



ECONOMIC OPPORTUNITIES ANALYSIS (OREGON STATEWIDE PLANNING GOAL 9)

Prepared For:
City of North Plains, Oregon
February 2022
Amended October 2022
(Reflecting Oregon Semiconductor Competitiveness Task Force
opportunity findings)



Acknowledgments

Johnson Economics prepared this report for the City of North Plains. The consulting partners and the City of North Plains thank the many people who helped to develop this document.

City Staff

Andy Varner, City Manager
Bill Reid, Finance Director

Consultants

Jerry Johnson, Johnson Economics
Brendan Buckley, Johnson Economics
Patrick Ribellia, PR Land Use Strategies

Thanks to the Following for Consultation and Background

Colin Sears, Business Oregon
Keith Leavitt, Port of Portland and Oregon Semiconductor Competitiveness Task Force Industrial Lands Subcommittee
Doug Smith, Port of Portland and Oregon Semiconductor Competitiveness Task Force Industrial Lands Subcommittee
Mike Thomas, Colliers Portland
Bradford Fletcher, Newmark
Jeff King, City of Forest Grove, Economic Development Director (retired)
Dan Dias, City of Hillsboro, Director of Economic and Community Development and Oregon Semiconductor Competitiveness Task Force Industrial Lands Subcommittee
Bret Marchant, Greater Portland Inc.
Mike Grella, Grella Partnership Strategies
Mackenzie
Westside Economic Alliance
Washington County, Large Lot Industrial Assessment Project
City of North Plains Economic Development Committee
North Plains Planning Commission
North Plains City Council

Prepared by

Johnson Economics LLC
621 SW Alder Avenue, Suite 605
Portland, OR 97205
(503) 295-7832





Table of Contents

I.	INTRODUCTION	5
II.	STATEMENT OF ECONOMIC DEVELOPMENT GOALS.....	6
III.	ECONOMIC TRENDS	9
	NATIONAL TRENDS.....	9
	WASHINGTON COUNTY ECONOMIC TRENDS	15
	CITY OF NORTH PLAINS ECONOMIC TRENDS.....	21
	<i>Population and Workforce</i>	24
IV.	COMMUNITY ECONOMIC DEVELOPMENT POTENTIAL	27
	LOCAL EMPLOYMENT SNAPSHOT	27
	<i>Characteristics of Local Firms</i>	28
	NORTH PLAINS: STRENGTHS, WEAKNESSES, OPPORTUNITIES, AND THREATS	30
	<i>Strengths</i>	30
	<i>Weaknesses</i>	32
	<i>Opportunities</i>	32
	<i>Threats</i>	33
	NORTH PLAINS: COMPETITIVE ADVANTAGES	33
	<i>Location</i>	34
	<i>Transportation Access (ref: 660-009-0015(4)(b))</i>	35
	<i>Public Facilities and Services</i>	36
	<i>Tax Rates</i>	36
	<i>Power</i>	36
	<i>Water</i>	36
	<i>Wastewater</i>	37
	<i>Industrial and Commercial Real Estate Prices</i>	37
	<i>Quality of Life</i>	37
	ECONOMIC DEVELOPMENT AND REAL ESTATE - EXPERT OBSERVATIONS	38
V.	TARGET INDUSTRIES	40
	PROJECTED EMPLOYMENT GROWTH (REGIONAL).....	41
	TARGET INDUSTRIES	42
VI.	EMPLOYMENT AND LAND NEED FORECASTS	45
	NORTH PLAINS EMPLOYMENT AND LAND FORECASTS	45
	A. BASELINE EMPLOYMENT FORECAST	45
	<i>Jobs-to-Workers Balance</i>	46
	<i>Baseline Growth Forecast</i>	47
	<i>Adjusted Growth Forecast</i>	47
	<i>Additional Context for the Adjusted Growth Forecast</i>	49
	B. TARGET INDUSTRY SITE AND LAND NEED	51
	HELVETIA INDUSTRIAL AREA IN NORTH HILLSBORO – MODEL DEVELOPMENT PATTERN	54
	C. RELATIONSHIP BETWEEN INDUSTRY SITE NEEDS & CITY JOB GROWTH FORECAST	60
VII.	RECONCILIATION OF LAND NEED & SUPPLY	62
	CONCLUSION OF LAND NEED.....	64



APPENDIX A: GENERAL SITE REQUIREMENTS BY INDUSTRY 65

APPENDIX B: WESTERN WASHINGTON COUNTY SITE CHARACTERISTICS 68

APPENDIX C: NORTH PLAINS FISCAL ANALYSIS MEMO 74

APPENDIX D: METRO AREA LAND INVENTORY AND EMPLOYMENT GROWTH FORECASTS..... 82



I. INTRODUCTION

This report introduces analytical research presenting an Economic Opportunities Analysis (EOA) for the City of North Plains, Oregon. This analysis is an update of the prior EOA completed in 2018, which relied on population growth rate estimates that have since been revised. This revision created the opportunity to update some of the economic development goals and assumptions underlying the prior analysis. This report also reproduces some analysis from the prior report where still current. Cities are required under the Oregon Statewide Land Use Planning system to periodically prepare estimates of future employment land demand with existing inventories of vacant and redevelopable employment land within their Urban Growth Boundary (UGB). These estimates and the associated analysis of the local economy and policy recommendations are collectively known as an Economic Opportunities Analysis (EOA) and are an adopted ancillary document to the city's Comprehensive Plan. The principal purpose of the analysis is to plan for land supply for economic development and employment growth in the community. Findings on forecasted land need and supply inform land use policies, infrastructure planning, community involvement, and coordination among local governments and the state.

October 2022 Update

Although the EOA was completed in February of 2022, during its undertaking Oregon Governor Kate Brown convened the Oregon Semiconductor Competitiveness Task Force ("Oregon Task Force"), a blue-ribbon panel comprising Oregon-based stakeholders from the semiconductor industry, public sector, and other interests in order to position the State to best leverage the likely billions of dollars in federal funds authorized for investment by the federal CHIPS and Sciences Act ("CHIPS Act") when passed. After the CHIPS Act was signed by President Biden, the Oregon Task Force released a report¹ on August 17, 2022 that included urgent need for a significant variety of sizes and types of larger industrial sites needed to keep Oregon competitive for semiconductor manufacturing and supply chain investment and employment.

Being located at the edge of Oregon's "Silicon Forest" cluster of semiconductor and supply chain businesses and 15 minutes from Intel's Ronler Acres, and being the only city in or near the Silicon Forest actively planning a sizeable UGB expansion to meet significant industry need and opportunity, the City of North Plains communicated with representatives of the Oregon Task Force to coordinate and reflect industrial land planning for its UGB expansion. This report, therefore, includes amendments to reflect substantiation of identified employment land need by Oregon Task Force findings.

To these ends, this report is organized into the following primary sections:

- **Statement of Economic Goals:** This is the community's adopted set of priorities for economic development that help guide this analysis and its findings.
- **Economic Trends:** Provides an overview of national, state, and local economic trends affecting Washington County and the City of North Plains, including population projections, employment growth and a demographic profile.
- **Target Industries:** Analyzes current and projected representation of major industry sectors in North Plains, and implications for future growth and land need.
- **Employment Land Needs:** Presents projections of demand for industrial and commercial land based on anticipated employment growth rates by sector.

¹ <http://oregonbusinessplan.org/wp-content/uploads/2022/08/Semiconductor-Task-Force-Report-for-Release1.pdf>



- **Capacity:** Summarizes the City’s inventory of vacant, partially vacant, and redevelopable industrial and commercial land (employment land) within City of North Plains’ corporate limits.
- **Reconciliation:** Compares the projected short- and long-term demand for employment land to the existing land inventory to determine the adequacy and appropriateness of capacity over a five and twenty-year horizon.
- **Conclusions:** Presents a summary of findings and policy implications.

Oregon Statewide Planning Goal 9: Economic Development

In addition to providing an analysis of the City’s economic opportunities and needs, this report is intended to meet the requirements of Oregon Statewide Planning Goal 9 and the requirements for an EOA as specified in the administrative rules that implement Goal 9 (OAR 660-009).

II. STATEMENT OF ECONOMIC DEVELOPMENT GOALS

The City Council of North Plains adopted a set of economic development priorities to guide the update of the Economic Opportunities Analysis, other City economic development initiatives, and partnerships with Washington County and the State of Oregon.

PRIORITY 1: Reverse the worsening trend of bedroom community status for North Plains with a thriving jobs-housing balance by expanding and diversifying employment opportunity and industry profile and presence.

PRIORITY 2: Grow business investment in North Plains to encourage expansion and diversification of the City’s property tax base to reverse the imbalance created by a growing bedroom community development trend.

PRIORITY 3: Ensure and sustainably fund community-supporting infrastructure, economy-supporting infrastructure, and expanded City services such as recreational offerings that enhance community health and diversify the City economy.

PRIORITY 4: Expand the local presence of important, everyday commercial services for the residents of North Plains which offers a shorter and safer distance rather than at extended and costly distance to other cities.

(Resolution No. 2160, September 2021)

As an adopted statement of community priorities, this list provides the underlying framework for the analysis and recommendations presented in this report.

These priorities derive from and further explain a North Plains Vision for future economic growth adopted by its City Council in Resolution No. 2160 and attached in the Appendices. Both the Vision and Implementing Priorities inform the kinds of new, preferred industries (and their job opportunities) the City



wants to pursue and accommodate by providing the kinds of industry-suitable sites they need within an expanded City UGB boundary.

This visionary UGB expansion approach is rooted in and informed by the EOA work done in this document in accordance with the following Goal 9 Rules in OAR 660-009-0015. In pertinent parts these Rules require the following:

- A City EOA *must “identify the major categories of industrial and other employment uses that could reasonably be expected to locate or expand in the planning area based on information about national, state, regional, county or local trends. A (identified) use or category of use could reasonably be expected to expand or locate in the planning area if the area possesses the appropriate locational factors for the use or category of use.”* 660-009-0015(1)
- A City EOA *must “identify the number of sites by type reasonably expected to be needed . . . based on the site characteristics typical of expected uses. Cities are encouraged to examine existing firms in the planning area to identify the types of sites that may be needed for (UGB) expansion. Industrial or other employment uses with compatible site characteristics may be grouped together into common site categories.”* 660-009-0015(2)
- A City EOA *“must include an inventory of vacant and developed lands within the planning area designated for industrial or other employment use”.* 660-009-0015(3)
- A City EOA *“must estimate the types and amounts of industrial and other employment uses likely to occur in the planning area . . . and must consider the planning area’s economic advantages and disadvantages . . . (that) include but are not limited to . . . availability of transportation facilities for access and freight mobility; labor market factors; access to suppliers and utilities;”* 660—009-0015(4)

Finally, cities are *“strongly encouraged to assess community economic development potential through a visioning or some other public input-based process in conjunction with state agencies. Cities . . . are strongly encouraged to use the assessment of community development potential to form the community economic development objectives (that will be city comprehensive plan directives to be accomplished by city UGB amendments that implement those directives).”* 660-009-0015(5) and 660-009-0029(1)(a).

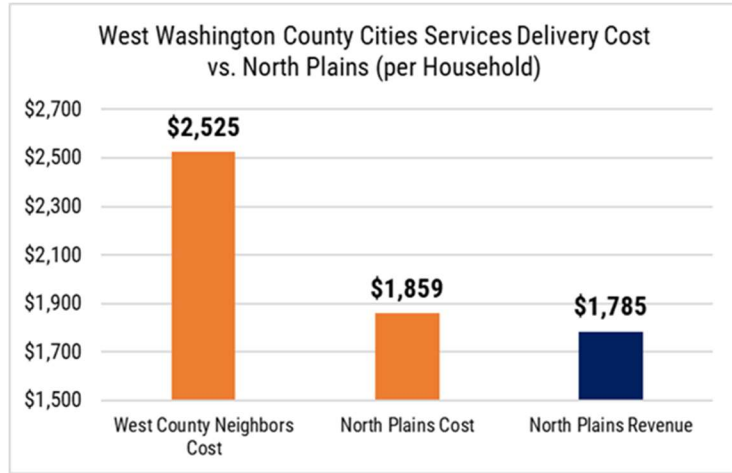
As enabled by these Rules, North Plains’ pursuit of future, preferred economic development and growth focuses on identifying, attracting, and accommodating the types of new and expanding tech-based and supporting industries and businesses that already successfully exist nearby in the City of Hillsboro and Washington County and continue to seek more sites in the County and Portland Area. North Plains’ border-like proximity to a fairly-massive cluster/agglomeration of such businesses and industries in Hillsboro/Washington County support applicability of much of the Goal 9 Rules cited above because that proximity makes it reasonable to expect like-kind businesses and industries to locate – and successfully thrive - at suitable sites within an expanded North Plains UGB.

North Plains’ pursuit of such like-kind businesses and industries is driven by the City’s “Livability” needs of its current residents and a rapidly growing population and expanding residential neighborhoods. Those needs obligate the City to have the adequate fiscal resources – to be generated largely by such new



industrial growth - that will enable the City to provide the full array of municipal services needed by its residents and businesses going forward.

North Plains wants to reverse its declining service levels and provide its current and future households with the breadth of municipal services and, thus, urban quality of life on par with the services and resulting livability now provided by its four closest City neighbors – Banks, Cornelius, Forest Grove, and Hillsboro – largely due to their broader revenue base. To do that, the City needs enough business investment to compensate for an almost \$800-per-household deficit in City cost-of-services to residents versus property tax revenues from each household that will exist at full development of all City residential neighborhoods designated in its acknowledged Comprehensive Plan (see fiscal analysis in Appendix C.)



North Plains Livability needs demonstrates satisfaction of Oregon’s Planning Goal 14, Factor 2 requirement that its proposed employment (and housing) land UGB expansion(s) derive from the City’s current and future “livability” status and conditions. These priorities guide the discussion of target industries and site needs in North Plains as laid out in this report.

To be clear, this EOA describes and supports North Plains’ UGB expansion pursuit of two (2) distinct categories of like-kind businesses in response to OAR 660-009-0025 and 660-024-0040(5):

- Successful, tech-based, large-employment, large-sites businesses that occupy land in the adjoining Hillsboro North Industrial Area to address both short-term and long-term City industrial land need; and,
- An agglomeration of mixed small- and mid-sized businesses that occupy sites directly north of that Industrial Area along NW West Union Road to address its short-term land needs. Some of these small and mid-size businesses support production, manufacturing and distribution/shipment of products made by some larger nearby employers in Hillsboro; others are independent producers of goods and services marketed locally and within and outside Oregon.

The average site size of such existing, nearby businesses in the first category, and the total land area within the second category are templates that can inform and guide the aggregate North Plains’ UGB expansion employment land estimate.



III. ECONOMIC TRENDS

This section summarizes long and intermediate-term trends at the national, state, and local level that may influence economic conditions in the City of North Plains over the 20-year planning period. It focuses on potential changes in structural socioeconomic conditions both nationally and globally and considers local growth trends, demographics, and economic performance.

NATIONAL TRENDS

Coming out of the prior recession, the United States enjoyed a sustained economic expansion beginning in 2011, which was sharply curtailed by the Covid-19 pandemic beginning in March 2020. The economic climate of 2020 and 2021 has been volatile. However, as of the time of this report, widespread vaccination and the re-opening of the economy point towards recovery. Remaining challenges include periods of Covid resurgence, and disruptions to the global supply chain which have exacerbated inflation in 2021.

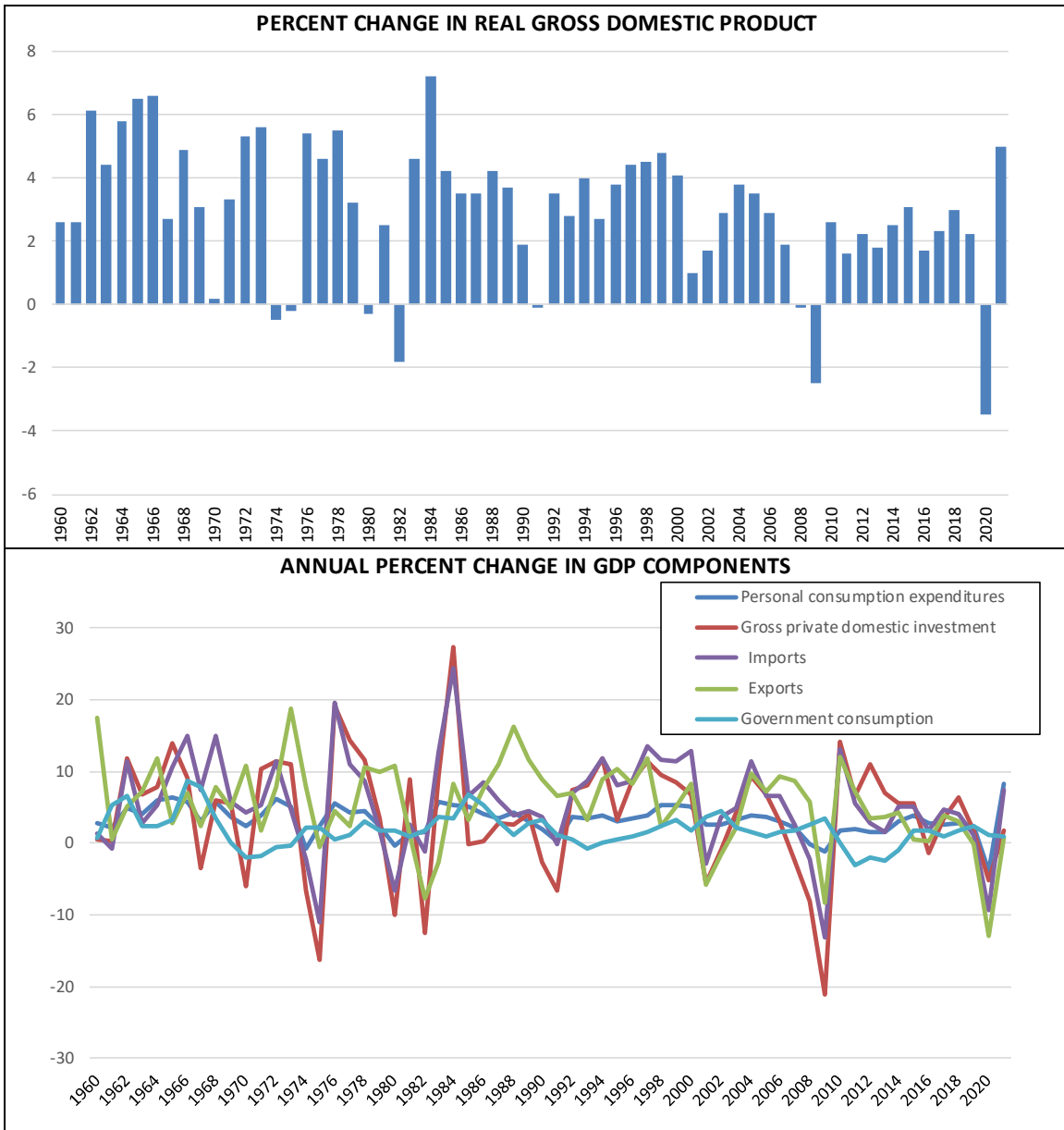
Specific observed and anticipated impacts of the pandemic on the economy will be addressed later in this report. Because of the temporary and extreme nature of the pandemic, much of this discussion focuses on longer-term trends that were in place before this period of disruption. The extent to which the economy will revert to long-term trends, and on which economic measures, is still unresolved at the time of this study.

At a national level there has been an on-going long-term shift within the economy from consumption of domestically produced goods to consumption of services, especially services oriented around personal well-being (health, private education, finance). At the same time, growth in fixed investment (equipment and structures) and government defense spending is moderating.

A measure of economic prosperity is real gross domestic product (GDP). Real GDP is essentially a measure of national wealth adjusted for inflation. U.S. real GDP expanded at an average annual rate of 2.3% from 2010 through 2019, before falling 3.5% in 2020 due to the pandemic. To date in 2021, GDP has rebounded strongly from the prior year.

Potential GDP growth indicates future long-term growth at around 2.0% per year (correcting for volatility in inflation). Over the last century, the average annual growth rate has been 1.8%, 2.0% growth would represent a reversion to this mean, after a period of stronger growth over the second half of the 20th Century. Long-term economic growth is more related to broad trends, such as population growth and investment in physical and human capital, than temporary economic fluctuations.

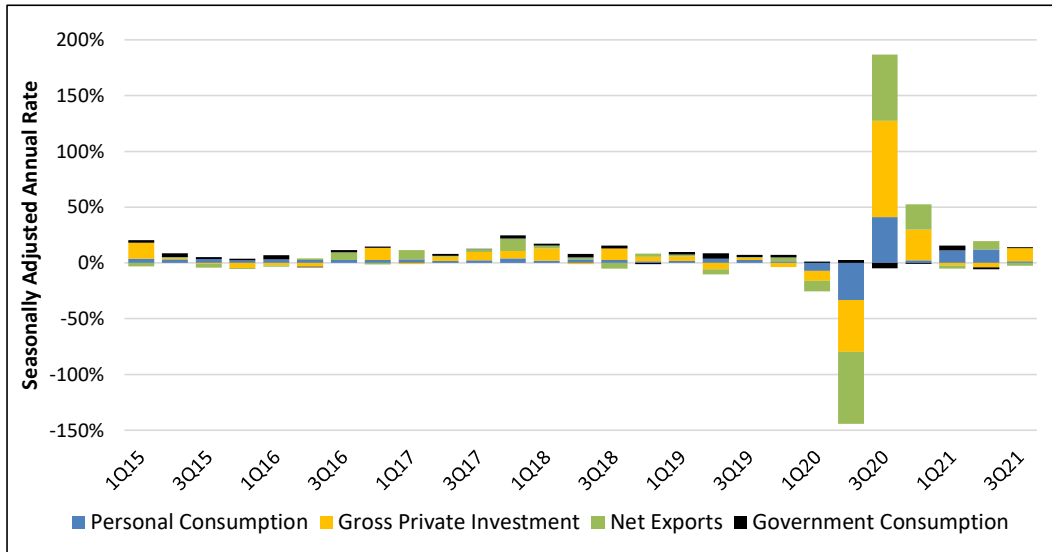
FIGURE 3.01: NATIONAL GROSS DOMESTIC PRODUCT TRENDS
PERCENT CHANGE IN REAL GROSS DOMESTIC PRODUCT



SOURCE: US Bureau of Economic Analysis

The pandemic brought growth to an unprecedented halt in March 2020. Real GDP at the national level declined 5% during the first quarter, and then 31.4% in the second quarter of 2020, before rebounding strongly for the remainder of the year and in to 2021.

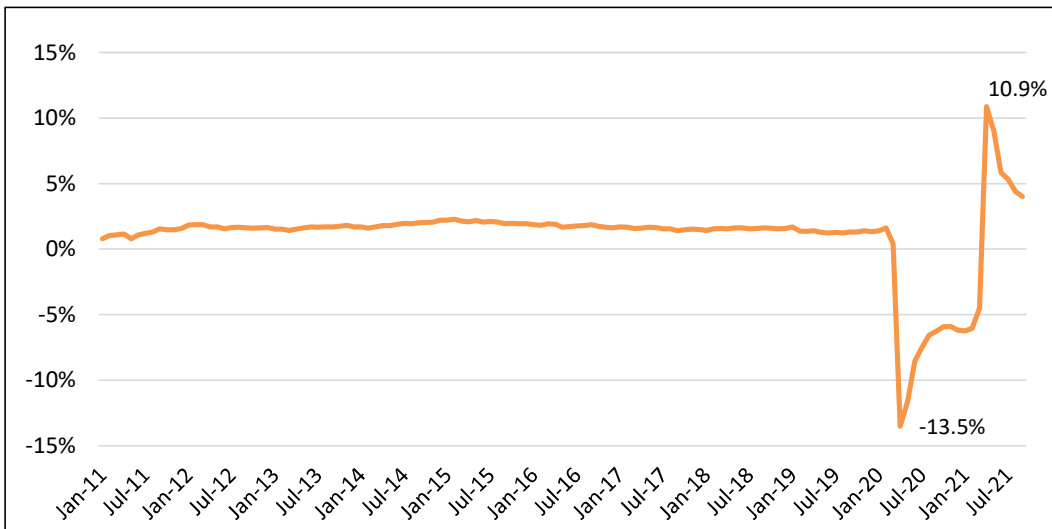
FIGURE 3.02: REAL GDP GROWTH BY CONTRIBUTING SECTOR



U.S. Bureau of Economic Analysis

Employment growth ranged between 1.4% and 2.2% (year-over-year) in the most recent expansion cycle from 2011 but declined an unprecedented 13.5% in Spring of 2020 as many businesses were forced to close. A significant amount of this loss has been recovered as the economy reopens, with recent growth of nearly 11% year-over-year compared to the lows.

FIGURE 3.03: YEAR OVER YEAR EMPLOYMENT GROWTH, UNITED STATES

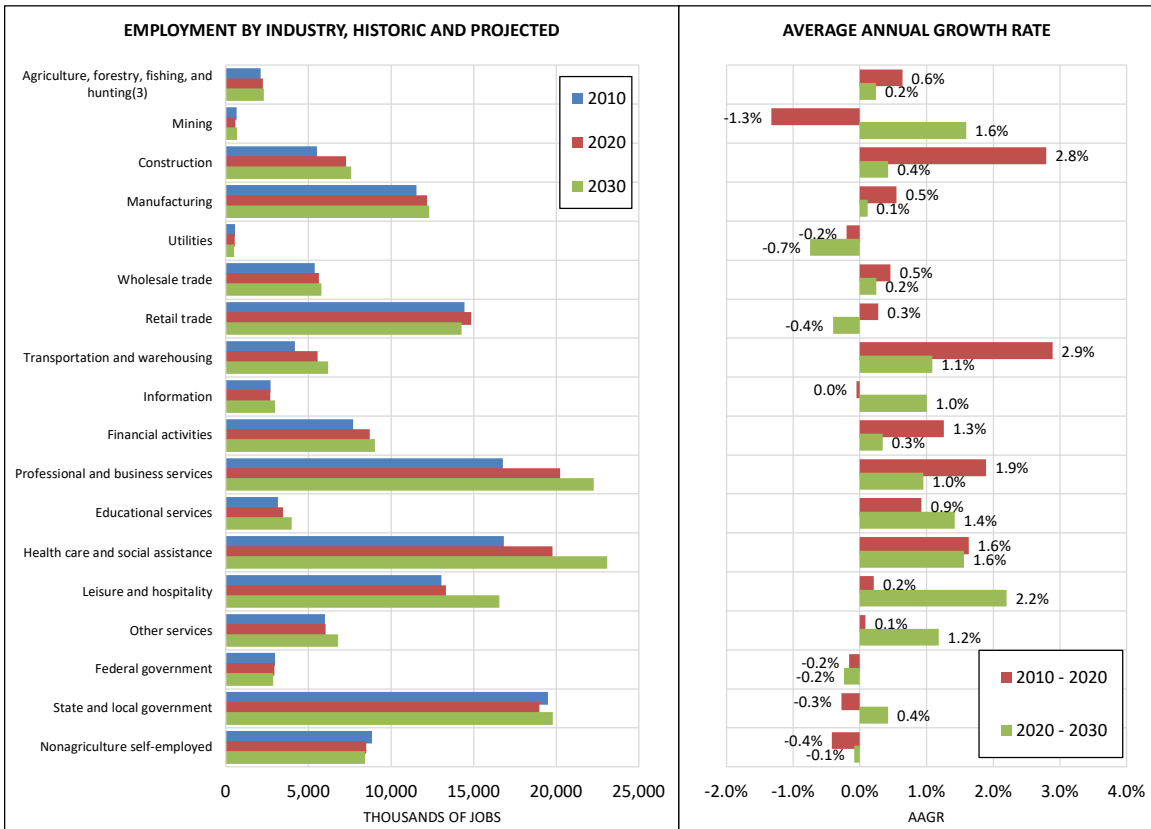


SOURCE: US Bureau of Labor Statistics, CES Data

At a national level, transportation and warehousing, professional services, tourism-related business, construction, and health care have seen some of the fastest growth over the last decade. Professional services and healthcare are now the sectors with the highest employment and are projected to provide the

most new employment going forward, but at a more moderate growth rate. The aging of the population is expected to drive the healthcare sector over the next few decades.

