1,293	102	670	0
East Wenatchee - North	1,538	2,966	874	973
Fancher Heights/County Club	245	1,768	0	261
East Wenatchee - Central	2,359	4,986	492	631
Downtown East Wenatchee	4,099	403	472	7
East Wenatchee - South	713	4,660	101	2,682
Rock Island Rd Urban Corridor	472	569	66	75
Pangborn Industrial Area	2,465	56	1,961	9
Greater Rock Island/Batterman Corridor	1,084	1,423	452	696
Total (Excl. Grant County)	49,308	38,891	10,982	9,980

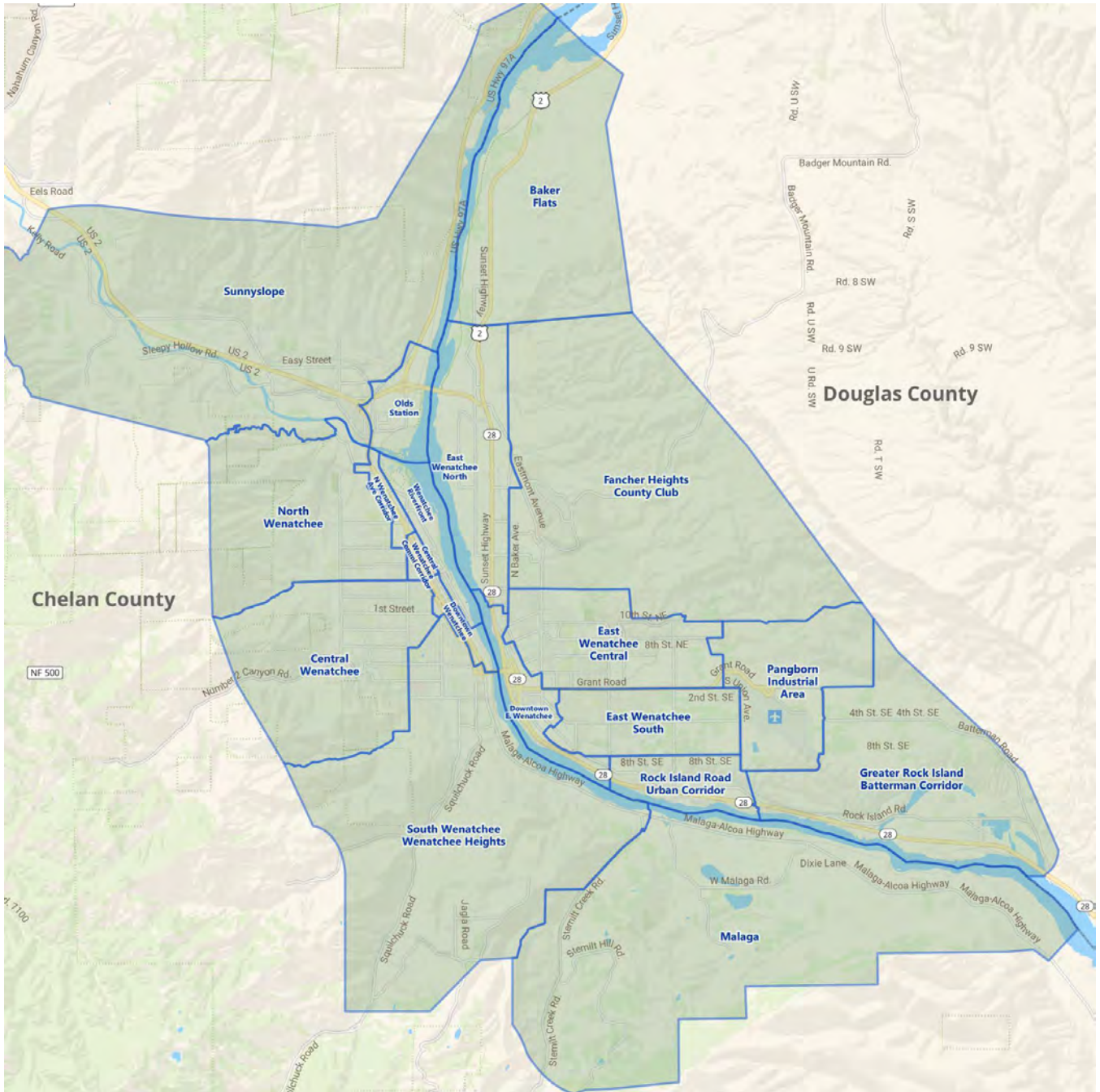
Source: Leland Consulting Group

Table 3. Forecast Summary

Location	Total Jobs	Total Hsg. Units	New Jobs	New Hsg. Units	Annual Growth	Annual Growth	Annual % Growth	Annual % Growth
	2020	2020	2045	2045	Jobs	Hsg. Units	Jobs	Hsg. Units
SW Douglas	9,180	11,599	5,118	5,378	205	215	1.8%	1.5%
SE Chelan	29,146	17,312	5,864	4,602	235	184	0.7%	0.9%
NW Grant	3,900	3,100	3,200	1,700	128	68	2.4%	1.8%
Total	42,226	32,011	14,182	11,680	567	467	1.2%	1.3%

Source: Leland Consulting Group

Figure 1. Douglas and Chelan County Forecast Districts



Source: Leland Consulting Group

National Real Estate Context

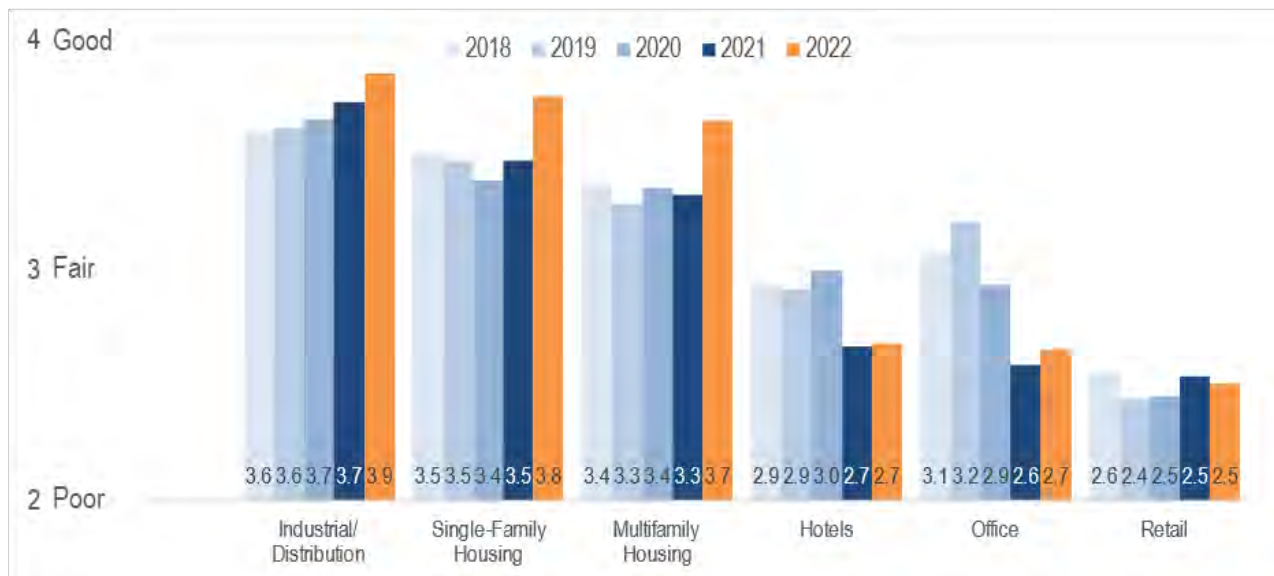
The real estate market is cyclical and typically follows a 20-year timeline. Currently, residential and industrial sectors are strong while commercial market sectors are in recovery mode. This is important to acknowledge because institutional investments and other development patterns tend to align with macroeconomic trends at the national level, which means the residential and industrial real estate sectors will be more likely to attract investment in the future than other real estate sectors. This section provides a high-level overview of these macro-dynamics that will continue to impact real estate and employment trends in the Greater Wenatchee Area.

The Urban Land Institute (ULI) releases an annual report called *Emerging Trends* which highlights real estate trends, prospects, and considerations at the national level and across every major market in the country. The information contained in the report is based on extensive market research and comprehensive surveys of real estate professionals throughout the country.

ULI offers a range of insights into commercial and industrial real estate from the perspective of both developers and investors. For the past five years, ULI has identified the industrial sector as the top-performing sector. This has only intensified since the beginning of the COVID-19 pandemic with the growth of e-commerce, which amplified the need for resilient supply chains and modern stock, which, in turn, has propelled the demand for logistics real estate. According to ULI, demand for industrial space has been deep and diverse across a range of industries. Robust demand, acute scarcity of supply, and rising replacement costs have accelerated rents across the board, reaching historic double digits in many markets, while vacancy rates have fallen to record lows.

The following chart shows development prospects for the six primary real estate classes and how these prospects have changed over the past five years. Industrial and distribution are the only real estate classes whose prospects have increased each year since 2018 while also maintaining the ascendancy relative to other development types, reflecting the strength of the market and the fact that most industrial users remained open throughout the pandemic (as there is no virtual substitute for physical product creation and fulfillment).

Figure 2. Development Prospects by Development Type



Source: ULI

ULI also offers insights into investment prospects for various subsectors. The chart at right shows prospects for 2020 (pre-pandemic) and 2022. Fulfillment again tops the list as ecommerce continues to grow, with warehousing close behind for similar reasons. Residential developments also rank highly.

It is important to note here that while Emerging Trends survey respondents generally agree that industrial is a top investment prospect, there is a significant proportion of respondents who feel that warehouse and fulfillment are overpriced compared with other industrial property types, suggesting that the market is still determining the appropriate risk compensation for these sectors. As more investment is made in these subsectors, it will become increasingly important for developers to be selective on location to both avoid the risk posed by the potential oversupply of new space and achieve a positive return on investment.

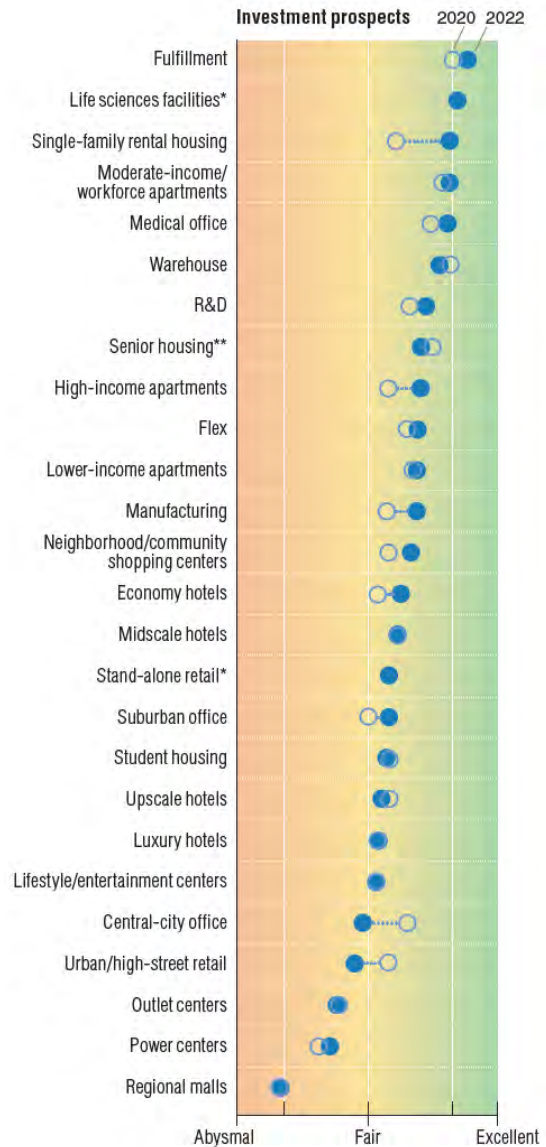
Employment Outlook

According to the U.S. Bureau of Labor Statistics, total U.S. employment is projected to grow from 153.5 million to 165.4 million over the 2020–30 decade, an increase of 11.9 million jobs. This increase reflects an annual growth rate of 0.7 percent, which is higher than recent projections cycles and accounts for recovery from low base-year employment for 2020 due to the COVID-19 pandemic and its associated recession.

For industrial sectors, including manufacturing, transportation, and warehousing, the existing numbers and projections are mixed. While the manufacturing sector as a whole is projected to have some recovery-driven employment growth, it also contains 11 of the 20 industries projected to have the most rapid employment declines and annual manufacturing employment growth is just 0.15%. Factors contributing to the loss of manufacturing jobs include continued global competition and the adoption of productivity-enhancing technologies, such as robotics. Conversely, occupations related to transportation and warehousing are projected to grow by 1.10% annually over the next year, largely due to the trends outlined in the previous section.

As ecommerce continues to drive demand for last-mile facilities and fulfillment, there appears to be no decline in the growth of warehousing and transportation jobs. Conversely, the events of 2020 and 2021 have fueled stronger automation and other cost-saving actions from employers, likely resulting in heightened productivity and fewer workers. Finally, the accelerated digital transformation of both business and consumer activities makes it easier to eliminate routine jobs. Long-term local economic opportunities and trends in the region will generally align with what is happening across the nation. For example, the increasing automation of the manufacturing sector will impact job creation and densities.

Figure 3. Prospects for Commercial Subsectors in 2020 (Pre-Pandemic) and 2022



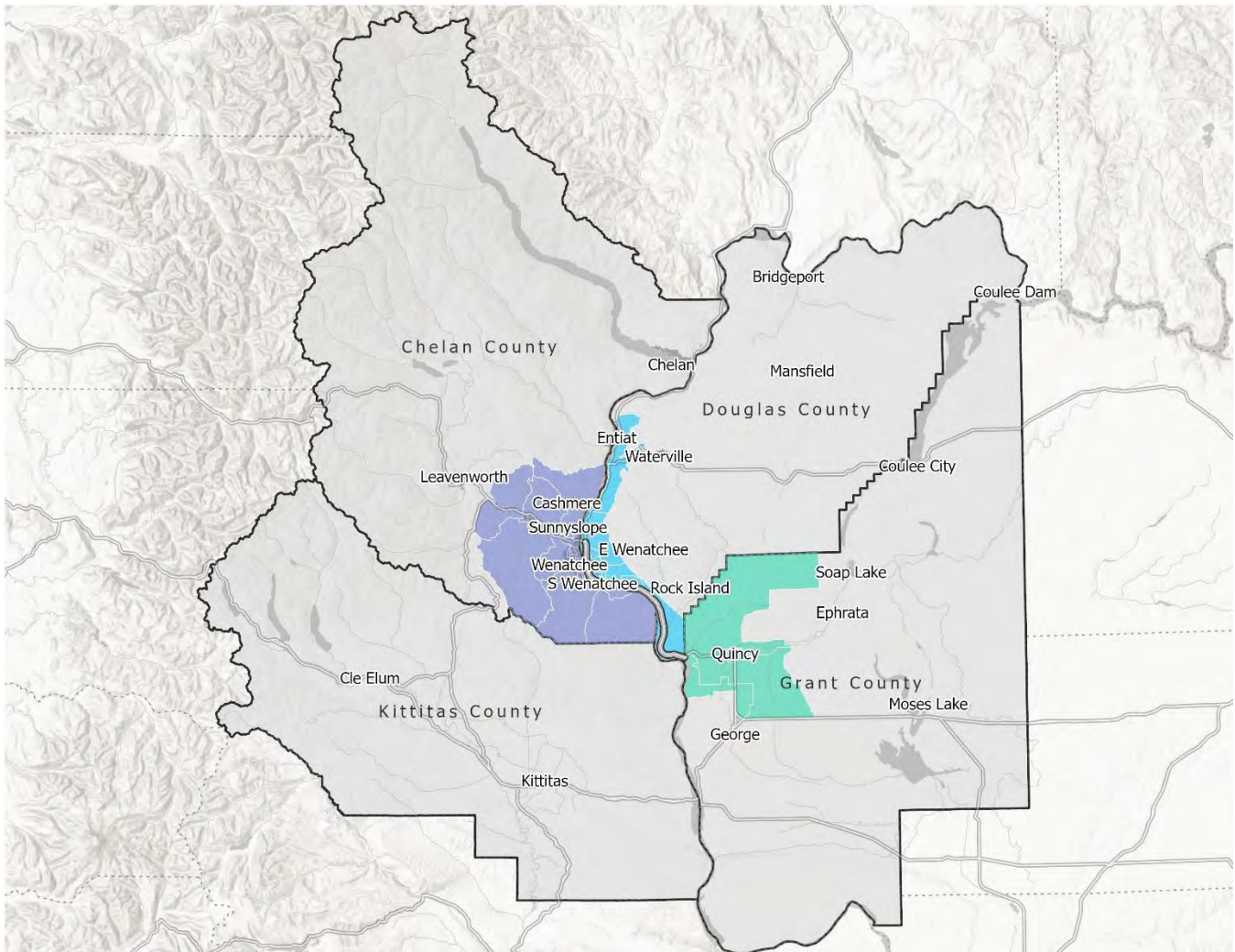
Source: ULI Emerging Trends 2022

Regional Context

This section provides an overview of existing conditions and regional projections in the Wenatchee Valley and the surrounding region. This serves as an important context for LCG's economic analysis and development forecast that is presented in later pages.

The SR 28 corridor and the three-county area are shown below. Also shown is LCG's area of analytical focus, also known hereafter as the "market area."

Figure 4. Study Area Overview



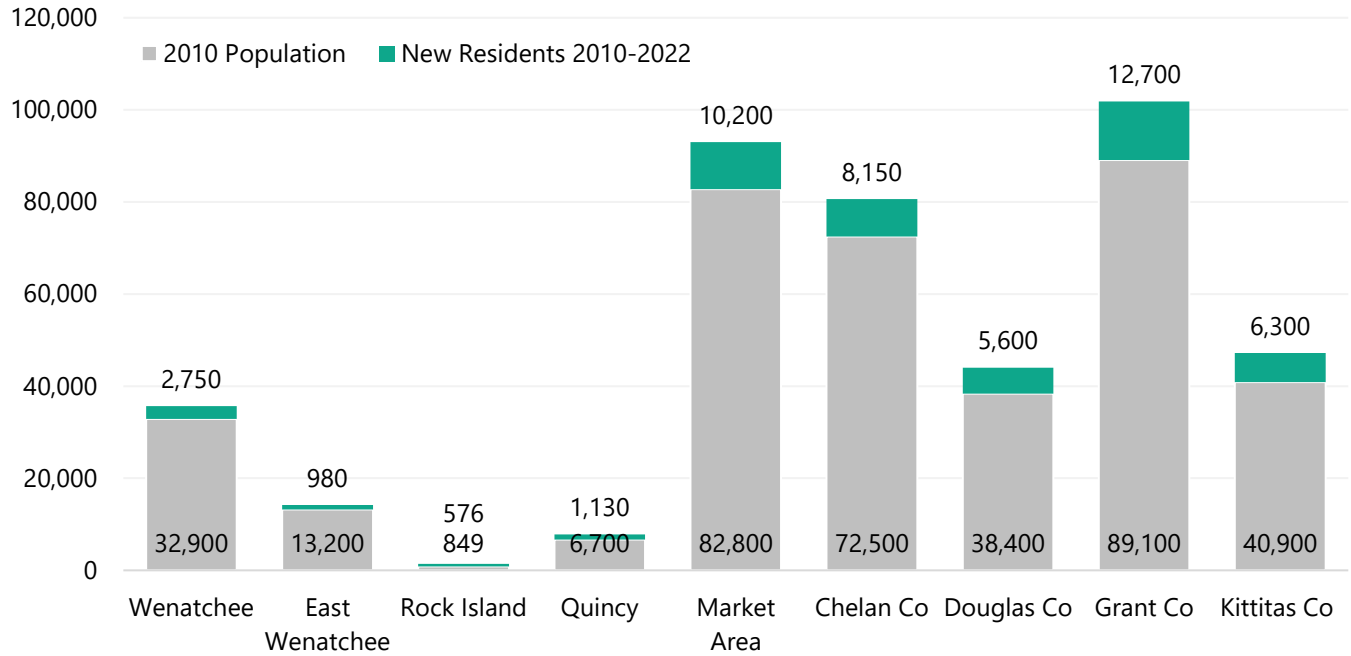
Source: Leland Consulting Group

Population Overview

The data in the following charts correspond to the areas in the map above. The market area population added approximately 10,200 people between 2010 and 2022, an annual increase of about 850 people.

