

City of Bend 2008 Economic Opportunities Analysis

**City of Bend Community Development Department
Long Range Planning
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Contents

Executive Summary

Section 1. Introduction.....1

Section 2. Existing Policies and Visions.....4

- Bend 2030
- General Plan
- Juniper Ridge Concept Plan
- Economic Sector Targeting
- Deschutes County Coordinated Population Forecast
- Concurrent Studies
- Planning Commission and Stakeholder Input
 - Stakeholder Group Process*
 - Stakeholder List*
 - Summary of Stakeholder Interviews*
- UGB Technical Advisory Committee
- Bend's General Economic Objectives

Section 3. Review of National, State, Regional, and Local Trends.....12

- Population and Demographics
 - Population Growth from 1990 to 2008*
 - Age Structure*
 - Future Growth*
 - Education*
 - Income*
 - Labor Force Numbers and Participation Rates*
 - Unemployment Rates*
- Changing Economic Markets
- A Snapshot of Deschutes County's Economy During a Housing Slowdown
- Employment Shifts and Land Needs
- Bend's Economic Outlook
 - National and International Trends*
 - Other External Factors*
 - State and Regional Trends*
 - Population Growth*
 - Local Trends*
 - Economic Sector Targeting*
 - Traded Versus Non-Traded Industries*
 - The Threat to Industrial Firms*
 - Primary Features of Bend's Employment Geography*

Section 4. Characteristics of Bend's Employment Lands.....60

- Industrial Land
- Prime Industrial Land

Vintage Industrial Land	
Mixed Employment Lands and Economic Uses in Residential Areas	
Public Facilities	
Medical Lands	
Section 5. Employment Projection Methodology.....	68
Section 6. Employment Projections.....	71
Section 7. Inventory of Employment Land.....	83
Bend's General Plan Designations	
Inventory of Bend's Economic Lands	
<i>Parcel Size and Net Developable Acres Analysis of Commercial, PF, and MDOZ Lands</i>	
<i>Parcel Size Analysis of Industrial Lands</i>	
Servicable and Short-term Supply of Economic Lands	
Section 8. Converting Employment Growth to Land Demand and Comparing Land Demand to Supply.....	100
Converting Employment Growth to Land Demand	
<i>Reconciling Employment Categories with Zone Types</i>	
<i>Assigning New Employees to General Plan Designations</i>	
<i>Employment Density</i>	
<i>The Role of State Requirements and Local Policies When calculating Land Needs</i>	
<i>Input from Stakeholders</i>	
<i>Input from the Planning Commission</i>	
Minimum Employment Land Demand: Scenario A	
<i>Public and Private Rights-of-way, Lands for Institutional/Open Space Uses, Vacancy Rates</i>	
Providing Additional Employment Lands for Variety of Locations and Sites Above the Minimum Need: Scenario B	
Aspirations for Bend's Economy and Corresponding Land Needs	
Final Land Need Determination	
Short-term Demand and Supply	
Section 9. Conclusion and Next Steps.....	129
Bibliography	
Appendix A: Sector Level Employment Projections	
Appendix B: Memorandum of Covered vs. Uncovered Employment	
Appendix C: Prime Industrial Land Feasibility Memorandum	
Appendix D: Final Buildable Lands Inventory	
Appendix E: Proposed General Plan Policies – Economic Lands	
Appendix F: Stakeholder Summary Report	
Appendix G: Juniper Ridge Master Plan – University District Section	
Appendix H: Letter from Cascade Healthcare regarding proposed hospital site	

Executive Summary

This 2008 Economic Opportunities Analysis (EOA) is written to satisfy the State of Oregon's requirements and provide the City of Bend (city) with a comprehensive analysis of recent economic trends, anticipated employment and demographic trends, employment, and land need projections. The EOA demonstrates Bend has experienced tremendous population and job growth over the past two decades and is expected to continue growing, albeit at a slightly slower pace, for the next 20 years. Ultimately, land for new employment will need to be added to the Bend Urban Growth Boundary (UGB) to grow Bend's economy on a desirable and achievable trajectory into the future.

Demographic Trends

The EOA looks forward and makes predictions over a 20-year time period ending in 2028. These predictions are based on Bend's recent economic and demographic trends. By examining the recent past and current situation, recent work to guide economic development, and likely national and statewide economic trends, realistic assumptions are made to estimate likely job growth and land needs in an unpredictable future. The following is a summary of some of the demographic trends presented in this EOA:

- Bend's population has grown at approximately 6 percent per year from 1990 to 2008, driven mostly by in-migration from people born in states other than Oregon.
- Population growth is not driven solely by in-migration from retired persons, but by working-age persons expected to be a part of the economy for decades to come.
- Baby-boomers will continue to represent the largest peak of population age structure in Deschutes County in the near future, but this peak is followed by a sizable wave of children and grandchildren who will be part of the workforce over the planning period.
- Population growth in Bend is expected to grow from 69,004 persons in 2005 to 115,063 persons in 2028.
- Bend is a relatively highly educated community and its population has higher percentages of people with at least a college education than Deschutes County, Oregon, and the U.S. The level of education in a community may determine a community's economic success in the future, with higher rates of education being related to higher rates of income, growth of well paying jobs, and other social benefits such as lower crime and higher property values.
- Bend has per-capita incomes similar to the U.S., Oregon, and Deschutes County, suggesting Bend's purchasing power and consumer markets are on-par with the state and nation.

Historic Employment Trends

This EOA documents employment and job growth characteristics of the U.S., Oregon, Deschutes County, and Bend to place Bend in perspective and note its unique characteristics. Key findings of this EOA are presented below.

- Job growth has outpaced population growth in Bend and in surrounding communities. Job growth in Bend does not appear to be at the expense of job growth in surrounding cities and counties.
- The ratio of jobs-to-population in Bend has been relatively stable over the last two decades.
- Unemployment in Bend and Deschutes County has been approximately 5 percent between the 1990s and to year 2008. Unemployment rates in Deschutes County tend to be slightly higher than the U.S. and similar to the State of Oregon. This suggests that as the National and State unemployment rates fluctuate, so will Bend's.
- Seasonal unemployment in Deschutes County tends to be more pronounced than in Oregon and the U.S.
- Structural unemployment does not appear to have affected Deschutes County in the recent past, suggesting a good match between local employment resources and the needs of employers.

Expected Employment Trends

An EOA must also address the types of employment taking place in a community in order to make accurate predictions about the future. This information, in addition to information on population growth and the structure of Bend's current economic condition, illustrate how and why Bend is well positioned to continue its economic growth through the planning period. Key findings from the EOA are referenced below.

- The decline of growth in manufacturing jobs in Deschutes County and Bend has been replaced by job growth in professional services, construction, services, and retail trade.
- Bend has experienced job growth in broad industries expected to see the highest rates of job growth in Oregon, including Professional and Business Services, Educational and Health Services, and Leisure and Hospitality.
- Job growth in Deschutes County is expected to be some of the highest in the state over the next 10 years.
- Manufacturing is expected to grow statewide and in Deschutes County, but not at levels seen during the 1990s through 2007.
- Bend is well positioned to grow employment in its targeted economic sectors including: hospitality, higher education, health care, secondary wood products, renewable energy resources, aviation, recreational equipment manufacture, specialty manufacturing, and information technologies.
- Threats to Bend's economic success include limited land supplies, high housing costs, lack of workforce housing.

Bend's Land Supply

Bend has a wide variety of commercial, industrial, mixed-employment, medical, and public facility zones to site new economic uses. However, the supplies of economic lands are shrinking and threaten to limit economic growth. As of 2008:

- Bend has only a handful of industrial parcels over 10 acres in size, less than 30 parcels between 2-10 acres, and over 100 parcels between 0.5 and 2 acres. This illustrates Bend has a severe shortage of medium to large sized industrial/mixed employment parcels in its current inventory.
- The majority of the City's industrial land supply inside the current UGB is located on one parcel called Juniper Ridge. This parcel is 494 gross acres and is owned by the City of Bend.
- In a city over 21,000 gross acres in size and with 3,720 net acres of developed economic land, only 1,255 net acres are considered vacant.
- The city estimates approximately 228 net acres of economic lands are available as short-term supply, which means these lands currently have capacity to be developed or the city's master plans are currently written to provide service to these lands in 20 years.
- The city is planning to provide a variety of economic lands by type, size, and location in the planning period to distribute economic lands in different locations, enable businesses to have choices where to locate, and provide convenient pedestrian and transportation access to economic lands.
- The city is providing sites to meet Bend's economic development aspirations, including a new hospital, new university, and two, 56-acre industrial sites.

New Employment

Employment projections and land need estimates are a major component of this EOA. The methodology used to determine these estimates follows recommendations of the Oregon Department of Land Conservation and Development, as well as other recommended best practices.

- Bend is expected to add nearly 28,000 new jobs by the year 2028. Most jobs are in the Office/Services, Retail, Industrial, Leisure and Hospitality, and Medical categories.
- Bend should expect to provide additional employment lands for over 20,000 new non-shift employees by 2028 after taking into account redevelopment on existing economic lands.

Bend's Land Needs Until 2028

The EOA concludes with a predicted land need estimate for the 20-year planning period. This land need estimate is based on the preceding analysis of Bend's economic strengths and weaknesses, competitive advantages, economic vision and targeted industries, expected economic growth, and current land supplies. Table A documents the recommended economic land to be added to the city's land base through rezoning or a UGB expansion to meet anticipated needs to the year 2028. The land needs shown assume all of the vacant economic lands inside the Bend UGB are developed during the 20-year planning horizon. The

economic land need will most likely be met through a process of expanding the Bend UGB. The city is currently working on a UGB expansion to provide a 20-year supply of residential and economic lands.

Commercial land needs clearly stand out. This is due to Bend's expected employment gains in professional services, retail, leisure and hospitality, and uses requiring office space such as financial, real estate, and insurance offices. The EOA predicts over 10,000 new non-shift employees will have jobs on these commercial lands.

Additional land needs for industrial uses appear to be less than commercial land needs, partially because the city has a larger supply of vacant (but not fully serviced) industrial land at Juniper Ridge. The city is expected to accommodate over 5,600 non-shift jobs on these new industrial and mixed employment lands.

The 144 acres of land for public facilities would be developed with government, school, park, and special district offices, emergency services, as well as their associated construction, storage and maintenance yards. Some jobs also take place in businesses located in residential areas, so an additional 119 acres of land should be added to the city's residential land inventory for these uses. Medical and health care services are a targeted sector for Bend, and given that Bend is a regional health care provider from the Washington and Idaho borders to Klamath Falls, it is not surprising the EOA suggests 252 additional acres to be used for medical and health care related uses. Finally, special sites including a new hospital, university, and two, 56-acre industrial sites are added to the land need to result in a final 20-year land need estimate of 2,090 gross acres.

Table A. Total Economic Lands Needed in Bend UGB: 2008-2028

General Plan Designations and Special Site Needs	Gross Acres Needed in Planning Period
Commercial (CB, CC, CG, CL, MR) including 100 Acres for Auto Mall	1,008
Industrial/Mixed Employment (IG, IL, IP, ME)	118
Public Facilities (PF)	144
Economic Uses in Residential Zones (RH, RM, RS)	119
Medical (MDOZ)	252
New Hospital Site	112
University	225
Two, 56-acre Industrial Sites (Targeted Sector and Heavy Industrial Site)	112
Total	2,090

Source: City of Bend

Next Steps

In 2007, the city embarked upon a UGB expansion to provide an adequate 20-year supply of residential and economic land. Given the amount of land required, it is likely that most of the economic land needed for the 20-year planning period will be made available through a UGB expansion. However, policy changes may also play a role in increasing the economic land supply. These issues are not the focus of the EOA, but will be the focus of findings associated with Bend's proposed UGB expansion.

Section 1. Introduction

This Economic Opportunities Analysis (EOA) examines Bend's recent employment and land development trends and projects future employment and employment land needs. The EOA is being completed in the context of the 2008 Urban Growth Boundary (UGB) expansion. The information and conclusions of this EOA are the basis for the economic lands expansion. The 2008 UGB expansion follows a 2004 UGB expansion for industrial land. This EOA collects the most recent works on economic land need for the City of Bend in one document to meet the State of Oregon's requirements, and to be a clear factual basis for the 2008 UGB economic lands expansion.

This work builds on a number of recent economic and residential land need studies as well as master plans for the city's water, sewer, and transportation systems. Many of these studies are referenced by this EOA, but two studies demand particular attention. This EOA draws heavily upon two recent economic studies commissioned by the City of Bend and then goes on to conduct additional analysis performed in the context of the 2008 UGB expansion. The following is an explanation of the recent works and how they are used within this EOA. Both works are referenced extensively throughout this EOA.

1. Economic Lands Study Part 1 – This analysis was completed as part of the 2004 UGB expansion for approximately 494 acres of light industrial land located in the northern part of Bend. It contains valuable information regarding Bend's recent economic development and land use trends related to commercial, mixed use, and industrial lands. The EOA draws upon this information since much of it still holds true. This EOA departs from the ELS's conclusions regarding land need because the reports use different methods to calculate future land need. Also, the Goal 9 administrative rule (OAR 660-009) was amended since the ELS was completed, so it did not fully address the legal requirements currently in place.
2. City of Bend 2007 Economic Opportunities Analysis by Leland Consulting Group – This report was conducted to update the ELS within the context of the 2007 UGB expansion. This work was done by Leland Consulting Group and contains current work around Bend's economic outlook, national, state, and regional trends, characteristics of employment land, and other useful information. This source is the basis for this EOA since it is current and addresses the new Goal 9 requirements. However, the Bend Planning Commission directed staff to update the employment projections, land inventory, and land need components of the Leland EOA to complement the 2008 UGB expansion. Further, staff's work with a local Stakeholder Group suggested some of the conclusions of the Leland EOA should be revised. Thus, staff has included much of the Leland EOA, but builds on this work as suggested by the Stakeholder group and directed by the Bend Planning Commission. This EOA preserves much of the background information regarding economic trends and overall

employment and land need methodology of the Leland EOA, but draws different conclusions regarding Bend's 20-year economic land needs.

3. These two sources are referenced extensively throughout this EOA. Both of these documents were not formally published, but this EOA formally references both documents. This EOA provides citations in the MLA parenthetical format. Since it is used extensively, the following is a brief guide to help readers understand common formatting and symbology.
 - a. The [...] symbol refers to text in the original source that has been omitted
 - b. [] is used to surround text that is added. For example, [...] [Table 1] means that an old table number was omitted, and new text (in this case, Table 1), has been added.
 - c. [.....] indicates more than three lines of text have been deleted or not included in the referenced passage
 - d. More than three continuous lines of quoted material are indented 0.5 inches from the left margin and the text is one point smaller than the text used in the report.
 - e. A number in parenthesis (such as this (9)) at the end of indented text indicates a page reference of a source document.

State Planning Laws and Approach to Conducting EOA

This EOA is built around the requirements contained in Oregon's Statewide Planning Goals 9 and 14 and Oregon Administrative Rules, Division 9.

Goal 9: Economic Development, aspires to "provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens." It requires city comprehensive plans to "contribute to a stable and healthy economy" by analyzing economic "patterns, strengths, and weaknesses", contain economic development policies, and provide at least an adequate supply of economic lands.

Goal 14: Urbanization, seeks to "provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities." Goal 14 directs cities to establish urban growth boundaries which contain urban levels of development and prevent urbanization of nearby rural lands. Goal 14 requires cities to establish UGBs based on residential land needs to serve a 20-year population as well as provide opportunities for employment, parks, schools, public facilities, and necessary public infrastructure. Prior to expanding a UGB a city must demonstrate that "needs cannot reasonably be accommodated on land already inside the urban growth boundary."

Oregon Administrative Rules 660-009, describes how to implement Goal 9 and conduct an economic opportunities analysis. An economic opportunities analysis has four main components:

1. Review national, state, regional, county, and local economic trends
2. Identify the types of sites required in a city or county
3. Inventory economic lands
4. Assess community economic development potential

This EOA addresses all of these required elements of an economic opportunities analysis. It also addresses the requirements of Goal 14 to determine if future needs can be accommodated on land already inside the UGB.

To meet the requirements of OAR 660-009, this EOA has assembled data, analysis, and input from the following sources:

1. The Bend General Plan Chapter 6 and other Chapters as they pertain to economic lands
2. Oregon Employment Department employment data for the region and City of Bend
3. Input from a Stakeholder group of local industrial and commercial developers and state agency representatives
4. City of Bend UGB Technical Advisory Committee to review work products and provide guidance
5. City of Bend Planning Commission to provide guidance on the appropriateness of assumptions, analysis, and conclusions
6. The City of Bend Geographic Information Systems (GIS) database assembled to analyze employment and land use patterns
7. The City of Bend Economic Sector Targeting facilitated by Chabin Concepts Team to identify preferred economic development objectives for the City of Bend
8. Other economic opportunities analyses conducted by varying consulting firms for other Oregon cities
9. Guidance from DLCD staff as it pertains to interpretations of planning goals and rules and the appropriateness of the City's analysis
10. Research and publications on specific topics as needed

Section 2. Existing Policies and Visions

The 2007 Leland Economic Opportunities Analysis (referred to as the 2007 Leland EOA) provided an excellent summary of existing policies and visions as required by Goal 9 administrative rule.

An EOA is a technical analysis that projects trends, but it is also an aspirational economic development tool that identifies the land needs to achieve the type of employment that the community desires to have. Thus, it is important to have a vision for what type of city Bend wants to be in the future. Fortunately, Bend has recently completed a number of visioning and planning exercises that clarify exactly how it wants to grow in the future. This Section of the report summarizes the key points from some of these studies and identifies how they serve as guideposts for subsequent analysis in this EOA.

Over the past decade, Bend has continued to fulfill its promise as a forward-looking community by developing several broad policies and visions that will guide growth in the city and region. First among those visions are a revised General Plan and Bend 2030. These are complemented by planning documents such as the Juniper Ridge Concept Plan, Economic Sector Targeting report, and others.

The growth and changes that take place in Bend's economy during the next two decades will be profoundly shaped by the city's existing policies and visions. This Section contains brief summaries of those policies and visions, and some of the ways that they will influence Bend's economy and this EOA.

Bend 2030

In Bend 2030, the city's residents have set forth a concise and accessible vision for the future of their community. The complete vision document is available on line at www.bend2030.org. the vision document was completed in June 2006, and identifies the following six primary goals:

- A Well-Planned City
- A Vibrant Economy
- A Quality Environment
- Safe, Healthy People
- A Strong Community
- A Creative, Learning Culture

Within those six broad goals, Bend 2030 identifies numerous more specific objectives. The following objectives are most relevant to the EOA, and most are explained in greater detail in later Sections of this report:

- Targeted Industries. As will be discussed later, the city has identified a number of "target industries" in which it can excel and provide job opportunities over the long term.
- Living Wage Jobs. If Bend is unable to sufficiently increase employment in its targeted industries, too many jobs may be in the retail services and other relatively low-paying sectors.

- Available Industrial and Commercial Lands. This objective is perfectly aligned to the purpose of this report – to ensure that there is enough land to accommodate future jobs and businesses, and the buildings and land they will occupy.
- Diversified Economy. This objective overlaps considerably with “targeted industries.” Bend must continue to diversify from a wood products and tourism-oriented economy to a more diversified one that provides professional service, high-skill manufacturing, high-tech, and other living wage jobs.
- Sustainable Industries. Bend seeks to attract and retain businesses that maintain their high-quality natural environment.
- Establish a university and research center. There is broad support in the community for a high-quality university in Bend. Such an institution could have a dramatic positive impact on the workforce by training the next generation of Central Oregonians and visiting students to participate in a diversified economy.

[.....]

General Plan

The Bend Area General Plan (also known as a Comprehensive or Comp Plan), as with the Bend 2030 Vision, is intended to guide the city’s long-term land use and transportation planning. The narrative aspect of the General Plan – particularly Chapter 6, “The Economy and Lands for Economic Growth” - offers a perspective similar to both Bend 2030 and the ELS on Bend’s employment future....

The General Plan underwent a major update in 1998 and has since been revised periodically. The plan plays a major role in shaping Bend’s “employment geography” by guiding the size and shape of the city’s various employment zones, including commercial, industrial, and mixed-employment zones. The use and disposition of each zone is further detailed in the city’s Development Code, which relates closely to the General Plan....

Juniper Ridge Concept Plan

The Juniper Ridge Concept Plan represents an initial attempt by Bend to shape its vision for the 1,500-acre publicly owned parcel on the city’s north border. Since the inception of the Juniper Ridge planning process, it has been clear that because of its size, location, and city ownership, the site had the potential to play a major role in Bend’s economic future, by providing the area for future businesses to locate. The specifics contained in the Concept Plan will almost certainly undergo major and minor changes over its long implementation period, but the city hopes to stay true to the plan’s underlying visions and aspirations.

Based on direction from the Bend City Council, the Plan proposes that the site’s development be driven by several primary uses:

- Light-Industrial Research Park
- Educational Research and Technology Campus
- Mixed-use areas
- Residential areas

Primarily due to the first two uses listed above, Juniper Ridge is seen as a key part of Bend's economic development strategy, as it will provide land on which the city's targeted industries and university can grow. Thus, there is expected to be a significant amount of interaction between the results of this EOA and Juniper Ridge, as some of the employment growth forecast here will likely be accommodated on the city's site.

Approximately on third of Juniper Ridge's total area – the 494-acre parcel called Juniper Ridge Phase 1 – is currently within Bend's UGB and designated light industrial in the General Plan. The remaining approximately 1,000 acres is referred to in this document as Juniper Ridge Phase 2, despite the fact that the project may have many more phases before completion.

Economic Sector Targeting

In 2005, city staff and abroad group of economic stakeholders took part in an Economic Sector Targeting process, which included server daylong workshops and ultimately a report. Through this analysis, the city identified nine different industry sectors in which it should concentrate its efforts to retain existing businesses and attract new ones. The sectors were chosen due to a number of different criteria, including an existing industry cluster already in Bend; significant growth opportunity; living wage job potential; and likelihood for sustainable business practices. The group developed a set of nine targeted industries, shown in Table [...] [18 in Section 3]; the sectors listed in the left column can be developed from an already-strong existing base in Bend.

Due to the city's clear policy direction on targeted industries, and anticipated ongoing effort to attract them, the EOA's projections reflect greater employment increases within these sectors.

The focus on targeted industries also has implications for the type of land and other public infrastructure that the city will need to supply in the future. For example, information technology firms will be more likely to locate in commercial, rather than industrial land.

Deschutes County Coordinated Population Forecast

The Deschutes County Coordinated Population Forecast was finalized in 2004 by county and city staff, project consultants, and a broad range of stakeholders. The population projections identified in their findings are used in this report, the Residential Lands Study, and the other studies undertaken by Bend and Deschutes County referenced below.

Concurrent Studies

The City of Bend is currently managing several other studies that examine aspects of the community's long-term prospects and needs. There has been some overlap between these studies and the EOA, all managed by city staff.

In any case, readers should be aware of the other projects, as no single part of the community's future can be understood on its own. For example, lands allocated for residential growth will be unavailable for traditional employment use. And decisions about where to locate roads and sewer and water lines will have long-term impacts on where employment development takes place.

- Residential Lands Study
- Water Facilities Master Plan
- Sewer Collection System Master Plan
- Bend Metropolitan Transportation Plan (9-13).

Planning Commission and Stakeholder Input

In June of 2007, the City of Bend Planning Commission held its first public hearing regarding a UGB expansion proposal that focused primarily on adding approximately 900 acres of residential and economic lands located in the city-owned property in Phase 2 of Juniper Ridge. The public hearing generated considerable controversy regarding the extent of the expansion for Phase 2 of Juniper Ridge. At that time, the city was not pursuing a UGB expansion that considered a full 20-year supply of economic lands, but did accommodate a 20-year supply of residential lands.

In the subsequent months, public testimony, City of Bend Planning Commission, and City Council input redirected the UGB expansion to address a 20-year supply of economic lands. The City Council's formal policy direction regarding the modified UGB expansion was enumerated in a November 19, 2007 Issue Summary containing Council policy statements concerning the UGB expansion. A critical policy statement in the Issue Summary was for staff the Planning Commission to plan for a full 20-year supply of economic lands.

The April 2007, Economic Opportunities Analysis by Leland Consulting Group recommended that only 65 acres of additional industrial and mixed-use lands needed to be added to the UGB beyond the current supply of industrial lands nearly all located in Phase I of Juniper Ridge. Staff and the Planning Commission felt it was important to meet with local stakeholders and a UGB Technical Advisory Committee (UGB TAC) to reexamine the Leland EOA's methodologies and conclusions. As a result, a local group of Stakeholders, most of who were consulted with during the creation of the Leland EOA, were convened to review the Leland EOA.

City staff assembled a list of local stakeholders to review and comment on the major assumptions and findings of the 2007 Leland EOA. The purpose of the interviews was to receive pointed feedback from local experts active in commercial and industrial land appraisal, entitlement, development, marketing, sale, and use. The stakeholder group represents over 200 years of combined local experience with these issues.

Stakeholder input was used to inform staff and decision makers of broad areas of agreement and disagreement with the EOA, which lead to changes in the assumptions and results of the EOA.

Stakeholder Group Process

City long-range planning staff started the planning process by identifying a list of stakeholders. This list was not intended to be all inclusive, but manageable, as

there are many extremely knowledgeable people who were not included on the list. Most stakeholders were initially contacted beginning on October 29, 2007 via phone calls. After discussing the purpose of the stakeholder interviews and setting up a time to meet, staff sent an e-mail to each of the stakeholders containing a link to the full text of the EOA, a zoning map, a seven page summary of the EOA by city staff, and a list of ten questions that were the basis of the interviews. Interviews were generally an hour to an hour and a half in length, and were held between the dates of October 30 and December 3, 2007.

Stakeholder List

The list of the stakeholders is below. The full stakeholder summary report is in Appendix F of this EOA.

- Dana Bratton, Bratton Appraisal Group, LLC
- Kirk Schuler, Brooks Resources Inc.
- Matt Day, Hooker Creek Companies
- Steve Scott, Steve Scott Realtors
- Larry Ksionzyk and Mark Radabaugh, Oregon Department of Land Conservation and Development
- William Smith, William Smith Properties Inc.
- Patrick Oliver, Oliver Commercial Group
- Eric Stroble and Roger Lee, Economic Development of Central Oregon
- Todd Taylor, Knife River Inc.
- Mike Schmidt, Bend Chamber of Commerce
- Steve Williams, Oregon Employment Department

Summary of Stakeholder Interviews

Below is a top ten list of the Stakeholder's most significant and commonly raised points regarding the major findings of the 2007 Leland EOA.

Top Ten Points Raised by Stakeholders

1. In general, the employment projections seem reasonable and accurate, but should be used with caution since the future is uncertain.
2. The conclusion that more commercial land is needed in the planning period is on target.
3. The conclusion that there is a short-term surplus of industrial land is incorrect (including the approximately 500 acres of vacant industrial land inside the UGB that is part of the Juniper Ridge concept).
4. There needs to be more industrial land immediately available on the market, and preferably in a variety of sizes, ownerships, and locations to sustain a healthy and diverse economy. Industrial lands should be dispersed geographically inside and outside the current Bend UGB.
5. The city-owned 500 gross acres (or other publicly owned sites) of light industrial land inside the UGB represents "too many eggs in one basket", but is also unique opportunity to "hold" or "bank" a functional supply of medium (10 acre) to large sites (25+ acre) for targeted businesses since

- public ownership may withstand market pressures to subdivide into smaller parcels.
6. Rezoning land inside the current UGB to light industrial and commercial uses is a good way to provide shovel-ready and serviceable economic land in the short term, while creating more variety and diversity in the market.
 7. Immediate access to high volume surface transportation facilities such as highways, arterials, and major collectors is the single most important component of physical infrastructure for Bend's "industrial" industries (assuming other facilities are available).
 8. In general, areas north of the city between Highway 97 and Highway 20, north along Highway 97, followed by lands to the east adjacent to Highway 20, then lands south of the UGB along Highway 97 are the best locations for new industrial lands.
 9. The Central Area Plan is worth implementing and supports the concept that existing retail centers should be intensified versus creating many new retail areas. However, small and dispersed service/office commercial uses should be added to areas in the UGB that are underserved and new commercial nodes should be dispersed throughout the UGB expansion lands.
 10. Developing a 4-year college campus as envisioned at Juniper Ridge is unlikely to happen soon, but is a worthy long-range goal. Central Oregon Community College is an existing asset that should be enhanced and linked to Bend's overall economic development strategy.

UGB Technical Advisory Committee

A 20 person UGB Technical Advisory Committee (UGB TAC) and the City of Bend Planning Commission have been consulted throughout the remaking of the EOA. Generally, the UGB TAC met twice monthly to review the revised UGB expansion work products. The Planning Commission met twice a month, then weekly to review staff work and provide direction on the EOA. Staff's recommended strategy to preserve the background and general methodology of the 2007 Leland EOA, but to update the employment projections and land need estimates, was approved by the UGB TAC and Planning Commission. Other improvements to the EOA methodology suggested by the UGB TAC and Planning Commission were incorporated into this report.

Bend's General Economic Objectives

State law requires a city to adopt general economic objective. This EOA creates this objective by bringing together concepts in Chapter 6 of the Bend General Plan (Economic Development), statements in recent economic visioning projects, Bend's economic advantages, and Bend's recent economic growth trends outlined in this EOA.

The following expression of Bend's economic development objectives is from the "Bend 2030, A Visioning Project by and for the People of Bend, Oregon". This

narrative is implemented through the EOA, policies of the General Plan, and represents the City's general economic development objectives.

Bend has a diversified economy that provides healthy work environments and sufficient living wage jobs to support our local population. Our economic vision has attracted people, resources, and investment focused on diverse industries that offer economic opportunity, longevity in the global market, and a clean and sustainable environment. Bend is a leader in 'green' building materials and technology, and sustainable energy. An established university and research center in Bend promote creativity, innovation, and entrepreneurship that empower and advance a skilled and competitive local workforce. Our access to the global marketplace is efficient and viable due to enhancements of local and regional communications and transportation systems including air, rail, highways, and alternative modes of travel (9).

The city is required to identify particular types of desirable employment to develop during the planning period as part of the general economic objective. The list below reflects desirable employment uses identified in the "2030 Vision" as well as employment types Bend is well positioned to continue to grow into the future. The following represent desirable employment uses for the City of Bend to develop, but not be limited to, during the planning period:

1. Employment in downtown Bend – opportunities for businesses, shops, restaurants, and housing should be expanded while preserving downtown's unique character.
2. Employment in targeted industries – the "2030 Vision" suggests expanding employment opportunities in industries identified as "targeted industries" by the "2005 Economic Sector Targeting" exercise. The targeted industries include:
 - a. Leisure and hospitality uses
 - b. Higher education
 - c. Health care
 - d. Secondary wood products
 - e. Aviation-Aerospace
 - f. Renewable energy resources
 - g. Recreation equipment
 - h. Specialty manufacturing
 - i. Information Technologies (10)
2. Employment in tourism – the "2030 Vision" supports building year-round tourism through developing a diverse mix of arts, entertainment, sports, and natural and cultural attractions. Projects to improve employment in the tourism industry include constructing a new performing arts center and museum of fine arts (12).
3. Employment in higher education – higher education enables and provides diverse employment options. The "2030 Vision" supports the Central Oregon Community college and a new University. The University should ideally provide an attractive learning environment, include a research emphasis, offer graduate programs and scholarship opportunities, and

- serve existing residents while attracting a diverse student body (10).
4. Small neighborhood centers – small service-oriented employment centers should be located so the city’s residents can walk or bike to employment opportunities, public gathering places, parks, recreational facilities, and other services.
 5. Mixed-use development – these uses should be located along key corridors and in designated centers, or as buffering uses.
 6. Opportunity for all economic levels – the “2030 Vision” promotes economic and housing opportunities for all income levels so that all groups are able to live here (10).
 7. In addition to economic uses stated in the “2030 Vision” and “2005 Economic Sector Targeting” work, the following economic uses are desirable and suitable to expand during the planning period based on the findings of the EOA:
 - a. Regional employment centers for public agencies, health care providers, and retail uses
 - b. Employment in professional office and service uses
 - c. Employment in leisure and hospitality uses

Section 3. Review of National, State, Regional, and Local Trends

This Section of the EOA begins with an examination of recent historical population and employment trends in Central Oregon and the city of Bend as a spring board to discuss anticipated future employment trends. A brief examination of international, national, and statewide trends is presented to place Bend's economy in a broader perspective. This Section concludes with information regarding Bend's economic advantages and disadvantages and a snapshot of Bend's current economic geography. Together, the factors establish a rational basis for employment projections developed in the subsequent Sections of this EOA.

Population and Demographics

It is important to examine the recent economic characteristics of Central Oregon, Deschutes County, and Bend before discussing larger trends that may affect Bend. This part of the EOA looks as far back as the 1990s to describe employment and demographic trends that took place during nearly two decades. This work draws upon work done as part of Part 1 – Economic Land Study (called Part 1 – 2000 ELS or 2000 ELS – Part 1) and updates this work with more recent data.

The 2000 ELS – Part 1 discusses factors that impact economic and job growth in a city. These factors include:

- Population change and demographics
- Labor force numbers and participation rates
- Market conditions such as changes in productivity, investment activity, and comparative economic advantages (4)

This EOA examines these factors as well as historic unemployment rates, educational attainment, and incomes of residents of Bend and Deschutes County.

Population Growth from 1990 to 2008

Part 1 of the 2000 ELS states:

In general, an increase in an area's population will drive economic growth. However, the age, education, and income of a population also affect the labor pool needed to fill new jobs and affect the types of businesses locating in an area. Since the late 1980s the rate of population increase in Deschutes County and Bend has been among the fastest in the state (5).

Tables 1 and 2 show rates of annual population growth of cities in Central Oregon between 1990 and 1999. It is important to note that in 1999, the City of Bend annexed approximately 13,648 people into the Bend UGB (City of Bend, ELS Part 1, 5). Bend, Redmond, and Deschutes County have all experienced tremendous population growth during the 1990s.

Table 1. Population Growth 1990 - 1999

Population Growth 1990-1999	
Location	Average Increase per Year ¹
United States	1.03%
State of Oregon	1.77%
Crook County	2.11%
Jefferson County	3.22%
Deschutes County	4.66%
Bend Urban Area	6.12%
City of Redmond	8.75%

¹ United States data from U.S. Census; others from PSU Center for Population Research and Census

² Lands within the Bend urban growth boundary

As in the 1990s, during the period between 2000 and 2007 the City of Bend grew faster than Deschutes County and the surrounding counties. Tables 1 and 2 show the Bend Urban Area grew over three times faster than the State of Oregon and six times faster than the U.S. since 1990. Table 2 also displays the considerable population growth in Redmond over the last seven years.

Table 2. Population Growth Rate Comparison for Selected Geographies: 2000 through 2007

Population Growth 2000-2007	
Location	Average Increase per Year ¹
United States	0.995%
State of Oregon	1.30%
Crook County	4.37%
Jefferson County	2.13%
Deschutes County	4.86%
City of Bend	5.91%
City of Redmond	9.10%

¹ United States data from US Census; others from PSU Center for Population Research and Census

Bend has been and will continue to be the largest and one of the fastest growing urban centers in Central Oregon. Table 3 illustrates the City of Bend has continued to contain the greatest percentage of persons within Deschutes County. Since 1990, Bend's share of Deschutes County's population has increased 21.5 percent. Since 1990, Redmond's share of Deschutes County's population has increased 5.8 percent.

Table 3. Population Distribution within Deschutes County by Year: 1990, 2000, 2007

County or City	1990 Population ¹	% of County Population	2000 Population ¹	% of County Population	2007 Population	% of County Population ²
Deschutes County	74,958	NA	115,367	NA	160,810	NA
City of Bend	20,447	26.9%	52,029	45.1%	77,780	48.4%
City of Redmond	7,165	9.6%	13,481	11.7%	24,805	15.4%

¹ U.S. Census Population April 1

² Population estimates for Oregon and Its Counties and Incorporated Cities: April 1 by Population Research Center, PSU, March 2008

Part 1 of the 2000 ELS states and illustrates in the following table that:

The majority of population growth in Central Oregon has come from persons moving into the area. For Deschutes County 87 percent of the population growth has come from in-migrants. Most of the people who moved to Deschutes County and Bend during the 1990s were baby-boomers and the following generation, rather than older retirees. Table [4] compares population growth and in-migration patterns for the three Central Oregon Counties during 1990 to 1997. The table shows that growth in Deschutes County far exceeded the other counties and that our area had a different age mix of migrants (6).

Table [...] [4]. Population Change and In-migration: April 1, 1990 to July 1, 1997

County	Total Growth		Natural Increase (births over deaths)	Net Migration Growth		
	Persons	Percent		All Ages	Age 65+	Percent 65+
Crook	2,139	15.2%	349	1,790	227	12.7%
Jefferson	3,424	25.0%	1,175	2,249	540	24.0%
Deschutes	26,242	35.0%	3,301	22,941	1,846	8.0%

Since the late 1990s, the trend of regional population growth being driven by in-migration has continued as demonstrated in Table 5. Natural increases from births over deaths account for less than 4.2 percent and 3.5 percent in Crook and Jefferson Counties, respectively. Deschutes County's rate of growth from in-migration has exceeded neighboring counties by growing at a rate of 10 percent over the seven year period. This illustrates that in-migrants play an important role in population growth and will likely play an equally important role in future economic growth.

Table 5. Population Change and In-migration: April 1, 2000 to July 1, 2007

County	Total Growth		Natural Increase (births over deaths)	In-migration in Persons
	Persons	Percent		
Crook	6,703	34.9%	284	6,419
Jefferson	3,021	15.9%	1,062	1,959
Deschutes	45,443	39.4%	4,805	40,638

[†] Components of Population Change for Oregon's Counties: April 1, 2000 to July 1, 2007
prepared by Population Research Center, PSU March 2008

In-migration will continue to be the most significant driver of statewide population growth in the near future. The Oregon Office of Economic Analysis prepares long-term population projections for the State of Oregon. Statewide, population growth from 2010 to 2015 is predicted to be 261,100 persons. Of this, only 38.5 percent is expected to be from natural increases (births over deaths), and 61.5 percent is expected to be from in-migration (Oregon Office of Economic Analysis, Short-term State Population Growth Forecast Through 2013, Table C1, 108).

Table 6 compares place of birth data from the 2006 American Community Survey for the U.S., State of Oregon, Deschutes County, and City of Bend. This data demonstrates that in 2006, Bend has relatively more “native” U.S. born citizens than the U.S. and State, but similar levels as Deschutes County. Supporting the earlier observations regarding in-migration, Bend’s population is composed mostly of people that were born in a different state. In 2006, only 38 percent of Bend’s population was estimated to be born in Oregon, where in the U.S. and State of Oregon, 68 percent and 50 percent, respectively, currently reside in the same state they were born. This leads to a conclusion that in-migration to Bend is driven by out-of-state residents, not residents born in Oregon.

Table 6. Place of Birth for U.S., State of Oregon, Deschutes County, and City of Bend: 2006

Place of Birth	US	US %	State of Oregon	State %	Deschutes County	Deschutes %	City of Bend	City of Bend %
Total population	299,398,485	NA	3,700,758	NA	149,140	NA	70,853	NA
Native	261,850,696	87%	3,340,891	90%	141,897	95%	67,596	95%
Born in United States	258,104,017	99%	3,305,452	99%	140,346	99%	66,842	99%
State of residence	176,467,918	68%	1,666,564	50%	58,231	41%	25,072	38%
Different state	81,636,099	32%	1,638,888	50%	82,115	59%	41,770	62%
Born in Puerto Rico, U.S. Island areas, or born abroad to American parent(s)	3,746,679	1%	35,439	1%	1,551	1%	754	1%
Foreign born	37,547,789	13%	359,867	10%	7,243	5%	3,257	5%

Source: 2006 American Community Survey, Selected Demographic Characteristics for U.S., State of Oregon, Deschutes County, City of Bend. Percentages calculated by City of Bend Planning Department.

Age Structure

Examining the age structure of counties within Central Oregon between 2000 and 2007 demonstrates that population growth is not driven solely by older, retired persons, rather younger persons who will continue to be active members of the work force for decades to come. The age structure of the counties within Central Oregon has become more similar during the period between 2000 and 2007 than existed during the late 1990s as shown in Tables 4 and 7. In the late

1990s, Deschutes County had relatively fewer persons over 65 years of age compared to its neighboring counties. While Deschutes County still has a relatively smaller percentage of persons over 65 years of age and greater percentage of persons between 18 and 64 years of age compared with Crook and Jefferson Counties, the relative age makeup of the counties is increasingly similar.

Table 7. Population by Age Groupings: 2000 and 2007

County	Year 2000 ¹				Year 2007 ²			
	Age 18-64	% 18-64	Age 65+	% 65+	Age 18-64	% 18-64	Age 65+	% 65+
Crook	11,264	58.7%	2,818	14.7%	15,586	60.2%	3,846	14.9%
Jefferson	10,980	57.8%	2,363	12.4%	12,683	57.6%	3,063	13.9%
Deschutes	71,695	62%	15,089	13.1%	104,077	64.7%	21,067	13.1%

¹ U.S. Census 2000 Summary file 1 (SF 1) 100-Percent Data, City of Bend

² Components of Population Change for Oregon's Counties: April 1, 2000 to July 1, 2007 prepared by Population Research Center, PSU March 2008

Future Growth

Long-range population forecasts for the City of Bend were prepared as a component of the 2004 Deschutes County Coordinated Population Forecast. These forecasts are presented in Table 8. Bend's population will continue to grow considerably during the 20-year planning period.

Table 8. Bend UGB Coordinated Population Forecast: 2000-2028.

Year	Bend UGB Population	Rate of Change in Period
2000	52,800	NA
2005	69,004	30.69
2010	81,242	17.74
2015	91,158	12.21
2020	100,646	10.41
2025	109,389	8.69
2028	115,063	5.18

Source: A Cooperative Project of: Deschutes County, City of Bend, Redmond, Sisters, and the Oregon Department of Land Conservation and Development. Deschutes County Coordinated Population Forecast 2000-2025, August 25, 2004. Page 1. 2028 population estimate by City of Bend,

http://www.ci.bend.or.us/depts/community_development/docs/PopHousingForecastTechmemo11192007.pdf

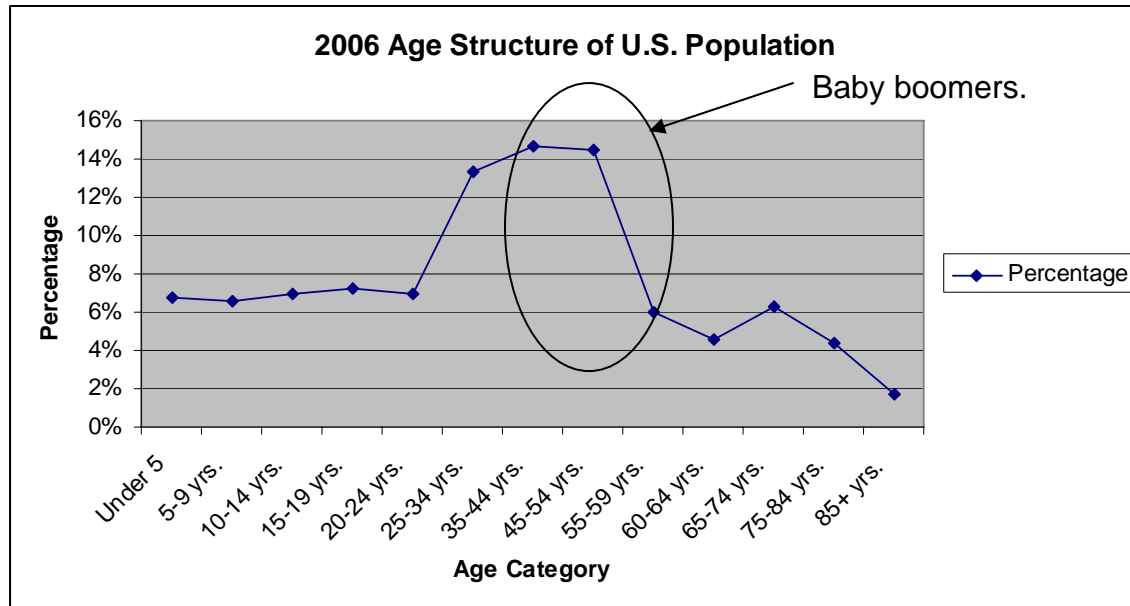
The Deschutes County Coordinated Population Forecast does not contain specific information about age structure and in-migration to the Bend UGB. Part 1 of the 2000 ELS suggests there will be a substantial increase in the graying baby-boomer generation, persons now in their late 40s to early 60s, and there will be an even larger increase in the numbers of younger families and persons in their 30s and 40s (7).

Part 1 of the 2000 ELS states:

This prediction is based on a couple of demographic trends. First, the national population age pattern does not reflect a bell-shaped curve with the baby-boom generation at the peak with older and younger age groups falling away from the peak (6-7).

The chart below shows the 2006 age structure for the U.S.. This shows that for the U.S., the baby-boomer generation is a peak followed by a small plateau of younger age groups.

Figure 1. 2006 Age Structure of U.S. Population

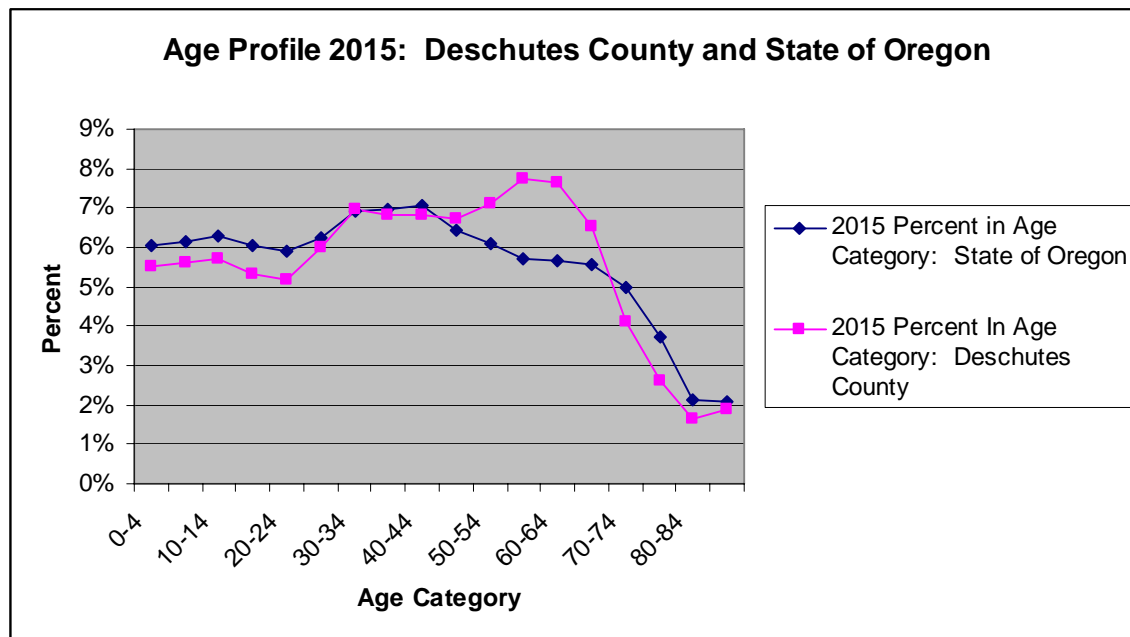


Source: 2006 American Community Survey Demographic and Housing Estimate for U.S.

While it is obvious that the aging baby-boomers will continue to represent the largest peak of the population age groupings shown in Figure 1, this peak is expected to be followed by sizable populations of working age people. The Oregon Office of Economic Analysis “Forecast of Oregon’s County Populations by Age and Sex, 2000-2040” predicts higher percentages of people in their prime working years (between 20 and 64 years of age) for Deschutes County than the state as a whole. Approximately 61 percent of Deschutes County’s population is expected to be between the ages of 20 and 64, versus 57 percent in the statewide.

Figure 2 compares age groups for Deschutes County and Oregon in year 2015. It shows baby-boomers in their early 50’s and late 60’s in 2015 at the forefront of a sizable wave of children and grandchildren.

Figure 2. Age Profile Year 2015 for Deschutes County and State of Oregon



Source: "Forecasts of Oregon's County Populations by Age and Sex, 2000 – 2040", prepared by Oregon Office of Economic Analysis, Department of Administrative Services, April, 2004. Note: populations as of July 1, with totals estimated by Population Research Center, Portland State University. Age and sex details estimated by OEA based on Census Bureau's distributions.

Part 1 of the 2000 ELS and this EOA draw the following conclusions based on the age structure of persons in Deschutes County, and by implication, the City of Bend:

Younger persons and families have been, and will continue to be, attracted to Bend due to recreation opportunities, quality of life, increasing job opportunities, and comparative advantage of land and housing costs. Younger persons who are raising families and establishing households create a different local demand for products and services than older generations or retirees.

Young workers also provide an important balance in the makeup of the workforce. Between the baby-boomers and the large number of younger persons it is easy to see that over the next 20 years the potential labor pool will be largely composed of those persons in their prime employment and earning years.

Conclusions:

- Population in the county and the Bend urban area will continue to grow at a higher rate than the rest of the state
- The majority of population growth will come from people moving into the area
- The baby-boomer generation's children and grandchildren will make up the biggest percentage of the population and the workforce (8)

Education

This Section of the EOA compares social and economic demographic characteristics of the U.S., State of Oregon, Deschutes County, and City of Bend. The purpose of this comparison is to describe Bend's unique demographic profile and suggest social and economic implications of this profile.

Christopher H. Wheeler's July 2005 study, "Employment Growth in America Exploring Where Good Jobs Grow", draws important conclusions regarding job growth and social impacts of job growth based on the educational attainment of a city's populace. These conclusions are based on an analysis of 1990 and 2000 U.S. Census data for 206 U.S. metropolitan areas.

Among the most important findings is that a highly educated labor force is one of the most successful predictors of good-job growth. The evidence documented in this report indicates that employers in nearly all industries, but particularly in high-pay sectors, have increasingly sought highly educated workers in recent decades. Cities with educated labor forces, therefore, are better able to attract employers with high-pay jobs. What is more, a broadly skilled labor force offers an additional advantage for continued good-job growth over long run-time horizons. Highly educated workers tend to be more flexible, at least in the sense that they adjust relatively well to economic/industrial restructuring, than less-educated workers. Because the future cannot be predicted with any real certainty, it is not possible to say which industries will grow and which ones will deteriorate during the next century. A city that attempts to focus its attention on narrow ranges of industries and worker skills risks economic stagnation in the event that those industries decline. A broad set of skills held by a highly-educated workforce, by contrast, offers greater assurance of continued economic growth (24).

Wheeler points out the educational attainment of the work force and corresponding development of good-job growth has implications for cities.

Cities that experience rapid growth in high-wage employment also tend to see increasing incomes throughout the entire labor market, not just among those who happen to hold high-paying jobs. The growth of high-paying employment is also associated with lower rates of crime, higher property values and rising education levels (i).

In addition, Mr. Wheeler finds:

Two measures of industrial composition display significant associates with rates of good-job growth: the share of total employment engaged in finance, insurance or real estate (FIRE) and the fraction of good jobs accounted for by manufacturing. Rates of good-job creation tend to be higher in metropolitan areas with a larger presence of FIRE, but lower in metropolitan areas with a larger fraction of good jobs in manufacturing (i).

As discussed later in this EOA, the City of Bend has relatively high rates of employment in the FIRE employment category.

Mr. Wheeler's study defines "good" and "bad" jobs to describe the nature of jobs and theses job's effects on workers and communities. "Good" jobs are those with pay scales in the top 25 percent of average hourly wages using data from the 1980, 1990, and 2000 U.S. Censuses. "Bad" jobs were those with pay scales in the bottom 25 percent of average hourly wages from the same years (5).

"Good" jobs tend to be in industries such as finance, insurance, real estate, and accounting, mining and refining, transportation related manufacturing and design, machinery, electronics, drug and chemical supplies and trade, medical, legal, advertising, communications and entertainment professions (28-29). "Bad" jobs at the lowest end of the pay scale tend to be in industries such as general merchandise and retail stores, services, agricultural services, and wood and textile mills (30-31).

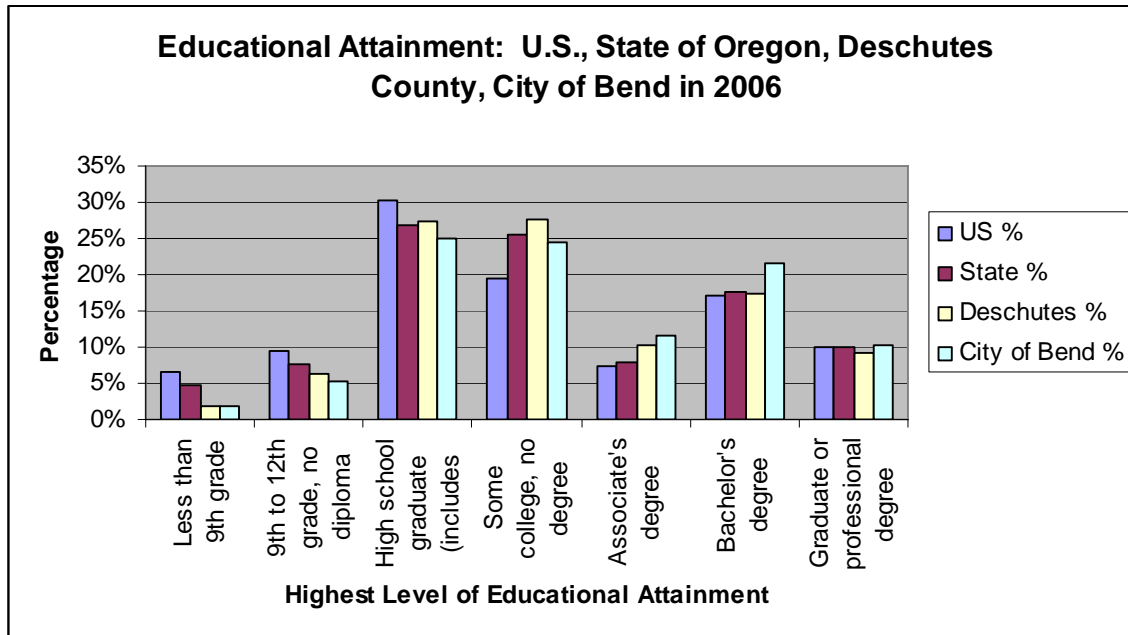
Importantly, there are social implications of "good" and "bad" job growth in a city, and interrelationships between job growth, education levels, crime rates, and job growth. Key findings from Mr. Wheeler's study are highlighted below.

- "Fastest growing cities in terms of "good" job growth also tend to be some of the fastest-growing in terms of population and total employment" (6)
- "As the number of good jobs (i.e. industries in the top 25 percent of hourly wages) increases in a city, so does the average hourly wage of all workers in a city" (8)
- Growth of "bad jobs, on the other hand, tend to have uniformly negative associations with the average wages of all quartiles" (8)
- "Another potential benefit associate with the growth of high-paying employment is reduced crime" (9)
- "One of the most significant benefits associated with the growth of good (as opposed to bad) jobs is the rise in education levels accompanying good-job creation" (10)
- "Another study has argued that rising education levels may also deter crime" (11)
- "The level of education among a city's population is strongly associated with subsequent rates of growth among high-paying sectors. Thus, there is also a "virtuous cycle" aspect to the growth of good jobs: their presence helps to ensure that such jobs will continue to grow in the future" (11).
- "Higher levels of education among a city's work force correspond to greater job growth over the next 10 years. Interestingly, while this job growth occurs among both high-and low-paying industries, the estimates indicate that the growth of good jobs is somewhat more responsive to variation in education. That is, increases in the level of education, as measured by the college and high-school fractions, tend to have a larger influence on the creation of good jobs than bad jobs" (14)

In the context of these findings, the following tables describe the levels of educational attainment in the U.S., State of Oregon, Deschutes County, and City of Bend. Figure 3 demonstrates that in 2006, the residents of City of Bend have higher percentages of educational attainment at and above the college level

compared with the county, state, and nation. A total of 43 percent of Bend's residents have an Associate's degree, Bachelor's degree, or Graduate or Professional degree, compared to 37 percent for Deschutes County, 35 percent for the State of Oregon, and 34 percent for the U.S.

Figure 3. Educational Attainment for U.S., State of Oregon, Deschutes County, and City of Bend: 2006



Source: Selected Social Characteristics from 2006 American Community Survey for U.S., State of Oregon, Deschutes County, City of Bend

Conclusions:

- Bend's relatively high percentage of college educated workers will tend to generate high paying jobs, be more responsive to economic changes over time, increase average incomes of the entire workforce, and may generate positive social benefits like reduced crime rates and higher real estate prices

Income

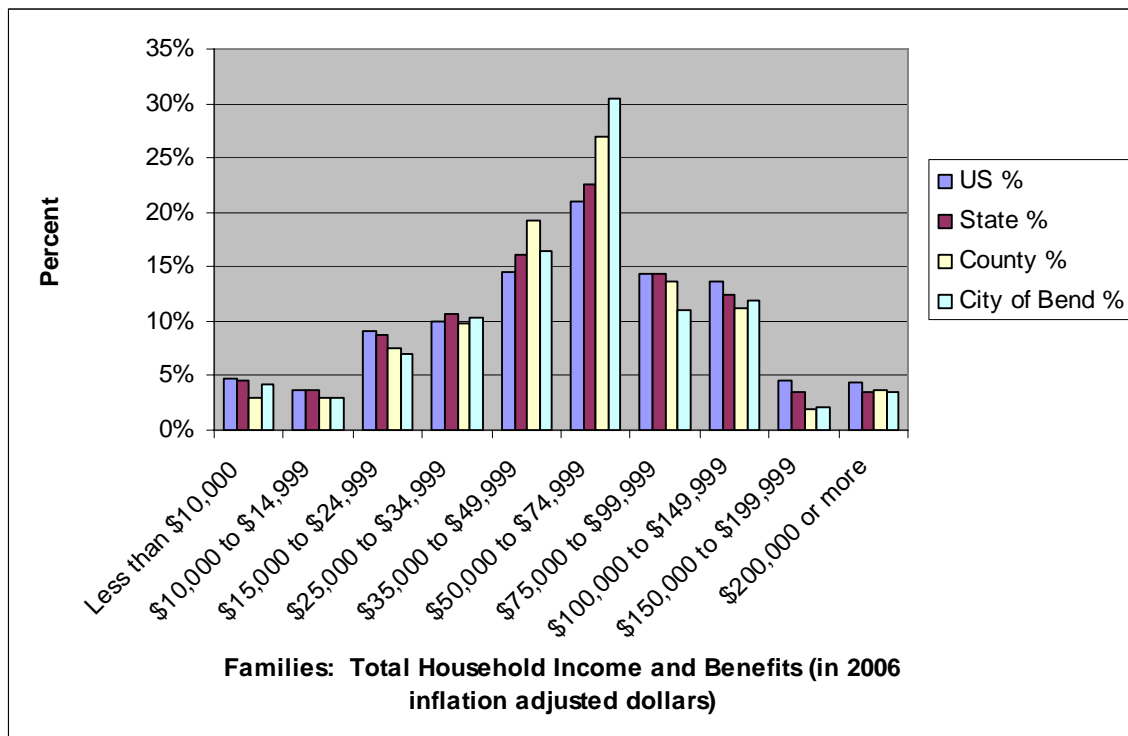
"Per capita personal income is often used as an indicator of the quality of consumer markets and of the economic well being of the residents of an area" (Shields). Personal income is the income people receive from all sources (Shields). "Per Capita Income is the total personal income of the residents of a given area divided by the resident population of the area" (Shields).

The 2006 American Community Survey shows the City of Bend is similar to the U.S., State of Oregon, and Deschutes County. 2006 median income for Bend is \$58,225, which is slightly higher than the \$55,414 for Deschutes County, \$55,923 for Oregon, and slightly lower than \$58,526 for the U.S. Per capita income for the City of Bend is \$26,140, which is slightly higher than the county, state, and

nation. This suggests that purchasing power of Bend's residents is very similar to the purchasing power of residents of Deschutes County, the state, and nation.

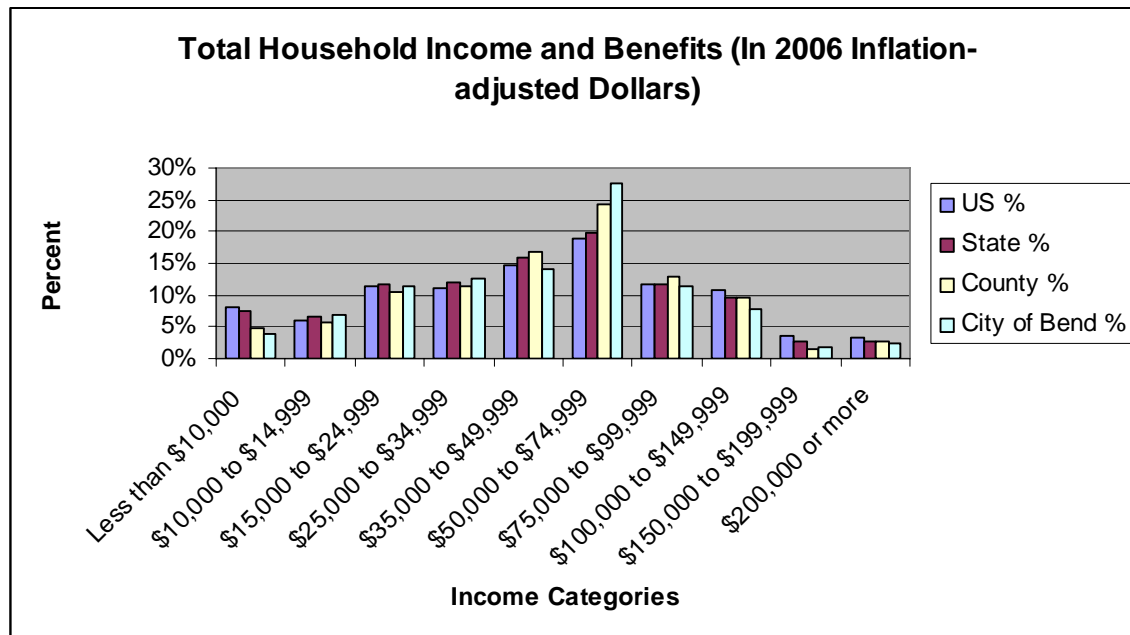
Figures 4 and 5 show there are few pronounced differences between the distribution of total household incomes for households and families in the City of Bend, Deschutes County, State of Oregon, and nation. Percentages of households in the income groups under \$34,999 are generally within a few percentage points for all of the geographies. Notable differences between Bend and the other geographies are observed in the \$50,000 to \$74,999 income grouping. Bend has approximately 10 percent more households and families with incomes in this range compared to the U.S., and slightly more than the state and county. Bend has slightly fewer households with incomes at the highest income groupings compared to the U.S., state, and in most cases, Deschutes County.

Figure 4. Total Family Household Income and Benefits for U.S., State of Oregon, Deschutes County, and City of Bend: 2006



Source: *Selected Economic Characteristics from 2006 American Community Survey for U.S., State of Oregon, Deschutes County, City of Bend*

Figure 5. Total Household Income and Benefits for U.S., State of Oregon, Deschutes County, and City of Bend: 2006



Source: Selected Economic Characteristics from 2006 American Community Survey for U.S., State of Oregon, Deschutes County, City of Bend

Labor Force Numbers and Participation Rates

Part 1 of the 2000 ELS provides perspective on Deschutes County's and Central Oregon's labor force and participation rates.

Growth in employment depends on an increase in the size of the labor force, a function of population growth and labor participation rates. Labor force participation rates are important because they provide a pattern of job increase (or decline) and general health of the local economy. Unfortunately, comparative data for the urban area are not available, and data for the City of Bend is limited to the 1990 [and 2000] census. However, employment growth data are available for the counties. The following table shows that job growth in Deschutes County during the 1990s was consistent over the years and has kept pace with the rapid population growth (8).

Table [...][9]. Recent Growth in Deschutes County Population and Wage and Salary Jobs

Year	July 1 Population ¹	July Wage & Salary Jobs ²	Ratio of jobs to population
1990	74,958	33,380	.445
1991	79,800	34,820	.436
1992	82,600	34,940	.423
1993	86,800	36,330	.419
1994	89,500	38,300	.427
1995	94,100	41,400	.441
1996	98,000	43,440	.443
1997	101,200	44,910	.444
1998	104,900	47,130	.449
1999	106,700	47,760	.447
2000	115,367	52,580	.455

¹ Certified total population from PSU Center for Population Research and Census

² Final employment numbers from various Central Oregon Labor Trends newsletters

The ratio of jobs to population can be looked at as a percentage of the total population. For example, in 1999 the number of jobs in the county was about 45 percent of the total county population, or almost 45 jobs for every 100 persons. This ratio is for the county as a whole and varies from area to area. The U.S. Census report for 1990 shows the ratio of jobs to population in the City of Bend as 0.509 or almost 51 jobs for every 100 residents (9).

Table 10. Deschutes County Population and Non-farm Jobs, Employment Ratios: 2004-2007

Year	Deschutes County July 1, Population ¹	Deschutes County July Farm and Non- farm Jobs ² (Employed)	Ratio of Non- farm Jobs to Population
2004	135,450	67,475	.498
2005	143,490	70,636	.492
2006	152,615	75,381	.493
2007	160,810	80,366	.500

¹ Certified total population by Population Research Center, PSU, March 2008

² Final employment numbers from September 2004, 2005, 2006, 2007 Central Oregon Labor Trends newsletters

Recent trends suggest Deschutes County's job growth has continued to remain strong between 2004 and 2007. In fact, the ratio of jobs to population has increased during the last four years compared with average rates experienced during the 1990s.

Part 1 of the 2000 ELS places the population and job growth of Deschutes County in the context of strong regional population and employment growth.

The strong Central Oregon economy has generated substantial job growth not just in Bend and Deschutes County but in Crook and Jefferson counties as well. The following table compares the change in population and jobs for the three Central Oregon (Region 10) counties. Although the percentage increase in either population or jobs has not been the same for the three counties, one important trend stands out. In each of the counties, the number of jobs has increased at a faster rate than the population (9).

Table [...][11]. Long-term Change in Population and Employment: 1980-1999

County	1980		July 1999		Percent Change	
	Population ¹	Jobs ²	Population ³	Jobs ⁴	Population Up	Jobs Up
Crook	13,100	3,830	16,800	6,250	28.2%	63.2%
Jefferson	11,700	3,690	17,650	6,460	50.9%	75.1%
Deschutes	62,500	21,780	106,700	47,760	70.7%	119.3%

¹ From 1980 U.S. Census

² Average annual employment from Oregon Department of Employment

³ From Portland State University Center for Population Census and Research

⁴ From Oregon Department of Employment Central Oregon Labor Trends newsletter, October 1999

This is true between the years 1980 and 1999 as well as more recently, between 2004 and 2007, as shown in Table 12.

Table 12. Change in Population and Employment: 2004-2007

County	July 2004		July 2007		Percent Change	
	Population ¹	Jobs (Employed) ²	Population ¹	Jobs (Employed) ²	Population Up	Jobs Up
Crook	20,650	7,220	25,885	9,319	25.3%	29.1%
Jefferson	20,250	7,825	22,030	8,780	8.8%	12.2%
Deschutes	135,450	67,475	160,810	80,366	18.7%	19.1%

¹ Certified total population by Population Research Center, PSU, March 2008

² Final employment numbers from September 2004, 2005, 2006, 2007 Central Oregon Labor Trends newsletters

Tables 11 and 12 demonstrate that Deschutes County, and Bend, are likely not drawing significant numbers of jobs away from Crook and Jefferson counties since job creation has occurred faster than population growth in these counties. Part 1 of the 2000 ELS continues:

Table [...][13] takes a slightly different look at regional employment. It compares 1999 county work force levels to the number of jobs in each of the three Central Oregon Counties.

Table [...][13]. County Workers and County Employment: July 1999

County	Residence Labor Force ¹	Non-farm Payroll Employment by Place of Work ²	Percent of Jobs in County to County Labor Force
Crook	7,140	6,250	87.5%
Jefferson	8,690	6,460	74.3%
Deschutes	52,800	47,760	90.5%

Source: Oregon Employment Department Central Oregon Labor Trends newsletter, October 1999

¹ Persons 16 years old and older by place of residence minus unemployed individuals.

² Place of works means the county – the number of persons working in the county regardless of where they live.

Again, although the numbers are not identical, this table shows that all three counties have a similar percentage of jobs in the county to the number of workers who reside in the county. The higher percentage for Deschutes County may be due to a greater number of recreation and tourism related jobs than the other two counties. In addition, it is not surprising that the Jefferson County percentage is the lowest since these numbers are for non-farm payroll workers. Jefferson County has a higher percentage of agricultural workers than Crook or Deschutes counties, so the non-farm payroll jobs make up less of the total job mix (9-10).

Looking at a similar snapshot nine years later in Table 14, while individual rates of non-farm employment in each county have changed, these observations still hold true.

Table 14. Civilian Labor Force and Non-farm Payrolls by County: May 2008

County	Civilian Labor Force ¹	Non-farm Payroll Employment by Place of Work ²	Percent of Non-farm Jobs in County to Civilian Labor Force
Crook	9,864	6,930	74.3%
Jefferson	9,655	6,340	65.7%
Deschutes	84,882	72,900	85.9%

Source: Oregon Employment Department Central Oregon Labor Trends newsletter, May 2008

¹ Persons 16 years old and older by place of residence minus unemployed individuals.

² Place of works means the county – the number of persons working in the county regardless of where they live.

The 2000 ELS, Part 1 draws the following:

Conclusions:

- The recent job growth in Bend and Deschutes County has not come at the expense of other cities and jurisdictions....
- The increase in the area's labor force is expected to keep pace with the population increase....
- The in-migration of younger individuals combined with the baby boomer generation of workers will create a large potential labor force in the peak of its work and income producing years (11-12)

Unemployment Rates

In addition to job growth and ratios of jobs to population, unemployment rates in a given area describe the extent a population is participating in the economic growth of an area. It is important to examine unemployment rates along with participation rates because unemployment rates quantify a more specific indicator of joblessness versus participation rates based on jobs and total population. Unemployment rates tell the extent to which people of working age, seeking work, are able to secure employment, and thus is a good measure of the strength of a local job market combined with figures on job growth (Goldstein).

According to Art Ayre's March 21, 2008 published "Understanding Oregon's Labor Force", unemployment rates, and their causes, can help describe what is taking place in a job market. The unemployment rate is "the number of unemployed persons expressed as a percentage of the labor force" (Ayre). This is different than a comparison of jobs per population, since many people within a population may not be within the workforce (i.e. very young and old persons) (Ayre). The unemployed are those people who have no job, are available for work, made specific efforts to find work, or are waiting to be recalled to a job after a layoff (Ayre). A "labor force participant is a resident 16 years older seeking work excluding institutionalized and active-duty armed forces personnel (Ayre).

Art Ayre states that unemployment can be characterized as:

- Seasonal unemployment, which results from normal, repetitive fluctuations in business activity that occur as the seasons change, for example, post-holiday layoffs in the retail trade sector
- Cyclical unemployment, which results from a general downturn in business activity that is brought about by reduced demand for goods and services such as during a recession
- Structural unemployment, which refers to a mismatch between industry needs and the skills of the local workforce, typically caused by a change in the economic structure of an area or by technical change
- Frictional unemployment, which occurs due to inevitable delays between starting a job search and finding a suitable job.

The following discussion on unemployment rates uses Deschutes County as a surrogate for the City of Bend. This approach is necessary because unemployment rates are not calculated for the City of Bend as frequently as for Deschutes County. This analysis seeks to understand if structural unemployment is a problem which may impact future job growth by suggesting a mismatch between existing employment patterns and human resources. This analysis also focuses attention to the seasonal nature of employment in Deschutes County and Bend.

Trends observed in Deschutes County, are assumed to be generally present in the City of Bend. While it is obvious the incorporated City of Bend has different population and employment characteristics than the surrounding incorporated

communities of Redmond, La Pine, and Sisters, Bend makes up a significant portion of the total economic activity in Deschutes County. According to the 1990 and 2000 U.S. Census for the City of Bend and Deschutes County, Bend represented approximately 30 percent of employed persons in Deschutes County 1990, and 48 percent in 2000. The 2006 American Community Survey reports the City of Bend contained 51 percent of the employed persons in Deschutes County.

Data from the decennial censuses of 1990 and 2000 is available for the City of Bend. Table 15 illustrates the unemployment rates of Bend and Deschutes County are similar in 1990, 2000, and in 2006. These limited data points suggest unemployment rates may generally be lower in Bend than Deschutes County.

Table 15. Comparison of Unemployment Rates: City of Bend and Deschutes County

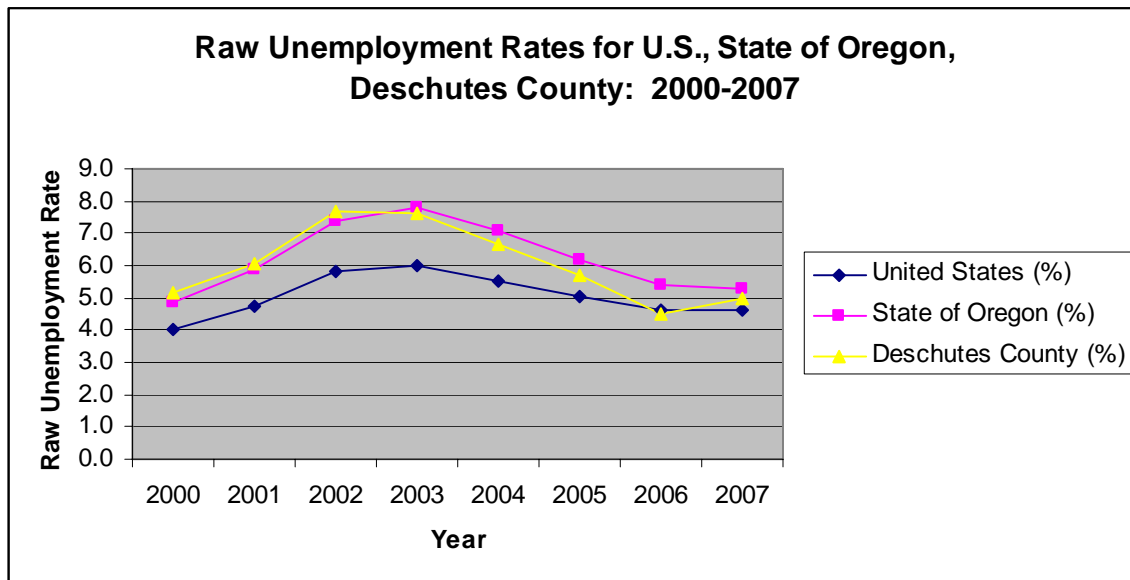
Raw Unemployment Rate by Area	1990 ¹	2000 ¹	2006 ²
City of Bend	4.2%	4.3%	5.1%
Deschutes County	4.9%	5.2%	4.6%

¹ 1990 and 2000 U.S. Census Summary file 3 (SF 3) – Sample Data

² Selected Economic Characteristics from 2006 American Community Survey for City of Bend and Deschutes County.

Recent Unemployment Rates in U.S., State of Oregon, and Deschutes County
Between 2000 and 2007 unemployment rates in Deschutes County are consistently higher than the U.S., and are generally similar or lower than, the State of Oregon. This is a contrast to the 1990s where “on average, unemployment in Deschutes County was 1.4 percentage points above the statewide average from 1990 to 1998” (Williams, 5). Figure 6 displays the unemployment rates for these three areas over this time period. The graph displays that both Oregon and Deschutes County unemployment rates tend to follow the overall U.S. unemployment rate. This suggests the economy in Deschutes County is neither independent of, nor radically different from, the broader U.S. economy. This also suggests that unemployment rates in Deschutes County will be affected by future statewide and national trends.

Figure 6. Raw Unemployment Rates for U.S., State of Oregon, Deschutes County: 2000-2007

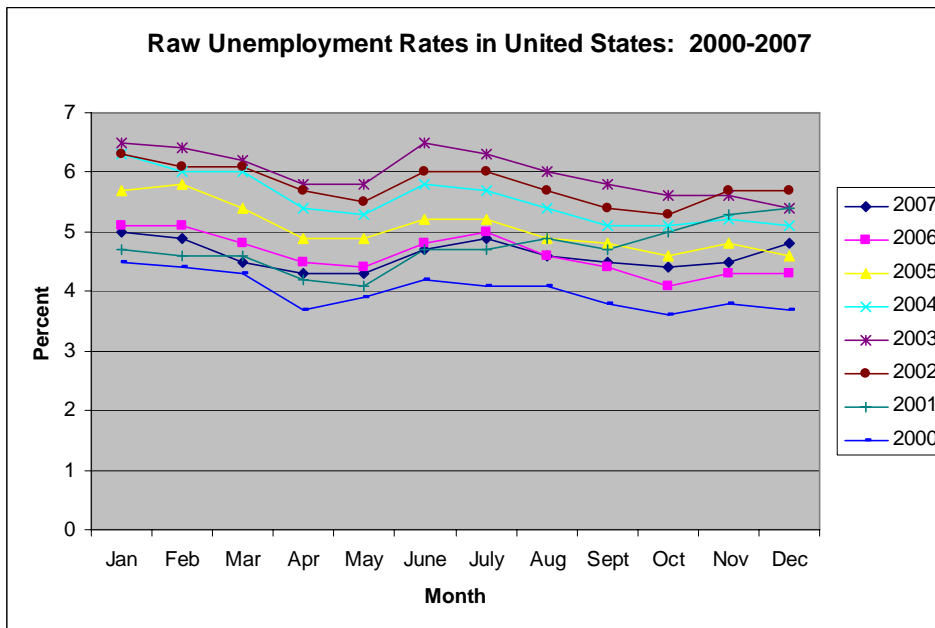


Source: *City of Bend Long Range Planning analysis averaging monthly raw unemployment rates reported in monthly issues of Central Oregon Labor Trends, 2000-2007.*

Seasonal Unemployment

Deschutes County and the City of Bend both have relatively high levels of employment in sectors which experience seasonal employment fluctuations. Industries such as construction, tourism based businesses like retail, restaurants, and hospitality tend to make up a relatively high percentage of Deschutes County's and Bend's jobs. As a result, there are seasonal fluctuations in Deschutes County's unemployment rates that are different than the State of Oregon, and U.S..

Figure 7. Raw Employment Rates in the U.S. by Month: 2000-2007

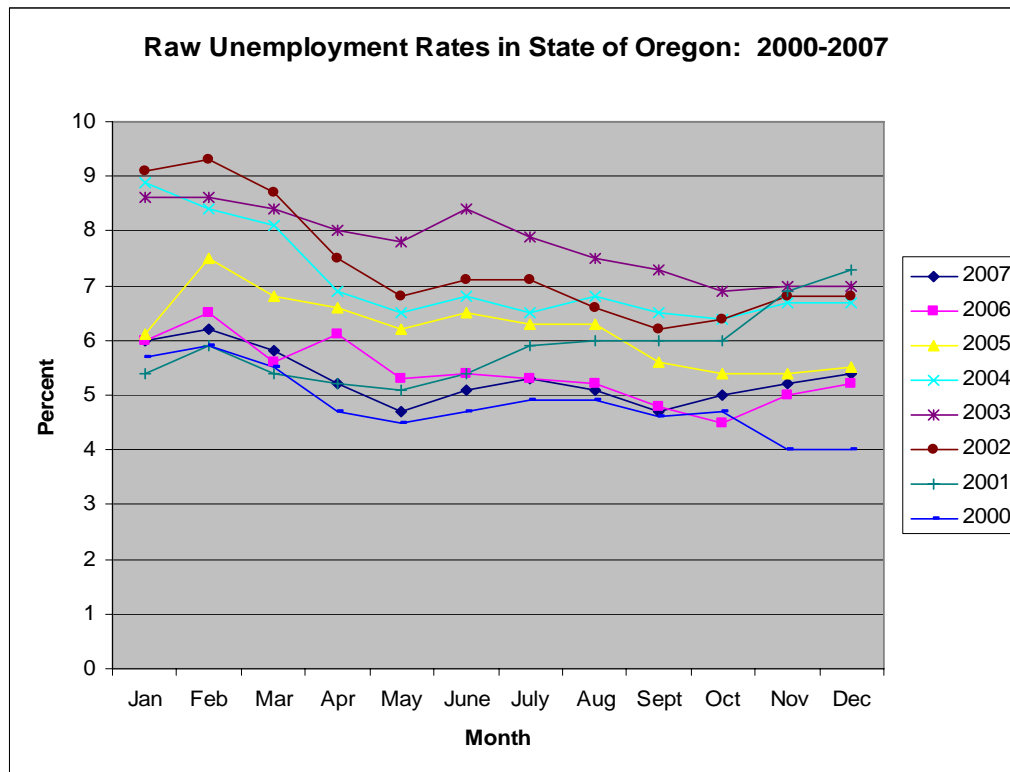


Source: Central Oregon Labor Trends for Region 10 by Oregon Employment Department – 2000-2007

Figure 7 presents raw employment rates as a percentage by month between 2000 and 2007. As explained by Goldstein, “unemployment occurs when industries have a slow season, such as construction and other outdoor work in winter. It also occurs at the end of the school year in June, when large numbers of students and graduates look for work. At its seasonal high point (January and February), unemployment in the U.S. between 1976 and 1986 was typically 20 percent higher than at the seasonal low (October). Figure 7 clearly reflects this trend of unemployment peaks in late winter and early summer. Notice these overall trends of peaks and valleys occur regardless of the overall rates of unemployment in a given year.

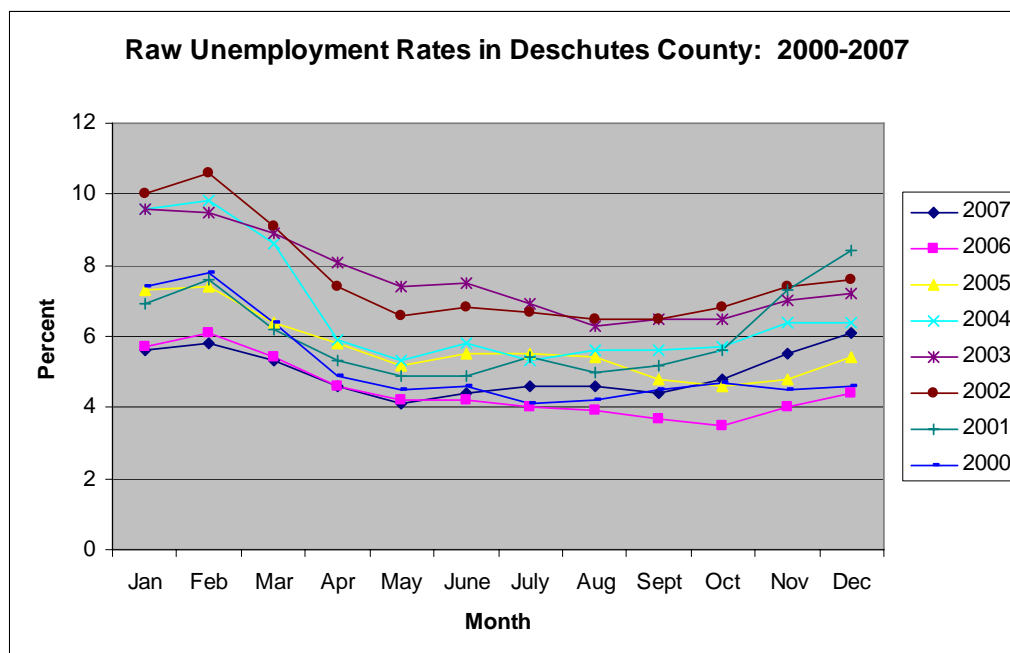
Figure 8, below, shows the same data for the State of Oregon. Notice there tends to be more pronounced differences between the peaks and valleys of the unemployment rates each year, suggesting more seasonal employment in the state as a whole. Also notice a small increase in June, which may be attributed to graduates and students entering the job market at the close of school.

Figure 8. Raw Unemployment Rates in the State of Oregon: 2000-2007



Source: Central Oregon Labor Trends for Region 10 by Oregon Employment Department – 2000-2007

Figure 9. Raw Unemployment Rates by Month - Deschutes County: 2000-2007



Source: Central Oregon Labor Trends for Region 10 by Oregon Employment Department – 2000-2007

Unemployment in Deschutes County appears to be more strongly affected by seasonal economic conditions than for Oregon and the U.S. In the U.S. and Oregon, there tend to be two “dips” in the unemployment rate around April/May and September/October. In Deschutes County, there appear to be less pronounced spikes in unemployment in early summer. Rather, there appears to be a continued lull in unemployment during the “tourist season” which is generally between Memorial Day (late May) and Labor Day (early September). This timeframe also reflects a sizable portion of the building season. In the U.S. and Oregon, lowest unemployment rates tend to be in the fall, whereas in Bend, similarly low unemployment rates are seen in early summer and fall.

Conclusions:

- Recent unemployment rates in Deschutes County tend to be higher than the U.S., and similar to the State of Oregon, suggesting Bend and Deschutes County unemployment rates may track with national and state trends in the future
- Unemployment rates in Deschutes County show more pronounced affects from changes in seasonal employment than in the U.S. and Oregon
- Structural unemployment does not appear to have been an issue in Deschutes County and Bend, suggesting no major disconnect between the capabilities of resident workers and economic changes and growth over the past decades

Changing Economic Markets

Part 1 of the 2000 ELS states “in the past 30 years, there has been a general shift in the types of jobs. The service, retail, and construction sectors gained a greater share of the employment mix with the other sectors slipping in their percentages” (12). According to Central Oregon’s Regional Economist, Steve Williams of the Oregon Employment Department, this trend occurred nationally and within the State of Oregon.

Figure 10 presents employment changes in the county between 1976 and 2000 as reported by the State Employment Department. Note the dramatic decline of manufacturing, which in 1976 represented approximately 23 percent of jobs, declining to 12 percent in the year 2000. Symbolically, the vast majority of manufacturing in 1976 was in lumber and wood products. In 2007, wood product manufacturing made up a little over a quarter of the jobs in manufacturing.

Data is presented between 1976 and 2000 and from 2001 to 2007 because the Oregon Employment Department (and all similar agencies in the country) moved from collecting and reporting employment data in the Standard Industrial Classification system (SIC) to the North American Industry Classification System (NAICS).

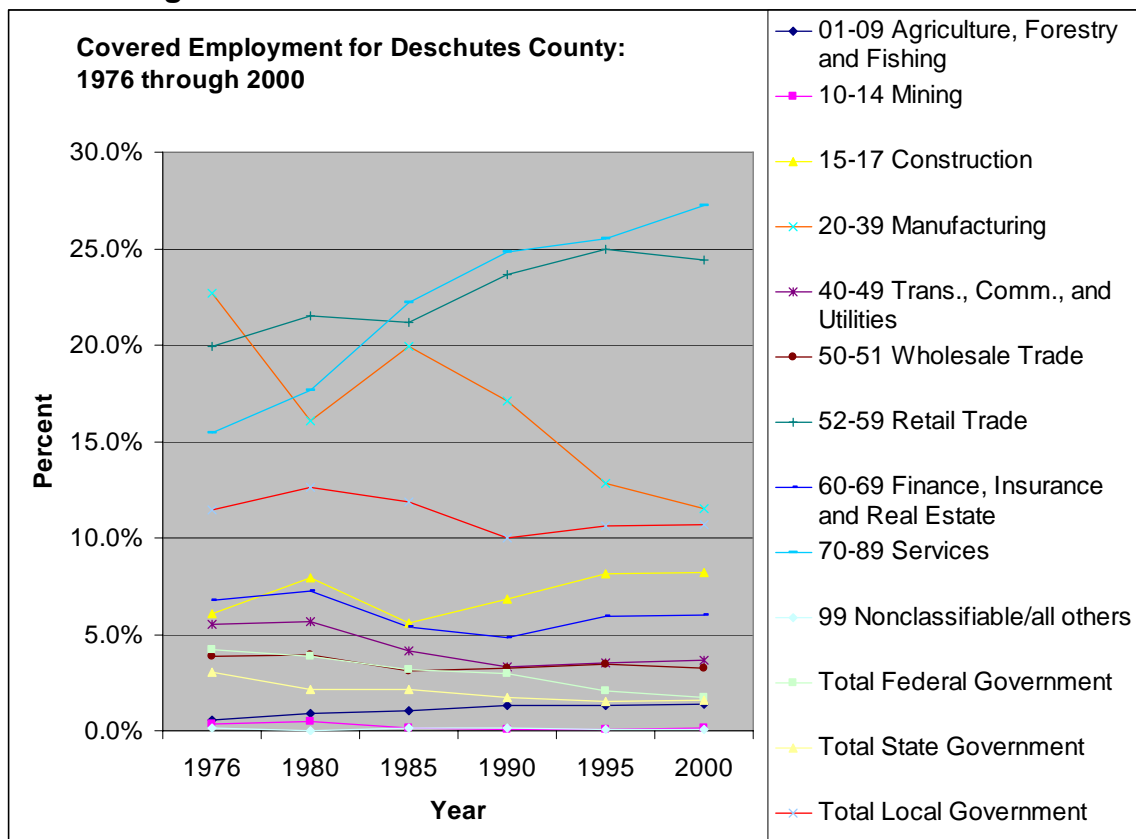
Beginning in 2001, data from the Oregon Employment Department is reported in the NAICS system. These two reporting systems generally classify construction,

manufacturing, mining, government, and other employment similarly, with the major differences appearing in the wholesale, retail, finance, insurance, and real estate, and services sectors. As noted by the Encyclopedia of Small Business website:

economic units that use like processes to produce goods or services are grouped together...The fundamental problem was that the SIC system was based on concepts developed in an era of American history – the 1930s and 1940s – when manufacturing was the dominant economic engine. Many service activities were not separately identified, and as service-oriented businesses became more important, SIC revisions did not keep pace.

The NAICS system not only changed the way data was collected, it added new and more detailed data pertaining to economic activities such as technology, information, and services. Because of these significant differences, it is not possible to directly compare economic reports from the 1970s through 2000 with jobs data of 2007.

Figure 10. Distribution of Covered Employment for Deschutes County: 1976 through 2000



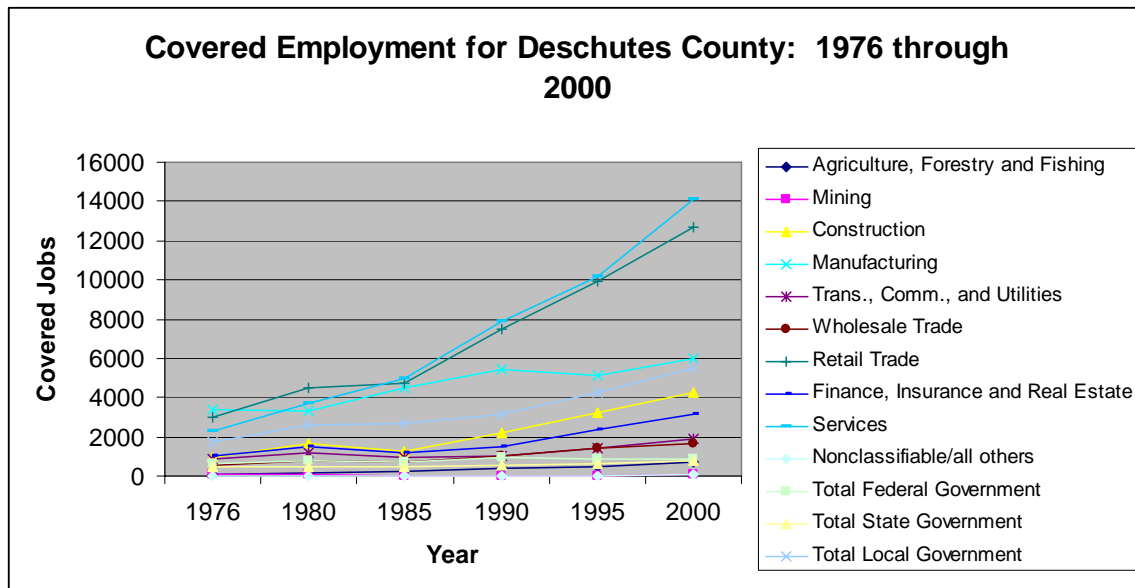
Source: Data from Oregon Employment Department, analysis by City of Bend

Notice also the rise of retail trade and service jobs in this period of time. Retail trade represented 20 percent of jobs in 1976, and 25 percent in 2000. Services

nearly doubled their share of total jobs by moving from 16 percent to 27 percent of jobs in Deschutes County between 1976 and 2000. Other sectors were relatively stable during this period, generally staying within 5 percent of their share of county jobs in the 24 year period.

Another graphic representation of job distribution and growth for this time period is shown in Figure 11. Deschutes County had a total of 15,022 covered jobs in 1976 and an astonishing growth of 245 percent to 51,901 jobs in 2000. This represents an average rate of job growth of 5.3 percent per year. Services and trade are clearly the fastest and highest growth job sectors. Interestingly, while the share of manufacturing shrunk during the period, over 2,000 manufacturing jobs were created during this 24 year period. In descending order, highest rates of job growth were in agriculture, forestry and fishing (albeit in small job numbers), services, construction, retail trade, and finance, insurance and real estate. Emerging trends of job growth in construction and finance, insurance, and real estate bloomed as well. Not unexpected, jobs in local and state government grew considerably more than federal job growth.

Figure 11: Covered Employment for Deschutes County: 1976 through 2000



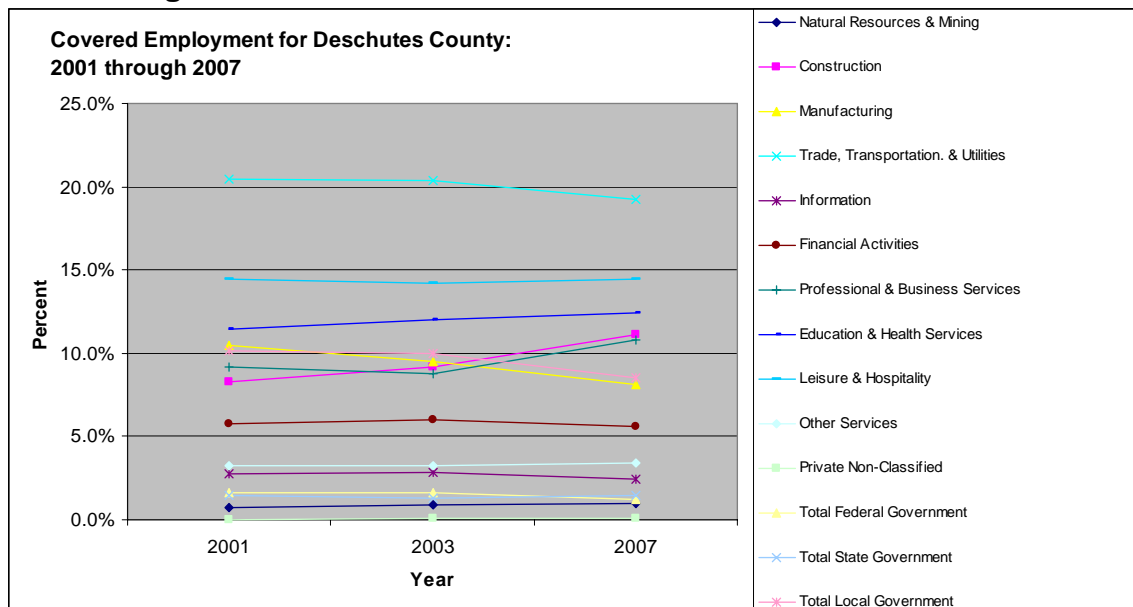
Source: Data from Oregon Employment Department, analysis by City of Bend

A decline of manufacturing jobs in increase in professional and business services and construction jobs in Deschutes County is noticeable after NAICS was implemented by the Oregon Employment Department in 2001. Figure 12 illustrates a similar distribution of jobs as shown in the late 1990s and 2000 in Figure 11. The single largest NAICS category is "Trade, Transportation and Utilities". The NAICS category "Trade, Transportation, and Utilities" includes industries such as wholesale and retail trade, as well as transportation, warehousing and utilities. In 2007 the retail portion represents nearly 80 percent

of “Trade, Transportation and Utilities” total. Other industries showed little change in their distribution over the seven year period.

Where “Services” made up over 25 percent, and “Retail Trade” nearly 25 percent, of Deschutes County’s economy classified under the SIC in 2000, these jobs were disaggregated into new NAICS categories. In 2001 (as well as 2007), no single NAICS industry category constituted over 25 percent of Deschutes County’s jobs. This is due to reclassification of industries into more specific “service” NAICS categories such as “Leisure and Hospitality”, “Financial Activities”, “Information”, “Professional and Business Services”, “Education and Health Services”, and “Other Services”.

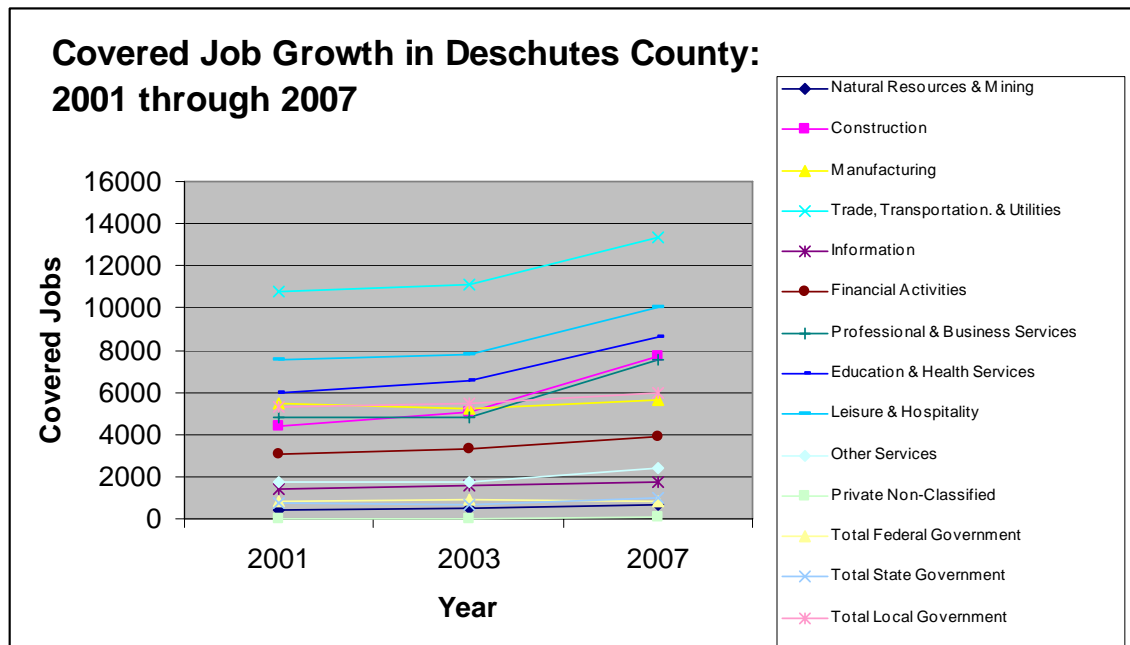
Figure 12. Distribution of Covered Employment for Deschutes County: 2001 through 2007



Source: Data from Oregon Employment Department, analysis by City of Bend

Job growth between years 2001 and 2007 echoes job growth themes discussed for the time period between 1976 and 2000. Figure 13 shows the total number of covered jobs in Deschutes County between 2001 and 2007. Job growth during the six years was at 4.7 percent per year, an annual rate slightly lower than the preceding 24 years. There were 69,304 total covered jobs in 2007. In absolute numbers, trade, transportation, and utilities, leisure and hospitality, and education and health services are the three dominant industries, followed by construction and professional and business services.

Figure 13. Covered Job Growth in Deschutes County: 2001 through 2007



Source: Data from Oregon Employment Department, analysis by City of Bend

A Snapshot of Deschutes County's Economy During a Housing Slowdown

The following is a brief discussion of the most current employment data for Deschutes County in the context of the recent slowdown in the construction industry.

Signs of a slowing nation-wide housing market began in early 2006 (Isidore). In April of 2006, housing starts and building permits were down sharply as builder confidence levels were at their worst levels in more than a decade (Isidore). In May of 2006, the Federal Reserve issued a statement pointing to a cooling of the housing market as one of their considerations for predicting modest economic growth later in 2006 (Isidore). With housing accounting between a fourth and a fifth of gross domestic product, it would be expected that a slowing of housing related job growth would also have a slowing effect on the economy in general (Isidore).

Covered employment data for Deschutes County suggests a broad economic slowdown began between the fourth quarter of 2006 and 2007. The Oregon Employment Department reported 2006 fourth quarter covered employment for Deschutes County was 68,890. Fourth quarter employment in 2007 was 69,095 jobs. This represents nearly flat employment growth over the one year period. Compared with the stellar year-to-year employment growth in Deschutes County, this clearly indicates a slowdown.

Job growth in 2008 has been relatively slow compared with recent years. Steve Williams, Region 10 Regional Economist published a succinct description of the slowdown in his July 1, 2008 "Recent Trends: Region 10":

“Central Oregon’s job market was weaker than normal in the first four months of this year. Normal seasonal gains occurred across numerous industries, but were below expectations. The region has seen some of the largest gains in unemployment from a year ago in the state. The Bend MSA (Deschutes County) has been at or near the top of the list when compared to metro areas across the country.

Much of the responsibility for the softening local economy lies with uncertainty in the financial markets, a weak housing sector and high commodity prices. The region has about 800 more jobs than a year ago, its lowest level of new jobs since 2002. The hardest hit areas are the manufacturing and housing sectors. The housing slowdown is being felt with reductions at local wood product manufacturers and construction companies.

Gains are occurring in retail trade, educational and health services, leisure and hospitality, and professional and business services. These industries are expected to continue to experience gains, but smaller than in years past...

The region’s unemployment increased dramatically this year with some of the largest gains over last year in the state. However, the rates are well below historical highs...Deschutes County saw a large increase, to 8.2 percent in February. These rates are expected to decrease throughout the summer and likely land at their lowest levels for this year in September and October.

The July 2008 issue of Central Oregon Labor Trends by the Oregon Employment Department examined job growth up to May of 2008. Noted trends were an unemployment rate of 6.1 percent, considerably less than the unemployment rates for Crook and Jefferson Counties (8.1 percent and 8.7 percent, respectively). However, Deschutes County’s rate was higher than the U.S. rate of 5.2 percent and Oregon’s rate of 5.3 percent. “Overall, the county’s employment has only performed slightly better than expected so far this year. More of a leveling off trend after the rapid growth the county has seen in recent years” (Williams). The county’s biggest job gains occurred in leisure and hospitality, professional and business services, natural resources, mining, and construction, and local government. Gains in natural resources, mining, and construction added half the jobs that would be expected in this month. Manufacturing has shed jobs each month since August of 2007. Statewide, construction, manufacturing, and trade, transportation, and utilities lead job losses. Construction in particular, declined 9 percent over the year.

Economic data for the City of Bend is not readily available on a month to month basis. Examining building permits issued by the City of Bend indicates the extent of the housing slowdown in Bend. In 2005, a total of 6,760 permits were issued for new structures of all types (residential and commercial). 2005 is a historical high for City of Bend building permit issuance. In 2006, a slight slowdown became apparent as only 5,958. In 2007, the city issued 3,845 building permits, or 57 percent of permits issued in 2005. For the first half of 2008, only 1,240 permits have been issued. Assuming the permit issuance for the second half of

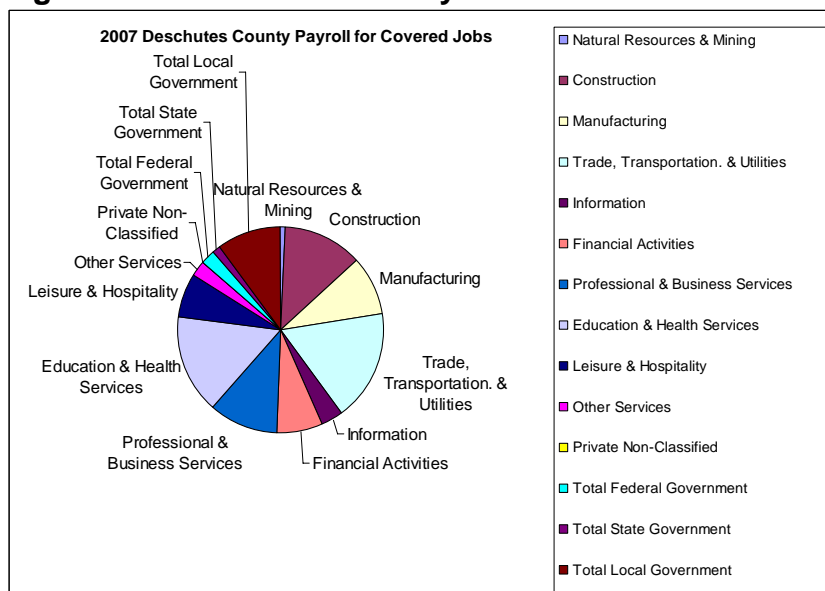
2008 is the same as the first, the city would expect to issue approximately 2,480 building permits, or 37 percent of permits issued during the building peak of 2005.

The Oregon Employment Department data for covered jobs in the construction industry shows the county lost construction jobs between 2006 and 2007. In 2006, a total average of 7,940 construction jobs existed in Deschutes County, shrinking to 7,713 by 2007. This decrease is the first in this industry since 2001. Assuming the housing downturn was impacting the economy of Deschutes County in 2007, the following examines the distribution of jobs and wages for this year to draw some inferences about the future of Bend's economy.

Table 16 illustrates that in 2007, even in the midst of a housing slowdown, that Deschutes County's employment base is diversified rather than being dominated by a few industries. Private employment represented 88.8 percent of total jobs, with government making up 11.2 percent. In descending percentages of total covered jobs, retail represented 15.1 percent, accommodations and food services 11.5 percent, health and social services 11.4 percent, construction 11.1 percent, local government 8.6 percent, manufacturing 8.2 percent, and administration and support, waste management and remediation services 6.5 percent, and all other industries made up less than 5 percent of total jobs.

Deschutes County is also diversified with respect to each industry's contribution to total wages produced by these jobs. Figure 14 shows the distribution of total wages earned in the county by industry. This figure shows industry groupings versus individual industries shown in Table 16.

Figure 14. Distribution of Payroll for Deschutes County: 2007



Source: Oregon Employment Department, City of Bend

Table 16. Covered Employment for Deschutes County: 2007

Industry	2007 Jobs	2007 % Total
Total All Ownerships	69,304	100.0%
Total Private Coverage	61,519	88.8%
Natural Resources & Mining	648	0.9%
Construction	7,713	11.1%
Manufacturing	5,649	8.2%
Trade, Transportation. & Utilities	13,359	19.3%
Wholesale	1,605	2.3%
Retail	10,451	15.1%
Transportation, Warehousing & Utilities	1,304	1.9%
Information	1,709	2.5%
Financial Activities	3,857	5.6%
Finance & Insurance	2,361	3.4%
Real Estate Rental & Leasing	1,496	2.2%
Professional & Business Services	7,506	10.8%
Professional, Scientific & Technical Svcs	2,736	3.9%
Management of Companies	257	0.4%
Admin. & Support, Waste Mgmt & Remediation Svcs	4,513	6.5%
Education & Health Services	8,615	12.4%
Education	698	1.0%
Health & Social Assistance	7,917	11.4%
Leisure & Hospitality	10,025	14.5%
Arts, Entertainment & Recreation	2,040	2.9%
Accommodations & Food Services	7,985	11.5%
Other Services	2,384	3.4%
Private Non-Classified	56	0.1%
Total All Government	7,785	11.2%
Total Federal Government	832	1.2%
Total State Government	1,024	1.5%
Total Local Government	5,929	8.6%

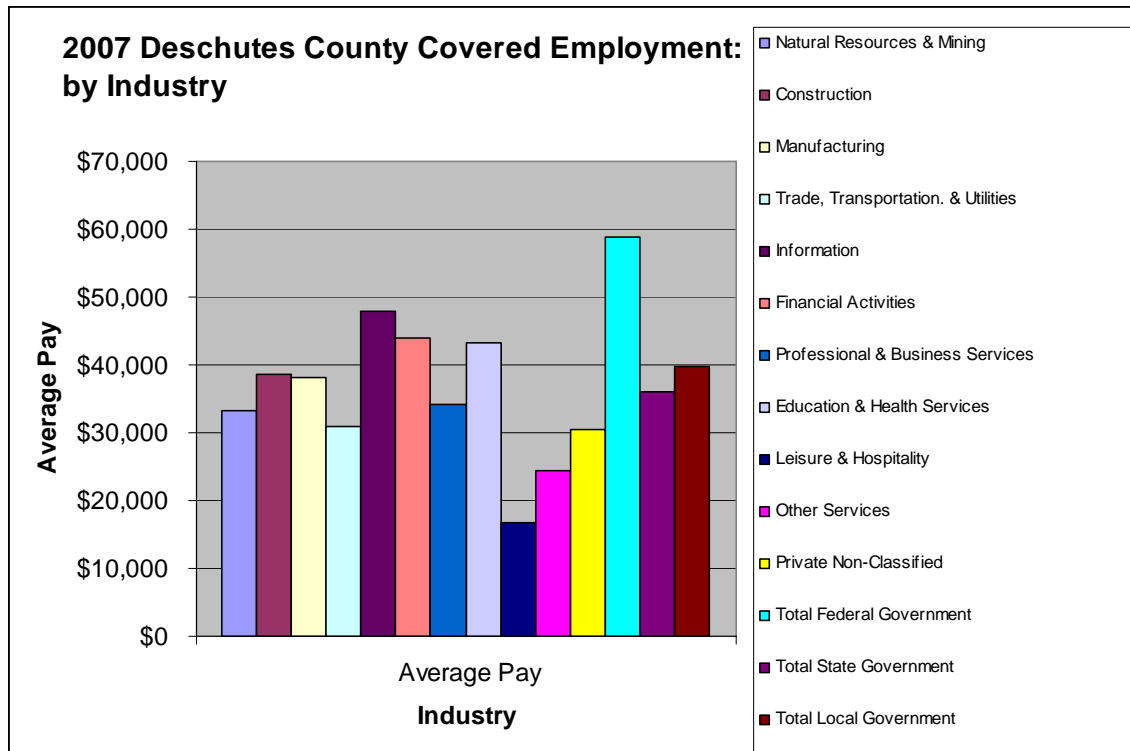
Source: Oregon Employment Department, City of Bend

With some notable exceptions, the distribution of payroll is similar to the distribution of jobs. The top industries in terms of jobs are also some of the top industries in terms of payroll. In descending percentages of total payroll, trade, transportation and utilities (which includes retail) represented 17.4 percent, education and health services 15.6 percent, construction 12.5 percent, professional and business services (including administration and support, waste management and remediation services) 10.8 percent, local government 9.9 percent, and manufacturing 9.1 percent. Notably missing from the top payroll industries, but one of the top job industries in terms of jobs is leisure and hospitality (which includes accommodation and food services). While leisure and hospitality made up 7 percent of payroll, it represented 14.5 percent of jobs.

The explanation for the differences between the distribution of jobs and payroll is that some industries have higher average wages than others. For example, wages in leisure and hospitality are some of the lowest of all industry groupings (average payroll of \$16,706 per job), whereas for professional and business

services, which employs fewer people than leisure and hospitality, has an average payroll of over twice that of the leisure and hospitality industry (\$34,272 per job). The highest average payrolls accompany jobs in the federal government (\$58,731 per job), information (\$47,826 per job), financial activities (\$43,881 per job), education and health services (\$43,163 per job), local government (\$39,872 per job), construction (\$38,558), and manufacturing (\$38,240 per job). Industries such as information and financial activities represent higher percentages of payroll than jobs.

Figure 15. Deschutes County Covered Employment Payrolls: 2007



Source: Oregon Employment Department, City of Bend

Conclusions:

- The construction industry makes up a significant portion of the county's jobs and payroll, and downturns broader housing industry will have a negative affect local construction jobs
- In the midst of the housing and construction slowdown, Deschutes County's diversified economy has continued to add jobs, albeit at a slower rate
- Continued diversification of the local economy will tend to create a more stable local economy as individual industries experience rapid gains or losses

Employment Shifts and Land Needs

Part 1 of the 2000 ELS provides an excellent overview of how structural changes in the local economy impact demand for the types of economic lands.

Manufacturing. Uses that have traditionally located in industrial zones – heavy manufacturing, warehousing, transportation, utilities and communications, and wholesale trade – have been among those businesses most affected by changing market conditions. Job growth in most of these industrial occupations has slowed due to consolidation of firms, automation, exporting jobs to other countries, and environmental concerns.

In general, as job growth in these sectors has slowed, there has been a corresponding decline in land needed to support the larger industrial manufacturing and warehousing uses.

Fortunately, the manufacturing sector in Bend is now much more diverse than in the past, with the decline in local lumber and wood product employment being offset by many small manufacturing firms...The Oregon Employment Department Regional Economic Profile report notes that in Deschutes County:

Prospects for future expansion across a variety of light manufacturing industries appear excellent as increasing numbers of small manufacturers are attracted by the livability factor and the existence of a rapidly-growing labor force.

Small manufacturing businesses along with an exceptional number of construction and wholesale trade firms has created a demand for industrial flex-space and smaller industrial parcels (1/2 – 2 acres). Since the market demand has been so strong for smaller lots, private landowners have had little incentive to create or hold industrial lots of 15, 10 or even 5 acres in size. The lack of industrial lots in this size range has made it difficult – and expensive – for local firms to expand. In addition, the lack of large lots in the inventory has hindered efforts to attract larger manufacturing or warehousing firms. Although the demand for large parcels is limited, there is a need to have a few large parcels in the city's inventory for firms that require a bigger site. It is probably most appropriate for a public agency to be the party holding large lots in reserve for future development. The city, county, state, and federal government all have large holdings next to the urban growth boundary.

Retail and Services. Historically the number of retail and service jobs has made up a big share of the employment base. In the past 15 years, the number of trade and service jobs has grown at a much faster rate than other jobs...

The interest shown by national retail chains – [REI, Banana Republic, The Gap, Gottschalks, Sportsman's Warehouse, Lowes], Wal-Mart, Costco, Office Max, Staples, Pier 1, Barnes & Noble, Old Navy, Home Depot, PetCo, Applebee's Bar and Grill, Outback Steakhouse and others – to locate in Bend represents a huge investment in Bend's retail sector. These retail businesses are supported by the Bend residents, by the regional population, and by visitors to the area...

The service sector is the largest employment sector in Deschutes County and Bend. It is also a sector with a broad range of job types. The service category includes entry-level jobs in such fields as lodging and video rentals as well as doctors, lawyers, engineers and other professionals. The largest employer in Bend, St. Charles Medical Center, is in the service sector. Bend's service sector

has been bolstered by national and regional firms offering video rentals, health care services, lodging and other services.

Tourism. Tourists, outdoor enthusiasts, and business travelers visit Bend almost year-round and add more demand to both the trade and service sectors. In Deschutes County in 1996, travel-related expenditures totaled more than \$278 million dollars. Bend's increasingly diversified retail sector (without sales tax) is particularly alluring to out-of-state visitors who may purchase clothing, gifts, outdoor equipment, and food at restaurants or grocery stores.

Service businesses used by visitors include sports equipment rentals, golfing, outdoor adventure tours, equipment servicing, and lodging. In the past few years several national lodging chains – Sleep Inn, Hawthorne Suites, Holiday Inn Express, and Econo Lodge – have built new facilities in Bend.

Comparative Advantages. It was noted earlier that Central Oregon's "livability factor" helps attract new businesses to the area. This nebulous term covers various conditions that exist throughout the region – recreational amenities, low crime rate, large and generally well educated employment base. For Bend the list also includes such things as: a very diverse economic base; fiber optic trunk lines connecting Bend to Portland, Boise and the rest of the country; excellent health care facilities; new private and public schools; Central Oregon Community College; and local venture capital.

[.....]

Conclusions:

- The industrial sector in Bend is much more diverse than in the past
- The predominant pattern of smaller firms needing smaller sites and/or flexible building spaces will continue during the planning period
- The continued erosion of jobs in lumber and wood products will be replaced by other jobs in durable and non-durable manufacturing
- High technology manufacturing and research and development firms create a new trend for industrial space that function and look more like office developments...
- The growth in retail and service jobs will be driven by several factors: population increase, demographic mix, and tourism
- Competitive advantages in the region, and particularly Bend, will continue to attract entrepreneurs from outside the area (13-18)

Bend's Economic Outlook

The 2007 Leland EOA pages 14 through 34 present an analysis of national, state, and regional trends. This work, in conjunction with a review of Bend's recent demographic and economic trends and sector targeting work, sets the stage for making economic projections in later Sections of this EOA.

Looking forward to where Bend wants to be in 20 years begins with a thorough assessment of where it is today, for today represents the building blocks from which future jobs and industries are created. This Section of the EOA

summarizes existing demographic and business information. Data on population, education, growth, business composition, employment, and other factors are presented in order to document the breadth and strength of Bend's economy and to identify unique characteristics that might indicate how Bend's growth and needs will be different from other communities.

The Bend Area General Plan summarizes the city's economic history as follows:

At the turn of the century several companies in Central Oregon raced to build irrigation canals through the area, and agriculture – primarily horse and cattle ranching – provided the basis for the Bend economy. After the Oregon Trunk Railroad was completed through Bend in 1915, large sawmills were built in the area, and for two generations the local economy was measured by the sound of saws and the smell of cut pine.

In the 1970s, the Bend economy started to become more diverse with other manufacturing businesses, trade, medical services, and tourism providing a bigger share of local jobs. Along with the development of a more diverse job base, the number of jobs in the county and the urban area increased dramatically during the last quarter century. While the population more than tripled in the 27 years between 1970 and 1997, the wage and salary employment more than quadrupled.

As Bend's economic past suggests, the city's fortunes will not take place in a vacuum. Rather, just as Bend's workers throughout the 20th Century exported lumber, cattle, and finished goods to markets throughout the Pacific Northwest and beyond, the jobs and industries of the future will be profoundly affected by international, national, statewide, and regional trends.

National and International Trends

At the largest scale, the effects of "globalization" – the increasingly free movement of jobs, capital, and products throughout the world – are being felt in communities across the United States. One effect of globalization is that low-skill manufacturing jobs will increasingly take place elsewhere, where wages are far lower. Thus, in order to compete and earn living-wage salaries, American workers must pursue higher-skilled jobs in "knowledge based" industries. While some of these jobs will continue to be in manufacturing industries, the largest job growth will take place in new industries such as information technology, professional services, and other sectors.

Other External Factors

Finally, as referenced above, long-term economic projections are inherently difficult due to the amount of unknowns. This report presents projections based on the best information available and the planning and visioning by the city and other organizations, but it is by nature imperfect. Many other external factors not discussed above may have significant impacts on employment in Bend, Oregon, and the country. These factors include, but are not limited to, a higher-priced energy future; climate change; global geopolitical stability; levels and kinds of economic competition; demographic changes; federal policy including tax policy; and national and state infrastructure and education investment. To take just one

such factor that has received significant coverage recently in the media, a major increase in the price of petroleum-based and other energy sources could have important impacts on Bend's economy. An immediate impact would be to render everyday transportation and many industrial processes much more expensive. More expensive energy could also threaten to prospects of Bend's nascent aviation sector as air travel became less affordable. But at the same time, higher energy prices might boost the alternative and renewable energy businesses operating in Bend. Thus, the impacts of external factors are unpredictable, can be mixed, and are often beyond the scope of this report.

State and Regional Trends

The analysis of the Oregon Employment Department (OED) is perhaps the best source for understanding trends at the state and regional levels.¹⁴ OED reports, staff input, raw data, and data analysis have been used extensively in this EOA to establish a picture of current employment and shape projections. Two reports of are of particular significance to establishing the current state of Bend's economy, and expectations of future performance: *Employment Projections by Industry and Occupation*, [...] [2006-2016, Oregon and Regional Summary], and *Regional Profile: Occupational Employment in Region 10*. *Employment Projections* list the following four points as the most important statewide economic trends:

- Three broad industries are expected to account for [...] [over 50] percent of the state's job growth:
 - Professional and business services
 - Educational and health services
 - [...] [Leisure and Hospitality]
- Job growth is expected to be most rapid in the central [Crook, Deschutes, Jefferson], north central [Gilliam, Hood river, Sherman, Wasco, Wheeler], and southern [Jackson, Josephine] counties of the state.
- Manufacturing will likely rebound over the forecast period, but is not expected to return to its employment level prior to the recent recession. Job losses should continue in many resource-based manufacturing sectors, though at a decreasing rate.
- Economic growth during [...] [2006-2016] will be roughly equal to growth in the prior decade, [...] [with close to 240,000 jobs to be added statewide by 2016].

[Footnotes from 2007 Leland EOA:]

¹⁴ This report adopts the OED's terminology for "region". The agency refers to Deschutes, Jefferson, and Crook Counties as "Region 10" or "central Oregon." These terms are used synonymously throughout this report.

¹⁵ The OED projects employment for the 14 different regions in the state. It does not, however, make projections for smaller geographical areas such as cities. Thus, projections for economic growth within Bend itself must be developed from OED's regional figures. [Note: since the writing of the 2007 Leland EOA, projections for Deschutes County have been made available for use in the 2008 EOA].

The OED's broad projections are applied and quantified to Central Oregon in Table [...] [17] below. The table lists the projected employment growth for all

Central Oregon industries between [...] [2006 and 2016], and was used as one basis from which to project employment growth within the City of Bend itself.¹⁵ Two types of employment categories and sectors are highlighted in the rightmost column: “hot”, with projected growth rates close to or above 30 percent for the decade, are highlighted in red; and “cool”, with projected growth rates well below the regional average, in blue. The remaining categories fall between these two extremes.

As the table clearly shows, the trends expected to shape the statewide economy are expected to have similar impacts within Central Oregon. Professional and business services; educational and health services; the *retail trade [and general merchandise] components* of trade, transportation, and utilities; and leisure and hospitality are projected to grow considerably in the decade-long forecast period. The distinction between retail trade and the other segments of trade is significant: jobs in General Merchandise and [...] Transportation, Warehousing and Utilities are expected to grow more than twice as fast as those in [...] Wholesale Trade. Also note that, while leisure and hospitality [...] [is the third fastest growing industry at the state level], they are among the most promising for the Central Oregon region.

Conversely, natural resources and mining and manufacturing are expected to grow much more slowly. Note that despite being traditionally grouped with manufacturing and other industrial sectors, construction is expected to add considerable amount of jobs. However, despite slow growth, the number of industrial and manufacturing jobs is still expected to increase, not shrink. Industrial jobs will continue to play a very important role within the regional economy, especially to the degree that business managers are able to steer those jobs towards complex processes, high added value, and product customization. Standardized mass production will continue to be susceptible to the forces of globalization.

The employment categories listed in [Table 17] are aggregated by NAICS code – a coding system developed by the federal government and used widely by public and private organizations...

Table [17]. Central Oregon Covered Employment: [2006-2016] ¹⁶

Industry	2006	2016	Change	% Change
Total nonfarm employment	82,780	103,670	20,890	25%
Total Private	71,060	89,150	18,090	25%
Natural resources and mining	420	480	60	14%
Construction	8,560	10,880	2,320	27%
Manufacturing	9,080	9,440	360	4%
Durable goods	8,110	8,260	150	2%
Wood product manufacturing	4,110	4,000	-110	-3%
Nondurable goods	970	1,180	210	22%
Trade, transportation, and utilities	15,970	19,810	3,840	24%
Wholesale trade	2,760	3,090	330	12%
Retail trade	11,390	14,450	3,060	27%
Food and beverage stores	2,290	2,860	570	25%
General merchandise stores	2,100	2,710	610	29%
Transportation, warehousing, and utilities	1,820	2,270	450	25%
Information	1,720	2,100	380	22%
Financial activities	5,490	6,820	1,330	24%
Professional and business services	7,840	10,310	2,470	32%
Educational and health services	8,920	11,870	2,950	33%
Health care and social assistance	8,130	10,860	2,730	34%
Health care	6,940	9,360	2,420	35%
Leisure and hospitality	10,510	14,320	3,810	36%
Accommodation and food services	8,700	11,830	3,130	36%
Other services	2,570	3,130	560	22%
Government	11,720	14,530	2,810	24%
Federal government	1,320	1,340	20	2%
State government	1,510	2,180	670	44%
Local government	8,900	11,000	2,100	24%

[Footnotes from 2007 Leland EOA:]

¹⁶ [This table was updated to reflect the 2006-2016 period used in the 2008 EOA versus the 2004-2014 used in the 2007 Leland EOA]. Note that all employment figures in this table and throughout this report represent total “covered” employment, which is less than all employment in any given geographic area. Almost all employment estimates produced by the OED are based on covered labor. “Covered” employees are those whose employers pay state unemployment insurance and report employment quarterly to the state. Uncovered employees are not covered by state unemployment insurance, and primarily include the following groups: self-employed; temporary agricultural labor; “casual labor”; “home-based domestic services; family member employees; others. The OED staff estimates that, like most other communities, between 90 and 100 percent of Bend’s workforce is covered. Critical to this report, uncovered employees are far more likely to work in existing building, and far less likely to generate demand for significant new built space. For a complete discussion, see www.qualityinfo.org/olmisj/datasource?itemid=00001527

Population Growth

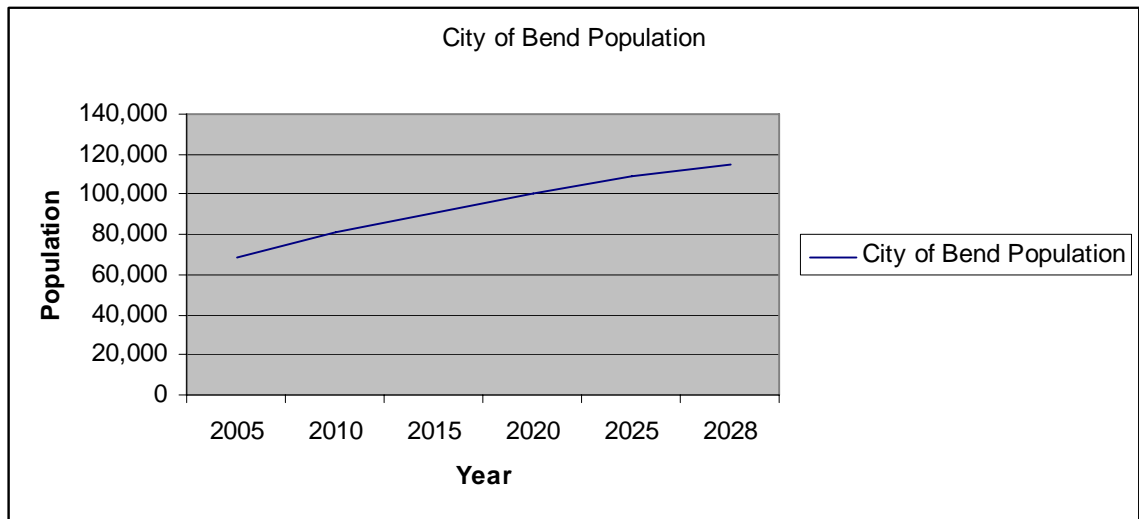
One of the most important drivers of the economies of Bend and Central Oregon is simply the explosive population growth that has taken place in the region and is expected to continue, albeit at a slower pace, in coming decades. Figure [...] [16] and Figure [...] [17] show population growth in Bend and Central Oregon, as projected in the Deschutes County Coordinated Population Forecast.¹⁷

The City of Bend alone is expected to grow [...] [66.7%] between 2005 and [...] [2028], from 69,004 to [...] [115,063] residents. In Figure [...] [17], note that Central Oregon, Deschutes County, and Bend itself, are all expected to grow

much faster than the state as a whole, although this trend becomes less pronounced towards the end of our study period. Bend is projected to grow faster than Deschutes County in the short term, but slower between 2015 and [...]2028].

This kind of growth is naturally expected to produce tremendous change in the economy, in scale if not necessarily in disposition. Some newcomers will bring skills and jobs with them, others will need jobs upon arrival, and all newcomers will drive employment growth in sectors such as construction, that will provide the public and private infrastructure for new residents. Fast population growth will also result in growing pains for the city and its residents, as the city struggles to keep up with the infrastructure and service demands of an expanding community.

Figure [...]16]. Bend Population: 2005-[2028]

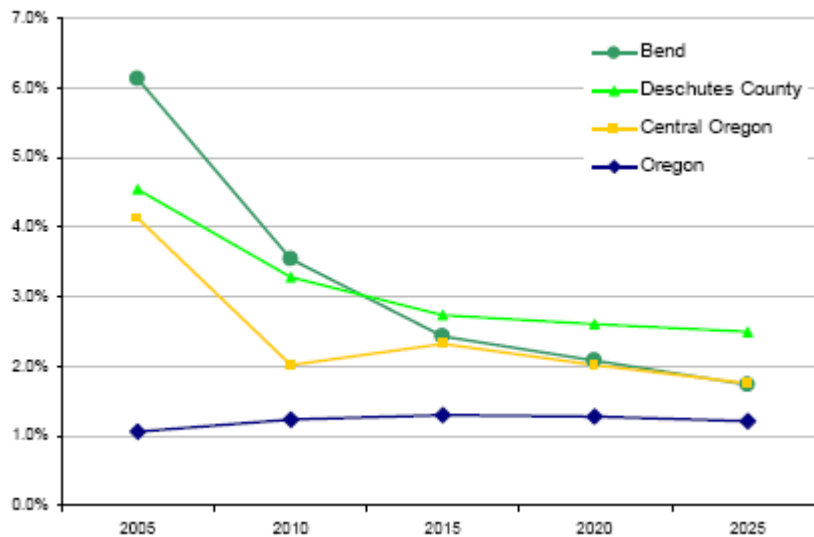


Source: Deschutes County Coordinated Population Forecast
[Note: this figure was updated to reflect the 2028 population]

[Footnotes from 2007 Leland EOA:]

¹⁷ This forecast is the most thorough population study of Bend and Central Oregon, and the EOA is required to use it [...]

Figure [...][17]. Projected Annual Population Growth Rates: 2005-2025



Source: Deschutes County Coordinated Population Forecast (Bend and Deschutes County), Oregon Office of Economic Analysis (Central Oregon and State)

At least two segments of Bend's growing population deserve particular attention because of the effects they will have on the city's economy: the generation in their 20s and 30s; and relocating baby boomers (retirees and semi-retirees).

Unfortunately, population growth can have negative impacts as well as positive ones. The non-profit Economic Development for Central Oregon (EDCO), the region's primary economic development organization, reports several unfortunate consequences, primarily higher-than-average unemployment levels and pay scales lower than the state average. Both are caused by constant increases in the supply of employees coupled with more slowly increasing demand by employers. (These trends reversed during the third quarter of 2006; it is uncertain whether the reversal is temporary or long term.)

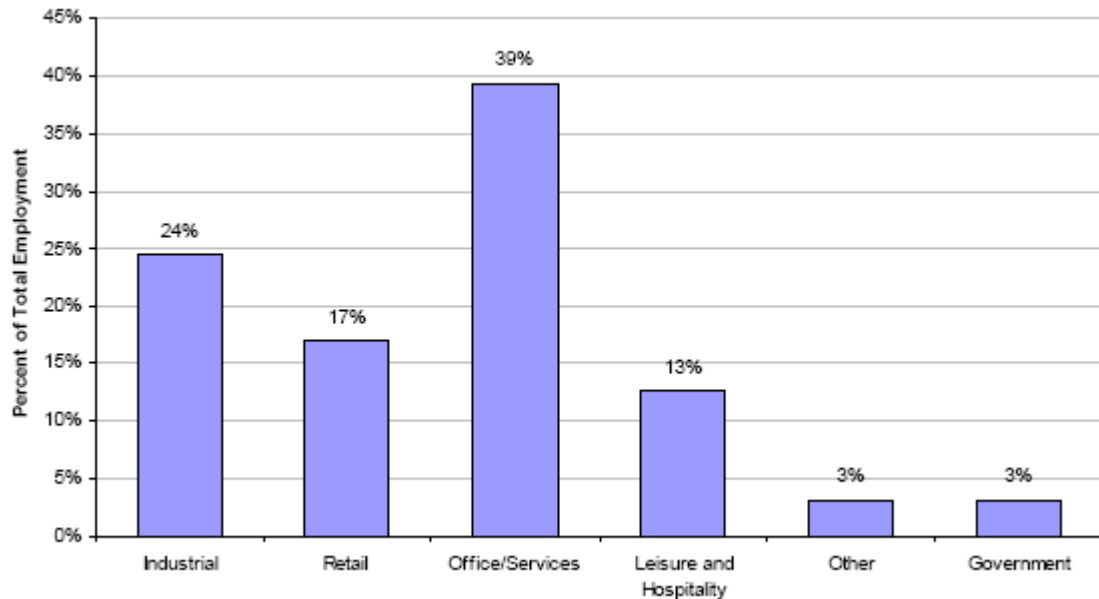
Local Trends

Although there will be many challenges ahead, Bend, as Central Oregon's cultural and economic center, is well positioned to take advantage of trends taking place from the global to regional levels. The stability of Bend's traditional natural resource and manufacturing base will continue to make up a less crucial part of the economy. But at the same time, Bend has the opportunity to capitalize on the growth expected to take place in the region's hottest industry sectors: professional and business services; educational and health services; retail trade; and leisure and hospitality.

The many public and private civic groups in Bend and the region that have evaluated the city's economic future have all developed similar economic development strategies: focus and grow jobs in these high-growth industries, particularly those in the traded-sector. These groups include the City of Bend Economic Sector Targeting team; Economic Development for Central Oregon (EDCO); Bend 2030; the city staff including the Economic Development Department, and others.

Figure [...] [18], below, clearly shows the degree to which Bend's economy has already diversified away from the traditional industrial and manufacturing base. Nearly 40 percent of the city's workforce is employed in professional office/services sectors.

Figure [...] [18]. Bend's Total Employment by Employment Category: 2004



Source: Oregon Employment Department, Leland Consulting Group

Economic Sector Targeting

In 2005, spurred by the realization that Bend's economy was in the midst of an ongoing series of changes, the City Council and other city leaders convened an Economic Sector Targeting workshop. During the event, stakeholders clearly voiced their desire to capitalize on the trends described above. However, the Economic Sector Targeting findings identify, with greater specificity than OED reports, the industry sectors that stakeholders believe have the best chances for success in Bend. For example, while the OED's data shows great potential in "professional and business services," the Economic Sector Targeting report identifies "information technology," a subset of the larger category. The nine primary targeted economic sectors identified by the workshop are shown in Table [...] [18] below.

Table [...][18]. Targeted Economic Sectors

Economic Base Sustain and Grow	Regional Targets	Bend Targets
Hospitality	Secondary Wood Products	Aviation - Aerospace
Higher Education	Renewable Energy Resources	Recreation Equipment
Health Care		Specialty Manufacturing
		Information Technologies

Source: City of Bend Economic Sector Targeting Report, 2005

Note that the industry groups identified by the Economic Sector Targeting work do not necessarily follow the NAICS categorization system. Economic development professionals refer to industry groups such as these, which can cross into numerous different NAICS sectors, as “clusters.”

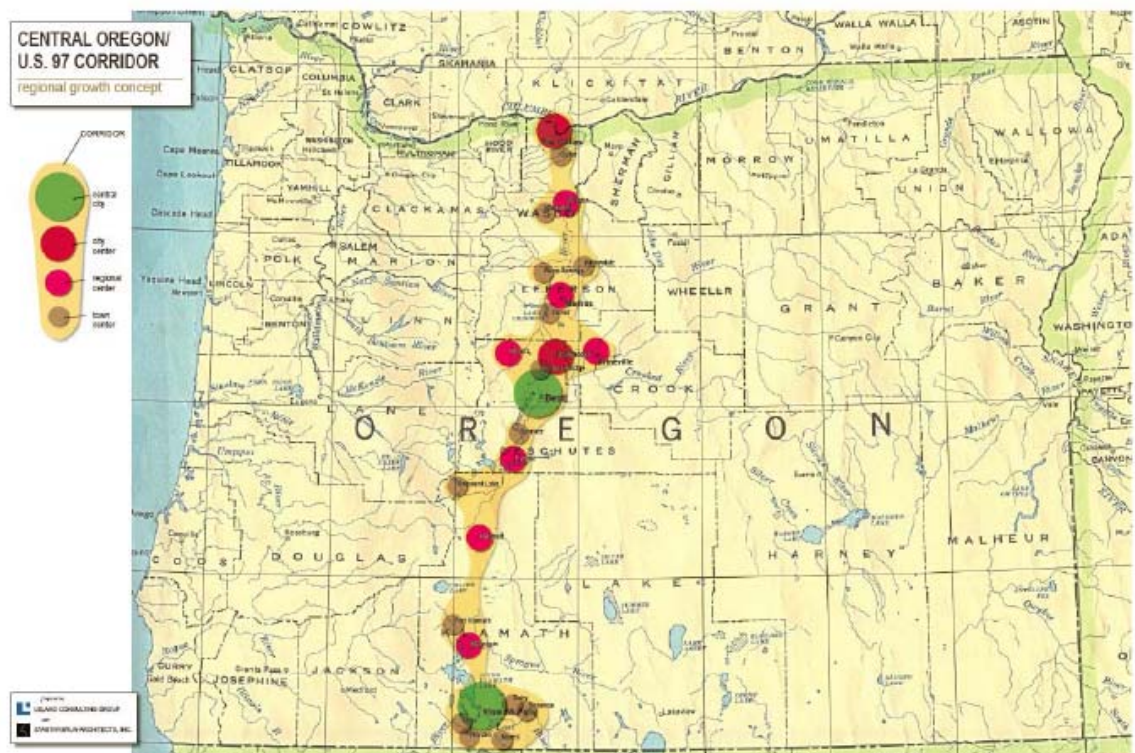
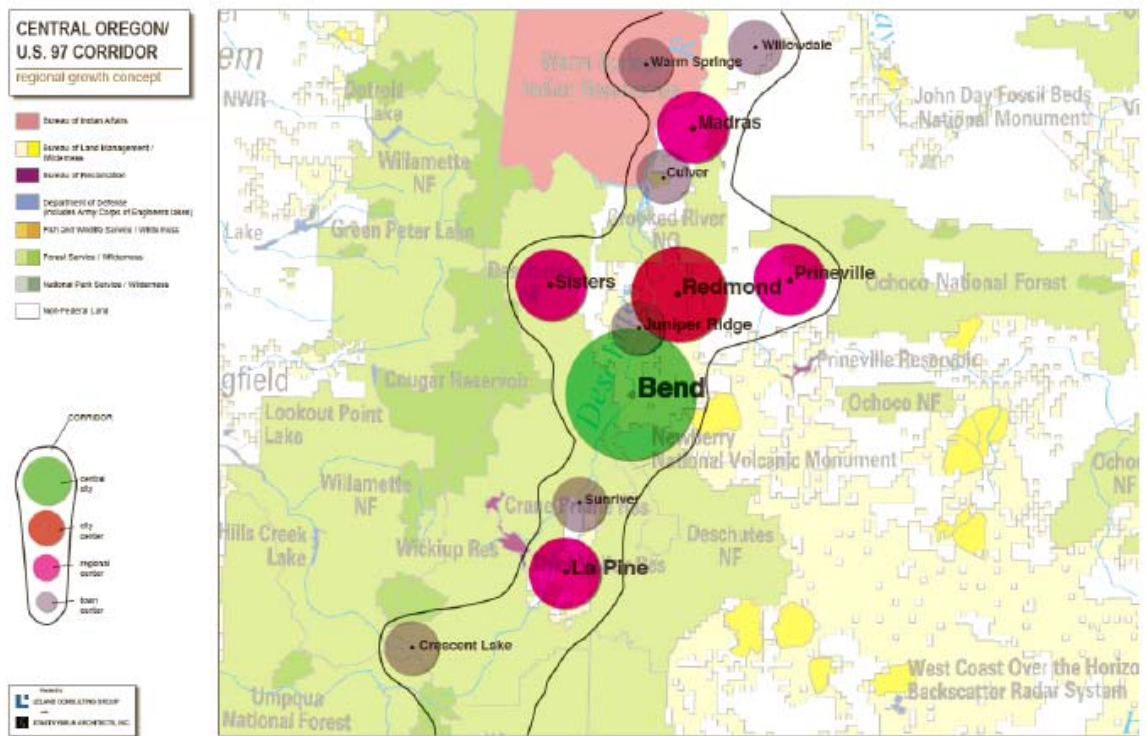
Traded Versus Non-Traded Industries

In determining which industries to target, the group gave preference to “traded-sector” industries. “Traded sector” refers to industries or businesses that sell their services or products beyond the local market area. Because of their regional or even global market areas, these types of industries have much greater potential and are less vulnerable to downswings in the local economy. For example, Bend’s aviation companies sell airplanes and aviation parts to consumers around the country and are thus traded-sector companies. Conversely, a chain of auto repair stores serves a very local market and will depend much more on local economic conditions for success. The Regional and Bend Target sectors are all traded sector industries, while the “Economic Base Sustain and Grow” sectors are more local.¹⁸

[Footnotes from the 2007 Leland EOA:]

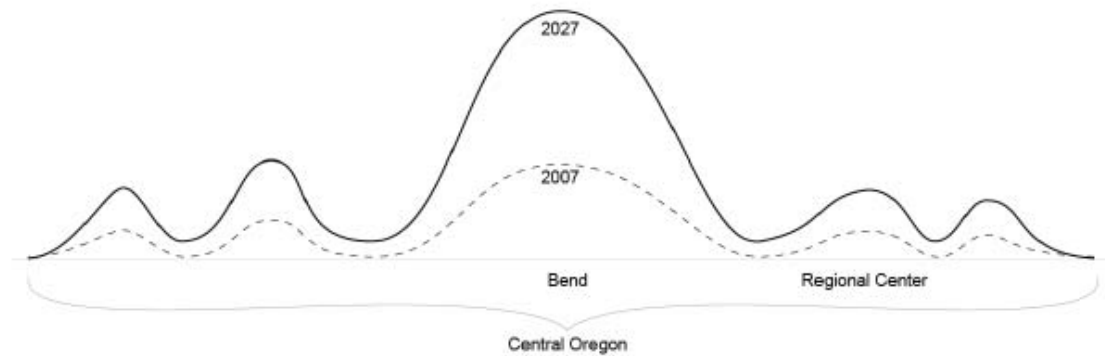
¹⁸ For more on traded sector industries see the Oregon Business Plan at www.oregonbusinessplan.org.

Figures [...][19 and 20]. Central Oregon Centers Concepts



Source: StastnyBrun Architects, Leland Consulting Group (both figures)

Figure [...][21]. Central Oregon Centers



Source: Leland Consulting Group

As the economy and population of Central Oregon continue to grow, aspects of Bend's role as the "central city" or regional center will intensify. For example, because of the existing business network and suppliers, firms' executive decision-making functions will be more likely to locate in the city.

This role will continue to be important to the quantity and types of jobs that Bend attracts. Downtown Bend is the cultural, culinary, and specialty retail hub of the region. Bend hosts the region's largest medial facility (St. Charles Medical Center and associated medical organizations), the largest news media organization (the Bend Bulletin), and numerous governmental agencies, from the federal (U.S. Forest service), to the regional (Deschutes County), to the local (City of Bend) – all of which are major employers. Within the private sector, Bend is also the home address for many of the region's largest and most influential employers – either as the headquarters of the main employment location – including: [Mt. Bachelor; Les Schwab]; Microsemi (formerly Advanced Power Technology); Jeld-Wen Windows and Doors; Cessna (formerly Columbia Aircraft Manufacturing); Idatech; Nosler Inc. ; and TRG iSKY.

Although this report is obviously focused on employment, the importance of Bend as a social and cultural center should not be overlooked or minimized, even as a driver of economic growth. Bend's high quality cultural and natural amenities are repeatedly cited by business owners and employees as reasons to relocate to or remain in Bend. This will prove especially important in some industry sectors, such as IT, in which well-paid managers and their employers can choose between communities, and land and building space costs play a less significant factor in business success.

Bend can be expected to grow faster than the rest of the region within certain industries – particularly, industries identified by the Economic Sector Targeting and OED that are knowledge-based or have an existing base of operations in Bend.

The Portland metropolitan region has gone through a similar process of identifying and capitalizing on targeted sectors, which tend to locate and succeed in certain geographical areas – even though instant digital communications seem

to have rendered distance less relevant. For example, downtown Portland, the Portland region's Central City, excels in Creative Services (advertising, marketing, design, etc.) and Professional Services. For example, more than 70 percent of the region's advertising and graphic design revenues were earned by Portland-based firms. Meanwhile, Washington County, to the west of downtown Portland, is a center for the several parts of the High Tech and other industries.¹⁹

In the early 20th century, professional service and knowledge-based businesses consistently located in downtown central business districts; in recent decades these firms have dispersed to suburban business centers, but have still shown a string tendency to locate in moderate-or high-income areas close to managers and employees; proximity to suppliers, collaborator (and even competitive) firms; existing capital investment, public infrastructure, and amenities. Whether employment in Central Oregon follows the former or later model, Bend is likely to continue to attract such firms, because the city's entire urbanized area is considered to be the Central City.

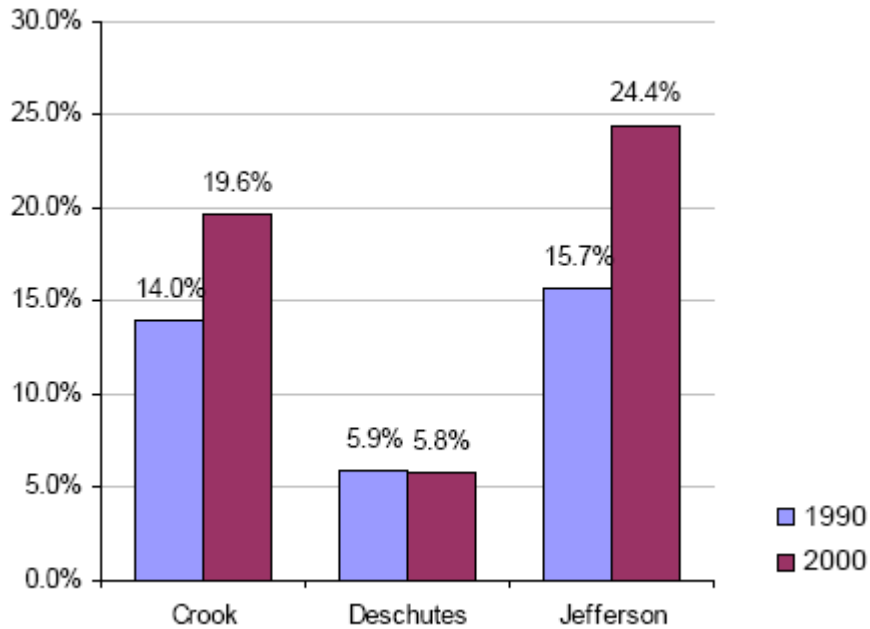
In short, Bend should attract a disproportionately larger share of firms within the region's fastest growing industry sectors. The above figures illustrate this "Central City effect," which is also factored into the EOA's employment projections in Sections [...]5 and 6].

Further evidence of Bend's role as Central City can be seen on Highway 97 during the weekday commute southbound into the city, as shown by the OED data in Figure [...]22]. During the 1990s (which reflects the latest U.S. Census data available), Deschutes County, and by extension, Bend, widened its gap as an "employment importer" over Jefferson and Crook Counties. Also considered that while in 2004 37 percent of the region's population lived in Bend, 54 percent of the region's jobs were located in the city.

[Footnotes from the 2007 Leland EOA:]

¹⁹ "Prospering in the Knowledge Economy: New Rules for the Road Ahead," Presentation by Joseph Cortright, Impresa Consulting, October 2003. Also, City of Portland, Economic Development Strategy, 2002: Creative Services and Professional Services Appendices.

Figure [...]22]. Share of Residents Commuting to Another County for Work: 1990-2000



Source: U.S. Census Bureau, Oregon Employment Department

Unfortunately, as with its population growth, Bend's role as a regional central city carries potentially negative as well as positive consequences.

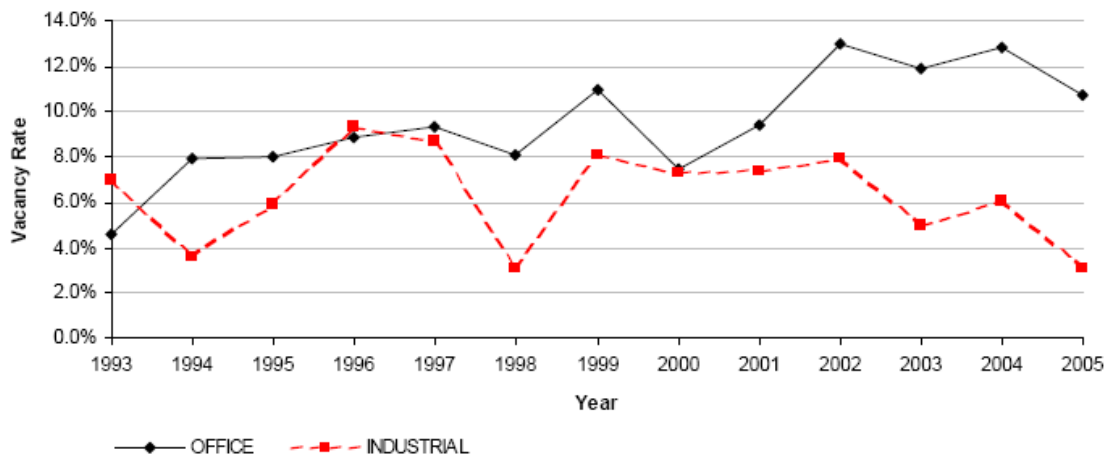
The Threat to Industrial Firms

The first among those is higher land and building values, and lower land and building vacancies. This trend is particularly significant to industrial and manufacturing business, which consume far more land (on a per employee basis) than office/service and other commercial businesses, and thus can feel the effects of higher land prices much more acutely. In fact, the scarcity and high price of industrial-zoned land has long been a sore point for industrial business owners in the Bend area, and is an important issue that this EOA will address.

When industrial land is scarce and expensive, industrial firms are, of course, less likely to be able to expand and thrive in Bend. This is true of both traditional wood products manufacturers, and firms in the targeted sectors of Specialty Manufacturing, Aviation and Aerospace, as well as others. Thus, high land and building prices present a significant hindrance to Bend's economy.

Figure [...]23] below shows that since 1999, the stock of available built industrial space has consistently fallen; today approximately 3 percent of this space is vacant and available to be leased.

Figure [...][23]. Office and Industrial Vacancy Rates,



Source: *Compass Commercial*

Further evidence of constraints on industrial businesses includes the price of industrial land. In Bend, industrial land sells for \$13 per square foot; in Redmond, the figure is \$7, or just 54 of the price in Bend.²¹ Industrial land is also less expensive in the Portland metropolitan area, though the price varies depending on the location. Further, in the decade between 1996 and 2006, Compass Commercial,, a regional brokerage that tracks real estate data in Central Oregon, reported a 473 percent increase in the price of industrial land. It is important to note that, in this context, even if the EOA's land supply inventory (detailed later) showed plentiful land available, many industrial firms might perceive a scarcity of appropriate product, simply because it is out of their price range.

The Bend Bulletin story, "City Industrial Land Supply Tight," (14 May 2006), offers anecdotal evidence that employers are seeking alternatives to high-priced industrial land, most often considering a move elsewhere. The article cites Campers President David Hogue, who currently employs 70, and is looking to expand to as many as 200. According to the Bulletin, "So far, he's found nothing but frustration in his six-month attempt to find expansion room in Bend."