FIGURE 3.04: NATIONAL EMPLOYMENT GROWTH BY SECTOR, HISTORIC AND PROJECTED

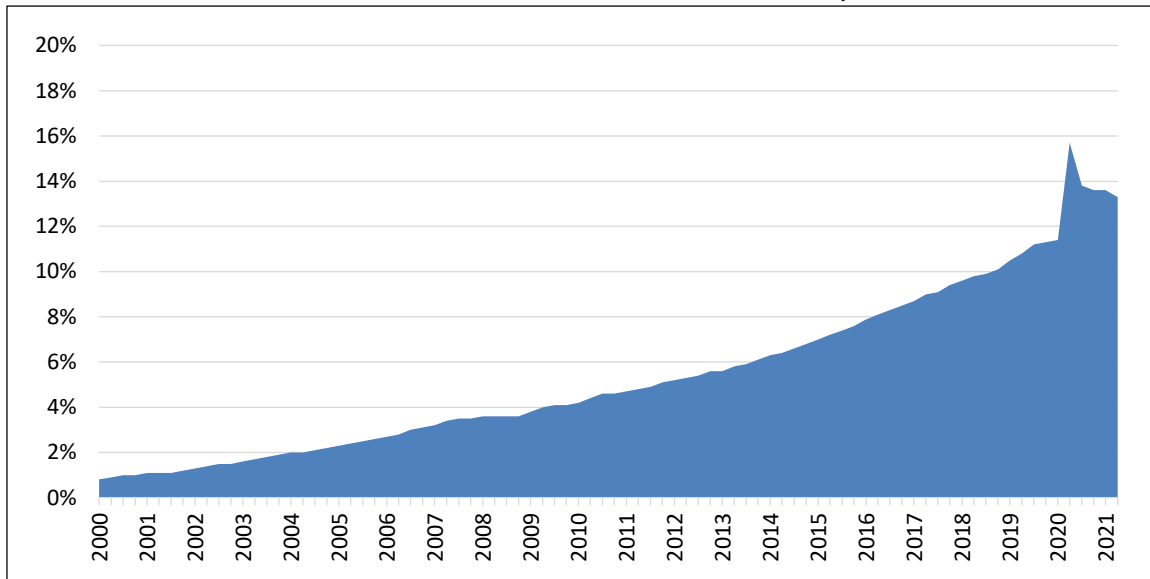


SOURCE: US Bureau of Economic Analysis

E-Commerce Trends: A national trend that is expected to have significant implications for the commercial and industrial real estate market is the anticipated growth in e-commerce. Online shopping is rapidly taking market share from brick-and-mortar retailers. In 2020, the market share of e-commerce jumped dramatically to more than 16% of all sales. It has since fallen to roughly 13% but is likely to remain higher than pre-pandemic levels. In 2020, consumers spent \$787.9 billion online with U.S. retailers, up 32% from 2019².

This shift toward e-commerce is contributing to an increase in storage needs from retail stores to warehouses and distribution centers. At the same time, increased automation is driving consolidation within the warehousing and distribution industry and increasing the reliance on larger third-party operators able to make heavy investments in warehousing capital and expertise. Automation is also impacting the manufacturing industry, though to a lesser extent and primarily among large industry leaders. Increased productivity through automation continues to reduce the reliance on human labor over time.

FIGURE 3.05: E-COMMERCE AS A PERCENT OF TOTAL RETAIL SALES, UNITED STATES



SOURCE: Retail Indicators Branch, US Census Bureau, JOHNSON ECONOMICS

Finally, changes in the use of mobile devices and growth in online services have caused a shift in the tech sector, from hardware manufacturing to software development. This pattern has been reflected in the State of Oregon, with e-commerce employment increasing at the expense of brick-and-mortar retail employment.

Work from Home Trends: A major and sudden shift caused by the shutdown of many workplaces during the Covid-19 pandemic. Many employers and employees were forced to adapt to a work-from-home model. This trend differed greatly across industries and job classification. On-going trends towards increased e-commerce and automation also accelerated.

A national poll conducted by Pew Research³ in October of 2020 found that those with higher incomes and educational attainment level reported being able to work from home at a much higher rate than those with less education and lower incomes. However, *most* economists seem to agree that remote work is unlikely to remain at the peak level seen during the pandemic and may even fall significantly.

There is also widespread agreement that the nature of work for many workers has permanently changed, and many of the shifts seen since spring of 2020 will persist at much higher levels than seen before the pandemic. 54% of remote workers in the Pew poll reported that they would like to continue to work remotely, and a larger majority of the respondents reported that most aspects of the transition were easy.

The following are a few of the major trends and implications that are broadly predicted resulting from this unusual period:

- Professional work that typically took place in an office environment is anticipated to remain more flexible for many workers. The expectations of individual employers will matter greatly in whether workers remain remote, hybrid or return to the office full time. How this trend settles out in the

³ Parker, Kim, Juliana Horowitz, and Rachel Minkin. "How the Coronavirus Outbreak Has - and Hasn't - Changed the Way Americans Work." Pew Research Center. 9 Dec. 2020.

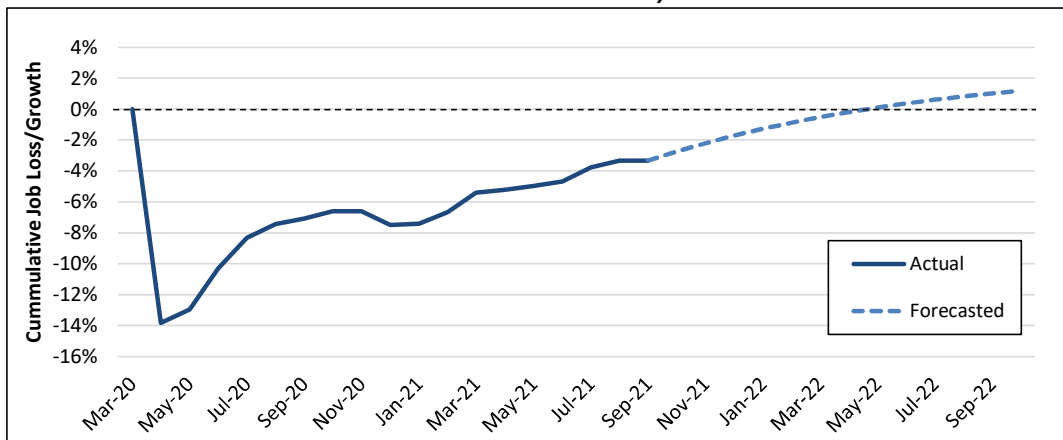
long term is unknown, but it seems a near certainty that many more professional workers will be working remotely or on a hybrid remote/on-site schedule.

- The difference between fully remote work and a hybrid schedule is important because hybrid workers must remain within a manageable commute distance from their external workplace.
- These trends are expected to put downward pressure on office rents. More available space and depressed rents would likely translate into less production of new office space in coming years as the existing supply is reabsorbed.
- The pandemic has accelerated workplace automation as companies have adopted new technology and software to adapt to the new reality. Many of these adaptations have created permanent efficiencies and will change the job responsibilities for some workers and potentially eliminate some jobs.
- Service industries that were not amenable to remote work, such as dining, entertainment, and retail have faced a very challenging period during the “occupancy and use” restrictions stemming from the pandemic. These industries all lost businesses and the accompanying jobs over this period.
- As the economy has rebounded, many businesses in these service industries have struggled to find sufficient new staff with the proper skills to return to full capacity. It appears that many prior workers in these industries transitioned to new types of employment, are hesitant to return to work, or have left the workforce altogether.

As the economy reopens and recovers, there is expected to be more vacant commercial real estate available, including spaces that retain full tenant improvements such as those for restaurant use. The misfortune of some businesses over the prior year may provide affordable opportunities for new businesses to grow in their place. Some large-format spaces, such as big box stores, movie theaters and shopping centers may face long term vacancies as they are more difficult to re-tenant.

Statewide Employment Projections: pandemic triggered an unprecedented contraction of economic activity. While over 70% of employment losses in the state have been reversed, the short- and mid-term prospects for the economy will be heavily dependent upon the speed of the continuing recovery. As of Fall 2021, trends in employment growth, consumer, and travel spending, shrinking unemployment rolls, and vaccination rates continue to point to a potentially robust reversal of the prior year’s losses.

FIGURE 3.06: EMPLOYMENT PROJECTIONS, STATE OF OREGON



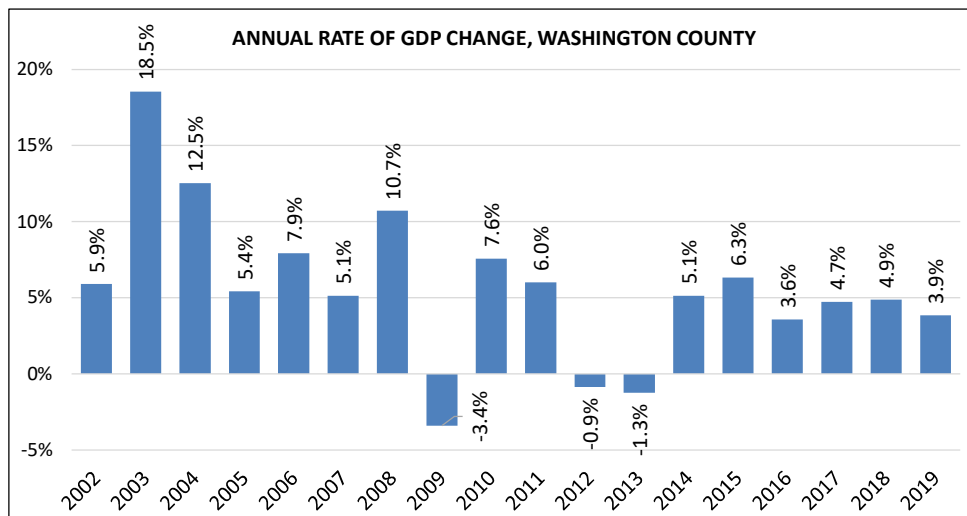
SOURCE: JOHNSON ECONOMICS

The State of Oregon projects a return to pre-pandemic employment levels will be achieved by Spring or Summer of 2022, but there is increased uncertainty regarding this forecast. One potential scenario is that most of the prior employment is recovered relatively quickly, while restoring the final 5% to 10% takes longer.

WASHINGTON COUNTY ECONOMIC TRENDS

GDP: Washington County recorded strong growth during the recent expansion cycle, with the annual rate of GDP change in the County averaging nearly 5% since 2014. After rebounding strongly from the recession of 2009, the County experienced flat growth in 2012 and 2013. In general, the 2010’s experienced more moderated GDP growth than the 2000’s which experienced some years of double-digit expansion.

FIGURE 3.07: ANNUAL RATE OF GDP CHANGE, WASHINGTON COUNTY



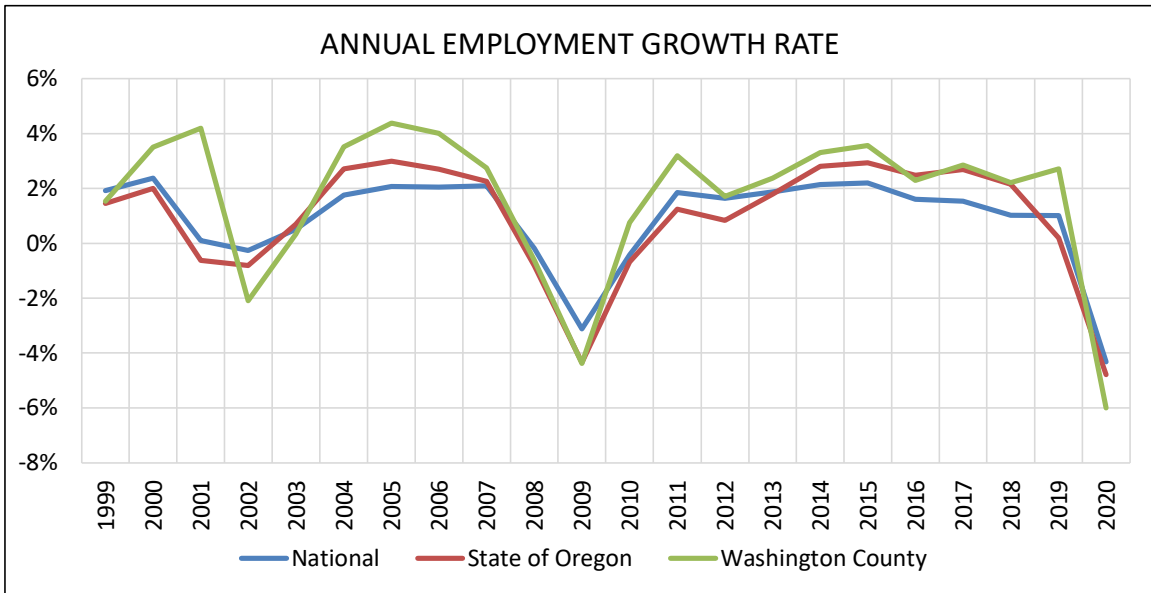
SOURCE: US Bureau of Economic Analysis

These data do not yet reflect the recession of 2020, in which the County is presumed to have experienced highly negative GDP in keeping with the national trend. While the impacts of the prior year are important, there currently is no reason to assume that broad economic trends will not revert to prior trendlines as the recovery takes hold and returns the country to low unemployment and economic growth. Given the long-term planning horizon of this analysis, a longer-term focus is ultimately more appropriate.

County Employment: Over the last two decades, Washington County has generally experienced a higher employment growth rate than the state or nation. The County also experienced a greater rate of job loss in the major recessions of 2001 and 2009, but the downtrends were short-lived. (Figure 3.08)

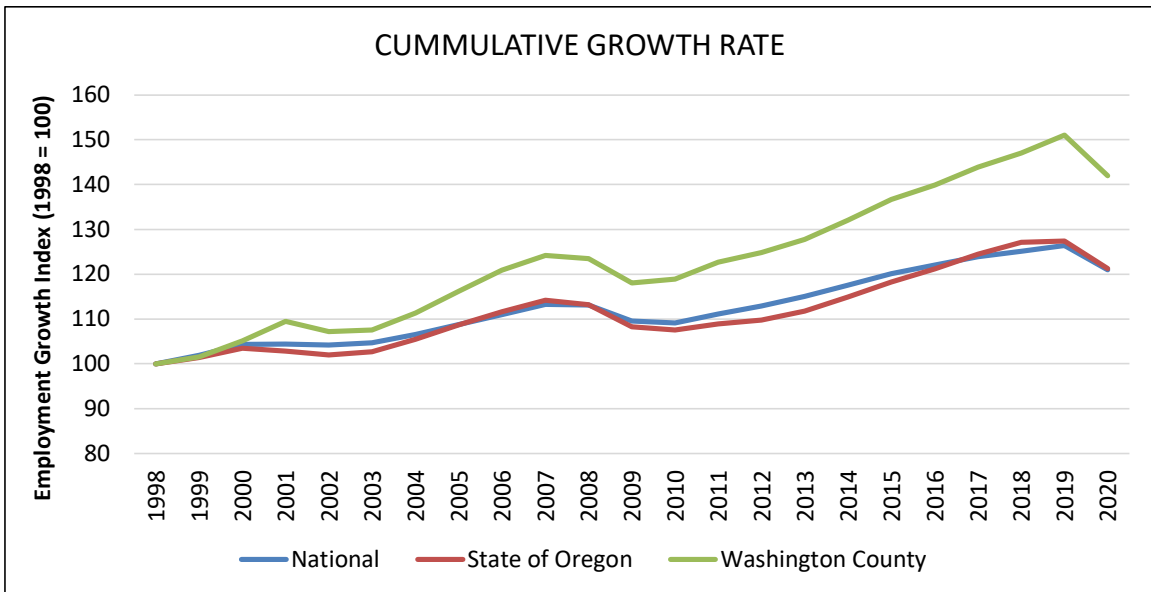
The cumulative impact of this growth was an over 50% expansion in the local employment base since 1998 in Washington County by 2019 (from 246k jobs to nearly 400k jobs). The County’s cumulative growth was twice the relative growth in state or national employment (Figure 3.09). However, employment was estimated to fall by 6% in the County in 2020 due to the disruption of the pandemic, losing roughly 40,000 jobs. Since the low, it is estimated the county has regained nearly 30,000 jobs as of Fall of 2021.

FIGURE 3.08: COMPARISON OF ANNUAL EMPLOYMENT GROWTH RATES (COUNTY, STATE, NATION)



SOURCE: U.S. Bureau of Economic Analysis, JOHNSON ECONOMICS

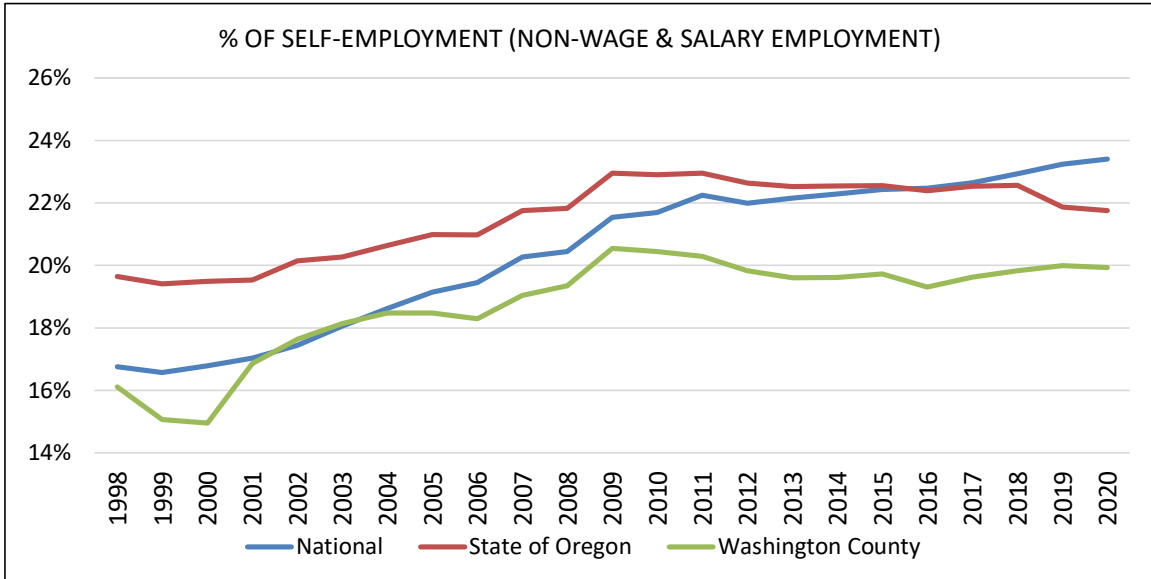
FIGURE 3.9: CUMULATIVE EMPLOYMENT GROWTH (1998 = 100) (COUNTY, STATE, NATION)



SOURCE: U.S. Bureau of Economic Analysis, JOHNSON ECONOMICS

The employment base in Washington County has a lower share of self-employed workers than the state and national averages, at roughly 20%, compared to 22% and 23% respectively. The somewhat lower level of self-employment in Washington County is likely due to the number of large established employers in the county. Wage and salary employment accounts for roughly 80% of overall estimated employment in the county, compared to roughly 77% statewide and nationally.

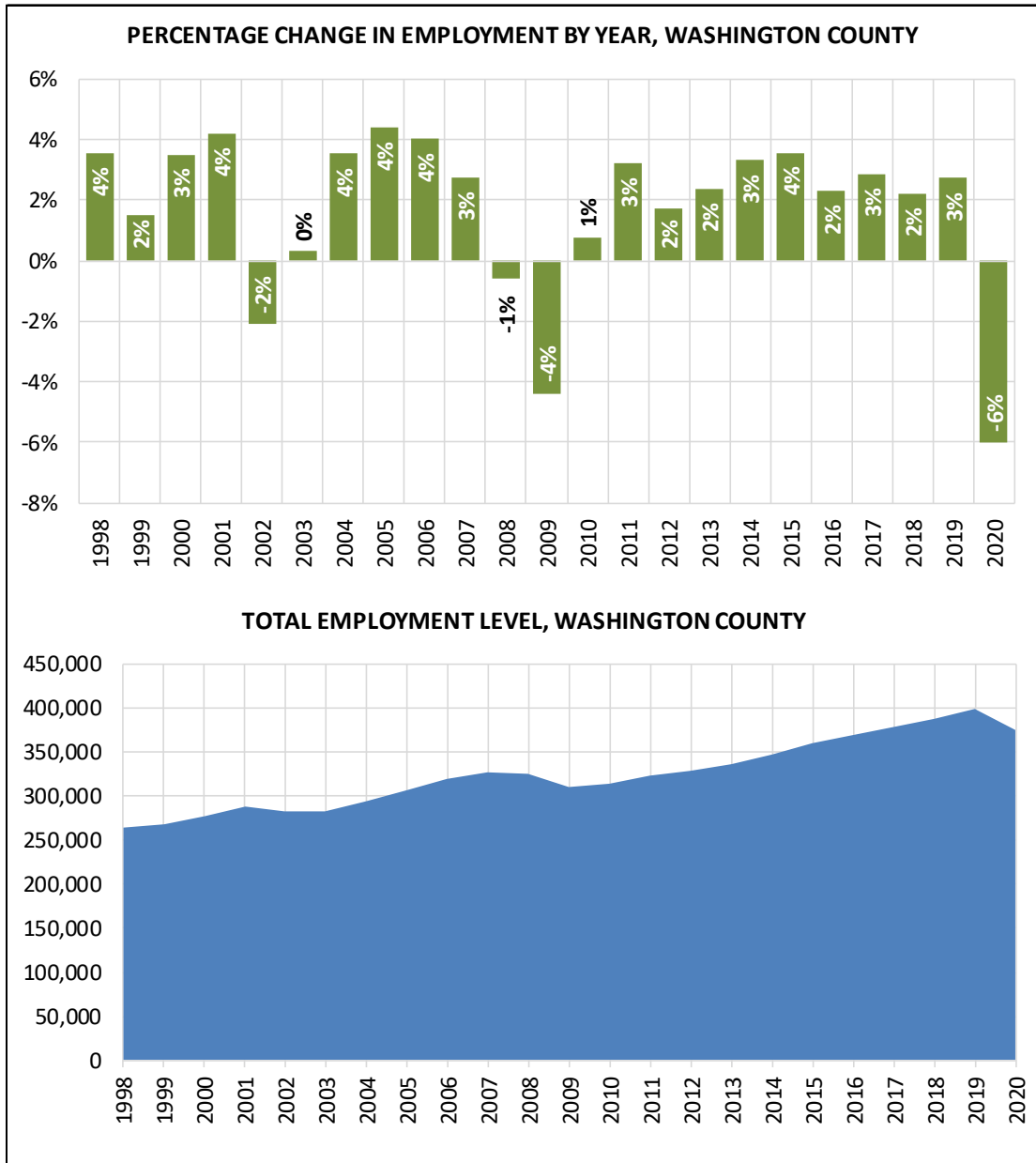
**FIGURE 3.10: % OF TOTAL EMPLOYMENT REPRESENTED BY SELF-EMPLOYMENT
(COUNTY, STATE, NATION)**



SOURCE: U.S. Bureau of Economic Analysis, JOHNSON ECONOMICS

Countywide employment growth was robust over the last decade through 2019, with the county recovering the total job losses from the 2008 national financial crisis within three years (Figure 3.11). From 2011 through 2019, the County averaged 3% job growth per year, outpacing the average annual population growth in that period (1.2%).

FIGURE 3.11: WASHINGTON COUNTY EMPLOYMENT TRENDS

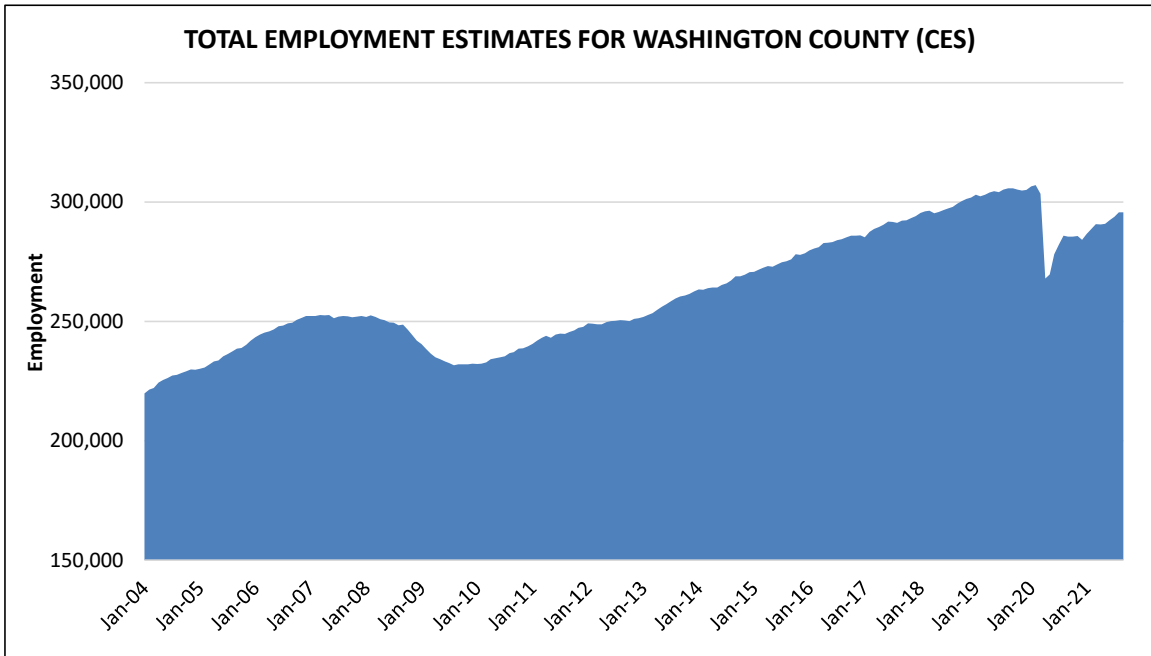


SOURCE: U.S. Bureau of Economic Analysis

Monthly Current Employment Statistics (CES) data and unemployment data provide a more current picture of the economic impacts of the pandemic in Washington County. Following the national trend, the impacts on employment were pronounced.

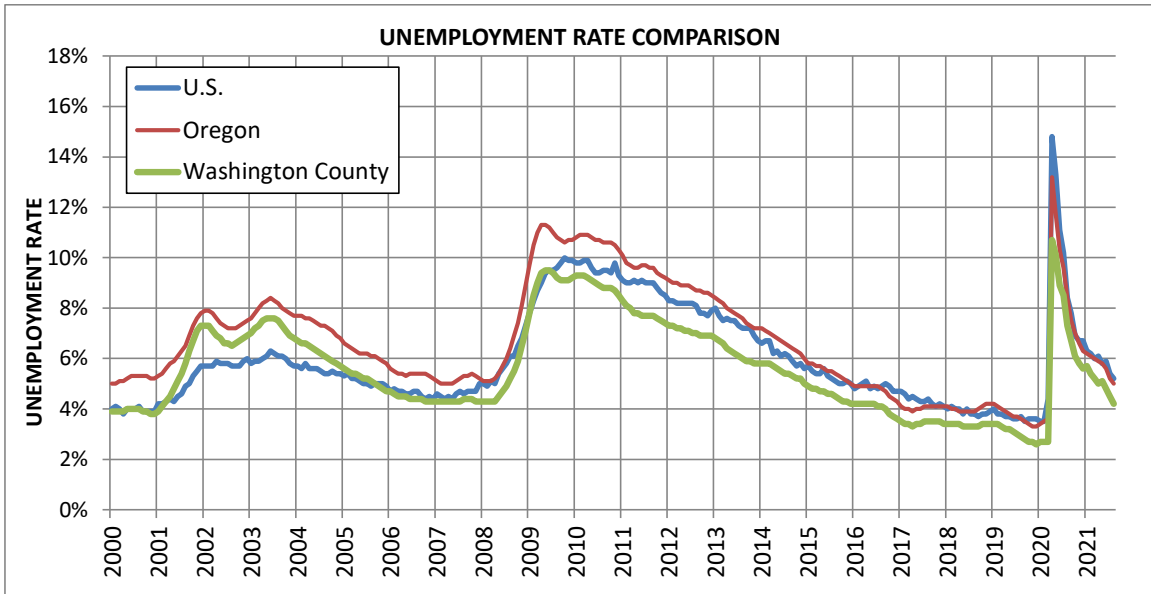
Initial estimates are that the county lost nearly 40,000 jobs (13%) from the high point in February 2020 to April 2020. Trepid job growth resumed the next month and has continued since, other than a small dip in December. (CES data excludes government, farm, and self-proprietor employment and therefore the total employment shown here differs from the total employment shown in the prior tables. Therefore, CES trends may best be seen as an indicator of the magnitude of employment trends, rather than quantity.)

