
Economic Opportunities Analysis for Fossil, Spray, and Mitchell in Wheeler County



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Prepared for:

Wheeler County
City of Fossil
City of Mitchell
Town of Spray

Final Report

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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 Fossil, Mitchell, and Spray Urban Growth Boundary (UGB), between 2019 and 2039, (2) evaluate the existing employment land supply within the cities 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.

How much buildable employment land do Fossil, Mitchell, and Spray currently have?

Exhibit 1 shows commercial and industrial land in the Fossil, Mitchell, and Spray Urban Growth Boundaries (UGBs) with development capacity (lands classified vacant or partially vacant). The results show Fossil has about 14 unconstrained buildable acres within the UGB, Mitchell has about 46 unconstrained buildable acres, and Spray has about 5 unconstrained buildable acres.

Exhibit 1. Employment acres by plan designation, Fossil, Mitchell, and Spray UGBs, 2018

Plan Designation	Total Buildable acres	Buildable acres on vacant lots	Buildable acres on partially vacant lots
City of Fossil Designations			
Commercial	1	0	1
Commercial/Residential	0	0	0
Industrial	4	3	1
Farm	10	10	0
Total	14	13	2
City of Mitchell Designations			
Commercial	0	0	0
Commercial/Residential	0	0	0
Industrial	0	0	0
Farm	46	46	0
Total	46	46	0
City of Spray Designations			
Commercial	0	0	0
Commercial/Residential	5	3	1
Industrial	0	0	0
Farm	0	0	0
Total	5	3	1

Source: ECONorthwest analysis of data from Wheeler County and State of Oregon.

How much growth are Fossil, Mitchell, and Spray planning for?

Goal 9 requires that cities provide for an adequate supply of commercial and industrial sites consistent with plan policies. To meet this requirement, Fossil, Mitchell, and Spray need an estimate of the amount of commercial and industrial land that will be needed over the 2019-2039 planning period. Exhibit 2 presents the forecast of employment growth by land use type in Fossil, Mitchell, and Spray from 2019 to 2039.

- Fossil’s employment base was 264 employees in 2019. The forecast shows that by 2039, Fossil will have 322 employees, an increase of 58 jobs over the planning period.
- Mitchell’s employment base was 55 employees in 2019. The forecast shows that by 2039, Mitchell will have 67 employees, an increase of 12 jobs over the planning period.
- Spray’s employment base was 48 employees in 2019. The forecast shows that by 2039, Spray will have 59 employees, an increase of 12 jobs over the planning period.

Exhibit 2. Forecast of employment growth by land use type, Fossil, Mitchell, and Spray UGBs, 2019–2039

Land Use Type	2019		2039		Change 2019 to 2039
	Employment	% of Total	Employment	% of Total	
Fossil UGB					
Private Employment	202	76%	251	78%	49
Government	62	24%	71	22%	9
<i>Total</i>	264	100%	322	100%	58
Mitchell UGB					
Total Employment	55	100%	67	100%	12
<i>Total</i>	55	100%	67	100%	12
Spray UGB					
Private Employment	21	45%	30	50%	9
Government	27	55%	30	50%	3
<i>Total</i>	48	100%	59	100%	12

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.

How much land will be required for employment?

The forecasts for land needed to accommodate employment growth in each city are as follows:

- In Fossil, the forecast of growth of 58 new employees will result in demand for about 6 gross acres of vacant employment land.
- In Mitchell, the forecast of growth of 12 new employees will result in demand for about 1 gross acre of vacant employment land.
- In Spray, the forecast of growth of 12 new employees will result in demand for about 1 gross acre of vacant employment land.

Do Fossil, Mitchell, and Spray have enough land to accommodate employment growth?

Exhibit 3 compares the supply of suitable employment land with the demand for employment land in the Fossil, Mitchell, and Spray UGBs.

Exhibit 3. Comparison of the Capacity of Unconstrained Vacant Land with Employment Land Demand by Land Use Type, Fossil, Mitchell, and Spray UGBs, 2019–2039

Land Use Type	Land Supply (Suitable Gross Acres)	Land Demand (Gross Acres)	Land Sufficiency (Deficit)
Fossil UGB			
Commercial and Industrial	5	6	(1)
Farm	10	-	10
<i>Total</i>	5	6	8
Mitchell UGB			
Commercial and Industrial	0	1	(1)
Farm	46	-	46
<i>Total</i>	0	1	45
Spray UGB			
Commercial and Industrial	5	1	4
<i>Total</i>	5	1	4

Source: ECONorthwest

What types of business do the cities in Wheeler County want to attract?

The characteristics of Wheeler County will affect the types of businesses most likely to locate in the city. Wheeler County’s attributes that may attract firms are: Wheeler County’s access to land and resources; recreational opportunities; and quality of life.

The target industries identified as having potential for growth in the cities in Wheeler County are:

- **Natural resources manufacturing.** Wheeler County has opportunity for growth in natural resource industries, including wood products manufacturing. Specifically, the removal of juniper trees from natural areas in Eastern Oregon is increasingly important to maintain the landscape and ecosystem. Juniper mills in Wheeler County buy juniper from landowners and process the juniper for lumber and other wood products. Opportunities for growth in the juniper industry include businesses to transport lumber and supplies for removing and processing juniper. Another potential use for juniper may be biomass production.
- **Agriculture.** Wheeler County and its communities have opportunities for growth from agricultural products, such as beef from ranching or processing agricultural products grown locally. Limitations on water (and wastewater effluent) will limit water-intensive agricultural product processing.

- **Services for visitors.** Wheeler County is a destination for visitors to explore the natural beauty of the Painted Hills; learn about the geologic history of Oregon at the Paleo Lands Center; attend events such as the Bluegrass Festival or Wheeler County and Spray Rodeos; and bike, fish, hunt or camp along the John Day River. To help expand tourism and recreation opportunities along the John Day River, communities in Wheeler County participated in Travel Oregon’s Rural Tourism Studio for the John Day River Territory in 2011. Continued implementation of this work will create more opportunities for recreation and coordinated tourism efforts along the John Day River in Wheeler County. Fossil, Mitchell, and Spray lack adequate accommodations for visitors. This presents an opportunity for RV parks and hotels, such as a National Service Park lodge near the Painted Hills at the John Day Fossil Beds National Monument. Other services for visitors, such as restaurants or specialty retail, are also opportunities, especially if tourism continues to grow.
- **Services for residents.** As Wheeler County’s population grows, demand for services for residents will grow. These services include retail, restaurants, personal services (like hairdressers), financial services, medical services, and other services. Additionally, the demand for child care services will increase to meet the need for families in Wheeler County. These types of services present opportunities for entrepreneurship and microenterprise development in Wheeler County and its cities.
- **Housing for seniors.** Housing that includes services for seniors (i.e., medical services or housekeeping services) may be important to support Wheeler County’s aging population. An aging population in Wheeler County will also increase the need for in-home caregivers, presenting another opportunity for entrepreneurs and microenterprise development.

What are the recommendations to support economic development in Wheeler County?

The following are recommendations that apply to Wheeler County and the three cities for actions that can be taken together:

- **Identify opportunities to diversify Wheeler County’s economic base.** Diversifying Wheeler County’s economy will require coordinating economic development efforts with the county and cities, as well as with local and regional economic development organizations listed below. We make this recommendation to the county and cities to work together on this issue because it is going to take resources (staff and financial resources) that could be pooled together among the county and cities. The County and cities should consider the following actions:
 - *Identify champions for economic development.* Pursuing economic development will require champions for economic development. They could be led by a county-wide economic development specialist, but each city will also need champions to move forward and create support for economic development efforts. The champions could be an elected or appointed official or city staff.
 - *Develop an Economic Development Strategy.* Diversifying Wheeler County’s economic base will require deliberate effort (led by the economic development champions) and would benefit with developing an Economic Development Strategy. The strategy should focus on specific and achievable actions that the county and cities can take within the next five years (some of which are suggested in this report) and should have broader focus than land use, considering issues such as workforce development and collaborating with businesses to support business growth. The Strategy should have actions that address county-wide issues as well as actions for each community. Coordinating actions in the local strategy with GEODC’s five-year Comprehensive Economic Development Strategy (CEDS) can help to identify funding and partnerships for infrastructure, workforce development, resources for businesses, and other economic development needs in the County.

- *Coordinate and market opportunities for growth in Wheeler County.* A key part of the economic development strategy will be coordinating local economic development champions and stakeholders with regional and state partners on economic development, including GEODC, Business Oregon, the Department of Land Conservation and Development (DLCD), and other State agencies that are part of the Greater Eastern Oregon and North Central Regional Solutions Team. For example, the cities should work with Business Oregon to ensure that vacant commercial and industrial sites (for sale or lease) are listed on the Oregon Prospector website and that Business Oregon staff are aware of key development opportunities in the cities.

Other partnership examples include working with Business Oregon and the Wheeler County Chamber of Commerce on recruitment and retention efforts or with the Oregon Paleo Lands Institute and National Park Service on attracting visitors to recreation areas.

- **Identify actions to grow tourism and attract visitors to Wheeler County throughout the year.** Tourism in Wheeler County is focused in the late spring through early fall. Growing Wheeler County's economy will include increasing tourism across the year. The easiest times to increase tourism may be in the "shoulder" seasons in the mid-spring and mid-fall. Increasing tourism in the "shoulder" seasons will require giving visitors a reason to come to Wheeler County when they normally would not. Wheeler County can continue to build on work completed for Travel Oregon's rural tourism studio for the John Day River Territory for ideas and actions to grow tourism across the county. The Oregon Paleo Lands Institute and National Park Service will also continue to be key partners in tourism and recreation in Wheeler County. The development of a lodge as part of the John Day Fossil Bed National Monument could draw more visitors to the area.
- **Address workforce issues.** A key challenge for businesses in Wheeler County is attracting reliable and sober workers. One approach to addressing this issue is teaching life skills to young people at the high school or post-high school training offered by a nonprofit organization. In addition, businesses in Wheeler County will need workers who are semi-skilled and skilled. Trade skills and other training is offered by community colleges. Wheeler County is not fully served by a community college and may not have the capacity for teaching life skills. Making these types of training available and easily accessible in the County will require substantial and continuous effort. The County should also work to ensure that these opportunities are made available to all community members, including culturally specific services to historically underrepresented community members such as Native American and Spanish speaking community members. The County and cities can work together to identify champions of these efforts, working with the school district and tapping resources from across Central and Eastern Oregon.

Providing education in schools related to life skills in Wheeler County can also lead to more entrepreneurial ventures and development of microenterprises, including those related to services for residents and visitors (e.g., restaurants, grocery stores, etc.). Providing resources for entrepreneurs that help fill skill gaps related to running a business can help more entrepreneurs succeed. While some resources are available at the regional or state level, entrepreneurs need “on-site” support in the local area, as they have little time to travel for business support services.

Other factors in attracting the needed workforce in Wheeler County are access to adequate workforce housing and ensuring quality child care is available. The County and cities should work with development partners to plan for housing that is affordable at all income levels, specifically focused on incomes of workers in Wheeler County. The County and cities may have opportunities to support development of child care facilities.

The conclusions and recommendations about commercial and industrial land sufficiency for Fossil are:

- **Fossil is expected to add new commercial and industrial employment.** Fossil is planning for growth of 49 new private sector jobs for commercial and industrial uses over the 2019 to 2039 period. Growth of these jobs will result in demand for about 6 gross acres of commercial and industrial land.
- **Fossil does not have enough vacant unconstrained land in commercial and industrial designations to meet the City’s forecast for growth.** Meeting the City’s forecast for growth will require one or more of the following:
 - *Intensifying the uses in existing buildings, either filling vacant spaces in buildings or adding more employment to buildings.* This option is the most likely way to accommodate future growth if there is underutilized commercial space in town.
 - *Redeveloping one or more sites with existing uses where the site is currently underutilized.* This option may be a good option for accommodating future growth if there is a landowner who wants to redevelop their site. This option may work best for commercial uses, especially for sites along the highway.
 - *Redesignating land from Farm to Commercial or Industrial.* This option may be the best option for accommodating new industrial businesses, if there is a landowner who wants to redesignate a portion of their land in the Farm Designation, where there it is relatively easy to connect the site to the city’s transportation, water, and wastewater systems.
 - *An urban growth boundary expansion.* This is the most complicated approach to meeting the City’s commercial and industrial land needs. To do an urban growth boundary expansion, the City would need to conduct an evaluation of land use efficiency measures to determine whether the land deficit can be met through more efficient use of existing sites and underutilized land. In addition, the City may be required to redesignate the land in the Farm designation to another urban designation (such as housing) to demonstrate that it is not available for commercial or industrial development.
- **Update the Economy Element of the Comprehensive Plan.** The Economy Element has not been updated in more than a decade. We recommend that the City Council review the existing policies and, after making additional necessary revisions to the policies, adopt revised goals, objectives, and implementation strategies into the Economy Element.

- **Identify opportunities for infill development or redevelopment.** Fossil’s downtown area is generally built out, with no vacant land. Fossil may have opportunities for infill and redevelopment in downtown. Redevelopment could involve substantial renovation or change of use of existing buildings or demolition of existing buildings and building of newer, more productive buildings. Infill development may be expansion of existing buildings or building new buildings adjacent to existing buildings. In both cases, new development that increases capacity for business activity is an opportunity.

In the near-term Fossil city staff should identify opportunities for near-term development and infill. After identifying a specific area (or areas) of near-term focus, representatives from DLCD and Regional Solutions can assist in creating an implementation plan for needed infrastructure and other improvements for these specific areas. The primary barrier to any redevelopment plan is the willingness of landowners to redevelop their property.

- **Extension of water and sewer service to vacant land.** Much of the vacant land in Fossil is not serviced with water and sewer pipes. Generally, extension of water and sewer pipes lack infrastructure (including water, wastewater, and transportation) to service industrial land, and is a barrier to development of industrial land and can be a barrier to development of commercial land. The City will need to work with landowners and developers to develop infrastructure to serve key industrial sites. The City should apply for State grants to address these infrastructure deficiencies.
- **Most new businesses will be relatively small and will require small sites.** Fossil’s businesses are generally small, averaging about 6 employees per business. Businesses with 9 or fewer employees account for 51% of private employment. Growth of small businesses presents key opportunities for economic growth in Fossil. Fossil has about 4 commercial or industrial sites smaller than 1 acre and 2 sites between 1 and 5 acres. In addition, Fossil has 3 sites on land with a Farm designation, one of which is 8 acres in size.
- **Monitor and replenish the supply of commercial and industrial land on a regular basis.** The buildable lands inventory identifies the existing development status of employment land in Fossil. While Fossil will not completely update the buildable lands inventory on an annual basis, City staff should still monitor the development status of these employment lands and replenish the supply of land ready for development, as possible.
- **Support entrepreneurial and small business development.** Cities can provide support by allowing home occupations or working closely with small businesses to ensure they have the help they need through the planning process. The cities could identify opportunities to more directly support small businesses, through working with partners to provide shared workspace (such as a small amount of office space at a public building). Ensuring that internet connections are reliable and have sufficient communication speeds to allow businesses to operate remotely across the internet. More broadly, Fossil can coordinate with the County and other regional or state partners to establish small business development centers to connect entrepreneurs and small business owners with needed services, resources, and other business assistance.

The conclusions and recommendations about commercial and industrial land sufficiency for Mitchell are:

- **Mitchell is expected to add new commercial and industrial employment.** Mitchell is planning for growth of 12 new private sector jobs for commercial and industrial uses over the 2019 to 2039 period. Growth of these jobs will result in demand for about 1.4 gross acres of commercial and industrial land.
- **Mitchell does not have enough vacant unconstrained land in commercial and industrial designations to meet the City’s forecast for growth.** Meeting the City’s forecast for growth will require one or more of the following:
 - *Intensifying the uses in existing buildings, either filling vacant spaces in buildings or adding more employment to buildings.* This option is the most likely way to accommodate future growth, if there is underutilized commercial space in town.
 - *Redeveloping one or more sites with existing uses where the site is currently underutilized.* This option may be a good option for accommodating future growth if there is a landowner who wants to redevelop their site. This option may work best for commercial sites along the highway.
 - *Redesignating land from Farm to Commercial or Industrial.* Given the location of land with a Farm designation in Mitchell, away from Highway 26 and on the hillside, this may be the least attractive option for accommodating growth for Mitchell.
 - *An urban growth boundary expansion.* This is the most complicated approach to meeting the City’s commercial and industrial land needs. To do an urban growth boundary expansion, the City would need to conduct an evaluation of land use efficiency measures to determine whether the land deficit can be met through more efficient use of existing sites and underutilized land. In addition, the City may be required to redesignate the land in the Farm designation to another urban designation (such as housing) to demonstrate that it is not available for commercial or industrial development.
- **Update the Economy Element of the Comprehensive Plan.** The Economy Element has not been updated in more than a decade. We recommend that the City Council review the existing policies and, after making additional necessary revisions to the policies, adopt revised goals, objectives, and implementation strategies into the Economy Element.

- **Identify opportunities for infill development or redevelopment.** The commercial area along Highway 26 is generally built out, with no vacant land. Mitchell may have opportunities for infill and redevelopment along this commercial area. Redevelopment could involve substantial renovation or change of use of existing buildings or demolition of existing buildings and building of newer, more productive buildings. Infill development may be expansion of existing buildings or building new buildings adjacent to existing buildings. In both cases, new development that increases capacity for business activity is an opportunity.

In the near-term Mitchell city staff should identify opportunities for near-term development and infill. After identifying a specific area (or areas) of near-term focus, representatives from DLCD and Regional Solutions can assist in creating an implementation plan for needed infrastructure and other improvements for these specific areas. The primary barrier to any redevelopment plan is the willingness of landowners to redevelop their property.

- **Most new businesses will be relatively small and will require small sites.** Mitchell's businesses are generally small, averaging about 6 employees per business. Growth of small businesses presents key opportunities for economic growth in Mitchell. However, Mitchell has no vacant commercial or industrial sites.
- **Need for water and wastewater system maintenance and upgrades.** One of Mitchell's largest barriers to economic development is the capacity and condition of the City's water system and the lack of a wastewater system. The City's water system needs substantial upgrades to the sources of water, the storage systems, and the water pipes. There is no municipal wastewater or sewer system. The City should apply for State and other grants for upgrades and other planning work necessary to upgrade these systems.
- **Support development of communication infrastructure.** Mitchell has limited cell phone and internet connections. The lack of communication infrastructure is a significant barrier to business growth in Mitchell. The City should support development of new communication infrastructure, ensuring there is reliable and faster internet connections. The State may have grants to support development of broadband internet in rural areas.
- **Support entrepreneurial and small business development.** Cities can provide support by allowing home occupations or working closely with small businesses to ensure they have the help they need through the planning process. The cities could identify opportunities to more directly support small businesses, through working with partners to provide shared workspace (such as a small amount of office space at a public building). Ensuring that internet connections are reliable and have sufficient communication speeds will allow businesses to operate remotely across the internet. More broadly, Mitchell can coordinate with the County and other regional or state partners to establish small business development centers to connect entrepreneurs and small business owners with needed services, resources, and other business assistance.

The conclusions and recommendations about commercial and industrial land sufficiency for Spray are:

- **Spray is expected to add new commercial and industrial employment.** Spray is planning for growth of 9 new private sector jobs for commercial and industrial uses over the 2019 to 2039 period. Growth of these jobs will result in demand for about one gross acres of commercial and industrial land.
- **Spray has limited opportunities for development of commercial uses.** Spray has five vacant unconstrained acres of land zoned Commercial/Residential. While this amount of land is sufficient to meet the needs of expected growth, there is little selection of sites for new development.
- **Update the Economy Element of the Comprehensive Plan.** The Economy Element has not been updated in more than a decade. We recommend that the City Council review the existing policies and, after making additional necessary revisions to the policies, adopt revised goals, objectives, and implementation strategies into the Economy Element.
- **Identify opportunities for infill development or redevelopment.** The commercial area along Highway 19 is generally built out, with little vacant land. Spray may have opportunities for infill and redevelopment along this commercial area, especially in recently vacated buildings where businesses recently closed. Redevelopment could involve substantial renovation or change of use of existing buildings or demolition of existing buildings and building of newer, more productive buildings. Infill development may be expansion of existing buildings or building new buildings adjacent to existing buildings. In both cases, new development that increases capacity for business activity is an opportunity. In the near-term Spray city staff should identify opportunities for near-term development and infill. After identifying a specific area (or areas) of near-term focus, representatives from DLCD and Regional Solutions can assist in creating an implementation plan for needed infrastructure and other improvements for these specific areas. The primary barrier to any redevelopment plan is the willingness of landowners to redevelop their property.
- **Most new businesses will be small and will require small sites.** Spray's businesses are generally small, averaging about 2 employees per business. Growth of small businesses presents key opportunities for economic growth in Spray.
- **Support development of internet service.** Spray has limited internet service. The lack of communication infrastructure is a significant barrier to business growth in Spray. The City should support development of new communication infrastructure, ensuring there is reliable and faster internet connections. The State may have grants to support development of broadband internet in rural areas.

- **Support entrepreneurial and microenterprise development.** Cities can provide support by allowing home occupations or working closely with small businesses to ensure they have the help they need through the planning process. The cities could identify opportunities to more directly support small businesses through working with partners to provide shared workspace (such as a small amount of office space at a public building). Ensuring that internet connections are reliable and have sufficient communication speeds to allow businesses to operate remotely across the internet. More broadly, Spray can coordinate with the County and other regional or state partners to establish microenterprise development centers to connect entrepreneurs and small business owners with needed services, resources, and other business assistance.

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1. Introduction

Wheeler County, the City of Fossil, the City of Mitchell, and the City of Spray collaborated to develop a regional Economic Opportunities Analysis (EOA). The purpose of the EOA is to provide information that will be both useful in economic development and will provide a basis for updating Fossil's, Mitchell's, and Spray's Comprehensive Plans' Economic Element. The geographic focus of the EOAs is the Fossil Urban Growth Boundary, the Mitchell Urban Growth Boundary, and the Spray Urban Growth Boundary (UGB). The EOA also considers economic development opportunities in unincorporated Wheeler County but does not present an EOA for unincorporated areas of the County.

The EOA provides information about economic trends affecting Wheeler County and the cities, forecasts growth and land needs for employment within Fossil, Mitchell, and Spray, inventories buildable commercial and industrial land within Fossil, Mitchell, and Spray, and describes the economic development potential in the cities. The focus of the EOA is employment growth and land use planning within the Fossil, Mitchell, and Spray UGBs. The EOA provides additional information that may be useful for broader economic development planning across the County.

The EOA was funded through a grant with the Oregon Department of Land Conservation and Development (DLCD). The State contracted with ECONorthwest to develop the EOA by working directly with staff, decisionmakers, and stakeholders in Wheeler County.

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. Goal 9 requires cities to state objectives for economic development (OAR 660-009-0020(1)(a)) and to identify the characteristics of sites needed to accommodate industrial and other employment uses (OAR 660-009-0025(1)) over the 20-year planning period. This approach could be characterized as a *site-based* approach that projects land need based on the forecast for employment growth, the communities' economic development objectives, and the specific needs of target industries.

Background

Wheeler County last evaluated economic trends as part of the Comprehensive Economic Development Strategy (CEDS) update for the Greater Eastern Oregon Development Corporation (GEODC) in 2014. While a CEDS provides a basis for a regional economic development strategy, it does not provide a detailed analysis of economic opportunities and commercial and industrial land conditions for Fossil, Mitchell, and Spray. The cities have not updated the Economic Element of their Comprehensive Plans since adoption in the 1980s.

The cities and Wheeler County are evaluating opportunities for economic growth while dealing with modest or no population growth. Wheeler County has the smallest population of any Oregon County (1,480 people in 2017). Wheeler County's population decreased by about 67

people since 2000. Fossil is Wheeler County's largest city (at 475 people in 2017), while Spray has 160 people and Mitchell has 140 people.

In addition, Wheeler County is relatively isolated from more populous areas. Mitchell is 55 miles from Prineville and Fossil is 65 miles from Madras. Wheeler County is served by Highway 19 and Highway 26. All of these factors make economic development challenging.

The purpose of this project was to present this specific information about the communities with the intention of developing a factual base to provide the County and its cities with information about current economic conditions. This report provides information necessary for updating each city's economic development Comprehensive Plan policies. This report identifies opportunities to meet the cities' economic development objectives and develop Comprehensive Plan policies and implementation strategies that capitalize on the cities' comparative advantages and address areas of economic weakness.

The EOA provides information that the County and the cities can use to identify and capitalize on its economic opportunities. It also provides information essential to addressing the cities' 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 recent report:

- *GEODC Comprehensive Economic Development Strategy, 2014-2019*

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 Wheeler County, Fossil, Mitchell, and Spray, as well as the County's and cities' competitive advantages for economic development.
- **Chapter 3. Employment Growth and Site Needs** presents a forecast for employment growth in Fossil, Mitchell, and Spray and describes the cities' target industries and site needs for potential growth in industries.
- **Chapter 4. Buildable Lands Inventory** presents a summary of the inventory of employment lands in the Fossil, Mitchell, and Spray UGBs.
- **Chapter 5. Land Sufficiency and Conclusions** compares the supply of and demand for buildable lands and presents key concluding recommendations for Wheeler County, Fossil, Mitchell, and Spray.

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

Wheeler County and its cities, Fossil, Mitchell, and Spray exist as part of the economy of Eastern Oregon. Fossil, Mitchell, and Spray are the economic center of Wheeler County, providing urban amenities (such as stores, medical services, or personal financial services) to the residents of the cities and outlying rural areas. The economic focus of the County is in natural resources, retail trade, and other service sectors. In 2014, the Greater Eastern Oregon Development Corporation completed a Comprehensive Economic Development Strategy (CEDS), which highlighted the strengths in Wheeler County’s natural resource and agricultural industries.¹

This chapter describes the factors affecting economic growth in Fossil, Mitchell, Spray, and Wheeler County, within the context of national and regional economic trends. The analysis presents the County’s and each City’s competitive advantages for growing and attracting businesses, which forms the basis for identifying potential growth industries in Wheeler County.

Factors that Affect Economic Development²

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.”³

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:

¹ *Comprehensive Economic Development Strategy 2014-2019*. Greater Eastern Oregon Development Corporation. 2014.

² 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.

³ *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.

- Business and job growth are contributors to and consistent with economic development, increased income, and increased economic welfare. From the municipal point of view, 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.⁴ 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.

⁴ According to the 2018 Small Business Profile from the U.S. 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>

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 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.⁵ Entrepreneurs also tend to have more mobility than larger firms, and are more likely to locate in areas with a strong entrepreneurial environment.⁶ 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.

⁵ 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

⁶ 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 the 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 straightforward 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.⁷ 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 of different locational factors. They have used statistical models, surveys, and case studies to examine detailed data on the key factors that enter 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.

⁷ 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.⁸

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 Wheeler County, the provision of buildable land has the potential to strongly influence the level and type of economic development in Fossil, Mitchell, and Spray. The provision of buildable land is one of the most direct ways that Fossil, Mitchell, and Spray can affect the level and type of economic development in the community.

⁸ 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 Wheeler County

This section presents a summary and the implications of national, state, and regional economic trends on economic growth in Wheeler County, which are presented in Appendix A.

- **Mixed recovery from the national recession.** Incomes in Wheeler County were below statewide averages and employment growth was flat, while population decreased since the early 2000s. However, the unemployment rate in Wheeler County declined since the recession and was slightly lower than Oregon's in 2017.
 - Wheeler County's household income is lower than the State average, and Fossil, Mitchell, and Spray's household incomes are lower than the County average of \$53,270. In the 2012-2016 period, Fossil's median household income was \$30,921, Mitchell's was \$29,250, and Spray's was \$30,417.
 - The unemployment rate in Wheeler County declined since the recession, consistent with patterns in Oregon and the U.S. Unemployment rates for 2017 in Wheeler County, across Oregon and the nation, are below their respective 2000 rates, and the Wheeler County rate has been slightly lower than Oregon and the U.S. since 2010. In 2017, the unemployment rate in Wheeler County was about 3.9%, higher than Oregon's rate of 4.1%, and the national rate of 4.4%.
 - Employment remained almost constant in Wheeler since 2001, with a gain of about 3 employees between 2001 and 2017. The largest decreases were in leisure and hospitality and government sectors. Employment in natural resources and mining, as well as education and health services, increased by about 18 and 46 employees, respectively.
- **Growth in natural resources and service-sector businesses.** Employment in natural resources and mining increased in Wheeler County between 2001 and 2017 by about 18 employees. Service-sector industries, such as education and health services and retail trade, also increased by about 46 and 20 employees, respectively, in Wheeler County. An increase in health care employment may be related to the increase in the population of the County over the age of 60 as they often require increased medical care.
- **Aging of the population and need for replacement workers.** The population in Wheeler County, including in the cities, is generally older than the statewide average. The median age in Wheeler County increased from 48 in 2000 to 59 in the 2012-2016 period. Fossil's median age has increased by about 10.9 years since 2000, Mitchell's by 22.3 years, Spray's by 8.5 years, and Wheeler County's by 11.1 years. These increases suggest Wheeler County and its cities are attracting more workers in their later adult lives and more people over 65 years of age. In comparison, Oregon's median age was 36.3 in 2000, and increased to 39.1 by the 2012-2016 period.

Wheeler County's population is expected to continue to age, with people 60 years and older increasing from 42% of the population in 2016 to 44% of the population in 2035. This is consistent with Statewide trends. Fossil, Mitchell, Spray, and the County may continue to attract mid-life and older workers over the planning period. While the share of retirees in these respective areas may increase over the next 20 years, availability of people nearing retirement (e.g., 55 to 70 years old) is likely to increase. People in this age group may provide sources of skilled labor, as people continue to work until later in life. These skilled workers may provide opportunities to support business growth in these areas. The need for in-home care will also increase with an aging population. This presents opportunities for small businesses in Wheeler County related to healthcare and caregiving services.

- **Increases in racial and ethnic diversity.** Overall, the nation and Oregon are becoming more racially and ethnically diverse. Between 2000 and 2012-2016, the Hispanic and Latino population in Oregon increased from 8% to 12%, while it decreased in Wheeler County from 5% to 2%. The nonwhite population in Oregon increased from 13% to 15% and decreased in Wheeler County from 7% to 4%. While Wheeler County is less ethnically and racially diverse than the State, providing culturally specific services to Native American and Spanish-speaking community members can help improve their participation in the workforce and economy.
- **Availability of trained and skilled labor.** Availability of labor depends, in part, on population growth and in-migration. Wheeler County's population decreased by 67 people between 2000 and 2017, at an average annual growth rate of -0.3%. Most of the decrease in population occurred between 2000 to 2010, with a net out-migration of 13 people. In comparison, Oregon's population grew at an average annual growth rate of 1.1% between 2000 and 2017, with 66% of the population coming from in-migration.

