REQUEST FOR COUNCIL ACTION

DATE ACTION REQUESTED: October 19, 2020				
Order ___ No.	**Ordinance ___ No.**	**Resolution ___ No.**	**Motion ___**	**Information XX**
SUBJECT: Economic Opportunities Analysis Briefing – Measures to Accommodate Growth			**Staff: Doug Rux, Director Department: Community Development**	
Work Session__X__ Business Session__			**Order on Agenda: New Business**	

RECOMMENDATION:

Information only.

EXECUTIVE SUMMARY:

The City Council approved a contract with ECONorthwest on November 18, 2019 by Resolution No. 2019-3618 to assist the City in conducting an Economic Opportunities Analysis (EOA). On September 16, 2019 the City Council passed Resolution No. 2019-3600 supporting a grant application to the Department of Land Conservation and Development for a Technical Assistance grant. The City was successful in the grant application and was awarded $20,000 towards the cost of conducting the EOA.

The CAC has met five times since the project initiation in January 2020 and TAC has met four times. The first CAC meeting occurred on January 27, 2020 as a briefing and orientation to the project. The CAC and TAC held their first official meetings on technical aspects on April 23, 2020. The meeting was originally scheduled for March 17, 202 but was canceled due to the COVID-19 pandemic. The CAC and TAC met again on July 22. The most recent meeting was on October 6, 2020. Attached is the Power Point from the CAC/TAC meetings along with a draft of the EOA document.

FISCAL IMPACT:

Cost to prepare the Economic Opportunities Analysis is $54,930.00. $38,930.00 is budgeted in 01-4110-580000 out of the General Fund. $16,000.00 is grant funds from the Department of Land Conservation and Development which is budgeted in 01-4110-533011.

STRATEGIC ASSESSMENT: (Relate to Council Goals if applicable)

2020 Council Goals:

Not applicable.

Attachments: 1. CAC/TAC Power Point
2. Draft Economic Opportunities Analysis Document

ATTACHMENT 1

Newberg EOA: TAC / CAC Meetings #4

October 6, 2020

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Agenda

- Introductions
- Review Site Needs Analysis
- Measures to Accommodate Industrial Land Need
- Draft EOA
- Next Steps

Review of Industrial Site Needs

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Recap: Potential Target Industries

- Advanced and General Manufacturing
  - Dental and Medical Equipment
  - Machine Shops
  - Storage, Logistics, and Distribution
- Technology and High-Tech Manufacturing
  - Electronics and Software
  - Semiconductors
  - Health/Medical Information
- Food/Beverage Processing and Agricultural Products
  - Farming
  - Value-add Food Manufacturing
- Forestry and Wood Products
  - Forest Management
  - Lumber and Logs
  - MPP and CLT
- Aviation related industries
  - Specialty Aircraft Equipment
  - Air Travel and Tourism
  - Parts Machining and Repair

Note: This is list was refined since the May meeting based on input from City staff and SEDCOR.

Recap: Characteristics of Sites by Industries

STATE OF OREGON - Infrastructure Finance Authority
Industrial Development Competitiveness Matrix

			Production Manufacturing		Value-Added Manufacturing and Assembly		Light / Flex Industrial			Warehousing & Distribuiton		Specialized		
	PROFILE		A	B	C	D	E	F	G	I	H	J	K	L
	CRITERIA		Heavy Industrial / Manufacturing	High-Tech / Clean-Tech Manufacturing	Food Processing	Advanced Manufacturing & Assembly	General Manufacturing	Industrial Business Park and R&D Campus	Business / Admin Services	Regional Warehouse / Distribution	Local Warehouse / Distribution	UVA Manufacturing / Research	Data Center	Rural Industrial
1	**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													
2	TOTAL SITE SIZE**	Competitive Acreage*	10 - 100+	5 - 100+	5 - 25+	5 - 25+	5 - 15+	20 - 100+	5 - 15+	20 - 100+	10 - 25+	10 - 25+	10 - 25+	5 - 25+
3	COMPETITIVE SLOPE:	Maximum Slope	0 to 5%	0 to 5%	0 to 5%	0 to 7%	0 to 5%	0 to 7%	0 to 12%	0 to 5%	0 to 5%	0 to 7%	0 to 7%	0 to 5%
	TRANSPORTATION													
5	TRIP GENERATION:	Average Daily Trips per Acre	40 to 60 (ADT / acre)	40 to 60 (ADT / acre)	50 to 60 (ADT / acre)	40 to 60 (ADT / acre)	40 to 50 (ADT / acre)	60 to 150 (ADT / acre)	170 to 180 (ADT / acre)	40 to 80 (ADT / acre)	40 to 80 (ADT / acre)	40 to 80 (ADT / acre)	20 to 30 (ADT / acre)	40 to 50 (ADT / acre)
6	MILES TO INTERSTATE OR OTHER PRINCIPAL ARTERIAL:	Miles	w/ in 10	w/ in 10	w/ in 30	w/ in 15	w/ in 20	N/A	N/A	w/ in 5 (only interstate or equivalent)	w/ in 5 (only interstate or equivalent)	N/A	w/ in 30	N/A
7	RAILROAD ACCESS:	Dependency	Preferred	Preferred	Preferred	Not Required	Preferred	Preferred	Not Required	Preferred	Preferred	Not Required	Avoid	N/A
8	PROXIMITY TO MARINE PORT:	Dependency	Preferred	Preferred	Preferred	Not Required	Preferred	Preferred	Not Required	Preferred	Preferred	Not Required	Not Required	N/A
9	PROXIMITY TO REGIONAL COMMERCIAL AIRPORT:	Dependency	Preferred	Competitive	Preferred	Competitive	Preferred	Required	Preferred	Preferred	Preferred	Preferred	Competitive	N/A
		Distance (Miles)	w/ in 60	w/ in 60	w/ in 60	w/ in 30	w/ in 60	w/ in 30	w/ in 60	w/ in 60	w/ in 60	w/ in 30	w/ in 60	N/A
##	PROXIMITY TO INTERNATIONAL AIRPORT:	Dependency	Preferred	Competitive	Preferred	Competitive	Preferred	Competitive	Preferred	Preferred	Preferred	Competitive	Preferred	N/A
		Distance (Miles)	w/ in 300	w/ in 300	w/ in 300	w/ in 100	w/ in 300	w/ in 100	w/ in 300	w/ in 300	w/ in 300	w/ in 100	w/ in 300	N/A
	UTILITIES													
##	WATER:	Min. Line Size (Inches/Dmtr)	8" - 12"	12" - 16"	12" - 16"	8" - 12"	6" - 10"	8" - 12"	4" - 6"	4" - 8"	4" - 6"	4" - 8"	16"	4" - 8"
		Min. Fire Line Size (Inches/Dmtr)	10" - 12"	12" - 18"	10" - 12"	10" - 12"	8" - 10"	8" - 12"	6" - 10"	10" - 12"	6" - 8"	6" - 10"	10"-12"	6" (or alternate source)
		High Pressure Water Dependency	Preferred	Required	Required	Preferred	Not Required	Preferred	Not Required	Not Required	Not Required	Not Required	Required	Not Required

Recap: Types of Sites Target Industries may Need

Target Industry	High Tech	Food Proc.	Adv. Mfg.	Gen. Mfg.	Ind. Bus. Park	Reg. Ware-house	Local Ware-house	Special -ized
Advanced+ General Manufacturing	✓		✓	✓	✓			✓
Food/Beverage Processing + Agriculture Products		✓	✓				✓	
Forestry + Wood Products			✓	✓	✓		✓	
Tech + High Tech Manuf.	✓		✓		✓			✓
Aviation related industries			✓	✓	✓			✓

Recap: Characteristics of Sites by Target Industries

Site Characteristics	General + Advanced Mfg.	Food/ Bev. Process.+ Ag Products	Forestry and Wood Products	Tech + High Tech Mfg. / Tech.	Aviation Related Ind.
Site Size (acres)	5–25+	5–25+	5–25+	5–100+	5–25+
Slope	0 to 7%	0 to 5%	0 to 7%	0 to 5%	0 to 7%
Railroad Access	Preferred	Preferred	Preferred	Preferred	*Depends on specific industry*
Highway Access (mi. to interstate)	within 20	within 30	within 5-20	within 60	within 20 (or n/a)
Special Utility Needs	Electricity redundancy dependency; Higher demand for electricity, gas, and telecom	High pressure water dependency	*Depends on specific industry*	High pressure water dependency; Very high utility demands	*Depends on specific industry*

Industrial Land Demand and Sufficiency

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Industrial Land Demand in Newberg

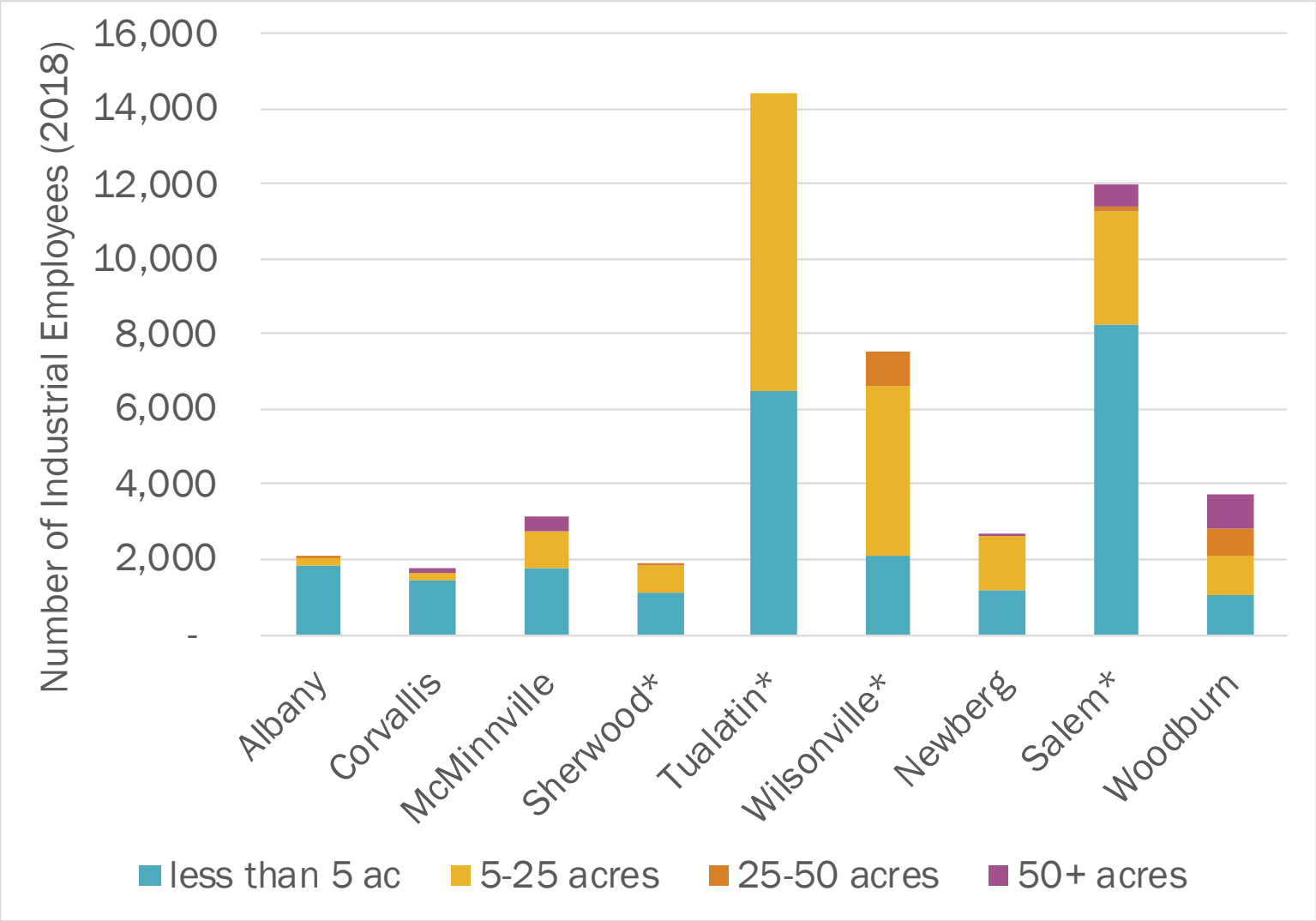
- Forecast shows Newberg will have growth of 2,557 employees in industrial sectors
- Target industries will generally need sites 5 to 25 acres; some will need larger and some will need smaller sites

- How many sites and acres of industrial land will Newberg need in the future?

Regional Development Patterns

- We compiled information about industrial employment and site characteristics for: Albany, Corvallis, McMinnville, Sherwood, Wilsonville, Newberg, Salem, Tualatin, and Woodburn
  - Industrial employment includes employment in the following sectors: Manufacturing, Construction, Utilities, Wholesale Trade, Transportation and Warehousing, and Agricultural and Forestry Services.
- Separated employment into the following site sizes:
  - Smaller than 5 acres, 5-25 acres, 25-50 acres, and 50+ acres

Industrial Employees by City



Source: Oregon Employment Department's Quarterly Census of Employment and Wages; Analysis by ECONorthwest
*Analysis for city limits only

Number of Sites with Industrial Employment

City	Site Size (acres)			
	< 5 acres	5-25 acres	25-50 acres	50+ acres
Albany	205	6	1	
Corvallis	131	6	2	3
McMinnville	147	13		1
Sherwood*	95	8	1	
Tualatin*	225	41		
Wilsonville*	102	26	4	
Newberg	113	7		2
Salem*	628	33	4	2
Woodburn	106	11	3	2
Total	**1,752**	**151**	**15**	**10**

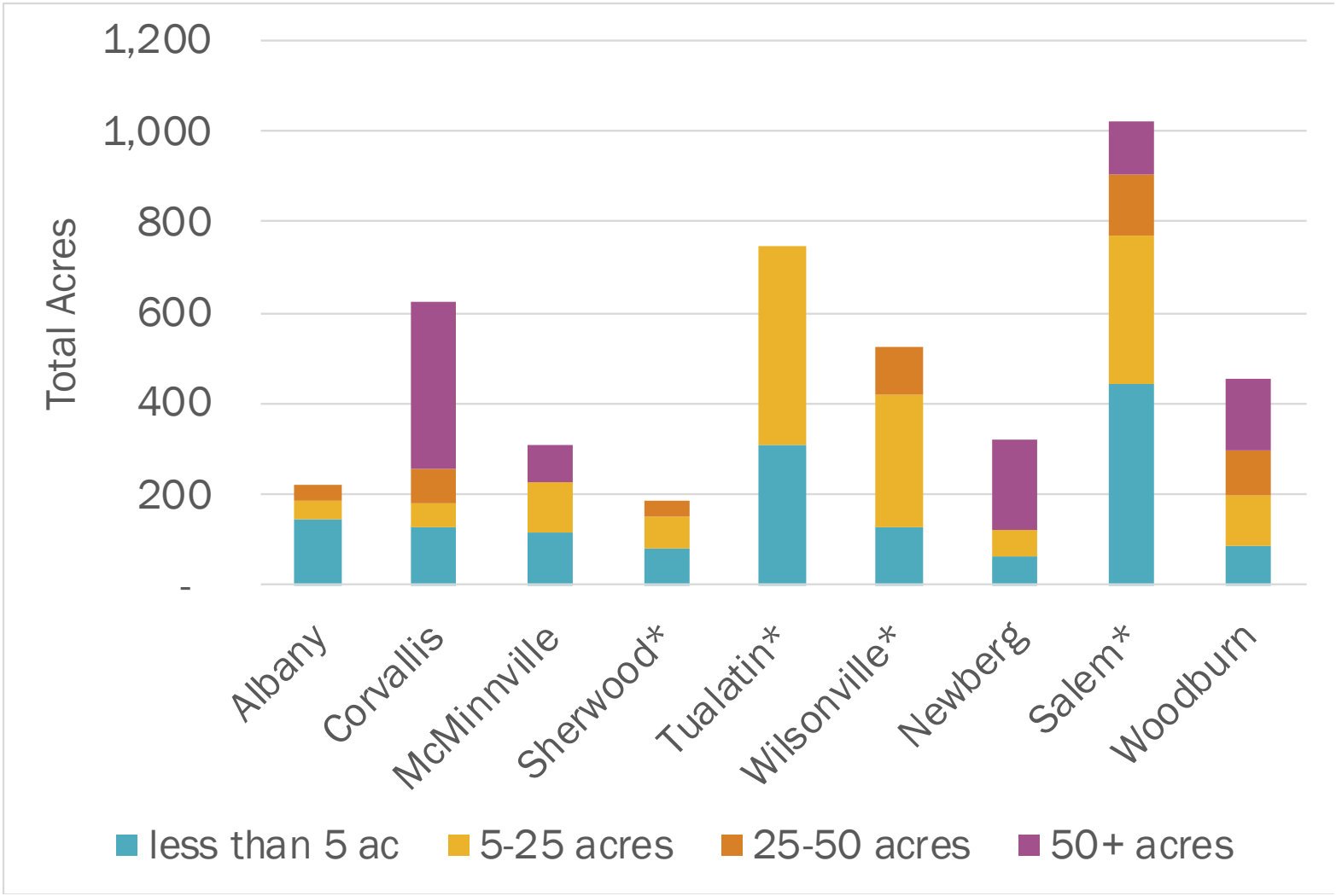
Source: Oregon Employment Department's Quarterly Census of Employment and Wages; Analysis by ECONorthwest
*Analysis for city limits only

Avg. Size of Sites with Industrial Employment

	Site Size (acres)			
City	< 5 acres	5-25 acres	25-50 acres	50+ acres
Albany	0.7	7.5	29.9	
Corvallis	1.0	9.1	38.3	123.0
McMinnville	0.8	8.5		82.5
Sherwood*	0.8	8.9	37.5	
Tualatin*	1.4	10.6		
Wilsonville*	1.2	11.2	26.9	
Newberg	0.6	7.9		99.6
Salem*	0.7	9.8	34.8	58.1
Woodburn	0.8	10.3	33.0	78.2
Average	**0.9**	**9.9**	**32.7**	**92.3**

Source: Oregon Employment Department's Quarterly Census of Employment and Wages; Analysis by ECONorthwest
*Analysis for city limits only

Acres of Land with Industrial Employment



Source: Oregon Employment Department's Quarterly Census of Employment and Wages; County and City-level parcel datasets; Analysis by ECONorthwest

Note: The analysis only included sites where at least 75% of employment on the site is industrial.

*Analysis for city limits only

Characteristics of Regional Sites

Regional Site Characteristics

Analysis based on averages of industrial employment at sites in the following cities: Albany, Corvallis, McMinnville, Sherwood, Wilsonville, Newberg, Salem, Tualatin, and Woodburn

	Less than 5 Acres	5-25 acres	25-50 acres	50 and more
Percent of existing employment	51%	41%	4%	4%
Number of Employees per site	15	133	128	203
Average Site size (acres)	0.9	9.9	32.7	92.3

Source: Oregon Employment Department's Quarterly Census of Employment and Wages;
County and City-level parcel data sets;
Analysis by ECONorthwest

Newberg Industrial Land Site Needs

Industrial Land Need for 2,557 new industrial employees.

Analysis based on the averages of industrial employment.

	Less than 5 Acres	5-25 acres	25-50 acres	50 and more	Total
New Employment by Site Size					
Percent of new employment*	46%	41%	5%	8%	100%
Number of Employees in Newberg	1,176	1,048	128	205	2,557
New Sites Needed					
Employees per site*	15	133	128	203	
New Sites Needed in Newberg	79	8	1	1	89
New Land Needed					
Average Site size*	0.9	9.9	32.7	92.3	
Acres of land in Newberg (acres)	71	79	33	92	275

Source: Oregon Employment Department's Quarterly Census of Employment and Wages;
County and City-level parcel data sets;
Analysis by ECONorthwest
*Assumptions based on the regional analysis.

Industrial Land Sufficiency

Explanation of industrial land sufficiency – using sites less than 5 acres

Comparison of land supply and need

- Subtract "new sites needed" from existing "vacant sites" in the BLI.
  - 79 needed sites minus 22 vacant sites = deficit of 57 sites

Acres of land needed

- 57 needed sites times an average site size of 0.9 acres = 51 needed acres

	Less than 5 Acres	5-25 acres	25-50 acres	50 and more	Total
Number of Vacant Sites: Newberg BLI	22	1	-	-	23
New Sites Needed	79	8	1	1	89
Comparison of Land Supply and Need (Land Surplus or Deficit)	(57)	(7)	(1)	(1)	(66)
Acres of land Needed	51	69	33	92	246

Source: Oregon Employment Department's Quarterly Census of Employment and Wages;
County and City-level parcel data sets
Analysis by ECONorthwest

Measures to Accommodate Industrial Land Need

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Potential Measures

- Implement recent plans
  - Newberg Economic Development Strategy, Newberg Downtown Improvement Plan, and the Riverfront Master Plan
- Establish a preservation policy for industrial sites over 10 acres to limit complete conversion to other uses
- Require master planning for business or industrial parks

Potential Measures

- Identify land to rezone to industrial, avoiding down-zoning
- Use Urban Renewal as a catalyst for redevelopment
- Complete the Interchange Management Plans for the Newberg-Dundee Bypass

- Other ideas?

Next Steps

- Draft EOA document distributed prior to meeting
  - Comments? Questions?
  - Provide comments to City by October 16
- Final meeting scheduled for:
  - **December 1, 2020**

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Eugene

Portland

Seattle

Boise

City of Newberg Economic Opportunities Analysis

September 2020

Prepared for:
City of Newberg

Draft Report

ECONorthwest
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Acknowledgments

ECONorthwest prepared this report for the City of Newberg. ECONorthwest and the City thank the many people who helped to develop the Newberg Economic Opportunities Analysis.

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For over 40 years ECONorthwest has helped its clients make sound decisions based on rigorous economic, planning, and financial analysis. For more information about ECONorthwest: www.econw.com. For more information about this report, please contact:

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Table of Contents

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Executive Summary

This report presents an economic opportunities analysis consistent with the requirements of statewide planning Goal 9 and the Goal 9 administrative rule (OAR 660-009). Goal 9 describes the EOA as "an analysis of the community's economic patterns, potentialities, strengths, and deficiencies as they relate to state and national trends" and states that "a principal determinant in planning for major industrial and commercial developments should be the competitive advantage of the region within which the developments would be located."

The primary goals of the EOA are to (1) project the amount of land needed to accommodate the future employment growth within the Newberg Urban Growth Boundary (UGB), between 2021 and 2041, (2) evaluate the existing employment land supply within the City to determine if it is adequate to meet that need, and (3) to fulfill state planning requirements for a twenty-year supply of employment land.

Note to reviewers: We will finish filling in the Executive Summary for the final EOA document.

1. Introduction

This report presents an Economic Opportunities Analysis (EOA) for the City of Newberg. The EOA includes technical analysis to address a range of questions that Newberg faces in managing its commercial and industrial land. The EOA includes an employment forecast that describes how much growth Newberg should plan for over the 2021 to 2041 period and identifies the amount and type of employment land necessary to accommodate growth in Newberg over that period. The EOA also includes an inventory of commercial and industrial land within Newberg's urban growth boundary (UGB) to provide information about the amount of land available to accommodate employment growth. This EOA complies with the requirements of statewide planning Goal 9, the Goal 9 administrative rules (OAR 660 Division 9), and the court decisions that have interpreted them.

The City of Newberg last completed an EOA in 2010, based on the 2000 Census data. Substantial changes have occurred in the national and regional economy since 2010 that have implications for economic growth in Newberg, such as the recovery from the Great Recession, the impacts of the COVID-19 recession, and changes in the retail and manufacturing sectors.

In 2019, Newberg completed a community visioning process, which resulted in *A NewBERG Community Profile, Community Vision, and Action Plan.* Part of this community visioning process included goals and objectives related to economic development and the *Newberg Economic Development Strategy,* which was updated in 2019. The City is also in the process of implementing the *Riverfront Master Plan,* which includes updating the comprehensive plan designations in the Riverfront area that includes the former Westrock mill site. Information from these plans are incorporated into the EOA.

The purpose of the EOA was to develop a factual base to provide the City with information about current economic conditions. This report identifies opportunities to meet the City's economic development objectives and policies identified in the *A NewBERG Community Vision, and Action Plan,* as well as develop Comprehensive Plan policies and implementation strategies necessary to implement the EOA.

The EOA also provides information essential to addressing the City's challenges in managing economic development, such as a lack of larger industrial sites to support growth of businesses that require large sites, underutilized commercial land, underutilized industrial land, and a lack of policy direction to address these issues.

The EOA draws on information from numerous data sources, such as the Oregon Employment Department, U.S. Bureau of Economic Analysis, U.S. Bureau of Labor Statistics, and the U.S. Census. The EOA also uses information from the following reports:

- *Newberg Economic Development Strategy* (2016, updated in 2019)
- *Newberg Riverfront Master Plan* (2019)

- *A NewBERG Community Profile, Community Vision, and Action Plan* (2019)
- *Mid-Willamette Valley Regional Comprehensive Economic Development Strategy* (2018)

Framework for an Economic Opportunities Analysis

The content of this report is designed to meet the requirements of Oregon Statewide Planning Goal 9 and the administrative rule that implements Goal 9 (OAR 660-009). The analysis in this report is designed to conform to the requirements for an Economic Opportunities Analysis in OAR 660-009 as amended.

1. *Economic Opportunities Analysis (OAR 660-009-0015).* The Economic Opportunities Analysis (EOA) requires communities to identify the major categories of industrial or 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; identify the number of sites by type reasonably expected to be needed to accommodate projected employment growth based on the site characteristics typical of expected uses; include an inventory of vacant and developed lands within the planning area designated for industrial or other employment use; and estimate the types and amounts of industrial and other employment uses likely to occur in the planning area. Local governments are also encouraged to assess community economic development potential through a visioning or some other public input-based process in conjunction with state agencies.
2. *Industrial and commercial development policies (OAR 660-009-0020).* Cities are required to develop commercial and industrial development policies based on the EOA. Local comprehensive plans must state the overall objectives for economic development in the planning area and identify categories or particular types of industrial and other employment uses desired by the community. Local comprehensive plans must also include policies that commit the city or county to designate an adequate number of employment sites of suitable sizes, types, and locations. The plan must also include policies to provide necessary public facilities and transportation facilities for the planning area.
3. *Designation of lands for industrial and commercial uses (OAR 660-009-0025).* Cities and counties must adopt measures to implement policies adopted pursuant to OAR 660-009-0020. Appropriate implementation measures include amendments to plan and zone map designations, land use regulations, public facility plans, and transportation system plans. More specifically, plans must identify the approximate number, acreage, and characteristics of sites needed to accommodate industrial and other employment uses to implement plan policies and must designate serviceable land suitable to meet identified site needs.

Organization of this Report

This report is organized as follows:

- **Chapter 2. Factors Affecting Future Economic Growth** summarizes historic economic trends that affect current and future economic conditions in Newberg, as well as Newberg's competitive advantages for economic development.
- **Chapter 3. Employment Growth and Site Needs** presents a forecast for employment growth in Newberg and describes potential growth industries and site needs for potential growth in industries.
- **Chapter 4. Buildable Lands Inventory** presents a summary of the inventory of employment lands.
- **Chapter 5. Land Sufficiency and Conclusions** compares the supply of and demand for buildable lands and presents key concluding recommendations for Newberg.

This report also includes two appendices:

- Appendix A. National, State, and Regional and Local Trends
- Appendix B. Buildable Lands Inventory Methodology

2. Factors Affecting Future Economic Growth

Newberg exists as part of the economy of the Mid-Willamette Valley region, and is the second-largest city in Yamhill County. Its proximity to the Portland Region, as well as Salem and the agricultural industries in Yamhill County, provide opportunities for the city's residents and access to a larger labor pool for employers. The focus of Newberg's economy includes of several types of manufacturing, healthcare, and service-sector industries focused on agriculture and wine tourism. The city's location in the Willamette Valley makes Newberg a popular destination for tourism in the area's wine country. The quality of life and available amenities also attract people to live and work in Newberg.

This chapter describes the factors affecting economic growth in Newberg within the context of national and regional economic trends. The analysis presents the City's competitive advantages for growing and attracting businesses, which forms the basis for identifying potential growth industries in Newberg.

Factors that Affect Economic Development[1]

The fundamental purpose of Goal 9 is to make sure that a local government plans for economic development. The planning literature provides many definitions of economic development, both broad and narrow. Broadly,

> "Economic development is the process of improving a community's well-being through job creation, business growth, and income growth (factors that are typical and reasonable focus of economic development policy), as well as through improvements to the wider social and natural environment that strengthen the economy."[2]

That definition acknowledges that a community's wellbeing depends in part on narrower measures of economic wellbeing (e.g., jobs and income) and on other aspects of quality of life (e.g., the social and natural environment). In practice, cities and regions trying to prepare an economic development strategy typically use a narrower definition of economic development; they take it to mean business development, job growth, and job opportunity. The assumptions are that:

- Business and job growth are contributors to and consistent with economic development, increased income, and increased economic welfare. From the municipal point of view,

[1] The information in this section is based on previous Goal 9 studies conducted by ECONorthwest and the following publication: An Economic Development Toolbox: Strategies and Methods, Terry Moore, Stuart Meck, and James Ebenhoh, American Planning Association, Planning Advisory Service Report Number 541, October 2006.