The 2010-2022 growth in the existing cities of Wenatchee, East Wenatchee, Rock Island, and Quincy total about 5,500 people, just over half of all growth in the Greater Wenatchee Valley (or "market area"). This shows the extent of the development in current unincorporated areas.

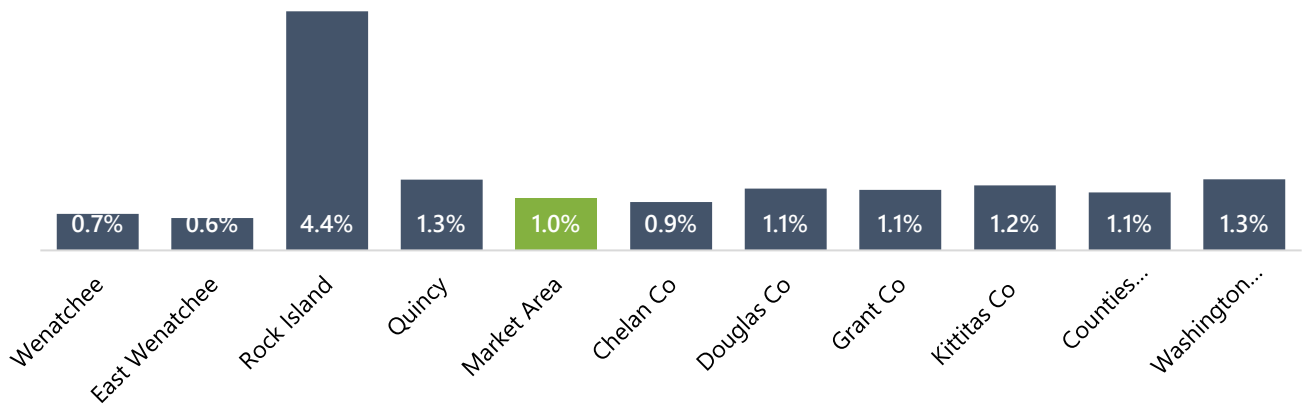
Figure 5. Population Estimates, 2010-2022



Source: WA OFM

- The market area population is largely comprised of Chelan County and only a small fraction of Grant County's total population. About 70% of Chelan County's, 78% of Douglas County's, and 11% of Grant County's population is within the project "market area."
- Southwest Douglas County grew by 1.24% annually, adding almost 2,000 people between 2015 and 2019, Southeast Chelan County grew by 0.56% annually, adding about 1,500 people, and Northwest Grant County grew by 0.25% annually, adding 150 people.
- The Wenatchee Valley is capturing a significant amount of growth in Douglas County, a moderate amount of growth in Chelan County, and a small amount of growth in Grant County. Much of this growth appears to be occurring outside of incorporated City limits as these growth rates are not consistent with the growth rates shown below.

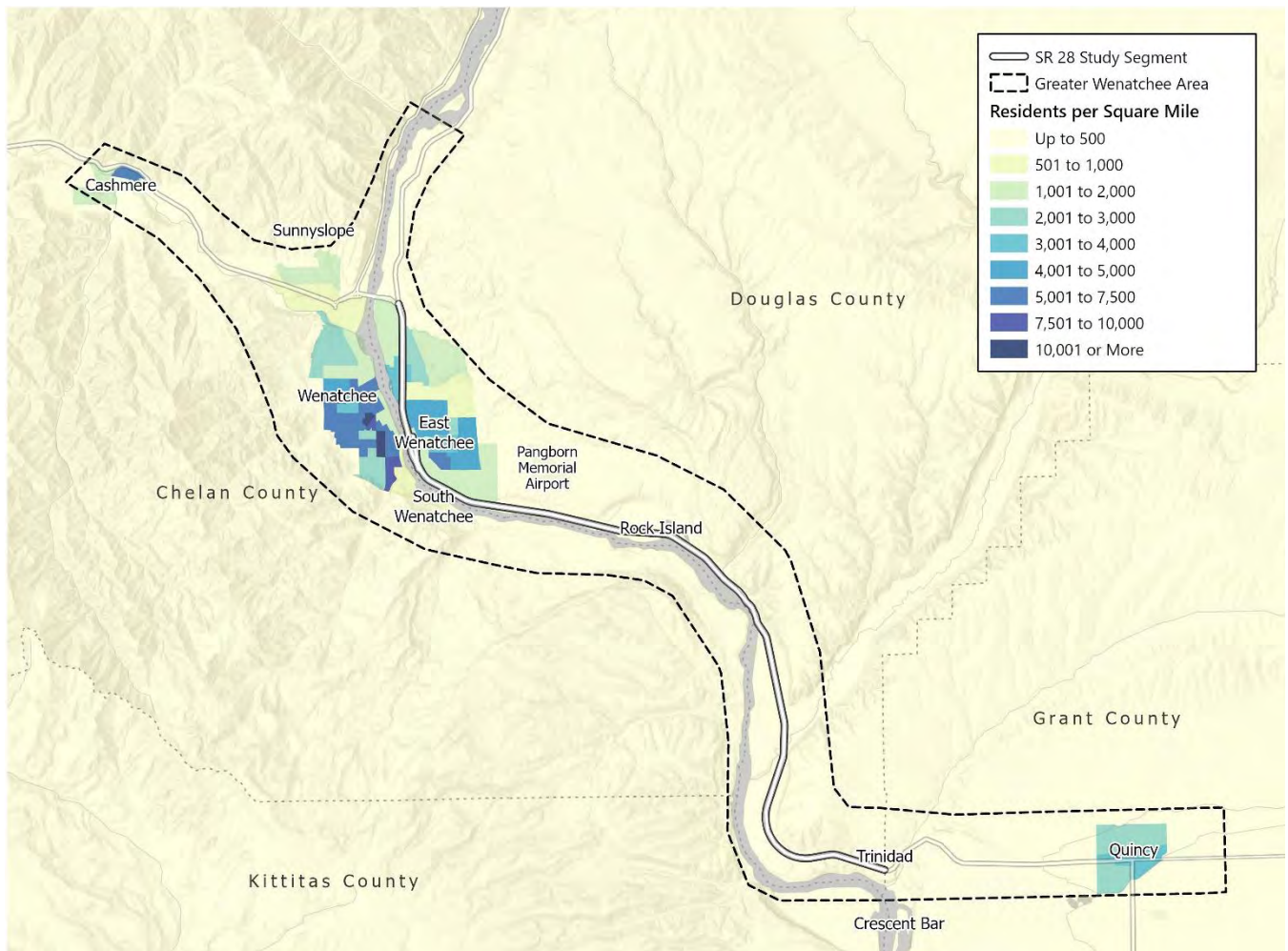
Figure 6. 2010-2022 Compound Annual Growth Rate



Source: WA OFM

The highest population densities in the Greater Wenatchee Area are in Wenatchee. There is very little population clustered between the Wenatchee area and Quincy.

Figure 7. Population Density



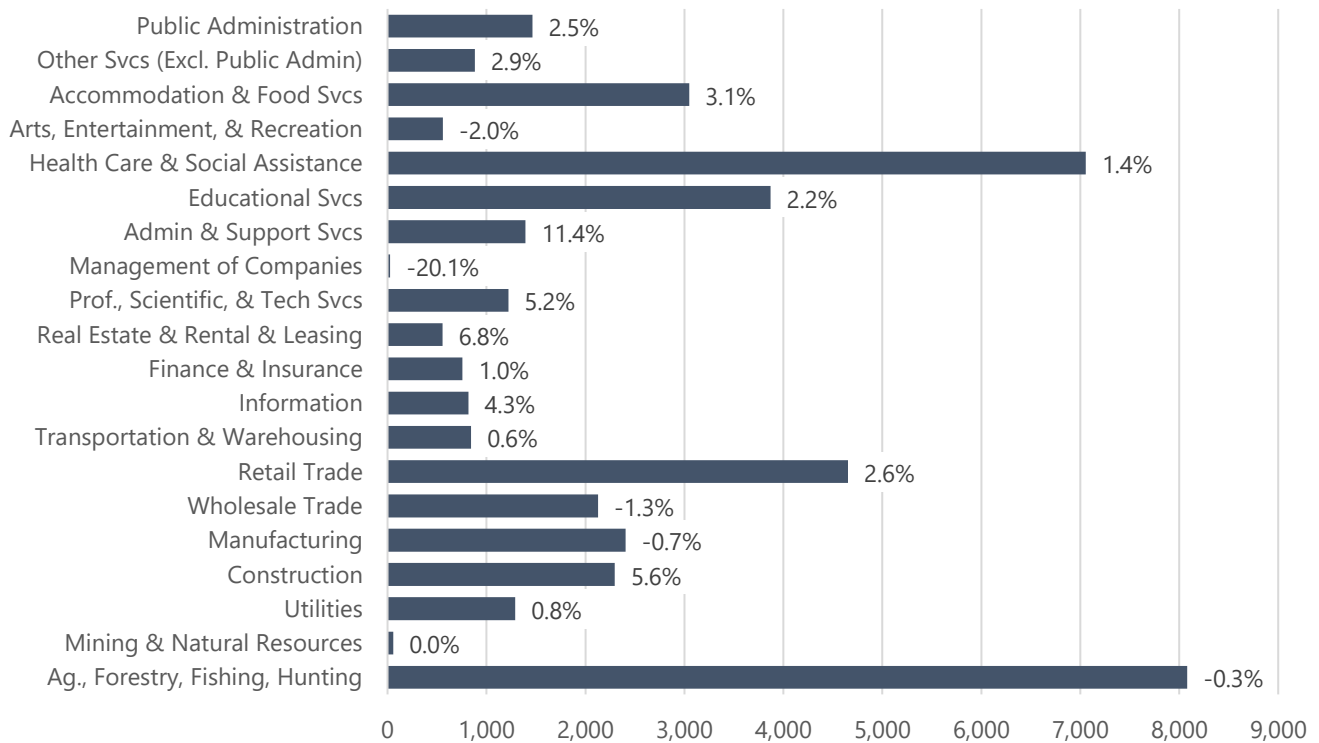
Source: U.S. Census Bureau, American Community Survey (ACS) 5-Year Estimates

Industry Profile

This section provides a high-level snapshot of economic conditions in the Greater Wenatchee Area.

The region is dominated by agricultural jobs, although the industry saw modest losses between 2014 and 2019. Healthcare and education jobs are also prominent and have seen solid growth, as has the retail sector. The fastest-growing industry sectors are information (which typically includes data centers), administrative and support services, construction, and real estate.

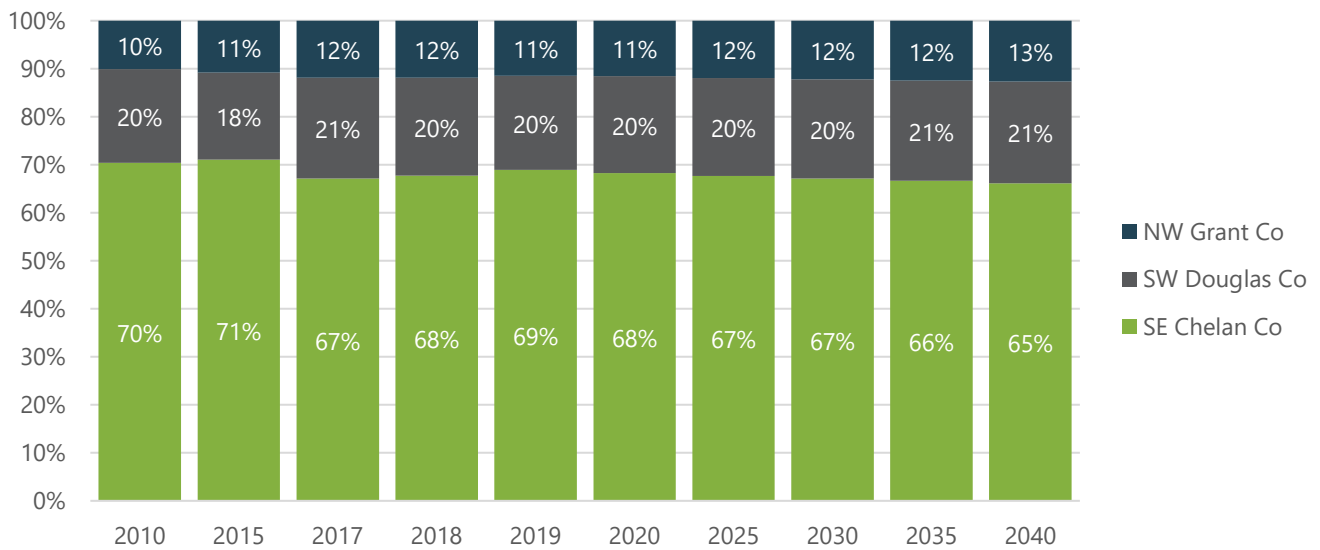
Figure 8. Jobs by Industry (2019) and Five Year Annual Growth, Market Area



Source: LEHD OnTheMap (QCEW)

As the following chart shows, employment concentrations are likely to shift around the region over time as developable land is absorbed and new growth areas emerge. Grant and Douglas counties are expected to add jobs quicker than Chelan County. As later pages will show, this reflects the growth of certain industrial uses and available land.

Figure 9. Employment By County



Source: QCEW, WA ESD

Market Trends: Data Centers

One of the most significant recent trends in Grant and Douglas Counties has been the growth of data centers, primarily in Quincy and the Pangborn Industrial Service Area. This follows major national growth, with demand for data centers reaching another record in 2021, led by large cloud and tech company expansions, despite significant supply chain disruption from the pandemic. In the United States, absorption¹ reached a total of 885.7 MW across 14 domestic markets, a 44.3 percent increase year-over-year. This is because demand for online services is strong and getting stronger, and the pandemic has reinforced the case for a more distributed network of IT infrastructure. As new investors continue to seek access to attractive returns in digital infrastructure, regional markets with business growth and clean energy are poised for growth.

The performance of top major data center REITs, which are the major operators and providers of data center space globally, reflects the reentry and reopening of economies. Residential and retail recorded the highest returns in 2021, while the combination of remote work, projected increases in IT spending, and even e-sports, have contributed to robust demand.

Going forwards, location will be more important than ever. Site selection is becoming a strategic priority and will be contingent on climate concerns, the availability of key resources like power and water, and growing community interest in the local impact of Internet infrastructure. Climate change is a key issue, which is altering the status quo in both real estate and energy sourcing, according to JLL Research. Water scarcity and the supply of renewable energy are the primary concerns for future data center markets.

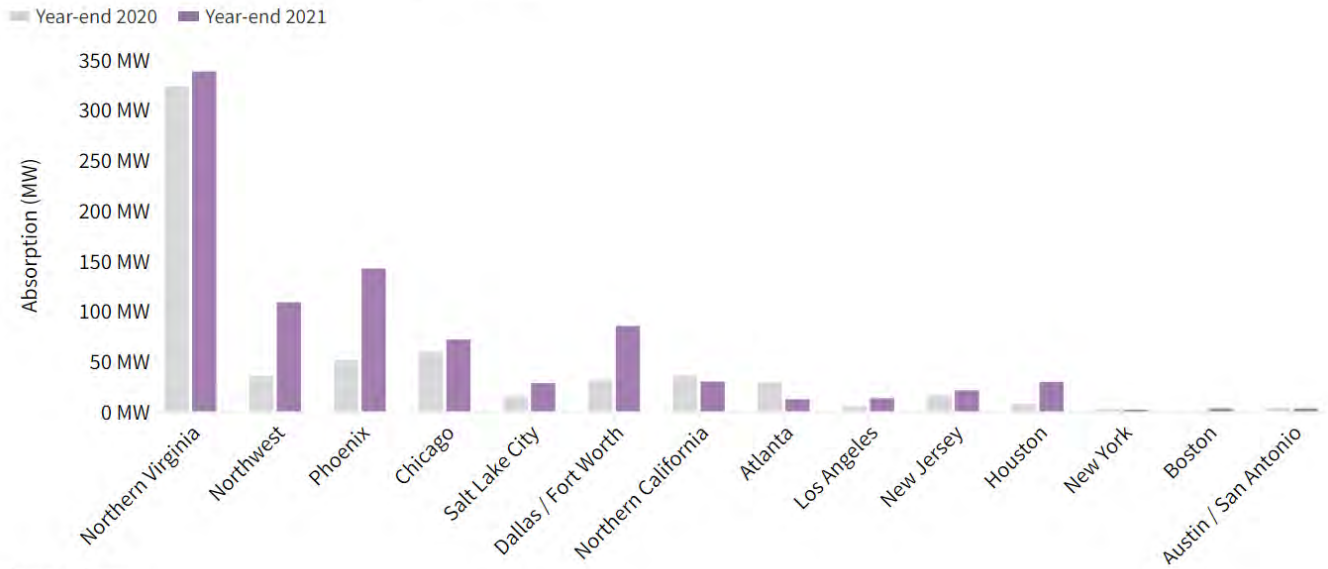
The data center industry is gradually adopting non-water cooling methods, which will reduce the need for large quantities of water for cooling purposes. Several factors are prompting this technology change, including powerful new hardware for AI workloads and growing pressure to eliminate water use in cooling servers. Microsoft has begun using

¹ Absorption is the net change in occupied square footage (or other measures, such as megawatts in the case of data centers) over a period of time, typically year-over-year.

immersion-cooled servers in production and believes two-phase immersion promises major gains in density and efficiency.

The following chart shows power absorption by data centers in several major domestic markets in 2021. Northern Virginia has historically been the epicenter of the data center industry and, while this is likely to remain the case for the foreseeable future, new growth in the Pacific Northwest, Phoenix, and Dallas markets has been significantly higher, representing the increased investment into historically second-tier markets.

Absorption (MW) by U.S. market, YE 2021



Source: JLL Research, [URL](#)

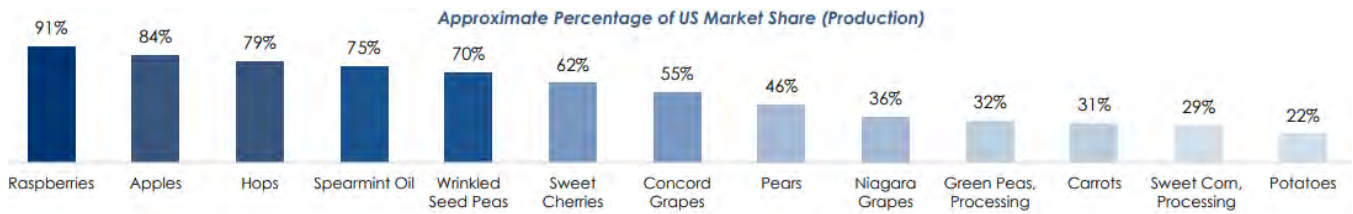
The Wenatchee Valley region is well-positioned with cheap and plentiful hydroelectric power, access to high-quality clean water, developable land, and a political climate that is still welcoming continuing data center development. As the Market Assessment section will show, the region is set to experience an unprecedented amount of industrial development that is primarily tied to the data center industry.