Living Wage Jobs and the "Aspen Effect"

Another challenge in Bend's future, partially brought about by the community's desirability as a Central city and high land values, is overcoming what one local property brokerage dubbed the "Aspen Effect." This is the process by which a community splits into upper and lower economic strata, with the town's elite and well-off out-of-towners at the top, served by a large group of employees in the relatively low paying retail, service, tourism, and hospitality industries. This kind of stratification threatens Bend's identify as a solidly middle class community that has supported itself through industry and hard work since its inception.

[Footnotes from 2007 Leland EOA:]

²⁰ Compass Commercial, 2006

²¹ Loopnet.com, LCG research, and Compass Commercial.

Apart from issues of pride and perception, retail and tourism-based jobs tend to be lower paying (see [earlier discussion in this Section [...]]). And an economy that is over-reliant on any one sector is less prepared to weather a downturn or changes in the economy.

Thus, those shaping visions for Bend's economic future, from Bend 2030 participants to EDCO, include a diversified economy that pays living wages among their top priorities. For example, Bend 2030 community meeting participants made the following recommendations about the economy:

- Foster economic growth in a diversified manner including a balance between tourism, wood products, commerce, clean industry and health care services.
- Increase per capita personal income by developing more middle-income employment opportunities and reducing economic reliance on tourism.

Lack of Workforce Housing

The scarcity of affordable workforce housing is another feature of the Central Oregon economic climate that could have long-term consequences for Bend's ability to create jobs and expand. The 2006 study, "Central Oregon Workforce Housing Needs Assessment," prepared for the Central Oregon Regional Housing Authority, documents the problem and begins to estimate its effects on the economy. In general, the term "workforce housing" applies to the housing owned or rented by low-and middle-income residents.

A scarcity of workforce housing could significantly constrain job growth by making it difficult for existing employers to retain or attract qualified employees, or discouraging employers who are considering a move to the area. In short, when employees cannot comfortably live in an area, potential jobs go unfilled. Of the Deschutes County employers surveyed during the 2006 study, 57 percent felt that the scarcity of workforce housing was a critical or serious problem. The report found that thousands of jobs have gone unfilled in Central Oregon due to this problem.²²

Unless Bend and the region are able to find a way to make affordable housing available to low- and middle-income residents, economic growth will be hindered during the study period.

Education's Role in the Economy

There is very widespread consensus that an improved educational system, from kindergarten through the university and graduate levels, will play an essential role in enabling Bend to reach its vision of a diversified economy offering living-wage jobs. Many of the jobs identified thus far in this report are knowledge-based and will require a variety of high-level skills, including expertise in math, engineering, physics, business, computer science, communication, and marketing.

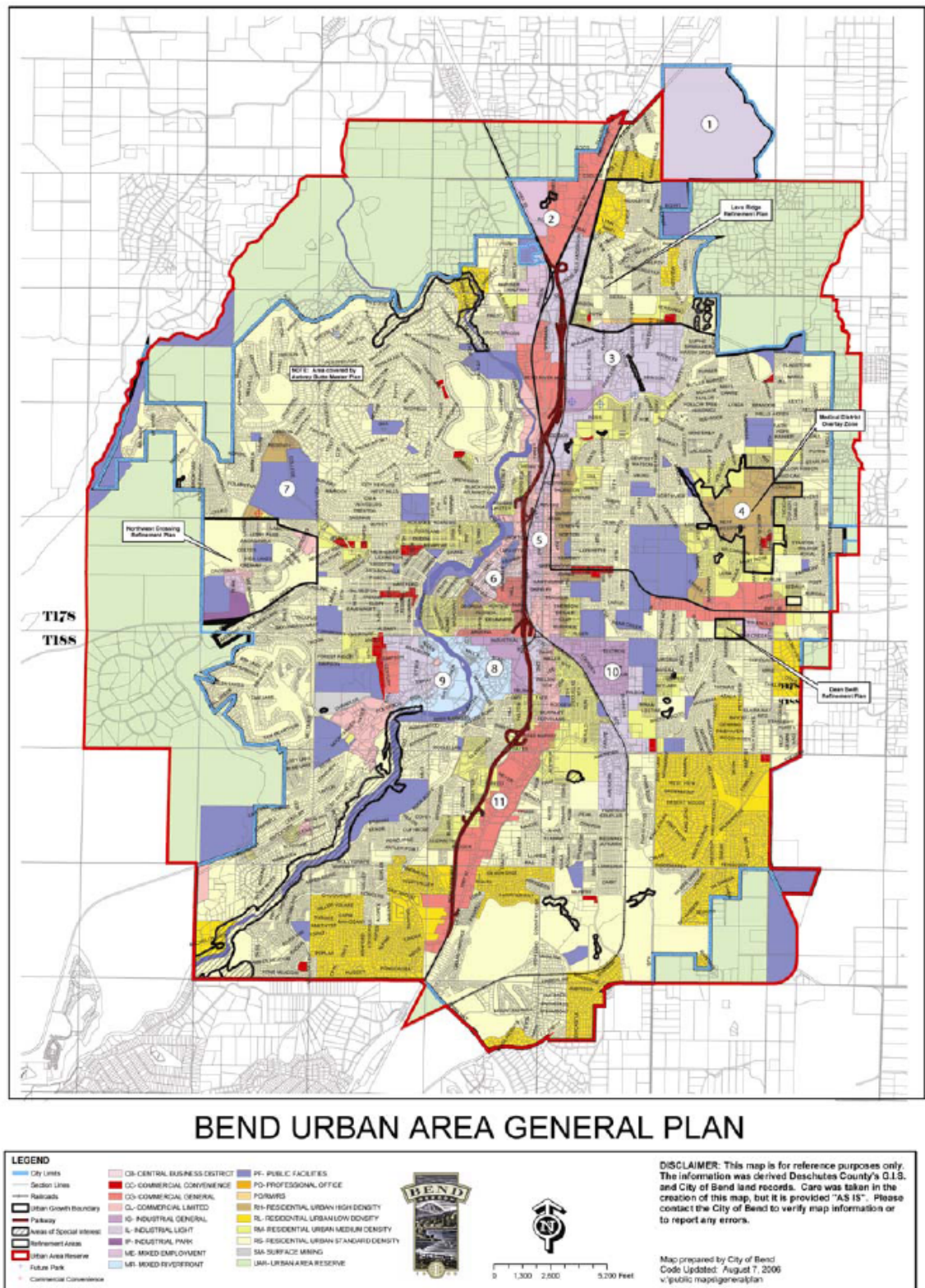
[Footnotes from the 2007 Leland EOA:]

²² Central Oregon Workforce Housing Needs Assessment," 2006, pages 3-4.

In order to train a workforce that can perform these types of jobs, the City Council has made it clear that Bend should seek to add a true four-year university with graduate programs to the city's existing higher education system. The new university would be located at Juniper Ridge and be paired with an integrated research park, following in the model set by the Stanford Research Park or North Carolina Research Triangle. Thus, the Juniper Ridge Concept Plan calls for 200 acres of the site to be devoted to university use.

This EOA projects that 200 acres will need to be added to the UGB, possibly at Juniper Ridge, in order to accommodate a university. Further details on the rationale for a university and associated research park are explained in the Section [...]8].

Figure [...][24]. Bend Area General Plan



Source: City of Bend, Leland Consulting Group

Primary Features of Bend's Employment Geography

The numbered features below correspond to the map above, and summarize many of the primary features of Bend's "employment geography". Not all important areas are identified; many described below are also detailed further in other parts of the EOA.

1. Juniper Ridge (Phase 1). Planned site for large-scale development that will include an educational research and technology campus, and other industrial and commercial employment uses.
2. Highway 97-20 Triangle. Site of new large-scale commercial and some industrial development. Commercial development includes Cascade Village, Target, others.
3. North Industrial Area. Includes the Brinson, Basalt, empire, and other Industrial/Business Parks.
4. Medical District Overlay Zone. Includes St. Charles Medical Center and numerous other health care organizations; contains approximately 65 percent of Bend's health care employment takes place here.
5. 3rd Street Corridor. A long north-south corridor with a wide range of commercial uses serving local and regional markets.
6. Downtown Bend. The region's cultural focal point including retail, restaurant, and entertainment draws; office and other employment; governmental employment hub.
7. Central Oregon Community College and OSU Cascades campuses.
8. Old Mill District. A mixed-use area including retail, office, and residential, built on the site of one of Bend's historic mills during the past decade.
9. Shevlin Industrial Area. Industrial area with significant commercial and office/service components; includes MicroSemi and a collection of high-tech and software employers.
10. South Industrial Area. A mix of light and heavy industrial uses; buildings tend to be slightly older than North and Shevlin Industrial areas and contain fewer office/service employers.
11. South Highway 97 Commercial Area. A wide range of commercial uses serving local and regional markets.

Section 4. Characteristics of Bend's Employment Lands

Below, pages 30-34 of the 2007 Leland OEA describe most of the types of employment lands in the Bend UGB. This EOA goes on to describe lands used for public facilities, medical uses, mixed employment, and economic uses in residential areas.

In planning for continued economic growth, it will be important for Bend to keep in mind the characteristics of suitable employment land. These characteristics, including access to public infrastructure, site size, and flat topography, are cataloged below. As highlighted above, state land-use law emphasizes the importance of protecting “prime industrial land” from widespread conversion to other uses. Thus, the characteristics of general industrial land, prime industrial land, and commercial land are examined. However, one finding of the EOA research is that the distinction between prime industrial land and general industrial land is less critical in Bend than in some other Oregon communities.

Just as the types of employers in Bend vary widely – from software companies, to manufacturers, to retailers – so to do the characteristics of the land they seek. General site requirements for each broad employment category are summarized below. In general, for example, industrial firms place higher priorities than commercial firms on characteristics such as large-size sites and buffering with residential uses.

While these requirements accurately reflect the preferences of firms within broad categories, it is unrealistic to assume that all employers in each category will have exactly these requirements. For example, certain retailers will seek large sites with expansive parking lots on major arterials, while others will want compact historic buildings in downtown Bend. Distributors of relatively heavy, low-cost goods may place a high value on proximity to freight rail, while distributors of microprocessors may want to be close to the airport, where their products are shipped out. The first priority for some firms, such as copy shops, may be to be as close as possible to their local customer base. In short, employer preferences within employment categories will vary.

Industrial Land

In general, industrial firms seek land with the following characteristics:

- Flat topography. Key components of many industrial processes including truck ingress and egress, product handling, manufacturing, and warehousing – all of which require flat sites on which vehicles and products can move smoothly and efficiently.
- Adequate parcel sizes. Sites must accommodate low-density buildings as well as generous areas for truck circulation and loading, and parking. Tenants also look for sites that are large enough to accommodate multiple phases and provide for expansion. Small industrial users may require no more than 1,000 to 3,000 square feet within a larger building complex, while it is not uncommon for large industrial users to seek 20 acres or more on which to operate. See the “Parcel Size” discussion below and in Section [...] for further detail.

- Proximity to high-quality surface transportation. Multiple transportation modes may be desirable. For most employers, the most desirable are truck and auto transportation facilities. After that, demand for other modes, including air, rail, and water transportation will be determined by the type of business and its shipping and distribution needs.
- Serviced by utilities, including energy, communications, sewer, water, storm water, and possibly others.
- Buffer from incompatible uses. This factor is more important for “heavy industrial”/manufacturing firms than for “light industrial” firms because the noise, odor, light, and other impacts produced by the former type tend to impose more of a nuisance on residents and other nearby uses.
- Price. Because industrial firms often need large buildings and sites in which to operate, they are very sensitive to changes in the cost of built space and land (usually measured in dollars per square foot). Some implications of this factor are explained above in “Bend’s Economic Outlook: The Threat to Industrial Firms.”²³

Prime Industrial Land

The state’s land-use planning system places a premium on keeping prime industrial land in its intended use and avoiding conversion. The most complete examination of this issue was undertaken by the Industrial Conversion Study Committee (ICSC) in its 2004 report “Promoting Prosperity: Protecting Prime Industrial Land for Job Growth.” The DLCDD has determined the following characteristics of prime industrial land throughout the state:

- Well-suited for traded sector industries, or businesses that support traded sector industries.
- Possess characteristics that are difficult to replicate elsewhere.
- Good access to the transportation infrastructure necessary for the relevant industries.

However, the DLCDD acknowledges that the definition of prime industrial land varies widely based on the city, region, and relevant industries.²⁴ In the Portland region, for example, the City of Portland and Metro have determined that one aspect of prime industrial land is its proximity to the Willamette and Columbia riverfronts and riverfront shipping facilities, as such locations cannot be easily replicated. However, river access is not an important factor in Bend, where large-scale river-based distribution is nonexistent. Traded sectors and transportation needs also vary.

Thus, there are two important distinctions in the definition of prime industrial land. First, there is the question of how important the distinction between prime

[Footnotes from the 2007 Leland EOA:]

²³ Attributes compiled from “Promoting Prosperity: Protecting Prime Industrial Land for Job Growth,” *Exceptional Industrial Projects: Beyond the Box*, and LCG research.

²⁴ “Promoting Prosperity,” p. 21

industrial and other industrial land is. Hillsboro found that the distinction was not highly⁶ significant; Metro found that the amount of conversion of prime industrial land has been overestimate; an anonymous community reported that the effects of conversion were generally positive. In its “Existing Approaches to Protecting Prime Industrial Land” Section, the “Promoting Prosperity” report states that:

“According to the city [Hillsboro], industrial conversion is not a major issue in its community...The city allows for a variety of industrial uses (e.g., the allowance of call centers in light industrial zones and as part of flex zones). The light industrial zone allows buildings that can be used by a variety of employers providing flexibility to respond to changes in the business economy. Hillsboro sets lot size minimums to preserve large sites...Hillsboro's approach as resulted in one of the most successful industrial areas including Intel, the state's largest industrial employer.”²⁵

Thus, industrial land conversion is not always a major problem, and can even be seen as neutral or positive, depending on economic conditions.

Second, there is the question of how local economic, geographic, and other variations will affect what industrial lands are most important in each area. In analyzing these two distinctions, LCG found the following:

- Industrial employers and brokers consistently focused on the low availability and high price of industrial land far more than any other characteristics. Making more land available for development was seen as much more important than preserving certain kinds of industrial land with certain attributes. For example, interviews and research indicated that although some parts of Bend have transportation advantages, they are not as important to employers as land or building general availability or price. Conversion was not cited as an issue, despite inquiries.

The above evidence indicates that the *availability of industrial land* significantly outranks the *need to identify prime industrial land* as a task for the city.

- Other factors beyond land characteristics were consistently mentioned as major determinants of the location decisions of existing prospective incoming employers. The main factors of this type that were consistently listed were the ongoing availability of a high-skilled, trained workforce and the availability of affordable workforce housing. As stated elsewhere in this report, employers have trouble locating where their employees can't afford to live. Although the solution to these problems is outside the scope of the EOA, they deserve mention.
- Targeted Industries. Any useful definition of prime industrial land should be related to a city's targeted industries and their land and infrastructure needs. [...] [Special site needs for targeted industries is discussed in more detail in Section 8]

[Footnotes from the 2007 Leland EOA:]

²⁵ Ibid, p. 31.

- Public infrastructure and flat topography. These characteristics are a given for any general industrial land, much less prime industrial land. Employers and others interviewed for the EOA assumed the provision of infrastructure and flat topography as a precondition to industrial development. The city is currently undertaking efforts to plan major public infrastructure improvements. The city's general geography is such that the majority of land is relatively flat and suitable for industrial development. The city categorizes any land with greater than 25 percent slope as "sloped" or "constrained;" however, in future industrial land planning efforts, a lower threshold, no higher than 10 percent slope, should be used.²⁶
- Parcel size. One perception about industrial employment in Bend is that the city attracts a higher percentage of small (1 to 4 person) firms. Brokers and employers cited the need for small work spaces (1,000 to 3,000 square feet) to accommodate such employers. Indeed, while nearly half (48.5 percent) of all of Deschutes County's businesses employ between 1 and 4 people, this is relatively typical for the state as a whole – though more urbanized counties such as Multnomah and Lane have somewhat fewer (three to four percent less) small firms.²⁷ Thus, there may be a slightly higher level of demand for such smaller spaces, often called flex industrial. However, this may be more of an issue for real estate developers than Bend policy makers, as developers will partition buildings and lots based on their assessment of market demand.

Although there is evidence for demand for all sizes of industrial parcels, parcels in the 10-20 acre and 20+ acre categories were in most demand. This is probably as much to their scarcity as it is to demand for such parcels by individual firms.

There is likely to be somewhat less demand for very large (40 acres +) industrial parcels in Bend than has been seen in Willamette Valley cities in the past decade. Most industrial parcels of this size are occupied by regional distribution facilities, and the valley is a more desirable center for multi-modal (highway, air, water and rail) distribution than Central Oregon. Evidence does not, however, indicate that there will be no demand for such parcels.²⁸

[Footnotes from the 2007 Leland EOA:]

²⁶ *EOA Guidebook*, p. 2-42.

²⁷ More precisely, 48.5% of Bend's "reporting units" employ between 1 and 4 people. Reporting units (an OED term) differ from firms in that a single firm may have multiple reporting units. For example, Quickmart may employ 100 people in a given city (firm size), dispersed among 10 stores (reporting units), each with 10 employees. Thus, the reporting unit is more pertinent in determining demand for land and built space. Sources: 2005 Oregon Covered Employment & Wages – by Industry & County," OED; Compass Commercial brokerage; and LCG analysis.

²⁸ *Guide to Classifying Industrial Property*, ULI; "Salem Regional Employment Center – Economic Opportunities Analysis," Leland Consulting Group, 2004.

Indeed, as the number of consumers and markets continue to grow in Central Oregon and nearby regions, more goods may arrive, depart, or be processed in Bend. See the “Parcel Size” topic in Section [8] for more attention to these issues. That topic also reviews the difference between the land development market and the market for built space.

- Location. From the point of view of highway and air transportation, and access to population and markets, Bend’s northeastern industrial areas, including the Brinson and Basalt Industrial Parks, were seen as the most desirable. The Shevlin area was also seen as desirable for high-tech firms and those less concerned with quick transportation access. The northeast areas have good access to Highway 97 and 20, the Redmond and Bend airports, and most of Central Oregon’s population centers, including Bend, Redmond, Prineville, and Madras (see Figure [...][24]). Based on the desirability of these areas, LCG projects that as Juniper ridge becomes better served by transportation and other infrastructure, it will also be a population location for industrial firms.
- Public ownership. At Juniper Ridge, the City has a relatively unique opportunity to make industrial and other employment land available to firms based on considerations other than profit; the city may also be able to wait longer than a private landowner for tenants that will best further the interests of the city and region. The ICSC endorsed the following view in “Promoting Prosperity:”
Public bodies that hold industrial land can afford to be relatively patient and can wait for the right prospects that accomplish the greatest public good, whereas private landholders are necessarily impatient. They may need to capitalize on any prospect that will pay their price. In some cases, private interests may diverge from public good. In these instances the public may see greater benefit in waiting for the right buyer, but in a transaction between two private parties, the greater social benefit may be ignored and thereby squander a scarce and valuable commodity, rather than wait for a prospect that provides the highest and best use for the community.”²⁹
- A primary way that Bend could apply “public-good” criteria to its land at Juniper Ridge is to sell or lease land to employers that further the growth of targeted industries and/or traded sectors. The [...][2008] Juniper Ridge Concept Plan and other Juniper Ridge visioning documents endorse a development program focused on an Employment Center and Research and Technology Education Center, both of which should further the long-term economic goals of the city and region.

[Footnotes from the 2007 Leland EOA:]

²⁹ “Promoting Prosperity,” p. 34.

Vintage Industrial Land

“Promoting Prosperity” makes clear that in at least one specific case – in “vintage” or historic industrial areas – redevelopment and conversion to other uses is most often beneficial. “Because vintage industrial areas are located in inner-city sites,” the committee writes, “they are attractive for redevelopment for other uses.”³⁰ Bend has seen such redevelopment take place at the Old Mill

District and to some degree in downtown; as other truly “vintage” industrial districts become obsolete, it may be appropriate to encourage their redevelopment.

Commercial Land

Due to the very wide range of firms operating on commercial land, it is difficult to develop an accurate list of specific characteristics that all such firms will seek. As discussed further in Section [...][8], firms in every employment category locate in significant quantities in commercial land. However, the following characteristics may be said to apply to the majority of firms that seek commercial land, particularly those in the retail, office/services, and leisure and hospitality categories:

- Visibility – on a high-volume arterial road or location with substantial walk-by traffic.
- Central location relative to employees, customers, and support services.
- Proximity to major roadways or other multi-modal transportation infrastructure.
- Flexibility to expand.
- Appropriate zoning.
- Available utilities.
- Workable topography.
- Minimal environmental complications.
- Compatible surroundings.³¹

[Footnotes from the 2007 Leland EOA:]

³⁰ Ibid, p.20

³¹ LCG research, *Shopping Center Development Handbook, and Business Park and Industrial Development Handbook*, Urban Land Institute.

Mixed Employment Lands and Economic Uses in Residential Areas

Integrating mixed uses into the fabric of the city’s development pattern is taking on increased importance in Bend. The City of Bend recently instituted two new mixed use zones called the Mixed Use Riverfront and Mixed Employment zones. The city also enables limited residential development in commercial areas and is encouraging economic land use in residential areas through new development codes promoting mixed use. Mixed use is an important ingredient in achieving a more sustainable urban development pattern. According to Porter of the Urban Land Institute, “mixing uses within relatively small areas is essential in providing a range of travel choices for residents and workers and increasing opportunities for economic and social interaction” (140).

The Mixed Use Riverfront and Mixed Employment General Plan and zoning designations allow single and multi-family residential development as permitted and conditional uses alongside retail, services, accommodations and entertainment uses, public facility, and limited manufacturing uses. Site needs for mixed employment uses tend to be closer to commercial uses rather than industrial site needs given the close proximity of residential uses in these areas. Mixed use areas are also used as buffer zones to transition between more intensive commercial or industrial uses and surrounding residential areas.

Similarly, small scale retail, personal service, repair, and government uses are allowed in selected residential zones to embed needed services in residential areas. Residential uses are also encouraged in selected commercial zones to improve the efficiency of these lands and introduce vitality, diversity, and affordable and workforce housing options in commercial areas. While a small portion of development within each zone, introducing appropriate residential and economic uses in contrasting zones is addressed in this EOA. As requested by the UGB TAC, staff has researched and documented the amount of residential land consumed by economic uses in residential zones. This information is used to determine a 20-year need for these uses in order to allocate appropriate acreage for economic uses in residential zones. This information is presented later in this EOA in Section 8.

Public Facilities

Public facilities ranging from offices, schools, parks, outdoor storage and light manufacturing processes represent a relatively small portion of land needed for economic uses. This EOA prepares separate employment projections for government or public uses in order to allocate land needs for these uses. Site needs vary widely depending on the particular uses referenced above. Park and school uses are typically associated with residential areas versus industrial and commercial areas. Office and light manufacturing uses associated with public entities are more suited for commercial and industrial areas. The City's residential land needs analysis incorporates park and school needs. This EOA presents employment projections to determine economic land needs in addition to parks and schools.

Medical Lands

The city has been working closely with representatives from the medical community to determine future land needs for medical uses. Medical uses are a targeted sector for the city, so demand additional attention rather than being grouped with commercial land needs. This EOA prepares separate employment and land need projections for medical uses to focus on these needs. According to these representatives, typical site needs are similar to commercial land needs. An increasing trend is for medical uses to be located in commercial settings providing supporting uses such as medical offices, lodging, restaurants, laboratories, and similar uses. These uses should ideally be sited in convenient locations to provide quick access, reduce unnecessary cross-town trips, and

generally improve customer service to their medical clients. Medical uses provide local as well as regional services, so locating facilities like a new hospital require special attention. These special site needs are discussed later in this EOA in Section 8.

Section 5. Employment Projection Methodology

Staff received direction from the City of Bend Planning Commission, UGB TAC, and Stakeholder group to preserve most of the quantitative methodology for calculating future employment. Specific concerns regarding the methodology were raised by the groups and integrated into the employment forecast methodology described by the Leland EOA. Notably, these major changes include the following:

- Make the planning period 2008-2028 versus 2007-2027.
- Use the most up to date employment forecast. The 2007 Leland EOA used a regional 2004-2014 employment estimate, the 2008 EOA uses a Deschutes County 2006-2016 estimate as the basis for employment projections.
- Use 2006 versus 2004 geo-coded Geographic Information Systems employment data for the city of Bend to improve the geographic accuracy of the employment projections.
- Create employment and land need estimates specifically for government workers (public facilities).
- Break out Heavy Industry from Light Industrial employment and land needs to estimate land needs for more intensive industrial uses.
- Update employment density figures.
- Use the definition of “vacant” lands in OAR 660-009 versus a customized definition used in the Leland EOA.
- Use General Plan designations for the land inventory work versus the current zone.
- Create further breakdowns of employees by General Plan designation and type of industry for potential refinements to the land need estimates.
- Make adjustments (downward) for shift-workers so that land needs are based on day shift employment (8 A.M. to 5 P.M.).
- Make adjustments for employees who are not “covered employees” that were not included in the Leland EOA.
- Assess how the supply of economic lands by location, size, and the opportunity for variety of these factors influence the amount, location, and type of economic lands present in an expanded UGB.
- Calculate the amount of residential land that is used for economic uses rather than housing uses, since many economic uses are allowed outright in all residential zones.
- Explicitly account for all employment land needs in concert with the residential land needs work to avoid double counting or underestimating of land needs.

With these improvements in mind, staff updated the data and methodology used in the 2007 Leland EOA. The following discussion is from the Leland EOA, with minor edits and additions discussed above.

The 2007 Leland EOA outlines the methodology used to produce employment projections and land needs beginning on page 35 through page 41. This methodology is presented below, with the changes made upon request of the Planning Commission and UGB TAC.

This Section contains a brief overview of the methodology used to generate the quantitative Sections of this EOA. Additional information about each of the steps in the process is included in the detailed Sections that follow.

The methodology closely follows the approach prescribed by the Department of Land Conservation and Development in the EOA *Guidebook*. However, because economic development goals and the data available about each community vary throughout the state, there are several variations in the methodology. The DLCD recognizes that variation in methodology is appropriate.

1. Analyze existing policy and visions; national, state, county, and local trends; and other forces likely to have an impact on Bend's economic future
2. Forecast 20-year employment growth, [...]2008-2028]:
 - a. Begin with OED [...]2006] employment data for the City of Bend, disaggregated to detailed industry sectors
 - b. Create 20-year projected growth rates for individual industry sectors:
 - i. Begin with OED [...]Deschutes County 2006-2016] projections
[.....]
 - ii. [Grow 2006 industry employment to 2008 by adding Bend's slightly accelerated population growth rates (.11 percent faster than Deschutes County) to the ten-year industry growth rates predicted by OED]
 - iii. Adjust employment upward (11.5 percent) to account for self-employed, contract workers, and "non-covered" employees not included in OED employment projections
 - iv. For land need estimates, decrease employment projections by estimating the percentages of non-shift workers in each industry
 - v. Grow employment from 2008 to 2015 at the 10-year adjusted employment growth rate by industry
 - vi. Adjust targeted industry sectors upwards by 10 percent to reflect increased growth in these sectors
 - vii. Grow employment from 2015 to 2025 by the City of Bend Coordinated Population Forecast Average Annual Rate of Growth at reduced rate to account for less predicted population and employment growth in this time period
 - viii. Apply a 1.7 percent AARG to grow 2025 employment to 2028 end of the planning period]
3. Inventory Current Employment Land Supply:
 - a. Inventory all lands with a [...]General Plan] designation for economic use and public facility use

- b. Categorize all lots according to zoning designation and development category
 - i. [...] [General Plan] designations: A variety of commercial, industrial, professional office, mixed employment, public facilities zones, detailed later
 - ii. Development category: Developed, Vacant, Unbuildable
 - c. Generate inventories of Developed, Vacant and Unbuildable land within each General Plan designation
 - 4. Analyze Considerations in Converting Employment to Land Demand:
 - a. Reconciling NAICS with General Plan designations
 - b. Employment Density by General Plan designation
 - c. Refill and infill
 - d. Parcel Size
 - e. Property Ownership
 - f. Other types of land on which some employment occurs
 - 5. Convert Employment to Land Demand
 - a. Incorporate Step 4 considerations in converting employment to land demand
 - b. Estimate both long-term (20 year) and short-term land demand
 - 6. Reconcile Land Supply and Demand:
 - a. Generate projected amount of surplus/deficit land within each General Plan designation
 - b. [Address factors to create choices in the market for different locations, types, and sizes of economic lands throughout the UGB
 - c. Assess possible rezoning of lands inside the UGB from a non-economic use to an economic use to satisfy needs
 - d. Create projections for both long and short term. These projections serve as the basis from which to recommend UGB expansions or other policy actions to address an employment land surplus/deficit

Comparing Methodologies: The [2008] EOA and [2000] ELS [-Part 1]

As mentioned above, the EOA uses a different methodology than the 2000 ELS. While the EOA bases projections for future land demand on a combination of OED employment analysis, the Deschutes County and Bend Coordinated Population Forecasts, and other data, the ELS projected future land needs based on past land consumption by employers in Bend.

While both methodologies are reasonable, the former was chosen for the EOA for several reasons. First, the methodology is recommended by the DLCD and explained step-by-step in the *EOA Guidebook*. The methodology was developed by the DLCD based on years of input from past EOA processes. Second, there is good reason to believe that Bend's employment land consumption has been constrained for many years, due to the high land values, firm relocations, and measured land deficit documented in this report. Basing future land need projections on artificially lowered land consumption trends would result in too little employment land in the future.

Section 6. Employment Projections

The purpose of making employment projections is twofold: first, to anticipate future employment patterns, and second, to estimate future economic land needs. The following describes some of the technical approaches in making employment projections and the process of converting these into land need estimates.

This EOA groups NAICS sectors into broader categories to facilitate a conversion of employment forecasts to land need. These categories are as follows:

- **Employment Category.** This is a generalization and simplification of more specific NAICS sectors and specific industries. The categories include:
 - Industrial General and Industrial Heavy
 - Retail General and Large Retailers
 - Office/Services
 - Leisure and Hospitality
 - Other
 - Government
 - Medical (also called MDOZ referencing the city's Medical District Overlay Zone)
- These categories are composed of employment sectors described below. In some cases, employment categories split what would traditionally be "one" employment sector. For example, Retail Trade is one employment sector, but this EOA separates the sector into two employment categories based on the three-digit NAICS coding: Retail General and Large Retailers. This allows more specific land need estimates to be created; for example, to determine land needs for large retailers seeking large sites and smaller retailers requiring smaller sites. The three-digit NAICS descriptions are shown in the tables below to describe specific industries in each employment category.
- **Employment Sector.** These are smaller, specific categories that describe the two-digit NAICS categories shown in Tables 19-23. These include:
 - Retail Trade
 - Agriculture, Forestry, Fishing and Hunting
 - Mining
 - Utilities
 - Construction
 - Manufacturing
 - Wholesale Trade
 - Transportation and Warehousing
 - Information
 - Finance and Insurance
 - Real Estate and Rental and Leasing
 - Professional, Scientific, and Technical Services
 - Management of Companies and Enterprises
 - Administrative and Support, Waste Management, and Remediation Services

- Education Services
- Health Care and Social Assistance

The following tables show:

- Employment categories above the employment sectors in the left-most column
- NAICS 2 Digit Code describing the employment sector. For example, the NAICS 2 Digit Codes for Large Retail and General Retail are 44-45
- NAICS 3 Digit Codes and their corresponding NAICS Title in the right-most column. These provide industry level detail so that a reader can easily examine the types of industries included in each employment category.

Table 19. Retail Employment Category, Sectors, and Industries

Employment Category	NAICS 2 Digit Code	NAICS 3 Digit Code	NAICS Title
Retail			
Large Retail - retail trade	44-45	441	Motor Vehicle and Parts Dealers
		444	Building Material & Garden Supply Stores
		447	Gasoline Stations
		452	General Merchandise Stores
General Retail - retail trade	44-45	442	Furniture and Home Furnishings Stores
		443	Electronics and Appliance Stores
		445	Food and Beverage Stores
		446	Health and Personal Care Stores
		448	Clothing and Clothing Accessories Stores
		451	Sporting Goods/Hobby/Book/Music Stores
		453	Miscellaneous Store Retailers
		454	Nonstore Retailers

Source: City of Bend

Staff researched the spatial distribution of geo-coded employment data by 3 digit NAICS throughout the City of Bend to determine where large and general retailers tend to congregate. Staff found that in general, retailers engaging in motor vehicles, building materials, gasoline station, and general merchandise stores tend to concentrate in areas designated Commercial General by the City's General Plan. General Retail uses above tend to locate in the numerous other commercial General Plan designations. Staff then grouped retail employment into the two categories above to facilitate more fine-tuned land need estimates.

Table 20. Industrial Employment Category, Sectors, and Industries

Employment Category	NAICS 2 Digit Code	NAICS 3 Digit Code	NAICS Title
Industrial			
Industrial Heavy			
<i>Agriculture, forestry, fishing and hunting</i>	11	111	Crop Production
		112	Animal Production
		113	Forestry and Logging
		114	Fishing; Hunting and Trapping
		115	Agriculture & Forestry Support Activities
<i>Mining</i>	21	211	Oil and Gas Extraction
		212	Mining (except Oil and Gas)
<i>Utilities</i>	22	221	Utilities
<i>Construction</i>	23	237	Heavy and Civil Engineering Construction
<i>Manufacturing</i>	31-33	311	Food Manufacturing
		312	Beverage & Tobacco Product Manufacturing
		314	Textile Product Mills
		315	Apparel Manufacturing
		316	Leather and Allied Product Manufacturing
		321	Wood Product Manufacturing
		325	Chemical Manufacturing
		326	Plastics & Rubber Products Manufacturing
		327	Nonmetallic Mineral Product Manufacturing
		331	Primary Metal Manufacturing
		332	Fabricated Metal Product Manufacturing
		333	Machinery Manufacturing
		334	Computer and Electronic Product Manufacturing
		335	Electrical Equipment and Appliances
		336	Transportation Equipment Manufacturing
		337	Furniture and Related Product Manufacturing
		339	Miscellaneous Manufacturing
Industrial General			
<i>Construction</i>	23	236	Construction of Buildings
		238	Specialty Trade Contractors
<i>Manufacturing</i>	31-33	323	Printing and Related Support Activities
<i>Wholesale Trade</i>	42	423	Merchant Wholesalers; Durable Goods
		424	Merchant Wholesalers; Nondurable Goods
		425	Electronic Markets and Agents/Brokers
<i>Transportation and warehousing</i>	48-49	481	Air Transportation
		484	Truck Transportation
		485	Transit and Ground Passenger Transport
		488	Support Activities for Transportation
		491	Postal Service
		492	Couriers and Messengers
		493	Warehousing and Storage

Source: City of Bend

Staff performed a similar analysis of the spatial distribution of industrial uses to determine where more intensive or heavy industrial uses are located in Bend. These uses tend to be located in areas designated Industrial General by the Bend General Plan. Other industrial uses tend to be located in the areas

designated Industrial Light, Industrial Park, and Mixed Employment. It is noteworthy that these uses are distributed throughout commercial districts as well as industrial and mixed employment districts.

Table 21. Office/Services Employment Category, Sectors, and Industries

Employment Category	NAICS 2 Digit Code	NAICS 3 Digit Code	NAICS Title
Office/Services			
<i>Information</i>	51	511	Publishing Industries
		512	Motion Picture & Sound Recording Industries
		515	Broadcasting (except Internet)
		516	Internet Publishing and Broadcasting
		517	Telecommunications
		518	ISPs; Search Portals; & Data Processing
<i>Finance and Insurance</i>	52	522	Credit Intermediation & Related Activities
		523	Financial Investment & Related Activities
		524	Insurance Carriers & Related Activities
		525	Funds; Trusts & Other Financial Vehicles
<i>Real Estate and Rental and Leasing</i>	53	531	Real Estate
		532	Rental and Leasing Services
		533	Leasers; Nonfinancial Intangible Assets
<i>Professional, Scientific, and Technical Services</i>	54	541	Professional and Technical Services
<i>Management of Companies and Enterprises</i>	55	551	Management of Companies and Enterprises
<i>Administrative and Support, Waste Management and Remediation Services</i>	56	561	Administrative and Support Services
		562	Waste Management and Remediation Services
<i>Education Services</i>	61	611	Educational Services
<i>Health Care and Social Assistance</i>	62	621	Ambulatory Health Care Services
		622	Hospitals
		623	Nursing and Residential Care Facilities
		624	Social Assistance

Source: City of Bend

The uses in Table 21 tend to be located in commercial areas, with fewer appearing in industrial and mixed use zones. Health care and social services are concentrated within the City's Medical District Overlay Zone, which is zoned Residential Urban Medium Density.

Table 22. Government Employment Category, Sectors, and Industries

Employment Category	NAICS 2 Digit Code	NAICS 3 Digit Code	NAICS Title
Government			
<i>Industrial Heavy</i>	11, 21, 23	113	Forestry and Logging
		221	Utilities
		237	Heavy and Civil Engineering Construction
<i>Industrial General</i>	32, 49, 48	323	Printing and Related Support Activities
		1_49	Postal Service
		485	Transit and Ground Passenger Transport
		493	Warehousing and Storage
<i>Office/Services</i>	51-62	611	Educational Services
		624	Social Assistance
		519	Other Information Services
		524	Insurance Carriers & Related Activities
		561	Administrative and Support Services
		611	Educational Services
<i>Leisure and Hospitality</i>	71	712	Museums; Parks and Historical Sites
		713	Amusement; Gambling & Recreation Industries
<i>Government</i>	92	921	Executive; Legislative; & Gen Government
		922	Justice; Public Order; and Safety Activities
		923	Administration of Human Resource Programs
		924	Administration of Environmental Programs
		925	Community and Housing Program Administration
		926	Administration of Economic Programs
		928	National Security & International Affairs
		921	Executive; Legislative; & Gen Government
		922	Justice; Public Order; and Safety Activities
		924	Administration of Environmental Programs

The Government Employment category was created by isolating non-private ownership codes in the 2006 geo-coded employment data for Bend. Note Government includes a wide variety of employment types corresponding to the broad services provided by public entities. Industrial uses such as utilities and construction yards, the postal service, warehousing and similar uses require land zoned for industrial uses, while other governmental functions are well served in commercial centers. Employment in these sectors is classified as Government to estimate the full range of land needs for public uses later in this report.

Table 23 shows the Leisure and Hospitality Category and NAICS sectors included in this group. Employment in this category is generally described as Arts, Entertainment, and Recreation, Accommodation and Food Services by NAICS. The sectors illustrate the types of economic activities included in these NAICS categories. The Other category includes those uses that fall outside the NAICS sectors in previous tables.

Table 23. Leisure and Hospitality, Other Employment Category, Sectors, and Industries

Employment Category	NAICS 2 Digit Code	NAICS 3 Digit Code	NAICS Title
Leisure and Hospitality			
<i>Arts, Entertainment, and Recreation</i>	71	711	Performing Arts and Spectator Sports
		712	Museums; Parks and Historical Sites
		713	Amusement; Gambling & Recreation Industries
<i>Accommodation and Food services</i>	72	721	Accommodation
		722	Food Services and Drinking Places
Other			
<i>Other Services (except Public Administration)</i>	81	811	Repair and Maintenance
		812	Personal and Laundry Services
		813	Membership Organizations & Associations
		814	Private Households
<i>Miscellaneous/Unknown</i>	99	999	Unclassified

Source: City of Bend

The 2007 Leland EOA explains why employment categories are used in this EOA.

Throughout much of the body of this report, employment categories, rather than employment sectors, are used in order to facilitate the display and interpretation of the data. The categories follow established conventions used by the OED and other agencies, but also reflect some important divisions within Bend's economy. Note that many employment categories can be quite broad. For example, the Office/Services category contains a variety of businesses – from financial institutions, to health care and education – all of which are considered by the Census Bureau to be within this broad umbrella group.

Note, however, that nearly all calculations for the EOA were generated at the sector level in order to reflect the proper rates of growth associated with each sector. For example, as shown in [...]Table [17], the OED expects the professional and business services sector to grow faster than the education and health care sector, though they are both in the office/services category. Also not that, for this reason, some employment table sums and averages may not total correctly because they show data at an aggregated level. Complete tables including all sector-level calculations are displayed in Appendix A (38).

The employment forecasts in Table 24 estimate total employment for the 2008 through 2028 planning period. These estimates include non-covered employees which are typically excluded from OED projections. Total employment also includes shift workers. Employment projections contained in tables after Table 24 will not match employment in Table 25, and subsequent employment tables, because subsequent tables do not include shift workers. Shift workers are excluded from subsequent tables because land need estimates should be based on the day shift (typically the largest shift) instead of all employees working at a given business. Including all workers in land need estimates would overestimate

land needs since not all workers in some businesses are present at one time. The methodology used to calculate total employment in Table 24 is the same as in the subsequent tables; except subsequent tables exclude shift workers.

Table 24. Total Estimated 2008 and 2028 Employment: Simplified

Major Employment Categories	2008 Bend Employment	2028 Bend Employment	New Employees (2008-2028)
Industrial			
<i>Industrial Heavy</i>	4,587	6,231	1,644
<i>Industrial General</i>	5,849	8,709	2,860
Retail			
<i>Large Retail</i>	4,354	7,329	2,975
<i>General Retail</i>	4,065	6,633	2,568
Office/Services	11,210	18,799	7,590
Leisure and Hospitality	5,617	9,364	3,747
Medical (MDOZ)	5,021	8,617	3,596
Other/Miscellaneous	1,178	1,733	555
Government	3,960	6,374	2,414
Total	45,840	73,789	27,950

Source: OED geo-coded employment data for Bend with analysis by City of Bend

Note: Employment reflects additions of non-covered employees excluded from OED employment projections and include ALL EMPLOYEES. Subsequent tables estimating employment reflect only non-shift workers. Non-shift employment is less than total employment.

Table 24 illustrates a few broad trends that will emerge in the following analysis. First, the highest numbers of new employees are expected to be engaged in activities that will likely require commercial space versus industrial space. Note that Office/Services, Large and General Retail, and Leisure and Hospitality are the three employment categories that add the most employees during the planning period. Over 4,500 jobs in the Industrial category are expected to be added as well; followed by the addition of 3,596 jobs in the Medical category.

The following employment projections in Table 25 present a refinement of the projections in Table 24 by considering only employees working during the largest day shift. According to Thomas M Beers, an economist in the Division of Labor Force Statistics, Bureau of Labor Statistics, “the “9-to-5” workday does not appear to be in jeopardy of fading from its prominence in U.S. workplaces; yet the data do suggest that the rigidity of those hours continues to relax”. His analysis suggests that approximately 16.8 percent of all full-time wage and salary

workers worked alternative shifts; with different industries exhibiting wide variation in the levels of shift work (Beers).

Since subsequent land need estimates based on employment growth are derived by applying employment densities to employment estimates, it is essential to remove shift employees from gross employment figures and employment densities to calculate accurate land need estimates.

The EOA projects Bend's non-shift total employment using the following methodology, shown in the summary Table 25. The detailed spreadsheet containing all calculations is shown in Appendix A. It is worth noting that the general approach outlined below was established in the 2007 Leland EOA, but was significantly modified by the City of Bend based on input from the Planning Commission, UGB TAC, and Stakeholders.

- Begin with OED 2006 geo-coded employment data for the City of Bend, disaggregated to employment sectors. 2006 data is the most recent year available for which OED has detailed employment data for the City of Bend. More recent data is only tracked at the three-county regional level. The accuracy of the geo-coded (which means location specific, usually in the form of an address point representing employment) data from OED in 2006 is far superior to the accuracy of the 2004 data used in the 2007 Leland EOA. The accuracy of the OED data was enhanced by matching the address points to the City's GIS address files and by placing employment data based on field checks, phone calls to businesses, and by using local knowledge of employer locations.
- Produce 20-year projected growth rates for individual employment categories:
 - The baseline employment growth projections are OED Deschutes County 2006-2016 employment growth projections by sector. Reviewed in the Section above, these projections are adjusted to account for Bend's unique employment characteristics. The approach used in this EOA relies on employment growth rates for Deschutes County rather than the Region 10 employment growth rates. This is an improvement over the Leland EOA since the influence of Jefferson and Crook Counties is not included in the Deschutes County growth data. Also, since Bend represents the majority of employment in Deschutes County, using the Deschutes County employment growth projections will result in more accurate projections.
 - Factor 1. As was done in the 2007 Leland EOA, employment projections are slightly increased to account for Bend's slightly higher rate of population growth as compared with the County's. In the period 2006-2016, the Deschutes County Coordinated Population Forecast shows Bend's population is anticipated to grow at a rate 0.11 percent times faster than Deschutes County over this decade. This 0.11 percent factor is applied over the decade, not each year. This is

appropriate since employment growth tracks with population growth as show in Section 3.

- Grow employment at the sector specific average annual growth rates plus Factor 1 for two years to determine 2008 baseline employment.
- Factor 2. Increase 2008 baseline employment by sector by 11.5 percent to account for non-covered employees excluded from OED employment forecasts. This increase is applied to all categories except Government, since most public sector employees are covered employees. See Appendix B for a more detailed discussion of how the 11.5 percent factor was determined. This figure was accepted by the City of Bend Planning Commission and UGB TAC for purposes of this analysis.
- Factor 3. Reduce employment estimates by applying percentages of non-shift workers to total employment. These percentages were obtained from research by Thomas M. Beers in his article “Flexible schedules and shift work: replacing the ‘9-to-5’ workday?”. Note these factors were applied to specific sub-sectors and cannot be aggregated into the broader employment categories reported in this table. Generally, employment sectors such as leisure and hospitality have the highest rates of shift workers (approximately 40-50 percent shift workers), while other sectors such as office/services have between approximately 5-20 percent of employees working shifts.
- Grow the 2008 non-shift total employment by the adjusted by sector growth rates for seven years to arrive at year 2015 employment by sector.
- Factor 4. As the 2007 Leland EOA suggests, targeted sectors are increased

upwards to reflect increased growth in these sectors. As discussed extensively above, Bend has created a set of Targeted Sectors, in which it hopes to encourage higher-than-average growth; existing trends suggest that this is a good strategy with reasonable chances for success. Thus, employment growth within the Retail, office/Services, and Leisure and Hospitality categories are accelerated by a factor of 1.10 (or 10 percent) over this decade –long time frame. Although Government is not a targeted sector, it is also adjusted upwards to reflect continued aggregation of government jobs in Bend (Leland, 39).

- Grow 2015 employment to 2025 by the 1.84 percent average annual rate of growth. This growth rate is the 2015-2025 Average Annual Rate of Growth (AARG) for Bend detailed in the Deschutes County Coordinated Population Forecast.
- Grow 2025 employment to 2028 by an AARG of 1.70 to match Bend's population growth. This rate is the same growth rate used to estimate Bend's population growth between 2025 and 2028 for the residential lands estimate.

Table 25. Bend Employment Projections and Methodology Overview: 2008-2028

Major Employment Categories	2006 Bend Emp.	10-year AARG ¹	Factor 1	2008 Covered Emp ¹	Factor 2	2008 Total Emp.	Factor 3. 2008 Non-shift Emp. ²	2015 Emp. ¹	Factor 4	2015 Emp.	2025 Emp.	2028 Bend Emp.
Industrial												
Industrial Heavy	4,032	1.0%	0.11%	4,114	11.5%	4,587	3,807	4,104	NA	4,104	4,925	5,180
Industrial General	5,004	2.3%	0.11%	5,245	11.5%	5,849	5,370	6,340	NA	6,340	7,608	8,002
Retail												
Large Retail	3,698	2.6%	0.11%	3,905	11.5%	4,354	3,474	4,212	10%	4,633	5,560	5,849
General Retail	3,482	2.2%	0.11%	3,646	11.5%	4,065	3,244	3,812	10%	4,193	5,032	5,293
Office/Services	9,535	2.6%	0.11%	10,053	11.5%	11,210	9,879	11,925	10%	13,117	15,741	16,557
Leisure and Hospitality	4,783	2.8%	0.11%	5,038	11.5%	5,617	3,306	3,985	10%	4,383	5,260	5,532
Medical	4,240	2.3%	0.11%	4,503	11.5%	5,021	4,100	5,069	10%	5,574	6,689	7,036
Other/Misc.	1,011	2.0%	0.11%	1,056	11.5%	1,178	1,051	1,225	NA	1,225	1,470	1,547
Government	3,798	2.2%	0.11%	3,960	NA	3,960	3,485	4,041	10%	4,445	5,334	5,611
Total	39,583			41,520		45,840	37,716	44,712		48,015	57,618	60,607

Source: City of Bend based on OED 2006 Geo-coded data for City of Bend.

¹ This table is for illustration purposes only. The “10-year AARG”, “2008 Covered Emp”, “2015 Emp.” column totals are derived by totaling the employment growth of individual industries, not the employment categories shown above. See Appendix A for a table of industries and their totals.

² Rates of “Non-shift Workers” were applied to industries, not employment categories. See Appendix A for specific rates of “Non-shift Workers” applied to each industry.

Table 25 shows some of the broad conclusions that can be drawn from this analysis of Bend’s 20-year employment growth. In the New Employees (2008-2028) column, note that by far the largest amount of growth comes in the Office/Services category, as suggested by the trends reviewed earlier and the Economic Sector Targeting work. Retail, Leisure and Hospitality, and Medical categories have also added considerable numbers of employees. Note that heavy industrial uses are expected to employ fewer people than the general industrial uses.

Table 26 introduces an assumption that 10 percent of employees in the planning period will be employed on lands currently used for employment purposes. This infill/refill factor is consistent with DLCD guidelines as discussed in more detail in Section 8.

Table 26. Employment Change & New Employees Requiring Land: 2008-2028

Major Employment Categories	2008 Non-shift Emp.	2028 Bend Non-shift Emp.	New Employees (2008-2028)	Infill/Refill Factor	New Employees Requiring New Land
Industrial					
<i>Industrial Heavy</i>	3,807	5,180	1,373	10%	1,236
<i>Industrial General</i>	5,370	8,002	2,632	10%	2,369
Retail					
<i>Large Retail</i>	3,474	5,849	2,374	10%	2,137
<i>General Retail</i>	3,244	5,293	2,049	10%	1,844
Office/Services	9,879	16,557	6,678	10%	6,010
Leisure and Hospitality	3,306	5,532	2,226	10%	2,004
Medical	4,100	7,036	2,936	10%	2,642
Other/Misc.	1,051	1,547	496	10%	446
Government	3,485	5,611	2,126	10%	1,913
Total	37,716	60,607	22,891		20,602

Source: City of Bend based on OED 2006 Geo-coded data for City of Bend.

The City of Bend should anticipate approximately 22,891 new non-shift employees during the planning period. After subtracting 10 percent with the assumption that 10 percent of new employees will be employed on existing “developed” or “redevelopable” employment lands, land needs should be calculated based on 20,602 future new non-shift employees.

As was done on page 41 of the 2007 Leland EOA, these projections are evaluated in the context of past employment to population ratios.

Having generated these base employment projections, it is important to review them and cross check to make sure they are consistent with other projections by other organizations, particularly population forecasts. Table[...][27] below, measures the EOA’s employment projections against the Deschutes County Coordinated Population Forecast.

Table [...][27] below illustrates the ratio of jobs to population in Deschutes County between 1990 and 2000. This data is not available at the city level and only includes covered workers.

Table 27. Growth in Deschutes County Population and Wage and Salary Jobs: 1990 through 2000

Year	July 1 Population ¹	July Wage & Salary Jobs ²	Ratio of jobs to population
1990	74,958	33,380	.445
1991	79,800	34,820	.436
1992	82,600	34,940	.423
1993	86,800	36,330	.419
1994	89,500	38,300	.427
1995	94,100	41,400	.441
1996	98,000	43,440	.443
1997	101,200	44,910	.444
1998	104,900	47,130	.449
1999	106,700	47,760	.447
2000	115,367	52,580	.455

¹ Certified total population from PSU Center for Population Research and Census

² Final employment numbers from various Central Oregon Labor Trends newsletters

Tables 27 and 28 illustrate jobs to population ratios for the recent past and the planning period. Comparisons between the two tables should be made with caution since Table 27 does not include all workers and Table 28 includes all workers (both covered and uncovered worker), and because Table 27 is a county wide ratio while Table 28 is only the City of Bend. Considering that total employment is estimated to be 11.5 percent higher than covered employment, projected jobs to population ratios are similar to job to population ratios in Deschutes County in the 1990s.

Table 28. Jobs to Population Ratios: 2008 and 2028

Year	Bend coordinated Population Forecasts	Bend Total Employment Forecasts	Ratio of Jobs to Population
2008	76,551	45,840	60%
2028	115,063	73,789	64%

Source: City of Bend employment forecasts and Deschutes County Coordinated Population Forecast for Bend

Section 7. Inventory of Employment Land

The 2007 Leland EOA explains the methodology used to determine the inventory of employment land in Bend. Note that the city adopted a slightly different approach to defining “vacant” economic land that now matches the state’s definition by law (OAR 660-009). Also, the supply of lands was defined with more detail to match the input from the Planning Commission, UGB TAC, and Stakeholders. Specifically, the supply was broken down to reflect the new employment categories used in the 2008 EOA versus the 2007 Leland EOA.

[Bend’s General Plan Designations]

The inventory of employment land is an essential piece of the EOA. When compared with the employment and employment land projections, it shows the land surplus or deficit available within a UGB.

The core of the employment land inventory was carried out by the [...] [City’s GIS Coordinator and Long-range Planning Division] using the City’s extensive Geographic Information System (GIS). For each property in the city, Bend’s GIS tracks the size, location, land and improvement value, ownership, and other attributes.

Table [...] [29] shows all the [...] [General Plan designations (or zones)] in which tax lots (or parcels) were surveyed. For the purposes of the EOA, the zones were aggregated into “zone types,” so that a broad set of land demand numbers could be generated. [Economic uses in residential zones are not included in the inventory of economic lands since these economic uses take place on lands designated Residential in the city’s General Plan.]

Table [...] [29]. Bend’s [...] [General Plan] Designations and Zone Types

Zone Type	Zone-Abbreviation and Name
Commercial	CB - Central Business District
	CC - Commercial Convenience
	CG - Commercial General
	CL - Commercial Limited
	CH - Commercial Highway
	CN - Commercial Neighborhood
	MR - Mixed Riverfront
Industrial/Mixed Employment	PO - Professional Office
	IG - Industrial General
	IL - Industrial Light
	IP - Industrial Park
	ME - Mixed Employment
Public Facilities	PF - Public Facilities
Medical (MDOZ)	MDOZ - Medical District Overlay Zone

Source: City of Bend [Note: the table above was updated since the 2007 Leland EOA to add Medical (MDOZ)].

The following group of maps shows Bend's commercial, industrial, mixed employment, public facilities, and Medical (MDOZ) lands identified by their development status (i.e. developed, [...]constrained], or vacant, defined below). The darker-colored tax lots are vacant while the lighter ones are developed. There are relatively few unbuildable lots. In general, one can see quite clearly that the amount of developed area is far greater than the vacant area, and that the remaining vacant parcels are generally relatively small and dispersed. On the industrial land map, the larger Juniper Ridge site stands out clearly on the city's northeast border.

Note that the Mixed Riverfront was originally included in the Mixed-Employment land inventory, but ultimately grouped with commercial land, after a review of the employment categories taking place there showed a profile more akin to commercial land than industrial. However, developed and vacant Mixed Riverfront is still displayed with [...] [Commercial] in Figure [...]25].

Figure [...][25]. Bend's Commercial Zones

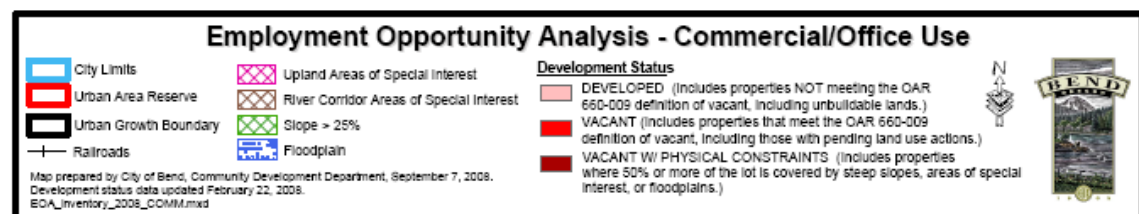
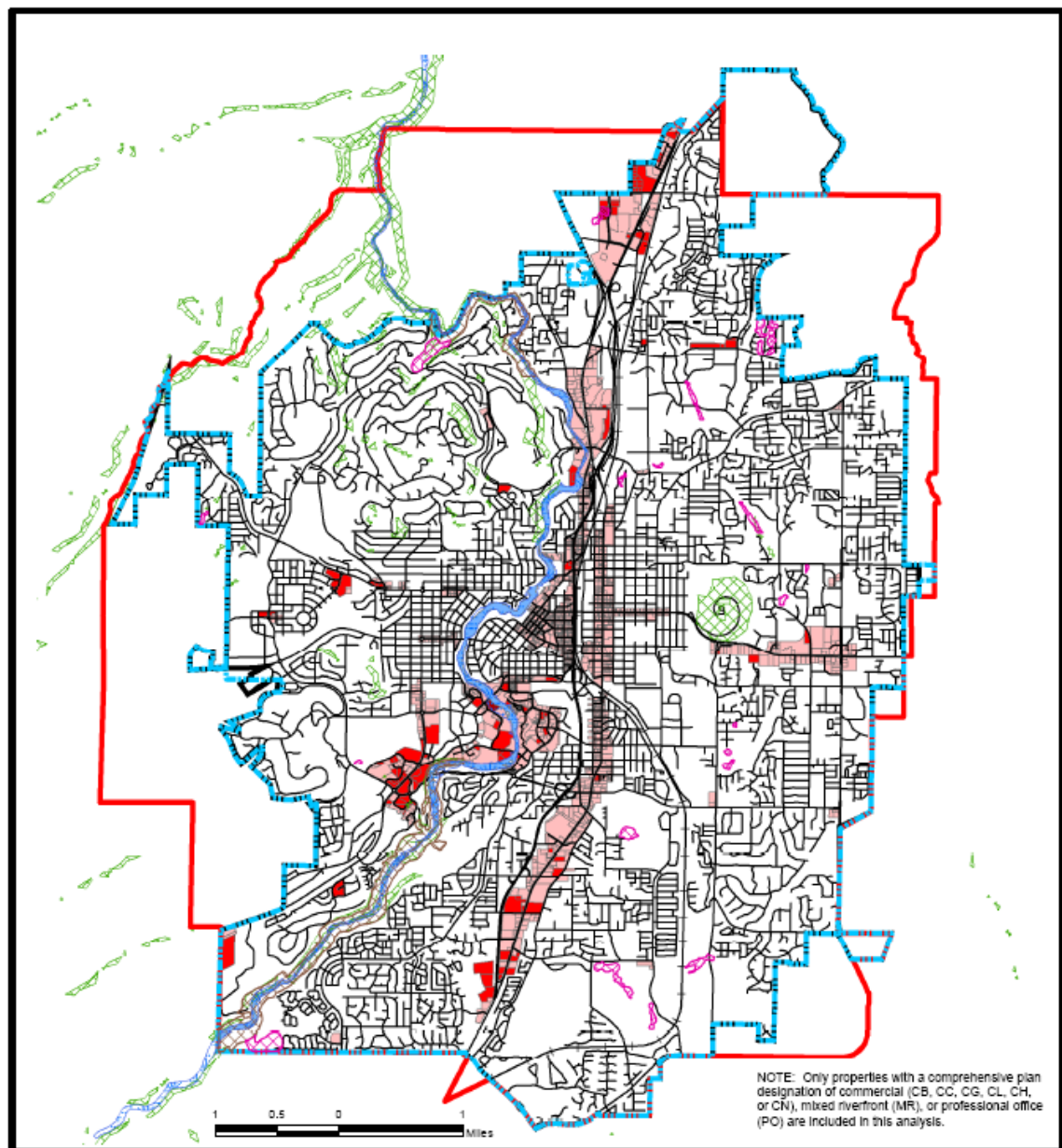


Figure [...][26]. Bend's Industrial and Mixed Employment Zones

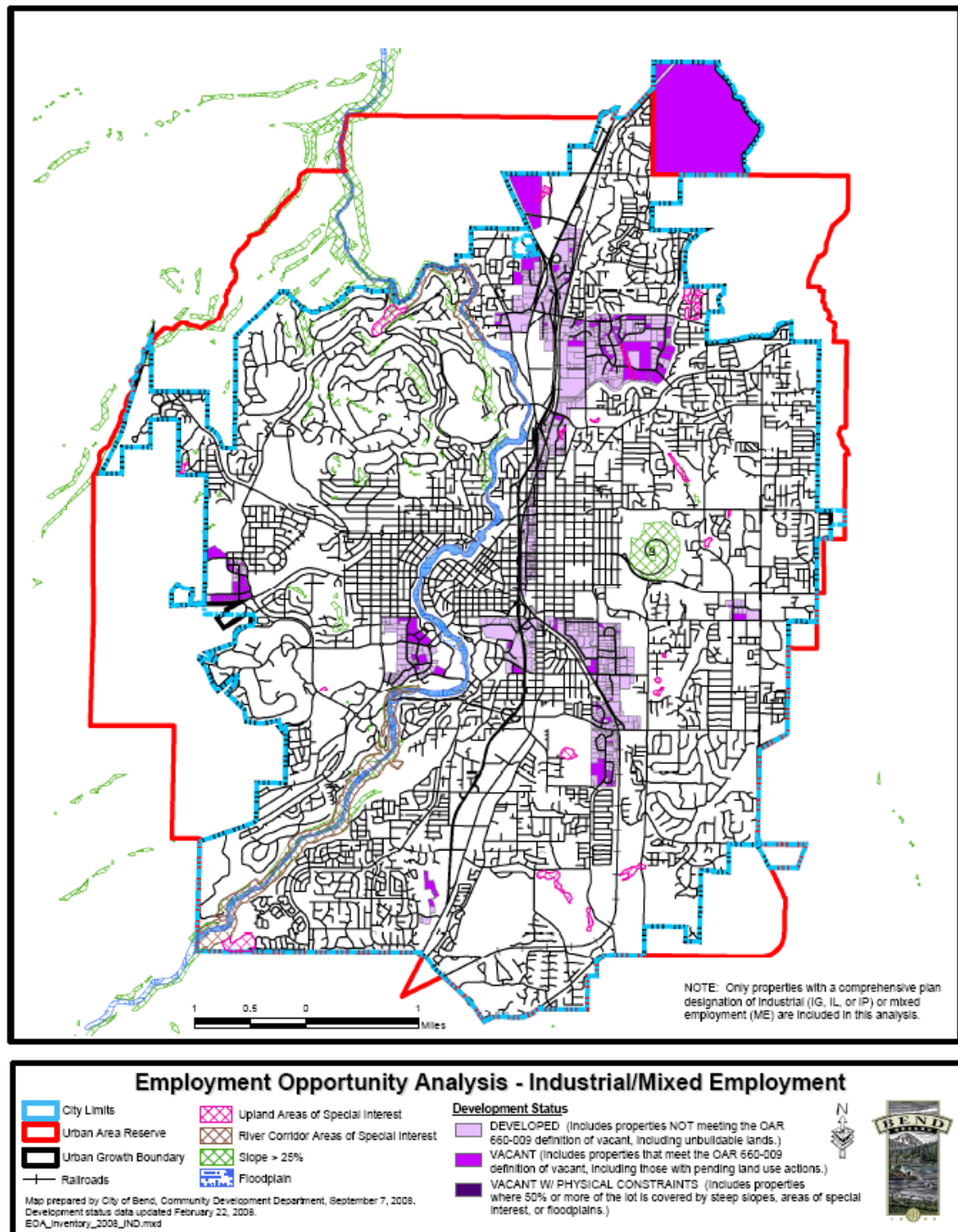
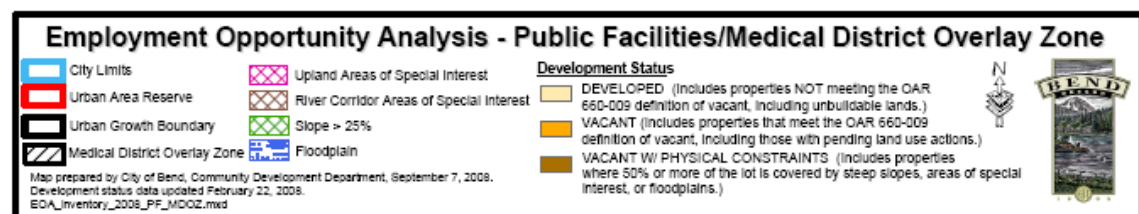
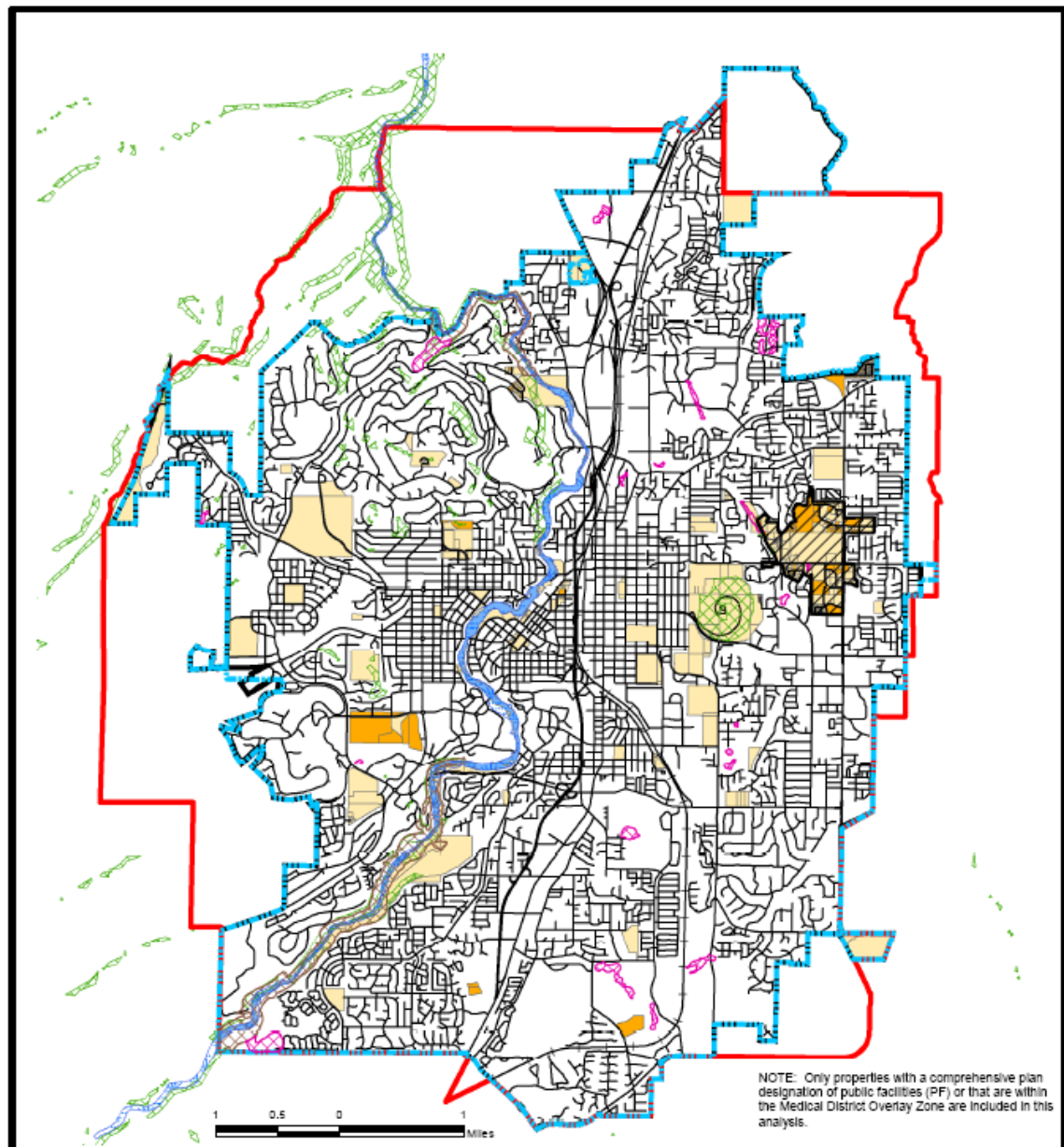


Figure [...][27]. Bend's Public Facility and Medical District Overlay Zones



The majority of land supply analysis was conducted by referring to zoning designations in the General Plan rather than the current Zoning code, because the General Plan is the guiding document for Bend's long-term land use. Some properties are zoned differently in the General Plan than the Zoning Code, most commonly because the city expects a certain area to transition to another use over the long term. For example, the zoning within a number of former Industrial zoned areas was changed to Mixed Employment to reflect the change and diversification of employment types taking place. Zoning Code designations were, however, reviewed to ensure that current realities and future expectations were relatively consistent. (Note that the General Plan is sometimes referred to by state land use sources as a Comprehensive Plan) (42-46).

Properties were categorized by General Plan designation as Vacant, Vacant-Pending Land Use, Developed, or Constrained. The development status of all economic lands in the Bend UGB is based on the applicable definitions of OAR 660, Division 9, Economic Development. OAR 660-009-0005(14) defines vacant land as "a lot or parcel: (a) equal to or larger than one half-acre not currently containing permanent buildings or improvements; or (b) equal to or larger than five acres where less than one half-acre is occupied by permanent buildings or improvements." Developed land is "non-vacant land that is likely to be redeveloped during the planning period." The term "redeveloped" is not defined by the statute. This EOA does not identify "redevelopment" properties, but assumes that 10 percent of new employment will take place on existing lands.

The city created a Buildable Lands Inventory (BLI) that assigned a "development status" to each tax lot or parcel in the Bend UGB. This EOA focuses on the lands with an economic land use designation made by the General Plan. The only exception is that lands inside the Medical District Overlay Zone (MDOZ), which are predominantly designated residential, are considered an economic land for purposes of the EOA. This is because these lands are subject to a special use overlay allowing medical uses; the dominant land use in the MDOZ.

The methodology used to determine the development status generally involved queries of improvement values for properties assigned by Deschutes County Assessor's Office and maintained by the County's GIS data set. This data was further updated and refined by considering building permit and land use activity tracked by the City of Bend. Aerial photos from 2004 and 2006 were also used to verify and correct errors, determine development areas on large parcels, and for general accuracy checks. The parcel data was last updated on 2/25/2008, but was last summarized on 9/2/2008. The full BLI summarizing all lands inside the UGB is in Appendix D.

The development status of each parcel is defined as follows:

1. Developed – a) lots less than 0.5 acres; b) lots between 0.5 acres and 5 acres that have permanent structures or improvements (having improvement values in the Deschutes County GIS); c) lots 5 acres or

- larger with 0.5 acres or more of development, structures, and use as determined by measuring development areas with aerial photographs.
2. Vacant – a) lots more than 0.5 acres that contain no permanent structures or improvements (having no improvement values in the Deschutes County GIS); b) lots greater than 5 acres with less than 0.5 acres of development, structures, and use as determined by measuring development areas with aerial photographs; c) includes lands with a pending land use permit being processed by the City of Bend; d) lots not used for public schools, parks, rights-of-way, open spaces, parking lots, or institutional uses addressed in the residential land needs inventory.
 3. Constrained – includes lots with development constraints such as no public road access, or a physical constraint such as 25 percent slopes, flood plain, or Area of Special Interest on 50 percent or more of the lot.

Inventory of Bend's Economic Lands

Table 30 summarizes the development status of economic parcels inside the Bend UGB. The more detailed inventory data is in Appendix D. The city contains a total of 5,000 net acres of developed and vacant economic land inside the UGB: 74 percent is developed, and 26 percent is vacant. The summary illustrates the very small inventories of all economic land types, especially commercial lands. Table 30 shows a total of 804 acres of industrial land, including the 494-acre vacant Juniper Ridge site. Outside of Juniper Ridge, the city only has 204 acres of vacant industrial land. As discussed previously, this acreage tends to be in small parcels versus larger, more suitably sized parcels.

Table 30. Economic Land Inventory from 2008 Buildable Lands Inventory

Zone Type	Zone-Abbreviation and Name	Vacant		Developed		Constrained		Platted Residential		Total	
		Lots	Net Acres	Lots	Net Acres	Lots	Net Acres	Lots	Net Acres	Lots	Net Acres
Commercial	CB - Central Business District	0	0	280	36	0	0	0	0	280	36
	CC - Commercial Convenience ¹	8	12	178	67	0	0	0	0	186	79
	CG - Commercial General	51	128	560	599	1	5	0	0	612	732
	CL - Commercial Limited	32	96	825	294	0	0	0	0	857	390
	MR - Mixed Riverfront	16	30	439	190	1	4	22	1	478	225
	PO - Professional Office	2	6	2	1	0	0	0	0	4	7
	Subtotal	109	272	2,284	1,187	2	9	22	1	2,417	1,469
Industrial/ Mixed Employment	IG - Industrial General	8	13	162	197	0	0	0	0	170	210
	IL - Industrial Light	78	662	576	618	0	0	0	0	654	1,280
	IP - Industrial Park	13	23	9	5	0	0	0	0	22	28
	ME - Mixed Employment	19	106	259	169	0	0	0	0	278	275
	Subtotal	118	804	1,006	989	0	0	0	0	1,124	1,793
Public Facilities	PF - Public Facilities	14	117	224	1,361	0	0	71	9	309	1,487
Medical (MDOZ)	MDOZ - Medical District Overlay Zone	27	62	144	183	0	0	17	6	188	251
Totals		268	1,255	3,658	3,720	2	9	110	16	4,038	5,000

Source: City of Bend

Notes:

1. CC totals exclude land in the MDOZ. MDOZ totals include CC lots and acreages, as well as residential acres by development status.
2. The MDOZ is mostly residential land with some CC and PF, but is considered an economic land type in the EOA.
3. The PO/RM/RS General Plan designation is not included in the inventory (6 net acres of vacant and developed land).
4. Surface Mine (SM) acreage is not included in the inventory of economic lands.
5. CH, CN, are not General Plan designations, so are not included in the inventory above.
6. Industrial/Mixed Employment includes the 494-acre Juniper Ridge parcel.

Staff analyzed the 117 acres of land zoned Public Facilities and determined that 37.2 acres will likely be available for development during the planning period. Lands with this designation include vacant public parks, and city, county, and state owned lands that may not be useful for the wide variety of public facility uses. These potential uses are primarily office uses, but also include storage and maintenance yards, and other facilities. The vast majority of the vacant PF lands are found in one location: the Demolition Dump owned by Deschutes County. These lands were historically used for a landfill. After the closure of this landfill, portions of the site were found to be affected by underground fires, ground subsidence (open pits), and the release of gasses associated with the underground burning. These lands are currently being held by Deschutes County for environmental monitoring. Discussions have been held about the future re-use of this site, but numerous questions remain about the economic viability of redevelopment. Therefore, staff assumed this site would not be available for re-use in this EOA.

Parcel Size and Net Developable Acres Analysis of Commercial, PF, and MDOZ Lands

All vacant lands in the 2008 BLI are described as “net” vacant acres. While this is true for smaller parcels which may not need additional rights-of-way to be removed as part of the development process, larger parcels will most likely be reduced in size to account for new roadways to serve the development or make connections to neighboring properties.

The following, Table 30A, present the city’s vacant and vacant-pending land use acreages and sites by General Plan designation. Since lots of 5 acres or more can easily be subdivided, partitioned, or otherwise will likely require dedicating additional rights-of-way during development, the net developable acreage of these parcels is estimated by reducing their acreage by 21 percent. The city has estimated that 21 percent of the city is used for public and private rights-of-way for roadways. If this adjustment is not done, then applying employment densities, which were calculated based on net land areas of developed parcels, will greatly overstate the development potential of land inside the existing UGB. The clearest example of this is Juniper Ridge, which should not be treated as one 494-acres site expected to be developed without roadways. The city did not assume parcels less than 5 acres would require additional right-of-way since they are smaller and may accommodate a single user. However, it is worth noting that it is common practice for additional road dedications, widening, and to be made of parcels less than 5 acres.

Table 30A. Economic Land Inventory Converted to Net Developable Acres

Total Vacant Gross CB, CC, CG, CL, PO, MR					Net Vacant CB, CC, CG, CL, PO, MR	
Lot Size	Number of Lots	Percent	Acres	Percent	Acres	Percent
0.5-1 acre	45	41%	32	12%	32	13%
1-2 acres	23	21%	28	10%	28	12%
2-5 acres	27	25%	78	29%	78	32%
5-10 acres	8	7%	60	22%	47	19%
10-20 acre	6	6%	74	27%	58	24%
20+ acres	0	0%	0	0%	0	0%
Totals	109	100%	272	100%	244	100%
Total Vacant Gross MDOZ					Total Net Vacant PF	
Lot Size	Number of Lots	Percent	Acres	Percent	Acres	Percent
0-1 acre	11	41%	5	9%	5	10%
1-2 acres	11	41%	15	24%	15	28%
2-5 acres	1	4%	2	4%	2	5%
5-10 acres	3	11%	18	29%	14	26%
10-20 acre	0	0%	0	0%	0	0%
20+ acres	1	4%	21	35%	17	31%
Totals	27	100%	61	100%	53	100%
IL, IG, IP, ME Including Juniper Ridge					Total Net Vacant IL, IG, IP, ME	
Lot Size	Number of Lots	Percent	Acres	Percent	Acres	Percent
0.5-1 acre	54	47%	37	5%	37	6%
1-2 acres	35	29%	48	6%	48	7%
2-5 acres	14	12%	45	6%	45	7%
5-10 acres	8	6%	52	6%	41	6%
10-20 acre	4	4%	48	7%	38	6%
20+ acres	3	2%	574	69%	453	68%
Totals	118	100%	804	100%	662	100%

Parcel Size Analysis of Industrial Lands

This EOA addresses industrial land need in the context of parcel size. This analysis is unique to industrial land, since industrial land uses require a wider range of site sizes versus other land uses. The 2007 Leland EOA explains the rationale for this approach.

Another factor critical to reconciling land demand and supply is the size of parcels required by various firms.

Available industrial land in the Bend market is intensely “parcelized” – i.e., divided into numerous small lots.⁴⁴ [An analysis conducted by the City in 2007 showed] the median vacant industrial lot is 0.7 acres. This becomes a problem when, for example, a relatively large company seeks a minimum 10-acre site for its manufacturing and distribution activities. Although a land inventory may show scores of acres of vacant land, most of it will be distributed in small lots that cannot be aggregated and used as one big site.

In Bend, and most other communities, this is primarily an issue of concern for industrial firms, and the largest of commercial firms seeking “campus-size” properties. Industrial businesses consume considerably more land than the

average commercial firm: buildings are often one story; lots must accommodate access and loading for large trucks; and more built area and space-intensive equipment is necessary. At the extreme, the Metro 2002 “Urban Growth Report” (UGR) found that in the Portland region, the average warehouse and distribution employee required 1,400 square feet, while office workers needed only 300; and warehousing buildings averaged a 0.23 floor-to-area ratio (FAR), while office properties were typically 0.60.⁴⁵

[Footnotes from the 2007 Leland EOA:]

⁴⁴ The terms “parcels”, “lots”, and “tax lots” are used interchangeably in the EOA.

⁴⁵ “2002 – 2022 Urban Growth Report: An Employment Land Needs Analysis”, Metro. Metro’s 2002 UGB is one of the most extensive analyses of the supply, demand, and need for employment land done in the state. It is also the best-known analysis of demand levels for different size parcels and is frequently cited in this Section.

Another issue critical to understanding the demand for various parcel sizes is the distinction between the land development market and market to buy or lease built space. Developers most often buy and develop the land; in the case of industrial properties, land is purchased, improved through the addition of infrastructure and amenities, named and marketed, subdivided, and then sold or leased to individual firms. Thus, developers usually seek relatively large parcels (from a minimum of two acres up to 20 or more), while individual firms seek smaller lots. And although the industrial employment market may consist primarily of small firms seeking relatively small spaces, the *land development market* will still prefer large parcels. This distinction is evident in numerous recent industrial developments in Bend, including the Basalt Business Park, East Empire Business Park (both primarily in industrial zones), and even smaller new developments such as Sheldon Park, in the Highway 97-20 Triangle area. Basalt Business Park is a recent development. Its total supply of buildable land is 26.6 acres, divided into 13 parcels with an average size of 2.0 acres. Sheldon Park is only about 2 acres (still more than twice the size of the median industrial parcel), but is divided into six leasable spaces for small companies.⁴⁶ In both cases, developers sought larger parcels, which they then subdivided into smaller ones, demonstrating that the land development market prefers larger parcels.

Table [...] [31] shows the terminology used for industrial land parcels in this EOA: “Small” refers to 0-1, or 1-2 acre parcels; “mid-size” refers to 2-5 or 5-10 acre parcels; “large” refers to 10-20 or 20+ acre parcels; “very large” refers to parcels over 40 acres. Note that other EOAs use different terminologies – for example, some refer to all parcels less than 5 acres as “small”. Modifiers such as “smaller” and “larger” do not necessarily correspond to particular parcel sizes.

Table [...] [31]

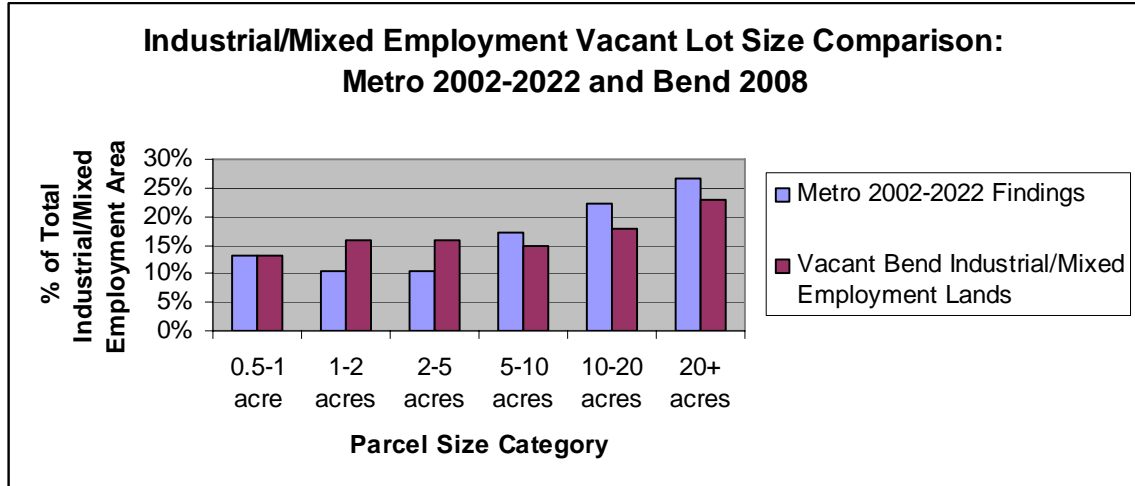
Lot Size	Lot Size
Small	0-1, 1-2
Medium	2-5, 5-10
Large	10-20, 20+
Very Large	40+

Source: *Leland Consulting Group*

[Footnotes from the 2007 Leland EOA:]

⁴⁶ For additional information, see Metro 2002-2022, p. 23, or Salem EOA, pages 10 and 11.

Figure [...] [28]. Parcel Sizes: Bend's Vacant Lots versus Metro 2002 Findings



Source: City of Bend, Metro 2002 UGR, Leland Consulting Group. [Note: This table presents updated land inventory data from the 2008 EOA, not the 2007 Leland EOA. Bend acreage excludes the vacant 494-acre Juniper Ridge parcel since it is very unique and would dramatically alter the distribution of vacant acreage by size shown above.]

Figure [...] [28], above, compares parcel size conditions in Bend's vacant industrial/mixed employment land against the Metro 2002 UGR findings for demand for vacant industrial land.⁴⁷ The main lesson to be learned from this figure is that the land development market is generally seeking larger vacant parcels than are currently available in Bend. For parcels of five acres or larger, the demand projected by Metro exceeds Bend's supply; for parcels of less than five acres, Bend has more parcels than the market could be expected to demand, based on Metro's research. The authors of 2000 ELS offered a similar assessment of the situation at that point, writing that, "The lack of large industrial sites in Bend makes it difficult to serve larger manufacturing or warehousing firms wishing to expand or locate here."⁴⁸

As discussed earlier, the findings from the Portland Metro region cannot be expected to be applied directly to Bend, as the two areas vary in numerous ways, including their mix of industrial firms, geographies, and targeted sectors. Based on LCG research and conversations with Bend area employers and brokers, the most significant difference in parcel-size demand between the two regional markets appears to be greater demand in the Portland region for large or very large sites. This type of site is in greater demand in the Willamette Valley due to the higher level of warehousing and distribution facilities, and large industrial parks and corporate campuses. This parcel size demand difference is reflected in Figure [...] [28] and related analysis below.

[Footnotes from 2007 Leland EOA:]

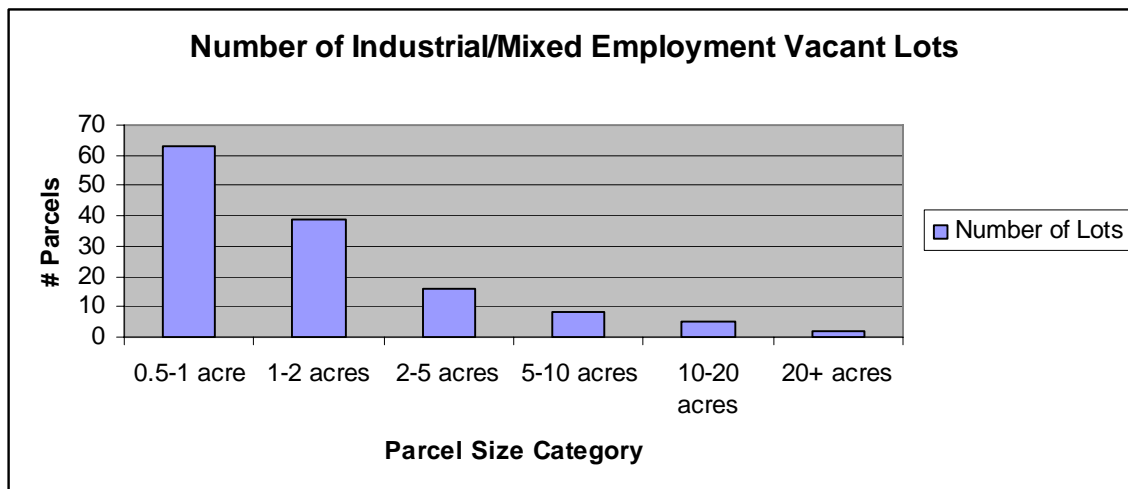
⁴⁷ Metro, 2002 UGR, p. 26.

⁴⁸ 2000 ELS, Part 1, p. 21.

Figure [...] below, shows another way to think about the vacant industrial parcel distribution in Bend. This figure shows the number of parcels in each parcel-size category rather than the total area those parcels occupy. This figure shows dramatically that the vast majority of vacant parcels are very small, and reinforces the concept that industrial-park or property developers seeking larger lots in Bend are competing for just a handful of larger lots. This trend towards parcelization is not unique to Bend. Other cities and regions, including Metro, have observed the same trend, and sought to make more larger parcels available to the land development market (55-57).

Stakeholders also suggested that the absence of larger vacant parcel in Bend has resulted in businesses simply “skipping” over Bend in favor of other communities with a supply of larger parcels. So, the demand for larger lots may be underrepresented because unmet demand and lost opportunities are not documented or tracked. The need for a supply of large and very large parcels is not only for the land development market, but for large site users who have overlooked Bend due to a lack of land supply. Many firms seeking land are not interested in assembling smaller parcels or redeveloping land when relocating or expanding their business. The relocation decision involves numerous minimum requirements and numerous potential locations within, and between different communities. When a minimum requirement is not met, businesses may often simply continue looking at communities that can meet minimum requirements.

Figure 29. Parcel Size Distribution: Vacant Industrial/Mixed Employment Parcels



Source: City of Bend, Leland Consulting Group. [Note: This table presents updated land inventory data from the 2008 EOA, not the 2007 Leland EOA.]

Table 32 shows the data in Figure 29 in tabular form. Notice the extremely small supply of lots over 10 acres (only seven lots). The 2007 Leland EOA notes that this supply is in stark contrast to the supply of neighboring Redmond, which has six new industrial parks with over 144 acres of industrial land (57).

Table 32. Vacant Industrial/Mixed-Employment Land by Parcel Size

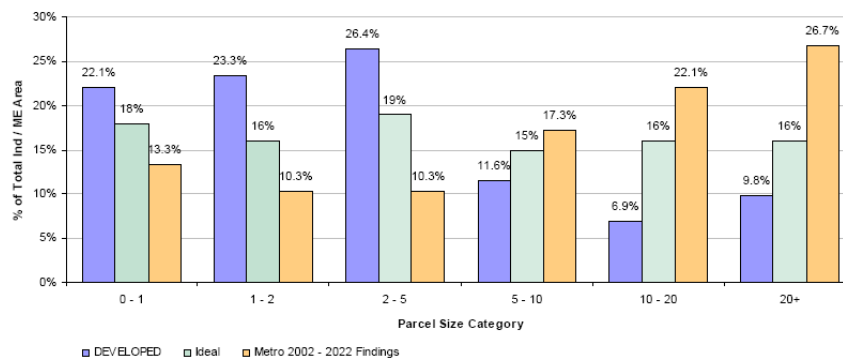
IL, IG, IP, ME Including Juniper Ridge				
Lot Size	Number of Lots	Percent	Acres	Percent
0.5-1 acre	54	47%	37	5%
1-2 acres	35	29%	48	6%
2-5 acres	14	12%	45	6%
5-10 acres	8	6%	52	6%
10-20 acre	4	4%	48	7%
20+ acres	3	2%	574	69%
Totals	118	100%	804	100%

Source: City of Bend.

The 2007 Leland EOA contrasts Bend's supply of industrial lands by parcel size with the "ideal" distribution of industrial lands by lot size in the Metro 2002 UGR findings (58). This work was done as part of the 2007 Leland EOA and the results were reviewed and approved by the Stakeholder group. Though there are very small differences between the percentages of developed land in Bend in 2008 compared with 2007, the analysis done by Leland Consulting Group is kept in tact because the Stakeholder Group agreed with the "ideal lot size" analysis.

The 2007 Leland EOA explains how an ideal lot size distribution was determined for the City of Bend.

The ideal lot size distribution is used later in the EOA to project the future demand for various lot sizes. The ideal lot size distribution was created by "splitting the difference" between the observed amount of developed parcels in Bend (Bend developed industrial land) and the Metro UGR findings. Note that the ideal levels in the figure lie between the developed and Metro levels. This methodology reflects LCG's findings that there is demand in the Bend industrial land development market for more larger lots, but not to the level identified in the Portland Metro region; and that smaller parcels will be created over time by developers from larger lots.

Figure 30. Parcel Size Distributions: Bend's Developed Industrial Land, Metro 2002 Findings, and "Ideal Lot Size Distribution"

Source: City of Bend, Metro 2002 UGR, Leland Consulting Group

One aspect of industrial parcel size demand that is difficult to analyze is the need for “very large” parcels (40+ acres). Demand for such parcels has been identified by the Metro UGR, and EOAs by Salem and other cities, particularly stemming from the needs of large warehouse and distribution facilities seeking to locate near I-5, and large corporate campus style developments. In the past, Bend has not attracted such users because of the size of its labor force and distribution infrastructure – but as Bend grows, this dynamic could change. From a land demand point of view, it is important to note that a single 100-acre distribution facility could account for a 10 to 20 percent increase in industrial land demand. This EOA attempts to account for demand for very large parcels in later steps (58).

In 2008, city staff presented the ideal lot size analysis to the Stakeholder group to receive feedback from local brokers, developers, and industrial land users. Feedback received suggested the “ideal lot size” mix is generally appropriate. A common point raised was to add a few large industrial sites to the inventory with protective zoning regulations to prevent further subdivision. These sites could be held for a large site user, not count against the city’s need for industrial land for smaller sites, and be placed in appropriate industrial parks with supporting and compatible uses. The results stemming from this input is discussed later in Section 8.

The 2007 Leland EOA discusses Bend’s unique situation with respect to the 494-acre Juniper Ridge parcel and property ownership patterns.

Juniper Ridge

Note that the 494-acre Juniper Ridge site is not included directly in the EOA’s parcel-level analysis. In other words, Juniper Ridge is not identified as a single 20+-acre parcel. This is because the site should not be evaluated as a single 494-acre parcel, but rather, as a site that will be subdivided in coming years to meet demand for various size lots. This treatment of Juniper Ridge continues into the parcel level analysis in Section [...]8].

Property Ownership

Diverse property ownership is one of the requirements of a properly functioning land market. When too great a portion of available land is in the hands of too few property owners, monopoly effects can emerge, including higher land prices and constrained development opportunities.

While there does not seem to be a property ownership problem with the large majority of the Bend employment land market, limited property ownership of large industrial properties may present a problem. At present, there are only [eight] vacant industrial properties in Bend that are 10 acres or more acres (see Table 32). Jeld-Wen Windows and Doors, a prominent Bend manufacturing company, own two of these (28.0 and 13.8 acres). Plans for the Jeld-Wen sites are unclear. The third (26.6 acres) is owned by West Bend Property Company, but is a long, skinny lot located directly adjacent to Summit High School, far away from the city’s main industrial zones, and with generally poor access to Bend’s major highways and other transportation infrastructure. There are two potential

problems with including this parcel as a good large-lot industrial site. First, it may be undesirable to traditional heavy industrial users, due to its location and access to transportation. Second, the owners recently initiated plans to subdivide their site by moving its first tenant, a Bend-based guitar maker, onto 2 acres.⁵⁰ Further parcelization may follow (58-59).

[Footnotes from 2007 Leland EOA:]

⁵⁰ "Picking Bend and Grinning: Breedlove Guitar plans new gig in NorthWest Crossing." Bend Bulletin, January 5, 2007.

The 2007 Leland EOA does not specifically address the implications of having the 494-acre Juniper Ridge light-industrial parcel be the sole opportunity for future medium to large site industrial development. Juniper Ridge represents 59 percent of the city's total vacant industrial and mixed employment land supply. It is critical to emphasize that there are only two light industrial and mixed employment lots over 20 acres: one of which is owned by an existing industrial user in Bend, and another which is sited adjacent to a school.

Effectively, the entire supply of new large industrial sites in Bend would be in one location and under one ownership if no other industrial and mixed employment lands are added to the UGB. This presents a number of potential problems. First, well documented transportation deficiencies near Juniper Ridge limit the marketability of this parcel for years. Second, many potential industrial site users may not find the Juniper Ridge location ideal from a number of standpoints. Third, the private sector has no opportunity to compete with the city in terms of price, location, and supply if no additional land is made available.

Servicable and Short-term Supply of Vacant Economic Land

State law requires the city to describe development constraints or infrastructure needs on vacant lands and determine the amount of vacant acreage by plan designation that qualifies as short-term supply. OAR 660-009-0005(9) establishes the definition of "serviceable" as:

the city or county has determined that public facilities and transportation facilities, as defined by OAR chapter 660, division 011 and division 012, currently have adequate capacity for development planned in the service area where the site is located or can be upgraded to have adequate capacity within the 20-year planning period.

Since all vacant land is theoretically "serviceable" because a city could state it "can be upgraded", staff created a working definition so that a site is "serviceable" if adopted water, sewer, and transportation master plans are *currently written* to serve the property.

The City of Bend is within a Metropolitan Planning Organization and must describe the approximate total acreage of sites within each plan designation that comprise the short-term supply of land. OAR 660-009-0005(10) establishes the definition of "short-term supply of land" as:

suitable land that is ready for construction within one year of an application for a building permit or request for service extension. Engineering feasibility is sufficient to qualify land for the short-term supply of land. Funding availability is not required.

Staff's working assumption in conjunction with this definition is that a typical approval process begins with land use approval, then building permit issuance. Therefore, staff assumed a "start date" on identifying deficiencies, potential remedies, and preliminary design for delivering services to a site would begin an additional 6 months to one year (associated with pre-application and land use approvals) before receiving a building permit for a project.

Planning and engineering staff reviewed the vacant economic land supply of the BLI, definitions of "serviceable" and "short-term supply" and categorized all vacant lands as meeting, or not meeting, the definitions. A maximum development scenario (net acres multiplied by employment density by General Plan designation) was assumed for each property. Facility master plans, schematics, and a wide variety of modeling and analysis were considered in designating the lands. This exercise, while somewhat subjective, is appropriate because the nature of the exercise requires considerable assumptions about future conditions. Thus, it is important to consider these acreages *approximate at best*. This information was then added to the City's GIS to facilitate further analysis.

The following tables show vacant lands that are considered "serviceable" and part of the "short-term supply" after considering water, transportation, and sewer services. Only parcels that meet the definitions for all three public facilities are included. For example, if a site has adequate capacity in the water and sewer systems, but not transportation, then it would not qualify.

Table 33. Approximate Serviceable Vacant Land Supply

Zone Type	Zone-Abbreviation and Name	Total Supply - Vacant		Serviceable Supply - Vacant		Not Serviceable Supply - Vacant	
		Lots	Net Acres	Lots	Net Acres	Lots	Net Acres
Commercial	CB - Central Business District	0	0	0	0	0	0
	CC - Commercial Convenience ¹	8	12	8	12	0	0
	CG - Commercial General	51	128	24	65	27	63
	CL - Commercial Limited	32	96	29	82	3	14
	MR - Mixed Riverfront	16	30	8	7	8	23
	PO - Professional Office	2	6	2	6	0	0
	Subtotal	109	272	71	172	38	100
Industrial/ Mixed Employment	IG - Industrial General	8	13	8	13	0	0
	IL - Industrial Light	78	662	50	54	28	608
	IP - Industrial Park	13	23	13	23	0	0
	ME - Mixed Employment	19	106	17	39	2	67
	Subtotal	118	804	88	129	30	675
Medical (MDOZ)	MDOZ - Medical District Overlay Zone	27	62	13	39	14	23
Totals		254	1,138	172	340	82	798

Source: City of Bend

Table 33, above, takes the total vacant lots and acreage figures from Table 30, shows the acreage that qualify as "serviceable", and then shows how much land does not qualify as "serviceable". As Table 33 shows, only 30 percent of the

city's total vacant lands are "serviceable". The 494-acre Juniper Ridge parcel was assumed not to be "serviceable" from a transportation standpoint, causing the total percentage to be low. Including Juniper Ridge would make 73 percent of the city's economic land base "serviceable". Approximately 63 percent of the city's commercial lands qualify, but only 16 percent of industrial lands for reasons discussed above. Generally, since the water and sewer master plans have been recently updated, these systems are sized to provide service to lands in the UGB. However, adequate transportation facilities to serve all vacant lands have not yet been programmed to the level of detail to provide capacity to serve the majority of the city's vacant economic lands. This is particularly true in the northern part of Bend, where project scoping is underway to provide needed capacity for vacant lands.

Table 34. Approximate Short-term Supply of Vacant Economic Land

Zone Type	Zone-Abbreviation and Name	Total Supply - Vacant		Short-term Supply - Vacant		Not Short-term Supply - Vacant	
		Lots	Net Acres	Lots	Net Acres	Lots	Net Acres
Commercial	CB - Central Business District	0	0	0	0	0	0
	CC - Commercial Convenience ¹	8	12	7	11	1	1
	CG - Commercial General	51	128	23	64	28	64
	CL - Commercial Limited	32	96	4	5	28	91
	MR - Mixed Riverfront	16	30	8	7	8	23
	PO - Professional Office	2	6	2	6	0	0
	Subtotal	109	272	44	93	65	179
Industrial/ Mixed Employment	IG - Industrial General	8	13	2	4	6	9
	IL - Industrial Light	78	662	44	49	34	613
	IP - Industrial Park	13	23	13	23	0	0
	ME - Mixed Employment	19	106	10	19	9	87
	Subtotal	118	804	69	95	49	709
Medical (MDOZ)	MDOZ - Medical District Overlay Zone	27	62	13	39	14	23
Totals		254	1,138	126	228	128	910

Source: City of Bend

Table 34 shows the amount of land that qualify as "short-term supply". Approximately 20 percent of the city's economic land supply qualifies as part of the "short-term supply". A total of 228 acres, split evenly between industrial and commercial land types, qualify. The percent of "short-term supply" available by category is as follows: 34 percent of commercial land, and 12 percent industrial/mixed employment. These are approximate figures that likely understate the supply. As expected, this total is less than the amount of "serviceable" acreage, since lands must generally be ready within a year to qualify as "short-term supply", but can be upgraded within the planning period to qualify as "serviceable". The lack of capacity in the transportation system manifests itself as in the "serviceable" analysis, but capacity deficiencies mostly in the sewer system further reduce the supplies of land that have capacity in the short-term. In discussions with engineering staff, even if sufficient funding resources were available today, the size and complexity of needed plant interceptor projects to provide sewer capacity will take years to complete.

Section 8. Converting Employment Growth to Land Demand and Comparing Land Demand to Supply

This Section of the EOA combines work in the previous Sections to calculate the 20-year demand and need for new employment lands. The issue of providing for a variety of locations, sizes, and types is addressed. Short-term demand and supply for economic lands is also discussed. In the following Section, the term “demand” refers to land needs before being subtracted from existing supplies. The term “need” refers to land needs after subtracting out existing land supplies.

Converting Employment Growth to Land Demand

The following is an explanation of the process of converting employment growth estimates to estimates of land demand from the 2007 Leland EOA.

The next step in the EOA methodology is to convert employment growth to employment land demand. The most basic state-approved method for making such a conversion is to multiply the land demand times employment densities (i.e., number of employees per unit area).³⁹ This EOA uses a modified version of that approach. However, before converting to land demand, the following additional factors were evaluated: Reconciling Employment Categories (NAICS coded employment) with Zone Types (the city of Bend’s land-use zones). In short, answering the question: “What kinds of employment actually happen where?”

- Current and projected employment density.
- Parcel Size.
- Property Ownership.
- Non-Traditional Employment Lands, particularly Residential and Public Facility zoned land.

Reconciling Employment Categories with Zone Types

In a perfectly organized world, in which Bend’s Zoning code was flawlessly crafted and always adhered to, Industrial businesses would locate in Industrial Zones, Commercial in Commercial Zones, etc. For better or worse, this does not occur in Bend, or any other city for that matter. In reality, retailers locate in industrial and residential zones, and manufacturers set up shop in commercial zones.

There are several reasons for this kind of mixing. First, it is very difficult to categorize all businesses, although the NAICS system is effective and the best resource available. Second, it is unlikely that the NAICS system, created by the federal government to track employment trends, and Bend’s Zoning Code, intended among other things to limit conflicts between potential neighbors, will coincide perfectly. Thirdly, regardless of its NAICS code, every business is different, and will seek a different balance of land, built space, surrounding, price, and regulation – the zone is only one part of the location decision.

[Footnotes from 2007 Leland EOA:]

³⁹ EOA Guidebook, p. 2-29

Finally, and perhaps most significantly, the line between traditional employment categories – especially between commercial and industrial – is becoming less clear. According to the Industrial Conversion Study Committee’s 2004 report: “The line between industrial and non-industrial use is becoming increasingly blurred in the new economy because many traded sector and industrial activities are now carried out in office and tech-flex settings. The later type of industrial uses is perfectly compatible with other employment activities and, thus, can be accommodated in mixed-use zoning districts that include retail, office, institutional, and/ or light industrial and *even residential uses*.”⁴⁰

The EOA must recognize this phenomenon and account for it. If it did not, the report would misrepresent the demand for various types of land. (As we will see, for example, if the EOA incorrectly assumed that all commercial employment would take place in commercial zoned land, the report would vastly exaggerate the amount of commercial land demand.)

In addition, as suggested above, it should be recognized that a mismatch between employment categories and zone type is acceptable – it is not necessarily a public policy problem to be corrected.

[.....]

Methodology. In order to determine what businesses and employees are located in the city’s various General Plan designations, the OED’s geo-coded employment data was joined with Bend’s Geographic Information System. Some small manual adjustments were made to account for geo-coding errors.[...](50-51).

[Footnotes from 2007 Leland EOA:]
⁴⁰ Protecting Prosperity, p. 18.

The following description of where employment takes place excludes employment in a variety of locations for reasons discussed below. While this excludes a significant number of employees (approximately 18,313 employees), this information is presented in this format because separate land need estimates for these uses are prepared later in this report, or in separate work by the City of Bend.

First, employees working in the Medical District Overlay Zone are separated in order to facilitate a medical lands need estimate. Separate land need estimates were generated based on input from the Planning Commission and UGB TAC. Second, the description excludes shift workers in all zones because including them would overestimate land needs. Third, land needs for public schools and for recreational/institutional uses are addressed in the City’s Residential Land Need Estimates generated as part of the 2008 UGB expansion. People working from their homes do not demand additional employment land; therefore, are not included in the analysis below. However, employment on land with a Residential General Plan designation outside of these exclusions is considered to account for businesses locating in residential areas. These land needs are added to land needed for housing in residential areas so as to not underestimate the amount of

land needed for housing in the planning period. Year 2006 employment totals in the following tables and figures, therefore, will not match previously discussed 2006 employment figures.

Table 35. 2006 Covered Employment by Employment Category and General Plan Designation

Plan Designation	General Industrial		Industrial Heavy		General Retail		Large Retailers		Office/Services		Leisure & Hospitality		Other		Government		Total Non-shift Employees
	% in GP Zone	Employees (non-shift)	% in GP Zone	Employees (non-shift)	% in GP Zone	Employees (non-shift)	% in GP Zone	Employees (non-shift)	% in GP Zone	Employees (non-shift)	% in GP Zone	Employees (non-shift)	% in GP Zone	Employees (non-shift)	% in GP Zone	Employees (non-shift)	
CB	0.96%	44	0.54%	18	8.22%	228	0.47%	14	11.28%	957	14.45%	406	8.47%	77	13.11%	437	2,181
CC	0.22%	10	1.43%	48	8.29%	230	3.04%	90	4.37%	371	6.05%	170	3.19%	29	0.00%		948
CG	4.14%	190	4.26%	143	48.74%	1,352	65.35%	1,933	12.80%	1,086	38.97%	1,095	22.99%	209	11.73%	391	6,399
CL	6.97%	320	6.74%	226	16.11%	447	13.46%	398	23.36%	1,982	25.27%	710	12.76%	116	0.75%	25	4,224
IG	18.46%	848	29.46%	988	0.14%	4	1.66%	49	6.68%	567	0.21%	6	7.04%	64	0.12%	4	2,530
IL	48.02%	2,206	47.53%	1,594	3.68%	102	11.66%	345	11.44%	971	6.41%	180	19.69%	179	13.86%	462	6,039
IP	1.63%	75	0.00%		0.04%	1	0.00%		0.20%	17	0.00%		0.00%		0.00%		93
ME	13.74%	631	6.80%	228	3.64%	101	3.68%	109	6.39%	542	2.10%	59	14.30%	130	2.10%	70	1,870
MR	3.96%	182	3.16%	106	9.81%	272	0.03%	1	14.74%	1,251	5.91%	166	2.97%	27	0.09%	3	2,008
PO	0.09%	4	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		4
PF	1.04%	48	0.00%		0.22%	6	0.00%		0.92%	78	0.50%	14	3.41%	31	57.26%	1,909	2,086
RH	0.72%	33	0.00%		0.22%	6	0.00%		3.91%	332	0.04%	1	3.74%	34	0.87%	29	435
RM	0.04%	2	0.06%	2	0.90%	25	0.00%		1.60%	136	0.00%		0.22%	2	0.12%	4	171
RS	0.02%	1	0.03%	1	0.00%		0.64%	19	2.30%	195	0.11%	3	1.21%	11	0.00%		230
Totals	100%	4,594	100%	3,354	100%	2,774	100%	2,958	100%	8,485	100%	2,810	100%	909	100%	3,334	29,218

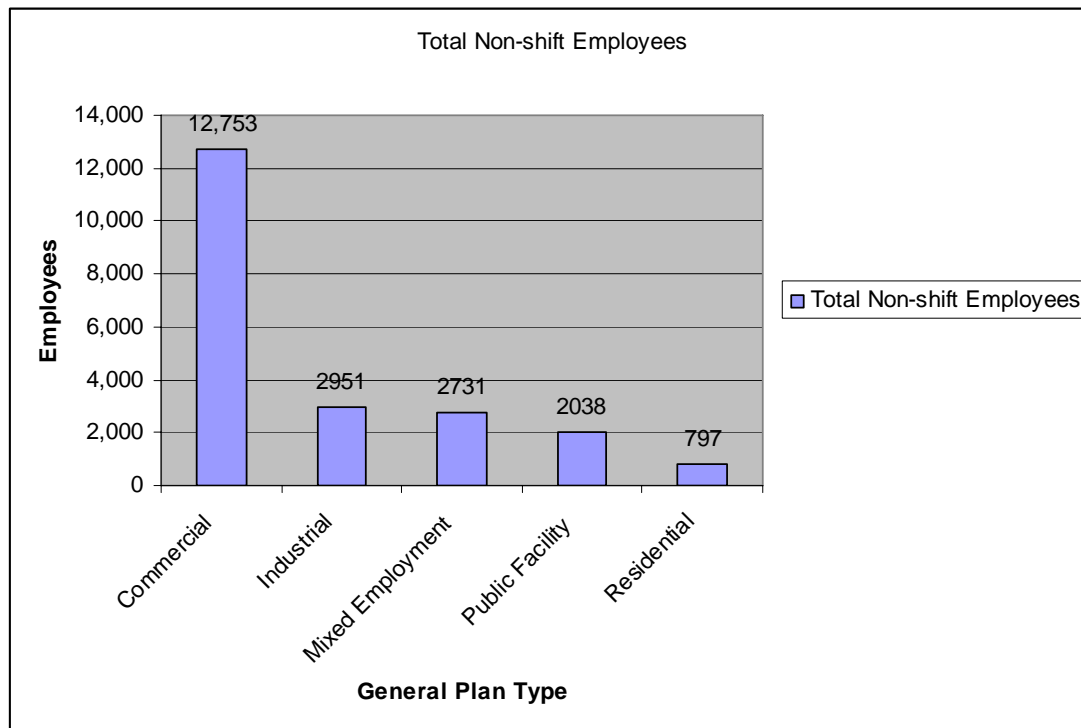
Source: City of Bend GIS analysis based on OED 2006 geo-coded data for City of Bend.

Note: Covered employment without shift-workers, employees in public schools, on institutional/recreational lands, and employees working in their own homes.

Table 35 reinforces the idea that employment in each of the major categories (Industrial General, Industrial Heavy, Commercial General, etc.) takes place in a wide variety of General Plan designations. This mixing is illustrated above by observing the percentages in the column “% in GP Zone” for each employment category. In most cases, not even a majority of employment by category takes place in the single General Plan designation where such employment would be expected. The majority of employees work in the Commercial General, and Industrial Light General Plan designated lands. Other significant locations for employment are the Commercial Limited, Industrial General, Mixed River Front, Mixed Employment, and Public Facility lands in the city. This data also reveals that significant industrial employment takes place in commercial and mixed employment zones, and office/service employment takes place not only in commercially designated lands, but in industrial and mixed employment lands.

Figure 31 is a slightly different look at the same data presented in Table 35. In Figure 31, employment has been categorized into the General Plan types of Commercial, Industrial, Mixed Employment, Residential, and Public Facility. A total of 44 percent of employees work on lands with a Commercial General Plan designation. This is followed by 10 percent of employees working on Industrial lands, and 9 percent working on Mixed Employment lands.

Figure 31. Distribution of 2006 Employment by General Plan Type



Source: City of Bend GIS analysis based on OED 2006 geo-coded data for City of Bend.

Note: Covered employment without shift-workers, employees in public schools, on institutional/recreational lands, and employees working in their own homes.

Assigning New Employees to General Plan Designations

After determining the distribution of employment by category in Table 35, the next step is to use this information to assign General Plan designations to new employment. The number of new employees per General Plan designation can then be used in combination with employment densities to predict future land need. This assumes future employment by NAICS will locate in General Plan designations similar to patterns observed in 2006. This report does not suggest this will exactly be the case, since employment location trends will change through the planning period. However, this approach is better than simply assuming all employment by category will locate purely on land in its expected, or most appropriate, General Plan designation. This is also necessary since it would be purely speculative to assign new employment without this approach.

The results of applying General Plan designations to forecasts of employees requiring new lands by category are shown in Table 36. Future employment in the Medical District Overlay Zone (2,642 employees) is excluded from Table 36, and is treated separately, so the employment totals will not match totals for employees requiring new land in Table 26. The rightmost column in Table 36 shows the number of employees expected in each General Plan designation. This illustrates that most future employment will likely take place in the Commercial General (4,323 employees), Industrial Light (3,211 employees), and Commercial Limited (2,814 employees) General Plan designations.

Table 36. Assigning New Employees Requiring Land

General Plan Designation	General Industrial		Industrial Heavy		General Retail		Large Retailers		Office/Services		Leisure and Hospitality		Other		Government		Total Non-shift Employees
	New Emp. Percent in GP Zone	2,369 Employees (non-shift)	New Emp. Percent in GP Zone	1,236 Employees (non-shift)	New Emp. Percent in GP Zone	1,844 Employees (non-shift)	New Emp. Percent in GP Zone	2,137 Employees (non-shift)	New Emp. Percent in GP Zone	6,010 Employees (non-shift)	New Emp. Percent in GP Zone	2,004 Employees (non-shift)	New Emp. Percent in GP Zone	446 Employees (non-shift)	New Emp. Percent in GP Zone	1,913 Employees (non-shift)	
CB	0.96%	23	0.54%	7	8.22%	152	0.47%	10	11.28%	678	14.45%	290	8.47%	38	13.11%	251	1,447
CC	0.22%	5	1.43%	18	8.29%	153	3.04%	65	4.37%	263	6.05%	121	3.19%	14	0.00%	0	639
CG	4.14%	98	4.26%	53	48.74%	899	65.35%	1,396	12.80%	769	38.97%	781	22.99%	103	11.73%	224	4,323
CL	6.97%	165	6.74%	83	16.11%	297	13.46%	288	23.36%	1,404	25.27%	506	12.76%	57	0.75%	14	2,814
IG	18.46%	437	29.46%	364	0.14%	3	1.66%	35	6.68%	402	0.21%	4	7.04%	31	0.12%	2	1,279
IL	48.02%	1,138	47.53%	587	3.68%	68	11.66%	249	11.44%	688	6.41%	128	19.69%	88	13.86%	265	3,211
IP	1.63%	39	0.00%	0	0.04%	1	0.00%	0	0.20%	12	0.00%	0	0.00%	0	0.00%	0	51
ME	13.74%	325	6.80%	84	3.64%	67	3.68%	79	6.39%	384	2.10%	42	14.30%	64	2.10%	40	1,085
MR	3.96%	94	3.16%	39	9.81%	181	0.03%	1	14.74%	886	5.91%	118	2.97%	13	0.09%	2	1,334
PO	0.09%	2	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	2
PF	1.04%	25	0.00%	0	0.22%	4	0.00%	0	0.92%	55	0.50%	10	3.41%	15	57.26%	1,095	1,205
RH	0.72%	17	0.00%	0	0.22%	4	0.00%	0	3.91%	235	0.04%	1	3.74%	17	0.87%	17	290
RM	0.04%	1	0.06%	1	0.90%	17	0.00%	0	1.60%	96	0.00%	0	0.22%	1	0.12%	2	118
RS	0.02%	1	0.03%	0	0.00%	0	0.64%	14	2.30%	138	0.11%	2	1.21%	5	0.00%	0	160
Totals	100%	2,369	100%	1,236	100%	1,844	100%	2,137	100%	6,010	100%	2,004	100%	446	100%	1,913	17,959

Source: City of Bend GIS analysis based on OED 2006 geo-coded data for City of Bend.

Note: Covered employment without shift-workers, employees in public schools, on institutional/recreational lands, and employees working in their own homes.

Employment Density

The 2007 Leland EOA explains the process of applying refill/infill factors and employment densities to employment forecasts for purposes of estimating land needs. All employment densities discussed below are “net” employment densities, calculated without considering additional surrounding public rights-of-way.

As stated at the beginning of this Section, employment density – the number of employees that work in a given area, usually an acre – is an essential figure in converting changes in employment to amounts of land demand.

Before generating employment density figures, however, an “infill/refill” factor was applied to the employment change, [...] [2008-2028]. This factor accounts for the redevelopment expected to occur on underutilized properties; and the firms that add employees within preexisting space rather than buying or leasing new property. The infill/refill factor is an approximation based on research by Metro and other EOAs completed in Oregon.⁴¹ In short, these studies argue that it is more realistic to assume a general infill/refill ratio, than to attempt to identify particular parcels in the supply analysis that are likely to redevelop. This is because some highly valuable properties – for example, in downtown Bend – may redevelop, while other near-vacant properties may continue to sit empty due to location, infrastructure, brownfield, or other challenges. Although the infill/refill factor does not explicitly deal with employment density, it does indicate a slight increase in employment densities, since the assumption is that lots will be filled in and firms will expand without requiring additional land outside existing zones⁴² (53).

[Footnotes from 2007 Leland EOA:]

⁴¹ “Nonresidential Refill (Redevelopment and Infill),” Metro, 1999 memorandum and “2002-2022 Urban Growth Report: An Employment Land Needs Analysis,” Metro regional government, 2002. The later is one of several extensive research efforts by Metro on Industrial and other employment lands in the Portland region. Also see “McMinnville EOA,” 2001, p. 6-5, ECONorthwest.

⁴² Other EOAs have used infill/refill factors of 15 percent or more. However, these figures often include a factor for home-based or residential-land sited businesses; i.e. businesses for which additional land is unnecessary because they operate in homes and residential zones. In this EOA, that segment of the infill/refill factor is accounted for in the

Residential Lands employment land estimates, which specifically account for employees working from their homes.

Table 37 presents employment densities used in this EOA. These densities were calculated through a GIS analysis of employment lands and geo-coded employment data from the OED. Densities were calculated by tallying the acreage of all land considered “developed” by each General Plan designation in the city’s Buildable Lands Inventory. Then, total non-shift employees on these lands were calculated by General Plan designation. Excluded from the analysis were developed acres and employment on split-zoned lands, residential structures, public schools, and institutional/recreational uses for which land needs were calculated separately. Employment densities considered the adjustment for non-covered employees (additional 11.5 percent employees to account for those not included in employment projections), and removed shift-workers. Data was further refined to remove land and employment for businesses classified as multi-employment reporting units where employment at multiple locations is reported at one location. Employment densities in the Medical District Overlay Zone (MDOZ) were calculated separately since the General Plan designation in the MDOZ is Residential Multi-family.

Table 37. Net Employment Densities

General Plan Designation	Net Employment Density
CB	74.4
CC	16.2
CG	13.0
CL	19.6
IG	14.9
IL	10.7
IP	21.3
ME	11.6
MR	14.8
PF	14.5
RH	36.0
RM	13.2
RS	4.8
Medical (MDOZ)	19.1

Note: employment densities are for total non-shift workers after making adjustments for non-covered and shift-workers.

The 2007 Leland EOA explains employment densities in detail:

EOAs completed by other Oregon jurisdictions, including Metro, Salem, and McMinnville, have identified employment densities ranging from 10 employees per acre or more for industrial land, up to approximately 22 for commercial land. The DLCD EOA *Guidebook* cites typical industrial densities of between 8 and 12 employees per acre and commercial densities between 14 and 20 (54).

Employment densities on economic lands in Bend range from 10.7 employees per acre in the Light Industrial zone to over 74 employees per acre in the Central

Business zone. Employment densities are higher for commercial and office zones than industrial zones. Employment densities for the RS, RM, RH General Plan designations refer to employment in non-residential structures located in the city's residential areas. The RH employment density is high because many offices are located in the RH zone. MDOZ employment densities pertain only to the area within the Medical District Overlay Zone, where employment is focused on medical and health related services.

The Role of State Requirements and Local Policies When Calculating Land Needs

OAR 660-009-0020(1) states that Comprehensive Plans “must include policies stating the economic development objectives for the planning area” and base these on the economic opportunities analysis. Sub Section (c) of this rule requires the Comprehensive Plan to “include policies committing the city or county to designate an adequate number of sites of suitable sizes, types and locations.”

The state clearly requires the city to provide adequate variety of locations, lot sizes, and types of economic lands; however, it does not specify exactly how to provide such variety. Clearly, if the City adopts policies requiring economic lands in a variety of locations, lot sizes, and General Plan designations, then the economic opportunities analysis needs to reflect this policy decision. For example, if a policy stated “industrial development shall be dispersed in the north, east, and south of Bend in such quantities as to provide adequate choices of sites by size and general plan designation”, the economic opportunities analysis needs to reflect this policy choice.

When designating land for industrial and other employment uses, OAR 660-009-0025(1) requires the Comprehensive Plan to “identify the approximate number, acreage, and site characteristics of sites needed to accommodate industrial and other employment uses to implement plan policies”. Sub Section (2) continues: “the total acreage of land designated must at least equal the total projected land needs for each industrial or other employment use category identified in the plan during the 20-year planning period.”

Based on staff's discussions with the Oregon Department of Land Conservation and Development Community Development Specialist, Larry Ksionzyk, these requirements require the City to set policies to achieve economic goals and establish a land base to achieve the goals. Policies and analysis of land need must be joined together to satisfy the rule. In addition, the rule directly states jurisdictions must designate enough land to at least equal the projected land need as opposed to having a requirement “not to exceed” projected land need.

Minimum Employment Land Demand: Scenario A

This Section builds upon work in previous Sections to convert the number of new employees requiring new land to land demand.

The allocation of employees from employment categories to General Plan designations in Table 36 is the starting point of for this analysis. Table 36 allocates total non-shift employees requiring new lands to General Plan designations based on the distribution of employees observed in 2006 geo-coded employment data from OED. To arrive at a minimum land demand for new employees, the number of new employees by General Plan designation is divided by employment densities.

Table 38 illustrates the minimum demand for new net acres of employment land by General Plan designation.

Table 38. Minimum Net Acres Demanded by General Plan Designation

General Plan Designation	Total Non-shift Employees	Employment Density	Minimum Net Acres Demanded
CB	1,447	74.4	19
CC	639	16.2	40
CG	4,323	13.0	333
CL	2,814	19.6	144
IG	1,279	14.9	86
IL	3,211	10.7	300
IP	51	21.3	2
ME	1,085	11.6	94
MR	1,334	14.8	90
PF	1,205	14.5	83
RH	290	36.0	8
RM	118	13.2	9
RS	160	4.8	34
Medical (MDOZ)	2,642	19.1	138
Totals	20,599	14.9	1,380

Source: City of Bend

A minimum of 1,380 net acres of new employment land are required to be available in Bend to meet anticipated employment by the year 2028. Table 39 summarizes Table 38 into five major categories and echoes trends discussed previously in this EOA. Note that the amount of commercial and industrial/mixed employment land needed surpasses other general categories of land.

Table 39. Minimum Net Acres Demanded of Lands Needed by Employment Category

General Plan Designation	Minimum Net Acres Demanded
Commercial (CB, CC, CG, CL, MR)	626
Industrial/Mixed-Employment (IG, IL, IP, ME)	482
Public Facilities (PF)	83
Commercial Uses in Residential Zones (RH, RM, RS)	51
Medical (MDOZ)	138
Totals	1,380

Source: City of Bend

The 2007 Leland EOA explains why it is appropriate to include mixed employment lands with industrial lands versus commercial lands.

Note that in Table [...] [39], industrial and mixed-employment (ME zone) figures are grouped together while commercial and public facilities are separated. Demand and supply for industrial and mixed employment lands is relatively comparable. In addition, because the mixed employment zones were relatively recently carved from former industrial zones, there is too little history of demand and supply to analyze this zone type separately. Thus, demand and supply for these zone types are combined and analyzed together for the remainder of the EOA (61).

Both Tables 38 and 39 represent the minimum amount of *net* land demanded in the 20-year planning period. The acreage figures make no allowances for providing a variety of choices and locations for new employment. An excellent case in point is with respect to the industrial/mixed employment land need. If only a minimum of land is provided (482), then nearly all industrial/mixed employment uses would be expected to locate at the city-owned Juniper Ridge parcel (494 acres).

Public and Private Rights-of-way, Lands for Institutional/Open Space Uses, Vacancy Rates

Three factors are described below and applied to anticipated employment land demand to convert the demand into gross acres for economic use: 1) private and public rights-of-way, and 2) land for institutional, private open space, and other land, and 3) vacancy rate.

Private and Public Rights-of-way

The City of Bend calculated to land uses that consume residential and economic land in the current UGB as part of the 2008 UGB expansion. The city estimated that 21 percent of land inside the current UGB is used for public and private roads, highways, and rail rights-of-way. The 21 percent figure was calculated through a methodology that analyzed a city-wide land base including residential and economic lands. This figure is used to transform net needs to gross land needs in the subsequent analysis in order to account for the roadways that will be used to serve economic lands. Please see Exhibit L(5) of the 2008 UGB

expansion proposal for more information on the methodology used to calculate public and private rights-of-way.

Land for Institutional, Private Open Space, and Other Lands

The City of Bend also calculated the amount of land that is consumed by institutional, private open space, and other land needs as part of the 2008 UGB expansion. The calculation resulted in a determination that 15 percent of net developed land in the *entire* UGB (including residential and economic) are used for these uses. This EOA methodology removed all employment from these lands so they are not included in the economic projections. A factor of 15 percent is applied to the net economic land need to account for the uses included in the “other” lands analysis. Please see Exhibit L(6) for more information on the methodology used on this factor.

Vacancy Rate

A vacancy rate of 15 percent is applied to the gross land need as recommended by the Department of Land Conservation and Development “Industrial and Other Employment Land Analysis Guidebook”. As stated on page 2-32 of the *Guidebook*, “for efficient market operation, a minimum vacancy rate for built space is between 5 percent and 15 percent. The estimate of total acres of demand should be increased by this percentage as the market often requires more options than the employment estimates seem to require”. The *Guidebook* illustrates this vacancy rate is applied to long-term land needs, not just short-term conditions.

Page 55 of this EOA presents recent historical vacancy rate data for Bend between the years 1993 and 2005. Generally, industrial vacancy rates have fluctuated between 4 and 9 percent, while office has moved between 4 and 13 percent during the 12 year time frame. According to the Compass Commercial Real Estate Services, *Points* publications for 2nd quarter 2006, 2007, and 2008, vacancy rates have steadily increased in Bend since 2005. The office space vacancy rate in Bend was 9.0 percent in 2006; increasing to 13.5 percent in 2008. Similarly, the industrial space vacancy rate in 2006 was 2.9 percent, and increased to 12.1 percent in 2008. While a 15 percent vacancy rate is higher than recently experienced in Bend, it is only slightly higher than historical and current conditions.

The following explains why a 15 percent rate is used as a long-term vacancy rate for Bend in this EOA. Research shows that lower vacancy rates tend to drive up the cost of rents for industrial and office space. Higher vacancy rates tend to drive the costs down. This is illustrated by The Federal Reserve Bank of San Francisco article “Natural Vacancy Rates in Commercial Real Estate Markets”:

We tend to believe that an increase in vacancy rates is bad news for property owners...Of course, increases in the vacancy rate could very well be good news for tenants and for the overall economy if an unnaturally low amount of available space is choking economic growth.

Similarly, the 2008 Q2 Compass Commercial Real Estate Services, *Points* publication headline is “Best Practices for Savvy Landlords in This Tenant-Driven Market”. The article goes on to lead with the following sentence:

Only 18 months ago, circumstances dictated such a competitive demand for commercial office space that a tenant had no choice but to grab a deal quickly or risk losing it to someone else. Landlords were able to set their own terms. But the tables have turned. Tenants are not in the driver’s seat, devising strategies and offering terms that have not been seen in this market for the last twenty years, if ever.

The Stakeholder group consistently mentioned Bend’s high prices for land and rents as a major threat to Bend’s economy and assuming a structural vacancy rate of 15 percent will tend to create more supply and lower rents and land prices. As this EOA has pointed out on page 55, firms find it difficult to find land at affordable prices and Bend commonly loses firms because land is not available or is not affordable. In the November 21, 2008 issue of *The Business Journal*, an example of an “ideal” vacancy rate is given at 8 to 10 percent. Other sources indicate low vacancy rates of 3-5 percent create supply limitations and price increases. Since a vacancy rate must be assumed, it becomes a question of what rate to assume and why. With price and availability being a major deterrent to economic growth in Bend, assuming a higher vacancy rate will help combat tight land supplies over the long term. Also, since 8 to 10 percent is considered ideal, a vacancy rate that is higher will make conditions more favorable to businesses through lower land prices and rents. Also, recent *Points* publications clearly indicate higher vacancy rates are leading to better terms for tenants, and are nearing 15 percent. The city is generally seeking to create more favorable conditions for existing and new businesses and sees a 15 percent vacancy rate as one way to establish these favorable conditions. Therefore, the 15 percent figure is warranted given current trends and their impact on rents, the advice from Stakeholders to generally lower land and rent prices for businesses, and the desire of the Planning Commission and City Council to increase land supplies in the expanded UGB. The estimate of 15 percent is slightly higher than is currently observed in Bend, but is realistic given data from larger municipalities such as Los Angeles, Phoenix, and Salt Lake City have actual vacancy rates observed between 14 and 17 percent (Krainer).

Long-term land surpluses and deficits are calculated by subtracting acres shown in the column “Vacancy Rate 15%” from the “Supply of Net Acres” column. Net deficits are then increased by 21 percent to convert net need to gross need in order to account for needed rights-of-way and the net deficit is increased by 15 percent for land needed for institutional, private open space, and other lands.

Table 40. Scenario A: Minimum Gross Acres Demanded of Lands Needed by Employment Category

General Plan Designations	Total Non-shift Employees	Estimated Acres Long-term Need	Vacancy Rate 15%	Supply of Net Acres	Deficit Net Acres	21% ROW	15% "Other"	Acres Surplus/Deficit
Commercial (CB, CC, CG, CL, MR)	10,557	626	720	244	-476	-100	-71	-648
Industrial/Mixed Employment (IG, IL, IF)	5,627	482	555	662	107	Surplus	Surplus	Surplus
Public Facilities (PF)	1,205	83	95	37	-58	-12	-9	-79
Residential (RH, RM, RS)	568	51	58	0	-58	-12	-9	-79
Medical (MDOZ)	2,642	138	159	53	-106	-22	-16	-144
Totals	20,599	1,380	1,587	996	-591	-147	-105	-950

Source: City of Bend

Table 41 describes the sizes of General Plan designations in the Bend UGB. This is shown to illustrate how land uses are arranged in Bend in order to place land need estimates in perspective with existing land use patterns. For example, there are 23 areas with a Convenience Commercial General Plan designation. The smallest is 0.02 acres in size; the largest is 42 acres, and the average is 5 acres in size. The table is referenced in the discussion below in the context of providing new blocks of economic lands.

Table 41. Description of General Plan Designations (Gross Acres) in Bend

General Plan Designation	Number of Designations	Minimum Acres	Maximum Acres	Average Acres	Total Acres
CB	4	2.05	42	14	58
CC	23	0.02	19	5	113
CG	8	1.11	268	119	950
CL	15	0.96	149	36	534
IG	4	18.63	124	62	248
IL	7	13.52	529	212	1,486
IP	1	35.17	35	35	35
ME	9	1.76	116	41	367
MR	3	4.78	267	94	281
PF	52	0.82	251	38	1,990
PO	1	8.76	9	9	9
PO/RM/RS	1	6.48	6	6	6
RH	19	0.24	209	21	393
RL	13	0.19	830	153	1,990
RM	39	2.21	257	44	1,698
RS	12	1.79	6,132	953	11,439
SM	1	42.32	42	42	42
Totals	212	141	9,285	1,884	21,639

Source: City of Bend

Note: Public Facility acreages in the Table above include some lands outside the Bend UGB. Therefore, the figures above should be used with caution, especially the total acreage shown. The Medical District Overlay Zone is not shown since the General Plan designations for lands within the MDOZ are mostly RH and RM. Minimum sizes may be misleading because these smaller areas could be part of larger blocks of General Plan designations that were adopted by a different Council resolution, divided by a roadway, or created through the GIS line work.

Table 40 suggests that 648 gross acres should be added to the City's commercial land base. The sum of the "average" size of all Commercial and Mixed Riverfront General Plan designations in Table 41 is 268 acres. Given the total need predicted under a conservative need estimate, only 2.4 new "average"-

sized commercial areas of each type would be required to be added to the city's inventory of economic lands. Given that Bend has population centers in the north, south, east, and west, "average" sized commercial designations could not be distributed in each of Bend's "sides" or "areas". This analysis suggests that the total of 648 commercial acres would not be sufficient to provide commercial centers within convenient walking, biking, or a short driving distance from existing and new residential areas. Also taking into account pedestrian barriers such as the Deschutes River, Highways 97 and 20, the rail road, and varied topography, it is clear that providing two "average"-sized commercial centers in the expansion will not provide convenient pedestrian access to new commercial centers. It is also clear that if only two new "average"-sized commercial areas are provided, there would be a limited ability for these areas to provide new businesses the choice in location and size to site businesses to serve the diverse market needs of specific areas in the current and expanded Bend UGB.

As shown in Table 40, the results suggest no additional industrial land would need to be added to the City's inventories. As discussed in previous Sections, the result is that nearly all the city's medium, large, and very large industrial parcels would be located on one parcel in one location (Juniper Ridge). This clearly does not provide a variety of locations for future industrial development. This result was also roundly discarded by the Stakeholder group, TAC, Planning Commission, and City Council. Stakeholders noted that industrial lands should be placed throughout the expansion area to provide convenient use of these lands in each of Bend's industrial sub-markets. Employment centers containing Mixed Employment and Industrial land would not be within walking distance from new neighborhoods, and could not be located along new transit corridors planned in the expansion areas.

The same analysis applies to the need for the conservative need estimate of 76 acres of new public facility lands. Given the average size of a PF zone is approximately 38 acres, only two "average" sized PF designated areas would need to be added to the city's inventory under the minimum land demand estimate.

Table 40 estimates only 144 acres of land for medical uses would need to be added to the City's current inventories. This small amount would likely not be sufficient based on discussions with representatives from medical service providers in the City. In discussions with facility planners for St. Charles Medical Center, they clearly stated a need for a 100-acre hospital site plus additional lands (100 acres) for supporting medical uses. The current Medical District Overlay Zone contains 209 acres, and contains the St. Charles Hospital. Assuming that 100 acres would be sufficient for such supporting uses, the predicted need would only leave 27 acres for a second medical facility and its supporting uses, not including other distributed medical facilities. This suggests that the total acreage demanded may not be sufficient for the long-range medical

needs after considering potentially two new medical facilities, their required supporting uses, and other distributed medical facilities.

Summary of Reasons a Minimum Land Need Is Not Desirable for Bend

1. Stakeholders, the Planning Commission, and City Council desire to disperse commercial and industrial lands throughout the new UGB expansion area and implementing the minimum land need scenario would only allow an average of 2.4 average sized commercial centers to be located in the expansion area and no additional industrial acreage to be added to the Bend UGB.
2. Stakeholders clearly indicated a majority of industrial land holdings should not be located in one location and under one ownership, and should be dispersed throughout the UGB expansion area.
3. Establishing new transit corridors and mixed use centers in the expansion area requires sufficient economic lands to create the centers, and a minimum land need does not allow economic lands to be located in the west, north, east, and south of the expanded Bend UGB.
4. Research (Grunkemeyer, William et al) calls for a community to have a wide variety of industrial sites with varying regulatory models and controls in different locations to facilitate employment growth.
5. Research (Arvanitidis, Paschallis) concludes that property markets need to have more flexibility to provide a quality and quantity of lands to sustain economic development. Not adding additional industrial land options beyond Bend's current mix of industrial lands is viewed as being highly constrained in 2008 and will not provide the proper mix of industrial land to sustain additional industrial employment.
6. Current shortfalls in public infrastructure, particularly transportation in the north of Bend, limit existing supplies of industrial land.
7. A strict implementation of the minimum land need scenario would result in smaller neighboring cities such as Redmond having more industrial land than the largest city in Central Oregon.

Providing Additional Employment Lands For Variety of Locations and Sites Above the Minimum Need: Scenario B

Commercial, Economic Uses in Residential Zones, Public Facilities, and Medical Uses Land Needs

The following presents an alternative analysis of land need for commercial, economic uses in residential zones, public facilities, and medical uses above the minimum need described in Scenario A.

The conclusion of Scenario A is that a minimum land need estimate derived through a strict application of dividing employment projections by employment densities yields land need estimates that are not consistent with the policy direction from the City Council, Planning Commission, Stakeholder group, and economic development professionals in Bend. As discussed above, the scenario

will not enable a dispersion of economic lands to develop commercial, mixed use, and industrial centers in nodes throughout the UGB expansion area. Since the city has developed policies around the distribution of economic lands to place them along potential transit corridors, near residential areas, and placed in a variety of locations to provide choices of location to new businesses, Scenario B is developed to explore how making additional economic lands available will be more consistent with Bend's overall growth policies for economic lands (see Chapter 6 policies, framework policies, and transportation policies).

Scenario B is the result of developing alternative UGB expansions with the Bend City Council and associated public testimony received during hearings. Originally, the City Council was presented with a land need estimate that included 50 percent more land for CB, CC, CG, CL, economic uses in residential zones, PF, and MDOZ than documented in Scenario A. Public testimony suggested removing CG land in the north of Bend to be used for an auto mall. The council agreed with this testimony and removed the CG land associated with the auto mall. The result is a lower factor for additional CG land from 50 percent to 25 percent, which is incorporated into the land need table below associated with Scenario B.

The Oregon Department of Land Conservation and Development "*Industrial and Other Employment Land Analysis Guidebook*", provides a description of market factors as used in this analysis. As stated in the *Guidebook*, "real estate markets operate efficiently if there is more supply than immediate demand. With respect to land, most real estate economists accept an available supply two to five times greater than the immediate demand" (2-31).

While the Guidebook suggests this is only with respect to short-term demand, it is unclear how the local real estate market can operate efficiently throughout the entire 20-year planning period without adding a similar factor to the minimum long-term economic land need. For example, if only enough economic land is provided to meet the 20-year minimum demand, businesses seeking land in the first five years of the planning period would be able to select from a full 20-year supply (or four times the five year demand as recommended by the Guidebook). Business seeking land in years 5-10 would have a land supply that is less than the first five years (or three times the five year demand, less than is recommended by the Guidebook). Business seeking land in years 10-15, would have two times the five year demand. Business seeking land in years 15-20 would have the choice of what remains.

It is clear from this analysis that if a market is expected to operate efficiently for the entire 20-year period, then a greater supply of economic land above the 20-year minimum supply is needed. Without making additional lands available in the entire 20-year period, businesses will have less and less selection than the previous years to select from until all acres are used up. An approach of providing a minimum land supply also does not account for ideal or desirable

lands being used up sooner, and that constrained supplies may not be able to adjust to changing economic conditions or needs. Providing more supply enables businesses to have more selection throughout the entire planning period, and if necessary, seek adjustments to the type of zoning.

While it is true that Periodic Review is a process to create additional supply throughout a 20-year period, it is a time consuming process that cannot react quickly enough to respond to short-term market needs. The Periodic Review process may take years to complete, and timely completion to respond to immediate needs is not a certainty given likely appeals. Additionally, public testimony relied upon by the council indicates that having more than a minimum supply of economic lands allows long-range planning for site acquisition, annexation, and eventual development; a process which takes years to accomplish.

Table 42 illustrates the amount of needed acres under a different and relatively simple assumption. The assumption is to add 25 percent more land for CG and 50 percent more land for other lands to the supply than the minimum demand after taking into account a vacancy rate and current land supplies by category. Think of this as a business seeking to locate in Bend. If only 1 acre of land is demanded for that businesses use in Table 40, then Table 42 would provide 1.5 acres in the market for that same use, and 1.25 acres for uses in the CG zone.

Table 42. Additional 25 Percent of CG Land Supply and 50 Percent Supply for Other Economic Uses

General Plan Designations	Total Non-shift Employees	Estimated Acres Long-term Need	Vacancy Rate 15%	Additional 25% for CG, 50% CB, CC, CL, MR, PF, Residential, MDOZ	Supply of Net Acres	Deficit Net Acres	21% ROW	15% "Other"	Gross Acres Surplus/Deficit
Commercial (CB, CC, CG, CL, MR)	10,557	626	720	985	244	-741	-156	-111	-1,008
Public Facilities (PF)	1,205	83	95	143	37	-106	-22	-16	-144
Residential (RH, RM, RS)	568	51	58	87	0	-87	-18	-13	-119
Medical (MDOZ)	2,642	138	159	238	53	-185	-39	-28	-252
Totals	14,972	898	1,032	1,453	334	-1,119	-235	-168	-1,522

Source: City of Bend

Implementing Scenario B would have significant impacts on the supply and distribution of commercial lands in an expanded Bend UGB. With a predicted need of 1,008 acres of commercial land, Scenario B has 360 additional acres than Scenario A. Using “average” sizes of commercial General Plan designations from Table 41, the acreage could be distributed as follows:

- Approximately 3.7 new commercial areas composed of each of the following plan designations and sizes:
 - CB: 14 acres
 - CC: 5 acres
 - CG: 119 acres
 - CL: 36 acres
 - MR: 94 acres
- Or, grouping these acreages differently based on the minimum and maximum acreages of these designations in Bend:

- CB: one, 50-acre town-center similar in size to “downtown” Bend
- CC: 14, 4-acre commercial nodes to be distributed throughout the Bend UGB to provide commercial services which are “walkable” and imbedded in and around residential areas
- CG: two, approximately 240-acre “large retail” areas to complement existing retail centers to the north or east, or distribute to underserved areas such as the south. These areas would be slightly smaller than the largest CG commercial area currently zoned in Bend. Bend currently has five major areas zoned CG.
- CL: ten, approximately 24-acre commercial centers to provide a mix of small to larger commercial uses distributed throughout the Bend UGB to maximize ease of access, proximity to employment and services, and provide a greater range of services closer to residential, industrial, and other mixed employment centers. These centers would be slightly smaller than average CL-designated areas in Bend, but in this example, would provide be distributed to maximize create small employment/service centers.
- MR: two, approximately 75-acre small scale commercial centers to place adjacent to larger retail centers to create a transition to residential uses, or to distribute as explained in the CL discussion above.

These examples point out that with and additional supplies of commercial land added to the Bend land base, it is possible to effectively distribute commercial uses throughout Bend. Without making adjustments to the needed supply of commercial lands, it is not possible to distribute viable commercial uses throughout all existing and new residential areas without requiring these areas be accessed primarily by the automobile.

Some commercial uses, such as large retail centers, require larger blocks of land to function properly. For example, the average size of a CG zone (the most intensive retail zone in Bend) is 199 acres, with the largest commercial area at 269 acres. Under Scenario A, only one new large commercial center would practically result from the minimum land need estimate (assuming acreage for other uses need to be provided). It is possible that one new commercial center may not be sited correctly, or that infrastructure deficiencies in this area may decrease its viability, or that the placement does not match future economic conditions. Scenario B provides the ability to site up to two such retail centers to distribute and diversify ownership, locations, and opportunities.

Scenario B estimates approximately 144 acres of public facility lands are needed in the Bend UGB. Employment on these lands would typically include office, storage, maintenance yards and service and repair centers for city, county, state, federal, special district (parks, irrigation district), school administration, fire, and city and county police offices. Many of these uses are sited to provide rapid service, response times, or geographically based services (police, fire, school

and park facilities). Nearly all require offices that are in a convenient location, and, in some cases, storage yards and similar uses are ideally placed in more distant locations. It is essential that adequate land be available to site necessary public facility uses in ideal locations.

The following is a brief example to illustrate how the 144-acre land-need estimate for public facilities is necessary and appropriate in order to provide an adequate supply of sites in a variety of locations. Assuming the ten main public service providers referenced above need the three types of facilities in the planning period, 144-acre estimated need could be accommodated on sites of approximately 5 acres. An analysis of PF-zoned areas in Bend indicates approximately 25 percent of PF designated areas are less than 5 acres, demonstrating a need for such sized sites. This analysis may be conservative because it assumes each of the ten public entities only require one new office, one new storage yard, and one new maintenance facility over the next 20-years.

Scenario B establishes a 252-acre need for medical land uses in the Bend UGB over 20 years. This amount of land would provide an adequate supply of medical land uses in a variety of locations versus relying on the 144-acre need estimated in Scenario A. This land total would allow approximately 100 acres to be sited adjacent to a new 100-acre hospital for supporting medical uses (see discussion on special sites later in this Section). Representatives from St. Charles Medical Center have expressed a preference for a site in the south of Bend, with approximately 200 acres of medical related uses. Other medical providers have expressed interest in having adequate lands for additional facilities as well. Assuming that 100 acres could be located in the north, to create an even distribution of medical uses (north, south, and the existing facility in the east), then the additional 52 acres of need would easily be absorbed into other commercial or mixed use developments in the west. Without the additional 50 percent factor in Scenario B, anticipated land needs for new medical uses would not be met.

Table 43, below, is a breakdown of commercial land needs by General Plan designation. This table takes the data from previous tables and provides more detail on the gross acres of commercial land needed after subtracting existing supplies of vacant land in the current UGB. This information will be helpful as the city decides the quantity and location of needed commercial lands through subsequent zoning, framework planning, and annexation work in the coming years. This EOA recommends these needs be considered approximate, since demand for specific types of commercial land may change over the planning period.

Table 43. Approximate Breakdown of Commercial Need by General Plan Designation

General Plan Designation	Gross Acres Needed Including Open Space
CB	46
CC	76
CG	513
CL	210
MR/PO	163
Totals	1008

Source: City of Bend

Industrial and Mixed Employment Land Needs

The city received comments from the Department of Land Conservation and Development regarding the proposed UGB expansion and application of factors to increase land needs for industrial uses. The comments indicated that using a factor of 3 to increase land needs would be considered the maximum allowed by the department, and that the burden of proof to establish such a factor would require significant effort. The Bend City Council received testimony from residents and ODOT that having industrial lands in the north of the city would be detrimental to livability and the overall function of the state highways in the vicinity. The Council also received testimony regarding the need to enhance industrial land supplies to provide additional lands in the UGB expansion area. The results of this input lead the City Council and staff to decrease the market choice factors for industrial land. The following explains the why it is important to apply a smaller market choice factor for industrial land and the subsequent revisions to market choice factors for industrial land which differ from the original proposal.

As shown in Scenario A, a slight surplus of industrial land would be expected with the strict application of employment densities to expected industrial employment in the planning period. As discussed in Scenario A, this would not allow for additional supplies to be made available in the UGB expansion, threatening Bend's ability to provide industrial land in a variety of locations outside the city-owned Juniper Ridge.

Research on industrial parks suggests that "a general rule of thumb of parks is that in order to be economically feasible a park should have at least 25 acres in size" (Grunkemeyer et al.,). Other research suggests that Bend's targeted industries require varying size sites, such as: renewable energy (50-100 acres in size), medical/biotech campus (35-50+acres), information technologies (sites as small as 12-200 acre campuses), and supportive commercial uses of 5-10 acres (City of Hillsboro et al., 23-24). Other considerations such as creating compatibility between industrial and residential/commercial areas, and having "developable" areas outside of topographically constrained areas also influence site and park size. Given the minimum site needs for Bend's targeted industries, need for supporting industrial and commercial uses in new industrial areas, new

industrial centers should be considered in units of 25 acres (for small scale, less intensive industrial/mixed employment uses) to 75 acres (for parks to attract a targeted sector and include a large site). Given that the average IG-zoned area in Bend is 62 acres, and IL-zoned areas are 212 acres, this minimum matches known the average size of existing IG lands in Bend.

Grunkemeyer points out it is not enough to consider the size of industrial sites and parks, but also the general nature and type of park. Some important differences include:

1. Privately or publicly owned – public ownership of a park may enable users to receive incentives such as lower land cost or reduced fees to users, while private ownership of a park may offer other advantages.
2. Range of amenities – amenities may include access to a rail spur, training centers, nearby airports, recreational opportunities and others. These determine the type of business locating in the park, so having a variety of parks/sites with a variety of amenities creates a land base that is responsive to different market conditions and opportunities.
3. Performance standards – from “none” to “advanced”, having a range of performance standards (CCRs, deed restrictions, etc.) in different parks will attract a wider variety of businesses from open storage “yards” to high-end corporate parks.
4. Type of park/site – different types of industrial developments include commercial oriented parks and sites that include call centers and back office operations, corporate headquarters, high-tech and science parks, warehousing and distribution, in addition to light to heavy manufacture.

Providing new supplies of industrial land in the Bend UGB will allow for these different types of industrial parks to be developed, and for Bend to offer a wider variety of industrial lands in different locations.

Table 44, below, applies a factor of 35 percent to industrial land need in order to establish a new industrial land supply to fit within recommended size requirements for industrial parks, provide new locations for industrial development, while also reducing the total amount of industrial land added to the Bend UGB. The factor was selected to match the direction of the City Council on the Bend UGB expansion after reducing the amount of industrial land originally proposed. The result has the effect of creating a need for 118 acres of industrial land, which would be implemented through the creation of one new large industrial park (approximately 75 acres) and two smaller parks (approximately 25 acres) in different locations in the UGB expansion area.

Table 44. Land Need Scenario B for Industrial Land: Additional 35 Percent of IG, IL, IP, ME Land Above Scenario A

General Plan Designations	Total Non-shift Employees	Estimated Acres Long-term Need	Vacancy Rate 15%	Additional 35% Supply for IG, IL, IP	Supply of Net Acres	Deficit Net Acres	21% ROW	15% "Other"	Gross Acres Surplus/Deficit
Industrial/Mixed Employment (IG, IL, IP, ME)	5,627	482	555	749	662	-87	-18	-13	-118

Source: *City of Bend*

The city has sufficient industrial land located in the north (Juniper Ridge). There are no industrial lands in the east, south, and southeast areas of Bend. This alternative would provide a small variety of locations for new industrial lands, likely to be placed to the east, south, southeast, and possibly some smaller industrial parks in the west. Also considering the different types of industrial parks, amenity levels, varying performance standards, and ownership types, this scenario provides a minimal opportunity to develop a range of industrial parks. Given the wide variety of industrial/mixed use sites to be demanded and considering the wide variety of different types of industrial developments, multiple industrial parks/sites are needed in Bend in order to provide variety in market.

As was done for commercial lands, Table 45 provides an approximate breakdown of how the gross 118 acres of industrial/mixed employment may be allocated to General Plan designations. Note the largest acreage need is for IL (Industrial Light), which corresponds to estimated employment needs and the general perception that Bend's industrial land needs are focused on less intensive industrial land uses. It is worth noting that approximately 21 acres of IG (Industrial General), the "heaviest" or most intensive industrial land use category, are needed. Totals for IP (Industrial Park) are very small because the city currently has very little land and employment on lands with this relatively new General Plan designation.

Table 45. Approximate Breakdown of Industrial Land Needed by General Plan Designation

General Plan Designation	Minimum Net Acres Needed	Distribution of Net Acres Needed	Approximate Distribution of 118 Total Gross Acres of Needed "Industrial/Mixed Employment"
IG	98	18%	21
IL	345	62%	73
IP	3	0.5%	1
ME	108	19%	23
Total	555	100%	118

Source: City of Bend

Aspirations for Bend's Economy and Corresponding Land Needs

The Goal 9 rule includes provisions for meeting unique site needs for industries that are an integral component of a city's economic development strategy. The uses and sites describe below represent Bend's aspirations for employment above the anticipated employment described in the employment projections.

These sites are also being treated as sites with special site characteristics. Policies to protect these special sites for their intended uses need to accompany planning for these sites and are included in Chapter 6 of Bend's General Plan. Policies could include minimum size requirements (say 50-100 acres) and use restrictions.

Two key terms used in the State's rules are worth defining for this discussion.