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, including employed and unemployed workers. Children, retirees, students, and people who are not actively seeking work are not considered part of the labor force. According to the 2012-2016 American Community Survey, Wheeler County had more than 580 people in its labor force during that period. Fossil had more than 180 people in its labor force, and Mitchell and Spray had more than 40 people in their respective labor forces. The participate rates in Fossil (48%), Mitchell (47%), Spray (29%), and Wheeler County (47%) were all lower than Oregon (62%) in the 2012-2016 period. Non-participants in the labor force (the 53% people not participating in Wheeler County'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.

Commuting and educational attainment also play important roles in availability of labor. Businesses in Fossil, Mitchell, and Spray draw employees from across Wheeler County as well as Deschutes, Gilliam, Lane, and Grant Counties. Relative to Oregon, Wheeler County residents have a similar level of population with some college or Associate degree educational attainment, though County residents tend to have lower levels of Bachelor or professional degree attainment relative to the State.

The issue for finding workers in Wheeler County is less about whether workers are well enough educated or have the necessary skills but lacking the “soft skills” that businesses need for a dependable and productive workforce, such as being reliable and sober. This is a common issue across Oregon but is an especially acute problem in rural areas.

Another common issue for availability of workers is the lack of reliable childcare services. Workers may be unable to accept a position based on availability of childcare.

- **Importance of small businesses in Oregon’s economy.** Small business, with 100 or fewer employees, account for 66% of private-sector employment in Oregon. Workers of small businesses typically have had lower wages than the state average.

The average size for a private business in Wheeler County is 4 employees per business, compared to the State average of 11 employees per private business. Businesses with 50 or fewer employees account for roughly 88% of private employment in Wheeler County. Businesses with 20 or fewer employees account for 55% of private employment. Growth of small businesses presents key opportunities for economic growth in Wheeler County.

Furthermore, development of new businesses in Wheeler County will likely form out of entrepreneurs and microenterprises (businesses with less than 10 employees). These businesses could be part of industries such as wood products related to the juniper industry or services for visitors or residents, such as child care.

- **Importance of high-quality natural resources.** Natural resource industries in Wheeler County have been, and continue to be, a large part of the Eastern Oregon economy. According to the U.S. Census of Agriculture, in 2012, Wheeler County’s largest commodity in sales was cattle and calves. The average size of farms in Oregon was 460 acres in 2012, while the average size in Wheeler County was 4,242 acres. The average economic output of farms in Wheeler County was \$22,954 per farm in 2012 and the most common agricultural products were hay and cattle.⁹ The age of farm owners is also a factor in changing agricultural industries. The average age of a principal farm operator in Wheeler County was 62 years old in 2012, while the average age in Oregon in 2012 was slightly lower at 60 years old. Retirement of farmers may create a future barrier to economic growth in the County, if farming decreases because there are no replacements for retiring farmers.

⁹ “Average economic output” is the “Net cash farm income per farm.” U.S. Department of Agriculture. Census of Agriculture, 2012.

The removal of invasive juniper trees throughout Wheeler County has led to the creation of businesses that process juniper for reuse as lumber or other wood products. The Rural Development Initiative (RDI) administered grant programs for both landowners who remove juniper from their properties, as well as assistance for entrepreneurs to create and grow businesses related to the juniper industry. RDI continues to explore options to assist those involved in the juniper industry and potential related businesses that could locate in Wheeler County.

Another type of natural resource in Wheeler County is the natural environment and surrounding beauty of the high desert. Most notably Wheeler County has important geological features, such as the Painted Hills and parts of the John Day Fossil Beds, that attract visitors to the County. These natural resources are key to attracting tourism to the County.

- **Increases in energy prices.** In the long-term, energy prices are expected to increase, despite recent lower energy costs in 2017. Over the long-term, if energy prices increase, cost of shipping freight will increase, creating an additional barrier to moving freight to and from Wheeler County. In addition, higher energy prices may affect the mode of commuting before affecting workers' willingness to commute or force changes in mode of transportation. For example, commuters may choose to purchase a more energy-efficient car or carpool.

In Wheeler County, modes for commuting are more limited than in urban areas that have access to transit, bike, and pedestrian infrastructure. Large increases in energy prices may affect workers' willingness to commute, especially workers living the furthest from Fossil, Mitchell, and Spray or workers with lower paying jobs. In addition, large increases in energy prices may make shipping freight long distances less economically feasible, resulting in a slow-down or reversal of off-shore manufacturing, especially of large, bulky goods.

Employment Trends in Wheeler County

The economy of the nation changed substantially between 1980 and 2017. These changes affected the composition of Oregon's economy, including Wheeler County's, Fossil's, Mitchell's, and Spray'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 Wheeler County since 2001. Employment in Wheeler County remained mostly consistent overall between 2001 and 2017. Employment in the natural resources sector continued to grow since 2001, along with other service-oriented sectors, such health care and retail trade. Government sectors also makes up a large share of the employment in Wheeler County. In Mitchell and Spray, most local government employment is through the school district, and in Fossil most local government employment is in County employment.

Over the past decades, employment in the U.S. has shifted from manufacturing and resource-intensive industries to service-oriented sectors of the economy. Increased worker productivity and the international outsourcing of routine tasks have led to declines in employment in the major goods-producing industries.

As Oregon also transitioned away from natural resource-based industries, the composition of Oregon's employment shifted from natural resource-based manufacturing and other industries to service industries. The share of Oregon's total employment in service industries increased from its 1970s average of 19% to 30% in 2000, while employment in Manufacturing declined from an average of 18% of total employment in the 1970s to an average of 12% in 2000.

Even with this shift, high quality natural resources are an essential part of Oregon's economy. In areas of Eastern Oregon, the "New Natural Resource Economy" (NNRE)¹⁰ emerged. NNRE includes business that specialize in habitat restoration, renewable energy, and agritourism or ecotourism.¹¹ NNRE businesses contribute to innovation and strengthening of the entrepreneurial environment in Eastern Oregon. For example, as NNRE businesses value both economic and environmental resiliency, some businesses have developed new uses for natural resources, such as native plant nurseries that also serve habitat restoration functions, or farmers' reuse of production waste from distilleries or breweries, such as spent grain.¹²

¹⁰ "Supporting Eastern Oregon's New Natural Resource Economy," University of Oregon Community Service Center, August 2017.

¹¹ "Supporting Eastern Oregon's New Natural Resource Economy Executive Summary," p. 2, University of Oregon Community Service Center, August 2017.

¹² "Supporting Eastern Oregon's New Natural Resource Economy," University of Oregon Community Service Center, August 2017.

Exhibit 4 shows covered employment¹³ in Wheeler County for 2001 and 2017. Employment increased by 3 jobs, or 1%, over this period. The sectors with the largest increases in numbers of employees were Education and Health Services, Natural Resources and Mining, and Retail Trade. The average wage for covered employment in Wheeler County in 2017 was about \$29,013.

Exhibit 4. Covered Employment by Industry, Wheeler County, 2001-2017

Sector	2001	2017	Change 2001 to 2017		
			Difference	Percent	AAGR
Natural Resources and Mining	18	36	18	100%	4.4%
Construction	6	ND	--	--	--
Manufacturing	ND	ND	--	--	--
Wholesale trade	--	ND	--	--	--
Retail trade	24	44	20	83%	3.9%
Trade, Transportation, and Utilities	4	ND	--	--	--
Information	--	--	--	--	--
Financial Activities	24	ND	--	--	--
Professional and Business Services	--	ND	--	--	--
Education and Health Services	6	52	46	767%	14.4%
Leisure and Hospitality	44	28	-16	-36%	-2.8%
Other Services	ND	5	--	--	--
Government	152	116	-36	-24%	-1.7%
Total	278	281	3	1%	0.1%

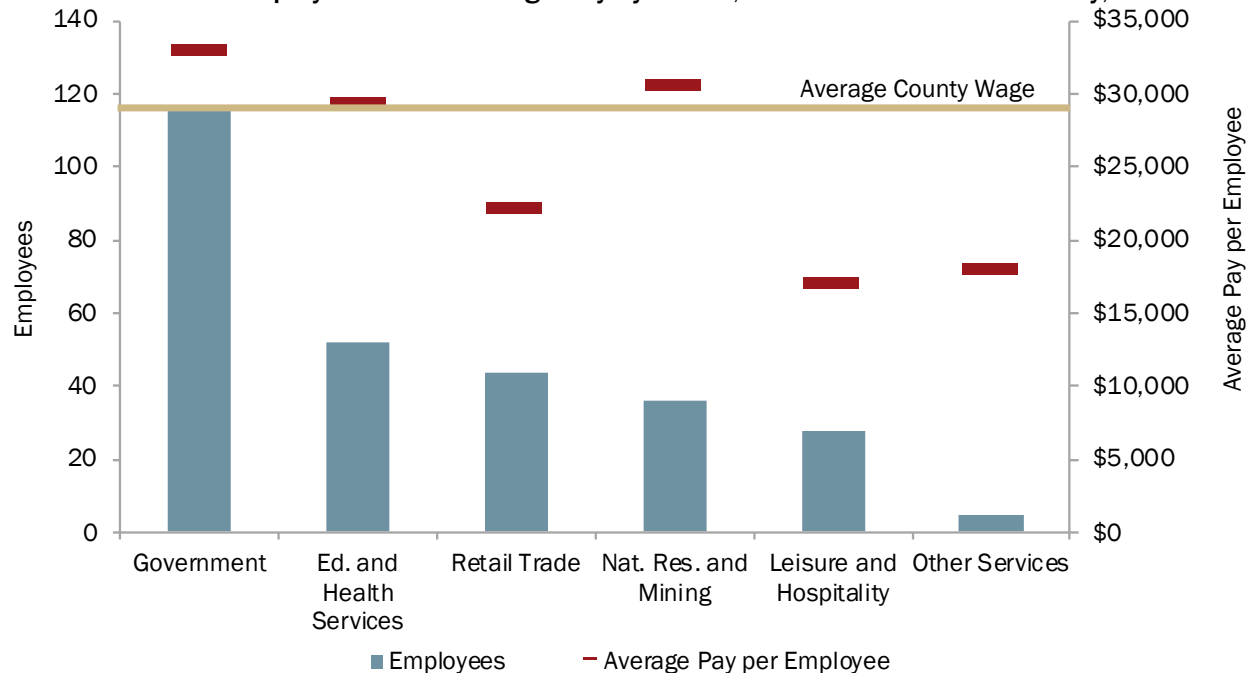
Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2001-2017.

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.

¹³ **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 5 shows covered employment and average wage in 2017 for the six industries that have data available in Wheeler County. Jobs in Government, which account for about 41% of the County’s covered employment, pay more per year than the county average (\$33,156 compared to \$29,013). Jobs in Educational and Health Services approximately pay the 2017 County average annual amount. Retail Trade, Leisure and Hospitality, and Other Services pay below the 2017 County average, while Natural Resources and Mining pays above the County average.

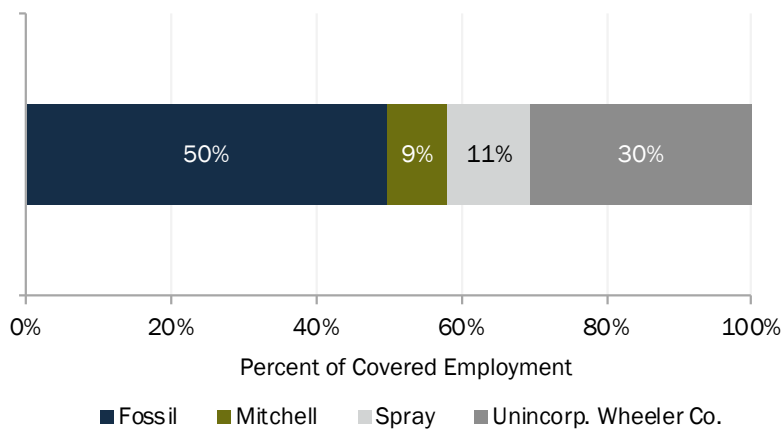
Exhibit 5. Covered Employment and Average Pay by Sector, 6 Sectors in Wheeler County, 2017



Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2017.

Exhibit 6 shows the share of covered employment in Wheeler County and its Cities—Fossil, Mitchell, and Spray in 2017. Fossil has the largest share of covered employment in Wheeler County at 50%. Spray has 11% and Mitchell has 9% of the County’s employment, and the remaining 30% is in unincorporated Wheeler County.

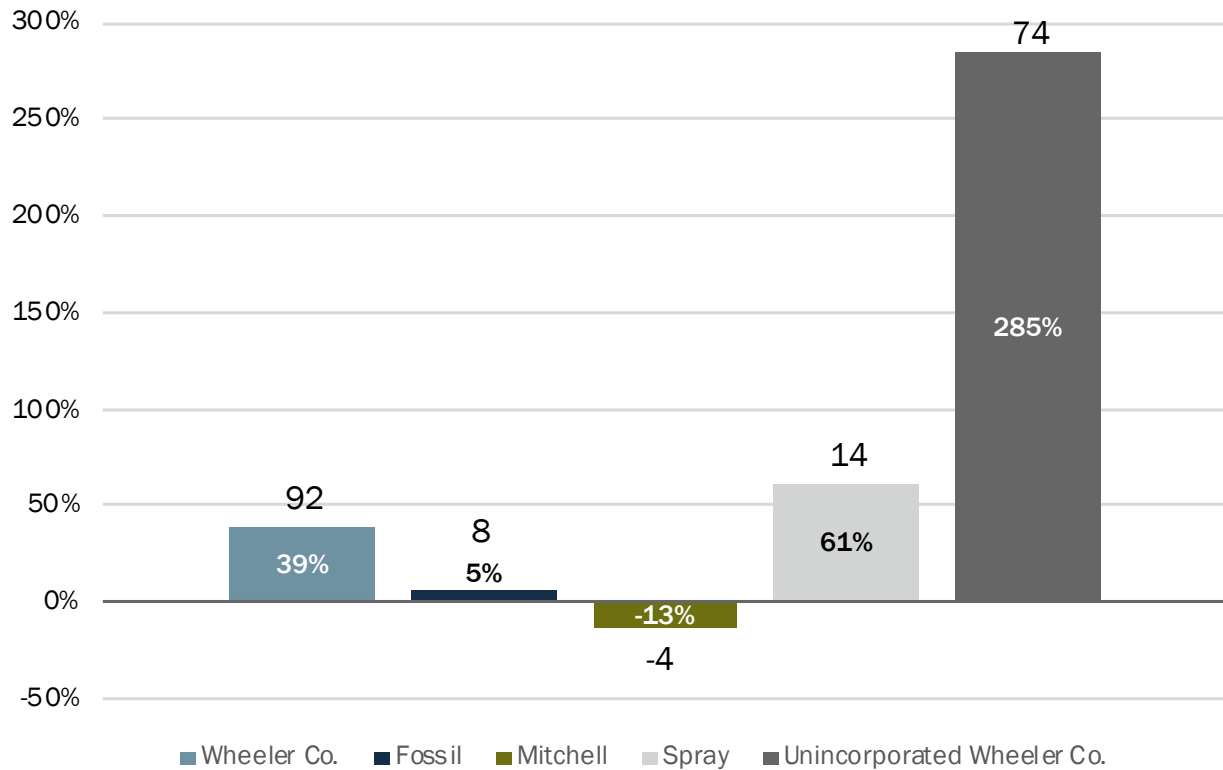
Exhibit 6. Share of Covered Employment in Wheeler County, 2017



Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2017.

Exhibit 7 shows the change in the location of covered employment in Wheeler County, Fossil, Mitchell, Spray, and unincorporated Wheeler County between 2006 and 2017. Mitchell had the largest decrease in covered employment at -13%. Employment in Fossil, Spray, and unincorporated Wheeler County increased by 5%, 61% and 285%, respectively. In Wheeler County overall, employment increased by 39% between 2006 and 2017.

Exhibit 7. Change in the Location of Covered Employment in Wheeler County, Fossil UGB, Mitchell UGB, and Spray UGB, 2006–2017



Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2017.

Exhibit 8 shows a summary of covered employment data for the City of Fossil in 2017. The sectors with the greatest number of employees were Government (37%) and Healthcare and Social Assistance (29%). These sectors accounted for 135 jobs (66%) of Fossil’s employment.

Exhibit 8. Covered Employment and Average Pay by Sector, Fossil UGB, 2017¹⁴

Sector/Industry	Establishments	Employees	Payroll	Average Pay / Employee
Retail Trade	5	28	\$ 573,011	\$ 20,465
Healthcare and Social Assistance	4	47	\$ 1,432,239	\$ 30,473
All Other Private Employment	9	28	\$ 815,155	\$ 29,113
Government	8	60	\$ 2,499,585	\$ 41,660
Total	26	163	5,319,990	\$ 32,638

Source: Oregon Employment Department, Quarterly Census of Employment and Wages, 2017.

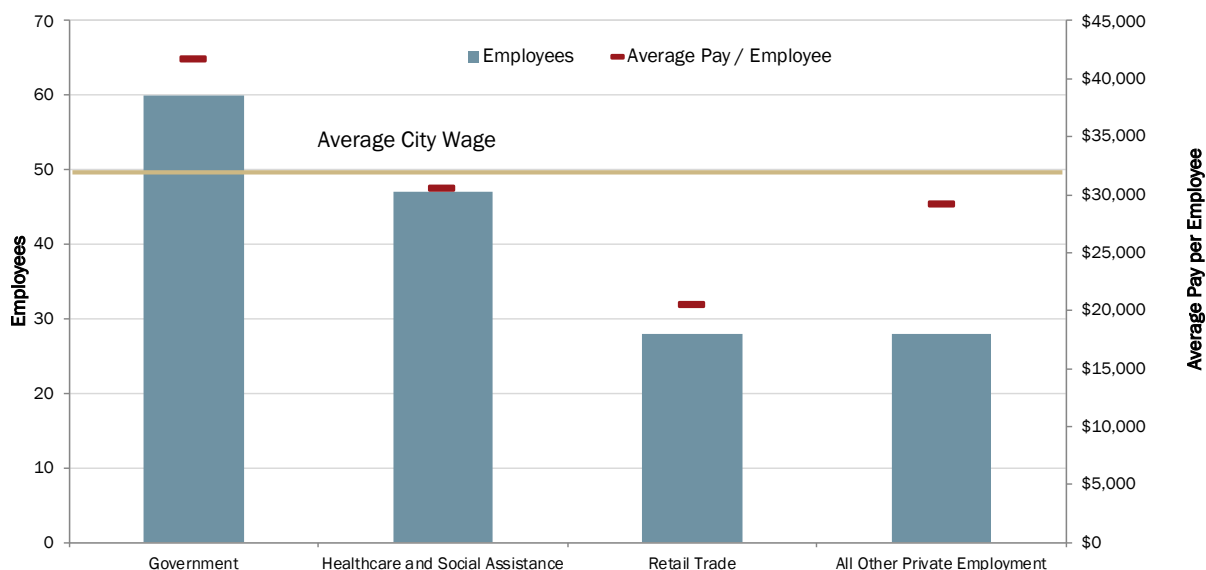
The average size for a private business in Fossil is 6 employees per business, compared to the State average of 11 employees per private business. There are no business with 50 or more employees in Fossil. Businesses with 9 or fewer employees account for 51% of private employment and 4 or fewer account for 17% of private employment.

¹⁴ The following sectors were combined due to confidentiality of QCEW data: Manufacturing, Wholesale Trade, Finance and Insurance, Arts, Entertainment, and Recreation, Accommodation and Food Services, and Other Services (except Public Administration).

Exhibit 9 shows the employment and average pay per employee for selected industrial sectors in Fossil. Average pay for all employees (\$32,638) is shown as a light brown line across the graph and average pay for individual sectors as short red lines. The figure shows that Government jobs in Fossil have above average wages. The lowest wages are in Retail Trade.

Between 2006 and 2017 employment in Fossil essentially remained the same, increasing by 8 employees.

Exhibit 9. Covered Employment and Average Pay by Sector, Fossil UGB, 2017¹⁵



Source: Oregon Employment Department, Quarterly Census of Employment and Wages, 2017.

Exhibit 10 shows a summary of covered employment data for the City of Mitchell in 2017. Mitchell had 28 employees in 2017. The school district accounted for most of the employment in local government. Between 2006 and 2017 employment in Mitchell remained stable, decreasing by 4 employees.

Exhibit 10. Covered Employment and Average Pay, Mitchell UGB, 2017¹⁶

Sector/Industry	Establishments	Employees	Payroll	Average Pay / Employee
Total	5	28	\$ 796,557	\$ 28,448

Source: Oregon Employment Department, Quarterly Census of Employment and Wages, 2017.

¹⁵ The following sectors are combined in the chart: “All Other Private Employment” includes Manufacturing, Wholesale Trade, Finance and Insurance, Arts, Entertainment, and Recreation, Accommodation and Food Services, and Other Services (except Public Administration).

¹⁶ All sectors were combined due to confidentiality of QCEW data.

Exhibit 11 shows a summary of covered employment data for the City of Spray in 2017. Private Employment accounted for 11 employees, or 30% of covered employment in Spray. Government accounted for the remaining employment of 26 employees (70%). The average size for a private business in Spray is 2 employees per business. Between 2006 and 2017 employment in Spray increased by 14 employees. More recent closures of businesses (in 2018) may have resulted in additional loss of employment.

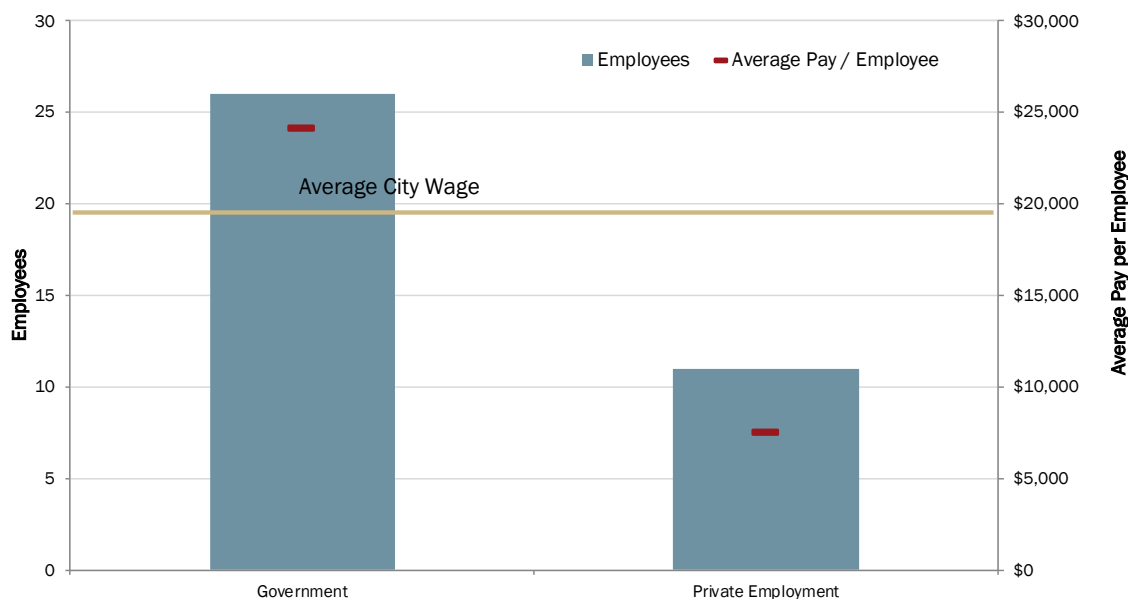
Exhibit 11. Covered Employment and Average Pay by Sector, Spray UGB, 2017¹⁷

Sector/Industry	Establishments	Employees	Payroll	Average Pay / Employee
Private Employment	7	11	\$ 82,440	\$ 7,495
Government	3	26	\$ 627,211	\$ 24,124
Total	10	37	\$ 709,651	\$ 19,180

Source: Oregon Employment Department, Quarterly Census of Employment and Wages, 2017.

Exhibit 12 shows the employment and average pay per employee for selected industrial sectors in Spray. Average pay for all employees (\$19,180) is shown as a light brown line across the graph and average pay for individual sectors as short red lines. The figure shows that Government jobs in Spray have above average wages.

Exhibit 12. Covered Employment and Average Pay by Sector, Spray UGB, 2017¹⁸



Source: Oregon Employment Department, Quarterly Census of Employment and Wages, 2017.

¹⁷ The following sectors were combined due to confidentiality of QCEW data: Retail Trade, Educational Services, Accommodation and Food Services, and Other Services (except Public Administration).

¹⁸ The following sectors are combined in the chart: "All Other Private Employment" includes Retail Trade, Educational Services, Accommodation and Food Services, and Other Services (except Public Administration).

Outlook for growth in Wheeler County

Exhibit 13 shows the Oregon Employment Department's forecast for employment growth by industry for the Gorge Eastern Cascades Region (Gilliam, Hood River, Sherman, Wasco, and Wheeler Counties) over the 2017 to 2027 period. Employment in the region is forecasted to grow at an average annual growth rate of 1.0%.

The sectors that will lead employment in the region for the 10-year period are: Private Educational and Health Services (670 jobs), Leisure and Hospitality (520), Trade, Transportation, and Utilities (390), Manufacturing (300), Professional and Business Services (300), and Natural Resources and Mining (270). In sum, these sectors are expected to add 2,450 new jobs or about 83% of employment growth in the Gorge Eastern Cascades Region.

Wheeler County accounts for about 1% of employment in these five counties. Wheeler County's employment in Government accounts for about 3% of all employment in the Gorge Eastern Cascades Region.

Exhibit 13. Regional Employment Projections, 2017-2027, Gorge Eastern Cascades Region (Gilliam, Hood River, Sherman, Wasco, and Wheeler Counties)

Industry Sector	2017	2027	Change 2017 - 2027		
			Number	Percent	AAGR
Total private	24,090	26,850	2,760	11%	1.1%
Natural resources and mining	4,520	4,790	270	6%	0.6%
Mining and logging	70	60	-10	-14%	-1.5%
Construction	870	1,030	160	18%	1.7%
Manufacturing	2,500	2,800	300	12%	1.1%
Durable goods	1,130	1,230	100	9%	0.9%
Nondurable goods	1,370	1,580	210	15%	1.4%
Trade, transportation, and utilities	4,560	4,950	390	9%	0.8%
Wholesale trade	640	710	70	11%	1.0%
Retail trade	3,340	3,590	250	7%	0.7%
Transportation, warehousing, and utilities	580	650	70	12%	1.1%
Information	340	350	10	3%	0.3%
Financial activities	520	540	20	4%	0.4%
Professional and business services	1,820	2,120	300	16%	1.5%
Private educational and health services	4,070	4,740	670	16%	1.5%
Health care and social assistance	3,890	4,530	640	16%	1.5%
Leisure and hospitality	3,890	4,410	520	13%	1.3%
Arts, entertainment, and recreation	830	980	150	18%	1.7%
Accommodation and food services	3,060	3,430	370	12%	1.1%
Other services and private households	1,000	1,120	120	12%	1.1%
Government	4,120	4,300	180	4%	0.4%
Federal government	560	540	-20	-4%	-0.4%
State government	420	450	30	7%	0.7%
Local government	3,140	3,310	170	5%	0.5%
Local education	1,420	1,490	70	5%	0.5%
Total payroll employment	28,210	31,150	2,940	10%	1.0%

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

Wheeler County's Strengths, Weaknesses, Opportunities, and Threats

Economic development opportunities in Wheeler County will be affected by local conditions as well as the national and state economic conditions addressed above. Economic conditions in Wheeler County relative to these conditions in other portions of Eastern Oregon form Wheeler County's competitive advantage for economic development. Wheeler County's competitive advantages have implications for the types of firms most likely to locate and expand in the area.

Local jurisdictions can do little to influence national and state conditions that affect economic development. However, they can influence local factors that affect economic development. Wheeler County's primary competitive advantages are land, recreational opportunities, and quality of life. These factors make Wheeler County attractive to residents and businesses that want a high quality of life where they live and work.

The local factors that form Wheeler County's competitive advantage are summarized in the subsections below.

Strengths

Wheeler County

The strengths that apply to the whole County include:

- **Natural resources/agriculture.** Wheeler County's strength in natural resources and agricultural industries focuses on ranching. The removal and milling of juniper trees has emerged as an alternative use of timber after the decline of Oregon's timber industry.
- **Attractions and services for visitors.** Wheeler County's scenic resources draw both residents and visitors to outdoor recreation opportunities. These include: fishing and camping along the John Day River; cycling the Painted Hills Scenic Bikeway; hiking and discovering geologic formations of the Painted Hills; and hiking and learning about fossils and geology at the John Day Fossil Beds facilities. Events and the experiences of western heritage also draw visitors to Wheeler County, such as the Wheeler County Bluegrass Festival and the Wheeler County Fair and Rodeo. Visitors are also attracted to opportunities for farm stays or agritourism on the farms and ranches in the County.
- **Recreational opportunities.** Wheeler County has a range of outdoor recreational opportunities, such as hiking, camping, boating, fishing, and hunting. Recreation is important for both residents of the county and visitors to the county.
- **Quality of life.** Residents of Wheeler County value its remote, scenic location with access to outdoor recreation amenities. They also enjoy living in Wheeler County because of the close connection to a small community and feeling of safety.

- **Entrepreneurial environment.** Many local business owners chose to locate in Wheeler County because of the County's quality of life. They recognize that making a living in a place like Wheeler County requires an entrepreneurial spirit and creating a business that works in a remote location.
- **Partnerships within and across the region.** Economic development partnerships, such as the Greater Eastern Oregon Development Corporation (GEODC), offer opportunities to foster economic and business growth across Wheeler County. Other partners for economic development include Business Oregon, the Department of Land Conservation and Development (DLCD), other State agencies that are part of the Greater Eastern Oregon and North Central Regional Solutions Team, as well as the Oregon Paleo Lands Institute and the National Park Service.
- **Internet.** Some communities in Wheeler County have connections to the internet, which allow businesses to conduct business online. However, internet access is limited and sometimes unreliable, as discussed below.

Fossil

The strengths that apply to the City of Fossil include:

- **Existing businesses.** The existing businesses in and around Fossil are a strength the community can build on. For example, Painted Hills beef is located in Fossil and has distribution across Oregon and Washington. Fossil is also home to an automotive dealership that has customers from across Wheeler County and beyond. Customers shop at this dealership because of longstanding relationships with the owners and staff, which attracts customers from a significant distance.

In addition, the Oregon Department of Revenue opened a call center in Fossil in 2018 and employs about 7 workers.¹⁹ The opening of the center provided more higher-wage jobs for residents of Fossil. These businesses both provide jobs for people living in and around Fossil but also provide a basis for further growth of the economy, such as potential growth of call centers (which may require further improvements to communication infrastructure).

- **Attractions and services for visitors.** Fossil attracts visitors for outdoor activities, including fishing, hunting, hiking, camping, and cycling. Visitors also have the opportunity to learn about the geologic history of the area at the Oregon Paleo Lands Institute Center, as well as Fossil's cultural heritage at the Fossil Museum. Fossil offers services for visitors including restaurants.
- **Upcoming improvement to the internet connection.** Columbia Basin Electric Cooperative will install fiber optic cable in Fossil, making internet service available to business and households. The installation is expected to occur in 2019.