[2] An Economic Development Toolbox: Strategies and Methods, Terry Moore, Stuart Meck, and James Ebenhoh, American Planning Association, Planning Advisory Service Report Number 541, October 2006.

investment and resulting increases in property tax are important outcomes of economic development.

- The evaluation of tradeoffs and balancing of policies to decide whether such growth is likely to lead to overall gains in wellbeing (on average and across all citizens and businesses in a jurisdiction, and all aspects of wellbeing) is something that decision makers do after an economic strategy has been presented to them for consideration.

That logic is consistent with the tenet of the Oregon land-use planning program: all goals matter, no goal dominates, and the challenge is to find a balance of conservation and development that is acceptable to a local government and the State. Goal 9 does not dominate, but it legitimizes and requires that a local government focus on the narrower view of economic development regarding economic variables.

In that context, a major part of local economic development policy is about local support for business development and job growth; that growth comes from the creation of new firms, the expansion of existing firms, and the relocation or retention of existing firms. Specifically, new, small businesses are accounting for a larger share of the job growth in the United States.[3] This shift toward a focus on entrepreneurship, innovation, and small businesses presents additional options for local support for economic development beyond firm attraction and retention. Thus, a key question for economic development policy is: *What are the factors that influence business and job growth, and what is the relative importance of each?* This document addresses that question in depth.

What Factors Matter?

Why do firms locate where they do? There is no single answer—different firms choose their locations for different reasons. Key determinants of a location decision are a firm's *factors of production*. For example, a firm that spends a large portion of total costs on unskilled labor will be drawn to locations where labor is relatively inexpensive. A firm with large energy demands will give more weight to locations where energy is relatively inexpensive. In general, firms choose locations they believe will allow them to maximize net revenues: if demand for goods and services are held roughly constant, then revenue maximization is approximated by cost minimization.

The typical categories that economists use to describe a firm's production function are:

- **Labor.** Labor is often the most important factor of production. Other things equal, firms look at productivity—labor output per dollar. Productivity can decrease if certain types of labor are in short supply, which increases the costs by requiring either more pay to

[3] According to the 2018 Small Business Profile from the US Small Business Office of Advocacy, small businesses account for over 99 percent of total businesses in the United States, and their employees account for nearly 50% of American workers. https://www.sba.gov/sites/default/files/advocacy/2018-Small-Business-Profiles-US.pdf

acquire the labor that is available, the recruiting of labor from other areas, or the use of the less productive labor that is available locally.

- **Land.** Demand for land depends on the type of firm. Manufacturing firms need more space and tend to prefer suburban locations where land is relatively less expensive and less difficult to develop. Warehousing and distribution firms need to locate close to interstate highways.
- **Local infrastructure.** An important role of government is to increase economic capacity by improving quality and efficiency of infrastructure and facilities, such as roads, bridges, water and sewer systems, airport and cargo facilities, energy systems, and telecommunications.
- **Access to markets.** Though part of infrastructure, transportation merits special attention. Firms need to move their product, either goods or services, to the market, and they rely on access to different modes of transportation to do this.
- **Materials.** Firms producing goods, and even firms producing services, need various materials to develop products that they can sell. Some firms need natural resources (i.e., raw lumber) and others may need intermediate materials (i.e., dimensioned lumber).
- **Entrepreneurship**. This input to production may be thought of as good management, or even more broadly as a spirit of innovation, optimism, and ambition that distinguishes one firm from another even though most of their other factor inputs may be quite similar. Entrepreneurial activity, even when unsuccessful, can offer information about the local market that other entrepreneurs can use in starting a new firm. Entrepreneurs are typically willing to take on more risk in uncertain markets, and a strengthened entrepreneurial environment can help to reduce that risk and uncertainty. [4] Entrepreneurs also tend to have more mobility than larger firms, and are more likely to locate in areas with a strong entrepreneurial environment.[5] To some degree, local governments can promote the high quality of life in an area to attract entrepreneurs, in addition to adopting regulations with minimal barriers—or at least, clear guidelines—for new, small businesses.

[4] Tessa Conroy and Stephan Weiler "Local and Social: Entrepreneurs, Information Network Effects, and Economic Growth" (2017). https://redi.colostate.edu/wp-content/uploads/sites/50/2017/05/gender_gia_Jun2017-2.pdf

[5] Emil E. Malizia and Edward J. Feser. *Understanding Local Economic Development. (*1999).

The supply, cost, and quality of any of these factors depend on market factors: on conditions of supply and demand locally, nationally, and even globally. But they also depend on public policy. In general, public policy can affect these factors of production through:

- **Regulation.** Regulations protect the health and safety of a community and help maintain quality of life. Overly burdensome regulations, however, can be disincentives for businesses to locate in a community. Simplified bureaucracies and straightforward regulations can reduce the burden on businesses and help them react quickly in a competitive marketplace.
- **Taxes**. Firms tend to seek locations where they can optimize their after-tax profits. Tax rates are not a primary location factor—they matter only after businesses have made decisions based on labor, transportation, raw materials, and capital costs. The costs of these production factors are usually similar within a region. Therefore, differences in tax levels across communities within a region are more important in the location decision than are differences in tax levels between regions.
- **Financial incentives**. Governments can offer firms incentives to encourage growth. Most types of financial incentives have had little significant effect on firm location between regions. For manufacturing industries with significant equipment costs, however, property or investment tax credit or abatement incentives can play a significant role in location decisions. Incentives are more effective at redirecting growth within a region than they are at providing a competitive advantage between regions.

This discussion may make it appear that a location decision is based entirely on a straight-forward accounting of costs, with the best location being the one with the lowest level of overall costs. Studies of economic development, however, have shown that location decisions depend on a variety of other factors that indirectly affect costs of production. These indirect factors include agglomerative economies (also known as industry clusters), quality of life, and innovative capacity.

- **Industry clusters**. Firms with similar business activities can realize operational savings when they congregate in a single location or region. Clustering can reduce costs by creating economies of scale for suppliers. For this reason, firms tend to locate in areas where there is already a presence of other firms engaged in similar or related activities.
- **Quality of life.** A community that features many quality amenities, such as access to recreational opportunities, culture, low crime, good schools, affordable housing, and a clean environment can attract people simply because it is a nice place to be. A region's quality of life can attract skilled workers, and if the amenities lure enough potential workers to the region, the excess labor supply pushes their wages down so that firms in the region can find skilled labor for a relatively low cost. The characteristics of local communities can affect the distribution of economic development within a region, with different communities appealing to different types of workers and business owners. Sometimes location decisions by business owners are based on an emotional or historical

attachment to a place or set of amenities, without much regard for the cost of other factors of production.

- **Innovative capacity.** Increasing evidence suggests that a culture promoting innovation, creativity, flexibility, and adaptability is essential to keeping U.S. cities economically vital and internationally competitive. Innovation is particularly important in industries that require an educated workforce. High-tech companies need to have access to new ideas typically associated with a university or research institute. In addition to innovations in research and development within firms or research institutions, firms may also draw on the innovative capacity of entrepreneurs in an area. These entrepreneurs may be former employees of the larger firm or businesses that relocated to an area because of the proximity to an industry cluster. Strong networks and communication between firms, research institutions, and entrepreneurs are key components to leveraging innovative capacity in an area.[6] Local governments are well-equipped to help foster these networks through supporting economic development tools such as small business assistance centers or incubation centers. Government can also be a key part of a community's innovative culture, through the provision of services and regulation of development and business activities that are responsive to the changing needs of business.

How Important Are These Factors?

To understand how changes in public policies affect local job growth, economists have attempted to identify the importance for firms with different locational factors. They have used statistical models, surveys, and case studies to examine detailed data on the key factors that influence the business location decision.

Economic theory says that firms locate where they can reduce the costs of their factors of production (assuming demand for products and any other factors are held constant). Firms locate in regions where they have access to inputs that meet their quality standards at a relatively low cost. Because firms are different, the relative importance of different factors of production varies both across industries and, even more importantly, across firms.

No empirical analysis can completely quantify firm location factors because numerous methodological problems make any analysis difficult. For example, some would argue simplistically that firms would prefer locating to a region with a low tax rate to reduce tax expenses. However, the real issue is the value provided by the community for the taxes collected. Because taxes fund public infrastructure that firms need, such as roads, water, and sewer systems, regions with low tax rates may end up with poor infrastructure, making it less attractive to firms. When competing jurisdictions have roughly comparable public services (type, cost, and quality) and quality of life, then tax rates (and tax breaks) can make a difference.

[6] Nancey Green Leigh and Edward Blakely. Planning Local Economic Development: Theory and Practice. 2013.

Further complicating any analysis is the fact that many researchers have used public expenditures as a proxy for infrastructure quality. But large expenditures on roads do not necessarily equal a quality road system. It is possible that the money has been spent ineffectively and the road system is in poor condition.

An important aspect of this discussion is that the business function at a location matters more than a firm's industry. A single company may have offices spread across cities, with headquarters located in a cosmopolitan metropolitan area, with the research and development divisions located near a concentration of universities, the back office in a suburban location, and manufacturing and distribution located in areas with cheap land and good interstate access.

The location decisions of businesses are primarily based on the availability and cost of labor, transportation, raw materials, and capital. The availability and cost of these production factors are usually similar within a region. Most economic development strategies available to local governments, however, only indirectly affect the cost of these primary location factors. Local governments can most easily affect tax rates, 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.

Local governments can provide support for new and existing small businesses through policies and programs that support entrepreneurship and innovation. The National League of Cities suggests strategies for local governments including: strong leadership from elected officials; better communication with entrepreneurs, especially about the regulatory environment for businesses in the community; and partnerships with colleges, universities, small business development centers, mentorship programs, community groups, businesses groups, and financial institutions.[7]

Local governments in Oregon also play a central role in the provision of buildable land through inclusion of lands in the Urban Growth Boundary, as well as through determination of plan designations and zoning, and through provision of public services. Obviously, businesses need buildable land to locate or expand in a community. Providing buildable land alone is not sufficient to guarantee economic development in a community—market conditions must create demand for this land, and local factors of production must be favorable for business activity. In the context of expected economic growth and the perception of a constrained land supply in Newberg, the provision of buildable land has the potential to strongly influence the level and type of economic development in the City. The provision of buildable land is one of the most direct ways that Newberg can affect the level and type of economic development in the community.

[7] National League of Cities "Supporting Entrepreneurs and Small Businesses" (2012). https://www.nlc.org/supporting-entrepreneurs-and-small-business

Summary of the Effect of National, State, and Regional Trends on Economic Development in Newberg

This section presents a summary and the implications of national, state, and regional economic trends on economic growth in Newberg, which are presented in detail in Appendix A. As of August 2020, several counties across Oregon continue with the process of re-opening from the stay-at-home orders associated with the COVID-19 pandemic. While it is difficult to predict the long-term implications of the pandemic at this point, it is certain that the COVID-19 pandemic will disrupt the economy in Newberg and the entire state over the next month and longer. This section focuses on long-term trends that are likely to affect economic growth in Newberg over the 20-year planning period. It considers some near-term impacts of the COVID-19 pandemic but focused on long-term trends.

- **County and local employment growth.** Employment increased in Yamhill County since 2008, with a gain of about 3,874 employees between 2008 and 2018. The largest increases were in education and health services and leisure and hospitality. Newberg accounted for about 27% of employment in Yamhill County in 2018. Employment in Newberg increased between 2008 and 2018 by about 837 employees or 9%.
- **Increases in regional economic diversity.** Within the Mid-Willamette Valley region (which includes Marion, Polk, and Yamhill Counties), the types of industries transitioned away from the traditional natural resource extraction-based economy to a more diverse economic base, which includes value-add agricultural products; metals and machinery; specialty product manufacturing; and professional and technical services.[8] The increases in regional economic development diversity provide opportunities for the development of new businesses in Newberg, as clusters of similar businesses continue to locate in the Mid-Willamette Valley region.
- **Changes in manufacturing and concentration of manufacturing in Oregon.** Newberg's location in the Willamette Valley, as well as its access to highways and a skilled workforce present for opportunities for growth in manufacturing businesses. In 2018, manufacturing accounted for about 22% of Newberg's total covered employment, and has an average wage of $59,194, higher than the city's average wage of $43,480.

  Between 2008 and 2018, the manufacturing sector in Newberg decreased from 2,475 to 2,085 employees, a decrease of 390 employees. A major reason for the decrease in manufacturing employment were closure of the WestRock paper mill in 2016 and the closure of the Suntron electronics plant in 2009. However, over the 2008 to 2018 period, manufacturing added more than 260 jobs (as well as maintaining existing jobs) in sectors such as apparel manufacturing, specialty manufacturing, furniture manufacturing, and other types of manufacturing.

[8] Mid-Willamette Valley Regional Comprehensive Economic Development Strategy (CEDS). Mid-Willamette Valley Community Development Partnership Board. June 2018.

Another reason for the decrease in manufacturing employment in Newberg was a lack of vacant buildings and developable sites for manufacturing. Examples of businesses that left include NW Alpine, which moved to Salem in 2019 and increased its workforce from about 30 employees to 70 employees. They expect to add about 20 more employees during 2020 and 2021.

- **Increases in automation.** Businesses in both industrial and commercial industries will continue to respond to increases in automated processes, decreasing employment in some types of manufacturing processes and slightly increasing need for workers with skills in computers and other high-tech. While automation has been a factor in industrial sectors for decades (e.g., manufacturing), recent increases in automation for commercial industries, such as certain functions of retail or office jobs. Oregon's overall risk of automation is similar to that of the nation with lower and middle-wage jobs at higher risk of being automated. Jobs that are considered to be at lower risk include those that provide personal services or experiences, such as food service or hospitality. Higher-wage jobs that are also considered to be at a lower risk of automation include jobs that require social intelligence, perception, creativity, or fine motor skills.

  Most industrial sectors will still hire employees to complete certain tasks, though the types of skills required for these jobs may change as automation increases. Newberg's access to a skilled workforce is an advantage for businesses in Newberg, as long as the educational opportunities in the region continue to align with the needs for skills in industries in Newberg.

- **Importance of small businesses in Newberg's economy.** The average business in Newberg has 11 employees, the same as the state average. The creation of new businesses is vital to Oregon's (and Newberg's) economy as their formations generate new jobs and advance innovations into markets. Younger workers are important to continued growth of small businesses, as more than one-third of Millennials in the nation are self-employed. Newberg's access to a relatively young workforce from across the Willamette Valley and Portland Metro regions presents opportunities for small businesses to grow in the city. The Chehalem Valley Innovation Accelerator provides resources for local entrepreneurs to build their business in the region. The Accelerator has partnerships with several regional organizations, businesses, and educational institutions to help bridge gaps and promote partnerships with local small businesses in Newberg.

- **Changes in the retail sector.** The retail sector has reacted over the past two decades to changing consumer preferences for shopping at large supercenters as well as online shopping. The growth of shopping online is likely to continue, accelerated as a result of the COVID-19 pandemic. There will continue to be demand for local purchase of retail goods. Consumers still prefer physical, brick-and-mortar stores for certain items, such as large furniture, specialty goods, and groceries. Furthermore, consumer preferences have shifted to spending at restaurants and experience-focused series (e.g., entertainment or recreation). Retail businesses that compete with on-line retailers may become less

common in Newberg (and other cities) but businesses providing experiences or goods that cannot be purchased on-line may grow and expand in Newberg. This presents opportunities for Newberg's retail industry to build on the city's high quality of life, providing experiences for residents and visitors, especially those in the wine industry.

- **Continued increase in demand for energy.** While energy prices were unusually low in early 2020, energy prices are forecasted to increase over the planning period. If energy prices increase over the long term, these higher prices will likely affect the mode of commuting before affecting workers' willingness to commute. For example, commuters may choose to purchase a more energy-efficient car or carpool. In Newberg, the options for modes of commuting into the city from other areas are more limited than in larger urban areas with access to transit, bike, and pedestrian infrastructure. Very large increases in energy prices may affect workers' willingness to commute, especially workers living the furthest from Newberg or workers with lower paying jobs. In addition, very large increases in energy prices may make shipping freight long distances less economically feasible, resulting in a slowdown or reversal of offshore manufacturing, especially of large, bulky goods.
- **A tight labor market that changed abruptly.** In 2019, the unemployment rate in Yamhill County was 3.4%, slightly lower than Oregon's rate of 3.7% and the national rate of 3.6%. However, the sudden onset of the COVID-19 pandemic resulted in an abrupt increase in unemployment across the nation and in Oregon. In April 2020, unemployment rates increased to 13.2% in Yamhill County, 14.8% in Oregon, and 14.7% nationwide.[9] By June 2020 the unemployment rate in Yamhill County decreased to 9.7% (11.2% statewide). In Yamhill County, approximately 3,300 jobs were lost, concentrated in the manufacturing, accommodations and food services, health services, and retail trade.[10] It is unclear how many of these jobs are lost in the long-term and how many will come back as the regional and statewide economy re-opens. The Oregon Office of Economic Analysis estimates that employment will not return to early 2020 levels until mid-2024, assuming the effects of the COVID-19 pandemic are alleviated by a vaccine or effective treatment.
- **Availability of trained and skilled labor.** Availability of labor depends, in part, on population growth and in-migration. Newberg's population increased by 5,981 people between 2000 and 2019 at an average annual growth rate of 1.5%. Most of the population increase occurred between 2000 to 2010, with an increase of 4,004 residents. In comparison, Oregon's population grew at an average annual growth rate of 1.1% between 2000 and 2019 with 69% of population coming from in-migration.

  The current labor force participation rate is another important consideration in the availability of labor. The labor force in any market consists of the adult population (16 and over) who are working or actively seeking work. The labor force includes both the

[9] Note that these unemployment rate estimates are preliminary and may be revised as the year continues.

[10] Based on information from the Oregon Employment Department for Yamhill County as of June 2020. https://www.qualityinfo.org/covid-19

employed and unemployed. According to the 2014-2018 American Community Survey, Newberg had about 11,987 people in its labor force and Yamhill County had over 49,800. The labor force participation rates in Newberg (65%) was higher than Yamhill County (60%) and Oregon (62%) in the 2014-2018 period. Non-participants in the labor force (the 35% of people not participating in Newberg's labor force) include students 16 years and older, retirees, and unemployed people not actively seeking work. A higher concentration of older residents in an area or a mismatch of the types of jobs available in an area and the types of skills of the labor force can contribute to low labor force participation rates.

Twenty-three percent of workers at businesses in Newberg live in Newberg and 48% live in Yamhill County. Businesses in Newberg draw employees from across Yamhill County as well as Washington, Clackamas, and Marion Counties.

- **Lower household income and average wages.** Newberg's median household income is lower relative to both the county and the state. In the 2014-2018 period, Newberg's median household income was $56,599, lower than Yamhill County's median household income of $59,484 and Oregon's median household income of $59,393. The average wage at private businesses in Newberg was about $43,480 in 2018, which was higher than the Yamhill County average in 2018 of $42,302 but below the State average of $53,000.[11]
- **Education as a determinant of wages.** Newberg's population has a larger share (31%) of college graduates (bachelor's degree or higher) than in Yamhill County (26%), but a smaller share than in Oregon (33%). About 35% of Newberg's residents have some college or an associate degree, and about 34% have a high school diploma or less. Businesses that need employees with a college degree may be more likely to move to Newberg and some may need to recruit employees from outside of the city. Newberg businesses have access to students from the local campus of George Fox University, the Portland Community College Newberg Center, and neighboring Linfield College in McMinnville.
- **Aging of the population and need for replacement workers.** Newberg has a smaller percentage of residents 60 years and older (18%) relative to Oregon (24%) and Yamhill County (23%). Newberg's median age, which was 30.1 in 2000, increased to 33.7 in the 2014-2018 period. In comparison, Yamhill County's median age was 38.1, and Oregon's median age was 39.2 in the 2014-2018 period.

  Yamhill County's population is expected to continue aging, with people 60 years and older increasing from 25% of the population in 2020 to 28% of the population in 2045, consistent with statewide trends. As workers retire, businesses need to replace them with new workers. This need for replacement workers will continue to drive need for workers.
- **Increases in racial and ethnic diversity.** Overall, both the nation and Oregon are becoming more racially and ethnically diverse. Between 2000 and 2014-2018, the

[11] Oregon Employment Department, Quarterly Census of Employment and Wages, 2018.

Hispanic and Latino population in Oregon increased from 8% to 13%, while it increased in Newberg from 11% to 14%. The population of people of color has increased from 13% to 16% in Oregon since 2000 and from 10% to 12% in Newberg.

Employment Trends in Newberg and Yamhill County

The economy of the nation changed substantially between 1980 and 2018. These changes affected the composition of Oregon's economy, including Newberg's economy. At the national level, the most striking change was the shift from manufacturing employment to service-sector employment. The most important shift in Oregon during this period has been the shift from a timber-based economy to a more diverse economy, with the greatest employment in services. This section focuses on changes in the economy in Yamhill County and Newberg since 2008.

Employment Trends in Yamhill County

Exhibit 1 shows covered employment[12] in Yamhill County for 2008 and 2018. Employment increased by 3,874 jobs, or 12%, over this period. The sectors with the largest increases in numbers of employees were education and health services (1,180 jobs); leisure and hospitality (1,088 jobs); natural resources and mining (743 jobs); and professional and business services (310 jobs).

The average wage for employment in Yamhill County in 2018 was about $42,302. Employment in higher wage industries, such as manufacturing and professional and business services, increased over the 2008 to 2018 time period. One exception is the financial activities sector, which saw a decrease of 70 jobs.

[12] **Covered** employment includes employees covered by unemployment insurance. Examples of workers not included in covered employment are sole proprietors, some types of contractors (often referred to as "1099 employees"), or some railroad workers. Covered employment data is from the Oregon Employment Department.

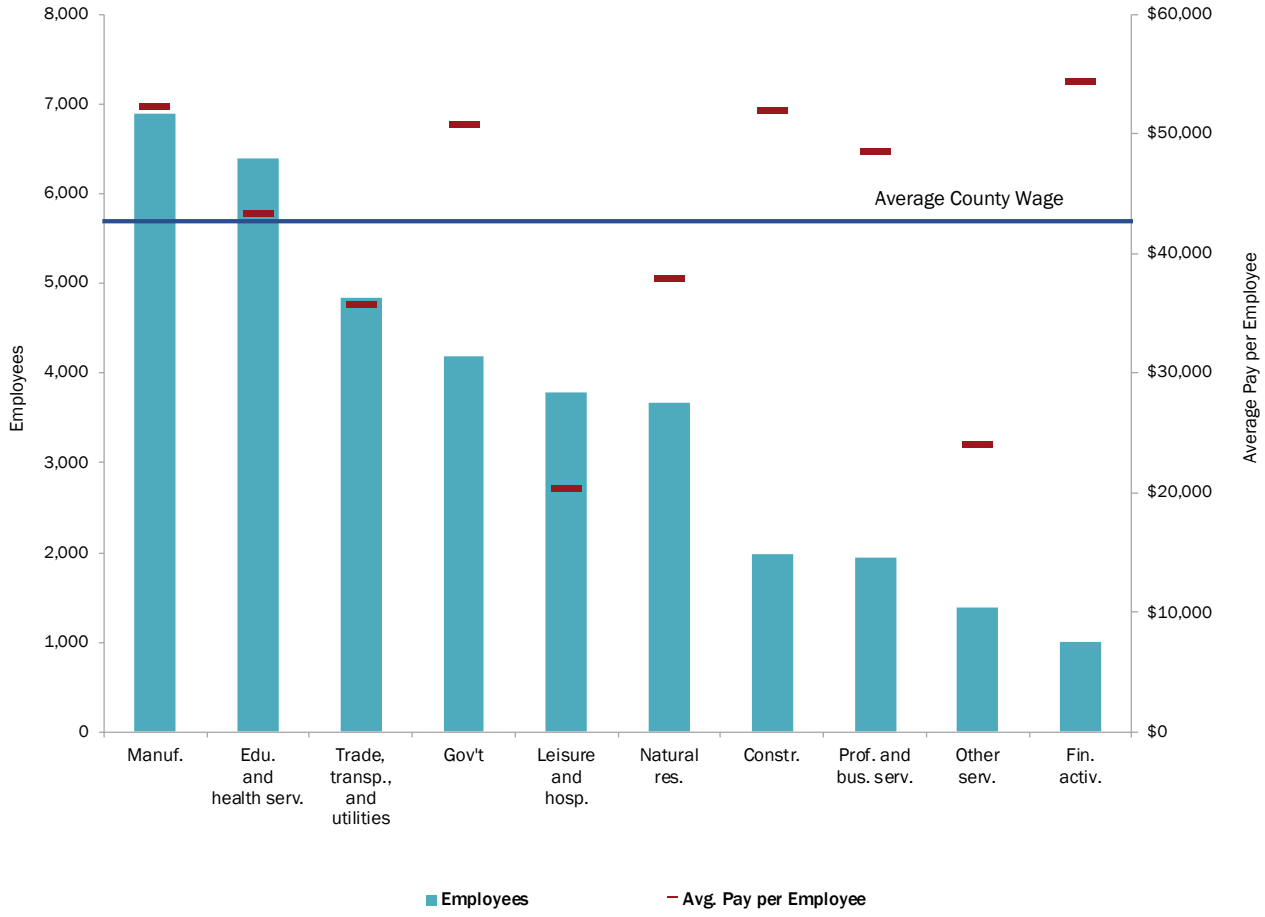
Exhibit 1. Covered Employment by Industry, Yamhill County, 2008-2018

Industry Sector	2008	2018	Change 2008 - 2018			Average Wage (2018)
			Number	Percent	AAGR	
Natural resources and mining	2,926	3,669	743	25%	2.3%	$37,840
Construction	1,760	1,977	217	12%	1.2%	$51,966
Manufacturing	6,592	6,896	304	5%	0.5%	$52,331
Trade, transportation and utilities	4,547	4,844	297	7%	0.6%	$35,692
Information	213	242	29	14%	1.3%	$54,512
Financial activities	1,077	1,007	-70	-6%	-0.7%	$54,405
Professional and business services	1,630	1,940	310	19%	1.8%	$48,464
Education and health services	5,212	6,392	1,180	23%	2.1%	$43,299
Leisure and hospitality	2,704	3,792	1,088	40%	3.4%	$20,279
Other services	1,082	1,386	304	28%	2.5%	$24,071
Unclassified	19	9	-10	-53%	-7.2%	$51,094
Government	4,702	4,184	-518	-11%	-1.2%	$50,765
Total	**32,464**	**36,338**	**3,874**	**12%**	**1.1%**	**$42,302**

Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2008-2018.
Note: "ND" stands for "Not Disclosed" and indicates that the data has been suppressed by the BLS due to confidentiality constraints. The total amount of not-disclosed employment is shown in the table.

Exhibit 2 shows covered employment and average wage for the 10 largest industries in Yamhill County. Jobs in manufacturing accounted for approximately 19% of the county's total covered employment followed by education and health services (18%) and trade, transportation and utilities (13%). However, of these sectors only manufacturing, and education and health services pay above the county wage ($52,331 and $43,299, respectively). Jobs in government, construction, professional and business services, and financial activities also paid more per year than the county average, but account for a smaller share of covered employment in the County. In addition to trade, transportation and utilities, leisure and hospitality, natural resources and mining, and other services paid below the 2018 county average.

Exhibit 2. Covered Employment and Average Pay by Sector, 10 Largest Sectors Yamhill County, 2018



Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2018.

The loss of statewide employment due to the COVID-19 pandemic impacted the accommodation and food services industry the most, followed by the healthcare and social assistance industry, as well as the retail trade industry.[13] Other services, which include personal care services such as barber shops and beauty salons, non-veterinary pet care, and fitness instructors, also experienced acute impacts. Jobs in these industries tend to have lower wages and the Oregon Employment Department (OED) reported that in the first nine weeks of the pandemic, about 68% of all initial unemployment claims came from individuals working jobs that pay less than $20 per hour.[14] Furthermore, OED reported that the manufacturing, construction, and health care industries had a large quantity of initial unemployment insurance claims. For the manufacturing and construction industries, OED suggested that this is likely due to businesses' inability to put effective social distancing requirements into place.

In their June 2020 economic and revenue forecast, the Oregon Office of Economic Analysis (OEA) anticipates that over one-third of the initial job losses due to the pandemic will return by the end of 2020.[15] However, the Oregon economy will be far from full recovery by then. OEA expects that after this initial economic snapback, Oregon's economy will be in a position similar to that of the early 1980s recession or the Great Recession. OEA forecasts that the economy should recover to health by mid-2024.

[13] Based on information from the Oregon Employment Department for Yamhill County as of June 2020. https://www.qualityinfo.org/covid-19

[14] Damon Runberg. "Who Are the COVID-19 Unemployed in Oregon?" Salem, OR: State of Oregon Employment Department. May 21, 2020. https://www.qualityinfo.org/-/who-are-the-covid-19-unemployed-in-oregon-

[15] Oregon Employment Department, Oregon Economic and Revenue Forecast, June 2020

Employment in Newberg

Between 2008 and 2018, employment in Newberg increased by about 837 employees (9%). Employment in healthcare, social assistance, and private education increased by about 391 employees (19%), while manufacturing employment decreased by about 390 employees (16%) (Exhibit 3).