1. O.A.R. 660-009-0005(11) defines "Site Characteristics" as "the attributes of a site necessary for a particular industrial or other employment use to

- operate. Site characteristics include, but are not limited to, a minimum acreage or site configuration including shape and topography, visibility, specific types or levels of public facilities, services or energy infrastructure, or proximity to a particular transportation or freight facility such as rail, marine ports and airports, multimodal freight or transshipment facilities, and major transportation routes.”
2. O.A.R. 660-009-0005(8) defines “Prime Industrial Land” as “land suited for traded-sector industries as well as other industrial uses providing support to traded-sector industries. Prime industrial lands possess site characteristics that are difficult or impossible to replicate in the planning area or region. Prime industrial lands have necessary access to transportation and freight infrastructure, including, but not limited to, rail, marine ports and airports, multimodal freight or transshipment facilities, and major transportation routes. Traded-sector has the meaning provided in O.R.S. 285B.280.

The State’s rule encourages jurisdictions to accommodate special site uses for economic growth. O.A.R. 660-009-0025(8) states “cities and counties that adopt objectives or policies providing for uses with special site needs must adopt policies and land use regulations providing for those special site needs. Special site needs include, but are not limited to large acreage sites, special site configurations, direct access to transportation facilities, prime industrial lands...”. These sites must be identified and protected for those specific uses and from incompatible uses.

Through discussions with the Stakeholders, Planning Commission, and public testimony, this EOA considers the following uses for aspirational employment and special sites. The factual basis for these sites is also described to illustrate they are all critical components to Bend’s overall economic success in the planning period. The following acres corresponding to the use include “other” open space and institutional uses, which are approximately 15 percent of the net acres for the use.

1. **New Hospital Site** – Approximately 112 acres in the southern part of Bend for a new hospital. This acreage and location has been identified through numerous discussions with representatives from St. Charles Medical Center, the region’s largest regional medical provider. Feedback from these representatives originally placed the new hospital site in the north of Bend, but since the completion of a ten-year facilities master plan, their strategy had evolved to suggest the south is a more appropriate location for a new hospital. Their work suggests the current hospital site will be the regional flagship medical center that will be enhanced and enlarged during the next 10 years. However, at the end of the planning period an entirely new hospital will likely be needed based on population growth and facility obsolescence.

The special site characteristics for the use include better proximity to the center of the underserved regional health care market, a minimum acreage of 100 acres, and simplified, convenient access from within and outside of Bend. Another significant site requirement is proximity to supportive uses (medical offices), commercial services for patrons and employees, and housing. It is critical that these uses be placed together in close proximity to support one another or the hospital site would not function. It is helpful to view the hospital site need more as a new medical campus than a single site user.

This land need is not included in the 252 acres of land need estimated for medical uses. This need is additive because strict application of employment projections divided by employment density would calculate only a fraction of the total site needed for this use. In effect, a single and entire 100 acre parcel is needed for this use is needed beyond what is suggested by employment projections so the hospital can be planned and designed in the planning period. This parcel would be designed and developed in the planning period, but would not be expected to be “fully employed” within the planning period.

Goal 9 encourages cities to work with existing businesses to determine their expansion needs. The new hospital site is included based on discussions with St. Charles Medical Center. Medical and Health Care is also a targeted sector for Bend, and the hospital site will advance Bend's goal to retain its position as a regional health care provider. Please see Appendix

2. **University District** – 225 acres for a new university in conjunction with the industrial, commercial, and residential development at Juniper Ridge. The university has been identified as a critical component in the 2030 Vision as well as the Juniper Ridge Master Plan. The land need estimate for this use was based on a review of numerous universities throughout the nation as part of the Juniper Ridge Master Plan (see Appendix G).

The special site characteristics for the use include a large minimum acreage of 225 acres, surrounding compatible and supportive uses, and public ownership. The ideal site would provide convenient transportation access from a local and regional perspective. Surrounding uses must be compatible with a university and include commercial, housing, open space, and other supportive uses. This land is not included in any estimates for land need and would be in addition to existing land deficiencies.

Since employment projections are based on existing employment, and no employment is occurring at a university in Bend, the projections do not address the land need for a university.

Higher Education is also a targeted sector for Bend as documented in the Sector Targeting section of this EOA, and is a critical component to advancing Bend's overall economic objectives. As noted in research documents in this EOA, the presence of a university in Bend complements its overall economic growth strategy to attract high-tech manufacturing, bio-tech, and renewable energy enterprises (all targeted sectors). The presence of a university in Bend would complement Bend's efforts to attract professional services, high-tech manufacturing, and other businesses that require highly educated workers. A university would also provide additional opportunities for citizens to obtain 4-year and graduate level education in Central Oregon. Bend is also the community best suited in Central Oregon for a university site, since it is the largest community and is located in the approximate "center" of the region. The university is also a key feature of the Juniper Ridge Master Plan (portion included in Appendix G). The Stakeholder group also noted that it is important to plan for a university in Bend. In summary, the City Council, Bend 2030 Visioning project, Economic Sector Targeting work, Juniper Ridge Master Plan, and greater community support efforts to develop a university in Bend at Juniper Ridge. Without the land base to support this use, it is not possible to move ahead in attracting and developing a university.

3. **Large Industrial Sites** – Some Stakeholders believed that having at least one or two very large sites (between 50-100 acres) on hand to meet the needs of a large-site user would allow Bend to compete for firms that have ignored Bend in the past due to land supply limitations. Through the Planning Commission recommendation and City Council approval process for the UGB expansion, this site need evolved into two, 56-acre industrial sites: one for targeted economic sector uses, and another for a heavy industrial site user.

This land is not included in any estimates for land need and would be in addition to existing land deficiencies. These sites are not included in Bend's employment projections because the industries Bend seeks for these sites are generally not present in Bend. Also, since Bend has very few large sites in its current UGB, so estimating the need for these sites based on site needs is problematic.

The Sector Targeting work calls for attracting secondary wood products, renewable energy resources, aviation, recreation equipment and specialty manufacturing, and information technologies. While the estimated needed economic lands may suit some of these sectors, two sites with a dedicated

size of 56 acres each to be reserved for these uses are needed for large site users such as secondary wood products, aviation, renewable energy resources, and information technology. Stakeholders concluded that they have been approached by industries seeking large sites for these uses, but since none are in the current supply, the firms looked to other communities.

These sites are needed in addition to predicted industrial land needs because the total amount of industrial acreage is relatively small (118 acres), and placing 112 acres to be held in two large lots would consume nearly all of the needed 20-year supply. These sites are also needed because they will create the land base needed to attract Bend's targeted sectors.

Prime Industrial Lands

City planning staff presented an analysis of pursuing a "Prime Industrial Lands" designation for Bend's targeted economic sectors. The staff memorandum and analysis is included in Appendix C of this EOA.

Planning Commission Direction on Prime Industrial Lands

Of the six target industries for the City of Bend, staff recommended that aviation/aerospace and secondary wood products have the most consistent and unique site requirements, and warranted further identification as "Prime Industrial Uses". Since they are both targeted industries, have siting requirements that are unique and difficult to replicate, and tend to require more tailored policies to create and protect these sites, staff recommended the land needs for these industries be treated as prime industrial lands. While other targeted industries are important, it appears that site needs for the same type of business vary considerably, and can be addressed by providing an adequate supply in a variety of locations. For example, information technologies, renewable resource industries, and specialty manufacturing may successfully locate in industrial, mixed use, or industrial settings. It may be counterproductive to pinpoint sites and protect them for these specific uses.

In the case of aviation and aerospace, locating adjacent to an airport is critical. Stakeholders and business representatives cite the need to place these industries at the airport versus distributed around Bend. In addition, they typically require very large sites (up to 100 acres) for their use. Also, since these businesses are truly global and siting decisions are national and international, governmental incentives such as below-market lease rates, reduced land costs and tax breaks, may be important ingredients in making an ideal site. It is also important to insure that surrounding land uses are compatible with the impacts of the industry.

In the case of secondary wood products, ideal sites are large with compatible surroundings and access to high volume roads. These roadways serving this

use should be able to support large volumes of trailer trucks. Large businesses could also benefit from access to rail service. Compatibility with surrounding land uses is very important due to potentially high impacts such as sound, smell, vibration, and visual impacts.

The Planning Commission modified staff's recommendation to pursue a Prime Industrial Land designation, and instead suggested adding two special large industrial sites to the UGB expansion. These two sites would be industrial land for targeted sectors and would be in addition to demonstrated needs for industrial land. Subsequent work with the Planning Commission evolved into adding two, 50-acre industrial sites to the needed industrial land need estimate for the 20-year planning period. One site would be for a targeted sector industry and the other for a heavy industrial user. Both sites should be protected from incompatible surrounding uses and from further subdivision.

Summary of Reasons Scenario B In Addition to Including Sites to Meet Bend's Economic Aspirations are Desirable for Bend

1. In addition to the discussion above, the following underlying demographic and employment trends suggest that providing slightly more land than documented minimum land needs for commercial, public facilities, and medical lands is warranted:
 - a. Bend has led the region in population growth and economic growth over the last decade, and is also the cultural, retail, and manufacturing center for Central Oregon.
 - b. Bend and the region are expected to be one of the fastest growing economies in the state in the next ten years.
 - c. Bend, and the region, are expected to continue strong economic growth in sectors requiring commercial land; especially in retail trade, professional and business services, education and health services, leisure and hospitality, and government.
 - d. Bend continues to diversify its economy, even in light of a downturn in housing and construction, and an adequate land base is needed to support continued diversification.
 - e. It is not possible to distribute commercial lands throughout the expansion area within a walkable distance of residential areas, or in association with mixed use transit nodes, without slightly more lands being made available.
 - f. Nearly all targeted sectors previously noted can utilize commercial as well as industrial land, so slightly higher supplies will enable the city to attract businesses in targeted sectors.
 - g. Bend is the retail center for Central Oregon.
 - h. The amount of additional land for employment is relatively minor, with additional lands being added at rates of 25 percent for CG and 50 percent for other commercial lands.

- i. Slightly more commercial lands are required over industrial lands because Bend employment growth is expected to be higher in industries seeking commercial versus industrial land.
- 2. In addition to the discussion above, the following explain why slightly more land than documented minimum needs are required for industrial land and why land for Bend's economic aspirations should be included in land need estimates:
 - a. Minimum land need estimates result in a small surplus of for industrial land, a result which Stakeholders and other economic development experts strongly disagree with. Adding no additional industrial land to Bend's supply places the majority of industrial land in one location, and in one ownership, is contrary to providing a variety of locations and sites required by Goal 9.
 - b. Economic Sector Targeting efforts and the 2030 Vision for Bend rely on attracting businesses that cannot be adequately served with existing land supplies, particularly large site users.
 - c. Medical and Health Care employment is a targeted sector for Bend, and the hospital site need was established by coordinating with the city's largest health care provider (consistent with Goal 9).
 - d. The two, 56-acre industrial sites are sought because Stakeholders believe a small supply of large lot industrial will attract users that currently have no supply to choose from in Bend, the sites are reserved for targeted sectors, and protection of this acreage from documented needed supplies would consume nearly all of Bend's expected land need versus making it available to other industries.
 - e. The 200 acre university is a key component of the Juniper Ridge Master Plan for the 494 acre site, is a use that will attract employment in high-tech, professional service, and other targeted and growth industries in Bend, and is also a component of the 2030 Vision for Bend supported by the Stakeholder group.

Final Land Need Determination

Table 46 presents the total gross acres of economic lands required for the City of Bend to meet anticipated needs, provide adequate selection of sites of different sizes, locations, and types, and meet its economic aspirations to attract specific uses. These totals were derived by adding the land needs from Scenario B (Tables 42 and 44) and sites for Bend's economic aspirations.

Table 46. Total Economic Lands Required for Bend UGB: 2008-2028

General Plan Designations and Sites for Aspirational Employment	Gross Acres Needed in Planning Period
Commercial (CB, CC, CG, CL, MR)	1,008
Industrial/Mixed Employment (IG, IL, IP, ME)	118
Public Facilities (PF)	144
Economic Uses in Residential Zones (RH, RM, RS)	119
Medical (MDOZ)	252
New Hospital Site	112
University	225
Two, 56-acre Industrial Sites (Targeted Sector and Heavy Industrial Site)	112
Total	2,090

Source: City of Bend

Short-term Demand and Supply

The state suggests jurisdictions make a five-year supply of lands available to satisfy short-term demand for various economic land uses. Table 47 calculates the short-term demand as five years of the total estimated long-term demand for each general category. The long-term demand estimates (20-year need estimates) from Table 46 are divided by four to arrive at the short-term demand. The supply of lands available was analyzed by city staff based on the state's definitions. The short-term demand excludes sites for employment on lands for Bend's economic aspirations.

Table 47. Short-term Demand and Supply of Selected Economic Lands

General Plan Designations	Long-term Demand for Economic Lands	Short-term Demand for Economic Lands	Short-term Supply (Net)	Short-term Supply (Gross)	Short-term Surplus/Deficit (-)
Commercial (CB, CC, CG, CL, MR)	1,008	252	93	122	-130
Industrial/Mixed Employment (IG, IL, IP, ME)	118	30	95	124	95
Medical (MDOZ)	252	63	39	51	-12
Totals	1,378	345	227	297	NA

Note: 139 acres of PF and 114 of Residential not included in analysis

Source: City of Bend

Note: The short-term supply analysis excluded lands designated Public Facilities. Short-term lands were generally in subdivisions and are parcelized, and therefore considered "net" acreages. These net acreages were converted to gross acreages for comparison with the need estimates in gross acres.

Table 47 illustrates the city has short-term deficiencies in commercial lands and medical lands, but not industrial lands. Generally, making sufficient lands available to the market to meet short-term demand will require the city to upgrade water, sewer, and transportation systems and implement its Capital Improvement Plan and recently updated Master Plans.

The city is also proposing policies in its General Plan to monitor and work towards making economic lands available in the short-term, and through the entire planning period. These policies include the following and are proposed as part of the city's 2008 UGB expansion:

1. The City establishes a goal to have at least 25 percent of the predicted economic land need identified in the 2008 EOA qualify as competitive short-term land supply.

2. Beginning in 2010 and every two years thereafter, the City shall:
 - a. Update the economic lands Buildable Lands Inventory to identify developed and vacant economic lands by General Plan designation;
 - b. Estimate the acreage of vacant economic lands that qualify as competitive short-term supply;
 - c. If the acreage of vacant lands that qualify as competitive short-term supply is less than the 25 percent goal, then:
 - I. Staff shall deliver a report to the City Council that details:
 - a) Economic lands that have a relatively good opportunity to qualify as competitive short-term land supply to meet the 25 percent goal;
 - b) Obstacles that prevent the lands from qualifying as competitive short-term supply; and
 - c) Efforts, plans, and potential funding mechanisms to prepare the lands to qualify as competitive short-term supply.

Section 9. Conclusion and Next Steps

This EOA has documented that the City of Bend and Deschutes County have experienced some of the highest rates of population and employment growth in Oregon over the last decade. This growth is considered by some to be a blessing, while others may find the rate of change and expansion alarming as the community struggles with growth-related issues. Bend struggles with these issues within the context of statewide requirements to plan for economic growth over a 20-year period. The city is required by law to plan for expected population and employment growth, and this EOA represents an effort to focus the many local endeavors into a comprehensive approach to provide lands for employment to the year 2028.

Noteworthy are Bend's efforts to target hospitality, higher education, health care, renewable energy resources, secondary wood products, aviation, recreation and specialty manufacturing, and information technologies as desirable economic sectors. As shown, with the exception of secondary wood products, these industries are well represented in Bend's economy and Bend is well suited to attract these industries in the future. The employment projections and subsequent land need estimates are clearly targeted to provide the needed land base for these industries to continue to grow into the future. As noted in the discussion of short-term supply, infrastructure deficiencies threaten the current land supply and if not resolved, may constrain economic growth. New water, sewer, and updated transportation master plans seek to resolve these deficiencies inside the current UGB while providing growth opportunities in an expanded UGB.

The city is engaged in a UGB expansion to provide needed residential and economic lands until the year 2028. This EOA was crafted to meet the requirements of state law pertaining to Goal 9 and its administrative rule with the intent of moving ahead on a UGB expansion for economic lands. The EOA provides guidance regarding proposed economic policies, specific needs for particular types of economic lands, needs for unique sites, and for different ways to distribute economic lands in an expanded UGB. However, the conclusions of this EOA must still be placed in the context of Goal 14 and administrative rules governing UGB expansions. Therefore, this EOA will be used primarily as a tool to justify the amount of economic land needed in a new Bend UGB. The city will be making findings as part of the UGB expansion to evaluate if some of the needed economic lands documented in this EOA can be provided inside the current UGB, or if the UGB must be expanded to meet these documented needs.

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Appendix A: Sector-Level Employment Projections

				2006 Des. Co. Emp. ¹	2016 Des. Co. Emp. ¹	10-Yr. # Change Des. Co. Emp. ¹	% Change ¹	10-year Average Annual Growth Rate ²	Factor 1. Increase AARG by 0.11% based on Bend to Des. Co. pop ²	Factor 1. 10- year AARG for Bend Economic Growth ²	2006 Bend Emp. (geo- coded) ¹	2008 Covered Emp. (2 yrs. @ 10-year Bend AARG) ²	Factor 2. Increase for Non- Covered (11.5%) ²	2008 Total Emp. with Non-covered Adjustment ²	Factor 3. % Non- shift Workers ³	Factor 3. Industry from Table 5, BLS ³	Factor 3. 2008 Non- shift Emp. ²	2015 Emp. (7 yrs. at AARG assumes econ growth same as pop) ²	Factor 4. 10% increase for target industries ²	Factor 4. 2015 Emp. ²	2025 Bend Emp.: Bend Coord. Pop. AARG of 1.84% at 10 yrs. ²	2028 Bend Emp. AARG 1.70% (see 11/17/2008 Syrnyk memo) ²	New Emp. 2028- 2008 ²
Major Employment Categories	Own Code	NAICS 3 Digit	NAICS Title																				
Industrial General																							
Construction	Own	23	NAICS Title											0									
	5	236	Construction of Buildings	2,327	2,953	626	26.9%	2.411%	0.11%	2.52%	877	922	11.5%	1028	96.6%	Construction	993	1182	0	1182	1418	1492	499
	5	238	Specialty Trade Contractors	5,053	6,414	1,361	26.9%	2.414%	0.11%	2.52%	2404	2527	11.5%	2817	96.6%	Construction	2722	3240	0	3240	3889	4090	1369
			Sub-total	7,380	9,367	1,987	26.9%	2.413%	NA	NA	3,281	3,449	NA	3,845	NA	NA	3,715	4,422	NA	4,422	5,307	5,582	1,868
Manufacturing		31-33																					
	5	323	Printing and Related Support Activities	158	169	11	7.0%	0.675%	0.11%	0.79%	107	109	11.5%	121	81.5%	Manufact. (Cat.)	99	104	0	104	125	132	33
			Sub-total	158	169	11	7.0%	0.675%	NA	NA	107	109	NA	121	NA	NA	99	104	NA	104	125	132	33
Wholesale Trade		42																					
	5	423	Merchant Wholesalers; Durable Goods	931	1,158	227	24.4%	2.206%	0.11%	2.32%	589	617	11.5%	688	91.5%	Whole. Trd.	629	738	0	738	886	932	303
	5	424	Merchant Wholesalers; Nondurable Goods	490	589	99	20.2%	1.857%	0.11%	1.97%	370	385	11.5%	429	91.5%	Whole. Trd.	392	450	0	450	540	568	175
	5	425	Electronic Markets and Agents/Brokers	269	314	45	16.7%	1.559%	0.11%	1.67%	67	69	11.5%	77	91.5%	Whole. Trd.	71	79	0	79	95	100	29
			Sub-total	1,690	2,061	371	22.0%	2.004%	NA	NA	1,026	1,071	NA	1,194	NA	NA	1,092	1,268	NA	1,268	1,521	1,600	508
Transportation and Warehousing Subtotal		48-49																					
	5	481	Air Transportation	46	72	26	56.5%	4.582%	0.11%	4.69%	0	0	11.5%	0	67.5%	Trans. & Ware.	0	0	0	0	0	0	0
	5	484	Truck Transportation	347	433	86	24.8%	2.239%	0.11%	2.35%	134	140	11.5%	157	67.5%	Trans. & Ware.	106	124	0	124	149	157	51
	5	485	Transit and Ground Passenger Transport	118	148	30	25.4%	2.291%	0.11%	2.40%	98	103	11.5%	115	67.5%	Trans. & Ware.	77	91	0	91	110	115	38
	5	488	Support Activities for Transportation	222	297	75	33.8%	2.953%	0.11%	3.06%	135	143	11.5%	160	67.5%	Trans. & Ware.	108	133	0	133	160	168	60
	5	491	Postal Service	3	3	0	0.0%	0.000%	0.11%	0.11%	4	4	11.5%	4	67.5%	Trans. & Ware.	3	3	0	3	4	4	1
	5	492	Couriers and Messengers	227	266	39	17.2%	1.598%	0.11%	1.71%	215	222	11.5%	248	67.5%	Trans. & Ware.	167	188	0	188	226	238	70
	5	493	Warehousing and Storage	11	19	8	72.7%	5.618%	0.11%	5.73%	4	4	11.5%	5	67.5%	Trans. & Ware.	3	5	0	5	6	6	3
			Sub-total	974	1,238	264	27.1%	2.427%	NA	NA	590	617	NA	688	NA	NA	465	545	0	545	654	688	224
			Industrial General Sub-total	10,202	12,835	2,633	25.8%	2.322%	NA	NA	5,004	5,245	NA	5,849	NA	NA	5,370	6,340	NA	6,340	7,608	8,002	2,632
			Total Industrial	17,805	21,267	3,462	19.4%	1.793%	NA	NA	9,036	9,359	NA	10,436	NA	NA	9,177	10,444	NA	10,444	12,532	13,183	4,005
Retail																							
Large Retail	Own	44-45	NAICS Title											0									
	5	441	Motor Vehicle and Parts Dealers	1,651	2,064	413	25.0%	2.258%	0.11%	2.37%	1185	1242	11.5%	1385	79.8%	Retail Tr.	1105	1302	10%	1432	1718	1807	702
	5	444	Building Material & Garden Supply Stores	1,125	1,671	546	48.5%	4.036%	0.11%	4.15%	830	900	11.5%	1004	79.8%	Retail Tr.	801	1064	10%	1171	1405	1478	677
	5	447	Gasoline Stations	652	695	43	6.6%	0.641%	0.11%	0.75%	309	314	11.5%	350	79.8%	Retail Tr.	279	294	10%	323	388	408	129
	5	452	General Merchandise Stores	1,967	2,537	570	29.0%	2.577%	0.11%	2.69%	1374	1449	11.5%	1615	79.8%	Retail Tr.	1289	1552	10%	1707	2049	2155	866
			Large Retail Sub-total	5,395	6,967	1,572	29.1%	2.590%	NA	NA	3,698	3,905	NA	4,354	NA	NA	3,474	4,212	NA	4,633	5,560	5,849	2,374
General Retail		44-45																					
	5	442	Furniture and Home Furnishings Stores	507	662	155	30.6%	2.703%	0.11%	2.81%	426	450	11.5%	502	79.8%	Retail Tr.	401	487	10%	535	642	676	275
	5	443	Electronics and Appliance Stores	328	421	93	28.4%	2.528%	0.11%	2.64%	288	303	11.5%	338	79.8%	Retail Tr.	270	324	10%	356	428	450	180
	5	445	Food and Beverage Stores	1,864	2,319	455	24.4%	2.208%	0.11%	2.32%	1104	1156	11.5%	1289	79.8%	Retail Tr.	1028	1207	10%	1328	1594	1676	648
	5	446	Health and Personal Care Stores	249	314	65	26.1%	2.347%	0.11%	2.46%	145	152	11.5%	170	79.8%	Retail Tr.	135	161	10%	177	212	223	87
	5	448	Clothing and Clothing Accessories Stores	675	812	137	20.3%	1.865%	0.11%	1.98%	584	607	11.5%	677	79.8%	Retail Tr.	540	620	10%	682	818	860	320
	5	451	Sporting Goods/Hobby/Book/Music Stores	558	702	144	25.8%	2.322%	0.11%	2.43%	452	474	11.5%	529	79.8%	Retail Tr.	422	499	10%	549	659	693	271
	5	453	Miscellaneous Store Retailers	523	644	121	23.1%	2.103%	0.11%	2.21%	378	395	11.5%	440	79.8%	Retail Tr.	351	410	10%	451	541	569	217
	5	454	Nonstore Retailers	145	164	19	13.1%	1.239%	0.11%	1.35%	105	108	11.5%	120	79.8%	Retail Tr.	96	105	10%	116	139	146	50
			General Retail Sub-total	4,849	6,038	1,189	24.5%	2.217%	NA	NA	3,482	3,646	NA	4,065	NA	NA	3,244	3,812	NA	4,193	5,032	5,293	2,049
			Total Retail	10,244	13,005	2,761	27.0%	2.415%	NA	NA	7,180	7,551	NA	8,419	NA	NA	6,718	8,024	NA	8,827	10,592	11,142	4,423
Office/Services																							
Information	Own	51	NAICS Title											0									
	5	511	Publishing Industries	677	789	112	16.5%	1.543%	0.11%	1.65%	508	525	11.5%	585	87.6%	Publ., ex. Internet	513	575	10%	633	759	798	286
	5	512	Motion Picture & Sound Recording Ind	100	127	27	27.0%	2.419%	0.11%	2.53%	66	69	11.5%	77	85.0%	Motn.Pix.Snd.&Rec.	66	78	10%	86	103	109	43
	5	515	Broadcasting (except Internet)	332	439	107	32.2%	2.833%	0.11%	2.94%	328	348	11.5%	388	84.4%	Brdcst.Ex.Internet	327	401	10%	441	529	556	229
	5	516	Internet Publishing and Broadcasting	4	5	1	25.0%	2.257%	0.11%	2.37%	0	0	11.5%	0	87.3%	Inf (cat.)	0	0	10%	0	0	0	0
	5	517	Telecommunications	499	599	100	20.0%	1.843%	0.11%	1.95%	435	452	11.5%	504	88.8%	Tel	448	513	10%	564	677	712	264
	5	518	ISPs; Search Portals; & Data Processing																				

				2006 Des. Co. Emp. ¹	2016 Des. Co. Emp. ¹	10-Yr. # Change Des. Co. Emp. ¹	% Change ¹	10-year Average Annual Growth Rate ²	Factor 1. Increase AARG by 0.11% based on Bend to Des. Co. pop ²	Factor 1. 10- year AARG for Bend Economic Growth ²	2006 Bend Emp. (geo- coded) ¹	2008 Covered Emp. (2 yrs. @ 10-year Bend AARG) ²	Factor 2. Increase for Non- Covered (11.5%) ²	2008 Total Emp. with Non-covered Adjustment ²	Factor 3. % Non- shift Workers ³	Factor 3. Industry from Table 5, BLS ³	Factor 3. 2008 Non- shift Emp. ²	2015 Emp. (7 yrs. at AARG assumes econ growth same as pop) ²	Factor 4. 10% increase for target industries ²	Factor 4. 2015 Emp. ²	2025 Bend Emp.: Bend Coord. Pop. AARG of 1.84% at 10 yrs. ²	2028 Bend Emp. AARG 1.70% (see 11/17/2008 Syrnyk memo) ²	New Emp. 2028- 2008 ²
Major Employment Categories	Own Code	NAICS 3 Digit	NAICS Title																				
Administrative and Support, Waste Management and Remediation Services																							
		56																					
	5	561	Administrative and Support Services	4,262	5,387	1,125	26.4%	2.370%	0.11%	2.48%	2113	2219	11.5%	2474	84.9%	Mgmt.Admin.Wst.Srv.	2101	2494	10%	2743	3292	3462	1362
	5	562	Waste Management and Remediation Service	189	241	52	27.5%	2.460%	0.11%	2.57%	108	114	11.5%	127	84.9%	Mgmt.Admin.Wst.Srv.	108	128	10%	141	170	178	71
			Sub-total	4,451	5,628	1,177	26.4%	2.374%	NA	NA	2,221	2,333	NA	2,601	NA	NA	2,208	2,622	NA	2,884	3,461	3,641	1,433
Education Services																							
		61																					
	5	611	Educational Services	661	856	195	29.5%	2.619%	0.11%	2.73%	314	331	11.5%	369	93.9%	Edu. Srv.	347	419	10%	461	553	582	235
			Sub-total	661	856	195	29.5%	2.619%	NA	NA	314	331	NA	369	NA	NA	347	419	NA	461	553	582	235
Health Care and Social Assistance																							
		62																					
	5	621	Ambulatory Health Care Services	3,118	4,317	1,199	38.5%	3.307%	0.11%	3.42%	874	935	11.5%	1042	80.9%	Hlth. Cr. & Soc. As.	843	1067	10%	1173	1408	1481	638
	5	622	Hospitals	2,353	3,040	687	29.2%	2.595%	0.11%	2.70%	0	0	11.5%	0	80.9%	Hlth. Cr. & Soc. As.	0	0	10%	0	0	0	0
	5	623	Nursing and Residential Care Facilities	901	1,263	362	40.2%	3.435%	0.11%	3.55%	185	198	11.5%	221	80.9%	Hlth. Cr. & Soc. As.	179	228	10%	251	301	317	138
	5	624	Social Assistance	1,031	1,296	265	25.7%	2.314%	0.11%	2.42%	509	534	11.5%	595	80.9%	Hlth. Cr. & Soc. As.	482	570	10%	627	752	791	309
			Sub-total	7,403	9,916	2,513	33.9%	2.966%	NA	NA	1,568	1,667	NA	1,859	NA	NA	1,504	1,865	NA	2,051	2,461	2,589	1,085
			Total Office/Services	22,076	28,614	6,538	29.6%	2.628%	NA	NA	9,535	10,053	NA	11,210	NA	NA	9,879	11,925	NA	13,117	15,741	16,557	6,678
Leisure and Hospitality																							
Arts, Entertainment, and Recreation																							
	Own	71	NAICS Title																				
	5	711	Performing Arts and Spectator Sports	44	59	15	34.1%	2.977%	0.11%	3.09%	12	13	11.5%	14	67.7%	Art, Ent., Rec.	10	12	10%	13	16	17	7
	5	712	Museums; Parks and Historical Sites	81	92	11	13.6%	1.282%	0.11%	1.39%	8	8	11.5%	9	67.7%	Art, Ent., Rec.	6	7	10%	8	9	9	3
	5	713	Amusement; Gambling & Recreation Ind	1,597	2,121	524	32.8%	2.878%	0.11%	2.99%	418	443	11.5%	494	67.7%	Art, Ent., Rec.	335	411	10%	452	543	571	236
			Sub-total	1,722	2,272	550	31.9%	2.811%	NA	NA	438	464	NA	518	NA	NA	351	430	NA	473	568	597	247
Accommodation and Foodservices																							
		72																					
	5	721	Accommodation	2,069	3,123	1,054	50.9%	4.203%	0.11%	4.31%	555	604	11.5%	673	70.2%	Accommod.	473	635	10%	699	839	882	409
	5	722	Food Services and Drinking Places	5,634	7,024	1,390	24.7%	2.230%	0.11%	2.34%	3790	3969	11.5%	4426	56.1%	Fd. Srv. & Drnk. Pl.	2483	2919	10%	3211	3853	4053	1570
			Sub-total	7,703	10,147	2,444	31.7%	2.794%	NA	NA	4,345	4,573	NA	5,099	NA	NA	2,956	3,555	NA	3,910	4,692	4,935	1,980
			Total Leisure and Hospitality	9,425	12,419	2,994	31.8%	2.797%	NA	NA	4,783	5,038	NA	5,617	NA	NA	3,306	3,985	NA	4,383	5,260	5,532	2,226
Other																							
Other Services (except Public Administration)																							
	Own	81	NAICS Title																				
	5	811	Repair and Maintenance	736	908	172	23.4%	2.122%	0.11%	2.23%	471	492	11.5%	549	89.3%	Otr.Srv.Ex.Prv.Hsh.	490	572	0	572	686	722	232
	5	812	Personal and Laundry Services	486	612	126	25.9%	2.332%	0.11%	2.44%	332	348	11.5%	388	89.3%	Otr.Srv.Ex.Prv.Hsh.	347	411	0	411	493	518	172
	5	813	Membership Organizations & Associations	997	1,185	188	18.9%	1.742%	0.11%	1.85%	195	202	11.5%	226	89.3%	Otr.Srv.Ex.Prv.Hsh.	201	229	0	229	275	289	88
	5	814	Private Households	139	161	22	15.8%	1.480%	0.11%	1.59%	6	6	11.5%	7	85.0%	Otr.Srv.Ex.Prv.Hsh.	6	7	0	7	8	8	2
			Sub-total Other	2,358	2,866	508	21.5%	1.970%	NA	NA	1,004	1,049	NA	1,170	NA	NA	1,044	1,218	NA	1,218	1,462	1,538	494
Miscellaneous/Unknown																							
		999	Unclassified	17	17	0	0.0%	0.000%	0.11%	0.11%	7	7	11.5%	8	88.9%	Othr. Srv.	7	7	0	7	8	9	2
			Sub-total Miscellaneous/Unknown	17	17	0	0.0%	0.000%	NA	NA	7	7	NA	8	NA	NA	7	7	NA	7	8	9	2
			Total Other and Miscellaneous/Unknown	2,375	2,883	508	21.4%	1.957%	NA	NA	1,011	1,056	NA	1,178	NA	NA	1,051	1,225	NA	1,225	1,470	1,547	495
Sub-total Government and Private Employment Excluding Medical (MDOZ)				NA	NA	NA	NA	NA	NA	NA	35,343	37,017	NA	40,818	NA	NA	33,617	39,643	NA	42,441	50,929	53,571	19,954
Sub-total Medical (MDOZ) Employment				NA	NA	NA	NA	NA	NA	NA	4,240	4,503	NA	5,021	NA	NA	4,100	5,069	NA	5,574	6,689	7,036	2,936
Employment Totals:				NA	NA	NA	NA	NA	NA	NA	39,583	41,520	0	45,839	0	0	37,717	44,712	0	48,015	57,618	60,607	22,890

Notes:
¹ Data from Oregon Department of Employment. "Deschutes County: Industry Employment Forecast, 2006-2016, by 3-digit NAICS and Ownership" or 2006 geo-coded 3-digit NAICS for City of Bend. When employment is less than 10 people, data is not shown to prot
² Analysis by City of
³ Beers, Thomas, M. *Flexible schedules and shift work: replacing the '9-to-5' workday?* Bureau of Labor Statistics. June, 2000. September 10, 2008.
<http://stats.bls.gov/opub/mlr/2000/06/art3abs.htm>
Total 2006 Des. Co. Emp., 2016 Des. Co. Emp., 10-Yr. Emp. Change, and 10-year AARG for Deschutes County do not total properly due to separating the MDOZ employment from this analysis. Therefore, totals are not applicable.
Other totals are shown to match employment tables reported in the EOA.

Major Employment Categories		Own Code	NAICS 3 Digit	NAICS Title	2006 Des. Emp. ¹	2016 Des. Emp. ¹	10-Yr. # Change Des. Emp. ¹	% Change	10-year Average Annual Growth Rate ²	Factor 1. Increase AARG by 0.11% based on Bend to Des. Co. pop ²	Factor 1. 10-year AARG for Bend Economic Growth ²	2006 Bend Emp. (geo-coded) ¹	2008 Covered Emp. (2 yrs. @ 10-year Bend AARG) ²	Factor 2. Increase for Non-Covered (11.5%) ²	2008 Total Emp. with Non-covered Adjustment ²	Factor 3. % Non-shift Workers ³	Factor 3. Industry from Table 5, BLS ³	Factor 3. 2008 Non-shift Emp. ²	2015 Emp. (7 yrs. at AARG assumes econ growth same as pop) ²	Factor 4. 10% increase for target industries ²	Factor 4. 2015 Emp. ²	2025 Bend Emp.: Bend Coord. Pop. AARG of 1.84% at 10 yrs. ²	2028 Bend Emp. AARG 1.70% (see 11/17/2008 Syrnyk memo) ²	New Emp. (2028-2008) ²
MDOZ - Leisure and Hospitality																								
Accommodation and Foodservices			72																					
		5	721	Accommodation	2,069	3,123	1,054	50.9%	4.203%	0.11%	4.31%	0	0	11.5%	0	70.2%	Accommodation	0	0	10%	0	0	0	0
		5	722	Food Services and Drinking Places	5,634	7,024	1,390	24.7%	2.230%	0.11%	2.34%	3	3	11.5%	4	56.1%	Food services and drinking places	2	2	10%	3	3	3	3
Total Leisure and Hospitality					7,703	10,147	2,444	31.7%	2.794%	NA	NA	3	3	NA	4	NA	NA	2	2	NA	3	3	3	1
MDOZ - Other																								
Other Services (except Public Administration)		Own	81	NAICS Title	2006	2016	# Change	% Change																
		5	811	Repair and Maintenance	736	908	172	23.4%	2.122%	0.11%	2.23%	0	0	11.5%	0	89.3%	r services, except private house	0	0	0	0	0	0	0
		5	812	Personal and Laundry Services	486	612	126	25.9%	2.332%	0.11%	2.44%	4	4	11.5%	5	89.3%	r services, except private house	4	5	0	5	6	6	2
		5	813	Membership Organizations & Associations	997	1,185	188	18.9%	1.742%	0.11%	1.85%	4	4	11.5%	5	89.3%	r services, except private house	4	5	0	5	6	6	2
		5	814	Private Households	139	161	22	15.8%	1.480%	0.11%	1.59%	0	0	11.5%	0	85.0%	ther services, private household	0	0	0	0	0	0	0
Total Other					2,358	2,866	508	21.5%	1.970%	NA	NA	8	8	NA	9	NA	NA	8	10	NA	10	12	12	4
Total Medical (MDOZ) Employment					32,878	42,457	9,579	29.1%	2.590%	NA	NA	4,240	4,503	NA	5,021	NA	NA	4,100	5,069	NA	5,574	6,689	7,036	2,936

Notes:

¹ Data from Oregon Department of Employment. "Deschutes County: Industry Employment Forecast, 2006-2016, by 3-digit NAICS and Ownership" or 2006 geo-coded 3-digit NAICS for City of Bend. When employment is less than 10 people, data is not shown to prot

² Analysis by City of Bend

³ Beers, Thomas, M. *Flexible schedules and shift work: replacing the '9-to-5' workday?* Bureau of Labor Statistics. June, 2000. September 10, 2008.

<http://stats.bls.gov/opub/mlr/2000/06/art3abs.htm>

Total 2006 Des. Co. Emp., 2016 Des. Co. Emp., 10-Yr. Emp. Change, and 10-year AARG for Deschutes County do not total properly due to separating the MDOZ employment from this analysis. Therefore, totals are not applicable.

Other totals are shown to match employment tables reported in the EOA.

Appendix B: Memorandum on Covered vs. Uncovered Employment

M E M O R A N D U M

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TO: **BEND PLANNING COMMISSION AND DESCHUTES COUNTY
PLANNING COMMISSION LIAISONS**

FROM: **BRIAN RANKIN, SENIOR PLANNER**

SUBJECT: **ECONOMIC VARIABLES**

DATE: **1/30/2008**

Summary

This memorandum proposes methods to address three variables questioned by the TAC and Planning Commission regarding the April 2007, Economic Opportunities Analysis (EOA) methodology, by Leland Consulting, Group. This memorandum addresses public facilities land needs, economic land needs in residential areas, and covered vs. uncovered employment in employment projections. Two other variables, employment density and health care employment land needs, are addressed in separate memoranda.

Purpose

Employment projections in the EOA do not account for “uncovered” employees and may under-represent land needs for these employees. Employment projections may need to be increased to account for “uncovered” employees. Land needs for public facilities and economic uses in residential districts have not been estimated by the EOA, and therefore the EOA may underestimate economic land needs. Staff presents methods for accounting for these land needs below, and requests the Planning Commission and liaisons to provide feedback on these methods. Staff will then incorporate these approaches in updating employment and land need projections.

Covered vs. Uncovered Employment in Projections

The EOA produces employment projections for a 20-year period ending in 2027. These projections are based on “covered” employment. Total employment is greater than “covered” employment. According to the EOA, page 17, footnote 16:

““Covered” employees are those whose employers pay state unemployment insurance and report employment quarterly to the state. Uncovered employees are not covered by state unemployment insurance, and primarily include the following groups: self-employed; temporary agricultural labor; “casual labor”; home-based domestic services; family member employees; others. The OED staff estimates that, like most other communities, between 90 and 100 percent of Bend’s workforce is covered. Critical to this report, uncovered employees are far more likely to work in existing buildings, and far less likely to generate demand for significant new built space.”

Staff researched the official definition of “covered” employment and found the above generalization in the EOA is accurate. A more complete definition of

“covered” employment is in Appendix 1. The generalization above does not include what the TAC believed to be a significant oversight; that “covered” employment excludes the services performed by real estate brokers, agents, salespeople, insurance agents compensated solely by commissions, and many self employed positions including lawyers, doctors, and contractors.

Clearly, not all employed persons are included in the employment projections presented in the EOA. The reason for this is the Oregon Employment Department (OED) monthly and yearly employment estimates and reports (i.e. 2006 geo-coded employment by place of work) and ten-year employment projections (i.e. 2006-2016 employment projections for Region 10) are based upon “covered” employment.

Estimating “Uncovered” Employment

Staff contacted the OED Regional Economist, Steve Williams, to find research on the number of employees who are “uncovered” and may require lands for economic uses. He informed staff no such analysis is available to his knowledge, but did suggest that as a “rule of thumb” approximately 10% of total employment is not “covered” employment. Mr. Williams suggested using U.S. Census data to research the issue.

The U.S. Census Bureau recently released the results of the 2006 American Community Survey for Bend, Oregon¹. This survey provides yearly estimates of demographics between each 10-year census.

In the 2006 American Community Survey, the data associated with “Class of Worker” explores the general type of work performed by employed persons in City of Bend. This information includes workers 16 years old and over who were at work during the reference week, which is the week prior to the person receiving the American Community Survey. The data refers to the geographic location where workers performed their occupational activities.

Table 1: Class of Worker

Class of Worker	Estimate ¹	Margin of Error ¹	Percent ²	Margin of Error ²
Private wage and salary workers	29,528	+/- 3,227	75.56%	8.26%
Government workers	5,352	+/- 1,317	13.69%	3.37%
Self-employed workers in own and not incorporated business	4,200	+/- 1,307	10.75%	3.34%
Unpaid family workers	0	+/- 269	0%	0.69%

Sources:

¹ U.S. Census Bureau, American Fact Finder, Bend City, Oregon; Selected Economic Characteristics: 2006, Data Set: 2006 American Community Survey (http://factfinder.census.gov/servlet/ADPTTable?_bm=y&-geo_id=16000US4105800&-qr_name=ACS_2006_EST_G00_DP3&-ds_name=ACS_2006_EST_G00_-lang=en&-sse=on)

² City of Bend calculations

Table 1 illustrates that approximately 10.75% (between 7.416% and 14.09%) of all employed persons in Bend in 2006 are self-employed. The U.S. Census Bureau definition of self-employed is as follows:

“Self-employed in own not incorporated business workers. Self-employed in own not incorporated business workers includes

people who worked for profit or fees in their own unincorporated business, professional practice, or trade or who operated a farm.

Self-employed in own incorporated business workers. In tabulations, this category is included with private wage and salary workers because they are paid employees of their own companies.”

Staff investigated the same U.S. Census ACS data for 2005 and found 12.2% of employed persons classified themselves as self employed. For Oregon as a whole, in 2005 a total of 11.3%, and in 2006 a total of 11.1% of employed persons 16 years and older were classified as “self employed”. Averaging the City of Bend 2005 and 2006 estimates for self employed persons yields a statistic of 11.5%.

Staff recommends uniformly increasing the base 2006 City of Bend geo-coded OED employment figures by 11.5% to account for self-employed, contract, and other “non-covered” employees.

Employment in Residential Districts and Public Facilities Land Needs

The EOA produces land need estimates for job growth taking place on commercial, industrial, and mixed employment lands, but excludes land needs for public facilities and economic uses in residential areas. On page 60 of the EOA, Tables 21 and 22 illustrate that employment projections made for public facilities and employment in residential areas are not converted to land need. Table 21 shows that 878 employees expected to require public facilities land and 6,441 employees expected to work in residential areas are not addressed in the subsequent land needs analysis. Pages 68 and 69 of the EOA further explain these are non-traditional employment lands that are not addressed by the EOA. The EOA counts on “Neighborhood Centers”, part of the framework plan, to provide needed jobs in residential areas. The EOA avoids making projections about public facility land because of uncertainty, but does recommend the City of Bend plan for such lands.

Public Facilities

Staff recommends including land needs for public facilities in the updated economic lands analysis. This would be done by updating the employment projections for public employers (Federal, State, City, County, special districts) to year 2028. Applying an appropriate employment density based in G.I.S. analysis of 2006 employment will enable staff to predict 20-year land needs for the public sector employees. This land need has not been considered by the existing analysis for “institutional” and “other lands” like open spaces. The lands included as “institutional” and “other lands” do not directly employ people, and generally are not represented in employment projections. Staff will confirm that these lands are not “double counted” by removing any employment at these locations from the updated employment projections (for example, at golf courses). The need to expand the UGB for public facility uses will be based on the comparison of needed land with the existing supply of land.

Economic Land Needs in Residential Areas

Staff recommends including the economic land needs in residential areas in the updated analysis. The main reason for this recommendation is that many economic uses such as child care facilities, hospitals, retail goods and services,

repair services, and others are allowed in some residential districts and consume residential land. For example, page 51 of the EOA states:

“Nearly 10 percent – of Bend’s total employment occurs on residential zoned land, as opposed to within traditional employment zones. The primary types of businesses that locate on residential zoned land are: health care and medical, educational; religious institutions; retailers; and home-based businesses.”

Staff recommends a general approach of identifying employment that has been addressed in other land need estimates (schools, other lands, institutional lands, etc.) and removing this employment from the employment projections. With these employees removed from the analysis, employment projections would only include employees requiring new employment lands that have not been addressed in the residential analysis. Staff recommends making the following adjustments described below.

1. Employment in Bend-La Pine School District schools located in residential zones – 20-year land needs have been included for schools as part of the residential lands analysis, so including job growth projections for schools would result in “double counting” these land needs. Staff recommends removing employment figures at Bend-La Pine School District schools located in residential districts, and not including them in job growth estimates. Staff recommends including the administrative staff (not working at a school site) to account for additional administrative land needs as well as private and trade schools.
2. Employment at churches, fraternal, benevolent, and other institutional lands, “open space” lands – Land needs for these uses have been addressed in the residential analysis, so should not be included in the economic lands analysis. Staff recommends removing jobs that are on lands classified as “institutional” and “open space” lands in the residential analysis. With these jobs removed from the analysis, subsequent employment growth and economic land needs analysis will not include these uses.
3. Employment in the Medical District Overlay Zone (MDOZ) – Lands in the Medical Overlay District mostly have a General Plan designation of RH and RM. While these lands are residential, they also function as economic lands within the MDOZ. Staff recommends these lands be separated from the supply of residential lands and economic lands in order to evaluate the potential of these lands for long-term economic and residential uses. Separating the MDOZ will allow an independent projection for medical land needs to be made and prevent an overestimate of employment land needs in residential areas.
4. Employees who work in their own homes – Employees working in their own homes may not require additional employment lands since the business is taking place in their own home. Staff proposes to use the 2006 geo-coded OED employment data cross referenced with the Deschutes County Assessors Property Class Codes to identify employment in structures coded for residential use. Staff believes this will identify employment in residential areas that take place in residential structures. These employees can then be removed from the

employment projections. Staff will identify the overall levels of employment in residential structures and compare it with the 2006 American Community Survey data (described below) to verify the working at home employment levels are appropriate.

Staff believes that after removing employment at schools, institutional uses, open spaces, the Medical Overlay District, and employees working in residential structures, the remaining employees in residential lands will represent those employees requiring additional residential lands for employment.

2006 American Community Survey Data on Working At Home

Staff recommends a two tiered approach in estimating the number of people who work at home. First, the G.I.S. analysis described above will be employed to estimate the number of people working in residential zones in residential structures. Staff expects the G.I.S. analysis to include people working in their own home, as well as people working in residential structures that are not their home. Next, the calculated percentage of employees working out of their homes can be verified against census data. If the G.I.S. analysis is significantly different from the census data, staff recommends using the census data below to estimate the number of people working at home. In this case, staff recommends reducing the total employment in residential districts by 6.2% (as explained below) to account for people working at home.

In the 2006 American Community Survey, the data associated with “Commuting to Work” explores how people travel to their workplace in the City of Bend. This information includes workers 16 years old and over who were at work during the reference week. The data refers to the geographic location where workers performed their occupational activities for the reference week. Table 2, below, summarizes the 2006 ACS data.

Table 2: Commuting To Work – Workers 16 Years and Older

Mode of Travel	Estimate ¹	Margin of Error ¹	Percent ²	Margin of Error ²
Car, truck, or van – drove alone	29,990	+/- 3,096	79.7%	+/- 8.2
Car, truck, or van – carpooled	3,113	+/- 1,198	8.3%	+/- 3.2
Public Transportation	179	+/- 201	0.5%	+/- 5.3
Walked	494	+/- 334	1.3%	+/- 0.89
Other Means	907	+/- 578	2.4%	+/- 1.5
Worked at home	2,946	+/- 1,166	7.8%	+/- 3.1

Sources:

¹ U.S. Census Bureau, American Fact Finder, Bend City, Oregon, Selected Economic Characteristics: 2006, Data Set: 2006 American Community Survey (http://factfinder.census.gov/servlet/ADPTable?_bm=y&-geo_id=16000US4105800&-qr_name=ACS_2006_EST_G00_DP3&-ds_name=ACS_2006_EST_G00_&-_lang=en&-_sse=on)

² City of Bend calculations

The ACS data in Table 2 shows that in 2006 approximately 7.8% of workers 16 years and older who were employed and at work during the reference week, worked at their own home. Staff investigated the 2005 ACS data to determine if there is variability in the estimate, and found in 2005, only 4.5% of employees worked at home. This variability suggests that any one year may not be a stable predictor for the future. The 2005 and 2006 ACS data for Oregon report 5.1% and 6.0% of employed people work at home.

Staff recommends averaging the 2005 and 2006 City of Bend estimates (at 6.2%) to estimate future levels of persons working in their own home. This average is slightly higher than the statewide average for the same time period and supports the TAC's insights that more people work out of their homes in the Bend than in other Oregon communities.

Conclusions and Recommendations

The EOA did not make explicit adjustments to employment estimates to account for employees who are not classified as “covered” employees, nor did it determine land needs for people working in residential districts and in the public sector. Staff recommends accounting for all three based on the forgoing methodology and research. Staff will bring the results of the analysis back to the Planning Commission once the G.I.S. analysis and employment projections are complete. Specific recommendations include:

1. Increasing the base 2006 City of Bend geo-coded OED employment figures by 11.5% to account for “non-covered” employees;
2. Including employment and land need projections for public sector employees on lands not addressed by the open space/institutional estimates; and
3. Including employment and land need projections for economic uses on residential lands excluding employment at public schools, institutional/open space lands, and in the MDOZ.

Appendix 1

The Oregon Employment Department webpage titled “Data Sources and Limitations, Covered Employment and Payroll” which is found at the following address (<http://www.qualityinfo.org/olmisi/DataSource?itemid=00001527>), discusses the definition of covered employment which represents the monthly employment estimates and ten-year employment projections by sector.

“Data presented in this report include employment and wages covered by Oregon Employment Department law and by the program of Unemployment Compensation for Federal Employees (UCFE).

Employment and wage data on interstate railroad workers, who are covered under a separate unemployment insurance law administered by the Railroad Retirement Board, are not included in this report. Also excluded from the report are:

- *Self-employment.*
- *Agricultural labor performed for a farm with a quarterly payroll of less than \$20,000 or not employing at least 10 persons in each of 20 separate weeks during any calendar year.*
- *Domestic service in a home, sorority or fraternity, providing the quarterly payroll at no time exceeds \$1,000.*
- *Casual labor not in the course of an employer’s trade or business.*
- *Service performed as an officer or member of the crew of any American vessel primarily engaged in interstate, foreign, or high seas navigation, which does not maintain an office within Oregon from which the operations of the vessel are regularly managed and controlled, and service performed on any vessel of foreign registry. Officers and crews of vessels engaged in inland navigation on the Willamette and Columbia Rivers are covered.*
- *Service performed by a person in the employ of a son, daughter, or spouse, and service performed by a child under the age of 18 in the employ of his father or mother.*
- *Service performed by certain part-time, irregular and emergency employees of state or local government.*
- *Service performed by elected officials.*
- *Service by an appointed policymaking official of state or local government provided he or she works less than eight hours a week.*
- *Service performed by an individual in the delivery of newspapers or shopping news.*
- *Service performed by a real estate broker, real estate salesman, real estate agent, insurance agent, insurance solicitor or securities salesperson to the extent that compensation is solely by commission.*
- *Service performed by an individual or partnership in the distribution of petroleum products with remuneration for service primarily consisting of the difference between the amount the individual pays or is obligated to pay for the petroleum products and the amount the individual receives.*

- *Commission sales of home improvements and in-home sales of consumer goods.*
- *The 1999 Legislature passed legislation that impacted a certain segment of the fishing industry. Effective October 23, 1999, House Bill 3308 excluded from unemployment insurance fishing services performed by workers on boats with crews of less than 10 individuals where the payment is based on the share of the catch.*
- *Wages paid to corporate officers of closely held family corporations may elect to exclude from UI coverage those corporate officers who are directors of the corporation, have a substantial ownership interest in the corporation and are members of the same family.”*

Appendix C: Prime Industrial Land Feasibility Memorandum

M E M O R A N D U M

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TO: **BEND PLANNING COMMISSION AND DESCHUTES COUNTY
PLANNING COMMISSION LIAISONS**

FROM: **BRIAN RANKIN, SENIOR PLANNER**

SUBJECT: **PRIME INDUSTRIAL LAND**

DATE: **12/18/2008**

Summary

This memorandum discusses prime industrial lands as defined by the State of Oregon and how they may relate to the City of Bend (City) Urban Growth Boundary (UGB) expansion for economic lands. Staff is recommending pursuing a prime industrial land designation for the secondary wood products and aviation/aerospace industries. Other options to the Planning Commission include not moving ahead with designating lands as prime industrial or conversely, designating all targeted industry land needs as prime lands. Staff requests the Planning Commission provide feedback on this recommendation in order to move ahead with identifying prime land needs and industry specific site requirements as part of the larger UGB site evaluation and boundary location analysis.

State Law Pertaining to Prime Industrial Lands

Goal 9 does not specifically mention prime industrial lands. Chapter 660 Division 009 of the Oregon Administrative Rules speaks directly to the definition, inventory, and policy formulation requirements for prime industrial lands. Oregon Administrative Rules (O.A.R.) 660-009-0005(8) defines prime industrial land as:

“land suited for traded-sector industries as well as other industrial uses providing support to traded-sector industries. Prime industrial lands possess site characteristics that are difficult or impossible to replicate in the planning area or region. Prime industrial lands have necessary access to transportation and freight infrastructure, including, but not limited to, rail, marine ports and airports, multimodal freight or transshipment facilities, and major transportation routes. Traded-sector has the meaning provided in ORS 285B.280.”

Oregon Revised Statute 285B.280 defines “traded sector” as “industries in which member firms sell their goods or services into markets for which national or international competition exists”.

Cities and counties that adopt objectives or policies providing for prime industrial land must identify, inventory, and describe vacant and developed prime industrial land¹. Cities are strongly encouraged to adopt policies related to prime industrial lands². Prime industrial lands are

¹ O.A.R. 660-009-0015(3)(c)

² O.A.R. 660-009-0020(6)

considered a use with special siting characteristics, and cities that adopt policies for prime industrial lands must adopt land use regulations providing for the special site needs³. Prime industrial sites must be identified and protected from activities that interfere with the development of the site for the intended use and from incompatible adjacent or nearby uses⁴.

Considerations for Identifying Prime Industrial Lands

Elements of prime industrial land are described on page 22 of the November 2004 “Promoting Prosperity: Protecting Prime Industrial Land for Job Growth. A Report to Governor Kulongoski” prepared by the Industrial Conversion Study Committee and DLCD. These elements include:

- “Net, contiguous, developable acreage in large, flat and symmetrical configurations;
- Minimal or no development constraints present;
- Access to an available workforce for a specific industry type;
- Sufficient capacity in the local transportation system;
- Proximity to interstate highways, rail, marine ports, and/or airports;
- Convenient access to water, sewer, gas, electricity and telecommunications;
- Special considerations such as being free from encroachment of incompatible uses or needing high volumes of water and sewer or needing significant local transportation infrastructure;
- Proximity to suppliers, customers, markets and related uses;
- Location within a functioning industrial district;
- The land is viable for the targeted industrial use.”

On page 23 of the same report, the committee outlined an approach to identifying prime industrial lands at the local level:

- “Identify the target industries or clusters most suitable to the community or region through an economic opportunities analysis;
- Identify any special or use-specific land needs of a desired industrial user such as those described in Oregon’s certification program;
- Inventory and assemble districts with the site-specific characteristics of the desired industry, or with the ability to attain those characteristics within a reasonable period of time.”

³ O.A.R. 660-009-0025(8)

⁴ O.A.R. 660-009-0025(8)

Step 1: Identify Target Industries

The April 2007 Economic Opportunities Analysis (E.O.A.) summarizes target industries determined through the 2005 City of Bend economic sector targeting project. Regional targets are secondary wood products and renewable energy resources. Bend targets include:

- Aviation-aerospace;
- Recreation equipment;
- Specialty manufacturing; and
- Information technologies.

Most of Bend's targeted sectors are traded sectors as their products are sold mostly to markets outside of Central Oregon. Other targeted sectors such as hospitality, higher education, and health services deliver services to residents of Central Oregon, and would not traditionally be considered traded sectors. Thus, these land needs are not addressed as prime industrial lands.

Step 2: Identify Special Use-Specific Land Needs of Targeted Industrial Users

Some industries have more specific requirements for an ideal site than others. The following is an attempt to identify the sensitivity of the targeted industries site needs. If site requirements are more sensitive and unique, then staff believes it is more appropriate to pursue a "prime" classification for such a site. If site requirements are highly variable within a targeted industry, and firms within the industry can be adequately served in a variety of locations, a "prime" classification may be less important. This also follows from observations from local stakeholders interviewed for the April, 2007 Economic Opportunities Analysis, who reported it is more important to provide an adequate supply of commercial and industrial lands than identifying prime lands.

The following information in Table 1 outlines core site characteristics and rates the importance of these site characteristics to the six targeted industries of the City of Bend. Some ideal site characteristics are universal and are sought by all firms, so are not included in Table 1. Examples include a site free of environmental contamination, and a site in close proximity to its workers, suppliers, and markets. Site characteristics such as suitable zoning, access, topography, clear ownership, and adequate utilities are also universal needs, but some industries are far more specific than others with regard to these traits. For example, where information and technology industries may benefit by locating close to an airport for ease of transporting products and providing convenient passenger service to mobile executives, it is essential for an aviation company to be located adjacent to the airport facilities.

The importance of each site characteristic was ranked high, medium, or low. Where there is a wide variety in the type of operations within an industry that a single score does not seem appropriate, staff left the evaluation blank. For example, information technology and renewable energy resource companies may need office space in a downtown, industrial space in a park, or thrive in a mixed employment zone. This general description of needed site characteristics by targeted industry is intended to help determine if it is desirable to identify, inventory, and protect "prime" economic lands for each use. Staff relied upon a combination of data sources to make these general observations, including:

1. Feedback from local Stakeholders during the Stakeholder interviews;

2. Chabin Concepts Team. Audrey Taylor, Leslie Parks, Paul Tuttle. July 2005. *City of Bend Economic Sector Targeting*.
3. Bill Grunkemeyer. "Characteristics of an Industrial Site CDFS-1525-96." *Ohio State University Extension Fact Sheet, Community Development*. <http://ohioline.osu.edu/cd-fact/1525.html>.
4. ECONorthwest. May 2007. *Ontario Urbanization Study*.
5. William Grunkemeyer, Myra Moss and Jerold R. Thomas. 1999. "Community Preparedness for Site Development." *The Web book of Regional Science, Regional Research Institute, West Virginia University*. <http://www.rri.wvu.edu/WebBook/Thomas/development1.html>.

Site Characteristic	Secondary Wood Products	Renewable Energy Resources	Aviation and Aerospace	Recreation Equipment	Specialty Manufacturing	Information Technologies
Flat Topography	High		High			
Rectangular parcel configuration	High		High		Medium	
Performance standards on property or park	Low		High			High
Close proximity to community amenities (i.e. downtowns, recreation, trails, "quality of life" nearby)	Low	High	Medium	High	Medium	High
Fiber optics and telephone	Medium	High	Low	Medium	Medium	High
Potable water			Medium			
Power supply	Medium	High	Medium	High	High	High
Adjacent or near high capacity roads	High		Medium			
Adjacent to rail transportation	Medium	Low	Low	Low	Low	Low
Close proximity to airport	Low		High			Medium
Land use buffers	High		High		High	

Discussion of Stakeholder and Local Business Input Regarding Use-Specific Land Needs

City staff interviewed two different groups of representatives from local businesses knowledgeable about industry site needs:

1. 12 local Stakeholders familiar with commercial and industrial site development, regulatory requirements, and economic projections; and
2. 19 representatives from prominent Bend businesses. Of these 19 businesses, a handful work in Bend's "targeted" industries.

Below, Table 2 presents the findings of discussions with both groups as they related to Bend's targeted industries. These discussions illustrate what these participants believe are good locations for targeted industries and other related issues.

Table 2: Feedback from Stakeholders and Local Businesses on Targeted Industries

Targeted Economic Sector	Responses from Stakeholder Group and Business Group
Aviation/Aerospace	<p><i>Stakeholder Group responses on ideal locations in Bend for aviation/aerospace business:</i></p> <ol style="list-style-type: none"> 1. Aviation and aerospace should be located in the northern part of Bend. 2. The airport should focus on aviation related uses and not lease space for other non-aviation related uses. The leases are very favorable. 3. Put the aviation and aerospace industry lands outside the UGB at the airport. Add 50 acres to the UGB in that vicinity for this type of use as close to the airport as possible (and still in a good overall location). 4. Aviation sector should be sited at the airport. There may be only 10-15 years of land left. Off Highway 20, north of town. <p><i>Bend Business Group responses:</i> <i>Representatives interviewed: Ed Pack, Cessna Wichita Site Selection Specialist; and Jim Sampson, ECO/Manager of Scion Aviation (a group interested in relocating to Bend in the next two to three years).</i></p> <p>Parcel size and location are extremely important, with an ideal lot size of 100 acres and a minimum of 3,000 ft. of runway frontage. A well qualified and available labor force is also very important. The availability of financial incentives like reduced leases, tax breaks, and other forms of assistance and policy cooperation make a difference in this globally competitive industry. This industry benefits from access to higher education and supporting uses nearby. Adequate road transportation is important, but not critical. Adequate power supply and reasonable prices for power are important. It is important to have buildings and resources that are good assets, not sunk costs. Ideally, we would have land on the airport that we lease, say 10-20 acres, as well as land that we own outright next door that is industrially zoned – something like 35-50 acres.</p>

<p>Manufacturing, Recreation Equipment, & Specialty Manufacturing</p>	<p><i>Stakeholder Group responses on ideal locations in Bend for manufacturing, recreation equipment, and specialty manufacturing:</i></p> <ol style="list-style-type: none"> 1. Empire Business Park is the best light industrial land in town and is a good location for these types of uses. It also has a functional mix of uses such as professional/technical offices and manufacture, “clean” industries, and office space. There is not any “production” that has impacts on other properties as what production occurs is entirely indoors. The uses mixed in the park are compatible with one another. 2. Absorption at Brinson Park is a good example: quick buildout. 3. Need another Brinson Business Park. 4. Put industrial on arterials or major collectors. 5. Need greater variety of locations of industrial lands. 6. Good industrial has highway access, utilities. 7. Generally need to spread out the light industrial. 8. Don’t put all the “eggs in one basket” (Juniper Ridge). 9. Healthy to have different areas developed with light industrial uses. 10. Distribution of land uses will distribute and reduce transportation impacts. 11. Need variety of ownership, but ownership of good locations 12. Industrial and commercial should be on collector or larger roadways. 13. Agrees that variety of size, location, and environment are very important. Scatter the employment lands (light industrial). 14. Support for mixed use, light industrial, commercial nodes distributed throughout Bend. 15. Ideally, there would be multiple parcels (shovel ready) in multiple locations (west, south, north, east), like it was a few years ago when the Brinson, Empire, Reed Market, Shevlin, and Basalt industrial parks were on line. <p><i>Bend Business Group responses:</i> <i>Representatives interviewed: Gary Fish, owner of Deschutes Brewery; Dave, Slavensky, Chief Operations Officer of Structus Building Technologies</i></p> <p><u>Deschutes Brewery</u> The current site is 10.58 acres in size and is divided by topography which makes the entire site more difficult to utilize efficiently. The business can continue to grow in existing location and will stay at the existing location as long as possible. There is still expansion area on the lower portion of the site.</p> <p>There is concern that the city infrastructure can not handle</p>
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	<p>the potential expected industrial growth in existing industrial zones. Cost to expand infrastructure is passed on to the existing industrial users when they seek to expand. Business relies on Hwy 97 to Portland for distribution.</p> <p>General Comments: Provide preserved truck routes, no roundabouts within industrial zones. The City should seek consistency in code interpretations. Often, the City does not provide clear answers in a timely manner. Could the City clean up the zoning designations in and around Shevlin Center.</p> <p>Looking for affordable land. Future industrial / mixed use locations to consider are the County demo dump and Robinson pit. The City should bring in a generous amount of land and also provide new employment zoning within the existing city to help balance the land costs.</p> <p><u>Structus Building Technologies</u> Current site is 2.43 acres in size. This is the third move for this growing business and the business is anticipating another move to accommodate growth. The existing site has 3-5 years of growth potential. Ideal site would have 4+ acres with 100,000 sq ft building footprint. The preferred location is in the NE quadrant of town. Trucking deliveries of raw materials rely on north Highway 97. Export distribution is dependant on link to Highway 20 east bound. Would like new Highway 20 link from north to Highway 97.</p> <p>This business runs 2 – 12-hour shifts and is concerned with proximity to residential developments. Needs employee supported services located within close proximity to the industrial area – primarily food services. Employees would benefit from regional transit that would operate on 24-hour schedules targeted for shift workers.</p> <p>New site requirements – good onsite truck circulation and highway access. Preserve dedicated truck routes to and from industrial areas.</p>
Information Technology	<p><i>Stakeholder Group responses on ideal locations in Bend for Information Technology:</i></p> <ol style="list-style-type: none"> 1. Information Technology around downtown and Old Mill. 2. These uses can locate in many different locations such as commercial areas, professional office, and light industrial areas. 3. Note: see comments on Office and Manufacturing sectors in Stakeholder Summary. <p><i>Bend Business Group responses:</i> <i>Representatives interviewed: Harold Koyama, CEO of IdaTech; Amy Tykeson, CEO Bend Broadband.</i></p>

	<p><u>Bend Broadband</u> Current site is 3.81 acres in size and has some expansion potential. The use is not considered desirable in a residential setting due to visual impacts. Business has large satellite transmitters and vehicle storage. Business could locate near other commercial or industrial uses.</p> <p>Desirable site characteristics include easy access to major highways, good circulation in and around site. Complete infrastructure systems in place including sewer, water streets, and sidewalks.</p> <p>General comments: Future economic lands expansion is constrained by lack of transportation infrastructure. Best location for new industrial lands is to the north not the west side. Some eastside locations may be suitable if transition can be provided between uses.</p> <p><u>IdaTech</u> Current facility has expansion potential. Company will expand based on market demand. Desirable site characteristics include easy access for both employees and truck delivery/shipping. Business would consider locating within a mixed use center.</p> <p>City could assist in identifying back up power needs in the government sector. Address back up power needs through the land use process.</p>
<p>Secondary Wood Products</p>	<p><i>Stakeholder Group responses on ideal locations in Bend for Secondary Wood Products:</i></p> <ol style="list-style-type: none"> 1. Put heavy industrial users to the north of Bend in UAR and along Highway 97 because of large lots, lower population densities, good transportation facilities, and markets to the north. 2. Heavy manufacture and any secondary wood product manufacture should be north of Bend. 3. Think generally of placing heavier and more intensive commercial and industrial uses closer and closer to the city core, with less intensive uses fanning out from the urban core. This decentralizes some uses, but does not dilute the effectiveness and function of existing economic lands. <p><i>Bend Business Group responses: Representatives interviewed: Dan Young, General Manager, Jeld-Wen Millwork.</i></p> <p><u>Jeld-Wen Millwork Mfg.</u></p>

	<p>Jeld Wen recently purchased the Bend Millworks Plant. The site has a total area of 46+ acres, some of which is bisected by the COID main canal and public streets. The expansion potential for new buildings is limited. Expansion at this facility will come as changes in employment shifts. There are no plans at this time for expansion.</p> <p>A new facility would require 50+ acres of contiguous land. Distribution of materials is international. Business is dependent on surface transportation. Business relocation would look to the east using Powell Butte highway as major transportation route.</p> <p>50% of the employees come from outside the Bend area from Madras to La Pine. Employees would benefit from regional transit or rideshare. Company currently does not provide incentives.</p>
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Staff Recommendations Based on Research, Stakeholder Feedback, and Feedback from Local Targeted Sector Businesses

Of the six target industries for the City of Bend, staff believes that aviation/aerospace and secondary wood products have the most consistent and unique siting requirements. Since they are both targeted industries, have siting requirements that are unique and difficult to replicate, and tend to require more tailored policies to create and protect these sites, staff recommends the land needs for these industries be treated as prime industrial lands. While other targeted industries are important, it appears that site needs for the same type of business vary considerably, and can be addressed by providing an adequate supply in a variety of locations. For example, information technologies, renewable resource industries, and specialty manufacturing may successfully locate in industrial, mixed use, or industrial settings. It may be counterproductive to pinpoint sites and protect them for these specific uses.

In the case of aviation and aerospace, locating adjacent to an airport is critical. Stakeholders and business representatives cite the need to place these industries at the airport versus distributed around Bend. In addition, they typically require very large sites (up to 100 acres) for their use. Also, since these businesses are truly global and siting decisions are national and international, governmental incentives such as below-market lease rates, reduced land costs and tax breaks, may be important ingredients in making an ideal site. It is also important to insure that surrounding land uses are compatible with the impacts of the industry.

In the case of secondary wood products, ideal sites are large with compatible surroundings and access to high volume roads. These roadways serving this use should be able to support large volumes of trailer trucks. Large businesses could also benefit from access to rail service. Compatibility with surrounding land uses is very important due to potentially high impacts such as sound, smell, vibration, and visual impacts.

Step 3: Inventory and assemble districts with the site-specific characteristics of the desired industry, or with the ability to attain those characteristics within a reasonable period of time.

Step 3 represents one of the next steps associated with the City developing a prime industrial lands designation. Staff first requires feedback from the Planning Commission on Step 2, above. Next, staff suggests doing additional work to specify land needs for these industries in terms of acres and site specific requirements. Land needs may be added to, or included in, existing land need estimates. Site specific requirements would then be developed in conjunction with the site ranking work being done for the UGB expansion. Importantly, policies around identifying and protecting prime industrial lands also need to be created.

Appendix D: Buildable Lands Inventory

Summary Data - Buildable Lands Inventory

	General Plan Designation																			
	RL				RS				RM				RH				TOTAL RESIDENTIAL			
		Acres				Acres				Acres				Acres				Acres		
Total Gross Acres in UGB		1,989				11,435				1,698				393				15,516		
Total Gross Acres NOT in Medical District Overlay Zone		1,989				11,435				1,628				183				15,235		
Total Gross Acres in Medical District Overlay Zone		0				0				70				210				281		
	Lots	Acres	Units	New Units	Lots	Acres	Units	New Units	Lots	Acres	Units	New Units	Lots	Acres	Units	New Units	Lots	Acres	Units	New Units
Total Net Acres, Lots and Units in Entire UGB	2,995	1,627	2,986	107	24,432	9,611	21,495	5,533	4,615	1,336	9,201	1,147	483	316	1,246	164	32,525	12,890	34,928	6,951
Excluding Medical District Overlay Zone																				
Developed ¹	2,860	1,436	2,954	0	21,110	7,086	21,082	0	4,052	930	8,485	0	310	111	1,081	0	28,332	9,563	33,602	0
Redevelopable ²	26	54	25	0	381	502	370	0	49	79	89	0	2	1	2	0	458	637	486	0
Redevelopable - Pending Land Use ³	3	24	2	42	41	195	30	979	21	62	175	655	0	0	0	0	65	281	207	1,676
Vacant ⁴	28	24	0	0	261	476	0	0	148	128	0	0	21	11	0	0	458	640	0	0
Vacant - Pending Land Use ⁵	1	1	0	1	50	513	0	2,019	17	37	0	218	6	10	0	132	74	561	0	2,370
Vacant - Platted ⁶	64	31	0	64	2,535	723	0	2,535	266	33	0	266	23	3	0	23	2,888	791	0	2,888
Constrained ⁷	13	56	5	0	54	116	13	0	1	0	0	0	0	0	0	0	68	172	18	0
Total excluding MDOZ	2,995	1,627	2,986	107	24,432	9,611	21,495	5,533	4,554	1,269	8,749	1,139	362	137	1,083	155	32,343	12,644	34,313	6,934
Medical District Overlay Zone																				
Developed ¹	0	0	0	0	0	0	0	0	46	34	452	0	93	146	163	0	139	179	615	0
Redevelopable ²	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redevelopable - Pending Land Use ³	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vacant ⁴	0	0	0	0	0	0	0	0	6	30	0	0	14	19	0	0	20	49	0	0
Vacant - Pending Land Use ⁵	0	0	0	0	0	0	0	0	1	1	0	0	5	11	0	0	6	12	0	0
Vacant - Platted ⁶	0	0	0	0	0	0	0	0	8	2	0	8	9	4	0	9	17	6	0	17
Constrained ⁷	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total in MDOZ	0	0	0	0	0	0	0	0	61	68	452	8	121	179	163	9	182	246	615	17

¹ Developed residential lots contain existing dwelling units and do not meet the redevelopment criteria stated below, or are used for employment, schools, parks, rights or way, open space, institutional uses, or parking lots. Developed employment lots include a) lots less than 0.5 acres, b) lots between 0.5 acres and 5 acres that have permanent structures or improvements, or c) lots 5 acres or larger with 0.5 acres or more of development.

² Redevelopable residential lots can double the number of dwelling units on the lot, are greater than 0.5 acre, have a land value greater than improvement value, and have no CC&Rs prohibiting future land division. There are no redevelopable employment lands - lots are either developed or vacant under OAR 660-009.

³ Redevelopable - Pending Land Use lots are those residential lots that meet the redevelopment criteria stated above, but that have a pending land use action.

⁴ Vacant residential lots are those that contain no dwelling units and no improvement values. Vacant employment lots include a) lots greater than 0.5 acres that contain no permanent structures or improvements, b) lots greater than 5 acres but less than 0.5 acres are improved, and c) lots not used for schools, parks, rights of way, open spaces, parking lots, or institutional uses.

⁵ Vacant - Pending Land Use lots are those that meet the vacant criteria stated above, but that have a pending land use action.

⁶ Vacant - Platted lots are those that are vacant, but are in platted residential subdivisions. No building permit applications have been received on these lots by the City of Bend.

⁷ Constrained lots are those with development constraints (no public road access) or with physical constraints over 50% of the lot (includes slopes > 25%, areas of special interest, and floodplains).

General Notes
Parcel inventory data was last updated on 2/25/2008. Data was summarized in this format on 9/2/2008.

Summary Data - Buildable Lands Inventory

	CB				CC				CG				CL				IG			
		Acres				Acres				Acres				Acres				Acres		
Total Gross Acres in UGB		58				113				950				534				248		
Total Gross Acres NOT in Medical District Overlay Zone		58				107				950				534				248		
Total Gross Acres in Medical District Overlay Zone		0				5				0				0				0		
	Lots	Acres	Units	New Units	Lots	Acres	Units	New Units	Lots	Acres	Units	New Units	Lots	Acres	Units	New Units	Lots	Acres	Units	New Units
Total Net Acres, Lots and Units in Entire UGB	280	36	60	0	191	84	54	1	612	732	208	0	857	390	475	0	170	210	6	0
Excluding Medical District Overlay Zone																				
Developed ¹	280	36	60	0	178	67	54	0	560	599	208	0	825	294	475	0	162	197	6	0
Redevelopable ²	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redevelopable - Pending Land Use ³	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vacant ⁴	0	0	0	0	7	11	0	0	31	81	0	0	26	71	0	0	6	8	0	0
Vacant - Pending Land Use ⁵	0	0	0	0	1	1	0	1	20	47	0	0	6	25	0	0	2	5	0	0
Vacant - Platted ⁶	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Constrained ⁷	0	0	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0
Total excluding MDOZ	280	36	60	0	186	80	54	1	612	732	208	0	857	390	475	0	170	210	6	0
Medical District Overlay Zone																				
Developed ¹	0	0	0	0	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redevelopable ²	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redevelopable - Pending Land Use ³	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vacant ⁴	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vacant - Pending Land Use ⁵	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vacant - Platted ⁶	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Constrained ⁷	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total in MDOZ	0	0	0	0	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Summary Data - Buildable Lands Inventory

	IL				IP				ME				MR				PF			
		Acres				Acres				Acres				Acres				Acres		
Total Gross Acres in UGB		1,486				35				367				281				1,603		
Total Gross Acres NOT in Medical District Overlay Zone		1,486				35				367				281				1,602		
Total Gross Acres in Medical District Overlay Zone		0				0				0				0				1		
	Lots	Acres	Units	New Units	Lots	Acres	Units	New Units	Lots	Acres	Units	New Units	Lots	Acres	Units	New Units	Lots	Acres	Units	New Units
Total Net Acres, Lots and Units in Entire UGB	654	1,280	14	0	22	29	0	0	278	274	14	1	478	225	137	23	310	1,487	63	71
Excluding Medical District Overlay Zone																				
Developed ¹	576	618	13	0	9	5	0	0	259	169	11	0	439	190	137	0	224	1,361	63	0
Redevelopable ²	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redevelopable - Pending Land Use ³	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vacant ⁴	67	632	1	0	13	23	0	0	16	91	3	0	13	27	0	0	14	117	0	0
Vacant - Pending Land Use ⁵	11	30	0	0	0	0	0	0	3	15	0	1	3	3	0	1	0	0	0	0
Vacant - Platted ⁶	0	0	0	0	0	0	0	0	0	0	0	0	22	1	0	22	71	9	0	71
Constrained ⁷	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0
Total excluding MDOZ	654	1,280	14	0	22	29	0	0	278	274	14	1	478	225	137	23	309	1,486	63	71
Medical District Overlay Zone																				
Developed ¹	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redevelopable ²	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redevelopable - Pending Land Use ³	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vacant ⁴	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Vacant - Pending Land Use ⁵	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vacant - Platted ⁶	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Constrained ⁷	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total in MDOZ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0

Summary Data - Buildable Lands Inventory

	PO				PO/RM/RS				SM				TOTAL EMPLOYMENT			
		Acres				Acres				Acres				Acres		
Total Gross Acres in UGB		9				6				42				5,731		
Total Gross Acres NOT in Medical District Overlay Zone		9				6				42				5,725		
Total Gross Acres in Medical District Overlay Zone		0				0				0				6		
	Lots	Acres	Units	New Units	Lots	Acres	Units	New Units	Lots	Acres	Units	New Units	Lots	Acres	Units	New Units
Total Net Acres, Lots and Units in Entire UGB	4	7	0	0	26	6	11	15	2	41	0	0	3,884	4,801	1,042	111
Excluding Medical District Overlay Zone																
Developed ¹	2	1	0	0	11	2	11	0	0	0	0	0	3,525	3,541	1,038	0
Redevelopable ²	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redevelopable - Pending Land Use ³	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vacant ⁴	2	6	0	0	0	0	0	0	2	41	0	0	197	1,108	4	0
Vacant - Pending Land Use ⁵	0	0	0	0	0	0	0	0	0	0	0	0	46	126	0	3
Vacant - Platted ⁶	0	0	0	0	15	3	0	15	0	0	0	0	108	13	0	108
Constrained ⁷	0	0	0	0	0	0	0	0	0	0	0	0	2	9	0	0
Total excluding MDOZ	4	7	0	0	26	6	11	15	2	41	0	0	3,878	4,796	1,042	111
Medical District Overlay Zone																
Developed ¹	0	0	0	0	0	0	0	0	0	0	0	0	5	4	0	0
Redevelopable ²	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redevelopable - Pending Land Use ³	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vacant ⁴	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Vacant - Pending Land Use ⁵	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vacant - Platted ⁶	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Constrained ⁷	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total in MDOZ	0	0	0	0	0	0	0	0	0	0	0	0	6	5	0	0

GRAND TOTAL			
	Acres		
	21,247		
	20,960		
	287		
Lots	Acres	Units	New Units
36,409	17,691	35,970	7,062
31,857	13,103	34,640	0
458	637	486	0
65	281	207	1,676
655	1,748	4	0
120	686	0	2,373
2,996	804	0	2,996
70	181	18	0
36,221	17,440	35,355	7,045
144	183	615	0
0	0	0	0
0	0	0	0
21	50	0	0
6	12	0	0
17	6	0	17
0	0	0	0
188	251	615	17

Appendix E: Proposed General Plan Policies - Economic Lands

POLICIES

General Economic Land Policies and Anticipated Land Needs

1. The City accepts the statements of the City's overall economic development objectives and desirable types of employment contained in the 2008 Economic Opportunities Analysis (EOA).
2. The City shall place a higher priority on retaining industrial sites in the City's land base while also providing a variety of commercial sites.
3. The City of Bend shall provide numerous sites in a variety of locations, types, and sizes to meet anticipated and unanticipated economic development opportunities. These locations shall be suitable from an economic standpoint and compatible with surrounding land uses.
4. The City shall provide at least a 20-year supply of economic, institutional, and associated open space lands to meet anticipated needs during the 20-year planning period as outlined in the 2008 EOA.
5. The City shall seek opportunities to designate additional sites for employment use within the existing urban growth boundary prior to expanding the UGB.
6. The City shall periodically review existing development and use patterns on industrial and commercial lands. The City may consider modifying General Plan and/or Zoning Map designations to make such designations consistent with existing development and use patterns.

Short-term Supply of Economic Lands

7. The City establishes a goal to have at least 25% of the predicted economic land need identified in the 2008 EOA qualify as competitive short-term land supply.
8. Beginning in 2010 and every two years thereafter, the City shall:
 - a. Update the economic lands Buildable Lands Inventory to identify developed and vacant economic lands by General Plan designation;
 - b. Estimate the acreage of vacant economic lands that qualify as competitive short-term supply;
 - c. If the acreage of vacant lands that qualify as competitive short-term supply is less than the 25% goal, then:
 - A. Staff shall deliver a report to the City Council that details:
 - i) Economic lands that have a relatively good opportunity to qualify as competitive short-term land supply to meet the 25% goal;
 - ii) Obstacles that prevent the lands from qualifying as competitive short-term supply; and

- iii) Efforts, plans, and potential funding mechanisms to prepare the lands to qualify as competitive short-term supply.

Industrial Development

9. Large-lot and specialty employment sites are important to the overall inventory of available economic land and shall be protected through the use of zoning, deed restrictions or other appropriate instruments to ensure that these sites will not be further subdivided prior to development.
10. Every 5 years beginning in 2013, the City shall evaluate the supply of large industrial and commercial lots (over 25 acres). If none of these large lots were developed in the five-year period, the City may consider allowing up to 25% of the lots to be developed into smaller lots with suitable General Plan and zoning designations.
11. The General Plan Map shall designate a supply of large industrial and commercial lots over 25 acres to attract large site users. Development Code standards shall preserve the inventory of large parcels for suitable uses.
12. As the supply of large commercial and industrial parcels is developed, the City shall consider designating alternative parcels within the existing inventory or seek to expand the UGB if the inventory of vacant lands drops below the identified need.
13. The General Plan Map shall designate a supply of large industrial and commercial lots over 25 acres to attract large site users. Development Code standards shall preserve the inventory of large parcels for suitable uses.
14. The City supports the redevelopment of brownfield sites to make efficient use of existing economic lands and improve the quality of the City's land and water resources.
15. The community shall strive to diversify its industrial base.
16. Existing industrial operations are encouraged to improve waste discharge levels and improve air quality conditions.
17. New industrial development must demonstrate compliance with DEQ air quality standards and must take every practical measure to minimize impacts to Bend's air shed.
18. The development of industrial sites shall minimize unpaved areas used for access, parking and storage in order to reduce dust that adversely affects air quality in Bend's airshed.
19. Industrial areas shall be protected from incompatible commercial and residential uses.
20. Industrial developments along highways shall be subject to special development standards relating to setbacks, landscaping, signs, and outside storage.
21. Wherever industrial zoning abut residential zoning, special development standards relating to setbacks, screening, signs, and building height shall be established.

22. Community efforts should be directed toward improving the general appearance of industrial areas so that they make a positive contribution to the environment of the community.
23. Industrial lands at the West edge of the urban area between Skyliners Road and Shevlin Park Road shall be limited to the Industrial Park and Mixed Employment plan designations to minimize additional heavy truck traffic on Newport Avenue and Galveston Avenue.

Mixed Use Development

24. Mixed-use development shall achieve the following purposes:
 - a. provide a variety of employment opportunities and housing types;
 - b. foster pedestrian and other non-motor vehicle access within and to the site;
 - c. ensure compatibility of mixed-use development with the surrounding area and minimize off-site impacts associated with the development;
 - d. ensure the site planning, access, parking areas and building designs are functionally coordinated and aesthetically pleasing; and
 - e. preserve the natural conditions where mixed use development is near identified Goal 5 resources, natural areas, open spaces, or waterways.
25. Plan designation of the Mixed-Use Riverfront Plan category and corresponding MR zoning along the Deschutes River shall not be used to justify rezoning adjacent properties or neighborhoods to a mixed use or commercial zone.
26. The City may designate other areas for mixed use development to encourage a variety of jobs and services close to residential areas.

Commercial Development

27. The existing pattern of commercial designations shown on the Plan Map along Highway 97 and Highway 20, and along arterial streets such as Newport Avenue, Galveston Avenue, SW 14th Street, 27th Street, and O.B. Riley Road shall not be extended farther along the street corridors.
28. The City shall discourage long continuous strips of primarily commercial development along expressways, principle arterials, arterials or collector streets.
29. New commercial general plan designated areas are encouraged to develop with mixed use centers which include housing and open space in addition to commercial development.
30. The city shall strive to retain and enhance desirable existing commercial areas and encourage property owner's efforts to rehabilitate or redevelop older commercial areas.

31. Zoning for commercial centers other than those shown on the Plan Map shall meet the location and size standards in the Plan text in addition to the Plan amendment and/or zone change criteria.
32. All commercial developments shall be subject to special development standards relating to setbacks, landscaping, physical buffers, screening, access, signs, building heights, parking areas, and design review.
33. The city shall encourage the development of small and pedestrian oriented Neighborhood Commercial centers.
34. Convenience Commercial centers should be up to five acres in area and be from one to one and one-half miles from another commercial use.
35. Commercial developments that abut residential zones or residential uses shall be subject to special setback and screening provisions.
36. The city shall continue the revitalization process in the Central Business District through rehabilitation or redevelopment of existing areas.
37. Proposed buildings that exceed the maximum allowable height limit in the zone shall be reviewed through the conditional use permit process, except in the Central Business (CB) Zone. Proposed buildings that exceed the maximum allowable building height limit in the CB Zone shall be reviewed through the variance process.
38. It is the intent of the Plan to allow commercial development adjacent to arterial streets and highways in areas designated for commercial development, provided that the developments access onto frontage roads or interior roads, and that access onto the highway or arterial will be limited. Points of access will be encouraged that provide for adequate and safe entrances and exits, and that favor right turns and merging over the use of traffic signals.

Appendix F: Stakeholder Summary Report

M E M O R A N D U M

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TO: **BRIAN SHETTERLY, AICP, LONG RANGE PLANNING MANAGER**
FROM: **BRIAN RANKIN**
SUBJECT: **STAKEHOLDER INTERVIEW SUMMARY**
DATE: **1/24/2007**
CC: **FILE**

This memorandum is organized in six main sections:

- 1) Background: Page 1;
- 2) Process: Page 2;
- 3) Summary of Stakeholder Interviews: Page 3;
- 4) Question-by-question Summary of Stakeholder Feedback: Page 5;
- 5) Conclusion: Page 30; and
- 6) Appendix 1: Economic Opportunities Analysis Summary Provided to Stakeholders: Page 31.

Background

The City of Bend Community Development Department, Planning Commission and City Council (City) are embarking on a project to determine the amount and location of industrial and commercial lands Bend needs within its Urban Growth Boundary to reach its economic development goals. This memorandum summarizes the most recent work on this project: the results of stakeholder interviews completed between October and December of 2007.

In April 2007, the City completed an Economic Opportunities Analysis (EOA) with technical consulting from Leland Consulting Group, LLC. The EOA calculates employment projections, economic land supply, and economic land demanded for a 20-year planning period ending in the year 2027. The EOA presents these estimates in the context of Bend reaching explicit economic development policies developed through the 2030 Visioning project (2006), Economic Sectors Targeting (2005), and Bend's unique economic strengths and weaknesses.

As part of a larger work program to expand the city's Urban Growth Boundary (UGB) for new residential and economic land, city staff assembled a list of local stakeholders to review and comment on the major assumptions and findings of the EOA. The purpose of the interviews was to receive pointed feedback from local experts active in commercial and industrial land appraisal, entitlement, development, marketing, sale, and use. The stakeholder group represents over 200 years of combined local experience with these issues. This input will be used to inform staff and decision makers of broad areas of agreement and disagreement with the EOA, which may lead to changes in the assumptions and results of the EOA. The input will also help identify new areas for economic use.

This memorandum summarizes the planning process used and outcomes of the stakeholder interviews. The summary presents the results anonymously, mostly as general comments and impressions, but also as specific ideas where such were offered by stakeholders. Staff is emphasizing the areas of commonality and agreement between the stakeholders as opposed to a “laundry list” of comments. However, unique ideas are also presented to illustrate the variety of perspectives and differences of opinions, and to illustrate there is no single right answer to many of the questions facing decision makers.

Process

City long-range planning staff started the planning process by identifying a list of stakeholders. This list was not intended to be all inclusive, but manageable, as there are many extremely knowledgeable people who were not included on the list. Most stakeholders were initially contacted beginning on October 29, 2007 via phone calls. After discussing the purpose of the stakeholder interviews and setting up a time to meet, staff sent an e-mail to each of the stakeholders containing a link to the full text of the EOA, a zoning map, a seven page summary of the EOA by city staff, and a list of ten questions that were the basis of the interviews. Interviews were generally an hour to an hour and a half in length, and were held between the dates of October 30 and December 3, 2007.

Staff found the majority of stakeholders relied on the EOA Summary document for their information, while a minority read the full 70 page text of the EOA. Staff also found none of the stakeholders filled out written answers to the questions in advance, and instead offered their verbal comments during the interviews. It was apparent, and preferable, that the questions were a tool to stimulate thinking and discussion versus a being formal survey instrument.

The list of the stakeholders is below, followed by the list of questions asked of the stakeholders. The EOA Summary given to the stakeholders is provided as Appendix A.

Stakeholder List	
Dana Bratton <i>Bratton Appraisal Group, LLC</i>	Kirk Schuler <i>Brooks Resources Inc.</i>
Matt Day <i>Hooker Creek Companies</i>	Steve Scott <i>Steve Scott Realtors</i>
Larry Ksionzyk <i>Oregon Department of Land Conservation and Development</i>	William Smith <i>William Smith Properties Inc.</i>
Patrick Oliver <i>Oliver Commercial Group</i>	Eric Stroble and Roger Lee <i>Economic Development of Central Oregon</i>
Mark Radabaugh <i>Oregon Department of Land Conservation and Development</i>	Todd Taylor <i>Knife River Inc.</i>
Mike Schmidt <i>Bend Chamber of Commerce</i>	Steve Williams <i>Oregon Employment Department</i>

The following are ten questions e-mailed to the stakeholders prior to the interview:

- 1) Do you agree with the overall technical approach used in the Economic Opportunities Analysis? If not, what are areas of disagreement?
- 2) Do you agree with the EOA's conclusions regarding the need for an additional 110 acres of commercial land in the short term (next 5 years) and 510 acres of commercial lands in the 20-year planning period? If not, what are areas of disagreement?
- 3) Do you agree with the EOA's conclusions that there is a 359 acre surplus of industrial lands in the short-term (5 years) and a smaller 65 acre surplus of industrial lands in the 20-year planning period? If not, what are areas of disagreement?
- 4) What characteristics make ideal industrial land in Bend?
- 5) If the city adds new industrial land to the UGB, where are the areas you feel are best suited for this use and why? (Please answer below or mark on the attached map.)
- 6) What characteristics make ideal commercial land in Bend?
- 7) If the city adds new commercial land to the UGB, where are the areas you feel are best suited for this use and why? (Please answer below or mark on the attached map.)
- 8) Where are areas inside the current UGB appropriate for small rezones to industrial use? (Please answer below or mark on the attached map.)
- 9) Where are areas inside the current UGB appropriate for small rezones to commercial use? (Please answer below or mark on the attached map.)
- 10) The following is a list of economic sectors expected to play a big role in Bend's economic future. In the table, please suggest areas in Bend where each land use fits best.

Important Economic Sector	Ideal Locations in Bend for Business
<i>Hospitality – Accommodation and Foodservices</i>	
<i>Higher Education</i>	
<i>Health Care and Social Assistance</i>	
<i>Aviation/Aerospace</i>	
<i>Recreation Equipment & Specialty Manufacturing</i>	
<i>Information Technology</i>	
<i>Manufacturing</i>	
<i>Construction</i>	
<i>Retail</i>	
<i>Professional, Scientific, and Technical Services</i>	
<i>Secondary Wood Products</i>	

Summary of Stakeholder Interviews

Below is a top ten list of the stakeholder's most significant and commonly raised points regarding the major findings of the EOA. The list is followed by a

question-by-question reporting of stakeholder comments and discussion of potential action items to address feedback from stakeholders.

Top Ten Points Raised by Stakeholders

- 1) In general, the employment projections seem reasonable and accurate, but should be used with caution since the future is uncertain;
- 2) The conclusion that more commercial land is needed in the planning period (510 acres in 20 years), particularly for office space uses, is on target;
- 3) The conclusion that there is a short-term surplus of industrial land is incorrect (including the approximately 500 acres of vacant industrial land inside the UGB that is part of the Juniper Ridge concept);
- 4) There needs to be more industrial land immediately available on the market, and preferably in a variety of sizes, ownerships, and locations to sustain a healthy and diverse economy. Industrial lands should be dispersed geographically inside and outside the current Bend UGB.
- 5) The city-owned 500 gross acres (or other publicly owned sites) of light industrial land inside the UGB represents “too many eggs in one basket”, but is also unique opportunity to “hold” or “bank” a functional supply of medium (10 acre) to large sites (25+ acre) for targeted businesses since public ownership may withstand market pressures to subdivide into smaller parcels;
- 6) Rezoning land inside the current UGB to light industrial and commercial uses is a good way to provide shovel-ready and serviceable economic land in the short term, while creating more variety and diversity in the market;
- 7) Immediate access to high volume surface transportation facilities such as highways, arterials, and major collectors is the single most important component of physical infrastructure for Bend’s “industrial” industries (assuming other facilities are in available);
- 8) In general, areas north of the city between Highway 97 and Highway 20, north along Highway 97, followed by lands to the east adjacent to Highway 20, then lands south of the UGB along Highway 97 are the best locations for new industrial lands;
- 9) The Central Area Plan is worth implementing and supports the concept that existing retail centers should be intensified versus creating many new retail areas. However, small and dispersed service/office commercial uses should be added to areas in the UGB that are underserved and new commercial nodes should be dispersed throughout the UGB expansion lands;
- 10) Developing a 4-year college campus as envisioned at Juniper Ridge is unlikely to happen soon, but is a worthy long-range goal. Central Oregon Community College is an existing asset that should be enhanced and linked to Bend’s overall economic development strategy.

Question-by-question Summary of Stakeholder Feedback

QUESTION: *Do you agree with the overall technical approach used in the Economic Opportunities Analysis? If not, what are areas of disagreement?*

Stakeholder Comments:

Bend's Economic Strengths and Weaknesses

1. Agree with strengths and weaknesses mentioned in the EOA (nearly all stakeholders made this statement).
2. Affordability of land is a big factor, and paying \$12-\$14 a square foot is not competitive.
3. Competitive pricing of industrial land is very important, but Bend is unlikely to be competitive based on price alone. Having an oversupply could decrease prices.
4. Agrees with the weaknesses of low land supply and high cost. Prineville is around \$5 a square foot, so Bend is much higher in cost. Bend should get its cost down if possible (difficult task that will never put Bend in the same price range as Redmond and Prineville). Bend may not need to be equally priced as surrounding communities, but lower to make it more attractive to locate in Bend rather than other communities.
5. Possibly allow affordable employee housing as part of some industrial zones (workforce housing). May work with all but the heaviest uses in the Industrial General category. Could require waivers of remonstrance.
6. He currently provides employee housing and it is a real incentive for employees.
7. Affordable housing (workforce) should be mixed with other income groups.
8. Workforce housing is a statewide and local issue.
9. Workforce housing as part of a light industrial project would work for a large employer. It could be an option.
10. Workforce housing and affordable housing could be compatible with all but the heaviest industrial uses.
11. Having the ability to provide workforce housing as part of an industrial or commercial development would not hurt, and would at least give a developer the option if it works for their business model.
12. Only a quarter of his employees live in Bend due mostly to a lack of affordable housing (can't get what they want for the price).
13. A lack of affordable housing limits an employee's ability to find homes in Bend, and adds to transportation costs if a person is employed here and lives elsewhere.
14. COCC should focus on workforce training and industry needs specific to Bend.
15. COCC could take a strong role in training facilities matching the targeted economic sectors. For example, constructing a training center for the medical industry or a culinary institute, both of which support and could grow targeted sectors. Programs could be linked to the tourism industry (develop a culinary cluster around Bend's restaurants, programs at COCC to bring people here for a vacation to learn how to cook and then enjoy our restaurants). Another example of this synergy is the successful turf management program to support the golf industry in the area.

16. The lack of higher education (independent four-year college) is not a significant limitation at this time.
17. The bigger educational limitation is a lack of a technical trade school. Bend could offer a technical trade school similar to the Oregon Institute of Technology in Klamath Falls. These jobs pay very well and could also complement the targeted sectors.
18. Higher education is critical and an independent four-year college is needed in Bend.
19. A health care emphasis in the college would complement the health care industry.
20. Expanding workforce training opportunities in targeted industries is a great idea.
21. Consider educational land trusts at Juniper Ridge for training people quickly with flexible classroom space. Training, retraining services offered which also benefit companies moving here (rapid training). This still fits with the mixed use concept, but addresses existing business needs.
22. Having a four-year college at Juniper Ridge will benefit the community in many ways, but is a long way off. A four-year college will certainly help by providing a supply of educated, motivated future workers.

Possible Action Items In Response to Comments:

- *Explore the explicit connection between the eventual City economic lands expansion and policies in response to the strengths and weaknesses: remedy the weaknesses.*
- *Consider allowing workforce housing as part of large industrial developments, and possibly smaller industrial developments.*
- *Consider allowing affordable housing as part of large industrial developments, and possibly smaller industrial developments.*
- *Share the results of the EOA, Visioning, and Sector Targeting reports with COCC for their program development. Explore (or continue) City coordination with COCC on such activities.*
- *Consider technical school, trade school at Juniper Ridge.*

Targeted Industries:

1. Targeting and sector analysis is good.
2. Agreed with the sector targeting, but not at the expense of existing “bread and butter” industries, especially those related to construction.
3. Agreement that construction is an important sector within industrial.
4. No specific criticisms or comments on the sector targeting and employment projections methodology.
5. He agrees that construction related industries are a significant portion of industrial land need. These industries should not be overlooked as other sectors are targeted.
6. Targeting is reasonable. However, need stable industries in Bend that manufacturing offers.
7. Targeting is acceptable. However, many targeted industries are not “traded” and are secondary employers that grow and the customer base grows (health care, hospitality, higher education).

8. In general, the targeted sectors are appropriate since they address Bend's strengths and weaknesses. Bend is limited by not having an interstate highway and other major transportation linkages like sea ports and river freight opportunities. In addition, the city and region are relatively small in population. Together, these limit the types of businesses that will locate in Bend.
9. Support existing industry clusters.
10. Bend offers an opportunity for company headquarters with uses heavy in office and man power.
11. Company headquarters are increasingly in demand in Bend, with production facilities over-seas or in better locations. Companies want to move their headquarters here because of the quality of life and attractiveness to workers and management. Headquarters are often small, not just large headquarters.
12. Agrees with the mention of construction being an important component of industrial job growth.
13. Strongly agree that industries specific to construction have needs that must be addressed and not ignored in favor of targeted economic sectors. It is not a targeted sector, but is a huge part of the Bend economy.
14. Don't forget about the "ugly uses", like service light industrial, construction uses, supply and construction yards, sand and gravel distributors, asphalt and concrete plants, etc.
15. While he agrees with the targeted sectors, don't forget about mainstay sectors that support this city like distribution (Pepsi), construction equipment (Pape), building supply stores, yards for storage and assembly.
16. Need "nuts and bolts" light industrial.
17. The office, industrial, and retail percentages (of current uses) would be higher, but high land costs and low land availability have send businesses elsewhere.
18. Manufacturing will not be a significant employer because Bend is not on the I5 corridor and land is expensive.
19. Ideally, the city would develop more employers and employees in targeted sectors to create "fallback" opportunities (in case an employer closes or employees leave) to sustain and grow industries. It is difficult to entice tech businesses to locate here because there is not a readily available pool of qualified employees. Likewise for a tech employee who wants to move to Bend; there are not enough tech employers to offer a variety of employers.
20. Growth sectors and targeted sectors are realistic given Bend's characteristics.

Possible Action Items In Response to Comments:

- *Address land needs by specific use such as heavy industry, light industry/manufacture, and flex/tech office/manufacturing instead of presenting land need results only by broad category such as "industrial" and "commercial". This should address the specific need for "nuts and bolts", "ugly" "heavy" uses, and other uses.*
- *Develop specific siting criteria for the different land uses since they have different siting needs. For example, "heavy" uses should be separate from residential and office settings, "construction yards" or "external storage" uses, while not heavy, are not attractive, and should be buffered but distributed throughout the city. Other uses like "flex/tech" manufacturing and*

research/office can be co-located with commercial and be adjacent to some residential.

Employment Projections:

1. No comment on analytical methodology on employment projections.
2. Didn't spend much time criticizing the employment projections.
3. Reasonable that employment growth is proportionate to population growth.
4. Take the employment projections with a grain of salt; these are influenced by short term trends as much as long term models. As we know, short term trends change rapidly (business plans). The projections are not specifically made for the purpose of estimating long-term land needs.
5. Generally the EOA uses a good methodology. It is good that the employment projections are adjusted to account for population growth and targeted sectors.
6. The EOA should account for more manufacturing because the OED projections seem to underestimate manufacturing in favor of services and office. Manufacturing is relatively strong in Bend compared with Oregon and the nation.
7. The Deschutes County Coordinated Population Forecast will likely be an underestimate, so adjusting land needs upward will account for this and result in a better result. Don't underestimate again because it takes too long to make up for shortfalls (like the past five years).
8. Use "market choice" factors to allow for more market choice than has typically been available in Bend.
9. Office projections look a bit on the high side.
10. Methodology behind employment projections is reasonable. He leaves this up to the experts.
11. Agrees with the technical approach.
12. Agrees with growth trends of rapid economic growth powered by population growth.
13. Agreed with basic methodology on employment projections and conclusions.
14. Technical approach seems sound, but it is difficult if not impossible to predict actual needs in a 20-year plan. As a result, create much more supply, more variety of locations and ownerships to address the uncertainty and diversity of future markets.
15. Questioned factors and growth assumptions, but once explained, agreed with the methodology.
16. Check to see if real estate agents, brokers, insurance brokers, appraisers are included as "covered employment". If not, make an estimate for the office needs of these businesses because they are a significant employer. These employees are typically independent contractors, so may not be covered employment. Check doctors and lawyers as well. If we don't account for this, we may underestimate office use land needs.

Possible Action Items In Response to Comments:

- *Update employment projections; use the same methodology to transform them into land need, since the methodology was deemed reasonable.*

- *On the land supply side, apply market choice factors above current levels to achieve slightly more supply of land in order to not underestimate the land need.*
- *Explore covered vs. uncovered employment to determine if office needs of uncovered workers is underestimated by the EOA.*

Employment Density:

1. The employees per acre ratios seem too high.
2. Employment densities seem too high.
3. Employee densities used in the report seem too high.
4. Young companies have fewer employees per acre.
5. The employees per acre ratios are too high for Bend.
6. Employment densities used in the analysis may not be feasible under the current zoning, so may be inappropriate to use as an assumption to calculate future land need. Building heights, lot coverage, using drainage swales, and providing on-site parking may limit reaching densities of 18 employees per acre. For example, see industrial without office space since there is considerable office development in the light industrial zones that is no longer allowed. This may have skewed the employment density for light industrial lands.

Possible Action Items In Response to Comments:

- *Research and possibly use a lower employment density that is based on actual developed employment densities versus a higher “adjusted” employment density.*

Characteristics of Employment Land

1. He agrees with the characteristics of employment land.
2. Agrees with desirable land characteristics.
3. Characteristics of good land okay.
4. Characteristics of good land okay.
5. Agreed with the characteristics of good industrial and commercial land and need to distribute between different sized sites.
6. Agreed with the characteristics of good industrial and commercial land and need to distribute between different sized sites.
7. Headquarters want a variety of locations to appeal to the unique needs of the business (downtown, Juniper Ridge, Old Mill, Northwest Crossing, etc.).
8. Availability – There is no certified “test” or “standard approach”, just do basic research or make findings about availability. No need to send letters out to each property to see if it is available. Document, but not overkill.
9. Rail service – shortlines can be good, mainlines are not ideal for Bend. In the future, the rail may be moved out of Bend, making the existing lines shorelines. Gary Farnsworth might help with the discussion. As fuel costs rise and organizations adapt to these changes, rail may be more feasible and preferable.
10. Rail is not viable as we don’t have the volumes to entice the railroad to stop in Bend.

11. Characteristics of employment land (industrial) has proximity to rail. Rail service is weak in Bend. The manufacturing base isn't sufficient and does not deal in large quantities delivered by rail. Developers and businesses do not seek rail and land with rail access is not requested.
12. Rail – generally the railroad does not want to stop in Bend due to small quantities of loads and deliveries. Railroad is difficult to work with.
13. Even Redmond with concept of one-stop, transshipment facility to trucks has met with some resistance from the railroad. Same with Prineville at O'Neil Junction.
14. The current operations of the railroad make it neither practical, nor a desirable alternative to trucking commodities and products into and out of Bend. The railroad is very difficult to work with. The railroad wants to move through Bend, not stop. They deal in quantities larger than most businesses require in Bend. Rail rates are increasing. The time involved in getting a service contract or agreement is measured in years.
15. Adequate and consistent power supplies are an increasing concern. Is the power source stable? Is the power available?

Possible Action Items In Response to Comments:

- *Use the characteristics of employment land to search for sites that have these characteristics.*
- *Don't overemphasize proximity to rail as a siting criterion that is more important than other criteria.*

Issues in Bend related to Industrial and Commercial Lands

1. Create a variety of sites with different locations and sizes (comment was repeated by nearly all stakeholders).
2. Agrees that prime is less important in Bend.
3. Prime lands – City develops criteria based on trends and strengths and weaknesses, giving reasons for the need for prime lands. City inventories and selects, then protects with policies (consider overlay zones or special zones with special requirements for the prime lands). Make it very difficult to change the Prime Lands to non-prime lands.
4. Special siting characteristics – these are not necessarily "Prime" lands, but could be. Special siting characteristics refers to specific transportation, utility, locational, etc, needs of certain uses, really if there specific characteristics for uses targeted by the city. For example, auto mall, would fall in this category since it has very specific site size and locational parameters. See Lithia in Ashland.
5. Certain uses (like the muffler guy) are "trapped" in Bend and must pay higher prices, passing this on to consumers and making it harder for these businesses to succeed. These uses are not of a scale to relocate to another town, so are forced to deal with these price issues.
6. A lack of qualified employees limits employment growth.
7. A limiting factor for many businesses is access to quality trained labor. The labor force is not highly qualified and is relatively expensive.

Possible Action Items In Response to Comments:

- *Prime lands are not important to identify, but good industrial land is important to identify.*
- *Address special siting characteristics for uses in Bend that are unique (like an auto mall), special site characteristics for targeted industries (like aviation).*

Ideal Mix of Lot Sizes

1. Ideal mix seems appropriate.
2. The site distribution looks good.
3. It is good to identify needed sites and minimum numbers by size.
4. The City needs a greater supply of larger parcels.
5. Protect supply of large sites by having minimum lot sizes of at least 10-20 acres for some of the land supply. That way, if someone wants 40 acres, they only need to buy two lots. Could have an even smaller percentage in very large lots like 40 acres.
6. The distribution of lot sizes is good (if the percentages are by acreage).
7. Likes distribution of lots and maintaining a mix of lot sizes at all times to keep the lid on prices and increase supply.
8. The typical industrial lot size required is between one-half to one acre. Most of the demand is for these lots. However, keep a supply of larger lots.
9. He agrees there is a need for small work spaces (1,000 to 3,000 sq. ft.).
10. Young companies need more land than old companies due to growth potential. If the city is attracting young companies, more land will be needed than for the same employer with a mature business.
11. There is a limited need for large parcels and businesses seeking such parcels tend to seek incentives that pit one city against another city (such as tax breaks). These businesses are often not long-term partners with the community and should not be actively solicited and marketed since they can pull out of a community as quickly as they arrive.
12. Need sites for heavy industry in the 5-10 acre and 20-30 acre size ranges.
13. Need more parcels in the 20-40 acre size range.
14. Keep at least one large parcel in the 50-100 size range for a potential large employer and so if the opportunity presents itself, it is possible to invite such a business to Bend. This should be in addition to typical needs, not subtracted from predicted needs. This site is a marketing tool.
15. The "ideal mix" is good, but the large site percentages could be a bit lower (less supply of 15 and 25 acres sites).
16. Have need for larger sites, particularly in the 25 to 40 size, be added on top of existing needs.
17. Create a perpetual supply of industrial lands and policies to always have minimum supplies on hand (annual review).
18. Especially concerned about having adequate supply of sites by size, say need over 10 sites per category to provide true diversity, otherwise, if only two or three owners or locations, collusion and price fixing/low supply will develop higher prices.
19. Having industrial land in the 20 acre range allows for businesses to buy and hold for expansion uses. Establish minimum lots sizes of 10 acres to protect such areas. If a business must pay more per square foot they will tend to buy sites that meet their current needs rather than buying for expansion needs as

- well. This may create a situation where successful businesses must then move to another site, or town, if no such land is available.
20. The city also does not need a large number of large sites because Bend lacks the shipping, rail service, and markets to attract users of large sites.
 21. Sites 7.5 to 15 acres in size are less in demand than smaller sites.
 22. The most demanded site size is less than 3.5 acres (.5, 1.5, up to 3.5).
 23. There is strong demand for larger parcels (5-20 acres), and not much for parcels over 40 acres. However, the city should have at least a few large parcels available at any given time to create the opportunity for a large site user. Without the supply, many businesses will not “wait” or go through necessary steps to obtain a large site.
 24. Very few businesses have the desire (and ability) to redevelop land. It is typically the large and sophisticated businesses that will be willing to redevelop a site, not small businesses which are most common in the area.

Possible Action Items In Response to Comments:

- *There was agreement that determining site needs by site size is a good approach.*
- *There was agreement that small sites are in high demand (under 5 acres).*
- *There was disagreement regarding if the percentage of sites in the medium size range should be increased or decreased (i.e. 5-20 acres in size), with slightly more stakeholders believing more sites in this size range should be added to the inventory. One possible way to deal with this disagreement is to keep the percentages of sites by size in the EOA, but to have policy language that requires a minimum of number of sites to always be available as land is developed.*
- *There was general agreement that heavy industrial uses require larger sites like 5-20 acres.*
- *Stakeholders agreed that although large sites (greater than 40 acres) are not in high demand, it is essential to have at least a few sites of this size available to serve unanticipated needs. Consider having at least one very large (50-100 acres) site on hand. Also, the land used for these sites should not be “against” the documented land need, but in addition to, determined land needs.*
- *The City should develop policies that review supplies of sites by size each year to keep a continuous variety and supply of sites by each size. As sites are developed, new sites should be added to the UGB to replace. This would serve to keep supplies available and moderate price increases, create variety, and keep Bend competitive. If sites are re-zoned from industrial to another General Plan designation the land should be replaced.*
- *Large sites should also be protected from further subdivision and partition.*

Land Inventories

1. Test availability of lands to make sure supply is “real”. The availability criteria in the 660-009 rule are good to consider.
2. Vacant is vacant, not developed with \$20,000 of improvements. If there are improvements, they will likely just be demolished and removed, adding to the expense of land that is already the most expensive in the region. It really

adds anywhere from \$5,000 up depending on the structure. If there is environmental contamination, costs increase.

3. Use the ½ acre minimum lot size as the criteria for vacant because all developments must provide parking, landscaping, egress and ingress, drainage, etc. Also, topography where few rock outcroppings, trees, and steep areas should be identified and excluded from the inventory of vacant lands.
4. Vacant should be defined as ½ acre without buildings and improvements versus the \$20,000 or under definition.
5. Redevelopment will happen, but the definition of vacant should be vacant, not with \$20,000 of improvements.
6. Vacant should be “shovel ready” or land on the market for sale, not just land that is not built.
7. Redevelopable land should not be considered the same as vacant, or in the same category, since most businesses don’t want to redevelop land; they just want a “shovel ready” opportunity.
8. On supply side, how does the analysis account for speculation? Many lots are vacant but are not on the market at this time. There is considerable speculation on industrial lots, increasing price, decreasing the real supply.
9. Are the mechanisms to keep speculation from occurring at Juniper Ridge?
10. Consider the availability of the vacant land since much of the vacant land is held for a specific purpose.
11. In office and industrial having more supply may help the market by keeping prices on those uses down.
12. There is considerable speculation on industrial lands and it is difficult for businesses to buy properties at a competitive price.
13. He agrees with the lack of supply of lands, but believes that speculation is also playing a role in the lack of supply. People will hold for the better price tomorrow.

Possible Action Items In Response to Comments:

- *When identifying short-term supply, make sure the parcels are “shovel ready” (i.e. have services and are capable of being developed), and are “available”, which is for sale. This would exclude sites held for speculation, or sites held for expansion purposes. In the long-term (20-years), it is more appropriate to assume that lands held for speculation will be developed.*
- *Apply the availability criteria in the 660-009 to determine “availability”.*
- *Redefine “vacant” land to be sites that are ½ acre or more and have no improvements as allowed under the 660-009 safe harbor definition (vs. a parcel of any size that has less than \$20,000 of improvements).*

General Comments on Methodology/EOA

1. EOA – went political at the end of the analysis. Need a fair analysis at the outset, then let the council apply their policies to achieve their specific goals (in other words, don’t apply the council policies first as part of the analytical process).
2. The results and conclusions of the EOA did not match the preceding analysis.
3. It is good the city is examining the issue of economic land base.
4. It is good the city is contacting stakeholders to get their input.

Possible Action Items In Response to Comments:

- Respond to feedback received from stakeholders, the community, and decision makers throughout the economic lands expansion project.

QUESTION: Do you agree with the EOA's conclusions regarding the need for an additional 110 acres of commercial land in the short term (next 5 years) and 510 acres of commercial lands in the 20-year planning period? If not, what are areas of disagreement?

Stakeholder Comments:

- 1) Office is in short supply and high need. Need much more office space. Supports the conclusions of the shortfall in the EOA.
- 2) Agree there is a deficit of commercial lands in the long-term, especially office uses.
- 3) He agrees with the long-term deficit of commercial land.
- 4) Commercial deficit seems fine.
- 5) Short term supply should be 1/20th of the total supply; so "at least" this is available on the market as short-term land. It could be more if the city has policies to support this concept (like need for 2, 4, 6 etc. years available).
- 6) There is a strong demand for more office space. As office has moved into the Mixed Employment District, other commercial uses have a hard time paying the higher rents.
- 7) Big box commercial needs are not addressed. Address these needs explicitly.
- 8) An "auto mall" is a good idea. Auto retail sales are a huge source of local retail revenues. Good location would be adjacent to the railroad and Highway 97 in Juniper Ridge or north Highway 97 area. Could serve as an economically viable buffer use in that area. Don't go east on Highway 20 since the main purchasing markets are to the north of Bend, not east. Don't forget overflow parking needs of the uses. They require considerable acreage.
- 9) Auto oriented businesses (auto dealers, repair, and "big box" stores) are used by nearly everyone and the city should develop a sensitivity to businesses that are essential to our lifestyles (even though they may be auto oriented). These uses should be allowed to prosper, but designed to give them character and as best they can for pedestrians. Really focus on the good design for these uses.
- 10) The EOA does not directly account for tourism.
- 11) Needs for commercial land types should be broken out into the zone types.

Possible Action Items In Response to Comments:

- Determine the yearly land demand by type to estimate how much land must be "shovel ready" each year.
- Develop policies and analytical tools to keep a constant supply of "shovel ready" land each year. Consider policies and implications of making 2, 3, 4 etc. years of "shovel ready" land available.

- Address “big box” and “auto mall” land needs as a subset of commercial land needs.
- Consider developing land need estimates for specific types of commercial land in order to find ideal locations.

QUESTION: Do you agree with the EOA’s conclusions that there is a 359 acre surplus of industrial lands in the short-term (5 years) and a smaller 65 acre surplus of industrial lands in the 20-year planning period? If not, what are areas of disagreement?

Stakeholder Comments:

1. Disagrees with the statement that short-term supply is fine. Need more supply that is not all in one location.
2. Disagrees with the conclusion that there is plenty of short-term supply of industrial lands.
3. The conclusion there is sufficient short-term light industrial land is false.
4. The city is facing buildout of industrial lands in less than 7 years.
5. He disagrees with the conclusions regarding sufficient industrial land supply. He cites ODOT’s recent letter stating no additional development will be allowed at Juniper Ridge. Also, much of the supply of “vacant” land is not available since much of it is being held for speculation and for business expansions.
6. Disagrees with the conclusion there is enough industrial land.
7. Currently, the city does not have enough industrial lands and possibly the wrong mix.
8. In general, having more supply is a good thing since it will reduce price pressures and improve Bend’s ability to compete with lower priced areas like Redmond, Prineville, Madras, La Pine.
9. Juniper Ridge (industrial land supply) conclusions are short sighted – don’t want all your eggs in one basket (multiple comments).
10. There is a real lack of affordable industrial and commercial land.
11. City should have no less than a two year supply of industrial land available at all times. A portion of the supply should be city-owned to provide incentives if necessary.
12. Redmond is much smaller than Bend but has much more industrial land. Bend should have at least twice as much industrial land as Redmond since we are at least twice as large.
13. Redmond and Prineville are now providing the supply of industrial land for Bend.
14. Have land inside Juniper Ridge for “banked” sites, particularly large sites that may need to be held for longer periods of time for particular users.
15. He does not agree with the conclusions of the short-term surplus of light industrial land since nearly all of the Juniper Ridge acreage is not available on the market and has restrictions due to ODOT’s concerns.
16. Businesses have come to Bend to locate but they have not found the land to support their use. Many of these companies do not want to locate in Redmond or Prineville, so these industries locate in other states and regions in Oregon.

17. There is concern about the direction of the Juniper Ridge project for a few reasons. First, the proposal establishes a single-developer of the light industrial lands. The city needs competition and variety versus a monopoly of industrial lands. The city should set the standards for how Juniper Ridge is developed, not the developer. This pertains to how lots are divided, which uses are allowed, and which businesses are allowed to site in Juniper Ridge. One option would be for the developer to sell off acres to get more variety of developers and owners.

Possible Action Items In Response to Comments:

- *Do not consider the full 500 acres of Light Industrial zoned land inside the UGB which is part of Juniper Ridge as short-term supply. Much of this land may not be serviceable or shovel ready within 5 years, so should not be included as part of the short-term inventory. Research how much of the parcel is serviceable in the short-term and include this in the analysis.*
- *Research and consider policies that require portions of Juniper Ridge to supply large industrial sites (20+ acres) for particular uses (for businesses in targeted sectors).*
- *Examine the “availability” tests in OAR 660-009 to see if the short and long-term supply meets the test for diversity of ownership. If not, consider adding additional industrial lands to account for potential monopoly of industrial lands in Juniper Ridge.*
- *Research and disclose (to the extent allowed and extent information is available) terms for the development of lands in Juniper Ridge to address issues regarding how land is developed and sold (to address issues related to competition, single vs. multiple owner/developers, etc.).*
- *Research how much industrial land is available in surrounding communities like Redmond, Madras, and Prineville, to compare their industrial land supply with Bend’s industrial land supply.*

QUESTION: *If the city adds new industrial land to the UGB, where are the areas you feel are best suited for this use and why? (Please answer below or mark on the attached map.)*

Stakeholder Comments:

1. Put industrial on arterials or major collectors.
2. Good industrial has highway access, utilities.
3. Industrial and commercial should be on collector or larger roadways.
4. Industrial uses need easy and fast access to major roads and highways.
Having industrial in out of the way places makes it difficult to ship and receive goods, and adds to transportation costs.
5. Industrial lands should not be so centralized, spread around a bit to other property owners and locations. Centralized ownership is not a good idea as it creates a monopoly.
6. Industrial lands and commercial nodes need to be spread out.
7. More variety of ownership and location are important, and Juniper Ridge concentrates too much in one place. Spread some of the light industrial uses throughout the city.

8. Generally, the UGB proposal resulted in few “players”, so variety becomes an issue in the market (residential). Leave some opportunities for the “small guy”.
9. Need greater variety of locations of industrial lands.
10. Agrees that variety of size, location, and environment are very important. Scatter the employment lands (light industrial).
11. Generally need to spread out the light industrial.
12. Don’t put all the “eggs in one basket” (Juniper Ridge).
13. Healthy to have different areas developed with light industrial uses.
14. Distribution of land uses will distribute and reduce transportation impacts.
15. Need variety of ownership of good locations.
16. Don’t want “all the eggs in one basket”. One player (owner, broker, developer) will be a monopoly and will not address diverse needs of the market. Example, Cooley Road can’t handle all of the traffic, so one problem with one player (ODOT) puts an effective freeze on light industrial development in the city.
17. The “triangle” (area between Highway 97 and Highway 20) and Highway 20 (north) are the best locations for new light industrial.
18. Heavy manufacture and any secondary wood product manufacture should be north of Bend.
19. The area north of Bend, including the Juniper Ridge site, is the “sweet spot” for industrial and commercial uses because it is close to the population center of the region, has good access, and has access to employees (out of town).
20. North, then east (on Highway 20), then south.
21. Area north on Highway 97 is the best area for new light industrial and commercial. For example, between the 97/20 split and the Hay Depot north of town. Developing in this area would require frontage roads and interchanges, but would provide visibility and pass-by trips, which is a key factor in commercial land development. Could overcome the “strip” mentality by requiring landscaping, frontage roads, sidewalks and street trees, parking behind the building, buildings with great designs and pedestrian friendly appearance, shared accesses.
22. The northern part of the UGB/UAR and vicinity are the best areas for new light industrial.
23. The best land for industrial uses is between Highway 20 and 97 in the north part of Bend. Have big setbacks to make this area attractive.
24. Private properties to the north are in the best location for transportation related users and could compete with Juniper Ridge (similar to Redmond). Competition is good for the market.
25. Put heavy industrial users to the north of Bend in UAR and along Highway 97 because of large lots, lower population densities, good transportation facilities, and markets to the north.
26. Create an area just for heavy industrial uses that is “out of sight” but close to good transportation. These users need privacy and should not be located next to population centers or gateways to the community. These are necessary uses and need land.
27. Neighbors (residential areas) will oppose industrial to the north, but with attention to landscaping, visual appearance, building and parking lot orientation, lighting, fencing, setbacks, the incompatibilities can be mitigated.
28. Juniper Ridge is in a good location but lacks highway frontage and visibility from the highway, which will reduce its marketability. Staff notes: this may

- be an acceptable feature for industrial but not big box commercial uses (good, may limit long-term competition between these uses).
29. Juniper Ridge could be primarily for large parcels and particular users.
 30. Juniper Ridge should include a component large lots (15, 25 acre plus lots) in a bank. After the developer creates lots they should be deeded back to the city for city holding and sale to preferred and targeted industries. These lots should be shovel-ready. These lots should be used for economic development, not just any user.
 31. He supports the vision at Juniper Ridge.
 32. Keep Juniper Ridge in tact as an industrial development because the north is an optimal location. If displacing land from Juniper Ridge, make up for it in the north part Bend.
 33. Juniper Ridge needs an area for small parcels and design standards that address these types of businesses and also have an area for 1-5 acre parcels. The smaller parcels will have higher price per square foot due to good design standards and attractive infrastructure. Cluster these parcels together and give them access to an arterial. Set aside an area composed of 40-acre parcels as well. Ideally, the development would contain a tri-county transit center.
 34. Not a fan of the Juniper Ridge plan. The city does not need another four-year college and should make better use of COCC and OSU Cascades campus.
 35. Juniper Ridge should have shovel ready dirt for big employers and also mixed use areas so the land supply can be responsive to demand.
 36. Concern about creating another “downtown” or “town center” at Juniper Ridge as it competes with downtown, Mill District, and the other retail centers in Bend. How many can we support? What is the fallback position on Juniper Ridge if it does not work?
 37. Juniper Ridge – There will be considerable pressure to make that land commercial versus industrial. Protect economic light industrial uses with land use codes and overlays to make conversions more difficult. Hillsborough protects flex tech. Some commercial is acceptable, but what about big box retail?
 38. Section 11 may offer similar “public ownership” benefits as Juniper Ridge (land banking, large parcels, more light industrial development there).
 39. Section 11 is not a bad idea for more light industrial as it is adjacent to the county lands, landfill, other light industrial/public uses, and is close to east Highway 10 and Highway 97 south. Trucks can easily get in and out of these places. Also, lower residential densities and areas with large undeveloped parcels.
 40. Section 11 good industrial opportunities.
 41. Section 11 has good opportunity for industrial park and mixed use community similar to Juniper Ridge.
 42. East of town off Highway 20 would be ideal light industrial.
 43. Significant new light industrial and commercial development on Highway 20 east will require out of direction travel and more traffic since most customers and shipments will need to access Highway 97 north/south.
 44. New industrial land should be on the east side since there is little on that side. A good area would be to the north and south of Highway 20.
 45. There are some opportunities to develop industrial uses south of the UGB along Highway 97. Good access, fewer neighboring use conflicts, and more affordable housing (for workers) is to the south than north.

46. South of the Bend UGB on Highway 97 is an option.
47. Think generally of placing heavier and more intensive commercial and industrial uses closer and closer to the city core, with less intensive uses fanning out from the urban core. This decentralizes some uses, but does not dilute the effectiveness and function of existing economic lands.
48. Make sure some of the land (industrial and commercial) can be serviced quickly so shortages can be alleviated.

Possible Action Items In Response to Comments:

- *There was broad agreement between stakeholders that the City faces an immediate shortage of light industrial land (in terms of lots for sale, having competitive prices, and variety of locations), therefore, any UGB expansion for such land should include at least some areas that can be served as quickly as possible.*
- *Generally, land to the north of Bend (along Highway 97, Highway 20, and land between the two highways) was reported to be the most desirable location for new industrial and commercial lands. This includes, but is not limited to, portions of Juniper Ridge both inside and outside the UGB. Lands to the east of Bend along Highway 20 were viewed to be the next best location for new industrial and commercial lands, followed by Section 11, then south along Highway 97. Siting criteria or weighting criteria should account for this hierarchy.*
- *Many stakeholders expressed that publicly-owned properties like Juniper Ridge and Section 11, owned by Oregon Department of State Lands, may present similar opportunities to “hold” or “bank” sites for targeted sectors. Section 11 was also identified as a potentially good site for light-industrial uses.*
- *Ready access to major roadways like highways and arterials is one of the most important characteristics of a good industrial or commercial site. Siting criteria or weighting criteria should account for this finding.*
- *While lands to the north are perceived as a good location, one location will likely not serve the diverse needs of the city’s economy over 20 years. Diversity of location will also create diverse ownership, and diverse business environments, reduce the vulnerability of the total land supply to disruption or a de facto moratorium due to policy changes or inadequate infrastructure, and possibly reduce the number and length of automobile trips. Therefore, not all the economic lands should be concentrated in one location, but distributed around Bend in as much is feasible and practical. Siting criteria or weighting criteria should account for distributing lands around Bend, and policies may be developed to require an ongoing distribution of land supply.*
- *Most stakeholders agreed developing 500-acres of light industrial in one location was not preferable to spreading some of the acreage to other locations (again to address variety of ownership and location). In response, staff suggests a portion of the 500-acre light industrial acreage of Juniper Ridge be reallocated to other locations. The question is: how much land is advisable to rezone and reallocate? Staff received no direct feedback on this issue from the stakeholders. Absent specific direction from stakeholders, consider different rezoning and reallocation alternatives to explore their implications on the UGB expansion.*

- *Consider adding some appropriate industrial lands (for example, not heavy industry, but mixed employment) to nodes as part of the proposed Framework Plan.*
- *If industrial lands are to be placed at such prominent locations, strict development codes should be established in conjunction with the UGB expansion to create a very attractive appearance for uses adjacent to highways in order to avoid a “commercial strip” appearance. For example, developing frontage roads, large landscaped setbacks, shared accesses, pedestrian amenities, appropriate lighting, signage, building orientation, and architectural features, can make new areas industrial and commercial areas more attractive. Consider street grids and building orientation perpendicular to frontage roads running parallel with highways, punctuated by landscaped open spaces and pathways, versus development running parallel to highways.*
- *Areas north of Bend were reported to be ideal for heavy industrial uses. Lands for these uses should be sited away from residential areas and visual gateways as much as possible. In all cases where potential conflicts with other land uses exist, develop specific development codes to address potential conflicts (i.e. large setbacks, buffers, etc.). Siting criteria/weighting should address the north as a preferred area for these uses and address proximity to existing incompatible uses.*
- *New development codes should be written to reduce the wide variety of commercial uses that can be sited in industrial zones, or existing zones should be applied appropriately guide new development.*

QUESTION: *If the city adds new commercial land to the UGB, where are the areas you feel are best suited for this use and why? (Please answer below or mark on the attached map.)*

Stakeholder Comments:

1. Scratching heads about where to put new office. Agrees with intensifying downtown and implementing the Central Area Plan, but it is hard to figure out where to get new land. Support for the Framework Plan and similar infill rezoning, but not a huge amount would be warranted in these situations. Keep it small and vital with better dispersion.
2. The natural locations are north of the UGB and along Highway 20.
3. On retail: densify and intensify. However, retail like ground floor, so there is a “market limit” to intensifying for retail.
4. Build up downtown, Juniper Ridge, and Central Area Plan.
5. Plan should support and add to existing commercial clusters.
6. Consider areas adjacent to Highway 97 and 20 for big box retailers.
7. Instead of adding significant acreage of new commercial land to UGB, build on the existing commercial cores and areas. Zoning and infrastructure should allow retail, office, and housing.
8. Retail should be added in and around current retail cores.
9. Commercial and industrial can be mixed together and are a good combination of uses.
10. Ideal commercial land is in and around downtown. However, the city also needs lands for new big box stores.

11. Big box or national chains need to be sited together on a parcel of approximately 30 acres, off arterials, have good access and internal circulation. One area might be the realignment of Highway 97.
12. Office wants exposure similar to retail uses.
13. Office use is a destination, not to be confused with a convenience use or pass by use.
14. Retail is a following use, once other uses are established.
15. Office uses should be close together to utilize transit as much as possible.
16. Keep the commercial nodes small (between 2-4 acres) versus 5-10 acres. Larger nodes are neither marketable, nor preferable since they may attract too large in scale or represent too much commercial (and the impacts).
17. Commercial nodes should be small, say 2-5 acres.
18. Preserve the mainstays of Bend such as parks, pedestrian access, existing cores, good design, and emphasis on industries that complement the city's lifestyle amenities. Bend's lifestyle amenities and environment is what draws people here; don't ruin it.

Possible Action Items In Response to Comments:

- *Stakeholder comments on the topic of adding new commercial land to the UGB was the most varied of all topics, with no clear direction or answer being consistent between stakeholders.*
- *Most stakeholders advised improving, expanding, and intensifying existing retail and commercial centers rather than focusing on creating new centers. Stakeholders supported the vision of the Central Area Plan. Therefore, support the Central Area Plan concept and incorporate the plan into the economic land UGB expansion. Also, examine redevelopment potential and potential rezones around existing commercial centers.*
- *Stakeholders reported a need to create more commercial nodes inside and outside the UGB. The suggestion is provide small scale commercial uses (personal services, small retail and office uses) within walking distance of all residents. This suggests support for the Framework Plan, but also potential rezones within the UGB to create more commercial opportunities in existing neighborhoods.*
- *Stakeholders suggested addressing the specific needs of "big box" stores. Action items include determining how much employment and land need is specific to these retail uses, identifying siting criteria, and identifying specific areas for these uses. Generally, areas along Highway 97 and Highway 20 were identified as good locations for these uses.*
- *Some stakeholders suggested commercial nodes in the Framework Plan should not be larger than 7-10 acres, and supported having more nodes that are smaller in size. Analyze and possibly refine the Framework Plan to consider smaller commercial nodes of 3-5 acres (for convenience commercial uses), versus larger nodes.*

QUESTION: *Where are areas inside the current UGB appropriate for small rezones to industrial use? (Please answer below or mark on the attached map.)*

Stakeholder Comments:

1. Demolition dump rezone is a good idea as light industrial versus retail/office since it would provide supply of actual light industrial on the west side (none is currently available). Could be good for small users (1,500-3,000 sq. ft. industrial condo or workspace users). Uses could include manufacture/assembly, machine shops, allow software or other certain types of office uses. West side needs more light industrial as the existing lands are developed mostly in office uses.
2. Rezones of Demo Dump a good idea, mix of light industrial/mixed employment, with some office/or mixed use component.
3. Demo landfill and selective rezones in the south a good idea.
4. Supports employment uses on Demo Dump site.
5. Demo dump rezone is a good idea. Use office as a buffer.
6. Demo dump would be good as Mixed Employment.
7. Demo dump could be light industrial or office space.
8. Demo dump rezone to light industrial/mixed employment is an acceptable idea.
9. Southern areas inside the UGB are a good idea as it disperses economic land base and may cut down on cross town trips.
10. For example, the Penbrook and Pahlisch homes properties might be good. Good particularly for traded sectors where goods are assembled or fabricated then hit the highways.
11. Rezoning some of the southern tracks, and infill in the south makes sense.
12. Supports selective rezones of large parcels in the south east to industrial and mixed employment (not commercial).
13. General support for rezoning proposals at Demo dump, Shevlin Center, and infill in the south.
14. Rezones to the south along American Lane and large undeveloped land holdings are a good idea, but still consider access needs.
15. South east a good place for selective rezones (multiple comments).
16. Other areas for small rezones are large properties in the south of town (large lots) and midsection (south) since they have good access to Highway 97 south, and even Highway 20 via local collectors.
17. Another good infill location might be along the 3rd Street Corridor where not adjacent to residential.
18. When looking for areas to rezone, look to the transportation network to find sites with good access.
19. Rezone Shevlin Center to Mixed Employment.
20. Other industrial (not heavy and unsightly) can be sprinkled around town.
21. Rezone Shevlin Center to a mixed employment or office supporting zone rather than light industrial (which now prevents office space).
22. Currently, east/west travel is difficult.
23. Major concepts to keep in mind are to create a pedestrian friendly environment in your economic lands, have environmentally friendly development standards, mix uses and avoid separation of uses.
24. Consider a consortium of land owners to pay into needed improvements to get more light industrial land currently in the UGB serviceable. Consider a trip auction.

Possible Action Items In Response to Comments:

- *Rezoning property may be the best and fastest way to provide shovel ready industrial land, distribute the uses around Bend, and provide variety of*

ownership and location. Consider rezones of appropriate properties and develop siting criteria to identify appropriate properties.

- Consider the Demolition Dump (owned by Deschutes County), and large, undeveloped parcels in the south east for appropriately scaled light industrial uses. These uses should be made compatible with surrounding land uses via use and visual buffers.*
- Rezones should provide mixed employment and very light industrial types of uses versus heavy industrial use, construction yards, and other unsightly and disruptive uses.*
- If need be, draft infill light industrial/mixed employment development code standards that addresses the unique situation created by infill-employment lands. The development codes should protect existing land uses while providing new employment opportunities.*
- Shevlin Center is a light-industrially zoned subdivision that is near buildout, but built with mostly non-light industrial uses such as offices and financial institutions. Consider rezoning this area to a zone that fits the built environment, but does not hinder existing manufacturing businesses in the subdivision.*

QUESTION: *Where are areas inside the current UGB appropriate for small rezones to commercial use? (Please answer below or mark on the attached map).*

Stakeholder Comments:

1. Three main uses are retail, office, and industrial, with many grey areas in between. Keep a lid on retail to keep it vital and not spread it out. Retail requires adequate land by type, for example, lands for pedestrian friendly downtowns and big box stores. However, having too much retail dilutes downtowns, spreading them out.
2. Hospitality uses should be near downtown and 3rd street, business 97, and hospital.
3. This is difficult because businesses don't want to redevelop land. There are few ideal locations inside the UGB that would not require redevelopment.
4. Rezone 1st and 2nd streets for new commercial uses and to extend downtown.
5. 3rd Street is somewhat neglected and have more aging buildings ripe for redevelopment.
6. New commercial land could be located at Demo dump, areas adjacent to Highway 97 in the north and south of town. Workforce housing should be adjacent to these areas.
7. Owner occupied condominium/industrial has not been as successful as originally thought.
8. Many cities have too much retail; consider rezoning some of it that is not ideal location.
9. Home or residential as office is a hot ticket right now (suggesting dispersion for some office uses is not a bad idea).
10. Ratios at North West Crossing have been a successful mix (except for what appears to be some extra commercial).
11. Give retail/service nodes a character of their own.

12. Must think of putting commercial in small pods or clusters for infill to make areas more suitable for pedestrian access.
13. Commercial nodes do not need to be Convenience Commercial, which is seen as a “convenience mart” zone. Commercial Limited is a very useful zone as it is flexible and does not overemphasize auto oriented commercial uses.
14. Commercial nodes are a great idea and should be dispersed within the UGB to make underserved areas walkable, reduce transportation impacts, and improve livability.
15. Consider key spot rezones to put commercial (retail, office, convenience) into neighborhoods (use NW Crossing as an example).

Possible Action Items In Response to Comments:

- Like the answers regarding UGB expansion for commercial uses, infill for commercial uses also revealed the least unanimity.
- There was support for creating infill “nodes” of convenience or limited commercial use as a mechanism for enhancing livability and alternative modes of transportation in underserved neighborhoods. Consider limited office uses in these nodes as well. Identify potential areas inside the UGB that are underserved by convenient commercial locations and identify potential sites for commercial nodes in the UGB.
- Infill nodes will not meet the entire need for new retail and office uses, and are not appropriate for such intense commercial development. Therefore, identify potential areas adjacent to existing commercial areas appropriate for rezones to commercial use (adjacent to downtown, Mill District, commercial areas on 3rd street and Highways 20 and 97).
- Consider some commercial uses at the Demolition Dump site in addition to light industrial/mixed employment uses.

QUESTION: The following is a list of economic sectors expected to play a big role in Bend's economic future. In the table, please suggest areas in Bend where each land use fits best. What characteristics make ideal commercial land in Bend? What characteristics make ideal industrial land in Bend?

Important Economic Sector	Ideal Locations in Bend for Business <i>Stakeholder Comments:</i>
Hospitality – Accommodation and Foodservices	<ol style="list-style-type: none"> 1. Leisure and hospitality uses tend to stand on their own. However, restaurants and retail should be concentrated. 2. Hospitality and accommodation should be in the downtown.
Higher Education	<ol style="list-style-type: none"> 1. The city could take a more active role in working with COCC in the short term to create the environment for the campus to grow (such as better transit, roadway/intersection capacity). 2. Land needs for the university (200 acres) is reasonable, but should be an additional acreage to the

	<p>UGB expansion, not subtracted from other needs. It is also unlikely a four-year college will be developed at Juniper Ridge any time soon.</p> <ol style="list-style-type: none"> 3. COCC is not in an ideal location and should be moved to a better location. 4. Higher education should be on the existing COCC campus and at Juniper Ridge. Consider east side of Bend for distant learning center. 5. It is unlikely a four-year college will be developed at Juniper Ridge in my lifetime. 6. College is on over 250 acres and has uses only 50. They have land to grow.
<i>Health Care and Social Assistance</i>	<ol style="list-style-type: none"> 1. The area already developed with medical uses is a good fit. 2. Medical Overlay District. 3. Social Assistance can be dispersed, but medical should be concentrated. 4. There are plans to build other campuses in new areas that are easier to access. 5. The new clinic on the west side shows there is a need to disperse some of the medical uses.
<i>Aviation/Aerospace</i>	<ol style="list-style-type: none"> 1. Aviation and aerospace should be located in the northern part of Bend. 2. The airport should focus on aviation related uses and not lease space for other non-aviation related uses. The leases are very favorable. 3. Put the aviation and aerospace industry lands outside the UGB at the airport. Add 50 acres to the UGB in that vicinity for this type of use as close to the airport as possible (and still in a good overall location). 4. Aviation sector should be sited at the airport. There may be only 10-15 years of land left. Off Highway 20, north of town.
<i>Manufacturing, Recreation Equipment, & Specialty Manufacturing</i>	<ol style="list-style-type: none"> 1. Empire Business Park is the best light industrial land in town and is a good location for these types of uses. It also has a functional mix of uses such as professional/technical offices and manufacture, “clean” industries, and office space. There is not any “production” that has impacts on other properties as what production occurs is entirely indoors. The uses mixed in the park are compatible with one another. 2. Absorption at Brinson Park is a good example: quick buildout. 3. Need another Brinson Business Park. 4. Put industrial on arterials or major collectors. 5. Need greater variety of locations of industrial lands. 6. Good industrial has highway access, utilities. 7. Generally need to spread out the light industrial. 8. Don’t put all the “eggs in one basket” (Juniper Ridge). 9. Healthy to have different areas developed with light

	<p>industrial uses.</p> <ol style="list-style-type: none"> 10. Distribution of land uses will distribute and reduce transportation impacts. 11. Need variety of ownership, but ownership of good locations 12. Industrial and commercial should be on collector or larger roadways. 13. Agrees that variety of size, location, and environment are very important. Scatter the employment lands (light industrial). 14. Support for mixed use, light industrial, commercial nodes distributed throughout Bend. 15. Ideally, there would be multiple parcels (shovel ready) in multiple locations (west, south, north, east), like it was a few years ago when the Brinson, Empire, Reed Market, Shevlin, and Basalt industrial parks were on line.
Information Technology	<ol style="list-style-type: none"> 1. Information Technology around downtown and Old Mill. 2. These uses can locate in many different locations such as commercial areas, professional office, and light industrial areas. 3. Note: see comments on Office and Manufacturing sectors.
Construction	<ol style="list-style-type: none"> 1. Construction in general can be decentralized, but may benefit from building on existing grouped uses (like Wilson Avenue). 2. These uses (construction yards, materials suppliers) should have good access to transportation systems and not placed where they will be disrupting residential or commercial uses, or in areas that are visual gateways. 3. Juniper Ridge should contain some heavy industry, not just the high tech/flex tech, oriented businesses. These types of businesses like one-acre parcels. These types of uses have yards with exterior storage. 4. Construction related industries can be dispersed throughout Bend.
Retail	<ol style="list-style-type: none"> 1. Retail is needed throughout, but particularly in Central Area Plan, the Forum, downtown, 3rd Street, downtown expansion. Pack retail with housing to make it vital. 2. On retail: densify and intensify. However, retail like ground floor, so there is a “market limit” to intensifying for retail. Staff input: think of opening up ground floor retail opportunities along with higher density office and living adjacent to downtown. 3. Retail should be added in and around current retail cores. 4. Ideal commercial land is in and around downtown.

	<p>However, the city also needs lands for new big box stores.</p> <ol style="list-style-type: none"> Build up downtown, Juniper Ridge, and Central Area Plan. Big box or national chains need to be sited together on a parcel of approximately 30 acres, off arterials, have good access and internal circulation. One area might be the realignment of Highway 97. Retail is a following use, once other uses are established. Instead of adding significant acreage of new commercial land to UGB, build on the existing commercial cores and areas. Zoning and infrastructure should allow retail, office, and housing. Auto mall is a good idea. Auto retail sales are a huge source of local retail revenues. Good location would be adjacent to the railroad and Highway 97 in Juniper Ridge or north Highway 97 area. Could serve as an economically viable buffer use in that area. Don't go east on Highway 20 since the main purchasing markets are to the north of Bend, not east. Don't forget overflow parking needs of the uses. They require considerable acreage. Auto oriented businesses (Auto mall and big boxes) are used by nearly everyone and the city should develop a sensitivity to businesses that are essential to our lifestyles (even though they may be auto oriented). These uses should be allowed to prosper, but designed to give them character and as best they can for pedestrians. Really focus on the good design of these uses.
Professional, Scientific, and Technical Services	<ol style="list-style-type: none"> Support for the Central Area Plan. Office condos are not doing as well as expected. Central Area Plan is a good idea, similar to Pearl District. Central area plan is a good idea. The city should consider consolidating ownership on selected parcels to make redevelopment easier. Central Area Plan is a great idea. Central Area Plan comments-one way is bad for retail, but offices plus housing make one-way work. Create pocket parks, offer tax cuts to live and work in the same area. Add transit corridors to area. The Central Area Plan is a good idea since 3rd Street really needs help. This idea strengthens the downtown core and prevents developing too many commercial centers. The Central Area Plan is good but too much emphasis place on areas east of the tracks. This area needs to be addressed, but also the area between the track and downtown. This area needs to go vertical and would

	<p>be a missing piece in between two densely developed areas.</p> <p>9. These workers like to be close to amenities like good restaurants, athletic clubs, services, etc.</p> <p>10. These uses can be located in a variety of places and be successful.</p>
Secondary Wood Products	<p>1. Put heavy industrial users to the north of Bend in UAR and along Highway 97 because of large lots, lower population densities, good transportation facilities, and markets to the north.</p> <p>2. Heavy manufacture and any secondary wood product manufacture should be north of Bend.</p> <p>3. Think generally of placing heavier and more intensive commercial and industrial uses closer and closer to the city core, with less intensive uses fanning out from the urban core. This decentralizes some uses, but does not dilute the effectiveness and function of existing economic lands.</p>

Possible Action Items In Response to Comments:

- *Identify the number of new employees and new land demanded for each targeted sector to allocate land need into sub-categories.*
- *Identify potential development, redevelopment, or rezoning opportunities in the following location for the following targeted sectors:*
 1. *Hospitality – Accommodation and Foodservices – near downtown.*
 2. *Higher Education – land needs of COCC and educational land needs at Juniper Ridge.*
 3. *Health Care and Social Assistance – land needs in the existing medical overlay district area and dispersing medical needs throughout the city.*
 4. *Aviation/Aerospace – staff should examine the capacity at the Bend Airport for a 20-year land supply and explore the option to site these uses near the airport.*
 5. *Manufacturing, Recreation Equipment, & Specialty Manufacturing, Information Technology, Construction, Retail, Professional, Scientific, and Technical Services, Secondary Wood Products – staff identified no specialized site needs in addition to previously written action items pertaining to new retail and office uses, and heavy industry.*

Stakeholder Comments Regarding Land Uses/Zoning

Stakeholder Comments:

1. Strong support for mixed use and ME zone.
2. Mixed Employment (ME) is a great zone.
3. Mixed employment is a great zoning designation as it is flexible and allows mixed use, flexible commercial uses, stops big boxes, and allows office.
4. There is considerable office development in light industrial.

5. The city has not accounted for conversion of industrial lands in the past and should in the future with a policy to replace if land is converted.
6. There are very few cases in Bend where neighboring uses truly reduce property values. There are no significant negative impacts of placing light industrial (not heavy) adjacent to residential.
7. Master planning requirements are excellent idea, just need to nail down the requirements so the city gets the right mix of uses in each.
8. Make sure needs are met through master plans.
9. City should provide density bonuses and higher density around transit corridors.
10. SDCs based on residence type.
11. Development codes and design standards should be tailored to the particular use. For example, street standards for industrial parks should facilitate large trucks and trailers and not be “skinny” like residential streets. Likewise, more attention to making these areas pedestrian friendly and attractive are important.
12. The city should get out ahead of the trend and consider rezoning some area specifically for retirement living facilities. Make sure this area has the basic ingredients for use like access to shopping, services, medical services, public transit, etc.
- 12) On all land uses, need strong codes and enforcement to prevent prime lands (commercial and industrial) from “slipping” into other lower uses that may address a short-term market condition.
- 13) The new code is good since it tightens use controls and offers zones like Mixed Employment.
- 14) Building heights should be up to 100 ft. in the downtown area.
- 15) The city is too hung up on gravity flows and cannot expect gravity flow to move all effluent to the northeast. The city should seek decentralized wastewater treatment.
- 16) City of Portland has industrial sanctuary standards – Title 4, does not allow encroachment, consider Urban Renewal District to keep the off-site development costs down. Protect with minimum lot size and limited uses.
- 17) Industrial is simply defined as jobs excluding retail. Be careful since retail uses up transportation capacity.
- 18) Infill policies should describe where it will happen, how much will occur, what it will look like, and provide specific direction.
- 19) TGM corridors study offers examples of how to deal with Big Boxes.
- 20) In economic development chapter you may want to characterize a hierarchy of economic centers. For example, the highest is downtown, next, big boxes, next, small nodes.
- 21) Demographics are a key element to attracting businesses to an area. All businesses would be better served if they cooperated in establishing high quality data and demographics regarding their businesses.

Possible Action Items In Response to Comments:

- *Staff shall examine the Mixed Employment District and determine if it is appropriate to apply to new infill and expansion lands.*
- *Staff shall develop policies in Chapter 6 of the General Plan to address monitoring and conversion of economic lands.*

- *Staff shall develop Master Planning policies requiring specific percentages of acreage in developments be in specific uses to implement the Framework Plan and UGB expansion proposal.*

Stakeholder Comments Regarding City Service

Stakeholder Comments:

1. City operations such as permit review times and pro-business attitudes go a long way to making Bend more attractive to perspective businesses locating here. High land cost is only one disincentive to locating a business in Bend, others like adequate facilities and permit times matter as well.
2. The culture at the City of Bend needs to be more business friendly and customer service oriented. There have been improvements in the planning department, but there still needs to be improvement in the building, engineering, and ADA divisions. Businesses make siting decisions on many factors, one of which is the ease of doing business with the regulating agencies. If it is difficult, time consuming, and painful to obtain approvals, businesses will seek a better environment.

Possible Action Items In Response to Comments:

- *Implement the Blue Ribbon Panel's recommendations to improve City services.*

Conclusion

Staff would like to thank the stakeholder group for providing valuable input on the issues discussed in this memorandum. Feedback from stakeholders offers new perspectives to staff and the Bend Planning Commission as they work on the Bend UGB expansion. Staff will propose changes to the EOA methodology based on summaries in the "Possible Action Items In Response to Comments". Staff will also use stakeholder suggestions to guide future aspects of the economic lands UGB expansion. Through public hearings, the city hopes to further involve the stakeholder group and public in discussions of these issues. Ultimately, the guidance offered by stakeholders will either be taken, rejected, or modified by decision makers through a process of public hearings on the UGB expansion.