¹⁹ https://www.eastoregonian.com/news/local/rural-fossil-gets-statewide-call-center/article_6791f8df-aa9e-52d8-853d-75fc1acafa04.html

- **Quality of life.** Like most residents of Wheeler County in general, residents of Fossil value being a part of a closely connected community. One of the advantages is the many opportunities for public and nonprofit service to help their community members. These types of opportunities help build connections within and among the communities, which is one approach that communities take to combat the effects of a declining population.
- **Location.** Fossil's location in the northern part of the County along Highway 19 provides a connection to larger markets, such as Portland. While still a remote location and not located along an interstate, some business owners have noted that the 3-hour drive to Portland is more desirable than the option to locate in other places in the County.
- **Access to electrical service.** Fossil is served by the Columbia Basin Electric Cooperative, which can provide 3 megawatts of electricity beyond the current capacity.
- **Wastewater.** The city's wastewater system is sized to serve 720 people, which provides capacity beyond the current population. The City has capacity to serve the wastewater needs of expected employment growth. While the City does experience infiltration in the spring (resulting in treatment of about 150,000 gallons per day), the City's system is able to handle this level of wastewater. During most of the year, the city treats 20,000 to 30,000 gallons of effluent per day.
- **Water.** The City's water system is sufficient for most residential uses. Fossil's water is from groundwater, with a combined capacity (from three sources) of about 490 gallons per minute. The City has capacity to store about 572,000 gallons of water in three reservoirs. In the summer, the City's water system is unable to meet the demands for landscaping irrigation. The City is developing an aquifer storage project to address this deficit and provide additional water capacity.

Mitchell

The strengths that apply to the City of Mitchell include:

- **Transportation.** Mitchell is located directly on Highway 26, providing connections with Prineville and Central Oregon and Eastern Oregon. Highway 26 provides both freight and automotive access to Mitchell, connecting the community with broader markets.
- **Services for visitors.** Visitors often travel through Mitchell on their way to or from Wheeler County's scenic Painted Hills. The City of Mitchell has services for these visitors including a hostel focused on amenities for cyclists biking through the Painted Hills Scenic Bikeway, a rock museum for visitors to learn more about the areas geologic features, a brewery, and restaurants.
- **Support for businesses.** Business owners in Mitchell recognize the difficulties of starting a business in a remote location. Accessing supplies and necessary services can take more time than locating in an area with urban amenities. In addition, a limited customer base that relies on a seasonal tourism industry can make running a business in Mitchell difficult. Business owners appreciate the support from local leaders and residents.

- **Water.** The City's water source is three springs originating in the Ochoco Mountains. The City stores water in a reservoir with capacity for about 30,000 gallons. Inflow to the reservoir from the springs is about 150 gallons per minute, slowing to as low as 20 gallons per minute in the summer. Mitchell has substantial concerns with their water system (as described in the weaknesses section) and is not prepared to serve much growth.
- **Wastewater.** Mitchell does not have a municipal sewer and wastewater system. Businesses and residents use septic tanks. The City is seeking funding to conduct a feasibility study and to develop alternative forms of wastewater treatment.

Spray

The strengths that apply to the City of Spray include:

- **Attractions and services for visitors.** Businesses in Spray that offer services for residents include a motel, RV park, and market. Visitors can learn about the history of Spray at the Spray Pioneer Museum or enjoy views of the John Day River from Riverfront Park. The Spray Rodeo also attracts many visitors during Memorial Day weekend each year.
- **Support for businesses.** Local leaders in the City of Spray are generally supportive of new businesses when a business shows interest in locating in Spray. Having leaders who champion new business is a key component of local economic development, especially in locations lacking urban amenities or access to major infrastructure systems.
- **Water.** Spray completely replaced its water system to include two new wells and two water tanks in 1997, with an expected lifespan of about 50 years. The wells are able to meet the demands of businesses and residents, with some strain on the capacity at peak demand during the summer months. The wells are in the floodplains with the well at an elevation of 1,750 feet. The wells are sealed and have vent extensions to an elevation of 1,760 ft. The distribution system is 97% efficient.

Weaknesses

Wheeler County

The weaknesses that apply to the whole County include:

- **Remote location.** While many residents choose to live in Wheeler County because of its remote location, this also presents a barrier for businesses to transport goods and access to suppliers and support services for businesses.
- **Lack of commercial services for residents and businesses.** Wheeler County and its cities have some services needed by residents and businesses, such as grocery stores and gasoline.
- **Limited access to health care.** Access to health care is limited in Wheeler County. This limitation makes it difficult for people who need frequent access to the health system to live in Wheeler County, such as seniors and people with illnesses.
- **Limited services for visitors.** The remote location also limits the number of visitors likely to come to Wheeler County, given the relatively limited services for visitors, such as overnight accommodations or restaurants.
- **Dependence on tourism.** The economy in Wheeler County is dependent on tourism and hunting, both of which are largely seasonal. This seasonality makes it difficult for businesses to prosper year around. In addition, regulations on hunting and tourism limit the economic benefit of those activities. For example, the Bureau of Land Management has been restricting the number of float permits allowed on the John Day River.
- **Small population.** Wheeler County has a small population and each of the cities in the county are very small, which limits the size of the market for services in Wheeler County.
- **Limited freight access.** Wheeler County and its cities are served by State Highways 19 and 26. But freight access is limited on these highways because of distance from major highways and larger cities. Businesses that ship significant amounts freight or depend on deliveries of freight may choose not to locate in Wheeler County because of the limitations on freight.
- **Housing condition and options.** Employers note that the lack of adequate workforce housing and poor condition of existing housing stock makes it difficult to attract workers to Wheeler County. Residents also note the limited supply of homestead parcels. A key reason that people desire to live in Wheeler County is to live a rural lifestyle, with access to land to have a farm and animals for subsistence purposes.
- **Lack of adequate workforce.** Business owners cited challenges in access of a skilled, reliable workforce. Barriers to hiring and retaining employees in Wheeler County include work ethic and the lack of local educational opportunities beyond high school. Other employers have expressed willingness to do on-the-job training or apprenticeships, but express concern of training workers who will leave to live and work elsewhere.

- **Lack of a community college and small business development services.** Wheeler County is not directly served by a community college or a small business development center. Access to a community college for people living in Wheeler County could provide opportunities for training about the life skills needed to get and keep a job, as well as specific skills needed by employers in Wheeler County. Small business development centers provide services to help businesses as they start up, such as technical assistance or access to small business loans.
- **Limited resources for small businesses.** GEODC provides resources for small businesses in Wheeler County, such as training and lending programs. However, business owners have expressed that these resources often require traveling to Pendleton or attending a webinar. With unreliable access to internet and difficulty in stopping business to attend, business owners find it difficult to use the resources that GEODC offers. Additionally, the limited amount of businesses in Wheeler County creates little opportunity for mentorship or collaboration among small business.

Fossil

The weaknesses that apply to the City of Fossil include:

- **Wastewater and water systems.** While these systems are sufficient (or will soon have upgrades that make them sufficient) for general commercial and residential uses and some industrial uses, the City would have difficulty serving water- and wastewater-intensive industrial businesses (such as food processing).
- **Cost to build out infrastructure.** Fossil has land available for development on employment land, however, the cost to build them out for commercial or industrial uses is prohibitive for many businesses. This creates barriers to development of underserved or unserved sites.

Mitchell

The weaknesses that apply to the City of Mitchell include:

- **Limited communication infrastructure.** The lack of communication infrastructure is a barrier to business growth and attracting residents to Mitchell. Cell phone service is not reliable throughout the City and Internet services are not widely available or fast enough for many uses.
- **Water infrastructure.** The City's water infrastructure needs upgrades and repairs. The City's springs are fed by snow melt from the Ochoco Mountains. In years of low snow pack, water may not be available to the City. One of the City's three springs delivers less water than in previous years, indicating that the reverse detain field holding water may have collapsed, resulting in little or no water from that spring. In addition, the City's water system pipes are in poor repair and need maintenance and replacement. As a result, availability of water will restrict employment growth to businesses that have low water usage.

- **Stormwater infrastructure.** The City has no Stormwater infrastructure. The City had a recent flash flood, which resulted in damage to roads and may have resulted in other damage.
- **Wastewater systems.** Mitchell lacks a municipal sewer and wastewater system. The lack will limit growth to sites with a functional septic system or sites where a septic system can be installed. The types of businesses that can grow in Mitchell will be limited to those that can use septic systems. Even with a new wastewater system, Mitchell is unlikely to provide wastewater service to businesses with substantial amounts of wastewater.
- **Lack of way finding from the Painted Hills to Mitchell.** Mitchell is located near roads leading to and from the Painted Hills but there is no sign directing visitors to Mitchell after they leave the Painted Hills.
- **Physical appearance.** Mitchell’s downtown area does not attract visitors or residents for its visual appearance. Residents note that the City could benefit from façade improvements to buildings in the commercial downtown to attract more potential businesses, followed by more visitors and residents to Mitchell.

Spray

The weaknesses that apply to the City of Spray include:

- **Decline of major employers.** Residents of Spray still see the effects of the decline of major employment industries such as saw mills, ranches, logging, and agriculture. These industries used to be a source of economic growth for Spray. Now these industries are either in decline or have become less labor intensive. New farm equipment, for example, has taken the place of many agricultural jobs.
- **Employees with the right skills and work ethic are difficult to find.** Spray has a limited and aging workforce. According to the U.S. Census Bureau, only 29% of Spray’s population participates in the labor force. It is difficult for business owners to find the labor they need.
- **Difficulty serving seasonal visitors.** While Spray has several services for visitors, most of these visitors are self-sufficient and do not frequent the businesses in Spray. Visitors generally come to Spray to enjoy the scenic resources, hunt, fish, stay in the RV park, then leave. The Rodeo in Spray is the main annual event that brings many visitors to the City, but it creates a strain on the local infrastructure and services.

Opportunities

Wheeler County

The opportunities that apply to the whole County include:

- **Services for visitors.** Wheeler County's access to many outdoor recreation opportunities as well as strong cultural heritage, presents opportunities for growth of the County's tourism-related industries. Increasing options for accommodations and food services throughout the County will provide more opportunities for different types of visitors to stay in the communities in Wheeler County. Various lodging options include RV parks, small inns or bed and breakfasts, and hotels. Agritourism activities also present an opportunity for farms and ranches to host visitors and educational events. Hunting activities will also continue to draw visitors to Wheeler County, which presents opportunities for businesses that support hunters such as a butcher to process and package wild game. The National Park Service is also a key partner in Wheeler County for outdoor recreation and natural areas that are part of the John Day Fossil Beds National Monument (i.e., Painted Hills). Development of a lodge or other accommodations could draw more visitors to the Monument.
- **Services for residents.** Some of the services for residents, such as restaurants or recreational opportunities are also services that residents may also use. In addition, residents may need services such as child care, medical care, and personal services.
- **Juniper removal and processing.** In recent years, the Rural Development Initiative (RDI) has offered grants for landowners to remove juniper as part of water restoration projects, as juniper has overgrown in the County due to livestock raising and past wildfire management methods. The material is sold to sawmills that process juniper for lumber and other materials. The continued removal of juniper presents opportunities for growth of businesses that process juniper or provide services for the saw mills, as well as opportunities for using juniper for biomass energy.
- **Partnerships with economic development agencies.** Small business owners cite difficulty in accessing mentorship opportunities or resources for the many elements of running a small business in a remote location. Economic development agencies including Rural Development Initiative (RDI), GEODC, and Business Oregon coordinate efforts to educate and provide resources for business owners. The Oregon Paleo Lands Institute (OPLI) will also be a key partner in developing recreation and tourism opportunities in Wheeler County, including building on and helping to implement OPLI's "John Day Basin Interpretive Strategy."
- **Partnering with a community college.** Wheeler County does not have a community college, so partnering with a community college to provide extension services or develop a satellite facility will help to train and retain workers.

- **Improvement of communication infrastructure.** At the time of this analysis, the Oregon Legislature had an active bill to create a statewide broadband office, with an emphasis on assisting with implementation of rural internet access. If this bill passes, it could provide assistance to Wheeler County to improve internet access for businesses and residents.

Fossil

The opportunities that apply to the City of Fossil include:

- **Enterprise zone.** An Enterprise zone covers the Fossil UGB. It was designated in 2016 and terminates in 2025. Enterprise zones assist eligible local businesses by exempting them from paying local property taxes. Enterprise zones exempt businesses from local property taxes on new investments for a specified amount of time. Qualified investments include a new building/structure, structural modifications or additions, or newly installed machinery and equipment. They may qualify for exemption, but not land, previously used property value and miscellaneous personal items. Eligible businesses include manufacturers, processors, and shippers. Retail, construction, financial and certain other defined activities are ineligible.²⁰
- **Expansion of juniper industry.** Fossil currently has two mills that process juniper, and one of those mills has a kiln to produce dried lumber. In 2015, the State established a fund for businesses related to juniper removal, processing, and manufacturing through the Western Juniper Industry Fund.²¹ While the funding ended in 2017, those involved in the juniper industry in Wheeler County, including Fossil, noted that there is space for the industry to expand and assistance for new, small businesses would help the continued expansion of this industry.
- **Potential for attracting footloose businesses and telecommuters.** Once Fossil has more dependable, higher bandwidth internet access (upgrades are planned for 2019), the city may attract entrepreneurs and telecommuters who can locate anywhere but choose to locate in Fossil because they like the quality of life.

²⁰ <https://www.oregon4biz.com/Oregon-Business/Tax-Incentives/Enterprise-Zones/>

²¹ <http://www.oregon4biz.com/How-We-Can-Help/Finance-Programs/Western-Juniper/>

Mitchell

The opportunities that apply to the City of Mitchell include:

- **Location.** Mitchell is located along U.S. Highway 26, which continues east to Boise, and west to Prineville, providing connections to Bend. Mitchell is also located about 10 miles southeast of the Painted Hills, which are part of the John Day Fossil Beds National Monument. Mitchell's location offers opportunities for businesses to locate along a U.S. highway with quicker access to markets, supplies, and services in Bend or Boise. Mitchell's location also presents opportunities to increase services for visitors who travel through Mitchell on their way to the Painted Hills or other locations along Highway 26.
- **Improved interpretive signage for visitors.** Mitchell is located close to the Painted Hills, but residents note that visitors often drive through Mitchell without turning off Highway 26 to access Mitchell's businesses. Improved signage to Mitchell could encourage more visitors. Once visitors stop in Mitchell, residents also note that visitors are often interested in the history of the town. The addition of interpretive signage and wayfinding about the history of Mitchell would be an opportunity to improve tourism options in the City.
- **Cost of living.** Residents and business owners in Mitchell note the relatively low cost of living and doing business in Mitchell. For businesses that do not rely heavily on access to major transportation networks or require a large workforce, Mitchell's cost of living and doing business could attract entrepreneurs or remote workers who desire living in a place like Mitchell.
- **Redevelopment of commercial corridor.** Improvements to Mitchell's downtown, concentrated along E. Main Street, could present opportunities for new businesses locate in Mitchell, and potentially attract more visitors to Mitchell. Potential improvements include streetscape design features and façade enhancements for buildings in this commercial area of Mitchell.
- **Extend tourism season.** As in many other communities in Oregon, Mitchell's tourism season is concentrated in the summer months. Mitchell can start to attract tourists during the shoulder seasons in the spring and fall—April, May, September, and October—for various activities that are still possible during these months including photography of scenic areas, cycling the Painted Hills Scenic Bikeway, bird watching, exploration of geologic features, hunting, and hiking.

Spray

The opportunities that apply to the City of Spray include:

- **Redevelopment of commercial areas.** Spray's business district is located along highway 19, with a hotel, market, and other city services such as city hall and the post office. City leaders and community members noted that some redevelopment of buildings in test commercial areas of Spray could present options for additional businesses to locate in this area and provide more services for visitors and residents.
- **Extend tourism season.** Spray's current economy relies on seasonal tourism and hunting. The seasonal economy makes it difficult for businesses to prosper year-round and regulations on hunting and tourism limit the economic benefit of those activities. For example, the Bureau of Land Management has been restricting the number of float permits allowed on the John Day River. Additionally, Spray's annual rodeo can attract as many as 10,000 summer visitors. This event strains the City's infrastructure (cell service, emergency response, roads, etc.), and potential opportunities for smaller, more frequent events could help to distribute the number of visitors to Spray without placing as much stress on Spray's infrastructure. The event also overburdens local businesses that cannot meet the needs of all visitors for the rodeo. Food carts or other flexible food-related businesses during the rodeo or other events in Spray could help to provide more options and provides a lower barrier to entry for a new business.
- **Expansion of juniper industry.** While most business activity related to the juniper industry is concentrated in and near Fossil, some juniper removal and land restoration has occurred near Spray. There may be opportunities to grow additional businesses related to the juniper industry in Spray. Leaders and entrepreneurs can learn more about potential related businesses through resources available from RDI and Sustainable Northwest.
- **Support for microenterprises and entrepreneurs.** Businesses that are likely to locate in Spray will be small businesses, specifically microenterprises. These businesses would employ less than 10 people and can help to provide necessary services for visitors and residents, such as restaurants, in-home care for seniors, or childcare services. Providing support services for these microenterprises, as well as entrepreneurs is important to help remove barriers to starting a business with limited access to capital or other resources.

Threats

Threats are typically factors at a regional, state, national, or global level. The threats affecting Wheeler County, the City of Fossil, the City of Mitchell, and the City of Spray are:

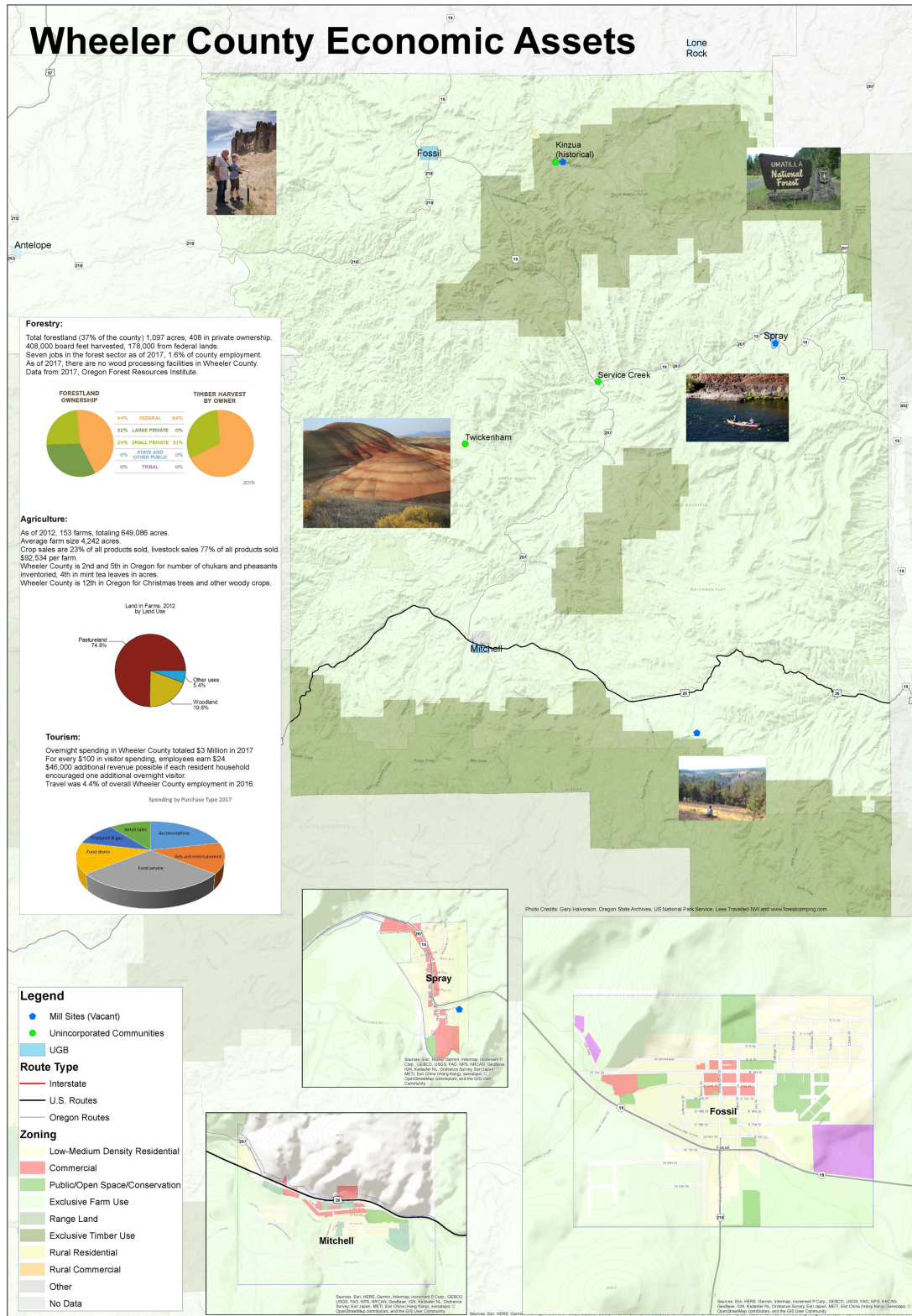
- **Forest fires, floods, and other climate change risks.** Forest fires and floods are both a concern for communities in Oregon, and the risk of these natural hazards is likely to increase as a result of climate change.²² They pose a physical, financial, and social threat to residents and businesses in Wheeler County. Tourism-based businesses in Wheeler County rely on visitors in the summer months when forest fires tend to occur. This can not only have an effect on the tourism industry overall, but also specific events that attract a large number of visitors. The timing of a forest fire or flood could lead to the cancelation of those tourist-focused events. 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 Wheeler County as a result of climate change include drought, increased invasive species, and loss of wetland ecosystems.²³
- **Aging population.** The difficulty in finding available workforce in Fossil, Mitchell, and Spray is partly due to the aging population. As workers in the communities retire, or new residents locate in Fossil, Mitchell, and Spray after retirement, the need for reliable, skilled, educated workers will increase.
- **Potential for decline in the state and National economies.** Changes in the State and National economies are beyond local control and directly affect Wheeler County's regional economy. National recessions generally have a greater effect on Oregon and in rural Oregon, with higher job losses and longer recovery periods than the national average.

²² Oregon Climate Change Research Institute. *Climate Change Influence on Natural Hazards in Oregon Counties*. August 2018 and *Fourth Oregon Climate Assessment Report*. January 2019.

²³ Ibid.

Countywide Assets

Additional assets in Wheeler County are presented in the map below, compiled by the Department of Land Conservation and Development.



Target Industries

The characteristics of Wheeler County will affect the types of businesses most likely to locate in the cities. Wheeler County’s attributes that may attract firms are: Wheeler County’s access to land and resources; recreational opportunities; and quality of life.

Wheeler County’s existing businesses are concentrated in the sectors defined in Exhibit 14. The sectors in green highlight are sectors with a higher than average wages. Generally, sectors with a high location quotient (i.e., highly specialized compared to national employment in the industry), high employment (i.e., have more than 25 employees in Wheeler County), and higher than average County wages have highest potential for growth, given existing businesses and the higher concentration of employment. In, Wheeler County the agriculture, forestry, fishing, and hunting sector has a high location quotient, high employment, and higher than average wages. Retail trade also has a high location quotient and high employment.

Wheeler County also has opportunities for employment growth in sectors without a concentration of employment or a high location quotient.

Exhibit 14. Concentration of Sectors and Employment, Wheeler County, 2017.

	High Employment	Low Employment
High Location Quotient	<ul style="list-style-type: none"> • Agriculture, forestry, fishing and hunting • Retail trade 	<ul style="list-style-type: none"> • Arts, entertainment, and recreation
Low Location Quotient		<ul style="list-style-type: none"> • Finance and insurance • Accommodation and food services • Other services, except public administration

Source: Oregon Employment Department, Quarterly Census of Employment and Wages, 2017.

The potential growth industries in Wheeler County will draw from existing industry concentration in the County, its Cities, and the Gorge Eastern Cascades region, along with the County’s and each City’s economic development policies that align with changing or emerging industries and result in employment growth in Wheeler County.

Potential Growth Industries

An analysis of growth industries in Wheeler County should address two main questions: (1) Which industries are most likely to be attracted to Wheeler County? and (2) Which industries best meet Wheeler County’s economic development goals? The selection of target industries is based on Wheeler County’s goals for economic development, economic conditions in Wheeler County and Eastern Oregon, and the County’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 Wheeler County or new businesses that start or relocate to Wheeler County from within the Eastern Oregon region or from outside of the region.

The industries identified as having potential for growth in Wheeler County and the three cities are:

- **Natural resources manufacturing.** Wheeler County has opportunity for growth in natural resource industries, including wood products manufacturing. Specifically, the removal of juniper trees from natural areas in Eastern Oregon is increasingly important to maintain the landscape and ecosystem. Juniper mills in Wheeler County buy juniper from landowners and process the juniper for lumber and other wood products. Opportunities for growth in the juniper industry include businesses to transport lumber and supplies for removing and processing juniper. Another potential use for juniper may be biomass production.
- **Agriculture.** Wheeler County and its communities have opportunities for growth from agricultural products, such as beef from ranching, or processing agricultural products grown locally. Limitations on water (and wastewater effluent) will limit water-intensive agricultural product processing.
- **Services for visitors.** Wheeler County is a destination for visitors to explore the natural beauty of the Painted Hills; learn about the geologic history of Oregon at the Paleo Lands Center; attend events such as the Bluegrass Festival or Wheeler County and Spray Rodeos; and bike, fish, hunt or camp along the John Day River. To help expand tourism and recreation opportunities along the John Day River, communities in Wheeler County participated in Travel Oregon’s Rural Tourism Studio for the John Day River Territory in 2011. Continued implementation of this work will create more opportunities for recreation and coordinated tourism efforts along the John Day River in Wheeler County. Fossil, Mitchell, and Spray lack adequate accommodations for visitors. This presents an opportunity for RV parks and hotels, such as a National Service Park lodge near the Painted Hills at the John Down Fossil Beds National Monument. Other services for visitors, such as restaurants or specialty retail, are opportunities, especially if tourism continues to grow.
- **Services for residents.** As Wheeler County’s population grows, demand for services for residents will grow. These services include retail, restaurants, personal services (like hairdressers), financial services, medical services, and other services. Additionally, the demand for childcare services will increase to meet the need for families in Wheeler County. These types of services present opportunities for entrepreneurship and microenterprise development in Wheeler County and its cities.
- **Housing for seniors.** Housing for seniors with services (i.e., medical services or housekeeping services) may be important to support Wheeler County’s aging population. An aging population in Wheeler County will also increase the need for in-home caregivers, presenting another opportunity for entrepreneurs and microenterprise development.

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 Fossil, Mitchell, and Spray is based on expected employment growth and the types of firms that are likely to locate in Fossil, Mitchell, and Spray over the 20-year period. This section presents an employment forecast and analysis of target industries that build from recent economic trends.

Forecast of Employment Growth and Commercial and Industrial Land Demand

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 Fossil, Mitchell, and Spray. This employment land demand is driven by local growth independent of broader economic opportunities, including the growth of target industries.

The employment projections in this section build off of Fossil's, Mitchell's, and Spray's existing employment base, assuming future growth is similar to Wheeler 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 Fossil, Mitchell, and Spray presented in Exhibit 8, Exhibit 10, and Exhibit 11. Covered employment does not include all workers, so we adjust covered employment to reflect total employment in each city.
2. **Project total employment.** The projection of total employment considers forecasts and factors that may affect employment growth in Fossil, Mitchell, and Spray 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.

The remainder of this section follows this outline to estimate employment growth and commercial and industrial land demand for Fossil, Mitchell, and Spray.

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 Fossil, Mitchell, and Spray starts with a base of employment growth on which to build the forecast. Exhibit 15, Exhibit 16, and Exhibit 17 show ECONorthwest’s estimate of total employment in the Fossil, Mitchell, and Spray UGBs in 2017.

To develop the figures, ECONorthwest started with estimated covered employment in each city’s UGB from confidential Quarterly Census of Employment and Wages (QCEW) data provided by the Oregon Employment Department. Based on this information, Fossil had about 163 covered employees in 2017, Mitchell had about 28 covered employees, and Spray had about 37 covered employees.

Covered employment, however, does not include all workers in an economy. Most notably, covered employment does not include sole proprietors. Analysis of data shows that *covered* employment reported by the Oregon Employment Department for Wheeler County is only about 52% of *total* employment reported by the U.S. Department of Commerce.²⁴ We evaluated this ratio for each industrial sector for Wheeler County and used the resulting ratios to determine the number of non-covered employees. This allowed us to determine the total employment in Fossil, Mitchell and Spray. Exhibit 15 shows Fossil had an estimated 259 *total* employees in 2017, Exhibit 16 shows that Mitchell had an estimated 54 *total* employees, and Exhibit 17 shows Spray had an estimated 47 *total* employees.

Exhibit 15. Estimated total employment by sector, Fossil UGB, 2017

	Covered Employment	Estimated Total Employment	Covered % of Total
Retail Trade	28	54	52%
Healthcare and Social Assistance	47	90	52%
All Other Private Employment	28	54	52%
Government	60	61	98%
Total Non-Farm Employment	163	259	63%

Source: 2017 covered employment from confidential Quarterly Census of Employment and Wage (QCEW) data provided by the Oregon Employment Department.

²⁴ **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 16. Estimated total employment by sector, Mitchell UGB, 2017

	Covered Employment	Estimated Total Employment	Covered % of Total
Total Non-Farm Employment	28	54	52%

Source: 2017 covered employment from confidential Quarterly Census of Employment and Wage (QCEW) data provided by the Oregon Employment Department.

Exhibit 17. Estimated total employment by sector, Spray UGB, 2017

	Covered Employment	Estimated Total Employment	Covered % of Total
Private Employment	11	21	52%
Government	26	26	100%
Total Non-Farm Employment	37	47	79%

Source: 2017 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 2019 to 2039 period, requiring an estimate of total employment for Fossil, Mitchell, and Spray in 2019.

The Cities in Wheeler County do 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.

Fossil, Mitchell, and Spray are relying on the safe harbor described in OAR 660-024-0040(9)(a)(A), which allows each city to assume that the current number of jobs in the Fossil, Mitchell, and Spray UGBs will grow during the 20-year planning period at a rate equal to the county or regional job growth rate provided in the most recent forecast published by the Oregon Employment Department. The regional employment projection for the Gorge Eastern Cascades, which includes Wheeler County, for the 2017 to 2027 period shows that employment will grow at an average annual growth rate of 1.0%.²⁵

Exhibit 18, Exhibit 19, and Exhibit 20 show employment growth in Fossil, Mitchell, and Spray between 2019 and 2039, based on the assumption that each city will grow at an average annual growth rate of 1.0%. Fossil will have 322 employees within the UGB by 2039, which is an increase of 58 employees (22%) between 2019 and 2039. Mitchell will have 67 employees within the UGB by 2039, an increase in 12 employees in the 2019-2039 period. Spray will have 59 employees within the UGB by 2039, an increase in 11 employees in the 2019-2039 period.