Exhibit 3. Change in Covered Employment, Newberg UGB, 2008-2018
Sectors highlighted in blue have wages higher than the city average.

Sector	2008 Employment	2018 Employment	Change (Number)	Change (Percent)	AAGR
Construction; Natural Resources	420	531	111	26%	2.4%
Manufacturing	2,475	2,085	(390)	-16%	-1.7%
Wholesale Trade	66	99	33	50%	4.1%
Retail Trade	872	1,083	211	24%	2.2%
Transportation and Warehousing; Utilities	93	122	29	31%	2.8%
Information	55	62	7	13%	1.2%
Finance and Insurance	178	181	3	2%	0.2%
Real Estate and Rental and Leasing	95	105	10	11%	1.0%
Professional Services; Management of Companies	189	219	30	16%	1.5%
Administrative and Waste Services	115	139	24	21%	1.9%
Health Care and Social Assist.; Private Education	2,050	2,441	391	19%	1.8%
Arts, Entertainment, and Recreation	33	54	21	64%	5.0%
Accommodation and Food Services	849	1,292	443	52%	4.3%
Other Services (except Public Administration)	376	387	11	3%	0.3%
Government	972	875	(97)	-10%	-1.0%
Total	**8,838**	**9,675**	**837**	**9%**	**0.9%**

Source: Oregon Employment Department, Quarterly Census of Employment and Wages, 2008 and 2018.

Employment in Newberg accounted for about 27% of employment in Yamhill County in 2018. Exhibit 4 shows a summary of covered employment data for the Newberg UGB in 2018. The sectors with the greatest number of employees were health care, social assistance, and private education[16] (25%); manufacturing (22%); accommodation and food services (13%); and retail trade (11%).

Exhibit 4. Covered Employment and Average Pay by Sector, Newberg UGB, 2018[17]

Sector	Establishments	Employees	Payroll	Average Wage
Natural Resources	6	72	$ 2,976,629	$ 41,342
Utilities	3	34	$ 2,374,556	$ 69,840
Construction	74	459	$ 26,030,085	$ 56,710
Manufacturing	53	2,085	$ 123,419,738	$ 59,194
Wholesale Trade	37	99	$ 5,455,352	$ 55,105
Retail Trade	73	1,083	$ 33,930,351	$ 31,330
Transportation and Warehousing	10	88	$ 2,583,193	$ 29,354
Information	14	62	$ 3,657,441	$ 58,991
Finance and Insurance	46	181	$ 9,772,257	$ 53,990
Real Estate and Rental and Leasing	40	105	$ 3,555,991	$ 33,867
Professional Services; Management of Companies	57	219	$ 15,170,897	$ 69,274
Administrative and Waste Services	35	139	$ 3,456,261	$ 24,865
Health Care and Social Assist.; Private Education	113	2,441	$ 107,106,088	$ 43,878
Arts, Entertainment, and Recreation	6	54	$ 582,001	$ 10,778
Accommodation and Food Services	74	1,292	$ 28,533,996	$ 22,085
Other Services (except Public Administration)	150	387	$ 9,823,593	$ 25,384
Government	23	875	$ 42,241,881	$ 48,276
Total	**814**	**9,675**	**$ 420,670,310**	**$ 43,480**

Source: Oregon Employment Department, Quarterly Census of Employment and Wages, 2018.

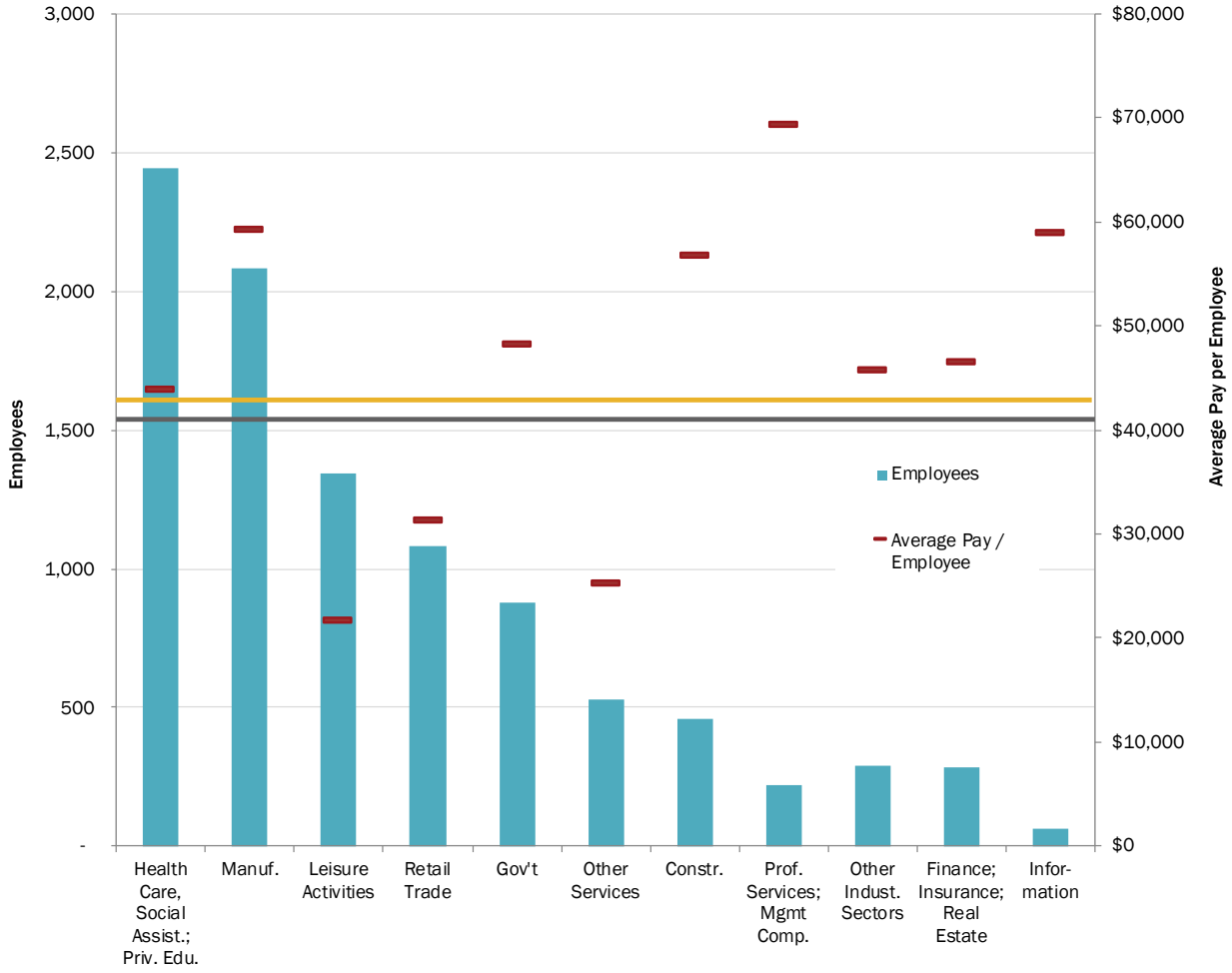
The average size for a private business in Newberg was 11 employees per business, the same as the State average. Businesses with 9 or fewer employees accounted for 18% of private employment and businesses with 50 or fewer employees account for 52% of private employment.

Exhibit 5 shows the employment and average pay per employee for sectors in Newberg. Average pay for all employees ($43,480) is shown as a yellow line across the graph and average pay for individual sectors as short red lines. The figure shows that health care and social assistance; finance, insurance, and real estate; professional scientific, and technical services; government; and industrial sectors had above average wages. The lowest wages were in retail trade and leisure activities, which includes arts, entertainment, and recreation and accommodation and food services.

[16] These sectors are combined due to confidentiality. Health care makes up a larger share of the jobs in this sector grouping.

[17] The following sectors were combined due to confidentiality of QCEW data: Utilities, Transportation and Warehousing; Manufacturing and Wholesale Trade; Finance and Insurance, Real Estate and Rental and Leasing; Health Care and Social Assistance and Private Education; Arts, Entertainment and Recreation and Accommodation and Food Services.

Exhibit 5. Covered Employment and Average Pay by Sector, Newberg UGB, 2018[18]



Source: Oregon Employment Department, Quarterly Census of Employment and Wages, 2018.

Though data are not readily available at the city level to inform the impacts of the COVID-19 pandemic, OED reports that Yamhill County had lower rates of Unemployment Insurance (UI) claims as a share of labor force relative to all Oregon counties.[19] In the months following the onset of the pandemic (for data ending June 30, 2020), nearly 3,303 continued UI claims were made in Yamhill County. Of these claims, almost 650 were in the manufacturing sector (20% of the county total). Accommodation and food services had the next largest share of claims at about 18% of the county total, followed by health care and social assistance with 12%. The depth of the impact on wages is not fully apparent in the data yet; however, the sharp job loss in these sectors and others is expected to decrease or at least stagnate them in the short run.

[18] "Industrial sectors" includes natural resources, construction, transportation and warehousing, utilities, and wholesale trade. "Leisure activities" includes accommodation and food services and arts, entertainment, and recreation.

[19] Based on information from the Oregon Employment Department for Yamhill County as of June 2020. https://www.qualityinfo.org/covid-19

Outlook for Growth in Yamhill County

Given the large change in the economy starting in March 2020 as a result of the COVID-19 pandemic, it is difficult to accurately understand the likely outlook for growth in Yamhill County. The best currently available data is as follows. Exhibit 6 shows the Oregon Employment Department's forecast for employment growth by industry for the Mid-Valley region (Linn, Marion, Polk, and Yamhill Counties) over the 2017 to 2027 period. Employment in the region is forecasted to grow at an average annual growth rate of 1.1%.

The sectors that will lead employment in the region for the 10-year period are: private educational and health services (adding 8,100 jobs), trade, transportation, and utilities (5,100), government (3,500), construction (3,000), and leisure and hospitality (3,000). In sum, these sectors are expected to add 22,700 new jobs or about 73% of employment growth in the Mid-Valley Region. Yamhill County accounts for about 80% of employment in these three counties, and Newberg accounts for about 27% of the County's employment.

Exhibit 6. Regional Employment Projections, 2017-2027, Mid-Valley Region (Linn, Marion, Polk, and Yamhill Counties)

Industry Sector	2017	2027	Change 2017 - 2027		
			Number	Percent	AAGR
Total private	208,800	236,400	27,600	13%	1.2%
Natural resources and mining	17,700	20,100	2,400	14%	1.3%
Mining and logging	1,200	1,300	100	8%	0.8%
Construction	14,700	17,700	3,000	20%	1.9%
Manufacturing	27,700	30,100	2,400	9%	0.8%
Durable goods	16,300	17,700	1,400	9%	0.8%
Wood product manufacturing	4,200	4,100	-100	-2%	-0.2%
Nondurable goods	11,400	12,400	1,000	9%	0.8%
Trade, transportation, and utilities	42,500	47,600	5,100	12%	1.1%
Wholesale trade	6,200	6,900	700	11%	1.1%
Retail trade	27,800	30,200	2,400	9%	0.8%
Transportation, warehousing, and utilitie	8,500	10,500	2,000	24%	2.1%
Information	1,800	1,900	100	6%	0.5%
Financial activities	9,200	9,700	500	5%	0.5%
Professional and business services	19,000	21,000	2,000	11%	1.0%
Private educational and health services	43,700	51,800	8,100	19%	1.7%
Health care and social assistance	35,300	42,500	7,200	20%	1.9%
Health care	28,100	34,400	6,300	22%	2.0%
Leisure and hospitality	22,400	25,400	3,000	13%	1.3%
Accommodation and food services	19,900	22,600	2,700	14%	1.3%
Other services and private households	10,100	11,100	1,000	10%	0.9%
Government	52,200	55,700	3,500	7%	0.7%
Federal government	2,100	2,100	0	0%	0.0%
State government	21,900	23,900	2,000	9%	0.9%
Local government	28,200	29,700	1,500	5%	0.5%
Local education	16,000	16,900	900	6%	0.5%
Total payroll employment	**261,000**	**292,100**	**31,100**	**12%**	**1.1%**

Source: Oregon Employment Department. Employment Projections by Industry 2017-2027.

Newberg's Competitive Advantage

Local conditions, as well as national and state economic conditions, will affect economic development opportunities in Newberg. Economic conditions in Newberg relative to these conditions in other portions of the Willamette Valley region form Newberg's competitive advantage for economic development. Newberg's competitive advantages have implications for the types of firms most likely to locate and expand in the area.

Newberg's primary competitive advantages and key economic assets are access to US Highway 99, access to a skilled labor force, and high quality of life. These factors make Newberg attractive to residents and businesses that want a high quality of life where they live and work.

The discussion earlier in this chapter provided information about Newberg's existing base of businesses and access to labor, which are key to understanding Newberg's competitive advantages. This section summarizes these and other local factors that form Newberg's competitive advantage, with additional details in the sections following this summary.[20]

- **Location.** Newberg is located in Yamhill County, less than an hour from Portland. Because of its relative proximity to the Portland metropolitan area, the City has access to infrastructure such as the Portland International Airport and Interstate Highway 5. These locational aspects allow both goods and workers to move in and out of Newberg with relative efficiency. Newberg's location can be an advantage especially for workers who prefer to live in or near Newberg for its quality of life, but still need access to urban amenities.
- **Transportation.** Newberg is located along Oregon Route 99W, providing a connection to McMinnville and the Portland Metro area. The Highway runs through Newberg, allowing for freight and automotive transportation within and beyond the City. Most recently, the Oregon Department of Transportation (ODOT) has completed the first phase of the Newberg-Dundee Bypass which includes a four-mile expressway extending from OR219 to OR99W.[21] In its final phase, the 11-mile expressway will feature four lanes running from Dayton to just outside of Newberg. The Bypass is being built to improve livability for the surrounding areas and will hopefully, in turn, alleviate traffic around Downtown Newberg.
- **Access to workers.** Newberg pulls workers from across Yamhill County. Newberg, unlike Yamhill County, has a higher share of residents in their early working lives. While many areas face the challenges of an aging workforce, Newberg may feel these effects less so if the community it continues to attract younger residents.

[20] The analysis in this section also incorporates information from the *Newberg Economic Development Strategy* (2016, updated 2019)

[21] Oregon Department of Transportation. (2019). Oregon Department of Transportation – Region 2 (Willamette Valley and Coast). http://oregonjta.org/region2/?p=highway99w

- **Remote workers.** The number of remote workers is expected to increase over time. Some of these workers will likely work from home, but may also seek small office spaces, if available. This presents an opportunity for development of co-working or shared office space in Newberg. Business for service-sector industries could increase beyond current seasonal demand as remote workers may require access to local shops, restaurants, and other services to connect and collaborate.
- **Access to job training.** Aside from on-the-job training, workers in Newberg have access to an extension of the Portland Community College located in the City. The Newberg Center is about 30 miles from the main campus and offers associate and transfer degrees to students who plan on transferring to a State of Oregon college or university. Newberg has also made efforts to increase career and technical education (CTE) at the high school level. The City is home to George Fox University, a private, Christian university with extensions in Portland, Salem, and Redmond. The university offers bachelor's, master's, and doctorate degrees and has recently been ranked 24th out of 127 institutions in the "Best Regional Universities" West category by *U.S. News & World Report*.[22] In addition to this accolade, both *Forbes* and *The Princeton Review* have named the university a top regional institution.[23]
- **Small business and entrepreneurial growth.** On average, private businesses in Newberg average 11.1 employees per business. Newberg's quality of life, especially its wineries and access to river-based recreation, make the community attractive as a place to grow small businesses. The City can continue working with regional and state resources, such as the Chehalem Valley Chamber of Commerce, to help connect small businesses and entrepreneurs with available resources and services.
- **Access to agricultural products.** Farming and processing of value-add agricultural products remains a large industry in Newberg and surrounding Yamhill County. In 2017, Yamhill County accounted for 6% of the state's total agricultural sales. The products with the largest sales produced in Yamhill County include nursery and greenhouse products, as well as fruits, tree nuts, and berries. The crops with the most acreage in Yamhill County include grass seed, hay, hazelnuts, grapes, and harvested vegetables. Farms in the county also produce animal products, including poultry, eggs, and milk.[24]

  Newberg's location within Oregon's largest wine region, the North Willamette Valley, contributes to the strength of the agricultural industry in the area. As of 2018, the North

[22] George Fox University. (2019). George Fox University again receives recognition in 2019 'U.S. News & World Report' Rankings. https://blogs.georgefox.edu/newsreleases/?p=7571

[23] George Fox University. (2019). High rankings testify to the quality of a George Fox education. https://www.georgefox.edu/academics/rankings.html

[24] U.S. Census of Agriculture. Yamhill County Profile. 2017.

Willamette Valley had 651 vineyards with 20,279 planted acres of grapes, and 503 wineries.[25]

- **Collaborative economic development partnerships.** Newberg is part of a regional ecosystem of economic development partnerships. Successful local economic development is often a result of effective collaboration among governments, business owners, and community members. Newberg has existing collaborative partnerships with public agencies, including the Chehalem Valley Chamber of Commerce, Chehalem Valley Innovation Accelerator, SEDCOR, Mid-Willamette Valley Council of Governments, Polk County Economic Development, Willamette Workforce Partnership, Business Oregon, Oregon Department of Transportation (ODOT), George Fox University, and Portland Community College. The City can continue to build on these relationships with key partners to improve infrastructure, identify opportunities for education and training for needed skills in potential growth industries, and expand on existing resources.
- **Tourism and related industries.** Tourism is growing in Yamhill County. The number of overnight visitors to Yamhill County has increased from 1,683,000 in 2016 to 1,773,000 in 2018, an increase of 90,000 overnight stays or 5.3%.[26] Growth in tourism creates opportunities for services for visitors, such as river guides, restaurants, tasting rooms, a brew pub, overnight accommodations, and other services for visitors. Newberg shares many similar attributes with McMinnville, such as climate, outdoor recreation opportunities, and arts and culture. Marketing Newberg as a place with attributes similar to other cities in the Willamette Valley may help to attract new visitors to Newberg.
- **Scenic resources.** Newberg is located in the northern part of the Willamette Valley, which is valued for its outdoor recreational activities, wineries, vineyards, and mountain ranges. Many residents and visitors to Newberg choose to live in and visit Newberg for its scenic beauty and tourism opportunities.
- **Quality of life.** Many residents of Newberg value the City's scenic beauty, friendly small-town character, pleasant climate, arts and culture, access to retail and other urban amenities, and access to outdoor recreational amenities.

Newberg's disadvantages for economic development include:

- **Land availability and serviceability**. Newberg has relatively little vacant, unconstrained commercial and industrial land within the city or urban growth boundary. Landowner willingness to sell or develop land varies, making some sites unavailable for development for the foreseeable future. Some sites within Newberg lack urban infrastructure (e.g., water, sewer, or roads), making development infeasible at this

[25] University of Oregon. *2018 Oregon Winery and Vineyard Report*. Institute for Policy Research and Engagement. September 2019.

[26] Dean Runyan Associates, Oregon Travel Impacts.

time. The cost to provide services to these sites can be prohibitive to potential developers, requiring coordination and assistance from the City.

Businesses have relocated or expanded outside of Newberg due to lack of available and suitable industrial sites. Recent examples of businesses that left Newberg include Polymax, NW Alpine, Halstead Cabinets, Advance Machinery, and Aviatrix. Furthermore, new businesses interested in locating on industrial land in Newberg have cited lack of available land and infrastructure as key issues for locating elsewhere. According to recruitment information collected by City staff, since 2014 potential businesses interested in locating in Newberg ranged from industries in advanced manufacturing to aviation related services to food and agricultural products.

- **Affordable housing for workers.** A growing concern among Newberg leaders and community members is the lack of available workforce housing. Those who choose to live and work in Newberg have lower wages than those who commute out of the city to surrounding areas for work. This pulls qualified workers away from the city's employers and may inhibit employment and industry growth. The Housing Needs Analysis showed the following barriers to production of affordable housing: deficiency of land across all residential plan designations, with the largest deficit in high-density residential plan designations, as well as increasing housing costs.

  In addition, the winery businesses in and around Newberg need housing for migrant farmworkers. Vineyards rely heavily on migrant workers and the challenges these workers face in finding affordable short-term housing and accommodations may deter them from coming to Newberg or the surrounding agricultural areas during the harvest season.

- **Aging population.** Newberg has a higher labor force participation rate than Yamhill County and Oregon; however, the aging workforce will still present challenges to the City. As workers in Newberg retire, or new residents locate in Newberg after retirement, the need for skilled, educated replacement workers will increase.

- **Environmental and climate change risks.** Newberg's economy relies heavily on outdoor, recreation-focused tourism. Environmental factors, including climate change, can threaten the success of tourism industries that rely on favorable weather conditions. Forest fires and floods are both a concern for communities in Oregon, and the risk of these natural hazards is likely to increase as a result of climate change.[27] Forest fires also cause poor air quality, which can detract visitors and decrease quality of life for residents. Other potential natural hazards that will likely increase in Newberg as a result of climate change include drought, increased invasive species, and loss of wetland ecosystems.[28]

[27] Oregon Climate Change Research Institute. Climate Change Influence on Natural Hazards in Oregon Counties. August 2018 and Fourth Oregon Climate Assessment Report. January 2019.

[28] Ibid.

Public Facilities and Services

Provision and costs of public facilities and services can impact a firm's decision regarding location within a region. One of the primary considerations about developing a site is whether it has infrastructure to the site or near the site, including water, wastewater, stormwater, and transportation. If infrastructure is not developed to or near the site, the consideration becomes whether infrastructure can be extended in a timely manner and at a financially feasible cost.

This section discusses Newberg's large infrastructure systems, including the water system, wastewater system, and stormwater system. It answers the question of whether Newberg has or is planning to have sufficient capacity to support the amount and types of development proposed in the EOA.

Water

Generally, Newberg has adequate water capacity and treatment facilities to meet current and future demand to serve population and employment growth. The City's main water source is a well field in Marion County and has an overall maximum capacity to pump 11.8 million gallons per day. The water system includes three reservoirs each with the capacity to hold 4 million gallons—two are located at the North Valley Reservoir and the third is the Corral Creek Reservoir. Currently, the City is able to serve current and future water uses on commercial and industrial land. However, the City may not have capacity to accommodate development of a new industry with significant water needs, such as water-intense food processing or electronics manufacturing.

The City is in the process of updating its water master plan, and addressing needs identified in the Riverfront Master Plan such as extension of water mains to the area and improvements of water distribution north of the bypass. The industrial areas identified in the Riverfront Master Plan are located in close proximity to the water treatment plant near the southern boundary of the UGB. There is opportunity for infrastructure development for industrial uses in this area, but would need to be addressed in future development. The Riverfront area also has opportunities to extend the City's water reuse program.

Finally, the City is in the process of working to develop a redundant supply to provide secondary support for the existing water system, with one of the options as the Willamette River as a local source with intake near the existing water treatment plant. Similar to the existing water supply, this redundant supply source may not accommodate heavy water users, but could present opportunities to combine with the primary supply to accommodate these future users.

Wastewater

Newberg's wastewater treatment facilities are also adequate to meet current and future needs over the 20-year planning period. The City's 5-year Capital Improvements Plan includes wastewater system improvement projects developed from the Wastewater Master Plan. These

projects include improvements to lift stations, treatment plant and the collection and conveyance system. The City has an ongoing annual inflow and infiltration (I&I) project. The reduction of I&I adds capacity back into the wastewater system, which will assure that the plant will adequately serve existing and future uses for the next 20 years. Due to proximity to the wastewater treatment plant, connections to wastewater infrastructure will be relatively simple for future users in the Riverfront area. The City is in the process of updating its wastewater master plan, and addressing needs identified in the Riverfront Master Plan such as extension of wastewater mains to the area and improvements of wastewater distribution north of the bypass.

Stormwater

Drainage for stormwater in Newberg flows to three creeks—Chehalem Creek, Hess Creek, and Spring Brook—all of which flow to the Willamette River. The City's stormwater system is over 50 miles long through closed (pipe) and open networks. The 2014 Stormwater Master Plan identified potential deficiencies in the capacity of Newberg's stormwater system, including needed improvements to pipe infrastructure, as well as drainage and flooding issues. The City has also observed an increase in state regulation related to the development of new outlets in natural drainages. Additional requirements have resulted in challenges to develop new outfalls into drainages. The City is in the process of updating its stormwater master plan, which includes an analysis of regulatory requirements and re-prioritization of system needs. The City is also working to address needs identified in the Riverfront Master Plan such as extension of stormwater mains to the area and improvements of stormwater distribution north of the bypass.

3. Employment Growth and Site Needs

Goal 9 requires cities to prepare an estimate of the amount of commercial and industrial land that will be needed over a 20-year planning period. The estimate of employment land need and site characteristics for Newberg is based on expected employment growth and the types of firms that are likely to locate in Newberg over the 20-year period. This chapter presents an employment forecast and analysis of potential growth industries that build from recent economic trends.

Forecast of Employment Growth

Demand for industrial and non-retail commercial land will be driven by the expansion and relocation of existing businesses and by the growth of new businesses in Newberg. This employment land demand is driven by local growth independent of broader economic opportunities, including the growth of potential growth industries.

The employment projections in this section build off of Newberg's existing employment base, assuming future growth is similar to Yamhill County's long-term historical employment growth rates. The employment forecast does not take into account a major change in employment that could result from the location (or relocation) of one or more large employers in the community during the planning period. Such a major change in the community's employment would exceed the growth anticipated by the city's employment forecast and its implied land needs (for employment, but also for housing, parks, and other uses). Major economic events, such as the successful recruitment of a very large employer, are difficult to include in a study of this nature. The implications, however, are relatively predictable: more demand for land (of all types) and public services.

Projecting demand for industrial and non-retail commercial land has four major steps:

1. **Establish base employment for the projection.** We start with the estimate of covered employment in Newberg presented in Exhibit 4. Covered employment does not include all workers, so we adjust covered employment to reflect total employment in the City.
2. **Project total employment.** The projection of total employment considers forecasts and factors that may affect employment growth in Newberg over the 20-year planning period.
3. **Allocate employment.** This step involves allocating types of employment to different land-use types.
4. **Estimate land demand.** This step estimates general employment land demand based on employment growth and assumptions about future employment densities.

Employment Base for Projection

The purpose of the employment projection is to model future employment land need for general employment growth. The forecast of employment growth in Newberg starts with a base of employment growth on which to build the forecast. Exhibit 7 shows ECONorthwest's estimate of total employment in Newberg in 2018.

To develop the figures, ECONorthwest started with estimated covered employment in the Newberg UGB from confidential Quarterly Census of Employment and Wages (QCEW) data provided by the Oregon Employment Department. Based on this information, Newberg had about 9,675 covered employees in 2018.

Covered employment does not reflect all workers in an economy including sole proprietors. Analysis of data shows that *covered* employment reported by the Oregon Employment Department for Yamhill County is only about 72% of *total* employment reported by the U.S. Department of Commerce.[29] We evaluated this ratio for each industrial sector for Yamhill County and used the resulting ratios to determine the number of non-covered employees. This allowed us to determine the total employment in Newberg. Exhibit 7 shows Newberg had an estimated 13,466 *total* employees within its UGB in 2018.

[29] **Covered** employment includes employees covered by unemployment insurance. Examples of workers not included in covered employment are sole proprietors, some types of contractors (often referred to as "1099 employees"), or some railroad workers. Covered employment data is from the Oregon Employment Department.

Total employment includes all workers based on date from the U.S. Department of Commerce. Total employment includes all covered employees, plus sole proprietors and other non-covered workers.

Exhibit 7. Estimated total employment by sector, Newberg UGB, 2018

	Covered Employment	Estimated Total Employment	Covered % of Total
Natural Resources	72	72	100%
Utilities	34	76	45%
Construction	459	662	69%
Manufacturing	2,085	2,324	90%
Wholesale Trade	99	140	71%
Retail Trade	1,083	1,441	75%
Transportation and Warehousing	88	196	45%
Information	62	105	59%
Finance and Insurance	181	365	50%
Real Estate and Rental and Leasing	105	796	13%
Prof., Sc., and Tech. Services; Mgmt of Comp.	219	544	40%
Admin. and Support and Waste Mgmt and Remed. Serv.	139	268	52%
Health Care and Social Assist.; Priv. Edu.	2,441	3,234	75%
Arts, Entertainment, and Recreation	54	150	36%
Accommodation and Food Services	1,292	1,459	89%
Other Services (except Public Administration)	387	701	55%
Government	875	933	94%
Total Non-Farm Employment	**9,675**	**13,466**	**72%**

Source: 2018 covered employment from confidential Quarterly Census of Employment and Wage (QCEW) data provided by the Oregon Employment Department.

Employment Projection

The employment forecast covers the 2021 to 2041 period, requiring an estimate of total employment for Newberg in 2021. The base employment starts with the estimate of 13,466 total jobs in Newberg in 2018, shown in Exhibit 7. Since 2018, however, unemployment has increased substantially in Oregon as a result of the COVID-19 pandemic. As a result, the employment forecast assumes a 10% decrease[30] in the number of employees in Newberg in 2021, resulting in an employment base of 12,119 total employees in Newberg (shown in Exhibit 8).