APPENDIX A: ECONOMIC OPPORTUNITIES ANALYSIS SUMMARY PROVIDED TO STAKEHOLDERS

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TO: **STAKEHOLDERS**
FROM: **BRIAN RANKIN**
SUBJECT: **ECONOMIC OPPORTUNITIES ANALYSIS (EOA) SUMMARY**
DATE: **10/12/2007**
CC: **FILE**

This memorandum briefly summarizes the major findings, assumptions, and conclusions of the 2007 Bend Economic Opportunities Analysis (EOA). City staff will update the sources of data used in the EOA. Staff will also take this opportunity to test the major assumptions and conclusions of the report. This memorandum intends to spur a discussion of the EOA without requiring stakeholders to read the entire EOA document.

The EOA produces three main analytical products, discussed below, to determine how much land needs to be available in the Bend UGB for economic growth to continue until 2027:

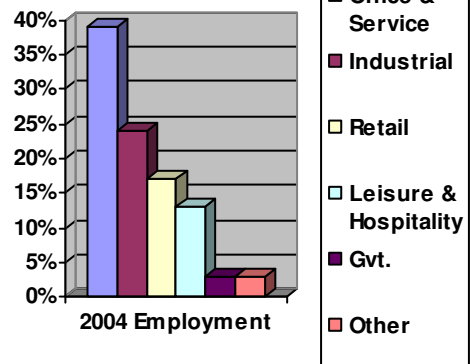
- 1. Description of Bend's economic strengths, weaknesses, and targeted industries;*
- 2. City of Bend employment projections for a 20-year period (to 2027);*
- 3. Characteristics of economic land and estimates (in acres) of land needed to achieve Bend's economic growth objectives from steps 1 and 2, above.*

BEND'S ECONOMIC STRENGTHS, WEAKNESSES, AND TARGETED INDUSTRIES

Strengths

1. Bend actual employment (jobs) by category in 2004:

- Office/service: 39%;
- Industrial: 24%;
- Retail: 17%;
- Leisure and Hospitality: 13%;
- Government: 3%;
- Other: 3%.



2. State and regional trends:

- *Statewide* - expect professional and business, educational and health services, trade, transportation, and utilities to account for 60% of job

growth. Growth will be rapid in Central Oregon. Manufacturing will rebound but not return to dominance. Overall growth between 2004 and 2014 roughly equal to growth in the prior decade.

- *Region* - professional and business services, educational and health services, retail trade, leisure and hospitality are projected to grow considerably. Natural resources, mining, manufacturing to grow slowly. Construction growth is expected to be strong. Industrial and manufacturing growth will increase, but not much.
3. Bend's population is expected to grow 72.5% between 2005 and 2030, up to 119,009 residents in 2030. Population growth is driving employment growth.
 4. Central Oregon "Centers" concept – Bend is a regional hub of business, culture, and government and will tend to attract a higher percentage of economic growth in these sectors due to this effect.

Weaknesses:

1. Low supply and high land and building values, lower land and building vacancies. \$13/s.f. for light industrial land in Bend vs. \$7/s.f. in Redmond;
2. Aspen effect – split economic strata and shrinking middle class;
3. Lack of workforce housing – employers believe scarcity is a serious problem;
4. Lack of higher education – consensus is that an improved educational system (K-graduate) essential to reach economic vision (as vision is based on knowledge based sectors). Need a stand-alone 4-year college with research emphasis.

Targeted Industries:

1. Nine sectors were selected by local stakeholders in 2005 as preferred for economic development due to existing industry clusters, growth opportunities, living wage potential, sustainability, and preference for "traded" sector industries (goods/services are sold beyond local market area):
 - *Economic base to sustain and grow* – Hospitality, Higher Education, Health Care
 - *Regional Targets* – Secondary Wood Products, Renewable Energy Resources
 - *Bend Targets* – Aviation/Aerospace, Recreation Equipment, Specialty Manufacturing, Information Technology

EMPLOYMENT PROJECTIONS FOR A 20-YEAR PERIOD (2007-2027)

Employment projections serve as the basis for determining how much additional land is needed in the Bend UGB over the 20-year planning period. The steps below summarize the basic steps the EOA used to make employment projections.

1. Start with Oregon Economic Department 2004 “Bend employment (jobs)” by sector.
2. Apply growth projections from 2004 to 2014 by sector for Region 10 (three-county):
 - *Factor 1.* Bend’s population will grow at a rate 1.4 times faster than Region 10 over the next decade. Regional employment growth by sector was increased by 1.4 to account for Bend’s faster population growth rate. The analysis applied the 1.4 growth rate to the growth rates for each economic category over the decade.
 - *Factor 2.* The analysis increased growth rates for “targeted” economic sectors to account for future policies to stimulate growth in these particular sectors. Growth rates for Retail, Office/Services, Leisure and Hospitality, and Government are scaled up by 10% over the decade.
3. To grow employment categories from 2015 to 2027, employment growth rates for all categories were assumed to be 69.2 percent of the 2004-2014 employment category growth rates (including the positive effects of both factors). Population growth in the second half of the planning period is 69.2 percent of the first half, so this assumes that employment growth is roughly proportional to population growth.
4. Results:
 - Largest amount of growth is in the office/services (12,931 new employees);
 - Retail and leisure and hospitality are a close second (5,453 and 5,980 new employees, respectively);
 - Industrial is fourth (3,349 employees);
 - Government and other follow (592 and 496 respectively).
5. From staff analysis of the projections, it appears that within each employment category the most significant (biggest percentages of jobs) and fastest growing sectors within each category are:
 - *Industrial:* Construction, Manufacturing, Wholesale Trade, Transportation and Warehousing Subtotal, and Utilities;
 - *Office/Services:* Health Care and Social Assistance, Administrative and Support, Waste Management, and Reclamation, Education and Services, Professional, Scientific, and Technical Services;
 - *Leisure and Hospitality:* growth in Accommodation and Food Services versus Arts, Entertainment, and Recreation.
 - *Retail* (no sectors);

6. The analysis assumes a 10% infill rate (rate of redevelopment of commercial and industrial land), slightly diminishing the number of new employees requiring land.
7. As a cross check to the analysis, Bend's ratio of employment to population (61%), jobs per household (1.5), and employees per population (25%) from 2004 to 2030 are relatively consistent (projections are similar to ratios in the past).

CHARACTERISTICS OF EMPLOYMENT LAND AND ESTIMATES OF LAND NEED

Economic lands have unique qualities that must be understood in order to find new land for economic uses. The EOA provides a summary of such characteristics and also draws some conclusions about the characteristics of economic land based on the types of economic growth unique to Bend. The EOA also converts employment growth (jobs) into land need, inventories existing supplies of economic land, and finally concludes with a discussion of surpluses and shortages of land types. The EOA relied upon information from interviews with locals, the consultant's experience, and research. The main points on these topics are discussed below.

Characteristics of employment land:

1. Good industrial land has the following traits:
 - Flat topography – mostly less than 10% slopes;
 - Adequate parcel size – from small leased space to large lot greater than 20 acres;
 - Close proximity to high-quality surface transportation, multiple modes, truck and auto, air, rail – in Bend, close to highways, rail, north Bend identified as ideal since it is closest to air service;
 - Adequate services such as utilities, energy, communications;
 - Buffer from incompatible uses like residential– this is important for heavy industry, rather than light/mixed use industrial;
 - Price – needs to be competitive.
2. Good commercial land has the following traits (particularly for retail, office, service, leisure and hospitality):

<ul style="list-style-type: none"> • Visibility – high volume arterial road or walk by; • Central location relative to employees, customers, support; • Proximity to major roadways or multi-modal; 	<ul style="list-style-type: none"> • Appropriate zoning; • Available utilities; • Compatible surroundings; • Minimal environmental complications.
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3. Predicting the “ideal” mix of parcel sizes for industrial land - The EOA uses the Metro Land Study conclusions averaged with Bend’s current supply to determine ideal percentages of the total supply of industrial land to be in particular site sizes:

- .5 acre sites should be **18%** of the total land supply;
- **1.5** acre sites = **16%** of the total land supply;
- **3.5** acre sites = **19%** of the total land supply;
- **7.5** acre sites = **15%** of the total land supply;
- **15** acre sites = **16%** of the total land supply;
- **25** acre sites = **16%** of the total land supply;

Issues in Bend related to industrial and commercial lands

- The distinction between “prime” land and typical industrial land is less important than in other communities;
- Variety of size, location, and environment is important to maintain;
- Low availability and high price are problems – availability is more important than location (for industrial);
- The line between traditional employment categories is dissolving as many traded-sector and industrial activities are carried out in office and flex settings;
- Lack of availability of highly-skilled, trained workforce, affordable workforce housing;
- There are typically no specific land or infrastructure requirements beyond the standard industrial characteristics;
- Lot size – need small work spaces (1,000 to 3,000 sq. ft.) to accommodate smaller employers;
- Lots in the 10-20 acre and 20+ acre categories in the most demand vs. lots 40+ acres in size;
- Location – northeastern areas (current industrial parks) seen as most desirable, good access to highways 97 and 20, good access to airports and population.

Land Inventories (supply)

1. Inventory shows a total of 257 acres of vacant commercial and 742 acres of vacant industrial/mixed employment lands being available (including the northern 500 acres of Juniper Ridge already inside the UGB).
2. Note: The OAR 660-009 definitions of vacant are ½ acre without buildings and improvements, or 5+ acres with less than ½ acre occupied by permanent buildings or improvements.

3. The EOA defines vacant as a lot with less than \$20,000 worth of improvements (different than OAR, above).

Land Need (demand)

1. “Employment density” is used to convert the number of future employees to acres of land needed:
 - *Example:* In Metro, Salem, and McMinnville: 10+ employees per acre for industrial and 22 employees per acre for commercial lands;
 - *Example:* The DLCDD EOA Guidebook employment density ranges between 8-12 employees per acre for industrial and 14-20 for commercial;
 - The Bend EOA analysis assumes 18 employees per acre for commercial and 11.5 for industrial (relatively high employment densities);
 - EOA reasoning: Bend’s employment density is expected to rise with more professional and service jobs, and “vision”, also mixing of office in industrial zones.
2. Employment Land Demand:
 - Most employment is in Commercial District (12,273), then Residential (6,441), then Industrial (5,066), then Mixed Employment (1,263), then Public Facilities (878);
 - The analysis collapses Mixed Use and Industrial into one need and does not account for economic land needs in residential and public facility zones;
 - Analysis assumes that all but 10% of existing available vacant lands are used in the planning period;
 - *Long-term:*
 - a. **Commercial long-term deficit 510 gross acres** (may need to reduce need if rezoning because UGB already has roads and infrastructure);
 - b. The **Industrial and Mixed Employment surplus is 65 acres** after considering the current supply of parcels by size, need by size, and Juniper Ridge at 494 net acres.
 - *Short-term:*
 - a. The EOA “short term” represents a five-year supply plus 100% market choice factor;
 - b. **Commercial short-term land deficit is 116 gross acres;**
 - c. Industrial short-term land deficit is 275 acres without the portion of Juniper Ridge that is inside the UGB, or;
 - d. **With the 500 gross acre Juniper Ridge, there is a short-term surplus of 359 acres inside the UGB:**
3. Breakdown of needed acres by parcel size:

- Commercial: no breakdown by size.
 - Light Industrial/Mixed Employment long-term needs:
 - a. 25 acre lots – need 2 lots, plus market factor of 2 = **120 gross acres (including 20% ROW)**
 - b. 15 acre lots – need 5 lots = **90 gross acres**
 - c. 7.5 acre lots – need 7 lots = **63 gross acres**
 - d. 3.5 acre lots – need 20 lots = **84 gross acres**
 - e. 1.5 acre lots – need 17 lots = **31 gross acres**
 - f. .5 acre lots – need 69 lots = **41 gross acres**
 - Light Industrial/Mixed Employment short-term land needs:
 - a. 25 acre lots – need 2 lots (market choice) = **60 gross acres**
 - b. 15 acre lots – need 2 lots = **36 gross acres**
 - c. 7.5 acre lots – need 2 lots = **18 gross acres**
 - d. 3.5 acre lots – need 5 lots = **21 gross acres**
 - e. have a **surplus of 1.5 and 0.5 acre lots**
 - f. **Total need is for “0” since Juniper Ridge is available**
4. Non-traditional Employment Lands
- Medical District Overlay - Estimates need for 52 acres of short term and 103 acres of long-term need. With 91 acres of supply, there is plenty of short-term supply, small long-term deficit (15 acres) of Medical District Overlay.
 - No estimate for other employment on Residential Land.
 - University land:
 - a. EOA recommends expanding UGB by 200 acres to accommodate a university and related research facilities;
 - b. This is well within a reasonable size range, and may be small compared to University of Oregon (295 acres), Oregon State 400 acres, but larger than MIT University Park at 27 acres;
 - c. Educational, home-based business, public facilities, other employment on residential, and employment beyond the UGB are not addressed.

Appendix G: Juniper Ridge Master Plan: University District Section

LAND USE

Overview

As an addition to a growing city, Juniper Ridge has a responsibility to provide the City of Bend with thriving, vibrant places whose value exceeds the sum of their parts. Time-tested places have shown that a variety of land uses interwoven in a mixed-use development fabric creates communities that are cherished and valued through the years in a way that single-use developments cannot. During the master plan process, open house attendees were asked to select their preferred image of a place in which they would choose to live, work and shop . The clear majority chose photos of mixed-use streets with shops and restaurants at the sidewalk and offices or residences above. When asked which uses and activities they wished would be near their home, work or school, attendees clearly favored proximity to shops, retaurnants and usable open space.

Building these preferences, the City and development team have identified a rich variety of land uses that will form the mixed-use, walkable, and green community of Juniper Ridge. A variety of jobs will be created in several sectors: light industrial; research and development (R&D); office; university (including instructors as well as researchers and support staff); and retail, dining and entertainment (RD&E). Portions of this land area will provide the opportunity for users requiring sites 10 acres or larger.

The university district is envisioned to provide a range of development types, including academic and support buildings along with a performing arts center, library, recreational fields, R&D incubators, a Center for Sustainable Energy, a pair of magnet high schools, and student and faculty housing. Together, these uses will total about 200 acres and will be located within the Primary Study Area.

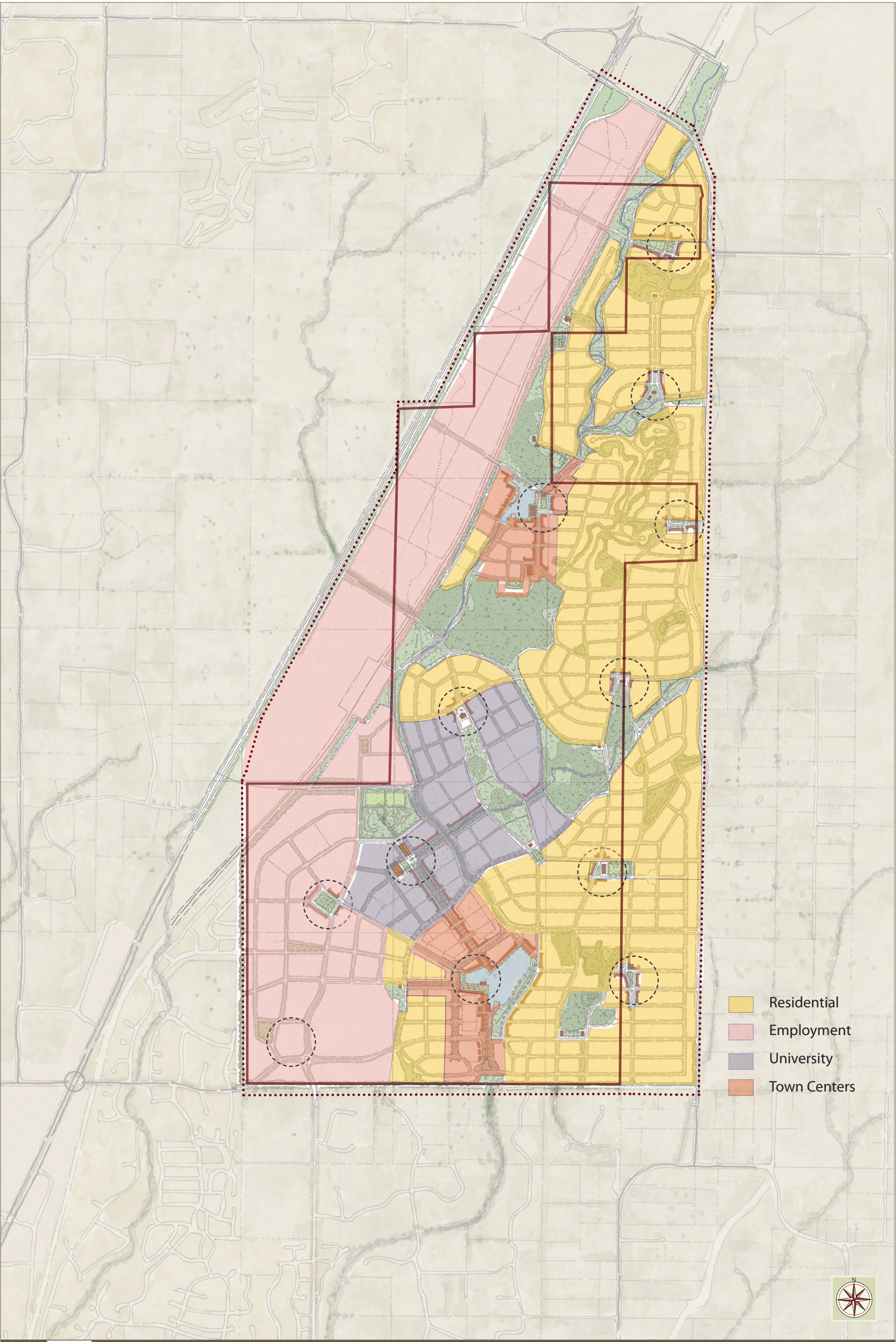
In order to be successful, mixed-use communities need jobs and activities, but they also need residents. Juniper Ridge will provide sites housing in a range of types and densities. Along with a range of detached products, townhouses, apartments and other attached housing options will be provided. A range of house types will accomodate a range of price points and rents, providing homes for a range of tastes, household structures, and incomes.

Citizens of Bend clearly enjoy outdoor activity. Whether hiking, biking, playing organized sports, walking, picnicking, or just sitting on a bench, most people want to enjoy the natural beauty of Central Oregon. Juniper Ridge includes open space in the form of parks, preserves, trails, and beautifully-designed streets. Well-proportioned streets with rich landscape and trees are a key component of the overall open space system. A minimum of ten percent of Juniper Ridge’s land area will be non-automotive open spaces including parks, fields, preserves and trails.

At a broad scale, employment lands will be located to the west of Juniper Ridge, adjacent to the rail corridor and US-97 while residential uses will generally be located to the east. The university district is near the center of the community and the open space system weaves throughout. The employment, Town Center, university and residential “prototypes” which follow illustrate how these uses will create a fine-grained weave when viewed more closely.

PROGRAM WITHIN PRIMARY STUDY AREA		
	ACRES	DENSITIES
RESIDENTIAL		
Single family	350	4-7 du/ac
Townhouses	75-125	10-15 du/ac
Multifamily	75-125	20-5- du/ac
EMPLOYMENT		
Large lot Industrial	100	0.25 - 0.50 FAR
Smaller lot industrial	250-300	0.25 - 0.50 FAR
Commercial	75-150	0.40 - 1.00 FAR
Mixed use and town centers	75-150	varies
UNIVERSITY DISTRICT		
Academic and support buildings	100-125	varies
Performing Arts Center	10	varies
Faculty Housing	20-30	6-10 du/ac
Student Housing	15-20	30-50 du/ac
Other *	30-50	varies
OTHER		
Parks and Open Spaces	150-175	
Major streets and right-of-way	125-150	

** Possible uses include a high school, library, other civic buildings, incubator/startup facilities, sustainability think tank, etc.*



0' 800' 1600'

UNIVERSITY DISTRICT PROTOTYPE

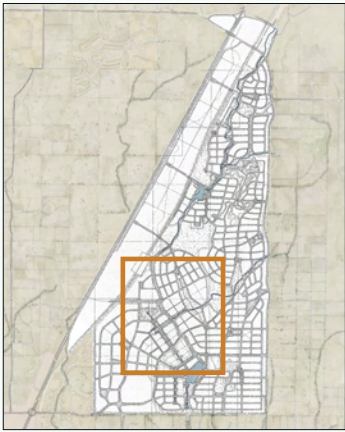
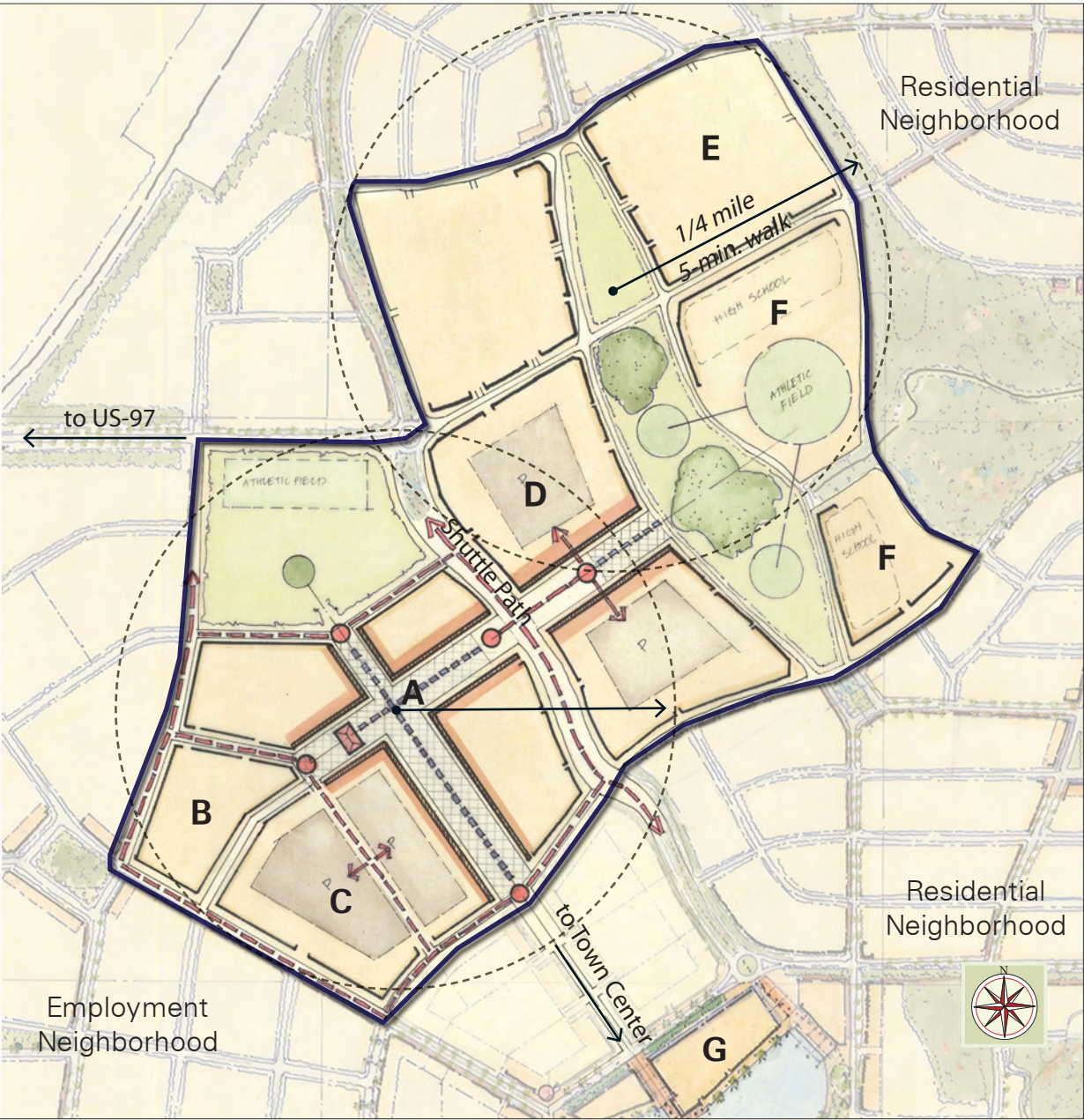
Central Oregon recognizes the importance of excellent education and the benefits it brings both to the marketplace as well as the community in general. As a result, a Guiding Principle requires a university district be located at Juniper Ridge, both to serve and benefit from the industries, businesses, shops, and residents of this new community and the entire Bend region. The City of Bend is endeavoring to engage a consultant to perform a detailed analysis of options for a higher education initiative at Juniper Ridge. That effort will help define the mission and refined development program for the university district at Juniper Ridge. This illustration identifies some of the rich potential inherent in the site and proximity to other uses.

While the specifics of the higher education component may be determined in the future, the Central Oregon Arts & Cultural Center board has been at work for years to create a multi-use venue for performing and visual arts. In addition to arts-related activities, this facility is envisioned to provide meeting and event space for the wider community. Located at the north end of the Town Center Lake, the Performing Arts Center also anchors an axis leading into the heart of the university district. The first segment of this link will include ground-floor retail and commercial activities to support the university district and the community at large (coffee shops, cafes, bookstores and

reprographic shops, for example) with apartments and other uses on upper floors. Behind these buildings, large parking resources can be shared between university district users during the week and performing arts center patrons on evenings and weekends.

Continuing the axis into the core university area, it is anticipated that a pedestrian focus would take primacy and that cars would be banished to the edges of the precinct. Important buildings and open spaces are located along major axes, with primary academic, research and support building lining the pedestrian realm. Research and development incubator sites and a Center for Sustainable Energy could be located on the edge facing a major employment zone at Juniper Ridge.

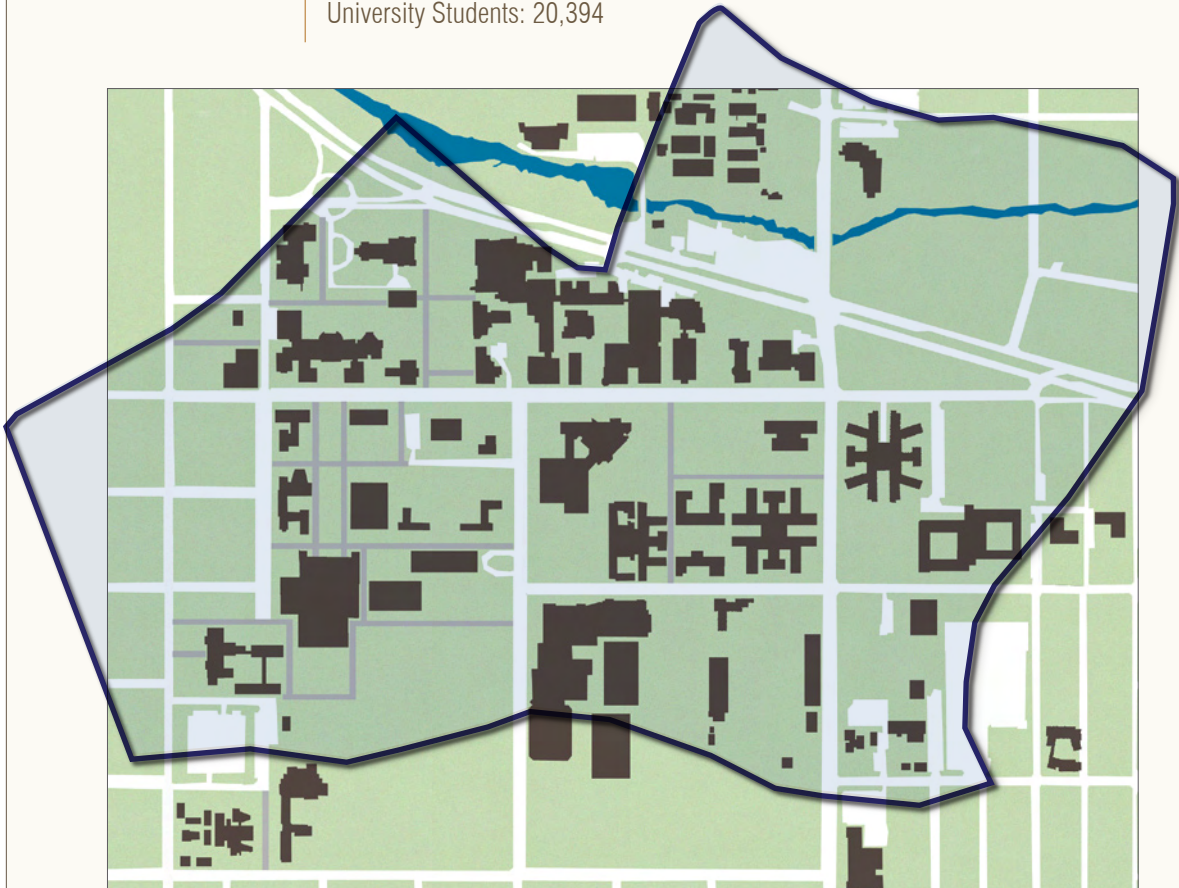
The portions of the university district adjacent to primarily residential neighborhoods could include student and faculty housing and a number of landscaped open spaces. In addition, one or more high schools – perhaps a technology-focus magnet school and an International Baccalaureate 11th and 12th-grade school – could be located adjacent to surrounding residential areas yet benefit from proximity to the university’s faculty, facilities, and other resources.



- A. Pedestrian - Oriented Academic Core
- B. Potential Incubator Uses
- C. Potential R&D Uses
- D. Student Housing
- E. Faculty Housing
- F. Potential High School
- G. Performing Arts Center

UNIVERSITY OF
OREGON

EUGENE, OR
Total Land Area: 295 Acres
University Students: 20,394



University of Oregon Images by D.R. Cornelius



University of Oregon Images by D.R. Cornelius



University of Oregon Images by D.R. Cornelius

OREGON STATE
UNIVERSITY

CORVALLIS, OR
Total Land Area: 400 Acres
University Students: 19,000



Oregon State University image above by Bob Zoller



Oregon State University image above by Don Nunn

COLLEGE OF
WILLIAM AND
MARY

WILLIAMSBURG, VA
Total Land Area: 400 Acres
Number of Students: 7,500



College of William and Mary



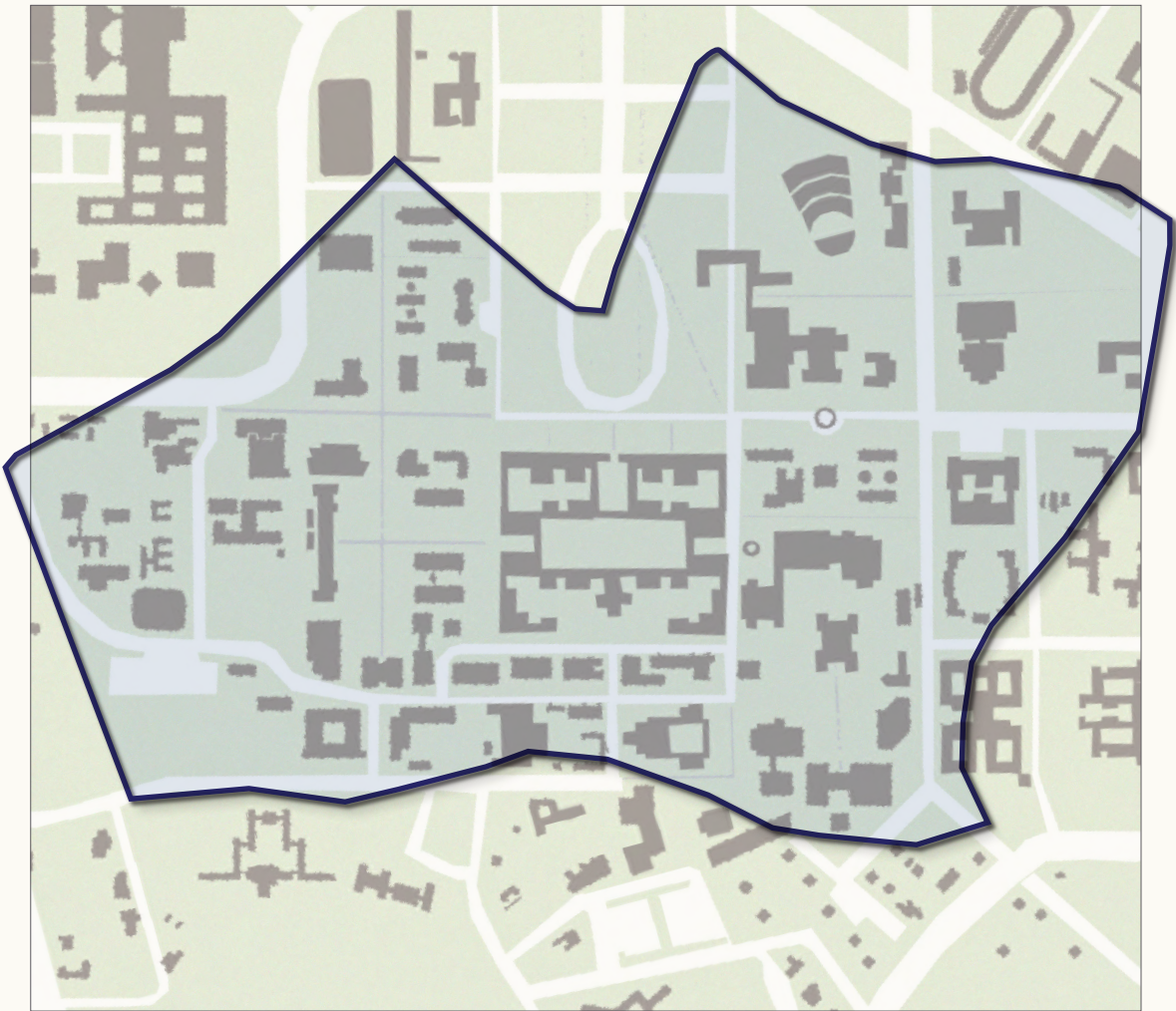
College of William and Mary



College of William and Mary

STANFORD UNIVERSITY

PALO ALTO, CA
Total Land Area: 1,189 Acres
Total Building Area: 13,100,000 SF
Number of Students: 14,880



Stanford University image above by Franco Folini



Stanford University image above by Lee Brimelow



Stanford University image above by Sigkyrr

Appendix H: Letter from Cascade Healthcare regarding proposed hospital site

December 1, 2008

Long Range Planning Division
City of Bend Community Development Department
710 NW Wall Street
Bend, OR 97701

RE: Bend Urban Growth Boundary Expansion

Thank you for the opportunity to comment on Bend's proposed urban growth boundary (UGB) expansion. Cascade Healthcare Community, Inc. (CHC) representatives have met with City of Bend planning staff numerous times over the last year to discuss our long-term site and facility needs. The following is additional information to add to the public record to explain why the proposed 100-acre hospital site, 93 acres of medical related uses, 21 acres of commercial uses, and 33 acres of medium-density residential uses in the JL Ward Co. parcel is necessary to meet anticipated future needs for health care land uses.

Health care is a targeted industry for the City of Bend, and Bend is generally positioned as a regional health care center. It is critical that sufficient land be available to meet future needs in this important industry. Jobs in health care are well paying, low impact, stable, and help to diversify Bend's economy. The employee population includes highly professional individuals (physicians, nurses, technologists and information technology specialists) as well as many entry level positions (food service, environmental services and maintenance). Almost 2,000 people are currently employed on the Bend hospital campus alone. Many more healthcare professionals are employed outside the hospital in clinics, surgicenters and imaging centers.

CHC recently completed a 10-year facility master plan. This plan indicates that service volume in the current facilities located in Bend and Redmond will increase during the planning period as a result of projected growth in the Bend, Redmond, Sisters, and greater Deschutes County area. Growth is expected in the secondary service areas as far south as Klamath Falls, as far north as The Dalles, and east to the Oregon/Idaho border. It is foreseeable that by the years 2018 through 2028, St. Charles Medical Center- Bend will be "built out" and no longer be able to provide room for needed services and expansion. It is also likely that by this time, portions of the existing facility will reach a point of being functionally obsolete, requiring us to relocate some of the high volume services, particularly outpatient services, to another location. For these reasons, we believe it prudent to plan for another comprehensive health care campus in the Bend Urban Area to service local and regional health care needs. It is important to remember that the existing facilities on the current Bend campus will likely remain in use and that the Redmond campus lies just north of the Bend facility. For that reason, we clearly prefer to locate in the

southern Bend area to provide services to underserved areas and not infringe on service areas to the north of Bend served by the Redmond campus. Areas such as Deschutes River Woods, Sun River, and La Pine are currently underserved, and the Ward site provides an excellent combination of proximity to these rural and underserved areas in the Bend UGB.

We examined a number of potential locations for a new health care campus in the immediate areas surrounding the Bend Urban Growth Boundary and it appears the JL Ward Co. parcel is best suited for our particular needs for a number of reasons. First, its size is unique (over 300 acres) and large enough to support master planning of integrated health services including inpatient hospital service and outpatient diagnostic and treatment facilities. The current design criteria require significantly more space for each service than healthcare facilities built in previous years. A full service hospital alone requires almost 100 acres in order to meet parking and other requirements. When physician offices are added, the size requirements increase dramatically. In addition, a number of retail support activities prefer to be located adjacent to a healthcare facility such as hotels, restaurants and personal service business. No other parcels of this size under a single ownership are available in the area. Second, it is immediately adjacent to Highway 97. Convenient access that relays on few local streets is important to make it easy to find the hospital, but also to reduce emergency response times. Healthcare campuses require large and frequent delivery of supplies by tractor-trailer vehicles and convenient access is important to keep these vehicles off residential and non-truck routes. The Baker Road Interchange provides convenient access to the site. The site is also visible from the highway, providing excellent exposure. We understand that needed services such as sewer, water, and transportation improvements will be needed at the site, and believe that Cascade Healthcare would partner with the city to provide needed improvements at the time of development.

Our discussions with City of Bend planning staff focused on the particular mix of uses and a specific location required to meet our anticipated long-term needs. Hospitals are not “islands” that are independent of surrounding land uses, but require a specific mix of supporting land uses to be successful. In our experience, it is necessary to have an adequately sized site for the hospital, including expansion potential, adequate supporting medical uses, commercial uses, and residential uses all in close proximity to one another. Hospitals rely on surrounding services to be successful. For example, accommodations (hotels, motels, RV sites) must be nearby to serve families visiting the hospital. Other retail and service outlets in commercial areas such as restaurants, offices, convenience shopping opportunities, pharmacies, labs, and similar uses must be close to the hospital to serve hospital staff and patients and their families. Physicians tend to develop office space near the hospital in order to reduce their own and their patient’s travel time to and from inpatient and outpatient services. Providing adequate land for medical clinics adjacent to the hospital in a planned development does enhance the range of services available to the hospital, but also for the hospital to serve as a resource for independent health care providers. We worked closely with planning staff to recommend the mix of uses proposed to create a fully functional and comprehensive health care campus.

As stated earlier, we recommended the specific hospital site size of 100 acres based on our knowledge and experience in building, operating, and maintaining a hospital site. This size is needed in order to provide adequate amounts of surface parking and landscaping, as well as core facilities. Healthcare campuses that include medical office space and other

medically related businesses are commonly built on sites as large as 200-300 acres but as long as 100-acres is allocated for the hospital alone and adequate land is available adjacent to it for other services, we believe a comprehensive medical campus can evolve over time. In order for CHC to begin master planning and design the entire site should be designated for that purpose at this time.

Cascade Healthcare Community understands this site cannot be protected solely for our needs. The proposed site and land uses would be ideal for any provider with a similar master plan such as our own. We also understand the eventual mix of land uses at the site could change over time, but recommend the core elements described in this letter remain in order to create the mix of land uses necessary for a successful health care campus.

Thank you for the opportunity to comment on this issue. We have appreciated the willingness of the City of Bend to coordinate with us and understand our specific needs, and the needs of the medical service provider community as a whole. Collaboration at this stage of the planning process and into the future is vital to ensuring that there will be an adequate supply of healthcare resources available for the people of the Greater Bend area.

Regards,

A handwritten signature in black ink, appearing to read 'James A. Diegel', with a large, stylized circular flourish at the end.

James A. Diegel, FACHE
President and CEO



Bend Economic Opportunities Analysis

Bend's Growth to 2028

Draft Document: November 11, 2015



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*Denotes Ex-Officio, non-voting members

** Member of Residential / Employment TAC in Phase 1, participating in Boundary TAC in Phase 2

TABLE OF CONTENTS

Table of Contents.....	3
Executive Summary	i
Chapter 1. Introduction.....	2
Role of the EOA	2
Framework for an Economic Opportunities Analysis.....	4
Prior Economic Opportunities Analyses and Remand Tasks	5
Updates to the 2008 Economic Opportunities Analysis.....	6
Chapter 2. Economic development vision and supporting policies.....	7
Vision for economic development.....	7
Related Plans and Documents	10
Chapter 3. Factors Affecting Future Economic Growth in Bend	14
National, State, Regional, and Local Trends.....	14
Chapter 4. Employment Growth and Target Industries in Bend	21
Employment Forecast.....	21
Employment Forecast by Site Size	24
Target Industries	26
Site Needs for Target Industries	28
Chapter 5. Employment Land Sufficiency and Site Needs.....	46
Buildable Employment Land Inventory and Land Capacity	46
Capacity of Employment Land in the Bend UGB to Accommodate New Employment	49
Conclusions.....	62
Appendix A. National, State, Regional, County, and Local Trends Affecting Future Economic Growth	63
State, Regional, and Local Trends.....	63
Bend's Competitive Advantages	86
Appendix B. Employment Projections.....	92
Methods	92
Employment Projections.....	93
Appendix C. Remand Directives	103

EXECUTIVE SUMMARY

An Economic Opportunities Analysis (EOA) is a technical analysis that projects trends, but it is also an aspirational economic development tool that identifies the land needs to achieve the type of employment that the community desires. Thus, it is important to have a vision for what type of city Bend wants to be in the future.

Over the past decade, Bend has continued to fulfill its promise as a forward-looking community by developing several broad policies and visions that will guide growth in the city and region, including the General Plan and Bend 2030. These are complemented by planning documents such as the Juniper Ridge Concept Plan, Economic Sector Targeting report, and others. Key elements of the vision include:

- *Targeted Industries.* Identify “target industries” that match community attributes and provide job opportunities over the long term.
- *Living Wage Jobs.* Increase employment in its targeted industries, too many jobs may be in the retail services and other relatively low-paying sectors.
- *Available Industrial and Commercial Lands.* Ensure that there is enough land to accommodate future jobs and businesses.
- *Diversified Economy.* Continue to diversify from a wood products and tourism-oriented economy to a more resilient economy that provides professional service, high-skill manufacturing, high-tech, and other living wage jobs.
- *Sustainable Industries.* Attract and retain businesses that maintain the high-quality natural environment.
- *Establish a university and research center.* Such an institution could have a dramatic positive impact on the workforce by training the next generation of Central Oregonians and visiting students to participate in a diversified economy.

Bend's role as a social and cultural center is an important consideration as a driver of economic growth. Bend's high quality cultural and natural amenities are repeatedly cited by business owners and employees as reasons to relocate to or remain in Bend.

Bend forecasts that employment will grow by 22,891 employees (about 61%) over the 20 year period between 2008 and 2028, at an average annual growth rate of 2.4%. Employment in Bend increased by 948 between 2008 and 2013; thus, the City forecasts 21,943 new employees between 2013 and 2028. Based on site requirements of target employers, Bend will need 726 sites less than five acres and 32 sites greater than five acres to accommodate new employment forecast for the 2013-2028 period.

In 2014, Bend had 1,162 vacant acres of vacant employment land. About one-quarter of Bend's vacant employment land is in sites smaller than 5 acres, 28% is on sites 5 to 50 acres, and 36% is in three sites larger than 50 acres.

The EOA concludes that Bend has a deficit of 366 sites smaller than five acres and 17 sites between 5 and 50 acres. It also concludes that 25% of Bend's total employment land supply meets the Goal 9 definition of short-term supply.

CHAPTER 1. INTRODUCTION

This report presents an update of the 2008 Economic Opportunities Analysis (EOA) for the City of Bend 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.”

Role of the EOA

The EOA will be adopted as a supporting document of the Bend General Plan. The EOA documents demographic trends, the projection of employment growth, identification of target industries, and evaluation of site characteristics needed to accommodate target industries. Based on this analysis, the EOA estimates the amount of employment that can be accommodated on existing land in the Urban Growth Boundary (UGB) and the amount of residual employment that will require new land. The EOA compares the employment forecast with the capacity of Bend's land base to accommodate new employment from the Buildable Lands Inventory (BLI). The BLI is one of four inter-related documents that are central in the City's planning related to the UGB. The Urbanization report identifies the amount of employment land that cannot be accommodated within the UGB, once land use efficiency measures are applied to the analysis and adopted. The major components of each document are summarized in Figure 1.

Figure 1. Four Key Planning document for Bend's UGB Planning

Document	Buildable Land Inventory (BLI)	Housing Needs Analysis (HNA)	Economic Opportunities Analysis (EOA)	Urbanization Report (UR)
Purpose	Identify buildable residential & employment land by category	Address the requirements for planning for needed housing, including analysis of national, state, and local demographic and economic trends, and recommendations for a mix and density of needed housing types	Document historical housing and demographic trends, the projection of employment growth, identification of target industries, and evaluation of site characteristics needed to accommodate target industries	Analysis of where and how Bend's future growth will be accommodated, both inside the existing Urban Growth Boundary (UGB) and in expansion areas
Primary Legal Standards¹	ORS 197.296 OAR 660, Divisions 8 and 9	Statewide Planning Goal 10: Housing ORS 197.296 and 197.303 OAR 660, Division 8	Statewide Planning Goal 9: Economic Development OAR 660, Division 9	Statewide Planning Goal 14: Urbanization ORS 197.298 OAR 660, Division 24
Key Subject Matter	Development status categories and definitions Methodology for assigning categories and conducting inventory Inventory results: acres by plan designation and development status	Projection of population and total housing growth Housing market and development trends Demographic characteristics and trends Analysis of affordability Estimate of needed housing (mix and density) Comparison of housing capacity to need	Existing policy and vision National, state, local trends Employment projections Target industries Site needs and characteristics Special site needs Redevelopment analysis Comparison of employment capacity to need and characteristics	Methodology for capacity estimates Pre-policy ("base case") capacity estimate for current UGB Efficiency measures (EMs) proposed Current UGB capacity with EMs UGB alternatives evaluation methodology and results Proposed UGB expansion and summary of Goal 14 evaluation results

¹ OAR = Oregon Administrative Rules; ORS = Oregon Revised Statutes

Framework for an Economic Opportunities Analysis

This EOA is built around the requirements contained in Oregon's Statewide Planning Goals 9 and 14 and Oregon Administrative Rules (OAR), Division 9.

Goal 9: Economic Development, aspires to “provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens.” It requires city comprehensive plans to “contribute to a stable and healthy economy” by analyzing economic “patterns, strengths, and weaknesses”, contain economic development policies, and provide at least an adequate supply of economic lands.

Goal 14: Urbanization, seeks to “provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.” Goal 14 directs cities to establish urban growth boundaries which contain urban levels of development and prevent urbanization of nearby rural lands. Goal 14 requires cities to establish UGBs based on residential land needs to serve a 20-year population as well as provide opportunities for employment, parks, schools, public facilities, and necessary public infrastructure. Prior to expanding a UGB a city must demonstrate that “needs cannot reasonably be accommodated on land already inside the urban growth boundary.”

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 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 with a population over 2,500 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.

This report is an Economic Opportunities Analysis, the first key element required by Goal 9. This EOA includes an analysis of national, state, regional, and county trends as well as an employment forecast that leads to identification of needed development sites. It also includes an inventory of buildable commercial and industrial land in the Bend UGB. It partially addresses the requirements of Goal 14 to determine if future needs can be accommodated on land already inside the UGB. Further evaluation of the capacity of lands within the UGB to accommodate employment and the impact of “land use efficiency” measures is presented in the *Bend Urbanization Report*.

This report reflects a “pre-policy” evaluation of employment land need in Bend for the 2008-2028 period. In this context, pre-policy means that it reflects base conditions and assumptions and does not include evaluations of land use efficiency measures as required by OAR 660-024-0050 and the Remand. It provides an evidentiary basis for the analysis contained in this report. Chapter 6 identifies other analysis necessary to comply with OAR 660-024 and the Remand. This additional analysis will be presented in a companion “Urbanization Report” that addresses Goal 14 requirements and other issues in the Remand that are not addressed in this report.

Prior Economic Opportunities Analyses and Remand Tasks

This EOA examines Bend's recent employment and land development trends and projects future employment and employment land needs. This is an update of the 2008 EOA that (1) addresses issues identified in the Remand, (2) addresses economic activity that occurred between 2008 and 2013, and (3) reflects input received from the Bend Employment Technical Advisory Committee (Employment TAC) and the Urban Growth Boundary Steering Committee (USC).

The EOA update is a technical document compliant with Goal 9 and OAR 660-009 that supports the 2016 Urban Growth Boundary (UGB) expansion. This EOA uses the 2008 EOA adopted by the City of Bend as a foundation because the key findings of the 2008 EOA were found to meet Goal 9 by the Land Conservation and Development Commission (LCDC). The information and conclusions of the updated EOA are the basis for determination of employment land sufficiency for the 2008-2028 period. This EOA collects the most recent work on economic land need for the City of Bend, addresses issues identified in the 2010 Remand Order, and incorporates direction from the Employment Technical Advisory Committee (TAC) and the Bend Urban

Growth Boundary Steering Committee (USC). The issues identified as requiring changes in the 2008 EOA in the January 2010 Director's Report and Order are described in Appendix C.

An important consideration for the EOA update is that it must address issues identified in the Remand and partial acknowledgement of a decision made in December 2008. A key issue is the planning horizon for the project. The EOA uses the 2008-2028 timeframe, but updates key elements of the EOA to reflect changes that have occurred since 2008. The updated EOA relies on the 2008-2028 employment forecast and the 2008 buildable land inventory that was acknowledged by the Land Conservation and Development Commission's (LCDC) remand order. The EOA updates the 2008 buildable land inventory to 2014 to reflect development that occurred in Bend between 2008 and 2014. The EOA also analyzes changes in employment between 2008 and 2013 to deduct employment that already occurred from the 2008-2028 forecast.

Updates to the 2008 Economic Opportunities Analysis

This EOA incorporates key information from the 2008 adopted EOA, such as the forecast of new employment for the 2008-2028 period. This analysis addresses the Remand issues identified for the 2008 EOA, as described in Appendix C.

This EOA uses two periods of time for historical analysis and for the forecast of employment need:

- **Planning Period.** Goal 9 and OAR 660-009 requires the City to ensure a 20-year supply of buildable land for economic development and employment growth. For this EOA, the 20-year period begins in 2008 and ends in 2028.
- **Extended Trend Period.** The EOA was originally developed with data available up to 2008. This EOA extends the trend data to include data available between 2008 and 2013. This additional data provides information about changes in Bend's economy since 2008.

CHAPTER 2. ECONOMIC DEVELOPMENT VISION AND SUPPORTING POLICIES

Sound economic development planning originates from a clear vision and is implemented through goals, strategies and actions. Goal 9 focuses on one element of an economic development strategy: land use. Specifically, one objective of Goal 9 is for cities to “provide for at least an adequate supply of sites of suitable sizes, types, locations, and service levels for a variety of industrial and commercial uses consistent with plan policies.”

The EOA is not a statement of Bend’s economic development vision or policies, it builds from and informs the vision and policy direction of the City. This chapter summarizes Bend’s economic development vision and key policies related to economic development. It provides a comprehensive summary of community visioning efforts, including visioning efforts lead by the City of Bend and other efforts that were not lead by the City of Bend.

Vision for economic development

An EOA is a technical analysis that projects trends, but it is also an aspirational economic development tool that identifies the land needs to achieve the type of employment that the community desires. Thus, it is important to have a vision for what type of city Bend wants to be in the future. Bend has completed a number of visioning and planning exercises that clarify how it wants to grow. The following sections summarize the key points from these efforts and identify how they serve as guideposts in this EOA.

Over the past decade, Bend has continued to fulfill its promise as a forward-looking community by developing several broad policies and visions that will guide growth in the city and region, including the General Plan and Bend 2030. These are complemented by planning documents such as the Juniper Ridge Concept Plan, Economic Sector Targeting report, and others.

Bend 2030

The report “Bend 2030: A Visioning Project by and for the People of Bend Oregon,” articulates a vision for the future of the community.² These goals do not represent formal policies or goals that have been adopted by the City of Bend; rather, they express the community’s values based on a visioning process. Bend 2030 is being implemented by a nonprofit organization (called Bend 2030). This visioning was conducted in 2006. The vision identifies six primary goals:

- A Well-Planned City
- A Vibrant Economy
- A Quality Environment
- Safe, Healthy People
- A Strong Community
- A Creative, Learning Culture

² See www.bend2030.org

Within those six broad goals, Bend 2030 identifies more specific objectives. The following objectives identified in Bend 2030 are most relevant to the EOA:

- *Targeted Industries.* The city has identified a number of “target industries” in which it can excel and provide job opportunities over the long term.
- *Living Wage Jobs.* If Bend is unable to sufficiently increase employment in its targeted industries, too many jobs may be in the retail services and other relatively low-paying sectors.
- *Available Industrial and Commercial Lands.* This objective is perfectly aligned to the purpose of this report – to ensure that there is enough land to accommodate future jobs and businesses, and the buildings and land they will occupy.
- *Diversified Economy.* This objective overlaps considerably with “targeted industries.” Bend must continue to diversify from a wood products and tourism-oriented economy to a more diversified one that provides professional service, high-skill manufacturing, high-tech, and other living wage jobs.
- *Sustainable Industries.* Bend seeks to attract and retain businesses that maintain the high-quality natural environment.
- *Establish a university and research center.* There is broad support in the community for a high-quality university in Bend. Such an institution could have a dramatic positive impact on the workforce by training the next generation of Central Oregonians and visiting students to participate in a diversified economy.

Bend's General Economic Objectives

State law requires a city to adopt policies stating Bend's community economic development objectives (OAR 660-009-0020). While this EOA does not, nor is it intended to, fully comply with the requirements of OAR 660-009-0020,³ this EOA partially addresses this objective by bringing together concepts in Chapter 6 of the Bend General Plan (Economic Development), statements in recent economic visioning projects, Bend's economic advantages, and Bend's recent economic growth trends.

The following expression of Bend's economic development objectives is from the “Bend 2030, A Visioning Project by and for the People of Bend, Oregon”. This narrative is considered in the EOA, and is implemented through policies of the General Plan, and represents the City's general economic development objectives.

“Bend has a diversified economy that provides healthy work environments and sufficient living wage jobs to support our local population. Our economic vision has attracted people, resources, and investment focused on diverse industries that offer economic opportunity, longevity in the global market, and a clean and sustainable environment. Bend is a leader in ‘green’ building materials and technology, and sustainable energy. An established university and research center in Bend promote creativity, innovation, and entrepreneurship that empower and advance a skilled and competitive local

³ The policies adopted as part of the revised Economic Element of the Bend General Plan will fully comply with the requirements of OAR 660-009-0020.

workforce. Our access to the global marketplace is efficient and viable due to enhancements of local and regional communications and transportation systems including air, rail, highways, and alternative modes of travel.”

The city is required to identify particular types of desirable employment to develop during the planning period as part of the general economic objective. The following list reflects desirable employment uses identified in the “2030 Vision” as well as employment types Bend is well positioned to continue to grow into the future:

1. Employment in downtown Bend – opportunities for businesses, shops, restaurants, and housing should be expanded while preserving downtown’s unique character.
2. Employment in targeted industries – the “2030 Vision” suggests expanding employment opportunities in industries identified as “target industries” by the “2005 Economic Sector Targeting” exercise. Target industries include:
 - a. Leisure and hospitality uses
 - b. Higher education
 - c. Health care
 - d. Secondary wood products
 - e. Aviation-aerospace
 - f. Renewable energy resources
 - g. Recreation equipment
 - h. Specialty manufacturing
 - i. Information technologies
3. Employment in tourism – the “2030 Vision” supports building year-round tourism through developing a diverse mix of arts, entertainment, sports, and natural and cultural attractions. Projects to improve employment in the tourism industry include constructing a new performing arts center and museum of fine arts.
4. Employment in higher education – higher education enables and provides diverse employment options. The “2030 Vision” supports the Central Oregon Community college and a new University. The University should ideally provide an attractive learning environment, include a research emphasis, offer graduate programs and scholarship opportunities, and serve existing residents while attracting a diverse student body.
5. Small neighborhood centers – small service-oriented employment centers should be located so the city’s residents can walk or bike to employment opportunities, public gathering places, parks, recreational facilities, and other services.
6. Mixed-use development – these uses should be located along key corridors and in designated centers, or as buffering uses.
7. Opportunity for all economic levels – the “2030 Vision” promotes economic and housing opportunities for all income levels so that all groups are able to live here.
8. In addition to economic uses stated in the “2030 Vision” and “2005 Economic Sector Targeting” work, the following economic uses are desirable and suitable to expand during the planning period based on the findings of the EOA:
 - a. Regional employment centers for public agencies, health care providers, and retail uses

- b. Employment in professional office and service uses
- c. Employment in leisure and hospitality uses

Related Plans and Documents

Several plans and studies inform the EOA and the City's economic development vision. This section summarizes key elements of those plans and studies.

General Plan

The Bend Area General Plan (also known as a Comprehensive or Comp Plan), as with the Bend 2030 Vision, is intended to guide the city's long-term land use and transportation planning. The narrative aspect of the General Plan – particularly Chapter 6, "The Economy and Lands for Economic Growth" - offers a perspective similar to both Bend 2030 and the Employment Land Study (ELS) on Bend's employment future.

The General Plan underwent a major update in 1998 and has since been revised periodically. The plan plays a major role in shaping Bend's "employment geography" by guiding the size and shape of the city's various employment districts, including commercial, industrial, and mixed-employment zones. The use and disposition of each zone is further detailed in the city's Development Code, which implements the General Plan.

Juniper Ridge Concept Plan

The Juniper Ridge Concept Plan represents an initial attempt by Bend to shape its vision for the 1,500-acre publicly owned parcel on the city's north border. Since the inception of the Juniper Ridge planning process, it has been clear that because of its size, location, and city ownership, the site had the potential to play a major role in Bend's economic future, by providing the area for future businesses to locate. The specifics contained in the Concept Plan will almost certainly undergo major and minor changes over its long implementation period, but the city hopes to stay true to the plan's underlying visions and aspirations. **The Concept Plan has not been officially adopted by the City, but provides a vision for the site. Because it has not been adopted, the EOA does not rely on any of the information for the land need and technical elements required by OAR 660-009-0015.**

Based on direction from the Bend City Council, the Plan proposes that the site's development be driven by several primary uses:

- Light-Industrial Research Park
- Educational Research and Technology Campus
- Mixed-use areas
- Residential areas

Primarily due to the first two uses listed above, Juniper Ridge is seen as a key part of Bend's economic development strategy, as it will provide land on which the city's targeted industries can grow.

Approximately one third of Juniper Ridge's total area – 494 acres called Juniper Ridge Phase 1 – is currently within Bend's UGB and designated light industrial in the General Plan. About 306 acres of this area is within the Juniper Ridge Employment Sub-District, which is intended to promote economical, sustainable, and reasonable growth by allowing a mix of light industrial uses, offices for research and development, corporate and regional headquarters and accessory uses to serve the needs of these primary uses. The types and placement of the employment uses allowed in the Employment Sub-District are generally consistent with the conceptual master plan. At this time there are two businesses located in Juniper Ridge: Les Schwab corporate office, and Suterra.

About 194 additional acres are within the UGB and long-range plans for this area have not yet been developed. The General Plan designation for this area is Light Industrial.

Infrastructure planning for the portion of Juniper Ridge within the UGB is underway.⁴ The City has plans for infrastructure upgrades needed within the Employment Sub-District, for transportation, water, and sewer. Funding for some infrastructure improvements, especially the transportation improvements, has not yet been identified. The remaining 194 acres of land at Juniper Ridge requires more planning to determine an appropriate zone and develop infrastructure plans and identify funding sources for needed infrastructure.

Development at Juniper Ridge, however, is constrained by transportation and wastewater infrastructure. Key constraints include a trip cap imposed on the site by ODOT and lack of wastewater facilities. The City is actively working on both of these infrastructure constraints. With respect to wastewater capacity, development will be limited until the Northeast Interceptor is developed. The project is currently scheduled for years 11-20 in the recently adopted (December 2014) City of Bend Collection System Master Plan.

The remaining approximately 1,000 acres is referred to in this document as Juniper Ridge Phase 2, despite the fact that the project may have many more phases before completion. The areas outside the UGB are not included in the buildable land inventory and are not considered suitable employment lands for the purpose of this EOA.

Deschutes County Coordinated Population Forecast

The Deschutes County Coordinated Population Forecast was finalized in 2004 by county and city staff, project consultants, and a broad range of stakeholders.⁵ The population projections identified in their findings are used in this report as a factor considered in the employment projections, the Residential Lands Study, and the other studies undertaken by Bend and Deschutes County referenced below.

⁴ For more detail about Juniper Ridge planning and infrastructure, see the memorandum "Juniper Ridge: background, location, zoning, infrastructure, and related issues" dated April 24, 2015.

⁵ <http://www.deschutes.org/cd/page/coordinated-population-forecast-2025>

Economic Sector Targeting

In 2005, city staff and a broad group of economic stakeholders took part in an Economic Sector Targeting process, which included several daylong workshops and ultimately a report. Through this analysis, the city identified nine different industry sectors in which it should concentrate its efforts to retain existing businesses and attract new ones. The sectors were chosen due to a number of different criteria, including an existing industry cluster already in Bend; significant growth opportunity; living wage job potential; and likelihood for sustainable business practices. The group developed a set of nine targeted industries, including industries such as higher education, health care, renewable energy resources, and aviation-aerospace. The full list of target industries is discussed in more detail in Chapter 4.

Due to the city's clear policy direction on targeted industries, and anticipated ongoing effort to attract them, the EOA's projections reflect greater employment increases within these sectors.

The focus on targeted industries also has implications for the type of land and other public infrastructure that the city will need to supply in the future. For example, information technology firms will be more likely to locate in commercial, rather than industrial land.

Visit Bend Business Plan⁶

Bend receives 2.4 million visits annually. According to Visit Bend, this travel and tourism activity generated an estimated 8,500 jobs in the region and provided the City with \$3.7 million in transient room tax revenue in 2014. The vast majority of this tourist activity occurs during the summer.

Visit Bend, a Bend-area tourism advocate, outlined a series of strategic objectives to support the tourism industry in their budget for the 2015 fiscal year. Among the most important issues to address, Visit Bend identified the seasonal variation in tourism and the decline in business that it causes during the off-season: "Despite the sustained growth in Bend's tourism industry, our destination continues to face an unhealthy drop in business during the shoulder seasons and winter months."

In order to reduce the industry's seasonality, and work to address other goals in support of Bend tourism, the report listed metrics to track how well the industry has improved, and identified multiple strategic actions for the upcoming year. For example, metrics included the rate of citywide lodging occupancy, the number of visitor guide requests, and volume of transient room tax collections, among others. The report also identified strategic actions, such as increased investment in Bend's brand, improved connections with news media, and more citywide events and conventions. Visit Bend is also working to increase the region's offerings of non-outdoor recreation attractions, with a focus on cultural amenities.

Supporting Studies

Other planning efforts inform the EOA, including planning for housing growth and infrastructure systems, such as:

⁶ <http://issuu.com/visitbendor/docs/visit-bend-business-plan-2015-webre>

- *Bend Housing Needs Analysis – 2015*. This report forecasts Bend's housing growth through 2028, describing likely changes in the types of housing needed in Bend.
- *Water System Master Plan - 2011 Update (Optimization Study)*. This report covers level of service goals, present and future deficiencies, assessment of fire flow capacity in the system and the results of a comprehensive analysis using an optimized decision support process to evaluate alternatives that address system deficiencies now and in the future. The results of this study are a recommended set of system improvements to meet the needs of Bend's water system for at least 20 years.
- *Water Management and Conservation Plan – 2011*. The purpose of the Plan is to guide the development, financing, and implementation of water management and conservation programs and policies to ensure sustainable use of publicly owned water resources while the City plans for its future water needs.
- *Collection System Master Plan – 2014*. The Wastewater Collection System Master Plan (CSMP) is a 20-year critical planning document that establishes a clear vision for Bend's community's sewer collection system, a vital framework beneath the City. The CSMP identifies both short term and long-term system improvements that are needed to address existing condition, existing capacity, and future capacity issues.
- *Water Reclamation Facility Plan*. This plan outlines several cost-effective solutions for increasing the plant's ability to meet projected wastewater flows through the year 2030.
- *Stormwater Master Plan*. In 2014, Bend approved the City's first formal Stormwater Master Plan. The Stormwater Master Plan serves as the oversight plan for addressing stormwater quantity and quality issues. In addition to providing an overall strategy for addressing stormwater concerns, it provides a delineation of drainage areas and runoff quantities throughout Bend, and programmatic goals for addressing quantity and quality concerns.
- *Bend Urban Area Transportation Plan*. This plan guides development of Bend's transportation system to meet the forecast needs of the Bend community to 2020. The plan provides a policy and plan framework to allow Bend to design a balanced transportation system over time.

CHAPTER 3. FACTORS AFFECTING FUTURE ECONOMIC GROWTH IN BEND

According to OAR 660-0009, “the intent of the Land Conservation and Development Commission is to provide an adequate land supply for economic development and employment growth in Oregon.” The intent of OAR 660-009 is to link planning for an adequate land supply to infrastructure planning, community involvement and coordination among local governments and the state. To meet those objectives, OAR 660-009-0015(1) requires cities to consider national, state, regional, county and local trends; this chapter summarizes economic trends and factors that will affect future economic growth in Bend.

The 2008 EOA included an extensive evaluation of factors affecting future economic growth in Bend, including national, state and local trends. That analysis was based on pre-2008 data. Clearly, changes have occurred since 2008, in part due to the Great Recession, which had significant negative impacts on Bend’s economy.

Bend’s economy is recovering from the Great Recession. As the regional employment center of Central Oregon, growth in Bend drives regional employment and economic growth. Bend’s growth is supported by availability of labor and resources available in Central Oregon, especially in Deschutes County. More than 60% of employment in Deschutes County is located in Bend.⁷ About 48% of population in Deschutes County is located within Bend.⁸ Half of employees at businesses located in Bend live outside of the city, in places like unincorporated Deschutes County, Redmond, unincorporated Crook County, or Prineville.⁹ Continued growth in Bend will drive growth in Deschutes County and in Central Oregon.

This chapter summarizes key findings from: (1) Appendix A: National, State, County, and Local Economic Trends, and (2) Appendix B: Factors Affecting Future Economic Growth in Bend.

National, State, Regional, and Local Trends

The U.S. economy continues to recover from the deep recession brought about by instability of financial and housing markets that impacted Oregon in a variety of ways, most notably with the labor market showing high unemployment and the housing market’s oversupply of homes.

Economic development in Bend over the next twenty years will occur in the context of long-run national trends. Appendix A provides more detailed information on trends affecting future economic growth and is intended to support the analysis required by OAR 660-009-0015(1). The most important of these trends are summarized in Table 1 and include:

⁷ Oregon Employment Department, Quarterly Census of Employment and Wages, 2013.

⁸ Portland State University, Population Research Center, 2013.

⁹ U.S. Census, OnTheMap, 2011.

Table 1. Implications of national, state, and regional economic and demographic trends on economic growth in Bend

National, State, and Regional Economic Trends	Implications for economic growth in Bend
<p>Moderate growth rates and recovery from the national recession</p> <p>According to the National Bureau of Economic Research, "The Great Recession" ended in 2009, but sluggish growth continued to affect businesses and workers alike for several years after. ¹⁰</p> <p>Unemployment at the national level has gradually declined since the height of the recession.¹¹ Unemployment rates in Oregon and Deschutes County are typically higher than those of the nation as a whole. ¹²</p> <p>The federal government's economic forecast projects a moderate pace of economic growth, with gradual increases in employment and real GDP (roughly 3% through the end of 2016). Economic growth in Oregon typically lags behind national growth. ¹³</p>	<p>Economic growth in Bend – in measures such as employment growth, unemployment rates, and wage growth - will be markedly improved from previous years (i.e. since 2007).</p> <p>The rate of employment growth in Bend will depend, in part, on the rate of employment growth in Oregon and the nation. Bend's primary competitive advantages, location, access to regional transportation infrastructure, quality of life, and access to educated and skilled labor from within the region make Bend attractive to companies that want to grow, expand, or locate in the Central Oregon.</p>

¹⁰ "US Business Cycle Expansions and Contractions," The National Bureau of Economic Research, <http://www.nber.org/cycles.html>.

¹¹ Nelson D. Schwartz, "US Economy Adds 223,000 Jobs; Unemployment at 5.3%," *The New York Times*, July 2, 2015, http://www.nytimes.com/2015/07/03/business/economy/jobs-report-hiring-unemployment-june.html?_r=0.

¹² "Local Area Unemployment Statistics," State of Oregon Employment Department, <https://www.qualityinfo.org/ed-uesti/?at=1&t1=0000000000,4101000000~unemprate~y~2000~2015>.

¹³ "The Budget and Economic Outlook: 2015 to 2025," January 2015, Congressional Budget Office, <https://www.cbo.gov/sites/default/files/cbofiles/attachments/49892-Outlook2015.pdf>.

National, State, and Regional Economic Trends	Implications for economic growth in Bend
<p>Growth of service-oriented sectors</p> <p>Increased worker productivity and the international outsourcing of routine tasks led to declines in employment in the major goods-producing industries. Projections from the Bureau of Labor Statistics indicate that U.S. employment growth will continue to be strongest in healthcare and social assistance, professional and business services, and other service industries. Construction employment will grow with the economy, but manufacturing employment will decline. These trends are also expected to affect the composition of Oregon's economy, though Oregon's manufacturing employment may grow in the short-run.¹⁴</p>	<p>The changes in employment in Deschutes County have followed similar trends as changes in national and state employment. For example, since 2001, employment in Deschutes County Health Care and Social Assistance increased its share of total employment by 4.4%, while Manufacturing's share decreased by -3.8% as a result in decreases in wood products manufacturing.</p> <p>The Oregon Employment Department forecasts that the sectors likely to have the most employment growth in Deschutes County over the 2012 to 2022 period are: Construction, Health Care, Local and State Government, Retail Trade, Professional and Business Services, and Accommodation and Food Services. These sectors represent employment opportunities for Bend.</p>
<p>Lack of diversity in Oregon's economy</p> <p>Oregon's economy has diversified since the 1960's, but Oregon continues to rank low in economic diversity among states.</p> <p>These rankings suggest that Oregon is still heavily dependent on a limited number of industries. Relatively low economic diversity increases the risk of economic volatility as measured by changes in output or employment.</p>	<p>Data from the Bureau of Labor Statistics shows that employment in Deschutes County in 2013 was concentrated in a few sectors: Health Care and Social Assistance (15%), Retail Trade (15%), Accommodations and Food Services (13%), and Government (13%).</p> <p>Employment in the Government and Health Care sectors tends to be stable and pays above Bend's average wage of \$37,755. Employment in Accommodations and Food Services and Retail Trade pays below Bend's average wage and employment may be volatile.</p> <p>Industries that have grown recently in Bend include bioscience, aviation and aerospace, outdoor recreation, software, specialty manufacturing, data center storage, and brewing. Each of these industries presents an opportunity for industrial growth in Bend.¹⁵</p>

¹⁴ "Employment Projections – 2012-2022," Bureau of Labor Statistics, December 19, 2013, <http://www.bls.gov/news.release/pdf/ecopro.pdf>. and "Oregon Economic and Revenue Forecast," Office of Economic Analysis, May 2015, <http://www.oregon.gov/DAS/OEA/docs/economic/forecast0515.pdf>.

¹⁵ Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2013, <http://www.bls.gov/cew/datatoc.htm> (Hereafter BLS, QCEW). and Economic Development Central Oregon, Business and Economic Data, <https://www.edcinfo.com/business-and-economic-data/>.

National, State, and Regional Economic Trends	Implications for economic growth in Bend
<p>Importance of small businesses in Oregon's economy</p> <p>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.¹⁶</p>	<p>In 2013 average size for a private business in Deschutes County is 8.5 employees per business, compared to the State average of 11.2 employees per private business.¹⁷</p> <p>Growth of small businesses presents opportunities for economic growth in Bend.</p>
<p>Availability of trained and skilled labor</p> <p>Businesses in Oregon are generally able to fill jobs, either from available workers living within the State or by attracting skilled workers from outside of the State.</p> <p>Availability of labor depends, in part, on population growth and in-migration. Oregon added more than 980,000 new residents and about 475,000 new jobs between 1990 and 2008. The population-employment ratio for the State was about 1.6 residents per job over the 18-year period.¹⁸</p> <p>Availability of labor also depends on workers' willingness to commute. Workers in Oregon typically have a commute that is 30 minutes or shorter.¹⁹</p> <p>Availability of skilled workers depends, in part, on education attainment. About 30% of Oregon's workers have a Bachelor's degree or higher.²⁰</p>	<p>Employment in Bend grew at about 1.6% annually over the 2001 to 2013 period, while population grew at about 3% annually from 2000 to 2013.²¹</p> <p>About 76% of workers at businesses located in Bend lived in Deschutes County, and 50% lived within Bend city limits. Firms in Bend attracted workers from as far away as Multnomah County.²²</p> <p>Bend's residents who were 25 years and over were more likely to have a Bachelor's degree or higher (41%) than the county (34%) and state average (31%). Availability of these workers helps support the types of target industries that require a skilled, educated workforce discussed in Chapter 4.²³</p>

¹⁶ Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2014 Q1, http://www.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables/.

¹⁷ Bureau of Labor Statistics, Quarterly Census of Employment and Wages.

¹⁸ Oregon Employment Department, Quarterly Census of Employment and Wages.

¹⁹ US Census Bureau, 2013 American Community Survey, 1-Year Estimates, Table B08303.

²⁰ US Census Bureau, 2013 American Community Survey, 1-Year Estimates, Table B15003.

²¹ Bureau of Labor Statistics, Quarterly Census of Employment and Wages.

²² US Census Bureau, On the Map, 2011, <http://onthemap.ces.census.gov>.

²³ US Census Bureau, 2013 American Community Survey, 1-Year Estimates, Table B15003.

National, State, and Regional Economic Trends	Implications for economic growth in Bend
<p>Aging of the population</p> <p>The number of people age 65 and older will more than double between 2010 and 2050, while the number of people under age 65 will grow by only 30%. ²⁴ The economic effects of this demographic change include a slowing of the growth of the labor force, an increase in the demand for healthcare services, and an increase in the percent of the federal budget dedicated to Social Security and Medicare.</p> <p>People are retiring later than previous generations and continuing to work past 65 years old. This trend is seen both at the national and State levels. ²⁵ Even given this trend, the need for workers to replace retiring baby boomers will outpace job growth. Management occupations and teachers will have the greatest need for replacement workers because these occupations have older-than-average workforces.</p>	<p>The changes in the Bend's age structure are similar to those of the State, with the most growth observed in people 45 years and older. Bend's population is generally younger than the State's. The median age in Bend in 2013 was 36.6 years, compared to 42.3 in Deschutes County, and 39.1 in the state as a whole. ²⁶</p> <p>The State projects that the share of the population over the age of 60 in Deschutes County will increase by 10% between 2015 and 2035. ²⁷</p> <p>Firms in Bend will need to replace workers as they retire. Demand for replacement workers is likely to outpace job growth in Bend, consistent with State trends.</p>
<p>Increases in energy prices</p> <p>Although energy prices are currently low by historical standards, over the long-term, energy prices are forecast to return to relatively high levels, such as those seen in the 2006 to 2008 period, possibly increasing further over the planning period. ²⁸</p>	<p>In 2015, low energy prices have decreased the costs of commuting. Over the long-term, if energy prices increase, these higher prices will likely affect the mode of commuting before affecting workers' willingness to commute. For example, commuters may choose to purchase a more energy-efficient car, use the bus, or carpool.</p> <p>Very large increases in energy prices may affect workers' willingness to commute, especially workers living the furthest from Bend or workers with lower paying jobs.</p>

²⁴ "The Next Four Decades; The Older Population in the United States 2010 to 2050," US Census Bureau, May 2010, <https://www.census.gov/prod/2010pubs/p25-1138.pdf>.

²⁵ "Americans Settling on Older Retirement Age," Rebecca Riffkin, *Gallup*, April 29, 2015, <http://www.gallup.com/poll/182939/americans-settling-older-retirement-age.aspx>.

²⁶ U.S. Census Bureau, 2013 American Community Survey, 1-Year Estimates, Table B01002.

²⁷ Oregon Office of Economic Analysis, Demographic Forecast, "Long-term Oregon State's County Population Forecast (2010-2050)," http://www.oregon.gov/DAS/oea/Pages/demographic.aspx#Long_Term_County_Forecast

²⁸ "Annual Energy Outlook 2015; With Projections to 2040," US Energy Information Administration, April 2015, [http://www.eia.gov/forecasts/aeo/pdf/0383\(2015\).pdf](http://www.eia.gov/forecasts/aeo/pdf/0383(2015).pdf).

National, State, and Regional Economic Trends	Implications for economic growth in Bend
<p>Comparatively low wages</p> <p>The income of a region affects the workforce and the types of businesses attracted to the region. Average income affects workers and businesses in different ways. Workers may be attracted to a region with higher average wage or high wage jobs. Businesses, however, may prefer to locate in regions with lower wages, where the cost of doing business may be lower.</p> <p>Since the early 1980's, Oregon's per capita personal income has been consistently lower than the U.S. average. In 2013, Oregon's per capita wage was 89% of the national average.²⁹</p>	<p>Per capita personal income in Deschutes County (\$40,245 in 2014 dollars) was lower than that of the Portland MSA (\$44,603), Oregon (\$40,645), and the Nation as a whole (\$45,660) in 2014.³⁰</p> <p>Income in Oregon has historically been below national averages. There are four basic reasons that income has been lower in Oregon and Deschutes County than in the U.S.: (1) wages for similar jobs are lower; (2) the occupational mix of employment is weighted towards lower paying occupations; (3) a higher proportion of the population has transfer payments (e.g. social security payments for retirees), which are typically lower than earnings; and (4) lower labor force participation among working age residents. To a certain degree, these factors are all true for both Oregon and Deschutes County, and result in lower income.</p> <p>The lower wages in Bend may be attractive to firms that typically pay lower wages, such as call centers or firms that outsource professional services such as accounting or technical support.</p>
<p>Education as a determinant of wages</p> <p>The 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: computer software application engineers, elementary school teachers, and accountants and auditors. Occupations that do not require an academic degree (e.g., retail sales person, food preparation workers, and home care aides) will grow, accounting for about half of all jobs by 2018. These occupations typically have lower pay than occupations requiring an academic degree.³¹</p>	<p>Bend's residents who were 25 years and over were more likely to have a Bachelor's degree or higher (41%) than the county (34%) and state average (31%) in 2013.³²</p> <p>Wages in Bend are relatively low compared to Oregon as a whole, and this is largely a result of the composition of the regional economy, rather than the availability of workers with an academic degree. Increasing the relatively low wages in the region is dependent on changing the composition of the regional economy, through growing or attracting businesses with higher paying occupations.</p>

²⁹ Bureau of Economic Analysis, Regional Data, GDP & Personal Income, Local Area Personal Income and Employment, Table CA1-3.

³⁰ Bureau of Economic Analysis, Regional Data, GDP & Personal Income, Local Area Personal Income and Employment, Table CA1-3. Adjusted for inflation using the BLS CPI Calculator at http://www.bls.gov/data/inflation_calculator.htm.

³¹ Bureau of Labor Statistics, "Employment Projections: 2008-2018 News Release," Thursday, December 10, 2009, http://www.bls.gov/news.release/archives/ecopro_12102009.htm.

³² US Census Bureau, 2013 American Community Survey, 1-Year Estimates, Table B15003.

National, State, and Regional Economic Trends	Implications for economic growth in Bend
<p>Importance of high quality natural resources</p> <p>The relationship between natural resources and local economies has changed as the economy has shifted away from resource extraction. 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.</p>	<p>The region's high quality natural resources present economic growth opportunities for Bend, ranging from food and beverage production to the tourism industry.</p>

Summary of Bend's Competitive Advantages

Bend's competitive advantages include a well-educated and growing population, a desirable location for employees—a scenic environment with unique access to outdoor recreation—and for businesses—proximity to major state highways and airports. Furthermore, Bend has competitive property tax rates and effective infrastructure systems and planning efforts that are on track to accommodate increasing usage.

As the economy and population of Central Oregon continue to grow, aspects of Bend's role as the “central city” or regional center within Central Oregon will intensify. For example, because of the existing business network and suppliers, firms' executive decision-making functions will be more likely to locate in the city.

This role will continue to be important to the quantity and types of jobs that Bend attracts. Downtown Bend is the cultural, culinary, and specialty retail hub of the region. Bend hosts the region's largest medical facility (St. Charles Medical Center and associated medical organizations), the largest news media organization (the Bend Bulletin), and numerous governmental agencies, from federal (U.S. Forest service), to regional (Deschutes County), to local (City of Bend) – all of which are major employers. Within the private sector, Bend is also the home address for many of the region's largest and most influential employers – either as the headquarters or the main employment location – including: Mt. Bachelor; Les Schwab; Bend Research; Nosler Inc.; GL Solutions; Navis; and IBEX.

The importance of Bend as a social and cultural center is an important consideration as a driver of economic growth. Bend's high quality cultural and natural amenities are repeatedly cited by business owners and employees as reasons to relocate to or remain in Bend. This will prove especially important in some industry sectors, such as Information-Technology, in which well-paid managers and their employers can choose between communities, and land and building space costs play a less significant factor in business success.

CHAPTER 4. EMPLOYMENT GROWTH AND TARGET INDUSTRIES IN BEND

OAR 660-009 requires cities to maintain a 20-year inventory of sites designated for employment. To provide for at least a 20-year supply of commercial and industrial sites consistent with local community development objectives, Bend needs an estimate of the amount of commercial and industrial land that will be needed to accommodate forecast employment over the planning period. Demand for commercial and industrial land will be driven by development in target industries, the expansion and relocation of existing businesses, and new businesses locating in Bend.

Employment Forecast

Appendix B describes the methods and assumptions used to develop the 2008-2028 employment forecast. This section presents the 2008-2028 forecast and describes changes in employment that occurred between 2008 and 2013.³³

Before presenting the updated information, it is important to note that the 2008 to 2028 employment forecast was upheld in the Remand. As such, the City is not required to revisit the 20-year forecast. The information provided in this section analyzes how much and what type of employment growth occurred in Bend between 2008 and 2013.

The foundation of the economic opportunities analysis (EOA) is the forecast of employment growth. In the Remand, Bend was found to have met the requirements of Goal 9, with the forecast of 22,891 new non-shift employees from 2008 to 2028. This serves as the foundation for the updated land need estimates.

Employment Changes in Bend

This section presents information about Bend's employment base in 2013³⁴, compared to 2008. Table 2 shows the forecast of growth by major employment categories for Bend for 2008 to 2028 that was originally developed for the 2008 EOA. The forecast shows that employment will grow by 22,891 employees (about 61%) over the 20 year period between 2008 and 2028, at an average annual growth rate of 2.4%.

³³ 2013 is the most recent year that employment data is available upon which to base the updates.

³⁴ We use 2013 employment data, rather than 2014 employment data, because it is the best available data for Bend. The employment data used is the Oregon Employment Department's Quarterly Census of Employment and Wages. Data for 2014 will not be available until mid- to late-2015.

Table 2. Employment Forecast by Employment Category, total non-shift employment, Bend 2008 to 2028

Employment Categories	2008 Employment	2028 Employment Forecast	Change 2008 to 2028		
			2008 to 2028 Growth	Percent Change	Average Annual Growth Rate
Industrial					
Industrial Heavy	3,807	5,180	1,373	36%	1.6%
Industrial General	5,370	8,002	2,632	49%	2.0%
Retail			0		
Large Retail	3,474	5,849	2,375	68%	2.6%
General Retail	3,244	5,293	2,049	63%	2.5%
Office/Srv/Medical	13,979	23,593	9,614	69%	2.7%
Leisure and Hospitalit	3,306	5,532	2,226	67%	2.6%
Other / Misc	1,051	1,547	496	47%	2.0%
Government	3,485	5,611	2,126	61%	2.4%
Total	37,716	60,607	22,891	61%	2.4%

Source: Bend EOA, 2008, Table 26; 2028 Employment forecast: Bend EOA, 2008, Table 25.

2008 data based on Oregon Employment Department 2006 geo-coded data for City of Bend

Note: While the employment in this table is based on covered employment data from the Oregon Employment Department, the 2008 covered employment data was adjusted, using the methods described in the EOA, to show total employment for non-shiftworkers.

Since the forecast for the 2008 EOA was developed, Bend's economy has changed, in large part as a result of the recent recession. Table 3 shows change in employment in Bend between 2008 and 2013. Overall, employment grew by 948 employees, at an average annual growth rate of 0.5%. Industrial employment decreased by about 2,500 employees and retail employment decreased by more than 550 employees. The majority of employment growth was in Office, Services, and Medical, which added more than 2,400 jobs.

Table 3. Employment Forecast by Employment Category, total non-shift employment, Bend 2008 to 2013

Employment Categories	2008 Employment	2013 Employment	Change 2008 to 2013		
			2008 to 2013 Growth	Percent Change	Average Annual Growth Rate
Industrial					
Industrial Heavy	3,807	2,889	-918	-24%	-5.4%
Industrial General	5,370	3,771	-1,599	-30%	-6.8%
Retail					
Large Retail	3,474	3,057	-417	-12%	-2.5%
General Retail	3,244	3,096	-148	-5%	-0.9%
Office/Srv/Medical	13,979	16,435	2,456	18%	3.3%
Leisure and Hospitalit	3,306	4,017	711	22%	4.0%
Other / Misc	1,051	1,505	454	43%	7.4%
Government	3,485	3,894	409	12%	2.2%
Total	37,716	38,664	948	3%	0.5%

Source: Bend EOA, 2008, Table 26.

2008 data based on Oregon Employment Department 2006 geo-coded data for City of Bend

2013 data based on Oregon Employment Department 2013 Quarter 3 geo-coded data for City of Bend

Note: While the employment in this table is based on covered employment data from the Oregon Employment Department, the 2008 and 2013 covered employment data was adjusted, as using the methods described in the EOA, to show total employment for non-shiftworkers.

Using the 2013 total non-shift employment figure of 38,664 and the 2028 acknowledged forecast of 60,607 yields an estimated increase of 21,943 new employees between 2013 and 2028. This equates to an average annual growth rate of 3.0% over that period. Table 2 shows that the acknowledged 2008 to 2028 forecast of 22,891 new employees resulted in an average annual growth rate of 2.4%. In short, employment growth between 2008 and 2013 occurred at a much slower pace than the average growth rate forecast by the City.

Table 4 compares employment in Bend in 2013 to the forecast for employment growth by 2028, from the 2008 EOA.

Table 4. Employment Forecast by Employment Category, non-shift workers, Bend 2013 to 2028

Employment Categories	2013 Employment	2028 Employment Forecast	Change 2013 to 2028		
			2013 to 2028 Growth	Percent Change	Average Annual Growth Rate
Industrial					
Industrial Heavy	2,889	5,180	2,291	79%	4.0%
Industrial General	3,771	8,002	4,231	112%	5.1%
Retail					
Large Retail	3,057	5,849	2,792	91%	4.4%
General Retail	3,096	5,293	2,197	71%	3.6%
Office/Srv/Medical	16,435	23,593	7,158	44%	2.4%
Leisure and Hospitalit	4,017	5,532	1,515	38%	2.2%
Other / Misc	1,505	1,547	42	3%	0.2%
Government	3,894	5,611	1,717	44%	2.5%
Total	38,664	60,607	21,943	57%	3.0%

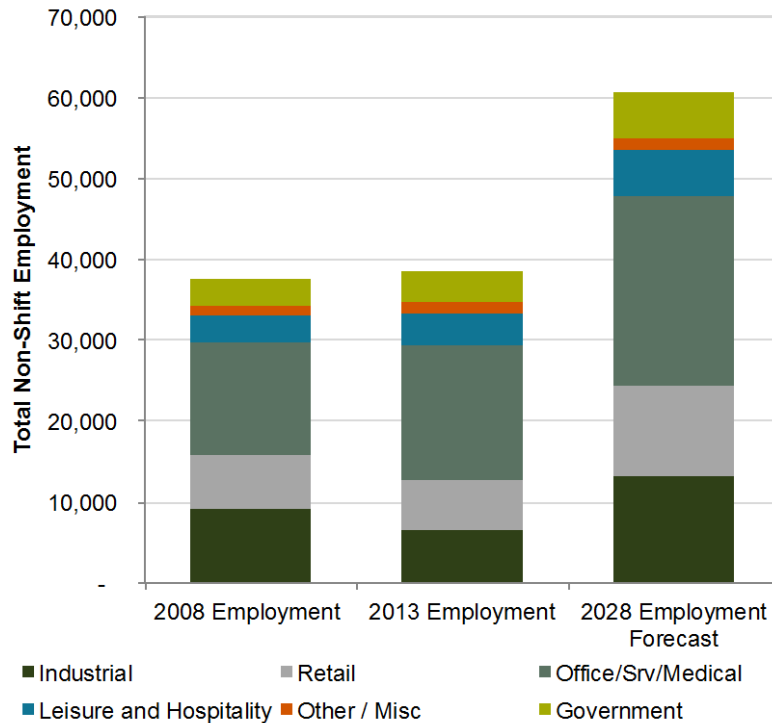
Source: 2028 Employment forecast: Bend EOA, 2008, Table 25.

2013 data based on Oregon Employment Department 2013 Quarter 3 geo-coded data for City of Bend

Note: While the employment in this table is based on covered employment data from the Oregon Employment Department, the 2013 covered employment data was adjusted, as using the methods described in the EOA, to show total employment for non-shiftworkers.

Figure 2 shows a comparison of total non-shift employment by employment category in 2008 and 2013 and the forecast of employment growth in Bend for 2028.

Figure 2. Comparison of Changes in Employment by Employment Categories in 2008, 2013, and 2028 Forecast, non-shift workers, Bend



Source: Bend EOA, 2008, Table 26.

2008 data based on Oregon Employment Department 2006 geo-coded data for City of Bend

2013 data based on Oregon Employment Department 2013 Quarter 3 geo-coded data for City of Bend

Note: While the employment in this figure is based on covered employment data from the Oregon Employment Department, the 2008 and 2013 covered employment data was adjusted, as using the methods described in Appendix B, to show total employment for non-shiftworkers.

Employment Forecast by Site Size

OAR 660-009-0015(2) requires cities to identify “required site types.” Specifically, the rule states:

“The economic opportunities analysis must identify the number of sites by type reasonably expected to be needed to accommodate the expected employment growth based on the site characteristics typical of expected uses. Cities and counties are encouraged to examine existing firms in the planning area to identify the types of sites that may be needed for expansion. Industrial or other employment uses with compatible site characteristics may be grouped together into common site categories.”

This section describes the process for identifying the number of sites needed by type in Bend. The estimate of site needs is based on the employment forecast and historical development patterns, to illustrate the rough number and type of sites of various sizes needed to accommodate the forecast of employment growth. The forecast of land needed to accommodate growth and ability to accommodate that growth within the UGB is completed with use of the Envision Tomorrow modeling tool, as discussed in Chapter 5.

The process of identifying site needs based on historical development patterns builds from the employment forecast (Table 4) to the forecast of needed sites by size of site. Table 5 shows the distribution of existing employment (in 2013) by the employment categories and site size. To maintain consistency with the Envision Tomorrow model output and the Urbanization Report, the employment categories in Table 4 have been simplified and combined as follows:

- Retail & Leisure and Hospitality = Retail and Hospitality
- Office/Srv/Medical & Other/Misc = Office
- Heavy and General Industrial = Industrial
- Government = Public

Table 5. Distribution of existing employment by site size, Bend 2013

Employment Category	Smaller than 5 acres	5 to 49.99 acres	50.00 ac or more
Retail and Hospitality	71%	29%	0%
Office	75%	7%	18%
Industrial	83%	17%	0%
Public	73%	27%	0%
Total	75%	17%	8%

Source: Oregon Employment Department 2013 Quarter 3 geo-coded data for City of Bend and developed land in the Bend BLI, 2015

The next step in the process was to allocate employment growth by site size (Table 6). This allocation used the percentages in Table 5 to distribute employment growth in Table 4 to employment categories and site sizes.

Table 6. Forecast of employment growth by site size, Bend 2013-2028

Employment Category	Smaller than 5 acres	5 to 49.99 acres	50.00 ac or more
Retail and Hospitality	4,619	1,885	-
Office	5,412	481	1,307
Industrial	5,382	1,122	18
Public	1,253	464	-
Total	16,666	3,952	1,325

Source: Bend employment forecast in Table 5

Table 7 shows the average employees per site by site size for tax lots with employment in 2013 using data from the Quarterly Census of Employment and Wages (QCEW) and tax lot data. The results show that sites less than five acres averaged 23 employees and sites five to 50 acres averaged 134 employees. Average employment on sites of 50 acres or more cannot be disclosed for confidentiality reasons.

Table 7. Average employees per site, Bend 2013

	Smaller than 5 acres	5 to 49.99 acres	50.00 ac or more
Employees per site	23	134	(D)

Source: Oregon Employment Department 2013 Quarter 3 geo-coded data for City of Bend and developed land in the Bend BLI, 2015

Note: The average number of employees more than 50 acres cannot be disclosed for confidentiality purposes. The average number of employees on sites 50-acres or more is substantially more than the average number of employees on sites 5 to 49 acres in size.

The average employees per site in Table 7 are then used to estimate the number of needed sites by employment type and size to accommodate new employment between 2013 and 2028. Needed sites are estimated by dividing the employment by category and site size in Table 6 by the average employees per site in Table 7. Note that sites larger than 50 acres are not included in this analysis—the Remand approved the need for two large-lot industrial employment sites over fifty acres. Thus, analysis of special site needs over 50 acres is not necessary using this methodology.

Table 8 shows the number of sites needed to accommodate employment growth between 2013 and 2028 by site size. The results show that Bend will need 726 sites less than five acres and 32 sites greater than five acres.

Table 8. Sites needed to accommodate employment growth by site size, Bend 2013-2028

Employment Category	Smaller than 5 acres	5 to 49.99 acres
Retail and Hospitality	201	15
Office	236	4
Industrial	234	9
Public	55	4
Total	726	32

Source: Bend employment forecast in Table 4, average employees per site in Table 7.

Table 9 allocates the needed sites in Table 8 to broad categories of plan designation based on the approximate percentage of employment for each employment category. For example, 89% of retail and hospitality employment in Bend is located in Commercial and Mixed Use plan designations. As a result, Table 9 allocates 89% of land needed to Commercial and Mixed Use, with 179 sites smaller than 5 acres and 13 sites between 5 and 49.9 acres. The remaining 24 sites are allocated to Industrial and Mixed Employment, where about 11% of Bend's retail and hospitality employment is located.

Table 9. Sites needed to accommodate employment growth by comprehensive plan designation category and site size, Bend 2013-2028

Employment Category	Commercial / Mixed Use			Industrial / Mixed Employment			Public Facilities			Total	
	% of Sites	< 5 ac	5-49.9 ac	% of Sites	< 5 ac	5-49.9 ac	% of Sites	< 5 ac	5-49.9 ac	% of Sites	Sites
Retail and Hospitality	89%	179	13	11%	22	2	0%	-	-	100%	216
Office	73%	173	3	26%	61	1	1%	2	-	100%	240
Industrial	17%	40	2	82%	192	7	1%	2	-	100%	243
Public	27%	15	1	16%	9	1	57%	31	2	100%	59
Total		407	19		284	11		35	2		758

Source: Site needs forecast in Table 8 and distribution of employment by plan designation from Oregon Employment Department 2006 Covered Employment and analysis by City of Bend.

Target Industries

In 2005, spurred by the realization that Bend's economy was in the midst of an ongoing series of changes, the City Council and other city leaders convened an Economic Sector Targeting workshop. The nine primary targeted economic sectors identified by the workshop are shown in Table 10.

Table 10. Targeted Economic Sectors

Economic Base	Regional Targets	Bend Targets
Sustain and Grow		
Hospitality	Secondary Wood Products	Aviation - Aerospace
Higher Education		Recreation Equipment
Health Care	Renewable Energy Resources	Specialty Manufacturing
		Information Technologies

Source: City of Bend Economic Sector Targeting Report, 2005

Note that the industry groups identified by the Economic Sector Targeting work do not necessarily follow the NAICS categorization system. Economic development professionals refer to industry groups such as these, which can cross into numerous different NAICS sectors, as "clusters."

In determining which industries to target, the group gave preference to "traded-sector" industries. "Traded sector" refers to industries or businesses that sell their services or products beyond the local market area. Because of their regional or even global market areas, these types of industries have much greater potential and are less vulnerable to downswings in the local economy. For example, Bend's aviation companies sell airplanes and aviation parts to customers around the country and are thus traded-sector companies. Conversely, a chain of auto repair stores serves a very local market and will depend much more on local economic conditions for success. The Regional and Bend Target sectors are all traded sector industries, while the "Economic Base Sustain and Grow" sectors are more local.

Bend can be expected to continue to grow faster than the rest of the region within certain industries – particularly, industries identified by the Economic Sector Targeting and OED that are knowledge-based or have an existing base of operations in Bend.

Site Needs for Target Industries

Chapter 4 described target industries (described in this chapter as economic opportunities) for Bend, based on the city's economic advantages and evaluation of the types of industries that fit with Bend's vision for growth of traded-sector industries. These target industries focus on manufacturing, including secondary wood products, renewable energy, aviation – aerospace, recreation equipment, and specialty manufacturing, as well as information technology. This section focuses on the site needs for these target industries, as well as established industries, such as medical services. It also considers land needs from the broad range of commercial and industrial businesses, from small retail or service businesses to large-scale manufacturers.

This section addresses the requirements of OAR 660-009-0015(2) on required site types:

Identification of Required Site Types. The economic opportunities analysis must identify the number of sites by type reasonably expected to be needed to accommodate the expected employment growth based on the site characteristics typical of expected uses. Cities and counties are encouraged to examine existing firms in the planning area to identify the types of sites that may be needed for expansion. Industrial or other employment uses with compatible site characteristics may be grouped together into common site categories.

The analysis that follows aggregates employment that has compatible site characteristics into common site categories.

Typical site needs of larger employers

Businesses considering locating in Oregon and in Bend will consider many factors before selecting a location (e.g., access to markets, availability of skilled workers, and availability of suitable land).

One of the key factors that businesses consider when making decisions about where to locate is the availability of vacant, large, and flat parcels of land. Table 11 shows examples of traded-sector firms that considered locating in Oregon and Southern Washington since 1997. Table 11 shows that firms looking for office or flex space required sites from 30 acres up to more than 100 acres. Manufacturing firms required sites from 25 acres to 250 acres in size.

These firms worked with Business Oregon to find suitable sites in Oregon. Some of the firms chose to locate in Oregon and some chose to locate elsewhere. One of the key factors that influenced decisions to locate elsewhere was availability of large parcels of land with infrastructure services (e.g., transportation access, wastewater, etc.).

Table 11. Examples of firms that considered locating in Oregon and Southern Washington between 1997 and 2010

Type of business	General Location Considered	Site size (acres)	Building Size (square feet)	Located in Oregon ?
Office or Flex space				
Private technology firm	Northern Oregon I-5	100+	1 msf	
Facebook Data Center	Prineville	118	147,000 sf	Yes
Siltronics	Portland Harbor	35		
Nautilus	Vancouver	35	489,000	Yes
Google Data Center	The Dalles	30		Yes
Warehouse and Distribution				
Lowes	Lebanon	204	1.3 to 2.2 msf	Yes
NOAH-PepsiCo	Albany	204	2.5 msf	No
Wal-Mart	Hermiston	200	1.3 msf	Yes
Target	Albany	175	1.3 msf	Yes
Fed Ex	Troutdale	78	500,000 sf	Yes
Dollar-Tree	Ridgefield, Wa	75	800,000 sf	
Home Depot	Salem	50 to 100	400,000+	Yes
Manufacturing				
Apricus	Northern Oregon	250	Very large	No
Navitas	Oregon	150 to 200		No
Pacific Ethanol	Boardman	137		Yes
SolarWorld	Hillsboro	75	1 msf	Yes
Schott Solar	I-5 corridor	50+	up to 800,000 sf	No
Genentech	Hillsboro	50	500,000 sf	Yes
Amy's Kitchen	White City	50		Yes
Sanyo Solar	Salem	25	150,000 sf	Yes
Spectrawatt	Hillsboro	25	225,000 sf	No

Source: Business Oregon

Table 12 shows examples of manufacturers of clean energy technologies that announced plans to build new manufacturing plants in 2009 or 2010. More than one-third of these firms considered locating in Oregon. The site size requirements of these firms ranged from 50 to nearly 500 acres, with an average site size of around 100 acres. These firms are within one of the potential growth industries identified in Chapter 4, renewable energy manufacturing.

Table 12. Examples of clean energy technologies that announced plans to build new manufacturing plants in 2009 or 2010

Company	Site Size (Acres)	Location	Industry
Tokuyama*	494	Malaysia	Solar
Vestas*	300	Colorado	Wind
US REG - A Power	150	Nevada	Wind
REC*	150	Singapore	Solar
Tindall	144	Kansas	Wind
Green2V	124	New Mexico	Solar
LG Chem Ltd.	120	Michigan	Batteries
Autoport/AC Propulsoin	102	Delaware	Electric Vehicles
Energy Composites Corps	94	Wisconsin	Wind
Tesla	90	California	Electric Cars
Mitsubishi Heavy Industries*	90	Arkansas	Wind
Schott Solar*	80	New Mexico	Solar
Enerdel	75	Indiana	Batteries
Energy Composites Corporation	54	Wisconsin	Wind
Proterra*	50	South Carolina	Electric Buses
Confluence	50	Tennessee	Solar

Source: Business Oregon

*Note: These firms considered locating in Oregon.

Table 13 shows the characteristics required to make a site competitive for businesses considering locating or expanding in Oregon, based on information from Business Oregon. Sites for most manufacturing uses are generally between 10 acres to 50 acres. Some large industrial uses, such as businesses in the renewable and clean energy sector, require sites of 100 acres. Industrial users need sites that are relatively flat, generally with a slope of 5% or less.

Table 13. Site characteristics of common business types in Oregon

Industry Sector	Site size* (Acres)	Site Topography (Slope)	Site Access Max distance in miles to interstate or major arterial	Utilities
				(Min. line size in inches) Water / Sanitary Sewer
Regionally to Nationally Scaled Clean-Tech Manufacturer	50	0-5%	10	10 / 10
Globally Scaled Clean Technology Campus	100	0-5%	10	10 / 10
Heavy Industrial/ Manufacturing	25	0-5%	10	8 / 8
General Manufacturing	10	0-5%	20	8 / 8
Food Processing	20	0-5%	30	10 / 10
High-tech Manufacturing or Campus Industrial	25	0-7%	15	10 / 10
Regional (multistate) Distribution Center	200	0-5%	5 Only Interstate highway or equivalent	4 / 4
Warehouse/Distribution	25	0-5%	5 Only Interstate highway or equivalent	4 / 4
Call Center / Business Services	3	0 to 12%	Not applicable	4 / 4

Source: Business Oregon

*Note: Site size is the competitive acreage that would meet the site selection requirements of the majority of industries in this sector

Some industrial and large-scale commercial businesses may prefer to locate in an industrial or business park. Business parks are developments with multiple buildings, designed to accommodate a range of uses, from heavy industry to light industry to office uses. Most industrial parks, a subset of business parks, have large-scale manufacturing, distribution, and other industrial uses, with relatively little office space.

To provide context for business park type development, Table 14 shows examples of business park sites in the Portland Metro area. Business parks in the Portland area generally range in size from 25 acres to 75 or 100 acres in size. Some of the business parks are primarily industrial (e.g., Beaverton Creek, Columbia Commerce Park, or Southshore Corporate Park), some are primarily commercial (e.g., Creekside Corporate Park or Nimbus Corporate Center), and some are office and flex space (e.g., Cornell Oaks Corporate Center).

Table 14. Examples of business park sites, Portland Metro area

Business Park	Site Acres	Building Square Feet
AmberGlen Business Center	72	572,685
AmberGlen East and West	44	536,000
Beaverton Creek	56	512,852
Columbia Commerce Park	31	562,888
Cornell Oaks Corporate Center	107	684,000
Creekside Corporate Park	50	615,113
Kruse Woods Corporate Center	76	1,652,105
Lincoln Center	22	728,770
Nimbus Corporate Park	47	688,632
Oregon Business Park 1	36	782,294
Oregon Business Park 3	35	501,029
PacTrust Business Center	40	570,539
Pacific Business Park (South)	26	340,864
Pacific Corporate Center	56	601,542
Parkside Business Center	52	687,829
Southshore Corporate Park	312	1,630,000
Tualatin Business Center I and II	33	383,305
Wilsonville Business Center	30	710,000
Woodside Corporate Park	37	579,845

Source: Metro UGR, Appendix 5 Multi-tenant (business park)/Large lot analysis

In addition, the Portland Metro area has identified the following types of major employment sites, ranging from 25 acres to more than 500 acres:³⁵

- **General industrial.** The Portland region has 21 general industrial major employment sites, ranging in size from 25 acres to 164 acres and averaging 53 acres. Firms on these sites range from beverage manufacturers to construction product manufacturers to specialty manufacturing enterprises.
- **Warehouse and distribution.** The Portland region has 15 warehouse and distribution major employment sites, ranging in size from 25 acres to 452 acres and averaging 74 acres. Firms on these sites range from wholesalers to general warehouse and distribution to company-specific distributors.
- **Flex.** The Portland region has 14 flex major employment sites, ranging in size from 25 acres to 522 acres and averaging 112 acres. Firms on these sites include small and large semiconductor manufacturing and other high tech manufacturing.

³⁵ These examples are documented in the Portland Metro 2009-2030 Urban Growth Report, Appendix 4

Site Needs of Target Industries

OAR 660-009-0015(2) requires the EOA identify the number of sites, by type, reasonably expected to be needed for the 20-year planning period. Types of needed sites are based on the site characteristics typical of expected uses. The Goal 9 rule provides flexibility in how jurisdictions conduct and organize this analysis. The Administrative Rule defines site characteristics as follows in OAR 660-009-0005(11):

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

Friends of Yamhill County v. City of Newberg, 62 Or LUBA 5 (2010), established a two-prong test for establishing relevant "site characteristics" as follows: (1) that the attribute be "typical of the industrial or employment use;" and (2) that it have "some meaningful connection with the operation of the industrial or employment use." The first of those prongs, that the attributes be "typical," appears expressly in OAR 660-009-0015(2), which refers to "site characteristics typical of expected uses." In upholding LUBA's two prong test, the Court of Appeals agreed, "[t]hat 'necessary' site characteristics are those attributes that are reasonably necessary to the successful operation of particular industrial or employment uses, in the sense that they bear some important relationship to that operation." *Friends of Yamhill County v. City of Newberg*, 240 Or App 738, 747 (2011).

Table 15 presents the site characteristics needed for the operation of major traded-sector industries, as well as for clusters of commercial and mixed-use development. Table 15 groups potential growth industries by site category (e.g., large industrial and flex). Any of the potential growth industries, however, may occur at a variety of sizes. For example, renewable energy companies could range from large solar panel manufacturers to small manufacturers of specialty renewable energy products and could use sites from five acres to over 250 acres. The opportunity sites in each potential growth industry will vary by size of the firms and the firm's activities.

Table 16 presents site infrastructure requirements necessary for the operations of potential growth industries. There are some common service requirements, regardless of the type of industry. For example, nearly all firms need access to roads, telecommunications, water and wastewater, and electricity. Some potential growth industries have specific service requirements for their operations. For example, food processors generally need access to large amounts of water and wastewater capacity or data centers need access to a large amount of electricity and redundant electricity sources.

Table 15. Summary of site characteristics for target industries and clusters of commercial development

Site Category	Example Industries (Target Industries in bold)	Typical Site Size (acres)	Topology	Parcel configuration	Land Use Buffers	Visibility
Large Industrial and Flex	Renewable Energy Information Technology	50 to 250	0% to 5% slope	Preference for single parcels or parcels with two owners	Compatible with industrial or agricultural uses	No
Medium Industrial and Flex	Specialty Manufacturing Aviation - Aerospace Secondary Wood Products Recreation Equipment Renewable Energy Information Technology	10 to 75	0% to 5% slope	Preference for single parcels or parcels with two owners	Compatible with industrial or agricultural uses	No
Small Industrial	Specialty Manufacturing Aviation - Aerospace Secondary Wood Products Recreation Equipment Renewable Energy Information Technology	Less than 10	Less than 10% slope	Preference for single parcels or parcels with two owners	Compatible with some commercial, industrial, or agricultural uses	No
Large Commercial /Office	Mixed use Regional and community retail Big box retail Higher Education	10 to 50	Less than 10% slope	Preference for single parcels or parcels with two owners	Compatible with commercial and mixed uses	Yes
Medium Commercial /Office	Information Technology Large medical offices Mixed use Hospitality Higher Education Neighborhood retail Other services	5 to 20	Less than 15% slope	Preference for single parcels or parcels with three owners	Compatible with commercial and mixed uses	Yes
Small Commercial /Office	Small medical offices Retail and services	Less than 2	Less than 15% slope	Preference for single parcels or parcels with three owners	Compatible with commercial, mixed uses, and residential	Yes

Source: ECONorthwest research, City of Bend analysis, and Business Oregon Industrial Development Competitiveness Matrix

Table 16. Summary of site infrastructure needs for potential growth industries and clusters of commercial development

Site Category	Transportation	Rail	Transit, Ped, Bike	Water and Sewer Meter Size (inches)	Gas (annual therms)	Electrical Demand (annual KWhr)	Telecom
Large Industrial and Flex	Direct access to an arterial; less than 10 miles from Highway 97 or Highway 20	Preferred	Preferred	4 to 10 High Pressure Preferred	10,000 – 80,000	10,000 – 100,000 + Secondary system dependency may be required	High speed Internet and phones Higher capacity Internet access may be required
Medium Industrial and Flex	Direct access to an arterial; less than 10 miles from Highway 97 or Highway 20	Preferred	Preferred	3 to 6 High Pressure Preferred	10,000 – 80,000	10,000 – 100,000 + Secondary system dependency may be required	High speed Internet and phones Higher capacity Internet access may be required
Small Industrial	Access to a major collector	Not required	Preferred	0.75 to 2	10,000 – 30,000	10,000 to 30,000	High speed Internet and phones Higher capacity Internet access may be required
Large Commercial	Direct access to an arterial or major collector	Not required	Preferred	2 to 4	Standard commercial usage	10,000 – 100,000 + Secondary system dependency may be required	High speed Internet and phones Higher capacity Internet access may be required
Medium Commercial	Direct access to an arterial or major collector	Not required	Preferred	1 to 3	Standard commercial usage	Standard commercial usage	High speed Internet and phones
Small Commercial	Access to a major collector	Not required	Preferred	1.5 or smaller	Standard commercial usage	Standard commercial usage	High speed Internet and phones

Source: ECONorthwest research, City of Bend analysis, and Business Oregon Industrial Development Competitiveness Matrix

Characteristics of sites needed for manufacturing

Bend's target industries are manufacturing. Bend's large-scale manufacturing target industries are renewable energy and information technology (large data centers). Bend's medium-scale manufacturing target industries are renewable energy, secondary wood products, aviation – aerospace, recreation equipment, specialty manufacturing, and information technology (mid-sized data centers), all of which are high-tech or general manufacturing. This section presents the needed characteristics for large-scale manufacturing and medium-scale manufacturing.

The following summarizes the site characteristics for manufacturing and provides an overview of the two-prong test established for site characteristics under *Friends of Yamhill County v. City of Newberg*.

Large-scale manufacturing

1. **Site size.** Sites for manufacturing firms range in size from 50 to 250 acres. Some medium-scale and smaller manufacturing firms may prefer to locate in a manufacturing or flex business park, which range in size from about 25 acres to several hundred acres.
 - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites "a minimum acreage" as a site characteristic. Business Oregon finds that competitively-sized Regionally to Nationally Scaled Clean-Tech Manufacturers have sites 50 acres and larger. Large clean industry developments in 2010 occurred on sites ranging from 50 acres to nearly 500 acres. Data centers and other information technology businesses locating in Oregon located on sites ranging from 30 to more than 100 acres.

Some businesses will prefer to locate in manufacturing to flex business parks. Business parks are typically at least 25 acres in size to allow for development of multiple buildings and associated parking. In the Portland area, these parks generally range in size from about 25 acres to 50 acres, with a few examples of parks around 75, 100, or 300 acres.

- Attribute has "some meaningful connection with the operation of the industrial or employment use" – Site size is important to general industrial users. The site needs to be large enough to accommodate the needed built space, as well as to accommodate storage space or space for future expansion. In addition, the site needs to be large enough to accommodate not only the general industrial uses, but also parking, on-site circulation, connections to public transportation, rail connections, and other access to the transportation network.
2. **Land ownership.** Sites with two or fewer owners are necessary to reduce the cost and uncertainty of land assembly.
 - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the "site configuration" as a site characteristic. Developing an industrial building on a site with more than two owners requires negotiating land assembly and purchase from multiple owners. Land assembly is difficult and often costly for a number of reasons. People own land for a variety of reasons,

such as the desire to develop the land, keep the land undeveloped, or sell the land for a profit. Getting landowners to sell land can be difficult, especially if the ownership is legally disputed, as is the case with some inheritances. If a landowner is a willing seller, they may have an unrealistic expectation of their land's value, in the context of comparable land values. In addition, one parcel of land may have multiple owners, compounding the issues described above.

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

- Attribute has "some meaningful connection with the operation of the industrial or employment use" – The cost of land assembly, in financial terms and in terms of extra time needed for site assembly, can make developing an industrial site with multiple land owners financially infeasible.
3. **Automotive and freight access.** Manufacturing buildings generally are located on arterial or major collector streets. Traffic from the industrial development should not be routed through residential neighborhoods. Freight traffic should have unimpeded access to an arterial or state highway.
- Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the "proximity to a particular transportation or freight facility such as rail, marine ports and airports, multimodal freight or transshipment facilities, and major transportation routes" as a site characteristic. Business Oregon finds that manufacturing and industrial firms need to be located relatively close to an interstate highway or principal arterial road, generally within 20 miles or less.
 - Attribute has "some meaningful connection with the operation of the industrial or employment use" – This site characteristic helps to minimize the amount of traffic on local streets, minimize freight traffic in residential neighborhoods, improve mobility, minimize adverse effects on urban land use and travel patterns, and provide for efficient long distance travel, which are all necessary for effective industrial operations.
4. **Topography.** Manufacturing sites should be relatively flat, with slopes of not more than 5%.
- Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites "site configuration including shape and topography" as a site characteristic. Business Oregon finds that competitive sites generally have a slope of 5% or less.
 - Attribute has "some meaningful connection with the operation of the industrial or employment use" – Industrial buildings require level floor plates to reduce costs

and offer maximum flexibility, as well as level areas to provide for freight access and pedestrian walkways that meet ADA standards. The real estate development literature describes the increases in development costs and other difficulties associated with industrial development on a sloped site.

5. **Access to services.** City services should be directly accessible to the site, including sanitary sewer, and municipal water.
 - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the "specific types or levels of public facilities, services or energy infrastructure" as a site characteristic. Business Oregon finds that competitive sites must have access to urban services, including water, wastewater, natural gas, electricity, and major telecommunications facilities.
 - Attribute has "some meaningful connection with the operation of the industrial or employment use" – Industrial buildings require access to municipal water, municipal sanitary sewer, and electricity/gas. Developing a site with direct access to municipal services is substantially more cost-effective than extending municipal services to an unserved site.³⁶
6. **Surrounding land uses.** Industrial buildings are directly compatible with other industrial uses, commercial uses, and agricultural uses. Bend's Development Code and other policies address issues of compatibility between uses, such as requirements for building setbacks, screening, fencing, visual buffering, and landscaping.
 - Attribute is "typical of the industrial or employment use" - OAR 660-009-0025(6) strongly encourages cities to manage encroachment and intrusion of incompatible uses with employment uses. Industrial uses are generally compatible with other industrial uses, commercial uses, and some public uses. Industrial uses may be compatible with agricultural uses, provided that the industrial use does not encroach on the agricultural uses.
 - Attribute has "some meaningful connection with the operation of the industrial or employment use" - Industrial uses are able to operate efficiently where they are not in conflicts with adjacent land uses that could disrupt industrial business activity. Noise or odor conflicts may make some industrial uses incompatible with nearby residential uses.

Commercial/Office and Industrial Flex

1. **Site size.** Sites for general manufacturing or high-tech manufacturing firms range in size from 10 to 25 acres. Some medium-scale and smaller manufacturing firms may prefer to locate in a manufacturing or flex business park, which range in size from about 25 acres or several hundred acres.

³⁶ Miles, Mike E., Haney, Richard L., Bernes, Gayle, "Real Estate Development: Principles and Process," The Urban Land Institute, 1997.

- Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites "a minimum acreage" as a site characteristic. Business Oregon finds that competitively-sized general manufacturing firms have sites 10 acres in size. Competitive sites for heavy manufacturing, high-tech manufacturing, or campus industrial manufacturing require 25-acre sites.

Some businesses will prefer to locate in manufacturing to flex business parks. Business parks are typically at least 25 acres in size to allow for development of multiple buildings and associated parking. In the Portland area, these parks generally range in size from about 25 acres to 50 acres, with a few examples of parks around 75, 100, or 300 acres.

Major employment sites with general industrial uses in the Portland Metro area range in size from 25 to 160 acres and average about 50 acres in size. Businesses parks will need to be at least 25 to 50 acres and possibly as large as 75 to 100 acres.

- Attribute has "some meaningful connection with the operation of the industrial or employment use" – Site size is important to general industrial users. The site needs to be large enough to accommodate the needed built space, as well as to accommodate storage space or space for future expansion. In addition, the site needs to be large enough to accommodate not only the general industrial uses, but also parking, on-site circulation, connections to public transportation, rail connections, and other access to the transportation network.

2. **Land ownership.** Sites with two or fewer owners are necessary to reduce the cost and uncertainty of land assembly.

- Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the "site configuration" as a site characteristic. Developing an industrial building on a site with more than two owners requires negotiating land assembly and purchase from multiple owners. Land assembly is difficult and often costly for a number of reasons. People own land for a variety of reasons, such as the desire to develop the land, keep the land undeveloped, or sell the land for a profit. Getting landowners to sell land can be difficult, especially if the ownership is legally disputed, as is the case with some inheritances. If a landowner is a willing seller, they may have an unrealistic expectation of their land's value, in the context of comparable land values. In addition, one parcel of land may have multiple owners, compounding the issues described above. As a result, developers of industrial buildings typically choose to develop sites with one or two owners.
- Attribute has "some meaningful connection with the operation of the industrial or employment use" – The cost of land assembly, in financial terms and in terms of extra time needed for site assembly, can make developing an industrial site with multiple land owners financially infeasible.

3. **Automotive access.** Manufacturing buildings generally are located on arterial or major collector streets. Traffic from the industrial development should not be routed through residential neighborhoods. The ideal site would have direct access to an arterial or state highway.
 - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the "proximity to a particular transportation or freight facility such as rail, marine ports and airports, multimodal freight or transshipment facilities, and major transportation routes" as a site characteristic. Business Oregon finds that manufacturing and industrial firms need to be located relatively close to an interstate highway or principle arterial road, generally within 20 miles or less.
 - Attribute has "some meaningful connection with the operation of the industrial or employment use" – This site characteristic helps to minimize the amount of traffic on local streets, minimize freight traffic in residential neighborhoods, improve mobility, minimize adverse effects on urban land use and travel patterns, and provide for efficient long distance travel, which are all necessary for effective industrial operations.
4. **Topography.** Manufacturing sites should be relatively flat, with slopes of not more than 5%.
 - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites "site configuration including shape and topography" as a site characteristic. Business Oregon finds that competitive sites generally have a slope of 5% or less, except high tech manufacturing and campus industrial, which have a slope of 7% or less.
 - Attribute has "some meaningful connection with the operation of the industrial or employment use" – Industrial buildings require level floorplates to reduce costs and offer maximum flexibility, as well as level areas to provide for freight access and pedestrian walkways that meet ADA standards. The real estate development literature describes the increases in development costs and other difficulties associated with industrial development on a sloped site.
5. **Access to services.** City services should be directly accessible to the site, including sanitary sewer, and municipal water.
 - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the "specific types or levels of public facilities, services or energy infrastructure" as a site characteristic. Business Oregon finds that competitive sites must have access to urban services, including water, wastewater, natural gas, electricity, and major telecommunications facilities.
 - Attribute has "some meaningful connection with the operation of the industrial or employment use" – Industrial buildings require access to municipal water, municipal sanitary sewer, and electricity/gas. Developing a site with direct access

to municipal services is substantially more cost-effective than extending municipal services to an unserved site.³⁷

6. **Surrounding land uses.** Industrial buildings are directly compatible with other industrial uses, commercial uses, and agricultural uses. Bend's Development Code and other policies address issues of compatibility between uses, such as requirements for building setbacks, screening, fencing, visual buffering, and landscaping.
 - o Attribute is "typical of the industrial or employment use" - OAR 660-009-0025(6) strongly encourages cities to manage encroachment and intrusion of incompatible uses with employment uses. Industrial uses are generally compatible with other industrial uses, commercial uses, and some public uses. Industrial uses may be compatible with agricultural uses, provided that the industrial use does not encroach on the agricultural uses.
 - o Attribute has "some meaningful connection with the operation of the industrial or employment use" - Industrial uses are able to operate efficiently where they are not in conflicts with adjacent land uses that could disrupt industrial business activity. Noise or odor conflicts may make some industrial uses incompatible with nearby residential uses.

General Retail and Office Uses

1. **Site size.** Sites for general retail and office firms range in size from 0.1 to 10 acres.
 - o Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites "a minimum acreage" as a site characteristic. General retail and office uses do not have a minimum acreage beyond what is dictated in local zoning codes.
 - o Attribute has "some meaningful connection with the operation of the industrial or employment use" – The City needs to provide a range of small site sizes. Needed site size is contingent on the type of business.
2. **Land ownership.** Sites with two or fewer owners are necessary to reduce the cost and uncertainty of land assembly.
 - o Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the "site configuration" as a site characteristic. Developing a commercial building on a site with more than two owners requires negotiating land assembly and purchase from multiple owners. Land assembly is difficult and often costly for a number of reasons. People own land for a variety of reasons, such as the desire to develop the land, keep the land undeveloped, or sell the land for a profit. Getting landowners to sell land can be difficult, especially if the ownership is legally disputed, as is the case with some inheritances. If a

³⁷ Miles, Mike E., Haney, Richard L., Bernes, Gayle, "Real Estate Development: Principles and Process," The Urban Land Institute, 1997.

landowner is a willing seller, they may have an unrealistic expectation of their land's value, in the context of comparable land values. In addition, one parcel of land may have multiple owners, compounding the issues described above. As a result, developers of retail and office buildings typically choose to develop sites with one to three owners.

- o Attribute has "some meaningful connection with the operation of the retail or office use" – The cost of land assembly, in financial terms and in terms of extra time needed for site assembly, can make developing a retail or office site with multiple land owners financially infeasible.
3. **Automotive access.** Retail and office buildings should be located on arterial or collector streets. The ideal site would have direct access to an arterial or collector.
- o Attribute is "typical of the industrial or employment use" - This site characteristic helps to minimize the amount of traffic on local streets, minimize commercial traffic in residential neighborhoods, improve mobility, minimize adverse effects on urban land use and travel patterns, and provide for efficient long distance travel, which are all necessary for effective commercial operations. A location with access to an arterial or state highway will have greater visibility, which is important to businesses that depend on in-person customer access.
 - o Attribute has "some meaningful connection with the operation of the industrial or employment use" – Many retail and office uses depend on auto access and visibility for their business.
4. **Topography.** General retail and office sites should be relatively flat, with slopes of not more than 15%.
- o Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites "site configuration including shape and topography" as a site characteristic. Business Oregon finds that competitive sites retail sites generally have a slope of 15% or less.
 - o Attribute has "some meaningful connection with the operation of the industrial or employment use" – commercial buildings require level floorplates to reduce costs and offer maximum flexibility, as well as level areas to provide for freight access and pedestrian walkways that meet ADA standards. The real estate development literature describes the increases in development costs and other difficulties associated with commercial development on a sloped site.
5. **Access to services.** City services should be directly accessible to the site, including sanitary sewer, and municipal water.
- o Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the "specific types or levels of public facilities, services or energy infrastructure" as a site characteristic. Business Oregon finds that competitive

commercial sites must have access to urban services, including water, wastewater, natural gas, electricity, and major telecommunications facilities.

- o Attribute has "some meaningful connection with the operation of the industrial or employment use" – retail and office buildings require access to municipal water, municipal sanitary sewer, and electricity/gas. Developing a site with direct access to municipal services is substantially more cost-effective than extending municipal services to an unserved site.

6. Surrounding land uses. General retail and office buildings are directly compatible with other commercial uses, mixed uses, and residential uses. Bend's Development Code and other policies address issues of compatibility between uses, such as requirements for building setbacks, screening, fencing, visual buffering, and landscaping.

- o Attribute is "typical of the industrial or employment use" - OAR 660-009-0025(6) strongly encourages cities to manage encroachment and intrusion of incompatible uses with employment uses. General retail and office uses are generally compatible with other commercial uses, mixed uses, and residential uses.
- o Attribute has "some meaningful connection with the operation of the industrial or employment use" - Commercial uses are able to operate efficiently where they are not in conflicts with adjacent land uses that could disrupt industrial business activity.

Special Site Needs: Aspirations for Bend's Economy and Corresponding Land Needs

The Goal 9 rule includes provisions for meeting unique site needs for industries that are an integral component of a city's economic development strategy. The uses and sites described below represent Bend's aspirations for employment above the anticipated employment described in the employment projections.

The State's rule encourages jurisdictions to accommodate special site uses for economic growth. OAR 660-009-0025(8) states "cities and counties that adopt objectives or policies providing for uses with special site needs must adopt policies and land use regulations providing for those special site needs. Special site needs include, but are not limited to large acreage sites, special site configurations, direct access to transportation facilities, prime industrial lands..." These sites must be identified and protected for those specific uses and from incompatible uses.

Through discussions with the Stakeholders, Planning Commission, and public testimony, the 2008 EOA identified the following uses for aspirational employment and special sites. (1) a site for a new hospital; (2) a university district; and (3) two large lot industrial sites. The following discussion revises the "special site needs" for Bend based on changes that have occurred since 2008.³⁸ The City is only proceeding with the large-lot industrial special site needs. The need for

³⁸ The 2008 EOA identified a need for a hospital site and a new university campus. Because of recent events, the City has determined it no longer needs sites for these uses.

a university district is not being carried forward because Oregon State University has selected a site within the UGB. The need for a new hospital site is not being carried forward because the St. Charles Medical Center has decided to expand the existing hospital within the UGB.

Large Industrial Sites

The 2008 EOA identified a need for two, 56-acre industrial sites: one for targeted economic sector uses, and another for a heavy industrial site user. The Remand acknowledged this need, which is included as a special site need for the 2015 EOA.³⁹

This land is not included in the general estimate for land need presented above and is in addition to existing land needs. These sites are not included in Bend's employment projections because the industries Bend seeks for these sites are generally not present in Bend.

The Sector Targeting work calls for attracting secondary wood products, renewable energy resources, aviation, recreation equipment and specialty manufacturing, and information technologies. While the estimated needed economic lands may suit some of these sectors, two sites with a dedicated size of 56 acres each to be reserved for these uses are needed for large site users such as secondary wood products, aviation, renewable energy resources, and information technology. Stakeholders concluded that they have been approached by industries seeking large sites for these uses, but since none are in the current supply, the firms looked to other communities.

These sites are needed in addition to predicted industrial land needs because the total amount of industrial acreage is relatively small (118 acres), and placing 112 acres to be held in two large lots would consume nearly all of the needed 20-year supply. These sites are also needed because they will create the land base needed to attract Bend's targeted sectors.

The specific location of these sites will be identified as part of the "Alternatives Analysis" required by OAR 660-024.

Policies to protect these special large-lot industrial sites for their intended uses are required and will be included in Chapter 5 of Bend's Comprehensive Plan. Policies could include minimum size requirements (such as 25-50 acres) and use restrictions.

Juniper Ridge is the largest area designated for industrial uses in Bend. The base case assumes that all of Juniper Ridge will remain in an industrial plan designation and that it will accommodate future employment growth consistent with its designation. It can also accommodate one of the large lot industrial site needs due to its large size and the city ownership that allows it to be held to wait for a large lot user.

³⁹ The Remand states "The Commission concludes that the City has made an adequate showing under ORS 197.298(3)(a) that there is a specific identified land need for a future university campus, a site for a future medical center, and for two 50-acre large lot industrial sites." Pg 131-132

CHAPTER 5. EMPLOYMENT LAND SUFFICIENCY AND SITE NEEDS

This chapter provides an evaluation of land sufficiency in Bend. The analysis compares the land supply (as reported in the Buildable Lands Inventory) expressed in terms of capacity to accommodate new employees, with the updated 2013-2028 employment forecast. The land sufficiency analysis is followed by a discussion of the characteristics of needed sites to accommodate targeted industries. The chapter concludes with a discussion of shortterm land supply.

Buildable Employment Land Inventory and Land Capacity

The buildable land inventory (BLI) is adopted as a supporting document of the Bend General Plan. In simplest terms, the BLI documents the urban land supply of Bend, and estimates the growth capacity for housing and jobs. It is a key factual base for growth management policy in Bend. The BLI also serves a very specific role, required by law, in analyzing and documenting specific categories of buildable land, and, estimating capacity for growth that is ultimately used to determine how much land is needed within Urban Growth Boundary (UGB).

The full methods and results of the BLI are presented as a separate document (the *Bend Buildable Land Inventory*, 2015) and include an inventory of all lands (residential, employment, etc.) in the Bend UGB.

Commercial and Industrial Buildable Land Inventory Results

Table 17 shows employment land by general plan designation and lot size. In 2014, Bend had 1,162 acres of vacant land designated for employment uses. About one-quarter of Bend's vacant land is in sites smaller than 5 acres, 28% is on sites 5 to 50 acres, and 36% is in three sites larger than 50 acres.

Map 1 shows vacant and developed buildable lands in Bend.

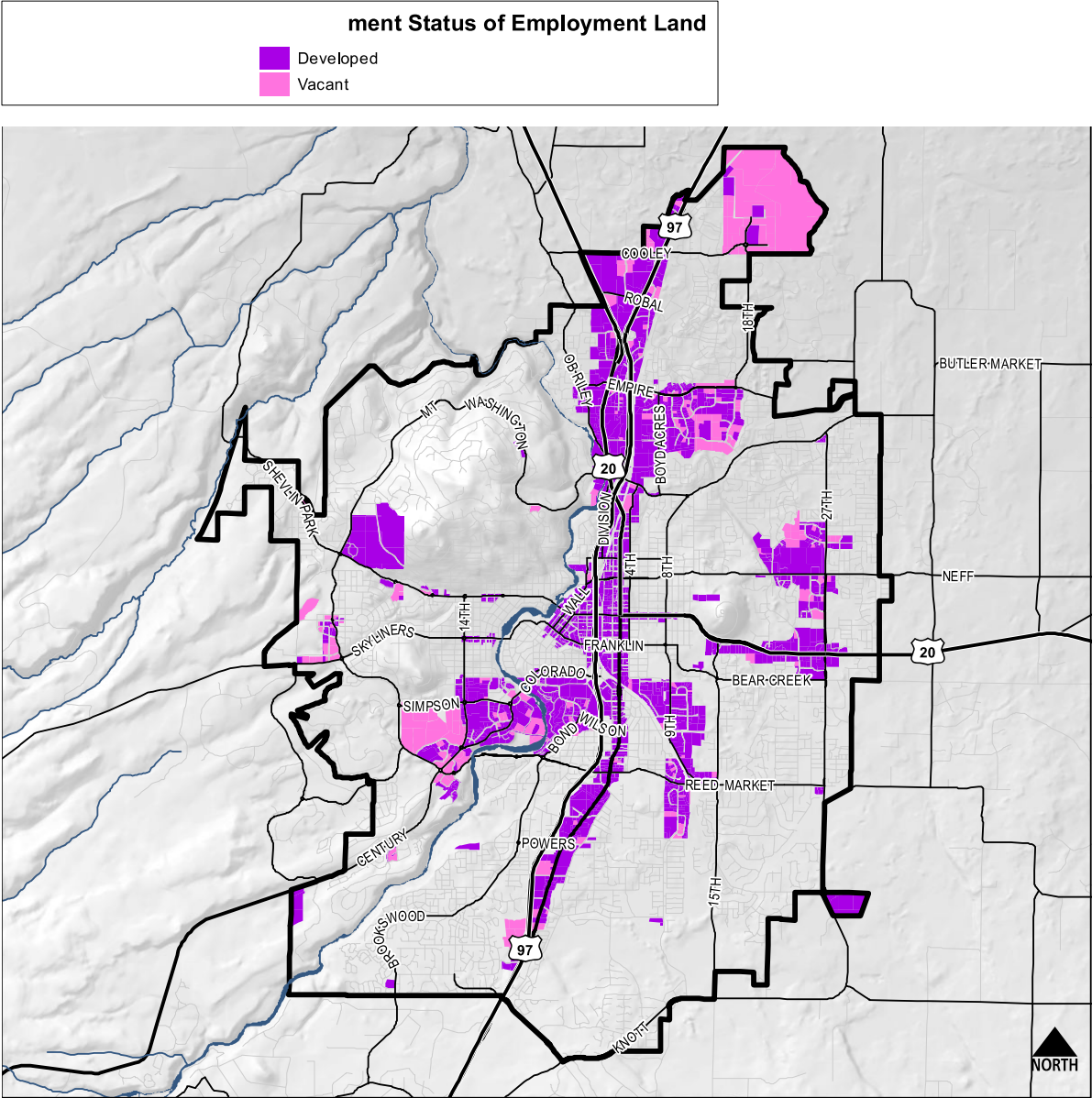
Table 17. Vacant Employment Land by General Plan Designation and lot size, Bend UGB 2014

Employment Category	Acres by Lot Size			Total	Percent of Total
	Smaller than 5 acres	5 to 49.99 acres	50.00 ac or more		
Commercial / Mixed Use	175	160	-	335	26%
Industrial / Mixed Employment	147	248	370	765	59%
Public Facilities	12	87	91	190	15%
Total	334	494	462	1,290	100%
Percent of Total	26%	38%	36%	100%	
Number of Tax Lots					
Commercial / Mixed Use	121	18	-	139	50%
Industrial / Mixed Employment	108	18	2	128	46%
Public Facilities	5	5	1	11	4%
Total	234	41	3	278	100%
Percent of Total	84%	15%	1%	100%	

Source: Bend Buildable Lands Inventory, 2014

Note: RM and RH lands are part of the Medical District Overlay Zone (MDOZ)

Map 1. Employment BLI Status



Source: Bend Buildable Lands Inventory, 2014

Capacity of Employment Land in the Bend UGB to Accommodate New Employment

This section combines work in the previous sections to calculate the sufficiency of employment lands in Bend to accommodate forecast employment growth for the 2013-2028 period. The issue of providing for a variety of locations, sizes, and types is addressed. Short-term demand and supply for economic lands is also discussed. For the purpose of this analysis, the term “demand” refers to land needs before being subtracted from existing supplies. The term “need” refers to land needs after subtracting out existing land supplies.

Methods used in the analysis

For the revised EOA, Bend used a scenario planning tool called “Envision Tomorrow” to estimate the capacity of employment land. This is a significant change from the methods used in the 2008 EOA. Envision Tomorrow can be used to project the impact of current policies and trends on capacity as well as a range of other metrics, and compare against alternative policy choices. A “base case” scenario was developed based on current plan designations and average employment densities discussed in this document. In short, on vacant land, “development types” representing plan designations and calibrated to match the employment densities listed in the following section, were applied to all buildable acres. A redevelopment rate calibrated to match the estimate of redevelopment potential was applied to developed land. The assumptions and methodologies used to translate buildable area into jobs in Envision Tomorrow are described in greater detail in the *Bend Urbanization Report*. This section summarizes the key assumptions and output used in Envision Tomorrow for the “base case”, i.e. the pre-policy projection of current trends.

Employment land capacity and deficiency

As stated above, the Envision Tomorrow model estimates the capacity of vacant and redevelopable land to accommodate new employment. Table 18 shows the residual employment need for the 2013-2028 period by broad land use category. The results show that Bend does not have enough land in its UGB to accommodate all employment types with the exception of public employment. There is an overall deficit of land for 10,720 employees.

Table 18. Vacant Employment Land by General Plan Designation and lot size, Base Case Scenario, Bend UGB 2014

Employment Category	Net New Jobs	Total Employment Need[1]	Residual Employment Need	Percent of Employment Need Met within the UGB
Retail & Hospitality	2,220	6,520	4,300	35%
Office	3,610	7,160	3,550	50%
Industrial	3,310	6,540	3,230	51%
Public	2,540	1,720	None[2]	100%
Total	11,680	21,940	10,720	53%

Source: Bend Urbanization Report

Notes: [1] The employment need categories have been generalized for simplicity in comparing against capacity as measured in Envision Tomorrow.

[2] Public jobs do not include school-based employment in actual school facilities which tend to be located in residential areas. Schools are addressed as a separate land need. The surplus of capacity for public jobs inside the UGB does not subtract from the need for employment capacity of other types, since land designated Public Facilities (where most of the public employment capacity comes from) generally will not provide opportunities for private-sector retail, office, or industrial development.

Table 19 estimates the number of sites needed to accommodate the residual employment need from Table 18. The distribution (e.g., percentage) of employment by employment category and site size from Table 5 was used allocate residual employment need to employment categories and site sizes. The average employees per site from Table 7 was used to estimate the number of needed sites. For example, 3,054 Retail & Hospitality employees expected to locate on sites smaller than five acres divided by an average of 23 employees per site for sites smaller than five acres yields a need of 133 sites smaller than five acres for Retail & Hospitality employees.

The results show that Bend has a deficit of 366 sites smaller than five acres and 17 sites between 5 and 50 acres.

Table 19. Vacant Employment Land by General Plan Designation and lot size, Base Case Scenario, Bend UGB 2014

Employment Category	Residual Employment Need		Sites Needed	
	Smaller than 5 acres	5 to 49.99 acres	Smaller than 5 acres	5 to 49.99 acres
Retail & Hospitality	3,054	1,246	133	10
Office	2,669	237	117	2
Industrial	2,665	556	116	5
Public	None	None	None	None
Total	8,388	2,039	366	17

Source: Residual Employment Need from the Bend Urbanization Report, Distribution of Employment in Bend (Table 5) and Average Employees per Site (Table 7)

Short-term land supply

Remand and State Requirements

The Remand requires the City provide more evidence to demonstrate that it complies with the requirement to maintain a short-term land supply as required by OAR 660-009-0015(3)(a)(C):

“For cities and counties within a Metropolitan Planning Organization, the inventory must also include the approximate total acreage and percentage of sites within each plan or zoning district that comprise the short-term supply of land.”

Bend is within a Metropolitan Planning Organization (MPO) and is therefore required to conduct the analysis. OAR 660-009-0005(10) defines short-term land supply as follows:

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

The Remand provides the following guidance with respect to meeting the requirements of OAR 660-009-0015(3)(a)(C):

Under OAR 660-009-0015(3)(a)(C), the EOA Inventory of Industrial and Other Employment Lands for cities and counties within a Metropolitan Planning Organization, must include the approximate total acreage and percentage of sites within each plan or zoning district that comprise the short-term supply of land.

This short-term supply analysis required for jurisdictions within MPOs is in addition to the EOA inventory requirements applicable to all comprehensive plans for areas within urban growth boundaries. OAR 660-009-0015(3)(a)

Furthermore, division 9 requires that comprehensive plans for cities such as Bend “include detailed strategies for preparing the total land supply for development and for replacing the short-term supply of land as it is developed.” OAR 660-009-0020(2).

The Commission concludes that the Goal 9 rule requires the City to include policies for maintaining a short-term supply.

The City must plan for required infrastructure and have identified the funding mechanisms. State law requires the city to describe development constraints or infrastructure needs on vacant lands and determine the amount of vacant acreage by plan designation that qualifies as short-term supply. OAR 660-009-0005(9) establishes the definition of “serviceable” as:

“the city or county has determined that public facilities and transportation facilities, as defined by OAR chapter 660, division 011 and division 012, currently have

adequate capacity for development planned in the service area where the site is located or can be upgraded to have adequate capacity within the 20-year planning period.”

Since all vacant land is theoretically “serviceable” because a city could state it “can be upgraded”, Bend staff created a working definition so that a site is “serviceable” if adopted water, sewer, and transportation master plans are currently written to serve the property. That is, all land within the current UGB is considered serviceable in the Goal 9 context.

Operationalizing short term supply analysis

It is worth parsing the elements of the rule to better understand the requirements. The first issue is temporal in nature: “land that is ready for construction within one year of an application for a building permit or request for service extension.” Thus, the definition establishes a one year threshold. The second is the concept of “engineering feasibility.” The rule doesn’t provide guidance on how to operationalize “engineering feasibility.” For the purpose of this analysis, the consulting team defines engineering feasibility as the ability to provide the needed backbone infrastructure to the site within one year. On site infrastructure is not part of engineering feasibility. The final issue is related to funding. The City is not required to demonstrate that it has the funds available to develop the infrastructure.

The analysis includes evaluation of water, wastewater, stormwater, and transportation infrastructure. Whether a specific site meets the standards for short term supply was determined by analysis of functional plans and capital improvement programs. For the purpose of this analysis, we used the end of 2017 in the evaluation.

City Functional Planning Efforts

The evaluation of short-term land supply is directly related to infrastructure plans (called “functional” plans). For the purpose of this analysis the relevant functional plans are water, wastewater, stormwater, and transportation.

Since the Remand was issued in 2010, the City has completed substantial of planning work for infrastructure. These plans include:

- *Water System Master Plan - 2011 Update (Optimization Study)*. This plan covers level of service goals, present and future deficiencies, assessment of fire flow capacity in the system and the results of a comprehensive analysis using an optimized decision support process to evaluate alternatives that address system deficiencies now and in the future. The results of this study are a recommended set of system improvements to meet water needs within Bend’s water service area for at least 20 years.
- *Water Management and Conservation Plan – 2011*. The purpose of this Plan is to guide the development, financing, and implementation of water management and conservation programs and policies to ensure sustainable use of publicly owned water resources while the City plans for its future water needs.
- *Collection System Master Plan – 2014*. The Wastewater Collection System Master Plan (CSMP) is a 20-year critical planning document that establishes a clear vision for the City’s sewer collection system. The CSMP identifies both short term and long-term

system improvements that are needed to address existing condition, existing capacity, and future capacity issues.

- *Water Reclamation Facility Plan*. This plan outlines several cost-effective solutions for increasing the plant's ability to meet projected wastewater flows through the year 2030.
- *Stormwater Master Plan*. In 2014, the City Council approved the City's first formal Stormwater Master Plan that serves as the oversight plan for addressing stormwater quantity and quality issues. In addition, this Plan provides a delineation of drainage areas and runoff quantities throughout Bend, and programmatic goals for addressing quantity and quality concerns.
- *Bend Urban Area Transportation Plan – 2011*. The purpose of the Bend Urban Area TSP is to help guide the development of a transportation system that will meet the forecast needs of the Bend community. This plan provides a policy and plan framework that will continue to enable Bend to design a balanced transportation system for the near-term and the next twenty years.
- *NE Bend Transportation Study – 2009*. The NE Bend Transportation Study is an umbrella effort to coordinate transportation system planning, land use planning, and project development work underway in the north-east part of the City of Bend. The study was initiated by specific direction given from the City of Bend City Council and the Oregon Transportation Commission (OTC) to investigate strategies that support better use of the local (i.e., non-highway) transportation system for shorter distance travel and decrease local trip reliance on the state highways.

Analysis and Findings

This section evaluates Bend's ability to provide a short-term supply of employment lands. It evaluates key services—water, wastewater, stormwater and transportation—and concludes with a summary of land by plan designation that meets the short-term supply standard as stated in OAR 660-009-0015(3)(a)(C).

Water

To better understand the extent to which water capacity and systems will support employment growth, the City commissioned Murray, Smith & Associates (MSA) to analyze whether the existing system would accommodate a 25% increase in employment given planned system enhancements. The analysis builds on the capacity analysis performed for the City of Bend's Water System Master Plan (WMP) completed in 2011. The updated hydraulic model developed for the WMP was used as a tool to identify capacity constraints and bottlenecks associated with a twenty-five (25) percent increase in employment above existing conditions. In summary, the analysis answers the question of whether 25% of Bend's land could be provided water service making it available as short-term supply with the assumption that 25% of the forecast employment growth would consume 25% of the land.

The City's water service area includes the City's current urban growth boundary (UGB), which includes most of the City of Bend, as well as the Tetherow Development and Juniper Ridge Development Phases 1 and 2. Two private water utilities, Avion Water Company and Roats Water System, Inc., serve the portions of the area within the UGB not served by the City's water system. Seventy-five to eighty percent of the UGB is served by the City of Bend.

As described above, the City has recently completed system plans for water distribution and conservation. The *Water System Master Plan Update Optimization Study* (February 2011) is a detailed analysis of water supply and demand and includes a 10-year capital improvement plan to accommodate expected growth and system improvements to accommodate forecast growth. The *Water Management and Conservation Plan* (June 2011) is intended to guide the development, financing, and implementation of water management and conservation programs and policies for Bend.

To forecast system demand, the City used data from the 2008 buildable lands inventory and other sources. The plan forecasts that average daily demand (ADD) will increase from 14.3 million gallons in 2010 to 29.1 in 2030. Maximum daily demand (MDD) is projected to increase from 32.2 million gallons to 65.1 million gallons. The plan concludes that the water supply provided by the City's existing water rights, however, currently can be relied upon only to provide approximately 51.8 mgd of supply during periods of high demand. Consequently, the City will need to fully exercise its existing water rights and may need additional water supply to meet its projected 2030 MDD.

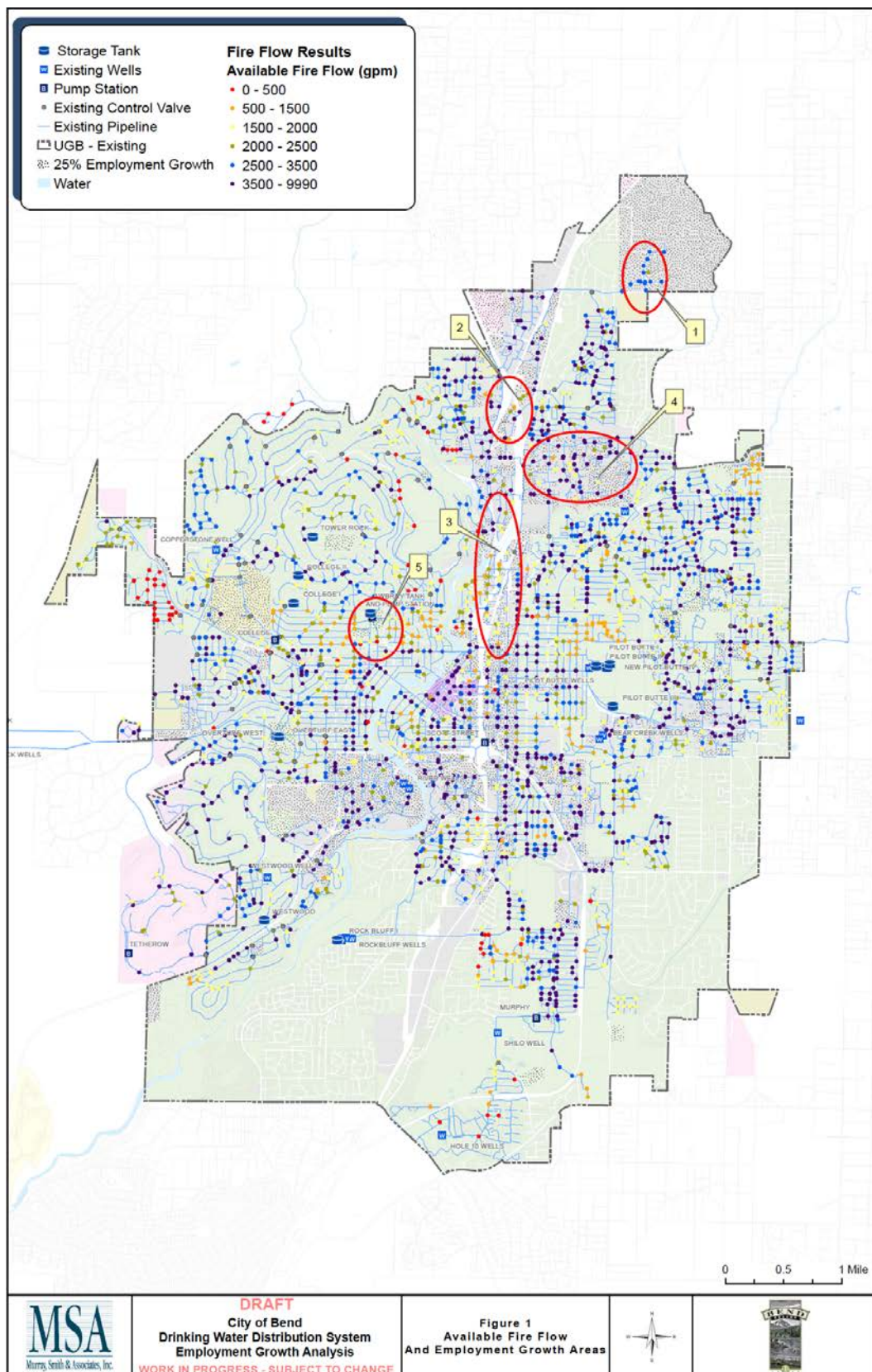
According to the MSA analysis, the City's sources of supply include the surface water source, and ground water sources. The WMP considers the largest single source to be the surface water supply. With the largest source unavailable, the firm capacity supply was identified in the WMP as 32.2 MGD. The estimated MDD with 25-percent employment growth is estimated at 29.8 MGD. Therefore the existing firm capacity is adequate to meet MDD with 25-percent employment growth. MSA also concludes that the WMP indicates an overall storage deficiency based on data collected in 2008 and 2009; however, near-term improvements at the City's Outback Facility improve system-wide storage.

The results MSAs of hydraulic analysis for average daily demand (ADD), maximum daily demand (MDD), and peak hour demand (PHD) scenarios with 25% employment growth indicate that system performance meets pressure criteria. However, fire flow requirements are not met in all areas of employment growth. Area that may experience fire flow deficiencies are highlighted in Map 1.

The key deficiency in all areas is fire flow requirements. Most of the areas (with the exception of Juniper Ridge) have a fire flow requirement of 2,500 gallons per minute (gpm). All of the areas will require system improvements to meet fire flow requirements at 25% employment growth. Within the context of short-term supply, areas that do not have sufficient fire flows are assumed to meet the criteria of being ready for construction within one year of an application for a building permit or request for service extension. In short, these lands could be serviced within one year of an application.

Neither plan identifies system or capacity constraints that would prohibit the city from serving employment lands. In fact, the city modeled higher water use for the Juniper Ridge site to ensure that it would have capacity to serve water-intensive industries if they chose to locate at Juniper Ridge. The City concludes that water systems do not constrain employment growth and that all lands within the UGB meet the definition of short term supply for water.