FIGURE 3.12: WASHINGTON COUNTY EMPLOYMENT LEVEL BY MONTH



SOURCE: Oregon Employment Department, JOHNSON ECONOMICS

FIGURE 3.13: COMPARISON OF UNEMPLOYMENT RATE TRENDS



SOURCE: St. Louis Federal Reserve, JOHNSON ECONOMICS

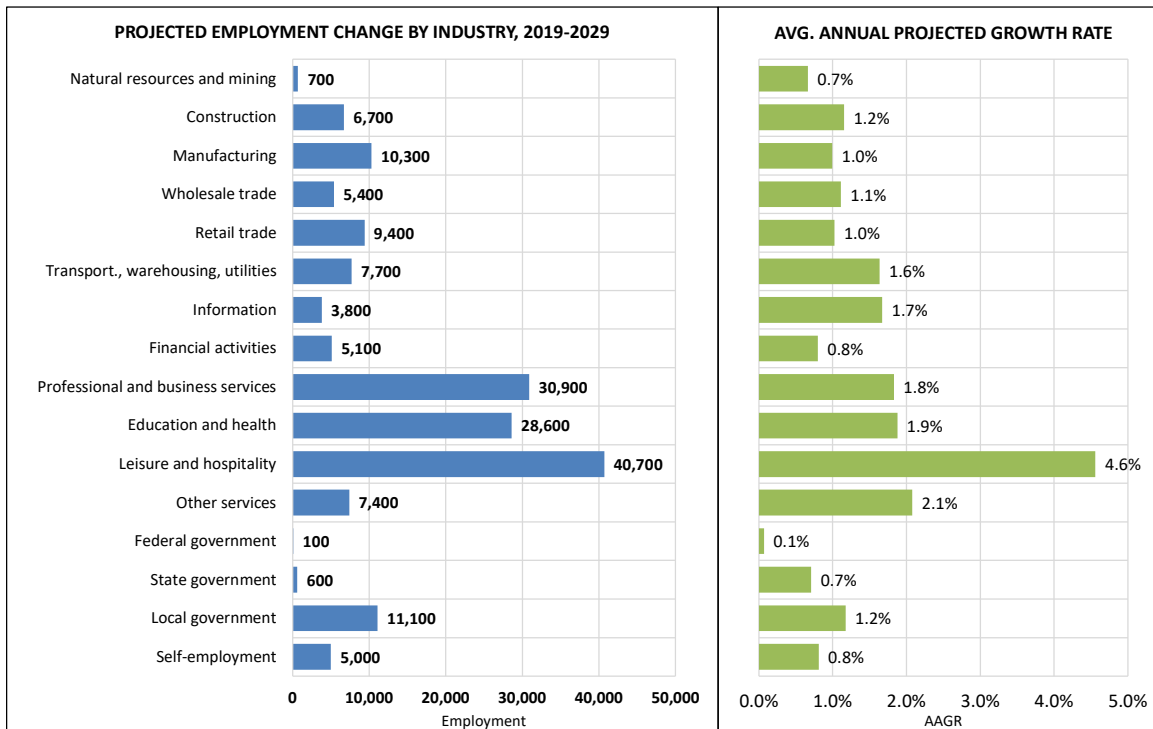
Unemployment: After climbing to nearly 10% in 2009, the unemployment rate in Washington County fell steadily to 2.7% by early 2020, lower than the statewide or national rates. The sudden economic impact of the pandemic caused the unemployment rate to suddenly spike in April 2020 to nearly 11%, still lower than the rate at the state (13%) and national level (15%). At the peak of unemployment, over 25,000 Washington County workers claimed unemployment benefits.



Since then, unemployment has steadily fallen to an estimated at 4% (seasonally adjusted) by September 2021. This is a swift recovery, and an unemployment rate of 4%, while higher than the historically low pre-pandemic rate, is approaching what would be considered a healthy rate even in a strong economy. As the economic recovery continues, this rate should be expected to continue falling, while the recently reported hiring woes of employers indicate that many of these workers will return to employment at higher wage levels.

Industry Growth Forecast (Metro): The State of Oregon employment forecasts groups Washington County with Multnomah and Clackamas Counties into the broader Metro area. The most recent forecast anticipates a gain of over 173k jobs from 2020 through 2030, reflecting an average annual growth rate of 1.6% during the period. The forecasted rate would seem low considering recent growth in Washington County, a year of growth has been lost due to the pandemic.

**FIGURE 3.14: PROJECTED EMPLOYMENT GROWTH BY SECTOR (2020-2030)
WASHINGTON, MULTNOMAH & CLACKAMAS COUNTIES**



SOURCE: State of Oregon Employment Department, Workforce and Economic Research Division

All industry sectors are forecast to expand over the next decade. Those forecast to grow at a higher-than-average rate are leisure and hospitality (tourism), professional services, education and health services, information, and transportation, warehousing and utilities. Sectors projected to grow slower than the average rate of 1.6% include construction, manufacturing, retail, and government.

On an absolute basis, the greatest number of new jobs are forecast in tourism-related industries, professional services, education and health services. The strong growth in tourism is mostly due to the

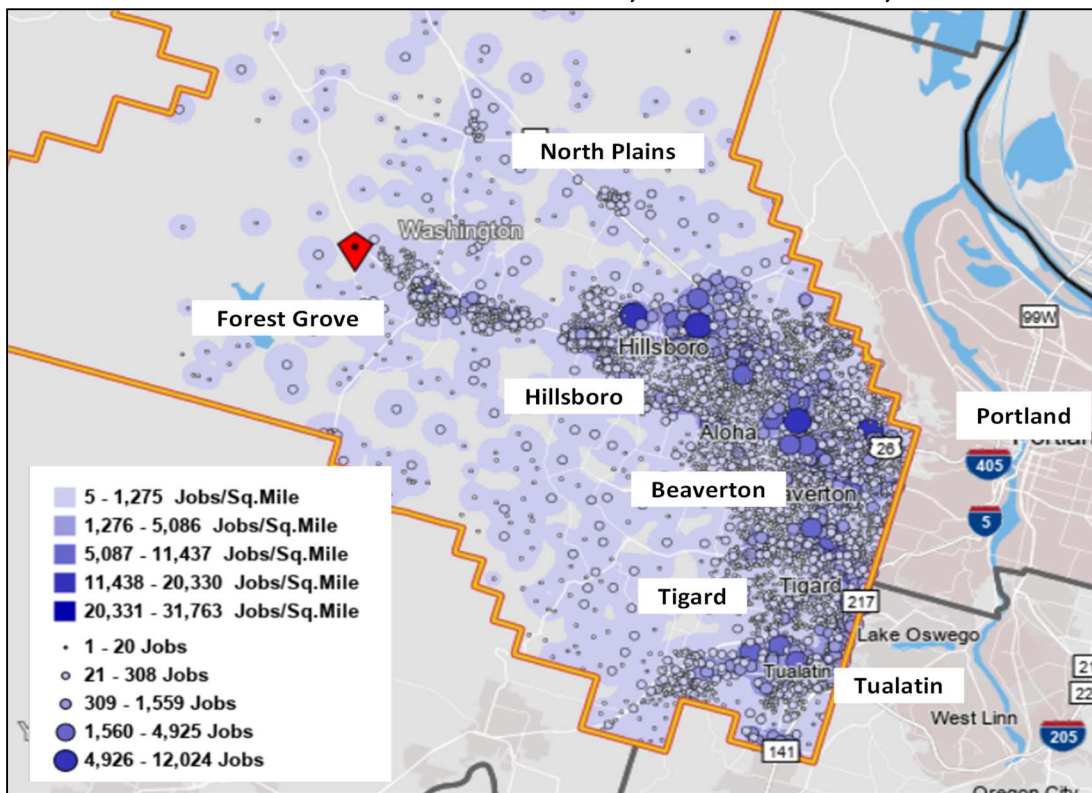
depressed starting point during the 2020 pandemic, when this industry was particularly devastated by business and travel shutdowns.

CITY OF NORTH PLAINS ECONOMIC TRENDS

Employment Distribution & Commuting (City): The distribution of employment in Washington County is concentrated within the UGB of the Portland Metro area. The greatest shares of county employment are found in Hillsboro (29%) and Beaverton (25%) which are home to the county’s largest employers. North Plains is home to less than 1% of county employment.

Within North Plains, employment tends to be concentrated along the NW Commercial St. and NW Glencoe Rd. corridors, though recent employment growth in North Plains has been focused on industrial land along West Union Road towards Jackson School Road.

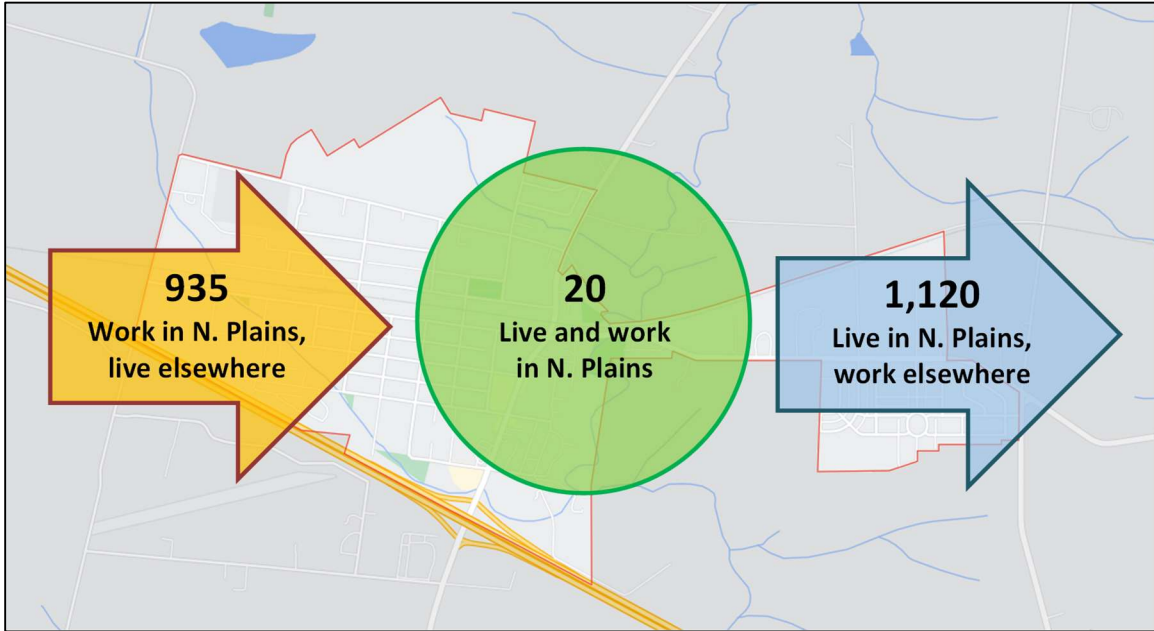
FIGURE 3.15: DISTRIBUTION OF EMPLOYMENT, WASHINGTON COUNTY, 2019



SOURCE: Census Bureau, LEHD Data

Figure 3.16 shows the inflow and outflow of commuters to North Plains according to the Census Employment Dynamics Database. These figures reflect “covered employment” as of 2019, the most recent year available. Covered employment refers to those jobs where the employee is covered by federal unemployment insurance. This category does not include many contract employees and self-employed and therefore is not a complete picture of local employment. The figure discussed here is best understood as indicators of the general pattern of commuting and not exact figures.

FIGURE 3.16: COMMUTING PATTERNS (COVERED EMPLOYMENT), CITY OF NORTH PLAINS, 2019



SOURCE: Census Bureau, LEHD Data

As of 2019, the most recent year available, the Census estimated there were roughly 955 covered employment jobs located in North Plains. Of these, *only an estimated 20 or 2%, are held by City residents, while over 900 employees commute into the city from elsewhere. The near total turnover of the local workforce is particularly stark here.* The most common homes of workers commuting into the city are Hillsboro, Portland, and Beaverton.

Similarly, of the estimated 1,140 employed North Plains residents (covered employment), 98% of them commute elsewhere to their employment. The most common destinations for North Plains commuters are also Hillsboro, Portland, and Beaverton, followed by Tualatin and Forest Grove. Over a quarter of these workers commute to Hillsboro (27%), and nearly a fifth commute to Portland (18%).

Implications: Commuting patterns are an important element in the local economy. Based on these Census estimates, North Plains experiences nearly total turnover of its working population, with local residents commuting to find appropriate employment, and the local workforce commuting from elsewhere. This pattern indicates why encouraging a range of local employment and transitioning from being a purely bedroom community is the first listed economic development priority adopted by local officials.

Local Employment Compared to Local Workers (City): Figure 3.17 shows a comparison of the estimated distribution of locally available employment by industry sector, and the estimated distribution of jobs that local North Plains residents hold (inside and outside the community) by industry sector.

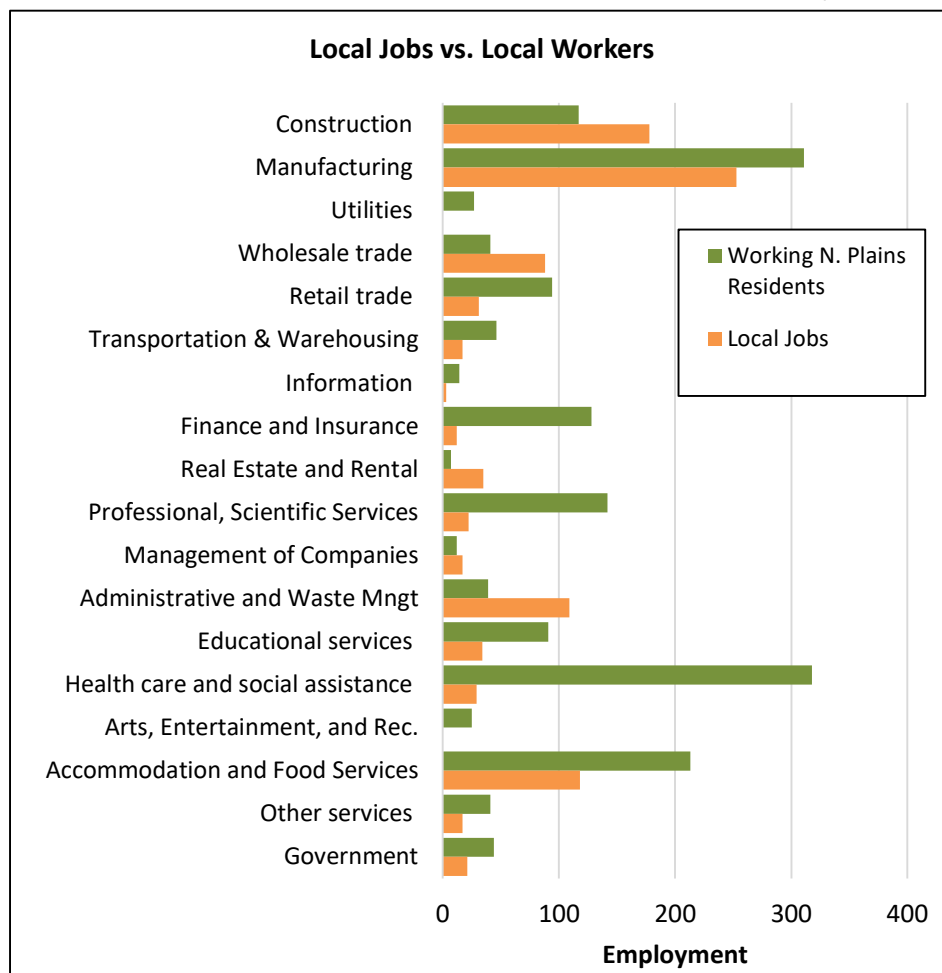
This employment data includes non-covered employment, and therefore these figures present a more complete picture of total employment in North Plains. The profile of local jobs by industry is based on Quarterly Census of Employment and Wages (QCEW) data provided by the Oregon Employment



Department for the year 2020. Estimates of the industries in which local residents work (inside and outside the city) are based on Census data from 2019.

The data show that the employment available locally trails the number of local residents who work in those industry sectors. The exceptions are in construction, wholesale trade, real estate, and waste management where the local employment exceeds the number of local residents who work in those sectors. Industries in which residents work that are relatively unavailable in North Plains are manufacturing, professional occupations, health care, retail, and tourism. As we've seen, it is most common for workers to commute to employment outside of the city, in part because in many industry sectors local employment is unavailable closer to home.

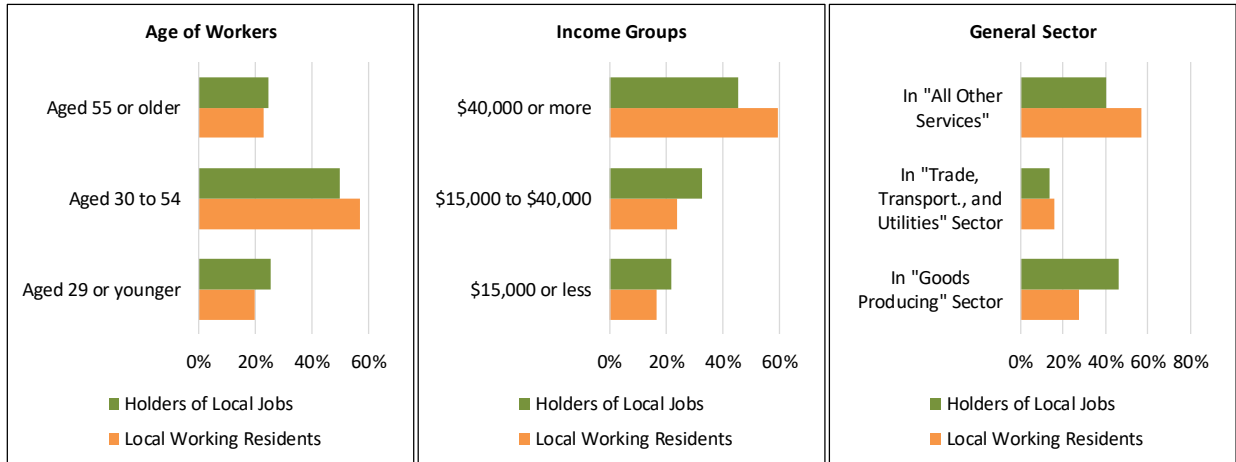
FIGURE 3.17: COMPARISON OF NUMBER OF LOCAL JOBS TO LOCAL WORKFORCE, BY INDUSTRY



SOURCE: Census Bureau, LEHD Data, Oregon Employment Department

The characteristics of the workforce commuting into and out of North Plains were similar in terms of incomes and age (Figure 3.18). Working North Plains residents are slightly more likely to be 30 years or older, and more likely to earn more than \$40,000. (These are the broad categories provided by this Census data set.)

FIGURE 3.18: NET INFLOW-OUTFLOW DETAIL, CITY OF NORTH PLAINS AND WASHINGTON COUNTY, 2019



SOURCE: Census Bureau, LEHD Data

Jobs-to-Worker Ratio: There are an estimated 1,150 total local jobs (covered and non-covered⁴), and 1,730 working North Plains residents. This indicates a ratio of 0.65 local jobs for each local working resident. Or stated conversely, there are 1.5 local workers for each available local job. This indicates that to achieve a jobs-to-worker balance of one-to-one in the community today, there is a **current deficit** of roughly 580 jobs in North Plains. However, *eliminating that deficit will require providing new local jobs for residents who commute to work outside of the city, jobs that are at least similar or comparable in type and salary to the jobs they currently hold elsewhere.*

Jobs-to-Household Ratio: North Plains has an estimated 1,075 households, indicating a jobs-to-household ratio of 1.1 jobs per household, or roughly one job per household. However, in North Plains, each household has an average of 1.6 working members.

POPULATION AND WORKFORCE

The City of North Plains has an estimated population of 3,360 as of 2020 according to the PSU Population Research Center (Figure 3.19).

Population growth as tracked by PSU is very irregular year-to-year which is attributable to a reporting error that undercounted population growth for many years. The mistake was corrected in the 2017 estimate showing a jump in population of over 900 residents in one year, that was in fact spread over many years. Therefore, the data presented in Figure 3.19 is greatly distorted.

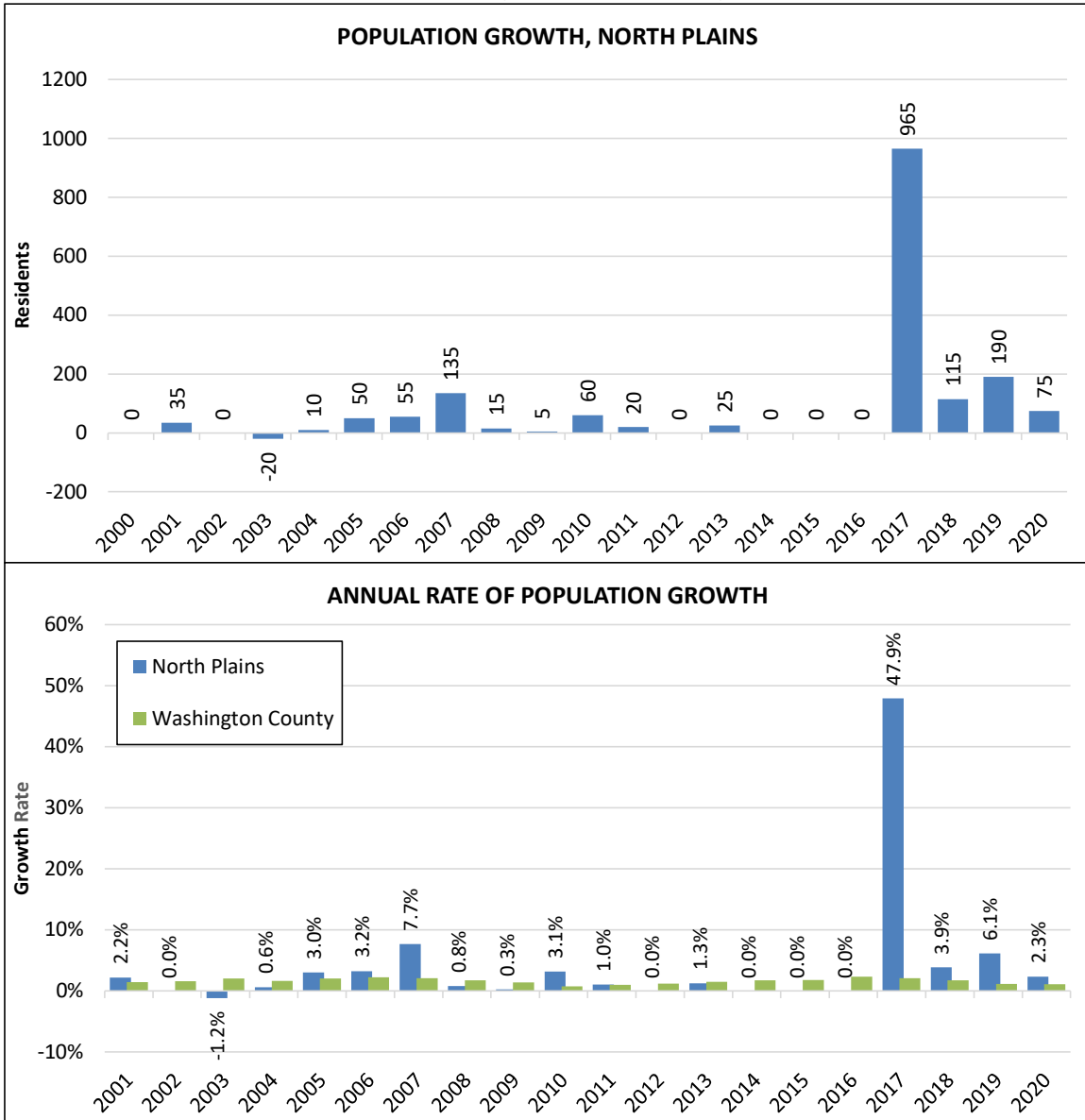
Comparing decennial Census estimates provides more reliable picture of population growth. Since 2000, North Plains has grown by an estimated 107% from 1,625 residents to 3,360 over two decades. This is an annual average growth of 87 residents or 4% per year. The state and county experienced annual growth of 1.1% and 1.7% respectively, over this period.

⁴ The methodology to calculate total 2021 employment, including covered and non-covered employment is outlined in Section VI.



However, most of this growth has occurred over the last decade. The Census estimates North Plains grew 75% between 2010 and 2020. The city grew at nearly 6% per year, adding an average of 147 new residents each year.

FIGURE 3.19: POPULATION GROWTH (RESIDENTS AND RATE), CITY OF NORTH PLAINS



SOURCE: Population Research Center, Portland State University

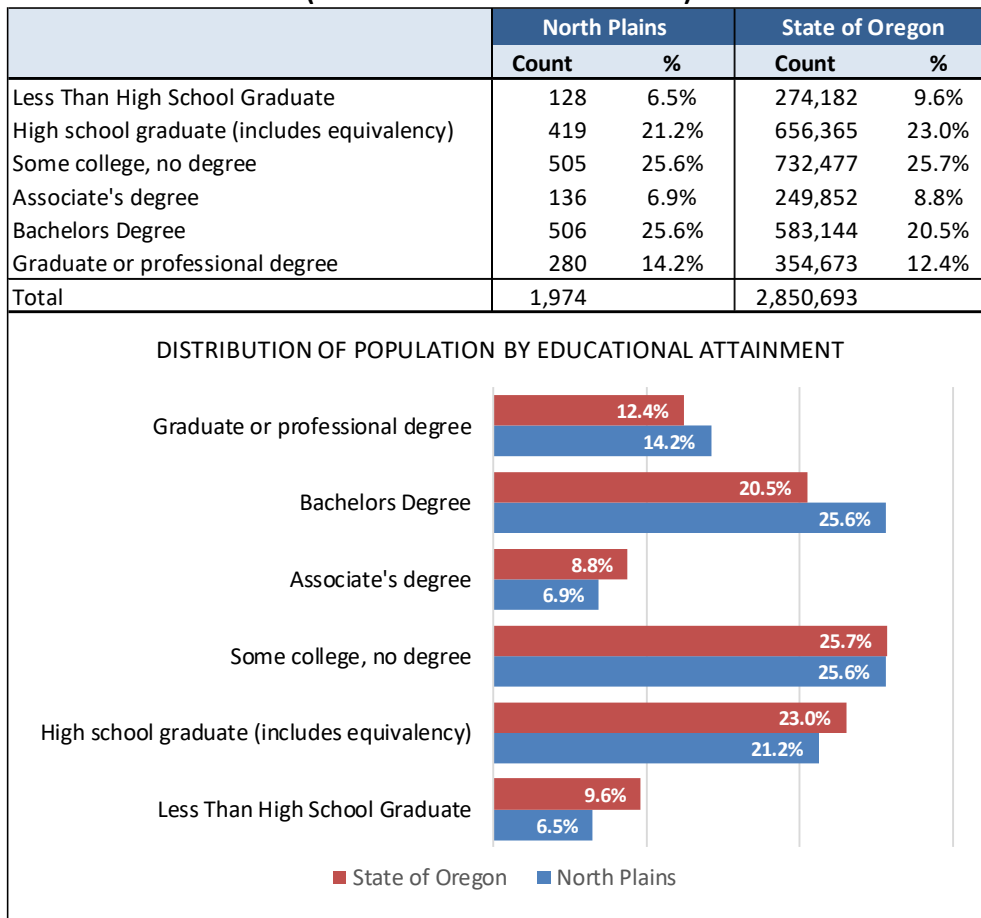
The educational attainment level of residents in the City of North Plains varies from the statewide pattern, with a higher level of city residents having bachelor’s or advanced degrees. Of an estimated 1,975 persons 25 years or older in the City of North Plains, an estimated 47% have an associate degree or higher. This compares to a 42% rate for Oregon. This represents a likely competitive advantage for the city, as an educated population attracts employers, retail and services, and other economic activity.



This also suggests that more highly educated City residents will seek local work opportunities that are commensurate with their education levels, training and/or experience: jobs that currently do not exist in North Plains. The lack of such available jobs helps explain why a considerable number of City residents work elsewhere in the County.

Working with community colleges and other partners on on-going education, workforce development and distance learning opportunities may also be an important part of a local economic development strategy to train segments of the workforce with lower educational attainment in the skills that local industries need.