Exhibit 18. Employment growth in Fossil UGB, 2019–2039

Year	Total Employment
2019	264
2039	322
Change 2019 to 2039	
Employees	58
Percent	22%
AAGR	1.0%

Source: ECONorthwest

Exhibit 19. Employment growth in Mitchell UGB, 2019–2039

Year	Total Employment
2019	55
2039	67
Change 2019 to 2039	
Employees	12
Percent	22%
AAGR	1.0%

Source: ECONorthwest

Exhibit 20. Employment growth in Spray UGB, 2019–2039

Year	Total Employment
2019	48
2039	59
Change 2019 to 2039	
Employees	11
Percent	23%
AAGR	1.0%

Source: ECONorthwest

²⁵ “Regional Employment Projections by Industry & Occupation, 2017-2027,” Gorge Eastern Cascades (Gilliam, Hood River, Sherman, Wasco, and Wheeler Counties, Oregon Employment Department. <https://www.qualityinfo.org/east-cascades>.

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 Fossil, Mitchell, or Spray will look for a variety of site characteristics, depending on the industry and specific circumstances. For Fossil and Spray, we grouped employment into two broad categories of land use based on North American Industrial Classification System (NAICS): private employment and government. Due to disclosure issues, we could not group employment by more detailed categories such as industrial or commercial. For Mitchell, we could only report total employment.

Exhibit 21, Exhibit 22, and Exhibit 23 show the expected share of employment by land use type in 2019 and the forecast of employment growth by land-use type in 2039 in the Fossil, Mitchell, and Spray UGBs. For employment in Fossil and Spray, we assumed that the share of private employment would increase slightly, with government employment remaining close to the same number of employees as the base year. For employment in Mitchell, the forecast is not distributed by employment types.

Exhibit 21. Forecast of employment growth by land use type, Fossil UGB, 2019–2039

Land Use Type	2019		2039		Change 2019 to 2039
	Employment	% of Total	Employment	% of Total	
Private Employment	202	76%	251	78%	49
Government	62	24%	71	22%	9
Total	264	100%	322	100%	58

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.

Exhibit 22. Forecast of employment growth by land use type, Mitchell UGB, 2019–2039

Land Use Type	2019		2039		Change 2019 to 2039
	Employment	% of Total	Employment	% of Total	
Total Employment	55	100%	67	100%	12
Total	55	100%	67	100%	12

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.

Exhibit 23. Forecast of employment growth by land use type, Spray UGB, 2019–2039

Land Use Type	2019		2039		Change 2019 to 2039
	Employment	% of Total	Employment	% of Total	
Private Employment	21	45%	30	50%	9
Government	27	55%	30	50%	3
Total	48	100%	59	100%	12

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 and Industrial Land

Exhibit 24 through Exhibit 26 show demand for vacant (including partially vacant) land in Fossil, Mitchell, and Spray over the 20-year period. The assumptions used in this analysis are:

- 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. Exhibit 24 through Exhibit 26 assume that each city will have an average of 10 employees per acre.

These employment densities are consistent with employment densities in Oregon cities of similar size as Fossil, Mitchell, and Spray. Some types of employment will have higher employment densities (e.g., an office building), and some will have lower employment densities (e.g., a manufacturer or convenience store with larger 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.²⁶ 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 Fossil’s, Mitchell’s, and Sprays existing net-to-gross ratios, ECONorthwest uses a net-to-gross conversion factor of 20% for Fossil, 14% for Mitchell, and 10% for Spray.

Using these assumptions, the forecasted growth of 49 new employees in Fossil will result in demand for 6 gross acres of vacant (and partially vacant) employment land.

Exhibit 24. Demand for vacant land to accommodate employment growth, Fossil UGB, 2019–2039

Land Use Type	New Emp. on Vacant Land	Employees per		Land Demand (Net Acres)	Land Demand (Gross Acres)
		Acre (Net Acres)			
Private Employment	49	10		5	6
Total	49			5	6

Source: ECONorthwest

²⁶ 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.

The forecasted growth of 12 new employees in Mitchell will result in demand for 1.4 gross acres of vacant (and partially vacant) employment land.

Exhibit 25. Demand for vacant land to accommodate employment growth, Mitchell UGB, 2019–2039

Land Use Type	New Emp. on Vacant Land	Employees per Acre (Net Acres)	Land Demand (Net Acres)	Land Demand (Gross Acres)
Total Employment	12	10	1.2	1.4
Total	12		1.2	1.4

Source: ECONorthwest

The forecasted growth of 9 new employees in Spray will result in demand for 1 gross acre of vacant (and partially vacant) employment land.

Exhibit 26. Demand for vacant land to accommodate employment growth, Spray UGB, 2019–2039

Land Use Type	New Emp. on Vacant Land	Employees per Acre (Net Acres)	Land Demand (Net Acres)	Land Demand (Gross Acres)
Private Employment	9	10	0.9	1.0
Total	9		0.9	1.0

Source: ECONorthwest

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, Fossil, Mitchell, and Spray group their future employment uses into need for land and by their need for sites of a particular size.

Based on the forecasts of employment growth in Exhibit 21, Exhibit 22, and Exhibit 23 and the average business size in Fossil, Mitchell, and Spray in 2017 (using analysis of Quarterly Census of Employment and Wage data), employment growth (including private and government employment) in each city will require sites as summarized in Exhibit 27:

Exhibit 27. Estimate of sites needed for all new employment, Fossil UGB, Mitchell UGB, and Spray UGB, 2019–2039

Land Use Type	Employment growth (2019-2039)	Average business size (all emp)	Estimate forecast of growth of new businesses
Fossil	58	6	10
Mitchell	12	6	3
Spray	12	4	4

Source: QCEW, ECONorthwest

Business Oregon works with businesses considering expanding or locating in Oregon to identify potential industrial sites for the business. The following are the characteristics that Business Oregon uses when helping businesses identify places to locate. Business Oregon considers the following siting criteria when working with businesses: availability of necessary workforce, access to transportation, building type, and land availability and readiness.

- Workforce availability.** Business Oregon considers the need for workers when considering what areas may be appropriate for the business. This consideration includes the number of workers and the types of skills and education the workers will need. Business Oregon identifies areas with a sufficient workforce to meet the business’ workforce needs, considering for each area access to training and education, as well as concentrations of existing businesses with similar workforce needs where there may be a larger labor pool of qualified workers.

- **Access to transportation.** Businesses consider access to major transportation corridors when they choose a location, both for freight movement and automotive access. In Oregon, I-5 is the primary location that businesses look for available sites, despite availability of the suitable building size elsewhere in the state. Locations along I-84 and state highways can also meet some business' need for transportation access.
- **Business and site size.** Business Oregon typically works with businesses that would employ between 20 and 100 employees. As of early 2019, most businesses that have worked with Business Oregon in the past several years look for sites with an existing building. The size of the buildings these businesses request are typically more than 50,000 square feet, but they have worked with businesses looking for smaller buildings, ranging from 5 square feet to 20,000 square feet.
- **Land availability and readiness.** Businesses need sites that can be developed relatively quickly. This means that the landowner is willing to sell the land or act as developer. In addition, the land needs to have easy access to municipal infrastructure such as water, sewer, roads, and stormwater. Access to and sufficient capacity of private infrastructure (i.e., electricity, natural gas, or rail) may be critical to some businesses in selecting a location.
- **Other considerations.** Other key factors for choosing a site include the timeline and costs to begin operating at the site. Costs include utility costs, taxes, permitting costs, and available incentives.

Jurisdictions in Eastern Oregon that have difficulty attracting larger industrial employers can choose to focus on infrastructure for small businesses and entrepreneurs. These include smaller flex spaces with access to reliable broadband services. Once they establish this core infrastructure, many communities in Eastern Oregon can also leverage lifestyle and quality of life as factors to attract entrepreneurs who are generally more mobile than larger, established businesses.

With these considerations in mind and considering that the potential growth industries described in the prior section are generally small businesses, the following are the site needs for businesses that may locate in Fossil. For the most part, Fossil's potential growth industries need relatively flat sites, especially for industrial or manufacturing businesses. Commercial businesses, especially those serving tourism, will need a site with high visibility and/or a location along Highway 19. Industrial businesses will need easy access to these highways but may not need a location directly along the highways.

For the most part, the size of sites needed by most potential growth industries will range from space in an existing building to a site of one acre or less, to sites up to 5 acres for manufacturing businesses.

Manufacturing and other industrial businesses likely to locate in Fossil will have a range of space needs:

- **Small-scale manufacturing space.** Businesses would be located in an industrial building with other users.
- **Space in an existing building.** The majority of businesses that work with Business Oregon on site selection request space in existing buildings.
- **A site to develop a new building.** Some manufacturers may need a site to build a building specific to their needs, possibly with accessory buildings for storage. These businesses are most likely to need a site of less than two acres in size.

Site needs for new services for residents and visitors may include businesses locating in existing buildings, commercial nodes of one-half to two acres in residential neighborhoods, or commercial development sites generally less than two acres for new commercial buildings. Development of senior housing with services may require sites of about one to five acres and may be located in residential areas.

The site needs of commercial businesses locating in Mitchell and Spray are likely to include: relatively flat sites, along (or with visibility from) Highway 26 (Mitchell) or Highway 19 (Spray), and be relatively small, generally less than one acre. If Mitchell and Spray attract manufacturing businesses, they will likely need to develop a new building and would likely need a site of one to two acres.

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 Fossil UGB, Mitchell UGB, and Spray 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 Fossil UGB, Mitchell UGB, and Spray UGB. The results are based on analyses of Wheeler County and State of Oregon GIS data by ECONorthwest and reviewed by Fossil, Mitchell, and Spray staff. The methodology we used to develop the buildable lands inventory is presented in Appendix B.

Land base

Exhibit 28, Exhibit 29, and Exhibit 30 summarize all land included in the employment land base (e.g., lands with plan designations that allow employment) in the Fossil UGB, Mitchell UGB, and Spray UGB. ECONorthwest used this land base in the buildable lands analysis for Fossil, Mitchell, and Spray. The land base includes traditional employment designations within the Fossil UGB, Mitchell UGB, and Spray UGB. According to 2018 data, within Fossil's UGB there are about 104 acres in 77 tax lots in total.

Exhibit 28. Acres in Fossil UGB, 2018

Plan Designation	Number of taxlots	Percent	Total taxlot acreage	Percent
<i>City of Fossil Designations</i>				
Commercial	58	75%	12	11%
Commercial/Residential	0	0%	0	0%
Industrial	12	16%	23	22%
Farm	7	9%	69	67%
Total	77	100%	104	100%

Source: ECONorthwest analysis of data from Wheeler County and State of Oregon.

Within Mitchell's UGB there are about 218 acres in 52 tax lots in total.

Exhibit 29. Acres in Mitchell UGB, 2018

Plan Designation	Number of taxlots	Percent	Total taxlot acreage	Percent
<i>City of Mitchell Designations</i>				
Commercial	27	52%	13	6%
Commercial/Residential	0	0%	0	0%
Industrial	0	0%	0	0%
Farm	25	48%	206	94%
Total	52	100%	218	100%

Source: ECONorthwest analysis of data from Wheeler County and State of Oregon.

Within Spray’s UGB there are about 58 acres in 80 tax lots in total.

Exhibit 30. Acres in Spray UGB, 2018

Plan Designation	Number of taxlots	Percent	Total taxlot acreage	Percent
City of Spray Designations				
Commercial	0	0%	0	0%
Commercial/Residential	80	100%	58	27%
Industrial	0	0%	0	0%
Farm	0	0%	0	0%
Total	80	100%	58	27%

Source: ECONorthwest analysis of data from Wheeler County and State of Oregon.

The next step in the inventory was to classify lands into mutually-exclusive categories that relate to their development status. The categories include:

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

Exhibit 31, Exhibit 32, and Exhibit 33 show commercial, commercial/residential, industrial, and farm land in Fossil, Mitchell, and Spray by classification (development status). Of the 104 acres in the Fossil UGB, about 22 acres (21%) are in classifications with no development capacity (or, “committed acres”). Of the remaining 82 acres, 68 acres (65%) are constrained, and 14 acres (14%) are buildable land with development capacity.

Exhibit 31. Employment acres by classification and plan designation, Fossil UGB, 2018

Plan Designation	Total acres	Committed acres	Constrained acres	Buildable acres
City of Fossil Designations				
Commercial	12	7	4	1
Commercial/Residential	0	0	0	0
Industrial	23	15	4	4
Farm	69	0	60	10
Total	104	22	68	14

Source: ECONorthwest analysis of data from Wheeler County and State of Oregon.

Of the 218 acres in the Mitchell UGB, about 5 acres (2%) are in classifications with no development capacity (or “committed acres”). Of the remaining 214 acres, 167 acres (77%) are constrained, and 46 acres (21%) are buildable land with development capacity.

Exhibit 32. Employment acres by classification and plan designation, Mitchell UGB, 2018

Plan Designation	Total acres	Committed acres	Constrained acres	Buildable acres
City of Mitchell Designations				
Commercial	13	3	10	0
Commercial/Residential	0	0	0	0
Industrial	0	0	0	0
Farm	206	2	158	46
Total	218	5	167	46

Source: ECONorthwest analysis of data from Wheeler County and State of Oregon.

Of the 58 acres in the Spray UGB, about 19 acres (32%) are in classifications with no development capacity (or “committed acres”). Of the remaining 40 acres, 35 acres (60%) are constrained, and 5 acres (8%) are buildable land with development capacity.

Exhibit 33. Employment acres by classification and plan designation, Spray UGB, 2018

Plan Designation	Total acres	Committed acres	Constrained acres	Buildable acres
City of Spray Designations				
Commercial	0	0	0	0
Commercial/Residential	58	19	35	5
Industrial	0	0	0	0
Farm	0	0	0	0
Total	58	19	35	5

Source: ECONorthwest analysis of data from Wheeler County and State of Oregon.

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).

Exhibit 34, Exhibit 35, and Exhibit 36 show unconstrained buildable acres for vacant and partially vacant land by plan designation. The results show that Fossil has about 14 net buildable acres in commercial, industrial, and farm plan designations. Of this, 6% (1 acre) is in the commercial designations, 28% (4 acres) is in industrial designations, and 66% (10 acres) is in the farm designations.

Exhibit 34. Employment land with unconstrained development capacity (Vacant, and Partially Vacant) by plan designation, Fossil UGB, 2018

Plan Designation	Total Buildable acres	Buildable acres on vacant lots	Buildable acres on partially vacant lots
City of Fossil Designations			
Commercial	1	0	1
Commercial/Residential	0	0	0
Industrial	4	3	1
Farm	10	10	0
Total	14	13	2

Source: ECONorthwest analysis of data from Wheeler County and State of Oregon.

The results show that Mitchell has about 46 net buildable acres in total, 100% of those buildable acres are in the farm designation.

Exhibit 35. Employment land with unconstrained development capacity (Vacant, Partially Vacant) by plan designation, Mitchell UGB, 2018

Plan Designation	Total Buildable acres	Buildable acres on vacant lots	Buildable acres on partially vacant lots
City of Mitchell Designations			
Commercial	0	0	0
Commercial/Residential	0	0	0
Industrial	0	0	0
Farm	46	46	0
Total	46	46	0

Source: ECONorthwest analysis of data from Wheeler County and State of Oregon.

The results show that Spray has about 5 net buildable acres in total, 100% of those buildable acres are in the commercial/residential designation.

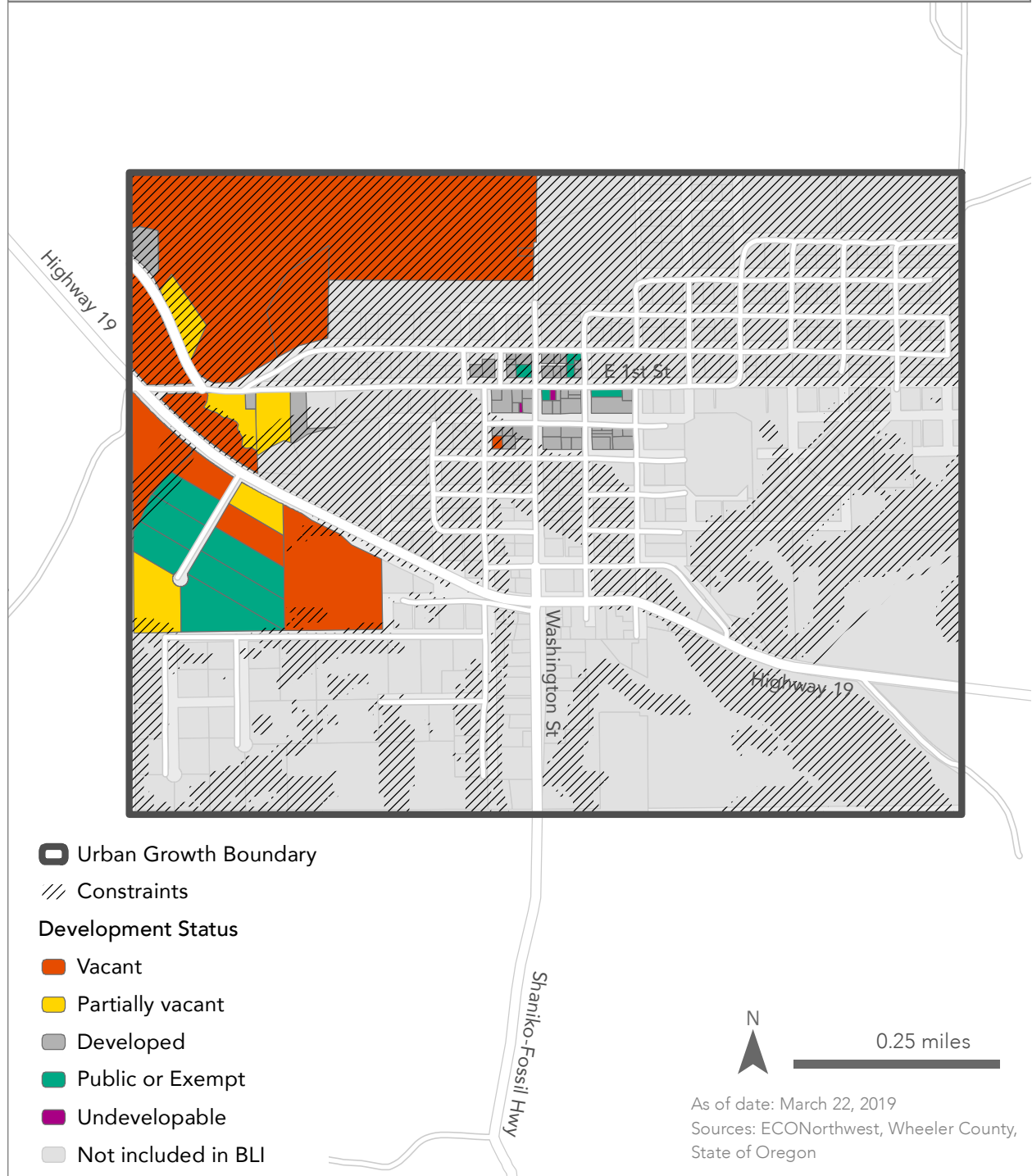
Exhibit 36. Employment land with unconstrained development capacity (Vacant, Partially Vacant) by plan designation, Spray UGB, 2018

Plan Designation	Total Buildable acres	Buildable acres on vacant lots	Buildable acres on partially vacant lots
City of Spray Designations			
Commercial	0	0	0
Commercial/Residential	5	3	1
Industrial	0	0	0
Farm	0	0	0
Total	5	3	1

Source: ECONorthwest analysis of data from Wheeler County and State of Oregon.

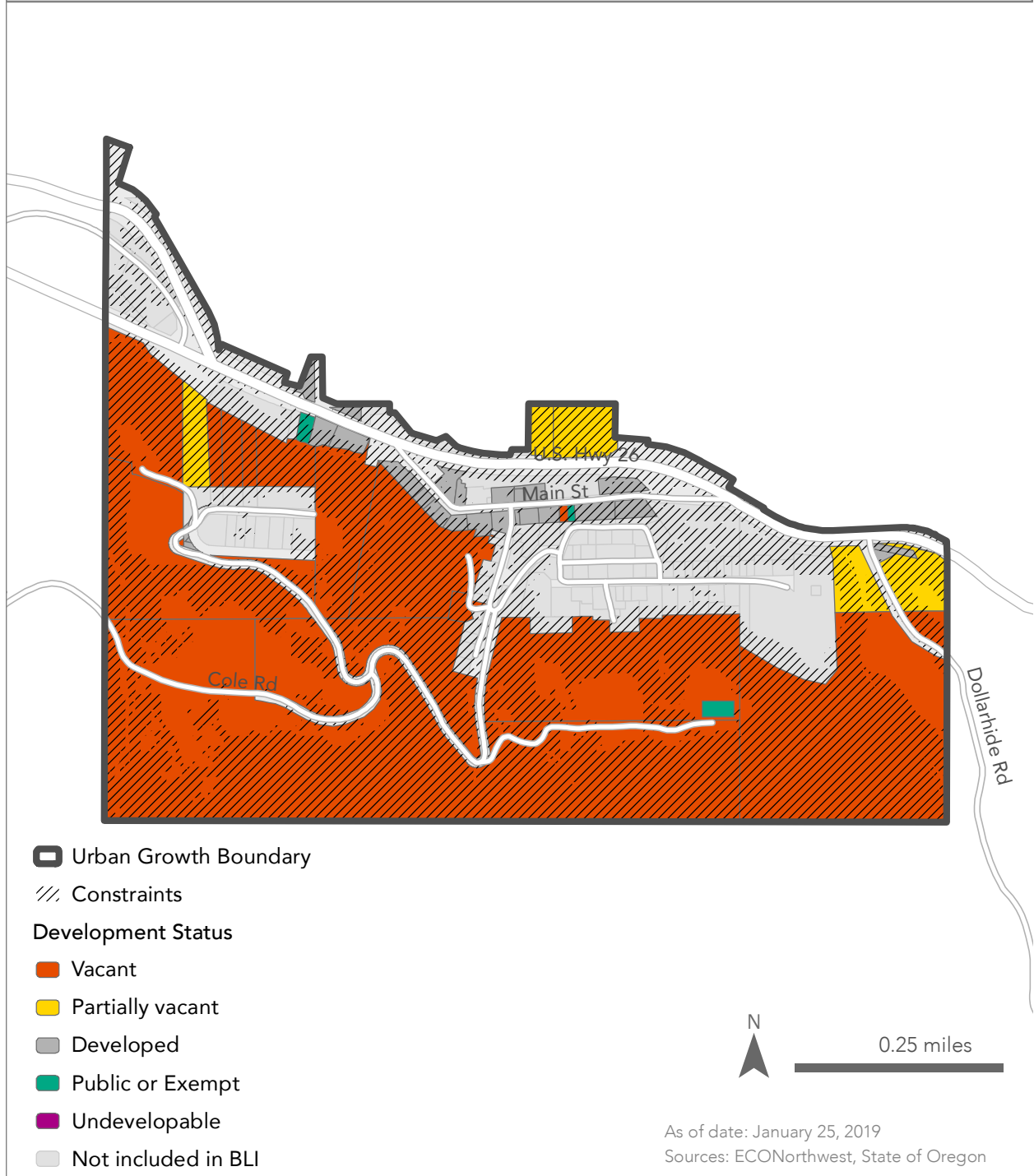
The following maps shows buildable lands and development constraints for Fossil, Mitchell, and Spray for commercial and industrial lands.