Map 2. Water System Constraints Under a 25% Forecast Employment Growth Scenario



Wastewater

To better understand the extent to which wastewater capacity and systems will support employment growth, the City commissioned Murray, Smith & Associates to analyze whether the existing system would accommodate a 25% increase in employment given planned system enhancements. The analysis builds on the capacity analysis performed for the City of Bend's Collection System Master Plan (CSMP) completed in 2014. The hydraulic model developed for the CSMP was used as a tool to identify capacity constraints and bottlenecks associated with a twenty-five (25) percent increase in employment above existing conditions. In summary, the analysis answers the question of whether 25% of Bend's land could be provided wastewater service making it available as short-term supply with the assumption that 25% of the forecast employment growth would consume 25% of the land.

To reflect system improvements in progress and the anticipated timeframe for the UGB project, the analysis assumed that programmed improvements for 2016 and 2017 were in place. These improvements are identified in the capital improvement section of the CSMP and are scheduled for completion by December 31, 2017 (this includes three key improvements identified in the CIP – the North Area improvements, Colorado Lift Station, and Southeast Interceptor Phase I).

Table 20 shows the employment assumptions by zoning district used in the system modeling. The forecast figures are derived from Table 6, but do not include employment that will locate in residential zones (about 500 additional employees).

Table 20. 25% of Employment Forecast and Acres Serviced by Wastewater Collection Systems, by Zoning District, 2016-2036

Zoning	25% of forecast employment	
	Employees	Acres
Central Business District	245	8
Convenience Commercial	71	17
General Commercial	282	84
General Industrial	36	18
Institutional	87	52
Light Industrial	790	162
Limited Commercial	236	40
Medical District	235	33
Mixed Employment	695	117
Mixed Use	279	39
Mixed Use Riverfront	156	49
Public Facilities	421	81
Total	3,533	700

Source: Murray Smith & Associates

Note: employment forecast does not include employment that is forecast to locate in non-employment zones

The key conclusion of the analysis is that the wastewater system generally has capacity for 25% employment growth without the risk of overflow. The analysis also identifies several critical

capacity constraints which are shown in Map 3. These are described in more detail in the following sections.

North Area

Constraints in the north area are related to available lift station capacity and gravity pipeline capacity prior to construction of the Northeast Interceptor. The area has capacity to serve near-term employment growth but has limitations with gravity sewer lines between Empire Avenue and Marsh Orchard Drive and between Town Drive and Wishing Well Lane.

The construction of the Northeast Interceptor (currently scheduled for the 2025-2035 period) will address these constraints in the long-term.

Central Corridor

The central corridor has limited ability to serve long-term growth due to available trunk sewer capacity prior to construction of the Southeast Interceptor Phase 2 and flow diversions from the south and southwest sub-basins to the interceptor. This area can accommodate some near-term growth, but capacity constraints exist at the following locations:

- Old Mill Lift Station
- Gravity lines between Studio Road and 6th Street and from Seward Avenue to Webster Avenue
- Gravity lines on Butler Market Road

South and Southeast

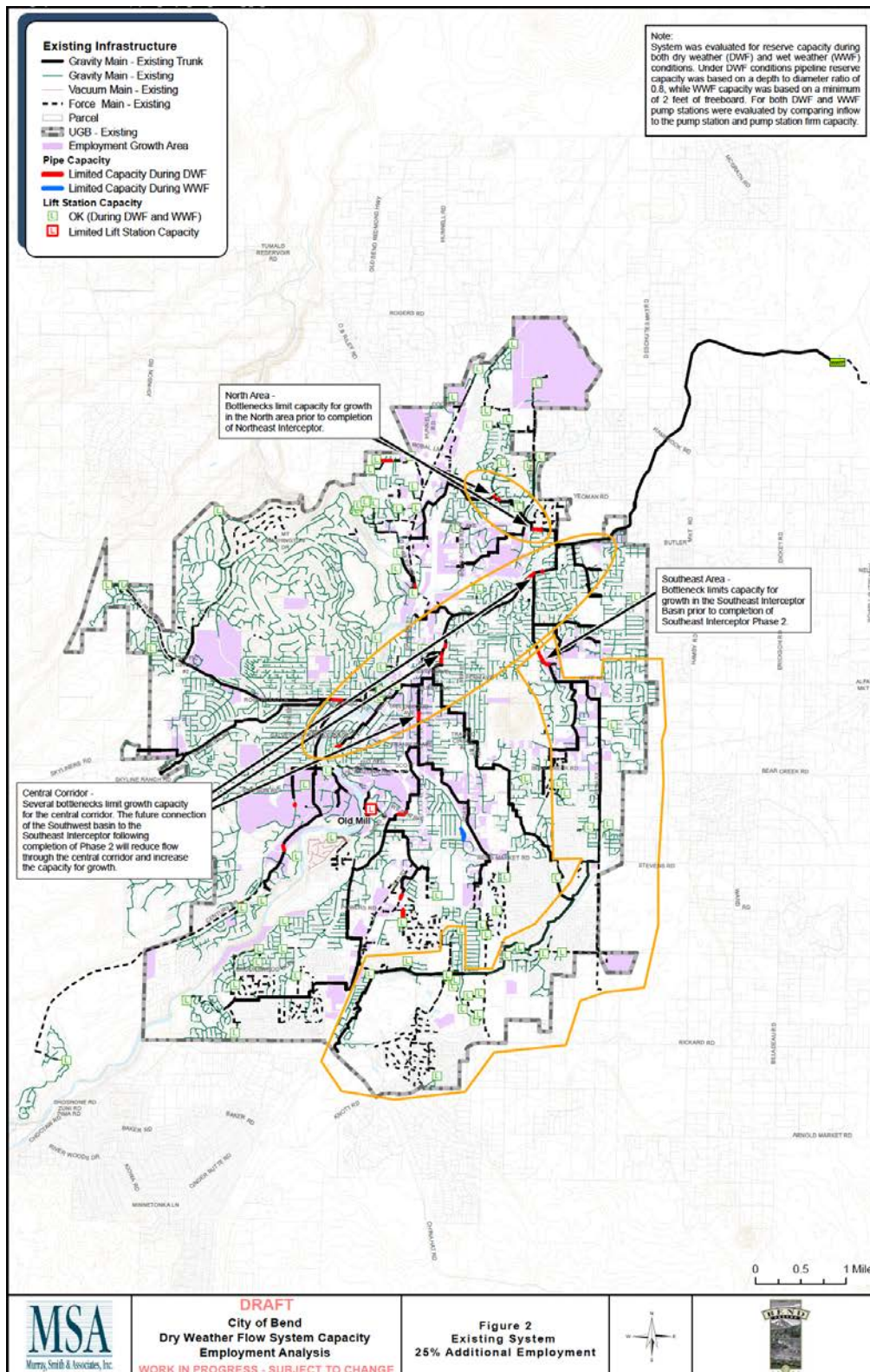
The south and southeast areas are limited to serve long-term growth due to available trunk sewer capacity prior to construction of the Southeast Interceptor Phase 2. This area can accommodate some near-term growth, but capacity constraints exist at the following locations:

- Gravity sewer downstream of Purcell Boulevard, parallel to Cliff Drive
- Shallow gravity sewer on Centennial Street between Paiute Way and Stratford Court.

To summarize, the conclusion that the system can generally accommodate growth indicates that the additional 25% employment growth creates some system deficiencies based on the City standards; however it does not cause system overflows. Note that the model results are dependent on distributed growth. If all or most the employment growth were concentrated in one location such as the north area, greater system deficiencies would occur.

Moreover, it is important to note that all three areas identified with capacity constraints will experience bottlenecks even without the 25% employment growth. The key findings from previous analyses relative to the bottlenecks are that growth may be limited prior to construction of the Southeast Interceptor Phase 2 and the Northeast Interceptor.

Map 3. Wastewater System Constraints Under a 25% Forecast Employment Growth Scenario



Stormwater

The City recently updated its stormwater system plan (November 2014). The *Stormwater Public Facilities Plan (Stormwater PFP)* describes the City's existing stormwater facilities and plans for future facilities needed over a 20 year planning period.

The City relies mainly on a dispersed drainage system, relying on infiltrating and injecting stormwater close to the source of its creation using low impact development practices. This type of system relies less on "grey" infrastructure (e.g., pipes and canals) and more on so-called "low-impact development" methods that allow stormwater to be handled at or near the source. The City's stormwater facility system is composed mainly of dry wells and drill holes, both of which are underground injection controls. In the central portion of the City, however, the City maintains a separate piped system that carries stormwater to the Deschutes River.

The plan identifies future storm drainage projects which focus on achieving design standards of designing to a 25-year storm with safe passage for the 100-year 24-hour storm. As new areas develop, the City will continue its dispersed system of handling the design storm on site as part of the project through the use of surface, regional or underground injection control disposal. New outfalls to the Deschutes River are not consistent with the City's General Plan and are not anticipated.

The plan does not identify any major system deficiencies and the low-impact development standards suggest that stormwater improvements will not be a limitation on future employment growth.

Transportation

Bend has long maintained transportation system plans. The Bend Urban Area Transportation System Plan (TSP) was updated in 2011. A special study of the Northeastern area of Bend (the NE Bend Transportation Study) was completed in 2009. The purpose of these plans and studies is to help guide the development of a transportation system that will meet the forecast needs of Bend.

The TSP concludes that several roadways throughout the urban area will approach, or exceed, their capacities under the "no-build" conditions during the peak hour. Many of the collector and arterial streets in the Bend urban area will be modernized or widened during the twenty-year planning period. The TSP identifies about 300 miles of city maintained streets and identifies approximately 15 miles of streets will be near or over capacity by the end of the planning horizon.

A key issue is addressing mobility standards. This is affected by the fact that multiple jurisdictions manage the transportation system. With respect to city-maintained facilities, the Bend city code has provisions that allow the City Manager some discretion in altering mobility standards. While relaxed mobility standards have implications for the functioning of the overall system, the flexible standards suggest that transportation on the city-maintained system will not prohibit development. In short, the conclusion is that city transportation capacity is not a limiting factor due to the ability to relax mobility standards for City streets.

Management of State facilities is more complex—particularly for the Northeast area. The NE Bend Transportation Study was an effort aimed at better understanding system limitations and to develop strategies to reduce trip reliance on state highways. Key outcomes of the project are (1) a recommended list of system improvements, (2) alternative mobility standards for state facilities, and (3) recommended transportation demand and system management strategies.

Changes to mobility standards are subject to Oregon Transportation Commission (OTC) review, a requirement would preclude a classification of short term supply for affected lands. This affects the entire northern area of the city and one site on S 3rd Street. Moreover, this directly affects lands in the North Triangle and Juniper Ridge. Growth at Juniper Ridge will have a significant impact on the Cooley/97 intersection – enough to require that the intersection be completely redesigned and reconstructed – a \$40 million project.⁴⁰

To address transportation issues at Juniper Ridge, the City and ODOT entered into Intergovernmental Agreement (IGA) No. 27115 to link the need for transportation through the north end of Bend to the amount of trips that could result from development at Juniper Ridge over time. Table 21 outlines the mitigation improvements tied to PM peak hour trips for each phase of development. The agreement essentially places a cap on PM peak hour trips for the site based on specific improvements.

Table 21. Mitigation Improvements, from Table 2.7.2030.B of IGA between Bend and ODOT

PHASE	P.M. PEAK HOUR TRIPS	MITIGATION IMPROVEMENT
1	700	Empire Avenue/18th Street Roundabout
		Empire Avenue/US-97 Northbound Ramp Terminal
		Empire Avenue/US-97 Southbound Ramp Terminal Third Street to US-97
2	600	US-97 Improvements between Nels Anderson and Bowery Lane
3	580	18th Street Corridor Improvements Cooley Road to Empire Avenue
4	340	US-97 Southbound Improvements Empire Avenue to Butler Market Road
		Purcell Street Extension Cooley Road to Yeoman Road

At this time, Juniper Ridge has capacity for 700 additional PM peak hour trips. This could be increased by implementing Transportation Demand Management (TDM) measures, but for the purpose of this analysis we rely on the figures in Table 21. To estimate the amount of land that could be developed under high and low traffic employment uses at Juniper Ridge, an analysis of trip generation using the Institute of Transportation Engineers (ITE) Trip Generation Report was

⁴⁰ More detail about Juniper Ridge can be found on the City website:

<http://www.bendoregon.gov/index.aspx?page=615>. Details pertaining to the UGB review can be found in a memorandum from Brian Rankin to the UGB Steering Committee:

<http://www.bendoregon.gov/modules/showdocument.aspx?documentid=22403>

completed. The analysis tested various industrial uses (e.g., light, heavy, warehousing, distribution) and office uses (e.g., single tenant offices, corporate headquarters, R&D center). Depending on the use, and without TDM strategies, between 20 and 100 acres could develop at Juniper Ridge under the trip cap. For the purpose of the short-term supply analysis, 50 acres at Juniper Ridge are assumed meet the definition of short-term supply.

In summary, Bend can accommodate 25% employment growth with the existing transportation system. Limitations exist in some areas such as Juniper Ridge that could preclude full build out, but other options exist for siting employment.

Summary

Table 22 presents a summary of total land supply and short-term land supply by plan designation for the current Bend UGB. The results show that nearly 60% of employment land meets the definition of short-term supply. Juniper Ridge is the key area where service deficiencies limit development.

Table 22. Total and short-term land supply for employment, Bend UGB, 2015

Plan Designation	Total Land Supply	Short-Term Land Supply	Percent of Total Land Supply
Commercial / Mixed Use	257	257	100%
CB	-	-	-
CC	12	12	100%
CG	117	117	100%
CL	87	87	100%
MR	36	36	100%
PO	6	6	100%
Industrial / Mixed Employment	746	324	43%
IG	8	8	100%
IL	643	220	34%
ME	96	96	100%
Public Facilities	86	86	100%
PF	86	86	100%
Total	1,089	667	61%

Source: Analysis by ECONorthwest

Based on this analysis, the City concludes that it meets the OAR 600-009-0025(3)(a) that the city provide at least 25 percent of the total land supply within the urban growth boundary designated for industrial and other employment uses as short-term supply. Additionally, the City will include policies in the General Plan to monitor and maintain the acreage of employment lands that qualify as competitive short-term supply. The policy framework will include:

- Identification of obstacles that prevent lands from qualifying as competitive short-term supply, and
- Efforts, plans, and potential funding mechanisms to prepare lands to qualify as competitive short-term supply.

Conclusions

The conclusions of the economic opportunities analysis are:

- **Bend does not have sufficient employment land to accommodate forecast employment growth.** The analysis shows that Bend does not have enough land in its UGB to accommodate all employment types with the exception of public employment. There is an overall deficit of land for 10,720 employees.
- **Bend has a deficit of employment sites.** The analysis shows that Bend has a deficit of 366 sites smaller than five acres and 17 sites between 5 and 50 acres.
- **Bend meets the requirement to provide 25% of its total employment land supply as short-term supply.** The analysis shows that nearly 60% of employment land meets the definition of short term supply. Juniper Ridge is the key area where service deficiencies limit development.

APPENDIX A. NATIONAL, STATE, REGIONAL, COUNTY, AND LOCAL TRENDS AFFECTING FUTURE ECONOMIC GROWTH

Economic development in Bend over the next twenty years will occur in the context of long-run national trends. Appendix A provides more detailed information on trends affecting future economic growth and is intended to support the analysis required by OAR 660-009-0015(1). The most important of these trends include:

- At the largest scale, the effects of “globalization” – the increasingly free movement of jobs, capital, and products throughout the world – are being felt in communities across the United States. One effect of globalization is that low-skill manufacturing jobs will increasingly take place elsewhere, where wages are far lower. Thus, in order to compete and earn living-wage salaries, American workers must pursue higher-skilled jobs in “knowledge based” industries. While some of these jobs will continue to be in manufacturing industries, the largest job growth will take place in new industries such as information technology, professional services, and other sectors.
- Economic growth will continue at a moderate pace. Annual growth rates (in real GDP) are projected to be roughly 3 percent through 2017. The Congressional Budget Office (CBO) estimates that unemployment rates will continue to decline but remain above 6.0 percent until late 2016.
- The aging of the baby boom generation, accompanied by increases in life expectancy. The number of people age 65 and older will more than double by 2050. This trend can be seen in Oregon, where the share of workers 65 years and older grew 2.9 percent of the workforce in 2000 to 4.1 percent of the workforce in 2010, an increase of 41 percent.
- The need for workers to replace retiring baby boomers will outpace job growth. According to the Bureau of Labor Statistics, net replacement needs will be 33.7 million job openings over the 2010-2020 period, compared with growth in employment of 21.1 million jobs.
- Education will be an important 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.

State, Regional, and Local Trends

State, regional, and local trends will all affect economic development in Bend. This section presents data for Bend and the surrounding areas that will affect the city’s growth over the planning period.

Overall Employment Growth

According to the Oregon Employment Department, Oregon’s employment peaked in the first quarter of 2008 (at more than 1.74 million jobs) and hit its lowest point in the first quarter of 2010 (at about 1.59 million jobs), losing 146,000 jobs over the two-year period. However, Oregon added about 52,000 jobs between 2010 and December 2012. After hovering around

1.5% in the early stages of the recovery, growth kicked into higher gear in late 2013. Since then, the state has added jobs to the tune of about 3% annually; similar to what Oregon experienced during the housing boom years preceding the Great Recession, and about a full percentage point faster than the nation.

The Oregon Office of Economic Analysis (OEA) points out that, in addition to job growth, other economic indicators have shown recent improvement. These trends point to a deeper, more robust economic recovery and a return to more normal labor market dynamics. For example, new business filings in Oregon are increasing. OEA sees firm creation as a positive sign, as entrepreneurs and start-ups often drive innovation and the development of new technology.

As in 2008, employment is still forecast to grow over the next decade. According to data from the Bureau of Labor Statistics and the Oregon Employment Department total employment in Deschutes County grew by about 21% from 2001 to 2013, and total covered employment throughout Central Oregon (Deschutes, Crook and Jefferson Counties) is forecast to grow by about 16% over the period from 2012 to 2022.

Labor Trends

Growing Population

Table A- 1 shows population change from 1990 to 2013 for Oregon, Deschutes County, and Bend. Bend's population grew at the fastest annual rate since 1990, increasing by an average of 6% per year, almost tripling over the 23-year period. In 2013, Bend's population was about 78,000 people, compared to 163,000 in the county as a whole and 3,919,000 throughout the state.

Table A- 1. Population, Oregon, Deschutes County, Bend, 1990-2013

				1990 - 2013 Change		
	1990	2000	2013	Change	% Change	Average Annual Growth Rate
Oregon	2,842,321	3,421,399	3,919,020	1,076,699	38%	1%
Deschutes County	74,958	115,367	162,525	87,567	117%	4%
Bend	20,469	52,029	78,280	57,811	282%	6%

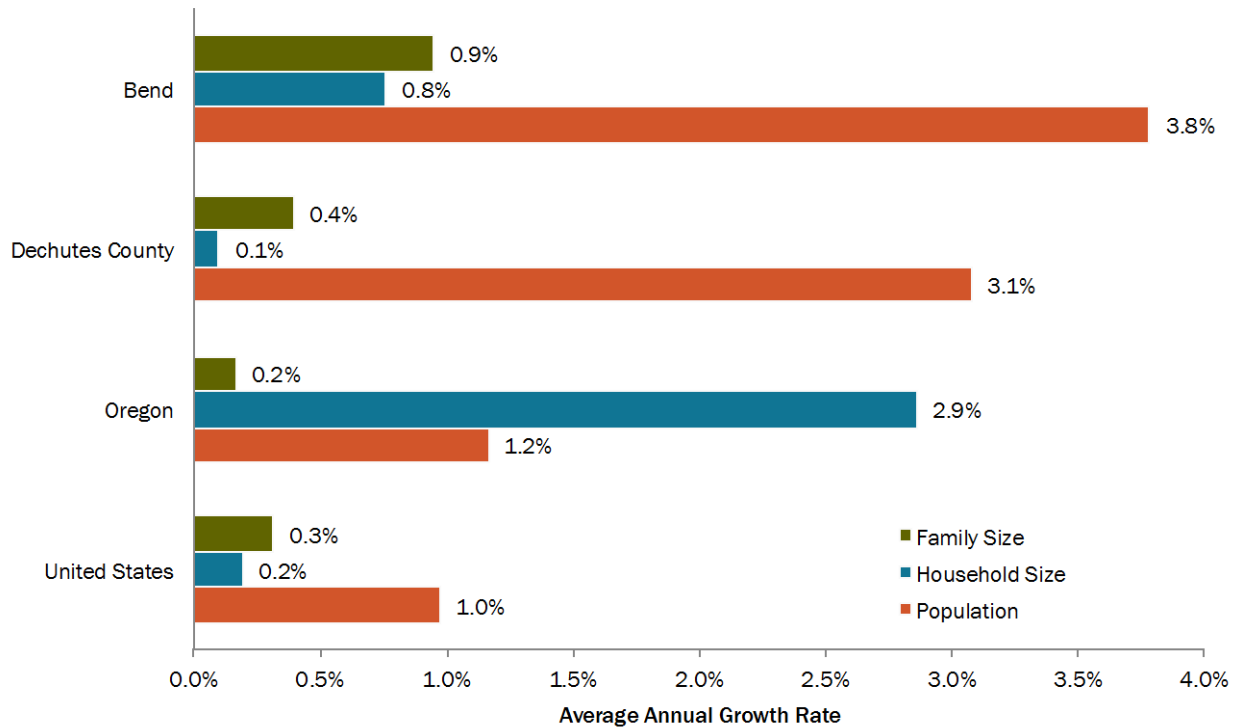
Source: Population Research Center, Portland State University, <http://www.pdx.edu/prc/>.

Figure A- 1 compares the average annual growth rates for population, household size, and family size for the nation, Oregon, Deschutes County, and Bend, from 2000-2013. Population grew faster than household size for all geographies except for Oregon.

From 2000 to 2013, Bend's population grew at a 3.8% average annual growth rate, compared to 3.1% in Deschutes County, 1.2% in Oregon, and 1.0 percent in the nation as a whole. Oregon's

household size increased at a 2.9% average annual growth rate, compared to 0.8% in Bend, 0.1% in Deschutes County, and 0.2% in the nation.

Figure A- 1. Average Annual Population Growth Rate, United States, Oregon, Deschutes County, Bend, 2000-2013

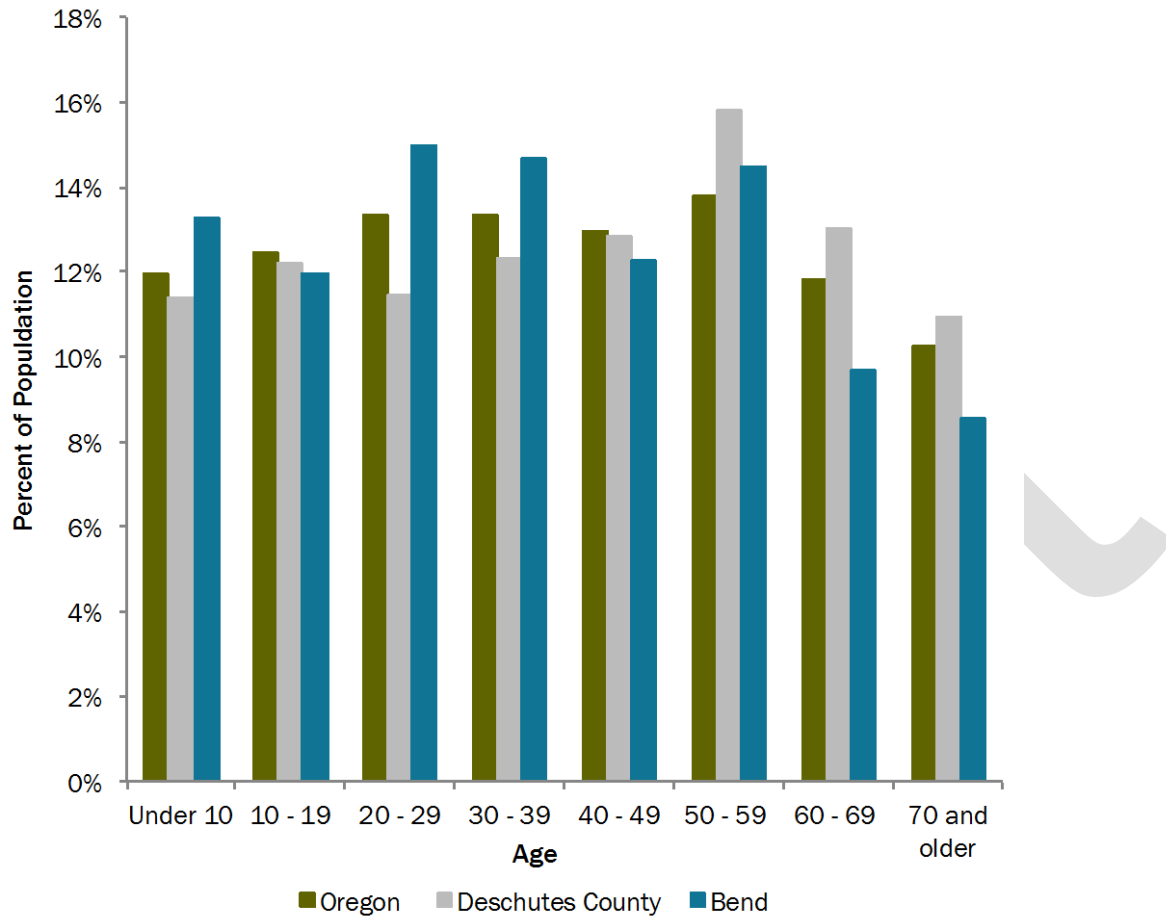


Source: US Census, Portland State University Population Research Center.

Aging Population

Figure A- 2 shows the distribution of age groups in Oregon, Deschutes County, and Bend in 2013. Bend has a larger share of 20 to 39 year olds, about 30% of the city's population, compared, to about 25% for Deschutes County as a whole, and about 27% in Oregon.

Since, 2000 60-to-69-year-old age group has grown the fastest, increasing by 138%, and increasing its share of the overall population by 15%. The next-fastest group was the 50-to-59-year-old group, who increased by 104%, and increasing their share of the population by 20%. People in these age groups will eventually retire, meaning they will both leave the workforce and require changes in their housing and care.

Figure A- 2. Population by Age, Oregon, Deschutes County, Bend, 2013

Source: Census Bureau, 2013 American Community Survey.

In-Migration

Continued in-migration from other states will drive growth in Oregon. Key trends are that:

- Population in the county and the Bend urban area will continue to grow at a higher rate than the rest of the state
- The majority of population growth will come from people moving into the area
- The baby-boomer generation's children and grandchildren will make up the biggest percentage of the population and the workforce"

These conclusions remain relevant. About 5.3 percent of Oregon's population lives in the Central Oregon counties of Crook, Deschutes, and Jefferson. OEA forecasts that Central Oregon's share of the population will increase to about 5.7 percent by the year 2040. The population in Deschutes County alone may grow by 45% over the period from 2014 to 2040, outpacing the rate of 31% for the state as a whole, according to data from OEA and Portland State University's Population Research Center.

According to a U.S. Census study, Oregon had net interstate in-migration (more people moved to Oregon than moved from Oregon) during the period 1990-2010. Oregon had an annual

average of about 15,600 more in-migrants than out-migrants during the period 2010-2013. Net migration will lead to over 71,000 new residents between 2015 and 2040, while births alone will add only about 54,000.

Income

The 2008 EOA found that, while in general Bend's income composition was similar to that of the county, the state, and the nation, Bend's median income was slightly lower than the national level. "The 2006 American Community Survey shows the City of Bend is similar to the U.S., State of Oregon, and Deschutes County. 2006 median income for Bend is \$58,225, which is slightly higher than the \$55,414 for Deschutes County, \$55,923 for Oregon, and slightly lower than \$58,526 for the U.S. Per capita income for the City of Bend is \$26,140, which is slightly higher than the county, state, and nation" (2008 EOA).

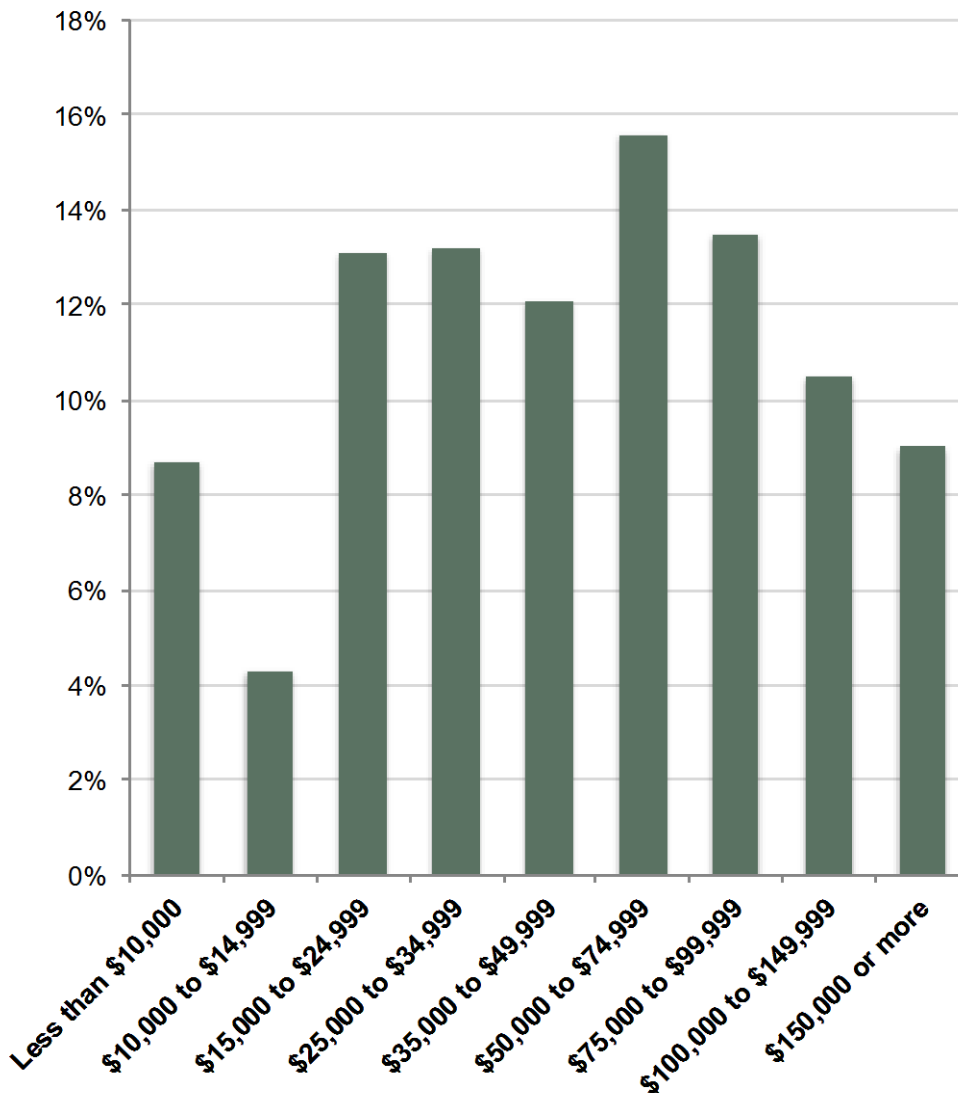
Since the 2008 EOA, Bend's average income has diminished slightly. In 2013, Bend's median income of \$48,014, was above that of Deschutes County (\$46,791), but below that of Oregon (\$50,251), and the nation (\$52,250). The decrease from 2008 to 2013 may indicate a lag in the post-recession recovery, rather than a permanent shift downward for Bend-area wages.

Statewide, wages fell during the recession, but increased after 2010. The Oregon Office of Economic Analysis in March 2015 had most recently observed a 7% annual increase in wages statewide, and per worker average wages increased 3% in 2015. OEA noted that growth in income, wages, and population picked up in 2014, and all grew more rapidly than the nation. However, after accounting for inflation, average wages had only increased less than half of one percent since 2000.

Personal income statewide is projected to grow by 5.1% in 2015, and 5.8% in 2016, according to the Oregon Employment Department. The Office of Economic Analysis also forecasts that wage growth will continue to increase as the labor market tightens, and it may tighten the fastest in Central Oregon, where employment growth is expected to occur faster than in any other metro area. In other words, the decrease in Bend's median household income since 2008 may illustrate its disproportionate shock from the recession; as the region's labor market continues to recover, so too will its typical wages.⁴¹

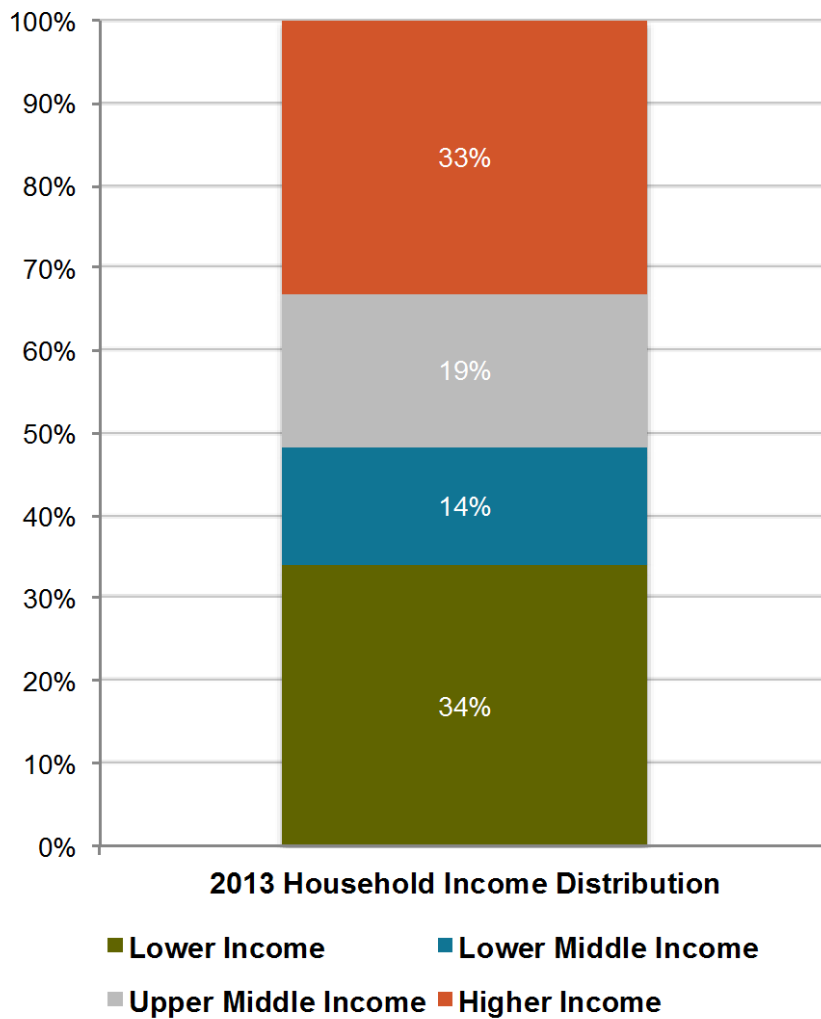
Figure A- 3 shows household income by income group for Bend from 1990 to 2013. In 2013, the largest household income group in Bend was the \$50,000 to \$74,999 group, which made up 16% of all households. About 26% of households earned less than \$25,000, and about 20% of households earned more than \$100,000.

⁴¹ "Oregon Economic and Revenue Forecast," Oregon Office of Economic Analysis, March 2015, <http://www.oregon.gov/DAS/OEA/docs/economic/forecast0315.pdf>.

Figure A- 3. Household income by income group, Bend, 2013

Source: Census Bureau, 2013 American Community Survey.

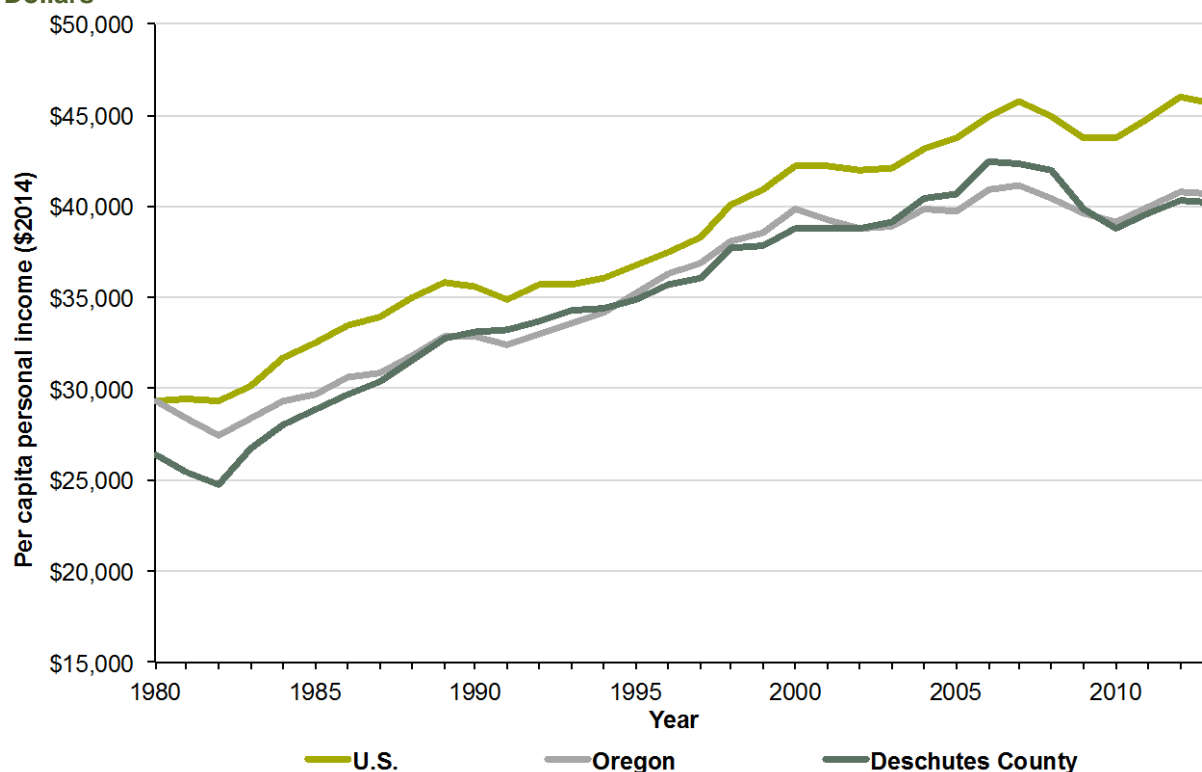
Figure A- 4 shows household income by income by income group for Bend in 2013. About 34% of households earn incomes that put them in the lower income category, 15% earn lower-middle incomes, 19% earn upper-middle incomes, and 33% earn higher incomes.

Figure A- 4. Household income by income group, Bend, 2013

Source: Census Bureau, 2013 American Community Survey.

Figure A- 5 shows per capita personal income in the U.S., Oregon, and Deschutes County, from 1980 to 2013 in base 2014 dollars. Real per capita income increased for all geographies since 1980. In 2013, incomes in the U.S. as a whole (\$45,660 in 2014 Dollars) were higher than in Oregon (\$40,645), and Deschutes County (\$40,245).

Figure A- 5. Per Capita Personal Income, U.S., Oregon, and Deschutes County, 1980-2013, 2014 Dollars



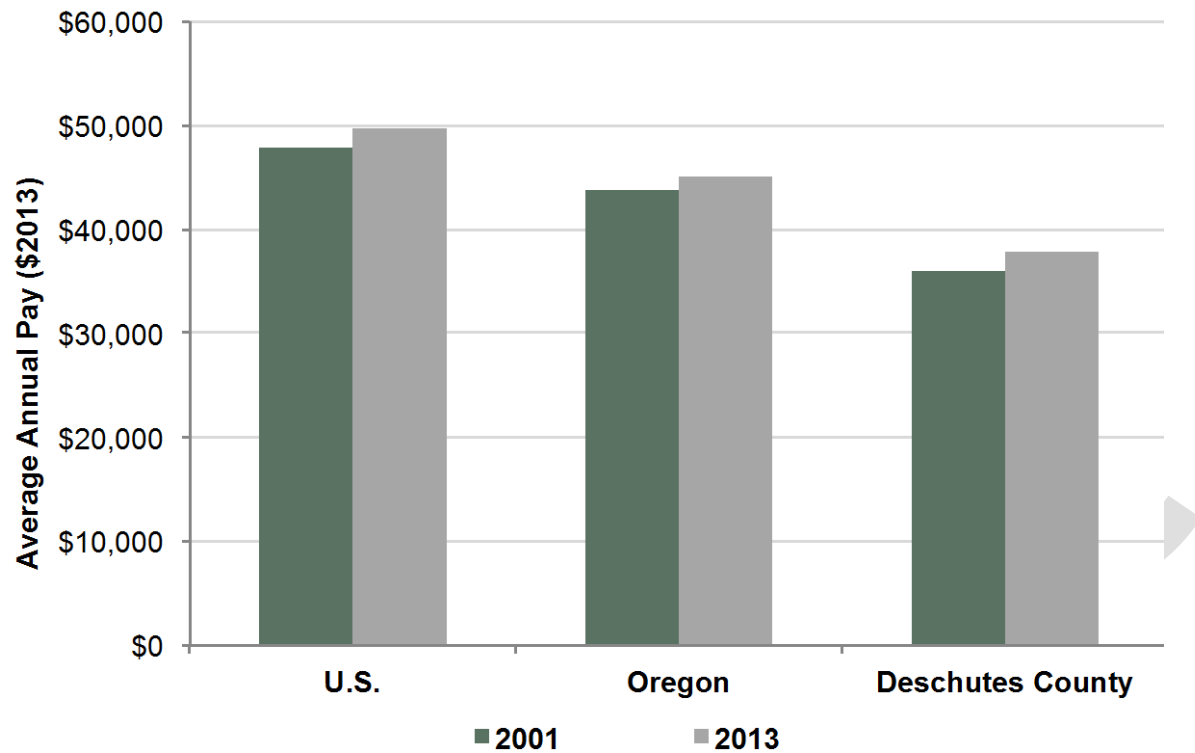
Source: Bureau of Economic Analysis, Regional Data, Table CA1-3, http://www.bea.gov/iTable/index_regional.cfm.

Table A- 2 and Figure A- 6 show average annual pay for covered employees in the U.S., Oregon, and Deschutes County from 2000 to 2013. Over the 13-year period, pay increased the fastest in Deschutes County where it grew by 5% or \$1,657, compared to 3% and \$1,999 in Oregon, and 4% and \$1,999 in the U.S. Average annual pay in Deschutes County amounted to \$37,755 in 2013.

Table A- 2. Average Annual Pay, U.S., Oregon, Deschutes County, 2001-2013

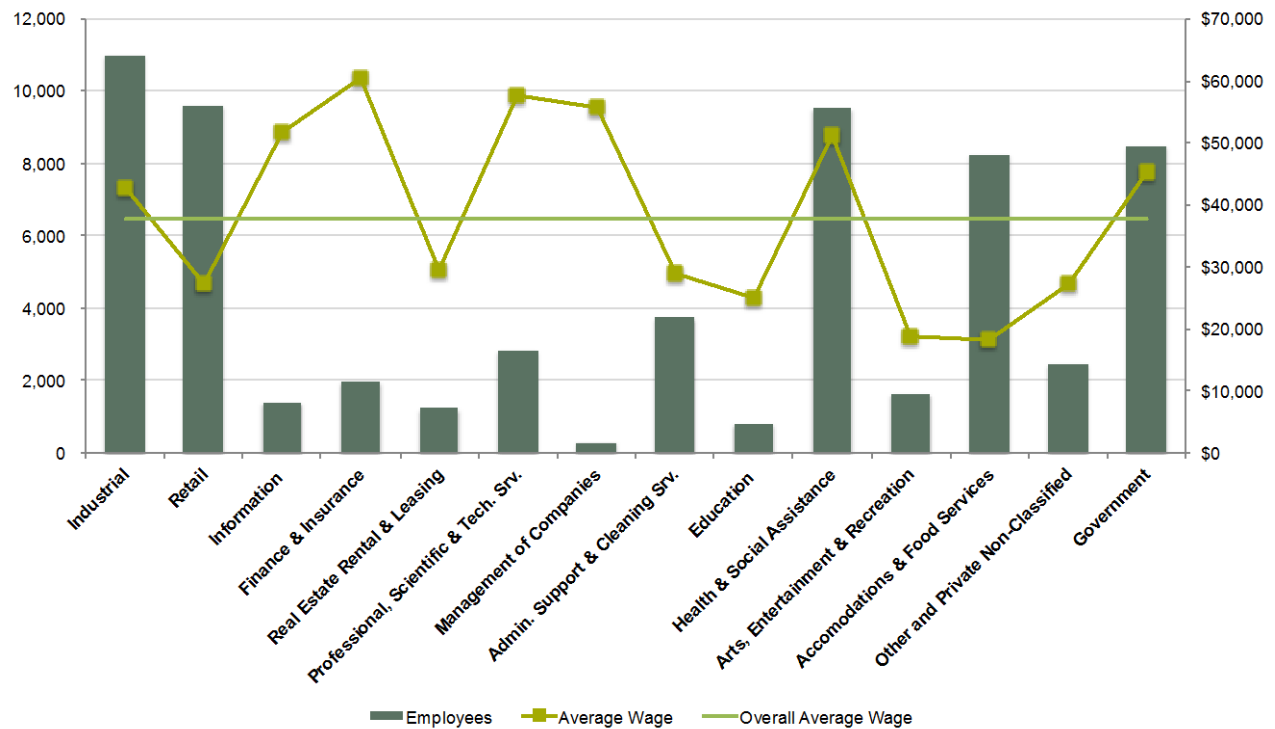
	2001	2013	Change 2000 to 2013	
			Amount	Percent
U.S.	\$47,809	\$49,808	\$1,999	4%
Oregon	\$43,829	\$45,019	\$1,190	3%
Deschutes County	\$36,098	\$37,755	\$1,657	5%

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

Figure A- 6. Average Annual Pay, U.S., Oregon, Deschutes County, 2001-2013, 2013 Dollars

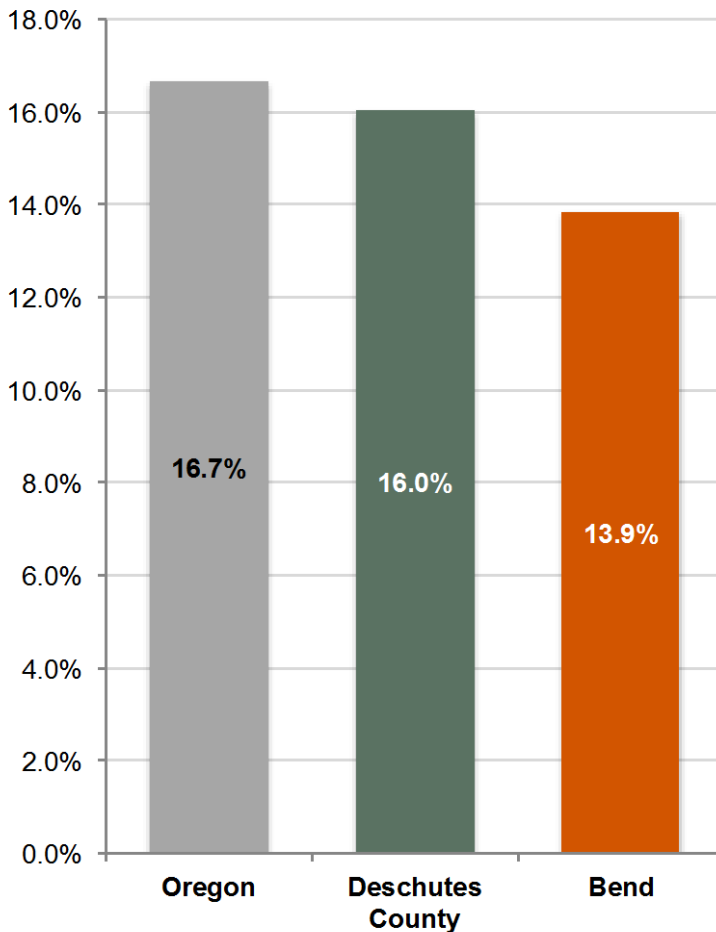
Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages.

Figure A- 7 shows wages by industry for Deschutes County from 2001 to 2013. The Private Non-Classified industries grew the fastest, increasing by about 74%. In 2013, the Natural Resources and Mining and Utilities industries were both more than double the average wage for covered employees overall. In contrast, wages for Arts Entertainment and Recreation and Accommodation and Food Services were about 50% below the average wage overall.

Figure A- 7. Wages and number of employees by industry, Deschutes County, 2013

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

Figure A- 8 shows the percent of residents in poverty for Oregon, Deschutes County, and Bend. Bend has the lowest share of impoverished residents (13.9%) compared to Deschutes County (16.0%), and the state as a whole (16.7%).

Figure A- 8. Percent below poverty line, Oregon, Deschutes County, Bend, 2013

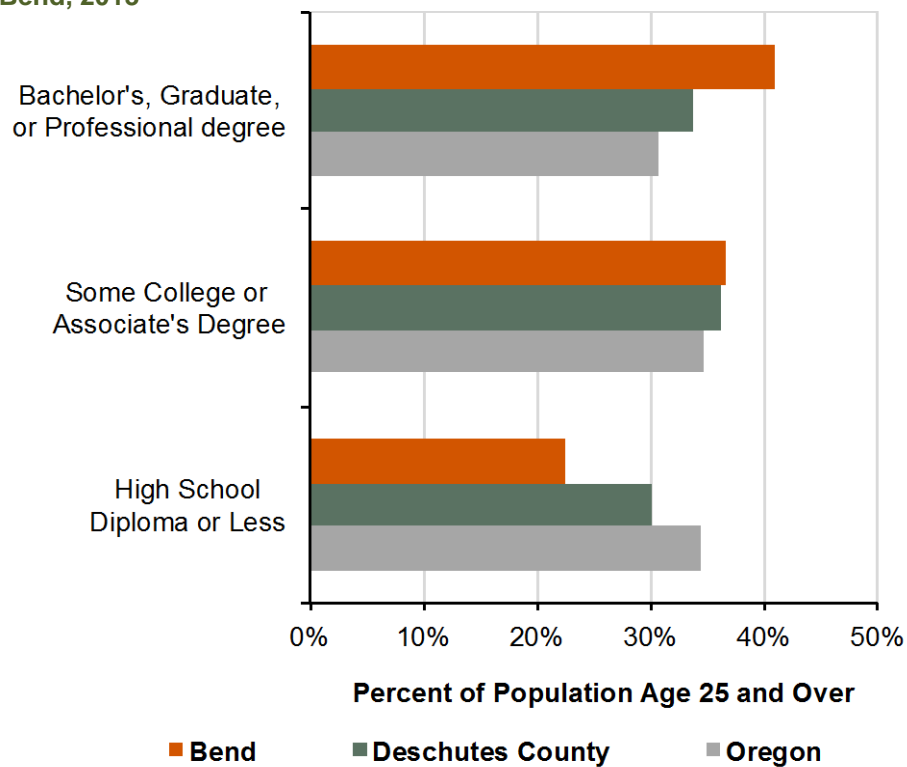
Source: Census Bureau, 2013 American Community Survey.

Educational Attainment

In 2008, the Bend EOA concluded that: “Bend’s relatively high percentage of college educated workers will tend to generate high paying jobs, be more responsive to economic changes over time, increase average incomes of the entire workforce, and may generate positive social benefits like reduced crime rates and higher real estate prices.” As in 2008, Bend in 2013 still has a higher share of college-educated residents than the county and the state. In 2009, Bend had more adults with a bachelor’s degree or higher (about 40%) than Deschutes County (about 35%) and Oregon (about 30%). Furthermore, in line with the assessment from 2008, Bend also has a lower rate of poverty than the county and the state.

Figure A- 9 educational attainment for the population older than 25 years in Oregon, Deschutes County, and Bend in 2013. Bend has the highest share of adults with a bachelor’s degree or higher (about 40%), compared to about 35% and 30% in Deschutes County and Oregon respectively.

Figure A- 9. Educational attainment, Population Age 25 and Over, Oregon, Deschutes County, Bend, 2013



Source: Census Bureau, 2013 American Community Survey.

Unemployment and Workforce Participation

Oregon's labor force participation rate increased in 2014 after declining to record-low levels in the aftermath of the recession according to OEA. Strong job growth, especially in better-paying jobs, has lured people back into the workforce. This is welcome news since increasing participation helps reduce labor market slack and moves the economy closer towards full employment.

The 2008 EOA observed that:

- The increase in the area's labor force is expected to keep pace with the population increase....
- The in-migration of younger individuals combined with the baby boomer generation of workers will create a large potential labor force in the peak of its work and income producing years"

While our analysis has not focused on the relationship to Crook and Jefferson Counties, current data upholds some of the claims made in the 2008 EOA. Data from the Census Bureau's On the Map, shows that most people who are employed in Bend live in Deschutes County. Seventy-six percent of Bend employees come from Deschutes County. About 3% come from Crook County and about 2% from Jefferson County.

In 2013, Bend had a higher rate of labor force participation than Deschutes County and the state. Similarly, employment was forecast to grow by about 2% over the period from 2012 to 2022.

With respect to the unemployment rate, the 2008 EOA concluded that

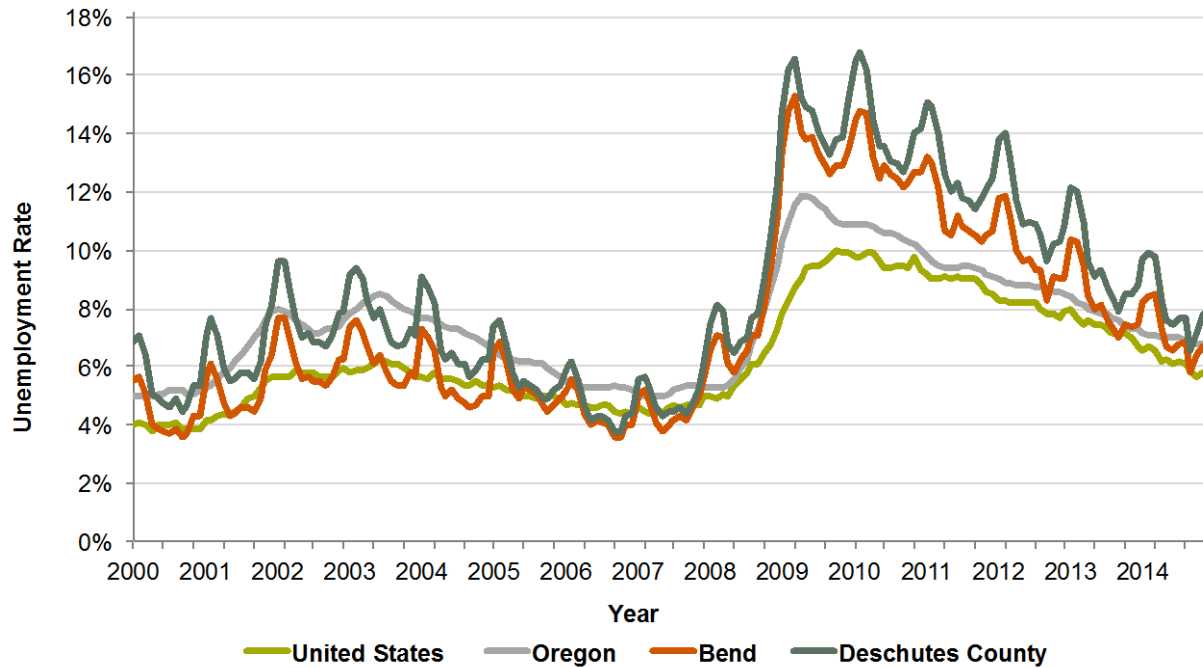
- "Recent unemployment rates in Deschutes County tend to be higher than the U.S., and similar to the State of Oregon, suggesting Bend and Deschutes County unemployment rates may track with national and state trends in the future
- Unemployment rates in Deschutes County show more pronounced affects from changes in seasonal employment than in the U.S. and Oregon
- Structural unemployment does not appear to have been an issue in Deschutes County and Bend, suggesting no major disconnect between the capabilities of resident workers and economic changes and growth over the past decades"

Despite a sharp uptick in unemployment rates during the recession, unemployment rates today are trending towards levels similar to those at the time of the 2008 EOA. Unemployment rates in Deschutes County have remained higher than in the nation and the state. However, the size of the gap between the two has diminished since the recession. In December 2014, the unemployment rates in Bend (6.2%), were below that of Oregon (6.7%), and Deschutes County (7.5%), but still above that of the U.S. (5.6%).

Figure A- 10 shows the unemployment rate for the U.S., Oregon, Deschutes County, and Bend, from 2000 to 2014. The unemployment rates in Bend and Deschutes County exceeded those of

Oregon and the U.S. during the peak of the recession. The rates reached as high as about 15% in Bend and over 16% in Deschutes County. In December 2014, the unemployment rates in Bend (6.2%), were below that of Oregon (6.7%), and Deschutes County (7.5%), but above that of the U.S. (5.6%).

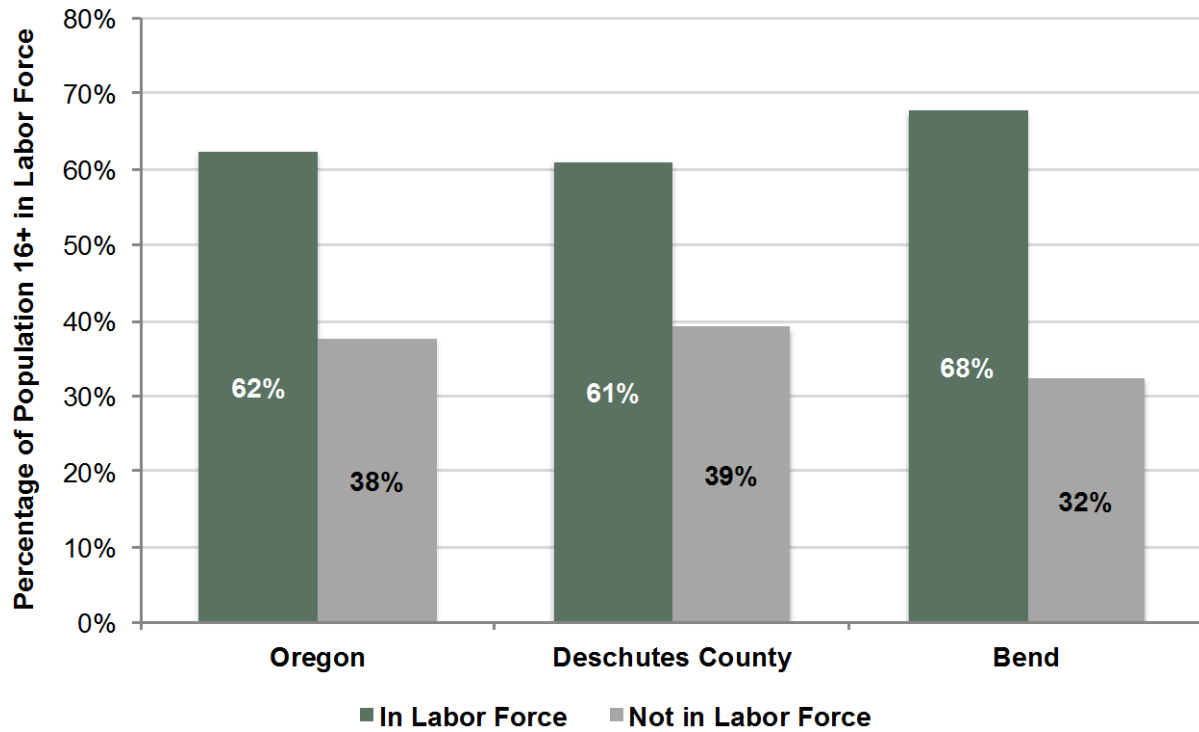
Figure A- 10. Unemployment Rate, United States, Oregon, Deschutes County, Bend, 2000-2014



Source: Bureau of Labor Statistics.

Figure A- 11 shows the rate of labor force participation for Oregon, Deschutes County, and Bend in the 2011-2013 period, for the population 16 years and older. Bend has a higher rate of participation (68%), compared to the county (61%) and state (62%) as a whole.

Figure A- 11 Labor force participation, population 16 years and older, Oreogn, Deschutes County, Bend, 2011-2013

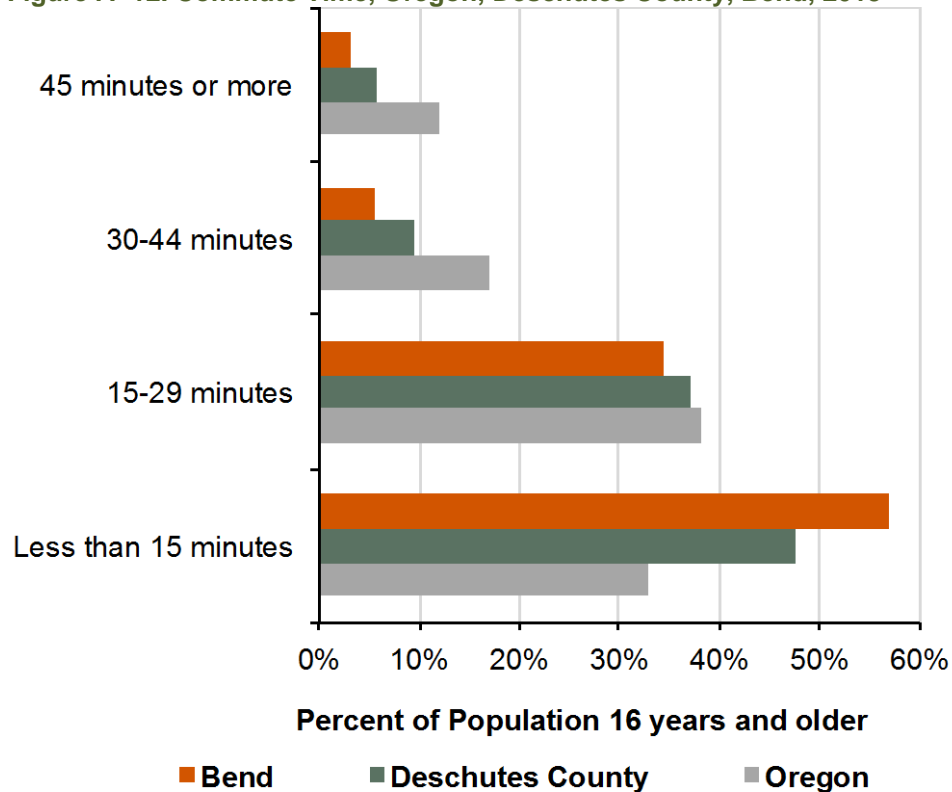


Source: Census Bureau, 2011-2013 American Community Survey, Table B23001.

Commuting Patterns

Figure A- 12 shows commute times for workers in Oregon, Deschutes County, and Bend in 2013. More than half of bend residents (about 57%) have a commute of less than 15 minutes, compared to about 47% in Deschutes County, and about 33% in the state as a whole.

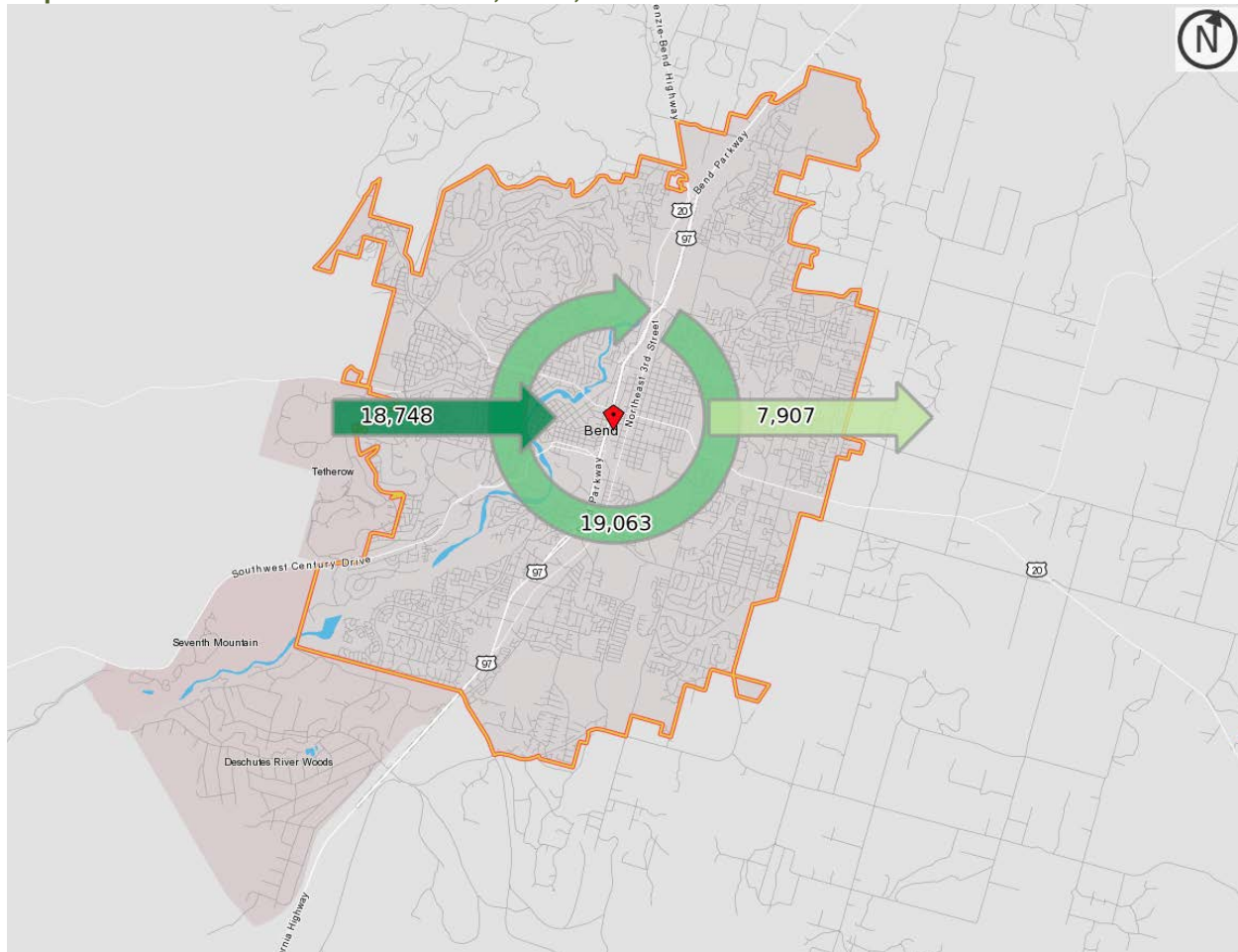
Figure A- 12. Commute Time, Oregon, Deschutes County, Bend, 2013



Source: Census Bureau, 2013 American Community Survey.

Map A- 1 shows the commute inflow and outflow for Bend in 2011. In 2011, about 18,800 people commuted from outside the city to work within it. About 7,900 resided within the city, but went outside for work, and about 19,000 both lived and worked in the city.

Map A- 1. Commute inflow and outflow, Bend, 2011



Source: U.S. Census OnTheMap <http://onthemap.ces.census.gov>

Table A- 3 shows where workers who have jobs in Bend live. About 76% of employees in Bend live within Deschutes County. About 50% of Bend employees also live in the city and 7% live in Redmond, the next-largest home destination.

Table A- 3. Home Destinations, Bend employees, 2011

Location	Number	Percent
Counties		
Deschutes County	28,912	76%
Crook County	989	3%
Multnomah County	852	2%
Lane County	755	2%
Klamath County	697	2%
Jefferson County	678	2%
Washington County	554	1%
Clackamas County	503	1%
Marion County	438	1%
Jackson County	348	1%
All Other Counties	3,085	8%
Cities		
Bend	19,063	50%
Redmond	2,562	7%
Deschutes River Woods	1,197	3%
Portland	770	2%
Prineville	423	1%
Eugene	380	1%
Three Rivers CDP	237	1%
Salem	201	1%
Eagle Crest CDP	194	1%
Hillsboro	190	1%
All Other Locations	12,594	33%
Total	37,811	100%

Source: U.S. Census OnTheMap <http://onthemap.ces.census.gov>

Table A- 4 shows where people who live in Bend go to work. About 84% of Bend residents work in Deschutes County. About 2% work in Lane County and about 2% work in Multnomah County. About 71% of Bend residents also work in the city and 6% work in Redmond.

Table A- 4. Employment destinations, Bend residents, 2011

Location	Number	Percent
Counties		
Deschutes	22,590	84%
Lane County	598	2%
Multnomah	563	2%
Crook County	359	1%
Washington	354	1%
Marion County	333	1%
Clackamas	215	1%
Jackson County	206	1%
Jefferson County	181	1%
Linn County	154	1%
All Other Counties	1,417	5%
Cities		
Bend	19,063	71%
Redmond	1,651	6%
Portland	503	2%
Eugene	371	1%
Prineville	326	1%
Salem	228	1%
Three Rivers CDP	222	1%
Sunriver CDP	180	1%
Sisters	172	1%
La Pine	170	1%
All Other	4,084	15%
Total	26,970	82%

Source: U.S. Census OnTheMap <http://onthemap.ces.census.gov>

Changes in employment

Over the past few 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.

In the 1970s, Oregon started to transition away from reliance on traditional resource-extraction industries. An important 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 industry⁴² and concurrent growth of employment in high-technology manufacturing industries (Industrial Machinery, Electronic Equipment, and Instruments).⁴³

⁴² Lumber and Wood Products manufacturing is in Standard Industrial Classification (SIC) 24

⁴³ SIC 35, 36, 38

As Oregon has transitioned away from natural resource-based industries, the composition of Oregon's employment has 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.

Table A- 5 and Table A- 6 present data that show changes in covered employment for the Deschutes County between 1980 and 2013.⁴⁴ The changes in sectors and industries are shown in two tables: (1) between 1980 and 2000 and (2) between 2001 and 2013. The analysis is divided in this way because of changes in industry and sector classification that made it difficult to compare information about employment collected after 2001 with information collected prior to 2000.

Employment data in this section is summarized by *sector*, each of which includes several individual *industries*. For example, the Retail Trade sector includes General Merchandise Stores, Motor Vehicle and Parts Dealers, Food and Beverage Stores, and other retail industries.

Table A- 5 shows employment by industry, using SIC industry classifications, in Deschutes County from 1980 to 2000. Over the analysis period, the Services Division grew at the fastest annual rate (14%), the Retail Trade Division grew at 11% per year on average, the Construction Division grew at 10%, and the Wholesale Trade Division grew at 8%. The share of total jobs in the Services Division increased by 2% and the share of jobs in the Manufacturing Division fell by 6%. In 2000 Services jobs made up 27% of all covered jobs, and Retail and Trade made up 24% of all area jobs.

Table A- 5. Covered employment by SIC industry categories, Deschutes County, 2001-2013

Sector	1980		1990		2000		Change 1980 to 2000			
	Number	Percent	Number	Percent	Number	Percent	Difference	Percent	AAGR	Share
Agriculture, Forestry, and Fishing	185	1%	413	1%	727	1%	542	293%	7%	0%
Mining	100	0%	0	0%	82	0%	-18	-18%	-2%	0%
Construction	1,651	8%	2,178	7%	4,265	8%	2,614	158%	10%	1%
Manufacturing	3,340	16%	5,451	17%	5,974	12%	2,634	79%	6%	-6%
Transportation and Public Utilities	1,174	6%	1,064	3%	1,903	4%	729	62%	5%	0%
Wholesale Trade	809	4%	1,040	3%	1,691	3%	882	109%	8%	0%
Retail Trade	4,461	22%	7,512	24%	12,689	24%	8,228	184%	11%	1%
Finance, Insurance, and Real Estate	1,503	7%	1,533	5%	3,128	6%	1,625	108%	8%	1%
Services	3,668	18%	7,960	25%	14,133	27%	10,465	285%	14%	2%
Unclassified	N/A	N/A	(D)	(D)	53	0%	-	-	-	-
Government	3,826	18%	4,665	15%	7,265	14%	3,439	90%	7%	-1%
Total	20,717	100%	31,816	100%	51,910	100%	31,193	151%	9.6%	0%

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

Table A- 6 shows covered employment for NAICS industry classifications, in Deschutes County from 2001 to 2013. In 2013, 15% of all jobs were in Retail, 15% were in Health and Social Assistance, and 13% were in Accommodations and Food Services. Education and Health and Social Assistance grew at the fastest annual rates, growing at 5.3% and 4.6% respectively.

⁴⁴ Covered employment refers to jobs covered by unemployment insurance, which includes most wage and salary jobs but does not include sole proprietors, seasonal farm workers, and other classes of employees.

Table A- 6. Covered employment by NAICS industry, Deschutes County, 2001-2013

Sector	2001		2013		Change 2001 to 2013			
	Number	Percent	Number	Percent	Difference	Percent	AAGR	Share
Natural Resources and Mining	384	1%	533	1%	149	39%	2.8%	0.1%
Utilities	313	1%	261	0%	-52	-17%	-1.5%	-0.2%
Construction	4,355	8%	3,514	6%	-841	-19%	-1.8%	-2.7%
Manufacturing	5,492	10%	4,209	7%	-1,283	-23%	-2.2%	-3.8%
Wholesale	1,126	2%	1,593	3%	467	41%	2.9%	0.4%
Retail	8,393	16%	9,605	15%	1,212	14%	1.1%	-0.8%
Transportation & Warehousing	927	2%	877	1%	-50	-5%	-0.5%	-0.4%
Information	1,437	3%	1,406	2%	-31	-2%	-0.2%	-0.5%
Finance & Insurance	1,576	3%	1,978	3%	402	26%	1.9%	0.1%
Real Estate Rental & Leasing	1,456	3%	1,228	2%	-228	-16%	-1.4%	-0.8%
Professional, Scientific & Tech. Srv.	1,882	4%	2,826	4%	944	50%	3.4%	0.9%
Management of Companies	332	1%	303	0%	-29	-9%	-0.8%	-0.2%
Admin. Support & Cleaning Srv.	2,594	5%	3,750	6%	1,156	45%	3.1%	1.0%
Education	434	1%	809	1%	375	86%	5.3%	0.5%
Health & Social Assistance	5,569	11%	9,524	15%	3,955	71%	4.6%	4.4%
Arts, Entertainment & Recreation	1,428	3%	1,643	3%	215	15%	1.2%	-0.1%
Accommodations & Food Services	6,156	12%	8,262	13%	2,106	34%	2.5%	1.3%
Other Services	1,706	3%	2,450	4%	744	44%	3.1%	0.6%
Private Non-Classified	21	0%	18	0%	-3	-14%	-1.3%	0.0%
Government	6,929	13%	8,494	13%	1,565	23%	1.7%	0.2%
Total	52,510	100%	63,283	100%	10,773	21%	1.6%	0%

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

The composition of Oregon's employment has shifted from natural resource based manufacturing and other industries to service industries.

The 2008 EOA concluded that:

- "The construction industry makes up a significant portion of the county's jobs and payroll, and downturns broader housing industry will have a negative affect local construction jobs
- In the midst of the housing and construction slowdown, Deschutes County's diversified economy has continued to add jobs, albeit at a slower rate
- Continued diversification of the local economy will tend to create a more stable local economy as individual industries experience rapid gains or losses"
- The industrial sector in Bend is much more diverse than in the past
- The continued erosion of jobs in lumber and wood products will be replaced by other jobs in durable and non-durable manufacturing
- High technology manufacturing and research and development firms create a new trend for industrial space that function and look more like office development
- The growth in retail and service jobs will be driven by several factors: population increase, demographic mix, and tourism

Table A- 7 shows changes in covered employment in Deschutes County between 2007 and 2013. Deschutes County lost a total of 6,000 jobs during this period, with the largest losses in construction, manufacturing, retail, and administrative support. Jobs in Health Care and Social

assistance, Accommodations and Food Services had the largest growth over the six year period.

Table A- 7. Covered employment by industry, Deschutes County, 2007-2013

Sector	2007		2013		Change 2007 to 2013			
	Number	Percent	Number	Percent	Difference	Percent	AAGR	Share
Natural Resources and Mining	648	1%	533	1%	-115	-18%	-3.2%	-0.1%
Construction	7,713	11%	3,514	6%	-4,199	-54%	-12.3%	-5.6%
Manufacturing	5,649	8%	4,209	7%	-1,440	-25%	-4.8%	-1.5%
Wholesale	1,605	2%	1,593	3%	-12	-1%	-0.1%	0.2%
Retail	10,451	15%	9,605	15%	-846	-8%	-1.4%	0.1%
Transportation, Warehousing, and Utilities	1,304	2%	1,138	2%	-166	-13%	-2.2%	-0.1%
Information	1,709	2%	1,406	2%	-303	-18%	-3.2%	-0.2%
Finance & Insurance	2,361	3%	1,978	3%	-383	-16%	-2.9%	-0.3%
Real Estate Rental & Leasing	1,496	2%	1,228	2%	-268	-18%	-3.2%	-0.2%
Professional, Scientific & Tech. Srv.	2,736	4%	2,826	4%	90	3%	0.5%	0.5%
Management of Companies	257	0%	303	0%	46	18%	2.8%	0.1%
Admin. Support & Cleaning Srv.	4,513	7%	3,750	6%	-763	-17%	-3.0%	-0.6%
Education	698	1%	809	1%	111	16%	2.5%	0.3%
Health & Social Assistance	7,917	11%	9,524	15%	1,607	20%	3.1%	3.6%
Arts, Entertainment & Recreation	2,040	3%	1,643	3%	-397	-19%	-3.5%	-0.3%
Accommodations & Food Services	7,985	12%	8,262	13%	277	3%	0.6%	1.5%
Other Services	2,384	3%	2,450	4%	66	3%	0.5%	0.4%
Private Non-Classified	56	0%	18	0%	-38	-68%	-17.2%	-0.1%
Government	7,785	11%	8,494	13%	709	9%	1.5%	2.2%
Total	69,307	100%	63,283	100%	-6,024	-9%	-1.5%	0%

Source: Oregon Employment Department, City of Bend, in 2008 EOA; Bureau of Labor Statistics, Quarterly Census of Wages, 2013.

Regional business clusters

Bend exists within the Central Oregon regional economy. Regional business activity and trends will affect the types of businesses that are attracted to the region and choose to locate in the city. This section presents information about regional employment clusters in Central Oregon.

One way to assess the types of businesses that are likely to have future growth in an area is to examine relative concentration and employment growth of existing businesses. This method of analysis can help determine relationships and linkages within industries, also called industrial clusters. Sectors that are highly concentrated (meaning there are more than the “average” number of businesses in a sector in a given area) and have had high employment growth are likely to be successful industrial clusters. Sectors with either high concentration of businesses or high employment growth may be part of an emerging cluster, with potential for future growth.

Table A- 8 shows industries with strong employment clusters in Deschutes County in 2012—meaning that they rank in the top 25th percentile of counties with clusters of that industry. The largest cluster is that of Hospitality and Tourism, which includes accommodations and related services, tourist attractions, cultural education, and other tourist-related services. In Deschutes County, this industry accounts for more than 2,900 employees.

Other clusters with substantial employment in Deschutes County are: Communications Equipment and Services (about 830 employees), Wood Products (551 employees), Information Technology and Analytical Instruments (504 employees), Automotive (325 employees), and Lighting and Electrical Equipment (285 employees).

Another notable industry cluster in the county is that of Jewelry and Precious Metals. While this cluster only employs about 60 people, it is the 79th largest cluster of this industry for a county in

the US. This industry includes the manufacturing of jewelry and silverware, costume jewelry and novelty manufacturing.

Table A- 8. Industries with an employment cluster in Ascension Parish, 2012

Industry	Employment in 2012	Rank in the US
Hospitality and Tourism	2,911	213
Communications Equipment and Services	830	117
Wood Products	551	124
Information Technology and Analytical Instruments	504	285
Automotive	325	583
Lighting and Electrical Equipment	285	306
Downstream Metal Products	275	389
Aerospace Vehicles and Defense	239	199
Forestry	111	155
Downstream Chemical Products	90	457
Recreational and Small Electric Goods	81	376
Jewelry and Precious Metals	60	79
Environmental Services	40	503
Leather and Related Products	36	277

Source: Cluster Mapping, http://www.clustermapping.us/region/county/ascension_parish_la/cluster-portfolio

Summary by industry and percentages calculated by ECONorthwest

Note: Bold denotes an industry with a strong cluster or a cluster that has high employment specialization in Ascension Parish

Natural Resources and Manufacturing

Since 1970, Oregon started to transition away from reliance on traditional resource-extraction industries. A significant indicator of this transition is the decline in the level of employment in the Lumber & Wood Products industry and concurrent growth of employment in other manufacturing industries. At the time of the 2008 EOA, job losses were forecast in manufacturing. The 2008 EOA wrote that “[m]anufacturing will likely rebound over the forecast period, but is not expected to return to its employment level prior to the recent recession. Job losses should continue in many resource-based manufacturing sectors, though at a decreasing rate.”

However in 2012, the Oregon Employment Department forecast that employment in manufacturing would increase by 21% over the period from 2010 to 2020. Employment increases would occur at that rate in both durable and nondurable goods subsectors (Employment Projections by Industry & Occupation 2010-2020). Similarly manufacturing employment statewide will grow by about 15%.

In contrast to the conclusions in 2008, Wood Product manufacturing in Central Oregon is also forecast to grow by over 22% from 2012 to 2022, while manufacturing will grow by a total of 19%.

Professional Services, Education, and Health Care

As in 2008 the Oregon Employment Department still forecasts that the bulk (63%) of growth will come from sectors such as Education and Health Services (22% of total employment growth);

Trade, Transportation, and Utilities (17%); Leisure and Hospitality (13%); and Professional and Business Services (11%). Over the period from 2012 to 2022 in the Central Oregon counties of Crook, Deschutes, and Jefferson, employment in Private Education and Health Services and Professional and Business Service are both expected to increase by about 24% and increase their share of total employment by 1.0% and 0.6% respectively.

Employment levels in several industries are at all-time highs: private education, health care, food manufacturing – all of which emerged relatively unscathed from the recession – and professional and business services. The latter, combined with health care and leisure and hospitality, account for more than half of the state's total jobs gains over the past year.

Retail

As the 2008 EOA found, population will drive increases in retail jobs. The Oregon Employment Department forecasts that Retail sector employment in Central Oregon will grow by about 1,210 employees, or 12% over the 2012-2022 period. However, because this pace falls below that of overall employment growth, the share of total jobs in retail will actually fall by about 0.6%.

Key summary and implications for economic development within Bend

In general the outlook for Bend in 2015 is similar to that of 2008. Bend still has a relatively well-educated workforce, an expectation for growth in population and employment in the future. Some small changes however, have occurred. For example, the construction and manufacturing industries have shrunk, while employment in health and social service industries increased. Despite changes in the levels of employment since 2007, forecasts for growth by industry will follow similar trends as those expected at the time of the 2008 EOA.

Bend's Competitive Advantages

Economic development opportunities in Bend will be affected by local conditions as well as the national, state, and regional economic conditions addressed above. Economic conditions in Bend relative to these conditions in other parts of the region form the city's competitive advantage for economic development, and these competitive advantages have implications for the types of firms most likely to locate and expand in the area.

There is little that cities can do to influence national and state conditions that affect economic development, but they can have some level of influence on the local factors that affect economic development. Bend's primary competitive advantages are: location, access to transportation, quality of life, and access to educated and skilled labor from within the region. These factors make Bend attractive to residents and businesses that want a high quality of life where they live and work.

The local factors that form Bend's competitive advantage are summarized below.

Location

Bend is located in Deschutes County at the intersection of Highways 97 and 20, roughly 3.25 hours southeast of Portland, and 2.5 hours southeast of Salem. Bend lies near the center of

Oregon. Businesses in the city have access to natural resources from surrounding rural areas, including the Deschutes River, the Cascade Mountains and the Oregon High Desert.

Availability of transportation facilities

Businesses and residents in Bend have access to a variety of transportation modes and systems, but the most important are Highways 97 and 20. Highway 97 connects Bend with cities throughout Central Oregon. Highway 20 connects Bend with the Willamette Valley and I-5, which provides a route for Bend businesses to connect to markets in Portland, Seattle, San Francisco and Los Angeles. Through highway and rail routes to Portland, Bend provides access to the Port of Portland from which ships can transport cargo to international markets in Asia.

The Bend Municipal Airport is roughly 5 miles southwest, or about a 15-minute drive from downtown Bend. Less than 30 minutes north of Bend, the Redmond Municipal Airport which provides daily flights to international airports like those in Portland, Seattle, San Francisco, and Los Angeles. The nearest international airport, the Portland International Airport, is about a 3-hour drive away.

The BNSF Railway Company and Union Pacific provide freight service that connects Bend to the other cities in Central Oregon, Portland, and cities in the US interior. The Prineville Railway Freight Depot, which is about 40 miles away from Bend, provides large freight loading equipment, such as ramps and cranes and large amounts of warehouse and outdoor freight storage.

Existing Employment Base

In 2013, Deschutes County had nearly 6,600 employment establishments with a total of about 63,200 workers. The county's largest employment sectors were Retail (9,605 jobs), Health and Social Assistance (9,524), Government (8,494), Accommodations & Food Services (8,262) and Manufacturing (4,209).

The Oregon Employment Department projects that the industries that will grow the most from 2012 to 2022 in Deschutes County are: Health Care and Social Assistance, which is expected to add 2,460 jobs, Professional and Business Services (1,690), and Accommodation and Food Services (1,750).

Labor Market

The availability of labor is critical for economic development. Availability of labor depends not only on the number of workers, but their quality, skills, wages, and experience as well.

Businesses in Bend have access to highly educated skilled workers, nearby college students, and unskilled workers. About 41% of Bend residents over 25 years have a bachelor's degree or higher.

Roughly 50% of Bend's workers commute from outside the city. The commuting patterns show that businesses in Bend are able to attract skilled and unskilled workers living within the city as well as from the surrounding region.

Outdoor Recreation

Bend provides a launching point for outdoor recreation destinations such as the Cascade Mountains and the Oregon High Desert. Bend is about a 30-minute drive from Mt. Bachelor, 2 hours from the John Day Fossil Beds National Monument, and 2 hours from Crater Lake National Park. The Deschutes River, which provides rafting and fishing opportunities, runs through the city.

Public facilities and services

The provision of public facilities and services can impact a firm's decision to locate within a region. Businesses also take into account factors such as the regional availability and cost of labor, transportation, raw materials, and capital. Once a business has chosen to locate within a region, they consider the factors that local governments can most directly affect: tax rates, the cost and quality of public services, and regulatory policies. Economists generally agree that these factors do affect economic development, but the effects on economic development have only a modest impact on the level and type of economic development in the community.

Tax Policy

The tax policy of a jurisdiction is a consideration in economic development policy. In Fiscal Year 2014 to 2015, the property tax rate in Bend for the City was \$2.80 per \$1,000 of assessed value. Bend's property tax rate was near the middle of the range for Deschutes County, lower than Redmond (\$4.41), but above Sisters (\$2.64), and La Pine (\$1.98).⁴⁵

Water

The City of Bend provides water to approximately 22,000 service connections. The City collects surface water from the Bridge Creek site, 13 miles outside of the city in the Cascade Mountains, and from 25 wells that pump water from the Deschutes Aquifer. Both these water sources provide water of excellent quality, which requires "very little" treatment before delivery.

The City's 2011 water plan update projected that the city's average daily water demand would increase by about 70% over the period from 2008 to 2018. To accommodate the increasing demand, the plan update recommended \$197 million in improvements to the current water infrastructure, including the addition of more groundwater wells, more water storage capacity, pipe improvements, pumping station expansions, and increasing the surface water supply, among others.⁴⁶

Wastewater

The City of Bend is the sole provider of wastewater services and no special districts within the city provide such services. The City's wastewater system includes nine primary sewer basins

⁴⁵ http://www.deschutes.org/sites/default/files/fileattachments/assessor039s_office/page/676/sal_report_-_sal4a_detail_of_taxing_district_levies.pdf

⁴⁶ "Water System Master Plan Update," Murray, Smith, & Associates, Inc, and Optimatics, The City of Bend, February 2011, <http://www.ci.bend.or.us/Modules/ShowDocument.aspx?documentID=3201>.

that cover about 35 square miles. The collection system includes a network of manholes, gravity pipes, lift stations, vacuum mains, and force mains that convey sewage to a centralized location.

The most-recent Collection System Master Plan (CSMP) projects that the average dry weather wastewater flow will nearly double over the next 20 years from 6.2 to about 11.5 million gallons per day. Wet weather flows will also increase, but by less, about 30%, from 8.9 to 12.0 million gallons per day.

Residential uses make up about 79% of the 6.2 million gallons per day average dry weather flow, while non-residential uses, including businesses and schools, make up about 21%. The Deschutes Brewery contributes a significant amount of the wastewater flow, making up about 12% of non-residential dry weather flow.

The wastewater master plan expects notable usage increases from four specific events: expansion of the Saint Charles Medical Center, the OSU-Cascades Campus, about 1,000 additional residential units in the Central Business District, and additional 1,200 residential units in the Transit Corridors.

Sewer infrastructure is expected to need expansive improvements over the 20-year period as Bend grows. In 2014, the CSMP recommended \$90M investment in infrastructure improvements that will include additional lift stations, mechanical replacements, and increasing the overall hydraulic capacity, among others additions.⁴⁷

Stormwater

Bend benefits from volcanic geography that provides absorptive ground. This porous ground has allowed Bend to rely primarily on dry wells and drill holes that drain runoff into the ground beneath the city. While a partial piped system does exist, which flows into the Deschutes River, much of the city's stormwater runoff goes into the ground, rather than entering a citywide piping system that redirects all stormwater to a central location. The city currently has about 4,600 dry wells and 1,000 drill holes in the city that receive stormwater in this way.

Bend's reliance on groundwater for drinking water means that stormwater infrastructure needs to protect the quality of residents' drinking water, as well as natural waterways. To this end, regulations prevent the injection of stormwater into the ground within 500 feet of a drinking water well.

Dispersed stormwater disposal through dry wells allows the city to avoid concentrating stormwater in one location, and provides a method of stormwater management that is less costly than a citywide piped system. However, Bend's increasing growth, and in particular its density, will place limits on the potential dispersion via dry wells and drill holes. For that reason, the 2014 Stormwater Master Plan has recommended various stormwater infrastructure upgrades including: expansion of a piped stormwater system with water-holding and treatment

⁴⁷ "Collection System Master Plan," City of Bend, December 2014, <http://www.ci.bend.or.us/modules/showdocument.aspx?documentid=18059>.

capacity, greater implementation of low impact development (LID), additional drainage facilities like bioswales, and more usage of GIS data to analyze stormwater conditions.⁴⁸

Outlook for growth in Bend

Demand for commercial and industrial land will be driven by the expansion and relocation of existing businesses and new businesses locating in Bend. The level of this business expansion activity can be measured by employment growth in Bend. This section presents a projection of future employment levels in Central Oregon for the purpose of estimating demand for commercial and industrial land.

Table A- 9 shows the projected growth in employment by selected industrial sectors for the Central Oregon counties (Crook, Deschutes, and Jefferson). The Oregon Employment Department forecasts that employment in Central Oregon will increase by about 16% between 2012 and 2022, or by 12,140 employees. The construction industry will undergo the most rapid growth, increasing by 26% between 2012 and 2022, followed by Health Care and Social Assistance (25%), and Nondurable Goods manufacturing (25%).

Table A- 9. Industry Employment Forecast, Central Oregon Region (Crook, Deschutes, and Jefferson Counties), 2012-2022

Industry Sector	2012	2022	Change 2012-2022		
			Number	Percent	AAGR
Natural Resources and Mining	1,330	1,590	260	20%	1.8%
Mining and Logging	270	320	50	19%	1.7%
Construction	3,250	4,100	850	26%	2.4%
Manufacturing	5,370	6,380	1,010	19%	1.7%
Durable Goods	4,320	5,080	760	18%	1.6%
Wood Product Manufacturing	1,890	2,310	420	22%	2.0%
Nondurable Goods	1,040	1,300	260	25%	2.3%
Trade, Transportation, and Utilities	14,260	15,920	1,660	12%	1.1%
Wholesale Trade	2,300	2,520	220	10%	0.9%
Retail Trade	10,300	11,510	1,210	12%	1.1%
Transportation, Warehousing and Utilities	1,660	1,890	230	14%	1.3%
Information	1,450	1,510	60	4%	0.4%
Financial Activities	4,490	5,110	620	14%	1.3%
Professional and Business Services	6,990	8,680	1,690	24%	2.2%
Private Educational and Health Services	10,780	13,400	2,620	24%	2.2%
Health Care and Social Assistance	9,990	12,450	2,460	25%	2.2%
Health Care	8,690	10,860	2,170	25%	2.3%
Leisure and Hospitality	10,660	12,810	2,150	20%	1.9%
Accommodation and Food Services	8,980	10,730	1,750	19%	1.8%
Other Services	2,600	2,930	330	13%	1.2%
Government	12,440	13,330	890	7%	0.7%
Federal Government	1,330	1,250	-80	-6%	-0.6%
State Government	1,780	1,990	210	12%	1.1%
Local Government	9,330	10,090	760	8%	0.8%
Local Education	4,170	4,560	390	9%	0.9%
Total payroll employment	73,620	85,760	12,140	16%	2%

Source: State of Oregon Employment Department, "Employment Projections by Industry and Occupation 2012-2022 Central Oregon (Crook, Deschutes, Jefferson)."

⁴⁸ "Stormwater Master Plan," City of Bend, July 2014, <http://www.ci.bend.or.us/modules/showdocument.aspx?documentid=17875>.

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APPENDIX B. EMPLOYMENT PROJECTIONS

Appendix B summarizes the methodologies used to develop the employment projections and the 2008-2028 projection.

Methods

This Section contains an overview of the methodology used to generate the employment forecast. The methodology closely follows the approach prescribed by the Department of Land Conservation and Development in the EOA *Guidebook*. However, because economic development goals and the data available about each community vary throughout the state, there are several variations in the methodology. The DLCD recognizes that variation in methodology is appropriate.

1. Analyze existing policy and visions; national, state, county, and local trends; and other forces likely to have an impact on Bend's economic future
2. Forecast 20-year employment growth, 2008-2028:
 - a. Begin with OED 2006 employment data for the City of Bend, disaggregated to detailed industry sectors
 - b. Create 20-year projected growth rates for individual industry sectors:
 - i. Begin with OED Deschutes County 2006-2016 projections
 - ii. Grow 2006 industry employment to 2008 by adding Bend's slightly accelerated population growth rates (0.11 percent faster than Deschutes County) to the ten-year industry growth rates predicted by OED)
 - iii. Adjust employment upward (11.5 percent) to account for self-employed, contract workers, and "non-covered" employees not included in OED employment projections
 - iv. For land need estimates, decrease employment projections by estimating the percentages of non-shift workers in each industry
 - v. Grow employment from 2008 to 2015 at the 10-year adjusted employment growth rate by industry
 - vi. Adjust targeted industry sectors upwards by 10 percent to reflect increased growth in these sectors
 - vii. Grow employment from 2015 to 2025 by the City of Bend Coordinated Population Forecast Average Annual Rate of Growth at reduced rate to account for less predicted population and employment growth in this time period
 - viii. Apply a 1.7 percent AARG to grow 2025 employment to 2028 end of the planning period
3. Inventory Current Employment Land Supply:
 - a. Inventory all lands with a General Plan designation for economic use and public facility use
 - b. Categorize all lots according to zoning designation and development category
 - i. General Plan designations: A variety of commercial, industrial, professional office, mixed employment, public facilities zones, detailed later
 - ii. Development category: Developed, Vacant, Unbuildable
 - c. Generate inventories of Developed, Vacant and Unbuildable land within each General Plan designation

Employment Projections

The purpose of making employment projections is twofold: (1, to anticipate future employment patterns, and (2) to estimate future economic land needs. The following describes some of the technical approaches in making employment projections and the process of converting these into land need estimates.

This EOA groups NAICS sectors into broader categories to facilitate a conversion of employment forecasts to land need. These categories are as follows:

- **Employment Category.** This is a generalization and simplification of more specific NAICS sectors and specific industries. The categories include:
 - Industrial General and Industrial Heavy
 - Retail General and Large Retailers
 - Office/Services
 - Leisure and Hospitality
 - Other
 - Government
 - Medical (also called MDOZ referencing the city's Medical District Overlay Zone)
- These categories are composed of employment sectors described below. In some cases, employment categories split what would traditionally be “one” employment sector. For example, Retail Trade is one employment sector, but this EOA separates the sector into two employment categories based on the three-digit NAICS coding: Retail General and Large Retailers. This allows more specific land need estimates to be created; for example, to determine land needs for large retailers seeking large sites and smaller retailers requiring smaller sites. The three-digit NAICS descriptions are shown in the tables below to describe specific industries in each employment category.
- **Employment Sector.** These are smaller, specific categories that describe the two-digit NAICS categories show in Tables 19-23. These include:
 - Retail Trade
 - Agriculture, Forestry, Fishing and Hunting
 - Mining
 - Utilities
 - Construction
 - Manufacturing
 - Wholesale Trade
 - Transportation and Warehousing
 - Information
 - Finance and Insurance
 - Real Estate and Rental and Leasing
 - Professional, Scientific, and Technical Services
 - Management of Companies and Enterprises
 - Administrative and Support, Waste Management, and Remediation Services
 - Education Services
 - Health Care and Social Assistance

The following tables show:

- Employment categories above the employment sectors in the left-most column

- NAICS 2 Digit Code describing the employment sector. For example, the NAICS 2 Digit Codes for Large Retail and General Retail are 44-45
- NAICS 3 Digit Codes and their corresponding NAICS Title in the right-most column. These provide industry level detail so that a reader can easily examine the types of industries included in each employment category.

Table B- 1. Retail Employment Category, Sectors, and Industries

Employment Category	NAICS 2 Digit Code	NAICS 3 Digit Code	NAICS Title
Retail			
Large Retail - retail trade	44-45	441	Motor Vehicle and Parts Dealers
		444	Building Material & Garden Supply Stores
		447	Gasoline Stations
		452	General Merchandise Stores
General Retail - retail trade	44-45	442	Furniture and Home Furnishings Stores
		443	Electronics and Appliance Stores
		445	Food and Beverage Stores
		446	Health and Personal Care Stores
		448	Clothing and Clothing Accessories Stores
		451	Sporting Goods/Hobby/Book/Music Stores
		453	Miscellaneous Store Retailers
		454	Nonstore Retailers

Source: City of Bend.

Staff researched the spatial distribution of geo-coded employment data by 3 digit NAICS throughout the City of Bend to determine where large and general retailers tend to congregate. Staff found that in general, retailers engaging in motor vehicles, building materials, gasoline station, and general merchandise stores tend to concentrate in areas designated Commercial General by the City's General Plan. General Retail uses above tend to locate in the numerous other commercial General Plan designations. Staff then grouped retail employment into the two categories above to facilitate more fine-tuned land need estimates.

Table B- 2. Industrial Employment Category, Sectors, and Industries

Employment Category	NAICS 2 Digit Code	NAICS 3 Digit Code	NAICS Title
Industrial			
Industrial Heavy			
<i>Agriculture, forestry, fishing and hunting</i>	11	111	Crop Production
		112	Animal Production
		113	Forestry and Logging
		114	Fishing; Hunting and Trapping
		115	Agriculture & Forestry Support Activities
<i>Mining</i>	21	211	Oil and Gas Extraction
		212	Mining (except Oil and Gas)
<i>Utilities</i>	22	221	Utilities
<i>Construction</i>	23	237	Heavy and Civil Engineering Construction
<i>Manufacturing</i>	31-33	311	Food Manufacturing
		312	Beverage & Tobacco Product Manufacturing
		314	Textile Product Mills
		315	Apparel Manufacturing
		316	Leather and Allied Product Manufacturing
		321	Wood Product Manufacturing
		325	Chemical Manufacturing
		326	Plastics & Rubber Products Manufacturing
		327	Nonmetallic Mineral Product Manufacturing
		331	Primary Metal Manufacturing
		332	Fabricated Metal Product Manufacturing
		333	Machinery Manufacturing
		334	Computer and Electronic Product Manufacturing
		335	Electrical Equipment and Appliances
		336	Transportation Equipment Manufacturing
		337	Furniture and Related Product Manufacturing
		339	Miscellaneous Manufacturing
Industrial General			
<i>Construction</i>	23	236	Construction of Buildings
		238	Specialty Trade Contractors
<i>Manufacturing</i>	31-33	323	Printing and Related Support Activities
<i>Wholesale Trade</i>	42	423	Merchant Wholesalers; Durable Goods
		424	Merchant Wholesalers; Nondurable Goods
		425	Electronic Markets and Agents/Brokers
<i>Transportation and warehousing</i>	48-49	481	Air Transportation
		484	Truck Transportation
		485	Transit and Ground Passenger Transport
		488	Support Activities for Transportation
		491	Postal Service
		492	Couriers and Messengers
		493	Warehousing and Storage

Source: City of Bend

Staff performed a similar analysis of the spatial distribution of industrial uses to determine where more intensive or heavy industrial uses are located in Bend. These uses tend to be located in areas designated Industrial General by the Bend General Plan. Other industrial uses tend to be

located in the areas designated Industrial Light, Industrial Park, and Mixed Employment. It is noteworthy that these uses are distributed throughout commercial districts as well as industrial and mixed employment districts.

Table B- 3. Office/Services Employment Category, Sectors, and Industries

Employment Category	NAICS 2 Digit Code	NAICS 3 Digit Code	NAICS Title
Office/Services			
<i>Information</i>	51	511	Publishing Industries
		512	Motion Picture & Sound Recording Industries
		515	Broadcasting (except Internet)
		516	Internet Publishing and Broadcasting
		517	Telecommunications
		518	ISPs; Search Portals; & Data Processing
<i>Finance and Insurance</i>	52	522	Credit Intermediation & Related Activities
		523	Financial Investment & Related Activities
		524	Insurance Carriers & Related Activities
		525	Funds; Trusts & Other Financial Vehicles
<i>Real Estate and Rental and Leasing</i>	53	531	Real Estate
		532	Rental and Leasing Services
		533	Leasers; Nonfinancial Intangible Assets
<i>Professional, Scientific, and Technical Services</i>	54	541	Professional and Technical Services
<i>Management of Companies and Enterprises</i>	55	551	Management of Companies and Enterprises
<i>Administrative and Support, Waste Management and Remediation Services</i>	56	561	Administrative and Support Services
		562	Waste Management and Remediation Services
<i>Education Services</i>	61	611	Educational Services
<i>Health Care and Social Assistance</i>	62	621	Ambulatory Health Care Services
		622	Hospitals
		623	Nursing and Residential Care Facilities
		624	Social Assistance

The uses in Table B- 3 tend to be located in commercial areas, with fewer appearing in industrial and mixed use zones. Health care and social services are concentrated within the City's Medical District Overlay Zone, which is zoned Residential Urban Medium Density.

Table B- 4. Government Employment Category, Sectors, and Industries

Employment Category	NAICS 2 Digit Code	NAICS 3 Digit Code	NAICS Title
Government			
<i>Industrial Heavy</i>	11, 21, 23	113 221 237	Forestry and Logging Utilities Heavy and Civil Engineering Construction
<i>Industrial General</i>	32, 49, 48	323 1_49 485 493	Printing and Related Support Activities Postal Service Transit and Ground Passenger Transport Warehousing and Storage
<i>Office/Services</i>	51-62	611 624 519 524 561 611	Educational Services Social Assistance Other Information Services Insurance Carriers & Related Activities Administrative and Support Services Educational Services
<i>Leisure and Hospitality</i>	71	712 713	Museums; Parks and Historical Sites Amusement; Gambling & Recreation Industries
<i>Government</i>	92	921 922 923 924 925 926 928 921 922 924	Executive; Legislative; & Gen Government Justice; Public Order; and Safety Act ivies Administration of Human Resource Programs Administration of Environmental Programs Community and Housing Program Administration Administration of Economic Programs National Security & International Affairs Executive; Legislative; & Gen Government Justice; Public Order; and Safety Act ivies Administration of Environmental Programs

The Government Employment category was created by isolating non-private ownership codes in the 2006 geo-coded employment data for Bend. Note Government includes a wide variety of employment types corresponding to the broad services provided by public entities. Industrial uses such as utilities and construction yards, the postal service, warehousing and similar uses require land zoned for industrial uses, while other governmental functions are well served in commercial centers. Employment in these sectors is classified as Government to estimate the full range of land needs for public uses later in this report.

Table B- 5 shows the Leisure and Hospitality Category and NAICS sectors included in this group. Employment in this category is generally described as Arts, Entertainment, and Recreation, Accommodation and Food Services by NAICS. The sectors illustrate the types of economic activities included in these NAICS categories. The Other category includes those uses that fall outside the NAICS sectors in previous tables.

Table B- 5. Leisure and Hospitality, Other Employment Category, Sectors, and Industries

Employment Category	NAICS 2 Digit Code	NAICS 3 Digit Code	NAICS Title
Leisure and Hospitality			
<i>Arts, Entertainment, and Recreation</i>	71	711	Performing Arts and Spectator Sports
		712	Museums; Parks and Historical Sites
		713	Amusement; Gambling & Recreation Industries
<i>Accommodation and Food services</i>	72	721	Accommodation
		722	Food Services and Drinking Places
Other			
<i>Other Services (except Public Administration)</i>	81	811	Repair and Maintenance
		812	Personal and Laundry Services
		813	Membership Organizations & Associations
		814	Private Households
<i>Miscellaneous/Unknown</i>	99	999	Unclassified

Source: City of Bend

The employment forecasts in Table B- 6 estimate total employment for the 2008 through 2028 planning period. These estimates include non-covered employees which are typically excluded from OED projections. Total employment also includes shift workers. Employment projections contained in tables after Table B- 6 will not match employment in Table B- 8, and subsequent employment tables, because subsequent tables do not include shift workers. Shift workers are excluded from subsequent tables because land need estimates should be based on the day shift (typically the largest shift) instead of all employees working at a given business. Including all workers in land need estimates would overestimate land needs since not all workers in some businesses are present at one time. The methodology used to calculate total employment in Table B- 6 is the same as in the subsequent tables; except subsequent tables exclude shift workers.

Table B- 6. Total Estimated 2008 and 2028 Employment: Simplified

Major Employment Categories	2008 Bend Employment	2028 Bend Employment	New Employees (2008-2028)
Industrial			
<i>Industrial Heavy</i>	4,587	6,231	1,644
<i>Industrial General</i>	5,849	8,709	2,860
Retail			
<i>Large Retail</i>	4,354	7,329	2,975
<i>General Retail</i>	4,065	6,633	2,568
Office/Services	11,210	18,799	7,590
Leisure and Hospitality	5,617	9,364	3,747
Medical (MDOZ)	5,021	8,617	3,596
Other/Miscellaneous	1,178	1,733	555
Government	3,960	6,374	2,414
Total	45,840	73,789	27,950

Source: OED geo-coded employment data for Bend with analysis by City of Bend

Note: Employment reflects additions of non-covered employees excluded from OED employment projections and include ALL EMPLOYEES. Subsequent tables estimating employment reflect only non-shift workers. Non-shift employment is less than total employment.

Table B- 6 illustrates a few broad trends that will emerge in the following analysis. First, the highest numbers of new employees are expected to be engaged in activities that will likely require commercial space versus industrial space. Note that Office/Services, Large and General Retail, and Leisure and Hospitality are the three employment categories that add the most employees during the planning period. Over 4,500 jobs in the Industrial category are expected to be added as well; followed by the addition of 3,596 jobs in the Medical category.

The following employment projections in Table B- 8 present a refinement of the projections in Table B- 6 by considering only employees working during the largest day shift. According to Thomas M Beers, an economist in the Division of Labor Force Statistics, Bureau of Labor Statistics, “the “9-to-5” workday does not appear to be in jeopardy of fading from its prominence in U.S. workplaces; yet the data do suggest that the rigidity of those hours continues to relax”. His analysis suggests that approximately 16.8 percent of all full-time wage and salary workers worked alternative shifts; with different industries exhibiting wide variation in the levels of shift work (Beers).

Since subsequent land need estimates based on employment growth are derived by applying employment densities to employment estimates, it is essential to remove shift employees from gross employment figures and employment densities to calculate accurate land need estimates.

The EOA projects Bend’s non-shift total employment using the following methodology, shown in the summary Table B- 7. Following is a summary of the process:

- Begin with OED 2006 geo-coded employment data for the City of Bend, disaggregated to employment sectors. 2006 data is the most recent year available for which OED has detailed employment data for the City of Bend. More recent data is only tracked at the three-county regional level. The accuracy of the geo-coded (which means location specific, usually in the form of an address point representing employment) data from OED in 2006 is far superior to the accuracy of the 2004 data used in the 2007 Leland EOA. The accuracy of the OED data was enhanced by matching the address points to the City's GIS address files and by placing employment data based on field checks, phone calls to businesses, and by using local knowledge of employer locations.
- Produce 20-year projected growth rates for individual employment categories:
 - The baseline employment growth projections are OED Deschutes County 2006-2016 employment growth projections by sector. Reviewed in the Section above, these projections are adjusted to account for Bend's unique employment characteristics. The approach used in this EOA relies on employment growth rates for Deschutes County rather than the Region 10 employment growth rates. This is an improvement over the Leland EOA since the influence of Jefferson and Crook Counties is not included in the Deschutes County growth data. Also, since Bend represents the majority of employment in Deschutes County, using the Deschutes County employment growth projections will result in more accurate projections.
 - Factor 1. As was done in the 2007 Leland EOA, employment projections are slightly increased to account for Bend's slightly higher rate of population growth as compared with the County's. In the period 2006-2016, the Deschutes County Coordinated Population Forecast shows Bend's population is anticipated to grow at a rate 0.11 percent times faster than Deschutes County over this decade. This 0.11 percent factor is applied over the decade, not each year. This is appropriate since employment growth tracks with population growth as show in Section 3.
 - Grow employment at the sector specific average annual growth rates plus Factor 1 for two years to determine 2008 baseline employment.
 - Factor 2. Increase 2008 baseline employment by sector by 11.5 percent to account for non-covered employees excluded from OED employment forecasts. This increase is applied to all categories except Government, since most public sector employees are covered employees. See Appendix B for a more detailed discussion of how the 11.5 percent factor was determined. This figure was accepted by the City of Bend Planning Commission and UGB TAC for purposes of this analysis.
 - Factor 3. Reduce employment estimates by applying percentages of non-shift workers to total employment. These percentages were obtained from research by Thomas M. Beers in his article "Flexible schedules and shift work: replacing the '9-to-5' workday?". Note these factors were applied to specific sub-sectors and cannot be aggregated into the broader employment categories reported in this table. Generally, employment sectors such as leisure and hospitality have the highest rates of shift workers (approximately 40-50 percent shift workers), while other sectors such as office/services have between approximately 5-20 percent of employees working shifts.
 - Grow the 2008 non-shift total employment by the adjusted by sector growth rates for seven years to arrive at year 2015 employment by sector.
 - Factor 4. As the 2007 Leland EOA suggests, targeted sectors are increased upwards to reflect increased growth in these sectors. As discussed extensively above, Bend has created a set of Targeted Sectors, in which it hopes to encourage higher-than-average growth; existing trends suggest that this is a good strategy with reasonable chances for success. Thus, employment growth within the Retail, office/Services, and Leisure and Hospitality categories are accelerated by a factor of 1.10 (or 10

percent) over this decade –long time frame. Although Government is not a targeted sector, it is also adjusted upwards to reflect continued aggregation of government jobs in Bend (Leland, 39).

- Grow 2015 employment to 2025 by the 1.84 percent average annual rate of growth. This growth rate is the 2015-2025 Average Annual Rate of Growth (AARG) for Bend detailed in the Deschutes County Coordinated Population Forecast.
- Grow 2025 employment to 2028 by an AARG of 1.70 to match Bend's population growth. This rate is the same growth rate used to estimate Bend's population growth between 2025 and 2028 for the residential lands estimate.

Table B- 7. Bend Employment Projections and Methodology Overview: 2008-2028

Major Employment Categories	2006 Bend Emp.	10-year AARG ¹	Factor 1	2008 Covered Emp ¹	Factor 2	2008 Total Emp.	Factor 3. 2008 Non-shift Emp. ²	2015 Emp. ¹	Factor 4	2015 Emp.	2025 Emp.	2028 Bend Emp.
Industrial												
<i>Industrial Heavy</i>	4,032	1.0%	0.11%	4,114	11.5%	4,587	3,807	4,104	NA	4,104	4,925	5,180
<i>Industrial General</i>	5,004	2.3%	0.11%	5,245	11.5%	5,849	5,370	6,340	NA	6,340	7,608	8,002
Retail												
<i>Large Retail</i>	3,698	2.6%	0.11%	3,905	11.5%	4,354	3,474	4,212	10%	4,633	5,560	5,849
<i>General Retail</i>	3,482	2.2%	0.11%	3,646	11.5%	4,065	3,244	3,812	10%	4,193	5,032	5,293
Office/Services	9,535	2.6%	0.11%	10,053	11.5%	11,210	9,879	11,925	10%	13,117	15,741	16,557
Leisure and Hospitality	4,783	2.8%	0.11%	5,038	11.5%	5,617	3,306	3,985	10%	4,383	5,260	5,532
Medical	4,240	2.3%	0.11%	4,503	11.5%	5,021	4,100	5,069	10%	5,574	6,689	7,036
Other/Misc.	1,011	2.0%	0.11%	1,056	11.5%	1,178	1,051	1,225	NA	1,225	1,470	1,547
Government	3,798	2.2%	0.11%	3,960	NA	3,960	3,485	4,041	10%	4,445	5,334	5,611
Total	39,583			41,520		45,840	37,716	44,712		48,015	57,618	60,607

Source: City of Bend based on OED 2006 Geo-coded data for City of Bend.

1 This table is for illustration purposes only. The "10-year AARG", "2008 Covered Emp", "2015 Emp." column totals are derived by totaling the employment growth of individual industries, not the employment categories shown above. See Appendix A for a table of industries and their totals.

2 Rates of "Non-shift Workers" were applied to industries, not employment categories. See Appendix A for specific rates of "Non-shift Workers" applied to each industry.

Table B- 6 shows some of the broad conclusions that can be drawn from this analysis of Bend's 20-year employment growth. In the New Employees (2008-2028) column, note that by far the largest amount of growth comes in the Office/Services category, as suggested by the trends reviewed earlier and the Economic Sector Targeting work. Retail, Leisure and Hospitality, and Medical categories have also added considerable numbers of employees. Note that heavy industrial uses are expected to employ fewer people than the general industrial uses.

Table B- 8 introduces an assumption that 10 percent of employees in the planning period will be employed on lands currently used for employment purposes. This infill/refill factor is consistent with DLCD guidelines as discussed in more detail in Section 8.

Table B- 8. Employment Change & New Employees Requiring Land: 2008-2028

Major Employment Categories	2008 Non-shift Emp.	2028 Bend Non-shift Emp.	New Employees (2008-2028)	Infill/Refill Factor	New Employees Requiring New Land
Industrial					
<i>Industrial Heavy</i>	3,807	5,180	1,373	10%	1,236
<i>Industrial General</i>	5,370	8,002	2,632	10%	2,369
Retail					
<i>Large Retail</i>	3,474	5,849	2,374	10%	2,137
<i>General Retail</i>	3,244	5,293	2,049	10%	1,844
Office/Services	9,879	16,557	6,678	10%	6,010
Leisure and Hospitality	3,306	5,532	2,226	10%	2,004
Medical	4,100	7,036	2,936	10%	2,642
Other/Misc.	1,051	1,547	496	10%	446
Government	3,485	5,611	2,126	10%	1,913
Total	37,716	60,607	22,891		20,602

Source: City of Bend based on OED 2006 Geo-coded data for City of Bend.

The City of Bend should anticipate approximately 22,891 new non-shift employees during the planning period. After subtracting 10 percent with the assumption that 10 percent of new employees will be employed on existing “developed” or “redevelopable” employment lands, land needs should be calculated based on 20,602 future new non-shift employees.

Table B- 9 illustrates jobs to population ratios for the recent past and the planning period. Comparisons between the two tables should be made with caution since Table B- 7 does not include all workers and Table B- 8 includes all workers (both covered and uncovered worker), and because Table B- 7 is a county-wide ratio while Table B- 8 is only the City of Bend. Considering that total employment is estimated to be 11.5 percent higher than covered employment, projected jobs to population ratios are similar to job to population ratios in Deschutes County in the 1990s.

Table B- 9. Jobs to Population Ratios: 2008 and 2028

Year	Bend coordinated Population Forecasts	Bend Total Employment Forecasts	Ratio of Jobs to Population
2008	76,551	45,840	60%
2028	115,063	73,789	64%

Source: City of Bend employment forecasts and Deschutes County Coordinated Population Forecast for Bend

APPENDIX C. REMAND DIRECTIVES

Table 20 presents the complete list of Remand issues related to employment lands and where they are addressed in the EOA update. The numbering of directives in the second column starts with number 61 because this list is an excerpt of the larger Index of all directives to the City on Remand.

Table 20. Remand Directives Related to the Economic Opportunities Analysis and Employment Land Need

Remand Subissue	Directives to City on Remand	Sections/Pages in this EOA that address the directives
5.11 (Conclusion) Page 67	61. The submittal is remanded for the City to clarify in adequate findings that it is utilizing its 2008 EOA, scenario B, as the basis for estimating employment land needs	No longer using Scenario B methodology; Ch 5 provides revised land estimate based on changes required by the Remand, such as vacancy rate, market choice, and redevelopment rate.
5.2 (Conclusion) Page 70	62. Commission remands the UGB decision to the City to provide an adequate factual base to support use of a 10 percent redevelopment factor, including an analysis of the amount of redevelopment that has occurred in the past and a reasoned extension of that analysis over the planning period 63. Alternatively, the City may satisfy Goal 9 and division 9 by other means, for example through a site-by-site redevelopment analysis. However, a site-by-site analysis is not required; the Commission determines that using a factor is acceptable where findings explain evidentiary basis and address the Goal 14 requirement to reasonably accommodate development within the existing UGB.	Base case redev is now 6%; used the site by site approach – include info in appx
5.4 (Analysis) Page 76	64. As a result, in this case (See 1000 Friends of Oregon v. LCDC, __ Or App __, __ P3d __ (A135375)) to the extent that the city continues to base some portion of its employment land need on market choice, it must explain how doing so in the factual context provided by the record for the Bend UGB expansion is consistent with the requirements of Goal 9, OAR 660-009-0025, and the “need” factors of Goal 14	No market choice factor is used in the revised land need estimates.
5.4 (Conclusion) Pages 76-77	65. On remand, the City must make findings addressing applicable law, including addressing consistency with Goals 9 and 14 as required in 1000 Friends of Oregon v. LCDC, __ Or App __, __ P3d __ (A135375) (September 8, 2010)	EOA addresses the Goal 9 requirements; the Urbanization Report, Goal 14; the findings, both

Remand Subissue	Directives to City on Remand	Sections/Pages in this EOA that address the directives
5.5 (Analysis) Page 77	<p>66. Under OAR 660-009-0015(3)(a)(C), the EOA Inventory of Industrial and Other Employment Lands for cities and counties within a Metropolitan Planning Organization, must include the approximate total acreage and percentage of sites within each plan or zoning district that comprise the short-term supply of land.</p> <p>67. This short-term supply analysis required for jurisdictions within MPOs is in addition to the EOA inventory requirements applicable to all comprehensive plans for areas within urban growth boundaries. OAR 660-009-0015(3)(a)</p> <p>68. Furthermore, division 9 requires that comprehensive plans for cities such as Bend “include detailed strategies for preparing the total land supply for development and for replacing the short-term supply of land as it is developed.” OAR 660-009-0020(2).</p>	Short-term supply is addressed in Chapter 6
5.5 (Conclusion) Page 78	<p>69. The Commission concludes that the Goal 9 rule requires the City to include policies for maintaining a short-term supply.</p> <p>70. The City must plan for required infrastructure and have identified the funding mechanisms.</p>	Chapter 6 2 nd issue will require more info
5.6 (Analysis) Page 80	<p>71. (t)he City must establish a basis in reason connecting the inference that the planning period will present higher vacancy rates for industrial and office than historic and current conditions to the trend data from which it is derived.</p> <p>72. the City may pursue a mechanism to make industrial and commercial rents affordable under the competitive short-term supply, but not by inflating the long-term need beyond what may be supported by substantial evidence in trend data or reasoned inferences there from.</p>	The revised EOA does not assume a vacancy rate for employment lands. The EOA assumes that the 2006 employment densities are reflective of the vacancy rates at that time: 9% for office space and 2.9% for industrial space.
5.6 (Conclusion) Page 80	73. The Commission concluded that under division 9, the long-term vacancy factor should be based on past and projected future trends over the planning period.	
5.8 (Analysis) Page 84	74. The City agreed that on remand it would move the analysis and calculation to the residential/other lands analysis and calculation.	See HNA
5.8 (Conclusion) Page 84	75. The Commission remands the submittal to incorporate analysis of land needs for employment uses within residential zones in the City's housing needs analysis.	See HNA



Employment TAC Meeting Packet *Part 2*

August 25, 2015

Contents:

- Agenda
- Minutes - July 21 TAC Meeting
- Draft Employment Chapter and Policies
- Draft Employment Policies (Tracked Changes Version)
- Draft Employment Opportunities Analysis
- Draft Urbanization Report



Meeting Agenda

Employment Technical Advisory Committee – Meeting 10

Tuesday August 25, 2015 2:30 PM – 5:00 PM

City Council Chambers, Bend City Hall

Meeting Purpose and What is Needed from the TAC

The purposes of this meeting are to:

- Review and approve the working draft Economy chapter of the Comprehensive Plan (aka General Plan), including V2 of the policies
- Review of three technical documents: the draft Buildable Lands Inventory (BLI) – approval is requested; draft Economic Opportunities Analysis (EOA) – comments are requested on this draft; it will be presented for approval at a later date; and, the first three chapters of the draft Urbanization Report – approval is requested

A process note: As you can see, we have a very full agenda this month. The technical reports described below are essentially packaged versions of previously discussed materials, with some enhancements to documentation and format. In the interest of forward momentum, the team encourages the TAC to focus its agenda time on larger questions and not technical detail.

The Economy chapter of the Comprehensive Plan has been updated using a new format for Bend's 1998 vintage plan. Introductory text is relatively brief (4 pages for Economy as compared to 13 pages in the current Plan), with a focus on a succinct description of important trends, issues, and the Plan designations. The full factual base is provided in supporting documents such as the Economic Opportunities Analysis. The policies in this packet are a "V2" update, reflecting input from the TAC's July meeting and additional review by staff. TAC approval of these "working" materials is requested. Please note that a "clean" complete Economy chapter is provided, along with a track change version of the policies.

The BLI and EOA are supporting technical documents of the Comprehensive Plan. The BLI provides the factual base regarding Bend's land supply, which is used for estimating growth capacities and other growth management planning. The EOA is the Plan's factual base for establishing Bend's 20-year need for employment lands. Both are technical documents that have been discussed previously by the TAC (a draft BLI in February, and portions of the draft EOA during Phase 1 meetings). Approval of the BLI is requested. Please note that the

For additional project information, visit the project website at <http://bend.or.us> or contact Brian Rankin, City of Bend, at brankin@bendoregon.gov or 541-388-5584



Accessible Meeting/Alternate Format Notification

This meeting/event location is accessible. Sign and other language interpreter service, assistive listening devices, materials in alternate format such as Braille, large print, electronic formats, language translations or any other accommodations are available upon advance request at no cost. Please contact the City Recorder no later than 24 hours in advance of the meeting at rchristie@ci.bend.or.us, or fax 385-6676. Providing at least 2 days notice prior to the event will help ensure availability.

EOA is a work in progress – TAC comments are requested at this time and it will be brought back when complete.

The Urbanization Report is another supporting technical document of the Comprehensive Plan. It documents the growth capacity analyses prepared for the Urban Growth Boundary (UGB), starting with the base case, and progressing through efficiency measures, alternative expansion scenarios, and ultimately the proposed Bend UGB expansion. The TAC will review the Introduction, Methodology, and Base Case chapters at the August meeting – these chapters capture and further explain analyses prepared in Phase 1. Approval is requested.

Agenda

- | | | |
|----|--|--|
| 1. | Welcome
a. Welcome and convene
b. Where we are in the process – a brief look back and look forward
c. Review and approve minutes | 2:30 PM
Chair
Joe Dills, Brian Rankin |
| 2. | Draft Economy Chapter and Revised Policies
<i>Information, discussion and action</i>
a. Presentation and discussion: <ul style="list-style-type: none"> • Updates to proposed policy amendments based on TAC feedback • Highlights of the draft introductory text b. TAC action: <ul style="list-style-type: none"> • Recommend approval of the working draft Economy chapter to the USC | 2:40 PM

Mary Dorman, APG |
| 3. | Draft Technical Reports
<i>Information, discussion and action</i>
a. Presentation and discussion: <ul style="list-style-type: none"> • Overview of technical reports and their roles and relationships • Highlights of Draft Buildable Lands Inventory Report • Highlights of Draft Economic Opportunities Analysis | 3:40 PM

Becky Hewitt, APG and Bob Parker, ECONorthwest |

- Highlights of Draft Urbanization Report, Chapters 1-3
- b. TAC action (one motion per report):
 - Recommend approval of working draft BLI, and Chapters 1-3 of the Urbanization Report to the USC

4. **Next Steps**
Information

4:30 PM

- a. The TAC will be briefed on next steps, the planned joint meeting with the Residential TAC on October 7 (save the date!), and the status of the team's work on work related to Efficiency Measures.

Becky Hewitt,
APG

5. **Public Comment**

4:45 PM

6. **Project News and Adjourn**

5:00 PM

City of Bend
Employment Lands Technical Advisory Committee
Meeting Notes
Date: July 21, 2015

The Employment Lands TAC held its regular meeting at 2:30 pm on Tuesday, July 21, 2015 in the Council Chambers of Bend City Hall. The meeting was called to order at 2:34 pm by Jade Mayer.

Roll Call

- | | | |
|--|--|-------------------------------------|
| <input type="checkbox"/> Ann Marie Colucci | <input type="checkbox"/> Todd Dunkelberg | <input type="checkbox"/> Jade Mayer |
| <input type="checkbox"/> Cindy Tisher | <input type="checkbox"/> Ron White | |

Agenda

1. Welcome

Jade called the meeting to order at 2:34 pm. After introductions, he turned the meeting over to Joe Dills with the Angelo Planning Group (APG).

Where we are and where we're going

Joe provided the TAC with a brief report on the UGB Remand Project progress since the last meeting in February of this year. The Boundary TAC made recommendations on three UGB Expansion scenarios to the UGB Steering Committee (USC) in June. The USC approved those with a few tweaks. The work this summer involves taking the alternatives and evaluating them according to state criteria. Engineers and modelers are all working on this to identify the good, better, and best areas.

The team (City staff and APG) will be coming back to the Boundary TAC in the fall to presents the results of the modeling work. Then the next steps will focus on developing a single proposed UGB for approval. During the summer the Residential and Employment TAC will each have limited duration assignments. The TAC's recommendations will be part of the total package.

The team will meet with the Employment TAC in October to get their input on growth strategies, vehicle miles traveled (VMT) analysis, and urbanization policies – how growth gets managed and organized. Jade inquired how to get more members to attend this and other meeting? He requested an email reminder for the next meeting in August, and also requested peer to peer communications to ensure better attendance.

Review and approve minutes

The TAC approved the minutes of the February 23, 2015 meeting as drafted, with one change on the bottom of page 3. The February 23, 2015 minutes were amended to read "These recommendations include 1(a) through 1(d)."

2. Proposed Amendments to Economic Policies

Joe framed and introduced this item for the TAC. One of the purposes for today's meeting is to get TAC input on the proposed changes to the Economic policies of the plan. The current policies are old, and include policies that have already been fulfilled. A new Urbanization chapter will include those new policies that lay out the work done on building a new UGB. With respect to the proposed Economic policies, he recommended not spending time today on word picking, and instead focusing on concepts and intent. We can provide the TAC with an opportunity for emailing comments on the drafts.

Brian Rankin added that we'll take comment today and can include those in a revised draft presented to TAC at their next meeting on August 25. The comments from staff are reflected in the draft present to the TAC today. He also noted a new comprehensive plan template is under development. It provides a more modern and user friendly style and format.

Mary Dorman of APG then began the presentation of the material, working from tables in the meeting packet starting at page 13. Her presentation noted a rationale for the amendments proposed in the tables. The team and TAC will revisit goals for this chapter (Chapter 6) of the plan in August. The following summarizes the points from this presentation, including the questions and comments from the TAC:

- Page 14 – new proposed policies
- Neighborhood Commercial – If we want more of this we need to make it easier. Don't group with small commercial developments – with convenience commercial
- New policies on pages 14, 15, themes from EOA. Page 16 – Short-term Supply Policies Pages 16-17 – Industrial Development Policies
- 50 acre Large Lot Industrial Sites. Proposed idea - five year window to see if a 50-acre site will or won't sell. This is a hot topic – not everyone wants this designation on their property. The "out" should be longer than five years. Would DLCD accept this? Regional Large Lot Program has 10 year program. Who would demonstrate need for land for other purposes? Look at zoning standards from large lot program. Consider including a ten year program. If we have 50 acres available? Convert to smaller parcels – do we then still have 50 acres available? How would this affect our supply of land for large lot industrial?
- Juniper Ridge (page 17) policies on this page – proposed changes. Question – what does EDCO think of Juniper Ridge? Their position is to protect as many large lots as possible. (See Policy #3)
- Policy 8 on page 18 – language – generally use the word "will" instead of "shall" – e.g. special setbacks
- Mixed Use (top of page 19) - Related to opportunity areas and efficiency measures. New measures for going vertical, reducing parking. Policy 19 – delete (was connected to previous policies)
- Commercial Development (page 20 of 49). Existing pattern of designations – commercial designations shown on comprehensive Plan map. Look at incorporating flexibility in

policy language – not just will not or shall Include more flexibility to ensure Bend has a regional center – what we’re striving to be. Strive for maximum flexibility – use discourage or encourage. Some barriers may be overcome to allow a certain type of development. Is the “why” missing to support some of these policies? Add a “because” to the policy – we will do something or not doing something to accomplish a certain objective. “Outcome based” approach – we’re doing something because we want to achieve a certain outcome.

- Policy 20 discussion – why included, what was intended to be accomplished by tying hands here? Is “will not” language intentional? Retaining maximum flexibility to roll with the ebb and flow of development. Protect plan as written or change to address change as it occurs.
- Take these as ideas for staff to work on as a Version 2 for the next meeting. Possibly address in Urbanization Chapter.
- New bullet – under Policy 21 to encourage mixed use.
- See Policy 26 – five acres is too big.
- Policy 27 – change to may; context – may be subject to special setback standards...
- New policy to look at parking needs and set requirements as lowest level possible.

At the end of the discussion, Joe asked the TAC if there were any other policies they wanted to discuss further or tune up. The TAC did not identify any additional policies. Joe wrapped up this item by informing the TAC the team would bring back a Version 2 of these policy changes to the next meeting. He asked the TAC to send any final comments by email by July 30, 2015.

3. Employment Land Efficiency Measures

Becky Hewitt of the APG team framed this issue for the TAC’s discussion. Like the Residential TAC, the Employment TAC was asked to review a set of code related efficiency measures – measures that would help support the changes in the opportunity areas. She referred the TAC to pages 30 to 33 of meeting packet. The measures that would have the greatest impact from a capacity perspective include the Central Area MMA Overlay Zone, Central Westside Plan, and changes to the parking requirements. The following summarizes the highlights of her presentation and the comments and questions raised by the TAC on several changes.

- ETA 1c (parking standard change) – starting point; opening volley – what’s proposed may not be big enough to push the needle.
- Vertical mixed use – let’s encourage, but not making big assumptions on yield.
- Code barriers to mixed use; parking
- Incentives
- Safe harbor – met certain criteria, approved. Clear and objective path – through a site plan approval process
- Doesn’t require a CUP; allow subject to site plan review; more clear and objective the standards are, the less appealable.
- Be clear on the policy direction and implement this in the development code.

- Shared parking – encourage and allow
- Tables – list of ideas –
- See list of map amendments on page 33
 - CB zone – East Downtown
 - Core pine (EMA 4) – designation other than ME? More of a mixed use zone? More flexible employment zone? Not a requirement for residential; make it more doable – something that encourages mixed use development – need to do more work on this. The ME zone not intended to allow residential – need a new mixed use zone for site like this. Take an “allow but not require” approach. Developers of housing and of commercial development have different goals and expectations; may not develop mixed use.
 - Compatibility of residential and commercial (vertical) with industrial uses. Take back to the TAC in August. Bring back to the full committee
 - Final comment – make sure square foot limitations make sense for the parcel – match the spatial requirements with the use and the zone.

4. Large Lot Industrial sites

Joe then directed the TAC to page 35 of the meeting packet. The packet included a memo on large lot industrial siting criteria and candidate sites. He referred the TAC to a series of questions on page 41. These questions are reproduced below for reference:

QUESTIONS FOR THE TAC

- 1. Are the criteria identified in the draft EOA (listed on pages 2-3) appropriate and adequate to evaluate potential sites for large lot industrial uses?*
- 2. Do you have anything to add to or refine in the project team's initial evaluation of the three sites identified in scenarios to date?*

The team and TAC discussion of the large lot siting criteria and potential sites included the following points, comments, and questions.

- One potential site is the eastern portion of Juniper Ridge; the second could be in one of three locations
- Right siting criteria – Reasonable; matrix on pages 40 and 41 – Cindy agrees with criteria.
- Criteria; USC said evaluate these three sites – one in addition to JR.
- Joe asked whether the TAC was okay with the criteria – do these get the job done?
- Any reactions to the properties considered using the criteria?
- Jade – use the map. One on Highway 20 – multiple ownerships; odd shape; need another property to correct shape.
- Carpenter Parcel – property boundary at gateway to Bend (Highway 97/Cooley re-route) first thing you'll see is a 50-acre industrial development. Carpenter makes sense as commercial; Anderson property more suited for industrial
- DSL – clean slate and easiest

- Golden Triangle (between Highway 20 and 97, and North of Empire and South of Cooley) – more suited for commercial
- Large lot industrial need – perspectives on sites – Jade – DSL 1st choice; Anderson 2nd; Off Highway 20 3rd Choice; Ron agrees with Jade.

Joe wrapped up the discussion of this topic at 4:06 and confirmed the TAC concurred that the criteria were appropriate and adequate and that their comments provided feedback for the team's initial evaluation. He informed the Employment TAC that the team will take these recommendations back to Boundary TAC

5. Short-Term Supply

Joe mentioned that this topic is a briefing item for the TAC, and turned the topic over to Bob Parker of ECO Northwest for the presentation. Bob framed the issue for the TAC as answering the question of how much of land in the inventory of employment lands is in the short-term supply. Language around short term supply is vague – See definition on page 46 of the meeting packet. The team is working with Murray, Smith, and Associates (MSA) to do a high level analysis – equivalent dwelling unit (EDU) analysis. This work will produce a map of sites; if the total area within these sites represent 25% or more of inventory – we've met the test for a short term land supply. Team needs to work with the state to develop a pathway for compliance. There were no further questions from the TAC after Bob's presentation.

6. Public Comments

No one provided public comments to the Employment TAC at this meeting.

7. Project News and Adjourn

Joe asked the TAC to save October 7 as the next meeting after August. August 25 is the next meeting date for the Employment TAC.

Joe adjourned the meeting at 4:20 pm

Action Items/Next Steps

Action	Assigned To
Review and provide feedback on economic policy amendments	Provide email comments back to City by July 30, 2015
Review and feedback to the team on priorities for the Employment Land Use Efficiency Measures	✓ Done
Review and approve of the use of the criteria for evaluating potential sites for large lot industrial uses	✓ Done

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City of Bend Comprehensive Plan



Chapter 5: **Economy**



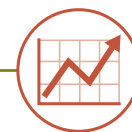


ECONOMY

ADOPTED AMENDMENTS

EFFECTIVE DATE	ORD #	CHANGES
7/14/2015	-	Created template.

DRAFT - August 2015

ECONOMY

BACKGROUND

Context

Bend's economy is shaped by its historic role as a trade, service, education and tourist center for Central Oregon. Bend is attractive to expanding companies primarily because of its quality of life, growing population dominated by in-migration, and access to a labor force that is young and well-educated. As Bend's economy grows, its role as a regional center will guide and stimulate economic growth throughout Central Oregon and beyond.

This regional economic role will influence the number and types of jobs that existing and future businesses create. Downtown Bend is the cultural, culinary, and specialty retail hub of the region. Bend hosts the region's largest medical facility, the largest news media organization, and numerous governmental agencies, from federal (U.S. Forest Service), to regional (Deschutes County seat), to local (City of Bend). Bend is also home to a majority of the region's largest and most influential employers.

Bend's role as a regional social and cultural center is also an important consideration as a driver of economic growth. Bend's high quality cultural and natural amenities are repeatedly cited by business owners and employees as reasons to relocate to, or remain in, Bend. They are also the driver of much of the tourism industry, which is a significant portion of the economy. Such amenities play an important role in continuing to attract tourist dollars, new households and future firms.

Bend's economic growth relies on the City's ability to create an environment for businesses of the future to thrive. The industries of the past are not the industries of the future. Governments, economic development groups, and developers must play complementary roles in retaining, expanding, and recruiting businesses that will serve Bend's 21st century economy.

Economic Trends

Economic development in Bend will continue to occur in the context of long-term national, state and regional trends. A number of those trends, and their implications for Bend's economy, are highlighted below.

- **Moderate growth rates and recovery from the national recession.** The "Great Recession" is widely considered to have ended in 2009; however, economies take time to recover and Bend's economy is no exception. After 2009, Bend experienced a period of minimal growth, followed by a period of dramatic growth. Bend can expect continued economic growth (measured by employment growth, unemployment rates and wage growth) over the coming years.



ECONOMY

DRAFT - August 2015

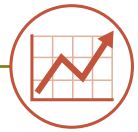
- **Growth of service-oriented industries.** As the goods-producing industries decline, service-oriented industries are on the rise. This trend will continue to impact the composition of Bend's economy, leading to an even higher percentage of jobs in construction, health care, government, retail trade, personal services and food services. Historically, Bend's economy was heavily dependent on manufacturing and resource extraction industries such as sawmills and pumice mines. Similar to state and national trends, Bend's economy has undergone fundamental changes over several decades as employment in traditional manufacturing sectors declined and growth in service-oriented sectors increased.
- **Availability of trained and skilled labor.** In Bend, population and in-migration growth rates are generally high and residents are more likely to have a Bachelor's degree (relative to state and national rates). This results in a pool of available labor in Bend, a trend that is forecast to continue over the coming years.

Vision for Economic Development in Bend

What does a healthy Bend economy look like?

- Bend attracts and retains targeted industries. The city targets employment sectors that are projected to grow, that are a good fit for the city, and that help Bend achieve its economic goals – including an emphasis on jobs that pay above-average wages. Targeted sectors include higher education, health care, recreation equipment, and specialty manufacturing.
- Bend's downtown is strong. The downtown continues to be an active focal point for residents and visitors with strong businesses, urban housing, civic services, arts and cultural opportunities, and gathering places. Parking downtown is adequate and strategically located.
- Bend maintains an adequate supply of serviceable industrial and commercial lands. There is enough suitable land within Bend's UGB to accommodate future jobs and businesses. The city monitors and maintains the land supply.
- Bend builds a diversified economy. Bend continues to move toward a more diversified economy that provides professional service, high-skill manufacturing, high-tech, and other living wage jobs.
- Bend provides opportunities for university education and research. A high-quality university in Bend provides education and training for the next generation of Central Oregonian workers whose ideas, talents and energy will create the foundation of Bend's future economy.

DRAFT - August 2015

ECONOMY

- **Aging population.** While Bend's population is younger than the state's as a whole, it is still aging and the percentage of people over age 60 is expected to increase. Businesses in Bend will need to replace workers as they retire, at a rate that will likely outpace job growth.
- **Importance of natural resource amenities.** Bend is widely acclaimed as one of the top "smaller" cities in the country. The city has a distinctive and appealing vibe, a growing national profile, a fun and relaxed way of life, and a beautiful natural setting for outdoor living and recreation. As a fast-growing city, Bend's attractiveness brings a central challenge: how to accommodate more people and jobs while preserving what the community values so Bend gets better, not just bigger.

Employment and Mixed Use Plan Districts

The role of the Comprehensive Plan is to provide and maintain an adequate supply of industrial, commercial, and mixed-use land to accommodate and promote quality economic growth and assure a diverse economy. The Plan also provides the policy framework to guide on-going land use decisions and public infrastructure investments relating to employment lands.

The Comprehensive Plan designates lands for a range of commercial, industrial and mixed-use districts that are shown on the Comprehensive Plan Map and described in Table 5-1 below. These employment districts provide for a variety of locations with different characteristics to support the continued growth and diversity of Bend's economy. With the exception of the Industrial General district, there is a significant amount of "mixing" of uses in different employment districts as allowed by the Bend Development Code. This trend is expected to continue,

Table 5-1. Employment and Mixed-Use Plan Districts

Employment District	Implementing Zone(s)	Characteristics
Commercial		
Central Business District	Central Business (CB)	Encompasses the historic downtown and central business district that has commercial and/or mixed-use development with a storefront character. Areas with this designation have higher employment densities and building mass, and require high-quality pedestrian, bicycle, and multi-modal transportation systems.
Convenience Commercial	Convenience Commercial (CC)	Adjacent to and connected to the residential districts it is intended to serve. Provides for frequent shopping and service needs of nearby residents. New convenience commercial districts shall develop as commercial centers rather than a commercial strip and be limited in size up to 5 acres. Areas with this designation have lower employment densities and building scales than the Central Business District, but require high-quality pedestrian, bicycle, and multi-modal transportation systems.



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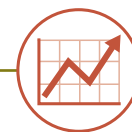
DRAFT - August 2015

Employment District	Implementing Zone(s)	Characteristics
Limited Commercial	Limited Commercial (CL)	Provides locations for a wide range of retail, service, and tourist commercial uses in the community along highways or in new centers. This designation is intended for small and large commercial uses which may be more auto-oriented, yet also provide multi-modal access.
General Commercial	General Commercial (CG)	Provides a broad mixing of commercial uses that have large site requirements, are oriented to the higher classification roadways and provide services to the entire City and surrounding area.
Industrial		
Industrial General	General Industrial (IG)	Provides for light and heavier industrial uses in an industrial environment with a minimum conflict between industrial uses and nonindustrial uses.
Industrial Light	Light Industrial (IL)	Provides for heavier and limited commercial and office uses and light industrial uses in areas with easy access to collector and arterial streets.
Surface Mining	Surface Mining (SM)	Provides for the extraction of pumice, ash, and rock to serve the construction needs of the urban area.
Mixed Use		
Mixed Employment	Mixed Employment (ME)	Provides broad mix of uses that offer a variety of employment opportunities in areas that already exhibit a pattern of mixed development, or in new areas which provide a transition between different employment and residential uses.
Mixed Use	Mixed Use Riverfront (MR)	Provides a mix of commercial, industrial, and residential uses to implement policies for redevelopment of mill site properties adjacent to the Deschutes River.
	Mixed Use (MU)	Placeholder for potential new Mixed Use zone.
Professional Office	Professional Office (PO)	Provides for professional offices in locations near arterial or collector street and a transition of uses between residential areas and other more intensive zones.

with plan policies and code provisions that allow and support a mix of employment and residential uses in commercial and mixed use districts, particularly in centers and along transit corridors.

Additional information about how Bend forecasts employment growth, identifies target industries, and evaluates its ability to accommodate future employment

DRAFT - August 2015

ECONOMY

can be found in the 2015 Economic Opportunities Analysis (EOA). The EOA is a supporting document of the Bend Comprehensive Plan. It estimates the amount of employment that can be accommodated on existing land in the UGB and the amount of residual employment that will require new land.

The need for employment growth correlates strongly to the need for land within Bend's urban growth boundary. The Urbanization Chapter of the Comprehensive Plan provides a discussion about how employment land needs are determined and how Bend will meet those needs over time.

GOALS

The intent of the Comprehensive Plan is to provide sufficient land to meet the city's goals of promoting quality economic growth and assuring a diverse economy. The following goal statements describe the economic hopes of the community and serve as the foundation for policy statements in this chapter. The citizens and elected officials of Bend wish to:

- promote a vital, diverse and sustainable economy, while enhancing the community's overall livability.
- ensure an adequate supply of appropriately zoned land for industrial, commercial, and mixed-use development opportunities.
- stimulate economic development to diversify and strengthen economic activity and provide primary and secondary job opportunities for local residents.
- strengthen Bend's position as a regional economic center.
- create more opportunities in Bend for jobs that pay a higher average wage.
- create commercial areas that support multimodal access.
- encourage more small neighborhood commercial developments and convenience commercial centers to reduce vehicle trips and trip lengths.

POLICIES

General Policies

- 5-1** Bend's economic lands (commercial, mixed employment, and industrial) serve Bend residents and the needs of a larger region.
- 5-2** Bend is a regional center for health care, art and culture, higher



ECONOMY

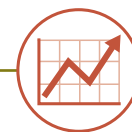
DRAFT - August 2015

education, retail, tourism, and employment. The economic land policies recognize Bend's role in the region, and the need to support uses that bolster the local and regional economy:

- The Medical District Overlay Zone provides economic lands for a variety of health care and related services to a population much larger than the City of Bend.
- Commercial and Mixed Use-designated lands support retail, tourism, and arts and culture uses to serve a local and regional role.
- Public Facility and Special Plan Districts support higher education to serve Bend residents and the needs of the region.
- Industrial and Mixed Employment-designated land located at Juniper Ridge has a local and regional role.

- 5-3** Investment in transportation, water, sewer, fiber, and other utility infrastructure should be prioritized to serve economic lands.
- 5-4** Infrastructure will be planned, designed, and constructed to support continued economic growth and orderly development.
- 5-5** The Bend Municipal Airport is one of the City's highest-value economic development assets. Bend will coordinate with Deschutes County to create policies and development regulations that ensure long-term employment growth at the airport.
- 5-6** Employment lands for Bend's target sectors will be provided and protected to promote expansion of existing businesses and attract new businesses.
- 5-7** Bend will diversify its economic base to withstand expansions and contractions in the business cycle.
- 5-8** The City will recognize the statements of the City's overall economic development objectives and desirable types of employment contained in the 2015 Economic Opportunities Analysis (EOA).
- 5-9** The City will prioritize providing an adequate number of suitable industrial sites while also providing a variety of commercial sites.
- 5-10** The City will seek opportunities to designate or allow additional sites for employment use and increase the use of existing employment land within the existing urban growth boundary prior to expanding the UGB.

DRAFT - August 2015

ECONOMY

- 5-11** The City will periodically review existing development and land use patterns on industrial and commercial lands. The City may consider modifying General Plan designations and zoning to better respond to opportunities for redevelopment and revitalization of employment lands in underutilized areas.

Short Term Supply Policies

- 5-12** The City establishes a goal to have at least 25% of the predicted economic land need identified in the adopted EOA qualify as competitive short-term land supply.
- 5-13** Beginning in 2019, and every two years thereafter, the City will:
- Update the economic lands Buildable Lands Inventory to identify developed and vacant economic lands by General Plan designation;
 - Estimate the acreage of vacant economic lands that qualify as competitive short-term supply;
 - If the acreage of vacant lands that qualify as competitive short-term supply is less than the 25% goal, then staff will deliver a report to the City Council that details:
 - Economic lands that have a relatively good opportunity to qualify as competitive short-term land supply to meet the 25% goal,
 - Obstacles preventing those lands from qualifying as competitive short-term supply, and
 - Efforts, plans, and potential funding mechanisms to prepare the lands to qualify as competitive short-term supply.

Industrial Development

- 5-14** Large-lot industrial sites (over 50 acres) are important to the overall inventory of available economic land. Any sites included in the UGB to meet this special site need will be protected with specific plan and/or code provisions.
- 5-15** The City supports the redevelopment of brownfield sites to make efficient use of existing economic lands and improve the quality of the City's land and water resources.
- 5-16** The Juniper Ridge District inside the Bend UGB will be used to help meet the long-term need for future industrial and employment development.



ECONOMY

DRAFT - August 2015

- 5-17** At least 30% of the total net buildable area of the 494-acre portion of Juniper Ridge District inside the UGB should be reserved for sites of ten acres and larger in size.
- 5-18** The city will work to preserve prime industrial lands for industrial purposes and protect them from incompatible commercial and residential uses.
- 5-19** The community will attempt to diversify its industrial base.
- 5-20** Existing industrial operations are encouraged to reduce waste discharge levels and improve air quality conditions.
- 5-21** Industrial developments along highways will be subject to special development standards relating to setbacks, landscaping, signs, and outside storage.
- 5-22** Wherever industrial uses abut residential uses or residential zoning, special development standards relating to setbacks, screening, signs, and building height will be established for the industrial uses.

Mixed Use Development

- 5-23** Mixed-use development may be regulated through one or more plan designations and zoning districts to encourage the development of a mix of employment, or a mix of employment and residential uses.
- 5-24** Mixed-use development will achieve the following purposes:
 - provide a variety of employment opportunities and housing types;
 - foster pedestrian and other non-motor vehicle access within and to the site;
 - ensure compatibility of mixed-use development with the surrounding area and minimize off-site impacts associated with the development;
 - ensure the site planning, access, parking areas and building designs are functionally coordinated and aesthetically pleasing; and
 - where applicable, improve the natural conditions along the Deschutes River, and encourage access to and enjoyment of the Deschutes River.
- 5-25** The City will encourage vertical mixed use development in

DRAFT - August 2015

ECONOMY

commercial and mixed use zones, especially along transit corridors and in the Central Area (generally described as east of the Bend Parkway, west of 4th Street, north of Franklin Avenue, and south of Revere Avenue).

Commercial Development

- 5-26** The existing pattern of commercial designations shown on the Comprehensive Plan Map along arterial and collector streets such as, but not limited to, Newport Avenue, Galveston Avenue, SW 14th Street, and 27th Street will not be extended further along these corridors.
- 5-27** New employment areas with a mix of employment designations such as commercial, industrial, and mixed use may be created along Highway 97, Highway 20, and O.B. Riley Road. Residential uses to support these employment uses should be encouraged.
- 5-28** The City will discourage continuous strips of primarily commercial designations along expressways, principal arterials, arterials or collector streets. Designations allowing a mix of employment and residential uses should be permitted when proposed as a cohesive development.
- 5-29** New commercially designated areas are encouraged to develop with mixed-use centers to include housing, open space, commercial development, and other employment designations.
- 5-30** The city shall strive to retain and enhance desirable existing commercial areas and encourage property owners' efforts to rehabilitate or redevelop older commercial areas.
- 5-31** Proposed Comprehensive Plan Map amendments for commercial centers shall meet the location and size standards in the Comprehensive Plan text in addition to Plan amendment and/or zone change criteria.
- 5-32** All commercial developments shall be subject to special development standards relating to setbacks, landscaping, physical buffers, screening, access, signs, building heights, parking areas, and design review.
- 5-33** The city will encourage the development of Neighborhood Commercial centers. Such centers should be small, and serve the frequent needs of the people within a one mile radius of the site.



ECONOMY

DRAFT - August 2015

- 5-34** Except in UGB expansion areas, new Convenience Commercial centers may be up to five acres in area and should be from one to one and one-half miles from another commercial use.
- 5-35** Commercial developments that abut residential zones or residential uses shall be subject to special setback and screening provisions.
- 5-36** The City shall continue the revitalization process in the Central Business District through rehabilitation or redevelopment of existing areas.
- 5-37** The City will provide a process through the development code to review and approve exceptions to height limits where it supports city goals and policies.
- 5-38** Commercial development adjacent to arterial streets and highways shall be subject to City of Bend and/or Oregon Department of Transportation access management standards (as applicable) and shall provide for multimodal access.
- 5-39** The City will limit the amount of ground-floor residential development in the commercial zones and mixed employment zones to preserve economic lands for economic uses.
- 5-40** The City will monitor parking needs for commercial uses and set requirements at the lowest level to meet the community needs.
- 5-41** The City will write parking requirements to encourage walkable commercial development while providing for adequate parking.