**FIGURE 3.20: EDUCATIONAL ATTAINMENT PROFILE, 2019
(POPULATION 25 YEARS AND OLDER)**



SOURCE: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

IV. COMMUNITY ECONOMIC DEVELOPMENT POTENTIAL

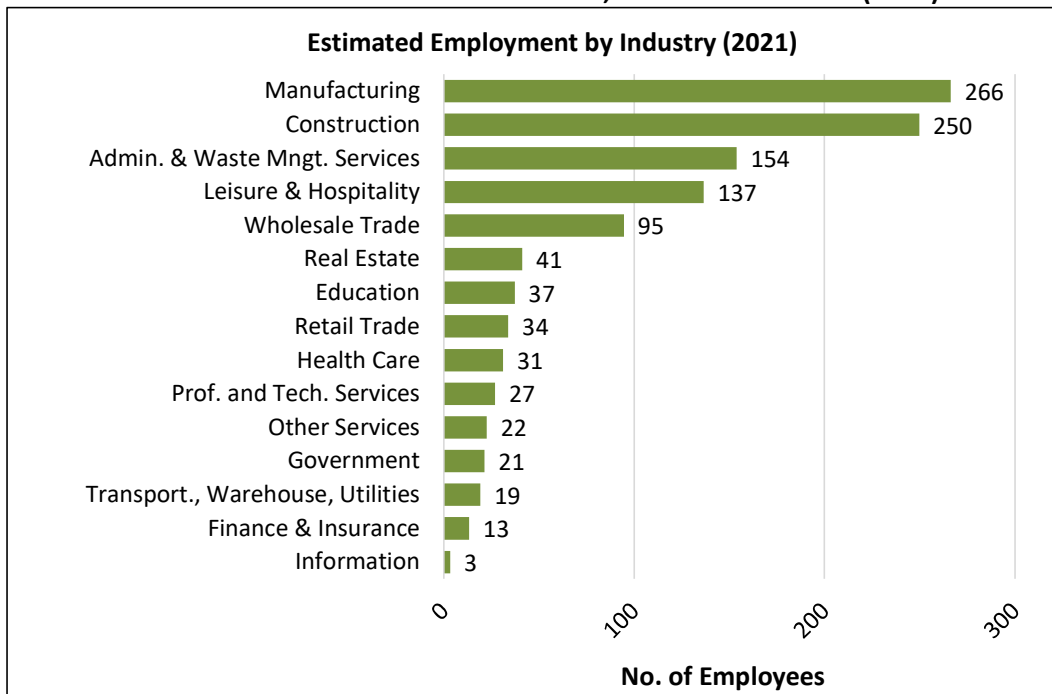
This Economic Opportunities Analysis presents a profile of current employment and employers in North Plains, and the community’s economic development advantages.

LOCAL EMPLOYMENT SNAPSHOT

North Plains features an estimated 1,150 jobs within its corporate boundaries as of 2021. The distribution of current industrial employment is indicative of past and present trends, but as discussed in this report, does not necessarily form a good match with the city’s current working population, or the City’s economic development goals for its future.

The following table presents the North Plains major industry sectors and estimated number of employees. This reflects current employment patterns, but not necessarily future employment patterns.

FIGURE 4.01: LOCAL EMPLOYMENT BY INDUSTRY, CITY OF NORTH PLAINS (2021)



Source: Johnson Economics, Oregon Employment Department, BEA

Figure 4.02 presents the past growth in employment in North Plains by major industry sector since 2010 according to QCEW data provided by the Oregon Employment Department. Since 2010, the greatest employment growth was seen in the waste management, manufacturing, and wholesale trade industries. Many other sectors experienced falling employment over this period, led by the government and construction sectors.



FIGURE 4.02: EMPLOYMENT BY INDUSTRY, PRIVATE SECTOR, NORTH PLAINS (2010 - 2021)

Major Industry Sector (Private)	QCEW Employment		Employment Growth '10-'21	
	2010 Employment	2021 Employment	New Jobs	% Growth
Construction	277	250	(27)	-10%
Manufacturing	213	266	53	25%
Wholesale Trade	60	95	35	58%
Retail Trade	26	34	8	30%
Transport., Warehouse, Utilities	8	19	11	139%
Information	0	3	3	100%
Finance & Insurance	8	13	5	66%
Real Estate	14	41	27	194%
Professional & Technical Services	3	27	24	795%
Admin. & Waste Mngt. Services	57	154	97	170%
Education	22	37	15	69%
Health Care	33	31	(2)	-6%
Leisure & Hospitality	120	137	17	14%
Other Services	14	22	8	60%
TOTAL	929	1,150	221	24%

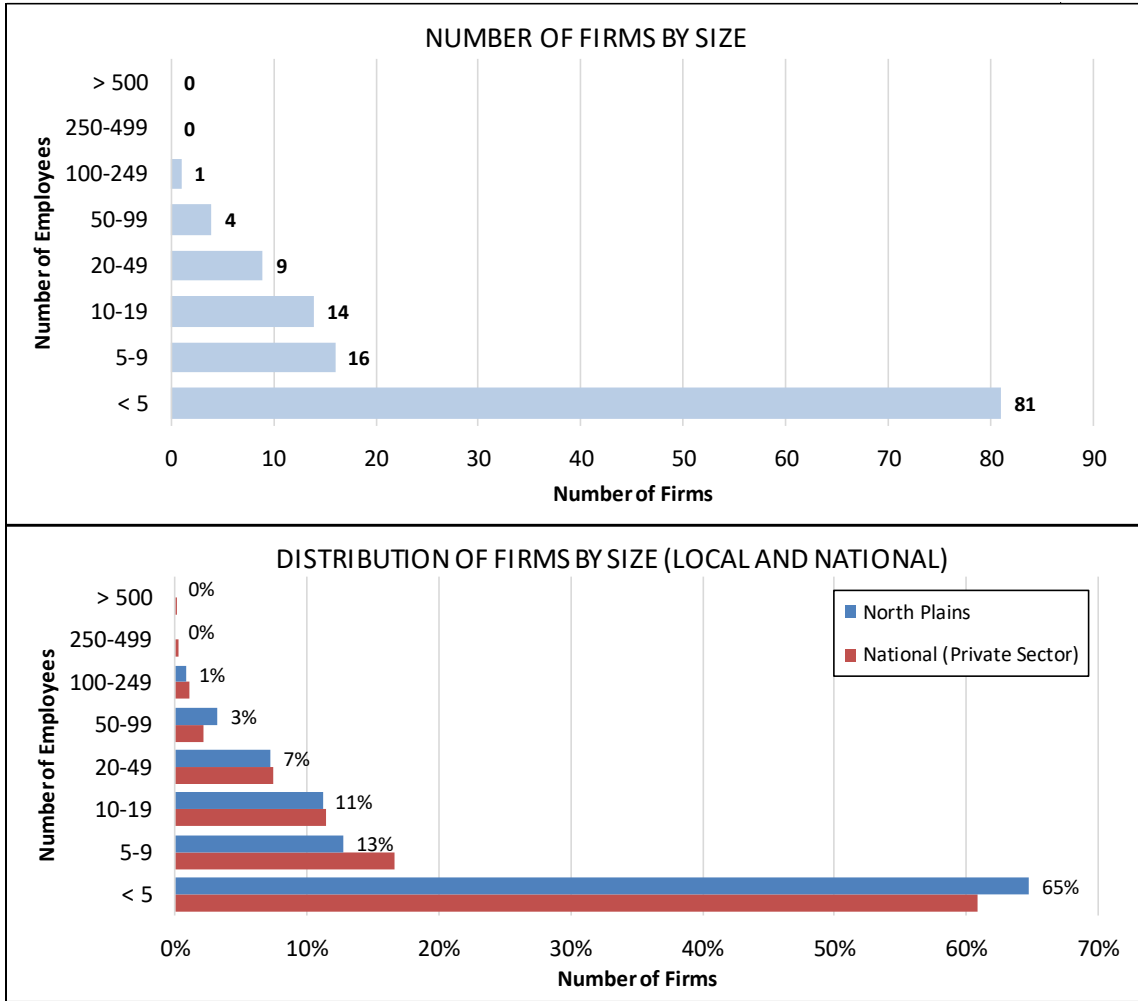
Source: Oregon Employment Department

CHARACTERISTICS OF LOCAL FIRMS

The local employment base is largely dominated by small employers of fewer than five employees (65% of firms), which is a common pattern across many markets (see Figure 4.03, following page). There is one employer of over 100 or more employees, and 4 with between 50 and 100 employees. Compared to national averages, North Plains has a slightly larger share of firms with fewer than five employees, and slightly smaller share of firms with 5 to 9 employees.

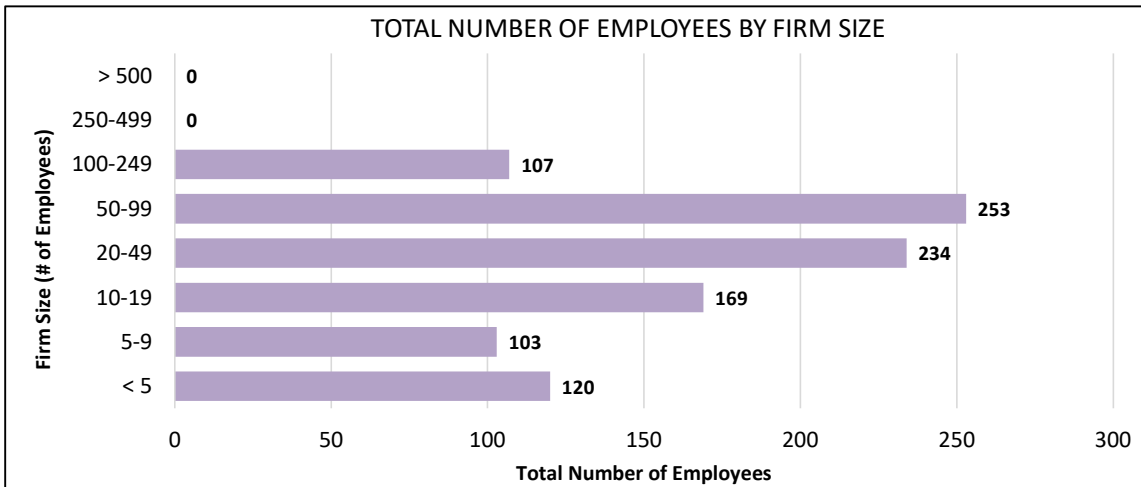
Figure 4.04 (following page) presents *the estimated number of employees* in the firms within the different size categories. While there are relatively few larger employers, they still represent a significant share of overall employment due to their high number of employees.

FIGURE 4.03: DISTRIBUTION OF CURRENT FIRMS BY SIZE, NORTH PLAINS OREGON



Source: Oregon Employment Department

FIGURE 4.04: DISTRIBUTION OF EMPLOYEES BY FIRM SIZE, NORTH PLAINS OREGON



Source: Johnson Economics, Oregon Employment Department



NORTH PLAINS: STRENGTHS, WEAKNESSES, OPPORTUNITIES, AND THREATS

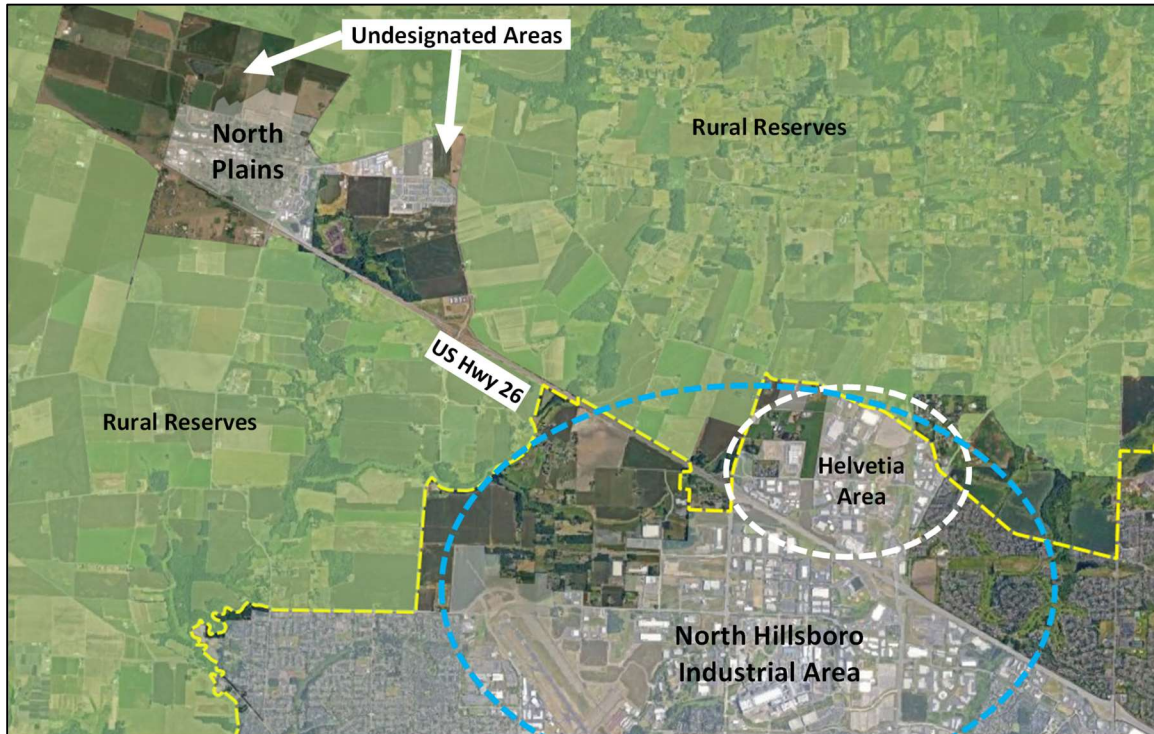
Based on this analysis and input from North Plains stakeholders, and real estate, industry, and site selection specialists the following are the City's economic development strengths, weaknesses, and opportunities.

STRENGTHS

Land need and opportunity findings of the Oregon Semiconductor Competitiveness Task Force underscore the unique strengths of the City of North Plains as part of the future of Oregon's semiconductor and supply chain industry by virtue of proximity to the existing industry cluster, direct transportation access to Highway 26 from North Plains, and being within the Silicon Forest job shed and a growing bedroom community of tech industry workers, among others. A summary of those findings can be found in Appendix D of this EOA.

- **Proximity to Oregon's largest and growing employment centers:** North Plains is located very close to existing high-tech "Silicon Forest" companies in western Washington County. The area is home to a large cluster_of_semi-conductor and advanced manufacturing companies, as well as supporting suppliers, parts manufacturers, packing companies, and other industrial employers. The area is also home to an emerging large data centers cluster. These industry clusters have continued to grow quickly over the past two decades with some of the largest, highest-paying, most advanced employers in Oregon. Demand for more suitable and readily available large, mid-size and smaller sites for such companies continues throughout the region and, especially in the western Washington County industrial areas 'next door" to North Plains. This area continues to be one of the state's largest economic engines and the prime location for large, emerging and, modern industrial companies.
- **The western Washington County "Path of Growth":** North Plains is located roughly four miles, or a few-minutes' drive from the North Hillsboro industrial area where available parcels of land rapidly develop once they're served by infrastructure. That location puts it in the westerly growth path of these industrial clusters. As existing industrial land supply is built out or is constrained by a variety of regulatory or rural residential property ownership challenges, new employers seeking sites in this cluster will reasonably look to available industrial sites in North Plains as demonstrated by recent industrial inquiries made to the City.

FIGURE 4.05: “PATH OF GROWTH” WEST WASHINGTON COUNTY INDUSTRIAL ENVIRONS



Source: Johnson Economics, Metro RLIS

- **Transportation access via U.S. Route 26.** North Plains’ direct access to US Highway 26 via the Glencoe Road and Evergreen Road Interchanges, and a potential third Interchange at Dersham Road, will connect its industrial companies directly to the state’s highway network, provide quick access to the Silicon Forest companies, and reasonably quick access to Beaverton and central Portland. The broader I-5 corridor and Willamette Valley are accessible via multiple routes from US 26. The location also makes North Plains a gateway to the Oregon Coast. The Hillsboro Airport is located roughly 7 miles to the southeast, while the PDX is an estimated 30-to-45-minute drive from North Plains in low traffic.
- **Relatively affordable housing.** In comparison with nearby cities, North Plains’ real estate market is relatively affordable. North Plains has a supply of new housing from recent development that helps to meet the demand from more constrained cities nearby. Available, quality housing for employees is a competitive advantage for recruiting businesses.
- **Agriculture.** North Plains is located in an agricultural region, with a diverse offering of agricultural products including fruits, wheat, wine, and nursery plants. The nearby agricultural activity as well as such activities throughout the extensive, protected farmland within Washington County’s Rural Reserves designated areas provide inputs for locally produced food and beverage products.
- **High quality of life.** North Plains’ accessible size and proximity to rural areas and outdoor recreation activities make it a desirable place to live. The city’s size and setting distinguish it from communities in the combined Metro UGB nearby and will appeal to a subset of employers and workers.



WEAKNESSES

- **Lack of local commercial services.** North Plains has lacked a full-service grocery store and some other types of retail services that are needed to accommodate the convenience retail and business services needs of its rapidly growing population and expanding residential neighborhoods. North Plains residents must go elsewhere for regular shopping for many daily needs. However, there is a current initiative that will likely bring a grocer and additional retail to the city, which makes this also a key opportunity for near-term improvement (see below).
- **Fiscal constraints and lower level of public services.** North Plains has only recently undergone dramatic population growth for its size and the City is trending towards bedroom community status until it can pay for higher levels of services common to other competitive communities.
- **Car-centric transportation options.** Lack of sidewalks in some parts of downtown make North Plains less friendly to pedestrians. Transit options are limited but being explored contingent upon the addition of higher-density housing and population.
- **Limited commercial space or professional office space.** North Plains' business district has relatively little commercial or professional office space. The lack of suitable space makes it difficult to attract these types of businesses. Additional sites and developed commercial real estate will likely be necessary to expand sectors that use modern commercial service or office space.
- **Distance and access to I-5.** Although North Plains has excellent automotive access through U.S. Route 26, it is relatively far from I-5. This makes North Plains less competitive in attracting businesses that rely on trucking or access to major markets along I-5. North Plains is also somewhat remote from Portland International Airport. However, it shares these disadvantages with the North Hillsboro area which has been very successful in attracting large new high-wage businesses that rely on air shipment of goods and travel.
- **No Enterprise Zones.** North Plains does not utilize enterprise zone tax exemptions in its industrial areas. Until a zone is established, the City is at a competitive disadvantage for attracting businesses that purchase expensive equipment with rapid depreciation and quick replacement.
- **Electronic Commerce City.** The City of North Plains is the State of Oregon's only "E-Commerce City." The E-Commerce Zone designation this grants to the entire City and land within its UGB functions very similarly to a traditional Enterprise Zone incentive managed by the Oregon Business Development Department. As such, employers within the City of North Plains that conduct sufficient business activity strictly on-line have the ability to qualify for property tax incentives for qualifying investments such as equipment and internet infrastructure analogous to the benefits of a traditional Enterprise Zone.

OPPORTUNITIES

- **Improve services for residents.** Currently, the City's urban renewal district will incentivize development of a full-service grocery store in its commercial core, along with additional retail and service space for urgent care services. With annual population growth of nearly 6%, or 150 new residents per year, between 2010 and 2020, the number and types of businesses the community can support with local spending power continues to grow quickly (Census).
- **Attract high-tech and manufacturing employment.** As described above, North Plains' proximity to the nearby high-tech industry cluster in western Washington County places the city in a strong, suitable position to attract diverse, large, and high-wage technology firms and related supporting businesses



should suitable sites for such firms be available. Attracting such export-based industries and businesses that support them is a primary focus of the City's economic development goals because of their significant family-wage jobs and capacity to help improve the City's fiscal ability to provide residents and businesses a full array of municipal services.

- **Expand agricultural businesses.** North Plains' agriculture-related businesses could be a target industry for the city. In particular, North Plains could focus on expanding production and processing of local food and beverage products with specialty brands and promote agri-tourism. North Plains also has opportunities to develop manufacturing of cannabis products, such as oils or edible products.
- **(Re)develop vacant buildings and land.** North Plains' supply of vacant land and affordable real estate prices offer marginal opportunities for redevelopment, particularly in commercial areas. Like many other cities in the County, parcelization, ownership patterns and other constraining redevelopment issues limit the scale and/or suitability of such opportunities.

THREATS

- **National economic cycles.** North Plains, like all other cities, is subject to national and regional economic cycles. As of the time of this analysis, post-2020 pandemic shocks to the global supply chain and shortage of certain inputs continues although their negative effects are expected to be transitory relative to the long-term perspective of this EOA analysis.
- **Loss of agricultural lands.** The Oregon Legislature's enactment of HB 4027 (2012) designated farmland to the north, east and west of North Plains as "undesignated" land, and land beyond that area as "Rural Reserves" that are protected from urban development for 50 years after designation. The Undesignated Lands are not subject to such long-term urban development prohibition thereby allowing North Plains to grow into such areas provided all pertinent State, County and North Plains land use requirements and processes are met.
- **Highway 26 Capacity Constraints:** While the Interchanges at Glencoe and Jackson School Roads may soon experience capacity issues due to usage by urban and farming traffic generated throughout West Washington County, their locations and design were intended to provide US 26 access to existing and future urban uses in North Plains. Interchanges "capacity-sharing" matters will need to be addressed during the City's UGB employment land expansion review process. In addition, providing potential trip capacities at the Mountaindale/Dersham Road Interchange to serve North Plains and other westerly communities and farming activities as well as creating a new interchange at the Gordon Road are future, long-term options that may merit consideration by ODOT and Washington County.

NORTH PLAINS: COMPETITIVE ADVANTAGES

In part, the following discussion addresses an EOA "community assessment" location and infrastructure consideration requirements set forth in OAR 660-009-0015(4) re: North Plain's advantages and disadvantages to attract and accommodate the targeted industrial uses within a proposed UGB industrial expansion planning area.



Economic development opportunities in North Plains will be impacted by local conditions as well as the national and state economic conditions addressed above, and more immediately by semiconductor and supply chain industry reshoring and growth encouraged by the CHIPS Act and focused by the Oregon Semiconductor Competitiveness Task Force findings and actions. Economic conditions in North Plains relative to these conditions in other portions of western Washington County and the region form North Plains' competitive advantage for economic development. North Plains' competitive advantages have implications for the types of firms most likely to locate and expand in the area.

There is little that metropolitan area jurisdictions can do to influence national and state conditions that affect economic development, though they can influence local factors. North Plains' primary competitive advantages are: well-educated, skilled and trained labor-force residents, government simplicity⁵, path of growth, potential availability and cost of land, location, transportation access, and quality of life. These factors make North Plains attractive to residents and businesses that want to be part of the regional economic ecosystem around the Portland metro, but value the accessible size, available housing, and more rural setting. The following items describe certain City advantages relating to specific items in 600-009-0015(4) (a-h):

LOCATION

North Plains is a city with a population of approximately 3,450 people as of 2021 (PSU), located in western Washington County to the north of Forest Grove and Hillsboro. U.S. Route 26 runs along the southern boundary of North Plains. North Plains' location will impact the area's future economic development:

- North Plains is located within Washington County, the second-most populated county in the State, with roughly 605,000 residents in 2021. North Plains is located about 5 miles from Hillsboro, 14 miles from Beaverton, and 18 miles from Portland. Hillsboro, Beaverton, and Portland were the 5th, 7th, and 1st most populous cities in the state respectively. (ref: 660-009-0015(4)(a), (d) and (e))
- The Hillsboro-Beaverton area is the heart of the "Silicon Forest," the nickname for the cluster of high-tech companies in the Portland region. Most notably, Intel has major production and research facilities in Hillsboro. Intel reports more than 21,000 employees in Washington County, paying high average wages.
- Located near the foothills of the Coast Range, North Plains has access to outdoor recreational activities, including biking, fishing, and hiking. The award-winning Pumpkin Ridge Golf Club is located just outside North Plains city limits.
- Residents of North Plains have access to cultural activities and amenities such as the Elephant Garlic Festival and summer farmers' market. Nearby events include the Northwest String Summit, Helvetia Culture Fest, and the Dixie Mountain Strawberry Festival.

⁵ As a relatively small city outside the Portland Metro Region, the applicable UGB expansion process for North Plains does not include review and approval of its UGB expansion under Regional Government UGB planning policies, requirements, and procedures, consistent with the Legislative intent to streamline UGB expansion procedures applicable to small Oregon cities in ORS 197A.



North Plains' rural setting and proximity to larger cities in the region such as Hillsboro and Portland are primary competitive advantages for economic development in North Plains. (ref: 660-009-0015(4) (a), (d) (e) and (f)) The community is located on the far western edge of the urbanized metropolitan region, which will be a disadvantage to firms seeking a more central location but will not dissuade many other firms.

TRANSPORTATION ACCESS (REF: 660-009-0015(4)(B))

All firms are heavily dependent upon surface transportation for efficient movement of goods, customers, and workers. Access to an adequate highway and arterial roadway network is needed for all industries. Close proximity to a highway or arterial roadway is critical for firms that generate a large volume of truck or auto trips, rely on visibility from passing traffic to help generate business, and recruit employees from a broad labor market.

North Plains has good access to the State's highway system and other transportation opportunities. The Sunset Highway (U.S. Route 26) is the primary route past the city, connecting local businesses to employees, and residents to other cities in the region for employment, shopping and services. In light traffic, I-5 is about a 20-minute drive from North Plains via either central Portland or Route 217. However, traffic typically causes delays during peak times. North Plains is roughly 5 minutes via the highway from North Hillsboro, which is one of the state's largest and most dense concentration of high-wage employment.

Highway access is a major competitive differentiator between North Plains and other communities to the west of Hillsboro in western Washington Counties, such as Cornelius, Forest Grove, or Banks. While those communities each feature their own strengths, highway access is a key advantage for North Plains.

North Plains features two nearby highway interchanges, one at NW Glencoe Road in North Plains, and one two miles to the west at NW Dersham Road. The Dersham Rd. interchange is roughly a mile to the west of the current city boundary but is likely to provide an important access point in the future as the city grows and the Glencoe Rd. exit reaches traffic capacity. Another access point is the interchange at NW Jackson School Road located roughly two miles to the east of the city.

In a May 2022 meeting ODOT staff, who administer the State Transportation Planning Rule (TPR), NP UGB staff and consultants were preliminarily advised that on- and off-ramp mitigation improvements to the Jackson School Road Interchange and/or improvements to the Dersham Road Interchange would likely be required if NP UGB industrial expansion developments "significantly affects" the Interchanges' peak-travel and volume/capacity performance. It's anticipated that such mitigation improvements costs would be addressed and allocated in various land use planning/development funding mechanism tools such as conditions of approval, development agreements, memos of understanding. In addition, the City would capitalize on allowed "partial mitigation" cost offset opportunities provided by the TPR should targeted UGB industrial expansion developments "create direct benefits re: industrial or traded-sectors jobs" and are limited to such jobs.

US 26 is also the fastest route from Portland to the Oregon Coast. Residents and businesses in North Plains have access to other modes of transportation from the nearby Metro cities, including regional bus and light rail service and Amtrak rail service. The closest commercial airport is Portland International Airport (45 minutes away).



Ride Connection runs a free weekday bus that connects North Plains to the Hillsboro Transit Center, Banks, and Forest Grove. From the Hillsboro Transit Center, transit riders can connect to other TriMet routes including MAX light rail.

PUBLIC FACILITIES AND SERVICES

Provision of public facilities and services can impact a firm's decision regarding location within a region. Stakeholders have confirmed that businesses make locational decisions primarily based on factors that are similar across a subarea or region. These factors include the availability and cost of labor, transportation, raw materials, capital, and amenities. The availability and cost of these production factors are usually similar within a region. The discussions re: transportation access, power, water, wastewater in this EOA section address public infrastructure and services considerations under 660-009-0015(4) (c).

Once a business has chosen to locate within a region, they may consider the factors that vary more across localities: tax rates, the cost and quality of public services, and regulatory policies. Economists generally agree that these factors do affect economic development, but the effects on economic development are modest. Thus, most of the strategies available to local governments have only a modest effect on the level and type of economic development in the community.

TAX RATES

North Plains has among the lowest property tax rates in Washington County.⁶ Property tax rates in North Plains for the tax year ending 2021 were \$15.37 per \$1,000 of assessed value, compared with \$17.65 for Banks, \$16.62-\$17.19 for Forest Grove, and \$16.47-\$19.56 for Hillsboro. The City permanent rate is \$2.17 per \$1,000, which is among the lowest in the area, and the City does not have any optional levies.

POWER

PGE is the provider of power in North Plains and is an attractive supplier for major industries. The relatively affordable cost and use of renewable sources such as wind and hydroelectric generation are attractive to large industrial users for whom reliable, high-capacity power is essential. These firms also often strive to meet corporate environmental goals through renewable energy. Power is one of the major inputs for data centers as well as advanced manufacturers.

WATER

North Plains purchases water from the Joint Water Commission, which is the primary drinking water supplier in Washington County. The Joint Water Commission is jointly owned by the City of Hillsboro, the City of Forest Grove, the City of Beaverton, and the Tualatin Valley Water District.⁷ North Plains' water distribution system consists of roughly 13.5 miles of water lines. The City Department of Public Works operates and maintains the water distribution system.

An existing Water Supply/Delivery Agreement with a Joint Water Commission assures the City water delivery by the Commission as follows:

2020: Maximum Daily Demand – 1.2 mgd.

⁶ League of Oregon Cities, City Property Tax Report, March 2016. Retrieved from: <http://www.orcities.org/Portals/17/Library/City%20Property%20Tax%20Report%202016.pdf>

⁷ Joint Water Commission. Retrieved from: <http://jwcwater.org/>



- 2025: Maximum Daily Demand – 1.5 mgd.
- 2030: Maximum Daily Demand – 2.0 mgd.
- 2035: Maximum Daily Demand – 2.5 mgd.