Fossil Buildable Lands Inventory Development Status

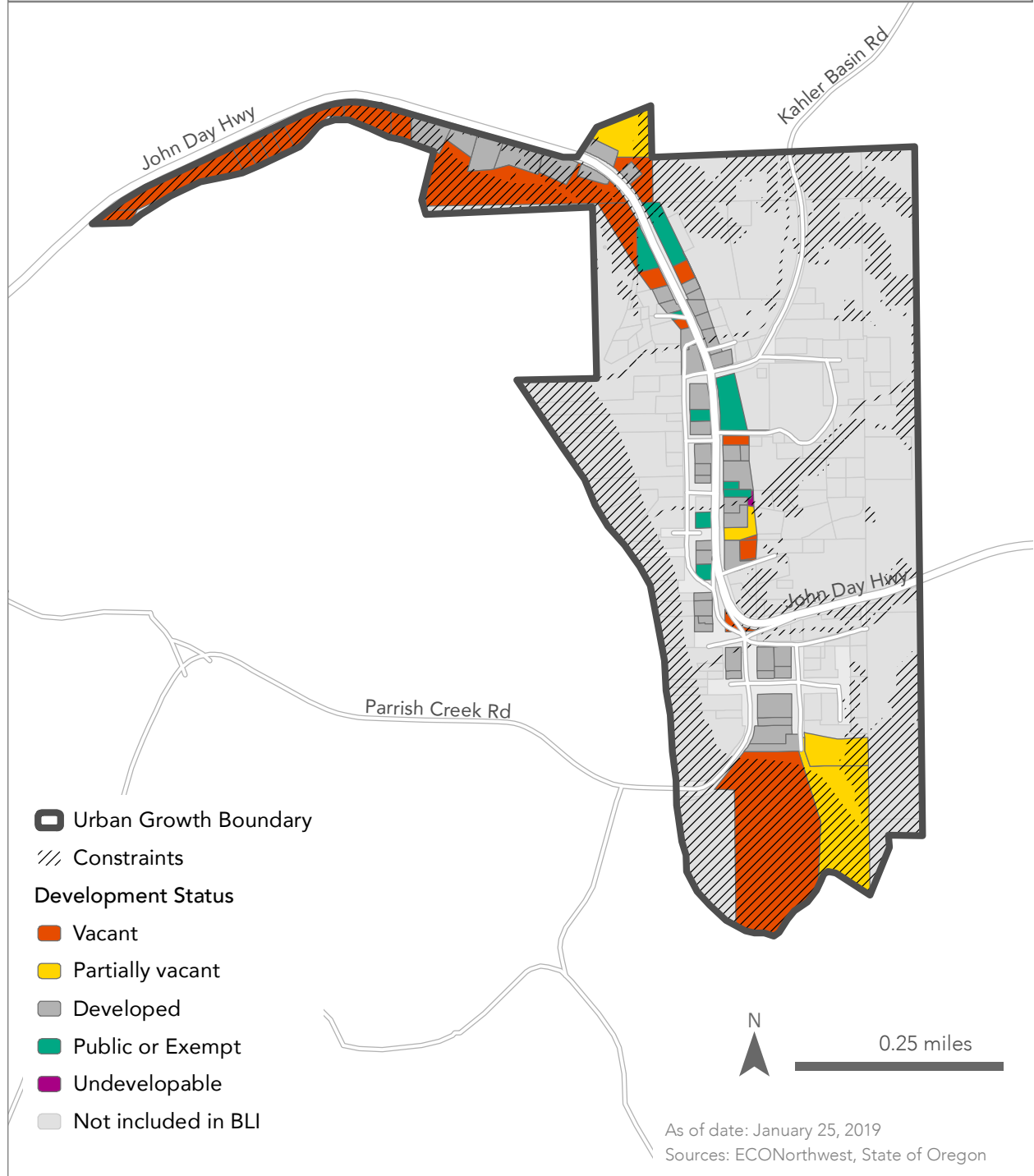


Mitchell Buildable Lands Inventory

Development Status

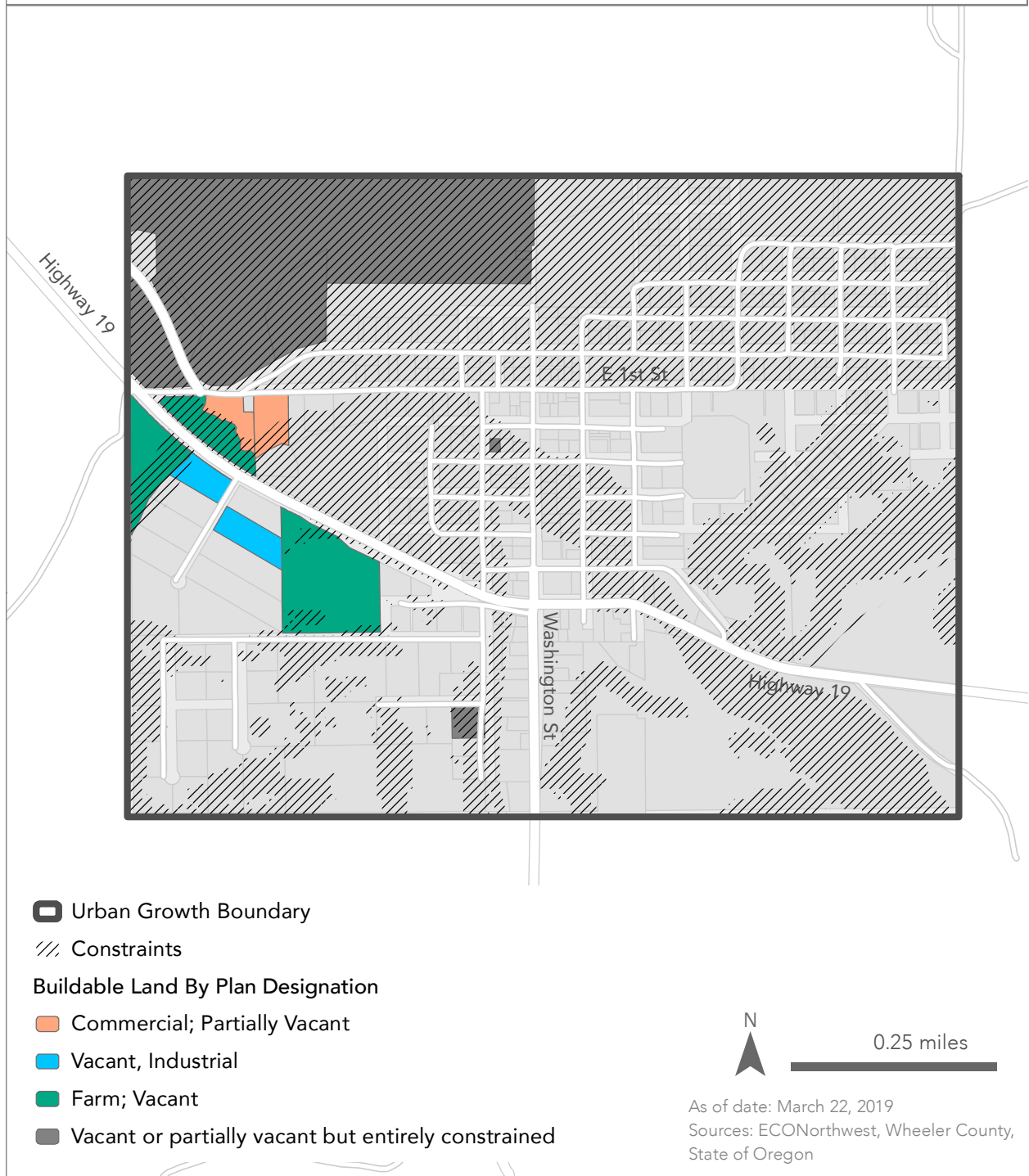


Spray Buildable Lands Inventory Comprehensive Plan Designations



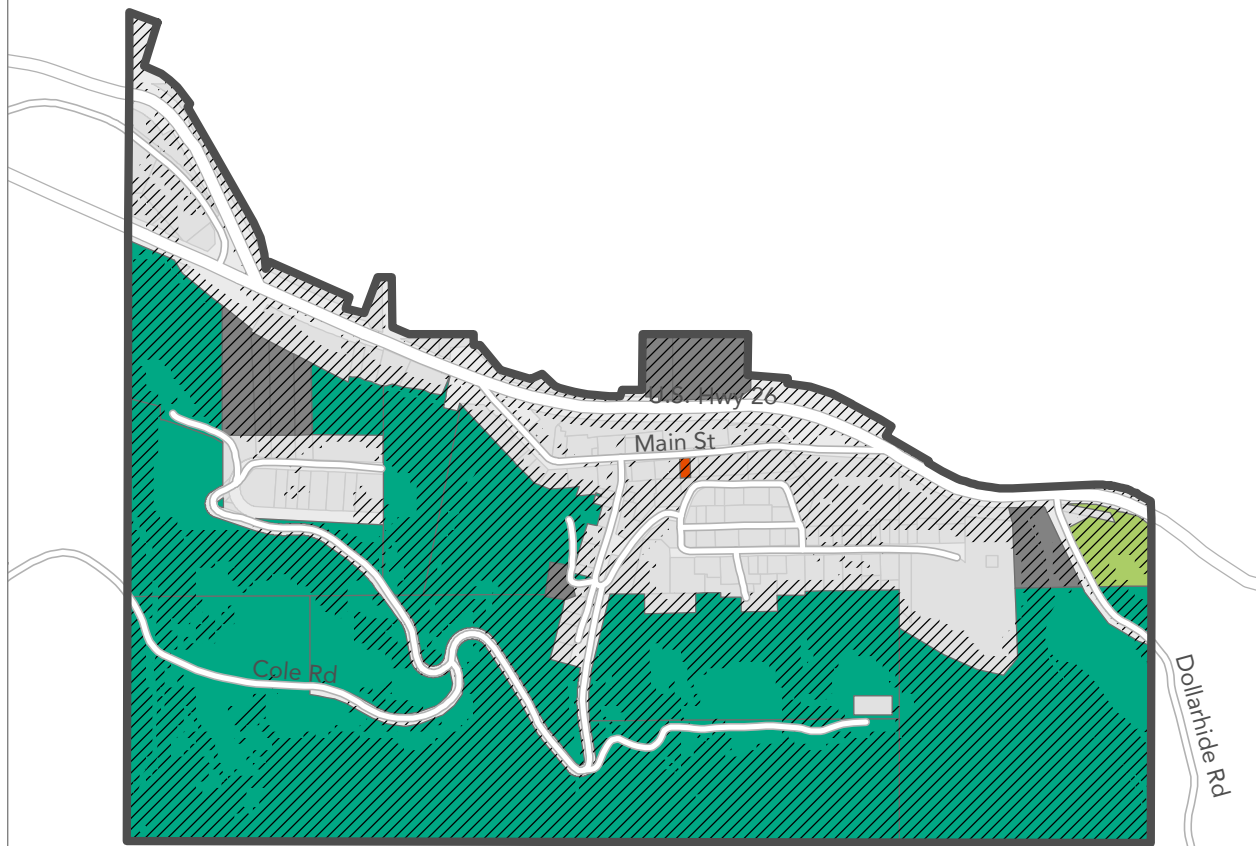
Fossil Buildable Lands Inventory







Buildable Land

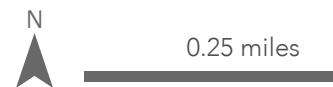


Mitchell Buildable Lands Inventory

Buildable Land



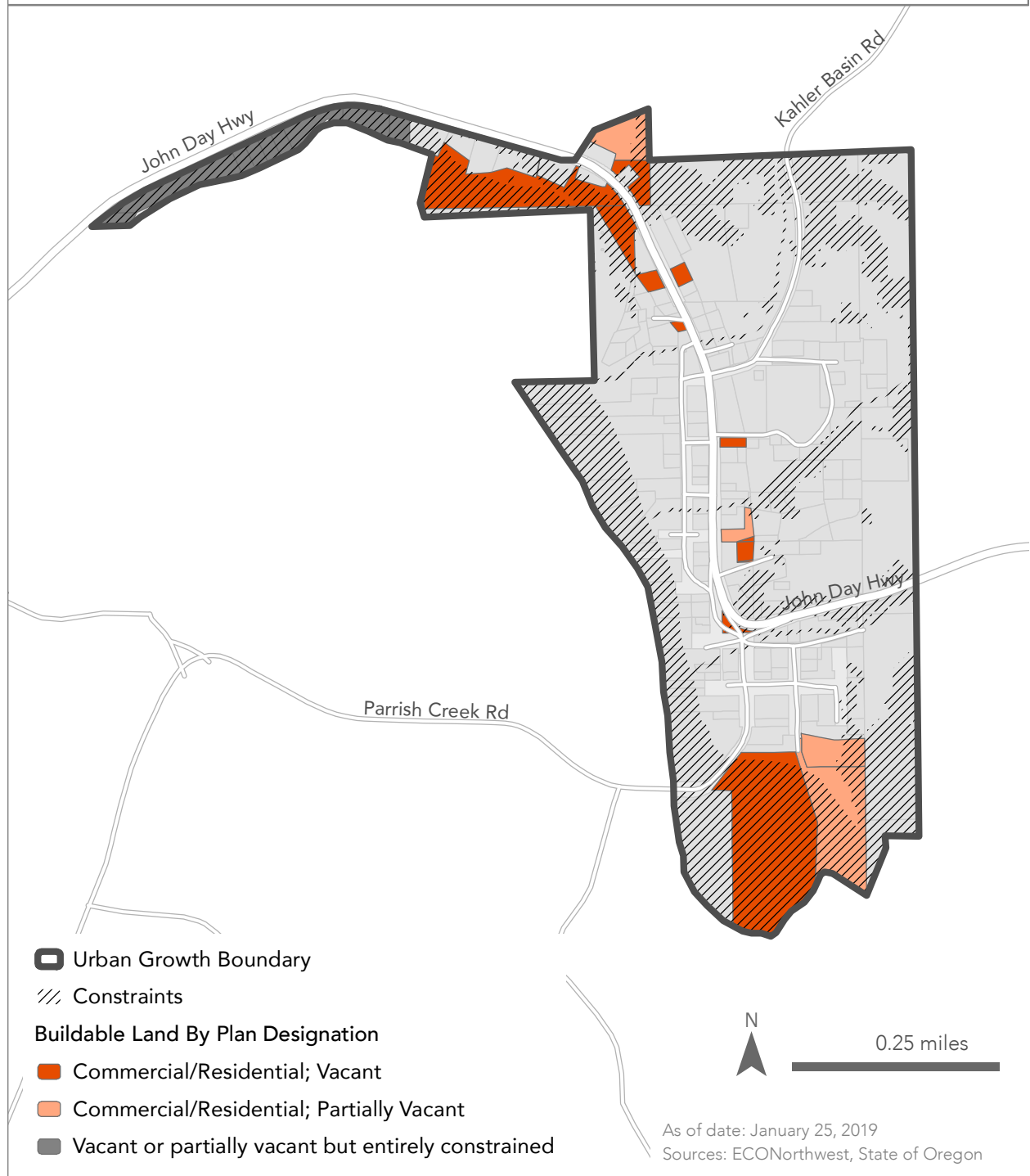
-  Urban Growth Boundary
-  Constraints
- Buildable Land By Plan Designation**
-  Commercial; Vacant
-  Farm; Vacant
-  Farm; Partially Vacant
-  Vacant or partially vacant but entirely constrained








As of date: January 25, 2019
Sources: ECONorthwest, State of Oregon

Spray Buildable Lands Inventory

Buildable Land



-  Urban Growth Boundary
-  Constraints
- Buildable Land By Plan Designation**
-  Commercial/Residential; Vacant
-  Commercial/Residential; Partially Vacant
-  Vacant or partially vacant but entirely constrained

As of date: January 25, 2019
Sources: ECONorthwest, State of Oregon

Exhibit 43, Exhibit 44, and Exhibit 45 show the size of lots by plan designations for buildable employment land. Fossil has 3 lots that are smaller than 0.5 acres (with 0.6 acres of land), 2 lots between 0.5 and 1 acres (1.3 acres of land), 3 lots between 1 and 2 acres in size (4.7 acres of land) and 1 lot between 5 and 10 acres in size (8 acres of land).

Exhibit 43. Lot size by plan designation, buildable acres, Fossil UGB, 2018

	Buildable acres in taxlot						
	<0.5 acres	0.5-1 acres	1-2 acres	2-5 acres	5-10 acres	10-20 acres	
Buildable acres on taxlots							
<i>City of Fossil Designations</i>							
Commercial	0.2	0.6	0	0	0	0	0
Commercial/Residential	0	0	0	0	0	0	0
Industrial	0	1	3	0	0	0	0
Farm	0.1	0	1.6	0	8	0	0
Acreage subtotal	0.6	1.3	4.7	0	8	0	0
Number of taxlots with buildable acreage							
<i>City of Fossil Designations</i>							
Commercial	1	1	0	0	0	0	0
Commercial/Residential	0	0	0	0	0	0	0
Industrial	1	1	2	0	0	0	0
Farm	1	0	1	0	1	0	0
Taxlot count subtotal	3	2	3	0	1	0	0

Source: ECONorthwest analysis of data from Wheeler County and State of Oregon.

Mitchell has 3 lots that are smaller than 0.5 acres in size (with 0.6 acres of land), 3 lots between 0.5 and 1 acre (2.1 acres of land), 2 lots between 1 and 2 acres (3.2 acres of land), 1 lot between 2 and 5 acres (4.9 acres of land), 3 lots between 5 and 10 acres (17.8 acres of land) and 1 lot between 10 and 20 acres in size (17.8 acres of land).

Exhibit 44. Lot size by plan designation, buildable acres, Mitchell UGB, 2018

	Buildable acres in taxlot						
	<0.5 acres	0.5-1 acres	1-2 acres	2-5 acres	5-10 acres	10-20 acres	
Buildable acres on taxlots							
<i>City of Mitchell Designations</i>							
Commercial	0	0	0	0	0	0	0
Commercial/Residential	0	0	0	0	0	0	0
Industrial	0	0	0	0	0	0	0
Farm	0.6	2.1	3.2	4.9	17.8	17.8	0
Acreage subtotal	0.6	2.1	3.2	4.9	17.8	17.8	0
Number of taxlots with buildable acreage							
<i>City of Mitchell Designations</i>							
Commercial	1	0	0	0	0	0	0
Commercial/Residential	0	0	0	0	0	0	0
Industrial	0	0	0	0	0	0	0
Farm	3	3	2	1	3	1	0
Taxlot count subtotal	3	3	2	1	3	1	0

Source: ECONorthwest analysis of data from Wheeler County and State of Oregon.

Spray has 13 lots that are smaller than 0.5 acres in size (with 2.2 acres of land), 2 lots between 0.5 and 1 acres (1.3 acres of land), and 1 lot between 1 and 2 acres (1.1 acres of land).

Exhibit 45. Lot size by plan designation, buildable acres, Spray UGB, 2018

	Buildable acres in taxlot						
	<0.5 acres	0.5-1 acres	1-2 acres	2-5 acres	5-10 acres	10-20 acres	>20 acres
Buildable acres on taxlots							
City of Spray Designations							
Commercial	0	0	0	0	0	0	0
Commercial/Residential	2.2	1.3	1.1	0	0	0	0
Industrial	0	0	0	0	0	0	0
Farm	0	0	0	0	0	0	0
Acreage subtotal	2.2	1.3	1.1	0	0	0	0
Number of taxlots with buildable acreage							
City of Spray Designations							
Commercial	0	0	0	0	0	0	0
Commercial/Residential	13	2	1	0	0	0	0
Industrial	0	0	0	0	0	0	0
Farm	0	0	0	0	0	0	0
Taxlot count subtotal	13	2	1	0	0	0	0

Source: ECONorthwest analysis of data from Wheeler County and State of Oregon.

5. Land Sufficiency and Conclusions

This chapter presents conclusions about Fossil’s, Mitchell’s, and Spray’s employment land sufficiency for the 2019-2039 period. The chapter then concludes with a discussion about Fossil’s, Mitchell’s, and Spray’s land base and its ability to accommodate growth over the next 20 years, as well as recommendations for each community to consider, ensuring it meets its economic growth needs throughout the planning period.

Land Sufficiency

Fossil UGB

Exhibit 46 shows commercial and industrial land sufficiency within the Fossil UGB. It shows:

- **Vacant Unconstrained Land** from Exhibit 34 for land within the UGB. Exhibit 46 shows that Fossil has 14 gross acres employment land. Ten acres of Fossil’s buildable land supply is in the Farm Comprehensive Plan Designation. Fossil only has four acres of land designated for commercial or industrial uses.
- **Demand for Commercial and Industrial Land** from Exhibit 24. Exhibit 46 shows Fossil will need a total of 6 gross acres for employment uses over the 2019-2039 period.

Exhibit 46 shows that Fossil has an 8-acre surplus of employment land, including land in the Farm Comprehensive Plan Designation. Fossil has a very limited supply of commercial and industrial land. Some land in the Farm Designation may be suitable for commercial or industrial use, providing Fossil with more opportunities for employment development.

Meeting the City’s forecast for growth will require one or more of the following: intensifying the uses in existing buildings (either filling vacant spaces in buildings or adding more employment to buildings, redeveloping a site with existing use that is currently underutilized, redesignating land from Farm to Commercial or Industrial, or an urban growth boundary expansion.

Exhibit 46. Comparison of the Capacity Unconstrained Vacant Unconstrained Land with Employment Land Demand, gross acres, Fossil UGB, 2019–2039

Land Use Type	Land Supply (Suitable Gross Acres)	Land Demand (Gross Acres)	Land Sufficiency (Deficit)
Commercial and Industrial	5	6	(1)
Farm	10	-	10
Total	5	6	8

Source: ECONorthwest

Mitchell UGB

Exhibit 47 shows commercial and industrial land sufficiency within the Mitchell UGB. It shows:

- **Vacant Unconstrained Land** from Exhibit 35 for land within the UGB. Exhibit 47 shows that Mitchell has 46 gross acres employment land. All of this land is within the Farm Comprehensive Plan Designation, which may not be suitable for development for employment uses.
- **Demand for Commercial and Industrial Land** from Exhibit 25. Exhibit 47 shows Mitchell will need a total of 1 gross acre for employment uses over the 2019-2039 period.

Exhibit 47 shows that Mitchell has a 45-acre surplus of employment land. However, Mitchell has no vacant commercial or industrial land. And the land in the Farm Designation is not in an area that is likely suitable for future employment growth, given its distance and constrained access to Highway 26.

Meeting the City’s forecast for growth will require one or more of the following: intensifying the uses in existing buildings (either filling vacant spaces in buildings or adding more employment to buildings, redeveloping one or more sites with existing use where the site is currently underutilized, redesignating land from Farm to Commercial or Industrial, or an urban growth boundary expansion.

Exhibit 47. Comparison of the Capacity Unconstrained Vacant Unconstrained Land with Employment Land Demand, gross acres, Mitchell UGB, 2019–2039

Land Use Type	Land Supply (Suitable Gross Acres)	Land Demand (Gross Acres)	Land Sufficiency (Deficit)
Commercial and Industrial	0	1	(1)
Farm	46	-	46
Total	0	1	45

Source: ECONorthwest

Spray UGB

Exhibit 48 shows commercial and industrial land sufficiency within the Spray UGB. It shows:

- **Vacant Unconstrained Land** from Exhibit 36 for land within the UGB. Exhibit 48 shows that Spray has 5 gross acres employment land.
- **Demand for Commercial and Industrial Land** from Exhibit 26. Exhibit 48 shows Spray will need a total of 1 gross acre for employment uses over the 2019-2039 period.

Exhibit 48 shows that Spray has a 4-acre surplus of employment land.

Exhibit 48. Comparison of the Capacity Unconstrained Vacant Unconstrained Land with Employment Land Demand, gross acres, Spray UGB, 2019–2039

Land Use Type	Land Supply (Suitable Gross Acres)	Land Demand (Gross Acres)	Land Sufficiency (Deficit)
Commercial and Industrial	5	1	4
Total	5	1	4

Source: ECONorthwest

Conclusions and Recommendations

The following are recommendations that apply to Wheeler County and the three cities for actions that can be taken together:

- **Identify opportunities to diversify Wheeler County's economic base.** Diversifying Wheeler County's economy will require coordinating economic development efforts with the county and cities, as well as with local and regional economic development organizations listed below. We make this recommendation to the county and cities to work together on this issue because it is going to take resources (staff and financial resources) that could be pooled together among the county and cities. The County and cities should consider the following actions:
 - *Identify champions for economic development.* Pursuing economic development will require champions for economic development. They could be led by a county-wide economic development specialist, but each city will also need champions to move forward and create support for economic development efforts. The champions could be an elected or appointed official or city staff.
 - *Develop an Economic Development Strategy.* Diversifying Wheeler County's economic base will require deliberate effort (led by the economic development champions) and would benefit with developing an Economic Development Strategy. The strategy should focus on specific and achievable actions that the county and cities can take within the next five years (some of which are suggested in this report) and should have broader focus than land use, considering issues such as workforce development and collaborating with businesses to support business growth. The Strategy should have actions that address county-wide issues as well as actions for each community. Coordinating actions in the local strategy with GEODC's five-year Comprehensive Economic Development Strategy (CEDS) can help to identify funding and partnerships for infrastructure, workforce development, resources for businesses, and other economic development needs in the County.
 - *Coordinate and market opportunities for growth in Wheeler County.* A key part of the economic development strategy will be coordinating local economic development champions and stakeholders with regional and state partners on economic development, including GEODC, Business Oregon, the Department of Land Conservation and Development (DLCD), and other State agencies that are part of the Greater Eastern Oregon and North Central Regional Solutions Team. For example, the cities should work with Business Oregon to ensure that vacant commercial and industrial sites (for sale or lease) are listed on the Oregon Prospector website and that Business Oregon staff are aware of key development opportunities in the cities. Other partnership examples include working with Business Oregon and the Wheeler County Chamber of Commerce on recruitment and retention efforts or with the Oregon Paleo Lands Institute and National Park Service on attracting visitors to recreation areas.

- Identify actions to grow tourism and attract visitors to Wheeler County throughout the year.** Tourism in Wheeler County is focused in the late spring through early fall. Growing Wheeler County’s economy will include increasing tourism across the year. The easiest times to increase tourism may be in the “shoulder” seasons in the mid-spring and mid-fall. Increasing tourism in the “shoulder” seasons will require giving visitors a reason to come to Wheeler County when they normally would not. Wheeler County can continue to build on work completed for Travel Oregon’s rural tourism studio for the John Day River Territory for ideas and actions to grow tourism across the county. The Oregon Paleo Lands Institute and National Park Service will also continue to be key partners in tourism and recreation in Wheeler County. The development of a lodge as part of the John Day Fossil Bed National Monument could draw more visitors to the area.
- Address workforce issues.** A key challenge for businesses in Wheeler County is attracting reliable and sober workers. One approach to addressing this issue is teaching life skills to young people at the high school or post-high school training offered by a nonprofit organization. In addition, businesses in Wheeler County will need workers who are semi-skilled and skilled. Trade skills and other training is offered by community colleges. Wheeler County is not fully served by a community college and may not have the capacity for teaching life skills. Making these types of training available and easily accessible in the County will require substantial and continuous effort. The County should also work to ensure that these opportunities are made available to all community members, including culturally specific services to historically underrepresented community members such as Native American and Spanish speaking community members. The County and cities can work together to identify champions of these efforts, working with the school district and tapping resources from across Central and Eastern Oregon.

Providing education in schools related to life skills in Wheeler County can also lead to more entrepreneurial ventures and development of microenterprises, including those related to services for residents and visitors (e.g., restaurants, grocery stores, etc.). Providing resources for entrepreneurs that help fill skill gaps related to running a business can help more entrepreneurs succeed. While some resources are available at the regional or state level, entrepreneurs need “on-site” support in the local area, as they have little time to travel for business support services.

Other factors in attracting the needed workforce in Wheeler County are access to adequate workforce housing and ensuring quality child care is available. The County and cities should work with development partners to plan for housing that is affordable at all income levels, specifically focused on incomes of workers in Wheeler County. The County and cities may have opportunities to support development of child care facilities.

The conclusions and recommendations about commercial and industrial land sufficiency for Fossil are:

- **Fossil is expected to add new commercial and industrial employment.** Fossil is planning for growth of 49 new private sector jobs for commercial and industrial uses over the 2019 to 2039 period. Growth of these jobs will result in demand for about 6 gross acres of commercial and industrial land.
- **Fossil does not have enough vacant unconstrained land in commercial and industrial designations to meet the City’s forecast for growth.** Meeting the City’s forecast for growth will require one or more of the following:
 - *Intensifying the uses in existing buildings, either filling vacant spaces in buildings or adding more employment to buildings.* This option is the most likely way to accommodate future growth if there is underutilized commercial space in town.
 - *Redeveloping one or more sites with existing uses where the site is currently underutilized.* This option may be a good option for accommodating future growth if there is a landowner who wants to redevelop their site. This option may work best for commercial uses, especially for sites along the highway.
 - *Redesignating land from Farm to Commercial or Industrial.* This option may be the best option for accommodating new industrial businesses, if there is a landowner who wants to redesignate a portion of their land in the Farm Designation, where there it is relatively easy to connect the site to the city’s transportation, water, and wastewater systems.
 - *An urban growth boundary expansion.* This is the most complicated approach to meeting the City’s commercial and industrial land needs. To do an urban growth boundary expansion, the City would need to conduct an evaluation of land use efficiency measures to determine whether the land deficit can be met through more efficient use of existing sites and underutilized land. In addition, the City may be required to redesignate the land in the Farm designation to another urban designation (such as housing) to demonstrate that it is not available for commercial or industrial development.
- **Update the Economy Element of the Comprehensive Plan.** The Economy Element has not been updated in more than a decade. We recommend that the City Council review the existing policies and, after making additional necessary revisions to the policies, adopt revised goals, objectives, and implementation strategies into the Economy Element.

- **Identify opportunities for infill development or redevelopment.** Fossil’s downtown area is generally built out, with no vacant land. Fossil may have opportunities for infill and redevelopment in downtown. Redevelopment could involve substantial renovation or change of use of existing buildings or demolition of existing buildings and building of newer, more productive buildings. Infill development may be expansion of existing buildings or building new buildings adjacent to existing buildings. In both cases, new development that increases capacity for business activity is an opportunity.

In the near-term Fossil city staff should identify opportunities for near-term development and infill. After identifying a specific area (or areas) of near-term focus, representatives from DLCD and Regional Solutions can assist in creating an implementation plan for needed infrastructure and other improvements for these specific areas. The primary barrier to any redevelopment plan is the willingness of landowners to redevelop their property.

- **Extension of water and sewer service to vacant land.** Much of the vacant land in Fossil is not serviced with water and sewer pipes. Generally, extension of water and sewer pipes lack infrastructure (including water, wastewater, and transportation) to service industrial land, and is a barrier to development of industrial land and can be a barrier to development of commercial land. The City will need to work with landowners and developers to develop infrastructure to serve key industrial sites. The City should apply for State grants to address these infrastructure deficiencies.
- **Most new businesses will be relatively small and will require small sites.** Fossil’s businesses are generally small, averaging about 6 employees per business. Businesses with 9 or fewer employees account for 51% of private employment. Growth of small businesses presents key opportunities for economic growth in Fossil. Fossil has about 4 commercial or industrial sites smaller than 1 acre and 2 sites between 1 and 5 acres. In addition, Fossil has 3 sites on land with a Farm designation, one of which is 8 acres in size.
- **Monitor and replenish the supply of commercial and industrial land on a regular basis.** The buildable lands inventory identifies the existing development status of employment land in Fossil. While Fossil will not completely update the buildable lands inventory on an annual basis, City staff should still monitor the development status of these employment lands and replenish the supply of land ready for development, as possible.
- **Support entrepreneurial and small business development.** Cities can provide support by allowing home occupations or working closely with small businesses to ensure they have the help they need through the planning process. The cities could identify opportunities to more directly support small businesses, through working with partners to provide shared workspace (such as a small amount of office space at a public building). Ensuring that internet connections are reliable and have sufficient communication speeds to allow businesses to operate remotely across the internet. More broadly, Fossil can coordinate with the County and other regional or state partners to establish small business development centers to connect entrepreneurs and small business owners with needed services, resources, and other business assistance.

The conclusions and recommendations about commercial and industrial land sufficiency for Mitchell are:

- **Mitchell is expected to add new commercial and industrial employment.** Mitchell is planning for growth of 12 new private sector jobs for commercial and industrial uses over the 2019 to 2039 period. Growth of these jobs will result in demand for about 1.4 gross acres of commercial and industrial land.
- **Mitchell does not have enough vacant unconstrained land in commercial and industrial designations to meet the City’s forecast for growth.** Meeting the City’s forecast for growth will require one or more of the following:
 - *Intensifying the uses in existing buildings, either filling vacant spaces in buildings or adding more employment to buildings.* This option is the most likely way to accommodate future growth, if there is underutilized commercial space in town.
 - *Redeveloping one or more sites with existing uses where the site is currently underutilized.* This option may be a good option for accommodating future growth if there is a landowner who wants to redevelop their site. This option may work best for commercial sites along the highway.
 - *Redesignating land from Farm to Commercial or Industrial.* Given the location of land with a Farm designation in Mitchell, away from Highway 26 and on the hillside, this may be the least attractive option for accommodating growth for Mitchell.
 - *An urban growth boundary expansion.* This is the most complicated approach to meeting the City’s commercial and industrial land needs. To do an urban growth boundary expansion, the City would need to conduct an evaluation of land use efficiency measures to determine whether the land deficit can be met through more efficient use of existing sites and underutilized land. In addition, the City may be required to redesignate the land in the Farm designation to another urban designation (such as housing) to demonstrate that it is not available for commercial or industrial development.
- **Update the Economy Element of the Comprehensive Plan.** The Economy Element has not been updated in more than a decade. We recommend that the City Council review the existing policies and, after making additional necessary revisions to the policies, adopt revised goals, objectives, and implementation strategies into the Economy Element.

- **Identify opportunities for infill development or redevelopment.** The commercial area along Highway 26 is generally built out, with no vacant land. Mitchell may have opportunities for infill and redevelopment along this commercial area. Redevelopment could involve substantial renovation or change of use of existing buildings or demolition of existing buildings and building of newer, more productive buildings. Infill development may be expansion of existing buildings or building new buildings adjacent to existing buildings. In both cases, new development that increases capacity for business activity is an opportunity.

In the near-term Mitchell city staff should identify opportunities for near-term development and infill. After identifying a specific area (or areas) of near-term focus, representatives from DLCD and Regional Solutions can assist in creating an implementation plan for needed infrastructure and other improvements for these specific areas. The primary barrier to any redevelopment plan is the willingness of landowners to redevelop their property.

- **Most new businesses will be relatively small and will require small sites.** Mitchell's businesses are generally small, averaging about 6 employees per business. Growth of small businesses presents key opportunities for economic growth in Mitchell. However, Mitchell has no vacant commercial or industrial sites.
- **Need for water and wastewater system maintenance and upgrades.** One of Mitchell's largest barriers to economic development is the capacity and condition of the City's water system and the lack of a wastewater system. The City's water system needs substantial upgrades to the sources of water, the storage systems, and the water pipes. There is no municipal wastewater or sewer system. The City should apply for State and other grants for upgrades and other planning work necessary to upgrade these systems.
- **Support development of communication infrastructure.** Mitchell has limited cell phone and internet connections. The lack of communication infrastructure is a significant barrier to business growth in Mitchell. The City should support development of new communication infrastructure, ensuring there is reliable and faster internet connections. The State may have grants to support development of broadband internet in rural areas.
- **Support entrepreneurial and small business development.** Cities can provide support by allowing home occupations or working closely with small businesses to ensure they have the help they need through the planning process. The cities could identify opportunities to more directly support small businesses, through working with partners to provide shared workspace (such as a small amount of office space at a public building). Ensuring that internet connections are reliable and have sufficient communication speeds will allow businesses to operate remotely across the internet. More broadly, Mitchell can coordinate with the County and other regional or state partners to establish small business development centers to connect entrepreneurs and small business owners with needed services, resources, and other business assistance.

The conclusions and recommendations about commercial and industrial land sufficiency for Spray are:

- **Spray is expected to add new commercial and industrial employment.** Spray is planning for growth of 9 new private sector jobs for commercial and industrial uses over the 2019 to 2039 period. Growth of these jobs will result in demand for about one gross acres of commercial and industrial land.
- **Spray has limited opportunities for development of commercial uses.** Spray has five vacant unconstrained acres of land zoned Commercial/Residential. While this amount of land is sufficient to meet the needs of expected growth, there is little selection of sites for new development.
- **Update the Economy Element of the Comprehensive Plan.** The Economy Element has not been updated in more than a decade. We recommend that the City Council review the existing policies and, after making additional necessary revisions to the policies, adopt revised goals, objectives, and implementation strategies into the Economy Element.
- **Identify opportunities for infill development or redevelopment.** The commercial area along Highway 19 is generally built out, with little vacant land. Spray may have opportunities for infill and redevelopment along this commercial area, especially in recently vacated buildings where businesses recently closed. Redevelopment could involve substantial renovation or change of use of existing buildings or demolition of existing buildings and building of newer, more productive buildings. Infill development may be expansion of existing buildings or building new buildings adjacent to existing buildings. In both cases, new development that increases capacity for business activity is an opportunity. In the near-term Spray city staff should identify opportunities for near-term development and infill. After identifying a specific area (or areas) of near-term focus, representatives from DLCD and Regional Solutions can assist in creating an implementation plan for needed infrastructure and other improvements for these specific areas. The primary barrier to any redevelopment plan is the willingness of landowners to redevelop their property.
- **Most new businesses will be small and will require small sites.** Spray's businesses are generally small, averaging about 2 employees per business. Growth of small businesses presents key opportunities for economic growth in Spray.
- **Support development of internet service.** Spray has limited internet service. The lack of communication infrastructure is a significant barrier to business growth in Spray. The City should support development of new communication infrastructure, ensuring there is reliable and faster internet connections. The State may have grants to support development of broadband internet in rural areas.