PROPOSED POLICY AMENDMENTS: EMPLOYMENT POLICIES

Proposed amendments are presented in an annotated table with language in underline/strikeout format; underlined text indicates new policy language and ~~strikeout~~ text indicates deleted language. The left column contains the amended policy language and the right column provides a brief explanation for the change. Changes to goals, policies or rationale since the July 21st TAC meeting are highlighted in yellow. Policy language that has not been amended is retained in plain text. Policies will need to be renumbered as appropriate for final adoption.

Chapter 6 The Economy and Lands for Economic Growth

Proposed Amendment	Rationale for Amendments
<p>GOALS</p> <p><i>"The intent of the Comprehensive Plan is to provide the community with sufficient land to meet the city's goals of promoting quality economic growth and assuring a diverse economy. The following goal statements describe the future economic hopes of the community and serve as the foundation for policy statements in this chapter. The citizens and elected officials of Bend wish to:</i></p> <ul style="list-style-type: none"> <i>• <u>have promote</u> a vital, diverse and sustainable economy, while enhancing the community's overall livability.</i> <i>• ensure an adequate supply of appropriately zoned land <u>in Bend to provide for</u> a full range of industrial, commercial, and professional <u>mixed-use</u> development opportunities.</i> <i>• stimulate economic development <u>that will to</u> diversify and strengthen economic activity and provide primary and secondary job opportunities for local residents.</i> <i>• strengthen Bend's position as a regional economic center.</i> <i>• improve the income levels of Bend residents. <u>create more opportunities in</u></i> 	<p>These existing goals have been amended to:</p> <ul style="list-style-type: none"> • Clarify and clean up language based on input from the TAC • Reflect UGB Remand requirements and findings, including new policy direction on opportunity sites and efficiency measures • Changed word from professional to mixed-use for better consistency with policy headings in this chapter. • The goal in the 5th bullet (beginning with "improve income levels") is revised to clarify the intent of the goal in response to comments from the TAC.

Proposed Amendment	Rationale for Amendments
<p><u>Bend for jobs that pay a higher average wage.</u></p> <ul style="list-style-type: none"> create commercial areas <u>in outlying sections of the community as neighborhood centers rather than extending the existing strips along major roads that support multimodal access.</u> encourage more small neighborhood commercial developments and convenience commercial centers to reduce vehicle trips and trip lengths. 	<ul style="list-style-type: none"> The goal in the 6th bullet (beginning with "create commercial areas") is revised to focus on multimodal access to commercial areas rather than prioritize centers over corridors.
<p>POLICIES</p> <p><u>General Policies</u></p> <ul style="list-style-type: none"> Bend's economic lands (commercial, mixed employment, and industrial) serve Bend's residents and the needs of a larger region. Bend is a regional center for health care, <u>entertainment art and culture, higher education, retail, tourism, and employment.</u> The economic land policies <u>will recognize Bend's role in the region, and the need to support these uses to that</u> bolster the local and regional economy: <ul style="list-style-type: none"> The Medical District Overlay Zone provides <u>for economic lands to provide for</u> a variety of health care and related services to a population much larger than <u>the population of</u> the City of Bend. <u>Commercial and Mixed Employment designated lands will support uses such as leisure and hospitality, entertainment, and restaurant and retail uses for local residents and to meet the needs of the regional tourism industry.</u> <u>Commercial lands for retail uses serve a local and regional role.</u> <u>Commercial and Mixed Use-designated lands support retail, tourism,</u> 	<p>New general policy language added to recognize and support the updated EOA and to comply with remand directives. The EOA focuses on Bend's regional role as a job importer. <u>The proposed policies have been clarified for readability based on input from the TAC.</u> Note: Policies will need to be renumbered when finalized.</p> <p><u>The terms "art and culture" and "tourism" are used in the 2nd bullet because they align with the way the city's Economic Development Department tracks the impact of these economic sectors.</u></p> <p><u>Proposed policies related to commercial and mixed use lands are revised and combined into</u></p>

Proposed Amendment	Rationale for Amendments
<p><u>and arts and culture uses to serve a local and regional role.</u></p> <ul style="list-style-type: none"> ○ <u>Public Facility and Special Planned Districts support higher education uses which to serve Bend's residents and the needs of the region.</u> ○ <u>Industrial and Mixed Employment-designated land located at Juniper Ridge has a local and regional role.</u> <ul style="list-style-type: none"> • <u>Investment in transportation, water, sewer, fiber, and other utility infrastructure should be prioritized to serve economic lands.</u> • <u>Infrastructure will be planned, designed, and constructed to support continued economic growth and orderly development.</u> • <u>The Bend Municipal Airport is one of the City's highest-value economic development assets. Bend will coordinate with Deschutes County to create policies and development regulations that ensure long-term employment growth at the airport.</u> • <u>Employment lands for Bend's target sectors will be provided and protected to promote expansion of existing businesses and attract new businesses.</u> • <u>Bend will diversify its economic base to withstand dramatic changes expansions and contractions in the business cycle.</u> • <u>The City will recognize the statements of the City's overall economic development objectives and desirable types of employment contained in the 2015 Economic Opportunities Analysis (EOA).</u> • <u>The City will place a priority on prioritize providing an adequate number of suitable industrial sites while also providing a variety of commercial sites.</u> • <u>The City will seek opportunities to designate or allow additional sites for</u> 	<p><u>one based on input from staff and the TAC.</u></p> <p>Adequate infrastructure for employment lands is needed to support development and the economy. The new policies provide this perspective.</p> <p>New language to recognize the Bend Municipal Airport. It is not in the UGB, so the policy encourages coordination.</p> <p>Reference to targeted sectors to support economic development in those sectors as reflected in the EOA.</p> <p>Overall goal of Economic Development to create more stability in the local economy.</p> <p><u>Using term "expansions and contractions" per input from city staff.</u></p> <p><u>Large industrial users are frequently sensitive</u></p>

Proposed Amendment	Rationale for Amendments
<p><u>employment use and increase the use of existing employment land within the existing urban growth boundary prior to expanding the UGB.</u></p> <ul style="list-style-type: none"> • <u>The City will periodically review existing development and use patterns on industrial and commercial lands. The City may consider modifying General Plan designations and/or Zoning Map designations to better respond to opportunities for redevelopment and revitalization of employment lands in underutilized areas.</u> <p><u>Short-term Supply Policies</u></p> <ul style="list-style-type: none"> • <u>The City establishes a goal to have at least 25% of the predicted economic land need identified in the adopted EOA qualify as competitive short-term land supply.</u> • <u>Beginning in 2019, and every two years thereafter, the City will:</u> <ul style="list-style-type: none"> ○ <u>Update the economic lands Buildable Lands Inventory to identify developed and vacant economic lands by General Plan designation;</u> ○ <u>Estimate the acreage of vacant economic lands that qualify as competitive short-term supply;</u> ○ <u>If the acreage of vacant lands that qualify as competitive short-term supply is less than the 25% goal, then staff will deliver a report to the City Council that details:</u> <ul style="list-style-type: none"> ▪ <u>Economic lands that have a relatively good opportunity to qualify as competitive short-term land supply to meet the 25% goal.</u> 	<p><u>to timing of land being available, making it especially important that the city maintain an adequate supply of industrial sites.</u></p> <p>The policies relating to short-term supply were initially proposed by the city as part of the 2008 UGB proposal.</p>

Proposed Amendment	Rationale for Amendments
<ul style="list-style-type: none"> ▪ <u>Obstacles that preventing those lands from qualifying as competitive short-term supply, and</u> ▪ <u>Efforts, plans, and potential funding mechanisms to prepare the lands to qualify as competitive short-term supply.</u> 	
<p><i>Industrial Development</i></p> <ul style="list-style-type: none"> • <u>Large-lot industrial sites (over 50 acres) are important to the overall inventory of available economic land. and a Any sites included in the UGB to meet this special site need will be protected with specific plan and/or code provisions.</u> • Every 5 years beginning in 2020, the City will evaluate the supply of large-lot industrial sites lots (over 50 acres). If none of these large lots was developed in the five-year period, the City may consider allowing up to 50% of the lots to be developed into smaller lots with suitable General Plan and zoning designations. • <u>The City supports the redevelopment of brownfield sites to make efficient use of existing economic lands and improve the quality of the City's land and water resources.</u> <p>1. In order to help meet the long-term need for future industrial development, at least 500 acres of the <u>The 494-acre portion of the city-owned property known as The</u> Juniper Ridge District which is <u>inside the Bend UGB will be used to help meet the long-term need for future industrial and employment</u></p>	<p>Policy language added to recognize and support the updated EOA and to comply with remand directives for special large-lot site need.</p> <p><u>Proposed policy regarding evaluation of large-lot sites (2nd bullet) dropped based on input from TAC and to better align with the regulations from the regional large lot industrial program, which do not specify a time frame for re-evaluation. Specific plan and/or code provisions will still need to be developed to implement the bullet above.</u></p> <p>Update Policy 1 to reflect Juniper Ridge is inside the UGB <u>and clarify the way the area in question is described.</u> This policy was originally drafted when it was added to the</p>

Proposed Amendment	Rationale for Amendments
<p>development. brought into the Urban Growth Boundary, annexed to the city, and designated on the Bend Urban Area General Plan Map as Industrial Light.</p> <p>2. Prior to permitting industrial development on the Juniper Ridge site, the City shall prepare and adopt a development plan for the area. Preparation of the plan shall include an assessment of public facilities improvements, including transportation facility improvements that may be needed to support industrial development.</p> <p>3. The development plan for the Juniper Ridge site shall allocate at At least 30% of the total net buildable area of the 494-acre portion of Juniper Ridge District inside the UGB should be reserved for sites of ten acres and larger in size. Through the use of deed restrictions or other appropriate instruments, the City shall ensure that these large lot sites will not be further subdivided prior to development.</p> <p>4. The City shall <u>will</u> work to preserve prime industrial lands for industrial purposes <u>and protect them from incompatible commercial and residential uses.</u></p> <p>5. The community shall <u>will</u> attempt to diversify its industrial base.</p> <p>6. Existing industrial operations are encouraged to <u>improve reduce</u> waste discharge levels and improve air quality conditions.</p> <p>7. Since it has been established that the quality of the air may be adversely affected by additional discharges, the development of new industrial sites will be closely monitored in cooperation with the DEQ to prevent substantial degradation of the air shed.</p> <p>8. <u>Industrial areas shall will be protected from incompatible commercial and</u></p>	<p>UGB. Revisions to this policy also address staff and TAC input and provide more flexibility for other employment uses besides industrial.</p> <p>Delete Policy 2: Much of this has been done already with the Juniper Ridge Special Planned District.</p> <p>Updated to clarify the way Juniper Ridge is described.</p> <p>The TAC raised a question about whether 30% is too low for sites over 10 acres in size, since the private community will have a hard time delivering large lots and if the public lands provide for large lots, there is very little if any competition with the private land owners. This has not been changed at this time because it would represent a substantial change in policy direction and requires additional discussion and input from City Council.</p> <p>Policy 7 may be unnecessary since DEQ regulates such facilities without city oversight.</p>

Proposed Amendment	Rationale for Amendments
<p>residential uses.</p> <p>9. Industrial developments along highways shall <u>will</u> be subject to special development standards relating to setbacks, landscaping, signs, and outside storage.</p> <p>10. Wherever industrial uses abut residential uses or residential zoning, special development standards relating to setbacks, screening, signs, and building height shall <u>will</u> be established <u>for the industrial uses.</u></p> <p>11. Community efforts should be directed toward improving the general appearance of industrial areas so that they make a positive contribution to the environment of the community.</p> <p>12. Development of the industrial lands at the West edge of the urban area between Skyliners Road and Shevlin Park Road shall be limited to the Industrial Park and Mixed Employment land use categories to minimize additional heavy truck traffic on Newport Avenue and Galveston Avenue.</p> <p>13. The 95-acre industrial area at the West edge of the urban area shall be designed and developed as part of an overall master plan for future industrial, commercial and residential development between Skyliners Road and Shevlin Park Road.</p>	<p>Policies 9 and 10 contain provisions that direct the development code. Standards exist currently to achieve these aims.</p> <p>Policy 11 deleted because it is too general and doesn't provide guidance for planning or land use decisions.</p> <p>Policy 12 deleted because the NW Crossing Master Plan already defines the uses in the ME and IP zone districts.</p> <p>Policy 13 deleted: This has been done and is reflected in the Northwest Crossing Special Planned District.</p>
<p>Mixed Use Development</p> <ul style="list-style-type: none"> <u>Mixed-use development may be regulated through one or more plan and zone designations and zoning districts to encourage the development of a mix of employment types, or a mix of employment types and residential uses.</u> <p>14. Mixed-use development shall <u>will</u> along the river in the old mill sites shall be subject to facility plan, master plan, and design review processes to achieve</p>	

Proposed Amendment	Rationale for Amendments
<p>the following purposes:</p> <ul style="list-style-type: none"> • provide a variety of employment opportunities and housing types; • foster pedestrian and other non-motor vehicle access within and to the site; • ensure compatibility of mixed-use development with the surrounding area and minimize off-site impacts associated with the development; • ensure the site planning, access, parking areas and building designs are functionally coordinated and aesthetically pleasing; and • <u>where applicable</u>, improve the natural conditions along the Deschutes River, and to encourage access to, and enjoyment of, the Deschutes River. <p>15. Designation of the Mixed Use Riverfront Plan category and corresponding MR zoning along the Deschutes River shall not be used to justify rezoning adjacent properties or neighborhoods to a mixed use or commercial zone.</p> <p>16. The property south of Cooley Road between Highway 20 West and the Mountain View Mall, as shown on the General Plan Map, shall be designated for mixed industrial and commercial development. Because this area is along the state highway and is an entrance to the community, it shall be subject to access controls and design review standards.</p> <p>17. The area west of Highway 97 North and north of Empire Avenue, as shown on the General Plan Map, shall have a mixed use designation for industrial and commercial development. Properties in this area shall take access from the frontage road or other internal roads that are shown on the transportation plan. Because of the high visibility of these properties, they shall be subject</p>	<p>Policy 15 deleted because this could prevent the implementation of Opportunity Sites (Core Pine and SW Century) and the initial findings of the Central Westside Plan.</p> <p>Policies 16, 17, 18 are currently reflected by the existing ME plan designations which are not proposed to change through the UGB Remand project. Design review standards are applied through the development review process. Access controls are established through ODOT.</p>

Proposed Amendment	Rationale for Amendments
<p>to design review standards.</p> <p>18. The area of existing industrial and commercial development in the middle of the urban area north of Franklin Avenue to Addison Avenue shall have a mixed use designation for industrial and commercial development.</p> <p>19. The City may designate other areas for mixed use development to encourage a variety of jobs and services close to residential areas.</p> <ul style="list-style-type: none"> <u>The City will encourage vertical mixed use development in commercial and mixed use zones, especially along transit corridors and in the Central Area (generally described as east of the Bend Parkway, west of 4th Street, north of Franklin Avenue, and south of Revere Avenue).</u> 	<p>Policy 19 part of same group of policies related to the ME plan designation (16, 17, 18) and is no longer needed.</p> <p>Policy added to support efficiency measures.</p>
<p><i>Commercial Development</i></p> <p>20. The existing pattern of commercial designations shown on the Plan Map along Highway 97 and Highway 20, and along arterial streets such as Newport Avenue, Galveston Avenue, SW 14th Street, 27th Street, and O.B. Riley Road shall not be extended farther along the street corridors.</p> <ul style="list-style-type: none"> <u>The existing pattern of commercial designations shown on the Comprehensive Plan Map along arterial and collector streets such as, but not limited to, Newport Avenue, Galveston Avenue, SW 14th Street, and 27th Street will not be extended further along these corridors.</u> <u>New employment areas with a mix of employment designations such as commercial, industrial, and mixed use may be created along Highway 97, Highway 20, and O.B. Riley Road. Residential uses to support these employment uses should be encouraged.</u> <p>21. <u>The City will discourage continuous strips of primarily commercial</u></p>	<p>Policy 20 separated into two new policies below.</p> <p>Note: Commercial Development policies will need to be examined in the context of the Central Westside Plan and UGB expansion scenarios.</p> <p>Policy 21 still discourages strip commercial development. However, it is revised and supplemented by the new policy below to</p>

Proposed Amendment	Rationale for Amendments
<p><u>designations along expressways, principal arterials, arterials or collector streets. Designations which allowing a mix of employment and residential uses should be allowed permitted when developed proposed as a cohesive development. No new strip commercial development or extensions of the commercial designations shall be permitted along arterial or collector streets.</u></p> <ul style="list-style-type: none"> • <u>New commercially designated areas are encouraged to develop with mixed-use centers which to include housing, open space, commercial development, and other employment designations.</u> <p>22. The City shall strive to retain and enhance desirable existing commercial areas and encourage property owners' efforts to rehabilitate or redevelop older commercial areas.</p> <p>23. <u>Zoning Proposed Comprehensive Plan Map amendments for new commercial centers other than those shown on the Comprehensive Plan Map shall will meet the location and size standards in the Comprehensive Plan text in addition to the Plan amendment and/or zone change criteria.</u></p> <p>24. All commercial developments shall be subject to special development standards relating to setbacks, landscaping, physical buffers, screening, access, signs, building heights, parking areas, and design review.</p> <p>25. The City shall <u>will</u> encourage the development of Neighborhood Commercial centers. Such centers shall <u>should</u> be small, and one-quarter to one-half acre developments which serve the frequent needs of the people within a one-fourth to one-half a one mile radius of the site. A zone change request shall will meet the standards in the Comprehensive Plan text.</p> <p>26. <u>Except in UGB expansion areas, new Convenience Commercial centers should may be up to five acres in area and should be from one to one and</u></p>	<p>reinforce support for the concept of mixed-use development in centers (and potentially along transit corridors).</p> <p>Policy 23 revised for clarity based on input from city staff. Size and location standards are intended to be incorporated into the urbanization chapter.</p> <p>Policy 25 edited to apply to walkers and bikers with larger service radii. The Code has standards (including size and location) for Neighborhood Commercial Centers. A rezone to neighborhood commercial is not required.</p> <p>Policy 26 revised to be less prescriptive.</p>

Proposed Amendment	Rationale for Amendments
<p>one-half miles from another commercial use.</p> <p>27. Commercial developments that abut residential zones or residential uses shall be subject to special setback and screening provisions.</p> <p>28. The City shall continue the revitalization process in the Central Business District through rehabilitation or redevelopment of existing areas.</p> <p>29. Proposed buildings that exceed the maximum allowable height limit in the zone shall be reviewed through the conditional use permit process, except in the Central Business (CB) Zone. Proposed buildings that exceed the maximum allowable building height limit in the CB Zone shall be reviewed through the variance process. The City will provide a process through the development code to review and approve exceptions to height limits where it supports city goals and policies.</p> <p>30. An area south of Murphy Road on the west side of Highway 97 has been marked for highway commercial with a flexible "sawtooth" boundary. This area shall be approved for development only when a system of frontage road and limited access control is created that will protect the capacity and safety of Highway 97 and South 3rd Street.</p> <p>31. It is the intent of the Plan to allow e Commercial development adjacent to arterial streets and highways shall be subject to City of Bend and/or Oregon Department of Transportation access management standards (as applicable) and shall provide for multimodal access. in areas designated for commercial development, provided that the developments access onto frontage roads or interior roads, and that access onto the highway or arterial will be limited. Points of access will be encouraged that provide for adequate and safe entrances and exits, and that favor right turns and merging over the use of traffic signals.</p>	<p>Policy 29 is outdated. All Districts except industrial have additional height reviewed via variance. It is also unnecessarily specific – the details are better handled in the development code.</p> <p>Policy 30 deleted - no longer necessary because refinement plan for Murphy Road has been adopted.</p> <p>Policy 31 revised based on input from TAC and city staff. It is unnecessarily specific – the details are better handled in the development code or in Chapter 7 (Transportation).</p>

Proposed Amendment	Rationale for Amendments
<p>32. The 25 acre commercial area at the West edge of the urban area shall be designed and developed as part of an overall master plan for future commercial, industrial, and residential development between Skyliners Road and Shevlin Park Road.</p> <ul style="list-style-type: none"> <u>The City will limit the amount of ground-floor residential development in the commercial zones and mixed employment zones in order to preserve economic lands for economic uses.</u> <u>The City will monitor parking needs for commercial uses and set requirements at the lowest level that to meets the community's needs.</u> <u>The City will ensure that write parking requirements are written to encourage walkable commercial development while providing for adequate parking.</u> 	<p>Policy 32 no longer relevant due to Northwest Crossing approval and adopted overlay zone.</p> <p>New bulleted policies to address economic land supply, efficiency measures, and encourage walkable mixed use areas.</p>



Bend Economic Opportunities Analysis

Bend's Growth to 2028

Draft Document: August 19, 2015



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TABLE OF CONTENTS

Table of Contents.....	3
Executive Summary.....	i
Chapter 1. Introduction.....	2
Role of the EOA	2
Framework for an Economic Opportunities Analysis.....	4
Prior Economic Opportunities Analyses and Remand Tasks	5
Updates to the 2008 Economic Opportunities Analysis.....	6
Chapter 2. Economic development vision and supporting policies.....	7
Vision for economic development.....	7
Related Plans and Documents	10
Chapter 3. Factors Affecting Future Economic Growth in Bend	14
National, State, Regional, and Local Trends.....	14
Chapter 4. Employment Growth and Target Industries in Bend	21
Employment Forecast.....	21
Employment Forecast by Site Size	24
Target Industries	26
Site Needs for Target Industries	28
Chapter 5. Employment Land Sufficiency and Site Needs.....	47
Buildable Employment Land Inventory and Land Capacity	47
Capacity of Employment Land in the Bend UGB to Accommodate New Employment	50
Conclusions.....	54
Appendix A. National, State, Regional, County, and Local Trends Affecting Future Economic Growth	55
State, Regional, and Local Trends.....	55
Bend's Competitive Advantages	78
Appendix B. Employment Projections.....	84
Methods	84
Employment Projections.....	85
Appendix C. Remand Directives	95

EXECUTIVE SUMMARY

[An executive summary will be provided with the final version of the EOA.]

Draft

CHAPTER 1. INTRODUCTION

This report presents an update of the 2008 Economic Opportunities Analysis (EOA) for the City of Bend 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.”

Role of the EOA

The EOA is a supporting document of the Bend General Plan. The EOA documents demographic trends, the projection of employment growth, identification of target industries, and evaluation of site characteristics needed to accommodate target industries. Based on this analysis, the EOA estimates the amount of employment that can be accommodated on existing land in the Urban Growth Boundary (UGB) and the amount of residual employment that will require new land. The EOA compares the employment forecast with the capacity of Bend's land base to accommodate new employment from the Buildable Lands Inventory (BLI). The BLI is one of four inter-related documents that are central in the City's planning related to the UGB. The Urbanization report identifies the amount of employment land that cannot be accommodated within the UGB, once land use efficiency measures are applied to the analysis and adopted. The major components of each document are summarized in Figure 1.

Figure 1. Four Key Planning document for Bend's UGB Planning

Document	Buildable Land Inventory (BLI)	Housing Needs Analysis (HNA)	Economic Opportunities Analysis (EOA)	Urbanization Report (UR)
Purpose	Identify buildable residential & employment land by category	Address the requirements for planning for needed housing, including analysis of national, state, and local demographic and economic trends, and recommendations for a mix and density of needed housing types	Document historical housing and demographic trends, the projection of employment growth, identification of target industries, and evaluation of site characteristics needed to accommodate target industries	Analysis of where and how Bend's future growth will be accommodated, both inside the existing Urban Growth Boundary (UGB) and in expansion areas
Primary Legal Standards¹	ORS 197.296 OAR 660, Divisions 8 and 9	Statewide Planning Goal 10: Housing ORS 197.296 and 197.303 OAR 660, Division 8	Statewide Planning Goal 9: Economic Development OAR 660, Division 9	Statewide Planning Goal 14: Urbanization ORS 197.298 OAR 660, Division 24
Key Subject Matter	Development status categories and definitions Methodology for assigning categories and conducting inventory Inventory results: acres by plan designation and development status	Projection of population and total housing growth Housing market and development trends Demographic characteristics and trends Analysis of affordability Estimate of needed housing (mix and density) Comparison of housing capacity to need	Existing policy and vision National, state, local trends Employment projections Target industries Site needs and characteristics Special site needs Redevelopment analysis Comparison of employment capacity to need and characteristics	Methodology for capacity estimates Pre-policy ("base case") capacity estimate for current UGB Efficiency measures (EMs) proposed Current UGB capacity with EMs UGB alternatives evaluation methodology and results Proposed UGB expansion and summary of Goal 14 evaluation results

¹ OAR = Oregon Administrative Rules; ORS = Oregon Revised Statutes

Framework for an Economic Opportunities Analysis

This EOA is built around the requirements contained in Oregon's Statewide Planning Goals 9 and 14 and Oregon Administrative Rules (OAR), Division 9.

Goal 9: Economic Development, aspires to “provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon’s citizens.” It requires city comprehensive plans to “contribute to a stable and healthy economy” by analyzing economic “patterns, strengths, and weaknesses”, contain economic development policies, and provide at least an adequate supply of economic lands.

Goal 14: Urbanization, seeks to “provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.” Goal 14 directs cities to establish urban growth boundaries which contain urban levels of development and prevent urbanization of nearby rural lands. Goal 14 requires cities to establish UGBs based on residential land needs to serve a 20-year population as well as provide opportunities for employment, parks, schools, public facilities, and necessary public infrastructure. Prior to expanding a UGB a city must demonstrate that “needs cannot reasonably be accommodated on land already inside the urban growth boundary.”

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 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 with a population over 2,500 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.

This report is an Economic Opportunities Analysis, the first key element required by Goal 9. This EOA includes an analysis of national, state, regional, and county trends as well as an employment forecast that leads to identification of needed development sites. It also includes an inventory of buildable commercial and industrial land in the Bend UGB. It partially addresses the requirements of Goal 14 to determine if future needs can be accommodated on land already inside the UGB. Further evaluation of the capacity of lands within the UGB to accommodate employment and the impact of “land use efficiency” measures is presented in the *Bend Urbanization Report*.

This report reflects a “pre-policy” evaluation of employment land need in Bend for the 2008-2028 period. In this context, pre-policy means that it reflects base conditions and assumptions and does not include evaluations of land use efficiency measures as required by OAR 660-024-0050 and the Remand. It provides an evidentiary basis for the analysis contained in this report. Chapter 6 identifies other analysis necessary to comply with OAR 660-024 and the Remand. This additional analysis will be presented in a companion “Urbanization Report” that addresses Goal 14 requirements and other issues in the Remand that are not addressed in this report.

Prior Economic Opportunities Analyses and Remand Tasks

This EOA examines Bend’s recent employment and land development trends and projects future employment and employment land needs. This is an update of the 2008 EOA that (1) addresses issues identified in the Remand, (2) addresses economic activity that occurred between 2008 and 2013, and (3) reflects input received from the Bend Employment Technical Advisory Committee (Employment TAC) and the Urban Growth Boundary Steering Committee (USC).

The EOA update is a technical document compliant with Goal 9 and OAR 660-009 that supports the 2016 Urban Growth Boundary (UGB) expansion. This EOA uses the 2008 EOA adopted by the City of Bend as a foundation because the key findings of the 2008 EOA were found to meet Goal 9 by the Land Conservation and Development Commission (LCDC). The information and conclusions of the updated EOA are the basis for determination of employment land sufficiency for the 2008-2028 period. This EOA collects the most recent work on economic land need for the City of Bend, addresses issues identified in the 2010 Remand Order, and incorporates direction from the Employment Technical Advisory Committee (TAC) and the Bend Urban

Growth Boundary Steering Committee (USC). The issues identified as requiring changes in the 2008 EOA in the January 2010 Director's Report and Order are described in Appendix C.

An important consideration for the EOA update is that it must address issues identified in the Remand and partial acknowledgement of a decision made in December 2008. A key issue is the planning horizon for the project. The EOA uses the 2008-2028 timeframe, but updates key elements of the EOA to reflect changes that have occurred since 2008. The updated EOA relies on the 2008-2028 employment forecast and the 2008 buildable land inventory that was acknowledged by the Land Conservation and Development Commission's (LCDC) remand order. The EOA updates the 2008 buildable land inventory to 2014 to reflect development that occurred in Bend between 2008 and 2014. The EOA also analyzes changes in employment between 2008 and 2013 to deduct employment that already occurred from the 2008-2028 forecast.

Updates to the 2008 Economic Opportunities Analysis

This EOA incorporates key information from the 2008 adopted EOA, such as the forecast of new employment for the 2008-2028 period. This analysis addresses the Remand issues identified for the 2008 EOA, as described in Appendix C.

This EOA uses two periods of time for historical analysis and for the forecast of employment need:

- **Planning Period.** Goal 9 and OAR 660-009 requires the City to ensure a 20-year supply of buildable land for economic development and employment growth. For this EOA, the 20-year period begins in 2008 and ends in 2028.
- **Extended Trend Period.** The EOA was originally developed with data available up to 2008. This EOA extends the trend data to include data available between 2008 and 2013. This additional data provides information about changes in Bend's economy since 2008.

CHAPTER 2. ECONOMIC DEVELOPMENT VISION AND SUPPORTING POLICIES

Sound economic development planning originates from a clear vision and is implemented through goals, strategies and actions. Goal 9 focuses on one element of an economic development strategy: land use. Specifically, one objective of Goal 9 is for cities to “provide for at least an adequate supply of sites of suitable sizes, types, locations, and service levels for a variety of industrial and commercial uses consistent with plan policies.”

The EOA is not a statement of Bend’s economic development vision or policies, it builds from and informs the vision and policy direction of the City. This chapter summarizes Bend’s economic development vision and key policies related to economic development. It provides a comprehensive summary of community visioning efforts, including visioning efforts lead by the City of Bend and other efforts that were not lead by the City of Bend.

Vision for economic development

An EOA is a technical analysis that projects trends, but it is also an aspirational economic development tool that identifies the land needs to achieve the type of employment that the community desires. Thus, it is important to have a vision for what type of city Bend wants to be in the future. Bend has completed a number of visioning and planning exercises that clarify how it wants to grow. The following sections summarize the key points from these efforts and identify how they serve as guideposts in this EOA.

Over the past decade, Bend has continued to fulfill its promise as a forward-looking community by developing several broad policies and visions that will guide growth in the city and region, including the General Plan and Bend 2030. These are complemented by planning documents such as the Juniper Ridge Concept Plan, Economic Sector Targeting report, and others.

Bend 2030

The report “Bend 2030: A Visioning Project by and for the People of Bend Oregon,” articulates a vision for the future of the community.² These goals do not represent formal policies or goals that have been adopted by the City of Bend; rather, they express the community’s values based on a visioning process. Bend 2030 is being implemented by a nonprofit organization (called Bend 2030). This visioning was conducted in 2006. The vision identifies six primary goals:

- A Well-Planned City
- A Vibrant Economy
- A Quality Environment
- Safe, Healthy People
- A Strong Community
- A Creative, Learning Culture

² See www.bend2030.org

Within those six broad goals, Bend 2030 identifies more specific objectives. The following objectives identified in Bend 2030 are most relevant to the EOA:

- *Targeted Industries.* The city has identified a number of “target industries” in which it can excel and provide job opportunities over the long term.
- *Living Wage Jobs.* If Bend is unable to sufficiently increase employment in its targeted industries, too many jobs may be in the retail services and other relatively low-paying sectors.
- *Available Industrial and Commercial Lands.* This objective is perfectly aligned to the purpose of this report – to ensure that there is enough land to accommodate future jobs and businesses, and the buildings and land they will occupy.
- *Diversified Economy.* This objective overlaps considerably with “targeted industries.” Bend must continue to diversify from a wood products and tourism-oriented economy to a more diversified one that provides professional service, high-skill manufacturing, high-tech, and other living wage jobs.
- *Sustainable Industries.* Bend seeks to attract and retain businesses that maintain the high-quality natural environment.
- *Establish a university and research center.* There is broad support in the community for a high-quality university in Bend. Such an institution could have a dramatic positive impact on the workforce by training the next generation of Central Oregonians and visiting students to participate in a diversified economy.

Bend's General Economic Objectives

State law requires a city to adopt policies stating Bend's community economic development objectives (OAR 660-009-0020). While this EOA does not, nor is it intended to, fully comply with the requirements of OAR 660-009-0020,³ this EOA partially addresses this objective by bringing together concepts in Chapter 6 of the Bend General Plan (Economic Development), statements in recent economic visioning projects, Bend's economic advantages, and Bend's recent economic growth trends.

The following expression of Bend's economic development objectives is from the “Bend 2030, A Visioning Project by and for the People of Bend, Oregon”. This narrative is considered in the EOA, and is implemented through policies of the General Plan, and represents the City's general economic development objectives.

“Bend has a diversified economy that provides healthy work environments and sufficient living wage jobs to support our local population. Our economic vision has attracted people, resources, and investment focused on diverse industries that offer economic opportunity, longevity in the global market, and a clean and sustainable environment. Bend is a leader in ‘green’ building materials and technology, and sustainable energy. An established university and research center in Bend promote creativity, innovation, and entrepreneurship that empower and advance a skilled and competitive local

³ The policies adopted as part of the revised Economic Element of the Bend General Plan will fully comply with the requirements of OAR 660-009-0020.

workforce. Our access to the global marketplace is efficient and viable due to enhancements of local and regional communications and transportation systems including air, rail, highways, and alternative modes of travel.”

The city is required to identify particular types of desirable employment to develop during the planning period as part of the general economic objective. The following list reflects desirable employment uses identified in the “2030 Vision” as well as employment types Bend is well positioned to continue to grow into the future:

1. Employment in downtown Bend – opportunities for businesses, shops, restaurants, and housing should be expanded while preserving downtown’s unique character.
2. Employment in targeted industries – the “2030 Vision” suggests expanding employment opportunities in industries identified as “target industries” by the “2005 Economic Sector Targeting” exercise. Target industries include:
 - a. Leisure and hospitality uses
 - b. Higher education
 - c. Health care
 - d. Secondary wood products
 - e. Aviation-aerospace
 - f. Renewable energy resources
 - g. Recreation equipment
 - h. Specialty manufacturing
 - i. Information technologies
3. Employment in tourism – the “2030 Vision” supports building year-round tourism through developing a diverse mix of arts, entertainment, sports, and natural and cultural attractions. Projects to improve employment in the tourism industry include constructing a new performing arts center and museum of fine arts.
4. Employment in higher education – higher education enables and provides diverse employment options. The “2030 Vision” supports the Central Oregon Community college and a new University. The University should ideally provide an attractive learning environment, include a research emphasis, offer graduate programs and scholarship opportunities, and serve existing residents while attracting a diverse student body.
5. Small neighborhood centers – small service-oriented employment centers should be located so the city’s residents can walk or bike to employment opportunities, public gathering places, parks, recreational facilities, and other services.
6. Mixed-use development – these uses should be located along key corridors and in designated centers, or as buffering uses.
7. Opportunity for all economic levels – the “2030 Vision” promotes economic and housing opportunities for all income levels so that all groups are able to live here.
8. In addition to economic uses stated in the “2030 Vision” and “2005 Economic Sector Targeting” work, the following economic uses are desirable and suitable to expand during the planning period based on the findings of the EOA:
 - a. Regional employment centers for public agencies, health care providers, and retail uses

- b. Employment in professional office and service uses
- c. Employment in leisure and hospitality uses

Related Plans and Documents

Several plans and studies inform the EOA and the City's economic development vision. This section summarizes key elements of those plans and studies.

General Plan

The Bend Area General Plan (also known as a Comprehensive or Comp Plan), as with the Bend 2030 Vision, is intended to guide the city's long-term land use and transportation planning. The narrative aspect of the General Plan – particularly Chapter 6, "The Economy and Lands for Economic Growth" - offers a perspective similar to both Bend 2030 and the Employment Land Study (ELS) on Bend's employment future.

The General Plan underwent a major update in 1998 and has since been revised periodically. The plan plays a major role in shaping Bend's "employment geography" by guiding the size and shape of the city's various employment districts, including commercial, industrial, and mixed-employment zones. The use and disposition of each zone is further detailed in the city's Development Code, which implements the General Plan.

Juniper Ridge Concept Plan

The Juniper Ridge Concept Plan represents an initial attempt by Bend to shape its vision for the 1,500-acre publicly owned parcel on the city's north border. Since the inception of the Juniper Ridge planning process, it has been clear that because of its size, location, and city ownership, the site had the potential to play a major role in Bend's economic future, by providing the area for future businesses to locate. The specifics contained in the Concept Plan will almost certainly undergo major and minor changes over its long implementation period, but the city hopes to stay true to the plan's underlying visions and aspirations. **The Concept Plan has not been officially adopted by the City, but provides a vision for the site. Because it has not been adopted, the EOA does not rely on any of the information for the land need and technical elements required by OAR 660-009-0015.**

Based on direction from the Bend City Council, the Plan proposes that the site's development be driven by several primary uses:

- Light-Industrial Research Park
- Educational Research and Technology Campus
- Mixed-use areas
- Residential areas

Primarily due to the first two uses listed above, Juniper Ridge is seen as a key part of Bend's economic development strategy, as it will provide land on which the city's targeted industries can grow.

Approximately one third of Juniper Ridge's total area – 494 acres called Juniper Ridge Phase 1 – is currently within Bend's UGB and designated light industrial in the General Plan. About 306 acres of this area is within the Juniper Ridge Employment Sub-District, which is intended to promote economical, sustainable, and reasonable growth by allowing a mix of light industrial uses, offices for research and development, corporate and regional headquarters and accessory uses to serve the needs of these primary uses. The types and placement of the employment uses allowed in the Employment Sub-District are generally consistent with the conceptual master plan. At this time there are two businesses located in Juniper Ridge: Les Schwab corporate office, and Suterra.

About 194 additional acres are within the UGB and long-range plans for this area have not yet been developed. The General Plan designation for this area is Light Industrial.

Infrastructure planning for the portion of Juniper Ridge within the UGB is underway.⁴ The City has plans infrastructure upgrades needed within the Employment Sub-District, for transportation, water, and sewer. Funding for some infrastructure improvements, especially the transportation improvements, has not yet been identified. The remaining 194 acres of land at Juniper Ridge requires more planning to determine an appropriate zone and develop infrastructure plans and identify funding sources for needed infrastructure.

The remaining approximately 1,000 acres is referred to in this document as Juniper Ridge Phase 2, despite the fact that the project may have many more phases before completion. The areas outside the UGB are not included in the buildable land inventory and are not considered suitable employment lands for the purpose of this EOA.

Deschutes County Coordinated Population Forecast

The Deschutes County Coordinated Population Forecast was finalized in 2004 by county and city staff, project consultants, and a broad range of stakeholders.⁵ The population projections identified in their findings are used in this report as a factor considered in the employment projections, the Residential Lands Study, and the other studies undertaken by Bend and Deschutes County referenced below.

Economic Sector Targeting

In 2005, city staff and a broad group of economic stakeholders took part in an Economic Sector Targeting process, which included several daylong workshops and ultimately a report. Through this analysis, the city identified nine different industry sectors in which it should concentrate its efforts to retain existing businesses and attract new ones. The sectors were chosen due to a number of different criteria, including an existing industry cluster already in Bend; significant growth opportunity; living wage job potential; and likelihood for sustainable business practices. The group developed a set of nine targeted industries, including industries such as higher

⁴ For more detail about Juniper Ridge planning and infrastructure, see the memorandum "Juniper Ridge: background, location, zoning, infrastructure, and related issues" dated April 24, 2015.

⁵ <http://www.deschutes.org/cd/page/coordinated-population-forecast-2025>

education, health care, renewable energy resources, and aviation-aerospace. The full list of target industries is discussed in more detail in Chapter 4.

Due to the city's clear policy direction on targeted industries, and anticipated ongoing effort to attract them, the EOA's projections reflect greater employment increases within these sectors.

The focus on targeted industries also has implications for the type of land and other public infrastructure that the city will need to supply in the future. For example, information technology firms will be more likely to locate in commercial, rather than industrial land.

*Visit Bend Business Plan*⁶

Visit Bend, a Bend-area tourism advocate, outlined a series of strategic objectives to support the tourism industry in their budget for the 2015 fiscal year. Among the most important issues to address, Visit Bend identified the seasonal variation in tourism and the decline in business that it causes during the off-season: "Despite the sustained growth in Bend's tourism industry, our destination continues to face an unhealthy drop in business during the shoulder seasons and winter months."

In order to reduce the industry's seasonality, and work to address other goals in support of Bend tourism, the report listed metrics to track how well the industry has improved, and identified multiple strategic actions for the upcoming year. For example, metrics included the rate of citywide lodging occupancy, the number of visitor guide requests, and volume of transient room tax collections, among others. The report also identified strategic actions, such as increased investment in Bend's brand, improved connections with news media, and more citywide events and conventions.

Supporting Studies

Other planning efforts inform the EOA, including planning for housing growth and infrastructure systems, such as:

- *Bend Housing Needs Analysis – 2015*. This report forecasts Bend's housing growth through 2028, describing likely changes in the types of housing needed in Bend.
- *Water System Master Plan - 2011 Update (Optimization Study)*. This report covers level of service goals, present and future deficiencies, assessment of fire flow capacity in the system and the results of a comprehensive analysis using an optimized decision support process to evaluate alternatives that address system deficiencies now and in the future. The results of this study are a recommended set of system improvements to meet the needs of the system for at least 20 years.
- *Water Management and Conservation Plan – 2011*. The purpose of the Plan is to guide the development, financing, and implementation of water management and conservation programs and policies to ensure sustainable use of publicly owned water resources while the City plans for its future water needs.
- *Collection System Master Plan – 2014*. The Wastewater Collection System Master Plan (CSMP) is a 20-year critical planning document that establishes a clear vision for our

⁶ <http://issuu.com/visitbendor/docs/visit-bend-business-plan-2015-webre>

community's sewer collection system, a vital framework beneath our City. The CSMP identifies both short term and long-term system improvements that are needed to address existing condition, existing capacity, and future capacity issues.

- *Water Reclamation Facility Plan.* This plan outlines several cost-effective solutions for increasing the plant's ability to meet projected wastewater flows through the year 2030.
- *Stormwater Master Plan.* In 2014 the Bend approved the City's first formal Stormwater Master Plan. The Stormwater Master Plan serves as the oversight plan for addressing stormwater quantity and quality issues. In addition to providing an overall strategy for addressing stormwater concerns, it provides a delineation of drainage areas and runoff quantities throughout Bend, and programmatic goals for addressing quantity and quality concerns.
- *Bend Urban Area Transportation Plan.* This plan guides development of Bend's transportation system to meet the forecast needs of the Bend community to 2020. The plan provides a policy and plan framework to allow Bend to design a balanced transportation system over time.

CHAPTER 3. FACTORS AFFECTING FUTURE ECONOMIC GROWTH IN BEND

According to OAR 660-0009, “the intent of the Land Conservation and Development Commission is to provide an adequate land supply for economic development and employment growth in Oregon.” The intent of OAR 660-009 is to link planning for an adequate land supply to infrastructure planning, community involvement and coordination among local governments and the state. To meet those objectives, OAR 660-009-0015(1) requires cities to consider national, state, regional, county and local trends; this chapter summarizes economic trends and factors that will affect future economic growth in Bend.

The 2008 EOA included an extensive evaluation of factors affecting future economic growth in Bend, including national, state and local trends. That analysis was based on pre-2008 data. Clearly, changes have occurred since 2008, in part due to the Great Recession, which had significant negative impacts on Bend’s economy.

Bend’s economy is recovering from the Great Recession. As the regional employment center of Central Oregon, growth in Bend drives regional employment and economic growth. Bend’s growth is supported by availability of labor and resources available in Central Oregon, especially in Deschutes County. More than 60% of employment in Deschutes County is located in Bend.⁷ About 48% of population in Deschutes County is located within Bend.⁸ Half of employees at businesses located in Bend live outside of the city, in places like unincorporated Deschutes County, Redmond, unincorporated Crook County, or Prineville.⁹ Continued growth in Bend will drive growth in Deschutes County and in Central Oregon.

This chapter summarizes key findings from: (1) Appendix A: National, State, County, and Local Economic Trends, and (2) Appendix B: Factors Affecting Future Economic Growth in Bend.

National, State, Regional, and Local Trends

The U.S. economy continues to recover from the deep recession brought about by instability of financial and housing markets and impacted Oregon in a variety of ways, most notably with the labor market showing high unemployment and the housing market’s oversupply of homes.

Economic development in Bend over the next twenty years will occur in the context of long-run national trends. Appendix A provides more detailed information on trends affecting future economic growth and is intended to support the analysis required by OAR 660-009-0015(1). The most important of these trends include:

⁷ Oregon Employment Department, Quarterly Census of Employment and Wages, 2013.

⁸ Portland State University, Population Research Center, 2013.

⁹ U.S. Census, OnTheMap, 2011.

Table 1. Implications of national, state, and regional economic and demographic trends on economic growth in Bend

National, State, and Regional Economic Trends	Implications for economic growth in Bend
<p>Moderate growth rates and recovery from the national recession</p> <p>According to the National Bureau of Economic Research, "The Great Recession" ended in 2009, but sluggish growth continued to affect businesses and workers alike for several years after. ¹⁰</p> <p>Unemployment at the national level has gradually declined since the height of the recession.¹¹ Unemployment rates in Oregon and Deschutes County are typically higher than those of the nation as a whole. ¹²</p> <p>The federal government's economic forecast projects a moderate pace of economic growth, with gradual increases in employment and real GDP (roughly 3% through the end of 2016). Economic growth in Oregon typically lags behind national growth. ¹³</p>	<p>Economic growth in Bend – in measures such as employment growth, unemployment rates, and wage growth - will be markedly improved from previous years (i.e. since 2007).</p> <p>The rate of employment growth in Bend will depend, in part, on the rate of employment growth in Oregon and the nation. Bend's primary competitive advantages, location, access to regional transportation infrastructure, quality of life, and access to educated and skilled labor from within the region make Bend attractive to companies who want to grow, expand, or locate in the Central Oregon.</p>

¹⁰ "US Business Cycle Expansions and Contractions," The National Bureau of Economic Research, <http://www.nber.org/cycles.html>.

¹¹ Nelson D. Schwartz, "US Economy Adds 223,000 Jobs; Unemployment at 5.3%," *The New York Times*, July 2, 2015, http://www.nytimes.com/2015/07/03/business/economy/jobs-report-hiring-unemployment-june.html?_r=0.

¹² "Local Area Unemployment Statistics," State of Oregon Employment Department, <https://www.qualityinfo.org/ed-uesti/?at=1&t1=0000000000,4101000000~unemprate~y~2000~2015>.

¹³ "The Budget and Economic Outlook: 2015 to 2025," January 2015, Congressional Budget Office, <https://www.cbo.gov/sites/default/files/cbofiles/attachments/49892-Outlook2015.pdf>.

National, State, and Regional Economic Trends	Implications for economic growth in Bend
<p>Growth of service-oriented sectors</p> <p>Increased worker productivity and the international outsourcing of routine tasks led to declines in employment in the major goods-producing industries. Projections from the Bureau of Labor Statistics indicate that U.S. employment growth will continue to be strongest in healthcare and social assistance, professional and business services, and other service industries. Construction employment will grow with the economy, but manufacturing employment will decline. These trends are also expected to affect the composition of Oregon's economy, though Oregon's manufacturing employment may grow in the short-run.¹⁴</p>	<p>The changes in employment in Deschutes County have followed similar trends as changes in national and state employment. For example, since 2001, employment in Deschutes County Health Care and Social Assistance increased its share of total employment by 4.4%, while Manufacturing's share decreased by -3.8% as a result in decreases in wood products manufacturing.</p> <p>The Oregon Employment Department forecasts that the sectors likely to have the most employment growth in Deschutes County over the 2012 to 2022 period are: Construction, Health Care, Local and State Government, Retail Trade, Professional and Business Services, and Accommodation and Food Services. These sectors represent employment opportunities for Bend.</p>
<p>Lack of diversity in Oregon's economy</p> <p>Oregon's economy has diversified since the 1960's, but Oregon continues to rank low in economic diversity among states.</p> <p>These rankings suggest that Oregon is still heavily dependent on a limited number of industries. Relatively low economic diversity increases the risk of economic volatility as measured by changes in output or employment.</p>	<p>Data from the Bureau of Labor Statistics shows that employment in Deschutes County in 2013 was concentrated in a few sectors: Health Care and Social Assistance (15%), Retail Trade (15%), Accommodations and Food Services (13%), and Government (13%).</p> <p>Employment in the Government and Health Care sectors tends to be stable and pays above Bend's average wage of \$37,755. Employment in Accommodations and Food Services and Retail Trade pays below Bend's average wage and employment may be volatile.</p> <p>Industries that have grown recently in Bend include bioscience, aviation and aerospace, outdoor recreation, software, specialty manufacturing, data center storage, and brewing. Each of these industries presents an opportunity for industrial growth in Bend.¹⁵</p>

¹⁴ "Employment Projections – 2012-2022," Bureau of Labor Statistics, December 19, 2013, <http://www.bls.gov/news.release/pdf/ecopro.pdf>. and "Oregon Economic and Revenue Forecast," Office of Economic Analysis, May 2015, <http://www.oregon.gov/DAS/OEA/docs/economic/forecast0515.pdf>.

¹⁵ Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2013, <http://www.bls.gov/cew/datatoc.htm> (Hereafter BLS, QCEW). and Economic Development Central Oregon, Business and Economic Data, <https://www.edcoinfo.com/business-and-economic-data/>.

National, State, and Regional Economic Trends	Implications for economic growth in Bend
<p>Importance of small businesses in Oregon's economy</p> <p>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.¹⁶</p>	<p>In 2013 average size for a private business in Deschutes County is 8.5 employees per business, compared to the State average of 11.2 employees per private business.¹⁷</p> <p>Growth of small businesses presents opportunities for economic growth in Bend.</p>
<p>Availability of trained and skilled labor</p> <p>Businesses in Oregon are generally able to fill jobs, either from available workers living within the State or by attracting skilled workers from outside of the State.</p> <p>Availability of labor depends, in part, on population growth and in-migration. Oregon added more than 980,000 new residents and about 475,000 new jobs between 1990 and 2008. The population-employment ratio for the State was about 1.6 residents per job over the 18-year period.¹⁸</p> <p>Availability of labor also depends on workers' willingness to commute. Workers in Oregon typically have a commute that is 30 minutes or shorter.¹⁹</p> <p>Availability of skilled workers depends, in part, on education attainment. About 30% of Oregon's workers have a Bachelor's degree or higher.²⁰</p>	<p>Employment in Bend grew at about 1.6% annually over the 2001 to 2013 period, while population grew at about 3% annually from 2000 to 2013.²¹</p> <p>About 76% of workers at businesses located in Bend lived in Deschutes County, and 50% lived within Bend city limits. Firms in Bend attracted workers from as far away as Multnomah County, from which 2% of Bend workers commute.²²</p> <p>Bend's residents who were 25 years and over were more likely to have a Bachelor's degree or higher (41%) than the county (34%) and state average (31%). Availability of these workers helps support the types of target industries that require a skilled, educated workforce discussed in Chapter 4.²³</p>

¹⁶ Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2014 Q1, http://www.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables/.

¹⁷ Bureau of Labor Statistics, Quarterly Census of Employment and Wages.

¹⁸ Oregon Employment Department, Quarterly Census of Employment and Wages.

¹⁹ US Census Bureau, 2013 American Community Survey, 1-Year Estimates, Table B08303.

²⁰ US Census Bureau, 2013 American Community Survey, 1-Year Estimates, Table B15003.

²¹ Bureau of Labor Statistics, Quarterly Census of Employment and Wages.

²² US Census Bureau, On the Map, 2011, <http://onthemap.ces.census.gov>.

²³ US Census Bureau, 2013 American Community Survey, 1-Year Estimates, Table B15003.

National, State, and Regional Economic Trends	Implications for economic growth in Bend
<p>Aging of the population</p> <p>The number of people age 65 and older will more than double between 2010 and 2050, while the number of people under age 65 will grow by only 30%. ²⁴ The economic effects of this demographic change include a slowing of the growth of the labor force, an increase in the demand for healthcare services, and an increase in the percent of the federal budget dedicated to Social Security and Medicare.</p> <p>People are retiring later than previous generations and continuing to work past 65 years old. This trend is seen both at the national and State levels. ²⁵ Even given this trend, the need for workers to replace retiring baby boomers will outpace job growth. Management occupations and teachers will have the greatest need for replacement workers because these occupations have older-than-average workforces.</p>	<p>The changes in the Bend's age structure are similar to those of the State, with the most growth observed in people 45 years and older. Bend's population is generally younger than the State's. The median age in Bend in 2013 was 36.6 years, compared to 42.3 in Deschutes County, and 39.1 in the state as a whole. ²⁶</p> <p>The State projects that the share of the population over the age of 60 in Deschutes County will increase by 10% between 2015 and 2035. ²⁷</p> <p>Firms in Bend will need to replace workers as they retire. Demand for replacement workers is likely to outpace job growth in Bend, consistent with State trends.</p>
<p>Increases in energy prices</p> <p>Although energy prices are currently low by historical standards, over the long-term, energy prices are forecast to return to relatively high levels, such as those seen in the 2006 to 2008 period, possibly increasing further over the planning period. ²⁸</p>	<p>In 2015, low energy prices have decreased the costs of commuting. Over the long-term, if energy prices increase, these higher prices will likely affect the mode of commuting before affecting workers' willingness to commute. For example, commuters may choose to purchase a more energy-efficient car, use the bus, or carpool.</p> <p>Very large increases in energy prices may affect workers' willingness to commute, especially workers living the furthest from Bend or workers with lower paying jobs.</p>

²⁴ "The Next Four Decades; The Older Population in the United States 2010 to 2050," US Census Bureau, May 2010, <https://www.census.gov/prod/2010pubs/p25-1138.pdf>.

²⁵ "Americans Settling on Older Retirement Age," Rebecca Riffkin, *Gallup*, April 29, 2015, <http://www.gallup.com/poll/182939/americans-settling-older-retirement-age.aspx>.

²⁶ U.S. Census Bureau, 2013 American Community Survey, 1-Year Estimates, Table B01002.

²⁷ Oregon Office of Economic Analysis, Demographic Forecast, "Long-term Oregon State's County Population Forecast (2010-2050)," http://www.oregon.gov/DAS/oea/Pages/demographic.aspx#Long_Term_County_Forecast

²⁸ "Annual Energy Outlook 2015; With Projections to 2040," US Energy Information Administration, April 2015, [http://www.eia.gov/forecasts/aeo/pdf/0383\(2015\).pdf](http://www.eia.gov/forecasts/aeo/pdf/0383(2015).pdf).

National, State, and Regional Economic Trends	Implications for economic growth in Bend
<p>Comparatively low wages</p> <p>The income of a region affects the workforce and the types of businesses attracted to the region. Average income affects workers and businesses in different ways. Workers may be attracted to a region with higher average wage or high wage jobs. Businesses, however, may prefer to locate in regions with lower wages, where the cost of doing business may be lower.</p> <p>Since the early 1980's, Oregon's per capita personal income has been consistently lower than the U.S. average. In 2013, Oregon's per capita wage was 89% of the national average.²⁹</p>	<p>Per capita personal income in Deschutes County (\$40,245 in 2014 dollars) was lower than that of the Portland MSA (\$44,603), Oregon (\$40,645), and the Nation as a whole (\$45,660) in 2014.³⁰</p> <p>Income in Oregon has historically been below national averages. There are four basic reasons that income has been lower in Oregon and Deschutes County than in the U.S.: (1) wages for similar jobs are lower; (2) the occupational mix of employment is weighted towards lower paying occupations; (3) a higher proportion of the population has transfer payments (e.g. social security payments for retirees), which are typically lower than earnings; and (4) lower labor force participation among working age residents. To a certain degree, these factors are all true for both Oregon and Deschutes County, and result in lower income.</p> <p>The lower wages in Bend may be attractive to firms that typically pay lower wages, such as call centers or firms that outsource professional services such as accounting or technical support.</p>
<p>Education as a determinant of wages</p> <p>The 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: computer software application engineers, elementary school teachers, and accountants and auditors. Occupations that do not require an academic degree (e.g., retail sales person, food preparation workers, and home care aides) will grow, accounting for about half of all jobs by 2018. These occupations typically have lower pay than occupations requiring an academic degree.³¹</p>	<p>Bend's residents who were 25 years and over were more likely to have a Bachelor's degree or higher (41%) than the county (34%) and state average (31%) in 2013.³²</p> <p>Wages in Bend are relatively low compared to Oregon as a whole, and this is largely a result of the composition of the regional economy, rather than the availability of workers with an academic degree. Increasing the relatively low wages in the region is dependent on changing the composition of the regional economy, through growing or attracting businesses with higher paying occupations.</p>

²⁹ Bureau of Economic Analysis, Regional Data, GDP & Personal Income, Local Area Personal Income and Employment, Table CA1-3.

³⁰ Bureau of Economic Analysis, Regional Data, GDP & Personal Income, Local Area Personal Income and Employment, Table CA1-3. Adjusted for inflation using the BLS CPI Calculator at http://www.bls.gov/data/inflation_calculator.htm.

³¹ Bureau of Labor Statistics, "Employment Projections: 2008-2018 News Release," Thursday, December 10, 2009, http://www.bls.gov/news.release/archives/ecopro_12102009.htm.

³² US Census Bureau, 2013 American Community Survey, 1-Year Estimates, Table B15003.

National, State, and Regional Economic Trends	Implications for economic growth in Bend
<p>Importance of high quality natural resources</p> <p>The relationship between natural resources and local economies has changed as the economy has shifted away from resource extraction. 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.</p>	<p>The region's high quality natural resources present economic growth opportunities for Bend, ranging from food and beverage production to the tourism industry.</p>

Summary of Bend's Competitive Advantages

Bend's competitive advantages include a well-educated and growing population, a desirable location for employees—a scenic environment with unique access to outdoor recreation—and for businesses—proximity to major state highways and airports. Furthermore, Bend has competitive property tax rates and effective infrastructure systems and planning efforts that are on track to accommodate increasing usage.

As the economy and population of Central Oregon continue to grow, aspects of Bend's role as the “central city” or regional center within Central Oregon will intensify. For example, because of the existing business network and suppliers, firms' executive decision-making functions will be more likely to locate in the city.

This role will continue to be important to the quantity and types of jobs that Bend attracts. Downtown Bend is the cultural, culinary, and specialty retail hub of the region. Bend hosts the region's largest medical facility (St. Charles Medical Center and associated medical organizations), the largest news media organization (the Bend Bulletin), and numerous governmental agencies, from federal (U.S. Forest service), to regional (Deschutes County), to local (City of Bend) – all of which are major employers. Within the private sector, Bend is also the home address for many of the region's largest and most influential employers – either as the headquarters or the main employment location – including: Mt. Bachelor; Les Schwab; Bend Research; Nosler Inc.; GL Solutions; Navis; and IBEX.

The importance of Bend as a social and cultural center is an important consideration as a driver of economic growth. Bend's high quality cultural and natural amenities are repeatedly cited by business owners and employees as reasons to relocate to or remain in Bend. This will prove especially important in some industry sectors, such as Information-Technology, in which well-paid managers and their employers can choose between communities, and land and building space costs play a less significant factor in business success.

CHAPTER 4. EMPLOYMENT GROWTH AND TARGET INDUSTRIES IN BEND

OAR 660-009 requires cities to maintain a 20-year inventory of sites designated for employment. To provide for at least a 20-year supply of commercial and industrial sites consistent with local community development objectives, Bend needs an estimate of the amount of commercial and industrial land that will be needed to accommodate forecast employment over the planning period. Demand for commercial and industrial land will be driven by development in target industries, the expansion and relocation of existing businesses, and new businesses locating in Bend.

Employment Forecast

Appendix B describes the methods and assumptions used to develop the 2008-2028 employment forecast. This section presents the 2008-2028 forecast and describes changes in employment that occurred between 2008 and 2013.³³

Before presenting the updated information, it is important to note that the 2008 to 2028 employment forecast was upheld in the Remand. As such, the City is not required to revisit the 20-year forecast. The information provided in this section analyzes how much and what type of employment growth occurred in Bend between 2008 and 2013.

The foundation of the economic opportunities analysis (EOA) is the forecast of employment growth. In the Remand, Bend was found to have met the requirements of Goal 9, with the forecast of 22,981 new non-shift employees from 2008 to 2028. This serves as the foundation for the updated land need estimates.

Employment Changes in Bend

This section presents information about Bend's employment base in 2013³⁴, compared to 2008. Table 2 shows the forecast of growth by major employment categories for Bend for 2008 to 2028 that was originally developed for the 2008 EOA. The forecast shows that employment will grow by 22,891 employees (about 61%) over the 20 year period between 2008 and 2028, at an average annual growth rate of 2.4%.

³³ 2013 is the most recent year that employment data is available upon which to base the updates.

³⁴ We use 2013 employment data, rather than 2014 employment data, because it is the best available data for Bend. The employment data used is the Oregon Employment Department's Quarterly Census of Employment and Wages. Data for 2014 will not be available until mid- to late-2015.

Table 2. Employment Forecast by Employment Category, total non-shift employment, Bend 2008 to 2028

Employment Categories	2008 Employment	2028 Employment Forecast	Change 2008 to 2028		
			2008 to 2028 Growth	Percent Change	Average Annual Growth Rate
Industrial					
Industrial Heavy	3,807	5,180	1,373	36%	1.6%
Industrial General	5,370	8,002	2,632	49%	2.0%
Retail			0		
Large Retail	3,474	5,849	2,375	68%	2.6%
General Retail	3,244	5,293	2,049	63%	2.5%
Office/Srv/Medical	13,979	23,593	9,614	69%	2.7%
Leisure and Hospitalit	3,306	5,532	2,226	67%	2.6%
Other / Misc	1,051	1,547	496	47%	2.0%
Government	3,485	5,611	2,126	61%	2.4%
Total	37,716	60,607	22,891	61%	2.4%

Source: Bend EOA, 2008, Table 26; 2028 Employment forecast: Bend EOA, 2008, Table 25.

2008 data based on Oregon Employment Department 2006 geo-coded data for City of Bend

Note: While the employment in this table is based on covered employment data from the Oregon Employment Department, the 2008 covered employment data was adjusted, using the methods described in the EOA, to show total employment for non-shiftworkers.

Since the forecast for the 2008 EOA was developed, Bend's economy has changed, in large part as a result of the recent recession. Table 3 shows change in employment in Bend between 2008 and 2013. Overall, employment grew by 948 employees, at an average annual growth rate of 0.5%. Industrial employment decreased by about 2,500 employees and retail employment decreased by more than 550 employees. The majority of employment growth was in Office, Services, and Medical, which added more than 2,400 jobs.

Table 3. Employment Forecast by Employment Category, total non-shift employment, Bend 2008 to 2013

Employment Categories	2008 Employment	2013 Employment	Change 2008 to 2013		
			2008 to 2013 Growth	Percent Change	Average Annual Growth Rate
Industrial					
Industrial Heavy	3,807	2,889	-918	-24%	-5.4%
Industrial General	5,370	3,771	-1,599	-30%	-6.8%
Retail					
Large Retail	3,474	3,057	-417	-12%	-2.5%
General Retail	3,244	3,096	-148	-5%	-0.9%
Office/Srv/Medical	13,979	16,435	2,456	18%	3.3%
Leisure and Hospitalit	3,306	4,017	711	22%	4.0%
Other / Misc	1,051	1,505	454	43%	7.4%
Government	3,485	3,894	409	12%	2.2%
Total	37,716	38,664	948	3%	0.5%

Source: Bend EOA, 2008, Table 26.

2008 data based on Oregon Employment Department 2006 geo-coded data for City of Bend

2013 data based on Oregon Employment Department 2013 Quarter 3 geo-coded data for City of Bend

Note: While the employment in this table is based on covered employment data from the Oregon Employment Department, the 2008 and 2013 covered employment data was adjusted, as using the methods described in the EOA, to show total employment for non-shiftworkers.

Using the 2013 total non-shift employment figure of 38,664 and the 2028 acknowledged forecast of 60,607 yields an estimated increase of 21,943 new employees between 2013 and 2028. This equates to an average annual growth rate of 3.0% over that period. Table 2 shows that the acknowledged 2008 to 2028 forecast of 22,891 new employees resulted in an average annual growth rate of 2.4%. In short, employment growth between 2008 and 2013 occurred at much slower pace than the average growth rate forecast by the City.

Table 4 compares employment in Bend in 2013 to the forecast for employment growth by 2028, from the 2008 EOA.

Table 4. Employment Forecast by Employment Category, non-shift workers, Bend 2013 to 2028

Employment Categories	2013 Employment	2028 Employment Forecast	Change 2013 to 2028		
			2013 to 2028 Growth	Percent Change	Average Annual Growth Rate
Industrial					
Industrial Heavy	2,889	5,180	2,291	79%	4.0%
Industrial General	3,771	8,002	4,231	112%	5.1%
Retail					
Large Retail	3,057	5,849	2,792	91%	4.4%
General Retail	3,096	5,293	2,197	71%	3.6%
Office/Srv/Medical	16,435	23,593	7,158	44%	2.4%
Leisure and Hospitalit	4,017	5,532	1,515	38%	2.2%
Other / Misc	1,505	1,547	42	3%	0.2%
Government	3,894	5,611	1,717	44%	2.5%
Total	38,664	60,607	21,943	57%	3.0%

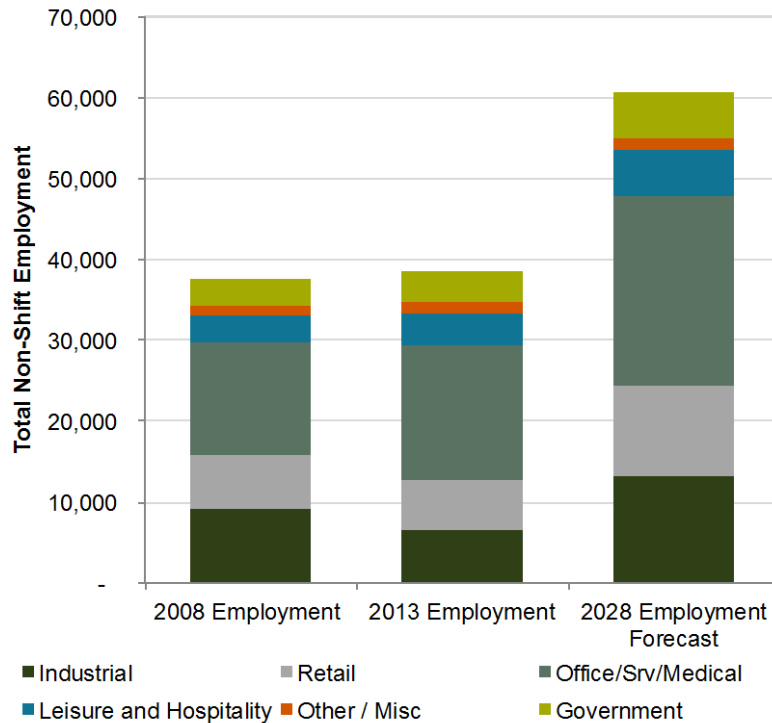
Source: 2028 Employment forecast: Bend EOA, 2008, Table 25.

2013 data based on Oregon Employment Department 2013 Quarter 3 geo-coded data for City of Bend

Note: While the employment in this table is based on covered employment data from the Oregon Employment Department, the 2013 covered employment data was adjusted, as using the methods described in the EOA, to show total employment for non-shiftworkers.

Figure 2 shows a comparison of total non-shift employment by employment category in 2008 and 2013 and the forecast of employment growth in Bend for 2028.

Figure 2. Comparison of Changes in Employment by Employment Categories in 2008, 2013, and 2028 Forecast, non-shift workers, Bend



Source: Bend EOA, 2008, Table 26.

2008 data based on Oregon Employment Department 2006 geo-coded data for City of Bend

2013 data based on Oregon Employment Department 2013 Quarter 3 geo-coded data for City of Bend

Note: While the employment in this figure is based on covered employment data from the Oregon Employment Department, the 2008 and 2013 covered employment data was adjusted, as using the methods described in Appendix B, to show total employment for non-shiftworkers.

Employment Forecast by Site Size

OAR 660-009-0015(2) requires cities to identify “required site types.” Specifically, the rule states:

“The economic opportunities analysis must identify the number of sites by type reasonably expected to be needed to accommodate the expected employment growth based on the site characteristics typical of expected uses. Cities and counties are encouraged to examine existing firms in the planning area to identify the types of sites that may be needed for expansion. Industrial or other employment uses with compatible site characteristics may be grouped together into common site categories.”

This section describes the process for identifying the number of sites needed by type in Bend. This section presents an estimate of site needs based on the employment forecast and historical development patterns, to illustrate the rough number and type of sites of various sizes needed to accommodate the forecast of employment growth. The forecast of land needed to accommodate growth and ability to accommodate that growth within the UGB is completed in Envision Tomorrow, as discussed in Chapter 5.

The process of identifying site needs based on historical development patterns builds from the employment forecast (Table 4) to forecast needed sites by size of site. Table 5 shows the distribution of existing employment (in 2013) by the employment categories and site size. To maintain consistency with the Envision Tomorrow model output and the Urbanization Report, the employment categories in Table 4 have been simplified and combined as follows:

- Retail & Leisure and Hospitality = Retail and Hospitality
- Office/Srv/Medical & Other/Misc = Office
- Heavy and General Industrial = Industrial
- Government = Public

Table 5. Distribution of existing employment by site size, Bend 2013

Employment Category	Smaller than 5 acres	5 to 49.99 acres	50.00 ac or more
Retail and Hospitality	71%	29%	0%
Office	75%	7%	18%
Industrial	83%	17%	0%
Public	73%	27%	0%
Total	75%	17%	8%

Source: Oregon Employment Department 2013 Quarter 3 geo-coded data for City of Bend and developed land in the Bend BLI, 2015

The next step in the process was to allocate employment growth by site size (Table 6). This allocation used the percentages in Table 5 to distribute employment growth in Table 4 to employment categories and site sizes.

Table 6. Forecast of employment growth by site size, Bend 2013-2028

Employment Category	Smaller than 5 acres	5 to 49.99 acres	50.00 ac or more
Retail and Hospitality	4,619	1,885	-
Office	5,412	481	1,307
Industrial	5,382	1,122	18
Public	1,253	464	-
Total	16,666	3,952	1,325

Source: Bend employment forecast in Table 5

Table 7 shows the average employees per site by site size for tax lots with employment in 2013 using data from the Quarterly Census of Employment and Wages (QCEW) and tax lot data. The results show that sites less than five acres averaged 23 employees and sites five to 50 acres averaged 134 employees. Average employment on sites of 50 acres or more cannot be disclosed for confidentiality reasons.

Table 7. Average employees per site, Bend 2013

	Smaller than 5 acres	5 to 49.99 acres	50.00 ac or more
Employees per site	23	134	(D)

Source: Oregon Employment Department 2013 Quarter 3 geo-coded data for City of Bend and developed land in the Bend BLI, 2015

Note: The average number of employees more than 50 acres cannot be disclosed for confidentiality purposes. The average number of employees on sites 50-acres or more is substantially more than the average number of employees on sites 5 to 49 acres in size.

The average employees per site in Table 7 are then used to estimate the number of needed sites by employment type and size to accommodate new employment between 2013 and 2028. Needed sites are estimated by dividing the employment by category and site size in Table 6 by the average employees per site in Table 7. Note that sites larger than 50 acres are not included in this analysis—the Remand approved the need for two large-lot industrial employment sites over fifty acres. Thus, analysis of special site needs over 50 acres is not necessary using this methodology.

Table 8 shows the number of sites needed to accommodate employment growth between 2013 and 2028 by site size. The results show that Bend will need 726 sites less than five acres and 32 sites greater than five acres.

Table 8. Sites needed to accommodate employment growth by site size, Bend 2013-2028

Employment Category	Smaller than 5 acres	5 to 49.99 acres
Retail and Hospitality	201	15
Office	236	4
Industrial	234	9
Public	55	4
Total	726	32

Source: Bend employment forecast in Table 4, average employees per site in Table 7.

Table 9 allocates the needed sites in Table 8 to broad categories of plan designation based on the approximate percentage of employment of each employment category. For example, 89% of retail and hospitality employment in Bend is located in Commercial and Mixed Use plan designations. As a result, Table 9 allocates 89% of land needed to Commercial and Mixed Use, with 179 sites smaller than 5 acres and 13 sites between 5 and 49.9 acres. The remaining 24 sites are allocated to Industrial and Mixed Employment, where about 11% of Bend's retail and hospitality employment is located.

Table 9. Sites needed to accommodate employment growth by comprehensive plan designation category and site size, Bend 2013-2028

Employment Category	Commercial / Mixed Use			Industrial / Mixed Employment			Public Facilities			Total	
	% of Sites	< 5 ac	5-49.9 ac	% of Sites	< 5 ac	5-49.9 ac	% of Sites	< 5 ac	5-49.9 ac	% of Sites	Sites
Retail and Hospitality	89%	179	13	11%	22	2	0%	-	-	100%	216
Office	73%	173	3	26%	61	1	1%	2	-	100%	240
Industrial	17%	40	2	82%	192	7	1%	2	-	100%	243
Public	27%	15	1	16%	9	1	57%	31	2	100%	59
Total		407	19		284	11		35	2		758

Source: Site needs forecast in Table 8 and distribution of employment by plan designation from Oregon Employment Department 2006 Covered Employment and analysis by City of Bend.

Target Industries

In 2005, spurred by the realization that Bend's economy was in the midst of an ongoing series of changes, the City Council and other city leaders convened an Economic Sector Targeting workshop. The nine primary targeted economic sectors identified by the workshop are shown in Table 10.

Table 10. Targeted Economic Sectors

Economic Base Sustain and Grow	Regional Targets	Bend Targets
Hospitality	Secondary Wood Products	Aviation - Aerospace
Higher Education		Recreation Equipment
Health Care	Renewable Energy Resources	Specialty Manufacturing
		Information Technologies

Source: City of Bend Economic Sector Targeting Report, 2005

Note that the industry groups identified by the Economic Sector Targeting work do not necessarily follow the NAICS categorization system. Economic development professionals refer to industry groups such as these, which can cross into numerous different NAICS sectors, as "clusters."

In determining which industries to target, the group gave preference to "traded-sector" industries. "Traded sector" refers to industries or businesses that sell their services or products beyond the local market area. Because of their regional or even global market areas, these types of industries have much greater potential and are less vulnerable to downswings in the local economy. For example, Bend's aviation companies sell airplanes and aviation parts to customers around the country and are thus traded-sector companies. Conversely, a chain of auto repair stores serves a very local market and will depend much more on local economic conditions for success. The Regional and Bend Target sectors are all traded sector industries, while the "Economic Base Sustain and Grow" sectors are more local.

Bend can be expected to continue to grow faster than the rest of the region within certain industries – particularly, industries identified by the Economic Sector Targeting and OED that are knowledge-based or have an existing base of operations in Bend.

Site Needs for Target Industries

Chapter 4 described target industries (described in this chapter as economic opportunities) for Bend, based on the city's economic advantages and evaluation of the types of industries that fit with Bend's vision for growth of traded-sector industries. These target industries focus on manufacturing, including secondary wood products, renewable energy, aviation – aerospace, recreation equipment, and specialty manufacturing, as well as information technology. This section focuses on the site needs for these target industries, as well as established industries, such as medical services. It also considers land needs from the broad range of commercial and industrial businesses, from small retail or service businesses to large-scale manufacturers.

This section addresses the requirements of OAR 660-009-0015(2) on required site types:

Identification of Required Site Types. The economic opportunities analysis must identify the number of sites by type reasonably expected to be needed to accommodate the expected employment growth based on the site characteristics typical of expected uses. Cities and counties are encouraged to examine existing firms in the planning area to identify the types of sites that may be needed for expansion. Industrial or other employment uses with compatible site characteristics may be grouped together into common site categories.

The analysis that follows aggregates employment that has compatible site characteristics into common site categories.

Typical site needs of larger employers

Businesses considering locating in Oregon and in Bend will consider many factors before selecting a location (e.g., access to markets, availability of skilled workers, and availability of suitable land).

One of the key factors that businesses consider when making decisions about where to locate is the availability of vacant, large, and flat parcels of land. Table 11 shows examples of traded-sector firms that considered locating in Oregon and Southern Washington since 1997. Table 11 shows that firms looking for office or flex space required sites from 30 acres up to more than 100 acres. Manufacturing firms required sites from 25 acres to 250 acres in size.

These firms worked with Business Oregon to find suitable sites in Oregon. Some of the firms chose to locate in Oregon and some chose to locate elsewhere. One of the key factors that influenced decisions to locate elsewhere was availability of large parcels of land with infrastructure services (e.g., transportation access, wastewater, etc.).

Table 11. Examples of firms that considered locating in Oregon and Southern Washington between 1997 and 2010

Type of business	General Location Considered	Site size (acres)	Building Size (square feet)	Located in Oregon ?
Office or Flex space				
Private technology firm	Northern Oregon I-5	100+	1 msf	
Facebook Data Center	Prineville	118	147,000 sf	Yes
Siltronics	Portland Harbor	35		
Nautilus	Vancouver	35	489,000	Yes
Google Data Center	The Dalles	30		Yes
Warehouse and Distribution				
Lowes	Lebanon	204	1.3 to 2.2 msf	Yes
NOAH-PepsiCo	Albany	204	2.5 msf	No
Wal-Mart	Hermiston	200	1.3 msf	Yes
Target	Albany	175	1.3 msf	Yes
Fed Ex	Troutdale	78	500,000 sf	Yes
Dollar-Tree	Ridgefield, Wa	75	800,000 sf	
Home Depot	Salem	50 to 100	400,000+	Yes
Manufacturing				
Apricus	Northern Oregon	250	Very large	No
Navitas	Oregon	150 to 200		No
Pacific Ethanol	Boardman	137		Yes
SolarWorld	Hillsboro	75	1 msf	Yes
Schott Solar	I-5 corridor	50+	up to 800,000 sf	No
Genentech	Hillsboro	50	500,000 sf	Yes
Amy's Kitchen	White City	50		Yes
Sanyo Solar	Salem	25	150,000 sf	Yes
Spectrawatt	Hillsboro	25	225,000 sf	No

Source: Business Oregon

Table 12 shows examples of manufacturers of clean energy technologies that announced plans to build new manufacturing plants in 2009 or 2010. More than one-third of these firms considered locating in Oregon. The site size requirements of these firms ranged from 50 to nearly 500 acres, with an average site size of around 100 acres. These firms are within one of the potential growth industries identified in Chapter 4, renewable energy manufacturing.

Table 12. Examples of clean energy technologies that announced plans to build new manufacturing plants in 2009 or 2010

Company	Site Size (Acres)	Location	Industry
Tokuyama*	494	Malaysia	Solar
Vestas*	300	Colorado	Wind
US REG - A Power	150	Nevada	Wind
REC*	150	Singapore	Solar
Tindall	144	Kansas	Wind
Green2V	124	New Mexico	Solar
LG Chem Ltd.	120	Michigan	Batteries
Autoport/AC Propulsoin	102	Delaware	Electric Vehicles
Energy Composites Corps	94	Wisconsin	Wind
Tesla	90	California	Electric Cars
Mitsubishi Heavy Industries*	90	Arkansas	Wind
Schott Solar*	80	New Mexico	Solar
Enerdel	75	Indiana	Batteries
Energy Composites Corporation	54	Wisconsin	Wind
Proterra*	50	South Carolina	Electric Buses
Confluence	50	Tennessee	Solar

Source: Business Oregon

*Note: These firms considered locating in Oregon.

Table 13 shows the characteristics required to make a site competitive for businesses considering locating or expanding in Oregon, based on information from Business Oregon. Sites for most manufacturing uses are generally between 10 acres to 50 acres. Some large industrial uses, such as businesses in the renewable and clean energy sector, require sites of 100 acres. Industrial users need sites that are relatively flat, generally with a slope of 5% or less.

Table 13. Site characteristics of common business types in Oregon

Industry Sector	Site size* (Acres)	Site Topography (Slope)	Site Access Max distance in miles to interstate or major arterial	Utilities (Min. line size in inches)
				Water / Sanitary Sewer
Regionally to Nationally Scaled Clean-Tech Manufacturer	50	0-5%	10	10 / 10
Globally Scaled Clean Technology Campus	100	0-5%	10	10 / 10
Heavy Industrial/ Manufacturing	25	0-5%	10	8 / 8
General Manufacturing	10	0-5%	20	8 / 8
Food Processing	20	0-5%	30	10 / 10
High-tech Manufacturing or Campus Industrial	25	0-7%	15	10 / 10
Regional (multistate) Distribution Center	200	0-5%	5 Only Interstate highway or equivalent	4 / 4
Warehouse/Distribution	25	0-5%	5 Only Interstate highway or equivalent	4 / 4
Call Center / Business Services	3	0 to 12%	Not applicable	4 / 4

Source: Business Oregon

*Note: Site size is the competitive acreage that would meet the site selection requirements of the majority of industries in this sector

Some industrial and large-scale commercial businesses may prefer to locate in an industrial or business park. Business parks are developments with multiple buildings, designed to accommodate a range of uses, from heavy industry to light industry to office uses. Most industrial parks, a subset of business parks, have large-scale manufacturing, distribution, and other industrial uses, with relatively little office space.

To provide context for business park type development, Table 14 shows examples of business park sites in the Portland Metro area. Business parks in the Portland area generally range in size from 25 acres to 75 or 100 acres in size. Some of the business parks are primarily industrial (e.g., Beaverton Creek, Columbia Commerce Park, or Southshore Corporate Park), some are primarily commercial (e.g., Creekside Corporate Park or Nimbus Corporate Center), and some are office and flex space (e.g., Cornell Oaks Corporate Center).

Table 14. Examples of business park sites, Portland Metro area

Business Park	Site Acres	Building Square Feet
AmberGlen Business Center	72	572,685
AmberGlen East and West	44	536,000
Beaverton Creek	56	512,852
Columbia Commerce Park	31	562,888
Cornell Oaks Corporate Center	107	684,000
Creekside Corporate Park	50	615,113
Kruse Woods Corporate Center	76	1,652,105
Lincoln Center	22	728,770
Nimbus Corporate Park	47	688,632
Oregon Business Park 1	36	782,294
Oregon Business Park 3	35	501,029
PacTrust Business Center	40	570,539
Pacific Business Park (South)	26	340,864
Pacific Corporate Center	56	601,542
Parkside Business Center	52	687,829
Southshore Corporate Park	312	1,630,000
Tualatin Business Center I and II	33	383,305
Wilsonville Business Center	30	710,000
Woodside Corporate Park	37	579,845

Source: Metro UGR, Appendix 5 Multi-tenant (business park)/Large lot analysis

In addition, the Portland Metro area has identified the following types of major employment sites, on sites ranging from 25 acres to more than 500 acres:³⁵

- **General industrial.** The Portland region has 21 general industrial major employment sites, ranging in size from 25 acres to 164 acres and averaging 53 acres. Firms on these sites range from beverage manufacturers to construction product manufacturers to specialty manufacturing enterprises.
- **Warehouse and distribution.** The Portland region has 15 warehouse and distribution major employment sites, ranging in size from 25 acres to 452 acres and averaging 74 acres. Firms on these sites range from wholesalers to general warehouse and distribution to company-specific distributors.
- **Flex.** The Portland region has 14 flex major employment sites, ranging in size from 25 acres to 522 acres and averaging 112 acres. Firms on these sites include small and large semiconductor manufacturing and other high tech manufacturing.

³⁵ These examples are documented in the Portland Metro 2009-2030 Urban Growth Report, Appendix 4

Site Needs of Target Industries

OAR 660-009-0015(2) requires the EOA identify the number of sites, by type, reasonably expected to be needed for the 20-year planning period. Types of needed sites are based on the site characteristics typical of expected uses. The Goal 9 rule provides flexibility in how jurisdictions conduct and organize this analysis. The Administrative Rule defines site characteristics as follows in OAR 660-009-0005(11):

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

Friends of Yamhill County v. City of Newberg, 62 Or LUBA 5 (2010), established a two-prong test for establishing relevant "site characteristics" as follows: (1) that the attribute be "typical of the industrial or employment use;" and (2) that it have "some meaningful connection with the operation of the industrial or employment use." The first of those prongs, that the attributes be "typical," appears expressly in OAR 660-009-0015(2), which refers to "site characteristics typical of expected uses." In upholding LUBA's two prong test, the Court of Appeals agreed, "[t]hat 'necessary' site characteristics are those attributes that are reasonably necessary to the successful operation of particular industrial or employment uses, in the sense that they bear some important relationship to that operation." *Friends of Yamhill County v. City of Newberg*, 240 Or App 738, 747 (2011).

Table 15 presents the site characteristics needed for the operation of major traded-sector industries, as well as for clusters of commercial and mixed-use development. Table 15 groups potential growth industries by site category (e.g., large industrial and flex). Any of the potential growth industries, however, may occur at a variety of sizes. For example, renewable energy companies could range from large solar panel manufacturers to small manufacturers of specialty renewable energy products and could use sites from five acres to over 250 acres. The opportunity sites in each potential growth industry will vary by size of the firms and the firm's activities.

Table 16 presents site infrastructure requirements necessary for the operations of potential growth industries. There are some common service requirements, regardless of the type of industry. For example, nearly all firms need access to roads, telecommunications, water and wastewater, and electricity. Some potential growth industries have specific service requirements for their operations. For example, food processors generally need access to large amounts of water and wastewater capacity or data centers need access to a large amount of electricity and redundant electricity sources.

Table 15. Summary of site characteristics for target industries and clusters of commercial development

Site Category	Example Industries (Target Industries in bold)	Typical Site Size (acres)	Topology	Parcel configuration	Land Use Buffers	Visibility
Large Industrial and Flex	Renewable Energy Information Technology	50 to 250	0% to 5% slope	Preference for single parcels or parcels with two owners	Compatible with industrial or agricultural uses	No
Medium Industrial and Flex	Specialty Manufacturing Aviation - Aerospace Secondary Wood Products Recreation Equipment Renewable Energy Information Technology	10 to 75	0% to 5% slope	Preference for single parcels or parcels with two owners	Compatible with industrial or agricultural uses	No
Small Industrial	Specialty Manufacturing Aviation - Aerospace Secondary Wood Products Recreation Equipment Renewable Energy Information Technology	Less than 10	Less than 10% slope	Preference for single parcels or parcels with two owners	Compatible with some commercial, industrial, or agricultural uses	No
Large Commercial /Office	Mixed use Regional and community retail Big box retail Higher Education	10 to 50	Less than 10% slope	Preference for single parcels or parcels with two owners	Compatible with commercial and mixed uses	Yes
Medium Commercial /Office	Information Technology Large medical offices Mixed use Hospitality Higher Education Neighborhood retail Other services	5 to 20	Less than 15% slope	Preference for single parcels or parcels with three owners	Compatible with commercial and mixed uses	Yes
Small Commercial /Office	Small medical offices Retail and services	Less than 2	Less than 15% slope	Preference for single parcels or parcels with three owners	Compatible with commercial, mixed uses, and residential	Yes

Source: ECONorthwest research, City of Bend analysis, and Business Oregon Industrial Development Competitiveness Matrix

Table 16. Summary of site infrastructure needs for potential growth industries and clusters of commercial development

Site Category	Transportation	Rail	Transit, Ped, Bike	Water and Sewer Meter Size (inches)	Gas (annual therms)	Electrical Demand (annual KWhr)	Telecom
Large Industrial and Flex	Direct access to an arterial; less than 10 miles from Highway 97 or Highway 20	Preferred	Preferred	4 to 10 High Pressure Preferred	10,000 – 80,000	10,000 – 100,000 + Secondary system dependency may be required	High speed Internet and phones Higher capacity Internet access may be required
Medium Industrial and Flex	Direct access to an arterial; less than 10 miles from Highway 97 or Highway 20	Preferred	Preferred	3 to 6 High Pressure Preferred	10,000 – 80,000	10,000 – 100,000 + Secondary system dependency may be required	High speed Internet and phones Higher capacity Internet access may be required
Small Industrial	Access to a major collector	Not required	Preferred	0.75 to 2	10,000 – 30,000	10,000 to 30,000	High speed Internet and phones Higher capacity Internet access may be required
Large Commercial	Direct access to an arterial or major collector	Not required	Preferred	2 to 4	Standard commercial usage	10,000 – 100,000 + Secondary system dependency may be required	High speed Internet and phones Higher capacity Internet access may be required
Medium Commercial	Direct access to an arterial or major collector	Not required	Preferred	1 to 3	Standard commercial usage	Standard commercial usage	High speed Internet and phones
Small Commercial	Access to a major collector	Not required	Preferred	1.5 or smaller	Standard commercial usage	Standard commercial usage	High speed Internet and phones

Source: ECONorthwest research, City of Bend analysis, and Business Oregon Industrial Development Competitiveness Matrix

Characteristics of sites needed for manufacturing

Bend's target industries are manufacturing. Bend's large-scale manufacturing target industries are renewable energy and information technology (large data centers). Bend's medium-scale manufacturing target industries are renewable energy, secondary wood products, aviation – aerospace, recreation equipment, specialty manufacturing, and information technology (mid-sized data centers), all of which are high-tech or general manufacturing. This section presents the needed characteristics for large-scale manufacturing and medium-scale manufacturing.

The following summarizes the site characteristics for manufacturing and provides an overview of the two-prong test established for site characteristics under *Friends of Yamhill County v. City of Newberg*.

Large-scale manufacturing

1. **Site size.** Sites for manufacturing firms range in size from 50 to 250 acres. Some medium-scale and smaller manufacturing firms may prefer to locate in a manufacturing or flex business park, which range in size from about 25 acres or several hundred acres.
 - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites "a minimum acreage" as a site characteristic. Business Oregon finds that competitively-sized Regionally to Nationally Scaled Clean-Tech Manufacturers have sites 50 acres and larger. Large clean industry developments in 2010 occurred on sites ranging from 50 acres to nearly 500 acres. Data centers and other information technology businesses locating in Oregon located on sites ranging from 30 to more than 100 acres.

Some businesses will prefer to locate in manufacturing to flex business parks. Business parks are typically at least 25 acres in size to allow for development of multiple buildings and associated parking. In the Portland area, these parks generally range in size from about 25 acres to 50 acres, with a few examples of parks around 75, 100, or 300 acres.

 - Attribute has "some meaningful connection with the operation of the industrial or employment use" – Site size is important to general industrial users. The site needs to be large enough to accommodate the needed built space, as well as to accommodate storage space or space for future expansion. In addition, the site needs to be large enough to accommodate not only the general industrial uses, but also parking, on-site circulation, connections to public transportation, rail connections, and other access to the transportation network.
2. **Land ownership.** Sites with two or fewer owners are necessary to reduce the cost and uncertainty of land assembly.
 - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the "site configuration" as a site characteristic. Developing an industrial building on a site with more than two owners requires negotiating land assembly and purchase from multiple owners. Land assembly is difficult and often costly for a number of reasons. People own land for a variety of reasons,

such as the desire to develop the land, keep the land undeveloped, or sell the land for a profit. Getting landowners to sell land can be difficult, especially if the ownership is legally disputed, as is the case with some inheritances. If a landowner is a willing seller, they may have an unrealistic expectation of their land's value, in the context of comparable land values. In addition, one parcel of land may have multiple owners, compounding the issues described above.

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

- Attribute has "some meaningful connection with the operation of the industrial or employment use" – The cost of land assembly, in financial terms and in terms of extra time needed for site assembly, can make developing an industrial site with multiple land owners financially infeasible.
3. **Automotive and freight access.** Manufacturing buildings generally are located on arterial or major collector streets. Traffic from the industrial development should not be routed through residential neighborhoods. Freight traffic should have unimpeded access to an arterial or state highway.
- Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the "proximity to a particular transportation or freight facility such as rail, marine ports and airports, multimodal freight or transshipment facilities, and major transportation routes" as a site characteristic. Business Oregon finds that manufacturing and industrial firms need to be located relatively close to an interstate highway or principal arterial road, generally within 20 miles or less.
 - Attribute has "some meaningful connection with the operation of the industrial or employment use" – This site characteristic helps to minimize the amount of traffic on local streets, minimize freight traffic in residential neighborhoods, improve mobility, minimize adverse effects on urban land use and travel patterns, and provide for efficient long distance travel, which are all necessary for effective industrial operations.
4. **Topography.** Manufacturing sites should be relatively flat, with slopes of not more than 5%.
- Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites "site configuration including shape and topography" as a site characteristic. Business Oregon finds that competitive sites generally have a slope of 5% or less.
 - Attribute has "some meaningful connection with the operation of the industrial or employment use" – Industrial buildings require level floor plates to reduce costs

and offer maximum flexibility, as well as level areas to provide for freight access and pedestrian walkways that meet ADA standards. The real estate development literature describes the increases in development costs and other difficulties associated with industrial development on a sloped site.

5. **Access to services.** City services should be directly accessible to the site, including sanitary sewer, and municipal water.
 - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the "specific types or levels of public facilities, services or energy infrastructure" as a site characteristic. Business Oregon finds that competitive sites must have access to urban services, including water, wastewater, natural gas, electricity, and major telecommunications facilities.
 - Attribute has "some meaningful connection with the operation of the industrial or employment use" – Industrial buildings require access to municipal water, municipal sanitary sewer, and electricity/gas. Developing a site with direct access to municipal services is substantially more cost-effective than extending municipal services to an unserved site.³⁶
6. **Surrounding land uses.** Industrial buildings are directly compatible with other industrial uses, commercial uses, and agricultural uses. Bend's Development Code and other policies address issues of compatibility between uses, such as requirements for building setbacks, screening, fencing, visual buffering, and landscaping.
 - Attribute is "typical of the industrial or employment use" - OAR 660-009-0025(6) strongly encourages cities to manage encroachment and intrusion of incompatible uses with employment uses. Industrial uses are generally compatible with other industrial uses, commercial uses, and some public uses. Industrial uses may be compatible with agricultural uses, provided that the industrial use does not encroach on the agricultural uses.
 - Attribute has "some meaningful connection with the operation of the industrial or employment use" - Industrial uses are able to operate efficiently where they are not in conflicts with adjacent land uses that could disrupt industrial business activity. Noise or odor conflicts may make some industrial uses incompatible with nearby residential uses.

Commercial/Office and Industrial Flex

1. **Site size.** Sites for general manufacturing or high-tech manufacturing firms range in size from 10 to 25 acres. Some medium-scale and smaller manufacturing firms may prefer to locate in a manufacturing or flex business park, which range in size from about 25 acres or several hundred acres.

³⁶ Miles, Mike E., Haney, Richard L., Bernes, Gayle, "Real Estate Development: Principles and Process," The Urban Land Institute, 1997.

- Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites "a minimum acreage" as a site characteristic. Business Oregon finds that competitively-sized general manufacturing firms have sites 10 acres in size. Competitive sites for heavy manufacturing, high-tech manufacturing, or campus industrial manufacturing require 25-acre sites.

Some businesses will prefer to locate in manufacturing to flex business parks. Business parks are typically at least 25 acres in size to allow for development of multiple buildings and associated parking. In the Portland area, these parks generally range in size from about 25 acres to 50 acres, with a few examples of parks around 75, 100, or 300 acres.

Major employment sites with general industrial uses in the Portland Metro area range in size from 25 to 160 acres and average about 50 acres in size. Businesses parks will need to be at least 25 to 50 acres and possibly as large as 75 to 100 acres.

- Attribute has "some meaningful connection with the operation of the industrial or employment use" – Site size is important to general industrial users. The site needs to be large enough to accommodate the needed built space, as well as to accommodate storage space or space for future expansion. In addition, the site needs to be large enough to accommodate not only the general industrial uses, but also parking, on-site circulation, connections to public transportation, rail connections, and other access to the transportation network.

2. **Land ownership.** Sites with two or fewer owners are necessary to reduce the cost and uncertainty of land assembly.

- Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the "site configuration" as a site characteristic. Developing an industrial building on a site with more than two owners requires negotiating land assembly and purchase from multiple owners. Land assembly is difficult and often costly for a number of reasons. People own land for a variety of reasons, such as the desire to develop the land, keep the land undeveloped, or sell the land for a profit. Getting landowners to sell land can be difficult, especially if the ownership is legally disputed, as is the case with some inheritances. If a landowner is a willing seller, they may have an unrealistic expectation of their land's value, in the context of comparable land values. In addition, one parcel of land may have multiple owners, compounding the issues described above. As a result, developers of industrial buildings typically choose to develop sites with one or two owners.
- Attribute has "some meaningful connection with the operation of the industrial or employment use" – The cost of land assembly, in financial terms and in terms of extra time needed for site assembly, can make developing an industrial site with multiple land owners financially infeasible.

3. **Automotive access.** Manufacturing buildings generally are located on arterial or major collector streets. Traffic from the industrial development should not be routed through residential neighborhoods. The ideal site would have direct access to an arterial or state highway.
 - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the "proximity to a particular transportation or freight facility such as rail, marine ports and airports, multimodal freight or transshipment facilities, and major transportation routes" as a site characteristic. Business Oregon finds that manufacturing and industrial firms need to be located relatively close to an interstate highway or principle arterial road, generally within 20 miles or less.
 - Attribute has "some meaningful connection with the operation of the industrial or employment use" – This site characteristic helps to minimize the amount of traffic on local streets, minimize freight traffic in residential neighborhoods, improve mobility, minimize adverse effects on urban land use and travel patterns, and provide for efficient long distance travel, which are all necessary for effective industrial operations.
4. **Topography.** Manufacturing sites should be relatively flat, with slopes of not more than 5%.
 - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites "site configuration including shape and topography" as a site characteristic. Business Oregon finds that competitive sites generally have a slope of 5% or less, except high tech manufacturing and campus industrial, which have a slope of 7% or less.
 - Attribute has "some meaningful connection with the operation of the industrial or employment use" – Industrial buildings require level floorplates to reduce costs and offer maximum flexibility, as well as level areas to provide for freight access and pedestrian walkways that meet ADA standards. The real estate development literature describes the increases in development costs and other difficulties associated with industrial development on a sloped site.
5. **Access to services.** City services should be directly accessible to the site, including sanitary sewer, and municipal water.
 - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the "specific types or levels of public facilities, services or energy infrastructure" as a site characteristic. Business Oregon finds that competitive sites must have access to urban services, including water, wastewater, natural gas, electricity, and major telecommunications facilities.
 - Attribute has "some meaningful connection with the operation of the industrial or employment use" – Industrial buildings require access to municipal water, municipal sanitary sewer, and electricity/gas. Developing a site with direct access

to municipal services is substantially more cost-effective than extending municipal services to an unserved site.³⁷

6. **Surrounding land uses.** Industrial buildings are directly compatible with other industrial uses, commercial uses, and agricultural uses. Bend's Development Code and other policies address issues of compatibility between uses, such as requirements for building setbacks, screening, fencing, visual buffering, and landscaping.
 - o Attribute is "typical of the industrial or employment use" - OAR 660-009-0025(6) strongly encourages cities to manage encroachment and intrusion of incompatible uses with employment uses. Industrial uses are generally compatible with other industrial uses, commercial uses, and some public uses. Industrial uses may be compatible with agricultural uses, provided that the industrial use does not encroach on the agricultural uses.
 - o Attribute has "some meaningful connection with the operation of the industrial or employment use" - Industrial uses are able to operate efficiently where they are not in conflicts with adjacent land uses that could disrupt industrial business activity. Noise or odor conflicts may make some industrial uses incompatible with nearby residential uses.

General Retail and Office Uses

1. **Site size.** Sites for general retail and office firms range in size from 0.1 to 10 acres.
 - o Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites "a minimum acreage" as a site characteristic. General retail and office uses do not have a minimum acreage beyond what is dictated in local zoning codes.
 - o Attribute has "some meaningful connection with the operation of the industrial or employment use" – City need to provide a range of small site sizes. Needed site size is contingent on the type of business.
2. **Land ownership.** Sites with two or fewer owners are necessary to reduce the cost and uncertainty of land assembly.
 - o Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the "site configuration" as a site characteristic. Developing a commercial building on a site with more than two owners requires negotiating land assembly and purchase from multiple owners. Land assembly is difficult and often costly for a number of reasons. People own land for a variety of reasons, such as the desire to develop the land, keep the land undeveloped, or sell the land for a profit. Getting landowners to sell land can be difficult, especially if the ownership is legally disputed, as is the case with some inheritances. If a

³⁷ Miles, Mike E., Haney, Richard L., Bernes, Gayle, "Real Estate Development: Principles and Process," The Urban Land Institute, 1997.

landowner is a willing seller, they may have an unrealistic expectation of their land's value, in the context of comparable land values. In addition, one parcel of land may have multiple owners, compounding the issues described above. As a result, developers of retail and office buildings typically choose to develop sites with one or three owners.

- o Attribute has "some meaningful connection with the operation of the retail or office use" – The cost of land assembly, in financial terms and in terms of extra time needed for site assembly, can make developing a retail or office site with multiple land owners financially infeasible.
3. **Automotive access.** Retail and office buildings should be located on arterial or collector streets. The ideal site would have direct access to an arterial or collector.
- o Attribute is "typical of the industrial or employment use" - This site characteristic helps to minimize the amount of traffic on local streets, minimize commercial traffic in residential neighborhoods, improve mobility, minimize adverse effects on urban land use and travel patterns, and provide for efficient long distance travel, which are all necessary for effective commercial operations. A location with access to an arterial or state highway will have greater visibility, which is important to businesses that depend on in-person customer access.
 - o Attribute has "some meaningful connection with the operation of the industrial or employment use" – Many retail and office uses depend on auto access and visibility for their business.
4. **Topography.** General retail and office sites should be relatively flat, with slopes of not more than 15%.
- o Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites "site configuration including shape and topography" as a site characteristic. Business Oregon finds that competitive sites retail sites generally have a slope of 15% or less.
 - o Attribute has "some meaningful connection with the operation of the industrial or employment use" – commercial buildings require level floorplates to reduce costs and offer maximum flexibility, as well as level areas to provide for freight access and pedestrian walkways that meet ADA standards. The real estate development literature describes the increases in development costs and other difficulties associated with commercial development on a sloped site.
5. **Access to services.** City services should be directly accessible to the site, including sanitary sewer, and municipal water.
- o Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the "specific types or levels of public facilities, services or energy infrastructure" as a site characteristic. Business Oregon finds that competitive

commercial sites must have access to urban services, including water, wastewater, natural gas, electricity, and major telecommunications facilities.

- o Attribute has "some meaningful connection with the operation of the industrial or employment use" – retail and office buildings require access to municipal water, municipal sanitary sewer, and electricity/gas. Developing a site with direct access to municipal services is substantially more cost-effective than extending municipal services to an unserved site.

6. Surrounding land uses. General retail and office buildings are directly compatible with other commercial uses, mixed uses, and residential uses. Bend's Development Code and other policies address issues of compatibility between uses, such as requirements for building setbacks, screening, fencing, visual buffering, and landscaping.

- o Attribute is "typical of the industrial or employment use" - OAR 660-009-0025(6) strongly encourages cities to manage encroachment and intrusion of incompatible uses with employment uses. General retail and office uses are generally compatible with other commercial uses, mixed uses, and residential uses.
- o Attribute has "some meaningful connection with the operation of the industrial or employment use" - Commercial uses are able to operate efficiently where they are not in conflicts with adjacent land uses that could disrupt industrial business activity.

Special Site Needs: Aspirations for Bend's Economy and Corresponding Land Needs

The Goal 9 rule includes provisions for meeting unique site needs for industries that are an integral component of a city's economic development strategy. The uses and sites described below represent Bend's aspirations for employment above the anticipated employment described in the employment projections.

The State's rule encourages jurisdictions to accommodate special site uses for economic growth. OAR 660-009-0025(8) states "cities and counties that adopt objectives or policies providing for uses with special site needs must adopt policies and land use regulations providing for those special site needs. Special site needs include, but are not limited to large acreage sites, special site configurations, direct access to transportation facilities, prime industrial lands..." These sites must be identified and protected for those specific uses and from incompatible uses.

The 2008 EOA identified three special site needs based on Bend's economic aspirations: (1) a site for a new hospital; (2) a university district; and (3) large lot industrial. These sites are also being treated as sites with special site characteristics. Policies to protect these special sites for their intended uses need to accompany planning for these sites and are included in Chapter 5 of Bend's Comprehensive Plan. Policies could include minimum size requirements (say 50-100 acres) and use restrictions.

Through discussions with the Stakeholders, Planning Commission, and public testimony, the 2008 EOA identified the following uses for aspirational employment and special sites. The

following discussion revises the “special site needs” for Bend based on changes that have occurred since 2008.³⁸ The City is only proceeding with the large-lot industrial special site needs. The need for a university district is not being addressed because Oregon State University has selected a site within the UGB. The need for a new hospital site is not being addressed because the St. Charles has decided not to build a new hospital.

1. **Large Industrial Sites** – The 2008 EOA identified a need for two, 56-acre industrial sites: one for targeted economic sector uses, and another for a heavy industrial site user. The Remand acknowledged this need, which is included as a special site need for the 2015 EOA.³⁹

This land is not included in the general estimate for land need presented above and is in addition to existing land needs. These sites are not included in Bend’s employment projections because the industries Bend seeks for these sites are generally not present in Bend.

The Sector Targeting work calls for attracting secondary wood products, renewable energy resources, aviation, recreation equipment and specialty manufacturing, and information technologies. While the estimated needed economic lands may suit some of these sectors, two sites with a dedicated size of 56 acres each to be reserved for these uses are needed for large site users such as secondary wood products, aviation, renewable energy resources, and information technology. Stakeholders concluded that they have been approached by industries seeking large sites for these uses, but since none are in the current supply, the firms looked to other communities.

These sites are needed in addition to predicted industrial land needs because the total amount of industrial acreage is relatively small (118 acres), and placing 112 acres to be held in two large lots would consume nearly all of the needed 20-year supply. These sites are also needed because they will create the land base needed to attract Bend’s targeted sectors.

The specific location of these sites will be identified as part of the “Alternatives Analysis” required by OAR 660-024.

Juniper Ridge is the largest area designated for industrial uses in Bend. The base case assumes that all of Juniper Ridge will remain in an industrial plan designation and that it will accommodate future employment growth consistent with its designation. It can also

³⁸ The 2008 EOA identified a need for a hospital site and a new university campus. Because of recent events, the City has determined it no longer needs sites for these uses.

³⁹ The Remand states “The Commission concludes that the City has made an adequate showing under ORS 197.298(3)(a) that there is a specific identified land need for a future university campus, a site for a future medical center, and for two 50-acre large lot industrial sites.” Pg 131-132

accommodate one of the large lot industrial site needs due to its large size and the city ownership that allows it to be held to wait for a large lot user.

Draft

CHAPTER 5. EMPLOYMENT LAND SUFFICIENCY AND SITE NEEDS

This chapter provides an evaluation of land sufficiency in Bend. The analysis compares the land supply (as reported in the Buildable Lands Inventory) expressed in terms of capacity to accommodate new employees, with the updated 2013-2028 employment forecast. The land sufficiency analysis is followed by a discussion of the characteristics of needed sites to accommodate targeted industries. The chapter concludes with a discussion of short term land supply.

Buildable Employment Land Inventory and Land Capacity

The buildable land inventory (BLI) is a supporting document of the Bend General Plan. In simplest terms, the BLI documents the urban land supply of Bend, and estimates the growth capacity for housing and jobs. It is a key factual base for growth management policy in Bend. The BLI also serves a very specific role, required by law, in analyzing and documenting specific categories of buildable land, and, estimating capacity for growth that is ultimately used to determine how much land is needed within Urban Growth Boundary (UGB).

The full methods and results of the BLI are presented as a separate document (the *Bend Buildable Land Inventory*, 2015) and include an inventory of all lands (residential, employment, etc.) in the Bend UGB.

Commercial and Industrial Buildable Land Inventory Results

Table 17 shows employment land by general plan designation and lot size. In 2014, Bend had 1,162 vacant acres of vacant commercial and employment land. About one-quarter of Bend's vacant land is in sites smaller than 5 acres, 28% is on sites 5 to 50 acres, and 36% is in three sites larger than 50 acres.

Map 1 shows vacant and developed buildable lands in Bend.

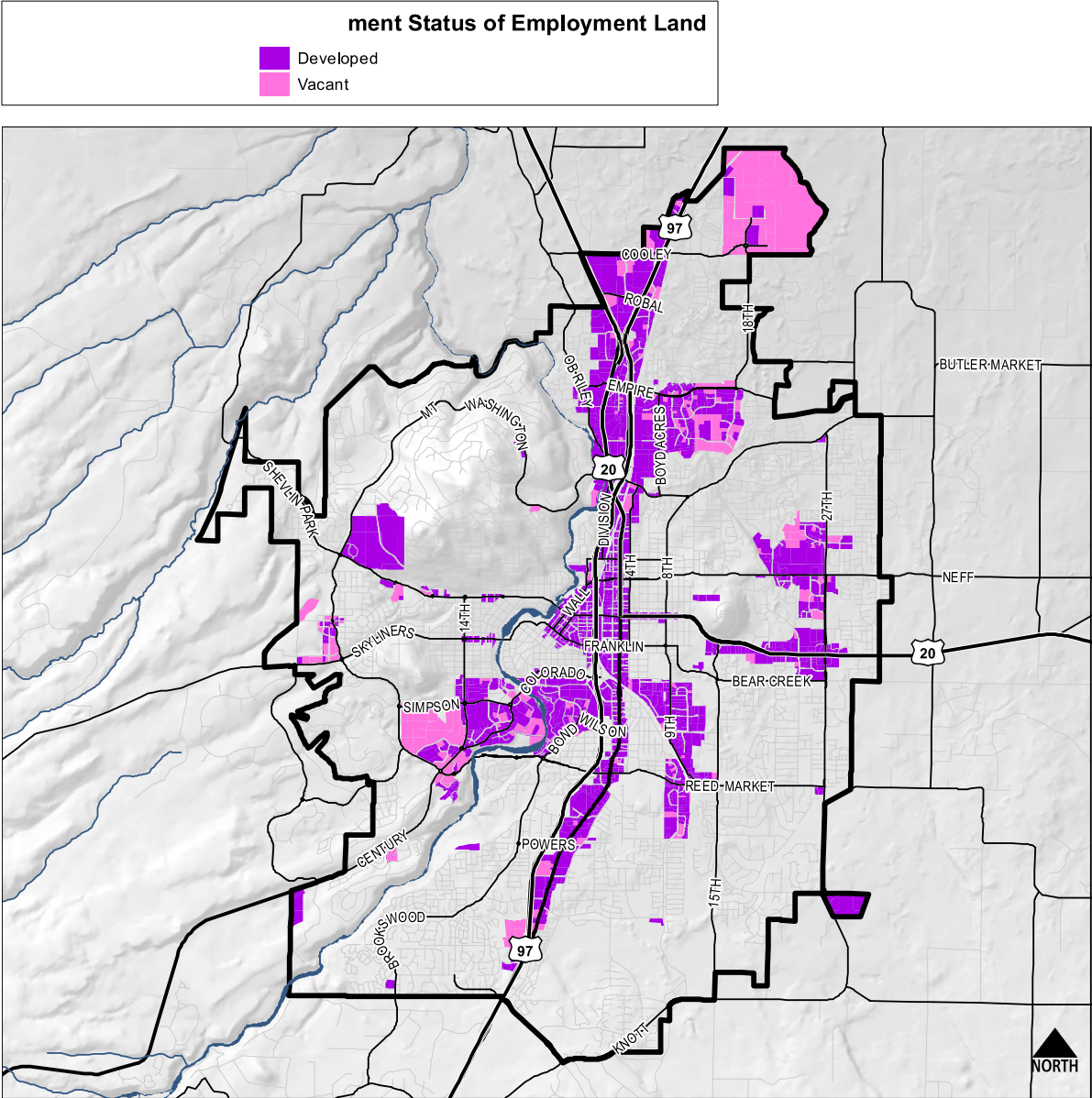
Table 17. Vacant Employment Land by General Plan Designation and lot size, Bend UGB 2014

Employment Category	Acres by Lot Size			Total	Percent of Total
	Smaller than 5 acres	5 to 49.99 acres	50.00 ac or more		
Commercial / Mixed Use	175	160	-	335	26%
Industrial / Mixed Employment	147	248	370	765	59%
Public Facilities	12	87	91	190	15%
Total	334	494	462	1,290	100%
Percent of Total	26%	38%	36%	100%	
Number of Tax Lots					
Commercial / Mixed Use	121	18	-	139	50%
Industrial / Mixed Employment	108	18	2	128	46%
Public Facilities	5	5	1	11	4%
Total	234	41	3	278	100%
Percent of Total	84%	15%	1%	100%	

Source: Bend Buildable Lands Inventory, 2014

Note: RM and RH lands are part of the Medical District Overlay Zone (MDOZ)

Map 1. Employment BLI Status



Source: Bend Buildable Lands Inventory, 2014

Capacity of Employment Land in the Bend UGB to Accommodate New Employment

This section combines work in the previous sections to calculate the sufficiency of employment lands in Bend to accommodate forecast employment growth for the 2013-2028 period. The issue of providing for a variety of locations, sizes, and types is addressed. Short-term demand and supply for economic lands is also discussed. For the purpose of this analysis, the term “demand” refers to land needs before being subtracted from existing supplies. The term “need” refers to land needs after subtracting out existing land supplies.

Methods used in the analysis

For the revised EOA, Bend used a scenario planning tool called “Envision Tomorrow” to estimate the capacity of employment land. This is a significant change from the methods used in the 2008 EOA. Envision Tomorrow can be used to project the impact of current policies and trends on capacity as well as a range of other metrics, and compare against alternative policy choices. A “base case” scenario was developed based on current plan designations and average employment densities discussed in this document. In short, on vacant land, “development types” representing plan designations and calibrated to match the employment densities listed in the following section were applied to all buildable acres. A redevelopment rate calibrated to match the estimate of redevelopment potential was applied to developed land. The assumptions and methodologies used to translate buildable area into jobs in Envision Tomorrow are described in greater detail in the *Bend Urbanization Report*. This section summarizes the key assumptions and output used in Envision Tomorrow for the “base case”, i.e. the pre-policy projection of current trends.

Employment land capacity and deficiency

As stated above, the Envision Tomorrow model estimates the capacity of vacant and redevelopable land to accommodate new employment. Table 18 shows the residual employment need for the 2013-2028 period by broad land use category. The results show that Bend does not have enough land in its UGB to accommodate all employment types with the exception of public employment. There is an overall deficit of land for 10,720 employees.

Table 18. Vacant Employment Land by General Plan Designation and lot size, Bend UGB 2014

Employment Category	Net New Jobs	Total Employment Need[1]	Residual Employment Need	Percent of Employment Need Met within the UGB
Retail & Hospitality	2,220	6,520	4,300	35%
Office	3,610	7,160	3,550	50%
Industrial	3,310	6,540	3,230	51%
Public	2,540	1,720	None[2]	100%
Total	11,680	21,940	10,720	53%

Source: Bend Urbanization Report

Notes: [1] The employment need categories have been generalized for simplicity in comparing against capacity as measured in Envision Tomorrow.

[2] Public jobs do not include school-based employment in actual school facilities which tend to be located in residential areas. Schools are addressed as a separate land need. The surplus of capacity for public jobs inside the UGB does not subtract from the need for employment capacity of other types, since land designated Public Facilities (where most of the public employment capacity comes from) generally will not provide opportunities for private-sector retail, office, or industrial development.

Table 19 estimates the number of sites needed to accommodate the residual employment need from Table 18. The distribution (e.g., percentage) of employment by employment category and site size from Table 5 was used allocate residual employment need to employment categories and site sizes. The average employees per site from Table 7 was used to estimate the number of needed sites. For example, 3,054 Retail & Hospitality employees expected to locate on sites smaller than five acres divided by an average of 23 employees per site for sites smaller than five acres yields a need of 133 sites smaller than five acres for Retail & Hospitality employees.

The results show that Bend has a deficit of 366 sites smaller than five acres and 17 sites between 5 and 50 acres.

Table 19. Vacant Employment Land by General Plan Designation and lot size, Bend UGB 2014

Employment Category	Residual Employment Need		Sites Needed	
	Smaller than 5 acres	5 to 49.99 acres	Smaller than 5 acres	5 to 49.99 acres
Retail & Hospitality	3,054	1,246	133	10
Office	2,669	237	117	2
Industrial	2,665	556	116	5
Public	None	None	None	None
Total	8,388	2,039	366	17

Source: Residual Employment Need from the Bend Urbanization Report, Distribution of Employment in Bend (Table 5) and Average Employees per Site (Table 7)

Short-term land supply

Remand and State Requirements

The Remand requires the City provide more evidence to demonstrate that it complies with the requirement to maintain a short-term land supply as required by OAR 660-009-0015(3)(a)(C):

“For cities and counties within a Metropolitan Planning Organization, the inventory must also include the approximate total acreage and percentage of sites within each plan or zoning district that comprise the short-term supply of land.”

Bend is within a Metropolitan Planning Organization (MPO) and is therefore required to conduct the analysis. OAR 660-009-0005(10) defines short-term land supply as follows:

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

The Remand provides the following guidance with respect to meeting the requirements of OAR 660-009-0015(3)(a)(C):

Under OAR 660-009-0015(3)(a)(C), the EOA Inventory of Industrial and Other Employment Lands for cities and counties within a Metropolitan Planning Organization, must include the approximate total acreage and percentage of sites within each plan or zoning district that comprise the short-term supply of land.

This short-term supply analysis required for jurisdictions within MPOs is in addition to the EOA inventory requirements applicable to all comprehensive plans for areas within urban growth boundaries. OAR 660-009-0015(3)(a)

Furthermore, division 9 requires that comprehensive plans for cities such as Bend “include detailed strategies for preparing the total land supply for development and for replacing the short-term supply of land as it is developed.” OAR 660-009-0020(2).

The Commission concludes that the Goal 9 rule requires the City to include policies for maintaining a short-term supply.

The City must plan for required infrastructure and have identified the funding mechanisms. State law requires the city to describe development constraints or infrastructure needs on vacant lands and determine the amount of vacant acreage by plan designation that qualifies as short-term supply. OAR 660-009-0005(9) establishes the definition of “serviceable” as:

“the city or county has determined that public facilities and transportation facilities, as defined by OAR chapter 660, division 011 and division 012, currently have

adequate capacity for development planned in the service area where the site is located or can be upgraded to have adequate capacity within the 20-year planning period.”

Since all vacant land is theoretically “serviceable” because a city could state it “can be upgraded”, Bend staff created a working definition so that a site is “serviceable” if adopted water, sewer, and transportation master plans are currently written to serve the property. That is, all land within the current UGB are considered serviceable in the Goal 9 context.

The City of Bend is within a Metropolitan Planning Organization and must describe the approximate total acreage of sites within each plan designation that comprise the short-term supply of land. OAR 660-009-0005(10) establishes the definition of “short-term supply of land” as:

“suitable land that is ready for construction within one year of an application for a building permit or request for service extension. Engineering feasibility is sufficient to qualify land for the short-term supply of land. Funding availability is not required.”

Operationalizing short term supply analysis

It is worth parsing the elements of the rule to better understand the requirements. The first issue is temporal in nature: “land that is ready for construction within one year of an application for a building permit or request for service extension.” Thus, the definition establishes a one year threshold. The second is the concept of “engineering feasibility.” The rule doesn’t provide guidance on how to operationalize “engineering feasibility.” For the purpose of this analysis, the consulting team defines engineering feasibility as the ability to provide the needed backbone infrastructure to the site within one year. On site infrastructure is not part of engineering feasibility. The final issue is related to funding. The City is not required to demonstrate that it is the funds available to develop the infrastructure.

The analysis includes evaluation of water, wastewater, stormwater, and transportation infrastructure. Whether a specific site meets the standards for short term supply was determined by analysis of functional plans and capital improvement programs. For the purpose of this analysis, we used the end of 2016 in the evaluation.

City Functional Planning Efforts

The evaluation of short-term land supply is directly related to infrastructure plans (called “functional” plans). For the purpose of this analysis the relevant functional plans are water, wastewater, stormwater, and transportation.

Since the Remand was issued in 2010, the City has completed a lot of planning work for infrastructure, such as the Water System Master Plan or the Water Management and Conservation Plan. These plans are described in Chapter 2.

Preliminary Analysis and Findings

This section is in progress and will build from analysis by Murray Smith & Associates.

Conclusions

To be added when the final scenario is ready and final results are known.

Draft

APPENDIX A. NATIONAL, STATE, REGIONAL, COUNTY, AND LOCAL TRENDS AFFECTING FUTURE ECONOMIC GROWTH

Economic development in Bend over the next twenty years will occur in the context of long-run national trends. Appendix A provides more detailed information on trends affecting future economic growth and is intended to support the analysis required by OAR 660-009-0015(1). The most important of these trends include:

- At the largest scale, the effects of “globalization” – the increasingly free movement of jobs, capital, and products throughout the world – are being felt in communities across the United States. One effect of globalization is that low-skill manufacturing jobs will increasingly take place elsewhere, where wages are far lower. Thus, in order to compete and earn living-wage salaries, American workers must pursue higher-skilled jobs in “knowledge based” industries. While some of these jobs will continue to be in manufacturing industries, the largest job growth will take place in new industries such as information technology, professional services, and other sectors.
- Economic growth will continue at a moderate pace. Annual growth rates (in real GDP) are projected to be roughly 3 percent through 2017. The Congressional Budget Office (CBO) estimates that unemployment rates will continue to decline but remain above 6.0 percent until late 2016.
- The aging of the baby boom generation, accompanied by increases in life expectancy. The number of people age 65 and older will more than double by 2050. This trend can be seen in Oregon, where the share of workers 65 years and older grew 2.9 percent of the workforce in 2000 to 4.1 percent of the workforce in 2010, an increase of 41 percent.
- The need for workers to replace retiring baby boomers will outpace job growth. According to the Bureau of Labor Statistics, net replacement needs will be 33.7 million job openings over the 2010-2020 period, compared with growth in employment of 21.1 million jobs.
- Education will be an important 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.

State, Regional, and Local Trends

State, regional, and local trends will all affect economic development in Bend. This section presents data for Bend and the surrounding areas that will affect the city’s growth over the planning period.

Overall Employment Growth

According to the Oregon Employment Department, Oregon’s employment peaked in the first quarter of 2008 (at more than 1.74 million jobs) and hit its lowest point in the first quarter of 2010 (at about 1.59 million jobs), losing 146,000 jobs over the two-year period. However, Oregon added about 52,000 jobs between 2010 and December 2012. After hovering around

1.5% in the early stages of the recovery, growth kicked into higher gear in late 2013. Since then, the state has added jobs to the tune of about 3% annually; similar to what Oregon experienced during the housing boom years preceding the Great Recession, and about a full percentage point faster than the nation.

The Oregon Office of Economic Analysis (OEA) points out that, in addition to job growth, other economic indicators have shown recent improvement. These trends point to a deeper, more robust economic recovery and a return to more normal labor market dynamics. For example, new business filings in Oregon are increasing. OEA sees firm creation as a positive sign, as entrepreneurs and start-ups often drive innovation and the development of new technology.

As in 2008, employment is still forecast to grow over the next decade. According to data from the Bureau of Labor Statistics and the Oregon Employment Department total employment in Deschutes County grew by about 21% from 2001 to 2013, and total covered employment throughout Central Oregon (Deschutes, Crook and Jefferson Counties) is forecast to grow by about 16% over the period from 2012 to 2022.

Labor Trends

Growing Population

Table A- 1 shows population change from 1990 to 2013 for Oregon, Deschutes County, and Bend. Bend's population grew at the fastest annual rate since 1990, increasing by an average of 6% per year, almost tripling over the 23-year period. In 2013, Bend's population was about 78,000 people, compared to 163,000 in the county as a whole and 3,919,000 throughout the state.

Table A- 1. Population, Oregon, Deschutes County, Bend, 1990-2013

	1990	2000	2013	1990 - 2013 Change		
				Change	% Change	Average Annual Growth Rate
Oregon	2,842,321	3,421,399	3,919,020	1,076,699	38%	1%
Deschutes County	74,958	115,367	162,525	87,567	117%	4%
Bend	20,469	52,029	78,280	57,811	282%	6%

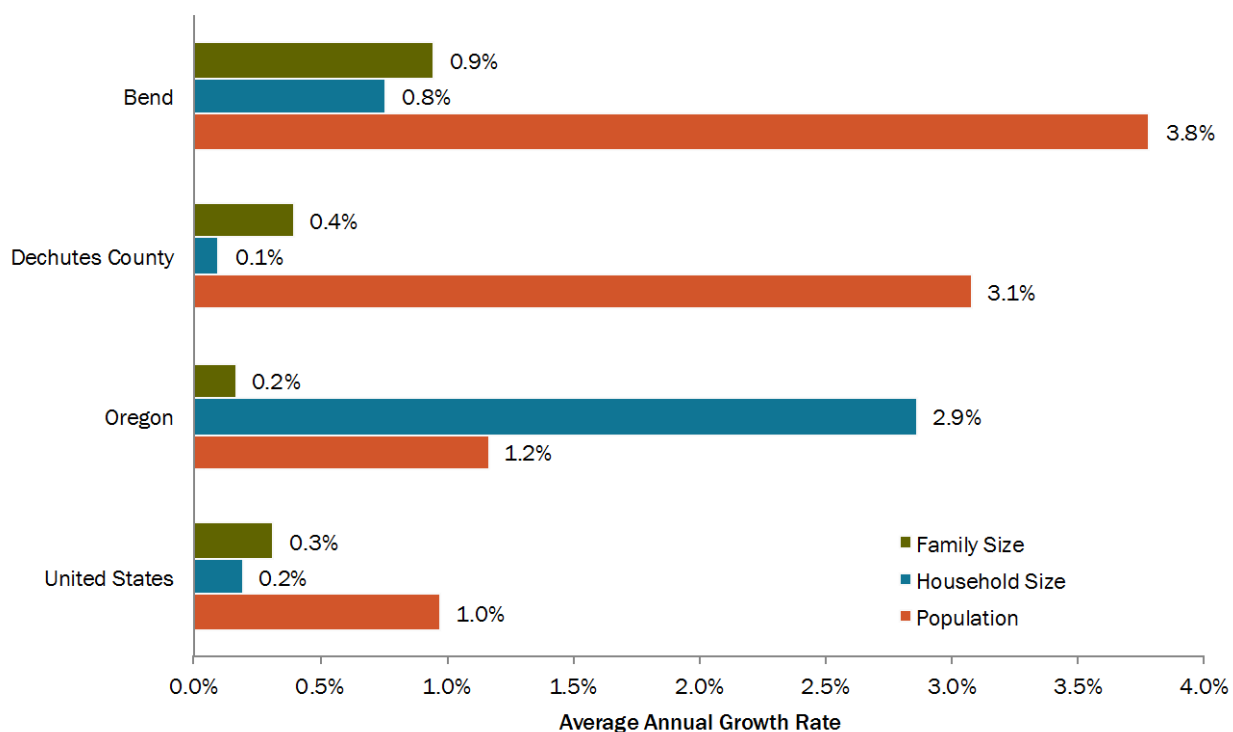
Source: Population Research Center, Portland State University, <http://www.pdx.edu/prc/>.

Figure A- 1 compares the average annual growth rates for population, household size, and family size for the nation, Oregon, Deschutes County, and Bend, from 2000-2013. Population grew faster than household size for all geographies except for Oregon.

From 2000 to 2013, Bend's population grew at a 3.8% average annual growth rate, compared to 3.1% in Deschutes County, 1.2% in Oregon, and 1.0 percent in the nation as a whole. Oregon's

household size increased at a 2.9% average annual growth rate, compared to 0.8% in Bend, 0.1% in Deschutes County, and 0.2% in the nation.

Figure A- 1. Average Annual Population Growth Rate, United States, Oregon, Deschutes County, Bend, 2000-2013

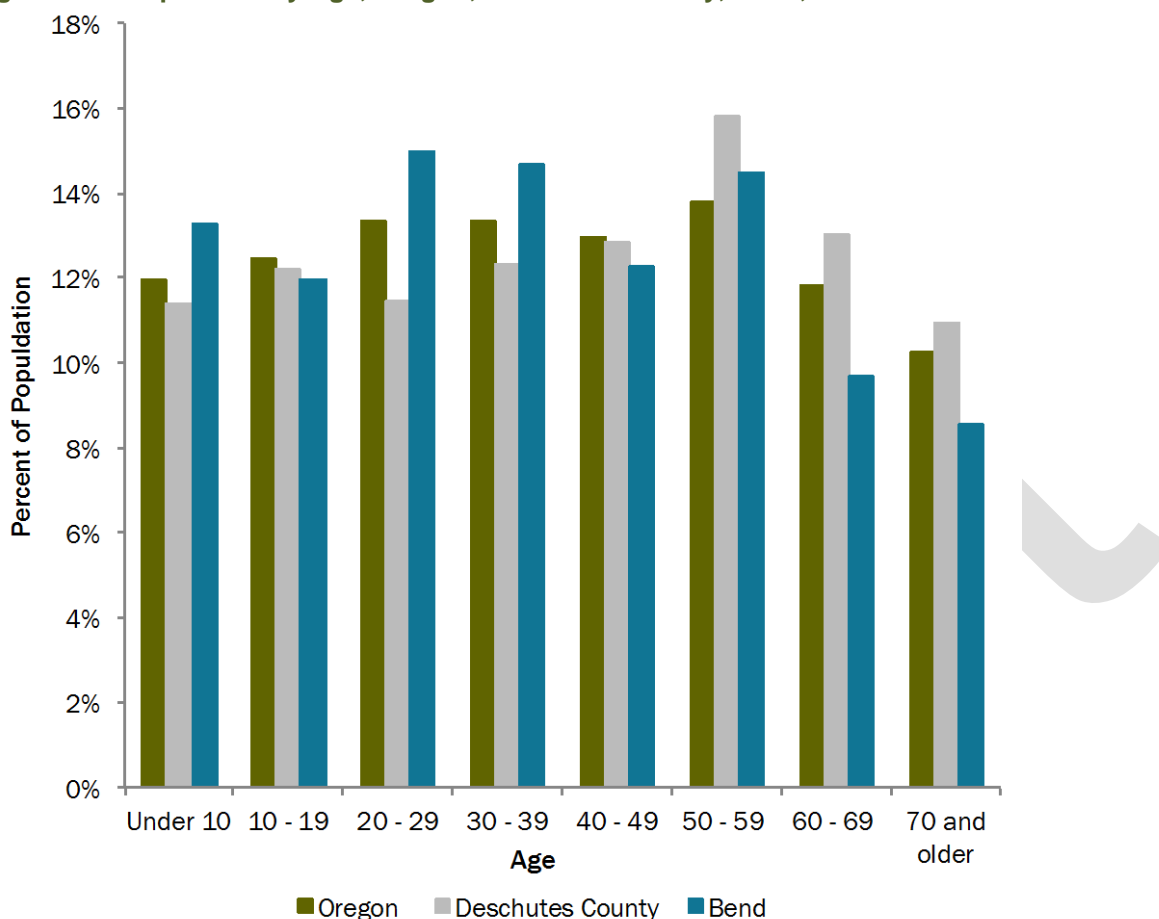


Source: US Census, Portland State University Population Research Center.

Aging Population

Figure A- 2 shows the distribution of age groups in Oregon, Deschutes County, and Bend in 2013. Bend has a larger share of 20 to 39 year olds, about 30% of the city's population, compared, to about 25% for Deschutes County as a whole, and about 27% in Oregon.

Since, 2000 60-to-69-year-old age group has grown the fastest, increasing by 138%, and increasing its share of the overall population by 15%. The next-fastest group was the 50-to-59-year-old group, who increased by 104%, and increasing their share of the population by 20%. People in these age groups will eventually retire, meaning they will both leave the workforce and require changes in their housing and care.

Figure A- 2. Population by Age, Oregon, Deschutes County, Bend, 2013

Source: Census Bureau, 2013 American Community Survey.

In-Migration

Continued in-migration from other states will drive growth in Oregon. Key trends are that:

- Population in the county and the Bend urban area will continue to grow at a higher rate than the rest of the state
- The majority of population growth will come from people moving into the area
- The baby-boomer generation's children and grandchildren will make up the biggest percentage of the population and the workforce"

These conclusions remain relevant. About 5.3 percent of Oregon's population lives in the Central Oregon counties of Crook, Deschutes, and Jefferson. OEA forecasts that Central Oregon's share of the population will increase to about 5.7 percent by the year 2040. The population in Deschutes County alone may grow by 45% over the period from 2014 to 2040, outpacing the rate of 31% for the state as a whole, according to data from OEA and Portland State University's Population Research Center.

According to a U.S. Census study, Oregon had net interstate in-migration (more people moved to Oregon than moved from Oregon) during the period 1990-2010. Oregon had an annual

average of about 15,600 more in-migrants than out-migrants during the period 2010-2013. Net migration will lead to over 71,000 new residents between 2015 and 2040, while births alone will add only about 54,000.

Income

The 2008 EOA found that, while in general Bend's income composition was similar to that of the county, the state, and the nation, Bend's median income was slightly lower than the national level. "The 2006 American Community Survey shows the City of Bend is similar to the U.S., State of Oregon, and Deschutes County. 2006 median income for Bend is \$58,225, which is slightly higher than the \$55,414 for Deschutes County, \$55,923 for Oregon, and slightly lower than \$58,526 for the U.S. Per capita income for the City of Bend is \$26,140, which is slightly higher than the county, state, and nation" (2008 EOA).

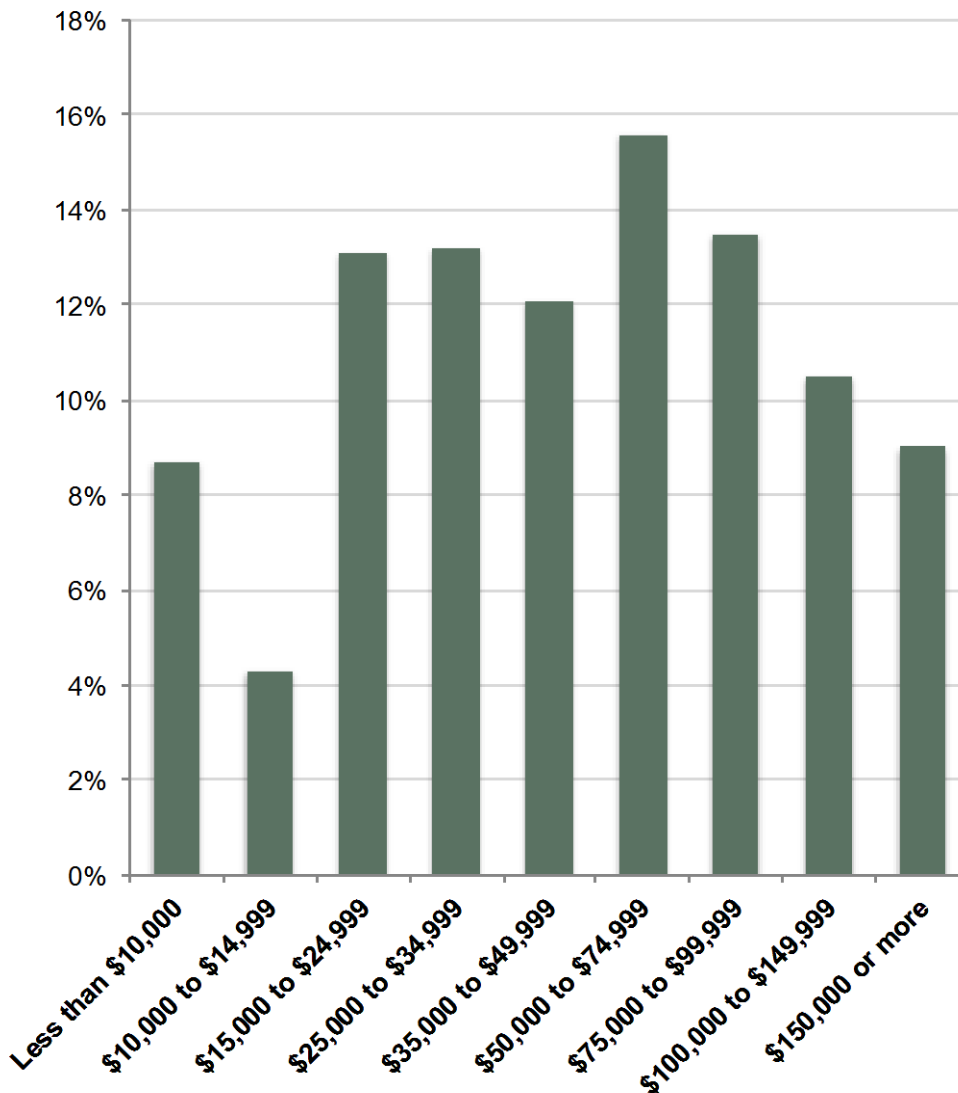
Since the 2008 EOA, Bend's average income has diminished slightly. In 2013, Bend's median income of \$48,014, was above that of Deschutes County (\$46,791), but below that of Oregon (\$50,251), and the nation (\$52,250). The decrease from 2008 to 2013 may indicate a lag in the post-recession recovery, rather than a permanent shift downward for Bend-area wages.

Statewide, wages fell during the recession, but increased after 2010. The Oregon Office of Economic Analysis in March 2015 had most recently observed a 7% annual increase in wages statewide, and per worker average wages increased 3% in 2015. OEA noted that growth in income, wages, and population picked up in 2014, and all grew more rapidly than the nation. However, after accounting for inflation, average wages had only increased less than half of one percent since 2000.

Personal income statewide is projected to grow by 5.1% in 2015, and 5.8% in 2016, according to the Oregon Employment Department. The Office of Economic Analysis also forecasts that wage growth will continue to increase as the labor market tightens, and it may tighten the fastest in Central Oregon, where employment growth is expected to occur faster than in any other metro area. In other words, the decrease in Bend's median household income since 2008 may illustrate its disproportionate shock from the recession; as the region's labor market continues to recover, so too will its typical wages.⁴⁰

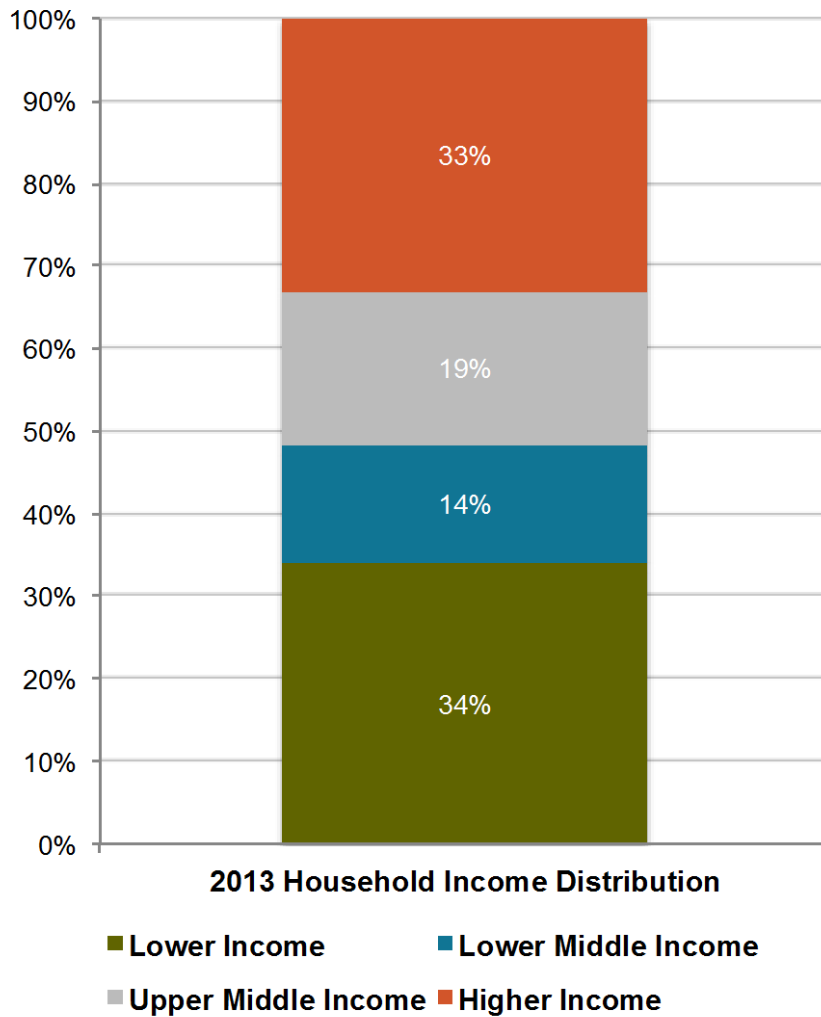
Figure A- 3 shows household income by income group for Bend from 1990 to 2013. In 2013, the largest household income group in Bend was the \$50,000 to \$74,999 group, which made up 16% of all households. About 26% of households earned less than \$25,000, and about 20% of households earned more than \$100,000.

⁴⁰ "Oregon Economic and Revenue Forecast," Oregon Office of Economic Analysis, March 2015, <http://www.oregon.gov/DAS/OEA/docs/economic/forecast0315.pdf>.

Figure A- 3. Household income by income group, Bend, 2013

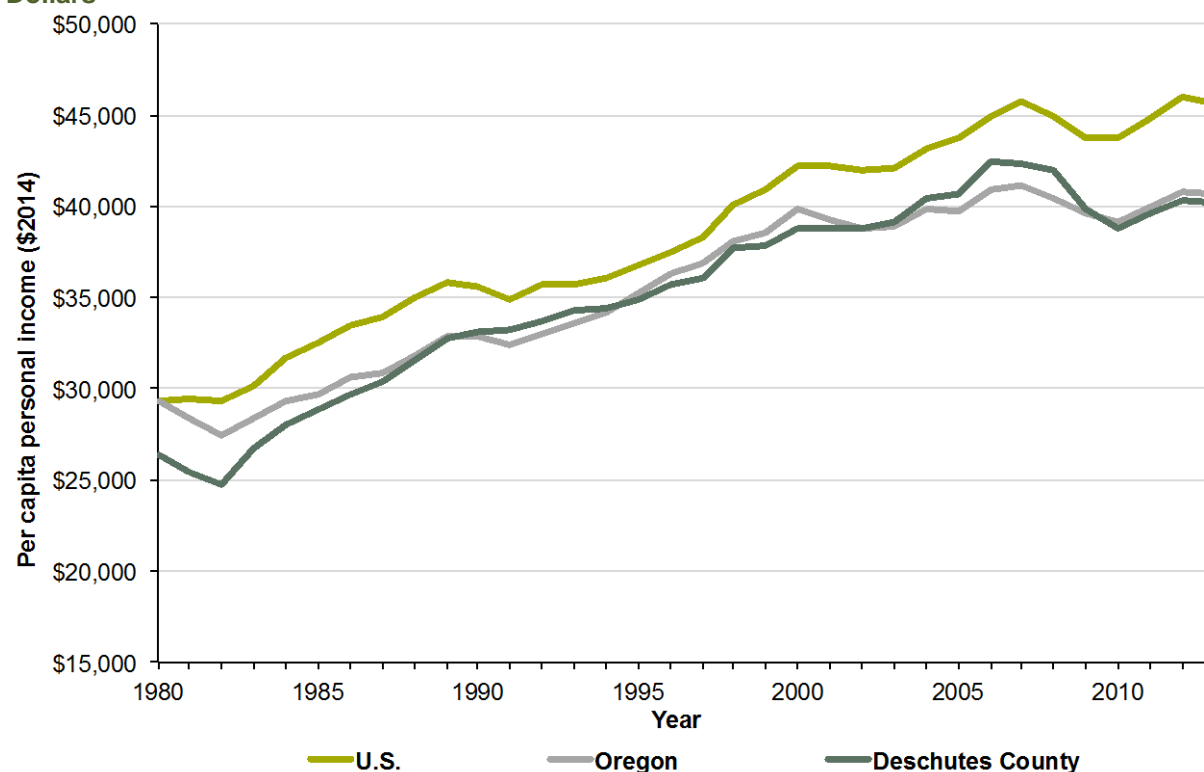
Source: Census Bureau, 2013 American Community Survey.

Figure A- 4 shows household income by income by income group for Bend in 2013. About 34% of households earn incomes that put them in the lower income category, 15% earn lower-middle incomes, 19% earn upper-middle incomes, and 33% earn higher incomes.

Figure A- 4. Household income by income group, Bend, 2013

Source: Census Bureau, 2013 American Community Survey.

Figure A- 5 shows per capita personal income in the U.S., Oregon, and Deschutes County, from 1980 to 2013 in base 2014 dollars. Real per capita income increased for all geographies since 1980. In 2013, incomes in the U.S. as a whole (\$45,660 in 2014 Dollars) were higher than in Oregon (\$40,645), and Deschutes County (\$40,245).

Figure A- 5. Per Capita Personal Income, U.S., Oregon, and Deschutes County, 1980-2013, 2014 Dollars

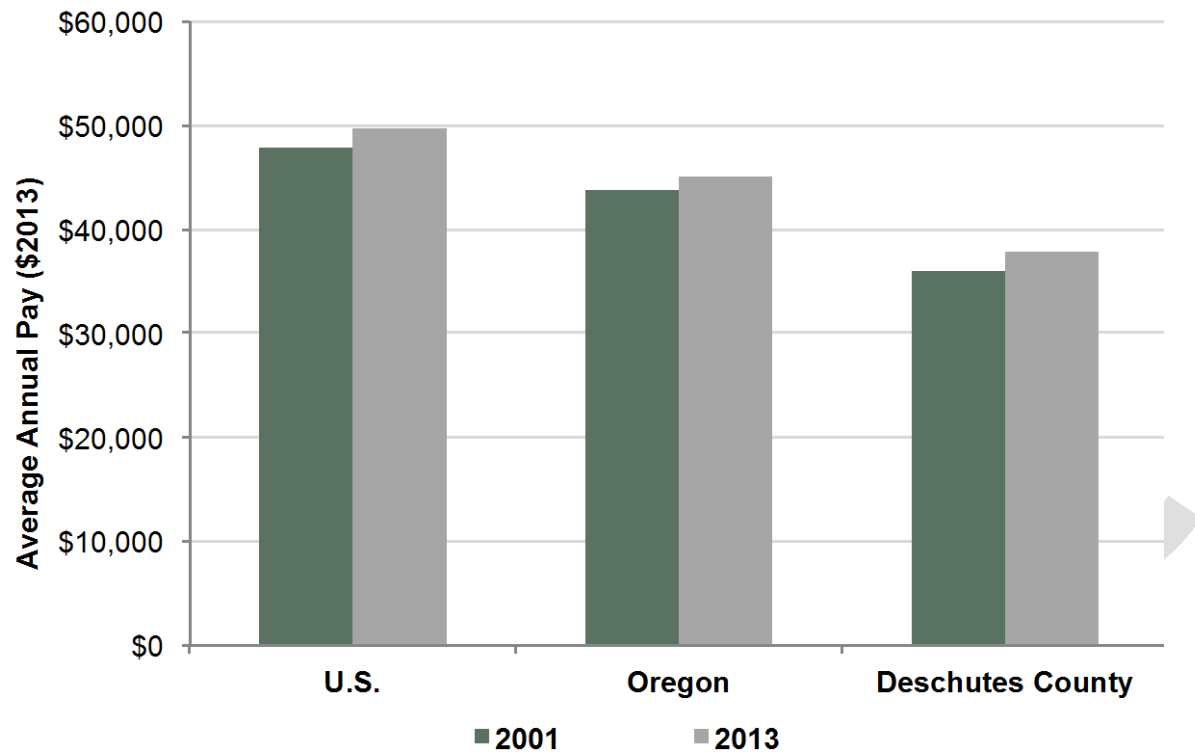
Source: Bureau of Economic Analysis, Regional Data, Table CA1-3, http://www.bea.gov/iTable/index_regional.cfm.

Table A- 2 and Figure A- 6 show average annual pay for covered employees in the U.S., Oregon, and Deschutes County from 2000 to 2013. Over the 13-year period, pay increased the fastest in Deschutes County where it grew by 5% or \$1,657, compared to 3% and \$1,999 in Oregon, and 4% and \$1,999 in the U.S. Average annual pay in Deschutes County amounted to \$37,755 in 2013.

Table A- 2. Average Annual Pay, U.S., Oregon, Deschutes County, 2001-2013

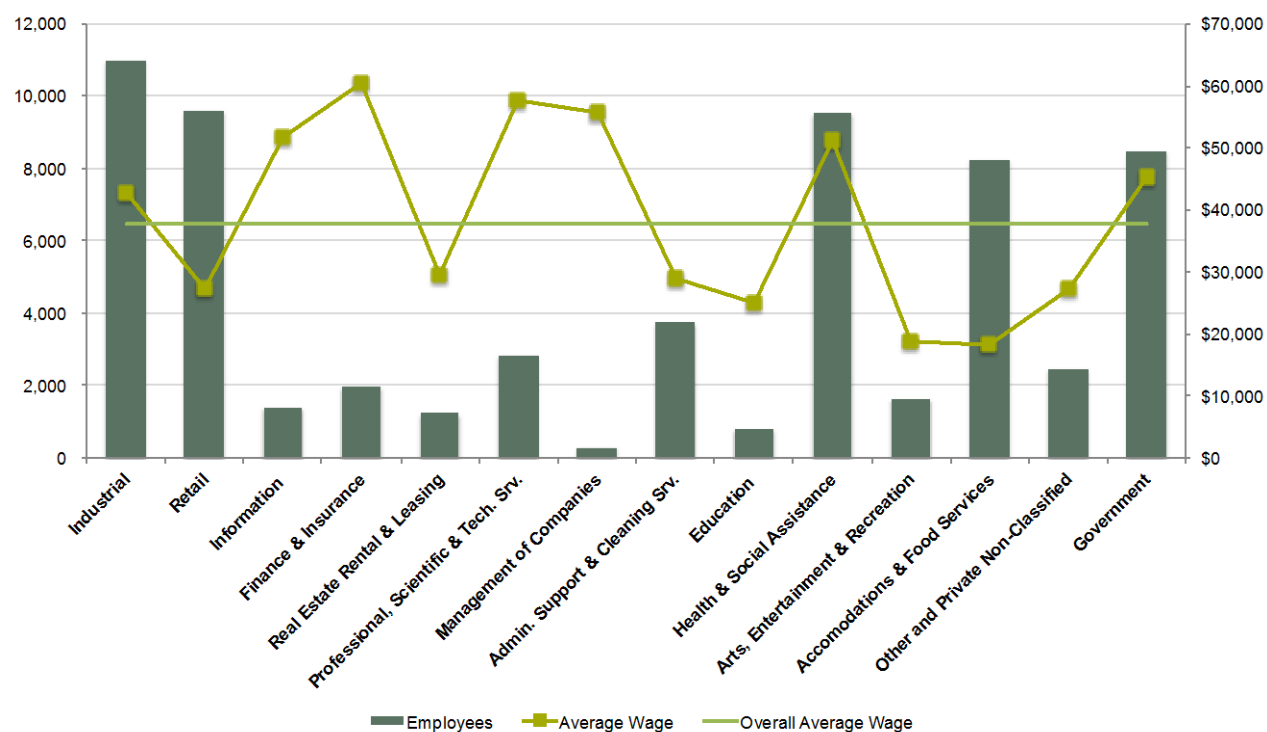
	2001	2013	Change 2000 to 2013	
			Amount	Percent
U.S.	\$47,809	\$49,808	\$1,999	4%
Oregon	\$43,829	\$45,019	\$1,190	3%
Deschutes County	\$36,098	\$37,755	\$1,657	5%

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

Figure A- 6. Average Annual Pay, U.S., Oregon, Deschutes County, 2001-2013, 2013 Dollars

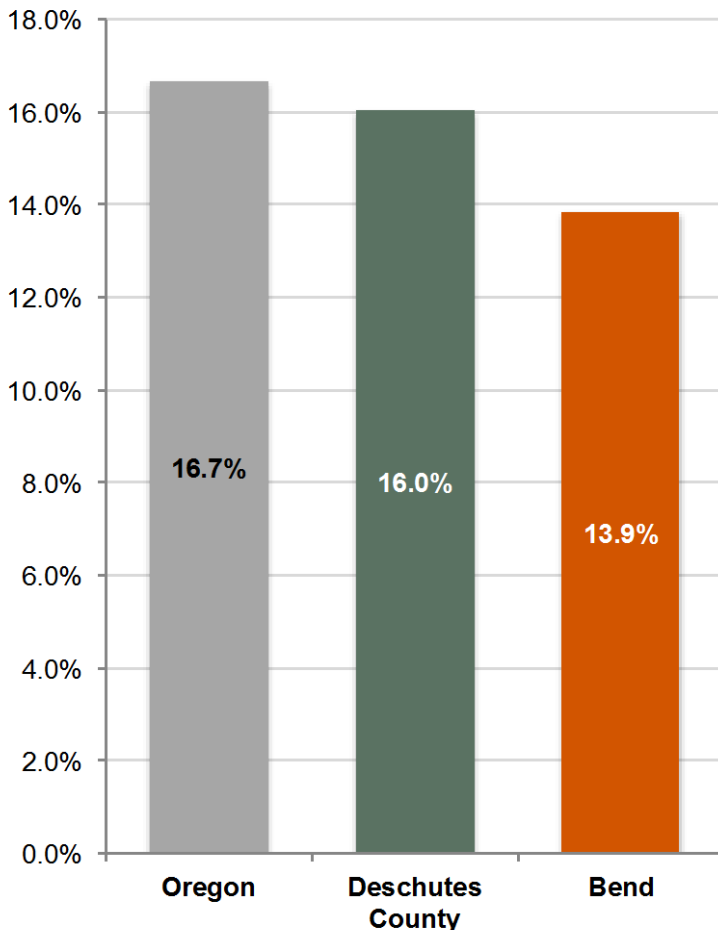
Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages.