Newberg does not have an existing employment forecast, and there is no required method for employment forecasting. OAR 660-024-0040(9) sets out some optional "safe harbors" that allow a City to determine employment land need.

Newberg is relying on the safe harbor described in OAR 660-024-0040(9)(a)(B), which allows the City to assume that the current number of jobs in the Newberg UGB will grow during the 20-year planning period at a rate equal to the population growth rate provided in the most recent forecast published by Portland State University's Oregon Population Forecast Program. The

[30] In June 2020, the seasonally adjusted unemployment rate for Oregon was 11.6% and 9.7% in Yamhill County, according to the Oregon Employment Department.

latest forecast shows that population in Newberg will grow at an average annual growth rate of 1.39%.[31]

Exhibit 8 shows employment growth in Newberg between 2021 and 2041, based on the assumption that the City will grow at an average annual growth rate of 1.39%. Newberg will have 15,963 employees within the UGB by 2041, which is an increase of 3,844 employees (32%) between 2021 and 2041.

Exhibit 8. Employment growth in Newberg UGB, 2021–2041

Year	Total Employment
2021	12,119
2041	15,963
Change 2021 to 2041	
Employees	3,844
Percent	32%
AAGR	1.39%

Source: ECONorthwest

Allocate Employment to Different Land Use Types

The next step in forecasting employment is to allocate future employment to broad categories of land use. Firms wanting to expand or locate in Newberg will look for a variety of site characteristics, depending on the industry and specific circumstances. We grouped employment into four broad categories of land use based on North American Industrial Classification System (NAICS): industrial, retail commercial, office and commercial services, and government.

Exhibit 9 shows the expected share of employment by land-use type in 2021 and the forecast of employment growth by land-use type in 2041 in the Newberg UGB. For each land-use type, we assumed that the share of total employment will increase, except for Government, which will remain at about the same number of employees and decrease in overall share of employment in Newberg. Exhibit 9 shows the following changes in the mix of employment:

- **Industrial.**[32] Industrial employment is forecast to increase to 35% of employment by 2041, resulting in growth of 2,557 new jobs. This change is based on expected implementation of the City's economic development vision in the City's adopted economic development strategy and community vision. In the documents *A NewBERG Community Vision* and the *Newberg Economic Development Strategy Update*, Newberg assessed their community economic development potential and developed the community's vision for economic development (consistent with OAR 660-009-

[31] Final Population Forecasts prepared by Population Research Center, Portland State University, June 30th, 2020.

[32] Industrial employment includes employment in the following NAICS sectors: Construction, Natural Resources, Manufacturing, Wholesale Trade, Transportation and Warehousing, and Utilities

0015(5)). These documents state Newberg's economic development objectives, which include strong policies for development of industrial employment (consistent with OAR 660-009-0020(1)).[33]

The City's first economic development goal is enhancing industrial development capabilities and opportunities. The strategies to implement this goal are: (1) building traded-sector industries (discussed later in the EOA as potential growth industries), (2) retention, expansion, and recruitment of traded-sector industrial companies, (3) participating in economic development partnerships, (5) increasing the supply of industrial land, (6) ensuring adequate infrastructure to support growth, and (7) improving transportation access for industrial land. The *Newberg Economic Development Strategy* provides details about implementation of each of these strategies, including actions that the City will complete over the next three years, partners, funding, staff resources, and metrics to measure success. In addition, Newberg's Comprehensive Plan Economic Element includes policies about encouraging growth of jobs that allow people to live and work in Newberg, supporting industrial growth, encouraging a diversity of industrial businesses, and preserving large industrial sites for future industrial uses.

The forecast in Exhibit 9 assumes that Newberg will be successful in achieving its economic development aspirations. In 2008, 35% of employment in Newberg was industrial.[34] Newberg lost employment in manufacturing since 2008, in part because the city did not have sites where manufacturers could grow into, as documented in other parts of the EOA. This forecast assumes that the City successfully implements its economic development strategy and that industrial employment grows faster than other employment in Newberg.

- **Retail Commercial.**[35] Retail employment is expected to decrease from 11% of all employment in Newberg to 9% by 2041. The basis for this change is the national trend to purchasing retail goods on-line.
- **Office & Commercial Services.**[36] Office employment is expected to account for more than 1,000 new jobs or 50% of employment in Newberg by 2041. In 2008, Office and Commercial Service employment accounted for 45% of employment. By 2041, the forecast shows Office and Commercial Services accounting for 50% of employment, with Industrial employment growing at a faster rate than Office and Commercial Services.

[33] The City adopted the *A NewBERG Community Vision* in August 2019 and the *Newberg Economic Development Strategy Update* in November 2019.

[34] Oregon Employment Department Quarterly Census of Employment and Wages data for Newberg.

[35] Retail employment includes employment in the following NAICS sectors:

[36] Office and Commercial Services employment includes employment in the following NAICS sectors:

- **Government.**[37] Government employment is expected to grow by more than 100 jobs, with most new jobs in k-12 schools and public administration.

Exhibit 9. Forecast of employment growth by land use type, Newberg UGB, 2021–2041

	2021		2041		Change 2021
Land Use Type	Employment	% of Total	Employment	% of Total	to 2041
Industrial	3,030	25%	5,587	35%	2,557
Retail Commercial	1,333	11%	1,437	9%	104
Office & Commercial Services	6,908	57%	7,982	50%	1,074
Government	848	7%	959	6%	111
Total	**12,119**	**100%**	**15,963**	**100%**	**3,846**

Source: ECONorthwest
Note: The shaded percentages denote an assumption about the future change in the share of employment (as a percent of total) by land use type.

Estimate of Demand for Commercial Land

This section shows demand for vacant (including partially vacant) commercial land in Newberg over the 20-year period. Need for new land for government uses, such as schools, new infrastructure (e.g., water facilities), and government offices will be addressed through a separate analysis of land needed for public and semi-public uses. Need for new land for industrial uses is addressed later in this Chapter through a separate analysis.

The assumptions used in this analysis are:

- **Employment locating in residential plan designations.** According to QCEW data, some employment in Newberg in 2018 was located on land designated for residential uses. The amount of commercial employment located in residential plan designations was 15.8%. This may include uses such as corner stores, other retail in neighborhoods, medical offices, or small personal service businesses (e.g., banks or hair stylists).

  Exhibit 10 shows that the percentage of new employment locating in residential land designations will remain the same over the 20-year period for commercial uses (15.8%).

  Exhibit 10. Estimated Commercial Employment Growth Accommodated on Residential Plan Designations, Newberg UGB, 2021–2041

Land Use Type	New Employment Growth	Emp. In Res. Designations	New Emp. on Vacant Land
Retail Commercial	104	16	88
Office & Commercial Services	1,074	169	905
Total	**1,178**	**185**	**993**

  Source: ECONorthwest

[37] Government employment includes any employment in any sector where the employer is local, state, or federal government.

- **Employment density.** Employees per acre is a measure of employment density based on the ratio of the number of employees per acre of employment land that is developed for employment uses. An empirical analysis of Newberg's existing commercial employment conducted by ECONorthwest showed that retail commercial sites have an average of 16 employees per acre and office and commercial services sites have an average of 22 employees per acre.[38]

  Using the existing employment densities as a baseline, while also considering Newberg's future development goals and policies, Exhibit 11 assumes the net employees per acre: retail commercial will have an average of 16 employees per acre and office and commercial services will have an average of 22 employees per acre. These employment densities are consistent with employment densities in Oregon cities of similar size as Newberg. Some types of employment will have higher employment densities (e.g., a multistory office building), and some will have lower employment densities (e.g., a convenience store with a large parking lot).

- **Conversion from net to gross acres.** The data about employment density is in net acres, which does not include land for public right-of-way. Future land need for employment should include land in tax lots needed for employment plus land needed for public right-of-way. One way to estimate the amount of land needed for employment, including public right-of-way, is to convert from net to gross acres based on assumptions about the amount of land needed for public right-of-way.[39] A net-to-gross conversion is expressed as a percentage of gross acres that are in public right-of-way.

  Based on empirical evaluation of Newberg's existing net-to-gross ratios, ECONorthwest uses a net-to-gross conversion factor of 16% for commercial uses.

Using these assumptions, the forecasted growth of 993 new commercial employees will result in the demand for vacant (and partially vacant) employment land including 7 acres of retail commercial land and 52 gross acres of office and commercial services land.

[38] This analysis considered a sample of existing businesses in Newberg, accounting for 31% of existing commercial employment in Newberg. The results were generally consistent with ECONorthwest's analysis of employment densities in other cities across Oregon.

[39] OAR 660-024-0010(6) uses the following definition of net buildable acre. "Net Buildable Acre" consists of 43,560 square feet of residentially designated buildable land after excluding future rights-of-way for streets and roads. While the administrative rule does not include a definition of a gross buildable acre, using the definition above, a gross buildable acre will include areas used for rights-of-way for streets and roads. Areas used for rights-of-way are considered unbuildable.

Exhibit 11. Demand for Vacant Land to Accommodate Employment Growth, Newberg UGB, 2021–2041

Land Use Type	New Emp. on Vacant Land	Employees per Acre (Net Acres)	Land Demand (Net Acres)	Land Demand (Gross Acres)
Retail Commercial	88	16	6	7
Office & Commercial Services	905	22	42	52
Total	**993**		**47**	**59**

Source: ECONorthwest

Estimate of Demand for Industrial Land

This section shows demand for vacant (or partially vacant) industrial land in Newberg over the 20-year period. Building from the number of new industrial employees shown in Exhibit 9, the analysis for needed land for these 2,557 new employees includes considerations for Newberg's potential growth industries and the site needs for those industries. The analysis also uses average site sizes for comparable cities in the Willamette Valley to better align Newberg's potential growth industries with the types of sites needed. This section ends with an estimate (in terms of acreage) of the industrial land need.

Potential Growth Industries

The characteristics of Newberg will affect the types of businesses most likely to locate in the city. Newberg's attributes that may attract firms are: Newberg's access to workforce; public infrastructure; and quality of life.

Newberg's existing businesses are concentrated in the industries defined in Exhibit 12. The industries in green highlight are industries with a high location quotient (i.e., highly specialized compared to national employment in the industry), high employment (i.e., have more than 50 employees in Newberg), and higher than average city wages. These industries have the highest potential for growth, given existing businesses and the higher concentration of employment.

Newberg also has opportunities for employment growth in industries without a concentration of employment or a high location quotient.

Exhibit 12. Concentration of Industries and Employment, Newberg, 2018

	High Employment (more than 50 employees)	Low Employment (at least 10 employees)
High Location Quotient	▪ Construction of Buildings ▪ Plastics and Rubber Products Manufacturing ▪ Fabricated Metal Product Manufacturing ▪ Machinery Manufacturing ▪ Furniture and Related Product Manufacturing ▪ Motor Vehicle and Parts Dealers ▪ Miscellaneous Store Retailers ▪ Transit and Ground Passenger Transportation ▪ Nursing and Residential Care Facilities ▪ Food Services and Drinking Places ▪ Religious, Grantmaking, Civic, Professional, and Similar Organizations ▪ Private Households	▪ Support Activities for Agriculture and Forestry ▪ Beverage and Tobacco Product Manufacturing ▪ Electronics and Appliance Stores ▪ Motion Picture and Sound Recording Industries
Low Location Quotient	▪ Specialty Trade Contractors ▪ Building Material and Garden Equipment and Supplies Dealers ▪ Food and Beverage Stores ▪ Gasoline Stations ▪ Credit Intermediation and Related Activities ▪ Insurance Carriers and Related Activities ▪ Real Estate ▪ Professional, Scientific, and Technical Services ▪ Administrative and Support Services ▪ Ambulatory Health Care Services ▪ Social Assistance ▪ Amusement, Gambling, and Recreation Industries ▪ Repair and Maintenance	▪ Heavy and Civil Engineering Construction ▪ Transportation Equipment Manufacturing ▪ Merchant Wholesalers ▪ Wholesale Electronic Markets and Agents and Brokers ▪ Furniture and Home Furnishings Stores ▪ Health and Personal Care Stores ▪ Clothing and Clothing Accessories Stores ▪ Sporting Goods, Hobby, Musical Instrument, and Book Stores ▪ Truck Transportation ▪ Support Activities for Transportation ▪ Publishing Industries (except Internet) ▪ Securities, Commodity Contracts, and Other Financial Investments and Related Activities ▪ Personal and Laundry Services ▪ National Security and International Affairs

Source: Oregon Employment Department, Quarterly Census of Employment and Wages, 2018.
Note: Green highlighting indicates higher than Newberg's average wage.

An analysis of growth industries in Newberg should address two main questions: (1) Which industries are most likely to be attracted to Newberg? and (2) Which industries best meet Newberg's economic development goals? The selection of potential growth industries is based on Newberg's goals for economic development, economic conditions in Newberg and Yamhill County, and the City's competitive advantages.

Given the current employment base, which is composed of small-sized businesses, it is reasonable to assume that much of the city's business growth will come from small-sized businesses. This growth will either come from businesses already in Newberg or new businesses that start or relocate to Newberg from within the Willamette Valley region or from outside of the region.

The *Newberg Economic Development Strategy* identified key traded-sector industries to target for growth in Newberg. The industries below build from those potential growth industries, re-organizing them slightly and adding examples of each type of industry. These industries are the

types of industries that Newberg's *Economic Development Strategy* calls for growth of, with examples of the specific types of businesses that may locate in Newberg, though not intended to be an all-inclusive list. Other traded-sector industries may grow in Newberg over the planning period.

- **Advanced and General Manufacturing.** Examples of businesses in this industry may include: dental and medical equipment, machine shops, and storage, logistics, and distribution.
- **Technology and High-Tech Manufacturing.** Examples of businesses in this industry may include: electronics and software, semiconductors, and health or medical information.
- **Food/Beverage Processing and Agricultural Products.** Examples of businesses in this industry may include: farming and value-add food manufacturing.

  Forestry and Wood Products. Examples of businesses in this industry may include: forest management; lumber and logs; and mass plywood panel or cross-laminated timber production.
- **Aviation related industries.** Examples of businesses in this industry may include: specialty aircraft equipment; air travel and tourism; and parts machining and repair.

Site Needs for Potential Growth Industries

OAR 660-009-0015(2) requires the EOA to "identify the number of sites by type reasonably expected to be needed to accommodate the expected [20-year] employment growth based on the site characteristics typical of expected uses." The Goal 9 rule does not specify how jurisdictions conduct and organize this analysis.

The rule, OAR 660-009-0015(2), does state that "[I]ndustrial or other employment uses with compatible site characteristics may be grouped together into common site categories." The rule suggests, but does not require, that the City "examine existing firms in the planning area to identify the types of sites that may be needed." For example, site types can be described by: (1) plan designation (e.g., heavy or light industrial), (2) general size categories that are defined locally (e.g., small, medium, or large sites), or (3) industry or use (e.g., manufacturing sites or distribution sites). For purposes of the EOA, Newberg groups its future industrial employment uses into categories based on potential growth industries defined in the previous section. These potential growth industries align with relevant industries identified in the Industrial Development Competitiveness Matrix developed by Business Oregon (Exhibit 13).[40] The relevant Business Oregon industries are listed in the columns of the table, and Newberg's potential growth industries are listed in the rows of the table.

[40] Note that the Business Oregon Industrial Development Competitiveness Matrix (2015) includes more industries than those listed in the columns in Exhibit 13.

Exhibit 13. Comparison of Newberg's Potential Growth Industries (2019) and Industries Shown in the Business Oregon Industrial Development Competitiveness Matrix (2015)

Industry	High Tech	Food Proc.	Adv. Mfg.	Gen. Mfg.	Ind. Bus. Park	Reg. Ware-house	Local Ware-house	Special-ized
Advanced+ General Manufacturing	✓		✓	✓	✓			✓
Food/Beverage Processing + Agriculture Products		✓	✓				✓	
Forestry + Wood Products			✓	✓	✓		✓	
Tech + High Tech Manuf.	✓		✓		✓			✓
Aviation related industries			✓	✓	✓			✓

Source: Business Oregon, Infrastructure Finance Authority, "Industrial Development Competitiveness Matrix" (2015); Newberg Economic Development Strategy (2019).

The primary purpose of Business Oregon's Industrial Development Competitiveness Matrix is to define typical characteristics and general requirements of sites for traded-sector industries. Exhibit 13 aligns the industries described in the matrix with Newberg's potential growth industries, and Exhibit 14 matches the characteristics of sites from the matrix with those potential growth industries. Site characteristics relevant to this analysis include site size, slope, railroad access, highway access, and special utility needs. The Business Oregon matrix defines competitive acreage as "acreage that would meet the site selection requirements of the majority of industries in this sector."[41]

[41] Business Oregon, Infrastructure Finance Authority, "Industrial Development Competitiveness Matrix" (2015)

Exhibit 14. Site Characteristics for Newberg's Potential Growth Industries
Based on matching industries listed in the Business Oregon Industrial Development Competitiveness Matrix

Site Characteristics	Advanced+ General Manufacturing	Food/Beverage Processing + Agriculture Products	Forestry + Wood Products	Tech + High Tech Manuf.	Aviation related industries
Site Size (Competitive acres)	5–25+	5–25+	5–25+	5–100+	5–25+
Slope	0 to 7%	0 to 5%	0 to 7%	0 to 5%	0 to 7%
Railroad Access	Preferred	Preferred	Preferred	Preferred	*Depends on specific industry*
Highway Access (mi. to interstate)	within 20	within 30	within 5-20	within 60	within 20 (or n/a)
Special Utility Needs	Electricity redundancy dependency; Higher demand for electricity, gas, and telecom	High pressure water dependency	*Depends on specific industry*	High pressure water dependency; Very high utility demands	*Depends on specific industry*

Source: Business Oregon, Infrastructure Finance Authority, "Industrial Development Competitiveness Matrix" (2015); Newberg Economic Development Strategy (2019).
Note: Items identified as "preferred" are those that increase the feasibility of the subject property and its future reuse. Items identified as "required" are factors seen as mandatory in the vast majority of cases and have become industry standards.

Demand for Industrial Land

The potential growth industries shown above are all traded-sector industries, most of which generally locate on industrial land. Newberg has a modest supply of vacant and partially vacant industrial land, with only 51 unconstrained vacant or partially vacant acres in the buildable lands inventory (Exhibit 21 and Exhibit 22). Newberg has one vacant industrial site larger than 10 acres, with the majority of vacant industrial land on sites smaller than five acres.

Exhibit 14 shows that Newberg's potential growth industries generally need land on sites between five and 25 acres, with some potential demand for sites up to 100 acres. Given that Newberg does not currently have the land base to support the site needs required for growth of the potential growth industries, this analysis examines the developed land base for other cities within the mid-Willamette Valley to better understand the typical characteristics of sites with industrial development. This section concludes with a forecast of industrial land demand based on the average characteristics of developed sites in the sample cities.

Characteristics of developed sites with industrial site employment in the mid-Willamette Valley

This analysis examined the site size and existing employment for the cities of Albany, Corvallis, McMinnville, Sherwood, Tualatin, Wilsonville, Newberg, Salem, and Woodburn.[42] We selected these cities because they are located within the Mid-Willamette Valley or the edges of the Portland region and have industrial employment or policies to develop industrial employment of the type that Newberg aspires to. These types of industrial employment generally have at least average wages (and often higher than average wages) and provide opportunities for people to live and work in the same city, which is a concern for Newberg. While the size of these cities (in terms of population) varies substantially, the size of the city is less relevant than the city's industrial landbase and economic development aspirations.

The analysis in Exhibit 15 is based on the following information and assumptions:

- **Site location.** We selected lots within each city's UGB (or city limits for cities in Metro or Salem) that are not located in rights of way and had industrial employment on the lot.
- **Site size**. We categorized sites for this analysis into the following site sizes: smaller than 5 acres, 5-25 acres, 25-50 acres, and 50+ acres. These size categories align with those used in the Business Oregon Industrial Development Competitive Matrix (Exhibit 13).
- **Industrial employment.** We selected sites with industrial employment based on 2018 covered employment data from the Oregon Employment Department's Quarterly Census of Employment and Wages. Since some sites have a mix of types of employment on one parcel (e.g., industrial and commercial), we only included sites where the majority of employment was industrial (75% or more).

Exhibit 15. Characteristics of Industrial Sites and Employment by Site Size for Selected Cities within the Mid-Willamette Valley Region.

Analysis based on averages of industrial employment at sites in the following cities: Albany, Corvallis, McMinnville, Sherwood, Wilsonville, Newberg, Salem, Tualatin, and Woodburn

	Site Size (acres)			
Characteristic	**< 5 acres**	**5-25 acres**	**25-50 acres**	**50+ acres**
Land with industrial employment				
Acres of land	1,498	1,499	490	923
Number of sites	1,752	151	15	10
Average site size (acres)	0.9	9.9	32.7	92.3
Existing covered employment on industrial land				
Employees	25,248	19,991	1,910	2,024
Percent of employment by site size	51%	41%	4%	4%
Average employees per site	14	132	127	202

Source: Oregon Employment Department's Quarterly Census of Employment and Wages; County and City-level parcel data sets; Analysis by ECONorthwest

[42] Information for the following cities is only for their city limits, as the cities are located within the Portland Metro UGB: Sherwood, Tualatin, and Wilsonville. Information for Salem is for the portion of Salem city limits within the Salem-Keizer UGB.

Forecast of demand for industrial land in Newberg

Exhibit 9 shows that Newberg will have an increase of 2,557 employees on industrial land between 2021 and 2041. The potential growth industries defined above will generally need sites between 5 and 25 acres, and some will need larger or smaller sites. Our calculation of demand for industrial land accounts for specific site considerations for potential growth industries for industrial uses.

First, we reviewed the mix of industrial sites, and industrial employment[43] on these sites, in the Willamette Valley region in cities comparable to Newberg, summarized in Exhibit 15. Exhibit 16 shows the key assumption resulting from the analysis of regional averages for industrial employment and site size.

Exhibit 16. Regional Industrial Employment and Site Size
Analysis based on averages of industrial employment at sites in the following cities: Albany, Corvallis, McMinnville, Sherwood, Wilsonville, Newberg, Salem, and Woodburn

	Site Size (acres)			
	Less than 5 acres	5-25 acres	25-50 acres	50 and more
Percent of Existing Employment	51%	41%	4%	4%
Number of Industrial Employees per Site	14	132	127	202
Average Site Size (Acres)	0.9	9.9	32.7	92.3

Source: Oregon Employment Department's Quarterly Census of Employment and Wages; County and City-level parcel data sets; Analysis by ECONorthwest

Using the information presented in Exhibit 16, we estimate the industrial land need for Newberg industrial employment between 2021 and 2041. Exhibit 17 shows the results of this analysis.

- **Employment by site size.** This assumption starts with the forecast of 2,557 industrial employees on industrial land. It uses the "percent of existing employment" in Exhibit 16 to estimate how much employment will be in each site size category. For example, 41% of industrial employment in the regional analysis (Exhibit 15) was on sites of 5 to 25 acres. In Exhibit 17, we assume that 41% of the 2,557 new industrial employees (1,048 employees) will be located on sites of 5 to 25 acres.

  Exhibit 17 deviates slightly from the regional averages of employees by site size for sites of 25 to 50 acres and 50 acres and more. Both of these site sizes account for 4% of employment in the regional analysis (Exhibit 15). At 4% of new industrial employment in Newberg, these sites would have fewer employees than the average number of employees per site. To balance this out, we assume that 46% of new employees will

[43] Industrial employment includes employment in the following sectors: Manufacturing, Construction, Utilities, Wholesale Trade, Transportation and Warehousing, and Agricultural and Forestry Services.

locate on sites smaller than 5 acres and that 5% of employees will locate on sites of 25 to 50 acres and 8% of new employees will locate on sites of 50 acres and more.

- **New sites needed.** This assumption starts with the average number of employees per site in Exhibit 15 and divides the number of employees in Newberg by that site size. For example, on sites of 5 to 25 acres, the regional analysis in Exhibit 15 shows that there were 132 employees per site. This analysis divides the number of new industrial employees (1,048) by the average number of employees per site (132) to show a need for 8 new sites needed.
- **New land needed.** This assumption starts with the average size of sites in the regional analysis in Exhibit 15 and multiplies the number of needed sites by that size. For example, the average size of sites 5 to 25 acres was 9.9 acres in Exhibit 15. Newberg needs 8 sites in this size group, resulting in need for 79 acres of land at an average site size of 9.9 acres.

The result of this analysis is need for 94 sites on about 280 acres to accommodate the 2,557 new employees.

Exhibit 17. Industrial Land Need, Newberg UGB, 2021-2041
Analysis based on the averages of industrial employment.

	Site Size (acres)				
	Less than 5 acres	5-25 acres	25-50 acres	50 and more	Total
New Employment by Site Size					
Percent of New Employment*	46%	41%	5%	8%	100%
Number of New Industrial Employees	1,176	1,048	128	205	2,557
New Sites Needed					
Employees per Site*	14	132	127	202	
New Sites Needed in Newberg	84	8	1	1	94
New Land Needed					
Average Site Size*	0.9	9.9	32.7	92.3	
Acres of Land in Newberg (Acres)	76	79	33	92	280

Source: Oregon Employment Department's Quarterly Census of Employment and Wages; County and City-level parcel data sets; Analysis by ECONorthwest

Characteristics of Sites for Potential Growth Industries

This section builds on the discussion of site needs from Exhibit 14. Exhibit 17 shows that Newberg will need 10 sites larger than 5 acres for potential growth industries. The Goal 9 Administrative Rule (OAR 660-009) requires the City to identify the "site characteristics of sites needed to accommodate industrial and other employment uses to implement plan policies." (OAR 660-009-0020(1); -0025(1)). The Administrative Rule defines site characteristics as follows in OAR 660-009-0005(11):

> (11) "Site Characteristics" means the attributes of a site necessary for a particular industrial or other employment use to operate. Site characteristics include, but are not limited to, a minimum acreage or site configuration including shape and topography, visibility, specific types or levels of public facilities, services or energy infrastructure, or proximity to a particular transportation or freight facility such as rail, marine ports and airports, multimodal freight or transshipment facilities, and major transportation routes.

Newberg has identified the following types of manufacturing target and traded-sector industries: advanced and general manufacturing; technology and high-tech manufacturing; food/beverage processing and agricultural products; forestry and wood products; and aviation related industries.

The following summarizes a range of the site characteristics Newberg should seek when identifying the sites that will address its employment land deficit, in terms of the Oregon Court of Appeals' opinion in *Friends of Yamhill County v. City of Newberg, 62 Or LUBA 5 (2010), aff'd 240 Or App 738 (2011).*

- **Site size / minimum acreage.** Sites for manufacturing and trade-sector firms range in size from 5 acres up to more than 100 acres for large-scale industrial firms. Business Oregon, the State of Oregon's economic development agency, has studied the site needs of these industries and determined that competitively sites for most of Newberg's potential growth industries are 5 to 25 acres in size (Exhibit 14). Competitive sites for technology and high-tech manufacturing require 5 to 100 acre sites.

  For the operations of a manufacturing firm to be successful, its site needs to be large enough to accommodate the needed built space, as well as to accommodate storage. In addition, the site needs to be large enough to accommodate not only the general industrial uses, but also parking, on-site circulation, connections to public transportation, landscaping, rail connections, and other access to the transportation network.

  There is ample evidence that businesses have relocated or expanded outside of Newberg because they were unable to find sites big enough to support the successful operation within Newberg. Examples of such firms include Polymax, NW Alpine, Halstead Cabinets, Advance Machinery, and Aviatrix. A number of these firms searched for expansion sites within Newberg and only moved or expanded to sites outside of Newberg after they were unable to find a suitable, big enough site within Newberg.

- **Land ownership.** Sites with two or fewer owners are necessary to reduce the cost and uncertainty of land assembly. Developing an industrial building on a site on two or more tax lots requires negotiating land assembly. Land assembly is difficult and often costly for a number of reasons. People own land for a variety of reasons, such as the desire to develop the land, keep the land undeveloped, or sell the land for a profit. Getting landowners to sell land can be difficult, especially if the ownership is legally disputed, as is the case with some inheritances. If a landowner is a willing seller, they may have an unrealistic expectation of their land's value, in the context of comparable land values. In addition, one parcel of land may have multiple owners, compounding the issues described above.

  Developers attempting land assembly often have difficulty assembling a site at a cost that makes development economically viable. When assembling land, developers often find that owners of key sites are not willing sellers, have unrealistic expectations of the value of their land, or cannot get agreement among multiple owners to sell the land. As a result, developers of industrial buildings typically choose to develop sites with one or two owners.

- **Proximity / access to a major automotive route.** Manufacturers seek sites that located on arterial or major collector streets with good access to a state highway (or equivalent). Manufacturers reject sites that would force their industrial traffic to be routed through residential neighborhoods.