Market Trends: Agriculture

Central Washington is a major agricultural hub, for both growing produce and packing and processing. Favorable climate, soil, and water conditions in Washington create a valuable agriculture market with farmland that is among the highest quality in the world and is poised for significant long-term price appreciation. These favorable conditions are helping Washington eclipse California in terms of agricultural production.

The primary agricultural products in Central Washington are from tree fruit orchards. Washington is responsible for approximately half the apple production in the United States. Washington is the top producing state in the US for apples, winter pears, and sweet cherries, and is second behind California in the production of 'Bartlett' pear. Tree fruit

land has increased by up to 7% in the past 10 years, leading to steady increases in the annual production of apples and pears. Annual sweet cherry production has not shown a clear trend despite increasing orchard land area.



The Washington tree-fruit industry has significantly increased its dependence on international markets in the last 10 years. As production, especially of apples, has grown, international markets have absorbed much or most of the increase. Up to a third of the apple crop is now exported annually.

Looking ahead, the fruit tree sector is expected to continue to consolidate (as it has been for decades) as more growers and packers seek equity for growth for succession planning, recapitalize balance sheets, and achieve the scale necessary in today’s market. Macro trends such as downward pricing pressures, increased capital intensity, rising industry minimum wages, international trade tensions, a tight labor market, and agricultural technology adoption have stressed the balance sheets of sector participants and show no signs of subsiding in the near term. Some in the industry are taking on equity partners to scale and remain competitive, while others are seeking partners to see them through the temporary downcycle. Additionally, mergers and acquisition activity at both the retailer level and crop input level is adding further consolidation pressure at the grower, packer, and sales desk levels.

Mid to long-term macro trends remain favorable. A growing population with limited farmable land, as well as consumers increasing preference for healthy fresh foods will benefit the industry in the long term. Once the downcycle runs its course and the industry-wide consolidation process completes, enterprises will likely emerge larger and more productive as both larger and institutionally-backed players use the downcycle as an opportunity to expand and scale. A key determinant of profitable winners and losers will be a Company’s ability to attract institutional capital as well as acquire quality assets while building a deep and high-quality management team that can integrate technology into operations.

Figure 10. Agricultural Advantages and Disadvantages



Source: [URL](#)

In the Wenatchee region, industry stakeholders interviewed for this project expected limited employment growth despite planned expansions due to consolidation and automation.

Employment and Population Projections

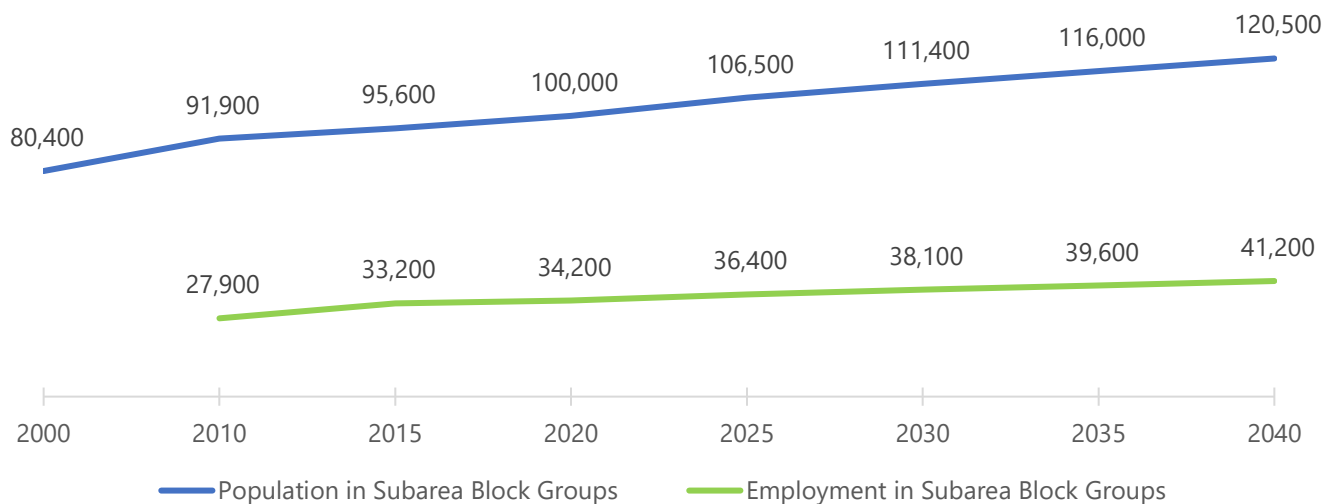
This memorandum will culminate in an overall development forecast that outlines employment and household growth over the next two decades for several areas in the Greater Wenatchee Area (market area). The forecast leans on existing

regional projections to determine the overall growth trajectory for a variety of land use sectors, as well as the areas local decision-makers expect to grow or densify in the future.

The following chart shows population and employment projections, based on existing Office of Financial Management (OFM) population projections that have been manipulated at the block group level by LCG, and LEHD employment data derived from U.S. Census Bureau data. This employment information is simply modeled as a general job to housing ratio (projected through 2040) and likely does not reflect true market conditions and should therefore be considered a "baseline" model.

OFM projections show the population of the three-county areas of Chelan, Douglas, and Grant growing by 1.1% annually between 2020 and 2040, which would add about 25,700 people to the population by 2045. If employment growth continues to follow population growth (approximately one employee per every three additional persons in the population) the market area would add around 8,300 jobs through 2045 (averaging 0.9% annually). If employment growth follows a similar trajectory to growth between 2010 and 2020 (averaging 2.1% annually), the market area would add up to 23,000 jobs through 2045. The remainder of this memo and the development forecast offers a market-based perspective that considers development trends, land availability, and other trends.

Figure 11. Existing and Projected Population and Employment Counts, Market Area



Source: OFM, LEHD, American Community Survey 5-year Estimates

The table below shows a breakdown of projections for each of the three core county areas in the regional market area. Population growth will likely be relatively distributed

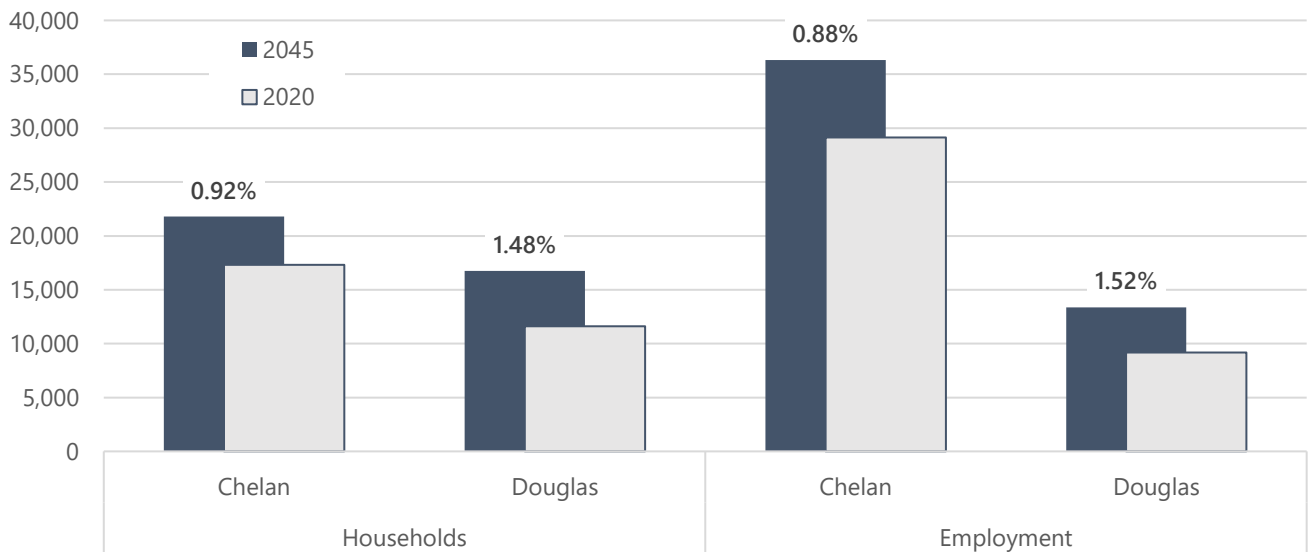
Table 4. Summary of Population and Employment Projections

SE Chelan County	SW Douglas County	NW Grant County	Total
Total new residents between 2020 and 2040			
8,700	8,400	3,500	20,600
Total new households between 2020 and 2040			
3,300	3,000	1,200	7,600
Total new jobs between 2020 and 2040			
3,700	1,700	1,200	7,000

Source: OFM, LEHD, American Community Survey 5-year Estimates

The following household growth projections are from TAZ data for the Wenatchee Valley urbanized area provided to LCG by CDTC. Total households are projected to increase from 29,000 in 2020 to 38,500 in 2045—a compound annual growth rate of 1.16%. Total employment is projected to increase from 38,000 to 49,500 jobs—a compound annual growth rate of 1.04%. This data was only available for Chelan and Douglas counties and does not include Grant County.

Figure 12. Household and Employment Growth, Wenatchee Valley



Source: CDTC TAZ Data

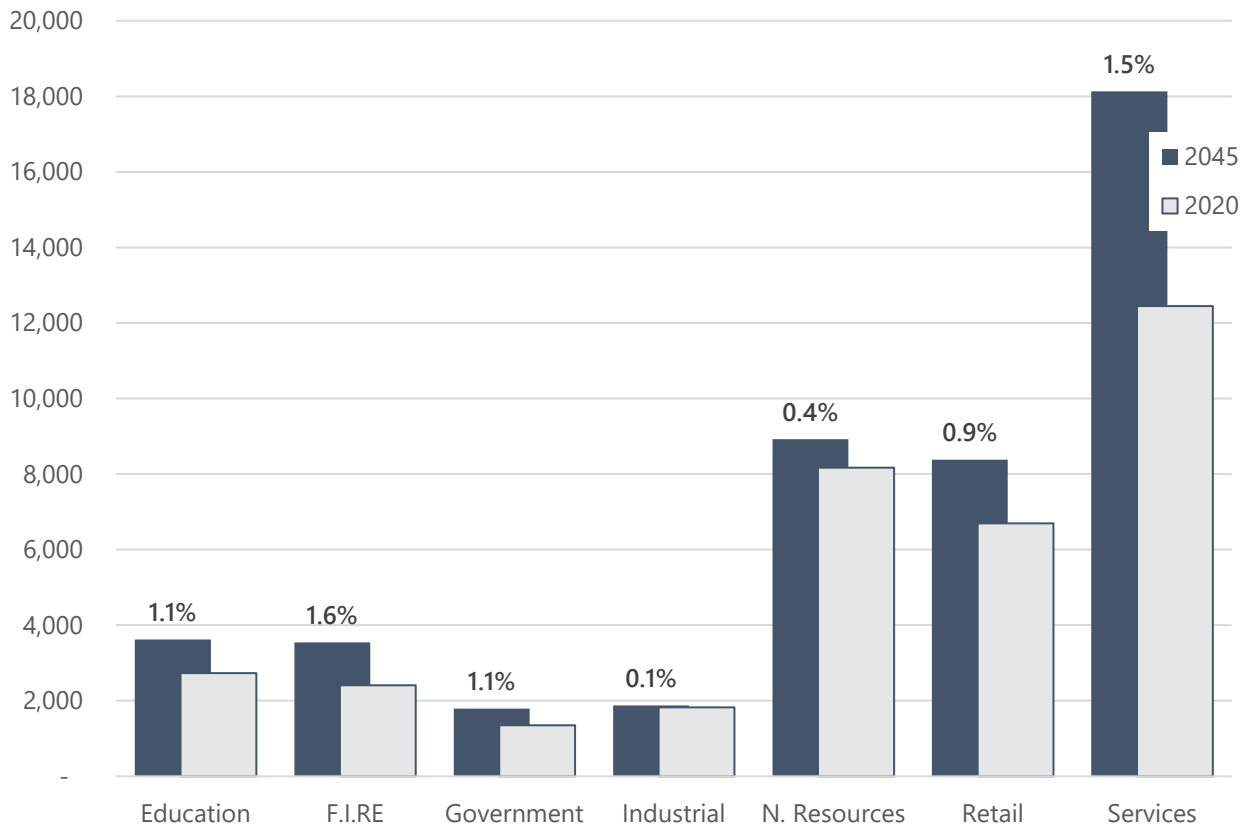
Table 5. Household and Employment TAZ Projections for Chelan/Douglas Counties

	Households		Employment	
	Chelan	Douglas	Chelan	Douglas
2020 Total	17,312	11,599	29,146	9,180
2045 Total	21,792	16,745	36,318	13,375
New Growth	4,480	5,146	7,172	4,195
Annual Rate	0.92%	1.48%	0.88%	1.52%

Source: CDTC TAZ Data

LCG suspects that these employment projections are likely conservative, particularly for industrial uses given the recent and planned data center developments. That being said, the bulk of the employment in these developments (which do not typically employ many people), is more service- and maintenance-oriented, so these jobs may be captured in the “Services” category.

Figure 13. Employment Projections, 2020-2045, Wenatchee Valley Urbanized Area

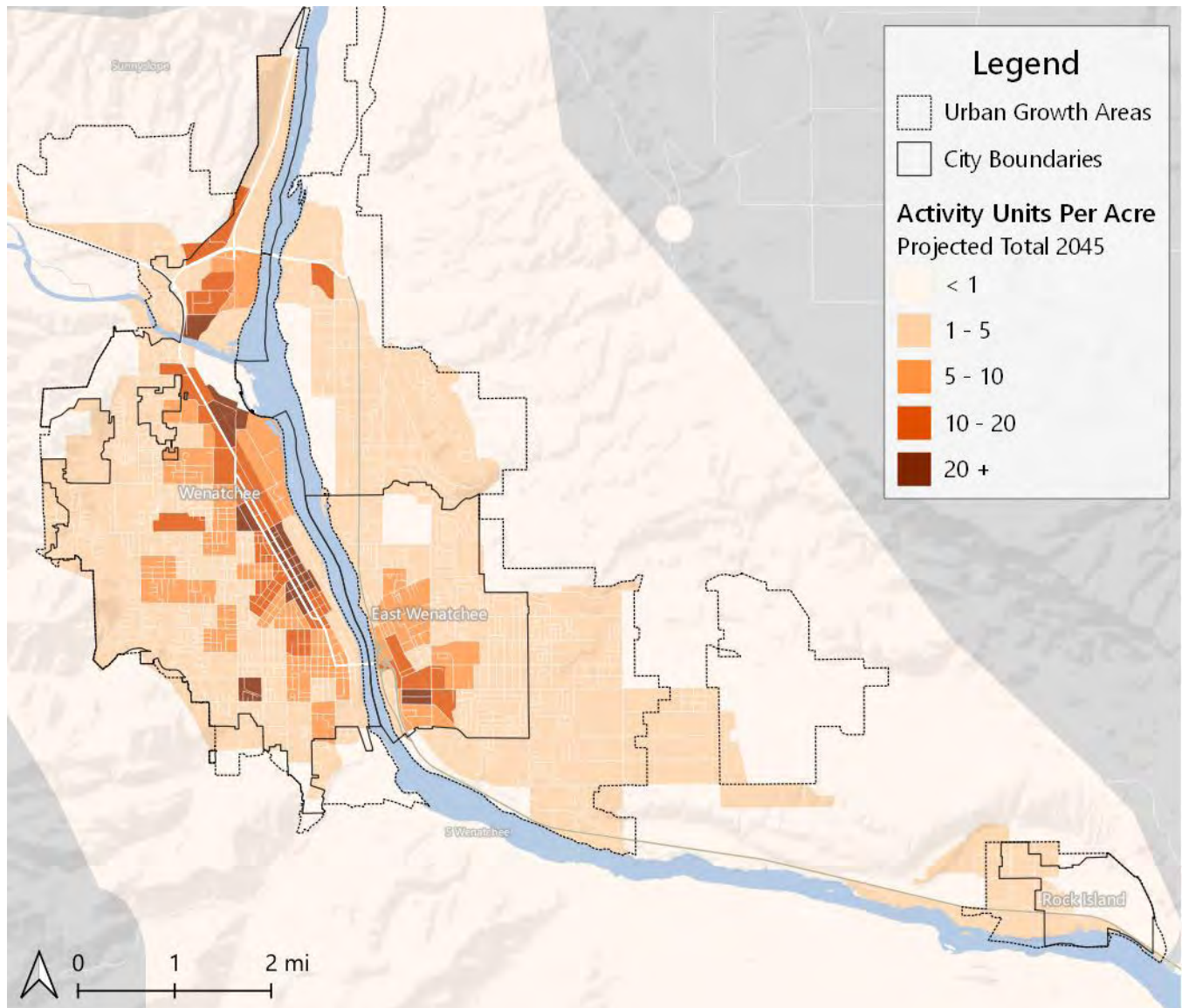


Source: CDTC TAZ Data

The following three maps show activity units (employment plus households) in the Wenatchee Valley Urbanized Area based on this same TAZ data. These small area projections are based on previous trends, land capacity, and local land use policy, among other factors. They, therefore, serve as a useful indication of growth areas over the next 20 years.

Activity unit densities in the area are generally low outside of core areas in Wenatchee and East Wenatchee. Most areas are expected to develop at densities of less than five activity units per acre, which is consistent with larger lot single-family residential development patterns.

Figure 14. Activity Units (Jobs and Households) Per Acre, Projected Total 2045

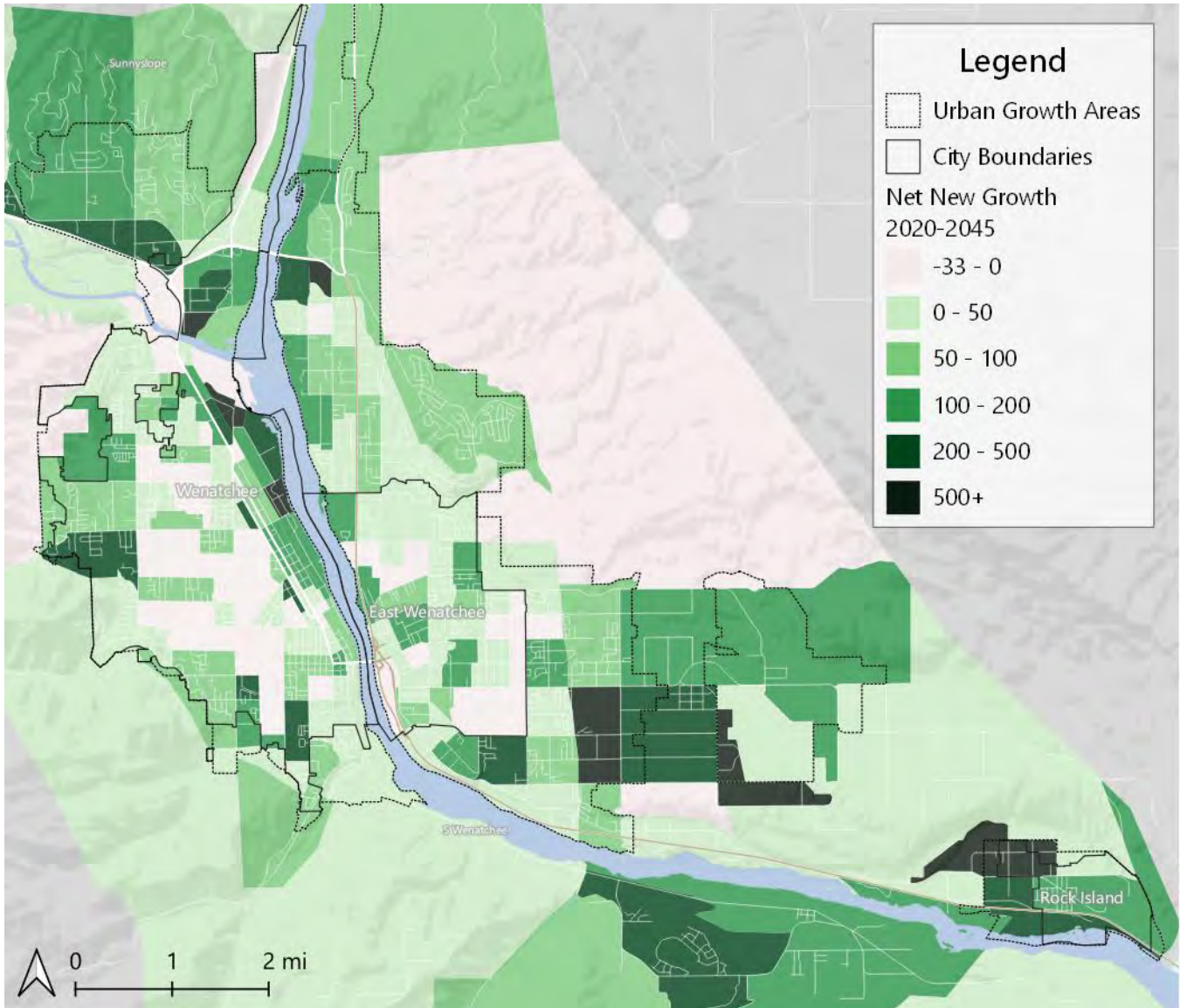


Source: CDTC TAZ Data

The following chart shows absolute growth in each TAZ in the Wenatchee Urbanized Area.