- **Support entrepreneurial and microenterprise development.** Cities can provide support by allowing home occupations or working closely with small businesses to ensure they have the help they need through the planning process. The cities could identify opportunities to more directly support small businesses through working with partners to provide shared workspace (such as a small amount of office space at a public building). Ensuring that internet connections are reliable and have sufficient communication speeds to allow businesses to operate remotely across the internet. More broadly, Spray can coordinate with the County and other regional or state partners to establish microenterprise development centers to connect entrepreneurs and small business owners with needed services, resources, and other business assistance.

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

National Trends

Economic development in Fossil, Mitchell, Spray, and Wheeler County over the next 20 years will occur in the context of long-run national trends. The most important of these trends include:

- **Economic growth will continue at a moderate pace.** Analysis from the Congressional Budget Office (CBO) predicts real GDP to grow by 3.1% in 2018, 2.4% in 2019, and settle just under 2% growth for the rest of the decade (through 2028), assuming current laws remain intact.²⁷

The unemployment rate is expected to decrease to 3.6% by the end of 2018 and fall to 3.4% in 2019. Thereafter, the CBO predicts the unemployment rate will rise to 3.8% in 2020 and approach 4.8% through the end of the forecast period (2028).²⁸

As demand for labor increases and market competition for workers pushes the growth of hourly wage compensation, the CBO projects “the increase in labor compensation, in turn, dampens demand for labor, slowing employment growth and, by 2020, diminishing the positive employment gaps.”²⁹

- **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 61 million in 2017 to over 86 million in 2035, a 41% increase. However, due to lower-birth rate replacement generations, the number of covered workers is only expected to increase 9% over the same time period, from 174 million to almost 190 million in 2035. Currently, there are 35 Social Security beneficiaries per 100 covered workers in 2014 but by 2035 there will be 46 beneficiaries per 100 covered workers. This will increase the percent of the federal budget dedicated to Social Security and Medicare.³⁰

Baby Boomers are expecting to work longer than previous generations. An increasing proportion of people in their early- to mid-50s expect to work full-time after age 65. In 2004, about 40% of these workers expect to work full-time after age 65, compared with

²⁷ Congressional Budget Office. *An Update to the Economic Outlook: 2018 to 2028. August 2018.* Retrieved from: <https://www.cbo.gov/system/files?file=2018-08/54318-EconomicOutlook-Aug2018-update.pdf>.

²⁸ *Ibid.*

²⁹ *Ibid.*

³⁰ 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. Retrieved from: <https://www.ssa.gov/oact/tr/2018/tr2018.pdf>.

about 30% in 1992.³¹ 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 2017, this share reached 5.5%, or a 90% increase over the 2000 to 2017 period. Over the same seventeen-year period, workers 45 to 64 years increased by about 7%.³²

- **Need for replacement workers.** The need for workers to replace retiring Baby Boomers will outpace job growth. According to the Bureau of Labor Statistics, total employment in the United States will grow by about 11.5 million jobs over 2016 to 2026. Annually, they estimate there will be 18.7 million occupational openings over the same period. This exhibits the need for employees over the next decade as the quantity of openings per year is large relative to expected employment growth. About 71% of annual job openings are in occupations that do not require postsecondary education.³³
- **The importance of education as a determinant of wages and household income.** According to the Bureau of Labor Statistics, 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 an academic degree. The fastest-growing occupations requiring an academic degree will be registered nurses, software developers, general and operations managers, accountants and auditors, market research analysts and marketing specialists, and management analysts. Occupations that do not require an academic degree (e.g., retail sales person, food preparation workers, and home care aides) will grow, accounting for approximately 71% of all new jobs by 2026. These occupations typically have lower pay than occupations requiring an academic degree.³⁴

The national median income for people over the age of 25 in 2017 was about \$47,164. Workers without a high school diploma earned \$20,124 less than the median income, and workers with a high school diploma earned \$10,140 less than the median income. Workers with some college earned \$6,916 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.³⁵

- **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

³¹ "The Health and Retirement Study," 2007, National Institute of Aging, National Institutes of Health, U.S. Department of Health and Human Services.

³² Analysis of 2000 Decennial Census data, 2010 U.S. Census American Community Survey, 1-Year Estimates, and 2017 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.

³³ "Occupational Employment Projections to 2016-2026," Bureau of Labor Statistics, 2018.

³⁴ "Occupational Employment Projections to 2016-2026," Bureau of Labor Statistics, 2018.

³⁵ Bureau of Labor Statistics, Employment Projections, March 2018. http://www.bls.gov/emp/ep_chart_001.htm

industries. These include wireless telecommunications carriers, computer and peripheral equipment manufacturing, electronics and appliance stores, and commercial equipment manufacturing wholesalers.³⁶

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, other electrical component manufacturing, and computer and peripheral equipment manufacturing.³⁷

- **The importance of entrepreneurship and growth in small businesses.** According to the 2018 Small Business Profile from the U.S. 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.³⁸ 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.³⁹
- **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) is broadening. Lower paying jobs are more likely to be automated, with 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.⁴⁰

³⁶ Brill, Michael R. and Samuel T. Rowe, “Industry Labor Productivity Trends from 2000 to 2010.” Bureau of Labor Statistics, *Spotlight on Statistics*, March 2013.

³⁷ Michael Brill, Brian Chanksy, and Jennifer Kim. “Multifactor productivity slowdown in U.S. manufacturing,” *Monthly Labor Review*, U.S. Bureau of Labor Statistics, July 2018. Retrieved from: <https://www.bls.gov/opub/mlr/2018/article/multifactor-productivity-slowdown-in-us-manufacturing.htm>.

³⁸ US Small Business Office of Advocacy. 2018 Small Business Profile. <https://www.sba.gov/sites/default/files/advocacy/2018-Small-Business-Profiles-US.pdf>

³⁹ National League of Cities “Supporting Entrepreneurs and Small Businesses” (2012). <https://www.nlc.org/supporting-entrepreneurs-and-small-business>

⁴⁰ Executive Office of the President. (2016). Artificial Intelligence, Automation, and the Economy.

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).⁴¹ 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. Occupations in the service and agricultural or manufacturing industry are most at-risk of automation because of the manual-task nature of the work.^{42,43,44} 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.⁴⁵

- **Consolidation of Retail.** Historical shift in retail businesses, starting in the early 1960s was the movement from one-off, ‘mom and pop shops’ toward superstores and the clustering of retail into centers or hubs. Notably, we still see this trend persist; for example, in 1997, the 50 largest retail firms accounted for about 26% of retail sales and by 2007, they accounted for about 33%.⁴⁶ The more recent shift began in the late 1990s, where technological advances have provided consumers the option to buy goods through e-commerce channels. The trend toward e-commerce has become increasingly preferential to millennials and Generation X, who are easier to reach online and are more responsive to digital ads than older generations.⁴⁷ Since 2000, e-commerce sales grew from 0.9% to 6.4% (2014) and are forecasted to reach 12% by 2020. It is reasonable to expect this trend to continue. With it has come closures of retail stores. By 2027 for example, an estimated 15% of about 1,050 U.S. malls in smaller markets will close, impacting local employment levels, local government revenue streams (tax dollars), and neighborhood character.

⁴¹ Autor, David H. (2015). Why Are There Still So Many Jobs? The History and Future of Workplace Automation. *Journal of Economic Perspectives*, Volume 29, Number 3, Summer 2015, Pages 3–30.

⁴² Frey, Carl Benedikt and Osborne, Michael A. (2013). *The Future of Employment: How Susceptible Are Jobs to Computerisation?* Oxford Martin School, University of Oxford.

⁴³ Otekhile, Cathy-Austin and Zeleny, Milan. (2016). Self Service Technologies: A Cause of Unemployment. *International Journal of Entrepreneurial Knowledge*. Issue 1, Volume 4. DOI: 10.1515/ijek-2016-0005.

⁴⁴ PwC. (n.d.). Will robots really steal our jobs? An international analysis of the potential long-term impact of automation.

⁴⁵ Frey, Carl Benedikt and Osborne, Michael A. (2013). *The Future of Employment: How Susceptible Are Jobs to Computerisation?* Oxford Martin School, University of Oxford.

⁴⁶ Hortaçsu, Ali and Syverson, Chad. (2015). The Ongoing Evolution of US Retail: A Format Tug-of-War. *Journal of Economic Perspectives*, Volume 29, Number 4, Fall 2015, Pages 89-112.

⁴⁷ Pew Research Center (2010b). *Generations 2010*. Retrieved Online at: <http://www.pewinternet.org/Reports/2010/Generations-2010.aspx>

While it is unclear what impact e-commerce will have on employment and brick and mortar retail, it seems probable that e-commerce sales will continue to grow, shifting business away from some types of retail. Over the next decades, communities must begin considering how to redevelop and reuse retail buildings in shopping centers, along corridors, and in urban centers.

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).

- **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.⁴⁸
- **Continued increase in demand for energy.** 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. Energy consumption is expected to grow primarily from industrial (0.9%) and, to a lesser extent, commercial users (0.4%). Residential consumption is forecasted to stagnate (0.0%), and transportation will slightly decrease (-0.1%). 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 2017 to 2050, the Energy Information Administration projects that U.S. overall energy consumption will average a 0.4% annual growth rate, while consumption of renewable sources grows at 1.4% per year. With increases in energy 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 2017 to 2050 period. Demand for electricity is expected to increase, albeit slowly, over 2017 to 2050 as population grows and economic activity increases.⁴⁹

⁴⁸ 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.

⁴⁹ Energy Information Administration, 2018, *Annual Energy Outlook 2018 with Projections to 2050*, U.S. Department of Energy, February 2018. <https://www.eia.gov/outlooks/aeo/pdf/AEO2018.pdf>. Note, the cited growth rates are shown.

- **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.⁵⁰ Over 2019 to 2035, the U.S. Energy Information Administration estimates in its forecast that the decline in transportation energy consumption 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.⁵¹ Extensive research shows that Oregon and other western states already have experienced noticeable changes in climate and predicts that more change will occur in the future.⁵²

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.⁵³ These changes are also likely to reduce winter snowpack and shift the timing of spring runoff earlier in the year.⁵⁴

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,

in the Executive Summary and can be viewed here: <https://www.eia.gov/outlooks/aeo/data/browser/#/?id=2-AEO2018&cases=ref2018&sourcekey=0>.

⁵⁰ Energy Information Administration, 2018, *Annual Energy Outlook 2018 with Projections to 2050*, U.S. Department of Energy, February 2018.

⁵¹ U.S. Global Change Research Program. *National Climate Assessment*. 2018. <https://nca2018.globalchange.gov/>

⁵² Oregon Global Warming Commission. *2018 Biennial Report to the Legislature*. 2018. <https://www.keeporegoncool.org/reports/>

⁵³ U.S. Global Change Research Program. *National Climate Assessment*. “Chapter 24: Northwest.” 2018. <https://nca2018.globalchange.gov/chapter/24/>

⁵⁴ Mote, P., E. Salathe, V. Duliere, and E. Jump. 2008. *Scenarios of Future Climate for the Pacific Northwest*. Climate Impacts Group, University of Washington. March. Retrieved June 16, 2009, from <http://cses.washington.edu/db/pdf/moteetal2008scenarios628.pdf>; Littell, J.S., M. McGuire Elsner, L.C. Whitely Binder, and A.K. Snover (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. Retrieved June 16, 2009, from www.cses.washington.edu/db/pdf/wacciaexecsummary638.pdf; Madsen, T. and E. Figdor. 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.; and Mote, P.W. 2006. “Climate-driven variability and trends in mountain snowpack in western North America.” *Journal of Climate* 19(23): 6209-6220.

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.⁵⁵

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, however, some of the potential economic impacts of climate change in the Pacific Northwest will likely include:⁵⁶

- *Potential impact on agriculture and forestry.* Climate change may impact Oregon's agriculture through changes in growing season, temperature ranges, and water availability.⁵⁷ 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.⁵⁸
- *Potential impact on tourism and recreation.* Impacts on tourism and recreation may range from (1) decreases in snow-based recreation if snow-pack 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,⁵⁹ (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.

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 downturn in economic activity in 2008 and 2009 following declines in the housing market and the mortgage banking crisis. The result of the economic downturn was decreases in employment related to the housing market, such as construction and real estate. 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

⁵⁵ Oregon Climate Change Research Institute. *Climate Change Influence on Natural Hazards in Oregon Counties*. August 2018 and *Fourth Oregon Climate Assessment Report*. January 2019.

⁵⁶ 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.

⁵⁷ "The Economic Impacts of Climate Change in Oregon: A preliminary Assessment," Climate Leadership Initiative, Institute for Sustainable Environment, University of Oregon, October 2005.

⁵⁸ "Economic Impacts of Climate Change on Forest Resources in Oregon: A Preliminary Analysis," Climate Leadership Initiative, Institute for Sustainable Environment, University of Oregon, May 2007.

⁵⁹ "The Economic Impacts of Climate Change in Oregon: A preliminary Assessment," Climate Leadership Initiative, Institute for Sustainable Environment, University of Oregon, October 2005.

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 “continues to hit the sweet spot.”⁶⁰ They also report, “job gains are enough to match population growth and absorb the workers coming back into the labor market. Wages are rising faster than in the typical state, as are household incomes.”⁶¹ Though they note recent growth is slower than growth experienced several years ago.

Wages in Oregon continue to remain below the national average, but they are at its highest point relative to the early 1980s. The OEA reports that new Oregon Employment Department research “shows that median hourly wage increase for Oregon workers since 2014 has been 3.1 percent annually for the past three years.”⁶² These wage increases are “substantially stronger for the Oregonians who have been continually employed over the last three years.”⁶³

By the end of 2018, the OEA forecasts 41,700 jobs will be added to Oregon’s economy. This is an approximate 2.2% annual growth in total nonfarm employment relative to 2017 levels.⁶⁴ The leisure and hospitality, construction, professional and business services, and health services industries are forecasted to account for well over half of the total job growth in Oregon for 2018. Oregon continues to have an advantage in job growth compared to other states, due to its industrial sector and in-migration flow of young workers in search of jobs.

The housing market continues to recover as Oregon’s economy improves. Oregon is seeing an increase in household formation rates, which is good for the housing market as this will “help drive up demand for new houses.”⁶⁵ Though younger Oregonians tend to live at home with their parents longer, the aging Millennial generation (from their early 20s to mid-to-late 30s) and the state’s increase in migration will drive demand for homes in the coming years. Housing starts in 2018 are on track to just under 22,000 units annually. This is “driven in large part by a decline in multifamily permit activity.”⁶⁶ Through 2020, the OEA forecasts moderate to strong housing growth. Beyond this time frame, the OEA forecasts an average growth of 24,000 units

⁶⁰ Office of Economic Analysis. Oregon Economic and Revenue Forecast, September 2018. Vol. XXXVIII, No. 3, page 2.

⁶¹ *Ibid*, page 2.

⁶² *Ibid*, page 5.

⁶³ *Ibid*, page 5.

⁶⁴ *Ibid*, page 13.

⁶⁵ *Ibid*, page 13.

⁶⁶ *Ibid*, page 13.

per year to satisfy the demand for Oregon's growing population and to make up for the under development of housing post-recession.⁶⁷

The Oregon Index of Leading Indicators (OILI) has grown quite rapidly since January 2017. The leading indicators showing improvement are: consumer sentiment, industrial production, initial claims, the manufacturing purchasing managers index (PMI), new incorporations, semiconductor billings, and withholdings. The indicators that are slowing include air freight and the Oregon Dollar Index and the indicators not improving include help wanted ads and housing permits.⁶⁸

Oregon's economic health is dependent on the export market. The value of Oregon exports in 2017 was \$21.9 billion. The countries that Oregon exports the most to are China (18% of total Oregon exports), Canada (11%), Malaysia (11%), South Korea (9%), Japan (8%), and Vietnam (7%).⁶⁹ With straining trade relations overseas, specifically with China, Oregon exports are left potentially vulnerable, as China is a top destination for Oregon exports.⁷⁰ An economic slowdown across many parts of Asia will have a spillover effect on the Oregon economy. Furthermore, with the United States' withdrawal from the Trans-Pacific Partnership in January 2017, it is unclear how much Pacific Northwest trade will be impacted in the years to come.

Long-term Trends

State, regional, and local trends will also affect economic development in Fossil, Mitchell, Spray, and Wheeler County 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. From 1990 to 2017, Oregon's population increased by about 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 just over 33,200. During the early- to mid-1990's, Oregon's net migration was highest, reaching over 60,000 in 1991, with another smaller peak of almost 42,100 in 2006. In 2017, net migration reached just over 56,800 persons. Oregon has not seen negative net migration since a period of negative net migration in the early- to mid-1980's.⁷¹ Oregon's population has continued to get more ethnically and racially diverse, with Latino population growing from 8% of the population in 2000 to 12% of the

⁶⁷ *Ibid*, page 13.

⁶⁸ *Ibid*, page 10.

⁶⁹ United States Census Bureau. State Exports from Oregon, 2014-2017. Retrieved from: <https://www.census.gov/foreign-trade/statistics/state/data/or.html>.

⁷⁰ Office of Economic Analysis. Oregon Economic and Revenue Forecast, September 2018. Vol. XXXVIII, No. 3, page 14.

⁷¹ Portland State University Population Research Center. 2017 Annual Population Report Tables. April 2017. Retrieved from: <https://www.pdx.edu/prc/population-reports-estimates>.

population in 2012-2016. The non-white population grew from 13% of the population to 15% of the population over the same period. The share of Latino population and non-white population decreased in Wheeler County since 2000.

- **Forecast of job growth.** Total nonfarm employment is expected to increase from 1.91 million in 2018 to just over 1.99 million in 2022, an increase of 80,000 jobs. The industries with the largest growth are forecasted to be Professional and Business Services, Health Services, and Retail, accounting for 61% of employment growth.⁷²
- **Continued importance of manufacturing to Oregon's economy.** Oregon's exports totaled \$19.4 billion in 2008, nearly doubling since 2000, and reached almost \$22 billion in 2017. The majority of Oregon exports go to countries along the Pacific Rim, with China, Canada, Malaysia, South Korea, and Japan as top destinations. Oregon's largest exports are tied to high tech and mining, as well as agricultural products.⁷³ Manufacturing employment is concentrated in five counties in the Willamette Valley or Portland area: Washington, Multnomah, Lane, Clackamas, and Marion Counties.⁷⁴
- **Shift in manufacturing from natural resource-based to high-tech and other manufacturing industries.** Since 1970, Oregon started to transition away from reliance on traditional resource-extraction industries. A significant indicator of this transition is the shift within Oregon's manufacturing sector, with a decline in the level of employment in the Lumber & Wood Products industry and concurrent growth of employment in other manufacturing industries, such as high-technology manufacturing (Industrial Machinery, Electronic Equipment, and Instruments), Transportation Equipment manufacturing, and Printing and Publishing.⁷⁵
- **Income.** Oregon's income and wages are below that of a typical state. However, mainly due to the wage growth over the last two to three years, Oregon wages are at their highest point relative to other states since the recession in the early 1980's. In 2017, the average annual wage in Oregon was \$51,117, and the median household income was \$60,212 (compared to national average wages of \$53,621 in 2017, and national household income of \$60,336).⁷⁶ Total personal income (all classes of income, minus Social Security contributions, adjusted for inflation) in Oregon is expected to increase by 22%, from

⁷² Office of Economic Analysis. Oregon Economic and Revenue Forecast, September 2018. Vol. XXXVIII, No. 3, page 38.

⁷³ United States Census Bureau. State Exports from Oregon, 2014-2017. Retrieved from: <https://www.census.gov/foreign-trade/statistics/state/data/or.html>.

⁷⁴ Oregon Employment Department. *Employment and Wages by Industry (QCEW)*. 2017 Geographic Profile, Manufacturing (31-33). Retrieved from: qualityinfo.org.

⁷⁵ Although Oregon's economy has diversified since the 1970's, natural resource-based manufacturing accounts for about 38% of employment in manufacturing in Oregon in 2017, with the most employment in Food Manufacturing (nearly 30,000) and Wood Product Manufacturing (nearly 23,000) (QCEW).

⁷⁶ Average annual wages are for "Total, all industries," which includes private and public employers. Oregon Quarterly Census of Employment and Wages, 2017. 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.

\$202.2 billion in 2018 to \$247.5 billion in 2022.⁷⁷ Per capita income is expected to increase by 16% over the same time period, from \$48,000 (thousands of dollars) in 2018 to \$55,800 in 2022 (in nominal dollars).⁷⁸

- **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.

The average annualized payroll per employee for small businesses was \$37,149 in 2015, which is considerably less than that for large businesses (\$54,329) and the statewide average for all businesses (\$47,278).⁷⁹ Younger workers are important to continue 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. Furthermore, in 2011, about 160,000 startup companies were created each month; 29% of these companies were founded by people between 20 to 34 years of age.⁸⁰

- **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 13th in the country in 2017 for its startup activity, a measurement comprised of three statistics: rate of new entrepreneurs, opportunity share of new entrepreneurs, and startup density.⁸¹ This ranking is higher than its 2016 rank of 15. 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, it has gradually recovered to about 0.34% in 2016. This rate is still well below Oregon's pre-recession peak of 0.43% in 2000, but its recent growth broadly exhibits business ownership and formation is increasing.

Moreover, in 2018, the Oregon Office of Economic Analysis reports new business applications in Oregon are increasing. They do, however, simultaneously note startup

⁷⁷ Office of Economic Analysis. Oregon Economic and Revenue Forecast, September 2018. Vol. XXXVIII, No. 3, page 39.

⁷⁸ *Ibid*, page 39.

⁷⁹ U.S Census Bureau, 2015 Statistics of U.S. Businesses, Annual Data, Enterprise Employment Size, U.S and States. <https://www.census.gov/data/tables/2015/econ/susb/2015-susb-annual.html>.

⁸⁰ Cooper, Rich, Michael Hendrix, Andrea Bitely. (2012). "The Millennial Generation Research Review." Washington, DC: The National Chamber Foundation. Retrieved from: <https://www.uschamberfoundation.org/sites/default/files/article/foundation/MillennialGeneration.pdf>.

⁸¹ Kauffman Foundation. *The Kauffman Index, Oregon*. Retrieved from: <https://www.kauffman.org/kauffman-index/profile?loc=41&name=oregon&breakdowns=growth|overall,startup-activity|overall,main-street|overall>.

businesses “are a smaller share of all firms than in the past.”⁸² 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, Fossil, Mitchell, and Spray are compared to Wheeler County and the State of Oregon. These comparisons are to provide context for changes in Fossil’s, Mitchell’s, Spray’s, and Wheeler County’s socioeconomic characteristics.

Availability of Labor

The availability of trained workers in Fossil, Mitchell, Spray, and Wheeler County 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 affect the workforce in Fossil, Mitchell, Spray, and Wheeler County 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 4.1 million people in 2017, an increase of almost 1,300,000 people at an average annual rate of 1.40%. Oregon’s growth rate slowed to 1.1% annual growth between 2000 and 2017.

The respective populations of Fossil and Spray grew, on an annual average basis, over the 1990 to 2017 period, while Mitchell’s population decreased over this period. Fossil’s population increased by 76 residents, Spray’s population increased by 11 residents, and Spray’s population shrunk by 23 residents. Though Wheeler County’s population grew over 1990 to 2017, its annual average growth rate was slower relative to Oregon, with a rate of 0.2% compared to 1.4%.

Exhibit 49. Population Growth, Fossil, Mitchell, Spray, Wheeler County, and Oregon, 1990–2017

Geography					Change, 1990 - 2017		
	1990	2000	2010	2017	Number	Percent	AAGR
Oregon	2,842,337	3,421,399	3,844,195	4,141,100	1,298,763	46%	1.4%
Wheeler County	1,396	1,547	1,590	1,480	84	6%	0.2%
Fossil	399	469	465	475	76	19%	0.6%
Mitchell	163	170	175	140	-23	-14%	-0.6%
Spray	149	140	165	160	11	7%	0.3%

Source: U.S. Census Bureau, 1990, 2000, and 2010. Portland State University Population Estimates, 2017.

⁸² Lehner, Josh. (August 2018). “Start-Ups, R&D, and Productivity.” Salem, OR: Oregon Office of Economic Analysis. Retrieved from: <https://oregoneconomicanalysis.com/2015/03/13/start-ups-and-new-business-formation/>.

Age Distribution

The number of people aged 65 and older in the U.S. is expected to increase by nearly three-quarters by 2050, while the number of people under age 65 will only grow by 16%. 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.⁸³

Exhibit 50 through Exhibit 55 show the following trends:

- Populations in Fossil, Mitchell, Spray, and Wheeler County are aging faster than Oregon’s population per their respective median ages. During the 2012-2016 period, the majority of residents residing in Fossil, Mitchell, and Spray were 60 years and older (Exhibit 54). This suggests that these areas are attracting more people in their later adult lives and those over 65 years of age. This, in turn, affects potential availability of mid-career workers.
- Wheeler County’s population is expected to continue to age, with people 60 years and older increasing from 42% of the population in 2016 to 44% of the population in 2035. This is consistent with Statewide trends. Fossil, Mitchell, Spray, and the County may continue to attract mid-life and older workers over the planning period. While the share of retirees in these respective areas may increase over the next 20 years, availability of people nearing retirement (e.g., 55 to 70 years old) is likely to increase. People in this age group may provide sources of skilled labor, as people continue to work until later in life. These skilled workers may provide opportunities to support business growth in these areas.

Fossil’s median age has increased by about 10.9 years since 2000, Mitchell’s by 22.3 years, Spray’s by 8.5 years, and Wheeler County’s by 11.1 years.

These increases suggest Wheeler County and its cities are attracting more workers in their later adult lives and more people over 65 years of age.

Exhibit 50. Median Age, 2000 to 2012-2016

Source: U.S. Census Bureau, 2000 Decennial Census, Table P013; American Community Survey 2012-2016 5-year estimate, Table B01002.

2000	51.5	42.0	51.0	48.1	36.3
	Fossil	Mitchell	Spray	Wheeler County	Oregon
2012-16	62.4	64.3	59.5	59.2	39.1
	Fossil	Mitchell	Spray	Wheeler County	Oregon

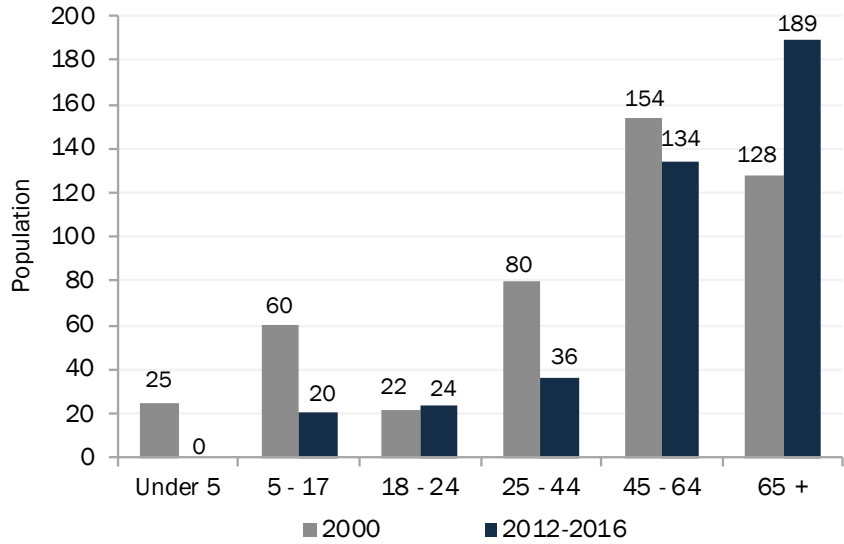
⁸³ The Board of Trustees, Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, 2017, *The 2017 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds*, July 13, 2017. *The Budget and Economic Outlook: Fiscal Years 2018 to 2028*, April 2018.

Over 2000 to 2012-2016, Fossil's largest population increase was for those aged 65 and older.

This is consistent with statewide trends.

Exhibit 51. Fossil Population Change by Age Group, 2000 to 2012-2016

Source: U.S. Census Bureau, 2000 Summary File; American Community Survey 2012-2016 5-year estimates, Table B01001.

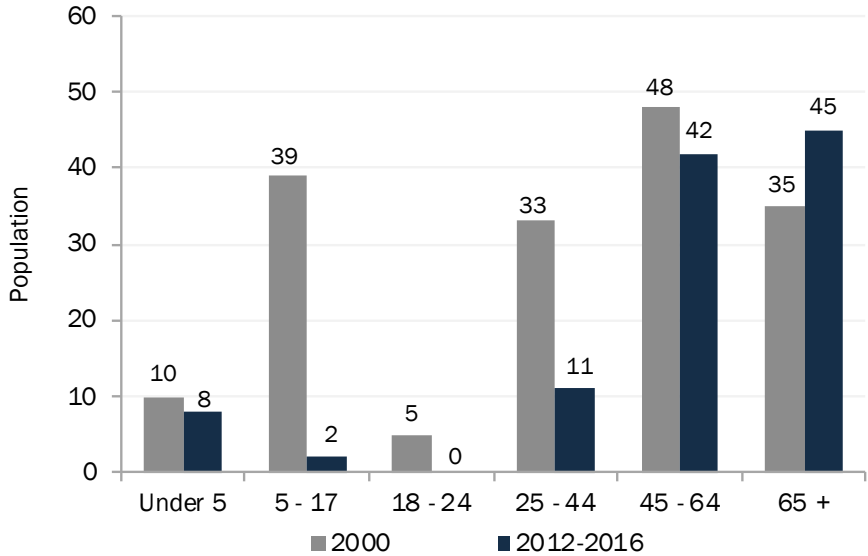


Over 2000 to 2012-2016, Mitchell's largest population increase was for those aged 65 and older.

This is consistent with statewide trends.

Exhibit 52. Mitchell Population Change by Age Group, 2000 to 2012-2016

Source: U.S. Census Bureau, 2000 Summary File; American Community Survey 2012-2016 5-year estimates, Table B01001.

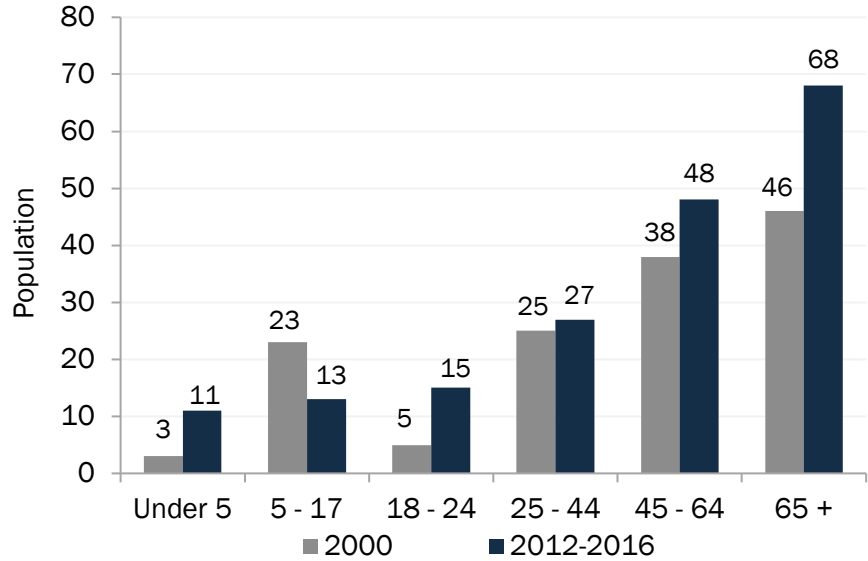


Over 2000 to 2012-2016, Spray's largest population increases were for those aged 18 to 24 and those 65 and older.