  Business Oregon has determined that manufacturing and industrial firms need to be located relatively close to an interstate highway or principle arterial road, with varying minimum proximity requirements depending upon the specific type of manufacturer, generally not exceeding 20 miles (Exhibit 14). Local experts indicate that close proximity to a freight route is typical for local manufacturers. Effective industrial operations rely on close proximity to an arterial or collector street to avoid conflicts with the community / residential areas by minimizing the amount of traffic on local streets and freight traffic in residential neighborhoods. More direct access to freight routes also improves the industry's mobility for efficient long distance travel.

- **Topography / no or little slope.** Newberg considers a slope exceeding 7% to be a development constraint for purposes of identifying possible land for industrial employment. Business Oregon has determined all of sectors on Newberg's list of potential growth industries select sites with a slope of 7% or less (Exhibit 14). Newberg has indicated that "no more than a 7% slope" would be an important site characteristic, if not treated as an actual development constraint, because the successful operation of industrial buildings requires level floorplates to reduce costs and offer maximum flexibility, as well as level areas to provide for freight access and pedestrian walkways that meet ADA standards. The real estate development literature describes the increases

in development costs and other difficulties associated with industrial development on a sloped site.[44]

- **Floodplains, geologic hazard areas, and stream corridors.** Newberg's buildable land identifies areas in the floodway, in the floodplain, with geologic hazards, and areas within the Newberg Stream Corridor Overlay as unbuildable.[45] Sites for new businesses should also consider areas with these constraints as unbuildable, as well.
- **Compatible surrounding land uses.** Manufactures reject sites located in areas where a manufacturing operation will be incompatible with surrounding uses (established or planned). OAR 660-009-0025(6) recognizes that compatibility is an important factor when locating new employment land. It strongly encourages cities to manage the encroachment and intrusion of incompatible uses with employment uses. Industrial buildings used for manufacturing are generally compatible with other industrial uses, commercial uses, and some public uses. Industrial uses may be compatible with agricultural uses, provided that the industrial use does not encroach on the agricultural uses. Industrial uses are able to operate efficiently where they are not in conflicts with adjacent land uses that could disrupt industrial business activity. Noise or odors from the manufacturing process and/or traffic from employees and/or shipping can cause conflicts with nearby residential uses. This could result in requiring a manufacturer to make changes that negatively impact its operations. For this reason, manufacturing firms require a location that does not present incompatibility concerns.

[44] Peiser, Richard B. "Professional Real Estate Development: The ULI Guide to the Business," Urban Land Institute, 1992.

[45] Geologic hazards include data from Oregon DOGAMI on landslide susceptibility ("high" or "very high" classifications) and landslide hazards in the SLIDO database. Chapter 15.342 of the Newberg Development Code defines the Newberg Stream Corridor Overlay Subdistrict as a Goal 5 resource intended to "…protect, conserve, enhance, and maintain the Willamette River Greenway."

4. Buildable Lands Inventory

The buildable lands inventory is intended to identify commercial and industrial lands that are available for development for employment uses within the Newberg UGB. The inventory is sometimes characterized as *supply* of land to accommodate anticipated employment growth. Population and employment growth drive *demand* for land. The amount of land needed depends on the type of development and other factors.

This chapter presents results of the commercial and industrial buildable lands inventory for the Newberg UGB. The results are based on analyses of Yamhill County and State of Oregon GIS data by ECONorthwest and reviewed by City staff. The remainder of this chapter summarizes key findings of the buildable lands inventory.

The general steps in the buildable lands inventory are:

1. Generate UGB "land base"
2. Classify lands by development status
3. Identify constraints
4. Verify inventory results
5. Tabulate and map results

The next section provides a summary of the results of the commercial and industrial buildable lands inventory for the Newberg UGB in both tabular and map formats. **Appendix B presents the methodology used for developing the inventory.**

Land Base

Exhibit 18 summarizes all land included in the employment land base (e.g., lands with plan designations that allow employment) in the Newberg UGB. ECONorthwest used this land base in the buildable lands analysis for Newberg. The land base includes the commercial and industrial plan designations within the Newberg UGB (as listed in Appendix B). Included in these areas are plan designations in Newberg's master plan and specific plan districts—Springbrook Oaks, Springbrook District, and the Riverfront District. Of these areas, the Springbrook District provides specific information about the types of uses in each plan designation. The next section provides further discussion of this area.

According to 2020 data, within Newberg's UGB there are about 920 acres in 767 tax lots in commercial, mixed-use, and industrial plan designations, and about 54 acres in 2 tax lots in employment plan designations in the airpark.

Exhibit 18. Commercial and Industrial Acres in Newberg UGB, 2020

Plan Designation	Number of Taxlots	Total Taxlot Acreage	Percent (Total Acreage)
Commercial	**353**	**267**	**27%**
Commercial	338	163	17%
Riverfront District Commercial	5	7	1%
Specific Plan Commercial	5	9	1%
Public Quasi-Public (Hospital Site)	1	41	4%
Springbrook District - Hospitality	3	35	4%
Springbrook District - Neighborhood Commercial	1	11	1%
Mixed Use	**242**	**217**	**22%**
Mixed Use	63	83	9%
Riverfront District Mixed Use	12	22	2%
Specific Plan Mixed Use	161	78	8%
Springbrook District - Village	6	34	3%
Industrial	**172**	**436**	**45%**
Industrial	161	246	25%
Riverfront District Industrial	5	108	11%
Specific Plan Industrial	3	53	5%
Springbrook District - Employment	3	27	3%
Other - Airpark	**2**	**54**	**6%**
Industrial	1	12	1%
Public Quasi-Public	1	42	4%
Total	**769**	**974**	**94%**

Source: ECONorthwest analysis of data from Yamhill County; City of Newberg.

Development Status

Exhibit 19 shows commercial and industrial land in Newberg by development status.[46] Of the 920 commercial and industrial acres in the Newberg UGB, about 671 acres (73%) are in classifications with no development capacity (or, "committed acres"). Of the remaining 249 acres, 97 acres (11%) are constrained and 152 acres (16%) are buildable land with development capacity.

The 34 buildable acres in the Springbrook District Village that is reported in Exhibit 19 includes all land in this plan designation. The Springbrook Master Plan divides this area into both residential and commercial uses. The HNA assumes capacity for 265 housing units, as defined in the master plan. The master plan also states that "retail is also anticipated to occur in the Village and may represent up to 35% of that area" (pg. 37). This assumption results in about 12 acres of buildable land for commercial use, as shown in Exhibit 19.

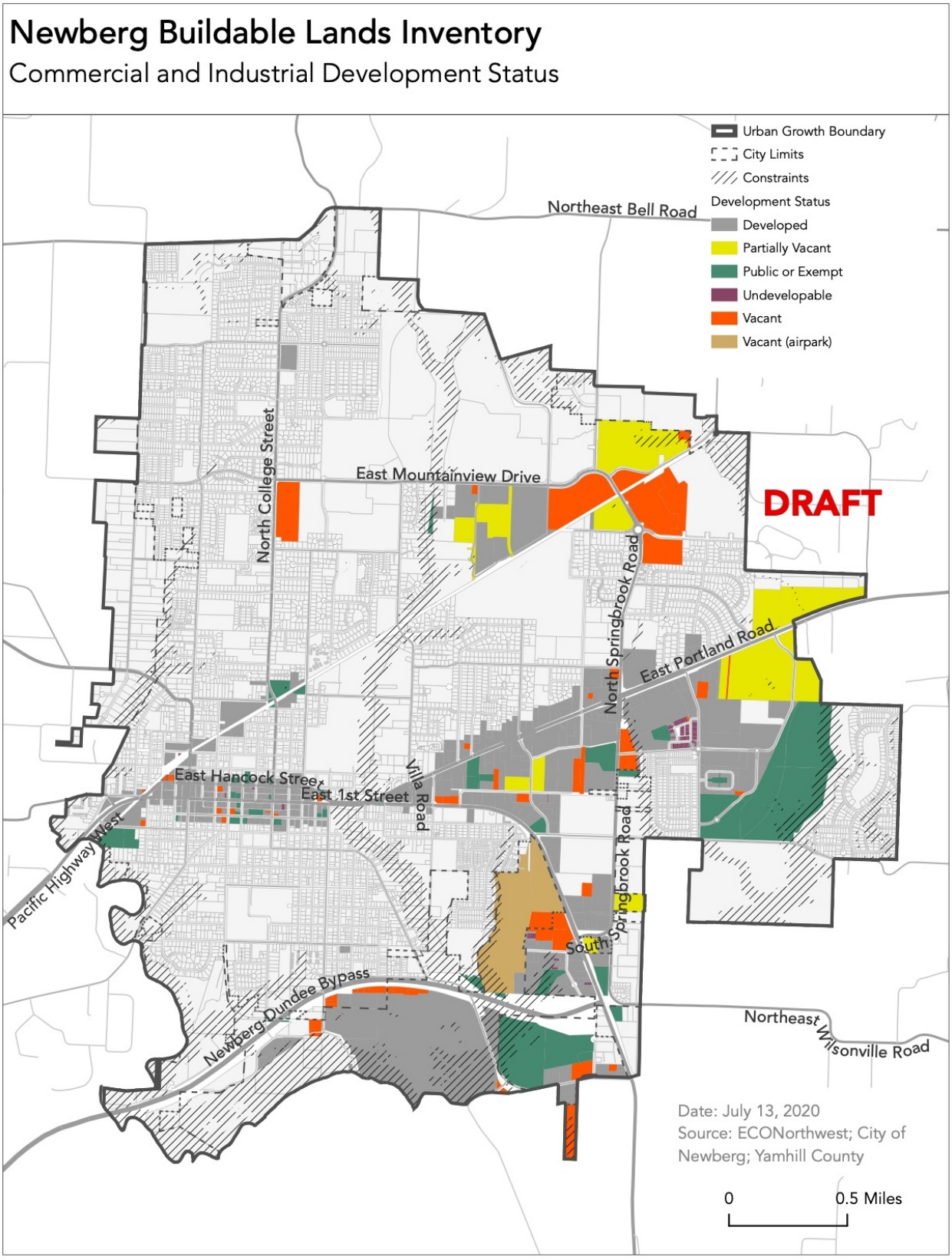
Exhibit 19. Commercial and Industrial Acres by Classification and Plan Designation, Newberg UGB, 2020

Plan Designation	Total Acres	Committed Acres	Constrained Acres	Buildable Acres
Commercial	**267**	**201**	**11**	**55**
Commercial	163	146	2	15
Riverfront District Commercial	7	4	2	1
Specific Plan Commercial	9	3	2	4
Public Quasi-Public (Hospital Site)	41	32	1	8
Springbrook District - Hospitality	35	16	5	14
Springbrook District - Neighborhood Commercial	11	-	-	11
Mixed Use	**217**	**170**	**1**	**24**
Mixed Use	83	73	-	10
Riverfront District Mixed Use	22	19	0	2
Specific Plan Mixed Use	78	77	1	0
Springbrook District - Village*	34	0	-	12
Industrial	**436**	**299**	**85**	**51**
Industrial	246	194	26	27
Riverfront District Industrial	108	64	41	3
Specific Plan Industrial	53	36	18	-
Springbrook District - Employment	27	6	0	22
Total	**920**	**671**	**97**	**130**

Source: ECONorthwest analysis of data from Yamhill County; City of Newberg.
*Note: Buildable acres in the Springbrook District Village plan designation reflect the assumptions for commercial land included in the Springbrook Master Plan (2008) on page 37.

[46] The tax lots that make up the Airpark are discussed separately later in this chapter. The acres in this area are excluded from the remainder of the tables in the BLI results.

Exhibit 20. Commercial and Industrial Land by Classification with Development Constraints, Newberg UGB, 2020



Vacant Buildable Land

The next step in the commercial and industrial buildable land inventory was to net out portions of vacant tax lots that are unsuitable for development. Areas unsuitable for development fall into three categories: (1) developed areas of partially vacant tax lots, (2) areas with service constraints, (3) areas with physical constraints (areas with wetlands, floodways, riparian setback areas and steep slopes, shown in Exhibit 52).

Exhibit 21 shows unconstrained buildable acres for vacant and partially vacant land by plan designation. The results show that Newberg has about 130 net buildable acres in commercial and industrial plan designations. Of this, 61% (79 acres) is in commercial or mixed-use designations and 39% (51 acres) is in industrial designations.

Exhibit 21. Employment land with unconstrained development capacity (Vacant, and Partially Vacant) by plan designation, Newberg UGB, 2020

Plan Designation	Total Buildable Acres	Buildable Acres on Vacant Lots	Buildable Acres on Partially Vacant Lots
Commercial	**55**	**27**	**28**
Commercial	15	6	10
Riverfront District Commercial	1	1	
Specific Plan Commercial	4	4	
Public Quasi-Public (Hospital Site)	8		8
Springbrook District - Hospitality	14	4	10
Springbrook District - Neighborhood Commercial	11	11	
Mixed Use	**24**	**21**	**4**
Mixed Use	10	6	4
Riverfront District Mixed Use	2	2	
Specific Plan Mixed Use	0	0	
Springbrook District - Village*	12	12	
Industrial	**51**	**41**	**10**
Industrial	27	20	7
Riverfront District Industrial	3	3	
Springbrook District - Employment	22	19	3
Total	**130**	**89**	**41**

Source: ECONorthwest analysis of data from Yamhill County; City of Newberg.
*Note: Buildable acres in the Springbrook District Village plan designation reflect the assumptions for commercial land included in the Springbrook Master Plan (2008) on page 37.

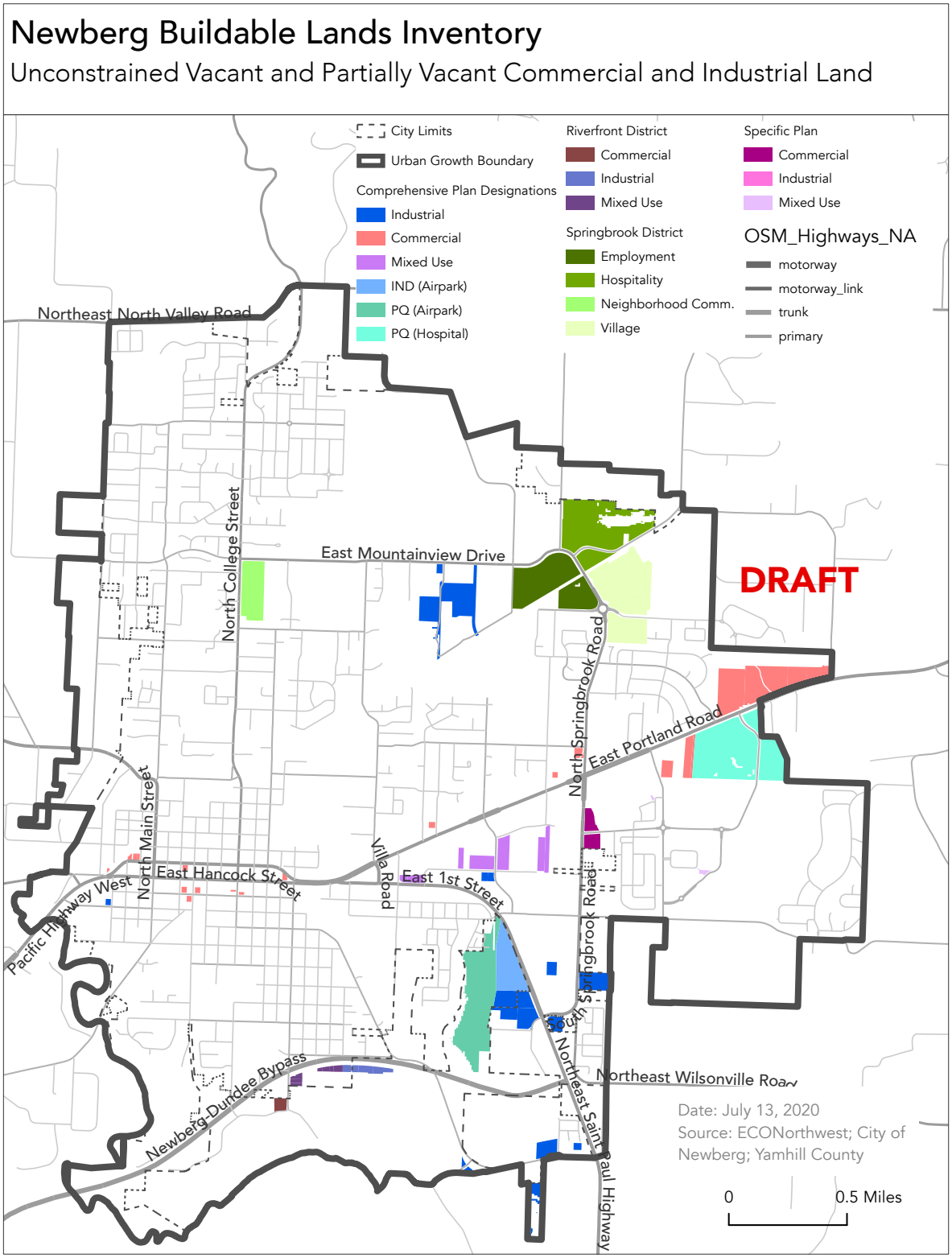
Exhibit 22 shows the size of lots by plan designations for buildable employment land. Newberg has 7 lots that are smaller than 0.5 acres (with 7 acres of land); 15 lots between 0.5 and 2 acres (24 acres of land); 8 lots between 2 and 5 acres in size (38 acres of land); 1 lot between 5 and 10 acres in size (8 acres of land); and 4 lots between 10 and 25 acres in size (52 acres of land).

Exhibit 22. Lot size by plan designation, buildable acres, Newberg UGB, 2020

	Buildable Acre Category					
	less than 0.5 acre	0.5 - 1 acres	1 - 2 acres	2 - 5 acres	5 - 10 acres	10 - 25 acres
Buildable acres on taxlots						
Commercial	3	3	7	13	8	21
Mixed Use	2	1	6	2		12
Industrial	3	4	3	23		19
Subtotal	**7**	**8**	**16**	**38**	**8**	**52**
Number of taxlots with buildable acres						
Commercial	2	3	4	4	1	2
Mixed Use	3	2	2	1		1
Industrial	2	3	1	3		1
Subtotal	**7**	**8**	**7**	**8**	**1**	**4**

Source: ECONorthwest analysis of data from Yamhill County; City of Newberg.

Exhibit 23. Buildable employment land by Plan Designation with development constraints, Newberg UGB, 2020



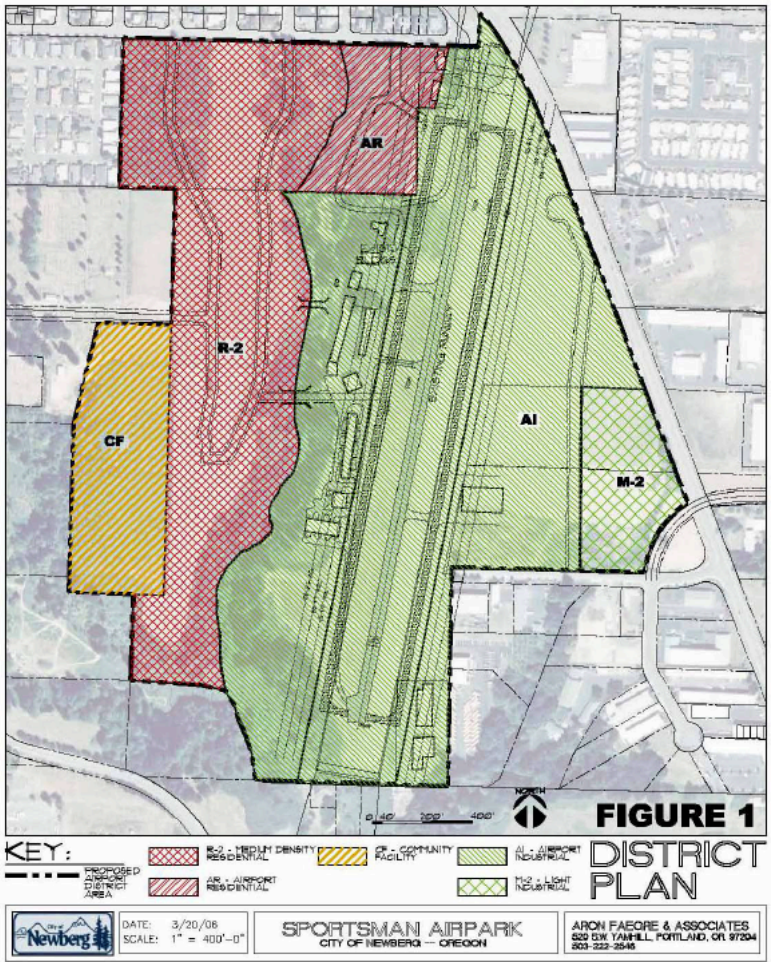
Sportsman Airpark

Note to reviewers: The next version of the EOA will include refined information about the Airpark's leasing requirements and allowed uses.

Land at airports have more restrictions (from the FAA and the airport master plan) than typical commercial and industrial land in Newberg, these acres are not included in the calculation of unconstrained buildable land in the remainder of this Chapter.

The Sportsman Airpark, located in southeast Newberg and north of the Highway 18 Bypass, includes about 12 acres of industrial-designated land and 42 acres of public/quasi-public-designated land. Exhibit 20 shows the airport property boundary and zoning designations as defined in the *Sportsman Airpark Land Use Master Plan.*

Exhibit 24. Sportsman Airpark Property, Newberg, 2006



Source: Sportsman Airpark Land Use Master Plan. 2006.

According to the Sportsman Airpark Land Use Master Plan (2006), the airpark's industrial land is about 17% developed, with about 29 estimated developable industrial acres remaining. Permitted uses on the Sportsman Airpark property are limited, and are not considered as part

of the buildable lands inventory of industrial land available for most future employment uses. The permitted uses on the Airpark property include: aviation-related activities; emergency flight services (and necessary services); law enforcement, firefighting, search and rescue operations; flight instruction; aircraft service and maintenance; aircraft rental/sales; aerial mapping/surveying; air cargo and warehousing/distribution; and aviation and space technology development/research.

Short-Term Supply of Land

This section evaluates the short-term supply of employment land in Newberg. It begins with an overview of the policy context for this this analysis, and then it evaluates the short-term land supply.

Policy Context

The Goal 9 Administrative Rule (OAR 660-009) includes provisions that require certain cities to ensure an adequate short-term supply of industrial and other employment lands. Newberg is not currently subject to this requirement; however, the City's forecast population growth means that Newberg will likely be subject to this requirement in the future. OAR 660-009-005(10) defines short term supply as follows:

> "…means suitable land that is ready for construction within one year of an application for a building permit or request for service extension. Engineering feasibility is sufficient to qualify land for the short-term supply of land. Funding availability is not required. "Competitive Short-term Supply" means the short-term supply of land provides a range of site sizes and locations to accommodate the market needs of a variety of industrial and other employment uses."

The Goal 9 rule also requires cities in a Metropolitan Planning Organization (MPO, which may include Newberg in the future) to make a commitment to providing a competitive short-term supply of land and establishes targets for the short-term supply of land. Specifically, OAR 660-009-0020(1)(b) states:

> "Cities and counties within a Metropolitan Planning Organization must adopt a policy stating that a competitive short-term supply of land as a community economic development objective for the industrial and other employment uses selected through the economic opportunities analysis pursuant to OAR 660-009-0015."

The rule goes on to clarify short-term land supply targets for cities in an MPO (OAR 660-009-0025):

> (3) Short-Term Supply of Land. Plans for cities and counties within a Metropolitan Planning Organization or cities and counties that adopt policies relating to the short-term supply of land must designate suitable land to respond to economic development opportunities as they arise. Cities and counties may maintain the short-term supply of land according to the strategies adopted pursuant to OAR 660-009-0020(2).

(a) Except as provided for in subsections (b) and (c), cities and counties subject to this section must provide at least 25% of the total land supply within the urban growth boundary designated for industrial and other employment uses as short-term supply.

(b) Affected cities and counties that are unable to achieve the target in subsection (a) above may set an alternative target based on their economic opportunities analysis.

(c) A planning area with 10 percent or more of the total land supply enrolled in Oregon's industrial site certification program pursuant to ORS 284.565 satisfies the requirements of this section.

In summary, the rule requires cities subject to the requirement to assess the short-term supply of employment land based on the criteria that land can be ready for construction within one year. The determination is based on "engineering feasibility."

Analysis of Short-Term Supply of Land

Note to reviewers: We will add this information in the next version of the EOA.

5. Land Sufficiency and Conclusions

This chapter presents conclusions about Newberg's employment land sufficiency for the 2021-2041 period. The chapter then concludes with a discussion about Newberg's land base and its ability to accommodate growth over the next 20 years, as well as recommendations for the City to consider, ensuring it meets its economic growth needs throughout the planning period.

Land Sufficiency

Commercial Land Sufficiency

Exhibit 25 shows commercial land sufficiency within the Newberg UGB. It shows:

- **Vacant unconstrained commercial land** from Exhibit 21 within the UGB. Exhibit 25 shows that Newberg has 79 gross acres of commercial land.
- **Demand for commercial land** from Exhibit 11. Exhibit 25 shows Newberg will need a total of 59 gross acres for commercial uses over the 2021-2041 period.

Exhibit 25 shows that Newberg has a 20-acre surplus of commercial land.

Exhibit 25. Comparison of the Capacity of Unconstrained Vacant Commercial Land with Commercial Land Demand, Newberg UGB, 2021-2041

Land Use Type	Land Supply (Suitable Gross Acres)	Land Demand (Gross Acres)	Land Sufficiency (Deficit)
Commercial	79	59	20
Total	**79**	**59**	**20**

Source: ECONorthwest

Industrial Land Sufficiency

Exhibit 26 shows industrial site needs within the Newberg UGB by site size. It shows:

- **Vacant unconstrained industrial sites** within the UGB from Exhibit 22. Newberg has 16 industrial sites on 51 acres of land. Exhibit 26 shows that 22 of the sites are 5 acres or smaller and one site is 5 to 25 acres in size.
- **Demand for industrial land** from Exhibit 17. Exhibit 26 shows Newberg will need 94 new sites for industrial uses, 84 of which will be 5 acres or less.

Exhibit 26 shows that Newberg has a deficit of 71 sites or 280 acres of land in the following site sizes:

- **Less than 5 acres in size.** Newberg has a deficit of 62 sites or 56 acres for these smaller sites, which are expected to average about 0.9 acres in size.

- **5 to 25 acres in size.** Newberg has a deficit of 7 sites or 69 acres for these sites, which are expected to average about 10 acres in size. The majority of Newberg's mid-sized potential growth industries will locate on these sites.
- **25 to 50 acres in size.** Newberg has a deficit of 1 site or 33 acres for this site, which is expected to average about 33 acres in size. This site will provide development opportunities for a mid-sized to large technology and high-tech manufacturing business.
- **50 or more acres in size.** Newberg has a deficit of 1 site or 92 acres for this site, which is expected to average about 92 acres in size. This site will provide development opportunities for a large technology and high-tech manufacturing business.

Exhibit 26. Comparison of the Capacity of Unconstrained Vacant Industrial Land with Industrial Land Demand, Newberg UGB, 2021-2041

	Site Size (acres)				
	Less than 5 acres	5-25 acres	25-50 acres	50 and more	Total
Number of Vacant Sites: Newberg BLI	22	1	-	-	23
New Sites Needed	84	8	1	1	94
Comparison of Land Supply and Need (Land Surplus or Deficit)	**(62)**	**(7)**	**(1)**	**(1)**	**(71)**
Acres of Land Needed	**56**	**69**	**33**	**92**	**250**

Source: ECONorthwest

Conclusions and Recommendations

The conclusions about commercial and industrial land sufficiency are:

- **Newberg is forecast for growth in both the commercial and industrial employment sectors.** Newberg is planning for growth of 3,844 new jobs in the city over the 2021 to 2041 period. About 2,557 of the jobs will be industrial, 1,074 of the jobs will be in office and commercial services, and 104 in retail. Growth of these jobs will result in demand for about 59 gross acres of commercial land and 94 new sites for industrial uses.
- **Newberg has a surplus of commercially-designated land of 20 acres.** Exhibit 25 shows that Newberg has enough land for commercial employment growth over the next 20 years, with a surplus of 20 acres. Commercial uses include services for residents and visitors (e.g., retail) as well as office services. This surplus includes commercial land in the Springbrook and Riverfront Districts, which are located in different parts of Newberg. This ensures that commercial development will be distributed throughout the city, providing reasonable access to services for residents and visitors.
- **Newberg has a deficit of land for industrial uses across all site sizes.** Newberg has a deficit of 71 sites or 280 acres of land for industrial uses. This need covers a range of site sizes from less than 5 acres to 50 or more acres. The majority of sites are needed at the less than 5-acre size, but the range of site sizes is key to diversifying Newberg's economy and aligning with the city's potential growth industries.
- **Newberg's wages are comparable to the regional average.** Newberg's average wage of $43,480 is slightly higher than the average of $43,299 for Yamhill County. Newberg's potential growth industries generally have above average wages, except for some types of food or agricultural product industries, such as wineries or vineyards, which also tend to hire seasonally.
- **Newberg will need to address key infrastructure needs in the Riverfront District.** While water and wastewater connections will be relatively easy for eventual developers to access, the Riverfront Master Plan identifies potential challenges with connecting a road along the bluff area. This would require geotechnical studies that may present cost barriers for potential developers of the area.
- **Newberg's lack of industrial land presents barriers for business retention, expansion, and recruitment.** Since 2014, the City has documented recruitment and retention of businesses looking to stay or locate in Newberg. A key issue businesses have cited is the lack of available or suitable greenfield sites. This has led to recent relocation of existing Newberg businesses, as well as lack of new businesses choosing to locate in Newberg. Businesses are attracted to Newberg because of the access to a skilled workforce and quality of life, but the lack of suitable sites remains a key issue for many of these businesses.