Growth is expected to concentrate in the peripheral areas of Wenatchee, downtown Wenatchee, the unincorporated areas of Douglas County, and west Rock Island. Growth is also expected in the Malaga area of Chelan County (where Microsoft has just announced plans for a new data center).

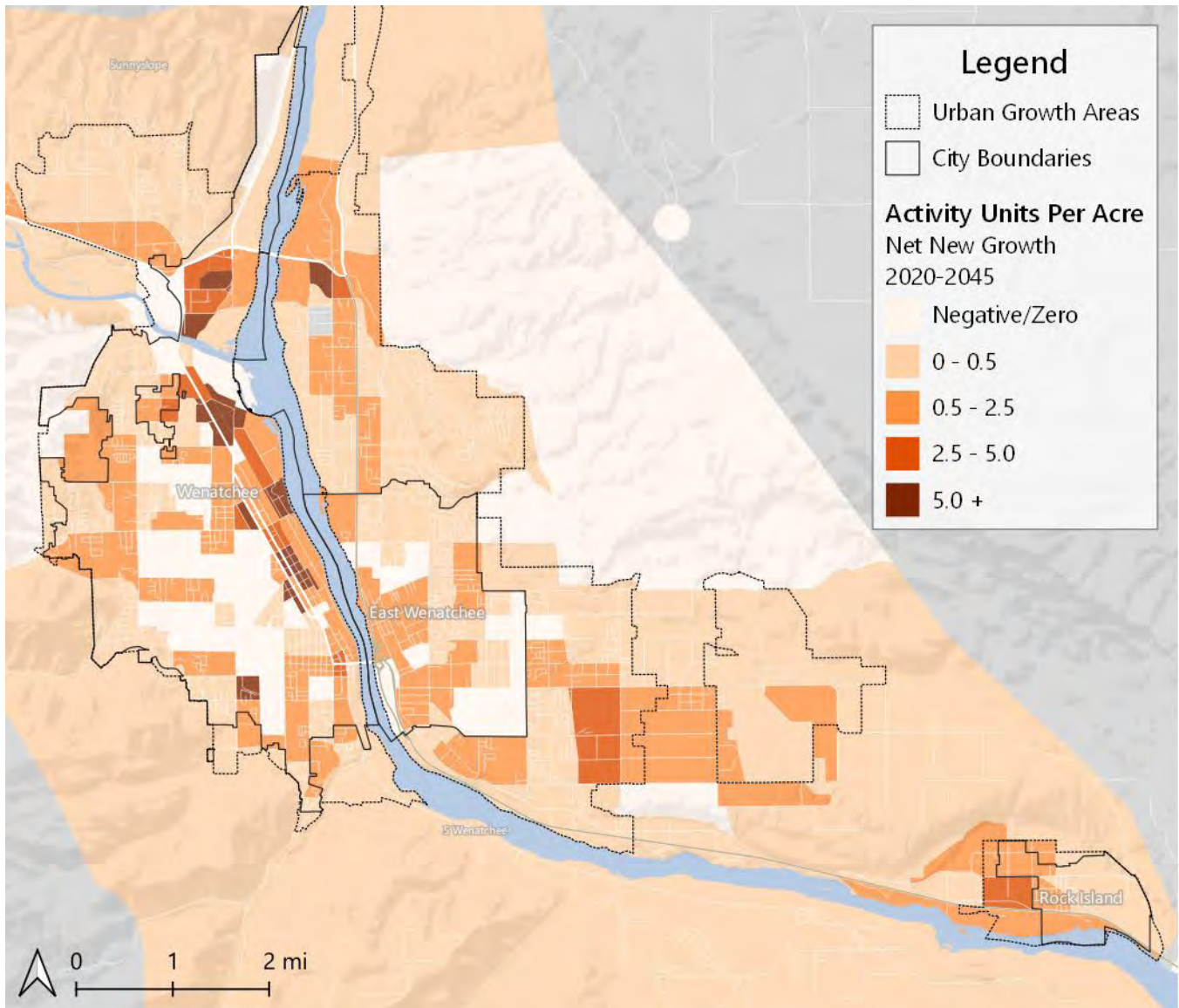
Figure 15. Activity Units Net New Growth, Wenatchee Urbanized Area



Source: CDTC TAZ Data

Similarly, the following chart shows this same information but by density (activity units per acre) to further demonstrate where most new development is expected to occur. Further densification is expected in downtown Wenatchee, while larger single-family residential subdivisions will likely make up the bulk of the growth in Douglas County.

Figure 16. Activity Units (Jobs and Households), Net New Growth Per Acre, 2045



Source: CDTC TAZ Data

SWOT Analysis

A SWOT analysis identifies the Strengths, Weaknesses, Opportunities, and Threats of any given area. LCG conducted a high-level SWOT analysis that is summarized in the table below and provides a general assessment of the strengths and weaknesses of the study area, considering its location within the region, access, physical conditions, and other factors. The information is based on both the quantitative analysis described in this memorandum and a series of stakeholder interviews conducted by LCG in the Spring of 2022.

LCG conducted these interviews with key stakeholders to help identify major growth areas, industry trends, barriers to development, commute patterns, and specific development projects. Stakeholders included major landowners, the Ports of Quincy and Chelan/Douglas, developers, real estate brokers, major employers (e.g., fruit packing facilities, local

chambers of commerce, higher education representatives, and economic development agency staff in the region. The information from these interviews, including key themes and major takeaways, is embedded in the table below.

Table 6. SWOT Summary

Strengths	Opportunities
<ul style="list-style-type: none"> • Cheap and plentiful power • Agricultural hub with favorable growing conditions • Land availability • Low cost of living • Outdoor recreation • High-quality water availability • Protection from extreme weather • Not prone to natural disaster • Significant hotel growth in Wenatchee • Dark fiber providers • Inexpensive land (\$70k-\$125k per acre) 	<ul style="list-style-type: none"> • Residential development • Waterfront development • Automation • Ongoing data center growth • Agricultural production/value add manufacturing • Outdoor recreation • Growing numbers of in-migrants • Telework • Developable county land
Weaknesses	Threats
<ul style="list-style-type: none"> • Topography (landlocked) • Zoning • Constrained land within existing city limits • Lack of public transit • Lack of sewer and water in places • No hotels in Quincy • Utility infrastructure • Isolation from interstate (for distribution) 	<ul style="list-style-type: none"> • Housing affordability and availability • Climate change • Local community opposition • Uncertain commercial (retail, office) future • The willingness of PUDs to add power capacity • Labor availability • Access to tradespeople

Source: LCG

Market Assessment

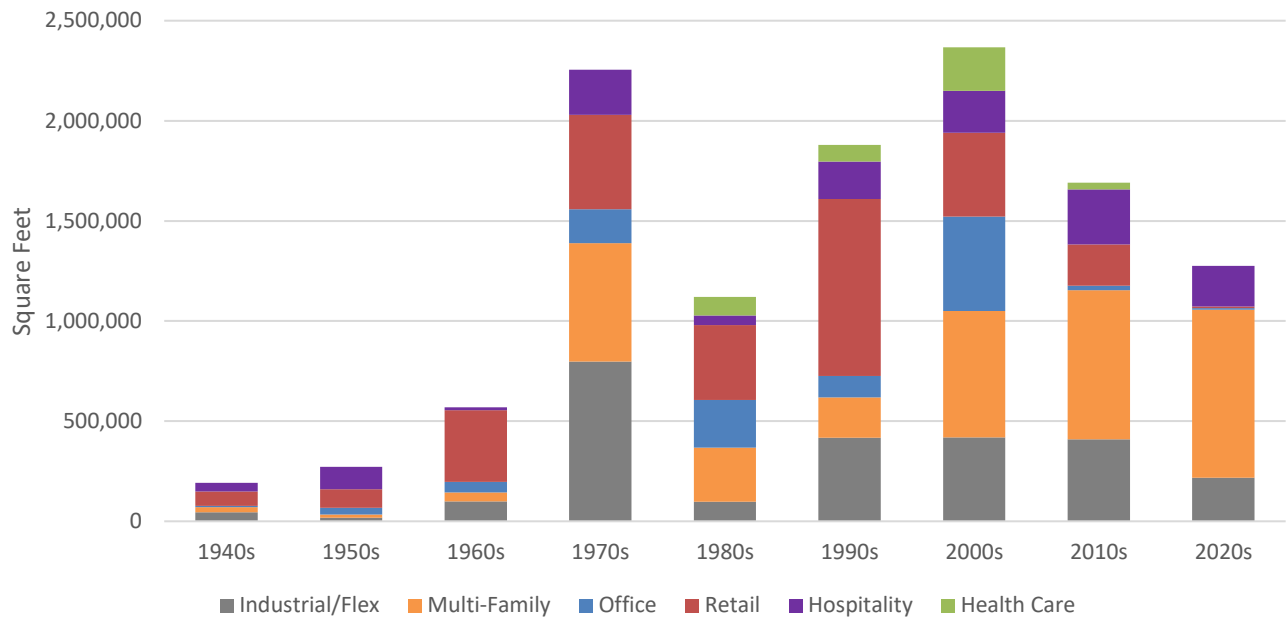
This section describes real estate trends and conditions in the Greater Wenatchee Area, including identification of growth areas and future potential.

Historic Market and Development Trends

This section documents development trends for the region to highlight prominent locations of employment, residential, and commercial uses.

The following figure shows square feet of development (excluding single-family residential) by the decade it was built. Much of the region’s development has been built since the 1970s, with particularly big decades in the 1970s and 2000s. Despite only being two years into the 2020s, this decade is on track to eclipse all previous decades for total development built. This is largely due to a substantial amount of multifamily, industrial, and, to a lesser extent, hotel development. The project pipeline, i.e., projects under construction, planned, or proposed, is heavily industrial-oriented and primarily related to data center growth.

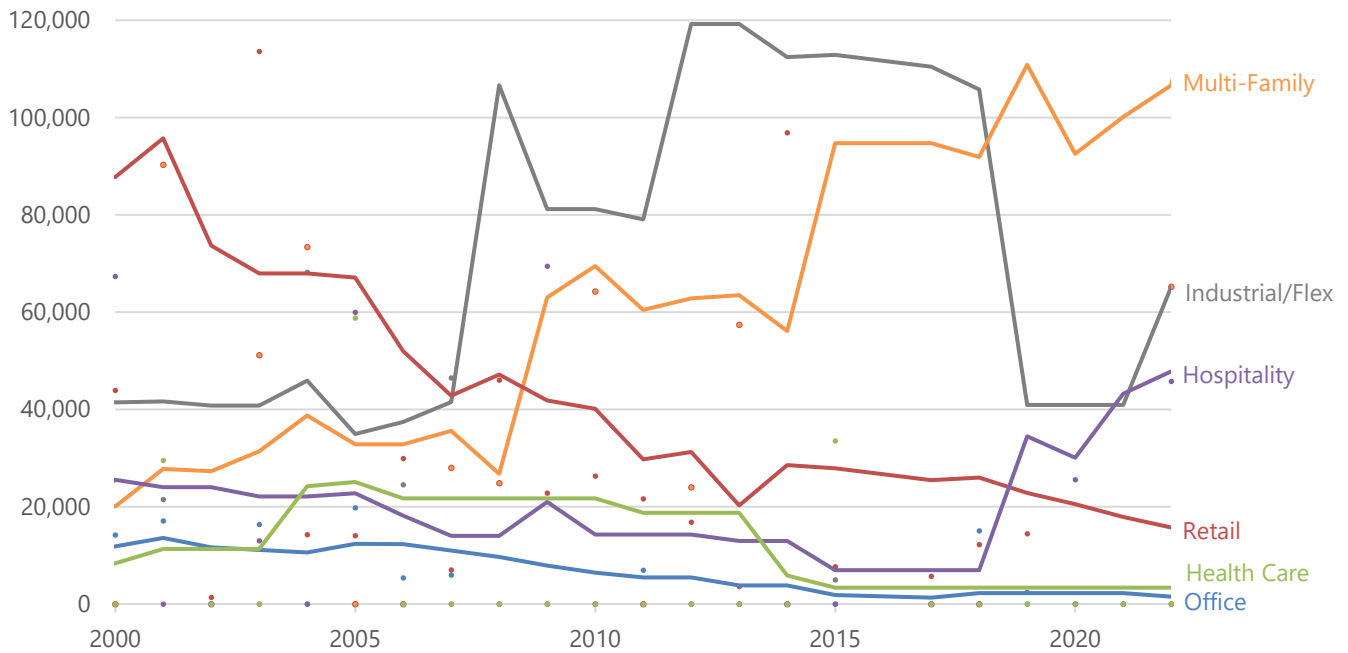
Figure 17. Development by Decade in the Greater Wenatchee Area (Total Square Feet)



Source: CoStar

Looking at a 10-year average of annual development over the past 30 years shows a major upward trend in multifamily development, with multifamily now averaging well over 100,000 square feet of development per year. The industrial sector has generally averaged around 60,000 square feet of development per year and is expected to now increase as several planned projects come online in the next few years. Retail and office, on the other hand, are seeing downward trends, with very little development. For reasons described in later pages, LCG does not believe there will be a significant uptick in retail or office development for many years.

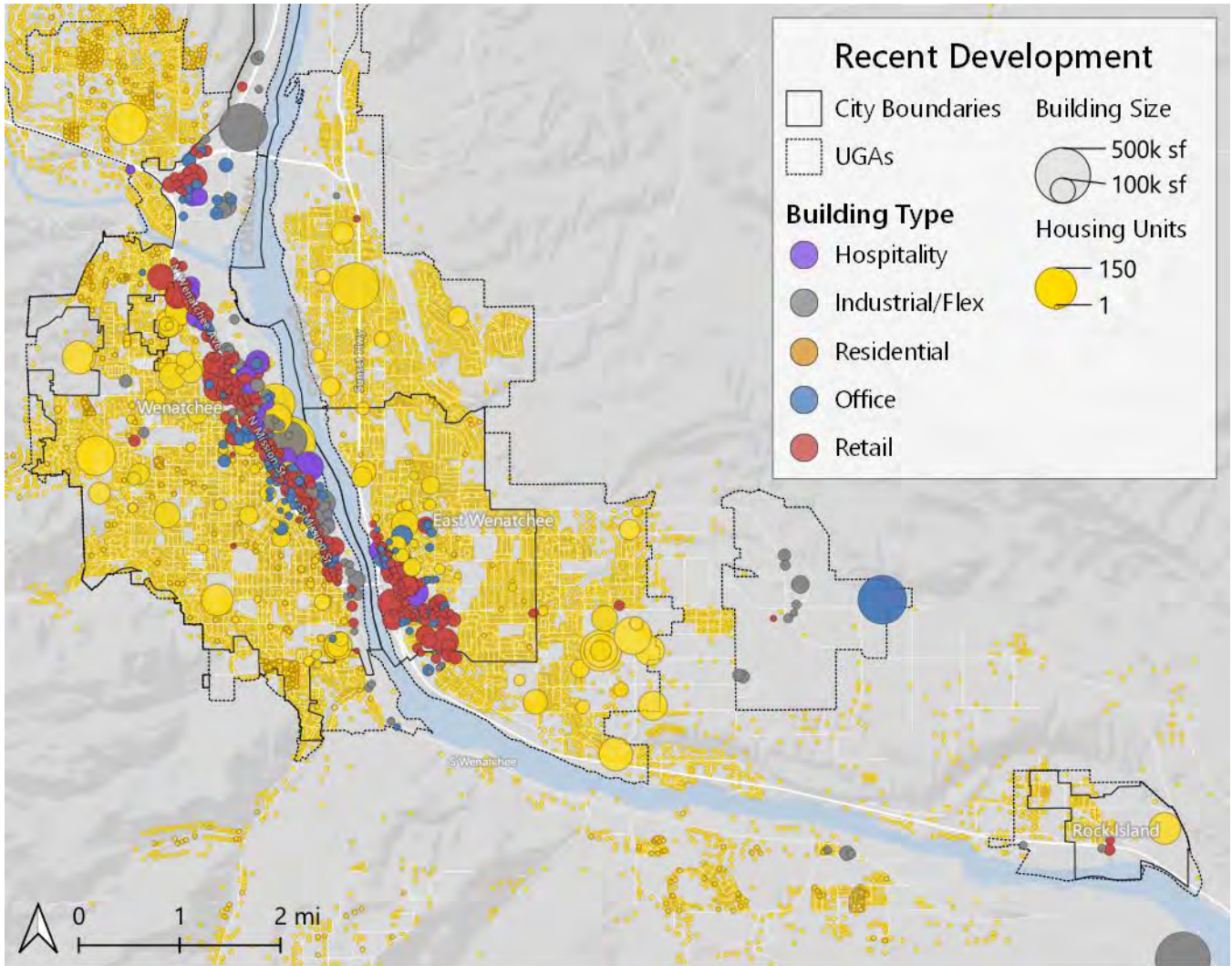
Figure 18. Annual Development Trends by Land Use Type (10-Year Moving Average)



Source: CoStar

Non-residential development is largely clustered in Wenatchee along primary arterial corridors and in southwest East Wenatchee. Industrial developments are also in the Pangborn UGA (Douglas County) and in north Wenatchee. In the future, major new development will likely be contingent on available land and zoning, which LCG describes in later pages.