Figure A- 7 shows wages by industry for Deschutes County from 2001 to 2013. The Private Non-Classified industries grew the fastest, increasing by about 74%. In 2013, the Natural Resources and Mining and Utilities industries were both more than double the average wage for covered employees overall. In contrast, wages for Arts Entertainment and Recreation and Accommodation and Food Services were about 50% below the average wage overall.

Figure A- 7. Wages and number of employees by industry, Deschutes County, 2013

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

Figure A- 8 shows the percent of residents in poverty for Oregon, Deschutes County, and Bend. Bend has the lowest share of impoverished residents (13.9%) compared to Deschutes County (16.0%), and the state as a whole (16.7%).

Figure A- 8. Percent below poverty line, Oregon, Deschutes County, Bend, 2013

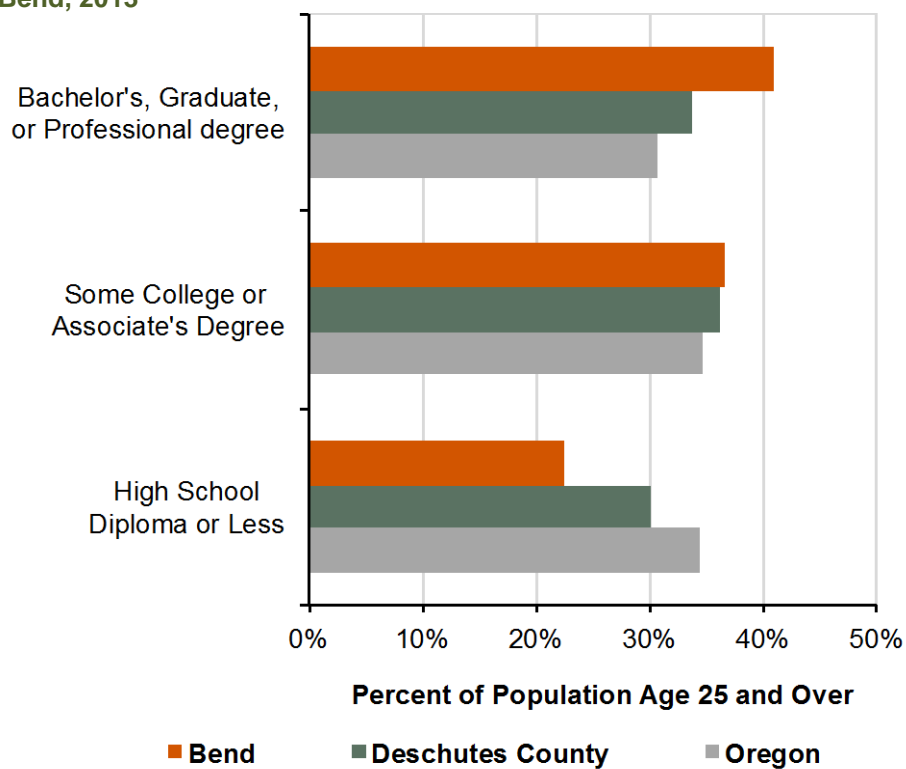
Source: Census Bureau, 2013 American Community Survey.

Educational Attainment

In 2008, the Bend EOA concluded that: “Bend’s relatively high percentage of college educated workers will tend to generate high paying jobs, be more responsive to economic changes over time, increase average incomes of the entire workforce, and may generate positive social benefits like reduced crime rates and higher real estate prices.” As in 2008, Bend in 2013 still has a higher share of college-educated residents than the county and the state. In 2009, Bend had more adults with a bachelor’s degree or higher (about 40%) than Deschutes County (about 35%) and Oregon (about 30%). Furthermore, in line with the assessment from 2008, Bend also has a lower rate of poverty than the county and the state.

Figure A- 9 educational attainment for the population older than 25 years in Oregon, Deschutes County, and Bend in 2013. Bend has the highest share of adults with a bachelor’s degree or higher (about 40%), compared to about 35% and 30% in Deschutes County and Oregon respectively.

Figure A- 9. Educational attainment, Population Age 25 and Over, Oregon, Deschutes County, Bend, 2013



Source: Census Bureau, 2013 American Community Survey.

Unemployment and Workforce Participation

Oregon's labor force participation rate increased in 2014 after declining to record-low levels in the aftermath of the recession according to OEA. Strong job growth, especially in better-paying jobs, has lured people back into the workforce. This is welcome news since increasing participation helps reduce labor market slack and moves the economy closer towards full employment.

The 2008 EOA observed that:

- The increase in the area's labor force is expected to keep pace with the population increase....
- The in-migration of younger individuals combined with the baby boomer generation of workers will create a large potential labor force in the peak of its work and income producing years"

While our analysis has not focused on the relationship to Crook and Jefferson Counties, current data upholds some of the claims made in the 2008 EOA. Data from the Census Bureau's On the Map, shows that most people who are employed in Bend live in Deschutes County. Seventy-six percent of Bend employees come from Deschutes County. About 3% come from Crook County and about 2% from Jefferson County.

In 2013, Bend had a higher rate of labor force participation than Deschutes County and the state. Similarly, employment was forecast to grow by about 2% over the period from 2012 to 2022.

With respect to the unemployment rate, the 2008 EOA concluded that

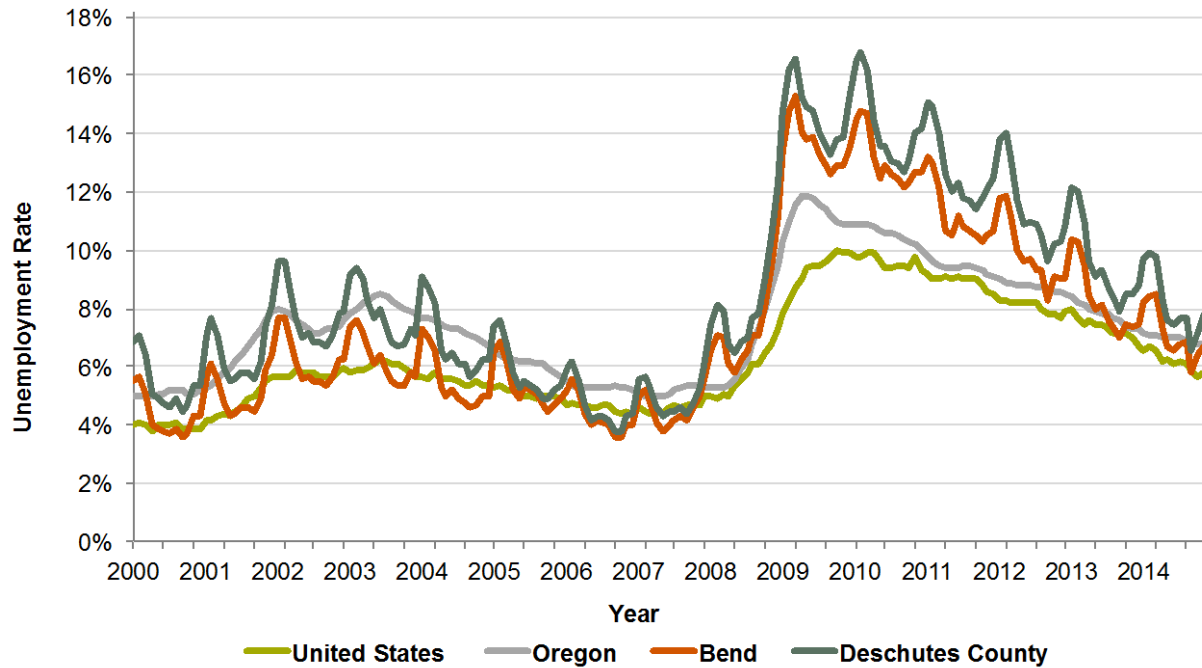
- "Recent unemployment rates in Deschutes County tend to be higher than the U.S., and similar to the State of Oregon, suggesting Bend and Deschutes County unemployment rates may track with national and state trends in the future
- Unemployment rates in Deschutes County show more pronounced affects from changes in seasonal employment than in the U.S. and Oregon
- Structural unemployment does not appear to have been an issue in Deschutes County and Bend, suggesting no major disconnect between the capabilities of resident workers and economic changes and growth over the past decades"

Despite a sharp uptick in unemployment rates during the recession, unemployment rates today are trending towards levels similar to those at the time of the 2008 EOA. Unemployment rates in Deschutes County have remained higher than in the nation and the state. However, the size of the gap between the two has diminished since the recession. In December 2014, the unemployment rates in Bend (6.2%), were below that of Oregon (6.7%), and Deschutes County (7.5%), but still above that of the U.S. (5.6%).

Figure A- 10 shows the unemployment rate for the U.S., Oregon, Deschutes County, and Bend, from 2000 to 2014. The unemployment rates in Bend and Deschutes County exceeded those of

Oregon and the U.S. during the peak of the recession. The rates reached as high as about 15% in Bend and over 16% in Deschutes County. In December 2014, the unemployment rates in Bend (6.2%), were below that of Oregon (6.7%), and Deschutes County (7.5%), but above that of the U.S. (5.6%).

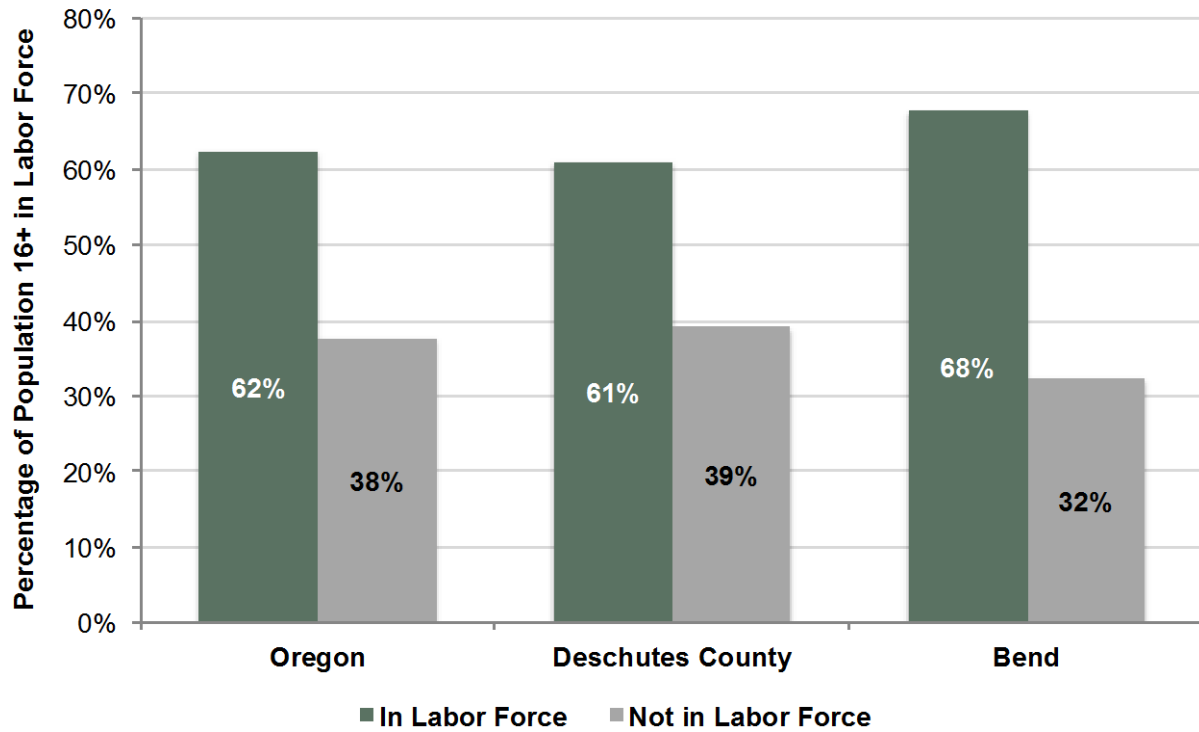
Figure A- 10. Unemployment Rate, United States, Oregon, Deschutes County, Bend, 2000-2014



Source: Bureau of Labor Statistics.

Figure A- 11 shows the rate of labor force participation for Oregon, Deschutes County, and Bend in the 2011-2013 period, for the population 16 years and older. Bend has a higher rate of participation (68%), compared to the county (61%) and state (62%) as a whole.

Figure A- 11 Labor force participation, population 16 years and older, Oregon, Deschutes County, Bend, 2011-2013

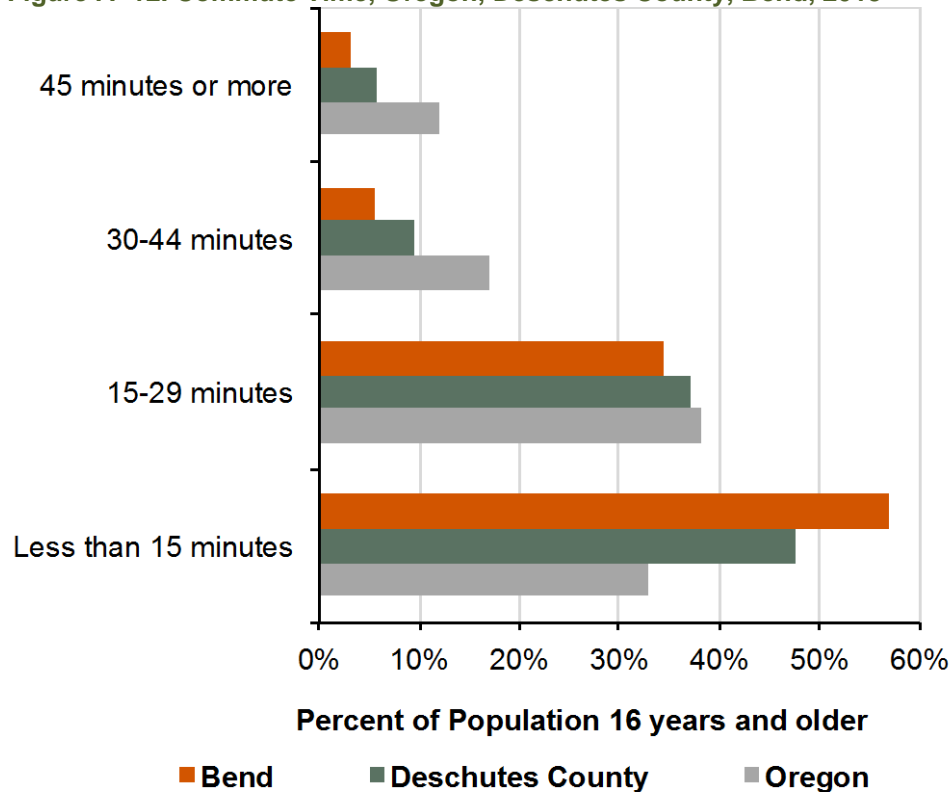


Source: Census Bureau, 2011-2013 American Community Survey, Table B23001.

Commuting Patterns

Figure A- 12 shows commute times for workers in Oregon, Deschutes County, and Bend in 2013. More than half of bend residents (about 57%) have a commute of less than 15 minutes, compared to about 47% in Deschutes County, and about 33% in the state as a whole.

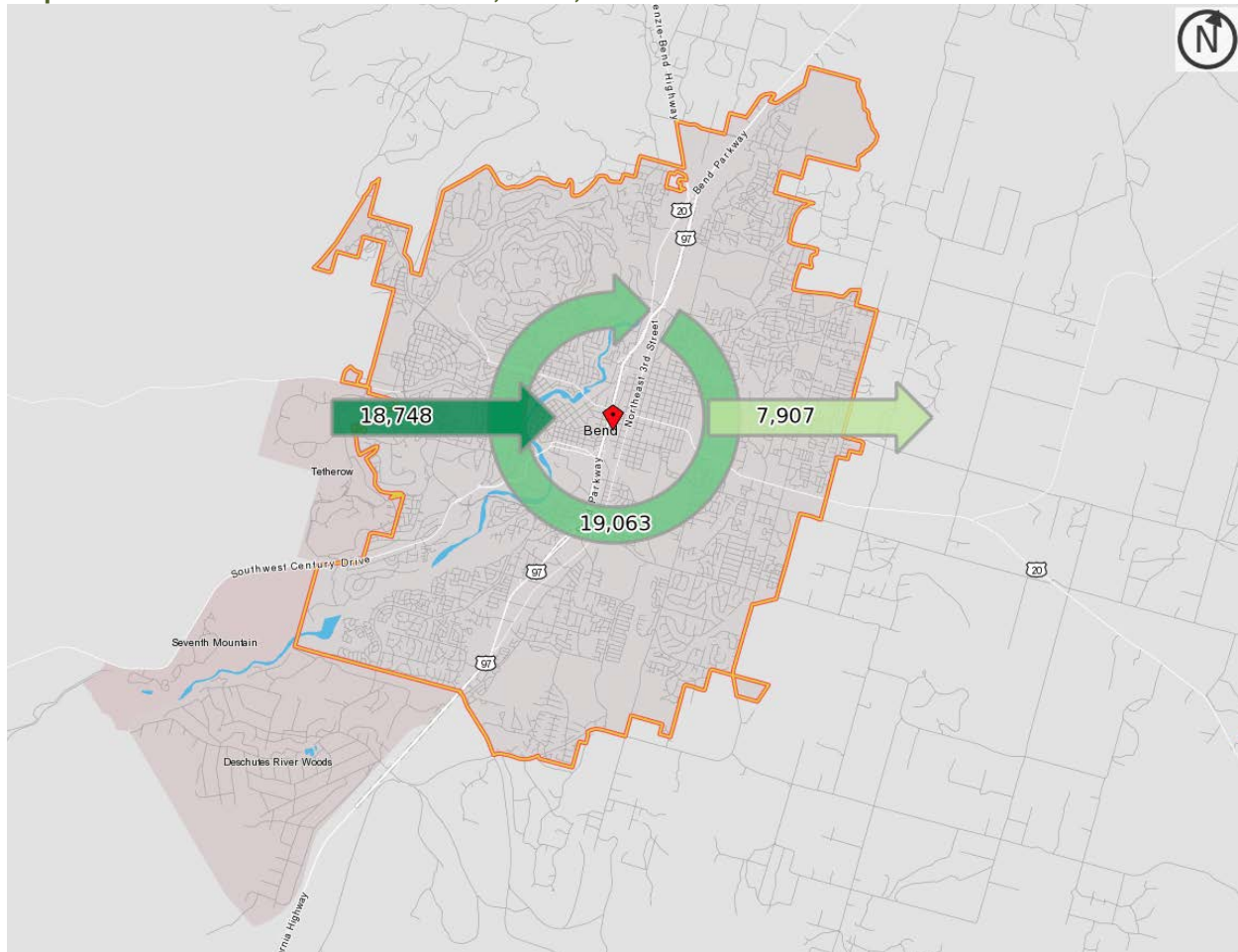
Figure A- 12. Commute Time, Oregon, Deschutes County, Bend, 2013



Source: Census Bureau, 2013 American Community Survey.

Map A- 1 shows the commute inflow and outflow for Bend in 2011. In 2011, about 18,800 people commuted from outside the city to work within it. About 7,900 resided within the city, but went outside for work, and about 19,000 both lived and worked in the city.

Map A- 1. Commute inflow and outflow, Bend, 2011



Source: U.S. Census OnTheMap <http://onthemap.ces.census.gov>

Table A- 3 shows where workers who have jobs in Bend live. About 76% of employees in Bend live within Deschutes County. About 50% of Bend employees also live in the city and 7% live in Redmond, the next-largest home destination.

Table A- 3. Home Destinations, Bend employees, 2011

Location	Number	Percent
Counties		
Deschutes County	28,912	76%
Crook County	989	3%
Multnomah County	852	2%
Lane County	755	2%
Klamath County	697	2%
Jefferson County	678	2%
Washington County	554	1%
Clackamas County	503	1%
Marion County	438	1%
Jackson County	348	1%
All Other Counties	3,085	8%
Cities		
Bend	19,063	50%
Redmond	2,562	7%
Deschutes River Woods	1,197	3%
Portland	770	2%
Prineville	423	1%
Eugene	380	1%
Three Rivers CDP	237	1%
Salem	201	1%
Eagle Crest CDP	194	1%
Hillsboro	190	1%
All Other Locations	12,594	33%
Total	37,811	100%

Source: U.S. Census OnTheMap <http://onthemap.ces.census.gov>

Table A- 4 shows where people who live in Bend go to work. About 84% of Bend residents work in Deschutes County. About 2% work in Lane County and about 2% work in Multnomah County. About 71% of Bend residents also work in the city and 6% work in Redmond.

Table A- 4. Employment destinations, Bend residents, 2011

Location	Number	Percent
Counties		
Deschutes	22,590	84%
Lane County	598	2%
Multnomah	563	2%
Crook County	359	1%
Washington	354	1%
Marion County	333	1%
Clackamas	215	1%
Jackson County	206	1%
Jefferson County	181	1%
Linn County	154	1%
All Other Counties	1,417	5%
Cities		
Bend	19,063	71%
Redmond	1,651	6%
Portland	503	2%
Eugene	371	1%
Prineville	326	1%
Salem	228	1%
Three Rivers CDP	222	1%
Sunriver CDP	180	1%
Sisters	172	1%
La Pine	170	1%
All Other	4,084	15%
Total	26,970	82%

Source: U.S. Census OnTheMap <http://onthemap.ces.census.gov>

Changes in employment

Over the past few 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.

In the 1970s, Oregon started to transition away from reliance on traditional resource-extraction industries. An important 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 industry⁴¹ and concurrent growth of employment in high-technology manufacturing industries (Industrial Machinery, Electronic Equipment, and Instruments).⁴²

⁴¹ Lumber and Wood Products manufacturing is in Standard Industrial Classification (SIC) 24

⁴² SIC 35, 36, 38

As Oregon has transitioned away from natural resource-based industries, the composition of Oregon's employment has 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.

Table A- 5 and Table A- 6 present data that show changes in covered employment for the Deschutes County between 1980 and 2013.⁴³ The changes in sectors and industries are shown in two tables: (1) between 1980 and 2000 and (2) between 2001 and 2013. The analysis is divided in this way because of changes in industry and sector classification that made it difficult to compare information about employment collected after 2001 with information collected prior to 2000.

Employment data in this section is summarized by *sector*, each of which includes several individual *industries*. For example, the Retail Trade sector includes General Merchandise Stores, Motor Vehicle and Parts Dealers, Food and Beverage Stores, and other retail industries.

Table A- 5 shows employment by industry, using SIC industry classifications, in Deschutes County from 1980 to 2000. Over the analysis period, the Services Division grew at the fastest annual rate (14%), the Retail Trade Division grew at 11% per year on average, the Construction Division grew at 10%, and the Wholesale Trade Division grew at 8%. The share of total jobs in the Services Division increased by 2% and the share of jobs in the Manufacturing Division fell by 6%. In 2000 Services jobs made up 27% of all covered jobs, and Retail and Trade made up 24% of all area jobs.

Table A- 5. Covered employment by SIC industry categories, Deschutes County, 2001-2013

Sector	1980		1990		2000		Change 1980 to 2000			
	Number	Percent	Number	Percent	Number	Percent	Difference	Percent	AAGR	Share
Agriculture, Forestry, and Fishing	185	1%	413	1%	727	1%	542	293%	7%	0%
Mining	100	0%	0	0%	82	0%	-18	-18%	-2%	0%
Construction	1,651	8%	2,178	7%	4,265	8%	2,614	158%	10%	1%
Manufacturing	3,340	16%	5,451	17%	5,974	12%	2,634	79%	6%	-6%
Transportation and Public Utilities	1,174	6%	1,064	3%	1,903	4%	729	62%	5%	0%
Wholesale Trade	809	4%	1,040	3%	1,691	3%	882	109%	8%	0%
Retail Trade	4,461	22%	7,512	24%	12,689	24%	8,228	184%	11%	1%
Finance, Insurance, and Real Estate	1,503	7%	1,533	5%	3,128	6%	1,625	108%	8%	1%
Services	3,668	18%	7,960	25%	14,133	27%	10,465	285%	14%	2%
Unclassified	N/A	N/A	(D)	(D)	53	0%	-	-	-	-
Government	3,826	18%	4,665	15%	7,265	14%	3,439	90%	7%	-1%
Total	20,717	100%	31,816	100%	51,910	100%	31,193	151%	9.6%	0%

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

Table A- 6 shows covered employment for NAICS industry classifications, in Deschutes County from 2001 to 2013. In 2013, 15% of all jobs were in Retail, 15% were in Health and Social Assistance, and 13% were in Accommodations and Food Services. Education and Health and Social Assistance grew at the fastest annual rates, growing at 5.3% and 4.6% respectively.

⁴³ Covered employment refers to jobs covered by unemployment insurance, which includes most wage and salary jobs but does not include sole proprietors, seasonal farm workers, and other classes of employees.

Table A- 6. Covered employment by NAICS industry, Deschutes County, 2001-2013

Sector	2001		2013		Change 2001 to 2013			
	Number	Percent	Number	Percent	Difference	Percent	AAGR	Share
Natural Resources and Mining	384	1%	533	1%	149	39%	2.8%	0.1%
Utilities	313	1%	261	0%	-52	-17%	-1.5%	-0.2%
Construction	4,355	8%	3,514	6%	-841	-19%	-1.8%	-2.7%
Manufacturing	5,492	10%	4,209	7%	-1,283	-23%	-2.2%	-3.8%
Wholesale	1,126	2%	1,593	3%	467	41%	2.9%	0.4%
Retail	8,393	16%	9,605	15%	1,212	14%	1.1%	-0.8%
Transportation & Warehousing	927	2%	877	1%	-50	-5%	-0.5%	-0.4%
Information	1,437	3%	1,406	2%	-31	-2%	-0.2%	-0.5%
Finance & Insurance	1,576	3%	1,978	3%	402	26%	1.9%	0.1%
Real Estate Rental & Leasing	1,456	3%	1,228	2%	-228	-16%	-1.4%	-0.8%
Professional, Scientific & Tech. Srv.	1,882	4%	2,826	4%	944	50%	3.4%	0.9%
Management of Companies	332	1%	303	0%	-29	-9%	-0.8%	-0.2%
Admin. Support & Cleaning Srv.	2,594	5%	3,750	6%	1,156	45%	3.1%	1.0%
Education	434	1%	809	1%	375	86%	5.3%	0.5%
Health & Social Assistance	5,569	11%	9,524	15%	3,955	71%	4.6%	4.4%
Arts, Entertainment & Recreation	1,428	3%	1,643	3%	215	15%	1.2%	-0.1%
Accommodations & Food Services	6,156	12%	8,262	13%	2,106	34%	2.5%	1.3%
Other Services	1,706	3%	2,450	4%	744	44%	3.1%	0.6%
Private Non-Classified	21	0%	18	0%	-3	-14%	-1.3%	0.0%
Government	6,929	13%	8,494	13%	1,565	23%	1.7%	0.2%
Total	52,510	100%	63,283	100%	10,773	21%	1.6%	0%

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

The composition of Oregon's employment has shifted from natural resource based manufacturing and other industries to service industries.

The 2008 EOA concluded that:

- "The construction industry makes up a significant portion of the county's jobs and payroll, and downturns broader housing industry will have a negative affect local construction jobs
- In the midst of the housing and construction slowdown, Deschutes County's diversified economy has continued to add jobs, albeit at a slower rate
- Continued diversification of the local economy will tend to create a more stable local economy as individual industries experience rapid gains or losses"
- The industrial sector in Bend is much more diverse than in the past
- The continued erosion of jobs in lumber and wood products will be replaced by other jobs in durable and non-durable manufacturing
- High technology manufacturing and research and development firms create a new trend for industrial space that function and look more like office development
- The growth in retail and service jobs will be driven by several factors: population increase, demographic mix, and tourism

Table A- 7 shows changes in covered employment in Deschutes County between 2007 and 2013. Deschutes County lost a total of 6,000 jobs during this period, with the largest losses in construction, manufacturing, retail, and administrative support. Jobs in Health Care and Social

assistance, Accommodations and Food Services had the largest growth over the six year period.

Table A- 7. Covered employment by industry, Deschutes County, 2007-2013

Sector	2007		2013		Change 2007 to 2013			
	Number	Percent	Number	Percent	Difference	Percent	AAGR	Share
Natural Resources and Mining	648	1%	533	1%	-115	-18%	-3.2%	-0.1%
Construction	7,713	11%	3,514	6%	-4,199	-54%	-12.3%	-5.6%
Manufacturing	5,649	8%	4,209	7%	-1,440	-25%	-4.8%	-1.5%
Wholesale	1,605	2%	1,593	3%	-12	-1%	-0.1%	0.2%
Retail	10,451	15%	9,605	15%	-846	-8%	-1.4%	0.1%
Transportation, Warehousing, and Utilities	1,304	2%	1,138	2%	-166	-13%	-2.2%	-0.1%
Information	1,709	2%	1,406	2%	-303	-18%	-3.2%	-0.2%
Finance & Insurance	2,361	3%	1,978	3%	-383	-16%	-2.9%	-0.3%
Real Estate Rental & Leasing	1,496	2%	1,228	2%	-268	-18%	-3.2%	-0.2%
Professional, Scientific & Tech. Srv.	2,736	4%	2,826	4%	90	3%	0.5%	0.5%
Management of Companies	257	0%	303	0%	46	18%	2.8%	0.1%
Admin. Support & Cleaning Srv.	4,513	7%	3,750	6%	-763	-17%	-3.0%	-0.6%
Education	698	1%	809	1%	111	16%	2.5%	0.3%
Health & Social Assistance	7,917	11%	9,524	15%	1,607	20%	3.1%	3.6%
Arts, Entertainment & Recreation	2,040	3%	1,643	3%	-397	-19%	-3.5%	-0.3%
Accommodations & Food Services	7,985	12%	8,262	13%	277	3%	0.6%	1.5%
Other Services	2,384	3%	2,450	4%	66	3%	0.5%	0.4%
Private Non-Classified	56	0%	18	0%	-38	-68%	-17.2%	-0.1%
Government	7,785	11%	8,494	13%	709	9%	1.5%	2.2%
Total	69,307	100%	63,283	100%	-6,024	-9%	-1.5%	0%

Source: Oregon Employment Department, City of Bend, in 2008 EOA; Bureau of Labor Statistics, Quarterly Census of Wages, 2013.

Regional business clusters

Bend exists within the Central Oregon regional economy. Regional business activity and trends will affect the types of businesses that are attracted to the region and choose to locate in the city. This section presents information about regional employment clusters in Central Oregon.

One way to assess the types of businesses that are likely to have future growth in an area is to examine relative concentration and employment growth of existing businesses. This method of analysis can help determine relationships and linkages within industries, also called industrial clusters. Sectors that are highly concentrated (meaning there are more than the “average” number of businesses in a sector in a given area) and have had high employment growth are likely to be successful industrial clusters. Sectors with either high concentration of businesses or high employment growth may be part of an emerging cluster, with potential for future growth.

Table A- 8 shows industries with strong employment clusters in Deschutes County in 2012—meaning that they rank in the top 25th percentile of counties with clusters of that industry. The largest cluster is that of Hospitality and Tourism, which includes accommodations and related services, tourist attractions, cultural education, and other tourist-related services. In Deschutes County, this industry accounts for more than 2,900 employees.

Other clusters with substantial employment in Deschutes County are: Communications Equipment and Services (about 830 employees), Wood Products (551 employees), Information Technology and Analytical Instruments (504 employees), Automotive (325 employees), and Lighting and Electrical Equipment (285 employees).

Another notable industry cluster in the county is that of Jewelry and Precious Metals. While this cluster only employs about 60 people, it is the 79th largest cluster of this industry for a county in

the US. This industry includes the manufacturing of jewelry and silverware, costume jewelry and novelty manufacturing.

Table A- 8. Industries with an employment cluster in Ascension Parish, 2012

Industry	Employment in 2012	Rank in the US
Hospitality and Tourism	2,911	213
Communications Equipment and Services	830	117
Wood Products	551	124
Information Technology and Analytical Instruments	504	285
Automotive	325	583
Lighting and Electrical Equipment	285	306
Downstream Metal Products	275	389
Aerospace Vehicles and Defense	239	199
Forestry	111	155
Downstream Chemical Products	90	457
Recreational and Small Electric Goods	81	376
Jewelry and Precious Metals	60	79
Environmental Services	40	503
Leather and Related Products	36	277

Source: Cluster Mapping, http://www.clustermapping.us/region/county/ascension_parish_la/cluster-portfolio

Summary by industry and percentages calculated by ECONorthwest

Note: Bold denotes an industry with a strong cluster or a cluster that has high employment specialization in Ascension Parish

Natural Resources and Manufacturing

Since 1970, Oregon started to transition away from reliance on traditional resource-extraction industries. A significant indicator of this transition is the decline in the level of employment in the Lumber & Wood Products industry and concurrent growth of employment in other manufacturing industries. At the time of the 2008 EOA, job losses were forecast in manufacturing. The 2008 EOA wrote that “[m]anufacturing will likely rebound over the forecast period, but is not expected to return to its employment level prior to the recent recession. Job losses should continue in many resource-based manufacturing sectors, though at a decreasing rate.”

However in 2012, the Oregon Employment Department forecast that employment in manufacturing would increase by 21% over the period from 2010 to 2020. Employment increases would occur at that rate in both durable and nondurable goods subsectors (Employment Projections by Industry & Occupation 2010-2020). Similarly manufacturing employment statewide will grow by about 15%.

In contrast to the conclusions in 2008, Wood Product manufacturing in Central Oregon is also forecast to grow by over 22% from 2012 to 2022, while manufacturing will grow by a total of 19%.

Professional Services, Education, and Health Care

As in 2008 the Oregon Employment Department still forecasts that the bulk (63%) of growth will come from sectors such as Education and Health Services (22% of total employment growth);

Trade, Transportation, and Utilities (17%); Leisure and Hospitality (13%); and Professional and Business Services (11%). Over the period from 2012 to 2022 in the Central Oregon counties of Crook, Deschutes, and Jefferson, employment in Private Education and Health Services and Professional and Business Service are both expected to increase by about 24% and increase their share of total employment by 1.0% and 0.6% respectively.

Employment levels in several industries are at all-time highs: private education, health care, food manufacturing – all of which emerged relatively unscathed from the recession – and professional and business services. The latter, combined with health care and leisure and hospitality, account for more than half of the state's total jobs gains over the past year.

Retail

As the 2008 EOA found, population will drive increases in retail jobs. The Oregon Employment Department forecasts that Retail sector employment in Central Oregon will grow by about 1,210 employees, or 12% over the 2012-2022 period. However, because this pace falls below that of overall employment growth, the share of total jobs in retail will actually fall by about 0.6%.

Key summary and implications for economic development within Bend

In general the outlook for Bend in 2015 is similar to that of 2008. Bend still has a relatively well-educated workforce, an expectation for growth in population and employment in the future. Some small changes however, have occurred. For example, the construction and manufacturing industries have shrunk, while employment in health and social service industries increased. Despite changes in the levels of employment since 2007, forecasts for growth by industry will follow similar trends as those expected at the time of the 2008 EOA.

Bend's Competitive Advantages

Economic development opportunities in Bend will be affected by local conditions as well as the national, state, and regional economic conditions addressed above. Economic conditions in Bend relative to these conditions in other parts of the region form the city's competitive advantage for economic development, and these competitive advantages have implications for the types of firms most likely to locate and expand in the area.

There is little that cities can do to influence national and state conditions that affect economic development, but they can have some level of influence on the local factors that affect economic development. Bend's primary competitive advantages are: location, access to transportation, quality of life, and access to educated and skilled labor from within the region. These factors make Bend attractive to residents and businesses that want a high quality of life where they live and work.

The local factors that form Bend's competitive advantage are summarized below.

Location

Bend is located in Deschutes County at the intersection of Highways 97 and 20, roughly 3.25 hours southeast of Portland, and 2.5 hours southeast of Salem. Bend lies near the center of

Oregon. Businesses in the city have access to natural resources from surrounding rural areas, including the Deschutes River, the Cascade Mountains and the Oregon High Desert.

Availability of transportation facilities

Businesses and residents in Bend have access to a variety of transportation modes and systems, but the most important are Highways 97 and 20. Highway 97 connects Bend with cities throughout Central Oregon. Highway 20 connects Bend with the Willamette Valley and I-5, which provides a route for Bend businesses to connect to markets in Portland, Seattle, San Francisco and Los Angeles. Through highway and rail routes to Portland, Bend provides access to the Port of Portland from which ships can transport cargo to international markets in Asia.

The Bend Municipal Airport is roughly 5 miles southwest, or about a 15-minute drive from downtown Bend. Less than 30 minutes north of Bend, the Redmond Municipal Airport which provides daily flights to international airports like those in Portland, Seattle, San Francisco, and Los Angeles. The nearest international airport, the Portland International Airport, is about a 3-hour drive away.

The BNSF Railway Company and Union Pacific provide freight service that connects Bend to the other cities in Central Oregon, Portland, and cities in the US interior. The Prineville Railway Freight Depot, which is about 40 miles away from Bend, provides large freight loading equipment, such as ramps and cranes and large amounts of warehouse and outdoor freight storage.

Existing Employment Base

In 2013, Deschutes County had nearly 6,600 employment establishments with a total of about 63,200 workers. The county's largest employment sectors were Retail (9,605 jobs), Health and Social Assistance (9,524), Government (8,494), Accommodations & Food Services (8,262) and Manufacturing (4,209).

The Oregon Employment Department projects that the industries that will grow the most from 2012 to 2022 in Deschutes County are: Health Care and Social Assistance, which is expected to add 2,460 jobs, Professional and Business Services (1,690), and Accommodation and Food Services (1,750).

Labor Market

The availability of labor is critical for economic development. Availability of labor depends not only on the number of workers, but their quality, skills, wages, and experience as well.

Businesses in Bend have access to highly educated skilled workers, nearby college students, and unskilled workers. About 41% of Bend residents over 25 years have a bachelor's degree or higher.

Roughly 50% of Bend's workers commute from outside the city. The commuting patterns show that businesses in Bend are able to attract skilled and unskilled workers living within the city as well as from the surrounding region.

Outdoor Recreation

Bend provides a launching point for outdoor recreation destinations such as the Cascade Mountains and the Oregon High Desert. Bend is about a 30-minute drive from Mt. Bachelor, 2 hours from the John Day Fossil Beds National Monument, and 2 hours from Crater Lake National Park. The Deschutes River, which provides rafting and fishing opportunities, runs through the city.

Public facilities and services

The provision of public facilities and services can impact a firm's decision to locate within a region. Businesses also take into account factors such as the regional availability and cost of labor, transportation, raw materials, and capital. Once a business has chosen to locate within a region, they consider the factors that local governments can most directly affect: tax rates, the cost and quality of public services, and regulatory policies. Economists generally agree that these factors do affect economic development, but the effects on economic development have only a modest impact on the level and type of economic development in the community.

Tax Policy

The tax policy of a jurisdiction is a consideration in economic development policy. In Fiscal Year 2014 to 2015, the property tax rate in Bend for the City was \$2.80 per \$1,000 of assessed value. Bend's property tax rate was near the middle of the range for Deschutes County, lower than Redmond (\$4.41), but above Sisters (\$2.64), and La Pine (\$1.98).⁴⁴

Water

The City of Bend provides water to approximately 22,000 service connections. The City collects surface water from the Bridge Creek site, 13 miles outside of the city in the Cascade Mountains, and from 25 wells that pump water from the Deschutes Aquifer. Both these water sources provide water of excellent quality, which requires "very little" treatment before delivery.

The City's 2011 water plan update projected that the city's average daily water demand would increase by about 70% over the period from 2008 to 2018. To accommodate the increasing demand, the plan update recommended \$197 million in improvements to the current water infrastructure, including the addition of more groundwater wells, more water storage capacity, pipe improvements, pumping station expansions, and increasing the surface water supply, among others.⁴⁵

Wastewater

The City of Bend is the sole provider of wastewater services and no special districts within the city provide such services. The City's wastewater system includes nine primary sewer basins

⁴⁴ http://www.deschutes.org/sites/default/files/fileattachments/assessor039s_office/page/676/sal_report_-_sal4a_detail_of_taxing_district_levies.pdf

⁴⁵ "Water System Master Plan Update," Murray, Smith, & Associates, Inc, and Optimatics, The City of Bend, February 2011, <http://www.ci.bend.or.us/Modules/ShowDocument.aspx?documentID=3201>.

that cover about 35 square miles. The collection system includes a network of manholes, gravity pipes, lift stations, vacuum mains, and force mains that convey sewage to a centralized location.

The most-recent Collection System Master Plan (CSMP) projects that the average dry weather wastewater flow will nearly double over the next 20 years from 6.2 to about 11.5 million gallons per day. Wet weather flows will also increase, but by less, about 30%, from 8.9 to 12.0 million gallons per day.

Residential uses make up about 79% of the 6.2 million gallons per day average dry weather flow, while non-residential uses, including businesses and schools, make up about 21%. The Deschutes Brewery contributes a significant amount of the wastewater flow, making up about 12% of non-residential dry weather flow.

The wastewater master plan expects notable usage increases from four specific events: expansion of the Saint Charles Medical Center, the OSU-Cascades Campus, about 1,000 additional residential units in the Central Business District, and additional 1,200 residential units in the Transit Corridors.

Sewer infrastructure is expected to need expansive improvements over the 20-year period as Bend grows. In 2014, the CSMP recommended \$90M investment in infrastructure improvements that will include additional lift stations, mechanical replacements, and increasing the overall hydraulic capacity, among others additions.⁴⁶

Stormwater

Bend benefits from volcanic geography that provides absorptive ground. This porous ground has allowed Bend to rely primarily on dry wells and drill holes that drain runoff into the ground beneath the city. While a partial piped system does exist, which flows into the Deschutes River, much of the city's stormwater runoff goes into the ground, rather than entering a citywide piping system that redirects all stormwater to a central location. The city currently has about 4,600 dry wells and 1,000 drill holes in the city that receive stormwater in this way.

Bend's reliance on groundwater for drinking water means that stormwater infrastructure needs to protect the quality of residents' drinking water, as well as natural waterways. To this end, regulations prevent the injection of stormwater into the ground within 500 feet of a drinking water well.

Dispersed stormwater disposal through dry wells allows the city to avoid concentrating stormwater in one location, and provides a method of stormwater management that is less costly than a citywide piped system. However, Bend's increasing growth, and in particular its density, will place limits on the potential dispersion via dry wells and drill holes. For that reason, the 2014 Stormwater Master Plan has recommended various stormwater infrastructure upgrades including: expansion of a piped stormwater system with water-holding and treatment

⁴⁶ "Collection System Master Plan," City of Bend, December 2014, <http://www.ci.bend.or.us/modules/showdocument.aspx?documentid=18059>.

capacity, greater implementation of low impact development (LID), additional drainage facilities like bioswales, and more usage of GIS data to analyze stormwater conditions.⁴⁷

Outlook for growth in Bend

Demand for commercial and industrial land will be driven by the expansion and relocation of existing businesses and new businesses locating in Bend. The level of this business expansion activity can be measured by employment growth in Bend. This section presents a projection of future employment levels in Central Oregon for the purpose of estimating demand for commercial and industrial land.

Table A- 9 shows the projected growth in employment by selected industrial sectors for the Central Oregon counties (Crook, Deschutes, and Jefferson). The Oregon Employment Department forecasts that employment in Central Oregon will increase by about 16% between 2012 and 2022, or by 12,140 employees. The construction industry will undergo the most rapid growth, increasing by 26% between 2012 and 2022, followed by Health Care and Social Assistance (25%), and Nondurable Goods manufacturing (25%).

Table A- 9. Industry Employment Forecast, Central Oregon Region (Crook, Deschutes, and Jefferson Counties), 2012-2022

Industry Sector	2012	2022	Change 2012-2022		
			Number	Percent	AAGR
Natural Resources and Mining	1,330	1,590	260	20%	1.8%
Mining and Logging	270	320	50	19%	1.7%
Construction	3,250	4,100	850	26%	2.4%
Manufacturing	5,370	6,380	1,010	19%	1.7%
Durable Goods	4,320	5,080	760	18%	1.6%
Wood Product Manufacturing	1,890	2,310	420	22%	2.0%
Nondurable Goods	1,040	1,300	260	25%	2.3%
Trade, Transportation, and Utilities	14,260	15,920	1,660	12%	1.1%
Wholesale Trade	2,300	2,520	220	10%	0.9%
Retail Trade	10,300	11,510	1,210	12%	1.1%
Transportation, Warehousing and Utilities	1,660	1,890	230	14%	1.3%
Information	1,450	1,510	60	4%	0.4%
Financial Activities	4,490	5,110	620	14%	1.3%
Professional and Business Services	6,990	8,680	1,690	24%	2.2%
Private Educational and Health Services	10,780	13,400	2,620	24%	2.2%
Health Care and Social Assistance	9,990	12,450	2,460	25%	2.2%
Health Care	8,690	10,860	2,170	25%	2.3%
Leisure and Hospitality	10,660	12,810	2,150	20%	1.9%
Accommodation and Food Services	8,980	10,730	1,750	19%	1.8%
Other Services	2,600	2,930	330	13%	1.2%
Government	12,440	13,330	890	7%	0.7%
Federal Government	1,330	1,250	-80	-6%	-0.6%
State Government	1,780	1,990	210	12%	1.1%
Local Government	9,330	10,090	760	8%	0.8%
Local Education	4,170	4,560	390	9%	0.9%
Total payroll employment	73,620	85,760	12,140	16%	2%

Source: State of Oregon Employment Department, "Employment Projections by Industry and Occupation 2012-2022 Central Oregon (Crook, Deschutes, Jefferson)."

⁴⁷ "Stormwater Master Plan," City of Bend, July 2014, <http://www.ci.bend.or.us/modules/showdocument.aspx?documentid=17875>.

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APPENDIX B. EMPLOYMENT PROJECTIONS

Appendix B summarizes the methodologies used to develop the employment projections and the 2008-2028 projection.

Methods

This Section contains an overview of the methodology used to generate the employment forecast. The methodology closely follows the approach prescribed by the Department of Land Conservation and Development in the EOA *Guidebook*. However, because economic development goals and the data available about each community vary throughout the state, there are several variations in the methodology. The DLCDC recognizes that variation in methodology is appropriate.

1. Analyze existing policy and visions; national, state, county, and local trends; and other forces likely to have an impact on Bend's economic future
2. Forecast 20-year employment growth, 2008-2028:
 - a. Begin with OED 2006 employment data for the City of Bend, disaggregated to detailed industry sectors
 - b. Create 20-year projected growth rates for individual industry sectors:
 - i. Begin with OED Deschutes County 2006-2016 projections
 - ii. Grow 2006 industry employment to 2008 by adding Bend's slightly accelerated population growth rates (0.11 percent faster than Deschutes County) to the ten-year industry growth rates predicted by OED)
 - iii. Adjust employment upward (11.5 percent) to account for self-employed, contract workers, and "non-covered" employees not included in OED employment projections
 - iv. For land need estimates, decrease employment projections by estimating the percentages of non-shift workers in each industry
 - v. Grow employment from 2008 to 2015 at the 10-year adjusted employment growth rate by industry
 - vi. Adjust targeted industry sectors upwards by 10 percent to reflect increased growth in these sectors
 - vii. Grow employment from 2015 to 2025 by the City of Bend Coordinated Population Forecast Average Annual Rate of Growth at reduced rate to account for less predicted population and employment growth in this time period
 - viii. Apply a 1.7 percent AARG to grow 2025 employment to 2028 end of the planning period
3. Inventory Current Employment Land Supply:
 - a. Inventory all lands with a General Plan designation for economic use and public facility use
 - b. Categorize all lots according to zoning designation and development category
 - i. General Plan designations: A variety of commercial, industrial, professional office, mixed employment, public facilities zones, detailed later
 - ii. Development category: Developed, Vacant, Unbuildable
 - c. Generate inventories of Developed, Vacant and Unbuildable land within each General Plan designation

Employment Projections

The purpose of making employment projections is twofold: (1, to anticipate future employment patterns, and (2) to estimate future economic land needs. The following describes some of the technical approaches in making employment projections and the process of converting these into land need estimates.

This EOA groups NAICS sectors into broader categories to facilitate a conversion of employment forecasts to land need. These categories are as follows:

- **Employment Category.** This is a generalization and simplification of more specific NAICS sectors and specific industries. The categories include:
 - Industrial General and Industrial Heavy
 - Retail General and Large Retailers
 - Office/Services
 - Leisure and Hospitality
 - Other
 - Government
 - Medical (also called MDOZ referencing the city's Medical District Overlay Zone)
- These categories are composed of employment sectors described below. In some cases, employment categories split what would traditionally be “one” employment sector. For example, Retail Trade is one employment sector, but this EOA separates the sector into two employment categories based on the three-digit NAICS coding: Retail General and Large Retailers. This allows more specific land need estimates to be created; for example, to determine land needs for large retailers seeking large sites and smaller retailers requiring smaller sites. The three-digit NAICS descriptions are shown in the tables below to describe specific industries in each employment category.
- **Employment Sector.** These are smaller, specific categories that describe the two-digit NAICS categories show in Tables 19-23. These include:
 - Retail Trade
 - Agriculture, Forestry, Fishing and Hunting
 - Mining
 - Utilities
 - Construction
 - Manufacturing
 - Wholesale Trade
 - Transportation and Warehousing
 - Information
 - Finance and Insurance
 - Real Estate and Rental and Leasing
 - Professional, Scientific, and Technical Services
 - Management of Companies and Enterprises
 - Administrative and Support, Waste Management, and Remediation Services
 - Education Services
 - Health Care and Social Assistance

The following tables show:

- Employment categories above the employment sectors in the left-most column

- NAICS 2 Digit Code describing the employment sector. For example, the NAICS 2 Digit Codes for Large Retail and General Retail are 44-45
- NAICS 3 Digit Codes and their corresponding NAICS Title in the right-most column. These provide industry level detail so that a reader can easily examine the types of industries included in each employment category.

Table B- 1. Retail Employment Category, Sectors, and Industries

Employment Category	NAICS 2 Digit Code	NAICS 3 Digit Code	NAICS Title
Retail			
Large Retail - retail trade	44-45	441	Motor Vehicle and Parts Dealers
		444	Building Material & Garden Supply Stores
		447	Gasoline Stations
		452	General Merchandise Stores
General Retail - retail trade	44-45	442	Furniture and Home Furnishings Stores
		443	Electronics and Appliance Stores
		445	Food and Beverage Stores
		446	Health and Personal Care Stores
		448	Clothing and Clothing Accessories Stores
		451	Sporting Goods/Hobby/Book/Music Stores
		453	Miscellaneous Store Retailers
		454	Nonstore Retailers

Source: City of Bend.

Staff researched the spatial distribution of geo-coded employment data by 3 digit NAICS throughout the City of Bend to determine where large and general retailers tend to congregate. Staff found that in general, retailers engaging in motor vehicles, building materials, gasoline station, and general merchandise stores tend to concentrate in areas designated Commercial General by the City's General Plan. General Retail uses above tend to locate in the numerous other commercial General Plan designations. Staff then grouped retail employment into the two categories above to facilitate more fine-tuned land need estimates.

Table B- 2. Industrial Employment Category, Sectors, and Industries

Employment Category	NAICS 2 Digit Code	NAICS 3 Digit Code	NAICS Title
Industrial			
Industrial Heavy			
<i>Agriculture, forestry, fishing and hunting</i>	11	111	Crop Production
		112	Animal Production
		113	Forestry and Logging
		114	Fishing; Hunting and Trapping
		115	Agriculture & Forestry Support Activities
<i>Mining</i>	21	211	Oil and Gas Extraction
		212	Mining (except Oil and Gas)
<i>Utilities</i>	22	221	Utilities
<i>Construction</i>	23	237	Heavy and Civil Engineering Construction
<i>Manufacturing</i>	31-33	311	Food Manufacturing
		312	Beverage & Tobacco Product Manufacturing
		314	Textile Product Mills
		315	Apparel Manufacturing
		316	Leather and Allied Product Manufacturing
		321	Wood Product Manufacturing
		325	Chemical Manufacturing
		326	Plastics & Rubber Products Manufacturing
		327	Nonmetallic Mineral Product Manufacturing
		331	Primary Metal Manufacturing
		332	Fabricated Metal Product Manufacturing
		333	Machinery Manufacturing
		334	Computer and Electronic Product Manufacturing
		335	Electrical Equipment and Appliances
		336	Transportation Equipment Manufacturing
		337	Furniture and Related Product Manufacturing
		339	Miscellaneous Manufacturing
Industrial General			
<i>Construction</i>	23	236	Construction of Buildings
		238	Specialty Trade Contractors
<i>Manufacturing</i>	31-33	323	Printing and Related Support Activities
<i>Wholesale Trade</i>	42	423	Merchant Wholesalers; Durable Goods
		424	Merchant Wholesalers; Nondurable Goods
		425	Electronic Markets and Agents/Brokers
<i>Transportation and warehousing</i>	48-49	481	Air Transportation
		484	Truck Transportation
		485	Transit and Ground Passenger Transport
		488	Support Activities for Transportation
		491	Postal Service
		492	Couriers and Messengers
		493	Warehousing and Storage

Source: City of Bend

Staff performed a similar analysis of the spatial distribution of industrial uses to determine where more intensive or heavy industrial uses are located in Bend. These uses tend to be located in areas designated Industrial General by the Bend General Plan. Other industrial uses tend to be

located in the areas designated Industrial Light, Industrial Park, and Mixed Employment. It is noteworthy that these uses are distributed throughout commercial districts as well as industrial and mixed employment districts.

Table B- 3. Office/Services Employment Category, Sectors, and Industries

Employment Category	NAICS 2 Digit Code	NAICS 3 Digit Code	NAICS Title
Office/Services			
<i>Information</i>	51	511	Publishing Industries
		512	Motion Picture & Sound Recording Industries
		515	Broadcasting (except Internet)
		516	Internet Publishing and Broadcasting
		517	Telecommunications
		518	ISPs; Search Portals; & Data Processing
<i>Finance and Insurance</i>	52	522	Credit Intermediation & Related Activities
		523	Financial Investment & Related Activities
		524	Insurance Carriers & Related Activities
		525	Funds; Trusts & Other Financial Vehicles
<i>Real Estate and Rental and Leasing</i>	53	531	Real Estate
		532	Rental and Leasing Services
		533	Leasers; Nonfinancial Intangible Assets
<i>Professional, Scientific, and Technical Services</i>	54	541	Professional and Technical Services
<i>Management of Companies and Enterprises</i>	55	551	Management of Companies and Enterprises
<i>Administrative and Support, Waste Management and Remediation Services</i>	56	561	Administrative and Support Services
		562	Waste Management and Remediation Services
<i>Education Services</i>	61	611	Educational Services
<i>Health Care and Social Assistance</i>	62	621	Ambulatory Health Care Services
		622	Hospitals
		623	Nursing and Residential Care Facilities
		624	Social Assistance

The uses in Table B- 3 tend to be located in commercial areas, with fewer appearing in industrial and mixed use zones. Health care and social services are concentrated within the City's Medical District Overlay Zone, which is zoned Residential Urban Medium Density.

Table B- 4. Government Employment Category, Sectors, and Industries

Employment Category	NAICS 2 Digit Code	NAICS 3 Digit Code	NAICS Title
Government			
<i>Industrial Heavy</i>	11, 21, 23	113 221 237	Forestry and Logging Utilities Heavy and Civil Engineering Construction
<i>Industrial General</i>	32, 49, 48	323 1_49 485 493	Printing and Related Support Activities Postal Service Transit and Ground Passenger Transport Warehousing and Storage
<i>Office/Services</i>	51-62	611 624 519 524 561 611	Educational Services Social Assistance Other Information Services Insurance Carriers & Related Activities Administrative and Support Services Educational Services
<i>Leisure and Hospitality</i>	71	712 713	Museums; Parks and Historical Sites Amusement; Gambling & Recreation Industries
<i>Government</i>	92	921 922 923 924 925 926 928 921 922 924	Executive; Legislative; & Gen Government Justice; Public Order; and Safety Act ivies Administration of Human Resource Programs Administration of Environmental Programs Community and Housing Program Administration Administration of Economic Programs National Security & International Affairs Executive; Legislative; & Gen Government Justice; Public Order; and Safety Act ivies Administration of Environmental Programs

The Government Employment category was created by isolating non-private ownership codes in the 2006 geo-coded employment data for Bend. Note Government includes a wide variety of employment types corresponding to the broad services provided by public entities. Industrial uses such as utilities and construction yards, the postal service, warehousing and similar uses require land zoned for industrial uses, while other governmental functions are well served in commercial centers. Employment in these sectors is classified as Government to estimate the full range of land needs for public uses later in this report.

Table B- 5 shows the Leisure and Hospitality Category and NAICS sectors included in this group. Employment in this category is generally described as Arts, Entertainment, and Recreation, Accommodation and Food Services by NAICS. The sectors illustrate the types of economic activities included in these NAICS categories. The Other category includes those uses that fall outside the NAICS sectors in previous tables.

Table B- 5. Leisure and Hospitality, Other Employment Category, Sectors, and Industries

Employment Category	NAICS 2 Digit Code	NAICS 3 Digit Code	NAICS Title
Leisure and Hospitality			
<i>Arts, Entertainment, and Recreation</i>	71	711	Performing Arts and Spectator Sports
		712	Museums; Parks and Historical Sites
		713	Amusement; Gambling & Recreation Industries
<i>Accommodation and Food services</i>	72	721	Accommodation
		722	Food Services and Drinking Places
Other			
<i>Other Services (except Public Administration)</i>	81	811	Repair and Maintenance
		812	Personal and Laundry Services
		813	Membership Organizations & Associations
		814	Private Households
<i>Miscellaneous/Unknown</i>	99	999	Unclassified

Source: City of Bend

The employment forecasts in Table B- 6 estimate total employment for the 2008 through 2028 planning period. These estimates include non-covered employees which are typically excluded from OED projections. Total employment also includes shift workers. Employment projections contained in tables after Table B- 6 will not match employment in Table B- 8, and subsequent employment tables, because subsequent tables do not include shift workers. Shift workers are excluded from subsequent tables because land need estimates should be based on the day shift (typically the largest shift) instead of all employees working at a given business. Including all workers in land need estimates would overestimate land needs since not all workers in some businesses are present at one time. The methodology used to calculate total employment in Table B- 6 is the same as in the subsequent tables; except subsequent tables exclude shift workers.

Table B- 6. Total Estimated 2008 and 2028 Employment: Simplified

Major Employment Categories	2008 Bend Employment	2028 Bend Employment	New Employees (2008-2028)
Industrial			
<i>Industrial Heavy</i>	4,587	6,231	1,644
<i>Industrial General</i>	5,849	8,709	2,860
Retail			
<i>Large Retail</i>	4,354	7,329	2,975
<i>General Retail</i>	4,065	6,633	2,568
Office/Services	11,210	18,799	7,590
Leisure and Hospitality	5,617	9,364	3,747
Medical (MDOZ)	5,021	8,617	3,596
Other/Miscellaneous	1,178	1,733	555
Government	3,960	6,374	2,414
Total	45,840	73,789	27,950

Source: OED geo-coded employment data for Bend with analysis by City of Bend

Note: Employment reflects additions of non-covered employees excluded from OED employment projections and include ALL EMPLOYEES. Subsequent tables estimating employment reflect only non-shift workers. Non-shift employment is less than total employment.

Table B- 6 illustrates a few broad trends that will emerge in the following analysis. First, the highest numbers of new employees are expected to be engaged in activities that will likely require commercial space versus industrial space. Note that Office/Services, Large and General Retail, and Leisure and Hospitality are the three employment categories that add the most employees during the planning period. Over 4,500 jobs in the Industrial category are expected to be added as well; followed by the addition of 3,596 jobs in the Medical category.

The following employment projections in Table B- 8 present a refinement of the projections in Table B- 6 by considering only employees working during the largest day shift. According to Thomas M Beers, an economist in the Division of Labor Force Statistics, Bureau of Labor Statistics, “the “9-to-5” workday does not appear to be in jeopardy of fading from its prominence in U.S. workplaces; yet the data do suggest that the rigidity of those hours continues to relax”. His analysis suggests that approximately 16.8 percent of all full-time wage and salary workers worked alternative shifts; with different industries exhibiting wide variation in the levels of shift work (Beers).

Since subsequent land need estimates based on employment growth are derived by applying employment densities to employment estimates, it is essential to remove shift employees from gross employment figures and employment densities to calculate accurate land need estimates.

The EOA projects Bend’s non-shift total employment using the following methodology, shown in the summary Table B- 7. Following is a summary of the process:

- Begin with OED 2006 geo-coded employment data for the City of Bend, disaggregated to employment sectors. 2006 data is the most recent year available for which OED has detailed employment data for the City of Bend. More recent data is only tracked at the three-county regional level. The accuracy of the geo-coded (which means location specific, usually in the form of an address point representing employment) data from OED in 2006 is far superior to the accuracy of the 2004 data used in the 2007 Leland EOA. The accuracy of the OED data was enhanced by matching the address points to the City's GIS address files and by placing employment data based on field checks, phone calls to businesses, and by using local knowledge of employer locations.
- Produce 20-year projected growth rates for individual employment categories:
 - The baseline employment growth projections are OED Deschutes County 2006-2016 employment growth projections by sector. Reviewed in the Section above, these projections are adjusted to account for Bend's unique employment characteristics. The approach used in this EOA relies on employment growth rates for Deschutes County rather than the Region 10 employment growth rates. This is an improvement over the Leland EOA since the influence of Jefferson and Crook Counties is not included in the Deschutes County growth data. Also, since Bend represents the majority of employment in Deschutes County, using the Deschutes County employment growth projections will result in more accurate projections.
 - Factor 1. As was done in the 2007 Leland EOA, employment projections are slightly increased to account for Bend's slightly higher rate of population growth as compared with the County's. In the period 2006-2016, the Deschutes County Coordinated Population Forecast shows Bend's population is anticipated to grow at a rate 0.11 percent times faster than Deschutes County over this decade. This 0.11 percent factor is applied over the decade, not each year. This is appropriate since employment growth tracks with population growth as show in Section 3.
 - Grow employment at the sector specific average annual growth rates plus Factor 1 for two years to determine 2008 baseline employment.
 - Factor 2. Increase 2008 baseline employment by sector by 11.5 percent to account for non-covered employees excluded from OED employment forecasts. This increase is applied to all categories except Government, since most public sector employees are covered employees. See Appendix B for a more detailed discussion of how the 11.5 percent factor was determined. This figure was accepted by the City of Bend Planning Commission and UGB TAC for purposes of this analysis.
 - Factor 3. Reduce employment estimates by applying percentages of non-shift workers to total employment. These percentages were obtained from research by Thomas M. Beers in his article "Flexible schedules and shift work: replacing the '9-to-5' workday?". Note these factors were applied to specific sub-sectors and cannot be aggregated into the broader employment categories reported in this table. Generally, employment sectors such as leisure and hospitality have the highest rates of shift workers (approximately 40-50 percent shift workers), while other sectors such as office/services have between approximately 5-20 percent of employees working shifts.
 - Grow the 2008 non-shift total employment by the adjusted by sector growth rates for seven years to arrive at year 2015 employment by sector.
 - Factor 4. As the 2007 Leland EOA suggests, targeted sectors are increased upwards to reflect increased growth in these sectors. As discussed extensively above, Bend has created a set of Targeted Sectors, in which it hopes to encourage higher-than-average growth; existing trends suggest that this is a good strategy with reasonable chances for success. Thus, employment growth within the Retail, office/Services, and Leisure and Hospitality categories are accelerated by a factor of 1.10 (or 10

- percent) over this decade –long time frame. Although Government is not a targeted sector, it is also adjusted upwards to reflect continued aggregation of government jobs in Bend (Leland, 39).
- Grow 2015 employment to 2025 by the 1.84 percent average annual rate of growth. This growth rate is the 2015-2025 Average Annual Rate of Growth (AARG) for Bend detailed in the Deschutes County Coordinated Population Forecast.
 - Grow 2025 employment to 2028 by an AARG of 1.70 to match Bend's population growth. This rate is the same growth rate used to estimate Bend's population growth between 2025 and 2028 for the residential lands estimate.

Table B- 7. Bend Employment Projections and Methodology Overview: 2008-2028

Major Employment Categories	2006 Bend Emp.	10-year AARG ¹	Factor 1	2008 Covered Emp ¹	Factor 2	2008 Total Emp.	Factor 3. 2008 Non-shift Emp. ²	2015 Emp. ¹	Factor 4	2015 Emp.	2025 Emp.	2028 Bend Emp.
Industrial												
<i>Industrial Heavy</i>	4,032	1.0%	0.11%	4,114	11.5%	4,587	3,807	4,104	NA	4,104	4,925	5,180
<i>Industrial General</i>	5,004	2.3%	0.11%	5,245	11.5%	5,849	5,370	6,340	NA	6,340	7,608	8,002
Retail												
<i>Large Retail</i>	3,698	2.6%	0.11%	3,905	11.5%	4,354	3,474	4,212	10%	4,633	5,560	5,849
<i>General Retail</i>	3,482	2.2%	0.11%	3,646	11.5%	4,065	3,244	3,812	10%	4,193	5,032	5,293
Office/Services	9,535	2.6%	0.11%	10,053	11.5%	11,210	9,879	11,925	10%	13,117	15,741	16,557
Leisure and Hospitality	4,783	2.8%	0.11%	5,038	11.5%	5,617	3,306	3,985	10%	4,383	5,260	5,532
Medical	4,240	2.3%	0.11%	4,503	11.5%	5,021	4,100	5,069	10%	5,574	6,689	7,036
Other/Misc.	1,011	2.0%	0.11%	1,056	11.5%	1,178	1,051	1,225	NA	1,225	1,470	1,547
Government	3,798	2.2%	0.11%	3,960	NA	3,960	3,485	4,041	10%	4,445	5,334	5,611
Total	39,583			41,520		45,840	37,716	44,712		48,015	57,618	60,607

Source: City of Bend based on OED 2006 Geo-coded data for City of Bend.

1 This table is for illustration purposes only. The "10-year AARG", "2008 Covered Emp", "2015 Emp." column totals are derived by totaling the employment growth of individual industries, not the employment categories shown above. See Appendix A for a table of industries and their totals.

2 Rates of "Non-shift Workers" were applied to industries, not employment categories. See Appendix A for specific rates of "Non-shift Workers" applied to each industry.

Table B- 6 shows some of the broad conclusions that can be drawn from this analysis of Bend's 20-year employment growth. In the New Employees (2008-2028) column, note that by far the largest amount of growth comes in the Office/Services category, as suggested by the trends reviewed earlier and the Economic Sector Targeting work. Retail, Leisure and Hospitality, and Medical categories have also added considerable numbers of employees. Note that heavy industrial uses are expected to employ fewer people than the general industrial uses.

Table B- 8 introduces an assumption that 10 percent of employees in the planning period will be employed on lands currently used for employment purposes. This infill/refill factor is consistent with DLCD guidelines as discussed in more detail in Section 8.

Table B- 8. Employment Change & New Employees Requiring Land: 2008-2028

Major Employment Categories	2008 Non-shift Emp.	2028 Bend Non-shift Emp.	New Employees (2008-2028)	Infill/Refill Factor	New Employees Requiring New Land
Industrial					
<i>Industrial Heavy</i>	3,807	5,180	1,373	10%	1,236
<i>Industrial General</i>	5,370	8,002	2,632	10%	2,369
Retail					
<i>Large Retail</i>	3,474	5,849	2,374	10%	2,137
<i>General Retail</i>	3,244	5,293	2,049	10%	1,844
Office/Services	9,879	16,557	6,678	10%	6,010
Leisure and Hospitality	3,306	5,532	2,226	10%	2,004
Medical	4,100	7,036	2,936	10%	2,642
Other/Misc.	1,051	1,547	496	10%	446
Government	3,485	5,611	2,126	10%	1,913
Total	37,716	60,607	22,891		20,602

Source: City of Bend based on OED 2006 Geo-coded data for City of Bend.

The City of Bend should anticipate approximately 22,891 new non-shift employees during the planning period. After subtracting 10 percent with the assumption that 10 percent of new employees will be employed on existing “developed” or “redevelopable” employment lands, land needs should be calculated based on 20,602 future new non-shift employees.

Table B- 9 illustrates jobs to population ratios for the recent past and the planning period. Comparisons between the two tables should be made with caution since Table B- 7 does not include all workers and Table B- 8 includes all workers (both covered and uncovered worker), and because Table B- 7 is a county-wide ratio while Table B- 8 is only the City of Bend. Considering that total employment is estimated to be 11.5 percent higher than covered employment, projected jobs to population ratios are similar to job to population ratios in Deschutes County in the 1990s.

Table B- 9. Jobs to Population Ratios: 2008 and 2028

Year	Bend coordinated Population Forecasts	Bend Total Employment Forecasts	Ratio of Jobs to Population
2008	76,551	45,840	60%
2028	115,063	73,789	64%

Source: City of Bend employment forecasts and Deschutes County Coordinated Population Forecast for Bend

APPENDIX C. REMAND DIRECTIVES

Table 20 presents the complete list of Remand issues related to employment lands and where they are addressed in the EOA update. The numbering of directives in the second column starts with number 61 because this list is an excerpt of the larger Index of all directives to the City on Remand.

Table 20. Remand Directives Related to the Economic Opportunities Analysis and Employment Land Need

Remand Subissue	Directives to City on Remand	Sections/Pages in this EOA that address the directives
5.11 (Conclusion) Page 67	61. The submittal is remanded for the City to clarify in adequate findings that it is utilizing its 2008 EOA, scenario B, as the basis for estimating employment land needs	No longer using Scenario B methodology; Ch 5 provides revised land estimate based on changes required by the Remand, such as vacancy rate, market choice, and redevelopment rate.
5.2 (Conclusion) Page 70	62. Commission remands the UGB decision to the City to provide an adequate factual base to support use of a 10 percent redevelopment factor, including an analysis of the amount of redevelopment that has occurred in the past and a reasoned extension of that analysis over the planning period 63. Alternatively, the City may satisfy Goal 9 and division 9 by other means, for example through a site-by-site redevelopment analysis. However, a site-by-site analysis is not required; the Commission determines that using a factor is acceptable where findings explain evidentiary basis and address the Goal 14 requirement to reasonably accommodate development within the existing UGB.	Base case redev is now 6%; used the site by site approach – include info in appx
5.4 (Analysis) Page 76	64. As a result, in this case (See 1000 Friends of Oregon v. LCDC, __ Or App __, __ P3d __ (A135375)) to the extent that the city continues to base some portion of its employment land need on market choice, it must explain how doing so in the factual context provided by the record for the Bend UGB expansion is consistent with the requirements of Goal 9, OAR 660-009-0025, and the “need” factors of Goal 14	No market choice factor is used in the revised land need estimates.
5.4 (Conclusion) Pages 76-77	65. On remand, the City must make findings addressing applicable law, including addressing consistency with Goals 9 and 14 as required in 1000 Friends of Oregon v. LCDC, __ Or App __, __ P3d __ (A135375) (September 8, 2010)	EOA addresses the Goal 9 requirements; the Urbanization Report, Goal 14; the findings, both

Remand Subissue	Directives to City on Remand	Sections/Pages in this EOA that address the directives
5.5 (Analysis) Page 77	<p>66. Under OAR 660-009-0015(3)(a)(C), the EOA Inventory of Industrial and Other Employment Lands for cities and counties within a Metropolitan Planning Organization, must include the approximate total acreage and percentage of sites within each plan or zoning district that comprise the short-term supply of land.</p> <p>67. This short-term supply analysis required for jurisdictions within MPOs is in addition to the EOA inventory requirements applicable to all comprehensive plans for areas within urban growth boundaries. OAR 660-009-0015(3)(a)</p> <p>68. Furthermore, division 9 requires that comprehensive plans for cities such as Bend “include detailed strategies for preparing the total land supply for development and for replacing the short-term supply of land as it is developed.” OAR 660-009-0020(2).</p>	Short-term supply is addressed in Chapter 6
5.5 (Conclusion) Page 78	<p>69. The Commission concludes that the Goal 9 rule requires the City to include policies for maintaining a short-term supply.</p> <p>70. The City must plan for required infrastructure and have identified the funding mechanisms.</p>	Chapter 6 2 nd issue will require more info
5.6 (Analysis) Page 80	<p>71. (t)he City must establish a basis in reason connecting the inference that the planning period will present higher vacancy rates for industrial and office than historic and current conditions to the trend data from which it is derived.</p> <p>72. the City may pursue a mechanism to make industrial and commercial rents affordable under the competitive short-term supply, but not by inflating the long-term need beyond what may be supported by substantial evidence in trend data or reasoned inferences there from.</p>	The revised EOA does not assume a vacancy rate for employment lands. The EOA assumes that the 2006 employment densities are reflective of the vacancy rates at that time: 9% for office space and 2.9% for industrial space.
5.6 (Conclusion) Page 80	73. The Commission concluded that under division 9, the long-term vacancy factor should be based on past and projected future trends over the planning period.	
5.8 (Analysis) Page 84	74. The City agreed that on remand it would move the analysis and calculation to the residential/other lands analysis and calculation.	See HNA
5.8 (Conclusion) Page 84	75. The Commission remands the submittal to incorporate analysis of land needs for employment uses within residential zones in the City's housing needs analysis.	See HNA



Bend Urbanization Report

Bend's Growth to 2028

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TABLE OF CONTENTS

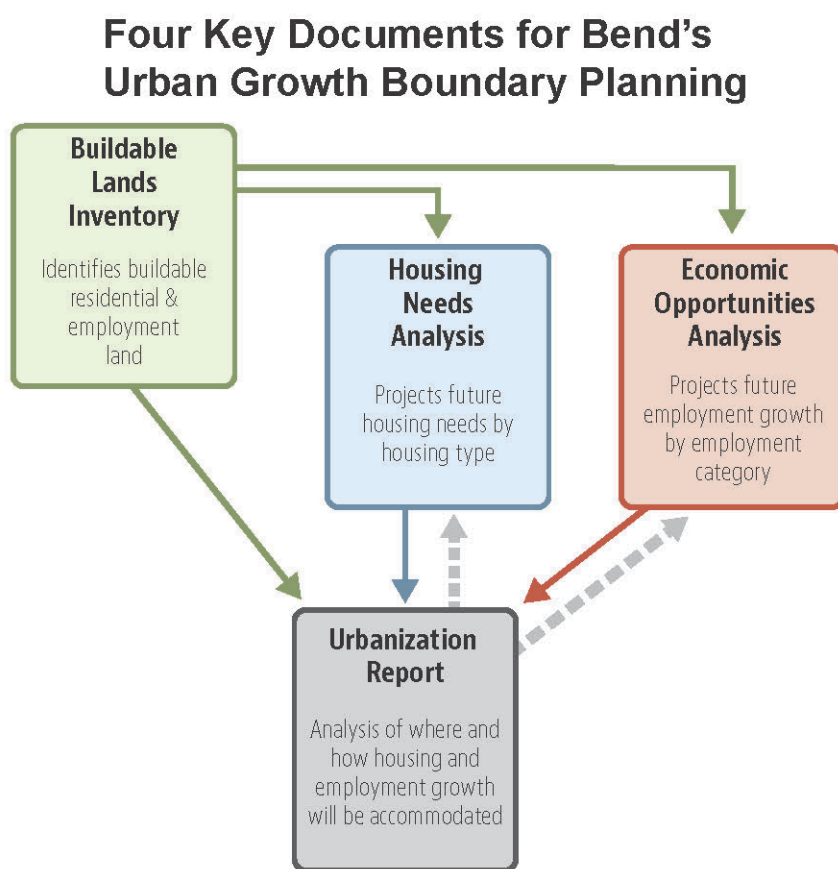
Executive Summary.....	1
Chapter 1. Introduction.....	4
Role of the Urbanization Report.....	4
Framework for the Urbanization Report.....	6
Prior Work and Remand Issues.....	7
Time Periods and Data used in the Urbanization Report	8
Chapter 2. Methodology	9
Analysis Steps.....	9
Analysis Tools	11
Forecasts and Land Needs.....	12
Chapter 3. Base Case UGB Capacity.....	14
About the Base Case.....	14
Creating and Calibrating Development Types.....	14
Applying Development Types	19
Base Case Capacity Estimate	21
Comparison to Need.....	25
Chapter 4. Efficiency Measures	28
Overview & Evaluation Process.....	28
Proposed Package of Efficiency Measures & Anticipated Impact	28
Capacity Estimate with Efficiency Measures.....	28
Comparison to Need.....	28
Chapter 5. UGB Expansion.....	28
Overview & Evaluation Process.....	28
Initial Suitability Evaluation	28
Alternatives Analysis	28
Proposed UGB Expansion.....	28
Chapter 6. Conclusion.....	29
Appendices & Related Documents	30
Appendices	30
Related Documents.....	30

EXECUTIVE SUMMARY

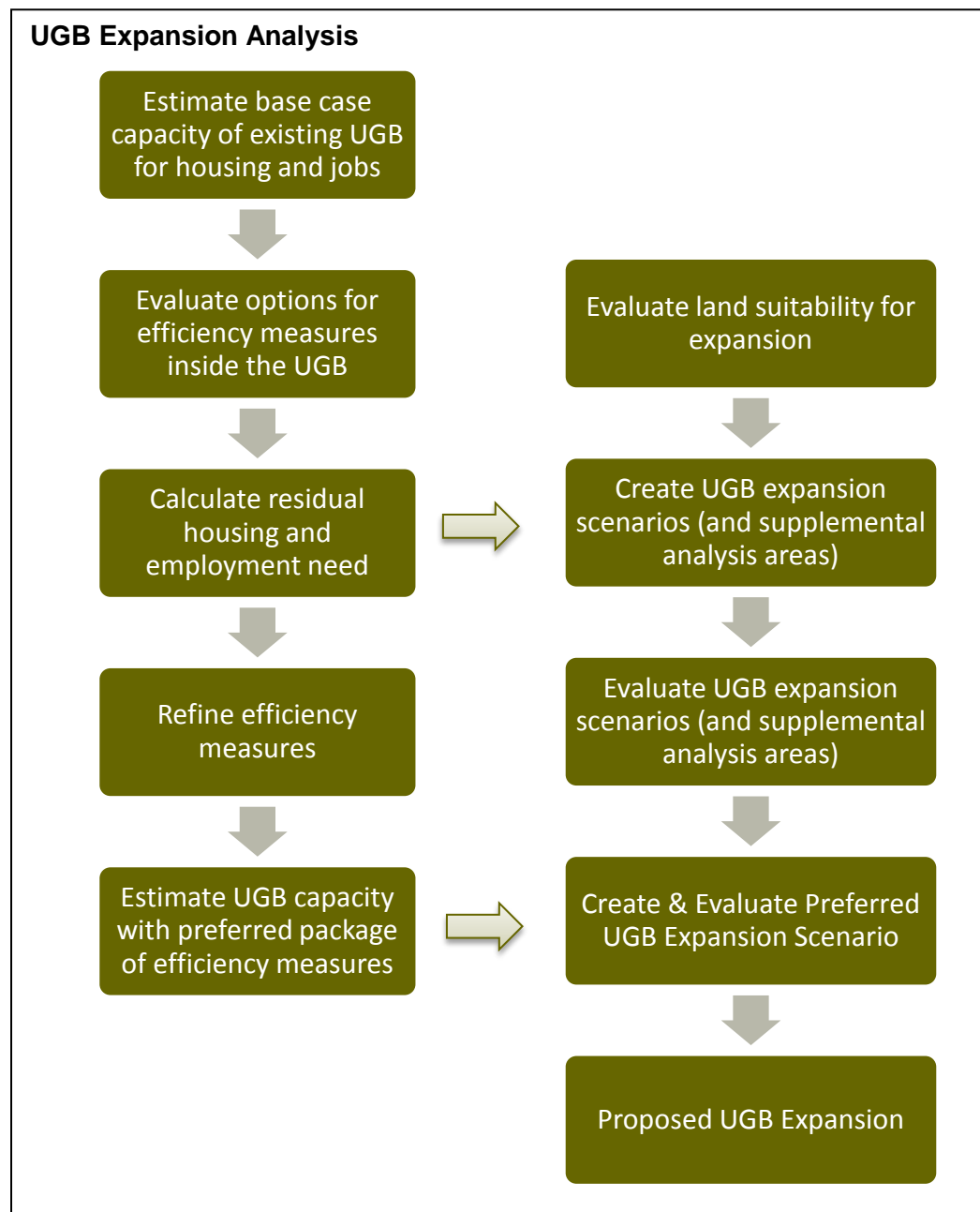
Introduction

The Urbanization Report presents an analysis of where and how Bend's future growth will be accommodated, both inside the existing Urban Growth Boundary (UGB) and in expansion areas. The analysis addresses requirements pertaining to UGB expansions under Oregon state law and administrative rules. The Urbanization Report draws on information from the Housing Needs Analysis, the Economic Opportunities Analysis, and the Buildable Lands Inventory, as illustrated on Figure ES-1.

Figure ES-1: Relationship of Urbanization Report to other Technical Documents for UGB Planning



This Urbanization Report: summarizes the methodology used to determine land sufficiency and future UGB land need (illustrated in Figure ES-2); estimates the capacity of the existing UGB under current policies and with land use efficiency measures applied; summarizes the remaining residual growth that cannot be accommodated within the existing UGB; documents the evaluation of UGB expansion alternatives; identifies proposed UGB expansion areas to meet residual land needs; and, documents the factual base for the inclusion of expansion area in the UGB.

Figure ES-2: UGB Expansion Analysis Process Summary

A scenario planning tool called “Envision Tomorrow”¹ was used to analyze capacity and options for future growth in Bend. Envision Tomorrow applies development assumptions spatially and provides a sketch-level analysis of the possible impacts of policies, development decisions and growth trajectories. Development assumptions within the model include: a mix of specific building prototypes, which are based on information including parking requirements, height limits, and lot coverage ratios; streets, neighborhood parks, and other set-asides; net residential and job density; and rate of redevelopment. All assumptions are calibrated to Bend’s

¹ Information and download available at <http://www.envisiontomorrow.org/>

development and market conditions. The model summarizes total residential and employment growth, including providing information about the overall mix of units and jobs, and can be used to provide sub-area summaries. It also provides a comprehensive range of indicators relating to land use, housing, demographics, economic growth, environmental factors, and quality of life. To complement the indicators available in Envision Tomorrow, additional modeling and analysis tools were used to evaluate infrastructure needs and implications of UGB expansion scenarios, including a Travel Demand Model for transportation analysis and water and sewer optimization models.

Base Case UGB Capacity

The “Base Case” is a spatial projection of housing and employment growth through 2028 within the current UGB based on past trends and current policies, utilizing the Envision Tomorrow model. The Base Case represents the current UGB’s remaining capacity prior to applying assumptions regarding new residential efficiency measures and measures to encourage additional redevelopment of employment areas.

In total, the base case shows that the current UGB (as of July 2014) can accommodate roughly 9,300 housing units and a little over 12,000 jobs under the current plan designations and policies and historic trends in development density. This represents just over half of both the total housing and total employment needs forecasts for 2028. The estimated capacity is not evenly distributed across all needed housing types and employment categories.

The mix of housing units projected under the base case is roughly 70% single family detached, 25% multifamily, and 5% single family attached, because most of the total housing capacity (over 60%) is in the Standard Residential (RS) plan designation. As a result, much of the total single family housing need can be met inside the UGB in the Base Case, but only about a third of the single family attached and multifamily housing needs, respectively, can be accommodated.

The mix of jobs that can be accommodated inside the UGB under the base case is a fairly even split between retail/hospitality, office, industrial, and public. All of the public employment needs (and more) can be accommodated on existing land inside the UGB; about 60% of the retail/hospitality, half the industrial, and a third of the office needs can be met inside the UGB.

These results indicate a need for land use efficiency measures to increase the likelihood that needed housing types will be built inside the UGB, and to make better use of both residential and employment land inside the current UGB.

[Note: the remainder of the executive summary will be written as the other chapters of the report are prepared.]

CHAPTER 1. INTRODUCTION

Role of the Urbanization Report

The Urbanization Report presents an analysis of where and how Bend's future growth will be accommodated, both inside the existing Urban Growth Boundary (UGB) and in expansion areas. The purpose of this report is to address requirements pertaining to UGB expansions under Oregon's Statewide Planning Goal 14 (Urbanization) and Oregon Administrative Rule (OAR) 660, Division 24 (these are summarized in the following section). The Urbanization Report is a supporting document of the City of Bend General Plan, referred to as the Bend Comprehensive Plan in this report.² The Urbanization Report:

- documents current UGB capacity under existing policies and based on historic development trends and current land supply from the Buildable Lands Inventory, including documentation of the capacity analysis methodology, assumptions and results;
- documents land use efficiency measures those considered, those applied, and their impact on capacity;
- translates growth projections from needed housing units and jobs by type (based on projections in the Housing Needs Analysis (HNA) and Economic Opportunities Analysis (EOA) to needed acres by plan designation;
- summarizes the remaining residual growth that cannot reasonably be accommodated within the existing UGB, documents the evaluation of alternative boundary location alternatives; and
- identifies proposed UGB expansion areas to meet residual land needs documented by a factual base for their inclusion in the UGB.

The Urbanization Report is one of four related technical reports that contain the City's analysis related to growth (see Table 1). The documentation of housing and employment need projections is contained in the HNA and the EOA; this report will include only the final need numbers. Existing land supply is documented in the Buildable Lands Inventory (BLI); this report will include only brief references and results. The policies that implement the conclusions from this report and the other supporting reports are found in the City's Comprehensive Plan.

² The Bend General Plan is the official title of the city's comprehensive plan as of the writing of the first public review draft of this report. The City anticipates amending the title to be Bend Comprehensive Plan when the plan is amended in 2016.

Table 1: Four Key Documents for Bend's Urban Growth Boundary Planning

Document	Buildable Land Inventory (BLI)	Housing Needs Analysis (HNA)	Economic Opportunities Analysis (EOA)	Urbanization Report (UR)
Purpose	Identify buildable residential & employment land by category	Address the requirements for planning for needed housing, including analysis of national, state, and local demographic and economic trends, and recommendations for a mix and density of needed housing types	Document historical employment and demographic trends, the projection of employment growth, identification of target industries, and evaluation of site characteristics needed to accommodate target industries	Analysis of where and how Bend's future growth will be accommodated, both inside the existing Urban Growth Boundary (UGB) and in expansion areas
Primary Legal Standards³	ORS 197.296 OAR 660, Divisions 8 and 9	Statewide Planning Goal 10: Housing ORS 197.296 and 197.303 OAR 660, Division 8	Statewide Planning Goal 9: Economic Development OAR 660, Division 9	Statewide Planning Goal 14: Urbanization ORS 197.298 OAR 660, Division 24
Key Subject Matter	Development status categories and definitions Methodology for assigning categories and conducting inventory Inventory results: acres by plan designation and development status	Projection of population and total housing growth Housing market and development trends Demographic characteristics and trends Analysis of affordability Estimate of needed housing (mix and density) Comparison of housing capacity to need	Existing policy and vision National, state, local trends Employment projections Target industries Site needs and characteristics Special site needs Redevelopment analysis Comparison of employment capacity to need and characteristics	Methodology for capacity estimates Pre-policy ("base case") capacity estimate for current UGB Efficiency measures (EMs) proposed Current UGB capacity with EMs UGB alternatives evaluation methodology and results Proposed UGB expansion and summary of Goal 14 evaluation results

³ OAR = Oregon Administrative Rules; ORS = Oregon Revised Statutes

Framework for the Urbanization Report

State Statutes and Administrative Rules

Overview

Statewide Planning Goal 14 requires that cities establish and maintain UGBs to provide land for urban development needs and to identify and separate urban and urbanizable land from rural land. Goal 14 and Oregon Revised Statutes (ORS) 197.296 and 197.298 contain requirements for how local governments identify how much land is required to meet urban development needs, how they establish the capacity of the existing UGB, and how to identify and evaluate land for UGB expansion if needed. These requirements are summarized in brief below; the full text of the relevant statutes and rules is included in Appendix A.

Establishing Land Needs

Establishment and change of the UGB must be based on the demonstrated need for housing, employment opportunities, and/or other urban land uses such as public facilities, streets and roads, schools, parks or open space over a 20-year period.⁴ Housing needs must be established consistent with a coordinated 20-year population forecast, the requirements for determining housing needs in Goals 10 and 14, and related rules and statutes (see Bend Housing Needs Analysis for a summary of these requirements).⁵ Employment needs must comply with applicable requirements of Goal 9 and related administrative rules (see EOA for a summary of these requirements).⁶

Inventory and Land Sufficiency

Local governments “must inventory land inside the UGB to determine whether there is adequate development capacity to accommodate 20-year needs”. Inventories must comply with requirements in OAR 660-024 and other statutes and rules (see Bend Buildable Lands Inventory for a summary of these requirements).⁷

“If the inventory demonstrates that the development capacity of land inside the UGB is inadequate to accommodate the estimated 20-year needs ..., the local government must amend the plan to satisfy the need deficiency, either by increasing the development capacity of land already inside the city or by expanding the UGB, or both.”⁸ Local governments may adopt new measures that increase the housing capacity of the existing UGB as part of meeting demonstrated housing needs.⁹ Local governments must demonstrate that needs cannot

⁴ Goal 14: OAR 660-015-0000(14), effective April 28, 2006.

⁵ OAR 660-024-0040(4), effective March 25, 2015.

⁶ OAR 660-024-0040(5), effective March 25, 2015.

⁷ OAR 660-024-0050(1), effective March 25, 2015.

⁸ OAR 660-024-0050(4), effective March 25, 2015.

⁹ ORS 197.296(6) through (9), effective 2003.

reasonably be accommodated on land already inside the urban growth boundary prior to expanding the UGB.¹⁰

Identifying Boundary Expansion Areas

In considering locations for UGB expansions, local governments must determine which land to add by evaluating alternative boundary locations.¹¹ State statute classifies rural land into priority categories for purposes of evaluating potential UGB expansions, with the intent of protecting high-value agricultural and forest land for those uses. Local governments must begin by evaluating the highest priority of land available, and determine whether land in that priority category is suitable and sufficient to meet the identified land needs before moving on to consider land in lower priority categories.¹² If there is more land in a given priority category than needed to satisfy the deficiency, local governments must consider and balance four factors in Goal 14 to choose which land from that priority category to include in the UGB:

1. Efficient accommodation of identified land needs;
2. Orderly and economic provision of public facilities and services;
3. Comparative environmental, energy, economic and social consequences; and
4. Compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB.¹³

The “relative costs, advantages and disadvantages of alternative UGB expansion areas with respect to the provision of public facilities and services” must also be evaluated and compared.¹⁴ The local government may specify certain characteristics that are necessary for land to be suitable for specific types of identified land needs, and may consider only land that has those characteristics.¹⁵

Prior Work and Remand Issues

UGB Expansion History

The City’s process for demonstrating a need for UGB expansion began in 2004, and included the development and adoption of a coordinated population forecast with Deschutes County, followed by three years of technical work on buildable lands inventories, housing needs analysis, economic opportunities analysis, forecasting additional residential and employment lands, and public facilities (water, sewer, transportation) planning. The City and county

¹⁰ Goal 14: OAR 660-015-0000(14), effective April 28, 2006; OAR 660-024-0040(1), effective March 25, 2015; and OAR 660-024-0050(4), effective April 16, 2009.

¹¹ Goal 14: OAR 660-015-0000(14), effective April 28, 2006; and OAR 660-024-0060(1), effective April 16, 2009.

¹² ORS 197.298, effective 1999; and OAR 660-024-0060(1), effective April 16, 2009.

¹³ ORS 197.298, effective 1999; and OAR 660-024-0060, effective April 16, 2009.

¹⁴ OAR 660-024-0060(8), effective April 16, 2009.

¹⁵ ORS 197.298, effective 1999; and OAR 660-024-0060(5), effective April 16, 2009.

conducted extensive public outreach, including work sessions and hearings, on the UGB expansion in 2007 and 2008. The Bend City Council and Deschutes County Board of County Commissioners' approved the UGB expansion proposal in 2009. These local adoptions were followed by a number of appeals to the Land Use Board of Appeals (LUBA) and Land Conservation and Development Commission (LCDC).¹⁶ The Oregon Department of Land Conservation and Development (DLCD) Director's Report in January 2010 remanded the proposal back to the City for further work; the City of Bend and 11 other parties filed appeals to LCDC. In November 2010, LCDC issued an order that partially acknowledged and partially remanded Bend's proposed UGB expansion. Certain elements of the City's proposal were approved (acknowledged); the remaining elements required additional explanation and/or work (remand). The Commission's final order became final on January 3, 2011. That order is referred to as the Remand.

From January 2011 to the present, the City established a special Task Force and then three Technical Advisory Committees supported by city staff and a team of consultants working to address the issues raised in the Remand.

Remand Issues Addressed

This report provides updated analysis related to a number of issues raised in the Remand. These are summarized in brief below, with references to their number in the Remand Scope Index, which was prepared by City staff to compile all Remand directives to the city (see Appendix B for index of relevant Remand directives; details of how each Remand issue has been addressed will be in the Findings Report).

- Determining current UGB capacity based on past trends and current policies (see Remand Directives 2, 12 through 14, 58, 59 and 75);
- Consideration of land use efficiency measures (see Remand Directives 26 and 30 through 50);
- Documentation or re-evaluation of the employment land redevelopment rate (see Remand Directives 62 and 63); and
- Evaluation of alternative expansion areas (see Remand Directives 22, 91, 93 through 101, 105 through 110).

Time Periods and Data used in the Urbanization Report

State statute and rule requires the use of a 20-year planning horizon for UGB expansion. OAR 660, Division 24, clarifies that the 20-year period must begin on the date initially scheduled for completion or adoption of the amendment.¹⁷ Because this report is completing work required under the Remand of the 2009 UGB expansion proposal, the 20-year planning period begins in 2008 and runs through 2028. However, this report is being completed in 2015/2016 based on analysis that began in 2014. Despite the economic recession that affected most of the

¹⁶ LUBA dismissed the appeals after the City showed the matter was before LCDC.

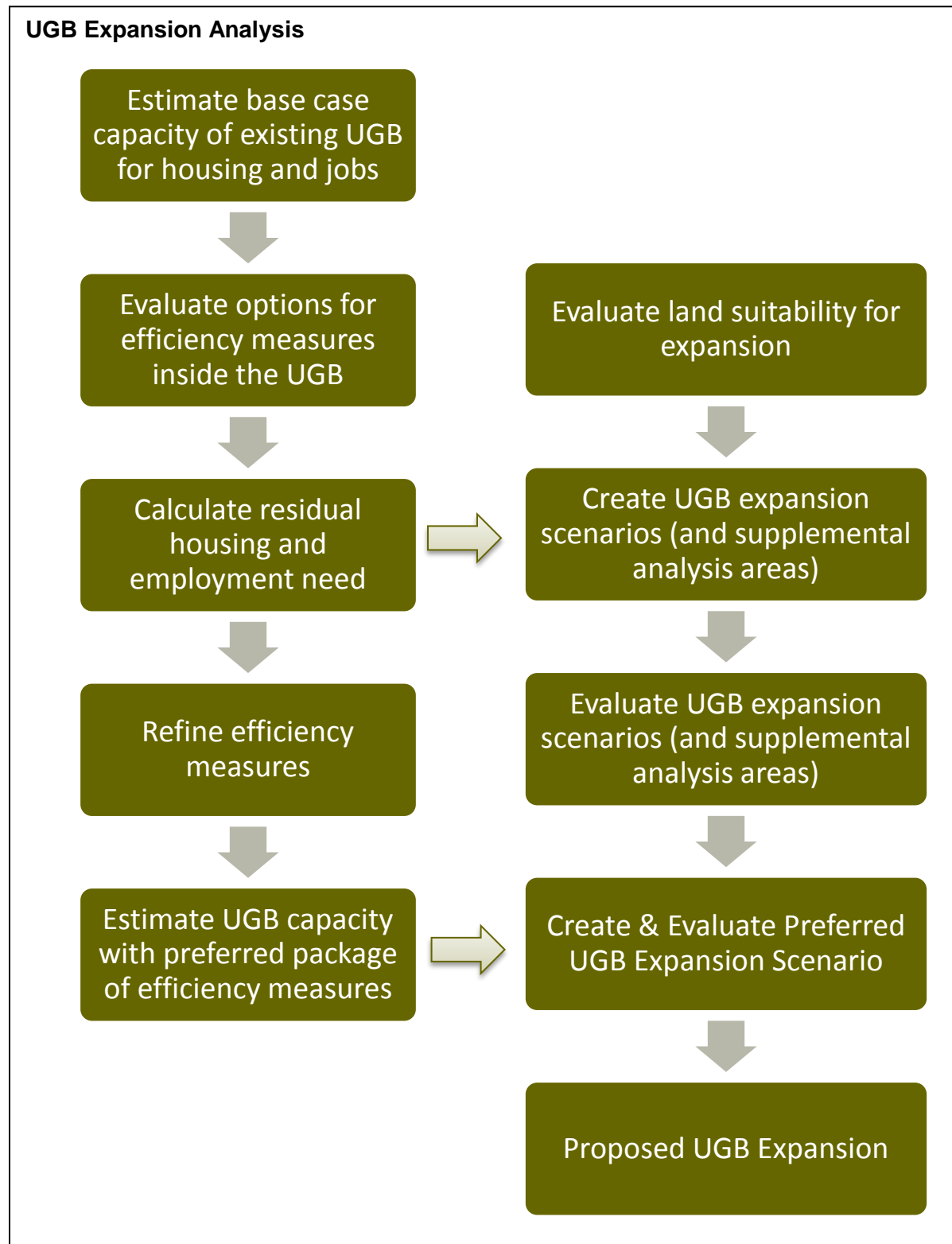
¹⁷ OAR 660-024-0040(2), effective March 25, 2015.

intervening years, development did occur in Bend between 2008 and 2014 (and continues as this report is being prepared). To provide the most current data possible of remaining capacity inside the current UGB and how much of the projected 20-year housing and employment growth has already occurred, the buildable lands inventory was updated in 2014 and housing and employment growth through 2014 has been estimated and deducted from the projected 2028 needs. This report focuses on the remaining capacity and growth needs from 2014 to 2028.

CHAPTER 2. METHODOLOGY

Analysis Steps

The process of determining land sufficiency and UGB expansion need is summarized in Figure 1. Each step of the process outlined in Figure 1 is summarized in this report. In addition to the process described in Figure 1, three different Technical Advisory Committees (TACs) and a UGB Steering Committee (USC) were used to guide the technical work and make decisions prior to formal adoption by the governing bodies. The TACs and USC provided guidance and feedback on each step of the process described in Figure 2 through more than 10 meetings taking place over nearly two years.

Figure 1: UGB Expansion Analysis Process Summary

Analysis Tools

Overview

A scenario planning tool called “Envision Tomorrow”¹⁸ was used to analyze capacity and options for future growth patterns in Bend. Envision Tomorrow applies development assumptions spatially and provides a sketch-level analysis of the possible impacts of policies, development decisions and growth trajectories. Scenario comparison measures include a comprehensive range of indicators relating to land use, housing, demographics, economic growth, environmental factors, and quality of life. (See next section for more on this model and how it works.)

To complement the indicators available in Envision Tomorrow, additional modeling and analysis tools were used to evaluate infrastructure needs and implications of UGB expansion scenarios, including a Travel Demand Model for transportation analysis (to supplement a transportation analysis tool that is part of Envision Tomorrow’s suite of planning tools) and water and sewer optimization models. These tools and their role in this analysis are discussed in more detail in Chapter 5.

About the Envision Tomorrow model

Envision Tomorrow applies a set of assumptions about future development spatially to land with development or redevelopment potential. These assumptions are organized into “development types” that reflect different types of residential and employment development. The model does not predict exactly how a given parcel will develop; rather, it applies a mix of different types of development and land set-asides (using percentages of available acres) across multiple parcels. Results are calculated at the parcel level, but, because they represent blended averages for future development rather than site-specific assumptions, they are only appropriate to report at a summary level.

The development types generally represent Bend’s Comprehensive Plan designations. Assumptions within the development types were calibrated to Bend by the project team with the best available information and with Technical Advisory Committee (TAC) direction at various stages. Development type assumptions include:

- A mix of specific building prototypes, which are based on information including parking requirements, height limits, and lot coverage ratios from the current Development Code (and as modified through specific Efficiency Measures);¹⁹
- Streets, neighborhood parks, and other set-asides;
- Net residential density and net job density; and
- Rate of redevelopment.

Each of these assumptions is discussed in Chapter 3, beginning on page 15.

¹⁸ Information and download available at <http://www.envisiontomorrow.org/>

¹⁹ Prototype buildings were reviewed by the Residential and Employment TACs in August, 2014.

Development types are assigned to lands through “painting” tax lots, or portions of tax lots.²⁰ Each buildable acre of land where a development type is applied is assigned a percentage of each of the building types as well as the specified percentage set aside that comprise the development type. The identification of buildable land is described in detail in the BLI. That report should be consulted for details, but, in brief:

- Development constraints, such as floodplains and steep slopes, are identified as “constrained” in the model, and no development or redevelopment is assigned to them.
- Existing development is identified as “developed” in the model;²¹ growth on “developed” land is controlled through the redevelopment rate in each development type. The redevelopment rate specifies what percentage of the developed land should have the development assumptions of the development type applied to it. It does not specify which land exactly is redeveloped, only how much of it is redeveloped overall.
- Unconstrained and undeveloped land is identified as “vacant” in the model; growth is projected on vacant land using the assumptions built into the development type.

The model summarizes total residential and employment growth, including providing information about the overall mix of units and jobs, for the scenario as a whole. The model can also be used to provide sub-area summaries for a variety of different geographic areas. In addition, because the model incorporates financial information (including locally-calibrated construction costs) for each of the building prototypes, the model can provide information about the affordability of future development.

Envision Tomorrow also includes a specialized tool for analyzing vehicle miles traveled and mode split based on the future land use and household characteristics. This tool is discussed further in Chapter 5 (see page X) with regard to evaluation of UGB expansion alternatives.

Forecasts and Land Needs

The methodology and details of the population/housing unit and employment forecasts summarized in this section can be found in the HNA and EOA, respectively. The tables below summarize the remaining need within the planning period (2014 to 2028) by housing type and employment category for reference only. The translation of these housing and employment needs (units and jobs) to land needs in terms of acres by plan designation is presented in Chapter 5.

²⁰ Inside the UGB, large tax lots (over 14 acres) were split into 14-acre grid squares in order to allow assigning multiple development types to a single large parcel. Outside the UGB, tax lots were divided into 3.5-acre grid squares.

²¹ See Step 4 of the BLI for how vacant and developed acres were determined for lots that have some development but also have remaining development potential.

Table 2: Summary of New Housing Units by Type and Category, Bend UGB, 2014-2028 ²²

	2014-2028 Needed Housing Units		2014-2028 Needed Group Quarters Units	2014-2028 Second Homes	2014-2028 Total New Housing Units	
	Units	Mix	Units	Units	Units	% of Total Units
Single-family detached (including mobile homes)	7,574	55%		1,652	9,225	54%
Single-family attached	1,377	10%		300	1,677	10%
Multifamily	4,819	35%	461	1,051	6,331	37%
Total	13,770	100%	461	3,003	17,234	100%

Table 3: Employment Forecast by Employment Category, non-shift workers, Bend 2013 to 2028 ²³

Employment Categories	2013 Employment	2028 Employment Forecast	2013 to 2028 Growth
Industrial			
Industrial Heavy	2,889	5,180	2,291
Industrial General	3,771	8,002	4,231
Retail			
Large Retail	3,057	5,849	2,792
General Retail	3,096	5,293	2,197
Office/Srv/Medical	16,435	23,593	7,158
Leisure and Hospitality	4,017	5,532	1,515
Other / Misc	1,505	1,547	42
Government	3,894	5,611	1,717
Total	38,664	60,607	21,943

²² Based on the definitions in OAR 660-008-0005 and in the Bend Development Code, the needed housing types are defined as follows:

- “Attached Single Family Housing” means common-wall dwellings or rowhouses where each dwelling unit occupies a separate lot.
- “Detached Single Family Housing” means a housing unit that is free standing and separate from other housing units (includes courtyard housing, detached single family dwellings, accessory dwelling units, manufactured homes on individual lots, and manufactured homes in parks).
- “Multiple Family Housing” means attached housing where each dwelling unit is not located on a separate lot (includes condominium, duplex, triplex, and multi-family housing with more than 3 units).

²³ Source: 2028 Employment forecast: Bend EOA, 2008, Table 25. 2013 data based on Oregon Employment Department 2013 Quarter 3 geo-coded data for City of Bend.

Note: While the employment in this table is based on covered employment data from the Oregon Employment Department, the 2013 covered employment data was adjusted, as using the methods described in the EOA, to show total employment for non-shiftworkers.

In addition to housing and employment needs, the City has identified several other land needs, including public parks, public schools, and special site needs for large lot industrial development and a university. These are summarized in brief below.

[Note: a summary of the original 2008 to 2028 land needs identified for these other uses and an update of remaining need as of 2014 will be provided for schools, parks, and special site needs.]

CHAPTER 3. BASE CASE UGB CAPACITY

About the Base Case

The “Base Case” is a spatial projection of housing and employment growth through 2028 within the current UGB based on past trends and current policies, using the Envision Tomorrow model. The Base Case represents the current UGB’s remaining capacity **prior** to applying assumptions regarding new residential efficiency measures and measures to encourage additional redevelopment of employment areas.

The reason to create a Base Case is two-fold: first, to understand the remaining UGB capacity as of 2014 if no policy changes were made, and, second, to compare the impacts of alternatives that incorporate efficiency measures for how they change UGB capacity.

Creating and Calibrating Development Types

Overview

As noted previously, the development types generally match existing Comprehensive Plan categories. For residential development types, the densities and mix of housing types were set to match the observed trends from 1998 to 2008 by plan designation, documented in Appendix C.²⁴ The city is required to base capacity analysis on data since the last periodic review, in 1998.²⁵ The city’s continued reliance on the 1998-2008 data analysis is justified because the residential development in the city from 2008 to 2014 was largely limited to building individual homes on lots created before 2008, due to the economic downturn.²⁶ This means that the density for the development was set prior to 2008 for nearly all recent residential building activity.

²⁴ There is one exception: the observed average density in the RH zone between 1998 and 2008 falls below the current minimum density for the zone (which was adopted in 2006). Based on guidance from the Remand, the base case uses the minimum density for the RH zone rather than the observed average.

²⁵ ORS 197.296(5)(a) requires determination of housing capacity to be based on data relating to land within the City’s UGB that has been collected since the last periodic review or five years, whichever is greater. In Bend’s situation, the last periodic review ended in 1998 with the adoption of the City of Bend Comprehensive Plan.

²⁶ Land use permit data indicates roughly a dozen residential subdivisions and two multi-family development projects approved (but not necessarily built) since 2008, all in 2013 and 2014, compared to between 600 and 700 single family homes built since 2008 on platted lots.

Employment development types were calibrated to the observed employment mix and density as of 2006, documented in Appendix D.²⁷

A few specialized development types were created to address specific situations, such as:

- The Medical District Overlay Zone (MDOZ), an area with primarily residential plan designations but subject to an overlay that allows and encourages development of medical and office uses;²⁸
- Identified locations for future schools and parks (see page 18);
- Institutional uses such as Central Oregon Community College (COCC) and the planned site of Oregon State University's Cascades Campus (OSU Cascades);
- Properties with approved development applications that made them more closely resemble a different development type; and
- Vacant platted lots subject to Covenants, Conditions and Restrictions (CC&Rs).²⁹

Appendix E provides additional information about each of the development types (such as residential and employment mix and density), including those used in the base case as well as those developed later to incorporate efficiency measures.

[Note: Appendix E will be included with the final Urbanization Report, but is not included at this time.]

Redevelopment

Residential Land

Residential land may be considered redevelopable only if there exists “the strong likelihood that existing development will be converted to more intensive residential uses during the planning period.”³⁰

City staff, in 2011, performed a detailed analysis of residential development activity in the city from 1999 through 2008 by BLI status. The analysis found:

- Land classified as “partially vacant” had very low levels of building permit activity – only 80 permits over 10 years.

²⁷ The densities and mix in Appendix C were calculated based on City of Bend GIS analysis using Oregon Employment Department (OED) 2006 geo-coded Quarterly Census of Employment and Wages (QCEW) data for City of Bend. They have been adjusted to represent covered employment without shift-workers, employees in public schools, on institutional/recreational lands, and employees working in their own homes. These densities were approved as part of the 2008 EOA by LCDC in the Remand.

²⁸ The MDOZ development type assumes a mix of uses consistent with the observed employment and housing densities and mix from the same 2006 and 2008 data sets described above.

²⁹ This development type includes exclusively single family housing and does not include set-asides for other uses or right of way. The density was set such that it generates one housing unit per lot.

³⁰ OAR 660-008-0005(7), effective February 2012.

- Under 6% of lots (and 26% of acres) classified as “developed with infill potential” in 1999 received building permits for residential infill by 2008: 4% of the lots under one acre (4.5% of the acres in this category) and 36% of the lots over one acre (51% of the acres in this category).
- There was virtually no redevelopment activity – where an existing structure was demolished and additional units were built – on fully developed land during 1999-2008.³¹

The Envision Tomorrow model was calibrated to be roughly consistent with these observations. Because of the way developed and vacant land were identified for lots classified as “partially vacant” and “developed with infill potential” (see Step 4 of the BLI), developed land for the purposes of this analysis is essentially only the portions of those properties where demolition of existing structures would be required in order to allow for redevelopment. For example, within tax lots identified as “developed with infill potential” and under 1 acre, a total of 152 acres were identified as vacant out of 1,440 (11%), with the remainder identified as developed. For larger sites identified as “developed with infill potential”, a total of 746 acres were identified as vacant out of 1,130 (66%). On properties classified as “partially vacant,” all 93 acres were identified as developed.³² Thus, the estimation of vacant and developed acres on lots that are “developed with infill potential” or “partially vacant” accounts for an amount of further development that is roughly consistent with, but slightly higher than, the amount that has been seen historically. There is very little evidence of redevelopment through demolition in Bend to date. Thus the redevelopment rate for the developed portion of the partially vacant and developed with infill properties (which also applies to land that is fully developed) is set at zero.

Employment Land

ECONorthwest prepared an evaluation of redevelopment potential on employment land that took into consideration the ratio of improvement to land value, total value per square foot, employment density, and residual land value (given assumptions about building type and rent). A residual land value analysis modeled the financial feasibility of developing prototypical buildings based on achievable rents and current land values. Areas with positive residual land values after redevelopment (i.e. areas where property values are below the amount that a given type of development can afford to pay based on projected rents and costs) are areas where

³¹ There were a total of 50 permits issued on lands classified as developed where there was an existing unit AND where the existing unit was demolished; however, only 2 of them resulted in more units than had existed prior to the demolition. In both of these cases, duplexes were built after a single family home was demolished. The rest of the 50 permits resulted in the same number of units (e.g., a single family home was demolished and replaced with another single family home). Therefore, we can assume that only 2 permits were the result of redevelopment; the other 48 were merely replacements of existing units. This is not unexpected, given that for land to be classified as developed it had to be fully developed under the existing zoning regulations.

³² The partially vacant lands are all less than a half-acre in size. Few have the right to add more than two additional units under current zoning, and none have the right to add more than four additional units. Nearly all are developed with an existing single-family home, and nearly half of the existing homes have been built since 1990. Given that they are, by definition, too small to further divide, the only way to add units would be through conversion to a duplex or triplex or to single family attached housing.

redevelopment is most likely to be financially feasible under current conditions without public investment. The details of the redevelopment analysis can be found in **Appendix X** of the EOA.

[Note: this is not included with the current draft of the EOA, but is planned to be included with the final EOA. It will be a summary of the memos presented to the Employment TAC on approach to redevelopment analysis.]

In short, it found potential for roughly 1,360 new employees, or 6.6% of total forecast employment, on already developed employment land under the base case. As a percent of developed acres, this redevelopment is equivalent to roughly 1.5% of developed acres overall, with higher percentages in the Central Business District (CB), Industrial Limited (IL), and Mixed Employment (ME) plan designations.

Redevelopment rates for the development types (as a percent of developed acres) were calibrated to the results of the redevelopment potential analysis. Redevelopment rates for employment designations vary as follows:

- 4-6% for Community Commercial (CC), Commercial Limited (CL), General Commercial (CG), ME, Public Facilities (PF), and the industrial designations
- 8-10% for Mixed Riverfront (MR) and MDOZ
- 25% for Central Business District (CB)

Only employment parcels with some likelihood of development or redevelopment were painted with a development type in Envision Tomorrow. Development types were not applied to developed land unless the existing employment density was less than one third of the average employment density of the development type in question.

Set-Asides

In order to account for right of way, neighborhood parks and trails, and “other uses” such as churches, golf courses, etc. that may occupy land in a variety of plan designations but are not employment or housing uses, the development types also include set-asides that convert from gross vacant buildable acres to net residential and employment acres. The approach and general assumptions for these set-asides are documented below. The total amount of land for each set-aside inside the UGB under the Base Case is documented as part of the “Base Case Capacity Estimate” section.

Right of Way

As part of the analysis for the 2008 UGB expansion effort, the City of Bend calculated the amount of land used for right of way city-wide, across all plan designations, at 21%.³³ The “development types” in Envision Tomorrow include some variation in right of way set asides based on the city’s block size and street standards for different plan designations, and are also calibrated to result in the overall amount of right of way calculated in 2008.

³³ See Rights of Way Methodology from Brian Rankin; Rights-of-way for roadways variable: final memorandum post DLCD Comments (12/4/2008).

Parks and Trails

Parks are accounted for in two different ways in Envision Tomorrow: future Community Parks are identified with their own development type and an approximate location and size,³⁴ while neighborhood parks and trails are accounted for through set-asides in certain development types (described below).

Neighborhood parks and trails are built into residential and mixed use development types, on the assumption that they will primarily be built in those areas. Bend Parks and Recreation District (BPRD) has adopted “Level of Service” (LOS) standards for neighborhood parks and trails that specify a target number of acres or miles to be available per 1,000 service population. In their 2012 Parks Master Plan, BPRD set a neighborhood park standard of 1.5 acres/1,000 population. However, their previous standard was 2.0 acres/1,000 population, and in discussions with city staff, BPRD indicated that they may want to revert to the higher standard in planning for higher density future growth. BPRD also has an adopted trails standard of 1 mile/1,000 population. Using an assumed 20’ right of way for trails, this translates to 2.4 acres/1,000 population for trails.

Set asides in the development types have been calibrated to provide for a combined total of 4.1 acres of neighborhood parks and trails per 1,000 of new population (see Appendix E [placeholder - not included in the current draft] for details by development type). This includes 2.4 acres/1,000 population for trails and 1.7 acres/1,000 population for neighborhood parks – halfway between BPRD’s adopted neighborhood park standard of 1.5 acres/1,000 population and the 2.0 acres/1,000 population they indicated they may want to use for higher density expansion areas.

Schools

Future public K-12 schools are accounted for in Envision with their own development type, similar to community parks. Future school locations inside the UGB were identified based on information provided by city staff and the Bend-La Pine School District.³⁵

Other Lands

As part of a 2007 Residential Land Study by Angelo Planning Group, the City of Bend calculated the amount of land used for “other lands” city-wide, including uses such as churches, fraternal organizations, golf courses and other uses that are neither housing nor employment (schools and parks are addressed separately as discussed above). Overall, 12.8% of the city’s land area was found to be dedicated to these uses. This percentage set aside is applied to development types representing all plan designations in Envision Tomorrow.

³⁴ Future community park locations identified in the model are not necessarily under Park District ownership; the locations identified are based on available information and professional judgement about possible future park needs, but are approximate and subject to change.

³⁵ Future school locations identified in the model are not necessarily under School District ownership; the locations identified are based on available information but are approximate and subject to change.

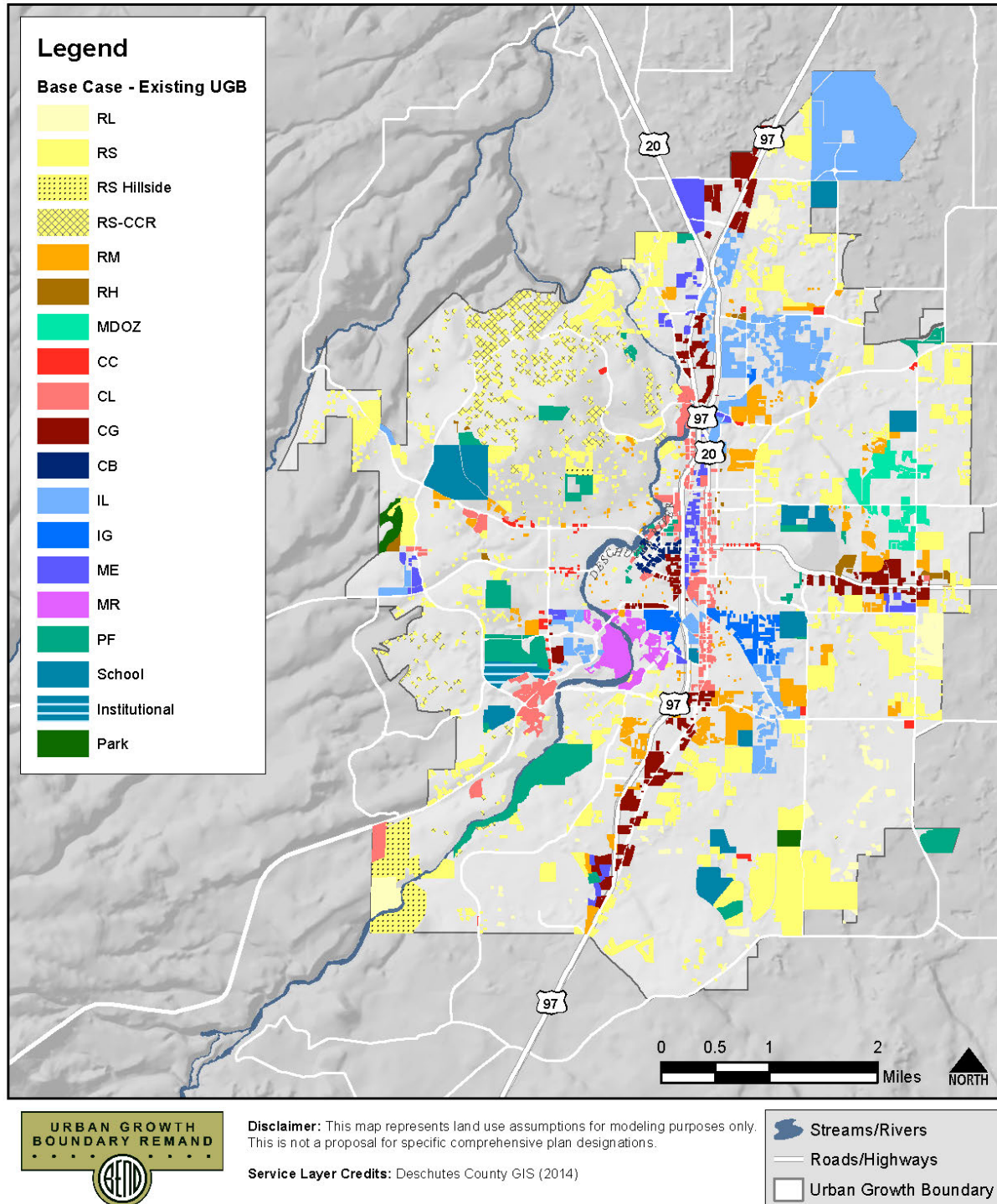
Applying Development Types

As noted previously, the development types were applied to residential land with development potential, as indicated by having some vacant acres on the parcel. The development type applied was generally consistent with the existing plan designations, except for the special situations identified on page 14. For employment land, as noted previously, development types were also applied to developed land with redevelopment potential. Figure 2 shows the map of development types applied under the Base Case.

Figure 2: Development Types Applied inside UGB: Base Case

Bend UGB*Existing UGB - Base Case*

Prepared 7/23/2015



Base Case Capacity Estimate

This section provides an estimate of the residential and employment capacity of the current UGB stated in terms of housing units and jobs, as required by OAR 660-024-0050.

Housing Capacity

The following tables and figures describe the residential capacity estimated in the base case scenario. Note that the number of new housing units reported is net of any existing units that may be lost through redevelopment in non-residential districts, and housing unit estimates are rounded to the nearest 10 units. In total, the base case shows that the current UGB can accommodate roughly 9,300 housing units under the current plan designations and policies and historic trends in development density. The mix of units projected under the base case is roughly 70% single family detached, 25% multifamily, and 5% single family attached. Most of the total housing capacity (over 60%) is in the RS plan designation. Only 5% of the total housing capacity is in the RH zone, the city's only high-density residential plan designation. The RH plan designation and the MDOZ collectively provide close to 40% of the total multifamily housing capacity in the city, and are geographically concentrated in a few areas. As shown on Figure 3, overall housing growth is concentrated in the southeast and east, where there is more vacant land.

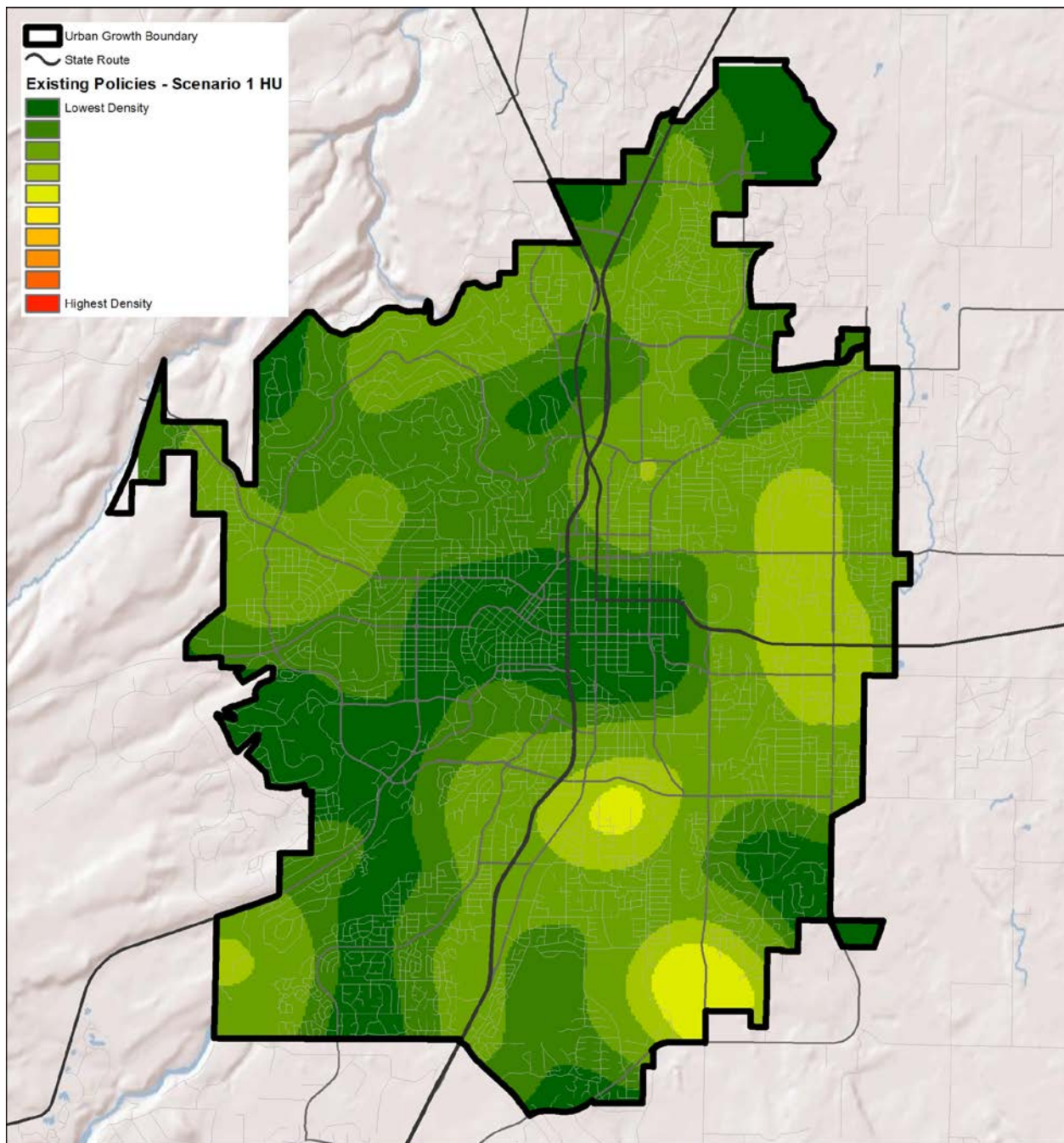
Table 4: Base Case Housing Capacity

Housing Type	Net New Housing Units	Percent of new housing units
Single Family Detached	5,870	70%
Single Family Attached	440	5%
Multi-Family	2,090	25%
Total	8,400	100%

Table 5: Base Case Housing Capacity by Plan Designation

Plan Designation*	Single Family Detached Units	Single Family Attached Units	Multi-Family Units	Total New Housing Units
RL	230	-	-	230
RS	4,590	290	250	5,130
RM*	1,020	100	860	1,980
RH*	10	50	360	420
MDOZ*	-	-	480	480
CL*	-	-	50	50
CG	-	-	50	50
MR	20	-	40	60
Total	5,870	440	2,090	8,400

* Development capacity in the MDOZ is counted there rather than by plan designation.

Figure 3: Heatmap of Housing Growth in the Base Case

Employment Capacity

The following tables and figures describe the employment capacity estimated in the base case scenario. Note that the number of new jobs reported is net of any existing jobs that may be lost through redevelopment in non-residential districts, and employment estimates are rounded to the nearest 10 jobs. In total, the base case shows that the current UGB can accommodate a little over 12,000 jobs under the current plan designations and policies and historic trends in development density. The mix of jobs that can be accommodated inside the UGB under the

base case is a fairly even split between retail/hospitality, office, industrial, and public. Most of the total employment capacity (about 37%) is in the IL plan designation, with most of that at Juniper Ridge. As shown on Figure 4, overall employment growth is concentrated in Juniper Ridge and southwest Bend.

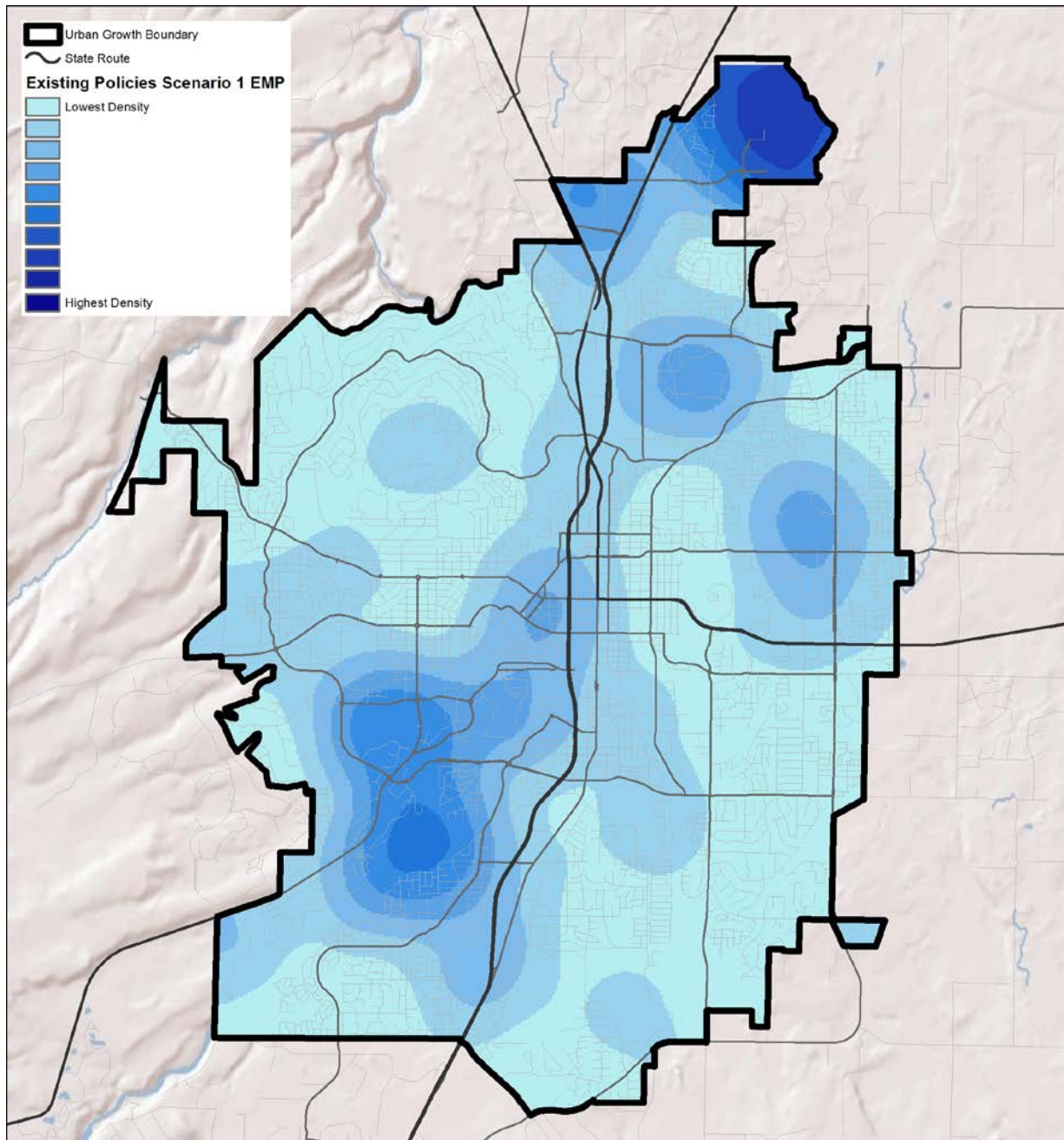
Table 6: Base Case Employment Capacity by Category

Employment Category	Net New Jobs	Percent of new jobs
Retail & Hospitality	2,220	19%
Office	3,610	31%
Industrial	3,310	28%
Public	2,540	22%
Total	11,680	100%

Table 7: Base Case Employment Capacity by Plan Designation and Category

Plan Designation*	Net New Retail & Hospitality Jobs	Net New Office Jobs	Net New Industrial Jobs	Net New Public Jobs	Total Net New Jobs
RS	-	20	-	-	20
RM*	10	30	-	-	40
RH*	-	10	-	-	10
MDOZ*	10	690	70	-	770
CC	50	40	-	-	90
CL*	470	570	90	-	1,130
CG	850	210	40	-	1,100
CB	100	270	-	10	380
IL	430	1,110	2,650	-	4,190
IG	10	50	90	-	150
MR	80	260	50	-	390
ME	160	230	320	-	710
PF	50	120	-	2,530	2,700
Total	2,220	3,610	3,310	2,540	11,680

* Development capacity in the MDOZ is counted there rather than by plan designation.

Figure 4: Heatmap of Employment Growth in the Base Case***Land for Parks, Schools, and Other Uses***

The Base Case includes 816 acres for right-of-way (21% of vacant acres developed), 152 acres for parks, 93 acres for new schools, and 454 acres for other land (12% of acres developed) inside the existing UGB.

Comparison to Need

The housing and employment need projections to 2028 are documented and explained in the HNA and EOA, respectively. For more information about what they include and how they were generated, please see those documents. This section compares those needs, in summary form, against the estimated capacity of the current UGB in the Base Case.

As shown in Table 8, the Base Case is estimated to accommodate roughly half of both the total housing and total employment needs forecasts for 2028. However, comparing at the housing type and employment category level, it is clear that the capacity is not evenly distributed across all needed types and categories. For housing, much of the total single family housing need can be met inside the UGB in the Base case, but only about a quarter of the single family attached and a third of the multifamily housing needs can be accommodated with current policies and trends (see Table 8). For employment, all of the public employment needs (and more) can be accommodated on existing PF land inside the UGB, but only about a half of the office and industrial needs and a third of the retail and hospitality needs can be met inside the UGB with current policies and trends (see

Table 9).

Table 8: Base Case Housing Capacity Compared to Housing Needs by Housing Type

Housing Type	Net New Housing Units	Total Housing Need ³⁶	Residual Housing Need	Percent of Housing Need Met
Single Family Detached	5,870	9,220	3,350	64%
Single Family Attached	440	1,680	1,240	26%
Multi-Family	2,090	6,330	4,240	33%
Total	8,400	17,230	8,830	49%

³⁶ The total housing need listed includes housing units needed to meet projected growth in households, second homes, and equivalent dwelling units to meet group housing needs. See HNA for details.

Table 9: Base Case Employment Capacity Compared to Employment Needs by Employment Category

Employment Category	Net New Jobs	Total Employment Need ³⁷	Residual Employment Need	Percent of Employment Need Met
Retail & Hospitality	2,220	6,520	4,300	34%
Office	3,610	7,160	3,550	50%
Industrial	3,310	6,540	3,230	51%
Public	2,540	1,720	None ³⁸	100%
Total	11,680	21,940	11,080	53%

The City's park and school needs are also not fully met within the existing UGB.

[Note: a comparison of the Base Case park and school land to the 2014 to 2028 remaining park and school need will be provided here.]

³⁷ The employment need categories have been generalized for simplicity in comparing against capacity as measured in Envision Tomorrow. See EOA for details.

³⁸ Public jobs do not include school-based employment in actual school facilities which tend to be located in residential areas. Schools are addressed as a separate land need. The surplus of capacity for public jobs inside the UGB does not subtract from the need for employment capacity of other types, since land designated Public Facilities (where most of the public employment capacity comes from) generally will not provide opportunities for private-sector retail, office, or industrial development.

[Note: the draft outline of the remaining chapters of the Urbanization Report is provided below for reference. TAC feedback on this outline is not requested at this time.]

CHAPTER 4. EFFICIENCY MEASURES

Overview & Evaluation Process

Proposed Package of Efficiency Measures & Anticipated Impact

Changes to Broadly-Applicable Development Code

Changes to Plan Designations for Opportunity Sites

Capacity Estimate with Efficiency Measures

Housing Capacity

Employment Capacity

Land for Parks, Schools, and Other Uses

Comparison to Need

CHAPTER 5. UGB EXPANSION

Overview & Evaluation Process

Initial Suitability Evaluation

Approach

Results

Alternatives Analysis

Approach

Summary of Alternatives Considered

Scenarios

Supplemental Analysis Areas

Summary of Evaluation Results

Scenarios

Supplemental Analysis Areas

Proposed UGB Expansion

Summary of Proposal

Evaluation Results

CHAPTER 6. CONCLUSION

APPENDICES & RELATED DOCUMENTS

[Note: The appendices intended to be included with the Urbanization Report are listed for reference below. However, the appendices themselves are not included with the partial draft report at this time.]

Appendices

Appendix A State law cited in this report

Appendix B Index of relevant Remand directives

Appendix C Observed mix and density of housing by residential plan designation (*from 2011 BLI memo*)

Appendix D Observed mix and density of employment by employment plan designation (*from 2008 EOA*)

Appendix E Development type details

Appendix F Proposed efficiency measures code changes details (*development code amendment descriptions & details of what changed in Envision Tomorrow*)

Appendix G Stage 2 maps (all)

Appendix H Final scenario evaluation memo, with attached technical memos

Appendix I Detailed evaluation documentation for proposed UGB / hybrid scenario

Related Documents

Housing Needs Analysis

Economic Opportunities Analysis

Buildable Lands Inventory

Findings Report

Comprehensive Plan

Bend Development Code



Meeting Agenda

Employment Technical Advisory Committee – Meeting 9

Tuesday July 21, 2015 2:30 PM – 5:00 PM

City Council Chambers, Bend City Hall

Meeting Purpose and What is Needed from the TAC

The purposes of this meeting are to:

- Review and provide feedback on preliminary amendments to economy-related policies in the General Plan
- Review and approve employment land efficiency measures to advance towards adoption
- Review and provide feedback on an evaluation of potential locations to meet the identified large lot industrial special site need
- Discuss preliminary findings and recommendations related to ensuring an adequate short-term supply of employment land (an informational item)

The first main agenda item for this meeting is to discuss an initial set of amendments to economy-related General Plan policies. These amendments are intended to support the 2015 update to the Economic Opportunities Analysis (EOA) conducted in response to the UGB remand. Many of the General Plan policies are old and out of date – the amendments include a general clean up (deletion) of out of date policies for consideration by the TAC.

The next item on the agenda is to review proposed employment land efficiency measures. The project team has conducted a review of how the various efficiency measures / redevelopment concepts identified by the Employment TAC in previous meetings could be addressed through text and/or map amendments, and the “how and when” of efficiency measure adoption. The Employment TAC’s role is to provide advice on: (1) whether the measures identified in the attached tables are the right measures to achieve the vision identified for the opportunity areas, and efficient use of employment land inside the current UGB; and (2) which measures are most important and the highest priority for adoption.

Where to accommodate the need for Large Lot Industrial land was a lively topic of discussion at the Boundary TAC and UGB Steering Committee (USC) meetings in June. This agenda item seeks the Employment TAC’s advice on: (1) the criteria used to evaluate potential sites for large lot industrial uses; and, (2) the project team’s initial evaluation of the

For additional project information, visit the project website at <http://bend.or.us> or contact Brian Rankin, City of Bend, at brankin@bendoregon.gov or 541-388-5584



Accessible Meeting/Alternate Format Notification

This meeting/event location is accessible. Sign and other language interpreter service, assistive listening devices, materials in alternate format such as Braille, large print, electronic formats, language translations or any other accommodations are available upon advance request at no cost. Please contact the City Recorder no later than 24 hours in advance of the meeting at rchristie@ci.bend.or.us, or fax 385-6676. Providing at least 2 days notice prior to the event will help ensure availability.

three sites identified in UGB expansion scenarios to date.

The final item is an informational update on the project team's work to date on short-term supply, as required by the Remand.

Agenda

- | | | |
|----|--|--|
| 1. | Welcome
a. Welcome and convene
b. Where we are in the process – a brief look back and look forward
c. Review and approve minutes | 2:30 PM

Jade Mayer
Joe Dills, Brian Rankin |
| 2. | Proposed Amendments to Economic Policies
<i>Information and discussion</i>

a. Presentation: highlights of proposed policy amendments
b. TAC discussion: are there questions or concerns regarding any of the proposed policy amendments? | 2:40 PM

Brian Rankin & Mary Dorman, APG |
| 3. | Employment Land Efficiency Measures
<i>Information, discussion and action</i>

a. Presentation: highlights of proposed employment land efficiency measures – legal context, adoption strategies, and priorities
b. TAC discussion and action: <ul style="list-style-type: none"> • are the measures identified the right measures to achieve the vision identified for the opportunity areas, and efficient use of employment land inside the current UGB? • which measures are most important and the highest priority for adoption? | 3:10 PM

Becky Hewitt, APG |
| 4. | Large Lot Industrial Sites
<i>Information, discussion and action</i>

a. Presentation: background, siting criteria, and preliminary evaluation of potential sites
b. TAC discussion and action: <ul style="list-style-type: none"> • Are the criteria identified appropriate and adequate to evaluate potential sites for large lot industrial uses? | 3:40 PM

Brian Rankin and Becky Hewitt, APG |

- Do you have anything to add to or refine in the project team's initial evaluation of the three sites identified in scenarios to date?

5. Short-Term Supply

4:25 PM

Information and discussion

a. Presentation: background and proposed approach

Bob Parker,
ECONorthwest

b. TAC discussion:

- Does the TAC have any questions regarding the work to date or proposed approach on short-term supply?

6. Public Comment

4:45 PM

7. Project News and Adjourn

4:55 PM

City of Bend
Employment Lands Technical Advisory Committee
Meeting Notes
Date February 23, 2015

The Employment Lands TAC held its regular meeting at 2:30 pm on February 23, 2015 in the Council Chambers of Bend City Hall. The meeting was called to order at 2:32 pm by Jade Mayer.

Roll Call

- | | |
|--|---------------------------------------|
| <input type="checkbox"/> Ken Brinich | <input type="checkbox"/> William Kuhn |
| <input type="checkbox"/> Peter Christoff | <input type="checkbox"/> Jade Mayer |
| <input type="checkbox"/> Wallace Corwin | <input type="checkbox"/> Cindy Tisher |
| <input type="checkbox"/> Todd Dunkelberg | <input type="checkbox"/> Ron White |
| <input type="checkbox"/> Scott Edelman (for Tom Hogue) | |
| <input type="checkbox"/> Christopher Heaps | |

Agenda

1. Welcome

Jade called the meeting to order at 2:32 mm. He turned to Joe Dills of the Angelo Planning Group (APG) for a preview of today's meeting. Joe mentioned that the purpose of today's meeting is to forward the TAC's recommendations to the UGB Steering Committee (USC). The TAC is being asked to forward bookends as some working conclusions of Phase 1 of the project. The package of materials for consideration includes the Scenarios Map, efficiency measures, capacity estimate for employment and the Urban Form Map.

2. Draft Phase 1 Growth Scenarios

a. Presentation

Joe previewed the presentation for the TAC by pointing out include includes a potential to-do list for Phase 2 of the remand project. He used the metaphor that things are set in clay, and could be changed later in the process. Her reported that earlier on this same date that the Residential TAC had unanimously approved the package and added some of their own things to the to do list. He then turned the presentation over to Andrew Parrish of APG.

Andrew Parrish of APG gave a power point presentation on the Draft Phase 2 Growth Scenarios, which is enclosed with these minutes (enclosed). The scenarios created to date include three (3) maps, each analyzed with three (3) different efficiency measure packages; this represents a 3 x 3 grid of scenarios. Scenarios 1, 2, and 3 were paired with Efficiency Measure packages A, B, and C to create the grid. Scenario 1 represented the Base Case; Scenario 2 represents an "intensify" scenario, and Scenario 3 represented an "intensity and increase mixing" scenario. He presented a Phase 1 Growth Scenario Map based on two spatial scenarios and two efficiency measure packages. One version of the scenario is now identified as Scenario 4b; the second scenario, Scenario 5c, is essentially the same as 4b with the exception of housing added at the City's Juniper Ridge property.

He went on to describe the scenario components. The Scenario Components include the buildable lands inventory (BLI) designations, painting of development types, development type assumptions, the Urban Form Map (Handed out to the TAC), and the capacity analysis for employment presented in Table 5 and 6 of the meeting packet. He discussed the differences in land use at Juniper Ridge in the three main scenarios (Base, 4b, 5c).

With respect to Employment, he highlighted the difference between the three scenarios, and compared the capacity of the UGB to the need for employment. He reviewed several heat maps in the packet that showed where the expected increases in employment in the UGB. Joe added that a question and its answer from this morning's meeting – the medical jobs are captured under the "Office" category in the materials. Andrew concluded by highlighting a residential need of 4,739 to 6,210 jobs needed land in each scenario, and referred the TAC to Table 14.

b. TAC discussion

Following Andrew's presentation, Joe referred the TAC to pages 3 through 29 of the meeting packet, and asked for questions and comments. The TAC discussion raised the following questions, points, and comments:

- Costs to meet the plans, including infrastructure costs. Joe mentioned that this is on the to-do list for Phase 2. Comparing scenarios with respect to infrastructure costs.
- Can scenarios be approved without knowing costs? Can these be considered without know infrastructure costs
- Do we need to know where we're growing and what we're doing before estimating costs of providing infrastructure?
- Scenarios will consider both infill and expansion
- Phase 2 provides opportunity to reconsider earlier decisions based on infrastructure financing and costs.
- What is required of city in the remand for efficiency measures? What if city went forward with just the base case?
- Example – Central Area MMA – concerns over price tag for serving; uncertainty with respect to funding needed infrastructure.

Joe attempted to summarize this discussion: costs are a concern, and will be considered in Phase2. Identify any areas with particular concerns, such as Juniper Ridge and the MMA.

Brian Meece of the Boundary TAC offered a public comment at this point regarding Juniper Ridge – keep the option on the table to remove the east half (1/2) if it can't be served in the planning period.

Following Brian's comments, Joe walked through the memorandum included in the meeting packet with the TAC members. The TAC had no questions of the material presented at pages 3 through 11, and not questions for material on page 12. Bill and Cindy questioned whether the medical jobs can be separated from the total number of office jobs; the answer to this question is yes.

Joe then took the TAC to pages 18 through 21 of the packet, the discussion of this material addressed second homes and their impact on employment lands, residual jobs presented in Table 14, and that the bookend land needs for jobs was 6,213 and 4,739 (high to low).

Joe then directed the TAC's attention to the middle of page 21 of the packet and the list of bullets shown with the recommendations. He reported that the Residential TAC added the following bullets to their recommendation to the UGB Steering Committee:

- 5th bullet: Specific analysis of VMT/capita, including potential for transit;
- 6th bullet: Accessory Dwelling Units (ADU's)
- 7th bullet: Further analysis of likely yield of efficiency measures during planning period.
- 8th bullet: Open table for more efficiency measures
- 9th bullet: Explore additional incentives (parks SDCs)

He noted that the Employment TAC wanted infrastructure costs considered in Phase 2, and evaluate infrastructure impacts on particular areas that include Juniper Ridge and the MMA. The Bend Bulletin site was raised as another example. The TAC expressed their interest in this topic as how will infrastructure be funded and will the ability to fund infrastructure influence the comparison of potential areas to include in the UGB. Cindy asked for clarification that the preferred scenario will be somewhere in between Scenarios 4b and 5c; Joe confirmed that these scenarios are bookends, not set in stone and may fluctuate. The direction is to be more conservative or more aggressive and stay between 4b and 5c.

Joe then moved the conversation toward the recommendations on page 21 of the TAC's packet. These are reproduced below:

RECOMMENDATION FROM TAC TO USC

The project team recommends that the TAC approve the Phase 1 Growth Scenarios and recommend them to the UGB Steering Committee, as follows:

1. The Phase 1 Growth Scenarios is comprised of the package of:

- a. Phase 1 Growth Scenario Map*
- b. Efficiency measures (listed in Appendix C)*
- c. Capacity analysis*
- d. Urban Form Map*

2. The Phase 1 Growth Scenarios are subject to further refinement in Phase 2.

c. Motions

Following the TAC discussion, Joe asked for a motion on the recommendations shown on page 21 (referenced above and added to below). These recommendations include 1(a) through 1(a), recommendation 2, and the four bulleted items presented at the top of page 21, and reproduced below for reference:

RECOMMENDATION FROM TAC TO USC

The project team recommends that the TAC approve the Phase 1 Growth Scenarios and recommend them to the UGB Steering Committee, as follows:

1. The Phase 1 Growth Scenarios is comprised of the package of:

- a. Phase 1 Growth Scenario Map*
- b. Efficiency measures (listed in Appendix C)*
- c. Capacity analysis*
- d. Urban Form Map*

2. The Phase 1 Growth Scenarios are subject to further refinement in Phase 2.

Phase 2 direction from page 21 of the TAC packet:

- *Further analysis of efficiency measures and a revised set of recommended measures*
- *Potential spatial refinements, including a recommended scenario for Juniper Ridge and other possible changes that would be compatible with different boundary scenarios.*
- *Conversion of needed housing units and jobs to acres of land and identification of specific recommended Plan designations both inside and outside the UGB.*
- *Estimate of land needed for other purposes outside the UGB such as schools, parks, “other lands,” roads, and other infrastructure.*

Additional direction from Residential TAC with the final bullet added by the Employment TAC:

- 5th bullet: Specific analysis of VMT/capita, including potential for transit;
- 6th bullet: Accessory Dwelling Units (ADU's)
- 7th bullet: Further analysis of likely yield of efficiency measures during planning period.
- 8th bullet: Open table for more efficiency measures
- 9th bullet: Explore additional incentives (parks SDCs)
- 10th bullet: Comparison of infrastructure costs between scenarios and as practical between areas.

Wally moved approval of the motion. Ken asked for a restatement of the motion. The motion includes the four bullets shown on page 21, the five bullets recommended by the Residential TAC, and the final (10th) bullet on infrastructure costs. Ken asked about the community's values, and whether these would change with the scenarios? Joe pointed out that page 22 of the packet includes the Project Goals Value, which were also informed through the online community survey. Cindy then provided a second for the motion. The motion passed unanimously.

3. Proposed TAC Structure for Phase 2

Joe then brief the TAC on the structure of the TAC for Phase 2. The City is looking for volunteers from the Employment TAC to serve on the Phase 2 Boundary TAC. Anyone interested should contact Brian Ranking by the end of this week. Jade asked that we also reach out to those who did not get assigned to either the Residential or the Employment TACs.

4. Public Comments

There was no additional public comment to the TAC.

5. Project New and Adjourn

There was no additional project news. Joe adjourned the meeting at 3:49 pm.

Action Items/Next Steps

Action	Assigned To
1. Approve Phase 1 Growth Scenarios package, comprised of: a. Phase 1 Growth Scenarios Map b. Efficiency Measures (listed in Appendix C) c. Capacity Analysis d. Urban Form Map	✓ Done
2. Approve motion that Phase 1 Growth Scenarios are subject to further refinement in Phase 2, including the following ten (10) bullets: <ul style="list-style-type: none">• Further analysis of efficiency measures and a revised set of recommended measures• Potential spatial refinements, including a recommended scenario for Juniper Ridge and other possible changes that would be compatible with different boundary scenarios.• Conversion of needed housing units and jobs to acres of land and identification of specific recommended Plan designations both inside and outside the UGB.• Estimate of land needed for other purposes outside the UGB such as schools, parks, “other lands,” roads, and other infrastructure.• Specific analysis of VMT/capita, including potential for transit;• Accessory Dwelling Units (ADU’s)• Further analysis of likely yield of efficiency measures during planning period.• Open table for more efficiency measures• Explore additional incentives (parks SDCs)• Comparison of infrastructure costs between scenarios and as practical between areas.	✓ Done



Memorandum

July 15, 2015

To: Employment TAC Meeting 8
Cc: Project Team
From: Angelo Planning Group and Bend Growth Management Department Staff
Re: Proposed Amendments to Bend General Plan - Employment Policies

OVERVIEW

General Plan Context

According to state law (ORS 197.010(1)), all cities must have properly prepared and coordinated comprehensive plans that are intended to ensure livability in Oregon. These comprehensive plans must achieve the following objectives:

- be adopted by the appropriate governing body at the local and state levels
- be an expression of public policy in the form of policy statements, generalized maps and standards and guidelines
- be the basis for more specific rules and land use regulations which implement the policies expressed through the comprehensive plans
- be prepared to assure that all public actions are consistent and coordinated with the policies expressed through the comprehensive plans
- be regularly reviewed and, if necessary, amended to keep them consistent with the changing needs and desires of the public they are designed to serve.