Under a “Obligation to Supply Water” provision, the Agreement requires the City to maintain a Water Master Plan that describes “projections on population growth, number and types of customer connections, and water demand”. It’s anticipated that approved NP UGB expansions will require a Master Plan update followed by negotiated Agreement volume adjustments to the above-cited water delivery schedule.

Water rates in North Plains are currently higher than in other cities because in 2005 the City took out debt to in order to connect its water mains to the Joint Water Commission transmission main.⁸ It is anticipated that approval of NP’s UGB industrial expansion and subsequent development of the types of preferred new and expanding tech-based and supporting industries and businesses NP wishes to attract and accommodate (see. EOA p. 6, above) will direct their water supply and delivery costs directly to those businesses.

WASTEWATER

Wastewater treatment services for North Plains are provided by Clean Water Services, which is the regional wastewater management provider for urban Washington County.⁹ By 2025, Clean Water Services anticipates that more than 675,000 people will live in its service area, and the agency is planning for that population growth.¹⁰ Wastewater service is not likely to be a constraint on economic growth in North Plains.

INDUSTRIAL AND COMMERCIAL REAL ESTATE PRICES

Commercial and industrial space and land in North Plains is less expensive than land in Hillsboro, or Beaverton. Data from CoStar indicate that the market rate lease rate for commercial space in North Plains is roughly 30% lower than in those larger neighboring cities. The estimated average industrial space lease rate is lower than in Hillsboro and Beaverton. These differences in achievable lease rates are capitalized in achievable land prices. Industrial land in particular offer a competitive price advantage to land in Hillsboro while being very nearby. Commercial land value will be more closely tied to the support for specific goods and services in the local market, as retail and commercial services are locale-dependent, and sites are not substitutable across a broader area.

QUALITY OF LIFE

North Plains’ quality of life is a key comparative advantage for economic development. Key quality of life factors in North Plains are:

- **Scenic setting within proximity to metro area.** North Plains has an accessible, livable scale within a scenic rural setting. North Plains is surrounded by farmland and is close to the foothills of the Coast Range, with nearby access to nature and recreation.

⁸ City of North Plains. “Water”. Retrieved from: <http://cityofnp.org/index.php/departments/public-works/water/>

⁹ Clean Water Services. “Utility Billing.” Retrieved from: <http://www.cleanwaterservices.org/for-residents/utility-billing/>

¹⁰ Clean Water Services. “2016-2020 Capital Improvement Program.” Retrieved from: <https://www.cleanwaterservices.org/media/1293/capital-improvements-program-2016-2020.pdf>



- **Growing housing options.** North Plains has experienced steady homebuilding that offers new neighborhoods of hundreds of homes in a county where home building has struggled to keep pace with demand. An attractive residential community for employees is an attractor for firms.
- **Cultural amenities and events.** Residents of North Plains have access to cultural amenities and activities in the city and elsewhere in western Washington County and the Portland region. Each August, North Plains hosts the Annual Elephant Garlic Festival. North Plains also has a weekly farmers market during the summer. Nearby cultural events include: Northwest String Summit at Hornings Hideout, Dixie Mountain Strawberry Festival, and Helvetia Culture Fest. In addition, North Plains residents can access the cultural amenities and events in the greater Portland region.
- **Outdoor recreational activities.** There are a number of outdoor recreational activities available near North Plains, including: biking, hiking, and fishing. North Plains is close to the Banks-Vernonia Trail, a 21-mile multiuse path. The Willamette Valley Soaring Club operates a glider port just outside of North Plains. The nearby Pumpkin Ridge Golf Club has been ranked as one of the country’s best public golf courses.
- **Direct auto access to larger cities in the Portland region.** North Plains’ proximity to Hillsboro, Beaverton, and Portland gives its residents access to the activities, amenities, markets, and jobs in these larger cities.

North Plains’ quality of life makes the city attractive to in-migrants and businesses that are attracted to a livable atmosphere but value proximity to the larger cities of western Washington County and the Portland region.

ECONOMIC DEVELOPMENT AND REAL ESTATE - EXPERT OBSERVATIONS

City staff and consulting staff held discussions with a sample of experts in the regional economy, including economic development agency professionals, industrial real estate brokers, corporate site selection professionals, and neighboring city officials. The following is a summary of Stakeholders’ comments that have informed the ensuing analysis, and the various report sections:

- Businesses are seeking industrial land locations all along the I-5 corridor from Portland to Eugene. They are willing to consider the whole Portland region, and most of the Willamette Valley, up to 30 miles to either side of the freeway.
- Western Washington County is its own submarket within the state and metro area. The Silicon Forest attracts companies that want the workforce, power, land and livability but less dependent on the immediate freeway access.
- Washington Co. is running out of industrial land. The price of industrial land in the area has doubled in the last four years and is still climbing. If infrastructure can be supplied within 24 months, land is basically considered development ready.
- Businesses identified by the stakeholders as potential “spillover” from the north Hillsboro area or broader western Washington County include:
 - Semi-conductor supply chain and support businesses (small-to-midsize firms).
 - Modern distribution and fulfillment businesses serving Washington County.
 - High tech advanced manufacturing (on mid- to large sites).



- Data centers, likely co-location, not enterprise, facilities (on mid- to large sites).
 - Specialty food and beverage processing.
 - Green energy businesses, including energy storage, batteries.
-
- As recently as five years ago, most business recruitment inquiries were for professional office development sites. Now roughly 80% of inquiries are from industrial and distribution users.
 - Data centers are a continuing major source of interest in west Washington County. PGE can offer ample, low-cost power from renewable sources. Data centers will continue to seek large sites if available and can be served by sufficient power, data lines, and water. Lack of sales tax and other tax incentives are also attractive due to large scale of equipment investments.
 - Some locations in North Plains will be better suited for employment uses than residential uses. Land near the highway will make the best industrial sites due to access and ability to coexist with the externalities of the highway. Residential uses might be better suited to locations farther from the highway.
 - The sweet spot for industrial land demand is for sites between roughly 5 - 20 acres in size. Based on recent data center site selector inquiries made to the City, North Plains should seek and preserve at least two (2) 100-acre sites. Those big users come along less often, but they are out there. In North Hillsboro, areas that come available with 10-to 20-acre industrial parcels get snapped up as they become ready therefore, North Plains UGB expansion to attract and accommodate such smaller industrial uses would address the 660-024-0040(5) and 660-009-0025(3) requirements to *“include a determination of the need for a short-term supply of land for employment uses”*.
 - The region needs to maintain an available supply of large sites: sites that can be available and development ready for large uses such as large tech-based uses and larger data centers as well as sites that can be divided or sectioned off as the market dictates. In response to a key City priorities, North Plains needs and wants to be able to offer such large intact as well as divisible sites in its potential UGB expansion areas to readily capture both frequent demands for smaller (5-20 acres) sites and the occasional demand for large sites in west Washington County. Firms and business park developers can create the spaces the market demands.
 - For marketing to prospective businesses, important factors are the availability of land that is readily served by infrastructure, lower land cost and power cost, and proximity to the “Silicon Forest.” Quality of life and lower cost of housing are also differentiators. Western Washington County communities are in play for manufacturers and suppliers as long as sites are available.
 - The region doesn’t compete for the cheapest manufacturing; it competes for higher-value, higher-wage industries with such competitive advantages as a young and relatively educated workforce, lower costs relative to other West Coast metros, location at power and data nodes, and decent transportation connections.



V. TARGET INDUSTRIES

The “target industries” approach to identifying and pursuing UGB employment expansion land needs is recognized by DLCD as a methodology to ensure that local economic development priorities are reflected in land need estimates beyond a purely numbers-driven growth rate approach.¹¹ This EOA applies that approach to determine the number and types of land and sites needed to attract and accommodate:

- Targeted large-sites (50-100 acres) industrial users (which have typically been tech-based and export-based businesses in West Washington County) over the 20-year UGB planning horizon; and,
- Targeted mid-size (20-50 acres) and smaller-sites (5-20 acres) industrial users to provide a short-term land supply required by Goals 9 and 14.

This approach eschews the use of population growth forecasts to determine **industrial land need** for both planning time frames. However, North Plains population growth forecasts described in this EOA underpin the land need estimate for **commercial land** cited in this EOA.

The preceding analysis discusses the city’s competitive advantages to attract a range of new large, mid-size and smaller employers in targeted industries of the types already existing in West Washington County to employment lands in North Plains. The following discussion addresses two main issues: (1) Which industries are most likely to grow in Washington County, and be attracted to North Plains? and (2) Which industries best meet North Plains economic development priorities?

For the City’s future commercial land need estimates (Section VI), this EOA relies on a combination of the latest Oregon Employment Department industry-specific growth forecasts and PSU population growth forecast, adjusted to reflect the specific site needs of the target industries discussed here.

It should also be noted that the targeted industries approach to North Plains economic opportunity is consistent with and supported by the Oregon Semiconductor Competitiveness Task Force land and site need findings, a summary of which can be found in Appendix D. Semiconductor manufacturing and supply chain, and their resulting land need, were identified in the original February 2022 City of North Plains Economic Opportunities Analysis. The Oregon Task Force findings both reinforce City targeted industries planning with significant additional, independent verification of industry needs as well as put a rapid acceleration on those semiconductor-related land needs compared to a full twenty-year build-out period originally anticipated.

¹¹ See. *1000 Friends of Oregon v. LCDC and City of Woodburn*, 260 Or App 444, 447-448 (2014):

“[T]he target-industries approach considers a local government’s employment-growth projections and goals for employment and establishes a framework for attracting the kind of employers that could reasonably be expected to support the kind and amount of employment growth to which the local government aspires. Given the site needs of those particular employers, the local government identifies potentially available land both within and outside its UGB and selects a group of sites and an amount of land that it believes will accommodate the employers that it seeks to attract. The target-industries approach differs from an ‘employees-per-acre approach under which a local government simply projects employment growth and divides that growth by a statistically accepted number of employees per acre of land in order to arrive at the number of acres needed to support employment growth.”



PROJECTED EMPLOYMENT GROWTH (REGIONAL)

As noted in Section III, the State of Oregon produces employment forecasts by sector within sub-regions, which groups Washington County with Multnomah and Clackamas Counties into the broader Metro area. This forecast is represented here for reference (Figure 5.01).

Within the entire Metro area, all industry sectors are forecast to grow over the next decade. Those sectors forecasted to grow at an above average rate are professional services, and education and health services. The health care sector is projected to continue growing with the aging of the population. Other strong sectors are transportation, warehousing, and information, reflecting the continuing growth of internet business, data centers, software, and remote shopping. Tourism is projected to experience the fastest growth reflecting low baseline of the 2020 pandemic year. On an absolute basis, the greatest number of new jobs are forecasted in tourism-related industries, professional services, and education and health services.

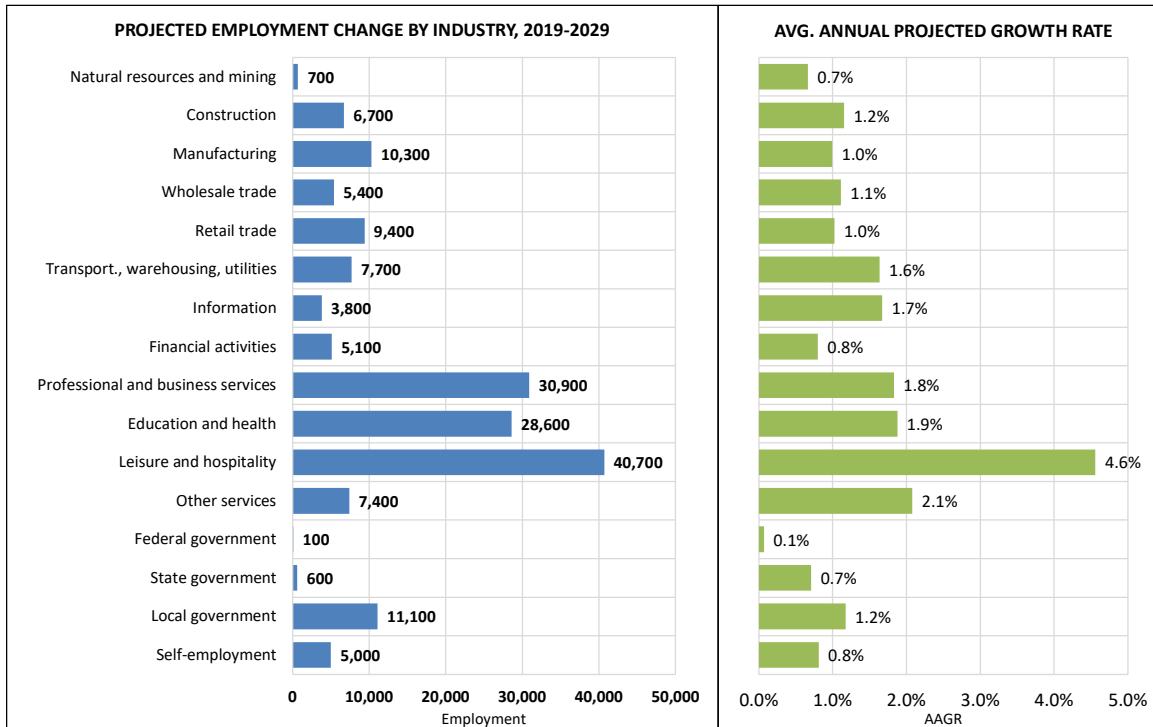
Notwithstanding the stronger projected performance of these sectors in the broader Metro area, some client-centric and customer-centric sectors that need close or convenient access to or by a critical population mass for their customers are not expected to be the greatest sources of potential job growth in North Plains which sits outside but near the Western edge of the Metro area. Clusters of these sectors tend to in more centralized and densely populated parts of the Metro areas, whereas North Plains is a better candidate for growth in other industry clusters. Nevertheless, North Plains will need some sites to accommodate the marginal growth in professional and health services, and tourism-related industry.

In addition, a considerable demand for convenience retail shopping and personal services businesses in the city is generated by existing and future residents predicted by population growth forecasts.

North Plains has good, though proportionately small employment representation in some of these industries such as tourism, education, and health care, but less representation in professional services and information sectors. Of employment located in North Plains, the greatest share is in manufacturing, construction, and waste management.

The applicability of these regional growth rates to local forecasts is uncertain – if not inapplicable - as they pertain to industrial and commercial business sectors that may not have competitive advantages or anticipated strong local demand if located in North Plains. Adjustments are applied to North Plains' land need estimates for these sectors to reflect the realities of the current and target employment distribution in North Plains.

**FIGURE 5.01: PROJECTED EMPLOYMENT GROWTH BY SECTOR
WASHINGTON, MULTNOMAH & CLACKAMAS COUNTIES**



SOURCE: State of Oregon Employment Department, Workforce and Economic Research Division

TARGET INDUSTRIES

The selection of target industries that follows are based on North Plains’ economic development goals for employment and livability cited in Section II above, the relatively stagnant economic profile under current conditions in North Plains, and the city’s locational competitive advantages. These targeted industries also respond to a persistent shortage of readily available development-ready industrial land in Washington County and Portland Region and the continuing need for sustained and ongoing industrial economic growth, health and diversification. A major emphasis of the City’s economic development program is to change from being a bedroom community, by creating a better jobs-to-housing balance, and greater employment diversity. Also, the community would like to have a greater range of commercial good and services available locally, to serve the daily needs of residents. The following target industries reflect and will achieve these goals:

- Small-scale and medium-scale manufacturing.** North Plains’ attributes, especially its location along Highway 26, relatively low land prices, and proximity to Hillsboro and Beaverton, can attract manufacturing firms. Manufacturing firms are often export-based businesses, ranging from relatively small startups with 10 or fewer employees requiring smaller sites (5-10 acres) to larger manufacturers with 200 or more employees needing larger sites. Examples of manufacturing industries that may grow or locate on suitable North Plains sites include:



- Electronics and computer manufacturing, such as businesses that provide components to larger manufacturers in the Portland region – underscored by Oregon Task Force findings .
 - Machinery manufacturing, such as agricultural or industrial machinery.
 - Fabricated metal manufacturing.
 - Specialty food and beverage manufacturing, such as wineries, beer brewing, fruit or vegetable products, or other products.
 - Renewable and alternative energy products.
 - Manufacturers providing components and supplies to larger firms – underscored by Oregon Task Force findings, particularly for supply chain businesses.
- **Data center(s).** Like much of the nearby industrial area in western Washington County, emerging demand for data center sites in North Plains is confirmed by recent inquiries about availability of such sites in the City from data center developers. That demand stems from a burgeoning, worldwide demand for data center services, which support everything that people do online. All types of businesses increasingly rely on these facilities for data storage and flow in the modern world. Existing nearby sources of the ample power and water resources needed by data centers, as well as proximity to existing large international data lines, gives North Plains a competitive advantage as a data center location, and timely development and operational advantages. Sites for data center and their ancillary uses can range from 50-100 acres in size. Discussions with economic development experts and site selectors are part of this analysis confirm that there would be latent near-term demand for many more large data center developments if suitable large industrial sites were available.
 - **Small-scale and medium-scale warehouse, distribution, and wholesale.** North Plains’ location along Highway 26, relatively low land prices may make the city attractive to small to medium-sized wholesale and distribution firms, especially of goods produced in Washington County. These uses and their ancillary uses often require 10-12-acre sites.
 - **Professional services.** North Plains’ high quality of life, lower commercial land costs, relatively affordable housing, and proximity to Hillsboro and Beaverton may attract professional and business services that prefer to locate in a smaller city like North Plains, such as software development, research or environmental services, or other services. Professional services may also include independent contractors, such as sole proprietors and others not covered by unemployment insurance. These types of businesses often locate within commerce centers that need at least 10-20-acre sites to accommodate a mix of professional services that need varying floor space as well as anchor retail stores and/or larger office complexes and their ancillary uses.
 - **Services for residents.** Population growth will drive development of retail, such as a grocery store, general merchandise and specialty and retail shops, restaurants, government services, education and childcare facilities in North Plains. These types of convenient goods and service uses or complexes often require at least 5-acre sites and sometimes 10-acre sites.
 - **Services for seniors.** The growing population of those near or in retirement in Washington County and the Portland region may attract or create demand for services for seniors, such as like assisted living facilities, retirement centers, and related medical services.



- **Services for visitors:** Growth in tourism will drive demand for services for visitors such as restaurants or lodging. Many tourist-related businesses also locate in retail and/or office locations.



VI. EMPLOYMENT AND LAND NEED FORECASTS

NORTH PLAINS EMPLOYMENT AND LAND FORECASTS

The EOA land need forecast contains two main components: a targeted-industries land need forecast aimed at accommodating new types of target industries businesses and a forecast of regarding additional land needed to accommodate job growth of existing North Plain to support City population growth. Both land need forecasts are merged into a single 20-year land need estimate. Except for businesses in the new large-site tech-based and industrial park categories (which do not now exist in North Plains), the City anticipates future industrial growth to contain a mixture of the targeted industry businesses as well as the other sectors.

A. BASELINE EMPLOYMENT FORECAST

Prior to factoring in the specific needs of targeted business sectors, a baseline City employment and land need projection was developed as a part of initial City EOA based on official population growth forecasts issued by Portland State University (PSU) that underestimated the City's future population and housing growth. This EOA updates that projection in response to corrected and updated (PSU) City population and housing growth data and forecasts for the City.

As noted earlier, however, the new forecast informs only the City's need for more commercial land over the 20-year UGB planning period as it correlates that land need to the amount of City population growth over that period that will generate the demand for greater retail and other business services than now exists within the City's current commercial uses and areas.

An updated "traditional jobs/acre" baseline employment forecast is not used exclusively to project the City's industrial land need over that planning period because it does not fully respond to and address the full aspirational City "targeted industries" economic development potential or priorities of the City from which the City's industrial employment land needs over the UGB planning period derive – as encouraged and enabled by the Goal 9 Rules. The City's industrial development potential and its economic growth priorities are addressed and set forth in the subsequent discussions to this analysis.

The first analytical step of the analysis is to update covered employment to the 2021 base year (Figure 6.01). To update these estimates, we use observed industry specific growth rates for Washington County between 2019 and 2021.

The second step in the analysis is to convert "covered"¹² employment to "total" employment, the results of which are described in Fig. 6.01 below. The adjusted 2021 total employment base for the City of North Plains is 1,050 jobs.

¹² The Department of Labor's Quarterly Census of Employment and Wages (QCEW) tracks employment data through state employment departments. Employment in the QCEW survey is limited to firms with employees that are "covered" by unemployment insurance.



FIGURE 6.01: UPDATE TO 2021 BASELINE AND CONVERSION OF COVERED TO TOTAL EMPLOYMENT

Major Industry Sector	QCEW Employment			Total Emp. Conversion ²	2021 Estimate
	2020 Employment	'20-'21 County Δ ¹	2021 Estimate		
Construction	178	3.1%	183	73%	250
Manufacturing	253	2.7%	260	98%	266
Wholesale Trade	88	4.5%	92	97%	95
Retail Trade	31	3.1%	32	94%	34
Transport., Warehouse, Utilities	17	2.9%	17	91%	19
Information	3	5.1%	3	95%	3
Finance & Insurance	12	1.2%	12	92%	13
Real Estate	35	7.7%	38	92%	41
Professional & Technical Services	22	8.0%	24	88%	27
Admin. & Waste Mngt. Services	126	8.0%	136	88%	154
Education	34	3.3%	35	95%	37
Health Care	29	1.1%	29	95%	31
Leisure & Hospitality	118	9.2%	129	94%	137
Other Services	17	9.2%	19	83%	22
Government	21	1.4%	21	100%	21
TOTAL	984	2.4%	1,031	90%	1,150

¹ Forecasted AAGR from 2019-2029 for the Portland Tri-County submarket. Oregon Employment Department

² Bureau of Economic Analysis. Calculated as an eight-year average between 2010 and 2018

Once the 2021 baseline of employment is established, future growth forecasts are applied by industry sector for the baseline and adjusted scenarios, to forecast employment growth over the 20-year planning period (to 2041). In addition to these growth rates, an adjustment is made (to both scenarios) that reflects the employment needed to correct the current jobs-to-housing imbalance identified in North Plains, as explained below.

JOBS-TO-WORKERS BALANCE

As explained in Section III, North Plains has an estimated 1,150 total local jobs (covered and non-covered) working in current businesses that are mostly outside the target industries sectors, and 1,730 working North Plains residents, most of whom work outside the City. This indicates a ratio of 0.65 local jobs for each local working resident or 1.5 local workers for each available local job. To achieve a one-to-one jobs-per-worker balance a **current deficit** of roughly 580 jobs in North Plains needs to be eliminated. The new jobs needed within the City to eliminate that deficit need to be in sectors that match the job experiences, jobs interests and/or qualifications of existing and future City residents which is not now the case. Thus, the 1.5 local jobs/working City resident ratio does not truly reflect and may greatly understate that ratio and imbalance. More accurately, the future jobs profile in the City needs to far better match the job experiences, jobs interests and/or qualifications of existing and future City residents to achieve the desired local jobs/local residents ratio balance – one of several community objectives and priorities at which the targeted industries approach is directly aimed.

The targeted Industries approach recommended by this EOA is intended, over the course of the 20-year UGB planning period, to reverse and substantially lower the numbers of existing and new City residents working in jobs in the targeted industries sectors outside the City; thereby improving that ratio. Attracting and accommodating new businesses that fall under the listed targeted industries will provide many such jobs.



Simply applying numerical employment growth rates to current employment levels will not alleviate this deficit or establish a healthier jobs-to-worker balance in North Plains. Therefore, in addition to applying the baseline and adjusted growth rates, each forecast also includes an adjustment factor of new employment needed to create this balance. Specifically, **an adjustment of at least 582 additional needed jobs is added** to the forecast (see Figure 6.02). Practically, a much higher number of jobs should be added to an adjusted forecast when considering the profile of the types of new jobs the City will need to match the job qualifications and preferences of a generally well-educated North Plains resident population now and expected in the future over the 20-year UGB planning period.

BASELINE GROWTH FORECAST

The latest completed forecast for the North Plains UGB was completed in 2020 and forecasts an annual growth rate of 3.9% between 2021 and 2041. However, these official population estimates did not reflect robust house permitting activity in North Plains over many years. This mistake was since corrected around 2017, but the latest PSU forecast (2020), while reflecting the higher revised *current* population did not adjust the 20-year forecast higher by a concomitant amount. This translates to a much lower annual growth rate.

Until this discrepancy is resolved, the official PSU forecasted growth rate is not the most reliable figure to use in this analysis. It is used here as a foundation for the *adjusted* forecast.

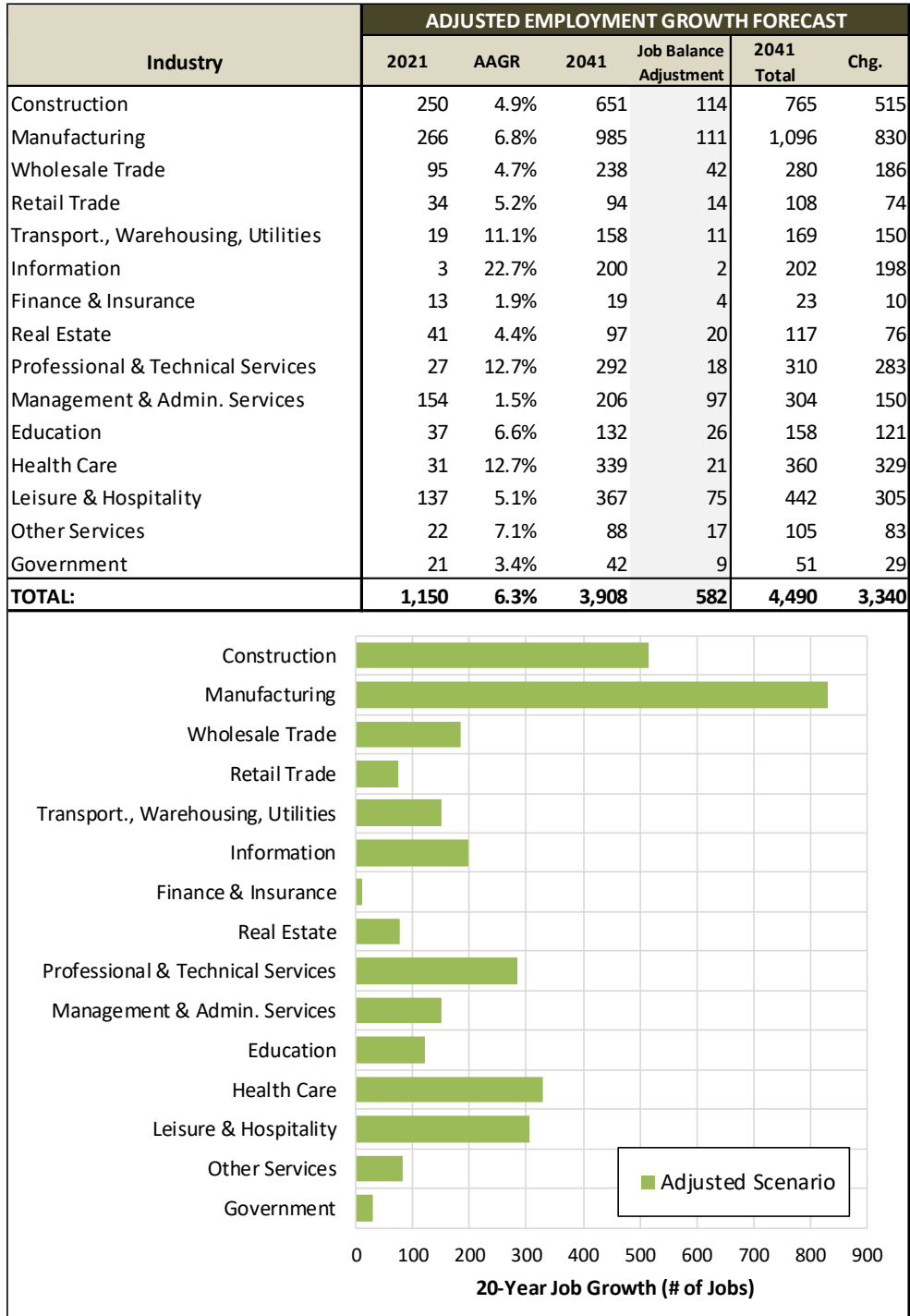
ADJUSTED GROWTH FORECAST

Although it likely is very conservative based on the preceding jobs/residents ratio discussion, the adjusted forecast begin to reflect and address the local adopted economic development potential and adopted City economic growth/development priorities. The main adjustments increase the forecasted growth rate of the target industries, including domestic-based and export-based information and technology, manufacturing, warehousing, wholesale, information, and construction in the industrial land use sectors, and retail, financial, professional, and health services in the commercial sectors.

The result is total blended adjusted annual growth rate of 6.3% (see Figure 6.03). Resulting in the addition of over 3,300 new jobs over the planning period. This growth assumes the availability of suitable land and sites to meet the city's economic development goals. The greatest number of jobs are forecasted in manufacturing, construction, information (data center), technology and supporting businesses, professional services (business park), and health care.