While the growth in those aged 18 to 24 years old is larger than statewide trends, the trend for those 65 and older is consistent with statewide trends.

Exhibit 53. Spray Population Change by Age Group, 2000 to 2012-2016

Source: U.S. Census Bureau, 2000 Summary File; American Community Survey 2012-2016 5-year estimate, Table B01001.

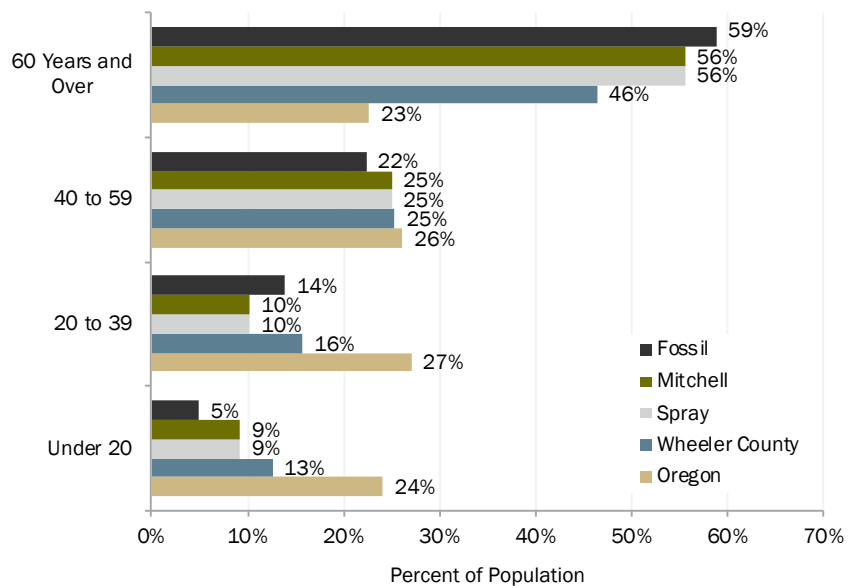


During 2012-2016, over half of the residents in Fossil (59%), Mitchell (56%), and Spray (56%) were over 60 years of age.

The proportions of residents 60 years and older in these cities, as well as the larger Wheeler County, are at least double the statewide proportion. The proportion of residents between the ages of 40 to 59 in Wheeler County, Fossil, Mitchell, and Spray are comparable to Oregon.

Exhibit 54. Population Distribution by Age, Fossil, Mitchell, Spray, Wheeler County, and Oregon, 2012-2016

Source: U.S. Census Bureau, American Community Survey, 2012-2016 5-year estimate, Table B01001.

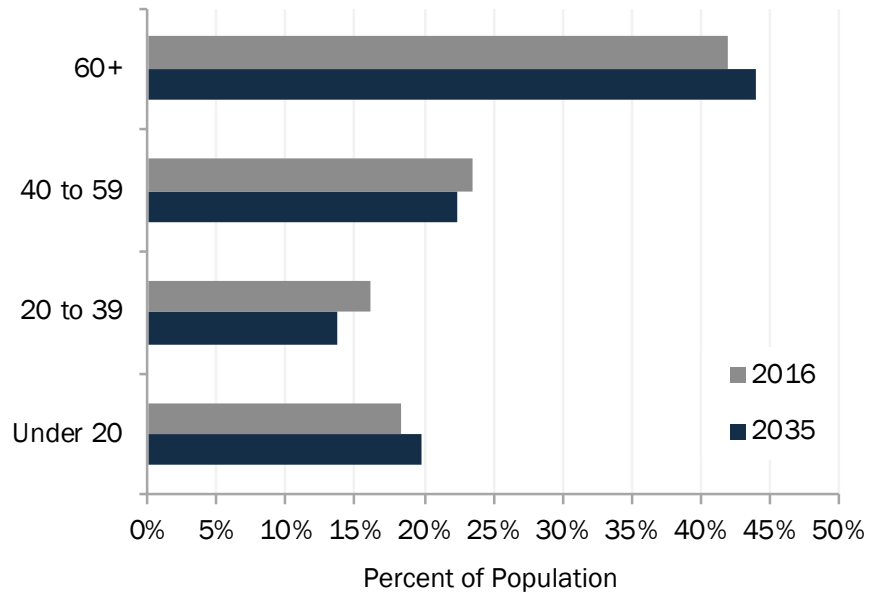


By 2035, Wheeler County will have a larger share of residents younger than 20 and older than 60 than it does today.

The share of residents under 20 years of age will account for 20% of Wheeler County's population, compared to 18% in 2016. Residents aged 60 years and older will account for 44% of Wheeler County's population, compared to 42% in 2016.

Exhibit 55. Population Growth by Age Group, Wheeler County, 2016 - 2035

Source: Oregon Population Forecast, 2016.



Race and Ethnicity

Overall, Oregon is becoming more racially and ethnically diverse. However, the Hispanic and Latino as well as non-white populations decreased in Wheeler County between 2000 and 2012-2016. A similar trend occurred in the cities in Wheeler County, with the exception of Spray’s Hispanic and Latino population, which increased from 0% to 7%, and Mitchell’s and Spray’s non-white population, which increased from 10% to 11% and 2% to 3%, respectively. While Wheeler County is less ethnically and racially diverse than the State, providing culturally specific services to Native American and Spanish-speaking community members can help improve their participation in the workforce and economy.

The non-white population is defined as the share of the population that identifies as another race other than “White alone” according to Census definitions. The small size of the cities in Wheeler County results in small sample sizes, and thus the margin of error is considerable for the estimate of these populations.

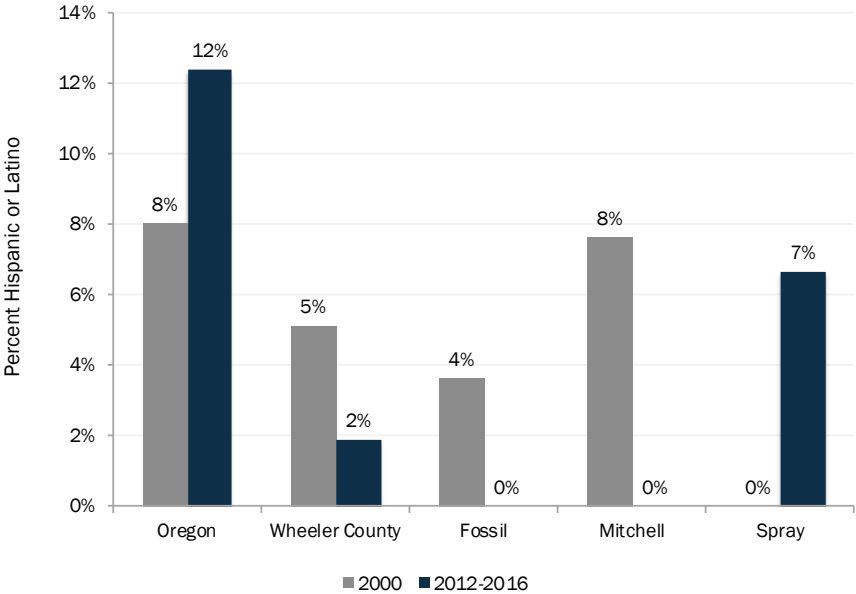
Exhibit 56 and Exhibit 57 show the change in the share of Hispanic and Latino and non-white populations in Wheeler County and its cities, compared to Oregon, between 2000 and 2012-2016. The groups with the largest share of the non-white population in 2012-2016 were those that identify as “some other race alone” or “two or more races,” each representing 2% of the population.

Wheeler County’s Hispanic/Latino population decreased between 2000 and 2012-2016 from 5% to 2%.

Wheeler County and its cities are less ethnically diverse than the State.

Exhibit 56. Hispanic or Latino Population as a Percent of the Total Population, 2000, 2012-2016

Source: U.S. Census Bureau, 2000 Decennial Census Table P008, 2012-2016 ACS Table B03002.

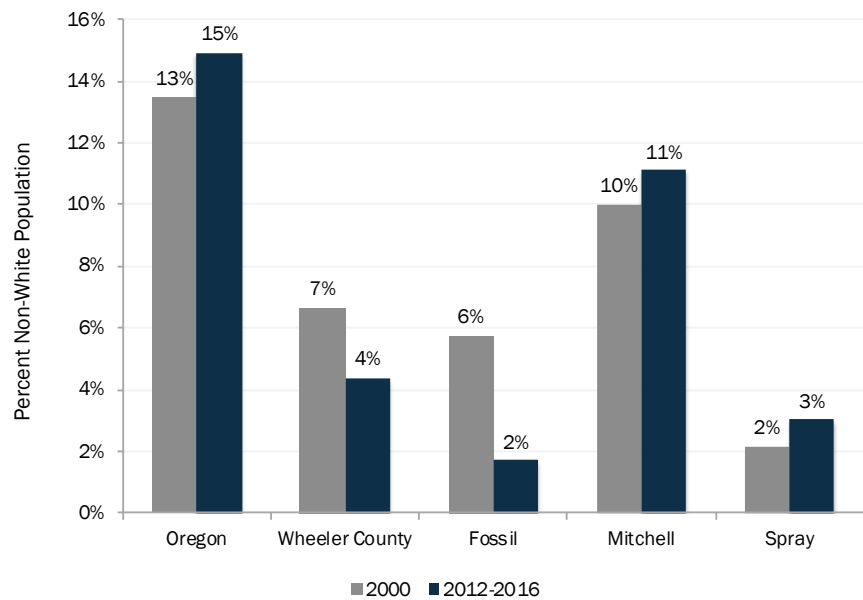


The non-white population in Wheeler County and Fossil decreased between 2000 and 2012-2016, while it increased in Mitchell and Spray between 2000 and 2012-2016.

Wheeler County is less racially diverse than the State, at 4% compared to 15% in Oregon

Exhibit 57. Non-White Population as a Percent of the Total Population, 2000, 2012-2016

Source: U.S. Census Bureau, 2000 Decennial Census Table P007, 2012-2016 ACS 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. Median household incomes for Fossil (\$30,921), Mitchell (\$29,250), and Spray (\$30,417) were below that of the County median (\$33,400). Average wages at businesses in Fossil (\$32,638) were above the County average (\$29,013); however, similar to median household incomes, average wages in Mitchell (\$28,448) and Spray (\$19,180) were below the County average.

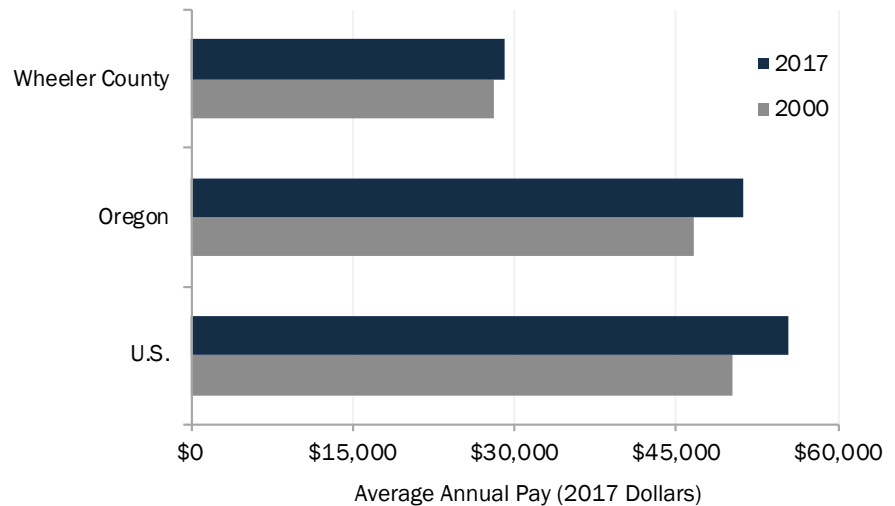
Between 2000 and 2017, Wheeler County’s average wages increased as they also did in Oregon and the nation. When adjusted for inflation, average annual wages grew by 3% in Wheeler County and 10% in both Oregon and the nation.

From 2000 to 2017, average annual wages rose in Wheeler County, Oregon, and the nation.

In 2017, average annual wages were \$29,013 in Wheeler County, \$51,117 in Oregon, and \$55,390 across the nation.

Exhibit 58. Average Annual Wage, Covered Employment, Wheeler County, Oregon, and the U.S., 2000 to 2017, Inflation-adjusted 2017 Dollars

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



Over the 2012-2016 period, median household incomes in Fossil, Mitchell, Spray, and Wheeler County were well below the State’s median household income.

Exhibit 59. Median Household Income (MHI),⁸⁴ 2012-2016

Source: U.S. Census Bureau, American Community Survey 2012-2016 5-year estimates, Table B19013.

\$30,921 Fossil	\$29,250 Mitchell	\$30,417 Spray
\$33,400 Wheeler County	\$53,270 Oregon	

⁸⁴ 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.

Median family incomes during the 2012-2016 period for Fossil, Mitchell, Spray, and Wheeler County, were also well below the State’s median family income, but not as largely as their respective median household incomes, save Spray.

Exhibit 60. Median Family Income,⁸⁵ 2012-2016

Source: U.S. Census Bureau, American Community Survey 2012-2016 5-year estimates, Table B19113.

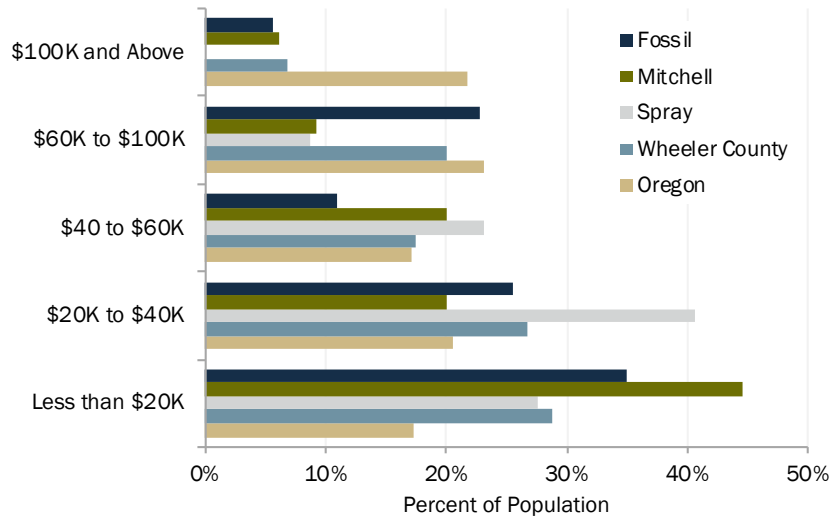
\$48,750 Fossil	\$48,750 Mitchell	\$33,500 Spray
\$48,158 Wheeler County	\$65,479 Oregon	

During the 2012-2016 period, the majority of households in Fossil (61%), Mitchell (65%), Spray (68%), and Wheeler County (55%) earned less than \$40,000 annually, whereas 38% of Oregon households earned this much.

About 34% of Fossil households, 29% of Mitchell households, 32% of Spray households, and 38% of Wheeler County households earned between \$60,000 and \$100,000, compared to 40% of Oregon households.

Exhibit 61. Household Income by Income Group, Fossil, Mitchell, Spray, Wheeler County, and Oregon, 2012-2016, Inflation-adjusted 2016 Dollars

Source: U.S. Census Bureau, American Community Survey 2012-2016 5-year estimates, Table B19001.



⁸⁵ 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.

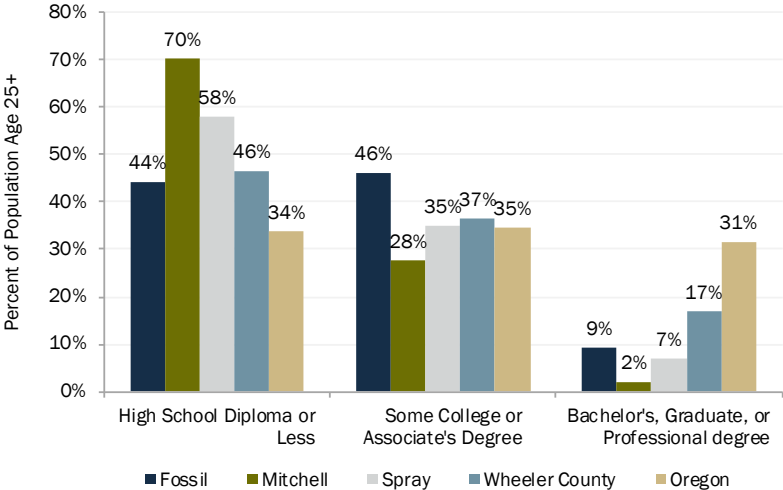
Relative to Oregon, residents of Fossil, Mitchell, Spray, and Wheeler County hold fewer Bachelor or professional degrees.

Residents of Fossil tend to have completed some college or acquired an Associate degree more so than Oregon residents.

Spray and Wheeler County residents are comparable to Oregonians in their completion of some college or achievement of an associate's degree.

Exhibit 62. Educational Attainment for the Population 25 Years and Over, Fossil, Mitchell, Spray, Wheeler County, and Oregon, 2012-2016

Source: U.S. Census Bureau, American Community Survey 2012-2016 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 2012-2016 American Community Survey, Wheeler County had more than 580 people in its labor force during that period. Fossil had more than 180 people in its labor force, and Mitchell and Spray had more than 40 people in their respective labor forces.

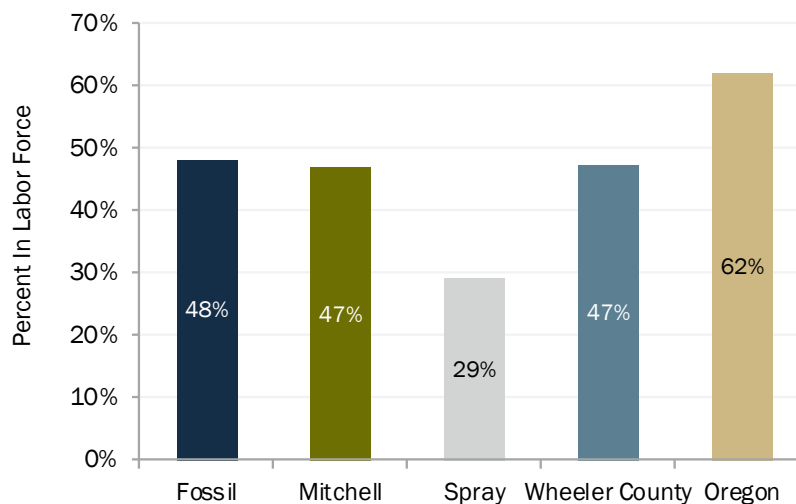
In 2017, the Oregon Office of Economic Analysis reported that 64% of job vacancies were difficult to fill. The most common reason for difficulty in filling jobs included a lack of applications (30% of employers' difficulties), lack of qualified candidates (17%), unfavorable working conditions (14%), a lack of soft skills (11%), and a lack of work experience (9%).⁸⁶ These statistics indicate a mismatch between the types of jobs that employers are demanding and the skills that potential employees can provide.

Fossil, Mitchell, Spray, and Wheeler County have lower labor force participation rates (48%, 47%, 29%, and 47%, respectively) relative to Oregon (62%).

The likely reason for the lower labor force participation rate is the larger share of persons over 60 years old in each city.

Exhibit 63. Labor Force Participation Rate, Fossil, Mitchell, Spray, Wheeler County, and Oregon, 2012-2016

Source: U.S. Census Bureau, American Community Survey 2012-2016 5-year estimates, Table B23001.

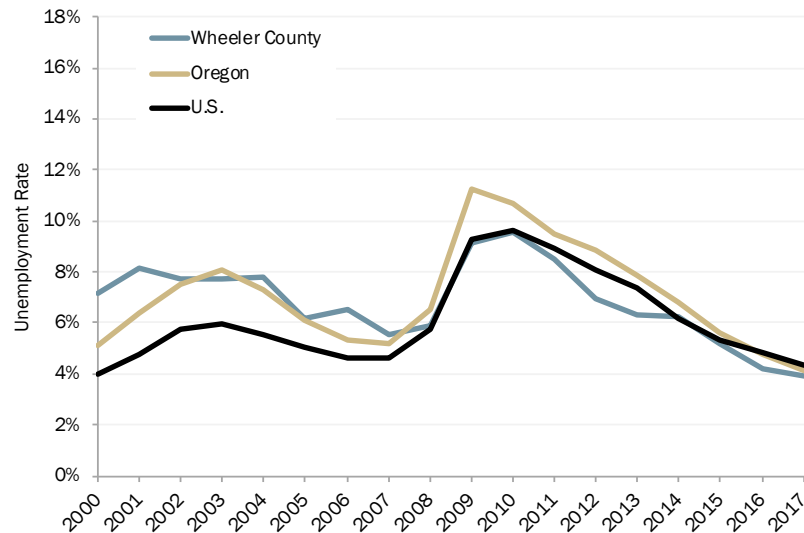


⁸⁶ Oregon's Current Workforce Gaps: Difficult-to-fill Job Openings, Oregon Job Vacancy Survey, Oregon Employment Department, June 2018.

The unemployment rates in Wheeler County, Oregon, and the nation have declined since the Great Recession. Unemployment rates for 2017 in Wheeler County (3.9%) and Oregon (4.1%) are below their respective 2000 rates (7.2% and 5.1%, respectively).

Exhibit 64. Unemployment Rate, Wheeler County, Oregon, and the U.S., 2000–2017

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



Commuting Patterns

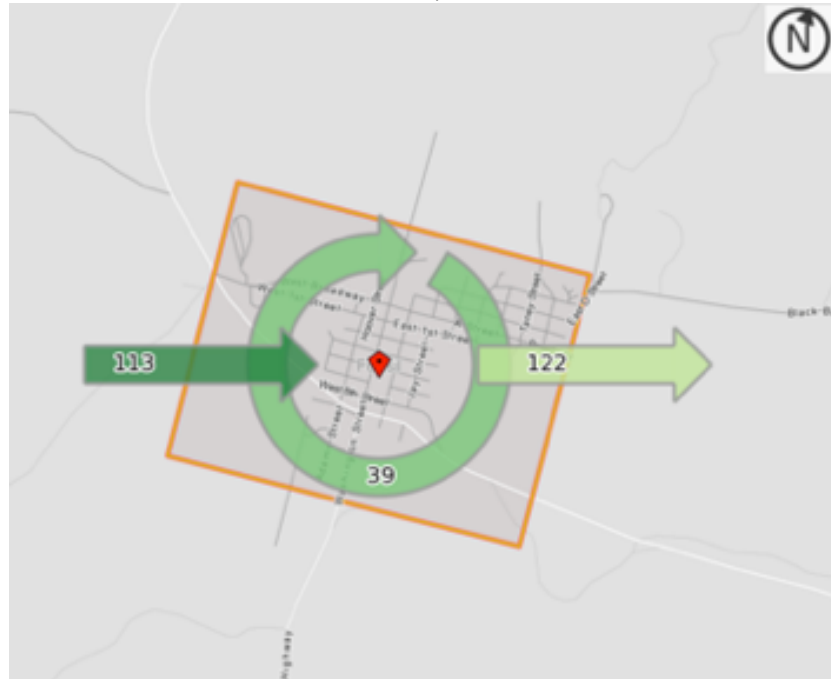
Commuting plays an important role in the economies of Fossil, Mitchell, Spray, and Wheeler County because employers in these areas are able to access workers from people living in cities across Wheeler County and from the broader Gorge Eastern Cascades Region. Over the 2012-2016 period, about 69% percent of Fossil’s residents, 71% of Mitchell’s residents, and 70% of Spray’s residents had a commute of less than 15 minutes compared to 59% of Wheeler County residents and 32% of Oregon residents.

Fossil is part of an interconnected regional economy.

Fewer people both live and work in Fossil than commute into or out of the City for work. This commuting pattern differs some from Wheeler County in that there are more persons employed and living in the County than persons who commute into the County for work.

Exhibit 65. Commuting Flows, Fossil, 2015

Source: U.S. Census Bureau, Census On the Map.



About 26% of all people who work in Fossil also live in Fossil.

About 24% of residents who live in Fossil also work in Fossil.

Five percent of Fossil residents commute to Portland for work.

Exhibit 66. Places Where Fossil Workers Lived,⁸⁷ 2015

Source: U.S. Census Bureau, Census On the Map.



Exhibit 67. Places Where Fossil Residents were Employed,⁸⁸ 2015

Source: U.S. Census Bureau, Census On the Map.



⁸⁷ In 2015, 152 people worked at businesses in Fossil, with 26% (39) people both living and working in Fossil.

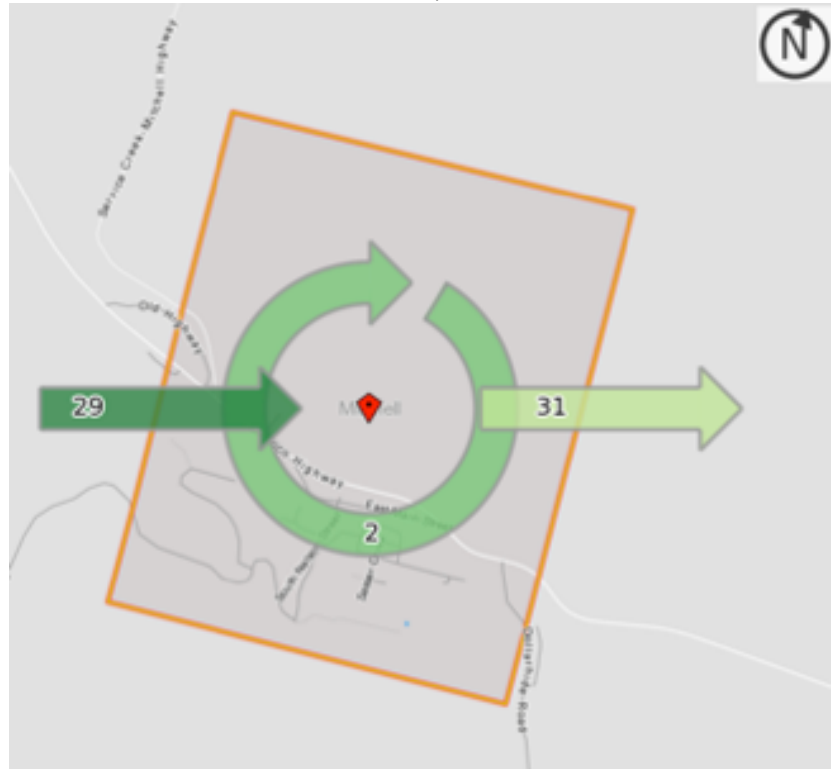
⁸⁸ In 2015, 161 residents of Fossil worked, with 24% of Fossil residents (39 people) both living and working in Fossil.

Mitchell is also part of an interconnected regional economy.

Fewer people both live and work in Mitchell than commute into or out of the City. This commuting pattern is similar to Fossil.

Exhibit 68. Commuting Flows, Mitchell, 2015

Source: U.S. Census Bureau, Census On the Map.



About 6% of all people who work in Mitchell also live in Mitchell.

About 6% of residents who live in Mitchell also work in Mitchell.

Three percent of Mitchell residents commute to Bend for work.

Exhibit 69. Places Where Mitchell Workers Lived,⁸⁹ 2015

Source: U.S. Census Bureau, Census On the Map.

19%	13%	6%	3%
Fossil	Spray	Mitchell	Lewiston

Exhibit 70. Places Where Mitchell Residents were Employed,⁹⁰ 2015

Source: U.S. Census Bureau, Census On the Map.

36%	6%	3%	3%
Fossil	Mitchell	Sausalito	Bend

⁸⁹ In 2015, 31 people worked at businesses in Mitchell, with 6% (2) people both living and working in Mitchell.

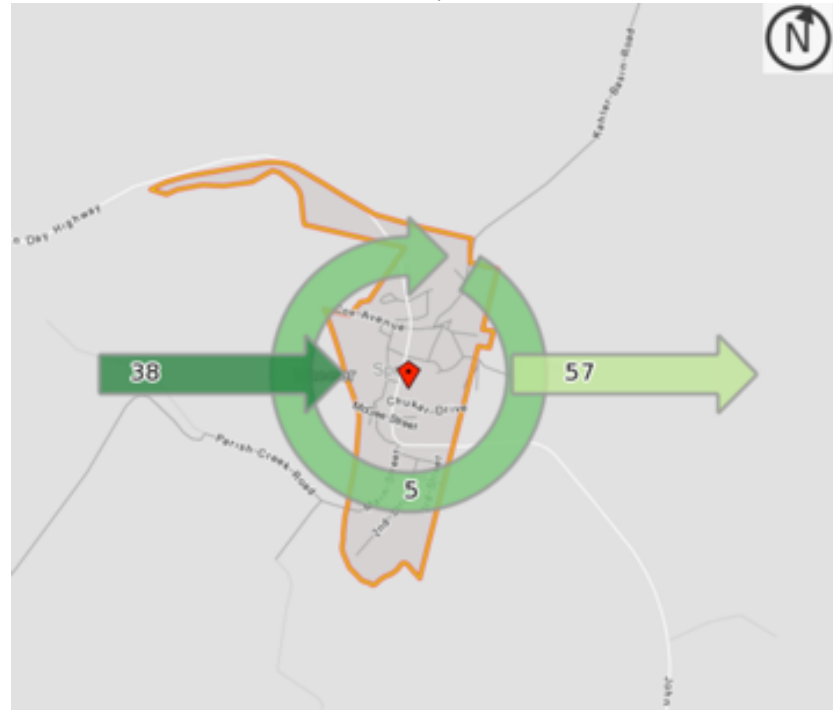
⁹⁰ In 2015, 33 residents of Mitchell worked, with 6% of Mitchell residents (2 people) both living and working in Mitchell.

Spray is also part of an interconnected regional economy.

Fewer people both live and work in Spray than commute into or out of the town. This commuting pattern is similar to both Fossil and Mitchell.

Exhibit 71. Commuting Flows, Spray, 2015

Source: U.S. Census Bureau, Census On the Map.



About 12% of all people who work in Spray also live in Spray.

About 8% of residents who live in Spray also work in Spray.

Ten percent of Spray residents commute to Portland for work.

Exhibit 72. Places Where Spray Workers Lived,⁹¹ 2015

Source: U.S. Census Bureau, Census On the Map.

19% Fossil	12% Spray	5% Bend	2% Spring Valley
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Exhibit 73. Places Where Spray Residents were Employed,⁹² 2015

Source: U.S. Census Bureau, Census On the Map.