Following are ECONorthwest's recommendations for measures to accommodate commercial and industrial land need within the Newberg UGB based on the analysis and conclusions in this report.

Note to reviewers: The following recommendations are part of what we will be discussing with the Committees at the October PAC meeting. They are *potential* measures that we will elaborate on after review with the Committees. These bullet points will be revised and filled in based on that and other discussions.

- The City has actively worked on implementing recent plans that in part address issues related to commercial and industrial land including: the *Newberg Economic Development Strategy, Newberg Downtown Improvement Plan, A NewBERG Community Vision,* and the *Riverfront Master Plan.*
- Newberg can consider establishing preservation criteria of industrial sites over 5 acres.
- The City could require master planning for 5-25 acre parcels for business or industrial parks.
- Newberg could identify opportunities to rezone land to industrial, if land was available for a re-zone without down-zoning land.
- The City can use its implementation of the Urban Renewal Program as a catalyst for redevelopment.
- The City can complete Interchange Management Plans for the Newberg-Dundee Bypass.

Appendix A. National, State, and Regional and Local Trends

The economic trends discussed in this appendix are based on long-term trends that are generally expected to continue on national, state, and regional scales. During the development of this document, the effects of the global COVID-19 pandemic began to emerge. However, the availability of data and the potential change in long-term effects remain unknown. Where available, this appendix provides data and discussion about the short-term economic effects of the pandemic.

National Trends

Economic development in Newberg over the next 20 years will occur in the context of long-run national trends. The most important of these trends include:

- **Economic growth was forecasted to continue at a slow pace over the course of the next decade but the effects of the COVID-19 pandemic have ended the nation's longest period of economic expansion**. The Congressional Budget Office (CBO) previously predicted that real GDP would grow by 2.2% in 2020, followed by stagnation in later years as growth in private investment and consumer spending lessened. From 2021 to 2030, CBO forecasted that output would increase at an average annual rate of 1.7 percent.[47] However, in March 2020, business closures related to the novel coronavirus forced the nation into a recession. According to CBO's preliminary estimates, unemployment is expected to surpass 10% during the second quarter of 2020 due to sharp increases in unemployment claims. Additionally, GDP will likely decline by more than 7% during the second quarter, leading to a fall in the annualized growth rate of at least 28%.[48] The fiscal stimulus, as well as the federal government's efforts to maintain operations for essential businesses, will likely mitigate the fallout of the virus. An estimated 70% of GDP is derived from businesses exempt from stay-at-home orders and half of non-exempt businesses are able to continue their operations remotely.[49] Importantly, long-term projections are highly variable as the economic impact of the COVID-19 pandemic unfolds.

[47] Congressional Budget Office. *The Budget and Economic Outlook: 2020 to 2030. January 2020.* https://www.cbo.gov/publication/56020.

[48] Swagel, P. (2020, April 2). Updating CBO's Economic Forecast to Account for the Pandemic. Congressional Budget Office. https://www.cbo.gov/publication/56314.

[49] Caldwell, P., and Andersen, K. (2020). Coronavirus Update: Long-Term Economic Impact Forecast to Be Less Than 2008 Recession. Morningstar, Inc. https://www.morningstar.com/articles/976107/coronavirus-update-long-term-economic-impact-forecast-to-be-less-than-2008-recession

- **The aging of the Baby Boomer generation accompanied by increases in life expectancy.** As the Baby Boomer generation continues to retire, the number of Social Security recipients is expected to increase from almost 65 million in 2020 to over 88 million in 2045, a 36.5% increase. But due to lower birth-rate replacement generations, the number of covered workers is only expected to increase 10.3% over the same time period, from over 178 million to almost 197 million in 2045. In 2020, there are 36 Social Security beneficiaries per 100 covered workers but by 2045 there will be 45 beneficiaries per 100 covered workers. This will increase the percent of the federal budget dedicated to Social Security and Medicare.[50]

  Baby Boomers are expecting to work longer than previous generations. An increasing proportion of workers 55 and older expect to work after age 65.[51] This trend can be seen in Oregon, where the share of workers 65 years and older grew from 2.9% of the workforce in 2000 to 4.1% of the workforce in 2010. In 2018, this share increased to 5.6%, or a 94% increase over the 2000 to 2018 period. Over the same eighteen-year period, workers 45 to 64 years decreased by about 2%.[52]

- **Need for replacement workers.** The need for workers to replace retiring Baby Boomers will outpace job growth. Between 2018 and 2028, the Bureau of Labor Statistics (BLS) estimates that total employment in the United States will grow by about 8.4 million jobs. Over this same period, BLS forecasts an annual average of 19.7 million occupational openings indicating that the number of job openings per year exceeds expected employment growth. About 78% of annual job openings are in occupations that do not require postsecondary education.[53]

- **The importance of education as a determinant of wages and household income.** According to BLS, a majority of the fastest growing occupations will require an academic degree, and on average, they will yield higher incomes than occupations that do not require a degree. The fastest growing occupations requiring an academic degree will be occupational therapy assistants, information security analysts, physician assistants, statisticians, nurse practitioners, and speech language pathologists. Of the top 10 fastest-growing occupations, the top four do not require an academic degree. From 2018 to 2028, the fastest-growing occupations are solar photovoltaic installers, wind

[50] The Board of Trustees, Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, 2015, The 2018 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, June 5, 2018. https://www.ssa.gov/oact/tr/2018/tr2018.pdf.

[51] The Employee Benefit Research Institute. Retirement Confidence Survey, 2016 RCS Fact Sheet #4. https://www.ebri.org/docs/default-source/rcs/4_rcs_16-fs-4_age.pdf?sfvrsn=56e8302f_2.

[52] Analysis of 2000 Decennial Census data, 2010 U.S. Census American Community Survey, 1-Year Estimates, and 2018 U.S. Census American Community Survey, 1-Year Estimates, for the table Sex by Age by Employment Status for the Population 16 Years and Over.

[53] Bureau of Labor Statistics. (2019). Occupational Employment Projections to 2018-2028. https://www.bls.gov/news.release/pdf/ecopro.pdf.

turbine service technicians, home health aides, and personal care aides. However, these non-degree requiring occupations yield lower incomes than the other six occupations.

Five sectors are projected to decline from 2018 to 2028. These include manufacturing, federal government, utilities, wholesale trade, and retail trade. The BLS estimates that retail trade will decrease by 153,700 positions, possibly due to the rise of e-commerce. Conversely, this shift in shopper preference is increasing occupations in transportation and warehousing.[54] Retail positions occupations typically have lower pay than occupations requiring an academic degree.

The national median income for people over the age of 25 in 2019 was about $48,464. Workers without a high school diploma earned $19,708 less than the median income, while those with a high school diploma earned $10,504 less than the median income. Workers with some college earned $6,760 less than median income, and workers with a bachelor's degree earned $13,832 more than median. Workers in Oregon experience the same patterns as the nation but pay is generally lower in Oregon than the national average.[55]

- **Increases in labor productivity.** Productivity, as measured by output per hour of labor input, increased in most sectors between 2000 and 2010, peaking in 2007. However, productivity increases were interrupted by the recession. After productivity decreases from 2007 to 2009, many industries saw large productivity increases from 2009 to 2010. Industries with the fastest productivity growth were Information Technology-related industries. These include wireless telecommunications carriers, computer and peripheral equipment manufacturing, electronics and appliance stores, and commercial equipment manufacturing wholesalers.[56]

  Since the end of the recession (or 2010), labor productivity has increased across a handful of large sectors but has also decreased in others. In wholesale trade, productivity—measured in output per hour—increased by 19% over 2009 to 2017. Retail trade gained even more productivity over this period at 25%. Food services, however, have remained stagnant since 2009, fluctuating over the nine-year period and shrinking by 0.01% over this time frame. Additionally, the Bureau of Labor Statistics reports multifactor productivity in manufacturing has been slowing down 0.3% per year over the 2004 to 2016 period. Much of this, they note, is due to slowdown in semiconductors,

[54] Bureau of Labor Statistics. (2019). Occupational Employment Projections to 2018-2028. https://www.bls.gov/news.release/pdf/ecopro.pdf.

[55] Bureau of Labor Statistics. (2019). Occupational Employment Projections to 2018-2028. https://www.bls.gov/news.release/pdf/ecopro.pdf.

[56] Brill, M.R., & Rowe, S.T. (March 2013). Industry Labor Productivity Trends from 2000 to 2010. Bureau of Labor Statistics, *Spotlight on Statistics.*

other electrical component manufacturing, and computer and peripheral equipment manufacturing.[57]

- **The importance of entrepreneurship and growth in small businesses.** According to the 2019 Small Business Profile from the US Small Business Office of Advocacy, small businesses account for over 99 percent of total businesses in the United States, and their employees account for nearly 47% of American workers.[58] The National League of Cities suggests ways that local governments can attract entrepreneurs and increase the number of small businesses including strong leadership from elected officials; better communication with entrepreneurs, especially about the regulatory environment for businesses in the community; and partnerships with colleges, universities, small business development centers, mentorship programs, community groups, businesses groups, and financial institutions.[59]

- **Increases in automation across sectors.** Automation is a long-running trend in employment, with increases in automation (and corresponding increases in productivity) over the last century and longer. The pace of automation is increasing, and the types of jobs likely to be automated over the next 20 years (or longer) are broadening. Lower-paying jobs are more likely to be automated, with the potential for automation of more than 80% of jobs paying less than $20 per hour over the next 20 years. About 30% of jobs paying $20 to $40 per hour and 4% of jobs paying $40 or more are at risk of being automated over the next 20 years.[60]

  Low to middle-skilled jobs that require interpersonal interaction, flexibility, adaptability, and problem solving will likely persist into the future as will occupations in technologically lagging sectors (e.g., production of restaurant meals, cleaning services, hair care, security/protective services, and personal fitness).[61] This includes occupations such as (1) recreational therapists, (2) first-line supervisors of mechanics, installers, and repairers, (3) emergency management directors, (4) mental health and substance abuse social workers, (5) audiologists, (6) occupational therapists, (7) orthotists and prosthetists, (8) healthcare social workers, (9) oral and maxillofacial surgeons, and (10) first-line supervisors of firefighting and prevention workers.

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[57] Brill, M., Chanksy, B., & Kim, J. (July 2018). Multifactor productivity slowdown in U.S. manufacturing. *Monthly Labor Review*, U.S. Bureau of Labor Statistics. https://www.bls.gov/opub/mlr/2018/article/multifactor-productivity-slowdown-in-us-manufacturing.htm.

[58] US Small Business Office of Advocacy. (2019). 2019 Small Business Profile. https://cdn.advocacy.sba.gov/wp-content/uploads/2019/04/23142719/2019-Small-Business-Profiles-US.pdf

[59] National League of Cities. (2012). Supporting Entrepreneurs and Small Businesses. https://www.nlc.org/supporting-entrepreneurs-and-small-business

[60] Executive Office of the President. (2016). Artificial Intelligence, Automation, and the Economy.

[61] Autor, D.H. (2015). Why Are There Still So Many Jobs? The History and Future of Workplace Automation. *Journal of Economic Perspectives, 29*(3), 3–30.

Occupations in the service and agricultural or manufacturing industry are most at-risk of automation because of the manual-task nature of the work.[62,63,64] This includes occupations such as (1) telemarketers, (2) title examiners, abstractors, and searchers, (3) hand sewers, (4) mathematical technicians, (5) insurance underwriters, (6) watch repairers, (7) cargo and freight agents, (8) tax preparers, (9) photographic process workers and processing machine operators, and (10) accounts clerks.[65]

- **Continued transformation of retail.[66]** In the last two decades, retail sales by e-commerce and warehouse clubs/supercenters (a lower-cost model to the traditional department store) have increased steadily, pulling the industry in two different directions. On one hand, the trend toward warehouse/supercenters is increasing the average scale of retail operations, increasing market concentrations, reducing business dynamism, and shifting retail activity toward more populated areas. On the other hand, the trend toward e-commerce generates "smaller [retailers], less market concentration, more geographical dispersion, and higher productivity."[67] Since 2000, e-commerce sales grew from 0.9% of total retail sales to 9.7% (2018). Over this same period, e-commerce retail sales have grown at a rate of 18% per year.[68] It is reasonable to expect this trend to continue and will be accelerated by requirements to stay at home during the COVID-19 pandemic.

  Ultimately, the growth in online shopping and the increasing dominance of large, supercenters has made it difficult for small and medium-sized retail firms (offering a narrower selection of goods) to compete. Declining net profits and increased competitive pressures have led many well-known retailers (e.g., J.C. Penney, Macy's, Sears) to declare bankruptcy or to scale back their operations.
  In the future, the importance of e-commerce will likely continue to grow, and despite the highly publicized closures of brick and mortar stores, physical retail is likely to remain an important part of the retail sector. In fact, retail sales at brick and mortar stores accounted for almost 90% of all retail sales in the Q3 of 2019.[69]

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[62] Frey, C.B, & Osborne, M.A. (2013). The Future of Employment: How Susceptible Are Jobs to Computerisation? Oxford Martin School, University of Oxford.

[63] Otekhile, C.A., & Zeleny, M. (2016). Self Service Technologies: A Cause of Unemployment. *International Journal of Entrepreneurial Knowledge, 4*(1). DOI: 10.1515/ijek-2016-0005.

[64] PwC. (n.d.). Will robots really steal our jobs? An international analysis of the potential long-term impact of automation. https://www.pwc.com/hu/hu/kiadvanyok/assets/pdf/impact_of_automation_on_jobs.pdf.

[65] Frey, C.B., & Osborne, M.A. (2013). The Future of Employment: How Susceptible Are Jobs to Computerisation? Oxford Martin School, University of Oxford.

[66] Ali Hortaçsu and Chad Syverson. (2015). The Ongoing Evolution of US Retail: A Format Tug-of-War. *Journal of Economic Perspectives, 29*(4), 89–112.

[67] Ali Hortaçsu and Chad Syverson. (2015). The Ongoing Evolution of US Retail: A Format Tug-of-War. *Journal of Economic Perspectives, 29*(4), 89–112, p. 109.

[68] U.S. Census Bureau, Monthly Retail Trade, Latest Quarterly E-Commerce Report. Retrieved from: https://www.census.gov/retail/index.html#ecommerce

[69] Per data from the U.S. Census Bureau, cited in Deloitte's 2020 Retail Industry Outlook.

Modern consumers are increasingly price sensitive, less brand loyal, and (since the advent of internet) able to substitute between retailers easily. To compete, retailers must be nimble, adept in recognizing the changing needs of their consumers, and quick to differentiate themselves from their competitors.

- **Opportunities for local retail and service.** The types of retail and related services that remain will likely be sales of goods that people prefer to purchase in person or that are difficult to ship and return (e.g., large furniture), specialty goods, groceries and personal goods that maybe needed immediately, restaurants, and experiences (e.g., entertainment or social experiences). According to the Urban Land Institute, in the post-disruption era of retail, new trends in this sector are beginning to emerge. These changes include the convergence of technology and shopping, as businesses focus on brand awareness and customer engagement via digital channels in the physical retail space.[70]
- **The importance of high-quality natural resources.** The relationship between natural resources and local economies has changed as the economy has shifted away from resource extraction. High-quality natural resources continue to be important in some states, especially in the Western U.S. Increases in the population and in households' incomes, plus changes in tastes and preferences have dramatically increased demands for outdoor recreation, scenic vistas, clean water, and other resource-related amenities. Such amenities contribute to a region's quality of life and play an important role in attracting both households and firms.[71]
- **Continued increase in demand for energy.** While energy prices were unusually low in early 2020, energy prices are forecasted to increase over the planning period. While energy use per capita is expected to decrease through 2050, total energy consumption will increase with rising population (0.2%). Energy consumption is expected to grow primarily from industrial (0.7%) and, to a lesser extent, commercial users (0.2%). Residential and transportation consumption are forecasted to decrease (-0.2%). This decrease in energy consumption for transportation is primarily due to increased federal standards and increased technology for energy efficiency in vehicles. Going forward through the projection period, potential changes in federal laws (such as decreases in car emissions) leave energy demand somewhat uncertain.

  Energy consumption by type of fuel is expected to change over the planning period. By 2050, the U.S. will continue to shift from crude oil towards natural gas and renewables. For example, from 2018 to 2050, the Energy Information Administration projects that overall energy consumption in the U.S. will average a 0.2% annual growth rate, while consumption of renewable sources grows at 1.6% per year. With increases in energy

[70] Diane Hoskins. "Three Trends Shaping Retail's Great Transformation." *Urban Land Institute*, September 3, 2019. https://urbanland.uli.org/economy-markets-trends/three-trends-shaping-retails-great-transformation/

[71] For a more thorough discussion of relevant research, *see,* for example, Power, T.M. and R.N. Barrett. 2001. *Post-Cowboy Economics: Pay and Prosperity in the New American West*. Island Press, and Kim, K.-K., D.W. Marcouiller, and S.C. Deller. 2005. "Natural Amenities and Rural Development: Understanding Spatial and Distributional Attributes." *Growth and Change* 36 (2): 273-297.

efficiency, strong domestic production of energy, and relatively flat demand for energy by some industries, the U.S. will be able to be a net exporter of energy over the 2018 to 2050 period. Demand for electricity is expected to increase (0.2%), over 2018 to 2050 as population grows and economic activity increases.[72]

- **Impact of rising energy prices on commuting patterns.** As energy prices increase over the planning period, energy consumption for transportation will decrease. These increasing energy prices may decrease willingness to commute long distances, though with expected increases in fuel economy, it could be that people commute further while consuming less energy.[73] Over 2019 to 2035, the U.S. Energy Information Administration estimates in its forecast that the decline in transportation energy consumption as a result of increasing fuel economy more than offsets the total growth in vehicle miles traveled (VMT). VMT for passenger vehicles is forecasted to increase through 2050.

- **Potential impacts of global climate change.** The consensus among the scientific community that global climate change is occurring expounds important ecological, social, and economic consequences over the next decades and beyond.[74] Extensive research shows that Oregon and other western states have already experienced noticeable changes in climate and that more change will occur in the future.[75]

  In the Pacific Northwest, climate change is likely to (1) increase average annual temperatures, (2) increase the number and duration of heat waves, (3) increase the amount of precipitation falling as rain during the year, (4) increase the intensity of rainfall events, (5) increase sea level, (6) increase wildfire frequency, and (7) increase forest vulnerability to tree disease.[76] These changes are also likely to reduce winter snowpack and shift the timing of spring runoff earlier in the year.[77]

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[72] Energy Information Administration, 2019, Annual Energy Outlook 2019 with Projections to 2050, U.S. Department of Energy, January 2019. https://www.eia.gov/outlooks/aeo/pdf/aeo2019.pdf. Note, the cited growth rates are shown in the interactive tables and can be viewed here: https://www.eia.gov/outlooks/aeo/data/browser/.

[73] Energy Information Administration, 2019, *Annual Energy Outlook 2019 with Projections to 2050*, U.S. Department of Energy, January 2019.

[74] U.S. Global Change Research Program. *National Climate Assessment*. 2018. https://nca2018.globalchange.gov/

[75] Oregon Global Warming Commission. *2018 Biennial Report to the Legislature.* 2018. https://www.keeporegoncool.org/reports/

[76] U.S. Global Change Research Program. *National Climate Assessment*. "Chapter 24: Northwest." 2018. https://nca2018.globalchange.gov/chapter/24/

[77] Mote, P., Salathe, E., Duliere, V., & Jump, E. (2008). *Scenarios of Future Climate for the Pacific Northwest.* Climate Impacts Group, University of Washington. March. http://cses.washington.edu/db/pdf/moteetal2008scenarios628.pdf; Littell, J.S., McGuire Elsner, M., Whitely Binder, L.C., and Snover, A.K. (eds). (2009). "The Washington Climate Change Impacts Assessment: Evaluating Washington's Future in a Changing Climate - Executive Summary." *In The Washington Climate Change Impacts Assessment: Evaluating Washington's Future in a Changing Climate*, Climate Impacts Group, University of Washington. www.cses.washington.edu/db/pdf/wacciaexecsummary638.pdf; Madsen, T., & Figdor, E. (2007). *When it Rains, it Pours: Global Warming and the Rising Frequency of Extreme Precipitation in the United States.* Environment America Research & Policy Center and Frontier Group.; Mote, P.W. (2006). Climate-driven variability and trends in mountain snowpack in western North America. *Journal of Climate, 19*(23), 6209-6220.

The Oregon Climate Change Research Institute (OCCRI) evaluated potential scenarios for "Climate Change Influence on Natural Hazards in Oregon Counties" in 2018. OCCRI specifically focused on Counties in the Gorge and Eastern Oregon and evaluated the potential increased or decreased risk for natural hazards such as heat waves, cold waves, heavy rains, river flooding, drought, wildfire, poor air quality, windstorms, dust storms, increased invasive species, and loss of wetland ecosystems. Across the eight counties evaluated, the hazards most likely to increase with the effects of climate change are heat waves, heavy rains, river flooding, wildfires, increased invasive species, and loss of wetland ecosystems.[78]

These anticipated changes point toward some of the ways that climate change is likely to impact ecological systems and the goods and services they provide. There is considerable uncertainty about how long it would take for some of the impacts to materialize and the magnitude of the associated economic consequences. Assuming climate change proceeds as today's models predict, the Pacific Northwest will experience potential economic impacts:[79]

- *Potential impact on agriculture and forestry.* Climate change may impact Oregon's agriculture through changes in growing season, temperature ranges, and water availability.[80] Climate change may impact Oregon's forestry through an increase in wildfires, a decrease in the rate of tree growth, a change in the mix of tree species, and increases in disease and pests that damage trees.[81]
- *Potential impact on tourism and recreation.* Impacts on tourism and recreation may range from (1) decreases in snow-based recreation if snowpack in the Cascades decreases, (2) negative impacts to tourism along the Oregon Coast as a result of damage and beach erosion from rising sea levels,[82] (3) negative impacts on availability of water summer river recreation (e.g., river rafting or sports fishing) as a result of lower summer river flows, and (4) negative impacts on the availability of water for domestic and business uses.

[78] Mote, P.W., Abatzoglou, J., Dello, K.D., Hegewisch, K., & Rupp, D.E. (2019). Fourth Oregon Climate Assessment Report. Oregon Climate Change Research Institute. occri.net/ocar4; Oregon Climate Change Research Institute. Climate Change Influence on Natural Hazards in Eight Oregon Counties. August 2018. https://www.oregon.gov/lcd/CL/Documents/OCCRI_PDM16_AllCountyOverview2018.pdf

[79] The issue of global climate change is complex and there is a substantial amount of uncertainty about climate change. This discussion is not intended to describe all potential impacts of climate change but to present a few ways that climate change may impact the economy of cities in Oregon and the Pacific Northwest.

[80] Resource Innovations & Institute for a Sustainable Environment. (2005). The Economic Impacts of Climate Change in Oregon: A Preliminary Assessment. https://scholarsbank.uoregon.edu/xmlui/bitstream/handle/1794/2299/Consensus_report.pdf?sequence=1

[81] Climate Leadership Initiative & Institute for Sustainable Environment. (2007). Economic Impacts of Climate Change on Forest Resources in Oregon: A Preliminary Analysis.

[82] Resource Innovations & Institute for a Sustainable Environment. (2005). The Economic Impacts of Climate Change in Oregon: A Preliminary Assessment. https://scholarsbank.uoregon.edu/xmlui/bitstream/handle/1794/2299/Consensus_report.pdf?sequence=1

Short-term national trends will also affect economic growth in the region, but these trends are difficult to predict. At times, these trends may run counter to the long-term trends described above. A recent example is the recession following the global COVID-19 pandemic. Despite efforts to mitigate the economic fallout from the virus by lowering interest rates and implementing federal stimulus packages, unemployment rates have risen 10.3 percentage points to 14.7% as of April 2020.[83] While job losses have occurred in all major sectors, the sharpest declines have been in the airline, leisure and hospitality, casinos and gambling, automotive parts and equipment, and oil and gas drilling industries.[84] As these industries recover, they will continue to play a significant role in the national, state, and local economy over the long run. This report takes a long-run perspective on economic conditions (as the Goal 9 requirements intend) and does not attempt to predict the impacts of short-run national business cycles on employment or economic activity.

State Trends

Short-Term Trends

According to the Oregon Office of Economic Analysis (OEA), the Oregon economy is in a recession due to the COVID-19 pandemic and the resulting statewide shutdowns.[85] Although OEA's June 2020 *Oregon Economic and Revenue Forecast* stated that the current recession would be shorter than the Great Recession, the severity would be the deepest on record since 1939. As the economy begins to reopen in phases through 2020, the agency expects the economy to return to near pre-recession levels by the middle of the 2020 decade.[86]

Preliminary unemployment estimates in March and April 2020 indicate that approximately 267,000 jobs were lost statewide due to the pandemic.[87] This resulted in an unemployment rate increase from 3.8% in both January and February 2020 to 14.8% in April 2020, a difference of 11 percentage points.[88] As of May 2020, job losses were highest among workers with lower pay and lower for highly paid workers.

The OEA forecasts that there will be strong growth in the latter half of 2020, and though the agency anticipates a sizable rebound in economic activity, it expects a full recovery will take

[83] This is the highest unemployment rate and largest over-the-month increase in the history of the series with seasonally adjusted data reported since 1948. Bureau of Labor Statistics. (2020, May 8). The Employment Situation – April 2020. News Release, Bureau of Labor Statistics. Retrieved from: https://www.bls.gov/news.release/pdf/empsit.pdf.

[84] Kumar, N., and Haydon, D. (2020, April 7). Industries Most and Least Impacted by COVID 19 from a Probability of Default Perspective March 2020 Update. *S&P Global*.

[85] Office of Economic Analysis. (2020). Oregon Economic and Revenue Forecast, June 2020. Vol. XL, No. 2, p. 1. https://www.oregon.gov/das/OEA/Documents/forecast0620.pdf.

[86] Ibid, p. 1.

[87] Ibid, p. 3.

[88] Oregon Employment Department, Local Area Unemployment Statistics (LAUS), Unemployment Rate estimates for the State of Oregon. Data retrieved on May 28, 2020.

much longer, with jobs returning to early 2020 levels by mid-2024. To illustrate the impact of this rebound, OEA reported that it may take Oregon to depression levels similar to those seen in the state's early 1980s depression or the Great Recession.[89]

In 2019, Oregon's average wage was at its highest point since the 1980s. Though the OEA forecasts an annual average wage increase of 4.5% in 2020, the agency estimates wages will contract by 0.1% in 2021 before growing by 3.0% in 2022, 4.2% in 2023, and 4.4% in 2024.[90]

By the end of 2020, the OEA forecasts 225,100 jobs in Oregon's economy will be lost. This is an approximate 11.6% annual decrease in total nonfarm employment relative to 2019 levels.[91] Every employment sector, with the exception of government, is forecasted to decrease. The impacts on the leisure and hospitality sector are forecasted to be the most severely with a 29.7% contraction, or approximately 81,500 jobs lost. Construction and manufacturing are forecasted to lose 16,700 (15.3% decrease) and 30,900 (15.6% decrease) jobs, respectively. Furthermore, retail trade is forecasted to lose nearly 13,600 jobs in 2020 or decrease by 13.6%.[92]

Oregon's household formation rate will be weaker over the medium term due to income loss, economic uncertainty, and in-migration reduction.[93] Housing starts in 2019 reached approximately 21,000 units. Through the end of 2020, however, the OEA forecasts a 21.7% contraction in housing starts for a total of about 16,200 units. In the years following the recession, they anticipate a partial recovery of housing starts in 2021 (3.0% increase), with growth increasing in velocity in 2022 (13.3% increase) and 2023 (13.1% increase) before settling to about 2.3% in 2024.[94]

Oregon's economic health is dependent on the export market, which are also affected by the COVID-19 pandemic. The value of Oregon exports in 2017 was $22.3 billion. In 2019, the countries that Oregon exports the most to are China (31% of total Oregon exports), Canada (14%), Japan (7%), South Korea (6%), Malaysia (6%), and Vietnam (5%).[95] Any strains on the relationship between the United States and China could impact Oregon's economy.[96] Additionally, China's public debt burden poses a threat not only to the state and region but also to the global economy.[97]

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[89] Oregon Economic and Revenue Forecast, June 2020. Vol. XL, No. 2, p. 4.

[90] *Ibid*, p. 32.

[91] *Ibid*, p. 32.

[92] *Ibid*, p. 32.

[93] *Ibid*, p. 10.

[94] *Ibid*, p. 32.

[95] United States Census Bureau. State Exports from Oregon, 2015-2019. https://www.census.gov/foreign-trade/statistics/state/data/or.html.