FIGURE 6.03: ADJUSTED EMPLOYMENT GROWTH FORECAST, CITY OF NORTH PLAINS



SOURCE: State of Oregon Employment Department, Metro, Johnson Economics

The 20-year forecast was broken down into five-year increments, assuming a consistent rate of growth over the period. However, in practice, a 20-year forecast will include multiple business cycles, and that growth will be variable over time.



FIGURE 6.04: SUMMARY OF EMPLOYMENT FORECAST, CITY OF NORTH PLAINS

Industry	Overall Employment					Net Change by Period				Total
	2021	2026	2031	2036	2041	21-26	26-31	31-36	36-41	21-41
Construction	250	330	437	578	765	81	107	141	187	515
Manufacturing	266	379	540	770	1,096	113	161	229	327	830
Wholesale Trade	95	124	163	213	280	29	39	51	67	186
Retail Trade	34	45	60	81	108	11	15	20	27	74
Transport., Warehousing, Utilities	19	33	57	98	169	14	24	41	71	150
Information	3	9	26	72	202	6	17	46	129	198
Finance & Insurance	13	15	18	20	23	2	2	3	3	10
Real Estate	41	53	69	90	117	12	16	21	27	76
Professional & Technical Services	27	49	91	168	310	23	42	77	142	283
Management & Admin. Services	154	182	216	256	304	28	34	40	47	150
Education	37	53	77	110	158	16	23	33	48	121
Health Care	31	57	106	195	360	26	48	89	165	329
Leisure & Hospitality	137	183	246	329	442	47	62	84	112	305
Other Services	22	33	49	71	105	11	16	23	34	83
Government	21	26	33	41	51	5	6	8	10	29
TOTAL:	1,150	1,575	2,187	3,094	4,490	425	612	907	1,396	3,340

SOURCE: State of Oregon Employment Department, Metro, Johnson Economics

ADDITIONAL CONTEXT FOR THE ADJUSTED GROWTH FORECAST

The 3,440 jobs expected to be added to the North Plains economy by growth in planned Targeted Industry expansion can be viewed in the context of recent, relevant forecasts. A detailed discussion of forecast context is provided in Appendix D of this document.

- 2019 OED Employment Forecast for Washington, Multnomah & Clackamas Counties (Figure 6.05):** The ten-year job forecast by Oregon Employment Department for the tri-county Portland metro region sees 167,800 new industry jobs between 2019 and 2029 for sectors that North Plains also expected to grow in its own economy. Over a similar ten-year period, North Plains plans to add 1,672 jobs, or merely 1.0% of the regionwide total. Various Manufacturing sectors are among North Plains’ Targeted Industries – including semiconductor manufacturing and supply chain – thus North Plain’s planned job growth represents up to 4% of the regionwide total over ten years, objectively still a small share of regional growth.



FIGURE 6.05: CITY OF NORTH PLAINS & THREE-COUNTY METRO REGION JOB GROWTH FORECASTS

Industry Sector	10-Year Job Forecast		
	OED - Tri-County	North Plains EOA	NP as % of Region
Construction	6,700	258	3.9%
Manufacturing	10,300	415	4.0%
Wholesale trade	5,400	93	1.7%
Retail trade	9,400	37	0.4%
Transport, warehousing, utilities	7,700	75	1.0%
Information	3,800	99	2.6%
Financial activities	5,100	43	0.8%
Professional and business services	30,900	217	0.7%
Education and health	28,600	225	0.8%
Leisure and hospitality	40,700	153	0.4%
Other services	7,400	42	0.6%
Government	<u>11,800</u>	<u>15</u>	0.1%
Three County 10-year forecast	167,800	1,672	
North Plains 10-year forecast	1,672		
North Plains Share of Tri-County Region	1.0%		

SOURCE: Figures 5.01 and 6.04

- 2022 OED & Metro Employment Forecasts for Washington, Multnomah & Clackamas Counties (Figure 6.06):** More recent total employment forecasts by both Metro and Oregon Employment Department, when compared, point to substantial employment occurring outside of the Portland metro UGB but still within Washington and Clackamas Counties, including North Plains. Of the 173,400 jobs projected by OED in the region, North Plains' planned ten-year growth amounts to only 0.96% of the regionwide forecast.

FIGURE 6.06: 2022 PORTLAND THREE-COUNTY EMPLOYMENT FORECAST, METRO & OED

	2020	2030	Employment Growth	Share of OED Forecast
<u>OED Projection</u>¹				
3-County Area:	996,500	1,169,900	173,400 17%	100%
<u>Metro Projection</u>²				
3-County Area:	1,026,032	1,091,568	65,536 6%	38%
Metro UGB Cities:	869,782	916,928	47,146 5%	27%
Unincorporated Areas:	142,058	160,054	17,996 13%	10%
Non-Metro Cities:	156,250	174,640	18,390 12%	11%

¹ Portland Tri-County Industry Projections 2020-2030, Oregon Employment Department (11/21)

² 2045 Distributed Forecast of Population, Households, and Employment, Metro (2/21)

Metro for the same time period forecasts that 11% of all three-county job growth will locate in cities outside of the Portland metro UGB. Interestingly, the total number of jobs expected by Metro to be added over the next ten years to the tri-county region deviates dramatically from the OED forecast which is more consistent with past growth trend in the region and the state. In other words, communities like North Plains are not only projected to see substantial job growth spilling



over from the Metro UGB, but also prepare for even greater job growth spilling over per the OED forecast as Metro will plan for employment lands based on its own lower forecast.

- 2011 to 2022 Portland Metro Large Industrial Site Lack of Availability OED & Metro Employment Forecasts for Washington, Multnomah & Clackamas Counties (Figure 6.07):** A major background factor driving North Plains Targeted Industry growth and land need is the chronic, long-term and well-documented shortage of industrial land and sites for important Portland metro region industries. Figure 6.07 displays the official inventory of larger industrial sites suitable for important regional industries based on “tiers” of site readiness, whether immediately “shovel-ready” (Tier 1) to requiring substantial site investment such as brownfields remediation and off-site investment including substantial infrastructure and utilities extension (Tier 3) that may take several years. Over 11 years, the three-county region has seen only depletion of industrial sites suitable for Targeted Industries identified by the City of North Plains. The region now has half of the number of such industrial sites in 2022 than it did in 2011, the year that the first official inventory was conducted when industrial sites shortage was already a problem. Due to now “crisis” level shortage of industrial sites in the region and the overwhelming majority classified as Tier 3 sites requiring years to readiness, industry seeks site availability consistent with Metro’s own forecast that sizeable employment growth is going to be forced outside of the Portland metro UGB, not to mention over 110,000 jobs that OED projects will also have to be accommodated outside of the Portland metro UGB that Metro will not be planning to accommodate (Figure 6.06).

FIGURE 6.07: PORTLAND METRO INVENTORY OF LARGE INDUSTRIAL SITES

	2011 Inventory	2014 Inventory	2017 Inventory	2022 Inventory
Tier 1	9	14	10	2
Tier 2	16	17	11	6
Tier 3	31	23	26	20
Total	56 sites	54 sites	47 sites	28 sites

Source: Oregon Semiconductor Competitiveness Task Force, Mackenzie

B. TARGET INDUSTRY SITE AND LAND NEED

The table titled **Figure 6.07 North Plains Targeted Industrial & Commercial Businesses and Land Need Profile** (presented below in this section) identifies various target industry businesses and their estimated individual site-area requirements. These are EOA-identified targeted businesses that North Plains reasonably expects will seek available, suitable, and development-ready sites in the City.¹³

The profiles of these business and their typical site needs are informed by two land use and development research sources:

¹³ The applicable the Goal 14 Urbanization Rule in 660-024-0040(1) does not require a total 20-year UGB land need estimate, and thus its contributing sub-estimates components, to be precise: “[T]he 20-year (land) need determinations which, although based on the best available information and methodologies, should not be held to an unreasonably high level of precision.”



- Washington County and Metro RLIS GIS land use information covering nearby industrial areas that are representative of the types and sizes of businesses like North Plains’ target industries, and
- Recent studies in Washington County on industrial site readiness, site preferences, and feedback from industry experts.

Such businesses continue to seek such sites throughout the Silicon Forest area, especially in nearby Hillsboro and other western Washington County communities where there continues to be a shortage of such sites.

Goal 9 “strongly encourages” cities to pursue its economic growth and development aspirations by assessing its community economic development potential and to use that potential to form its economic development objectives. Those objectives inform the community’s future land need prescribed in its EOA and corresponding comprehensive plan UGB amendments that designates additional lands on which that potential will materialize and be realized.

The EOA acknowledges and addresses the need to satisfy Goals 9 and 14 compliance requirements that apply to a North Plains’ UGB employment land expansion. The City applies current industry data about the customary land need requirements of needed future employment uses as well as nearby examples of target industry businesses, to estimate and determine its required Goal 14 City 20-year jobs land need/supply requirement.

Goal 9 rules¹⁴ and recent Court decisions¹⁵ make clear that North Plains has “reasonable discretion” in determining what method it uses to determine how much land it needs to accommodate a demonstrated need for improved City livability as allowed by Goal 14, Factor 2¹⁶. LCDC determines whether the City’s determinations satisfies both Goals 9 and 14 and are sufficiently supported by the requisite “substantial evidence” while the Court’s role is to decide whether LCDC’s determinations properly applied its review standards.¹⁷

Industrial Land Need: Based on the targeted industry site characteristics data sources cited above, the aggregate 20-year land need for Target Industries businesses is 545 additional industrial acres distributed among the various types of industrial uses described in the table on the following page. The prevalent site sizes and developable characteristics of existing nearby like-kind targeted businesses in and around western Washington County provided reasonable templates for determining the City’s total need for additional UGB

¹⁴ OAR 660-009-0015 (1-5).

¹⁵ See e.g. *Zimmermann v. LCDC*, 274 Or App 512 (2015)

¹⁶ Goal 14, Factor 2 states in pertinent part that:

“Establishment and change of urban growth boundaries shall be based on . . . demonstrated need for . . . livability”, and “in determining (land) need, local government may specific characteristics, such as parcel size, topography or proximity, necessary for land to be suitable for an identified need. Prior to expanding an urban growth boundary, local governments shall demonstrate that needs cannot reasonably be accommodated on land already inside the urban growth boundary.”

¹⁷ *Zimmermann v. LCDC*, Op cit.



employment land and the needed individual site characteristics of the various types of targeted industry businesses.

Commercial Land Need: The City’s commercial land need over that planning period is estimated at 185 acres. The types of commercial uses needed in the City described in the following table reflect and expected future demand for retail and business services, based on observed commercial centers in Washington County communities. Second, the amount of land needed to accommodate those prototypical commercial uses is estimated based on industry data about the typical site and building characteristics of the commercial uses identified. Only a small amount of that projected need for small-scale businesses can be accommodated within the current City UGB. These small lots are properly zoned for business uses and are expected to contain only small retail and other businesses.

HELVETIA INDUSTRIAL AREA IN NORTH HILLSBORO – MODEL DEVELOPMENT PATTERN

Through the planning process of this EOA and the preceding formulation of economic development goals by local officials, the area of industrial development in North Hillsboro including the Helvetia Area Special Industrial District (HSID) has been chosen as a general model of the potential development pattern for new employment areas in North Plains. For the purposes of this analysis, this area is referred to as the Helvetia Industrial Area. It is located north of US 26, east of NW Helvetia Road, and west of NE Cornelius Pass Road (Figure 6.08).

FIGURE 6.08: HELVETIA INDUSTRIAL AREA



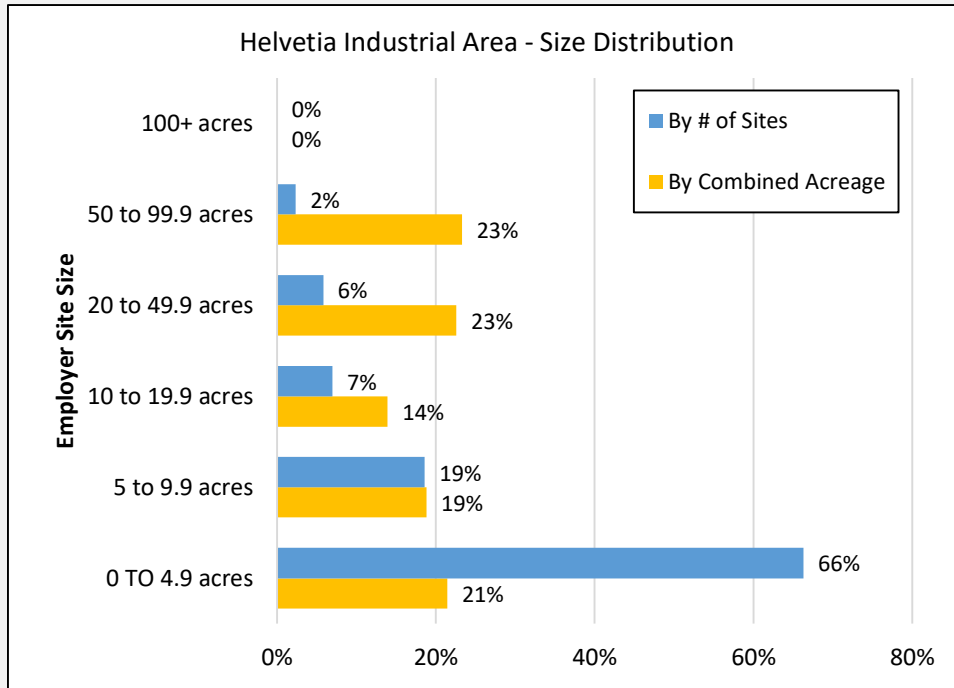
Source: Johnson Economics, Metro RLIS

For this analysis, the mostly developed portion of this area (with parcels outlined in white), was assessed as to the distribution of site sizes. The area includes a mix of industrial users, business park uses, and some commercial and institutional uses. This is seen as a demonstrated mix of the development and use pattern that might occur in new employment areas in North Plains to the west.

The distribution of the sites in this area is presented below in Figure 6.09 (adjacent taxlots with common ownership are combined.) There is a total of 86 such sites in the Helvetia Industrial Area.

A majority (66%) of these sites are small, at under 5 acres, with a diminishing share of larger sites. However, because they are smaller, the small sites represent only 21% of the total acreage (orange bars). Larger sites are fewer in number, but still represent a sizable share of the total acreage because they are larger.

FIGURE 6.09: HELVETIA INDUSTRIAL AREA



Source: Johnson Economics, Metro RLIS

This example development pattern was used as a primary source for determining the distribution of sites by size needed to accommodate the projected growth in employment. The distribution of projected need for sites under 100 acres closely matches this distribution of the Helvetia example.

Large Lot Needs: While the Helvetia example provides a good model for sites of under 100 acres, it does not include any larger industrial sites. The analysis presented in this EOA, based on the adopted economic development goals of North Plains officials, and the identified target industries, finds the need for multiple large lot industrial opportunity sites *in addition* to the site size distribution presented above. These larger sites are more analogous to major catalyst employers and data center development found south of the Helvetia area in the remainder of the North Hillsboro Industrial Area.

The EOA supports the need for a few such sites for the target industries: These large lots will be appropriate for a major semiconductor or advanced manufacturing employer similar in scale to the Ronler Acres and Hawthorne Farm Intel campuses; a mega-data center, similar in scale to the QTS and Digital Realty Data Centers in the Silicon Forest; a large business park development, with one or more large tenants such as high tech support companies and general industrial businesses, similar to the business agglomerations found in the Five Oaks and Sunset Highway Business Parks located in the Helvetia Industrial Area.



The above analysis contributed to the finding of site needs presented in the following table (Figure 6.10). In addition to the Helvetia Industrial Area model of development and use pattern, these findings are based on site characteristics detailed in the appendices. Specific sites/businesses in the western Washington County area were analyzed for example site characteristics for these types of target businesses (See Appendix B: Western Washington County Site Characteristics).

- **Appendix A: General Site Requirements by Industry**
- **Appendix B: Western Washington County Site Characteristics**



Figure 6.10: North Plains Targeted Industrial & Commercial Businesses 20-Year Land Need Profile

User Type (Based on Existing West Washington County Tech-based Large Site & West Union Rd. Industrial Uses Agglomeration)	20-Year Land Need (No. of Sites)	Alternative Potential NP Individual and/or Clustered Export-based and Local Employers per Adopted NP Vision & Implementing Priorities.	20-Year Land Need (Total Acres)	Percent of Total Land Need Estimate	Existing Buildable Sites w/in NP UGB of sufficient size	Recommended Uses & Allocation of Potential Employer
Industrial (Est. 20-Years Land Need)						
Tech-based Anchor User(s) or Large-Site Industrial User(s) and/or Campuses (100 acres site) Consistent with Oregon Semiconductor Task Force findings (Appendix D)	2 sites	<ul style="list-style-type: none"> Data Processing & Ancillary Uses/Supporting Facilities Large Computer & Electronics Manufacturing Combination of above Employers 	200 Acres (2 sites)	37%	none	<ul style="list-style-type: none"> Data Centers Major Tech-based Employer Campus Major Product Manufacturer/Research Center
Large Industrial Business Park/Cluster (50-100 acres site) (i.e., the West Union Road Industrial Cluster/Agglomeration) Consistent with Oregon Semiconductor Task Force findings (Appendix D)	1 site	<ul style="list-style-type: none"> Computer & Electronic Manufacturing Larger Multi-tenant Office Complex Small- & medium-scale manufacturing Warehouse, distribution & wholesale Combination of above Employers 	100 Acres (1 site)	18%	none	<ul style="list-style-type: none"> Computer & Electronic Manufacturing Small-scale Manufacturing Business Startups, Incubators, Technology Ancillary & Support Businesses. Construction Companies
Medium and Smaller Industrial Park acres (20-50 acres site)	2 sites	<ul style="list-style-type: none"> Multi-tenant Office Complex. Business Incubator Food Processing 	100 Acres (2 sites)	18%	1 site - 20.8 acres	<ul style="list-style-type: none"> Multi-tenant Office Complex Small-scale Food Processing Small-scale manufacturing, warehouse, distribution & wholesale. Retail Outlets



		<ul style="list-style-type: none"> • Small-scale manufacturing, warehouse, distribution & wholesale • Combination of above Employers 				<ul style="list-style-type: none"> • Consumer Goods Production, Distribution
Expanding Users (5-20 acres)	8 sites	<ul style="list-style-type: none"> • Business Incubator • Small-scale warehouse, distribution & wholesale • Professional services 	80 Acres (8 site)	15%	none	<ul style="list-style-type: none"> • Business Incubators • Professional Services offices
Independent Small Businesses (5 acres or less)	13 sites	<ul style="list-style-type: none"> • Small-scale warehouse, distribution & wholesale • Business Incubators • Professional services¹⁸ 	65 Acres (13 sites)	12%	4 sites - > 1 acre 1 site - > 5 acres 1 site – 5.5 acres	<ul style="list-style-type: none"> • Small-scale warehouse/distribution • Professional services
Totals:	26 sites		545 Acres	100%	29.6 acres/ 12 lots	
Commercial (Est. 20-Years Land Need)						
Larger Retail Center and/or Business Park or (20-40 acres)	1 site	<ul style="list-style-type: none"> • Multi-tenant Office Complex • Retail Commercial • Business Incubators • Commercial services • Combination of above Employers 	40 acres (1 site)	33%	none	<ul style="list-style-type: none"> • Retail Commercial /Commercial Services • Multi-tenant Office Complex/ Commercial Services
Medium Business Park or Convenience Retail Complex (5-20 acres)	5 sites	<ul style="list-style-type: none"> • Business Incubators • Commercial Services 		17%	none	<ul style="list-style-type: none"> • Commercial Services/Business Incubators

¹⁸ Professional services may include business services, software development, research or environmental services, independent contractors, sole proprietors, governmental services (especially primary education), other personal services (i.e., services for seniors like assisted living facilities, retirement centers and related medical services).



		<ul style="list-style-type: none"> • Convenience Retail Commercial¹⁹ • Combination of above Employers 	60 acres (5 site)			<ul style="list-style-type: none"> • Convenience Retail Commercial (10 Acres, 1 site)
Small Offices & Independent Retailer, Lodging Sites (5 acres or less)	17 sites	<ul style="list-style-type: none"> • Commercial Services • Convenience Commercial Retail • Combination of above Employers • Business/Family Lodging 	85 acres (17 sites)	50%	19 tax lots 15 sites – >1 Acre 4 site - > 5Acres 1 site – 3.1 acres	<ul style="list-style-type: none"> • Commercial services • Lodging • Free-standing and small groupings of restaurants, dry goods and personal services shops, etc.
Totals:	23 sites		185 Acres	100%	12.6 Acres/19 lots	

¹⁹ Includes grocery store(s), other retail, and restaurants



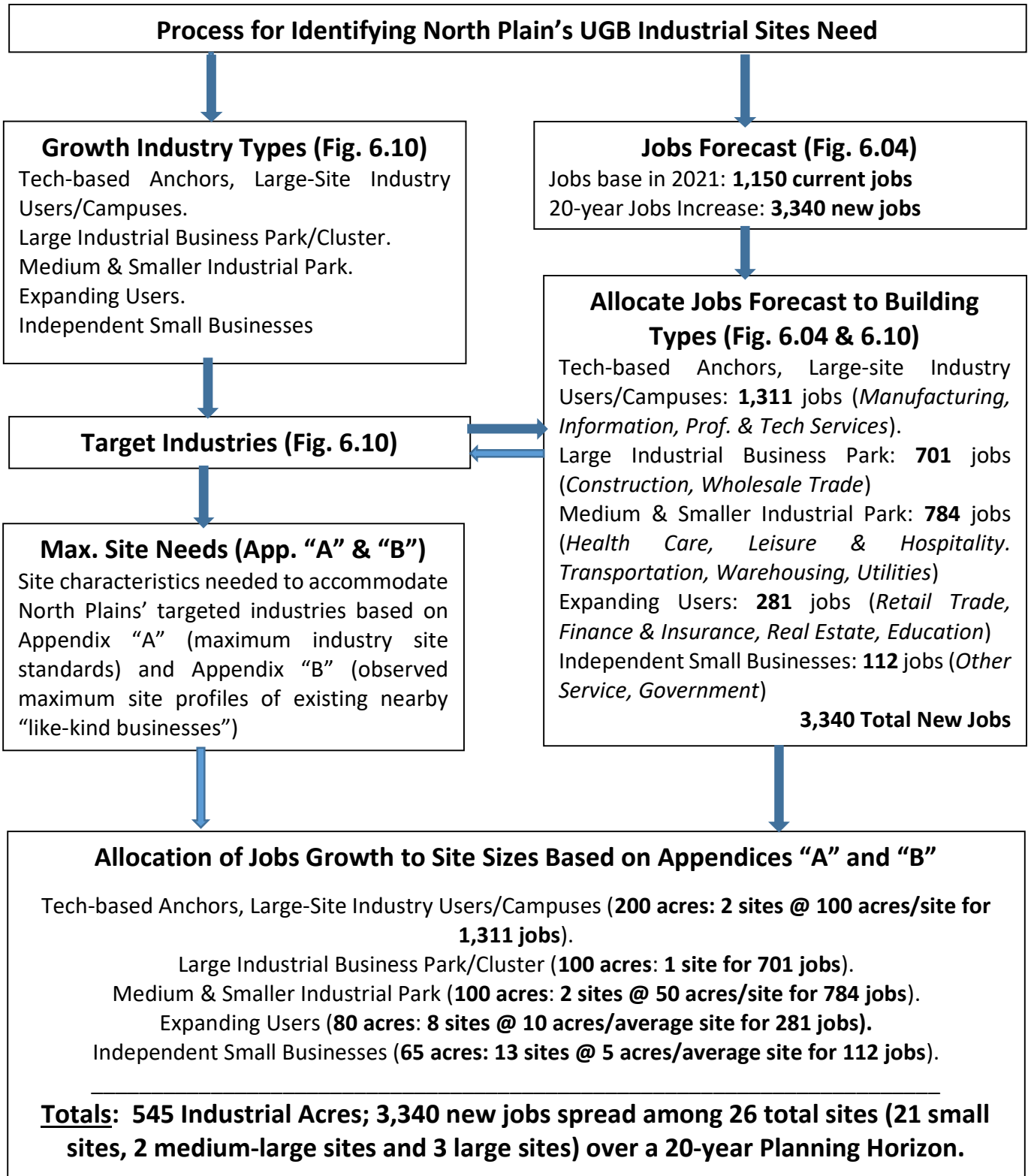
C. RELATIONSHIP BETWEEN INDUSTRY SITE NEEDS & CITY JOB GROWTH FORECAST

Identifying specific North Plains' site needs (i.e., need for land by sites) involves two steps: (1) identifying target industries for North Plains described in Fig. 6.10 and applying the characteristics of sites needed by businesses in those industries, and (2) a forecast of jobs growth in Fig. 6.04 and allocation of that jobs growth to sites based on industry maximum site size standards (Appendix "A") and observed existing nearby site development patterns and characteristics (Appendix "B") Fig. 6.11 on the following page applies and describes that process and the application results (in terms of jobs and sites) for North Plains.

Need/Demand for the Targeted Large Industrial Sites:

- North Plains' need for and accommodation of the 100-acre and 50-acre large sites described in Fig. 6.11 derive from the City's Goal 14 livability-based continuing and growing fiscal need to better provide basic City services: Providing these large sites proposals will position North Plains to capture – within a 1-3 year timeframe - a part of the well-documented national, State and Silicon Forest clearly urgent need/demand for such sites for semiconductor campus as well as stand-alone manufacturing and supporting uses. In turn, accommodating such uses will dramatically and relatively-quickly improve the City fiscal resources/capacity to provide/support those City services.
- In Oregon, a clear and imminent industrial large-site demand is confirmed by the findings of the Oregon Semiconductor Competitiveness Task Force Industrial Lands Subcommittee: there is a clear State interest and related concern that the much of the supply of Oregon's large site, development-ready sites are highly constrained and need costly and time-consuming site assembly; need environmental remedies; and/or lack needed infrastructure. These constraints are common to the very few Oregon sites that can accommodate large industrial campuses (needing from 250-500 acres), stand-alone device manufacturers (needing 25-150 acres) and their major suppliers (needing 10-75 acres). Fig. 6.08 describes North Plains' effort to provide these types of medium-to-large industrial sites for such targeted industries businesses. These issues rob the State of the land resources it needs to compete nationally and internationally for these types of North Plains-targeted tech-based industries. North Plains' ability to pursue and do that is helped by a fairly straightforward and less-cumbersome UGB expansion policy and regulatory review process as well as the "Undesignated" Urban & Rural Reserves status of potential UGB expansion candidate sites that abut the City.
- In the heart of the nearby Oregon Silicon Forest there are about 20 businesses directly connected to semiconductor, high tech research/support and bio-tech sectors. (see Appendix "B"). Though product research, marketing and other administrative aspects of these sectors have been impacted by Pandemic-spurred live-work jobs location trends like other industries, the product-manufacturing and product-processing functions activities - and sites - for these sectors still must rely on a close and convenient access to their employees. Prospective North Plains UGB expansion areas/sites can provide such close-by workplaces to the considerable number of North Plains' working residents who do both on-site and off-site work for businesses in these sectors.

Figure 6.11: North Plains Job Growth to Sites Need by Size Allocation Schematic





VII. RECONCILIATION OF LAND NEED & SUPPLY

North Plains Buildable Land Inventory

A Buildable Lands Inventory (BLI) was prepared for the City of North Plains by 3J Consulting, identifying the remaining buildable parcels of land in the city’s commercial and industrial zones. The available inventory for both commercial and industrial users is limited by the prior build-out of most of the city’s employment land.

FIGURE 7.01: BUILDABLE LAND INVENTORY OF EMPLOYMENT LANDS, CITY OF NORTH PLAINS - 2021

LAND USE	Acres	Taxlots	Consolidated Sites	Largest Site (ac.)	0 to .9 acres	1 to 4.9 acres	5 to 9.9 acres	10 to 19.9 acres	20+ acres
Commercial									
C-1 General Commercial	0.7	5	5	0.2	5	0	0	0	0
C-2 Highway Commercial	12.0	14	14	3.1	10	4	0	0	0
	12.6	19	19	3.1	15	4	0	0	0
Industrial									
M-1 Light Industrial	5.5	4	1	5.5	0	0	1	0	0
M-2 General Industrial	24.1	8	6	20.8	4	1	0	0	1
	29.6	12	7	20.8	4	1	1	0	1
TOTAL:	42.2	31	26	24.0	19	5	1	0	1

Source: 3J Consulting

The inventory found 42 total remaining employment acres in 26 consolidated parcels (31 individual tax lots). An estimated 30% of the remaining acreage has commercial zoning, and 70% has industrial zoning.