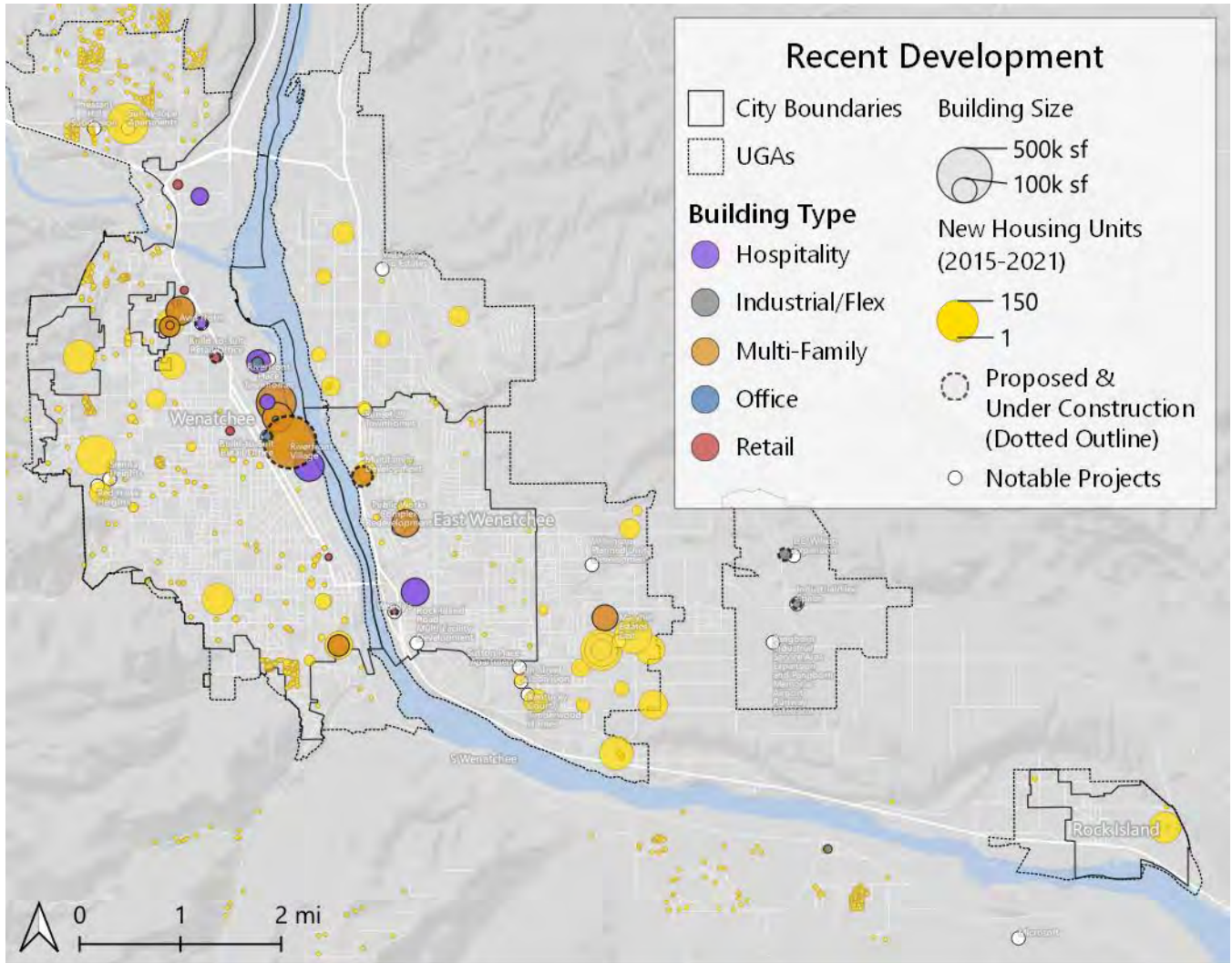
Figure 19. Wenatchee Valley Development



Sources: CoStar, County Assessor, CDTC, SEPA, Leland Consulting Group

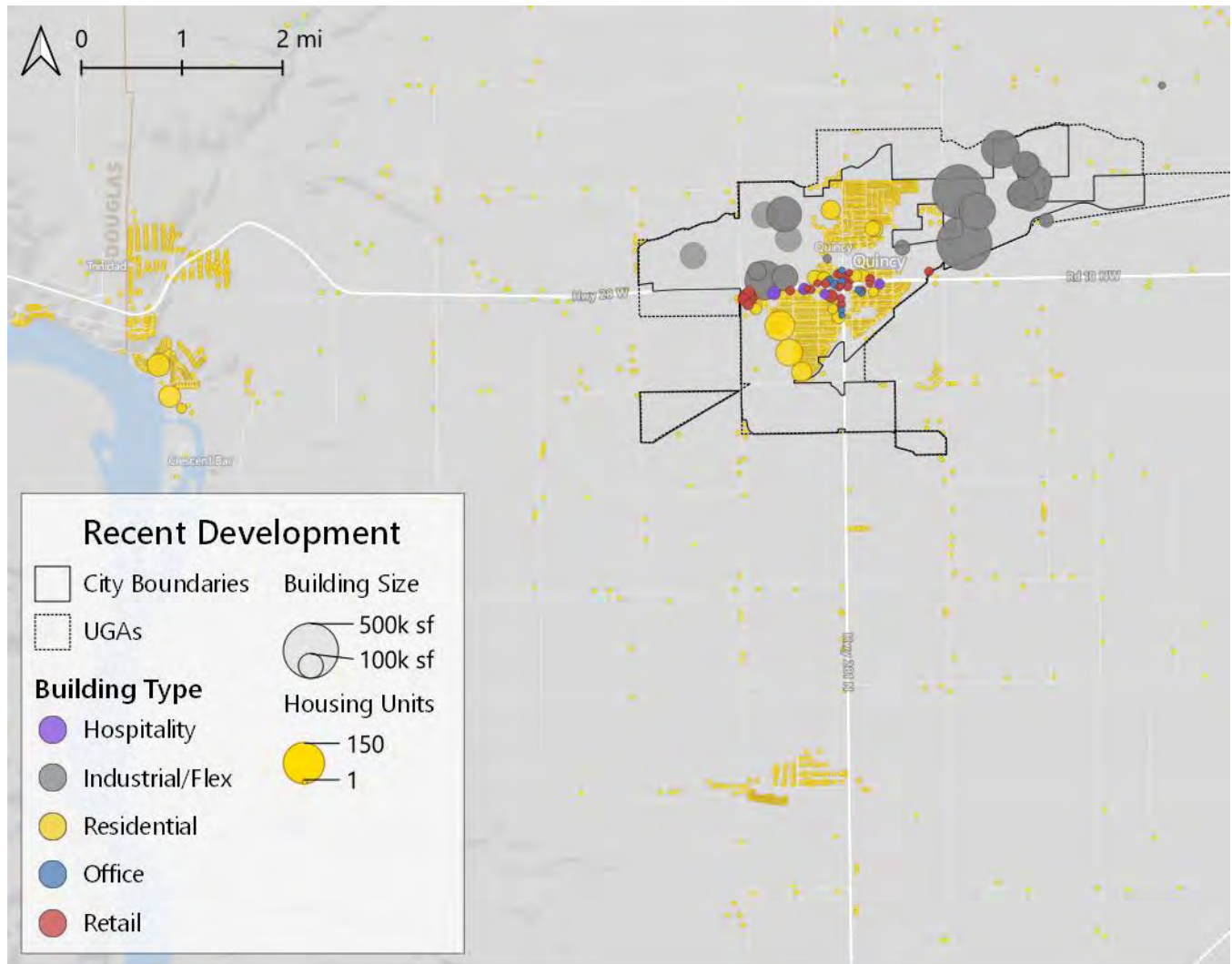
New projects in the Wenatchee Valley are widely distributed. New industrial development has generally been limited to the Pangborn Industrial Service Area, although some expansions of existing facilities have also occurred (that are not shown on the map below). Most apartments have continued to be built in and near downtown and the urban core, although there is growing interest on the urban periphery for multifamily development.

Figure 20. Wenatchee Valley Development (Built Since 2015 and Upcoming)



Sources: CoStar, County Assessor, CDTC, SEPA, Leland Consulting Group

Figure 21. Quincy Area Development



Sources: CoStar, County Assessor, CDTC, SEPA, Leland Consulting Group

Residential Market Dynamics

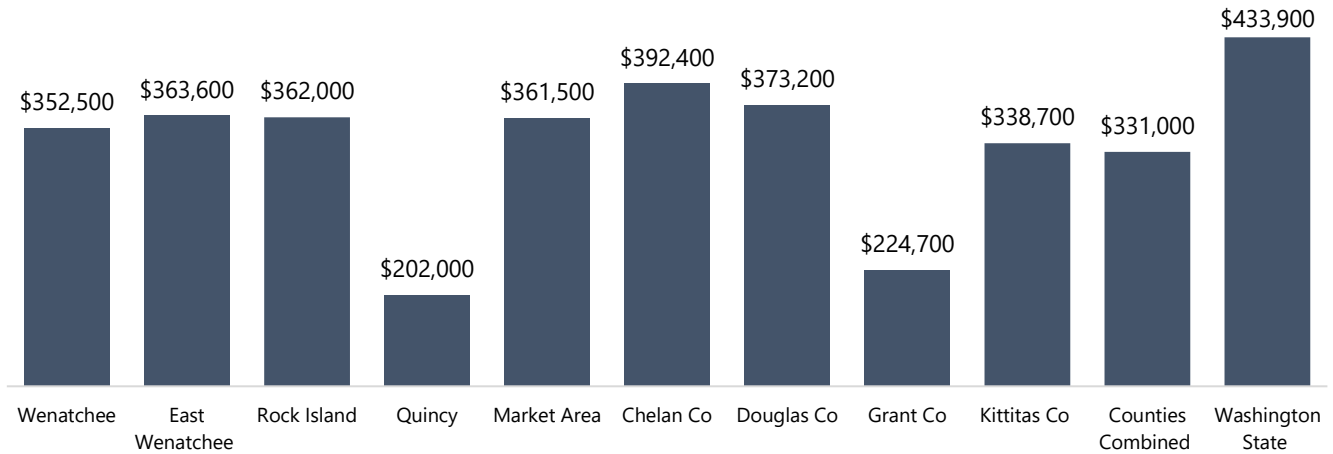
This section covers the multifamily and single-family markets in the region. The regional market is strong, with solid construction activity in the single-family market while the multifamily market has started to see denser developments in select locations.

Approximately 4,000 residential units have been built since 2015 (a seven-year timeline), with roughly a 50/50 split between multifamily and single-family units. Development activity has increased substantially and will likely drive significant population growth in the future.

Household Characteristics

The region is said to be attracting significant numbers of people from outside the area, primarily because of its quality of life and affordability (relative to other larger metropolitan areas). Quincy is considered the most affordable market amongst the four cities in the market area and is seeing new housing construction that easily exceeds the current averages.

Figure 22. Median Home Value

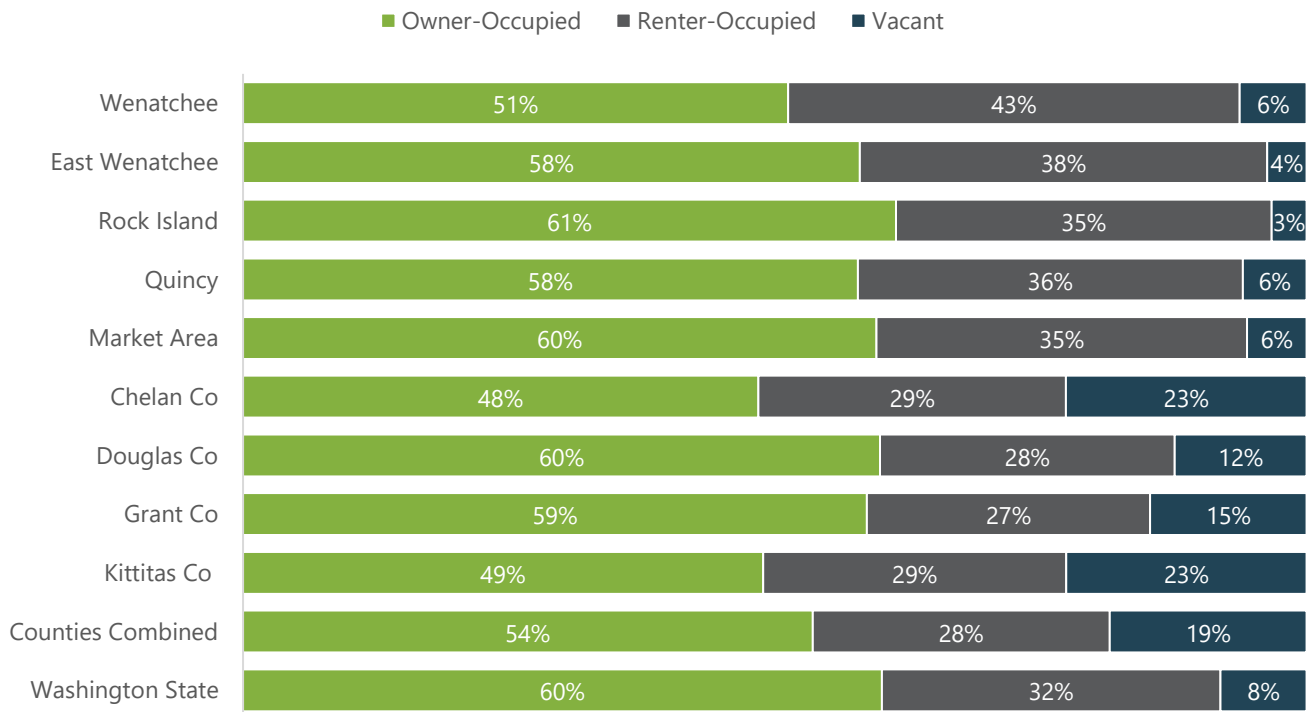


The following chart shows housing tenure. Tenure is important to consider for market trends and opportunities; higher proportions of renter housing indicate a potential for apartments and other higher-density development types.

The market area is approximately 60% owner-occupied, in keeping with the Statewide trends. Three of the four incorporated cities (except Rock Island) have slightly higher proportions of renter-occupied housing. Wenatchee is the regional hub for rental housing, with renter-occupied housing units representing 43% of its household inventory.

As noted above, about half of the newly constructed housing units in the region have been rentals, which is higher than the regional average. This trend is expected to continue as the area continues to add jobs and younger households.

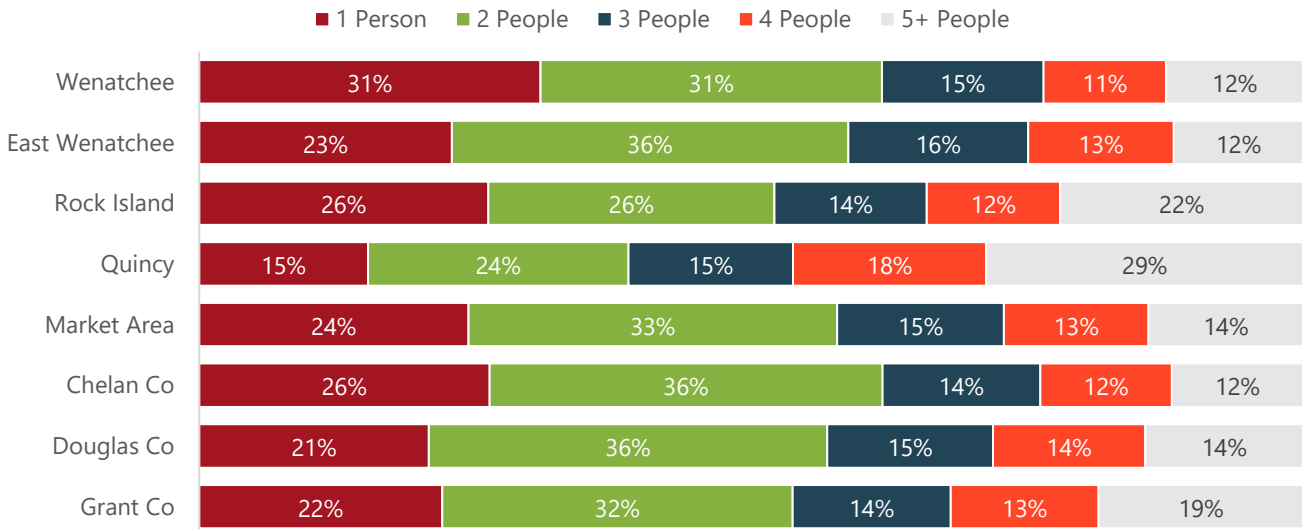
Figure 23. Tenure by Area



Source: ESRI

The following chart shows average household sizes throughout the region. Wenatchee has the highest proportion of one and two-person households (in keeping with the higher proportion of renters), closely followed by East Wenatchee, and households in Quincy tend to be significantly larger (averaging 3.5 people per household).

Figure 24. Household Size by Area

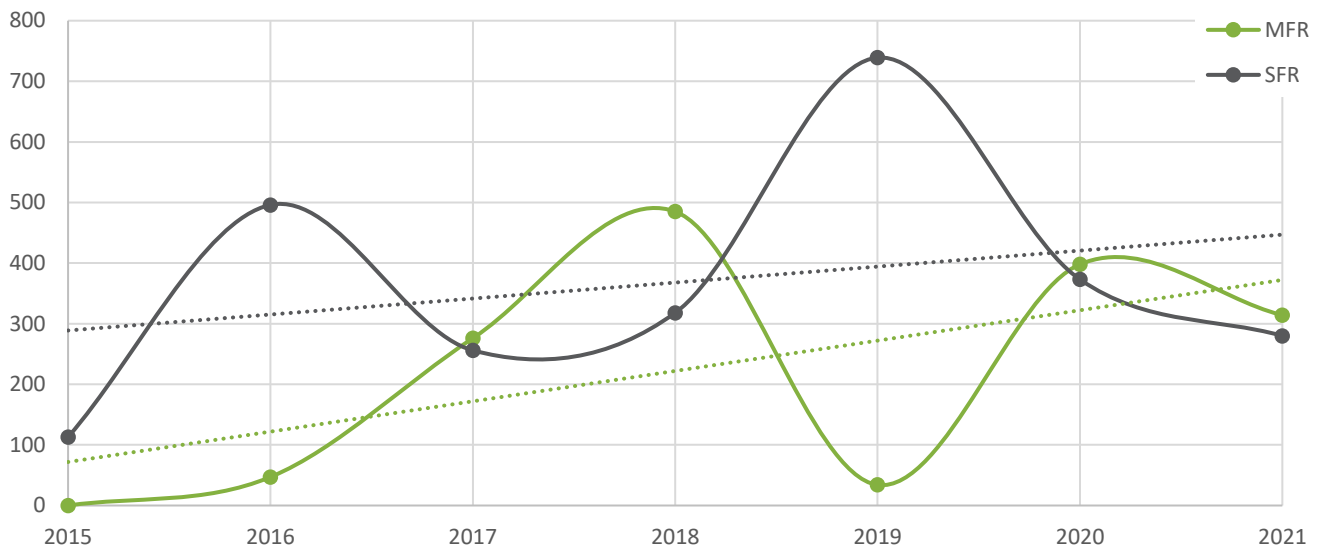


Source: ESRI

Development Trends and Growth Areas

The following chart shows construction trends for multifamily and single-family housing by year. Both sectors continue to see upticks in construction each year, with the multifamily housing sector experiencing more dramatic increases, even with the impacts of the COVID pandemic. Based on these trends, LCG expects the market to see at least 300 units of both multifamily and single-family housing to be constructed on an annual basis going forwards.

Figure 25. Multifamily and Single-Family Development Trends, 2015-2021



Source: SEPA, CoStar, CDTC

The following table shows housing development over time in the city limits and unincorporated UGA areas of each of the four cities. This data highlights a notable difference between East Wenatchee and Wenatchee. East Wenatchee has attracted significant residential construction in its unincorporated UGA area, while Wenatchee has largely seen new development occur within its city limits. Development in Rock Island and Quincy is exclusively within city limits.