16% Fossil	10% Portland	8% Spray	6% Mitchell
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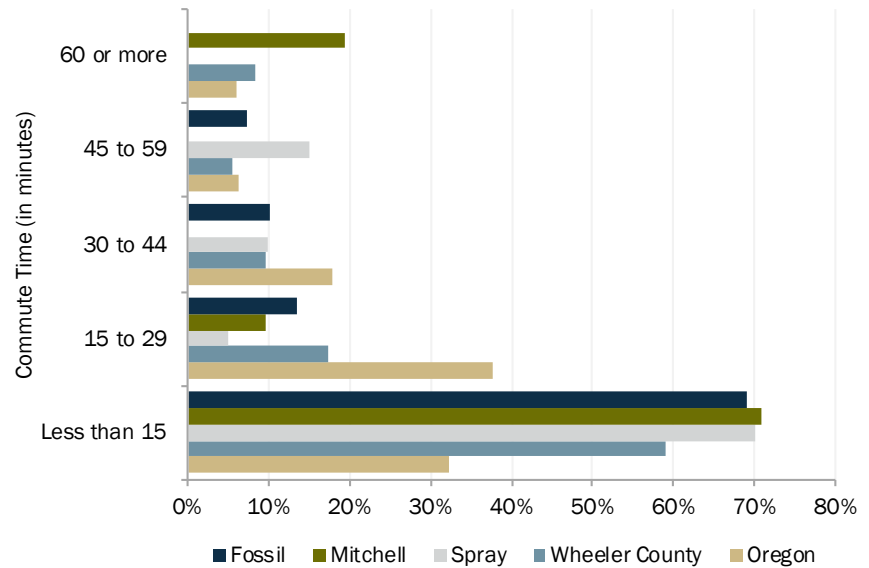
⁹¹ In 2015, 43 people worked at businesses in Spray, with 12% (5) people both living and working in Spray.

⁹² In 2015, 62 residents of Spray worked, with 8% of Spray residents (5 people) both living and working in Spray.

The majority of residents in Fossil (69%), Mitchell (71%), Spray (70%), and Wheeler County (59%) have a commute time of less than 15 minutes.

Exhibit 74. Commute Time by Place of Residence, Fossil, Mitchell, Spray, Wheeler County, and Oregon, 2012-2016

Source: U.S. Census Bureau, American Community Survey 2012-2016 5-year estimates, Table B08303.



Agriculture in Wheeler County

Agricultural industries in Wheeler County have been, and continue to be, a large part of the Eastern Oregon economy, including Wheeler County.

The U.S. Department of Agriculture completed the last Census of Agriculture in 2012. Exhibit 75 summarizes key characteristics of farms in Wheeler County, compared to Oregon, in both 2007 and 2012. In 2012, the average size of a farm in Oregon was 460 acres, while the average size in Wheeler County was 4,242 acres. The average farm size in Oregon increased between 2007 and 2012, and in Wheeler County, the average farm size decreased. Across both regions the overall number of farms decreased. The age of farm owners is also a factor in changing agricultural industries.

Exhibit 75. Characteristics of Farms in Wheeler County and Oregon, 2007 and 2012

	Oregon		Wheeler County	
	2007	2012	2007	2012
Number of farms	38,553	35,439	164	153
Land in farms (acres)	16,399,647	16,301,578	757,780	649,086
Average size of farm (acres)	425	460	4,621	4,242
Average market value of products sold per farm (adjusted to 2012 dollars)	\$126,284	\$137,805	(D)	\$92,534
Average net cash farm income per farm (adjusted to 2012 dollars)	\$26,020	\$22,954	\$15,267	(\$21,389)
Average age of principal operator	58	60	62	62

Source: U.S. Department of Agriculture. Census of Agriculture, 2007 and 2012.

The average market value of products sold per farm in Wheeler County was \$92,534 in 2012, lower than the average in Oregon overall (\$137,805). The average net cash farm income per farm in Wheeler County (-\$21,389) was negative and lower than the state average (\$22,954).

Furthermore, the net cash farm income decreased between 2007 and 2012 for both in Wheeler County and Oregon overall. The strength of Wheeler County's agricultural production is related to the types of crops produced on land in the County. Exhibit 76 shows that the commodities in Wheeler County with the highest value of sales in 2012 were Cattle and Calves and Other Crops and Hay.

Exhibit 76. Value of Sales by Commodity Group (in \$1,000s), Wheeler County, 2007 and 2012

	Wheeler County	
	2007	2012
Grains, oilseeds, dry beans, and dry peas	\$244	(D)
Other crops and hay	(D)	\$2,458
Poultry and eggs	\$3	(D)
Cattle and calves	\$9,849	\$10,767
Horses, ponies, mules, burros, and donkeys	\$159	\$107

Source: U.S. Department of Agriculture. Census of Agriculture, 2007 and 2012. (D) denotes values that cannot be disclosed.

Tourism in Eastern Oregon and Wheeler County

Longwoods International provides regional statistics on travel. The following information is from Longwoods International’s 2017 Regional Visitor Report for the Eastern Oregon Region, which is comprised of Baker, Gilliam, Grant, Harney, Malheur, Morrow, Northeast Wasco, Sherman, Umatilla, Union, Wallowa, and Wheeler counties.⁹³ Broadly, travelers to Eastern Oregon accounted for:⁹⁴

- 2.5 million overnight trips in 2017, or 7% of all Oregon overnight travel that year.
- The primary market area for travelers over 2016 and 2017 were Oregon, Washington, and California: 43% of Eastern Oregon visitors came from Oregon, 14% came from Washington, and 10% came from California.
- About 69% of visitors stayed 2 or fewer nights over 2016 and 2017 in Eastern Oregon, 23% stayed 3-6 nights, and 8% stayed 7 or more nights. The average nights spent in Eastern Oregon was 2.6.
- The average per person expenditures on overnight trips in 2017 ranged from \$10 on recreation, sightseeing, and entertainment, to \$37 per night on lodging.
- About 76% of visits to the Eastern Oregon Region over 2016 and 2017 were via personally-owned automobiles, 18% were by rental car, and 16% were by plane.
- Over 2016 and 2017, visitors tended to be young- or middle-aged adults, between the ages of 25 to 44; this age group comprised 47% of all visits. About 65% of visitors graduated college or completed a post-graduate education. Additionally, 40% of visitors earned less than \$50,000 annually in household income, 21% earned between \$50,000 and \$74,999, 20% earned between \$75,000 and \$99,999, and 19% earned more than \$100,000. The average household income for Eastern Oregon visitors was about \$64,645.

Wheeler County’s direct travel spending increased 36% from 2000 to 2017.

The Eastern Oregon Region’s direct travel spending increased by 46% over the same period.

Exhibit 77. Direct Travel Spending (\$ millions), 2000 and 2017

Source: Dean Runyan Associates, Oregon Travel Impacts, 1991-2017.

2000	\$263.0	\$2.2
	Eastern Oregon Region	Wheeler County
2017	\$383.1	\$3.0
	Eastern Oregon Region	Wheeler County

⁹³ Travel Oregon. “Eastern Oregon Overnight Travel Study: 2017,” Longwoods International, October 2018. Retrieved from: <http://industry.traveloregon.com/research/archive/eastern-oregon-overnight-travel-study-2017-longwoods-international/>.

⁹⁴ Longwoods International issues caution in interpreting these tourism estimates in Eastern Oregon as the sample size for this region is low.

Wheeler County's largest visitor spending for purchased commodities is food services.

Exhibit 78. Largest Visitor Spending Categories (\$ thousands), Wheeler County, 2017

Source: Dean Runyan Associates, Oregon Travel Impacts.

\$424.5	\$127.3	\$107.3
Accommodations and Food Services	Arts, Entertainment, and Recreation	Retail

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

Exhibit 79. Largest Industry Employment Generated by Travel Spending, Wheeler County, 2017

Source: Dean Runyan Associates, Oregon Travel Impacts.

23 jobs	6 jobs	4 jobs
Accommodations & Food Service	Retail	Arts, Entertainment, and Recreation

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 Fossil UGB, Mitchell UGB, and Spray 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 the methods used to develop the commercial and industrial buildable lands inventory for the Fossil UGB, Mitchell UGB, and Spray UGB.

Methods and Definitions

The BLI for Wheeler County includes all land that allows commercial and industrial uses within the UGBs of Fossil, Mitchell, and Spray. From a practical perspective, land was included in the BLI if it met all of the following criteria: 1) it is inside the Fossil UGB, Mitchell UGB, or Spray UGB, 2) it is inside a tax lot (as defined by Wheeler County Assessor), 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 used all of the tax lots in the Fossil, Mitchell, and Spray UGBs with the appropriate zoning/plan designations. Exhibit 80 shows the specific designations that were used in the BLI.

Exhibit 80. Zones in Fossil, Mitchell, and Spray that are included in BLI

City of Fossil Zones	Included in BLI?
Commercial	Yes
Industrial	Yes
Farm	Yes
Public and Semi-Public	No
Residential	No

City of Mitchell Zones	Included in BLI?
Commercial	Yes
Farm	Yes
Open Space	No
Public and Semi-Public	No
Residential	No

City of Spray	Included in BLI?
Commercial/Residential	Yes
Park	No
Residential	No

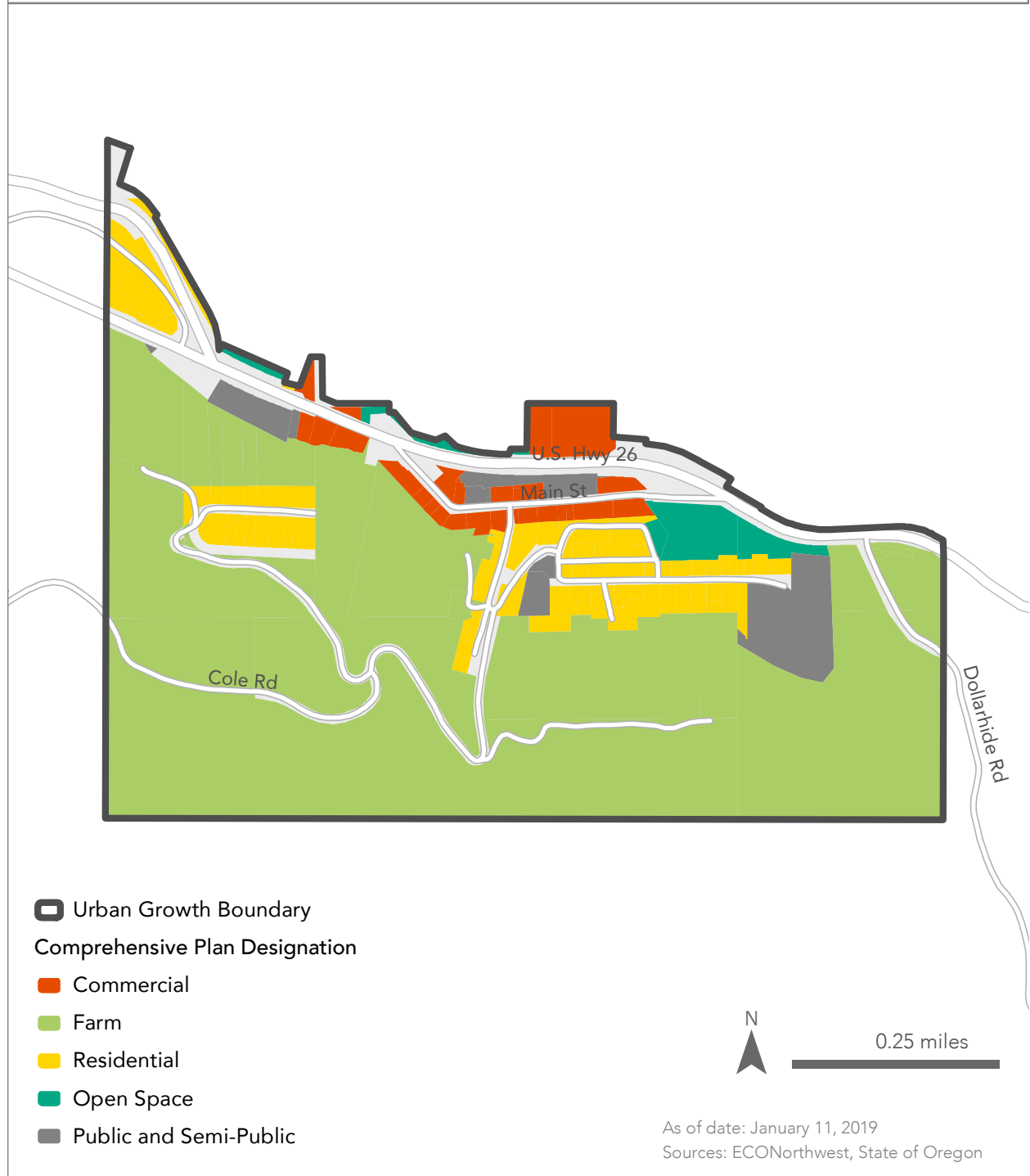
Exhibit 81–Exhibit 83 show land by comprehensive plan designation in the Fossil, Mitchell, and Spray UGBs by zones included in the BLI.

Fossil Buildable Lands Inventory Comprehensive Plan Designations

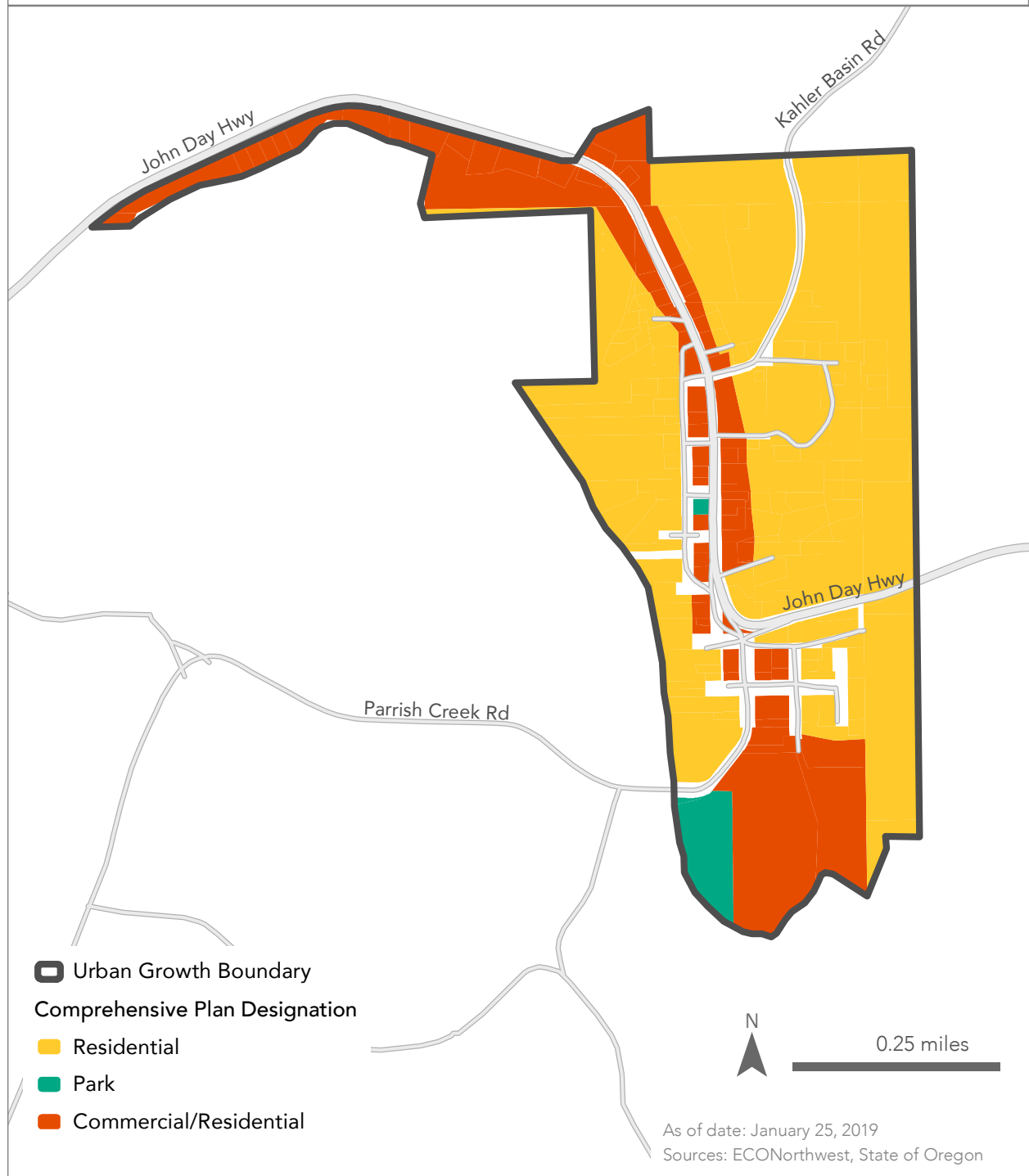


Mitchell Buildable Lands Inventory

Comprehensive Plan Designations



Spray Buildable Lands Inventory Comprehensive Plan Designations



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 classify development status using a rule-based methodology. The rules are described below in Exhibit 84.

Exhibit 84. Rules for Development Status Classification

Development Status	Definition	Statutory Authority
Vacant Land	<p>A tax lot:</p> <p>(a) Not currently containing permanent buildings or improvements; or</p> <p>(b) Equal to or larger than five acres where less than one half-acre is occupied by permanent buildings or improvements.</p> <p>For the purpose of criteria (a) above, lands with improvement values of \$0 and without mobile homes (as identified by Wheeler County Assessment property class codes) were considered vacant.</p>	<p>OAR 660-009-005(14)</p> <p>We propose to include 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.</p>
Partially Vacant Land	<p>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.</p>	<p>No statutory definition</p>
Undevelopable Land	<p>Vacant tax lots less than 3,000 square feet in size are considered undevelopable.</p>	<p>No statutory definition</p>
Public or Exempt Land	<p>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 the Wheeler County Assessment property class codes. This category only includes public lands that are located in commercial plan designations.</p>	<p>No statutory definition</p>

Development Status	Definition	Statutory Authority
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) We propose to address redevelopment potential on the demand side—operationalizing a definition of developed land consistent with this definition is complicated.

Step 3: Identify constraints

As shown in Exhibit 85, the BLI included development constraints consistent with guidance in OAR 660-008-0005(2).

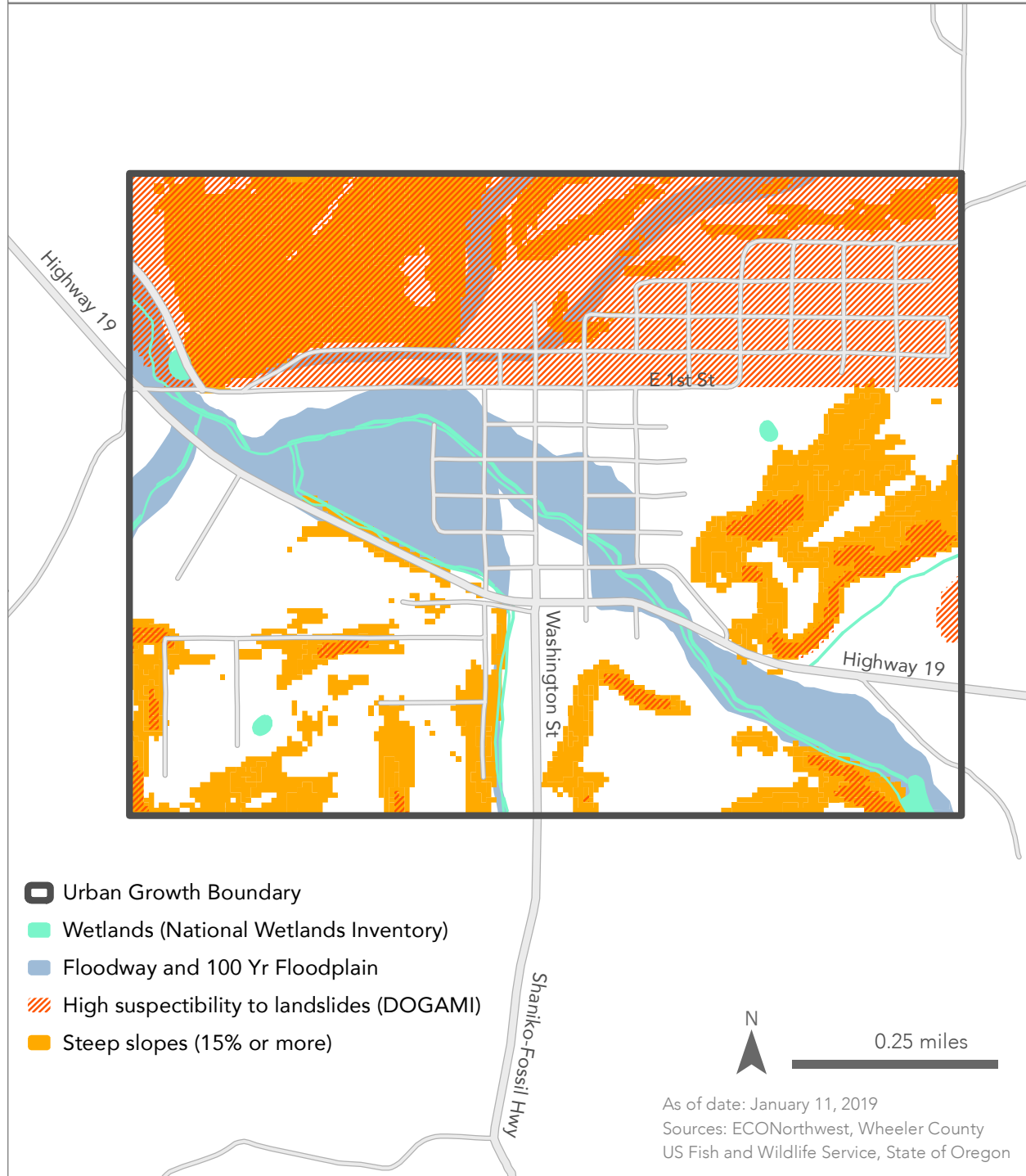
Exhibit 85. Constraints included in BLI

Constraint	Statutory Authority	Threshold	File name/location
Goal 5 Natural Resource Constraints			
Regulated Wetlands	OAR 660-008-0005(2)	Within National Wetlands Inventory	https://www.fws.gov/wetlands/Data/Data-Download.html
Natural Hazard Constraints			
Floodways	OAR 660-008-0005(2)	Lands within FEMA floodway, compiled by DLCD from various sources.	Oregon Spatial Data Library
100 Year Floodplain	OAR 660-008-0005(2)	Lands within FEMA 100-year floodplain, compiled by DLCD from various sources.	Oregon Spatial Data Library
Steep Slopes	OAR 660-008-0005(2)	Slopes greater than 15%	State Digital Elevation Model
Landslide Susceptibility	OAR 660-008-0005(2)	Land classified by DOGAMI as having “High” or “Very High” landslide susceptibility.	https://www.oregongeology.org/pubs/ofr/p-0-16-02.htm

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, shown in Exhibit 86-Exhibit 88 were deducted from lands that are identified as vacant or partially vacant.

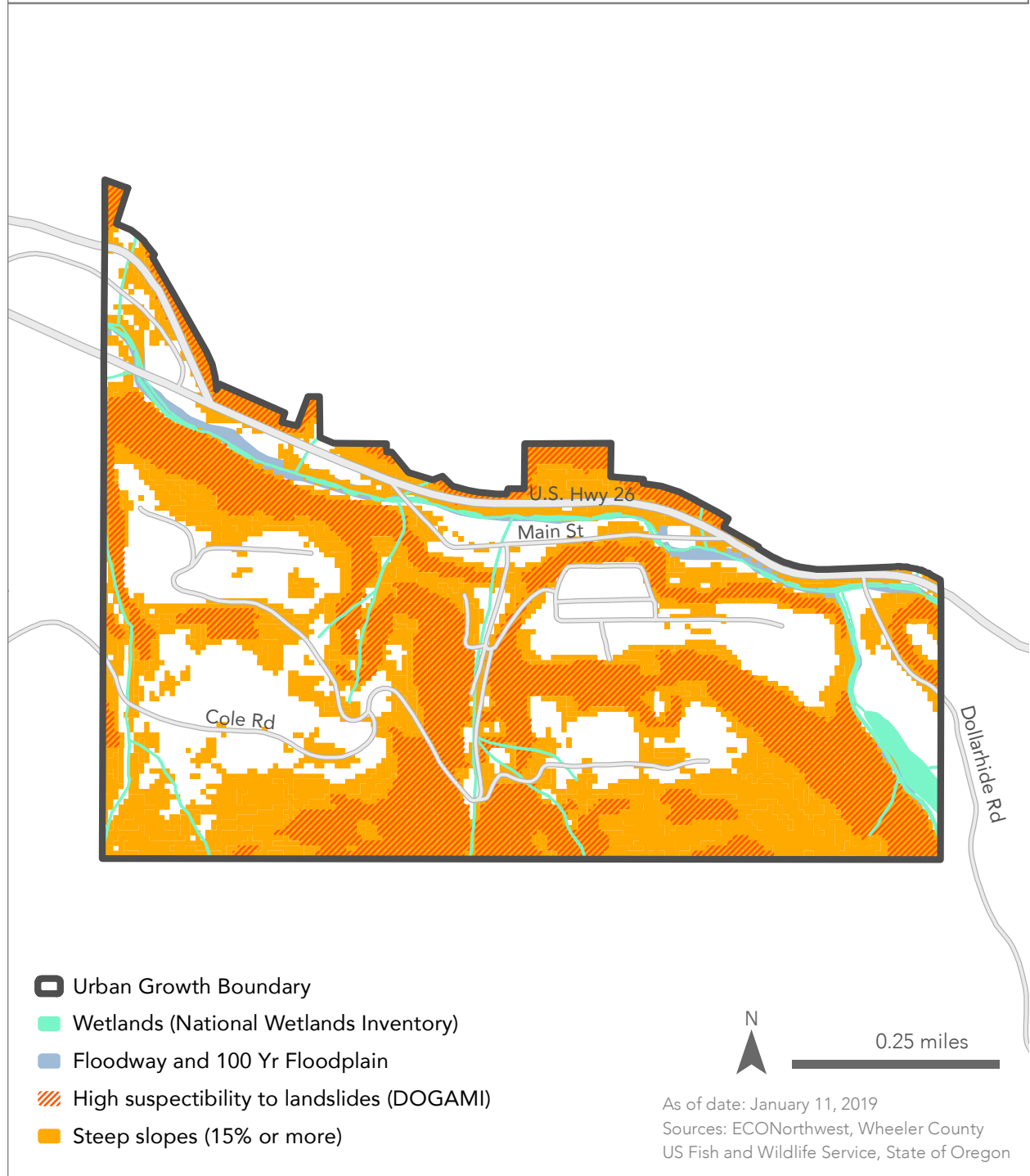
Exhibit 86. Employment land development constraints by constraint type, Fossil UGB, 2018

Fossil Buildable Lands Inventory Constraints in Fossil UGB



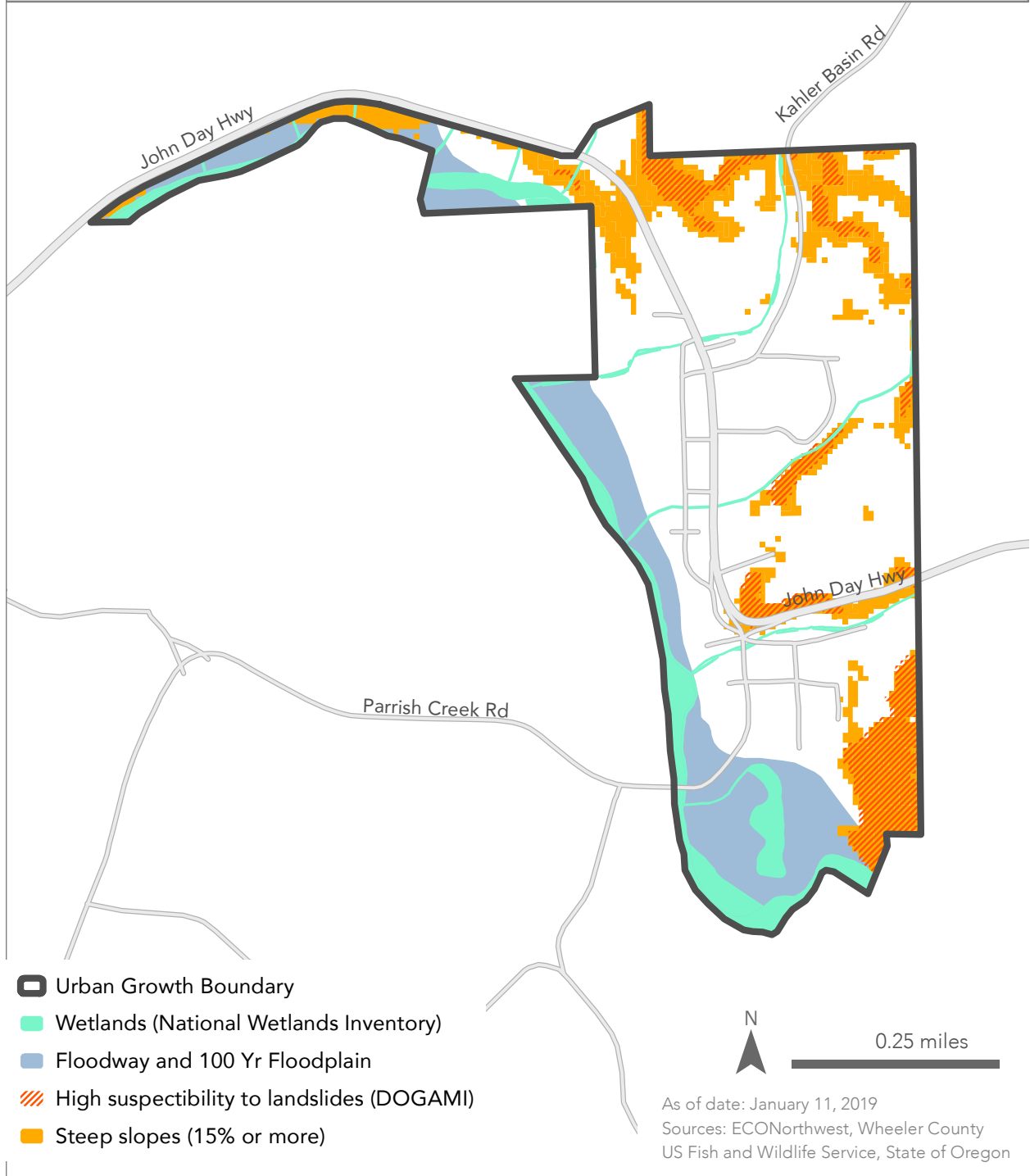
Mitchell Buildable Lands Inventory

Constraints in Mitchell UGB



Spray Buildable Lands Inventory

Constraints in Spray UGB



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 County and City staff verifying the visual assessment output. ECONorthwest amended the BLI based on County and City staff review and a discussion of staff’s comments. The final verification is review by stakeholders, most especially PAC 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.