Of the 26 consolidated (buildable parcels adjacent to each other), 19 are of less than one acre. An additional 5 are larger than one but less than five acres. There is one industrial site over five acres, and one over 20 acres.

Comparing this inventory to the 20-year forecast of employment land need generated earlier in this analysis indicates that the projected demand exceeds the estimated remaining capacity for new employment development by a significant amount. Figure 7.02 presents a comparison of the 20-year land need projection (Section VI) and the BLI in gross acres.

Land Supply and Demand (acres): The comparison of BLI (supply) to the forecasted 20-year need for employment lands (demand) show a probable deficit of land over the planning period if North Plains is to accommodate the growth in employment projected by this analysis. There is a total projected demand for 730 gross acres of employment land, compared to 42 total acres of remaining buildable supply. There is a resulting deficit in both commercial and industrial lands compared to forecasted growth.



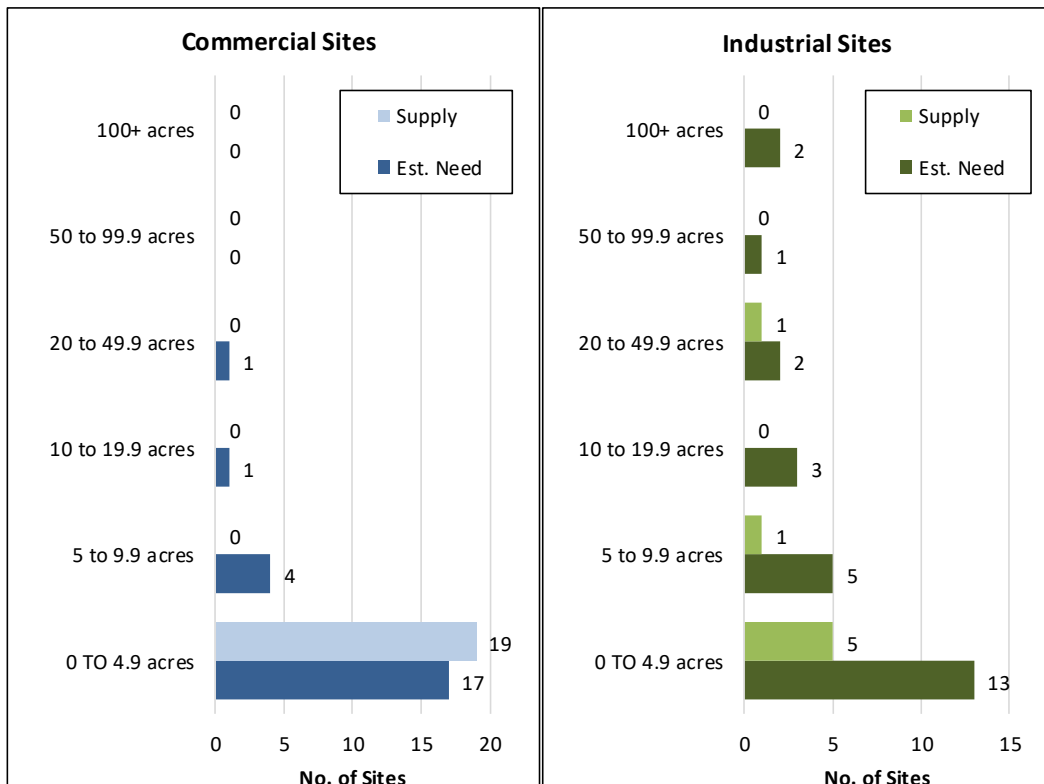
FIGURE 7.02: RECONCILIATION OF BLI CAPACITY AND PROJECTED DEMAND, CITY OF NORTH PLAINS– 20-YEAR

LAND CATEGORY	Land Demand (Gross Acres)	Land Supply (Gross Acres)	Land Sufficiency (Acres)
Commercial Total:	185.0	12.6	-172.4
Office	91.5		
Institutional	21.2		
Retail	72.3		
Industrial Total:	545.0	29.6	-515.4
Flex/B.P	167.6		
Gen. Ind.	324.5		
Warehouse	52.9		
TOTAL:	730	42	-687.8

Source: Johnson Economics, 3J Consulting

Land Supply and Demand (Site Size): The following figure presents a comparison of the estimated needed number and sizes of sites and the number of comparable sites in the BLI (Figure 7.01).

**FIGURE 7.03: RECONCILIATION OF BLI CAPACITY AND PROJECTED DEMAND, BY SIZE OF SITE
CITY OF NORTH PLAINS (2021-2041)**



Source: Johnson Economics, 3J Consulting



As Figure 7.03 shows, much of the remaining available supply is in the smallest parcels of under five acres. Many of these are well less than one acre in size. Forecasted demand is for a range of site sizes, including of medium and very large sites to accommodate high-tech manufacturing and data center recruitment. While the needs of future prospective businesses are hard to predict, this comparison points to the need for an estimated 6 additional commercially zoned sites of five to 50 acres, and 19 additional industrial sites of all sizes.

CONCLUSION OF LAND NEED

The analysis presented in this EOA supports the needs for a full range of sites of appropriate size and location to meet the economic development priorities of the city.

The reconciliation of forecasted 20-year demand with available supply of buildable parcels indicates that the City of North Plains will face a deficit of available land to meet its economic development needs well within the 20-year planning horizon. This analysis concludes a probable deficit of over 680 acres of employment land and roughly 25 medium to large sites of differing sizes.



APPENDIX A: GENERAL SITE REQUIREMENTS BY INDUSTRY

The following series of tables summarize the key site preferences and/or requirements for a range of prospective tenant types.²⁰

PROFILE		A	B	C	D	E	F	G	H	I	J
		Computer & Electronic Manufacturing (High-Tech R&D)	Software & Media	Multi-Tenant Office	Food Processing	Other Manufacturing	Life/Bioscience R&D Campus	Wholesaling	Retail	Data Center	Incubator
CRITERIA											
GENERAL REQUIREMENTS		Use is permitted outright, located in UGB or equivalent and outside flood plain; and site (NCDA) does not contain contaminants, wetlands, protected species, or cultural resources or has mitigation plan(s) that can be implemented in 180 days or less.									
PHYSICAL SITE											
1	TOTAL SITE SIZE* Competitive Acreage**	5 - 100+	5 - 15	5 - 20	5 - 25+	5 - 15+	20 - 100+	10 - 25	5 - 20	10 - 25+	5 - 25+
2	COMPETITIVE SLOPE: Maximum Slope	0 - 5%	0 - 7%	0 - 7%	0 - 5%	0 - 5%	0 - 7%	0 - 3%	0 - 7%	0 - 7%	0 - 5%
TRANSPORTATION											
3	TRIP GENERATION: Average Daily Trips per Acre	40 - 60	80 - 200 ₁	120 - 240 ₂	50 - 60	40 - 50	60 - 150	50 - 60 ₃	400 - 500 ₄	20 - 30	40 - 50
4	MILES TO INTERSTATE OR FREIGHT ROUTE: Miles	w/in 10	w/in 5	w/in 5	w/in 30	w/in 20	w/in 5	w/in 5	w/in 5	w/in 30	N/A
5	MILES TO FREQUENT TRANSIT SERVICE (15 MIN OR LESS) Miles	0.6	0.5	0.8	< 0.1	0.2	0.1	0.3	< 0.1	0.1	< 0.1
6	RAILROAD ACCESS: Dependency	Preferred	Not Required	Not Required	Preferred	Preferred	Preferred	Preferred	Avoid	Avoid	N/A
7	PROXIMITY TO MARINE PORT: Dependency	Preferred	Not Required	Not Required	Preferred	Preferred	Preferred	Preferred	Not Required	Not Required	N/A
8	PROXIMITY TO INTERNATIONAL/REGIONAL AIRPORT: Dependency	Competitive	Required	Preferred	Preferred	Preferred	Required	Not Required	Not Required	Competitive	N/A
	Distance (Miles)	The City of Hillsboro enjoys a competitive advantage that all industries within Hillsboro are located within 5 miles of an international airport (Hillsboro International Airport)									

²⁰ Business Oregon, Mackenzie



PROFILE		A	B	C	D	E	F	G	H	I	J	
		Computer & Electronic Manufacturing (High-Tech R&D)	Software & Media	Multi-Tenant Office	Food Processing	Other Manufacturing	Life/Bioscience R&D Campus	Wholesaling	Retail	Data Center	Incubator	
CRITERIA												
UTILITIES												
9	WATER:	Min. Line Size (Inches/Dmtr)	12" - 16"	6" - 8"	8" - 10"	12" - 16"	6" - 10"	8" - 12"	6" - 10"	8" - 12"	16"	4" - 8"
		Min. Fire Line Size (Inches/Dmtr)	12" - 18"	8" - 10"	8" - 12"	10" - 12"	8" - 10"	8" - 12"	8" - 10"	8" - 12"	10"-12"	6" (or alternate source)
		High Pressure Water Dependency	Required	Not Required	Not Required	Required	Not Required	Preferred	Not Required	Not Required	Required	Not Required
		Flow (Gallons per Day per Acre)	5,200	1,200	1,500	3,150	1,850	2,450	1,200	1,800 _s	50 - 200 [†]	1,200
10	SEWER:	Min. Service Line Size (Inches/Dmtr)	12" - 18"	6" - 8"	8" - 10"	10" - 12"	6" - 8"	10" - 12"	6" - 8"	6" - 10"	8" - 10"	4" - 6" (or on-site source)
		Flow (Gallons per Day per Acre)	4,700	1,000	2,000	2,600	1,700	2,000	1,000	1,500 _s	1,000 [‡]	1,000
11	NATURAL GAS:	Preferred Min. Service Line Size (Inches/Dmtr)	6"	4"	4"	4"	4"	6"	4"	4" - 6"	4"	N/A
		On Site	Competitive	Preferred	Competitive	Preferred	Competitive	Competitive	Preferred	Competitive	Preferred	Preferred
12	ELECTRICITY:	Minimum Service Demand	4 - 6 MW	1 - 2 MW	0.5 - 1 MW	2 - 6 MW	0.5 MW	2 - 6 MW	0.5 MW	0.5 - 1 MW	5 - 25 MW	1 MW
		Close Proximity to Substation	Competitive	Competitive	Preferred	Not Required	Preferred	Competitive	Not Required	Preferred	Required, could be on site	Not Required
		Redundancy Dependency	Preferred	Preferred	Preferred	Not Required	Not Required	Competitive	Not Required	Preferred	Required	Not Required
13	TELECOMMUNICATIONS:	Major Communications Dependency	Required	Required	Required	Preferred	Required	Required	Preferred	Required	Required	Preferred
		Route Diversity Dependency	Required	Required	Required	Not Required	Not Required	Required	Preferred	Preferred	Required	Not Required
		Fiber Optic Dependency	Required	Required	Required	Preferred	Preferred	Required	Competitive	Preferred	Required	Not Required



PROFILE		A	B	C	D	E	F	G	H	I	J
CRITERIA		Computer & Electronic Manufacturing (High-Tech R&D)	Software & Media	Multi-Tenant Office	Food Processing	Other Manufacturing	Life/Bioscience R&D Campus	Wholesaling	Retail	Data Center	Incubator
14	SPECIAL CONSIDERATIONS:	<p>Acresage allotment includes expansion space (often an exercisable option). Very high utility demands in one or more areas common. Sensitive to vibration from nearby uses.</p>	<p>1: Research & Development @ 80 ADTs per acre on the low end, estimated 200 ADTs per acre for general office on the high end.</p> <p>Location specific.</p>	<p>2: Range represents FAR 0.25 - 0.5 of office uses</p> <p>Location to other cluster industries.</p>	<p>May require high volume/supply of water and sanitary sewer treatment. Often needs substantial storage/yard space for input storage.</p> <p>Onsite water pre-treatment needed in many instances.</p>	<p>Adequate distance from sensitive land uses (residential, parks) necessary. Moderate demand for water and sewer.</p> <p>Higher demand for electricity, gas, and telecom.</p>	<p>High diversity of facilities within business parks. R&D facilities benefit from close proximity to higher education facilities.</p> <p>Moderate demand on all infrastructure systems.</p>	<p>3: General warehousing rates</p>	<p>4: Based on discount warehouse @ 0.25 FAR</p> <p>5: Dependent on use, i.e., brewery vs. restaurant</p> <p>Location to cluster industries.</p>	<p>Larger sites may be needed. The 25 acre site requirement represents the more typical site.</p> <p>Power delivery, water supply, and security are critical.</p> <p>Surrounding environment (vibration, air quality, etc.) is crucial.</p> <p>May require high volume/supply of water and sanitary sewer treatment.</p>	<p>Often established by municipalities and have symbiotic relationships with colleges and/or universities.</p>

Terms:

<p>More Critical</p> <p>↑</p> <p>Less Critical</p>	<p>'Required' factors are seen as mandatory in a vast majority of cases and have become industry standards.</p>
	<p>'Competitive' significantly increases marketability and is <i>highly recommended by Business Oregon</i>. May also be linked to financing in order to enhance the potential reuse of the asset in case of default.</p>
	<p>'Preferred' increases the feasibility of the subject property and its future reuse. Other factors may, however, prove more critical.</p>
	<p>'Not Required' does not apply for this industry and/or criteria.</p>
	<p>'Avoid' factors act as deterrents to businesses in these industries because of negative impacts.</p>
<p>*Total Site: Building footprint, including buffers, setbacks, parking, mitigation, and expansion space.</p>	
<p>**Competitive Acresage: Acresage that would meet the site selection requirements of the majority of industries in this sector.</p>	
<p>† Data Center Water Requirements: Water requirement is reported as gallons per MWh to more closely align with the Data Center industry standard reporting of Water Usage Effectiveness (WUE).</p>	
<p>‡ Data Center Sewer Requirements: Sewer requirement is reported as 200% of the domestic usage at the Data Center facility. Water and sewer requirements for Data Centers are highly variable based on new technologies and should be reviewed on a case-by-case basis for specific development requirements.</p>	

Source: Mackenzie, Business Oregon



APPENDIX B: WESTERN WASHINGTON COUNTY SITE CHARACTERISTICS

BUSINESS OR COMPANY NAME	PRODUCT AND/OR SERVICES	INDUSTRIAL CATEGORY	TAX MAP/LOT NO.	TAX LOT AREA
SOFTWARE & INFORMATION TECHNOLOGY (Silicon Forest contains 216 Firms, 2,717 direct industry jobs, \$128k average wage)				
NTT Global Data Center	Cloud Data Storage, Colocation, Data Management, Professional Services	Data Center Services	1N22 100 TL2100	19.77 Acres
QTS Data Centers	Data Storage, Retrieval; Cloud Connection, IP Network Services	Mega Data Center	1N22 100 TL 2500, 3100 & 3102	90.3 Acres
T5 Data Center	Data Storage, Solutions & Retrieval: Data Facilities Development, Management & Construction	Data Center	1N22 100 TL 2201	8.46 Acres
Stack Infrastructure (3 sites)	“Build-to-Suit” Data Center; Flexible digital infrastructure for client companies.	Data Center	1N22100 TL 2202	12.0 Acres
Digital Reality	Worldwide IT Services (data storage & control, networking of global enterprises)	Data Center	1N21500 TL 2650	46.7 Acres
NOTES				
<ul style="list-style-type: none"> Attracting/accommodating Data Centers like those identified in this Table is a North Plains industrial growth and development priority: Demand for Data Center sites within and near these existing Centers continues while suitable “development ready” sites that meet key data center site selection factors cited below are not now available in the Silicon Forest. Continuing growth of like-kind data centers in/near the Silicon Forest will spur growth in many of the high-tech support businesses identified in this Table. Key Data Centers Site Selection Factors: <i>Non-exposure to natural disasters, clean power source, fiber network connectivity, transportation, construction/permit costs, taxes/land & economic incentives, speed to market (go-live-time)</i>²¹. Potential North Plains UGB Expansion Sites abutting the City can offer these data center site-selection advantages due to their close Silicon Forest proximity. Existing Silicon Forest Data Centers in this Table range in site sizes: 90 acres (large site), 48 acres (mid-size site), 9-20 acres (smaller sites). NP 200 Acres UGB expansion proposal – 100 acres in 2 separate locations can accommodate: 				

²¹ Source: Site Selection Magazine: *Data Centers: Site Selection 101*, Nov. 2012



- One 100-acre large data center site on a 100-acre sites similar to the QTS Data Center., or
- Several mid-size and smaller-size data centers on the potentially divisible 100-acre site. These would be “Edge Data Centers”²² such as *Digital Reality, NTT Global Data Center, T5 Data Center* and *Stack Infrastructure Data Centers*.
- Other Silicon Forest Software & IT Companies include *Salesforce, Synopsis, Laika, Oracle, Microsoft, Adobe*. Like-kind new companies seeking Silicon Forest locations can be accommodated on suitable sites w/in potential North Plains UGB Expansion sites (Recent Westside location patterns for such companies suggest this: i.e.; Synopsis & Salesforce co-locate on 34.82-acre, business park site: each user occupying multi-story structures.)
- The Silicon Forest contains a concentration of tech giants, software and medium firms indicating continuing land demand for more sites by such high tech companies, including “development ready” (per industry site location standards) sites. NP UGB expansion area can accommodate that demand within the two (2) 100-acre sites proposal.

COMPUTER & ELECTRONIC & ADVANCED MANUFACTURING				
(Silicon Forest contains 71 firms, 39 semiconductor businesses, 23,404 direct industry jobs; \$167k average wage)				
JSR Micro, Inc. Materials Innovation	High Tech Products; Semiconductor Manufacturing & Supplier	High Tech	1N22 100 TL 1500	17.69 Acres
Intel Ronler Acres	Advanced Integrated Digital Technology Platforms; Product Development (5 campuses, 21,394 jobs)	High tech	1N22 700 TL 100, 104, 1650	410.73 Acres
Intel Jones Farm	New Technology Product Research & Development (5 campuses)	High Tech	1N22 900 TL 802	116.71 Acres
Intel Hawthorne Farms	Advanced Integrated Digital Technology Platforms	High Tech	1N2 34B TL 100	53.14 Acres
Applied Materials (5 campuses)	Semiconductor Manufacturing Equipment, Device Manufacturing (5 campuses; 500 jobs)	High Tech	1N22 6B TI 100 (Hillsboro campus only)	4.3 Acres
Qorvo	Advanced RF Solutions, Device Manufacturing (1085 jobs)	High Tech	1N22 8DA TL 1300, 1400	29.71 Acres

²² “Edge Data Center” computing: Moves a business’ data and cloud data storage and computing resources out of a central data center and closer to the business generating the data. Source: “*What is Edge Computing*”, Bigelow, TechTarget



Lattice Semiconductor	Product Development (122 jobs)	High Tech	1N234B TL 300	11.04 Acres
Jireh Semiconductor	Power MOSFETs and Power ICS (481 jobs)	High Tech	1N226B TL 302	24.21 Acres
Hitachi High Tech America (3 sites; 2 w/in Ronler Acres & Jones Farm sites)	Semiconductor Equipment/Electron Microscope Production (275 jobs)	High Tech	1N226B TL 1500	2.51 Acres

NOTES

- Attracting/accommodating High tech Manufacturers and Advanced Manufacturing business, large and small, like those identified in this Table is a North Plains industrial growth and development priority. Demand for such sites within the Silicon Forest continues while suitable “development ready” sites that meet key data center site selection factors cited below are not now available in the Silicon Forest.
- Appendix A Table: Industry Standard: *High Tech Manufacturing & R&D Site Size Competitive Edge: 5 – 100+ Acres*. Silicon Forest High Tech Companies listed in this table reflect that site size range.
- Existing Silicon Forest High Tech Companies in this Table range in site sites: 100-400+ acres (large sites), 20-50 acres (mid-size sites), 5-20 acres (small sites). Potential North Plains UGB Expansion Sites abutting the City can accommodate:
 - One 100-acre large high-tech site like Intel Jones Farm or two (2) mid-size sites like Intel Hawthorne Farms on a 100-acre site, or
 - Several small high tech sites similar in size to the remaining existing tech companies listed in the Table within a divisible 100-acre site .
 - The lack of suitable large industrial sites within the Portland Region (Oregonian Articles by Mike Rogoway)
- Other Silicon Forest High Tech Companies: *Tokyo Electron, Leyard Planar, ASML*. Other Silicon Forest Advance Manufacturing Companies: *Dynic USA, Davis Tool, Inc., Ammcon, CST Cascade System Technology*
- NP UGB Expansion Proposal Table describes a need for three (3) 100-acre sites:
 - Two (2) 100-acre sites to accommodate stand-alone data centers and/or larger high tech companies that need large sites like those in the Intel campuses at *Ronler Acres and Hawthorne Farms – 200 total acres*.
 - One (1) 100-acre site to accommodate, alternatively, large, medium and/or smaller tech company site needs within one large industrial business park to accommodate a concentration of companies like *Tokyo Electron, Leyard Planar, ASML* and various Advance Manufacturing Companies *Dynic USA, Davis Tool, Inc., Ammcon, CST Cascade System Technology*.

HIGH TECH, & GENERAL INDUSTRIAL SUPPORT BUSINESSES



(These businesses are located in Helvetia/West Union Road Industrial Area²³: Approx. 127 developed acres (excluding roads, BPA r/w, vacant parcels))				
Quantum Clean	High tech Outsourced Parts Cleaning and Coating (32 jobs)	High Tech Support	1N214AD TL 4800	4.00 Acres
Komico	Semiconductor equipment cleaning and refurbishing (under construction)	High Tech Support	1N222AA TL 400	5.58 Acres
Daifuku Cleanroom Automation America	Material Handling System (83 jobs)	High Tech Support	1N222 TL 3300	1.92 Acres
Sunset Highway Business Park	Tenants: <i>PSK, Style Motors, Party Pros, MFCP Motion & Flow Control Products, Stanley Steemer, Acme, JR, Evatec, CMC Materials, Ebara</i>	Business Park	1N222BA TL 200	21.55 Acres
CMC Materials (part of Sunset Hwy. Bus. Park)	CMP Slurries and CMP polishing pads (282 jobs in all Silicon Forest sites)	High Tech Support	1N222AB TL 200	[4.22 Acres]
Evatec (part of Sunset Hwy. Bus. Park)	Physical Vapor Deposition (PVD) Systems (10 jobs)	High Tech Support	Por. 1N222BA TL 200	N/A
Ebara Technologies (part of Sunset Hwy. Bus. Park)	Vacuum Pumps, Water Processing Equipment (109 jobs)	High Tech Support	1N215CD TL 500	[4.10 Acres]
Five Oaks Business Park (4 bldgs.)	Tenants: <i>AMG, Ebara, Green Energy Solutions, North Coastal Solutions, Maxima USA, U.S. Linen & Uniform, Yamato Transport USA.</i>	Business Park	1N215CD TL 200, 300, 400 & 500	12.39 Acres
Pinefarm Business Park (5 bldgs.)	Tenants: <i>PuroClean, Muratec, SteepleJack</i>	Business Park	1N222AB TL 100	3.65 Acres
Fortior Solutions	Identification Management Programs & Services	Business Security Systems & Consulting	1N222AB TL 200	5.83 Acres
GXO Solutions	Logistics & Supply Chain Management	Business Consulting	1N215DC TL 100	4.66 Acres
Fiber SensSystems	Fiber-optic Intrusion Detection Systems for Perimeter Security & Physical Data Networks	High Tech Support	1N222AC TL 3400	1.96 Acres
Master Halco	Fencing Materials Production, Installation	Business & Property Fencing	1N222AC TL 3000	8.02 Acres
Micron Laser Technology	Electrical Equipment & Component Manufacturing, Electrical Equipment (30 jobs)	High Tech Support	1N222AC TL 102	9.87 Acres

²³ Area bounded by US Hwy. 26, Jacobsen Road & Croeni Road.



Edwards Vacuum	Machinery Manufacturing, Air & Gas Compressors (30 jobs)	High Tech Support	1n222AA TL 100, 200, 700	8.08 Acres
Tosoh Quartz	Quartz Glassware for Semiconductor Industry for Processing Integrated Circuits, Electronic Manufacturing (201-500 jobs: all company sites)	High Tech Support	1N222AC TL 108	5.00 Acres
Green Space	Design & Build, Solar Panels, Green Operations, Sustainable Construction, Green operations, Materials Reclamation (46 jobs)	Businesses Support & Display Consulting/Services	1N222AC TL 300 & 400	10.43 Acres
Javelin Logistics	Full spectrum of inventory/material management logistics and transportation services; material warehousing and distribution and order fulfillment services.	High tech and businesses support	1N22200 TL 1700	7.15 Acres
DHL Supply Chain	Businesses Logistical Solutions re: transportation, warehousing and management services	High tech and businesses support	1N222AAA TL 600	4.42 Acres

NOTES

- Three (3) Business Parks containing 37.59 acres containing a mix of high-tech support businesses and other smaller general business and professional services companies are located within the Helvetia/West Union Road Industrial Area. NP anticipates a moderate distribution of such Parks within the UGB expansion area, continuing a regionwide trend of industrial business park growth and development.
- NP UGB Expansion Proposal Table describes a need for two (2) 100-acre sites:
 - Each 100-acres site to accommodate 2-3 Industrial Parks similar in scale to the *Sunset Highway Business Park*, *Pinefarm Business Park* and the *Five Oaks Business Park* and contain those high tech and general industrial support businesses such as those scattered throughout the Helvetia/West Union Road Industrial Area.
 - Additionally, the 2 Parks would contain enough land to accommodate tech-based businesses such as *Salesforce*, *Synopsis*, *Oracle*, *Microsoft*, *Laika* separately or in smaller clustering sites.
- Replicating the mixture and array of various types of high-tech, high-tech support and general industrial uses within the Helvetia/West Union Road Industrial Agglomeration within new larger and smaller Industrial Parks on suitable UGB expansion areas is a North Plains priority per its Vision and adopted economic growth/development priorities. The existence of the list of such industrial uses w/in the Table demonstrates the reasonable feasibility of NP being able to attract/accommodate such like-businesses within new business parks situated in proposed industrial UGB expansion sites.
- Re: NP casting a “wide net” re: attracting a diverse industrial profile of fabricators, suppliers, research facilities, etc.
- All these high-tech support operations are scattered throughout this Area either on separate lots or in co-located structures.
- Site size range

BIOSCIENCE & MEDICAL DEVICES
(44 firms, 1,119 direct industry jobs; \$71k average wage)



Genentech	Medical Fill Finish Packaging and Distribution Facility (450 jobs)	Biotech	1N221 TL 2800, 2801, 2802 & 2900	75 Acres
Acumed Facilities (2 sites)	Medical Implant Devices Research, Design and Manufacture (headquarters, 32 jobs) for global distribution.	Biotech	1N222C00900	8.49 Acres

NOTES

- The presence in the Silicon Forest of industry leaders in advance materials, software systems, precision manufacturing and health research create opportunities for biotechnology firms to locate in and near the Silicon Forest, including on North Plains UGB expansion sites. Existing companies like *Genentech*, *Acumed*, *Forest Equipment*, *Accute Innovations* reflect growth of this specialized industry cluster on the Westside

Other Major Businesses (Warehousing & Distribution; Other)

Amazon	Consumer Goods Marketing, Sales & Distribution center (potential expansion site)	Wholesaler & Retailer Storage, Sales, Distribution	1N22100, TL 2600 & 2700	8.46 Acres
Columbia Industries	Outdoor Sports Equipment & Apparel Wholesale and Retail Complex	Consumer Goods Warehouse & Sale Outlet	1N222 TL 1400	8.85 Acres
WashCo. Consolidated Communications	Government Agency Communication Services	Government	1N215DC TL 200	6.00 Acres
Petersen CAT	Heavy Construction Equipment Sales & Rentals	Construction Industry Support	1N222 TL 3500	22.51 Acres
Cascade Wholesale Hardware	Hardware, Plumbing & Heating Equipment and Supplies (1 of 43 US companies) (50 jobs – all sites)	Wholesale Products	1N222 TL 1600	7.53 Acres
Seals Unlimited	Production of rubber extrusion, molding, gaskets, hydraulic gate seals for government and private industries.	General Industrial	1N22200 TL3200	4,64 Acres

NOTES

- The Amazon expansion site indicates NP potential to attract similar consumer goods operations on available and suitable larger UGB expansion sites. It is located on Huffman Road south of Hwy. 26.
- The Columbia Industries, WashCo. Consolidated Communications Agency and Petersen CAT businesses are located within the Helvetia/West Union Road Industrial Area.