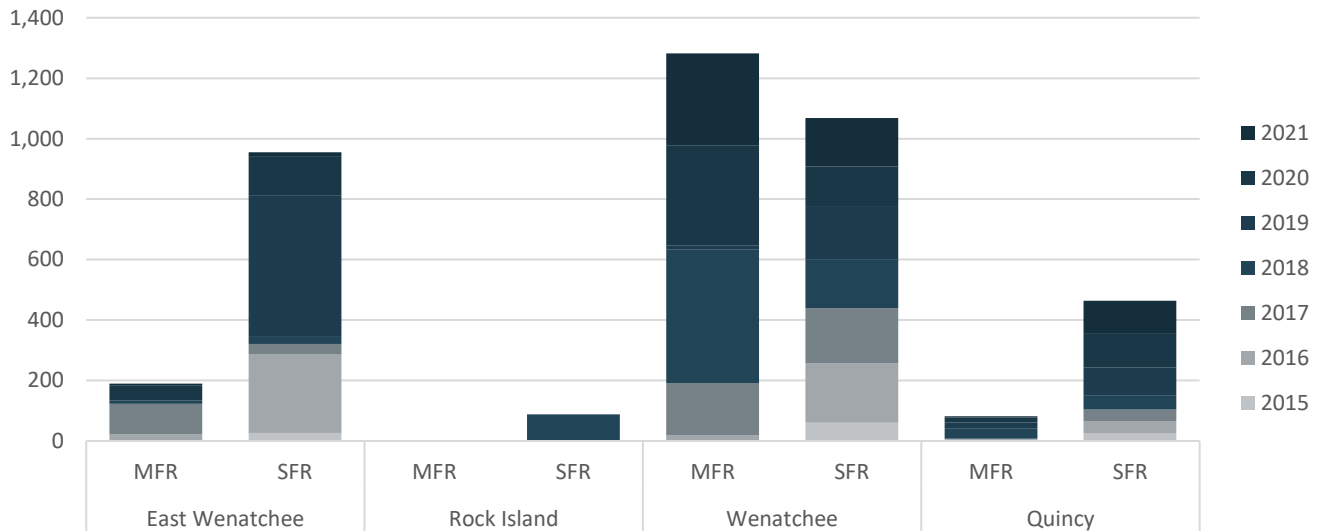
Table 7. Residential Development Overview, 2015-2021

Location	2015	2016	2017	2018	2019	2020	2021	Total	Annual Avg.
East Wenatchee									
City	0	25	7	20	13	54	1	120	17
Unincorporated UGA	27	257	128	14	456	125	18	1,025	146
Rock Island									
City	0	0	0	88	0	0	0	88	13
Wenatchee									
City	0	162	308	524	128	410	290	1,822	260
Unincorporated UGA	61	52	49	80	59	53	174	528	75
Quincy									
City	25	47	40	77	117	129	111	546	78
Total	113	543	532	803	773	771	594	4,129	590

Source: SEPA, CoStar, CDTC

Similarly, and in keeping with the data above, East Wenatchee has largely attracted single-family residential developments (in the lower density zones of the unincorporated UGA). Most of the region’s multifamily development has concentrated in Wenatchee.

Figure 26. Residential Development by Location and Type



Source: SEPA, CoStar, CDTC

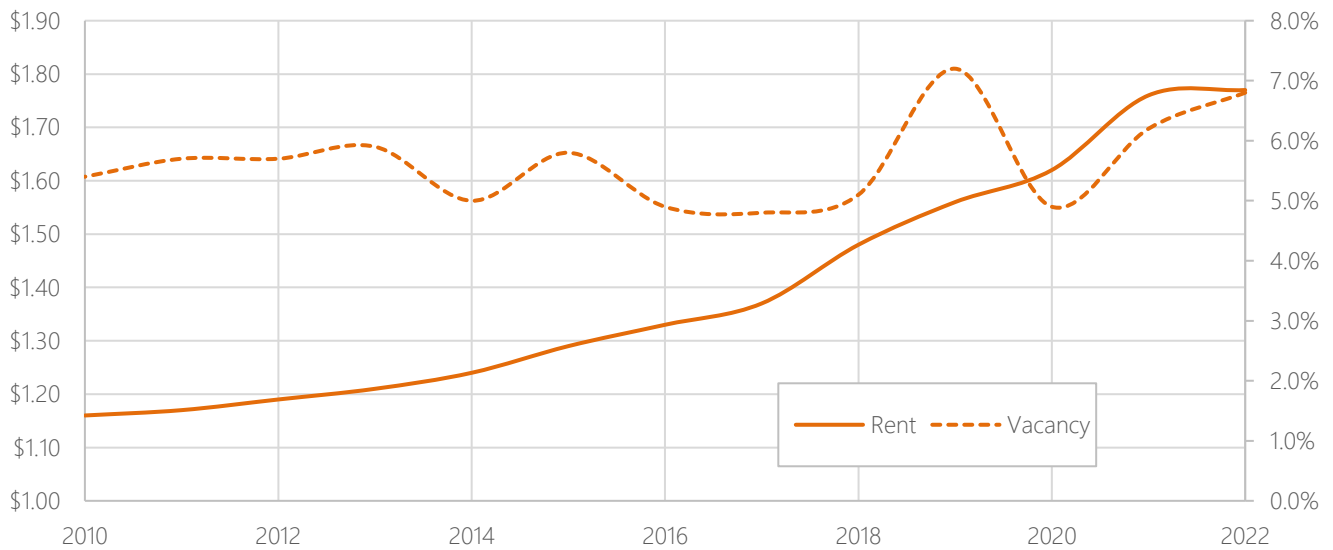
Apartment Market Overview

The region is a relatively small market for apartment units, with roughly 3,481 units (buildings with five or more units only; not including those in duplexes or other smaller residences). Of these almost one-third were completed in the past decade years—reflecting improving market fundamentals and strong demand for multifamily housing. Significant development has occurred in downtown Wenatchee, where redevelopment continues of a former industrial area near the waterfront.

Vacancy rates have remained stable despite significant development activity in recent years. In recent years, the vacancy rate was volatile, rising with new construction but quickly recovering when those properties were leased up. Five percent is typically considered equilibrium, with an overall market vacancy rate of less than five percent reflecting demand for additional units and above five percent reflecting a market in need of positive absorption or replacement (of older units). At approximately 6.5% overall vacancy, the Wenatchee market may be in an absorption stage. Alternatively, the rapid leasing of new units may simply reflect strong demand for newer, higher-quality multifamily housing while older, subpar properties exhibit higher vacancies.

Rents have dramatically risen over the past decade following the Great Recession. The average market rent for the area is \$1,630/month and has risen 8.2% over the past 12 months. Rent growth accelerated in 2021 and remains above historical averages at the start of 2022. An influx of people from larger cities has increased demand for both short and long-term rentals, driving up rents. This trend is likely to continue to attract investors to the market and may begin to support higher-cost developments, such as midrise apartments with structured parking or the redevelopment of existing properties.

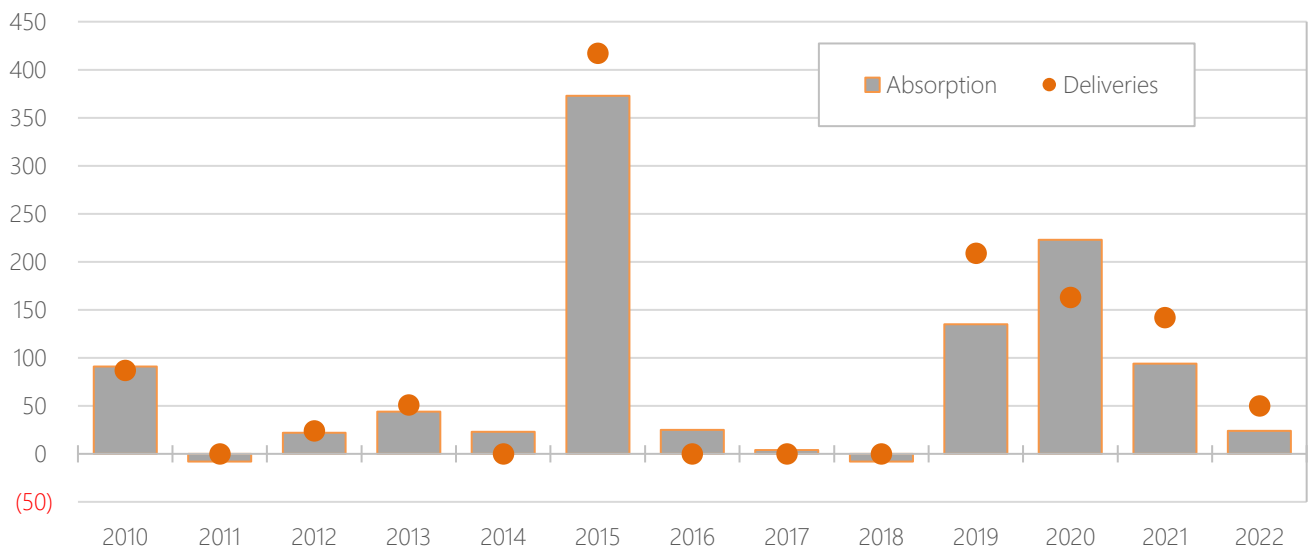
Figure 27. Multifamily Rent and Vacancy Trends



Source: CoStar

As noted above, there have been several years of prominent construction activity. Absorption also continues to be positive—a sign of continuing demand.

Figure 28. Multifamily Construction and Absorption Trends



Source: CoStar

Development Pipeline

The following table shows the pipeline of proposed residential development projects in the region, totaling around 2,500 housing units. Apartment projects are relatively limited in terms of the total number of projects, but the three projects in the pipeline are all substantial in size. Building types have largely remained at suburban densities (<30 units per acre), although the downtown Wenatchee Riverfront Village will be the first midrise apartment project in the market.

There are about 1,650 single-family homes currently in the residential pipeline (that are known to LCG). These have been generally proposed at around five units per acre but per-project densities are much more varied. Projects in unincorporated UGA and County areas are typically much lower density than those within City limits.

Table 8. Proposed Residential Projects

County	Project Name	Units	Acres	Density
Apartments		906	41	29.1
Chelan	Riverfront Village	454	7.8	58.2
	Sagecrest Apartments	60	1.9	31.6
Douglas	Wilkinson Planned Unit Development	290	24.3	12.0
	Sutton Place Apts	102	6.9	14.7
Single Family		1,646	355+	5.2
Chelan	Riverfront Place Townhomes	31		
	Red Hawk Heights Subdivision	137	17.2	8.0
	Sienna Heights Subdivision	40	9.0	4.4
	Pheasant Hill Subdivision	93	18.9	4.9
Douglas	Chapacka East	53	35.3	1.5
	Sunset 19 Townhomes	12	1.8	6.6
	N/A	70	33.8	2.1
	Kentucky Court	51	10.8	4.7
	Maryhill Estates East	123	28.8	4.3
	Sutton Place Apts	102	6.9	14.7
	N/A	50	3.7	13.6
	Sage Brooke Subdivision	49	18.0	2.7
	Fourth Street Subdivision	66	8.2	8.0
	George's Shallows Subdivision	87	16.1	5.4
	Vista del Rio Estates	24	8.9	2.7
Grant	Willow Springs Gated Neighborhood	40		
	Palos Verdes Estates	65	20.0	3.3
	Palos Verdes (other)	400	56.8	7.0
	Paradise Park	255	68.0	3.8
		2,492		

Source: SEPA, CoStar, CDTC

Other / Short-term Rentals

In three years, the number of short-term renters in the market area has increased by 80% (22% annually), rising from 197 to 354 rental units despite the tourism-related challenges of the COVID pandemic. About 90% of these units are for entire homes (versus rooms or accessory dwellings). However, the average occupancy is only 53%, with the Wenatchee area reflecting the highest occupancy rates and the Quincy area the lowest, which potentially indicates an oversaturated market that may need to stabilize before additional units come online.

While LCG does not expect this growth to continue indefinitely, the popularity of short-term rentals in the region reflects the rise of domestic tourism, recent employment growth, and the development of several data centers. Combined, these factors create a strong market for long-term rentals.

Table 9. Short Term Rental Inventory

Location/Market	Total Units (Q1 '22)	Total "Whole Home"	Avg. Occupancy	Total Units (Q1 '19)
Wenatchee	127	99 (78%)	67%	90
East Wenatchee	60	51 (85%)	61%	49
Quincy	167*	167 (100%)	39%	58
Total	354	317 (90%)	53%	197

Source: AirDNA

*Primarily along the river; only six short-term rentals are within Quincy proper

Commercial Market Dynamics

Retail. The retail sector is suffering in the face of ecommerce and consumer behavioral shifts that now favor experience and convenience versus the traditional retail market. This has caused retailers to downsize, redistribute their assets, become a hybrid operation with an online presence, and focus on place versus space. The result is a shift back to neighborhoods and smaller commercial centers that boast food services, interesting places, and experiences.

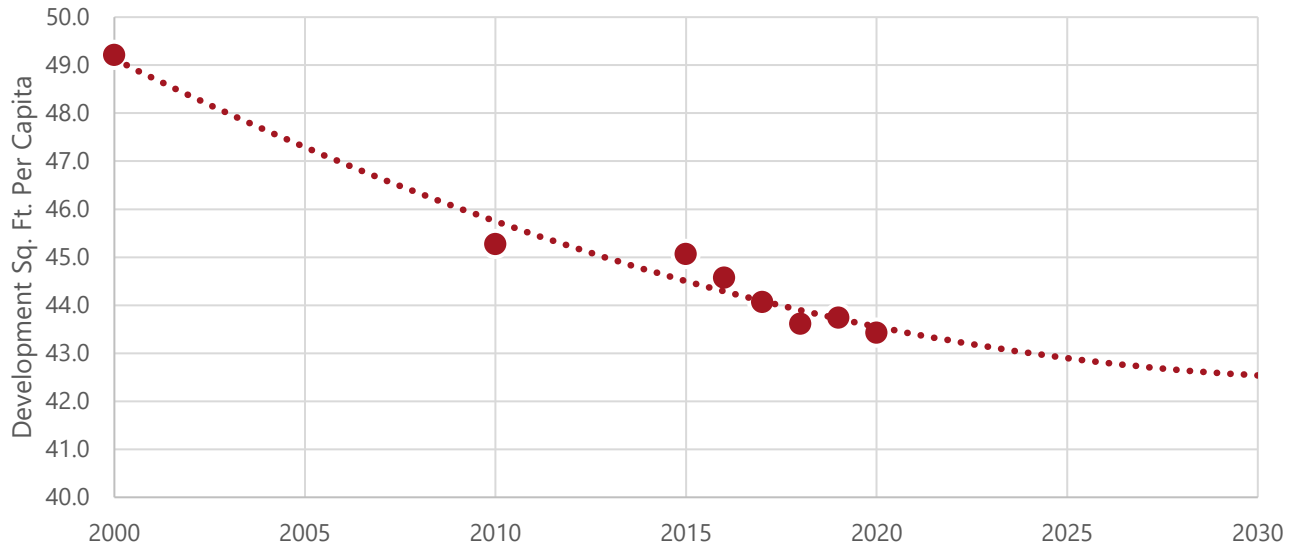
As is the case in the rest of the country, there has been a gradual decline in the amount of retail space developed per capita in the Wenatchee Valley, as shown in the following chart. Before 2000, there was upwards of 50 square feet of retail space per person living in the area. Today, due to recent population growth and a lack of retail development, that figure is approaching 43 square feet. This is largely because between 2000 and 2010, approximately 35 square feet of retail space was developed for every new person living in the area. Since 2010, that figure has dropped to just 22 square feet per person.

While smaller pockets of larger format retailers will likely pop up in the future in response to the region's housing growth, it is unlikely to resemble the trends of the 1980s and 1990s that saw large format retails spring up throughout the Valley. Instead, traditional retailers will likely concentrate in strategic locations along major arterials where access and visibility remain good, such as in South Quincy. Neighborhood-scale retailers will be more broadly distributed.

Office. There is a very limited office market in the Wenatchee region. Office-using industries account for only six percent of all employment in the market area. Much like the retail sector, the office sector has seen diminishing growth, with less than 15 square feet of space per capita overall, and only five square feet of office space added per person over the past 20 years. The office sector has been consolidating for many years, with typical office employees accounting for an

average of just 180 square feet of office space in 2021. The increasing popularity of remote work and work-from-home lifestyles may generate more demand for smaller office spaces in Wenatchee, but larger speculative office developments remain unlikely in the future. Expansions of existing facilities, build-to-suit corporate offices, and office spaces that are secondary uses as part of larger developments may occur and will likely align with past employment trends.

Figure 29. Market Area Retail Square Feet Per Capita

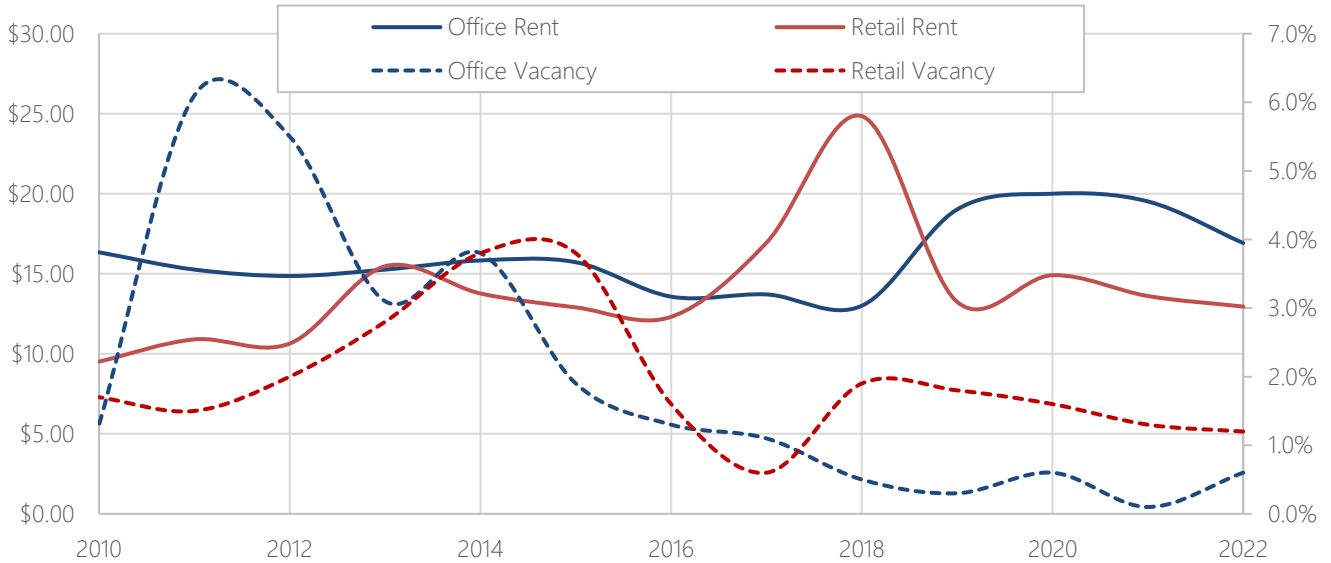


Source: CoStar, WA OFM

Vacancies in the market have dropped significantly for both retail and office uses since the last major commercial construction was absorbed in 2014.

Retail rents in the Wenatchee market have stagnated after seeing positive gains in 2017-2018, despite low vacancy rates. Office rents were in the midst of a modest increase leading into 2020, but the COVID pandemic provided many challenges for office users and rents have likely suffered as a result. This shows little evidence of market support for additional commercial space, except in select locations.