[96] Office of Economic Analysis. Oregon Economic and Revenue Forecast, December 2019. Vol. XXXIX, No. 4, p. 3. https://www.oregon.gov/das/OEA/Documents/forecast1219.pdf.

[97] *Ibid,* p. 14.

Long-Term Trends

State, regional, and local trends will also affect economic development in Newberg over the next 20 years. The most important of these trends includes continued in-migration from other states, distribution of population and employment across the state, and change in the types of industries in Oregon.

- **Continued in-migration from other states.** Oregon will continue to experience in-migration (more people moving *to* Oregon than *from* Oregon) from other states, especially California and Washington, though to a lesser degree given the recession. From 1990 to 2017, Oregon's population increased by over 1.3 million, 66% of which was from people moving into Oregon (net migration). The average annual increase in population from net migration over the same time period was about 33,128. During the early to mid-1990s, Oregon's net migration was highest, reaching over 60,000 in 1991, with another smaller peak of almost 42,100 in 2006. In 2019, net migration reached just over 47,500 persons.
- **Increasing ethnic diversity.** Oregon's population has continued to get more ethnically and racially diverse, with the Latino population growing from 8% of the population in 2000 to 12% of the population in 2014-2018. The non-White population grew from 13% of the population to 15% of the population over the same period. The share of Latino and people of color populations increased in Newberg since 2000 as well.
- **Forecast of job growth.** Total nonfarm employment was forecasted to increase from about 1.94 million in 2019 to just over 2 million in 2023, but the OEA's June 2020 economic and revenue forecast revises the 2023 employment estimate down to nearly 1.90 million, or by about 7%. Of private industry, the OEA forecasts job losses across the board in 2020 with an expectation of growth in the years following as economic activity and consumer confidence increases.[98]
- **Manufacturing is an important part of Oregon's economy.** The manufacturing sector has long been a crucial component of Oregon's economy. In the last decade, growth in Oregon's manufacturing sector has outpaced that of the nation, growing by 23% compared to the nation's 12%.[99] The manufacturing sector also makes up a larger share of Oregon's economy than it does in the nation with 10.2% of Oregon's payroll employment in manufacturing compared to 8.5% for the nation in 2018.[100]

  Manufacturing remains an important piece of Oregon's economy and the sector is evolving. Only a few decades ago, Oregon's manufacturing economy was predominantly dependent on forestry and wood products. But between 1990 and 2018,

[98] Oregon Employment Department, Oregon Economic and Revenue Forecast, June 2020. Vol. XL, No. 2, p. 32.

[99] Oregon Employment Department, Quarterly Census of Employment and Wages, 2018, qualityinfo.org.

[100] *Ibid.*

annual average employment in wood product manufacturing dropped by 22,600 jobs or 46%.[101]

Growth in Oregon's electronic component manufacturing, however, has filled the gap left by the decline in wood manufacturing. In 2018, there were a total of 37,900 jobs in Oregon's electronic component manufacturing (i.e., manufacturing of computer chips, computers and related equipment, and communications equipment), making it Oregon's largest manufacturing industry. Employment in this industry is over six times more concentrated in Oregon than it is nationally and is driving much of the growth in Oregon manufacturing.[102]

Continued growth, spurred by electronic component manufacturing, is expected in the future for Oregon's manufacturing sector. Although Oregon's economy is shifting, the state's roots in forestry and wood product manufacturing remain important, particularly for rural areas. Douglas County, for example, had 8.3% of its total employment and 10.7% of its total payroll in wood product manufacturing in 2018.[103]

- **Advancements in technology and increases in automation of jobs.**[104] In decades past, automation was focused on manufacturing. In the coming decades, jobs at risk for automation will tend to be those without "computerization bottlenecks" or jobs that do not require social intelligence, perception, creativity, or fine motor skills. Jobs in industries lacking customer service component, such as those in transportation and material moving, are also at greater risk. Most researchers agree that "less educated workers in low-skill, lower-wage jobs featuring routine tasks are those most likely to be displaced by automation."[105] Oregon's overall risk of automation is similar to the nation's, with lower and middle-wage jobs at higher risk.

  In 2017, 144,200 jobs in Oregon were found to be at risk of automation and 93% of jobs in food preparation and serving were found to be at risk.[106] However, automation risk does not imply automation certainty. For example, consumer preferences for personalized and genuine experiences/interactions will likely slow job automation, particularly in the food services and hospitality sectors. In addition, there is a notable difference between task automation and full automation of jobs. One research study speculates that only 5% of jobs are fully automated, and that the "activities most susceptible to automation

[101] *Ibid.*

[102] *Ibid.*

[103] *Ibid.*

[104] Portland Business Alliance. (2017). Automation and the Future of Work. https://portlandalliance.com/assets/pdfs/2017-VOJ-Automation-summary.pdf

[105] Marcus Casey and Sarah Nzau. (2019). Searching for clarity: How much will automation impact the middle class? Brookings.

[106] Portland Business Alliance. (2017). Automation and the Future of Work. https://portlandalliance.com/assets/pdfs/2017-VOJ-Automation-summary.pdf

involve physical activities in highly structured and predictable environments, as well as the collection and processing of data."[107]

- **Income and wages continue to increase.** Despite Oregon's income and wages falling below the average among states, Oregon wages are at their highest point relative to other states since the recession in the early 1980s mainly due to the wage growth over the last two to three years. In 2018, the average annual wage in Oregon was $53,053, and the median household income was $60,212 (compared to national average wages of $57,266 in 2018, and national household income of $60,336).[108] Total personal income (all classes of income, minus Social Security contributions, adjusted for inflation) in Oregon is expected to increase by 22%, from $214.3 billion in 2019 to $312.4 billion in 2027.[109] Per capita income is expected to increase by 16% over the same time period, from $50,200 in 2018 to $64,400 in 2027 (in nominal dollars).[110] The economic fallout from the COVID-19 pandemic is likely to slow, or possibly eliminate, income growth at least through the resulting recession.

- **Small businesses continue to account for a large share of employment in Oregon**. While small firms played a large part in Oregon's expansion between 2003 and 2007, they also suffered disproportionately in the recession and its aftermath (64% of the net jobs lost between 2008 and 2010 was from small businesses).

  In 2017 small businesses (those with 100 or fewer employees) accounted for 95% of all businesses and 66% of all private-sector employment in Oregon. Said differently, most businesses in Oregon are small (in fact, 78% of all businesses have fewer than 10 employees), but the largest share of Oregon's employers work for large businesses (those with more than 100 employees).[111] The average annualized payroll per employee for small businesses was $39,099 in 2017, which is considerably less than that for large businesses ($56,466) and the statewide average for all businesses ($49,548).[112]

  Younger workers are important for the continued growth of small businesses across the nation. More than one-third of Millennials (those born between 1980 - 1999) are self-employed, with approximately half to two-thirds interested in becoming an entrepreneur. According to the Kauffman Indicators of Entrepreneurship, in 2018, about

[107] McKinsey & Company. (2017). A Future that Works: Automation, Employment, and Productivity.

[108] Average annual wages are for "Total, all industries," which includes private and public employers. Oregon Quarterly Census of Employment and Wages, 2018. Retrieved from: https://www.qualityinfo.org; Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2017; Total, U.S. Census American Community Survey 1-Year Estimates, 2017, Table B19013.

[109] Office of Economic Analysis. Oregon Economic and Revenue Forecast, September 2018. Vol. XXXVIII, No. 3, page 39.

[110] *Ibid*, page 39.

[111] U.S Census Bureau, 2017 Statistics of U.S. Businesses, Annual Data, Enterprise Employment Size, U.S and States. https://www.census.gov/data/tables/2017/econ/susb/2017-susb-annual.html.

[112] *Ibid.*

79% of startups nationwide were still active after one year. On average, startups nationwide created approximately 5.2 jobs in their first year (when normalized by population).[113] It is typically the case that startups are important for job creation on a longer time horizon, well beyond their first year, as "fewer than half of all startups in America are still in business after five years."[114]

- **Entrepreneurship in Oregon.** The creation of new businesses is vital to Oregon's economy as their formations generate new jobs and advance new ideas and innovations into markets. They also can produce more efficient products and services to better serve local communities. According to the Kauffman Index, Oregon ranked 25th in the country in 2018 for its startup activity, a measurement comprised of four statistics: rate of new entrepreneurs, opportunity share of new entrepreneurs, startup density, and start up early survival rate.[115] This ranking is lower than its 2017 rank of 13. Oregon's rate of new entrepreneurs (the percent of adults that became an entrepreneur in a given month) was in steady decline post-recession, but since 2013, has gradually recovered until 2018 where it dropped to 0.27. This rate is below 2017's rate of 0.32% and well below Oregon's pre-recession peak of 0.43% in 2000.

  Moreover, in 2018, the Oregon Office of Economic Analysis reports new business applications in Oregon are increasing. They do, however, simultaneously note startup businesses "are a smaller share of all firms than in the past."[116] Though this measurement of economic activity does not constitute a full understanding of how well entrepreneurship is performing, it does provide an encouraging signal.

Regional and Local Trends

Throughout this section and the report, Newberg is compared to Yamhill County and the State of Oregon. These comparisons are to provide context for changes in Newberg's socioeconomic characteristics.

Availability of Labor

The availability of trained workers in Newberg will impact development of its economy over the planning period. A skilled and educated populace can attract well-paying businesses and employers and spur the benefits that follow from a growing economy. Key trends that will

[113] Kauffman Foundation. *Kauffman Indicators of Entrepreneurship*. Indicators: Startup Early Job Creation and Startup Early Survival Rate. Information retrieved on December 19, 2019. https://indicators.kauffman.org/data-table

[114] Nish Acharya. "Small Business Are Having A Bigger Impact on Job Creation Than Large Corporations." Forbes, May 5, 2019. https://www.forbes.com/sites/nishacharya/2019/05/05/who-is-creating-jobs-in-america/#5c74c156597d

[115] Kauffman Foundation. The Kauffman Index, Oregon. https://indicators.kauffman.org/data-table

[116] Lehner, Josh. (August 2018). "Start-Ups, R&D, and Productivity." Salem, OR: Oregon Office of Economic Analysis. Retrieved from: https://oregoneconomicanalysis.com/2018/08/27/start-ups-rd-and-productivity/.

affect the workforce in Newberg over the next 20 years include its growth in its overall population, growth in the senior population, and commuting trends.

Population Change

Population growth in Oregon tends to follow economic cycles. Oregon's population grew from 2.8 million people in 1990 to 4.2 million people in 2019, an increase of about 1,394,000 people or 1.4% each year. In the most recent decade (i.e., 2010 to 2019), the state's average annual growth rate fell slightly from 1.4% to 1.1%.

Between 1990 and 2019, Newberg's population increased by 10,959 residents at an average annual rate of 2.1%, exceeding both Yamhill County and Oregon's growth rates during the same time period (1.7% and 1.4%, respectively).

Exhibit 27. Population Growth, Newberg, Yamhill County, and Oregon, 1990 – 2018

Geography	1990	2000	2010	2019	Change, 1990 - 2019 Number	Percent	AAGR
Newberg	13,086	18,064	22,068	24,045	10,959	84%	2.1%
Yamhill County	65,551	84,992	99,193	108,060	42,509	65%	1.7%
Oregon	2,842,321	3,421,399	3,831,074	4,236,400	1,394,079	49%	1.4%

Source: U.S. Census Bureau, 1990, 2000, and 2010. Portland State University Population Estimates, 2019.

Age Distribution

By 2060, the population of people 65 years and older in the United States is projected to nearly double from 52 million in 2018 to 95 million.[117] The economic effects of this demographic change include a slowing of the growth of the labor force, need for workers to replace retirees, aging of the workforce for seniors that continue working after age 65, an increase in the demand for healthcare services, and an increase in the percent of the federal budget dedicated to Social Security and Medicare.[118]

Exhibit 28 through Exhibit 31 show the following trends:

- Newberg's population is aging slower than the populations in Yamhill County and the State overall per their respective median ages. During the 2014-2018 period, 18% of Newberg residents were 60 years and older compared to 32% of residents between the ages of 20 and 39 (Exhibit 30). This suggests that Newberg is attracting more people in their early adult lives.
- Yamhill County's population is expected to continue aging, with people 60 years and older increasing from 25% of the population in 2020 to 28% in 2045. This is consistent with statewide trends. Yamhill County may continue to attract those in their late adult years (i.e., 70 years and older) over the planning period. While the share of retirees in these respective areas may increase over the next 20 years, the share of people nearing retirement (i.e., 55 to 69 years old) or in their early adult lives (i.e., 20 to 39 years old) is likely to decrease.

Newberg's median age has increased by about 3.6 years since 2000, a change slightly smaller than Yamhill County's change of 4 years, but larger than Oregon's change of 2.9.

This increase suggests Newberg is attracting more workers in their later adult lives.

Exhibit 28. Median Age, Newberg, Yamhill County, and Oregon, 2000 to 2014-2018

Source: U.S. Census Bureau, 2000 Decennial Census, Table P013; American Community Survey 2014-2018 5-year Estimates, Table B01002.

2000	30.1 Newberg	34.1 Yamhill County	36.3 Oregon
2014-18	33.7 Newberg	38.1 Yamhill County	39.2 Oregon

[117] Mather, M., Scommegna, P., & Kilduff, L. (2019). Fact Sheet: Aging in the United States. https://www.prb.org/aging-unitedstates-fact-sheet/

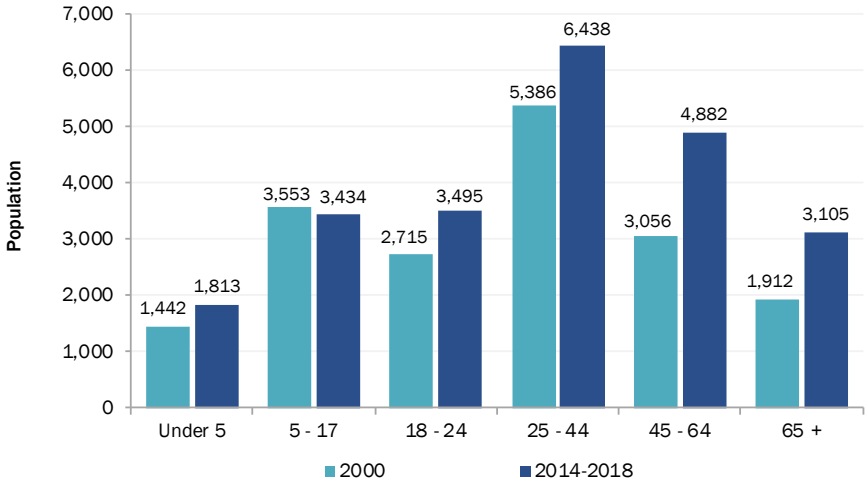
[118] The Board of Trustees, Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, 2017, The 2017 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, July 13, 2017. The Budget and Economic Outlook: Fiscal Years 2018 to 2028, April 2018.

Over 2000 to 2014-2018, Newberg's largest population increases were for those aged 45-64 and 65 years and older.

This is consistent with statewide trends.

Exhibit 29. Newberg Population Change by Age Group, 2000 to 2014-2018

Source: U.S. Census Bureau, 2000 Summary File; American Community Survey 2014-2018 5-year Estimates, Table B01001.



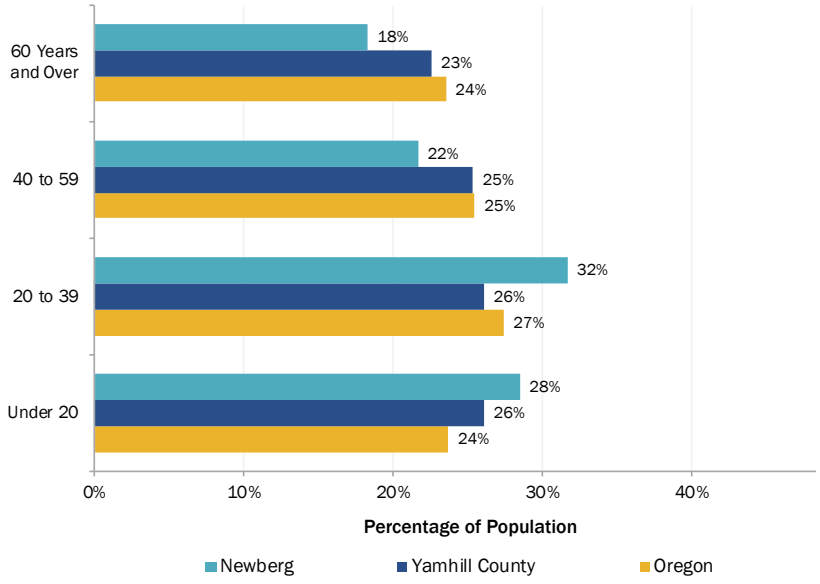
During the 2014-2018 period, 18% of Newberg residents were over 60 years of age.

The proportion of Newberg's older residents was lower than that of both the state and Yamhill County.

Conversely, the proportion of Newberg residents 39 years of age and younger was larger relative to Yamhill County and Oregon.

Exhibit 30. Population Distribution by Age, Newberg, Yamhill County, and Oregon, 2014-2018

Source: U.S. Census Bureau, American Community Survey, 2014-2018 5-year Estimates, Table B01001.

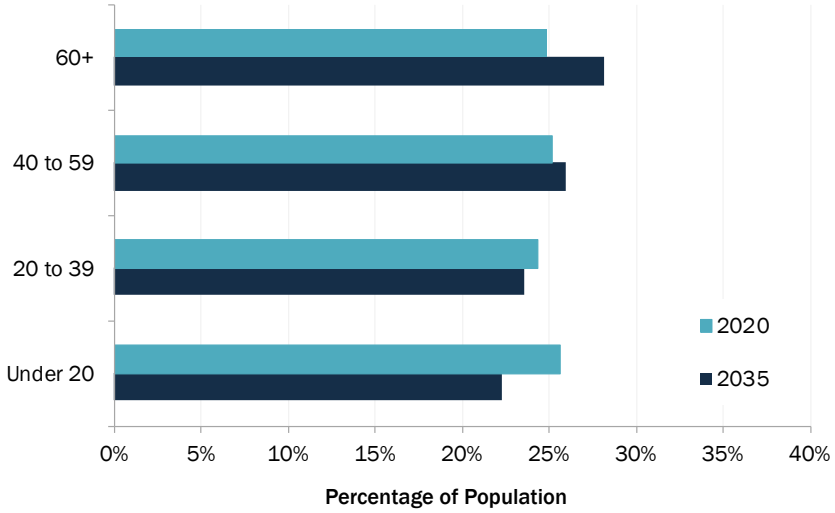


By 2045, Yamhill County will have a larger share of residents 60 years and older than it does today.

The share of residents 60 years and older will account for 28% of Yamhill County's population, compared to 25% in 2020.

Exhibit 31. Population Growth by Age Group, Yamhill County, 2020 – 2045

Source: Portland State University, College of Urban & Public Affairs: Population Research Center, Population Forecast, 2020.



Race and Ethnicity

Newberg, like Oregon overall, is becoming more racially and ethnically diverse. Both the Hispanic and Latino and populations of people of color increased in Newberg between 2000 and 2014-2018. The Hispanic and Latino population increased from 11% to 14%, while the non-White population increased from 10% to 12%. Similar to the city, Yamhill County's population of people of color increased slightly from 11% to 12% and the Hispanic and Latino population grew from 11% to 16% during the same time period. Newberg is more ethnically diverse than the State, so providing culturally specific services to Spanish-speaking community members can help improve their participation in the workforce and economy.

The population of people of color is defined as the share of the population that identifies as another race other than "White alone" according to Census definitions. The small population in Newberg results in small sample sizes, and thus the margin of error is considerable for the estimate of these populations.

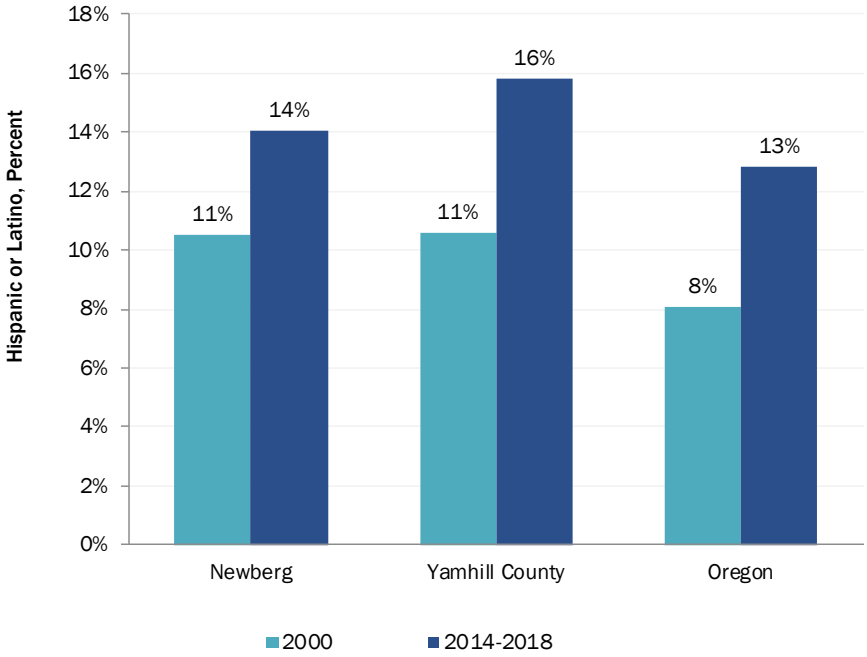
Exhibit 32 and Exhibit 33 show the change in the share of Hispanic and Latino and populations of people of color in Newberg, compared to Yamhill County and Oregon, between 2000 and 2014-2018. The group with the largest share of the population of people of color in 2014-2018 included those that identify as "some other race alone," representing 6% Newberg's total population.[119]

[119] "Some other race alone" also includes individuals who identify as American Indian or Alaska Native or Native Hawaiian and other Pacific Islander.

Newberg's Hispanic / Latino population increased between 2000 and 2014-2018 from 11% to 14%.

Newberg is more ethnically diverse than the state but less so than Yamhill County.

Exhibit 32. Hispanic or Latino Population as a Percent of the Total Population, Newberg, Yamhill County, and Oregon, 2000, 2014-2018
Source: U.S. Census Bureau, 2000 Decennial Census, Table P008; 2014-2018 American Community Survey, 2014-2018 5-year Estimates, Table B03002.

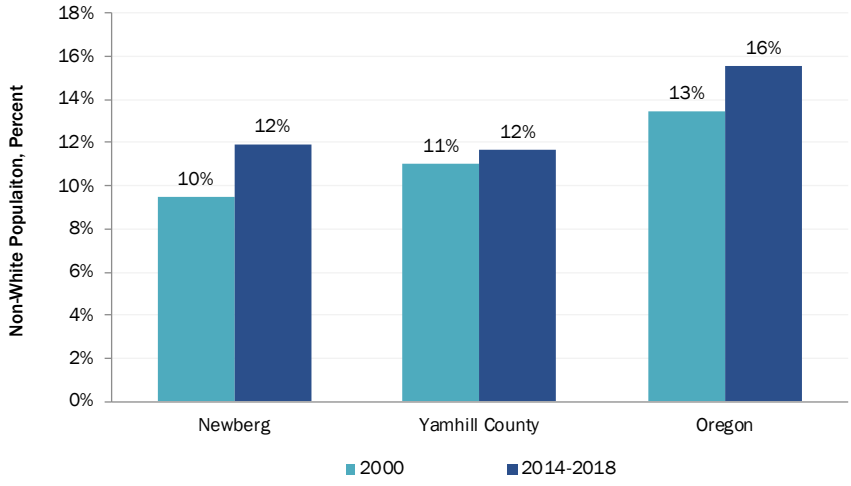


The population of people of color in Newberg increased between 2000 and 2014-2018.

Newberg and Yamhill County are less racially diverse than the state. In 2014-2018, the share of the population of people of color in both Newberg and Yamhill County was 12% compared to 16% statewide.

During this same time period, the group with the largest share of the population of people of color was "some other race alone," representing 6% of Newberg's residents.

Exhibit 33. Population of People of Color as a Percent of the Total Population, Newberg, Yamhill County, and Oregon, 2000, 2014-2018
Source: U.S. Census Bureau, 2000 Decennial Census Table P007; 2014-2018 American Community Survey, 2014-2018 5-year Estimates, Table B02001.



Income

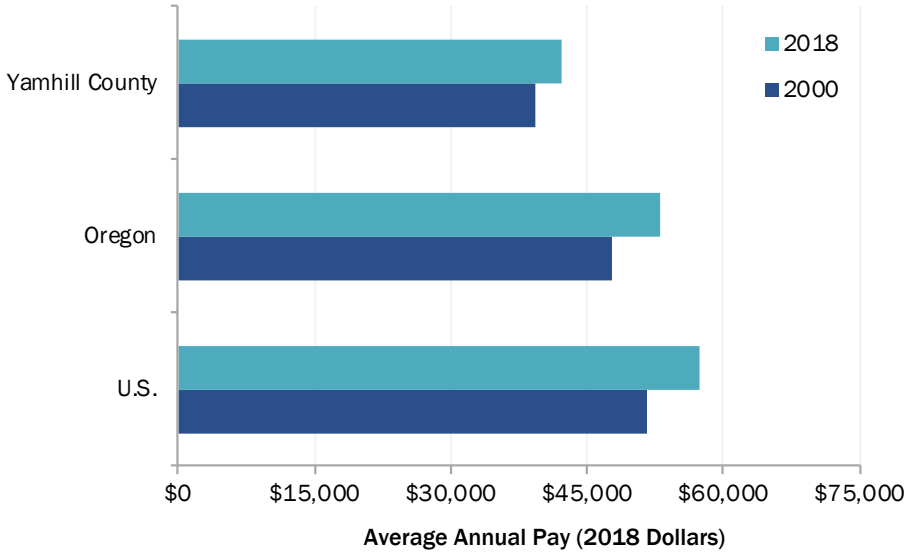
Income and wages affect business decisions for locating in a city. Areas with higher wages may be less attractive for industries that rely on low-wage workers. Newberg's median household income ($56,599) was below the County median ($59,484). In 2018, average wages at private businesses in Newberg ($43,480) was higher than the County average ($42,302).

Between 2000 and 2018, Yamhill County's average wages increased as did average wages across the State and the nation. When adjusted for inflation, average annual wages grew by 8% in Yamhill County and 11% in both Oregon and across the nation.

From 2000 to 2018, average annual wages rose in Yamhill County, Oregon, and the nation.

In 2018, average annual wages were $42,302 in Yamhill County, $53,053 in Oregon, and $57,266 across the nation.

Exhibit 34. Average Annual Wage, Covered Employment, Yamhill County, Oregon, and the U.S., 2000 to 2018, Inflation-adjusted 2018 Dollars
Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages; State of Oregon Employment Department, Employment and Wages by Industry (QCEW).



Over the 2014-2018 period, the median household income in Newberg was 5% below Yamhill County's and Oregon's median household income.

Exhibit 35. Median Household Income (MHI),[120] 2014-2018
Source: U.S. Census Bureau, American Community Survey 2014-2018 5-year Estimates, Table B19013.

$56,599	$59,484	$59,393
Newberg	Yamhill County	Oregon

[120] The Census calculated household income based on the income of all individuals 15 years old and over in the household, whether they are related or not.

Newberg median family income during the 2014-2018 period, similar to median household income, was below the median family income of both Yamhill County and Oregon by 8% and 11%, respectively.

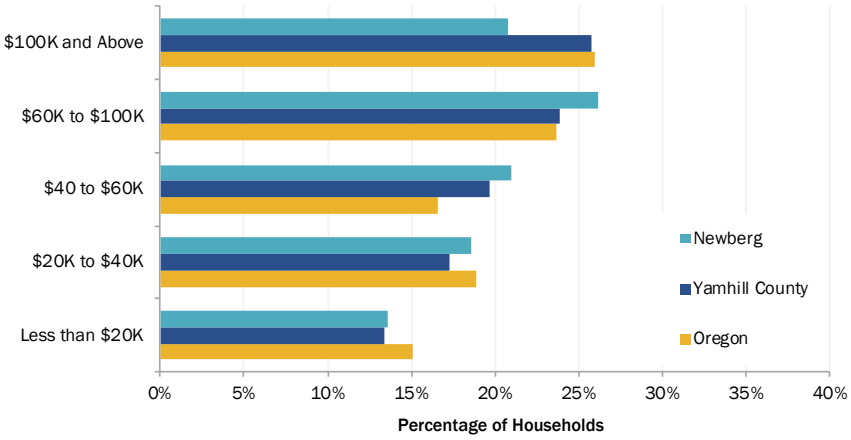
Exhibit 36. Median Family Income,[121] 2014-2018
Source: U.S. Census Bureau, American Community Survey 2012-2016 5-year Estimates, Table B19113.

$65,557	$70,813	$72,823
Newberg	Yamhill County	Oregon

During the 2014-2018 period, 32% of Newberg households earned less than $40,000 annually, compared to 31% of Yamhill County households and 34% of Oregon households.

Over the same period, 21% of Newberg households earned between $40,000 and $59,999, a proportion larger than both Yamhill County residents (20%) and residents statewide (17%).