SOURCE: PR Land Use Strategies



APPENDIX C: NORTH PLAINS FISCAL ANALYSIS MEMO



Date: March 10, 2022

To: North Plains City Council
City Manager Andy Varner

From: Finance Director Bill Reid

Subject: Service Levels & Fiscal Sustainability of Urban Growth Boundary Expansion

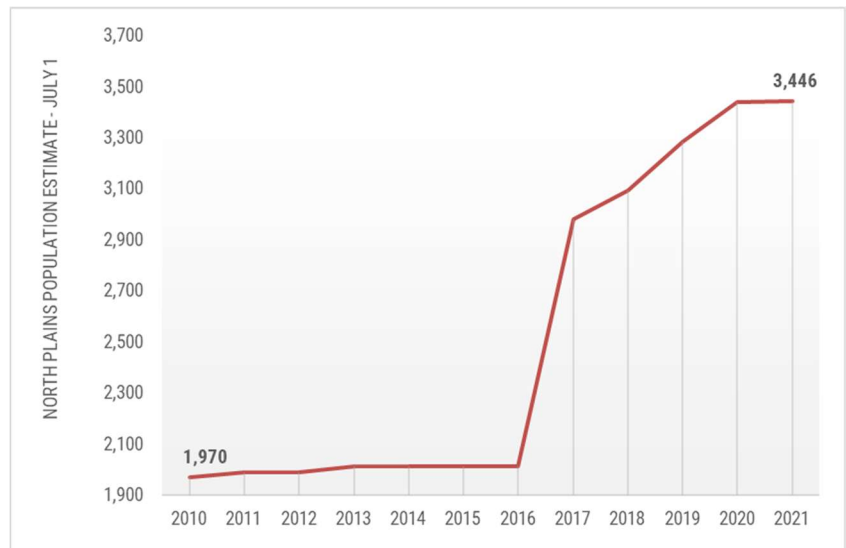
This memorandum is intended as a discussion of the fiscal trends and issues that face the City of North Plains as it currently determines an appropriate Urban Growth Boundary (“UGB”) expansion.

This memo is divided into the following topics:

- A. Recent & Future Growth Following End of Voter-Approved Annexations
- B. North Plains Service Levels & Services Funding
- C. City Council Four Priorities for UGB Expansion
- D. Implications for UGB Expansion: Employment Investment vs. Residential Investment

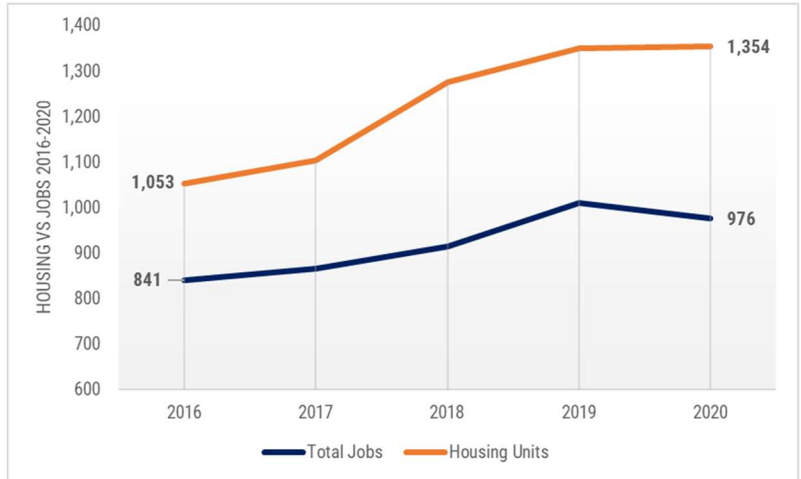
A. Recent & Future Growth Following End of Voter-Approved Annexations

Since the passage of Senate Bill 1573 in 2016 and its affirmation by the Oregon Supreme Court in 2017, the City of North Plains has realized significant new population growth due to development of new housing via legislative annexations. The figure to the right graphically illustrates how North Plains added almost 1,500 residents between 2010 and 2021.

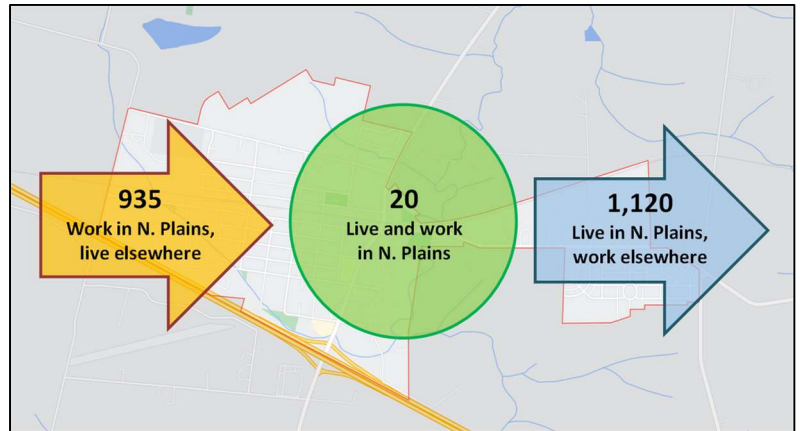




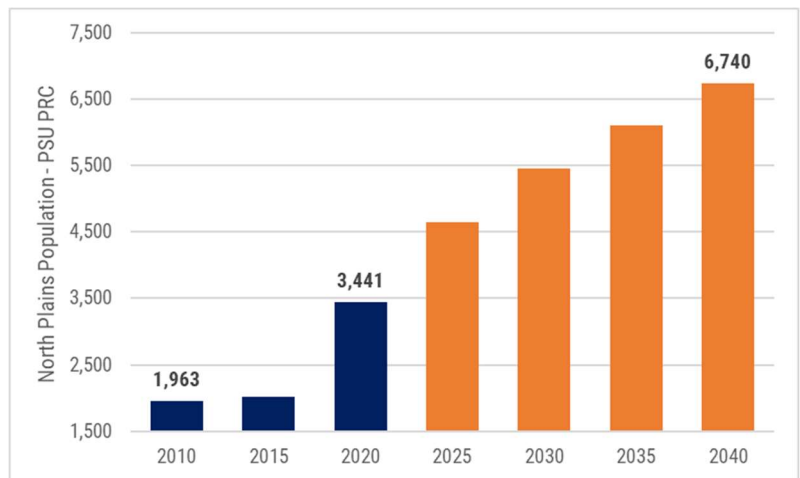
While North Plains has added new housing units and population, Oregon Employment Department data show that job growth has not kept pace as indicated in the figure to the right. The result has been a steady worsening of the City’s jobs-housing balance. As will be discussed in the next section, this has also resulted in an increasingly severe fiscal imbalance for the City’s tax base.



According to US Census Bureau Census on the Map data, North Plains residents overwhelmingly work for employers in other cities, most notably Intel in Hillsboro and Nike in Washington County near Beaverton. The figure to the right displays the bedroom community pattern data for 2019, the most recent year available.



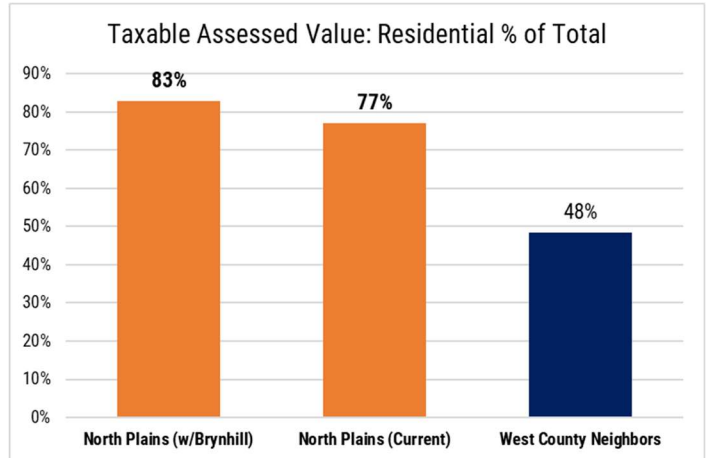
Moving forward, the City must plan for continuation of similar population growth over the next 20 years as forecasted by Portland State University’s Population Research Center. As the figure to the right indicates, the City must plan for 6,740 residents in 2040 and then roughly 7,000 residents to be living in North Plains by 2042.



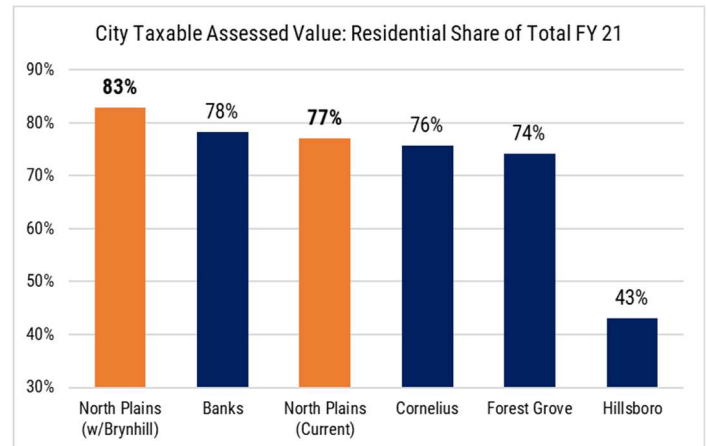


B. North Plains Service Levels & Services Funding

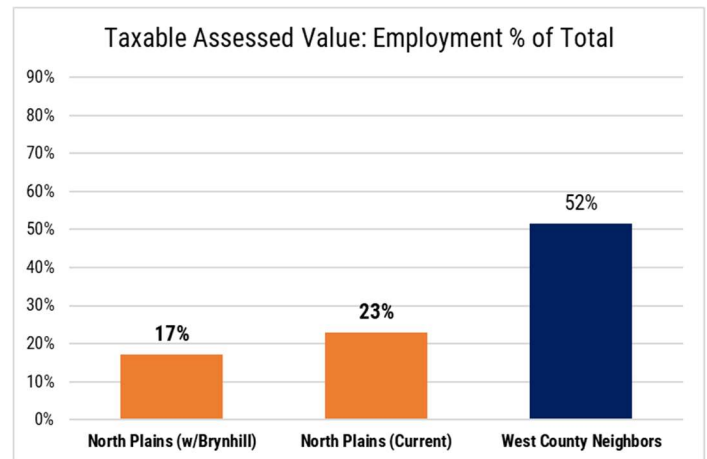
North Plains’ growth as a bedroom community for employers in other cities has pushed the city tax base into severe overreliance on residential assessment. Washington County tax assessment data to the right indicates North Plains currently has the second-highest reliance on residential taxable assessed value (“TAV”) (77%). With Brynhill built out in five years, the City will have the highest reliance on residential assessment among its neighbors (83%).



For more specific perspective, the figure on the right displays the share of City TAV that is residential land and improvements for North Plains now, after Brynhill build-out, and Banks, Cornelius, Forest Grove and Hillsboro.

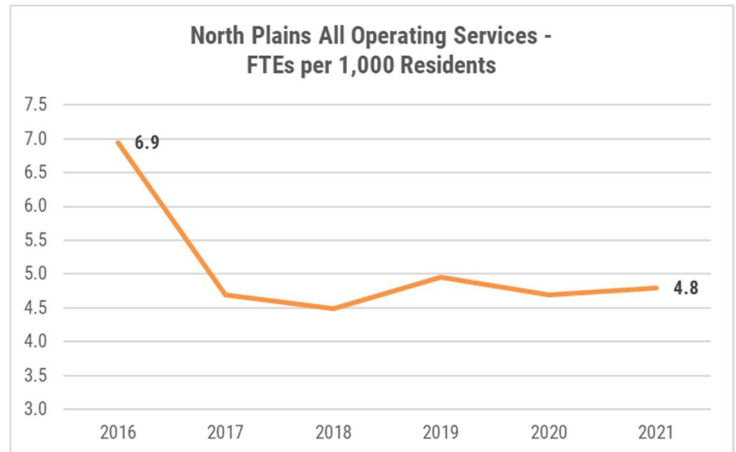


Taxable assessed value from employment uses, therefore, is among the lowest and will be the lowest among West County neighbors after Brynhill is built out (17%). Comparatively, North Plains’ neighbors average 52% of total tax value attributable to employment investment value.

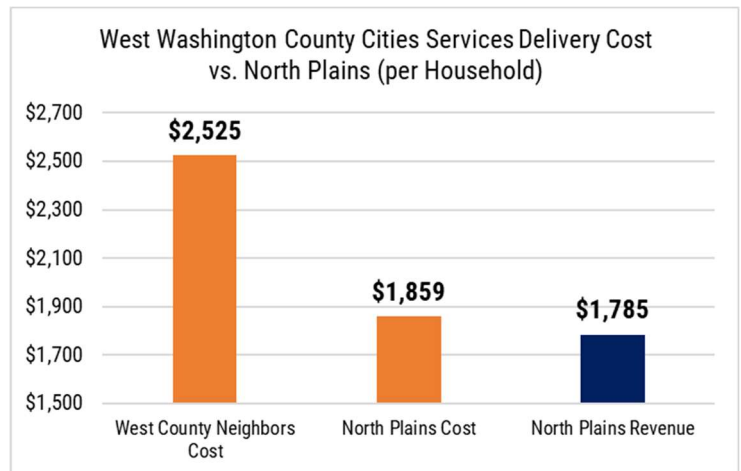




North Plains’ rapid growth as a bedroom community since 2016 and increasing reliance on higher-cost residential tax assessment has led to declining service levels over time. The figure to the right displays annual FTEs per 1,000 population in North Plains, which is currently at an all-time low for staffing to meeting resident services needs. Staffing levels to the right include law enforcement that is now contracted with Washington County Sheriff’s Office.



Every new household in North Plains costs the City \$1,859 in services each year on average while revenue attributable to each household is currently \$74 less at \$1,785. Across all households in North Plains – and with 3% assessment growth under Measure 50 – that is a sizeable difference to be made up by limited existing employment tax base. That deficit grows each year as costs escalate by 4% to 5% in low-inflation years.



Given the current North Plains employment tax base, it would be fiscally impossible currently and worse with each passing year to provide higher quality of life services comparable to what residents of other nearby cities enjoy: North Plains’ neighbors provide a calculated average of \$2,525 in operating services per household with a significantly higher business tax base. In other words, if North Plains wanted to provide comparable services and quality of life to the average of its four closest neighbors, it would need enough business investment to make up an almost \$800-per-household deficit.



C. North Plains City Council Four Priorities for UGB Expansion & City Quality of Life

Recognizing that the rapid descent into low-service level bedroom community status is not fiscally sustainable and provides a low quality of life, in fall 2021 the City Council of North Plains adopted a set of economic development priorities to guide the update of the Economic Opportunities Analysis, other City economic development initiatives, and partnerships with Washington County and the State of Oregon.

Priorities 2 and 3 in particular call for expansion of business investment in North Plains to allow the City to provide adequate services in a fiscally sustainable manner as population grows, specifically in a reversal of the current bedroom community trend. All Priorities speak to the need to act boldly to enhance City livability via improved jobs-housing balance, fiscal sustainability, adequate infrastructure and services, and local presence of shopping and services to reduce vehicle miles traveled and enhance safety.

PRIORITY 1: Reverse the worsening trend of bedroom community status for North Plains with a thriving jobs-housing balance by expanding and diversifying employment opportunity and industry profile and presence.

PRIORITY 2: Grow business investment in North Plains to encourage expansion and diversification of the City's property tax base to reverse the imbalance created by a growing bedroom community development trend.

PRIORITY 3: Ensure and sustainably fund community-supporting infrastructure, economy-supporting infrastructure, and expanded City services such as recreational offerings that enhance community health and diversify the City economy.

PRIORITY 4: Expand the local presence of important, everyday commercial services for the residents of North Plains which offers a shorter and safer distance rather than at extended and costly distance to other cities.

(Resolution No. 2160, September 2021)



D. Implications for UGB Expansion: Employment Investment vs. Residential Investment

In summary, the following are presently true of North Plains' fiscal path, service levels, and therefore quality of life for residents:

- North Plains population growth has accelerated dramatically following the end of voter-approved annexations in 2016.
- Portland State University Population Research Center forecasts North Plains' population growth will not abate over the next 20 years and drives a new need for city UGB expansion.
- Population growth has overwhelmingly been households employed in other cities; in other words, North Plains has grown as a provider of workforce housing and services to other cities' economies and resulting, growing employment tax base.
- Alternatively, other cities reap the benefit of property taxes and various fees from employers whose employees live in North Plains and depend upon the City of North Plains for public services.
- North Plains' rapid growth as bedroom community for employers outside North Plains has created a significantly worsening tax base balance between residential assessment and employment assessment.
- North Plains' service levels have decreased with population growth and created a fiscal situation that makes it impossible to enhance service levels to quality-of-life standards in other Western Washington County communities.
- Any enhancement to services without expansion of the employment tax base will result in a growing per-household revenue deficit that already exists.

Based on North Plains City Council directive to shore up fiscal sustainability, safety, and service levels that provide a comparable quality of life to other Western Washington County residents, the following table provides an analysis of the order of magnitude of employment land acreage and taxable assessed value (TAV) that would need to be added to within the North Plains UGB by 2042 (constant 2021 dollars from FY 21 taxable assessed value data from Washington County Department of Assessment & Taxation).



Depending upon whether North Plains employment areas have similar intensity to private investment in the Helvetia Industrial Area (HIA) of Hillsboro or achieve closer to 75% intensity of the HIA, North Plains would need between 554 acres to 739 acres of additional, developed employment land, facility and machinery/equipment investment to provide North Plains with a comparable tax base to the average tax base balance of its neighbors Banks, Cornelius, Forest Grove and Hillsboro.

Helvetia Industrial Area - Comparable Development Intensity	
Current + Brynhill + 2021 HNA Residential TAV	\$646,003,460
Needed 2042 Employment TAV for 52% West County Average	\$699,837,082
Current Employment TAV	<u>\$90,475,991</u>
Net New Employment TAV Needed in a UGB Expansion	\$609,361,091
TAV Per Acre: Helvetia Industrial Area	\$1,100,000
Employment Land Acres Needed in UGB Expansion	554

Helvetia Industrial Area - 75% Development Intensity	
Current + Brynhill + 2021 HNA Residential TAV	\$646,003,460
Needed 2042 Employment TAV for 52% West County Average	\$699,837,082
Current Employment TAV	<u>\$90,475,991</u>
Net New Employment TAV Needed in a UGB Expansion	\$609,361,091
TAV Per Acre: Helvetia Industrial Area 75% Intensity	\$825,000
Employment Land Acres Needed in UGB Expansion	739

Data Sources

- FY 20 and FY 21 adopted budget documents for Cities of North Plains, Banks, Cornelius, Forest Grove and Hillsboro.
- Washington County Department of Assessment & Taxation property database (City taxable assessed value data as well as taxable assessed value data by parcel in the Helvetia Industrial Area of the City of Hillsboro).
- US Census Bureau, Census on the Map data, 2019.



APPENDIX D: METRO AREA LAND INVENTORY AND EMPLOYMENT GROWTH FORECASTS



APPENDIX D: METRO AREA LAND INVENTORY AND EMPLOYMENT GROWTH FORECASTS

A. REGIONAL INDUSTRIAL LAND SHORTAGE

The shortage of large industrial sites in Oregon, shovel-ready or not, is well established and has been an on-going topic of discussion in localities, the Portland Metro region, and statewide. The recent passage of the \$52 billion Federal CHIPS Act, which should be a boon to the region’s important semiconductor sector has triggered a renewed assessment of the industrial land inventory available to respond quickly when economic development opportunities arise.

The preliminary results of the Oregon Semiconductor Competitiveness Task Force, chaired by the Oregon’s Governor, US Senator, and the CEO of Portland General Electric has recently reached dire conclusions about the State’s ability to accommodate new large industrial users and suppliers with the available industrial land and site sizes available.

Metro has studied land readiness over the last decade, periodically updating its inventory of remaining industrial sites and assessing them for readiness. The sites are ranked in Tiers, indicating readiness for near-term development, with Tier 1 sites being ready and Tier 3 being the least ready. When last updated in 2017, there were 47 sites over 25 acres in size. The Task Force recently updated the inventory to find that the supply had fallen by 40% to 28 total sites. Only two non-contiguous Tier 1 sites remain, totally 82 acres, and these sites lack the size to be adequate for large industrial users.

FIGURE 1: PORTLAND METRO INVENTORY OF LARGE INDUSTRIAL SITES

	2011 Inventory	2014 Inventory	2017 Inventory	2022 Inventory
Tier 1	9	14	10	2
Tier 2	16	17	11	6
Tier 3	31	23	26	20
Total	56 sites	54 sites	47 sites	28 sites

Source: Oregon Semiconductor Competitiveness Task Force, Mackenzie

While the Task Force is focused on the semiconductor industry (discussed more below), it should be noted that this is the total industrial inventory available for all categories of industrial users in the Metro boundary. (This inventory is for industrial land within the Metro UGB, and not the more broadly defined metropolitan region.) As the Tier categories imply, much of the remaining inventory also faces barriers to quickly access and serve with infrastructure.



These findings support the conclusion that the region currently has few to no sites to offer a large new industrial business recruitment or major expansion of an established industry. As the Task Force points out:

A major component of economic competitiveness is the time it takes to assemble the baseline ingredient of development: industrial land. In many states and countries this isn't a challenge, but in Oregon, it has become a serious barrier in achieving our goals surrounding shared economic prosperity.

As established in this report's "Opportunity" section, Oregon is on the cusp of a 1990s-like semiconductor boom when billions were invested and industry employment more than doubled. That boom was facilitated by 2,000+ acres of industrial land.

As discussed [in this report], this subcommittee found that Oregon faces a serious shortage of available, development-ready large industrial sites relative to 1990s-like demand. If left unaddressed, the shortage presents a critical threat to Oregon's semiconductor industry competitiveness....

...Our lack of industrial land is a chronic problem that has been vividly exposed by the surge [of] interest in semiconductor expansion¹

- Oregon Semiconductor Competitiveness Task Force

B. CHIPS ACT AND SEMICONDUCTOR INDUSTRY

The shortage of industrial sites is made especially pressing by the passage of the \$52 billion CHIPS Act which is aimed to benefit domestic semiconductor chip manufacturers and suppliers. The Act also signals a strong commitment to boost the industry that may produce additional future funding and incentives as well.

A major beneficiary if not the largest beneficiary of this federal spending will be Intel, the world's largest semiconductor company and the largest private employer in Oregon with an estimated 22,000 employees statewide. Considering that Intel's Oregon campuses are the company's "largest and most comprehensive" sites, they may see a sizable allocation of the CHIPS subsidies to Intel. The allocation of funding to different companies, and thus states or regions, is unknown at this time but financial and stock analysts predict the company could see a benefit of \$10 to \$19 billion.

Intel is also the center of the large cluster of industry partners, competitors, and suppliers that Intel has attracted in the "Silicon Forest." This cluster is already arguably the most important statewide economic engine outside of natural resources, supplying very high-wage employment, attracting talent and investment, and driving high tech innovation in the state.

Besides Intel, Oregon is home to roughly 150 related companies employing 10,000 additional workers. Oregon's economic output from this sector is second only to Texas.² And the state is home to an estimated 15% of the sector's domestic workforce.

¹ "Seizing Opportunity, Initial Report and Subcommittee Findings", Oregon Semiconductor Competitiveness Task Force, August 2022. Pages 20, 23.

² Terry, Lynne. "Semiconductor bill that would benefit Oregon passes first hurdle," Oregon Capital Chronicle, July 2022.



As the Task Force’s initial report finds “the semiconductor industry is especially prone to clustering” due to efficiencies of pooling talent, suppliers, and collaborators in one region. For this reason, the economic impact of the CHIPS Act is anticipated to be especially strong in the Portland metropolitan area, and Washington County where this cluster is already established. The report concludes that the industry “...is highly likely to continue clustering in the Metro region, with smaller but significant nodes of supplier-related activity in the Willamette Valley.”

The Task Force concludes there is a “short-term” need for the following, with a goal to make progress “heading in to the 2023 legislative session”:

- **Engaging local jurisdictions within Portland Metro and Willamette Valley** to determine land availability and site readiness for semiconductor expansion in their respective communities.
- Reviewing responses against criteria to create an updated map of sites of significance for semiconductor expansion **both inside and outside the Urban Growth Boundary based on planning documents and community interest.**
- Creating an updated map to identify sites most suitable for semiconductor expansion during this next growth cycle, including the following, *keeping in mind demand could exceed these needs*:
 - **Two sites of approximately 500 acres** to accommodate large-scale semiconductor R&D and/or production fabrication operations.
 - **Four sites of 50-100 acres** suitable for independent device manufacturers or major semiconductor equipment manufacturers.
 - **At least eight sites of 15-35 acres** to enable key suppliers to the semiconductor cluster to expand.³

[All emphasis added]

- Oregon Semiconductor Competitiveness Task Force

As noted, the region does not current offer sites of anywhere near 500 acres, or even Tier 1 sites of 50+ acres. This new inventory must be identified quickly, as nearly half the funds of the CHIPS Act are planned to be spent in the first two years, and all funds over five years.

North Plains Readiness

The short-term process outlined by the Task Force specifies collaborating with local jurisdictions to find partners interested in making land and sites available, “both inside and outside the Urban Growth Boundary”.

Because of the deliberative nature of Oregon land use planning and the Urban Growth Boundary amendment process it will be a challenge for most communities to respond expeditiously to this short-

³ “Seizing Opportunity, Initial Report and Subcommittee Findings”, Oregon Semiconductor Competitiveness Task Force, August 2022. Pages 22.



term need. This will increase the importance and priority of communities with the current “planning documents and community interest,” as specified. These communities will be able to move the quickest to make more industrial land available to serve regional and state needs.

North Plains is in the process of a UGB Amendment study that has already identified the need for substantial new industrial land, including multiple large sites. As a community well underway in the planning process and located directly adjacent to the North Hillsboro semiconductor (and other industrial) cluster in the Silicon Forest, North Plains is an excellent potential partner for facilitating short-term industrial land readiness in keeping with the goals and identified needs of the State Task Force.

C. METRO UGB AND BROADER REGIONAL EMPLOYMENT FORECASTS

The City of North Plains is a neighbor to the boundary of the Metro regional government (Metro) that includes the nearby communities of Hillsboro, Cornelius, and Forest Grove. North Plains is part of the Portland metropolitan area in the colloquial sense that many of the community’s residents work, shop, and conduct other business in the Metro area. Likewise, employees at local businesses commute from the Metro area to North Plains. At less than four miles, and a quick trip by highway, North Plains is one of the closer communities outside of the Metro UGB as discussed in the EOA report.

When looking at the three-county region (Washington, Multnomah, Clackamas Counties), it is the assumption that the lion’s share of new job growth and employment will be within the Metro UGB where the largest population and job centers are located. Given this assumption, some may further assume that there will be comparatively little employment growth in the communities outside of the Metro UGB.

However, a comparison of the three-county employment forecasts prepared by Metro itself, and the three-county employment forecasts prepared by the Oregon Employment Department show that Metro is not planning to accommodate nearly as much employment as the state is predicting (Figure 2).

FIGURE 2: PORTLAND THREE-COUNTY EMPLOYMENT FORECAST, METRO AND OED

	2020	2030	Employment Growth	Share of OED Forecast
<u>OED Projection¹</u>				
3-County Area:	996,500	1,169,900	173,400 17%	100%
<u>Metro Projection²</u>				
3-County Area:	1,026,032	1,091,568	65,536 6%	38%
Metro UGB Cities:	869,782	916,928	47,146 5%	27%
Unincorporated Areas:	142,058	160,054	17,996 13%	10%
Non-Metro Cities:	156,250	174,640	18,390 12%	11%

¹ Portland Tri-County Industry Projections 2020-2030, Oregon Employment Department (11/21)

² 2045 Distributed Forecast of Population, Households, and Employment, Metro (2/21)



Both Metro and OED have employment growth projections dating from 2021 and covering the 2020 to 2030 period. Metro's projection includes all land and communities within the three counties, not just those within the UGB, and will be used in Metro's updated Urban Growth Report. Some of the findings are summarized below:

- Metro projects just 38% of the total job growth projected by OED in the three counties (65k vs. 173k).
- OED projects an average annual employment growth rate of 1.6% per year during this period, while Metro projects a much lower rate of 0.6% per year.
- Metro's projected employment growth rate is much lower than the average annual *population* growth rate experienced over the last 10- or 20-year periods. In fact, Metro is planning for far fewer new jobs (65k) than the Metro's accompanying projection of the number of new households (114k) over the same period.
- As Metro uses this adopted employment forecast for regional land use planning, it will plan for only enough employment lands (commercial and industrial) to accommodate a fraction of what state economists predict the three-county region will see.
- Even if the Metro UGB were to absorb 100% of Metro's own projected employment growth, this would leave nearly 110k jobs (or 62% of the total) from the OED forecast for the three counties, unaccounted for over the next 10 years.
- As the state forecast seems more accurate, in keeping with historical and projected household growth rates and economic development goals to maintain sufficient employment land to facilitate business formation and job opportunities, it suggests that it is prudent for other communities within the three-county area to plan for excess employment growth that Metro is not currently anticipating or planning for. North Plains, due to its proximity and access, would be foremost among these communities.