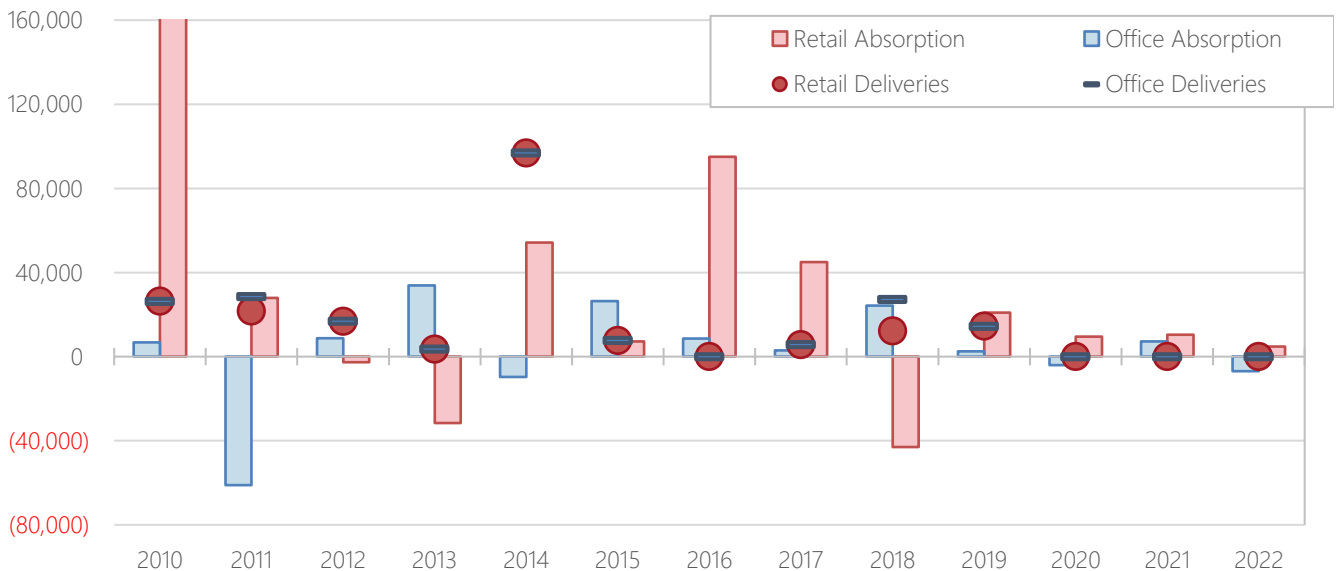
Figure 30. Market Area Commercial Rent and Vacancy Trends



Source: CoStar

As noted above, very little commercial development has been built recently, and there is nothing of significance in the development pipeline, although population and employment growth over the past several years may spur new investment. There have been multiple instances of negative absorption (caused by retailers vacating stores) that reflect a challenging retail market. Absorption has largely been zero for several years due to the lack of leasable space on the market. While some office brokers suggest that 7,000 square feet of office space are being absorbed to market annually in the Wenatchee Valley, this still reflects relatively low market demand for new space in the future.

Figure 31. Market Area Retail Construction and Absorption Trends



Source: CoStar

Industrial/Flex Market Dynamics

As the following table shows, industrial occupations comprised 30% of all jobs in the Wenatchee MSA in 2021, according to the Bureau for Labor Statistics (BLS). This percentage increased from 26% in 2011. Industrial jobs grew by 3.5% annually between 2011 and 2021 and accounted for more than half of total employment growth during this time. Given the previously described macro and local economic trends and the composition of the development pipeline, LCG expects this trend to continue for the foreseeable future.

Figure 32. Industrial Occupations as a Percentage of Total Growth, 2011-2021, Wenatchee MSA

	2011	2021	Total Growth	Annual Growth
Industrial Occupations	9,830	13,880	4,050	3.5%
All Occupations	37,940	45,790	7,850	1.9%
% Industrial	26%	30%	52%	

Source: BLS

The industrial market is dominated by agricultural facilities and data centers. Agricultural facilities include fruit packing, corporate campuses, light manufacturing, and other facilities. Many of these facilities have continued to expand their real estate footprint to respond to the demand drivers outlined in previous pages. However, due to technological advances in automation and productivity, these expansions generally result in limited job creation.

Data centers have been a relatively recent development in comparison, with most of the existing facilities built in the last 15 years. While data centers/server farms do not require many on-site jobs to operate, there is typically a constant stream of activity throughout the day and night as “tenants” or users, maintenance people, and other staff tend to various aspects of the facility. According to a report by the United States Chamber of Commerce, a 165,000 square foot data center will typically employ about 157 people during standard operations (and 1,700 people during construction), the equivalent of 1,050 square feet per employee.²

Growth Areas

Industrial growth areas are largely consistent with existing zoning and development patterns with one exception: the proposed Malaga industrial area. Malaga contains hundreds of acres of developable land and the shuttered Alcoa plant. The lack of infrastructure is a significant issue, although LCG understands that large users like Microsoft will partner with both the local PUD and the City to build the necessary infrastructure.

² https://www.uschamber.com/assets/archived/images/ctec_datacenterrpt_lowres.pdf

County	Growth Areas	Type
Chelan	Malaga	Data centers, agricultural facilities, cold storage
Douglas	Pangborn, Baker Flats	Data centers, manufacturing, agricultural facilities, cold storage
Grant	Quincy (north), George	Data centers, manufacturing, distribution, agricultural facilities, cold storage, rail-oriented users

Source: Leland Consulting Group

Recent Industrial Developments

The vast majority of new and planned industrial development is related to the data center industry. The figure and table below show recently built industrial developments. These projects have totaled approximately 2.7 million square feet between 2006 and 2022, averaging 142,000 square feet of development per year. Data centers have accounted for about 2.2 million square feet of this total.

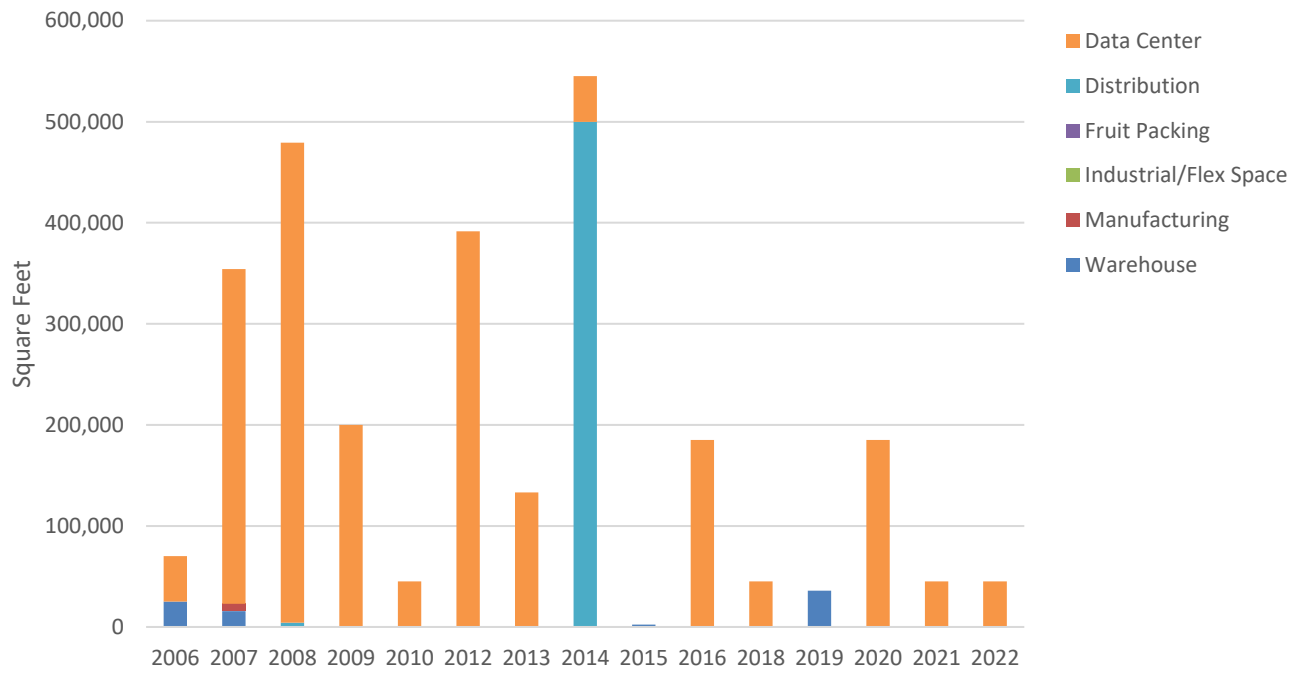
The chart below shows construction trends for these projects. Several of the largest data center projects include multiple buildings over many years; as such, these projects have been shown as multiple-year developments.

In terms of location, Quincy has attracted the most investment over the past 16 years, followed by East Wenatchee (driven largely by Pangborn), then Wenatchee.

Notable trends include:

- Quincy has been responsible for 1.8 million square feet of development, which has been almost exclusively data centers,
- East Wenatchee, with 0.5 million square feet, has seen a much more diverse industrial portfolio, with manufacturing, warehousing, and general industrial uses, as well as two large data centers, and
- Wenatchee has also seen 0.5 million square feet of development over this time. However, this is largely comprised of the 500,000-square-foot McDougal Fruit facility.

Figure 33. Industrial Construction Activity, 2006-2022



Source: CoStar

Table 10. Recent Development Projects, 2006-2022

Type	Project Name	City	Location	Project Sq. Ft.	Year Commenced
Warehouse	N/A	Wenatchee	South (Waterfront)	3,000	2006
Distribution	N/A	Wenatchee	South (Waterfront)	4,320	2008
Warehouse	N/A	Wenatchee	Malaga	5,000	2015
Warehouse	N/A	Wenatchee	Central Waterfront	2,420	2019
Data Center	Microsoft	Quincy	NW Quincy	450,000	2006
Data Center	Yahoo	Quincy	NE Quincy	331,000	2007
Data Center	H5 Data Centers	Quincy	NE Quincy	240,000	2008
Data Center	NTTDATA	Quincy	NE Quincy	206,688	2012
Data Center	Sabey Corp.	Quincy	NE Quincy	420,000	2012
Data Center	Vantage DC	Quincy	NE Quincy	133,000	2013
Warehouse	N/A	East Wenatchee	Pangporn	7,200	2006
Warehouse	N/A	East Wenatchee	Pangporn	10,032	2006
Warehouse	N/A	East Wenatchee	Central Westside	4,300	2006
Manufacturing	N/A	East Wenatchee	Pangporn	46,493	2007
Warehouse	N/A	East Wenatchee	Central Westside	3,483	2007
Warehouse	N/A	East Wenatchee	N. East Wenatchee	10,560	2007
Data Center	Sabey Corp.	East Wenatchee	Pangborn	393,000	2008

Source: CoStar, SEPA, CDTC, LCG

Development Pipeline

The following information documents planned and proposed projects (to the best of LCG's knowledge).

Similar to recent development trends, the vast majority of the development pipeline over the next 10+ years is comprised of data center developments.

Figure 34. Proposed Industrial Development by Type

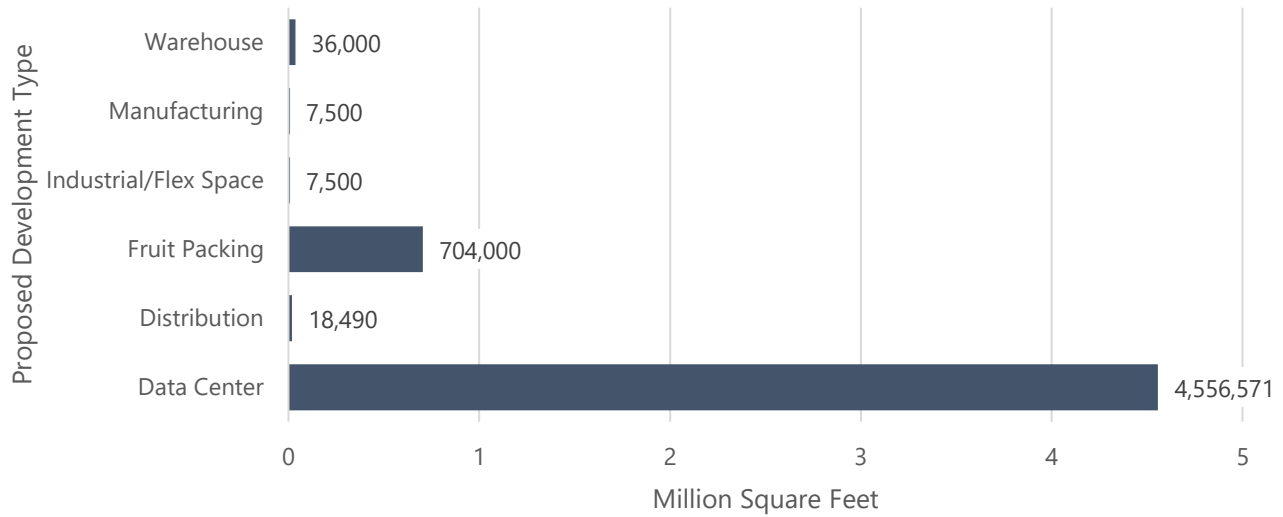


Table 11. Proposed Industrial Development Projects

Type	Project Name	City	Location	Sq. Ft.	Proposed Start
Data Center	Microsoft Corporation	Wenatchee	Malaga	250,000	2025
Data Center	CyrusOne	Quincy	NW Quincy	920,000	2023
Data Center	Environmental Systems Design	Quincy	NW Quincy	950,000	2023
Data Center	Microsoft Corporation	Quincy	NW Quincy	15,600	2023
Data Center	Sabey Corporation	Quincy	NE Quincy	190,971	2023
Data Center	Sabey Corporation	Quincy	NE Quincy	250,000	2023
Data Center	Vantage DC	Quincy	NE Quincy	396,000	2023
Data Center	H5 Data Centers	Quincy	NE Quincy	240,000	2023
Data Center	Sabey Corporation	Quincy	NE Quincy	450,000	2025
Data Center	Sabey Corporation	East Wenatchee	Pangborn	560,000	2023
Data Center	Microsoft Corporation	East Wenatchee	Pangborn	90,000	2023
Data Center	Microsoft Corporation	East Wenatchee	Pangborn	244,000	2023
Distribution	Unknown	East Wenatchee	Pangporn	18,490	2023
Flex Space	Unknown	East Wenatchee	Pangborn	7,500	2023
Manufacturing	Unknown	East Wenatchee	Pangporn	7,500	2023
Warehouse	L.E. Wilson Expansion	East Wenatchee	Pangborn	36,000	2023
Fruit Packing	Northern Fruit	East Wenatchee	N. of City	704,000	2023

Source: CoStar, SEPA, CDTC, Leland Consulting Group

Notable takeaways from the table and chart above are listed below.

- Of the 4.6 million square feet of proposed data centers in the region, 3.4 million square are in Quincy, continuing the regional concentration.

- The Microsoft data center proposal in the Malaga area, as well as other as yet unknown development in the area, will increase industrial development in the Wenatchee area.
- The Pangborn Industrial Service Area is likely to see a major uptick in development activity based on the active development proposals in the area. Almost 1.0 million square feet are proposed. At a floor area ratio of 0.20 (in keeping with other developments), this would account for about 115 acres of land or more and generate about 1,000 permanent jobs.
- Elsewhere in East Wenatchee, the only significant known industrial proposal is the Northern Fruit packing facility in Baker Flats. Stakeholders interviewed for this project indicate about 1,500 jobs would be created.

Land Capacity Analysis

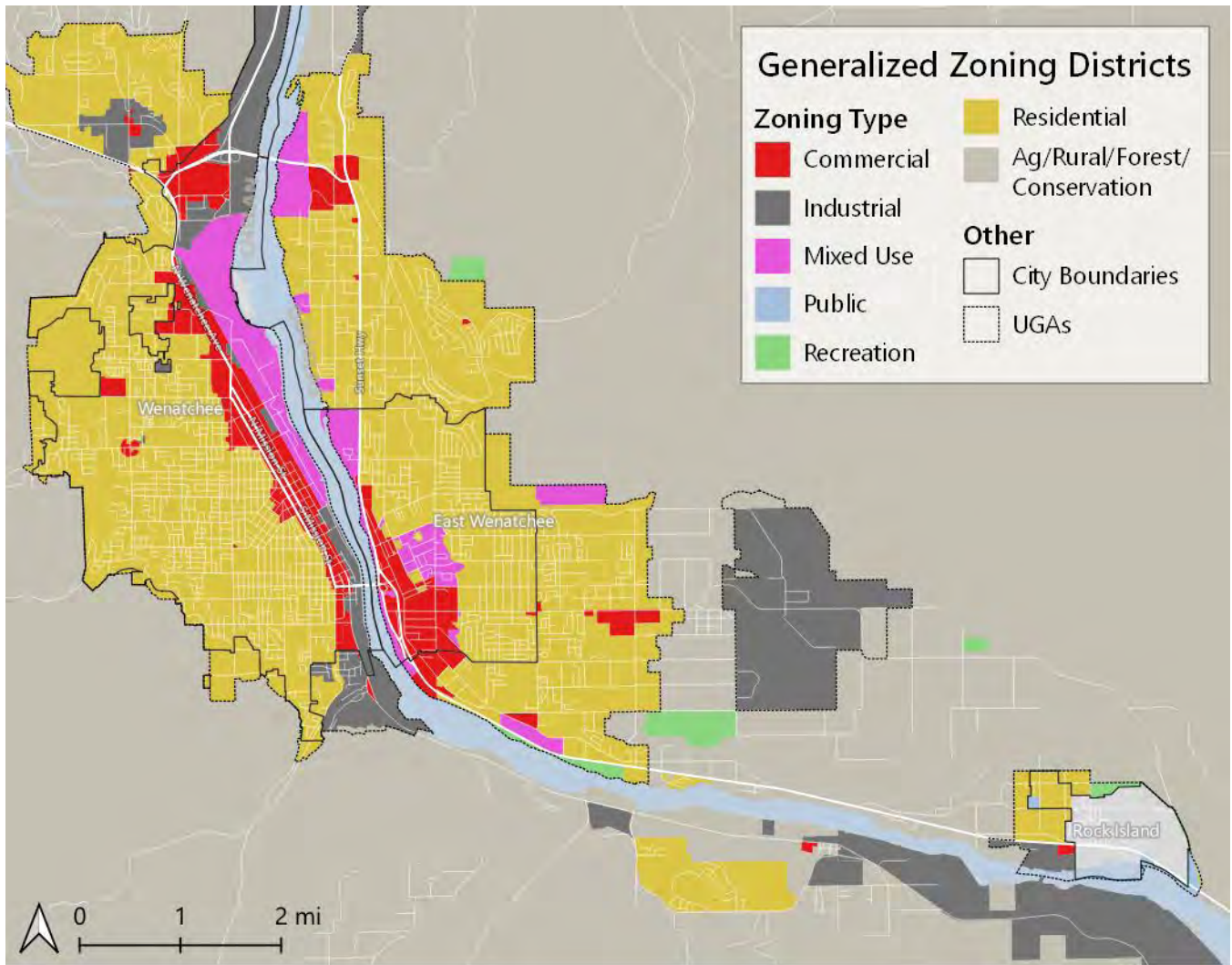
While there is a strong market for residential and industrial uses that will likely drive development activity in the region for the foreseeable future, land in the Wenatchee Valley is highly constrained, primarily due to topography. Significantly more land is available near Quincy (accessed via the SR 28 corridor), which is largely getting developed as housing and industrial (primarily data centers) development.

An important element of a development forecast is land carrying capacity. Single-family homes and industrial development are generally built on vacant land, while the economics of some commercial and multifamily developments may support infill or redevelopment. Construction trends will typically slow as an area nears its land carrying capacity until market dynamics support densification and redevelopment. LCG expects there to be limited future examples of the redevelopment of existing properties in the market area outside of downtown Wenatchee. With adequate residential land capacity in the region, as discussed below, any redevelopment and infill in downtown Wenatchee would have the effect of increasing capacity overall.

Land capacity and availability depend on several factors, including regulatory conditions (e.g., zoning, UGAs, etc.) and environmental conditions (e.g., the presence of wetlands, steep slopes, etc.). This land capacity analysis considers land within existing urban growth areas for development and also includes areas outside existing UGAs if development activity is already occurring.