Exhibit 37. Household Income by Income Group, Newberg, Yamhill County, and Oregon, 2014-2018, Inflation-adjusted 2018 Dollars
Source: U.S. Census Bureau, American Community Survey 2014-2018 5-year Estimates, Table B19001.



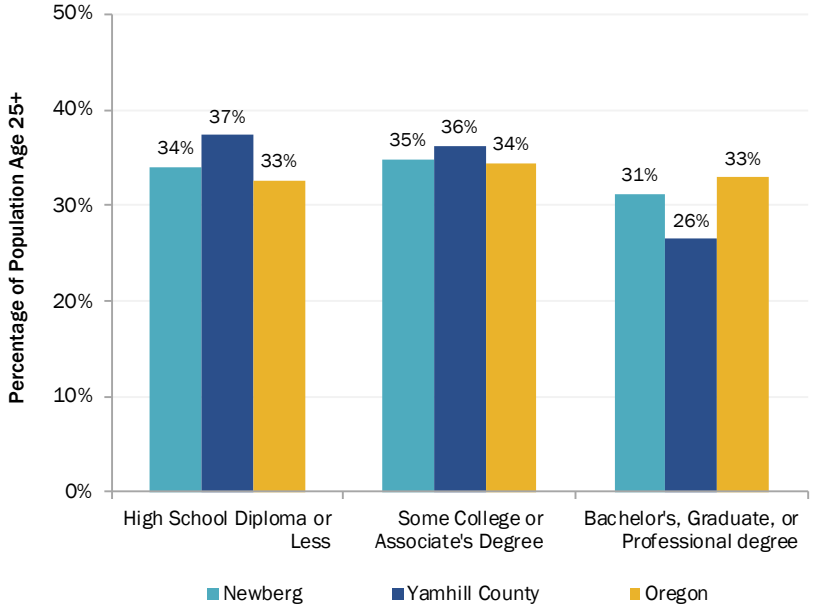
[121] The Census calculated family income based on the income of the head of household, as identified in the response to the Census forms, and income of all individuals 15 years old and over in the household who are related to the head of household by birth, marriage, or adoption.

Educational Attainment

The availability of trained, educated workers affects the quality of labor in a community. Educational attainment is an important labor force factor because firms need to be able to find educated workers.

Newberg's residents are consistent with residents statewide regarding their completion of some college or attainment of an associate degree. The proportion of Newberg residents who have a bachelor's degree or a professional degree falls slightly below the State but is higher relative to Yamhill County.

Exhibit 38. Educational Attainment for the Population 25 Years and Over, Newberg, Yamhill County, and Oregon, 2014-2018
Source: U.S. Census Bureau, American Community Survey 2014-2018 5-year Estimates, Table B15003.



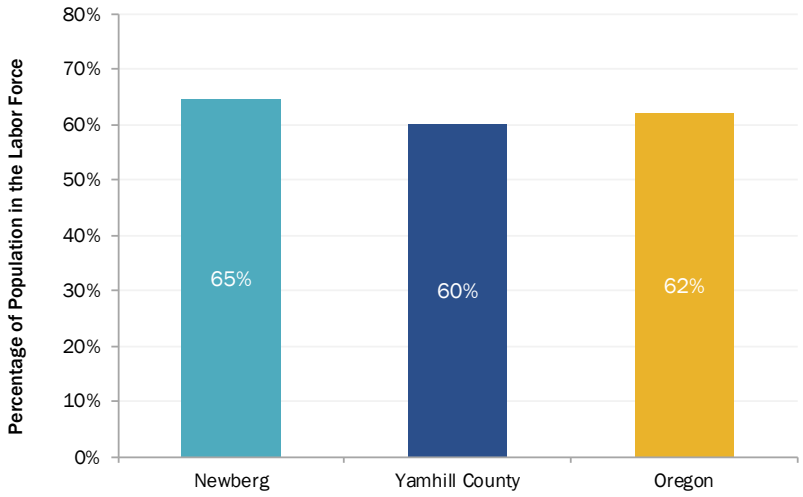
Labor Force Participation and Unemployment

The current labor force participation rate is an important consideration in the availability of labor. The labor force in any market consists of the adult population (16 and over) who are working or actively seeking work. The labor force includes both the employed and unemployed. Children, retirees, students, and people who are not actively seeking work are not considered part of the labor force. According to the 2014-2018 American Community Survey, Yamhill County had 49,802 people in its labor force during that period and Newberg had 11,987 people in its labor force.

In 2019, the Oregon Office of Economic Analysis reported that 64% of job vacancies were difficult to fill. The most common reason for difficulty in filling jobs included a lack of applications (29% of employers' difficulties), unfavorable working conditions (23%), a lack of qualified candidates (16%), a lack of soft skills (8%), a lack of work experience (7%), and low wages (7%).[122] These statistics indicate a mismatch between the types of jobs that employers are demanding and the skills that potential employees can provide.

Newberg has a higher labor force participation rate relative to both Yamhill County and Oregon.

Exhibit 39. Labor Force Participation Rate, Newberg, Yamhill County, and Oregon, 2014-2018
Source: U.S. Census Bureau, American Community Survey 2012-2016 5-year Estimates, Table B23001.



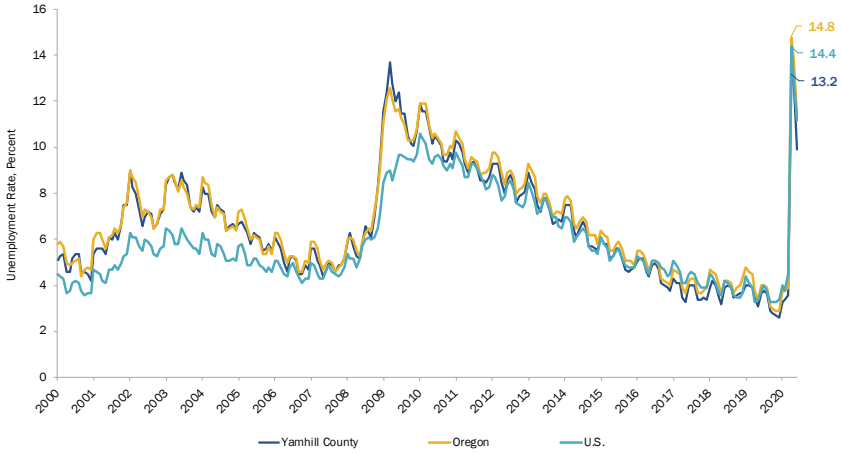
[122] Oregon's Current Workforce Gaps: Hiring Challenges for Unfilled Job Vacancies, May 2019. Employer-Provided Reasons for Difficulty Filling Vacancies in Oregon, 2018. p. 20. https://www.qualityinfo.org/documents/10182/13336/Oregon%27s+Current+Workforce+Gaps.

The unemployment rates in Yamhill County, Oregon, and the nation have declined since the Great Recession. However, since the pandemic, unemployment rates for the month of April 2020 exceeded the peak rate experienced during the Great Recession.

In April 2020, the unemployment rate for Yamhill County (13.2%) was lower than Oregon (14.8%) and the nation (14.4%).

Exhibit 40. Unemployment Rate, Yamhill County, Oregon, and the U.S., 2000 – April 2020

Source: Bureau of Labor Statistics, Local Area Unemployment Statistics and Labor Force Statistics.



Commuting Patterns

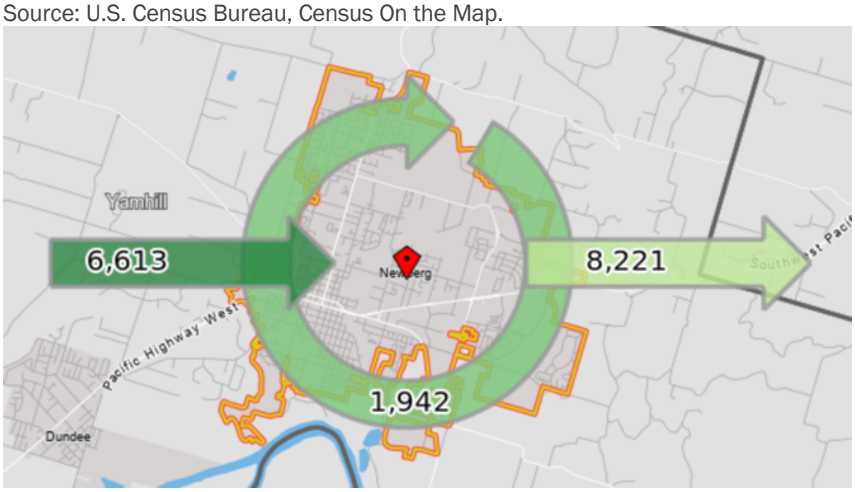
Commuting plays an important role in Newberg's economy because employers in the area are able to access workers from people living in cities across Yamhill County and from the broader Portland and Willamette Valley regions.

Exhibit 41 shows that 9% of people who live in Newberg commute to Portland while 19% remain in Newberg. Collectively, 24% of Newberg residents commute to Tigard, Beaverton, Tualatin, and Hillsboro (i.e., 6% to each location). The remaining workers commute from other cities located across the Region.

Newberg is part of an interconnected regional economy.

Fewer people both live and work in Newberg than commute into or out of the city for work. This commuting pattern is similar to Yamhill County in that more people commute to areas outside of the county for work than live and work within the county.

Exhibit 41. Commuting Flows, Newberg, 2017
Source: U.S. Census Bureau, Census On the Map.



About 23% of all people who work in Newberg also live in Newberg.

Exhibit 42. Places Where Newberg Workers Lived,[123] 2017
Source: U.S. Census Bureau, Census On the Map.

23%	7%	4%	3%
Newberg	McMinnville	Portland	Sherwood

[123] In 2017, 8,555 people worked at businesses in Newberg, with 23% (1,942) of people employed and working in Newberg.

About 19% of residents who live in Newberg also work in Newberg.

Nine percent of Newberg residents commute to Portland for work.

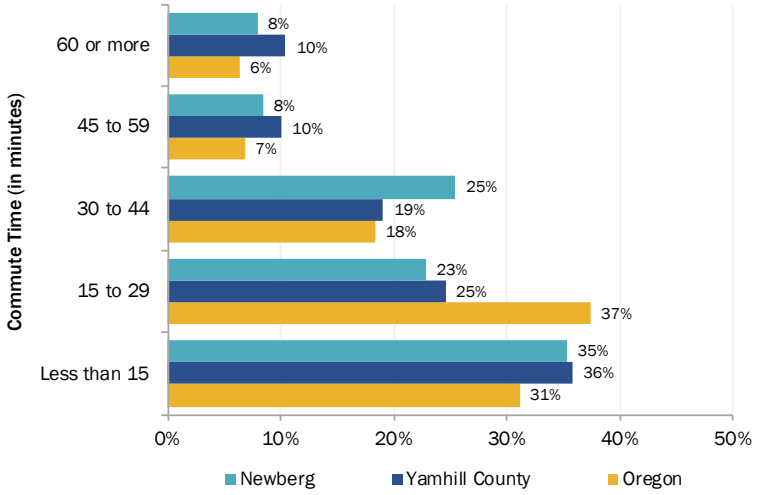
Exhibit 43. Places Where Newberg Residents Were Employed,[124] 2017
Source: U.S. Census Bureau, Census On the Map.

19%	9%	6%	6%
Newberg	Portland	Tigard	Beaverton

During the 2014-2018 period, about 35% of Newberg residents had a commute of less than 15 minutes, compared to 36% of Yamhill County's residents and 31% of Oregon residents.

The majority of Newberg residents (65%) have a commute time over 15 minutes. This is consistent with Yamhill County, where 64% of County residents have a commute time of this length.

Exhibit 44. Commute Time by Place of Residence, Newberg, Yamhill County, and Oregon, 2014-2018
Source: U.S. Census Bureau, American Community Survey 2014-2018 5-year Estimates, Table B08303.



[124] In 2018, 11,987 residents in Newberg worked, with 16% of Newberg residents (1,942) both living and employed in Newberg in 2017.

Tourism in Willamette Valley and Yamhill County

Longwoods International provides regional statistics on travel. The following information is from Longwoods International's 2017 Regional Visitor Report for the Willamette Valley region, which is comprised of Benton, Clackamas (South), Lane (East), Linn, Marion, Polk, and Yamhill Counties.[125] Broadly, travelers to the Willamette Valley accounted for:[126]

- 5.5 million overnight trips in 2017, or 16% of all Oregon overnight travel that year.
- The primary market area for travelers over 2016 and 2017 were Oregon, Washington, and California: 48% of Willamette Valley visitors came from Oregon, 19% came from California, and 14% came from Washington.
- About 75% of visitors stayed 2 or fewer nights over 2016 and 2017 in the Willamette Valley, 20% stayed 3-6 nights, and 5% stayed 7 or more nights. The average nights spent in the Willamette Valley region was 2.3.
- The average per person expenditures on overnight trips in 2017 ranged from $13 on transportation at destination to $41 per night on lodging.
- About 75% of visits to the Willamette Valley region over 2016 and 2017 were via personally owned automobiles, 18% were by rental car, and 13% were via an online taxi service (e.g., Lyft or Uber).
- Over 2016 and 2017, visitors tended to be middle-aged adults, with the average age being about 48.7. The majority of overnight visitors were 65 and older (23%) followed by those between the ages of 55 and 64 (19%) and individuals between the ages of 35 and 44 (19%). About 56% of visitors graduated college or completed a post-graduate education. Additionally, 44% of visitor earned less than $50,000 in household income, 37% earned between $50,000 and $99,999, and 19% earned more than $100,000. The average household income for the Willamette Valley Region visitors was about $64,560.

Yamhill County's direct travel spending increased 49% from 2000 to 2018.

The Willamette Valley region's direct travel spending increased by 139% over the same period.

Exhibit 45. Direct Travel Spending ($ millions), 2000 and 2018
Source: Dean Runyan Associates, Oregon Travel Impacts, 1991-2018, and Dean Runyan Associates, Oregon Travel Impacts, 1992-2018p.

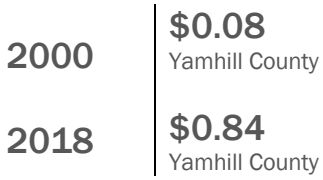
2000	$1,019.9 Willamette Valley Region	$56.7 Yamhill County
2018	$1,984.4 Willamette Valley Region	$135.7 Yamhill County

[125] Travel Oregon. "Oregon 2017 Regional Visitor Report Willamette Valley Region," Longwoods International, October 2018. Retrieved from: https://industry.traveloregon.com/resources/research/willamette-valley-oregon-overnight-travel-study-2017-longwoods-international/.

[126] Longwoods International issues caution in interpreting these tourism estimates in Central Oregon as the sample size for this region is low.

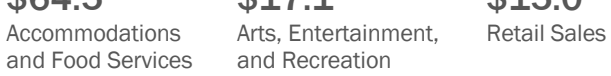
Yamhill County's lodging tax receipts increased 967% over 2000 to 2018.

Exhibit 46. Lodging Tax Receipts ($ millions), 2000 and 2018
Source: Dean Runyan Associates, Oregon Travel Impacts, 1991-2017.



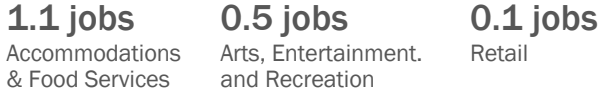
Yamhill County's largest visitor spending for purchased commodities is accommodation and food services.

Exhibit 47. Largest Visitor Spending Categories ($ millions), Yamhill County, 2018
Source: Dean Runyan Associates, Oregon Travel Impacts.



Yamhill County's largest employment generated by travel spending is in the accommodations and food services industry.

Exhibit 48. Largest Industry Employment Generated by Travel Spending (thousands), Yamhill County, 2018
Source: Dean Runyan Associates, Oregon Travel Impacts.



The number of overnight visitors to Yamhill County has increased from 1,683,000 in 2016 to 1,773,000 in 2018, an increase of 90,000 overnight stays or 5.3%.

Appendix B. Buildable Lands Inventory

The buildable lands inventory is intended to identify commercial and industrial lands that are available for development for employment uses within the Newberg UGB. The inventory is sometimes characterized as *supply* of land to accommodate anticipated employment growth. Population and employment growth drive *demand* for land. The amount of land needed depends on the type of development and other factors.

This appendix presents results of the commercial and industrial buildable lands inventory for the Newberg UGB. The results are based on analyses of Yamhill County and State of Oregon GIS data by ECONorthwest and reviewed by City staff. The remainder of this appendix summarizes key findings of the buildable lands inventory.

Methods and Definitions

The BLI for Newberg includes all land that allows commercial and industrial uses within the UGB. From a practical perspective, land was included in the BLI if it met all of the following criteria: 1) it is inside the Newberg UGB, 2) it is inside a tax lot (as defined by Yamhill County), and 3) if its current zoning/comprehensive plan designation allows employment uses. Note that tax lots do not generally include road or railroad rights-of-way or water. The inventory then builds from the tax lot-level database to estimates of buildable land by plan designation.

Inventory Steps

The steps in the BLI are:

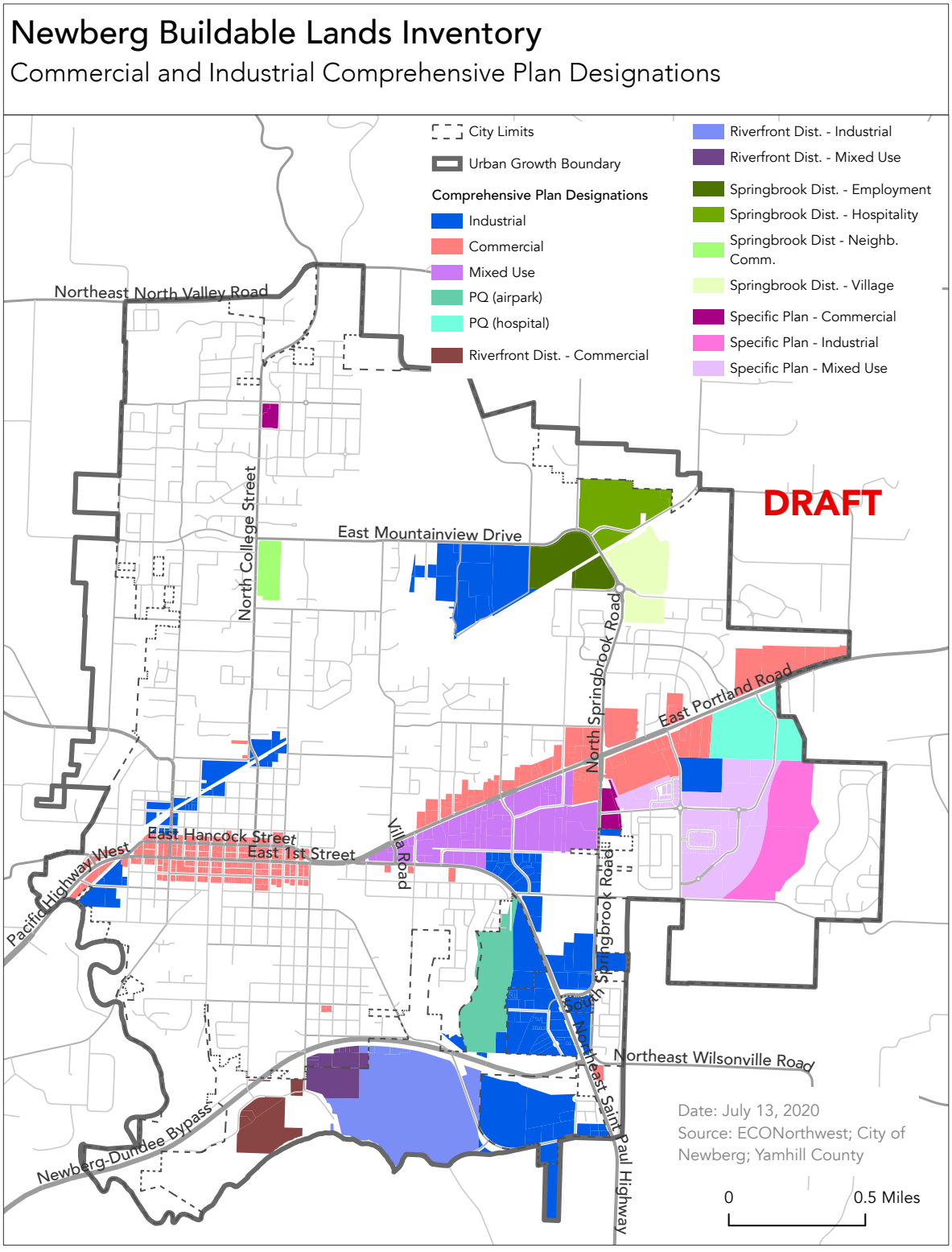
1. Generate UGB "land base"
2. Classify lands by development status
3. Identify constraints
4. Verify inventory results
5. Tabulate and map results

Step 1: Generate UGB "land base"

The commercial and industrial inventory will use all of the tax lots in the Newberg UGB with the appropriate plan designations. Specific designations that were used include:

- Commercial
  - COM - Commercial
  - SD/V - Springbrook District – Village
  - SD/NC - Springbrook District - Neighborhood Commercial
  - SD/H - Springbrook District – Hospitality
  - COM/RD - Commercial Riverfront
  - COM/SP - Specific Plan
- Industrial
  - IND – Industrial
  - IND/RD - Industrial Riverfront
  - IND/SP - Specific Plan
  - SD/E - Springbrook District - Employment
- Mixed Use
  - MIX – Mixed Use
  - MIX/SP – Specific Plan
- PQ areas with employment uses

Exhibit 49. Commercial and Industrial Comprehensive Plan Designations Included in the BLI



Step 2: Classify lands

In this step, ECONorthwest classified each tax lot with an employment plan designation (based on definition above) into one of five mutually exclusive categories based on development status:

- Developed land
- Vacant land
- Partially vacant land
- Undevelopable land
- Public or exempt land

ECONorthwest identified buildable land and classified development status using a rule-based methodology. The rules are described below in Exhibit 50.

Exhibit 50. Rules for Development Status Classification

Development Status	Definition	Statutory Authority
Vacant Land	A tax lot: (a) Not currently containing permanent buildings or improvements; or (b) Equal to or larger than five acres where less than one half-acre is occupied by permanent buildings or improvements For the purpose of criteria (a) above, lands with improvement values of $0 and without mobile homes (as identified by Yamhill Assessment property class codes) were considered vacant.	OAR 660-009-005(14) We included all tax lots in the land base in the inventory—a more inclusive approach than required by law. Tax lots smaller than the thresholds were evaluated based on existing improvements.
Partially Vacant Land	Partially vacant tax lots are those between one and five acres occupied by a use that could still be further developed based on the zoning. This determination was based on a visual assessment and City staff verification.	No statutory definition
Undevelopable Land	Vacant tax lots less than 3,000 square feet in size are considered undevelopable.	No statutory definition
Public or Exempt Land	Lands in public or semi-public ownership are considered unavailable for commercial or industrial development. This includes lands in Federal, State, County, or City ownership as well as lands owned by churches and other semi-public organizations and properties with conservation easements. Public lands and exempt land were identified using	No statutory definition

	the Yamhill County Assessment property class codes. This category only includes public lands that are located in commercial plan designations.	
Developed Land	OAR 660-009-005(1) defines developed land as "Non-vacant land that is likely to be redeveloped during the planning period." Lands not classified as vacant, partially-vacant, undevelopable, or public or exempt are considered developed.	OAR 660-009-005(1)

Step 3: Identify constraints

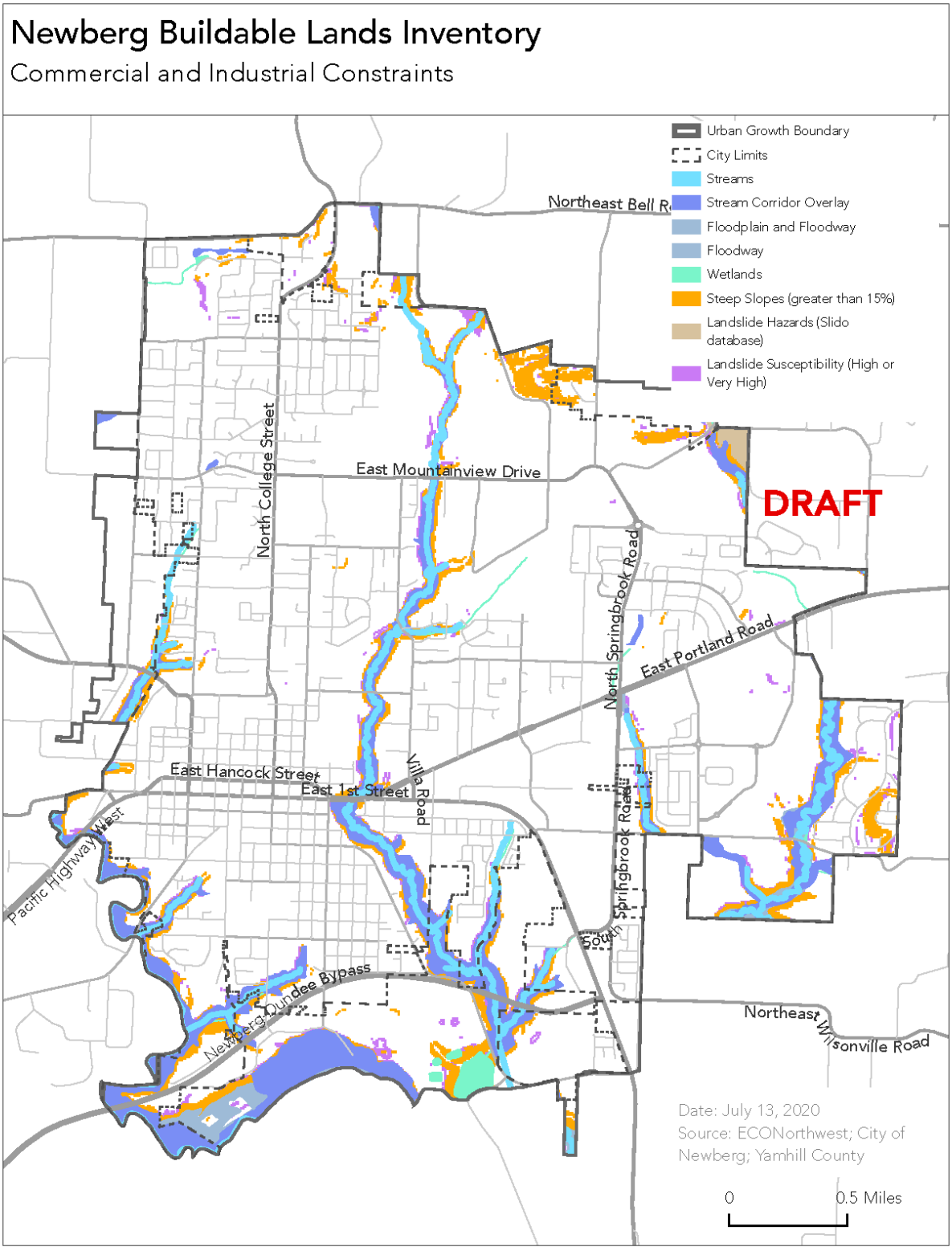
As shown in Exhibit 51 (and in the map in Exhibit 52), the BLI included development constraints consistent with guidance in OAR 660-008-0005(2).

Exhibit 51. Constraints Included in the BLI

Constraint	Statutory Authority	Threshold
Goal 5 Natural Resource Constraints		
Regulated Wetlands	OAR 660-009-0005(2)	Within National Wetlands Inventory
Stream Corridors	OAR 660-009-0005(2)	Lands within Newberg's Stream Corridor Overlay
Natural Hazard Constraints		
Floodways	OAR 660-009-0005(2)	Lands within FEMA FIRM identified floodway
100 Year Floodplain	OAR 660-009-0005(2)	Lands within FEMA FIRM 100-year floodplain
Steep Slopes	OAR 660-009-0005(2)	Slopes greater than 15%
Landslide Hazards	OAR 660-009-0005(2)	Areas within DOGAMI's Slido Database; Areas with high or very high landslide susceptibility (according to DOGAMI)

These areas were evaluated as prohibitive constraints (unbuildable). All constraints were merged into a single constraint file, which was then used to identify the area of each tax lot that is constrained. These areas were deducted from lands that are identified as vacant or partially vacant.

Exhibit 52. Commercial and Industrial Constraints Included in the BLI



Step 4: Verify inventory results

ECONorthwest used a multi-step verification process. The first verification step involved a "visual assessment" of land classifications using GIS and recent aerial photos. The visual assessment involves reviewing classifications overlaid on recent aerial photographs to verify uses on the ground. ECONorthwest reviewed all tax lots included in the inventory using the visual assessment methodology. The second round of verification involved City staff verifying the visual assessment output. ECONorthwest amended the BLI based on City staff review and a discussion of staff's comments. The final verification is reviewed by stakeholders, most especially TAC and CAC members.

Step 5: Tabulate and map results

The results of the commercial BLI are presented in tabular and map format in the remainder of this appendix. This includes a zoning/comprehensive plan map, the land base by classification, vacant and partially vacant lands by plan designation, and vacant and partially vacant lands by plan designation with constraints showing.