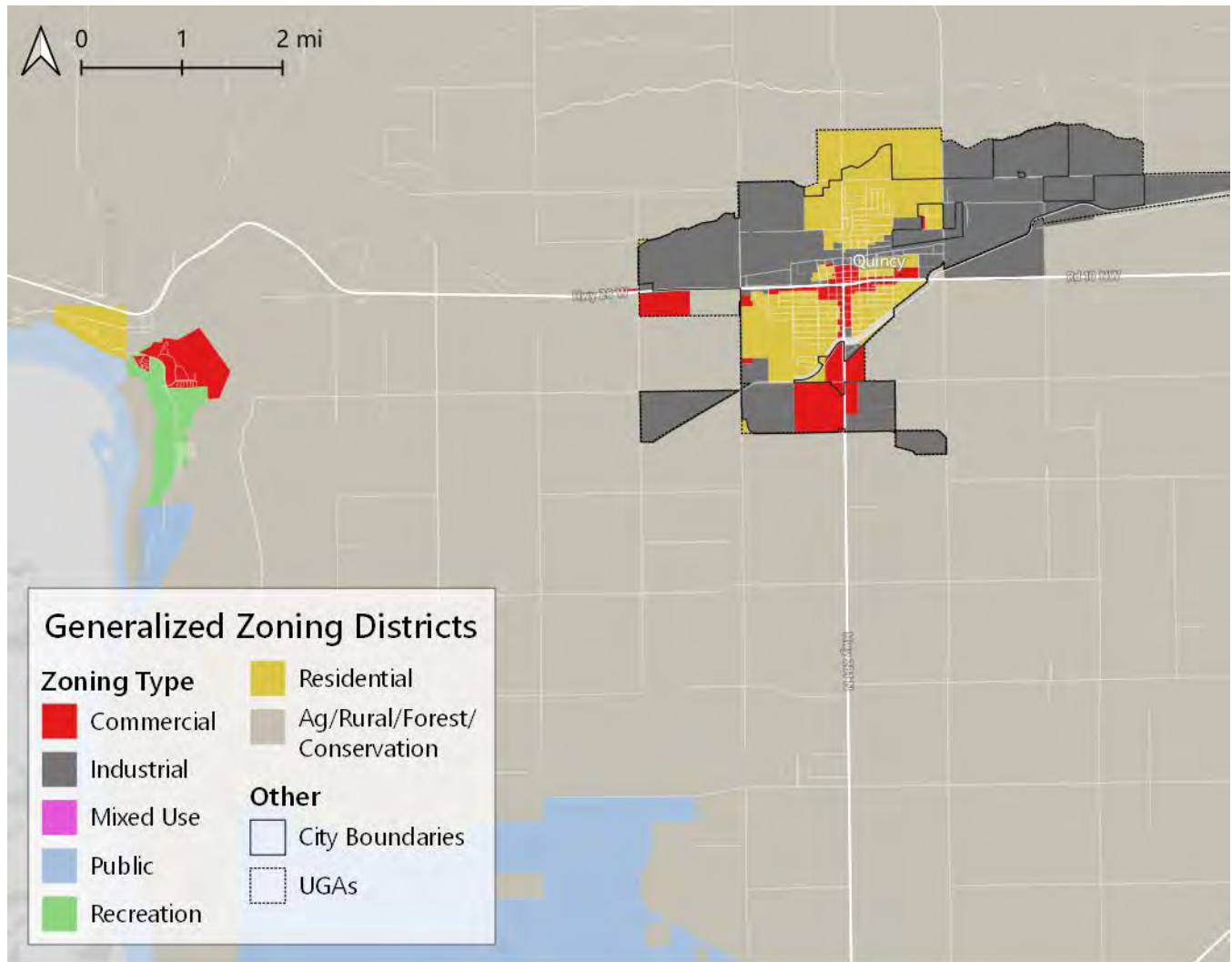
The following information provides an overview of the “carrying capacity” of the market area for new development.

Figure 35. Zoning (Wenatchee)



Source: County Assessor, Leland Consulting Group

Figure 36. Zoning (Quincy Area)



Source: County Assessor, Leland Consulting Group

LCG's land capacity analysis is generally focused on areas within existing urban growth areas, except for unique situations like the Microsoft expansion in the Malaga area of Chelan County and the unincorporated area between the East Wenatchee UGA and the Pangborn UGA. LCG expects significantly lower density development patterns to occur in land outside of the UGAs.

The following table shows the amount of vacant land (in total acres) by zoning (standardized for an apples-to-apples comparison) and location. LCG expects land within existing city limits to develop more quickly than land within the urban growth areas of each county. Land outside of these UGAs is not expected to develop at any density of significance and was excluded from this analysis except where noted in the table.

It is important to note that this analysis was done at a high level and did not account for major development impediments like wetlands, challenging topography, or infrastructure constraints. Wherever possible, LCG filtered out parcels occupied by transportation, recreational uses, and other natural features that are unlikely to be privately developed in the future.

Table 12. Vacant Land Acreage by Zoning and Location

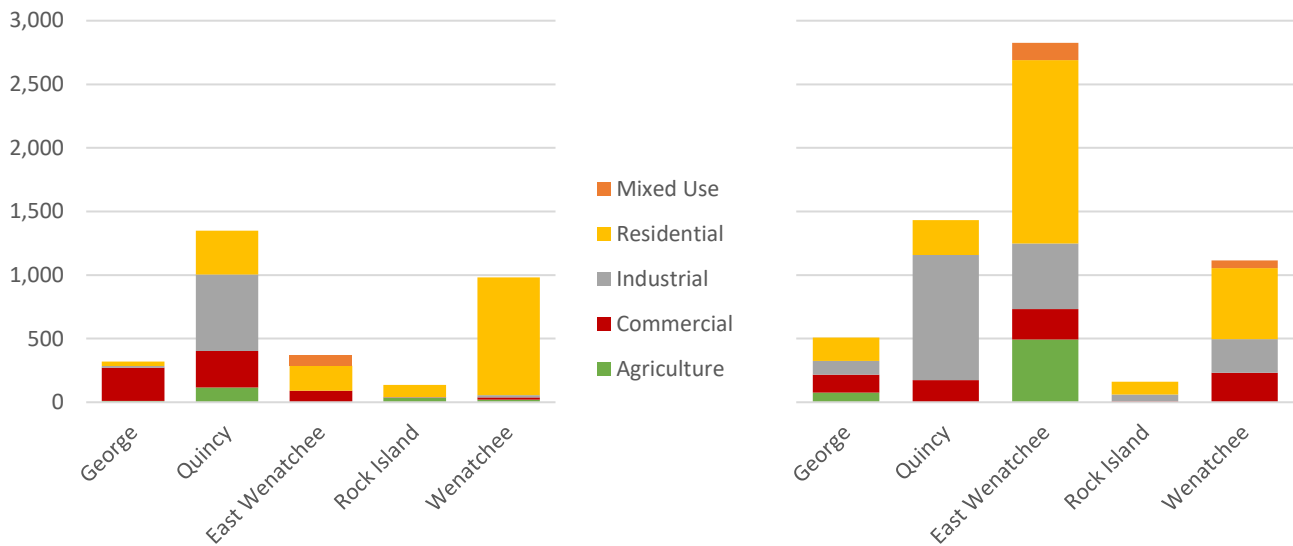
Location	Agriculture	Commercial	Industrial	Residential	Mixed-Use	Total
George						
City Limits	10	264	11	36		285
Unincorporated UGA	75	141	110	184		546
Quincy						
City Limits	116	289	600	345		1,349
Unincorporated UGA		174	982	275		1,432
East Wenatchee						
City		90		198	85	372
Pangborn UGA	84		515			599
Unincorporated UGA	410	238		1,444	136	2,228
Other Unincorp.	3,769			16		3,785
Rock Island						
	36	8	58	196		298
City	36	1	5	95		137
Unincorporated UGA		7	53	101		161
Wenatchee						
City	20	19	17	901		981
Unincorporated UGA		232	264	517	58	1,114
Total	4,519	1,454	2,558	4,110	279	12,988
City	181	662	633	1,574	85	3,124
Unincorporated UGA	569	792	1,924	2,520	194	6,079
Other	3,769	0	0	16	0	3,785

Source: County Assessor Zoning and Parcel Datasets, LCG

The following chart shows this same data but focuses on city versus unincorporated UGA land for each city. Despite being one of the smallest cities, Quincy has the most vacant acreage, particularly for industrially-zoned land. Wenatchee also has a significant amount of vacant land, primarily for residential.

Each unincorporated UGA has significant opportunities for new development. These areas are more likely to lack the major infrastructure to support new development and will be annexed in phases throughout the next two decades and beyond.

Figure 37. Vacant Land by Zoning and Location, Existing City Limits (left), Unincorporated UGA (right)



To calculate estimates of net acreage, LCG assumes about 50 percent of gross acreage will be used for transportation (streets, circulation, parking) and open space and densities and FARs consistent with recent development patterns.

Table 13. Vacant Land Capacity to Support Housing Units and Development Square Feet, Incorporated Cities

City	Agriculture (Hsg. Units)	Commercial Square Feet	Industrial Square Feet	Residential (Hsg. Units)	Mixed Use (Hsg. Units)
George	5	1,148,067	49,179	126	0
Quincy	58	1,256,967	2,614,428	1,207	0
East Wenatchee	0	391,125	0	692	850
Rock Island	18	4,966	20,473	334	0
Wenatchee	10	82,198	74,793	3,154	0
Total	91	2,883,324	2,758,873	5,512	850

Table 14. Vacant Land Capacity to Support Housing Units and Development Square Feet, Urban Growth Areas

Unincorporated UGA	Agriculture (Hsg. Units)	Commercial Square Feet	Industrial Square Feet	Residential (Hsg. Units)	Mixed Use (Hsg. Units)
George	38	612,628	479,639	367	0
Quincy	0	758,902	4,278,812	551	0
East Wenatchee	247	1,038,122	2,243,340	2,887	1,359
Rock Island	0	30,928	232,175	202	0
Wenatchee	0	1,008,741	1,148,242	1,034	583
Total	285	3,449,321	8,382,207	5,041	1,942

Source: Leland Consulting Group

Based on the vacant land within existing city limits, there is enough land to support about 6,360 new housing units, which is enough to accommodate the market-based growth projections. Additionally, there is enough land to support 2.9 million square feet of commercial space and 2.8 million square feet of industrial space. While there is technically enough land to accommodate the residential growth, some sites may have environmental, policy, and code constraints that make it infeasible for developers to build on all sites, which would drive some growth to unincorporated UGAs. The unincorporated UGA areas have significant growth potential for all land uses, and could potentially support an additional approximately 7,000 new housing units, 3.5 million square feet of commercial development, and 8.4 million square feet of industrial.

There are 5.3 million square feet of industrial proposed in the market area (both city and unincorporated UGA land). This exceeds LCG's estimate of available vacant industrial land within city limits. As unincorporated UGA land continues to develop with industrial uses, the region's public decision-makers will need to identify expansion areas or rezone existing land for industrial uses. There is likely a significant excess of commercially zoned land currently.

Appendix: Market Based Projections by TAZ

TAZ	2020 Jobs	2045 Jobs	2020 Housing Units	2045 Housing Units	Projected New Jobs	Projected Housing Unit Growth
100	234	307	0	0	73	0
101	1	1	5	5	0	0
102	131	354	31	314	223	283
103	397	646	31	314	249	283
104	174	377	0	0	203	0
105	395	642	0	0	247	0
106	126	228	0	0	102	0
107	92	177	5	5	85	0
108	203	274	11	11	71	0
109	345	345	6	6	0	0
110	117	117	47	50	0	3
111	2	2	81	82	0	1
112	6	6	107	107	0	0
113	118	118	4	5	0	1
114	13	13	122	136	0	14
115	11	11	51	141	0	90
116	194	194	23	303	0	280
117	0	0	118	118	0	0
118	0	0	144	145	0	1
119	0	0	15	104	0	89
120	0	0	106	243	0	137
130	167	167	13	13	0	0
131	319	417	0	0	98	0
132	834	972	31	91	138	60
133	186	343	62	314	157	252
134	673	745	32	35	72	3
135	1181	1421	632	634	240	2
136	323	349	4	4	26	0
137	611	646	15	23	35	8
138	536	575	0	0	39	0
140	2	2	127	127	0	0
141	9	42	278	338	33	60
142	631	656	25	25	25	0
143	133	158	140	142	25	2
144	156	171	174	175	15	1
145	43	43	376	376	0	0
146	159	169	272	314	10	42
147	514	561	78	78	47	0
148	12	12	125	125	0	0

TAZ	2020 Jobs	2045 Jobs	2020 Housing Units	2045 Housing Units	Projected New Jobs	Projected Housing Unit Growth
149	109	87	277	280	-22	3
160	0	0	138	148	0	10
161	240	294	178	188	54	10
162	41	41	313	315	0	2
163	31	31	114	114	0	0
164	21	21	454	454	0	0
165	149	199	535	535	50	0
166	36	36	267	269	0	2
167	62	62	138	138	0	0
168	0	0	167	172	0	5
180	40	40	146	150	0	4
181	9	9	343	343	0	0
182	603	603	303	303	0	0
183	22	22	220	222	0	2
184	209	209	220	219	0	-1
200	323	363	54	54	40	0
201	1357	1418	23	86	61	63
202	203	222	63	125	19	62
203	1260	1337	127	192	77	65
204	351	415	5	494	64	489
205	327	360	16	80	33	64
206	369	378	95	97	9	2
207	179	325	124	125	146	1
208	135	163	36	36	28	0
220	43	43	304	308	0	4
221	143	143	73	74	0	1
222	336	402	0	0	66	0
223	119	138	6	6	19	0
224	72	166	21	27	94	6
225	8	8	105	115	0	10
226	24	24	184	231	0	47
227	75	75	165	212	0	47
228	0	0	155	155	0	0
229	90	90	230	230	0	0
230	280	280	284	285	0	1
231	45	45	168	182	0	14
232	57	57	235	235	0	0
233	90	90	129	159	0	30
234	164	164	16	16	0	0
235	3	3	130	170	0	40
236	34	34	157	157	0	0

TAZ	2020 Jobs	2045 Jobs	2020 Housing Units	2045 Housing Units	Projected New Jobs	Projected Housing Unit Growth
240	2276	2594	35	35	318	0
241	7	7	137	295	0	158
242	87	87	253	257	0	4
243	23	23	157	273	0	116
244	107	128	249	249	21	0
245	124	174	128	128	50	0
246	166	195	5	5	29	0
247	171	193	252	252	22	0
248	59	59	106	160	0	54
249	16	16	60	73	0	13
250	19	19	114	182	0	68
251	100	121	0	0	21	0
260	33	33	250	250	0	0
261	219	284	133	134	65	1
262	19	19	300	425	0	125
263	26	31	246	247	5	1
264	36	38	245	252	2	7
265	2	2	31	37	0	6
266	47	47	11	26	0	15
267	0	0	251	251	0	0
280	19	19	204	211	0	7
281	144	153	182	359	9	177
282	157	182	167	195	25	28
283	84	84	348	648	0	300
284	0	0	42	42	0	0
285	0	0	0	0	0	0
286	9	9	151	163	0	12
287	0	0	328	397	0	69
300	304	326	0	0	22	0
301	1219	1378	4	4	159	0
302	509	569	0	0	60	0
303	783	1338	2	2	555	0
304	401	642	0	0	241	0
305	51	151	0	0	100	0
306	34	34	0	0	0	0
307	44	44	155	156	0	1
308	167	243	110	331	76	221
309	4	39	105	361	35	256
310	25	25	62	75	0	13
311	288	369	0	0	81	0
312	475	679	0	0	204	0

TAZ	2020 Jobs	2045 Jobs	2020 Housing Units	2045 Housing Units	Projected New Jobs	Projected Housing Unit Growth
313	127	257	0	0	130	0
320	523	553	8	8	30	0
321	1403	1431	1	1	28	0
322	152	182	415	459	30	44
323	33	45	145	225	12	80
324	62	62	270	324	0	54
325	285	295	211	228	10	17
326	253	253	4	4	0	0
340	52	58	61	61	6	0
341	44	44	137	160	0	23
342	58	58	64	68	0	4
360	163	163	298	319	0	21
361	55	234	351	418	179	67
362	217	373	267	343	156	76
363	414	658	13	13	244	0
364	344	366	235	252	22	17
400	48	48	174	164	0	-10
401	11	11	270	271	0	1
402	105	190	377	377	85	0
403	273	391	73	73	118	0
404	1	1	162	212	0	50
405	61	61	106	112	0	6
420	540	563	0	0	23	0
421	28	51	44	44	23	0
422	163	338	437	437	175	0
423	53	53	99	99	0	0
424	414	430	0	0	16	0
425	249	249	0	0	0	0
426	272	314	0	0	42	0
427	138	161	31	31	23	0
440	132	161	0	0	29	0
441	249	309	60	62	60	2
442	611	647	50	51	36	1
443	275	342	88	88	67	0
444	171	171	4	5	0	1
445	94	94	26	29	0	3
446	58	58	217	324	0	107
447	181	217	20	20	36	0
460	34	34	330	330	0	0
461	130	130	110	110	0	0
462	111	149	336	336	38	0

TAZ	2020 Jobs	2045 Jobs	2020 Housing Units	2045 Housing Units	Projected New Jobs	Projected Housing Unit Growth
463	6	69	49	955	63	906
464	11	11	54	874	0	820
465	15	15	291	372	0	81
466	9	9	144	491	0	347
467	10	10	211	210	0	-1
480	418	575	65	89	157	24
481	264	306	53	54	42	1
482	44	44	146	150	0	4
483	35	35	149	152	0	3
484	11	11	84	86	0	2
485	15	15	233	235	0	2
486	50	50	161	278	0	117
487	7	7	4	51	0	47
488	24	24	76	92	0	16
489	15	15	241	241	0	0
490	1	1	97	97	0	0
491	8	8	86	91	0	5
492	143	176	50	68	33	18
493	120	120	65	78	0	13
494	70	70	79	79	0	0
495	18	18	305	307	0	2
496	5	5	162	162	0	0
497	77	77	251	319	0	68
500	181	248	98	127	67	29
501	5	5	66	96	0	30
502	42	52	127	218	10	91
503	23	23	95	151	0	56
504	74	74	124	195	0	71
505	6	6	162	196	0	34
506	1	1	76	96	0	20
507	73	138	122	143	65	21
508	13	13	171	212	0	41
509	35	35	114	184	0	70
510	11	11	214	226	0	12
511	19	19	178	229	0	51
512	0	0	0	0	0	0
513	11	11	238	243	0	5
514	74	74	69	70	0	1
515	25	25	203	217	0	14
520	13	16	22	53	3	31
521	18	238	20	20	220	0

TAZ	2020 Jobs	2045 Jobs	2020 Housing Units	2045 Housing Units	Projected New Jobs	Projected Housing Unit Growth
522	23	153	20	20	130	0
523	11	138	20	20	127	0
524	24	110	49	39	86	-10
525	17	17	129	218	0	89
526	7	101	11	11	94	0
527	19	93	8	17	74	9
528	0	0	24	348	0	324
529	2	0	75	82	-2	7
530	48	2	103	117	-46	14
531	2	48	34	36	46	2
532	2	2	34	36	0	2
540	347	965	82	82	618	0
541	276	328	20	20	52	0
560	31	31	469	549	0	80
561	15	15	255	348	0	93
562	83	83	1	1	0	0
563	0	0	7	7	0	0
580	3	3	127	203	0	76
581	22	22	326	435	0	109
582	76	76	132	259	0	127
583	124	239	10	10	115	0
584	35	646	0	0	611	0
585	13	13	25	35	0	10
586	66	251	7	7	185	0
587	180	183	14	23	3	9
588	99	1147	16	16	1048	0
590	27	27	45	78	0	33
591	2	2	9	32	0	23
592	22	22	198	233	0	35
593	202	244	182	205	42	23
594	137	161	96	113	24	17
595	45	45	18	18	0	0
596	194	194	55	314	0	259
597	34	34	181	345	0	164
600	312	312	88	121	0	33
601	44	103	102	112	59	10
602	0	0	16	39	0	23
603	79	173	161	428	94	267
604	48	79	150	196	31	46
605	5	20	60	203	15	143
606	8	8	34	73	0	39

TAZ	2020 Jobs	2045 Jobs	2020 Housing Units	2045 Housing Units	Projected New Jobs	Projected Housing Unit Growth
607	43	135	37	107	92	70
608	51	212	0	0	161	0