A variety of court cases establish that a comprehensive plan is the primary land use planning instrument for a city and must be implemented through zoning ordinances which conform to the plan. Policy language should provide a clear foundation for future actions and subsequent code language. It should also not be overly specific; detailed language with precise standards should be reserved for the zoning code. This helps to avoid frequent updates to the policy language.

Prior decisions of the TAC associated with opportunity sites and potential code amendments to support redevelopment and more efficient use of employment lands should ideally be represented in the form of policy direction in the Plan so they can be implemented. A new Urbanization Chapter will be written for the Plan to consolidate policies relating to urban form, opportunity sites, and expansion areas. Policies specific to employment and mixed use areas

may be repeated in the Employment Chapter, and a first cut at new policies is included with this memo.

Employment Policies

This memo presents proposed amendments to Chapter 6 (Economy and Lands for Economic Growth) of the Bend General Plan. The intent of these amendments is to update policy language to achieve the following objectives:

- Delete outdated policy language. Many existing policies refer to actions or programs that have been completed or are no longer relevant.
- Support the 2015 update to the Economic Opportunities Analysis (EOA) conducted in response to the UGB remand.
- Establish a policy framework to support new Opportunity Sites and other aspects of the UGB Remand project.

This memo does not include changes to the background information contained in Chapter 6; it is focused only on policy language. Updates to the background information in Chapter 6 will be presented to the Employment Technical Advisory Committee (Employment TAC) at the August 25 meeting, using the new template for the Bend General Plan as described below. Proposed amendments at this time do not suggest a substantial shift in policy direction or approach. This emphasis is important: updated policies are targeted to supporting the UGB decision; they are not intended to be comprehensive updates of General Plan chapters.

The framework for the proposed policy changes is based on input from a team of city staff, a set of proposed amendments from a 2008 General Plan update to Chapter 6 that was adopted¹ but not acknowledged, and policy direction indicated in the draft EOA update, which is currently in internal review with the project team and will be provided to the Employment TAC for review in August. This first draft of new policies will need to be refined based on TAC input, additional staff review, and to implement final decisions on the boundary expansion and other UGB Remand requirements as they become finalized in the coming months.

New Template for Bend General Plan

The Phase 2 scope for the UGB Remand Project includes a task for APG to prepare a template for updates to General Plan text, policies and graphics to make the document more graphically appealing and user friendly. The template will be used for updates to General Plan background text and policies for housing, employment, urbanization, public facilities, and transportation that will be needed to support the UGB decision. Other chapters will likely be reorganized to match the new overall format of the document, and outdated policies may be removed. However, they will

¹ The Chapter 6 amendments were adopted by the City Council, but not acknowledged by the Land Conservation and Development Commission.

not be subject to the same level of revision as the housing, employment, and urbanization chapters.

Updates to the background text and policies for the Housing and Economy chapters will be presented in the new template format for the August 25 TAC meetings.

Bend's 1998 General Plan includes a substantial amount of very dated background information in Chapter 6. As part of the current work under the Remand, the City is proposing to adopt the 2015 EOA as an "ancillary" document to the General Plan and include it in an Appendix. The background section of the General Plan Chapter will be much shorter and will provide highlights from the 2015 EOA to focus on key trends and set the context for the policies.

The 1998 General Plan also includes a substantial amount of overlap and redundancy between policies that are located in different chapters. Discussion is on-going regarding the appropriate location for policies in the updated General Plan, particularly new policies relating to urbanization strategies, efficiency measures, opportunity sites and urban form. As noted above, the project team is considering consolidating these policies in a new Urbanization Chapter of the General Plan, which would focus on the city's growth strategy and urban form goals. Drafts of the Urbanization Chapter policies (in the new template) will be shared with the Employment TAC in the fall/winter.

Guidance from the Remand

The Remand identified relatively few substantive issues with the 2008 EOA. These issues included: 1) use of "market choice" factor for employment lands, 2) factual base to support use of a redevelopment factor for employment areas inside the UGB, 3) evidence to support long-term vacancy factor, and 4) updates to EOA inventory, plan policies and strategies for maintaining a short-term supply of employment land. The Employment TAC addressed the first three issues in Phase 1 work. Discussion of short-term supply strategies is on the agenda for the July 21 Employment TAC meeting. Beyond that, the Remand does not provide specific directives relating to General Plan policies for employment lands.

Formatting of Proposed Policy Changes

Proposed amendments are presented in an annotated table with language in underline/strikeout format; underlined text indicates new policy language and ~~strikeout~~ text indicates deleted language. The left column contains the amended policy language and the right column provides a brief explanation for the change. Policy language that has not been amended is retained in plain text. Policies will need to be renumbered as appropriate for final adoption.

In addition to discussion of the short-term supply issue, the Employment TAC will also be discussing efficiency measures for employment lands at the July 21 meeting. It is anticipated that additional refinements to General Plan policies for employment lands may be needed based on the TAC input on short-term supply strategies and efficiency measures at the July 21

meeting and/or strategies related to the Integrated Land Use and Transportation Plan, if one is required².

² An Integrated Land Use and Transportation Plan (ILUTP) will be required of the city under OAR 660-012-0035 (the Transportation Planning Rule) if the proposed UGB expansion is projected to result in an increase in Vehicle Miles Traveled (VMT) per capita at the end of the planning horizon (2028). If required, the ILUTP would identify policies and strategies needed to achieve a VMT reduction in the longer-term future.

PROPOSED POLICY AMENDMENTS

Chapter 6 The Economy and Lands for Economic Growth

Proposed Amendment	Rationale for Amendments
<p>GOALS</p> <p><i>“The intent of the General Plan is to provide the community with sufficient land to meet the city’s goal of promoting quality economic growth and assuring a diverse economy. The following goal statements describe the future economic hopes of the community and serve as the foundation for policy statements in this chapter. The citizens and elected officials of Bend wish to:</i></p> <ul style="list-style-type: none"> <i>• have a vital, diverse and sustainable economy, while enhancing the community’s overall livability.</i> <i>• ensure an adequate supply of appropriately zoned land in Bend to provide for a full range of industrial, commercial, and professional development opportunities.</i> <i>• stimulate economic development that will diversify and strengthen economic activity and provide primary and secondary job opportunities for local residents.</i> <i>• strengthen Bend’s position as a regional economic center.</i> <i>• improve the income levels of Bend residents.</i> <i>• create commercial areas in outlying sections of the community as neighborhood centers rather than extending the existing strips along major roads.</i> <i>• encourage more small neighborhood commercial developments and convenience commercial centers to reduce vehicle trips and trip lengths.</i> 	<p>These existing goals will be addressed as part of the review of the package of plan text and policies, and may therefore need to be amended to reflect UGB Remand requirements and findings, new policy direction on opportunity sites and efficiency measures, and TAC input.</p> <p>We expect that the goal in the 6th bullet, in particular, may need to be revised to support an urban form concept based on centers and transit corridors and to accommodate mixed employment and residential areas in UGB expansion areas.</p>

Proposed Amendment	Rationale for Amendments
<p>POLICIES</p> <p><u>General Policies</u></p> <ul style="list-style-type: none"> • <u>Bend's economic lands (commercial, mixed employment, and industrial) serve Bend's residents and the needs of a larger region.</u> • <u>Bend is a regional center for health care, entertainment, higher education, retail, and employment. The economic land policies will recognize Bend's role in the region, and the need to support these uses to bolster the local and regional economy:</u> <ul style="list-style-type: none"> ○ <u>The Medical District Overlay Zone provides for economic lands to provide a variety of health care and related services to a population much larger than the population of the City of Bend.</u> ○ <u>Commercial and Mixed Employment-designated lands will support uses such as leisure and hospitality, entertainment, and restaurant and retail uses for local residents and to meet the needs of the regional tourism industry.</u> ○ <u>Commercial lands for retail uses serve a local and regional role.</u> ○ <u>Public Facility and Special Planned Districts support higher education uses which serve Bend's residents and the needs of the region.</u> ○ <u>Industrial and Mixed Employment-designated land located at Juniper Ridge has a local and regional role.</u> • <u>Investment in transportation, water, sewer, fiber, and other utility infrastructure should be prioritized to serve economic lands.</u> • <u>Infrastructure will be planned, designed, and constructed to support continued</u> 	<p>New general policy language added to recognize and support the updated EOA and to comply with remand directives. The EOA focuses on Bend's regional role as a job importer.</p> <p>Note: Policies will need to be renumbered when finalized.</p> <p>Adequate infrastructure for employment lands is needed to support development and the economy. The new policies provide this perspective.</p>

Proposed Amendment	Rationale for Amendments
<p><u>economic growth and orderly development.</u></p> <ul style="list-style-type: none"> • <u>The Bend Municipal Airport is one of the City's highest-value economic development assets. Bend will coordinate with Deschutes County to create policies and development regulations that ensure long-term employment growth at the airport.</u> • <u>Employment lands for Bend's target sectors will be provided and protected to promote expansion of existing businesses and attract new businesses.</u> • <u>Bend will diversify its economic base to withstand dramatic changes in the business cycle.</u> • <u>The City will recognize the statements of the City's overall economic development objectives and desirable types of employment contained in the 2015 Economic Opportunities Analysis (EOA).</u> • <u>The City will place a priority on providing an adequate number of suitable industrial sites while also providing a variety of commercial sites.</u> • <u>The City will seek opportunities to designate additional sites for employment use and increase the use of existing employment land within the existing urban growth boundary prior to expanding the UGB.</u> • <u>The City will periodically review existing development and use patterns on industrial and commercial lands. The City may consider modifying General Plan and/or Zoning Map designations to better respond to opportunities for redevelopment and revitalization of employment lands in underutilized areas.</u> 	<p>New language to recognize the Bend Municipal Airport. It is not in the UGB, so the policy encourages coordination.</p> <p>Reference to targeted sectors to support economic development in those sectors as reflected in the EOA.</p> <p>Overall goal of Economic Development to create more stability in the local economy.</p>

Proposed Amendment	Rationale for Amendments
<p><u>Short-term Supply Policies</u></p> <ul style="list-style-type: none"> • <u>The City establishes a goal to have at least 25% of the predicted economic land need identified in the adopted EOA qualify as competitive short-term land supply.</u> • <u>Beginning in 2019, and every two years thereafter, the City will:</u> <ul style="list-style-type: none"> ○ <u>Update the economic lands Buildable Lands Inventory to identify developed and vacant economic lands by General Plan designation;</u> ○ <u>Estimate the acreage of vacant economic lands that qualify as competitive short-term supply;</u> ○ <u>If the acreage of vacant lands that qualify as competitive short-term supply is less than the 25% goal, then staff will deliver a report to the City Council that details:</u> <ul style="list-style-type: none"> ▪ <u>Economic lands that have a relatively good opportunity to qualify as competitive short-term land supply to meet the 25% goal.</u> ▪ <u>Obstacles that prevent the lands from qualifying as competitive short-term supply, and</u> ▪ <u>Efforts, plans, and potential funding mechanisms to prepare the lands to qualify as competitive short-term supply.</u> 	<p>The policies relating to short-term supply were initially proposed by the city as part of the 2008 UGB proposal. The policies may be refined based on the discussion of short-term supply at the July 21 TAC meeting.</p>
<p><u>Industrial Development</u></p> <ul style="list-style-type: none"> • <u>Large-lot industrial sites are important to the overall inventory of available economic land and any sites included in the UGB to meet this special site need will be protected with specific plan and/or code provisions.</u> • <u>Every 5 years beginning in 2020, the City will evaluate the supply of large</u> 	<p>Policy language added to recognize and support the updated EOA and to comply with remand directives for special large-lot site need.</p>

Proposed Amendment	Rationale for Amendments
<p><u>industrial lots (over 50 acres). If none of these large lots were developed in the five-year period, the City may consider allowing up to 50% of the lots to be developed into smaller lots with suitable General Plan and zoning designations.</u></p> <ul style="list-style-type: none"> • <u>The City supports the redevelopment of brownfield sites to make efficient use of existing economic lands and improve the quality of the City's land and water resources.</u> <ol style="list-style-type: none"> 1. In order to help meet the long-term need for future industrial development, at least 500 acres of the <u>The 494-acre portion of the city-owned property known as Juniper Ridge which is inside the Bend UGB will be used to help meet the long-term need for future industrial development.</u> brought into the Urban Growth Boundary, annexed to the city, and designated on the Bend Urban Area General Plan Map as Industrial Light. 2. Prior to permitting industrial development on the Juniper Ridge site, the City shall prepare and adopt a development plan for the area. Preparation of the plan shall include an assessment of public facilities improvements, including transportation facility improvements that may be needed to support industrial development. 3. The development plan for the Juniper Ridge site shall allocate at <u>At least 30% of the total net buildable area of the 494-acre portion of Juniper Ridge inside the UGB should be reserved</u> for sites of ten acres and larger in size. Through the use of deed restrictions or other appropriate instruments, the City shall ensure that these large lot sites will not be further subdivided prior to development. 4. The city shall <u>will</u> work to preserve prime industrial lands for industrial purposes. 5. The community shall <u>will</u> attempt to diversify its industrial base. 6. Existing industrial operations are encouraged to improve waste discharge levels 	<p>Update Policy 1 to reflect Juniper Ridge is inside the UGB. This policy was originally drafted when it was added to the UGB.</p> <p>Delete Policy 2: Much of this has been done already with the Juniper Ridge Special Planned District.</p>

Proposed Amendment	Rationale for Amendments
<p>and improve air quality conditions.</p> <p>7. Since it has been established that the quality of the air may be adversely affected by additional discharges, the development of new industrial sites will be closely monitored in cooperation with the DEQ to prevent substantial degradation of the air shed.</p> <p>8. Industrial areas shall <u>will</u> be protected from incompatible commercial and residential uses.</p> <p>9. Industrial developments along highways shall <u>will</u> be subject to special development standards relating to setbacks, landscaping, signs, and outside storage.</p> <p>10. Wherever industrial uses abut residential uses or residential zoning, special development standards relating to setbacks, screening, signs, and building height shall <u>will</u> be established <u>for the industrial uses.</u></p> <p>11. Community efforts should be directed toward improving the general appearance of industrial areas so that they make a positive contribution to the environment of the community.</p> <p>12. Development of the industrial lands at the West edge of the urban area between Skyliners Road and Shevlin Park Road shall be limited to the Industrial Park and Mixed Employment land use categories to minimize additional heavy truck traffic on Newport Avenue and Galveston Avenue.</p> <p>13. The 95-acre industrial area at the West edge of the urban area shall be designed and developed as part of an overall master plan for future industrial, commercial and residential development between Skyliners Road and Shevlin Park Road.</p>	<p>Policy 7 may be unnecessary since DEQ regulates such facilities without city oversight.</p> <p>Policies 9 and 10 contain provisions that direct the development code. Standards exist currently to achieve these aims.</p> <p>Policy 11 deleted because it is too general and doesn't provide guidance for planning or land use decisions.</p> <p>Policy 12 deleted because the NW Crossing Master Plan already defines the uses in the ME and IP zone districts.</p> <p>Policy 13 deleted: This has been done and is reflected in the Northwest Crossing Special Planned District.</p>

Proposed Amendment	Rationale for Amendments
<p><i>Mixed Use Development</i></p> <ul style="list-style-type: none"> • <u>Mixed-use development may be regulated through one or more plan and zone designations to encourage the development of a mix of employment types, or a mix of employment types and residential uses.</u> <p>14. Mixed-use development shall <u>will</u> along the river in the old mill sites shall be subject to facility plan, master plan, and design review processes to achieve the following purposes:</p> <ul style="list-style-type: none"> • provide a variety of employment opportunities and housing types; • foster pedestrian and other non-motor vehicle access within and to the site; • ensure compatibility of mixed-use development with the surrounding area and minimize off-site impacts associated with the development; • ensure the site planning, access, parking areas and building designs are functionally coordinated and aesthetically pleasing; and • <u>where applicable,</u> improve the natural conditions along the Deschutes River, and to encourage access to and enjoyment of, the Deschutes River. <p>15. Designation of the Mixed-Use Riverfront Plan category and corresponding MR zoning along the Deschutes River shall not be used to justify rezoning adjacent properties or neighborhoods to a mixed use or commercial zone.</p> <p>16. The property south of Cooley Road between Highway 20 West and the Mountain View Mall, as shown on the General Plan Map, shall be designated for mixed industrial and commercial development. Because this area is along the state highway and is an entrance to the community, it shall be subject to access controls and design review standards.</p>	<p>Policy 15 deleted because this could prevent the implementation of Opportunity Sites (Core Pine and SW Century) and the initial findings of the Central Westside Plan.</p> <p>Policies 16, 17, 18 are currently reflected by the existing ME plan designations which are not proposed to change through the UGB Remand project.</p>

Proposed Amendment	Rationale for Amendments
<p>17. The area west of Highway 97 North and north of Empire Avenue, as shown on the General Plan Map, shall have a mixed-use designation for industrial and commercial development. Properties in this area shall take access from the frontage road or other internal roads that are shown on the transportation plan. Because of the high visibility of these properties, they shall be subject to design review standards.</p> <p>18. The area of existing industrial and commercial development in the middle of the urban area north of Franklin Avenue to Addison Avenue shall have a mixed-use designation for industrial and commercial development.</p> <p>19. The City may designate other areas for mixed use development to encourage a variety of jobs and services close to residential areas.</p> <ul style="list-style-type: none"> • <u>The city will encourage vertical mixed use development in commercial and mixed use zones, especially along transit corridors and in the Central Area (generally described as east of the Bend Parkway, west of 4th Street, north of Franklin Avenue, and south of Revere Avenue).</u> 	<p>Design review standards are applied through the development review process. Access controls are established through ODOT.</p> <p>Policy added to support efficiency measures.</p>
<p><i>Commercial Development</i></p> <p>20. The existing pattern of commercial designations shown on the Plan Map along Highway 97 and Highway 20, and along arterial streets such as Newport Avenue, Galveston Avenue, SW 14th Street, 27th Street, and O.B. Riley Road shall not be extended farther along the street corridors.</p> <ul style="list-style-type: none"> • <u>The existing pattern of commercial designations shown on the Comprehensive Plan Map along arterial streets such as Newport Avenue, Galveston Avenue, SW 14th Street, and 27th Street will not be extended further along these corridors.</u> • <u>New employment areas with a mix of employment designations such as commercial, industrial, and mixed use may be created along Highway 97, Highway 20, and O.B.</u> 	<p>Policy 20 separated into two new policies below.</p> <p>Note: Commercial Development policies will need to be examined in the context of the Central Westside Plan and UGB expansion scenarios.</p>

Proposed Amendment	Rationale for Amendments
<p><u>Riley Road. Residential uses to support these employment uses should be encouraged.</u></p> <p>21. <u>The City will discourage continuous strips of primarily commercial designations along expressways, principle arterials, arterials or collector streets. Designations which allow a mix of employment and residential uses should be allowed when developed as a cohesive development. No new strip commercial development or extensions of the commercial designations shall be permitted along arterial or collector streets.</u></p> <ul style="list-style-type: none"> • <u>New commercially designated areas are encouraged to develop with mixed-use centers which include housing, open space, commercial development, and other employment designations.</u> <p>22. The city shall strive to retain and enhance desirable existing commercial areas and encourage property owners efforts to rehabilitate or redevelop older commercial areas.</p> <p>23. Zoning for commercial centers other than those shown on the <u>Comprehensive Plan Map shall will</u> meet the location and size standards in the <u>Comprehensive Plan text in addition to the Plan amendment and/or zone change criteria.</u></p> <p>24. All commercial developments shall be subject to special development standards relating to setbacks, landscaping, physical buffers, screening, access, signs, building heights, parking areas, and design review.</p> <p>25. The city shall <u>will</u> encourage the development of Neighborhood Commercial centers. Such centers shall <u>should</u> be small, and one-quarter to one-half acre developments which serve the frequent needs of the people within a one-fourth to one-half a one <u>a one</u> mile radius of the site. A zone change request shall <u>will</u> meet the standards in the <u>Comprehensive Plan text.</u></p>	<p>Policy 21 still discourages strip commercial development. However, it is revised and supplemented by the new policy below to reinforce support for the concept of mixed-use development in centers (and potentially along transit corridors).</p> <p>Policy 25 edited to apply to walkers and bikers with larger service radii. This, and other policies suggest the need for general spacing and sizing guidance in the Comprehensive Plan text.</p>

Proposed Amendment	Rationale for Amendments
<p>26. <u>Except in UGB expansion areas, new Convenience Commercial centers should <u>may</u> be up to five acres in area and <u>should</u> be from one to one and one-half miles from another commercial use.</u></p> <p>27. Commercial developments that abut residential zones or residential uses shall be subject to special setback and screening provisions.</p> <p>28. The city shall continue the revitalization process in the Central Business District through rehabilitation or redevelopment of existing areas.</p> <p>29. Proposed buildings that exceed the maximum allowable height limit in the zone shall be reviewed through the conditional use permit process, except in the Central Business (CB) Zone. Proposed buildings that exceed the maximum allowable building height limit in the CB Zone shall be reviewed through the variance process.</p> <p>30. An area south of Murphy Road on the west side of Highway 97 has been marked for highway commercial with a flexible "sawtooth" boundary. This area shall be approved for development only when a system of frontage road and limited access control is created that will protect the capacity and safety of Highway 97 and South 3rd Street.</p> <p>31. It is the intent of the Plan to allow commercial development adjacent to arterial streets and highways in areas designated for commercial development, provided that the developments access onto frontage roads or interior roads, and that access onto the highway or arterial will be limited. Points of access will be encouraged that provide for adequate and safe entrances and exits, and that favor right turns and merging over the use of traffic signals.</p> <p>32. The 25 acre commercial area at the West edge of the urban area shall be designed and developed as part of an overall master plan for future commercial, industrial, and residential development between Skyliners Road and Shevlin Park</p>	<p>Policy 26 revised to be less prescriptive.</p> <p>Policy 30 deleted - no longer necessary because refinement plan for Murphy Road has been adopted.</p> <p>Policy 32 no longer relevant due to Northwest Crossing approval and adopted overlay zone.</p>

Proposed Amendment	Rationale for Amendments
<p>Road.</p> <ul style="list-style-type: none">• <u>The city will limit the amount of ground-floor residential development in the commercial zones and mixed employment zones in order to preserve economic lands for economic uses.</u>• <u>The city will monitor parking needs for commercial uses and set requirements at the lowest level that meets the community's needs.</u>• <u>The city will ensure that parking requirements are written to encourage walkable commercial development while providing for adequate parking.</u>	<p>New bulleted policies to address economic land supply, efficiency measures, and encourage walkable mixed use areas.</p>

Memorandum



July 15, 2015

To: Employment Lands Technical Advisory Committee
Cc: UGB and Growth Scenario Technical Advisory Committee
From: Angelo Planning Group Project Team
Re: Employment Land Efficiency Measures – Code Concepts and Recommended Priorities

INTRODUCTION

Purpose and Background

The purposes of this memorandum are to:

1. Present efficiency measure concepts for employment land; and
2. Identify those that are a high priority for adoption.

The Employment Lands Technical Advisory Committee (Employment TAC) has discussed opportunity sites within the current Urban Growth Boundary (UGB) where the mix and/or intensity of uses could change over time through redevelopment and/or infill. These discussions took place in the context of evaluating redevelopment potential within the current UGB, as required by the Remand. However, they pointed towards general strategies that the city could take to encourage the type of redevelopment the Employment TAC was recommending. These strategies included some amendments to the development code and some potential map amendments to apply more appropriate plan designations to certain opportunity areas.

In evaluating the capacity of the current UGB and the residual land need to be accommodated in the UGB expansion, the project team has noted that, even using assumptions that reflect the Employment TAC's recommendations on opportunity sites, there is a large residual employment land need. This creates urban form challenges for the city, because it directs commercial and industrial growth to the edges of the city, and because a limited subset of the available exception land is suitable for employment uses. Given this finding, the project team recommends that the city identify and advance policy, code, and map amendments needed to support redevelopment and intensification of employment uses within the current UGB, and consider whether additional strategies may be needed in order to further spur redevelopment in key opportunity areas.

Overview

The project team has conducted a detailed review of how the various efficiency measure concepts are addressed in the code today, including recent amendments, and the “how and when” of efficiency measure adoption. The City has begun the work required on several of the efficiency measures identified. The team has identified additional measures that can be advanced through code clean-up efforts or through their own process with the Planning Commission. Others will be packaged with the UGB adoption decision. And some may require further study or be linked to the outcomes or recommendations of other planning projects currently underway.

The efficiency measures in the attached table include both text amendments and map amendments. They are focused on employment uses, but also include amendments related to encouraging housing through vertical mixed use in commercial and mixed use zones. As the Employment TAC has not delved into the development code in any detail to date, these are primarily new ideas proposed to implement concepts that the Employment TAC has discussed and recommended.

Role of the Employment TAC

The Employment TAC’s role is to provide advice on: (1) whether the measures identified in the attached tables are the right measures to achieve the vision identified for the opportunity areas, and efficient use of employment land inside the current UGB; and (2) which measures are most important and the highest priority for adoption.

In addition to describing the efficiency measures, the attached tables identify the project team’s preliminary recommendations on how each of the specific measures identified might be advanced towards adoption and some initial ideas and issues related to adoption strategy. These recommendations and ideas are informational only; the process for and timing of adoption of the efficiency measures will be determined by the City Council.

LEGAL AND REMAND CONTEXT

Previous memos regarding redevelopment have included the relevant legal and Remand requirements; they are summarized in brief here as a reminder.

Statutory and Administrative Rule Requirements

State statute and administrative rule require the following:

- Cities must inventory suitable vacant and developed land designated for industrial or other employment use.¹ ("Developed Land" means non-vacant land that is likely to be redeveloped during the planning period.²)
- Prior to expanding the UGB, a local government must demonstrate that the estimated needs cannot reasonably be accommodated on land already inside the UGB.³

Remand Requirements

One of the issues that the Remand identified was the need to further justify and explain the assumptions that the city made about how much redevelopment would take place on employment land within the current UGB. In addition, the City agreed, on remand, to include provisions in the General Plan requiring adoption and implementation of the Central Area Plan in order to rely on this as a residential efficiency measure (the city estimated capacity for 500 additional units in that area).⁴ The Remand required that, if the City continues to rely on this as an efficiency measure, it must, within two years following acknowledgement, complete and adopt the Central Area Plan. The Plan must include provisions that plan for at least 500 additional medium-density and high-density housing units over the planning period.⁵ The Remand does not specifically require the City to adopt measures to increase the efficiency of employment land, e.g. a certain number of jobs over the planning period.

Transportation Planning Rule

Oregon's Transportation Planning Rule (TPR) includes requirements to analyze impacts to the transportation system for certain land use actions (OAR 660-012-0060). This is a very detailed and complex section of the TPR. It has been revised multiple times and has been the subject of many appeals. In general, it requires that if an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation (including a zoning map) would significantly affect an existing or planned transportation facility (e.g. by changing its functional classification, allowing access inconsistent with the functional classification, and/or degrading performance so that adopted performance standards are not met), then the local government must ensure that allowed land uses are consistent with the identified function, capacity, and performance standards of the transportation facility through one of several identified remedies. Transportation analysis is generally required in order to make the required findings to address this section of the TPR if it is deemed to be applicable, though there are several exceptions specified in the rule.

¹ OAR 660-024-0050(1)

² OAR 660-009-0005(1)

³ OAR 660-024-0050(4)

⁴ DLCDD Director's Report, pages 55-56.

⁵ Bend UGB Remand, page 56.

The Goal 14 rule (OAR 660-024-0020(1)) provides the following option to defer application of the TPR to UGB expansion areas. The Remand did not address the applicability of OAR 660-012-0060 to the UGB decision, presumably because the City's 2008 UGB proposal did not include robust plan or code amendments for efficiency measures inside the existing UGB.

The project team assumes that the text amendments in the Efficiency Measures table generally will not trigger applicability of section -0060 of the TPR because the amendments do not change the maximum densities or types of development allowed under existing zones. Zoning map amendments that implement the existing plan designations are also generally expected to avoid triggering this section of the TPR. Other proposed plan/zoning map amendments in the Efficiency Measures table clearly trigger the applicability of -0060, and will require transportation analysis, likely at a level of detail beyond what is needed to support Goal 14 findings and UGB adoption. The project team is working under the assumption that the -0060 analysis can be deferred to follow UGB adoption with the adoption of a strong policy commitment to support and enable the opportunity sites to transition to higher density/mixed use development.

Integrated Land Use and Transportation Plan

The Transportation Planning Rule has another section (-0035) that addresses planning for reducing dependence on the automobile. This section generally requires Oregon's cities to take measures to reduce vehicle miles traveled (VMT) per capita. In order to comply, the city may need to identify additional land use and/or transportation policies or measures to help reduce dependence on the automobile over time. These may relate to and overlap with the residential efficiency measures the city is required to consider under Goal 14 and the employment land "efficiency measures" that are discussed in this memo and the attached table. The Remand also describes specific steps for the City to undertake related to VMT evaluation and land use policy.

The VMT requirements will be the subject of discussion at meetings of the Residential and Employment TACs in the fall and/or winter, but they are mentioned in brief here because of their relationship to the efficiency measures. Additional land use measures may be identified as the VMT results of the UGB expansion scenarios become known; these will be brought to the Residential and Employment TACs in October.

ADOPTION STRATEGIES

As noted above, the Remand provides for some flexibility on adopting efficiency measures. Given the complexities and level of analysis required to address section -0060 of the TPR, the city may choose to take advantage of this flexibility to defer some of the analysis that would be required in order to adopt all recommended efficiency measures with the UGB. Possibilities for advancing the efficiency measures include:

Adoption Strategy	Potential Suitability
Adopting text and/or map amendments directly along with the UGB adoption	Measures that are fairly straight-forward and important to UGB capacity
Adopting policy language with the UGB adoption that is fairly specific as to what will be done, and by when	Measures that are important to UGB capacity but require further evaluation, TPR analysis, or other study that is not yet programmed
Providing recommendations to the Community Development Department (CDD) to advance through their on-going code clean-up work program, either before or after UGB adoption as they are able	Measures that do not have a major impact on capacity but are valuable and remove obstacles to achieving planned mix and density
Providing input and recommendations to other on-going or planned studies	Measures that are complex and/or highly site-specific, where a more detailed study is on-going or planned

The preliminary recommendation on adoption strategy is noted in the attached table for each efficiency measure. This is subject to change based on direction from the City Council.

EFFICIENCY MEASURE PRIORITIES

The attached table identifies a priority level for each of the proposed efficiency measures. The priority level has been assigned by the project team based on the rough magnitude of the anticipated impact and on its importance to DLCD. The highest priority items are summarized in brief below, with references to their number in the attached table.

- Adopt Bend Central Multi-modal Mixed Use Overlay Zone, or write a policy to advance implementation within a specified time frame (ETA 1a & EMA 1b)
- Create university-serving mixed use community with housing component in Opportunity Area 4 (SW Century Drive / OSU Cascades area) through implementation of the Central Westside Plan (EMA 2)
- Reduce commercial parking requirements to reduce development cost and allow more efficient use of land (ETA 3a-b)

Other recommended text amendments relate to encouraging vertical mixed use in commercial and mixed use zones (ETA 1a-e) and revising standards for horizontal mixed use to better protect land for commercial uses (ETA 2a-d).

One of the recommended measures – increasing the maximum height in the MR District to at least 45' (ETA 4a) – is currently before the Planning Commission.

MEASURING IMPACT

It is difficult, if not impossible, to isolate the impact of many of the individual efficiency measures recommended, particularly the text amendments. The impact of the recommended changes for opportunity areas was tested in January 2015 and estimated at roughly 2,800 jobs over the base case (about a 21% increase in employment capacity). Those changes did not include adjustments to parking standards or the other recommended text amendments; however, it remains a reasonable approximation of the impact of the map amendments recommended for the opportunity areas.

Employment Efficiency Measures: Concepts and Implementation Strategies

Recommended Code and Map Amendments, Priorities, Adoption Strategy, and Comments
TAC Review Draft: July 15, 2015

Key:

- ETA = Employment Land Potential Text Amendments
 - EMA = Employment Land Potential Map Amendments
- CDD = Community Development Department
 - EDD = Economic Development Department
 - PC = Planning Commission
 - CWP = Central Westside Project
 - TPR = Transportation Planning Rule
- ★ = High priority item

Table 1: Employment Lands Efficiency Measures, Potential Text Amendments

Ref #	Efficiency Measure Concept	Description	Priority Level	Affected Code Provision	Adoption Strategy	Comments / Notes:
ETA 1a ★	Encourage vertical mixed use in commercial and mixed use areas	Adopt Bend Central Multi-modal Mixed Use Overlay Zone	High	Chapter 2.7	UGB project, CDD & EDD collaboration	Modeling work assumes mixed use generally consistent with the MMA recommendations. Adoption of the Central Area Plan and 3 rd Street MMA may require a financing strategy to pay for infrastructure improvements. Some provisions may be pulled out of the MMA overlay for use more broadly; code amendments would need to be adjusted accordingly. In addition, a few questions remain in the proposed code amendments for the MMA; these will need to be resolved prior to adoption.
ETA 1b		Create a new mixed use zone or overlay. Require mixed use or more strongly encourage than in current commercial zones.	Moderate	Chapter 2.7 or Chapter 2.3	Evaluate and refine through Central Westside Project	We have assumed a new mixed use designation that has more residential emphasis than the current commercial designations do in certain limited areas, including along part of Highway 20 near downtown and along certain commercial corridors in the central west side of the city. The CWP may make recommendations for mixed use zones or overlays for that area – if one is developed that would be appropriate for Highway 20 area, it can be applied there as well. If the CWP does not identify any new mixed use zones or overlays, this would be applied in such a limited area that it may not be worth pursuing. UGB project could identify key ideas from MMA code recommendations that should be considered for broader application in walkable, mixed use areas.
ETA 1c		Allow a reduction in total parking requirements for vertical mixed use developments (by 5% to 25% depending on the area, e.g. 5% baseline, additional 5% if within a quarter mile of transit, additional 5% if certain pedestrian amenities are provided, etc.)	Moderate	3.3.330.C.4	Evaluate and refine through parking study	If a walkable commercial areas overlay is created, this would be an appropriate incentive to apply in those areas. (Originates from MMA recommendations.)
ETA 1d		Allow 10' height bonus for residential on upper floors (as part of vertical mixed use) in the MR District	Moderate	Table 2.3.300	UGB project	This would be consistent with a provision in the commercial zones (see 2.2.400.B.1) and would provide an incentive for vertical mixed use. If controversial based on view concerns, consider limiting to certain areas of the MR District.

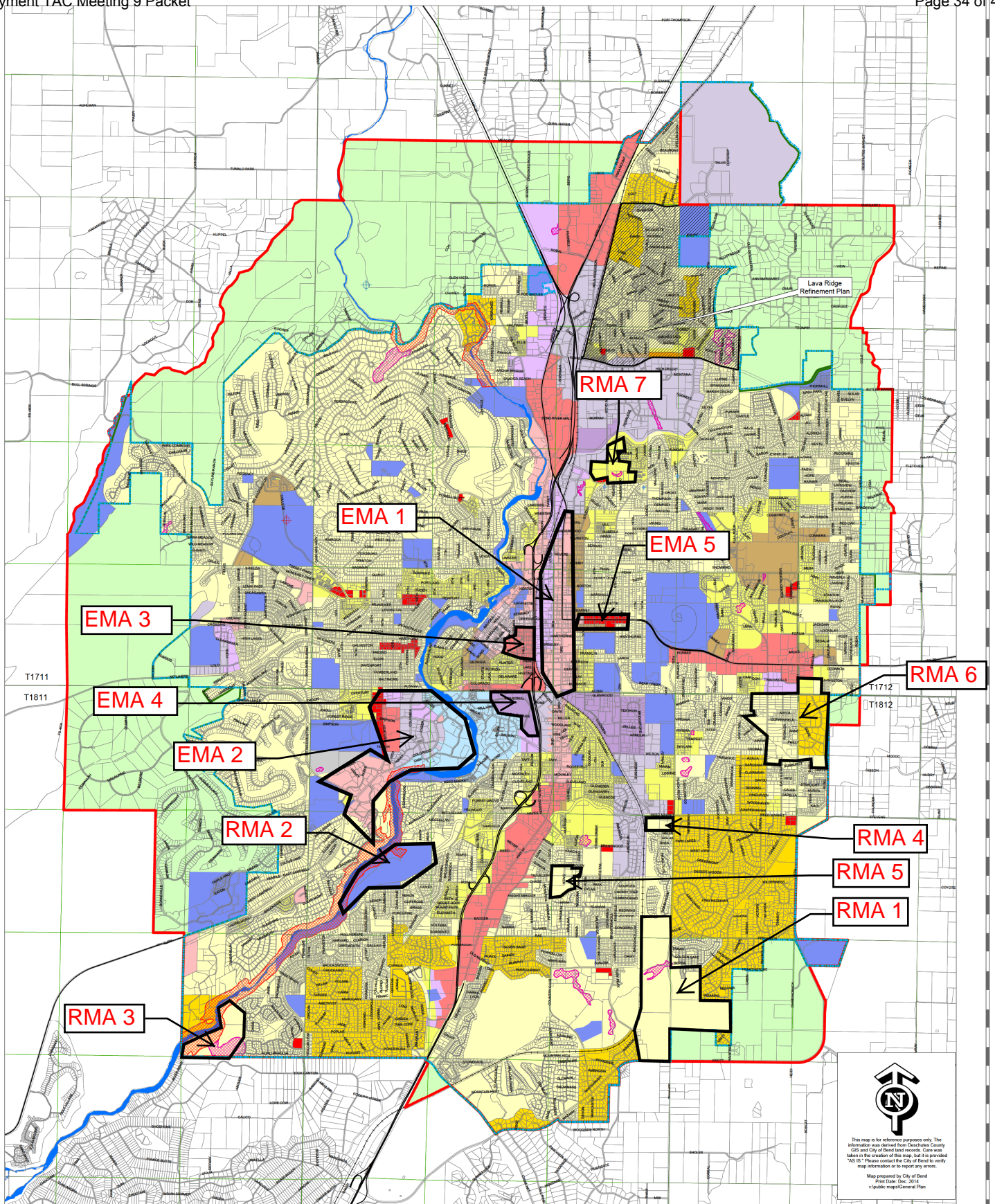
Ref #	Efficiency Measure Concept	Description	Priority Level	Affected Code Provision	Adoption Strategy	Comments / Notes:
ETA 1e		Revise Convenience Commercial Development Standards to create an exception to maximum building size standards for vertical mixed use	Low to Moderate	2.2.400.C	CDD	Existing standards for the CC zone restrict building size. They do not contain an exception for residential uses. The CC zone is often used in areas where mixed use would be appropriate; making it easier to build residential above commercial in these areas could remove a barrier to vertical mixed use (though this is likely not the main reason why vertical mixed use is not common in those areas).
ETA 2a	Revise standards for horizontal mixed use to better protect land for commercial uses.	Prohibit new single family detached housing in commercial zones (allow single family attached and multifamily).	Moderate	Table 2.2.300	UGB project	If land is going to be used for residential development in commercial zones, it should be used efficiently. Commercial zones are not an appropriate location for new single family detached housing. Not modeled at this time. Few commercial/mixed use districts have a history of single family development in the last 15 years.
ETA 2b		Limit ground-floor residential uses fronting on arterials and collectors in all commercial zones.	Moderate	3.6.200.I.2	UGB project – policy language / CDD	Frontage on arterials and collectors is more valuable for businesses than for housing. Ground floor frontage on these roads should be protected for commercial uses.
ETA 2c		Limit total ground-floor residential use in all commercial zones to 50% or less.	Moderate	3.6.200.I.2; Chapter 1.2 (Definitions)	UGB project – policy language / CDD	City staff notes that horizontal mixed use has resulted in projects with significant residential components that consume commercial land. While horizontal mixed use may be appropriate in commercial zones, in order to retain an overall commercial feel, ground-floor residential uses may need to be further limited. (This is already limited in the CB zone.) Currently, the definition of mixed use buildings or developments requires at least 20% of the total floor area to be commercial or the equivalent of the entire ground-floor, whichever is greater. However, it does not protect the ground floor itself. (Note: it may be helpful to move this standard from the definitions chapter to Section 3.6.200.I.)
ETA 2d		Establish minimum density for residential uses in commercial zones (for land developed with residential on the ground floor), e.g. 12 DU/acre	Moderate	3.6.200	UGB project – policy language / CDD	Would ensure that land used for residential uses in commercial zones is used efficiently.
ETA 3a ★	Reduce commercial parking requirements to reduce development	Reduce parking requirements for retail and office uses within a quarter mile of transit and/or for specific uses where requirements are found to be excessive relative to need	High	Table 3.3.300	Evaluate and refine through parking study	Potential impact is significant – parking ratios are a constraint to higher density commercial and retail development. The City has hired consultants for a parking study that includes a Downtown Parking Plan, a Central Westside Parking Study and Plan, and a Citywide Parking Plan. This recommendation should be considered and evaluated through that process.
ETA 3b	cost and allow more efficient use of land	Allow greater maximum amount of credit for on-street parking in walkable commercial areas (up to 75% of requirement)	Moderate	3.3.300.B	Evaluate and refine through parking study	If a walkable commercial areas overlay is created, this would be an appropriate incentive to apply in those areas. (Originates from MMA recommendations.)
ETA 4a	Increase building height limits in close-in employment areas to enable higher	Increase maximum height in MR District to at least 45’	Moderate	Table 2.3.300	CDD code clean up (in progress)	Currently, the height limit in the MR District is 35 feet (Table 2.3.300), among the lowest of the commercial and mixed use zones. As noted by Community Development staff, requests for variances to the height limit (up to 59’) have been relatively frequent in recent years, and have generally been approved by the Planning Commission. Staff is currently proposing raising the height limit to 45 feet (to the highest point, including architectural elements such as chimneys and vents). Staff initially suggested a limit of 55’ but reduced to 45’ based on feedback from key property owners in the district concerned about views.

Ref #	Efficiency Measure Concept	Description	Priority Level	Affected Code Provision	Adoption Strategy	Comments / Notes:
ETA 4c	density development	Increase height limits in Central Area, consistent with MMA code recommendations	Moderate to High	Chapter 2.7	UGB project, CDD & EDD collaboration	<p>MMA code recommendations from July 2014 included height limits between 65 and 85 feet for much of the Central Area, with lower heights around 4th Street.</p> <p>Effect may be limited in the short-term until the market will support development of taller buildings.</p> <p>Adoption of the Central Area Plan and 3rd Street MMA may require a financing strategy to pay for infrastructure improvements.</p>
ETA 5	Increase lot coverage in certain employment zones to enable greater utilization of land	Expand lot coverage in ME zone from 50% to 80%	Moderate	Table 2.3.300	UGB project	<p>The ME zone is the only zone (aside from the PO zone which is used very little) that has such a low lot coverage. Commercial zones do not have a maximum lot coverage standard; the industrial zones both are set at 80%. If the goal is to encourage more landscaping, additional landscaping standards could be considered instead.</p> <p>The effect of this change is likely limited by the current parking requirements. If these were reduced in some areas, it could make the current lot coverage standard more of a constraint. (Not modeled explicitly – parking requirements are more restrictive than lot coverage requirements)</p>

Table 2: Employment Lands Efficiency Measures, Potential Map Amendments

Ref #	Area ¹	Description	Priority Level	Changes to Zoning Map	Changes to General Plan Map	Adoption Strategy	Comments / Notes:
EMA 1a	Opportunity Area 1: Central District Mixed-Use Multimodal Area (MMA)	Rezoning some areas to ME	Moderate to High	IL to ME between Hwy 97 and 2 nd street in certain areas	None	UGB project	Consider as interim solution to allow broader range of uses and greater flexibility for near-term.
EMA 1b		Apply MMA overlay	High	Apply special plan district Hwy 97 to 4 th street south of Revere	None	UGB project, CDD & EDD collaboration	Adoption of the Central Area Plan and 3 rd Street MMA may require a financing strategy to pay for infrastructure improvements.
EMA 2	Opportunity Area 4: SW Century Drive	Area becomes university-serving mixed-use community with housing component.	High	TBD	TBD	Evaluate and refine through Central Westside Project	UGB project will roll in land use designations and recommended map amendments from preferred scenario selected through CWP.
EMA 3	Opportunity Area 2: East Downtown	Becomes an extension of downtown	Moderate to High	CG to CB	CG to CB	UGB project – policy language	Likely triggers TPR analysis. Would require text amendments to CB zone development standards to apply appropriate height limits (2.2.800.H.2) and consider whether all design standards/guidelines should apply to the blocks facing Hwy 97. Current zoning and parcelization does not allow economics to work in favor of redevelopment. More intensive designation may be required to incentivize redevelopment.
EMA 4	Opportunity Area 5: Mill District/Core Pine	Becomes new designation, similar to Mixed Riverfront in character, to create a new mixed use, multi-story, retail, office, housing, entertainment district.	Moderate to High	IG to MR or ME	IG to MR or ME	UGB project – policy language	If MR designation is applied, height limits for that designation may need to be revisited to allow taller buildings in this area. Big redevelopment opportunity. Large property close in. Current industrial use is not a good fit for surrounding uses.
EMA 5	Opportunity Area 3: Central Highway 20	Becomes Neighborhood Mixed Use corridor with limited multifamily attached.	Low to Moderate	Mixed use overlay from 4 th to 10 th along Hwy 20	None	UGB project – policy language	Depending on approach to encouraging mixed use (see ETA 1b & 1c), an overlay may or may not be needed for the commercial zoning along Hwy 20. Could support a greater mix of retail, or small scale mixed use.
EMA 6	Opportunity Area 6: Juniper Ridge	Employment area with large-lot industrial opportunity	Moderate	UAR to ME / IL	None or IL to ME	Rezoning initiated as needed	Infrastructure needs will need to be identified and planned for prior to rezoning. Need to decide whether to codify requirement to retain 50-acre site for a targeted-sector large-lot industrial user.

¹ See attached map for locations referenced.



Bend Area General Plan

Memorandum



July 14, 2015

To: Employment TAC
Cc: Project Team
From: Angelo Planning Group Team
Re: Large Lot Industrial Siting Criteria and Candidate Sites

INTRODUCTION

Background

Bend Economic Opportunities Analysis

The 2008 Economic Opportunities Analysis (EOA) identified a need for two, 56-acre industrial sites: one for targeted economic sector uses, and another for a heavy industrial site user. The Remand acknowledged this need, which is included as a special site need for the 2015 EOA. This land is not included in the general estimate for land need and is in addition to existing land needs for the 2008-2028 planning period. These sites are not included in Bend's employment projections because the industries Bend seeks for these sites are generally not present in Bend.

The City's Economic Sector Targeting work calls for attracting secondary wood products, renewable energy resources, aviation, recreation equipment and specialty manufacturing, and information technologies. While the estimated needed economic lands may suit some of these sectors, two sites with a dedicated size of 56 acres each to be reserved for these uses are needed for large site users such as secondary wood products, aviation, renewable energy resources, and information technology.

Regional Large Lot Industrial Need Program

Oregon administrative rule (OAR) 660-024-0045 provides the opportunity for Deschutes County (and other central Oregon counties) to determine a need for large lot industrial land in the region and provide sites to meet that need in accordance with the rule. This rule took effect in its current form in December 2012. It allows a participating city to amend its Urban Growth Boundary (UGB) in order to designate a site in accordance with the rule, if a suitable and available site does not exist within the city's UGB. Sites identified as meeting this need must be designated with a regional large lot industrial zone or overlay zone to protect the site for such purposes.¹

¹ OAR 660-024-0045 (8) and (9)

A Central Oregon Large Lot Industrial Land Need Analysis was completed in 2012 under this program. It recommends maintaining an inventory of three 50- to 100-acre sites across three jurisdictions, two 100- to 200-acre sites across two jurisdictions, and one site over 200 acres that are readily developable. It notes that “a major, centrally located large-scale development near the region’s geographic and workforce center, and where key infrastructure is in place and has excess capacity... would be optimally located on the north end of Bend, but infrastructure challenges will make this choice problematic for at least the short-term.”²

The City of Bend’s identified UGB need was established before, and independent of, the regional program; Bend has not requested to use the regional program. If Bend keeps the need for two 56-acre lots as allowed through the Remand, then presumably the City is satisfying some of the identified regional need for 50-acre lots, but is doing so outside of the regional large lot program. Having the sites in the city’s inventory and available in Bend through the UGB would preclude the City for asking for more 50-acre lots until the first two are developed. At that point, the City could request additional 50-acre lots. In addition, having 50-acre lots in the city’s inventory would not prevent Bend from requesting another large lot, such as a 100-acre lot site, in the future through the regional program.

Purpose

Four general locations under consideration to meet the identified large lot industrial need were identified in the UGB Expansion Scenarios approved for evaluation by the UGB Steering Committee (USC). The purpose of this memorandum is to describe the criteria for large lot industrial siting and conduct a preliminary evaluation of potential large lot industrial sites identified to date. The criteria and the results of the evaluation of the identified sites, with Employment TAC’s input, will be forwarded to the Boundary TAC and the USC for consideration in evaluating the three scenarios and crafting a preferred/hybrid scenario.

CRITERIA

2015 Economic Opportunities Analysis

The draft 2015 EOA (which is currently in internal review with the project team and will be provided to the Employment TAC at its August meeting) identifies detailed criteria for large industrial uses. They are summarized below. (Note that the information and criteria for the location of Large Lot Industrial Sites discussed in the April 30, 2015 UGB workshop were very similar to those presented below.)

1. **Site Size.** Large-scale manufacturing uses are typically from 50 to 250 acres. Data centers can be sited on sites ranging from 30 to more than 100 acres. The identified need in this process is for two 56-acre sites, one of which is currently assumed to be located within the existing UGB at Juniper Ridge.

² 2012 Central Oregon Large Lot Industrial Land Need Analysis, page 60.

2. **Land Ownership.** Sites with two or fewer owners are necessary to reduce the cost and uncertainty of land assembly. Developers attempting land assembly often have difficulty assembling a site at a cost that makes development economically viable. When assembling land, developers often find that owners of key sites are not willing sellers, have unrealistic expectations of the value of their land, or cannot get agreement among multiple owners to sell the land. As a result, developers of large-scale manufacturing uses typically choose to develop sites with one or two owners.
3. **Automotive access.** Buildings generally are located on arterial or major collector streets. Traffic from the industrial development should not be routed through residential neighborhoods. The ideal site would have direct access to an arterial or state highway.
4. **Topography.** Sites should be relatively flat, with slopes of not more than 5%.
5. **Access to services.** City services should be directly accessible to the site, including sanitary sewer, and municipal water.
6. **Surrounding land uses.** Industrial buildings are generally compatible with other industrial uses, commercial uses, and agricultural uses.

Central Oregon Large Lot Industrial Land Need Analysis

Additional detail about site needs for large lot industrial uses is provided in the 2012 Central Oregon Large Lot Industrial Land Need Analysis³. The city's large lots are not regulated by the standards of the regional program since they are not part of that program; however, these site needs are provided below for additional information. This study notes that different industries have different site requirements, but that a great number of site requirements are generally common among most major industrial users.

Physical

Size – Large lot demand is defined as sites 50-acres or above. Sites of significantly larger size provide greater flexibility, as they can meet large site needs as well as providing the ability to be subdivided.

Slope – Industrial development has a very limited capacity to deal with slopes. This is particularly true in areas such as Central Oregon, in which the geology makes grading costly. A slope of less than 5% is required.

Configuration – Rectangular sites provide for the most efficient layouts. Sites with irregular configurations need to be larger to accommodate similar levels of development.

³ Available online at

http://www.deschutes.org/sites/default/files/fileattachments/community_development/page/808/central_or_eon_large_lot_industrial_land_need_analysis_2.4mb_pdf.pdf

Infrastructure

Transportation. Most projects, with a few exceptions, have significant transportation and logistics aspects.⁴ General site requirements are:

- No more than 10 miles from highway
- Generates 65-192 Average Daily Trips (ADT) / Acre
- Within 30-60 miles of Regional Commercial Airport
- Within 300 miles of International Airport

Utilities. Municipal water and sanitary sewer, electric power, natural gas and telecom in capacities needed for specific companies or industries are critical. The ranking and magnitude needed for each varies from industry to industry. If nearly all utilities noted above are not in place or proximate to the site, and without some existing unused capacity, most companies will not consider a community (or that site at least) further. Most private businesses, even large ones, are not coincidentally experienced developers, and even with experience their timelines for projects are such that they are unwilling and/or unable to wait while major infrastructure projects are executed by public sector entities. Utility requirements include:

- Water
 - Min 8" Domestic Line Size
 - Min 10" Fire Line Size
 - Preferred High Pressure Supply
- Sewer - Min 8-10" Sanitary Sewer
- Natural Gas Availability
- Electricity
 - 30-100 Kilovolt-amp (kVA) capacity
 - Preferred proximity to substation
 - Preferred secondary system availability
- Telecommunications
 - Major communications capacity
 - Route diversity preferred
 - Fiber optics

Location

Workforce. Throughout the tri-county area, the question for larger projects is first and foremost about quantity of available workers. Bend or the Deschutes County MSA is often the smallest area in the field of consideration during a site selection process. Quality can also be an issue, but at the end of the day, communities have little influence on either, at least at the point when companies come looking. The current unemployment statistics, which indicate an available

⁴ It is important to note that the current access approval process in Oregon (whether on a state highway or not) is a significant barrier to economic development in general and large lot development specifically. The Transportation Planning Rule (TPR) and relationship with approval by the Land Conservation and Development Commission is specifically creating the greatest problems for land development in the Central Oregon region.

workforce, could indeed make Central Oregon attractive to prospective employers if there are available sites to accommodate them. Housing options for workforce and executives are required.

Education & Training. Some companies are keenly interested in higher education opportunities both for the overall workforce and continuing education of their employees. That the Central Oregon region has been underserved for both higher education and training opportunities is a factor noted by several large projects in the past as a concern. Oregon State University is moving forward with the first phase of their Cascades campus in Bend, which may help address this concern.

Special Considerations.

- Availability - Owner willing to sell at market consistent price
- Ownership – Willingness to hold, front infrastructure investments
- Flexibility – Ability to meet a variety of demands
- Site Certification – Not necessary, but criteria should be at least inclusive of the certification criteria
- Funding – Viability of funding necessary infrastructure to support development

In addition, the study notes that the key to the site selection process is that it is essential for candidate sites to be truly development-ready instead of simply “buildable”.⁵ This highlights the importance of the short-term supply evaluation that is presented in a separate memo to address the suitability of sites for large-lot industrial users.

Incentives. While Oregon is not a “big player” in the incentives game nationally, the state does have in place several incentives that favor large, capital intensive projects. Specifically, few areas have the type of property tax incentives Oregon offers that can exempt these taxes for 3-15 years. Nearly all Central Oregon industrial areas have access to these incentives through the enterprise zone and/or Strategic Investment Program. At the same time, Oregon does not have the type of payroll or jobs-based incentives available in other places in the country.

POTENTIAL SITES

UGB expansion scenarios include three different sites outside the current UGB for a Large Lot Industrial use, as well as the eastern portion of Juniper Ridge. Scenario 1.2 locates this use in the southeastern portion of the DSL property, Scenario 2.1 locates this use adjacent to Highway 20 in the OB Riley / Gopher Gulch Area, and Scenario 3.1 locates this use in the eastern portion of the North Triangle. Table 1 describes how each of these sites addresses generalized criteria described previously. The sites are described qualitatively and given a preliminary ranking of green, yellow, and red. The attached maps provide detailed taxlot and ownership information in the potential UGB expansion areas and Supplemental Analysis Areas.

⁵ 2012 Central Oregon Large Lot Industrial Land Need Analysis, page 33.

Table 1. Comparison of Large Lot Sites within Boundary Scenarios

Criteria	Scenario 1.2: DSL Property	Scenario 2.1: OB Riley Area	Scenario 3.1: North Triangle
Lot Size	Lot is over 300 acres in total under State ownership.	Roughly 60 acres under common ownership.	Roughly 60 acres under common ownership in the North Triangle, but site as drawn spans two ownerships.
Topography⁶	Minimal slopes – below 2%.	There are some slopes in the area – overall below 5% grade.	Preliminary analysis shows slopes >5% in this area.
Physical Configuration & Ownership	Area is under single ownership (State of Oregon) and roughly rectangular with sufficient area to flexibly accommodate a large lot industrial use.	Relatively flat area under common ownership irregularly shaped. The largest area that is roughly rectangular is approximately 30 acres.	Area under common ownership is partially divided by a public right-of-way.
Surrounding Land Uses	Site is adjacent to Humane Society and Public Works area to the South and planned employment land to the West	Area to the south is residential and area to the west (separated by a collector road) is rural residential.	Site is adjacent to existing commercial/ industrial uses to the East and near rural residential areas to the north.
Transportation Infrastructure	Site is adjacent to Knott Rd / 27 th St, which connects to Highway 97 south of Bend in 4.5 miles, and to Hwy 97 / Hwy 20 approximately 7 miles to the North. Hwy 20 East is less than 1 mile from the site.	Adjacent to Highway 20; current access onto OB Riley Road on the west and Cooley Road on the north; potential future access via an extension of Robal Rd.	Site is within 200 feet of Highway 97, though the primary access point would likely be from Cooley Road, ½ mile to the South, via Berg Lane.

⁶ Preliminary review of topography conducted using Google Earth. Detailed slope data is not currently available for the full extent of these sites.

Criteria	Scenario 1.2: DSL Property	Scenario 2.1: OB Riley Area	Scenario 3.1: North Triangle
Utilities/Services (Shown in grey – insufficient data to evaluate currently)	Sewer lines exist abutting the site on the west, inside the UGB, though further analysis is needed (and currently underway) to determine how this area will be served. (Avion water district; information not available on presence of water lines.)	Sewer and water lines exist immediately south of the site, inside the UGB, though further analysis is needed (and currently underway) to determine how this area will be served.	Sewer and water lines exist abutting the site on the east, inside the UGB, though further analysis is needed (and currently underway) to determine how this area will be served.
Workforce Considerations	The site is in the southeast corner of the City, arguably less accessible to neighboring communities than other alternatives.	The site is accessible to Bend residents, and its location at the northernmost part of the city makes it more accessible to Redmond and other communities to the North.	The site is accessible to Bend residents, and its location at the northernmost part of the city makes it more accessible to Redmond and other communities to the North.
Special Considerations	Deed restrictions on the sale of the property may be of concern.	None identified.	None identified.

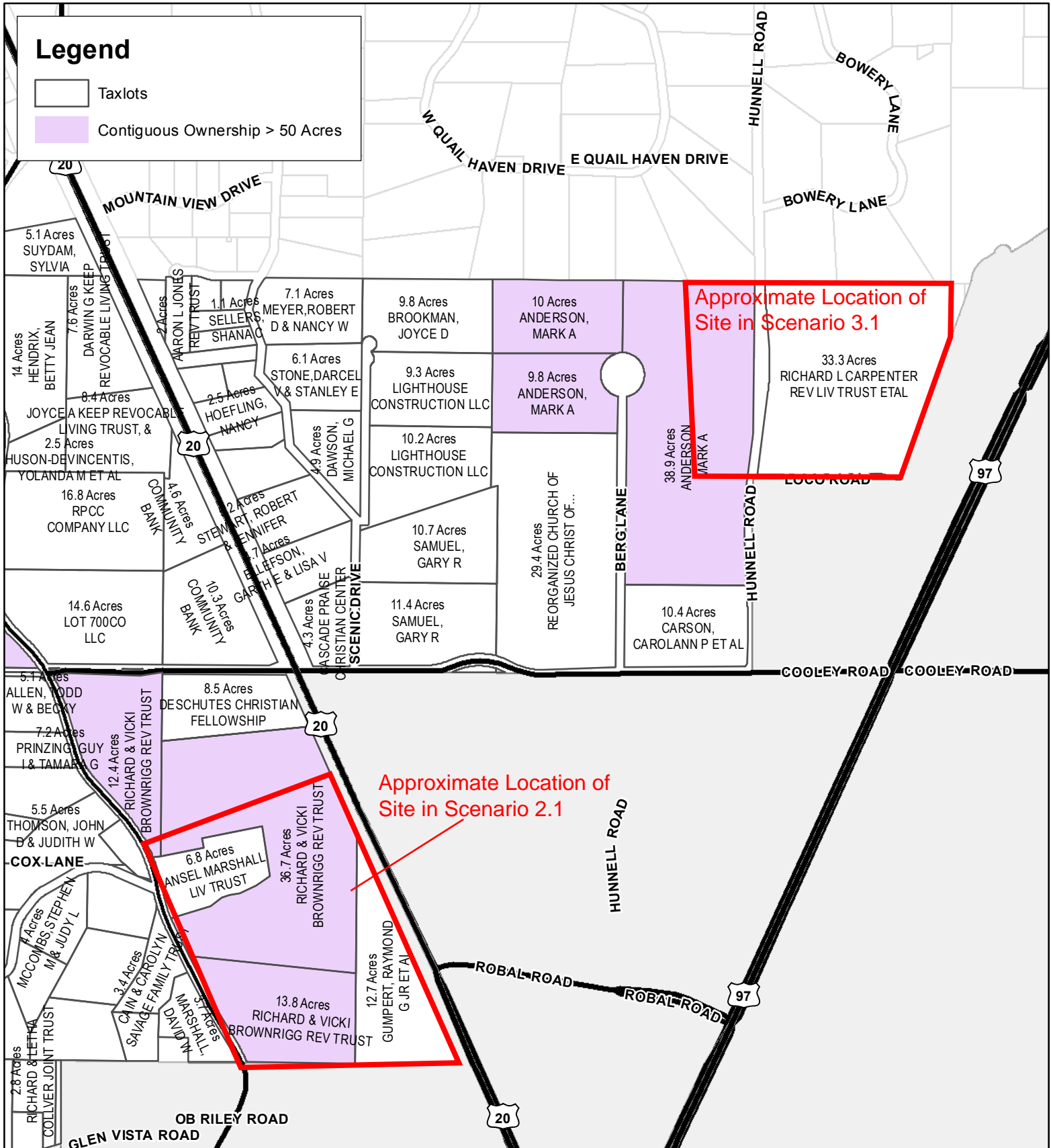
QUESTIONS FOR THE TAC

1. Are the criteria identified in the draft EOA (listed on pages 2-3) appropriate and adequate to evaluate potential sites for large lot industrial uses?
2. Do you have anything to add to or refine in the project team's initial evaluation of the three sites identified in scenarios to date?

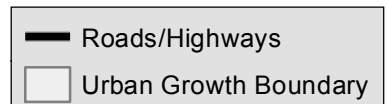
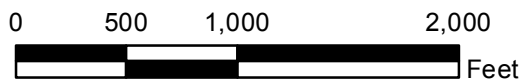
Bend UGB

Taxlot Evaluation for Large Lot Industrial Use

Prepared 7/8/2015




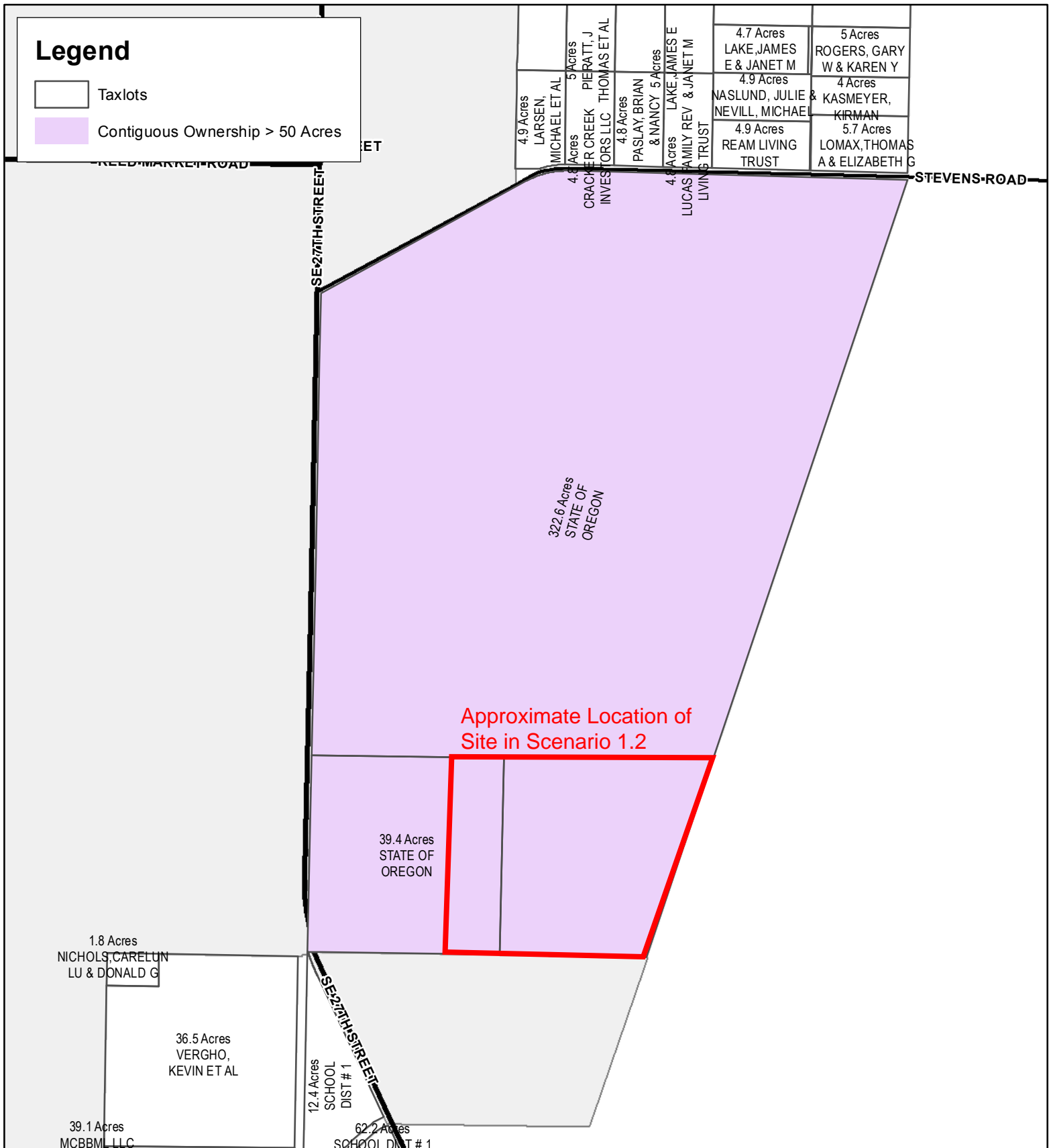
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Service Layer Credits: Deschutes County GIS (2014)



Taxlot Evaluation for Large Lot Industrial Use

Legend

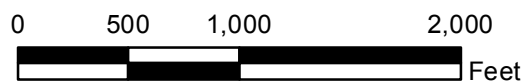
-  Taxlots
-  Contiguous Ownership > 50 Acres



URBAN GROWTH BOUNDARY REMAND



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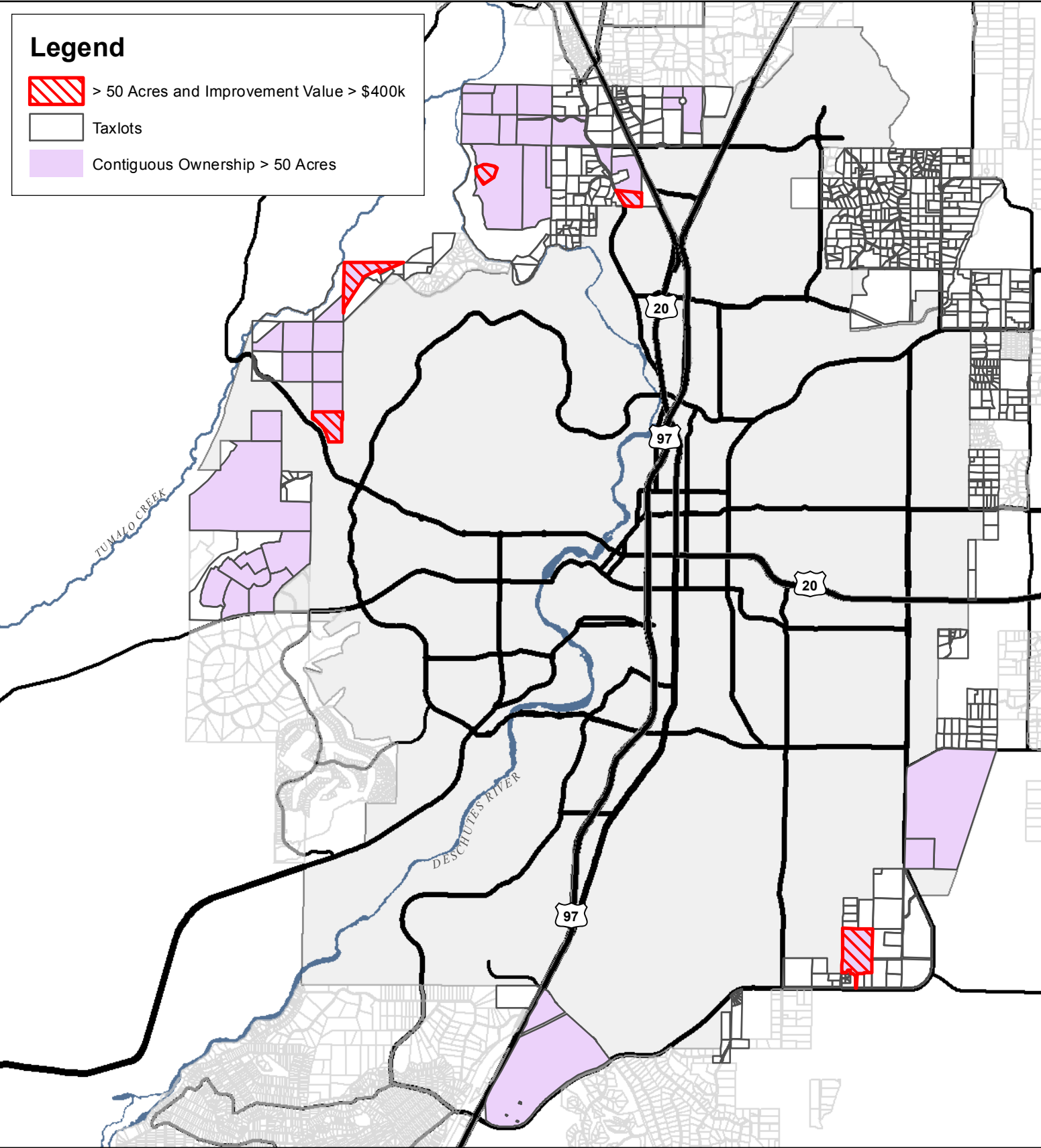
 Urban Growth Boundary

007653

Bend UGB

Inventory of Sites > 50 Acres Adjacent to Bend UGB

Prepared 7/9/2015

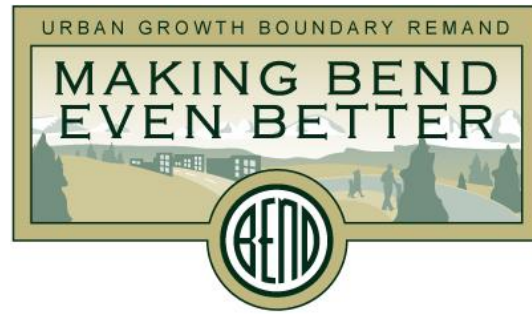


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Streams/Rivers
Roads/Highways
Urban Growth Boundary



Memorandum



July 14, 2015

To: Employment Lands Technical Advisory Committee
Cc: UGB and Growth Scenario Technical Advisory Committee
From: Angelo Planning Group Project Team
Re: Responding to Remand Issues Related to Short-Term Land Supply

BACKGROUND

The Remand included several requirements related to short-term supply of employment lands. OAR 660-009-0025(3)(a) establishes that Bend “must provide at least 25 percent of the total land supply within the urban growth boundary designated for industrial and other employment uses as short-term supply.” Broadly, the requirements of the administrative rule and Remand fall into two categories: (1) analysis of short-term supply by plan designation (e.g., establishing whether the existing supply meets the standard), and (2) policies that demonstrate a commitment to providing an adequate short-term supply of employment land (e.g., demonstrating that Bend has strategies in place to maintain the 25% standard).

The information and analysis presented in this memorandum is informational in nature. No policy recommendations are needed or requested at this time.

The memorandum is organized into the following sections:

- **What the State Requires** summarizes sections of the Goal 9 administrative rule that pertain to short-term land supply and requirements of the Remand.
- **Operationalizing Short-term Land Supply** describes the approach the project team is using to analyze short term land supply.
- **City Functional Planning Efforts** describes infrastructure planning that has occurred since the Remand was issued in 2010.
- **Preliminary Analysis and Findings** summarizes the project team’s efforts to date on short-term land supply and describes the implications for the next steps in the process.

WHAT THE STATE REQUIRES

The Remand requires that the City provide more evidence to demonstrate that it complies with the requirement to maintain a short-term land supply as required by OAR 660-009-0015(3)(a)(C):

“For cities and counties within a Metropolitan Planning Organization, the inventory must also include the approximate total acreage and percentage of sites within each plan or zoning district that comprise the short-term supply of land.”

Bend is within a Metropolitan Planning Organization (MPO) and is therefore required to conduct the analysis. OAR 660-009-0005(10) defines short-term land supply as follows:

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

The Remand provides the following guidance with respect to meeting the requirements of OAR 660-009-0015(3)(a)(C):

Under OAR 660-009-0015(3)(a)(C), the EOA Inventory of Industrial and Other Employment Lands for cities and counties within a Metropolitan Planning Organization, must include the approximate total acreage and percentage of sites within each plan or zoning district that comprise the short-term supply of land.

This short-term supply analysis required for jurisdictions within MPOs is in addition to the EOA inventory requirements applicable to all comprehensive plans for areas within urban growth boundaries. OAR 660-009-0015(3)(a)

Furthermore, division 9 requires that comprehensive plans for cities such as Bend “include detailed strategies for preparing the total land supply for development and for replacing the short-term supply of land as it is developed.” OAR 660-009-0020(2).

The Commission concludes that the Goal 9 rule requires the City to include policies for maintaining a short-term supply.

The City must plan for required infrastructure and have identified the funding mechanisms. State law requires the city to describe development constraints or infrastructure needs on vacant lands and determine the amount of vacant acreage by plan designation that qualifies as short-term supply.

OPERATIONALIZING SHORT TERM SUPPLY ANALYSIS

It is worth parsing the elements of the rule to better understand the requirements. The first issue is temporal in nature: “land that is ready for construction within one year of an application for a building permit or request for service extension.” Thus, the definition establishes a one year threshold. The second is the concept of “engineering feasibility.” The rule doesn’t provide guidance on how to operationalize “engineering feasibility.” For the purpose of this analysis, the project team defines engineering feasibility as the ability to provide the needed backbone infrastructure to the site within one year. On site infrastructure is not part of engineering feasibility. The final issue is

related to funding. The City is not required to demonstrate that it has the funds available to develop the infrastructure.

The analysis includes evaluation of water, wastewater, stormwater, and transportation infrastructure. Whether a specific site meets the standards for short term supply was determined by analysis of functional plans and capital improvement programs. For the purpose of this analysis, we propose to use January 1, 2016 - January 1, 2017 for the initial short-term supply evaluation.

CITY FUNCTIONAL PLANNING EFFORTS

The evaluation of short-term land supply is directly related to infrastructure plans (called “functional” plans). For the purpose of this analysis the relevant functional plans are water, wastewater, stormwater, and transportation.

Since the Remand was issued in 2010, the City has completed substantial planning work for infrastructure. Key efforts include:

- *Water System Master Plan - 2011 Update (Optimization Study)*. This report covers level of service goals, present and future deficiencies, assessment of fire flow capacity in the system and the results of a comprehensive analysis using an optimized decision support process to evaluate alternatives that address system deficiencies now and in the future. The results of this study are a recommended set of system improvements to meet the needs of the system for at least 20 years.
- *Water Management and Conservation Plan – 2011*. The purpose of the Plan is to guide the development, financing, and implementation of water management and conservation programs and policies to ensure sustainable use of publicly owned water resources while the City plans for its future water needs.
- *Collection System Master Plan – 2014*. The Wastewater Collection System Master Plan (CSMP) is a 20-year critical planning document that establishes a clear vision for Bend’s community’s sewer collection system. The CSMP identifies both short-term and long-term system improvements that are needed to address existing conditions, existing capacity, and future capacity issues.
- *Water Reclamation Facility Plan*. This plan outlines several cost-effective solutions for increasing the plant’s ability to meet projected wastewater flows through the year 2030.
- *Stormwater Master Plan*. In 2014 the City Council approved Bend’s first formal Stormwater Master Plan. The Stormwater Master Plan serves as the oversight plan for addressing stormwater quantity and quality issues. In addition to providing an overall strategy for addressing stormwater concerns, it provides a delineation of drainage areas and runoff quantities throughout Bend, and programmatic goals for addressing quantity and quality concerns.
- *Bend Urban Area Transportation System Plan – last updated in 2014*. The Bend TSP was adopted in 2000 and has been regularly updated. The purpose of the TSP is to help guide the development of a transportation system that will meet the forecasted needs of the Bend community. Strategies for planning and implementing a wide range of transportation components are addressed in the TSP including automobile, public transportation, bicycle and pedestrian travel. The TSP contains many strategies aimed at providing multi-modal

transportation system improvements and reducing reliance on a single mode of travel. The city of Bend is responsible for maintenance and capital improvements for the transportation system under the City's jurisdiction. It plans for its transportation system needs through a *Capital Improvement Program* (CIP) process. The Capital Improvement Strategy (created in 2010) outlines a two-year and five-year CIP that is fiscally constrained, provides recommendations for program direction and intent, and is transparent to the community. The CIP is updated yearly and is incorporated within the City's budget.

- *NE Bend Transportation Study – 2009.* This study was completed as an umbrella effort to coordinate and synthesize transportation system planning, land use planning and project development work underway in the northeast part of the City of Bend. ODOT, Deschutes County, the Bend MPO, and the City all have active planning projects underway that will affect and influence the NE Bend area. The study was initiated to investigate strategies that support better use of the local (i.e., non-highway) transportation system for shorter distance travel and decrease local trip reliance on the state highways.

APPROACH TO SHORT-TERM SUPPLY ANALYSIS

This section describes the project team's approach to conducting the short-term supply analysis. This approach was developed in consultation with city growth management and engineering and infrastructure planning staff.

1. Establish analysis date. We propose to structure the analysis for a date of January 1, 2017. The purpose for establishing a base date is that functional plans and capital improvement programs identify specific infrastructure projects and development dates. The implementation of those projects will bring additional lands into the short term supply.
2. Identify limiting infrastructure. Water and stormwater do not appear to be limiting infrastructure. Preliminary analysis and discussions with engineering and infrastructure planning staff suggest that land within the UGB meet the short-term supply standard. The analysis will document existing water and stormwater capacity, but will focus on wastewater and transportation as more critical infrastructure for the short-term supply analysis.
3. Estimate current wastewater capacity. The project team will conduct a high-level analysis of wastewater that builds from the Wastewater Collection System Master Plan (CSMP) process which included a baseline analysis of "EDU" (equivalent dwelling units). That analysis will look at the existing system capacity in EDU and compare those figures to forecast housing and employment growth. The comparison will establish baseline estimates of how much of the growth forecast can be accommodated given existing wastewater capacity.

We will then compare the population and employment forecast for the existing system capacity using EDU. This will allow a determination of how much of the employment forecast can be accommodated with the existing capacity. If it is more than 25%, then the land base meets the short-term criteria for wastewater at the UGB level. The next step will be a high-level geographic analysis that identifies issues related to the SE and N interceptors.

4. Evaluate transportation limitations. Transportation is trickier due to multiple jurisdictions and policies. Our current understanding is that city code has provisions that allow the City Manager some discretion in altering mobility standards. The working conclusion is that city transportation capacity may not be a limiting factor due to the ability to relax mobility standards. The State system is more complex. Changes to mobility standards are subject to Oregon Transportation Commission (OTC) review; that requirement precludes a classification of short term supply. Based on our discussion, this affects the entire northern area of the city and one site on S 3rd. This directly affects lands in the N triangle and Juniper Ridge. For Juniper Ridge, we can assume development up to the trip cap can be categorized as short-term supply. Wastewater is a bigger issue for Juniper Ridge and the N. Interceptor is currently in the out years of the CIP.

The analysis of short-term supply will focus on employment lands within the existing UGB. The project team assumes that new General Plan policies and/or strategies to address maintaining and replenishing the short-term supply over time will be more appropriate for the UGB expansion areas.



Meeting Agenda

Joint Meeting of the Residential and Employment TACs – Meeting 11

Wednesday, October 7, 2015 10:00 AM – 12:30 PM

Municipal Court Room – Bend Police Department

555 NE 15th Street

PLEASE NOTE THE 10 AM START TIME AND THE LOCATION

Meeting Purpose and What is Needed from the TACs

The purposes of this meeting are to:

- Provide background information to the TACs regarding the City's legal obligations, and planning opportunities, to reduce reliance on the automobile through integrated land use and transportation planning
- Seek feedback and expertise from the TACs on the land use and transportation strategies that are appropriate to consider as the City finalizes the UGB and updates the General Plan

This topic is targeted for review and input by the Residential and Employment TACs because it addresses potential changes to land use inside the existing UGB that would help the city grow in a less auto-dependent manner over the long term. As a result, it relates to the TACs' work on efficiency measures and opportunity areas, and brings in new requirements and a new perspective on these choices. It is important to note that although the land use strategies that may help achieve compliance with state law are related to the TACs' work to date on efficiency measures, they are not necessarily constrained to the same timeline of 2028. Both the land use strategies, and their implementation timing, will be discussed by the TACs.

1. Welcome and Introductory Items

- Convene and welcome
- Where we are in the process – a brief look back and look forward

10:00 AM

Co-chairs

Joe Dills, Brian Rankin

For additional project information, visit the project website at <http://bend.or.us> or contact Brian Rankin, City of Bend, at brankin@bendoregon.gov or 541-388-5584



Accessible Meeting/Alternate Format Notification

This meeting/event location is accessible. Sign and other language interpreter service, assistive listening devices, materials in alternate format such as Braille, large print, electronic formats, language translations or any other accommodations are available upon advance request at no cost. Please contact the City Recorder no later than 24 hours in advance of the meeting at rchristie@ci.bend.or.us, or fax 385-6676. Providing at least 2 days notice prior to the event will help ensure availability.

2. Integrating Land Use and Transportation

Briefings, TAC Discussion

- a. Legal context, Vehicle Miles Traveled (VMT) 101, and relationship to Bend's UGB
- b. An approach to crafting an Integrated Land Use and Transportation Plan for Bend
- c. VMT reductions strategies and preliminary results of initial testing

10:10 AM

Project Team members will make the presentations, and be available for questions.

TAC discussion will occur during the items listed above. Following item "c", TAC discussion and feedback is requested on the following:

- Which areas of the City are appropriate to focus on for increasing the intensity and mix of uses over time?
- Where is the market ready for redevelopment in the shorter term (to 2028) and longer term?
- Which of the transportation and other strategies presented are most workable for Bend?

4. Public Comment

12:10 AM

Co-chairs

5. Project Information, Next Steps

- a. Project information
- b. Next meeting

12:20 PM

Brian Rankin,
Joe Dills

6. Adjourn

12:30 PM

Memorandum



October 2, 2015

To: Residential Lands Technical Advisory Committee
Employment Lands Technical Advisory Committee

Cc: Boundary and Growth Scenarios Technical Advisory Committee

From: Project Team

Re: Reducing Reliance on the Automobile and the Integrated Land Use and Transportation Plan (ILUTP) – Introduction and Overview

INTRODUCTION

As part of the 2010 Remand Order (Remand) from the Land Conservation and Development Commission (LCDC), the City of Bend was required to comply with a specific state administrative rule that addresses reducing reliance on the automobile (Oregon Administrative Rule 660, Division 12, Section 0035; Division 12 is also called the Transportation Planning Rule or TPR). It is anticipated that metropolitan areas will accomplish reduced reliance by changing land use patterns and transportation systems so that walking, cycling, and use of transit are highly convenient and so that, on balance, people need to and are likely to drive less than they do today.¹ The specific legal requirements are summarized in the following section.

The purpose of this memorandum is to provide background and context to the Residential and Employment Technical Advisory Committees (Residential and Employment TACs) regarding this issue and to lay out the City's proposed strategy to achieve compliance with these regulations. It is targeted for review and input by the Residential and Employment TACs because it addresses potential changes to land use inside the existing UGB that would help the city grow in a less auto-dependent manner over the long term. As a result, it relates to the TACs' work on efficiency measures and opportunity areas, and, brings in new requirements and a new perspective on these choices. It is important to note that, although the land use strategies that may help achieve compliance with these regulations are related to the TACs' work to date on efficiency measures, they are not necessarily constrained to the same timeline of 2028, and therefore, may not necessarily affect the need for Urban Growth Boundary (UGB) expansion depending on the direction from the TAC. Both the land use strategies, and their implementation timing, will be discussed by the TACs.

¹ OAR 660-012-0035(4)

LEGAL CONTEXT

History

In the 2008 UGB expansion effort, the city did not address compliance with OAR 660-012-0035. The Remand summarizes it as follows: “The [Department of Land Conservation and Development (DLCD)] Director’s Decision found that:

- the metropolitan planning requirements of the TPR [Section 0035 of OAR 660, Division 12] are applicable to Bend at this time;
- Bend has not complied with provisions of the TPR applicable to metropolitan areas for adoption of standards and benchmarks to reduce reliance on the automobile; and
- the metropolitan area planning requirements in the TPR must be met prior to a significant amendment of the UGB.”²

The City appealed this aspect of the Director’s Decision, arguing that it is not required to comply with these requirements before amending its urban growth boundary.³ The Remand states that *all* goals and rules apply to a UGB amendment, except for the listed exceptions, and there is no exception for the metropolitan area planning requirements specified in OAR 660-012-0035.

Administrative Rule

In summary, Division 12 requires that Transportation System Plans (TSPs) be based upon “evaluation of potential impacts of system alternatives that can reasonably be expected to meet the identified transportation needs.”⁴ Areas in Metropolitan Planning Organizations (such as Bend) must “evaluate alternative land use designations, densities and design standards to meet local and regional transportation needs.”⁵ This evaluation informs a strategy and adopted standards “for increasing transportation choices and reducing reliance on the automobile.”⁶ There are a number of strategies that must be evaluated such as improvements to existing facilities and services, enhancements to alternative modes of travel, transportation systems management, travel demand management, and land use standards. These strategies must result in “adopted standards to demonstrate progress towards increasing transportation choices and reducing automobile reliance,” which requires a qualitative and quantitative description in the plan explaining how reliance on the automobile is reduced, convenience in using alternative modes has increased, there is a likelihood of a significant increase in non-automobile use, Vehicle Miles Traveled (VMT) does not increase more than five percent, and that the standards are measurable and reasonably related to the goal of reducing reliance on the auto.⁷ As specified by the Remand Order and rule, if a plan such as a UGB expansion were to decrease

² LCDC Remand Order, page 119, citing Director’s Decision, at 96-103.

³ LCDC Remand Order, page 119.

⁴ OAR 660-012-0035(1).

⁵ OAR 660-012-0035(2).

⁶ OAR 660-012-0035(4).

⁷ OAR 660-012-0035(5).

VTM more than five percent, then the intervening analysis contained in an ILUTP would not be required, rather adopting benchmarks (approved by the Land Conservation and Development Commission) to assess progress towards making the VMT decrease would suffice.

The Transportation System Plan (TSP) policies must include evaluating progress toward the standard at regular intervals, including monitoring and reporting of VMT.⁸ The current TSP has policies directed at reducing reliance on the automobile and improving access to alternative modes.

If an MPO area can show that adopted plans and measures are likely to achieve a five percent reduction in VMT per capita over the 20-year planning period, they will be found to be in compliance with the rule, but must still adopt interim benchmarks for VMT reduction and evaluate progress with each TSP update.⁹

If an alternate standard is approved, but an increase in VMT (of less than 5%) is anticipated, the local jurisdictions in the MPO area must prepare and adopt an integrated land use and transportation plan (ILUTP) containing specific required elements within three years of the approval of the standard.¹⁰ The city must conduct an ILUTP consistent with the administrative rules, but has flexibility with respect to the strategy it selects to demonstrate compliance.

Bottom line: If the City's existing plans, policies, and regulations are not projected to decrease VMT within the planning horizon, the City must put plans, policies, and regulations in place that will move the City towards this goal. The city can use other standards besides VMT to measure progress on reducing reliance on the automobile, but must still keep VMT per capita under a 5% increase, and must regularly track progress on both VMT and any locally-adopted standards.

Remand Requirements

As noted above, the Remand clarifies the applicability of this section of the TPR, stating that the City is required to comply with OAR 660-012-0035 before it may complete its UGB expansion. It identifies three possible outcomes based on the estimated change in VMT per capita projected to result from the revised UGB expansion, along with proposed land use and transportation measures:¹¹

(a) A decline of 5% or more per capita means the City is in compliance with this aspect of the TPR under 0035(6).

(b) A decline of between 0% and 4.99 percent per capita means the City may proceed by preparing for DLCD/LCDC review and approval concurrently with the revised UGB, a work program/plan to achieve a reduction of 5% or more over the planning period.

⁸ OAR 660-012-0035(5)(e)

⁹ OAR 660-012-0035(6)

¹⁰ OAR 660-012-0035(5)(c)

¹¹ LCDC Remand Order, page 120-121.

(c) An increase in VMT per capita means the city must prepare, submit and obtain DLCD/LCDC approval of an integrated land use and transportation plan (ILUTP) as provided in OAR 660-012-0035(5) prior to approval of a revised UGB.

Many have noted that the remand requirements do not exactly match the administrative rule. After discussing this issue with DLCD staff, the safest approach is to first meet the requirements of the rule, and then the Remand Order. The Remand specifies 2003 as the baseline year. A later clarification letter from DLCD staff¹² also described using the regional travel demand models for year 2003 and 2030 (which were the model years available at the time to approximate the 2008 to 2028 planning horizon). However, the MPO and TPAU have since updated the regional models to base year 2010 and future year 2028. The updated models provide benefits for assessing the Remand requirements. The updated base 2010 travel demand model includes enhancements that better reflect 2008 conditions in Bend, including:

- updated base land use developed for the Metropolitan Transportation Plan (MTP), which more closely aligns with 2008 land use patterns in Bend compared to the prior model base year of 2003;
- updated transportation network to reflect what was built between 2003 and 2010, which more closely aligns with the 2008 network in Bend compared to the prior model base year of 2003; and
- includes transit model component that now exists in Bend but was not present in 2003

The year 2028 future scenario includes update to model components consistent with year 2010 model (noted above) and offers an analysis year that aligns with Remand (as opposed to prior model year 2030).

The project team is working with DLCD to determine whether Bend may use the base 2010 model for the VMT analysis. In addition to providing the benefits listed above, the distinction is important because VMT increased by nearly 5% between 2003 and 2010. For purposes of analysis, the project team is evaluating both 2003 and 2010 as baseline years. It is likely that only the Land Conservation and Development Commission will be able to provide definitive guidance regarding which base year to use; for the sake of the current city's planning work related to VMT, both 2003 and 2010 VMT estimates be used. Table 1 on page 6 shows the 2003 and 2010 VMT baselines, and the VMT estimated for 2028 in each UGB boundary expansion and Supplemental Analysis Area Maps for reference. Depending on the UGB expansion scenario, there will be different impacts to VMT to consider in the work related to the ILUTP.

VMT ANALYSIS IN OTHER OREGON METRO AREAS

Portland Metro satisfied the VMT requirement by adopting and implementing the Metro 2040 Plan. Since that time Metro has adopted the Green House Gas Emissions strategy and plan that

¹² RE: Questions relating to the Bend Urban Growth Boundary *UGB) Vehicle Miles Traveled (VMT) Analysis, Letter from DLCD, November 10, 2011.

includes VMT reduction policies and actions such as increasing transit intensity, pricing, and promoting mixed use development.

TransPlan is the Eugene-Springfield land use and transportation plan that adopted VMT reduction policies and strategies for the area. TransPlan centered on a set of land use, transit, demand management, and bicycle strategies and transportation system performance measures.

Rogue Valley Metropolitan Planning Organization has been working with DLCD to draft alternative measures for increasing transit and non-motorized travel mode splits. These measures include increasing the percent of residences within a ¼ mile walk of transit service, percent of collectors and arterials with bicycle and pedestrian facilities, and increasing employment in mixed-use pedestrian-friendly areas.

The Corvallis Area Metropolitan Planning Organization has been working on a Greenhouse Gas Emissions Reduction Project. The resulting plan includes strategies to reduce VMT through pricing, demand management, infrastructure improvements (particularly for non-motorized modes), increasing mixed use land development, and increasing transit investment.

WHY VMT MATTERS TO THE COMMUNITY

In addition to being the subject of the above legal requirements, VMT is also important to quality of life in Bend. VMT per capita generally demonstrates the combined reliance on the automobile, proximity between land uses, and efficiency of the transportation system. Lower VMT can result from short auto trips and/or trips made by other modes such as walking, biking, or transit. Lower VMT values can indicate that the population has access to other travel modes and/or that the desired destinations (such as school, work, or shopping) are close to home and/or well connected. These causes for VMT reduction are generally seen as improvements to quality of life. VMT also impacts transportation emissions, which affect air quality and public health, as well as fossil fuel consumption, greenhouse gas emissions, transportation safety, and travel costs.

VMT RESULTS OF UGB EXPANSION ALTERNATIVES

Analysis of the UGB Expansion Scenarios using the regional travel demand model and the approach to VMT analysis specified in the administrative rule shows that all alternatives are projected to result in an increase in VMT of between 3% and 5% relative to 2010 and based on growth to 2028 (see Table 1 below). Based on these results, the project team anticipates that the city will be required to prepare an ILUTP.

Table 1: VMT per Capita in 2003, 2010, and 2028 (by Scenario and SAAM)

	2003 baseline	2010 baseline	Scenario 1.2	Scenario 2.1	Scenario 3.1	SAAM-1	SAAM-2	SAAM-3
Daily Vehicle Miles Traveled per capita	9.18	9.64	10.11	9.92	9.99	10.13	10.11	10.09
Percent increase relative to 2010	N/A	N/A	4.9%	2.9%	3.6%	5.1%	4.9%	4.7%
Percent increase relative to 2003	N/A	5.0%	10.1%	8.1%	8.8%	10.3%	10.1%	9.9%

APPROACH TO DEVELOPING THE ILUTP

As stated above, the administrative rule specifies the required elements of an ILUTP. These are:¹³

- Changes to land use plan designations, densities, and design standards such as increasing residential densities adjacent to transit, major employment areas, and major retail areas; increasing employment densities in designated community centers; designating land for neighborhood shopping centers; and providing housing opportunities in close proximity to employment areas (see full list below);
- A transportation demand management plan that includes significant new transportation demand management measures;
- A public transit plan that includes a significant expansion in transit service; and
- Policies to review and manage major roadway improvements to ensure that their effects are consistent with achieving the adopted strategy for reduced reliance on the automobile.

The land use strategies that local governments “shall consider” are listed in detail below.

“(a) Increasing residential densities and establishing minimum residential densities within one quarter mile of transit lines, major regional employment areas, and major regional retail shopping areas;

“(b) Increasing allowed densities in new commercial office and retail developments in designated community centers;

“(c) Designating lands for neighborhood shopping centers within convenient walking and cycling distance of residential areas; and

¹³ OAR 660-012-0035(5)(c) and OAR 660-012-0035(2)

“(d) Designating land uses to provide a better balance between jobs and housing considering:

“(A) The total number of jobs and total of number of housing units expected in the area or subarea;

“(B) The availability of affordable housing in the area or subarea; and

“(C) Provision of housing opportunities in close proximity to employment areas.”¹⁴

The TPR specifies that an ILUTP must be adopted within three years of the approval of an alternate standard for measuring reduction of reliance on the automobile; it does not specify a timeline for the results that must be achieved or by when (i.e., it does not mandate that the ILUTP be shown to produce a certain degree of reduction in VMT by a certain point in time, though the projected change in VMT based on adopted plans and policies over the planning horizon may not exceed a 5% increase in any case). However, the City intends to target land use and transportation policies and changes that will be most effective in reducing reliance on the automobile and moving the city towards a reduction in VMT in the long-term. It is also assumed that the standards and benchmarks referenced in the rule would involve establishing specific outcomes by specific dates with expected impacts on VMT.

In order to identify the most promising and effective strategies that should be included in the ILUTP, the project team will do informal testing of land use and transportation strategies through Envision Tomorrow’s “7D” transportation model and “post-processing” of regional travel demand model results to see if they “move the needle” toward VMT reduction, and by how much. The team intends to test several packages of land use and transportation strategies. Once a set of land use and transportation strategies have been identified through informal testing that meet the requirements for an ILUTP and appear to have a measurable impact on VMT, this package will be analyzed formally using the regional travel demand model to confirm results.

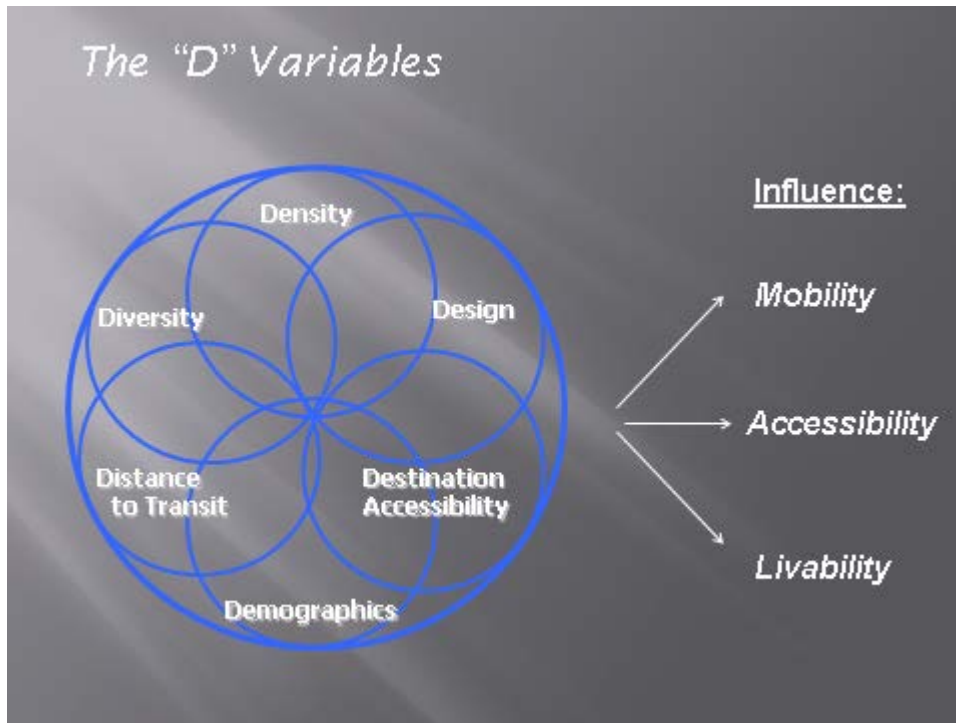
Note that the project team is starting with the same 2028 population and employment growth that has been used to date in the UGB process; this allows for direct comparison to the UGB expansion scenario results. It does not imply that the results are expected to materialize by 2028. However, the TACs may identify certain strategies that are appropriate and desirable to incorporate into the efficiency measures for the UGB, and that are achievable within the 2028 planning horizon.

HOW WE CAN IMPACT VMT

The “D” Variables

Research by Drs. Chris Nelson and Reid Ewing of the University of Utah (among others) has identified a number of key factors that influence travel behavior, as summarized in Figure 1.

¹⁴ OAR 660-012-0035(2)

Figure 1: The "D" Variables

In brief, this research has found the following estimated impacts on travel behavior from the variables identified above:¹⁵

- **Density:**
 - Doubling housing density reduces VMT 4%, increases walking and transit usage 7%
 - Doubling of commercial density increases walking 7%
- **Diversity:**
 - Doubling diversity of land uses, aka "Entropy" score within one mile (0-1 score) yields -9% VMT, +15% walking, +12% transit (twice as influential as housing density)
 - Doubling ratio of jobs to housing (i.e. 0.5 to 1) yields -2% VMT, +19% walking (significant impact on walking, less so on VMT)
- **Design:**
 - Intersection density important, but measures of connectivity (% 4-way intersections) have a compounding influence; doubling intersection density yields -12% VMT, +30% increase in walking. Most influential predictor of walking.
- **Destinations**
 - Employment within 1 mile, employment within 20 and 30 minutes by auto, and employment within 30 minutes by transit: most influential variable on VMT (four times as powerful as housing density)

¹⁵ Ewing, Tan, Goates, Zhang, Greenwald, Joyce, Kircher, and Greene (2014) Varying influences of the built environment on household travel in 15 diverse regions of the United States, *Urban Studies* 1-19.

Transportation Demand Management

Transportation demand management (TDM) strategies focus on changing travel behavior - trip rates, trip length, travel mode, time-of-day, etc. - generally in order to reduce traffic during congested (peak) periods. TDM strategies generally focus on reducing travel in light-duty vehicles (automobiles and light-duty trucks). The Federal Highway Administration has conducted studies that demonstrate the effectiveness of various TDM strategies.¹⁶

TDM programs can include such strategies as:

- improved access to public transit (i.e. free passes, shuttle vans),
- work from home programs,
- shared ride services,
- improved pedestrian/bicycle facilities, and
- flexible work schedules

Currently, the city contracts with Commute Options for implementing a volunteer TDM program (Drive Less Connect), which includes education and outreach about transportation options such as walking, biking, and includes a ridesharing matching tool. Commute Options directs its efforts toward larger employers, and currently has approximately 50 businesses in Bend participating. In addition, Cascades East Transit and Commute Options offer a group bus pass program..

An expanded TDM program, such as the Commute Trip Reduction Program directed by the Washington Department of Transportation¹⁷, specifically directed toward larger employers, could be an effective VMT reduction tool, particularly for peak travel times.

Parking

The supply and use of parking are influenced by — and have influences on — development practices, local policies, economic impacts on builders and households, and community goals. The supply and price of parking also have direct relationships with travel behavior. Too much parking correlates with more automobile ownership, more vehicle miles traveled, more congestion, and higher housing costs. In addition, excess parking presents barriers to smart growth and efficient transit service. Parking supply and pricing often have a direct impact on the ability to create compact, healthy communities.¹⁸

VMT has been demonstrated to be strongly related to measures of accessibility to destinations, particularly the supply of parking.¹⁹ Parking strategies such as parking management, pricing, and establishing maximums, combined with mode split goals tend to decrease VMT. Parking strategies can be particularly effective when used in specific areas, such as downtowns or complete neighborhoods. In addition, working towards a balance in parking supply allows

¹⁶ http://www.fhwa.dot.gov/environment/air_quality/conformity/research/mpe_benefits/mpe03.cfm

¹⁷ <http://www.wsdot.wa.gov/transit/ctr>

¹⁸ Urban Land Institute Northwest, "Right Size Parking," 2013

greater efficiency in land use, since excess land is not dedicated to parking. Opportunities for increased diversity and density for housing and retail use are increased when parking supply are sized correctly to fit the actual need.

The City of Bend is embarking on a city-wide parking study, beginning in the fall of 2015. Both the MPO and the city are required to comply with Transportation Planning Rule (TPR) OAR 660-012-0045(5)(c), which requires the development of a parking plan that would result in a city-wide 10% reduction of per capita parking spaces, among other tools. Currently, neither the MPO nor the City has a citywide parking plan. This project will create new policies and code language that will result in parking programs to support Bend's goals for a livable and economically healthy city.

Transit

A solid transit system can be a powerful tool for reducing VMT by offering a viable alternative to automobile use. The “D” factors discussed above have been demonstrated to increase transit use.²⁰ Enhanced transit service such as decreased headways, system improvements such as installing bus only lanes at intersections and improving pedestrian access increases transit use. Focusing these efforts along transit corridors and between identified destinations such as large employment centers and commercial districts is also effective.

The City of Bend has a long range transit plan that will improve service. The long range transit plan includes a mix of service improvements:

- 1) Add one hour of new service in the morning from 5-6 am (60 minute service during that extra hour)
- 2) Add two hours of new service in the evening from 8-10 pm (would be 60 minute service)
- 3) Extending Saturday service to operate from 7 am to 7 pm (30 or 60 minute service depending on route) – service today is roughly 8 am – 5 pm with 60 minute service
- 4) Add Sunday service from 8 am – 5 pm (currently only limited dial-a-ride service on Sundays)
- 5) Add a new route that would provide service to part of the Butler/Brinson/Empire business area as well as Juniper Ridge
- 6) Decrease headways to 15 minutes during peak periods (6-9 am and 3-6 pm) on primary routes (3rd Street, Greenwood, Brookwood, Galveston, possibly others). During non-peak hours, those routes would operate on 30 minute headways.

¹⁹ Ewing R, Cervero R. (2010). Travel and the built environment. Journal of the American Planning Association 76(3): 265–294.

²⁰ Moudon E, Stewart O. (June 2013). Tools for Estimating VMT Reductions from Built Environment Changes. Washington State Department of Transportation.

- 7) Decrease headways on non-primary routes to 30 minutes during peak periods and either 30 or 60 minute headways during non-peak periods.

The plan estimated the mid-term improvements (the changes in service that went into effect Sept 21, 2015) to have an annual operating cost of about \$2.4 million.

The plan estimated the long-term improvements to have an annual operating cost of about \$5.7 million.

Beyond the improvements identified in the long-range plan, new routes may be needed in SE Bend and north Bend. Other ideas that need more work include developing new routes that don't go to the transit center and developing additional transit centers. Example – a route from COCC to St Charles. It would have stops that link to other buses so riders could get to the transit station if necessary. There are no cost estimates for these types of improvements.

The most ambitious and expensive transit plan would include planning, design and construction of a bus rapid transit system along major transit corridors.

Road and System Improvements that Influence Walking and Biking

Walking, bicycling, and transit use are increased with street and safety projects such as the addition of bike lanes, buffered bike lanes, bicycle boulevards, and enhanced pedestrian crossings²¹.

The City of Bend has a program for identifying pedestrian and bicycle improvement priorities²². There are \$3-5 million for design and construction of pedestrian improvement projects in the current Capital Improvement Program. The City has a list of top priority safety crossing projects, walking and bicycling corridors, and bicycling and walking structures. These projects have been identified but not yet funded.

Additional projects will be identified as part of the design work for the Opportunity Areas within the existing UGB. These will likely include such projects as intersection improvements, street designs that include buffered bikeways, and sidewalk infills to increase access to transit.

VMT AND BEND'S URBAN FORM

The urban form studies done previously in the project illustrate where many of the key variables identified above are present in Bend today, including density, connectivity, access to destinations / completeness, and access to transit. In addition, the scenario evaluations included analysis of many of these indicators for the future urban form expressed in the scenarios. A selection maps and urban form diagrams that illustrates where these conditions are present within the current UGB is attached to this memorandum. Reducing VMT may be

²¹ Moudon E, Stewart O. (June 2013). Tools for Estimating VMT Reductions from Built Environment Changes. Washington State Department of Transportation.

²² See "Safety Implementation Project" 2014; "2015-2025 Strategic Implementation Plan for Walking and Biking"

achieved by focusing growth to areas that already have the necessary conditions to support reduced reliance on the automobile, and/or improving conditions in areas that lack one or more of the “D”s and also have vacant land or infill/redevelopment opportunities

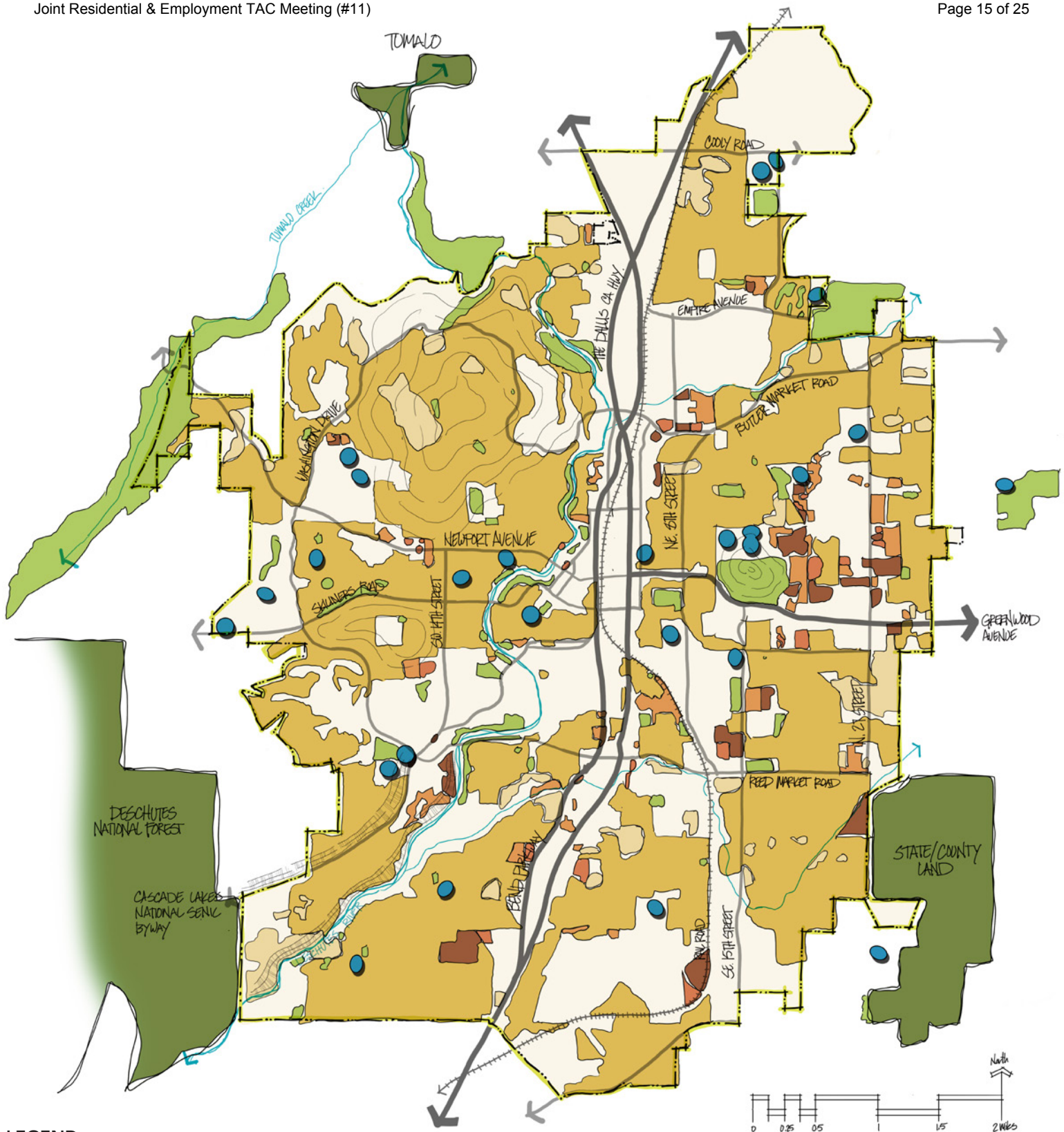
VMT REDUCTION STRATEGIES FOR INITIAL TESTING

The project team has identified a set of land use and transportation strategies for initial testing, including:

- increasing intensity and mix of uses in key central commercial areas;
- increasing connectivity in new master-planned neighborhoods by reducing maximum block size;
- expanding transit service and shortening headways to 15 minutes on primary transit corridors;
- designating major transit stops and stations on land use plans;
- installing transit enhancements such as exclusive transit lanes at intersections or on streets that support transit such as Hawthorne Station streets;
- implementing transportation demand management programs that are voluntary and regulatory (e.g. parking management, employer-provided transit passes, ridesharing programs, etc.) at major institutions such as Oregon State University (OSU), Central Oregon Community College (COCC), and St. Charles Medical Center;
- charging for parking downtown;
- implementing the bike, safety and pedestrian priority system improvements that increase walking, biking and transit mode splits such as bike boulevards, streetscapes in land use opportunity areas, and multi modal bridges across the Bend Parkway; and
- restricting access to the Bend Parkway.

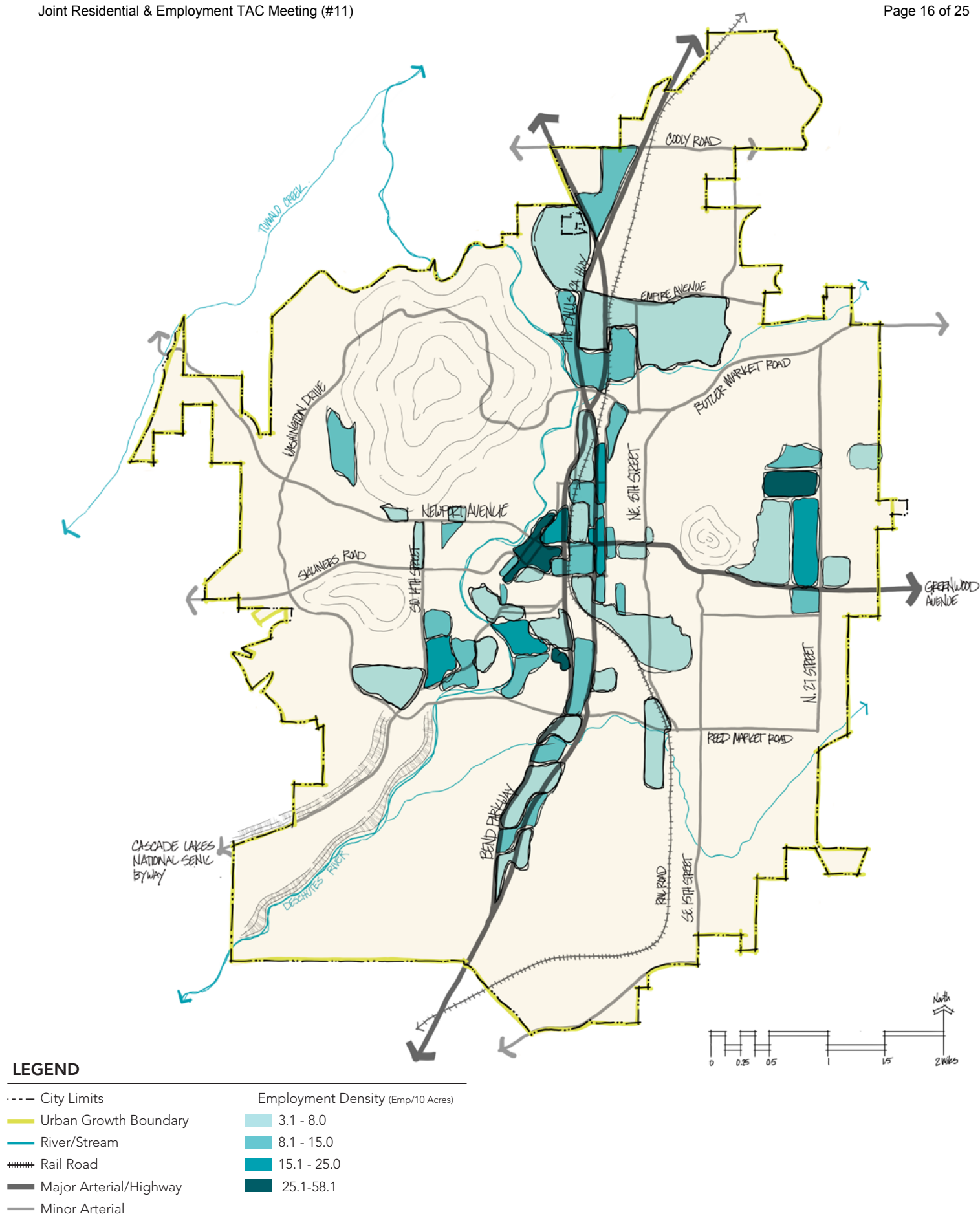
The available models are imperfect and can’t directly estimate the impact of all the strategies listed above. Some of these changes (e.g. land use and connectivity) can be modeled using Envision Tomorrow and its affiliated transportation analysis tool; others will be evaluated through informal testing using the regional Travel Demand Model, using assumptions about their impact on trip-making and travel behavior in certain areas.

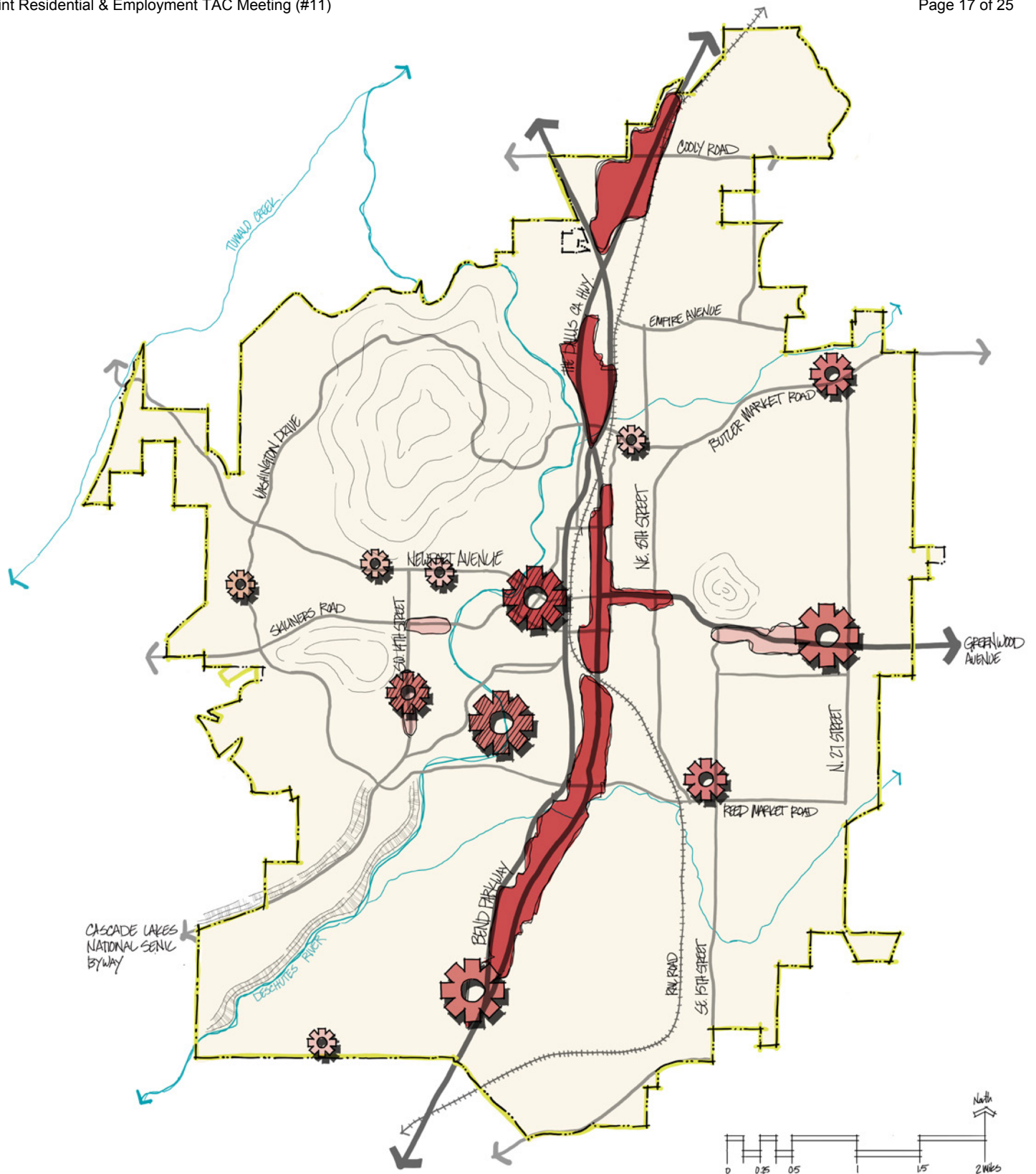
The project team is in the process of testing the impacts of these strategies, and will report on details of the potential changes and results at the Joint Residential and Employment TAC meeting on October 7th. The TACs will be asked to provide feedback on the land use strategies in particular -- whether the strategies are reasonable policy outcomes to work toward, and whether/to what degree the market is ready to implement them now or in the long-term.



LEGEND

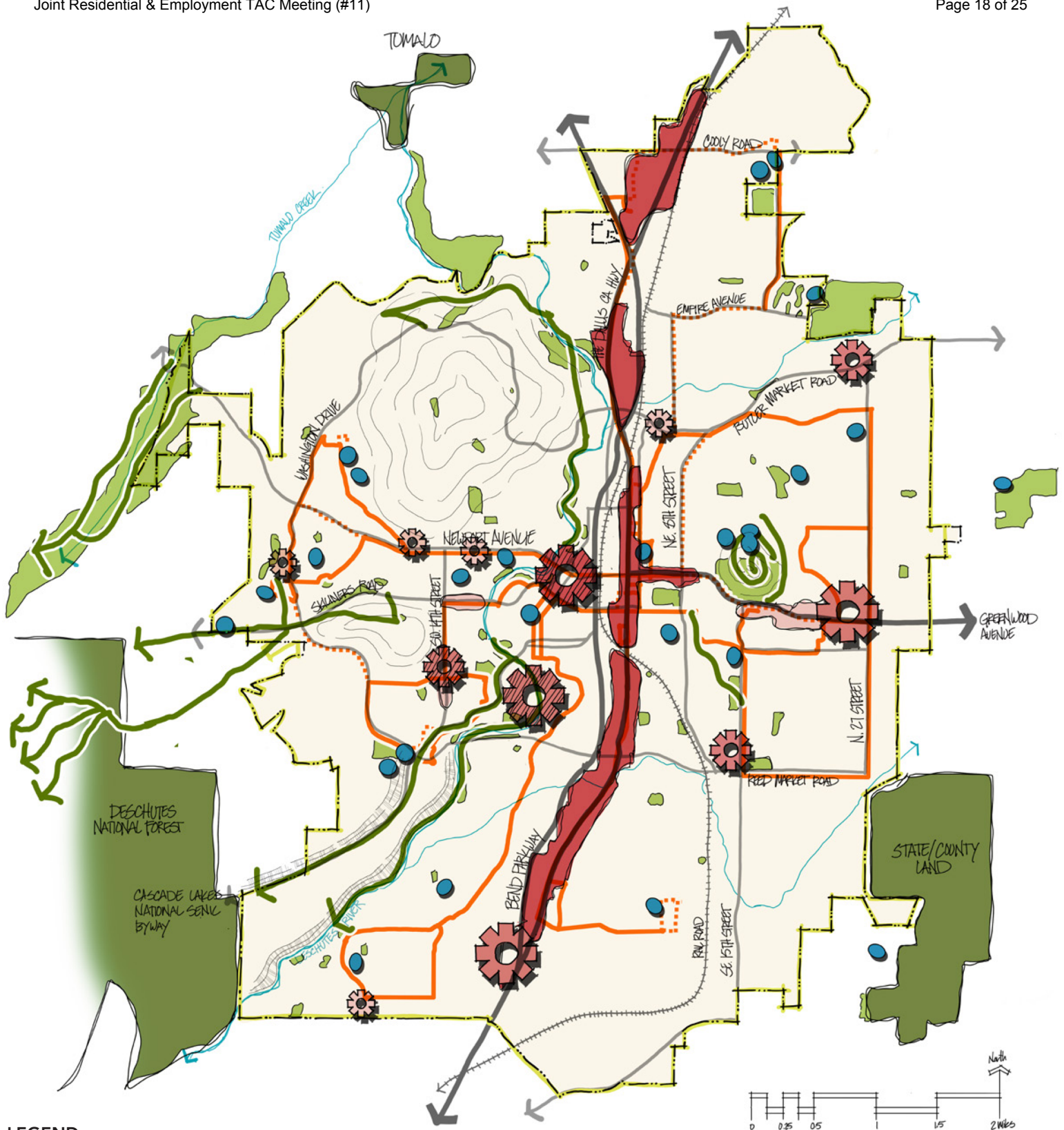
--- City Limits	Single Family Residential
Urban Growth Boundary	Lot Size > 1 Acre
River/Stream	Lot Size < 1 Acre
Rail Road	Multi-Family Residential
Major Arterial/Highway	Up to 6 units
Minor Arterial	7-49 units
Park/Open Space	50-204 units
Schools	





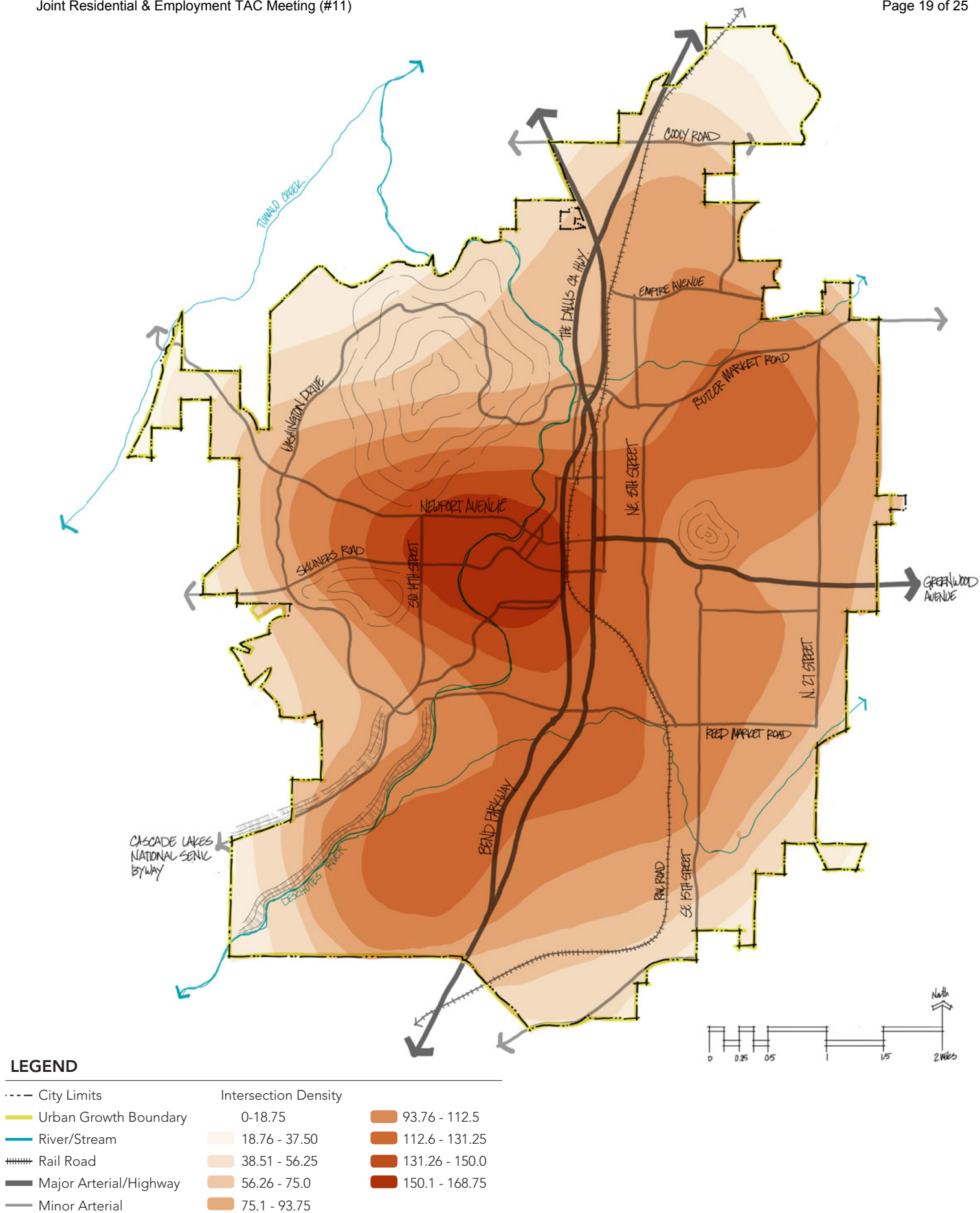
LEGEND

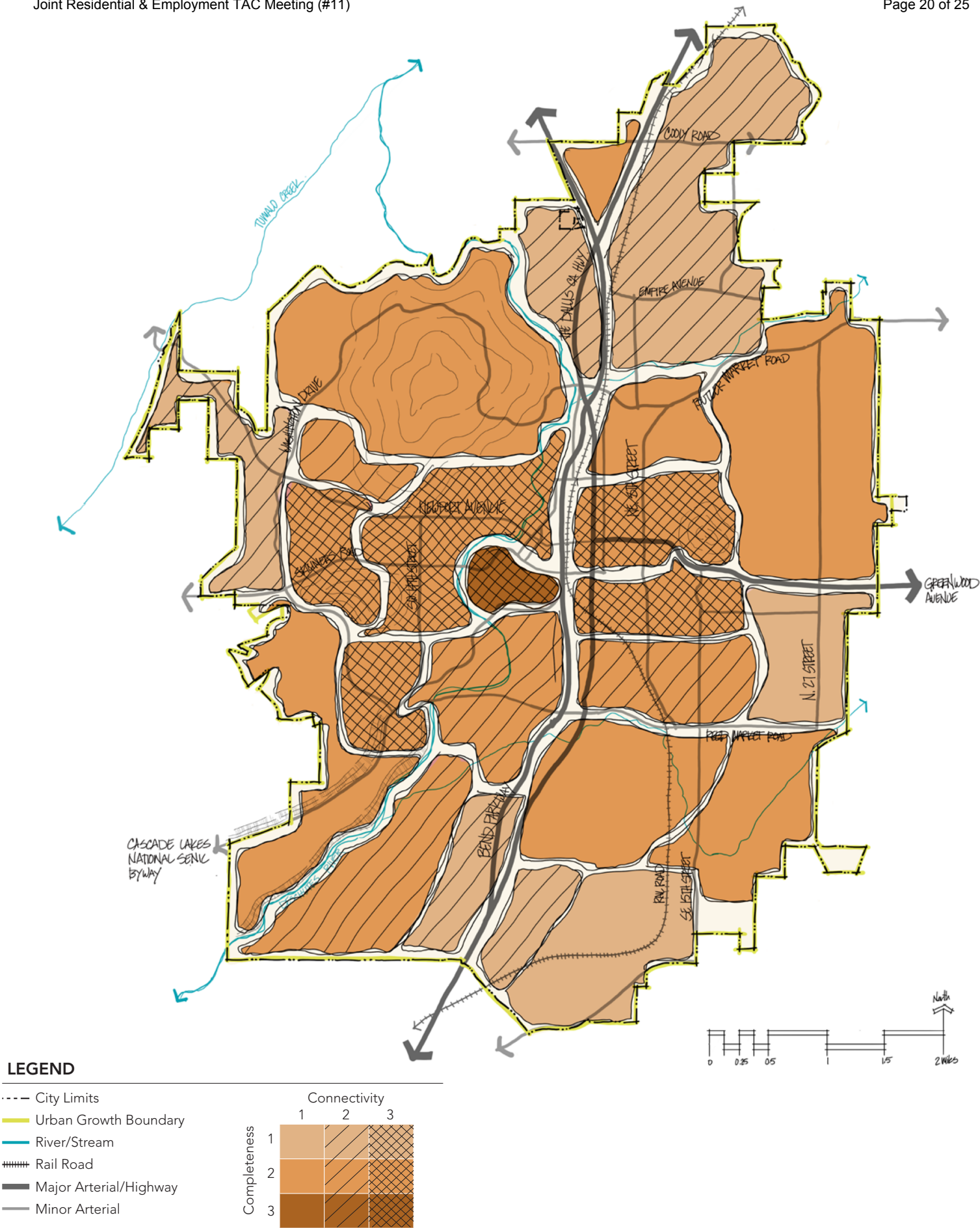
--- City Limits	Commercial Centers	Auto Oriented
Urban Growth Boundary	Regional Serving	Pedestrian Oriented
River/Stream	Community Serving	
Rail Road	Local Serving	
Major Arterial/Highway	Commercial Corridors	
Minor Arterial	Regional Serving	
	Community Serving	
	Local Serving	



LEGEND

- | | |
|------------------------|----------------------|
| --- City Limits | Commercial Centers |
| Urban Growth Boundary | Regional Serving |
| River/Stream | Community Serving |
| Rail Road | Local Serving |
| Major Arterial/Highway | Commercial Corridors |
| Minor Arterial | Regional Serving |
| Recreation Trail | Community Serving |
| Public Transit | Local Serving |
| Park/Open Space | Auto Oriented |
| Schools | Pedestrian Oriented |

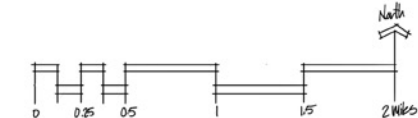
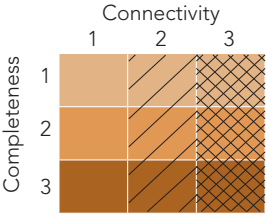




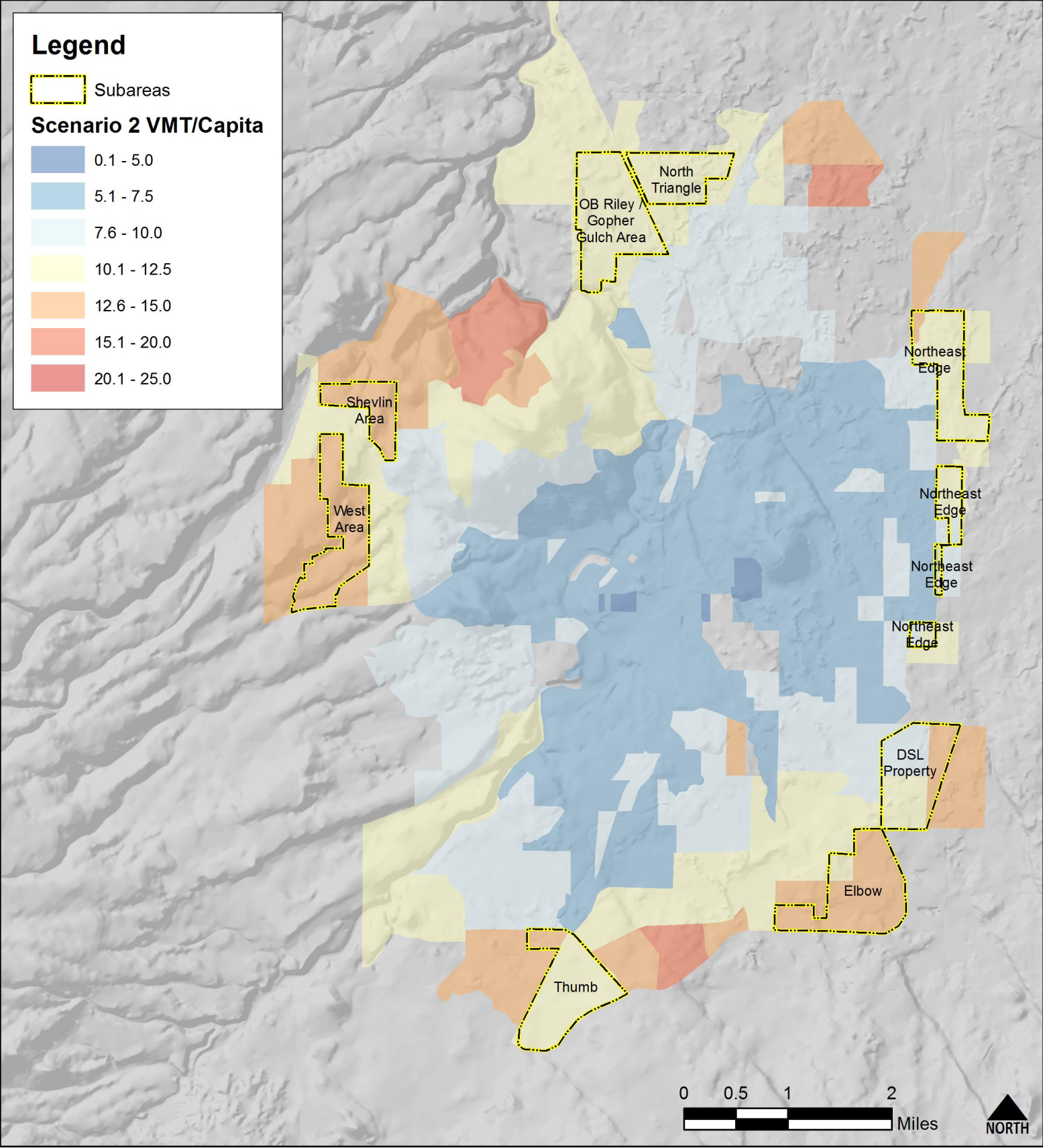


LEGEND

- City Limits
- Urban Growth Boundary
- River/Stream
- Rail Road
- Major Arterial/Highway
- Minor Arterial
- Recreation Trail
- Public Transit
- Park/Open Space
- Schools







Disclaimer: This map represents land use assumptions for modeling purposes only. This is not a proposal for specific comprehensive plan designations.

Service Layer Credits: Deschutes County GIS (2014)



Scenario 2: Pedestrian and Bicycle Barriers

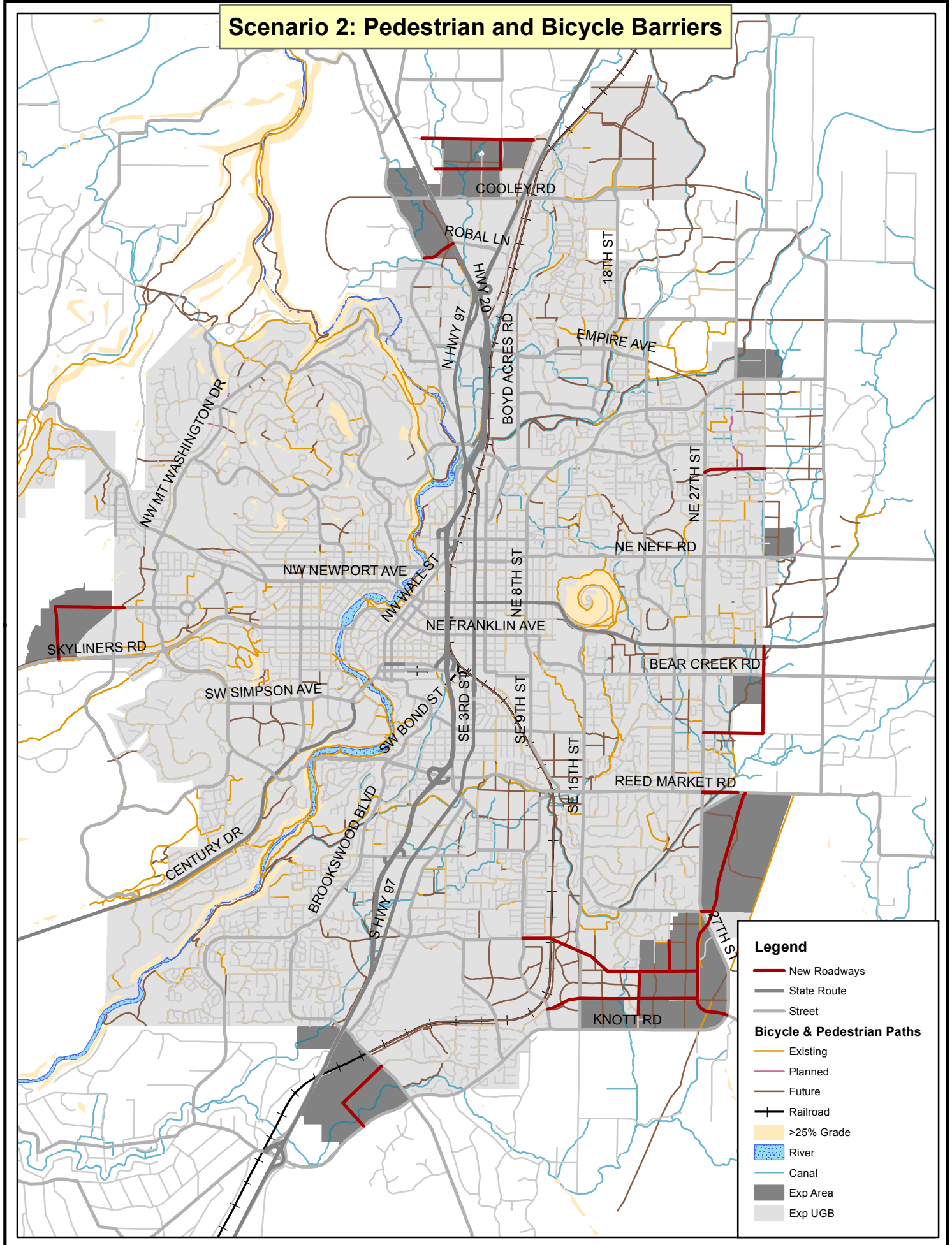
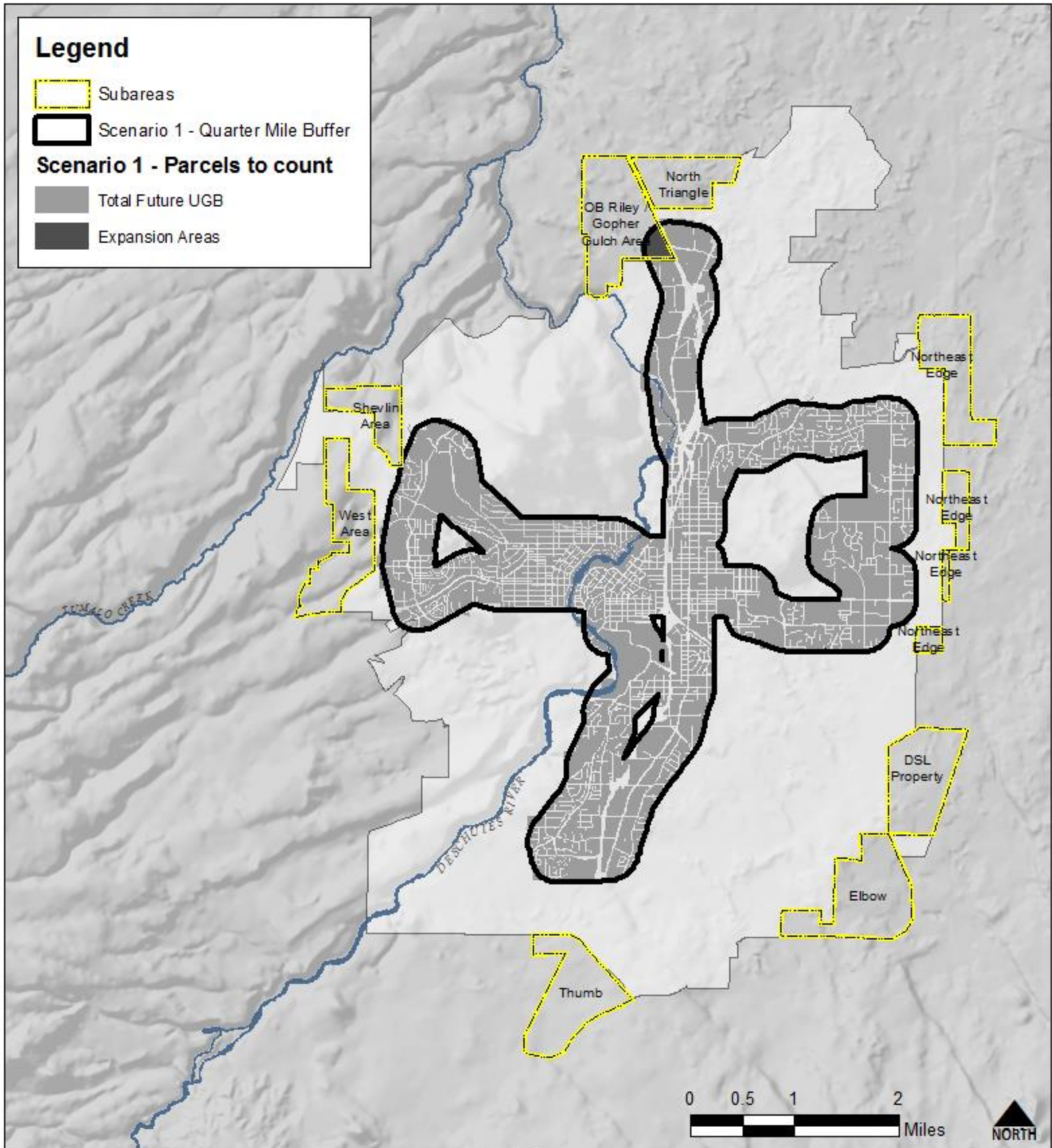


Figure 57

Bend UGB Remand Project

Walking Distance to Transit Corridors

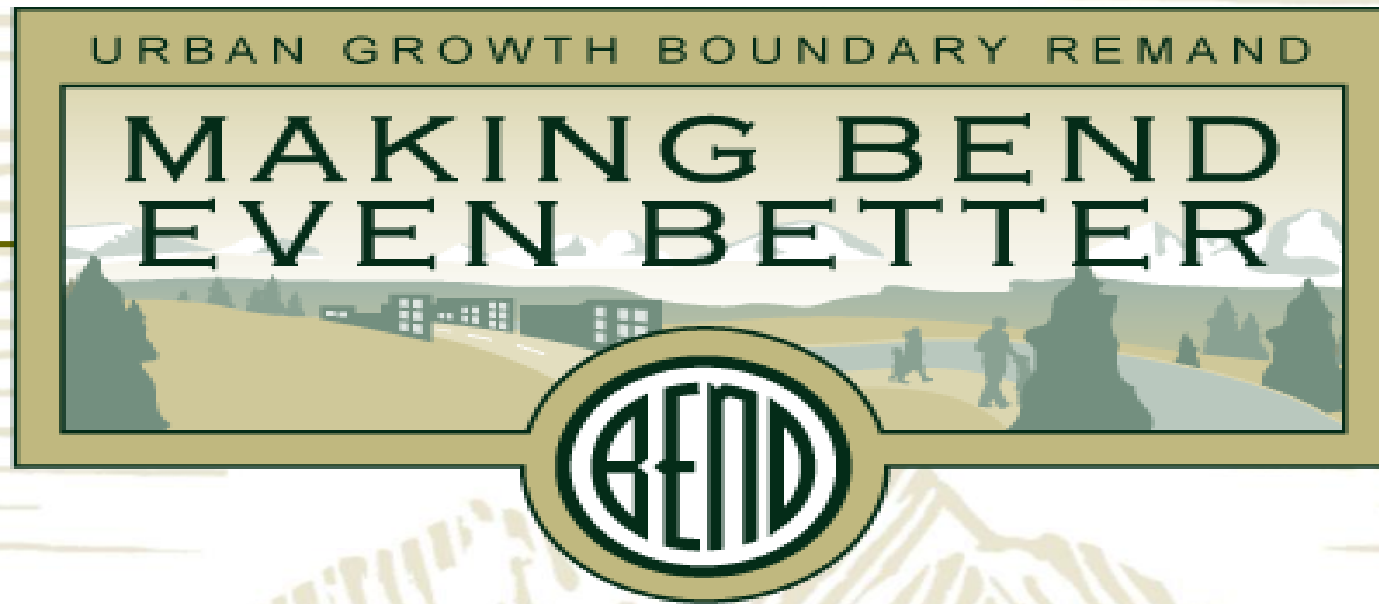
Prepared 9/21/2015



Disclaimer: This map represents land use assumptions for modeling purposes only. This is not a proposal for specific comprehensive plan designations.

Service Layer Credits: Deschutes County GIS (2014)





ILUTP

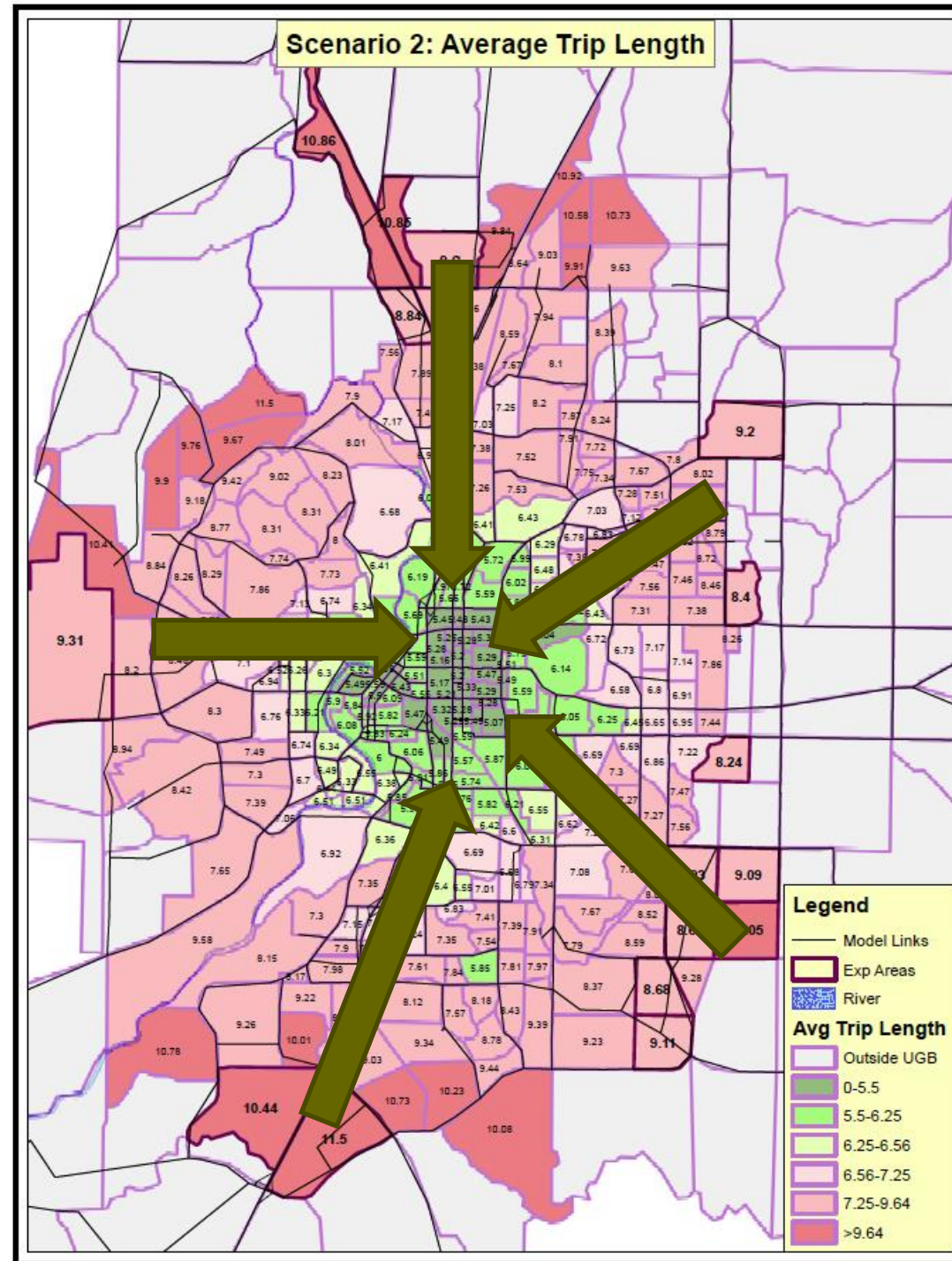
Land Use & Transportation Changes

Alex Joyce - Fregonese Associates Inc.

10/07/15

General Philosophy

- Reallocate growth from high VMT areas to Low VMT areas
 - *From “red areas to green areas”*
- Primary focus:
 - Multifamily
 - Creative office and industrial (“maker space”)



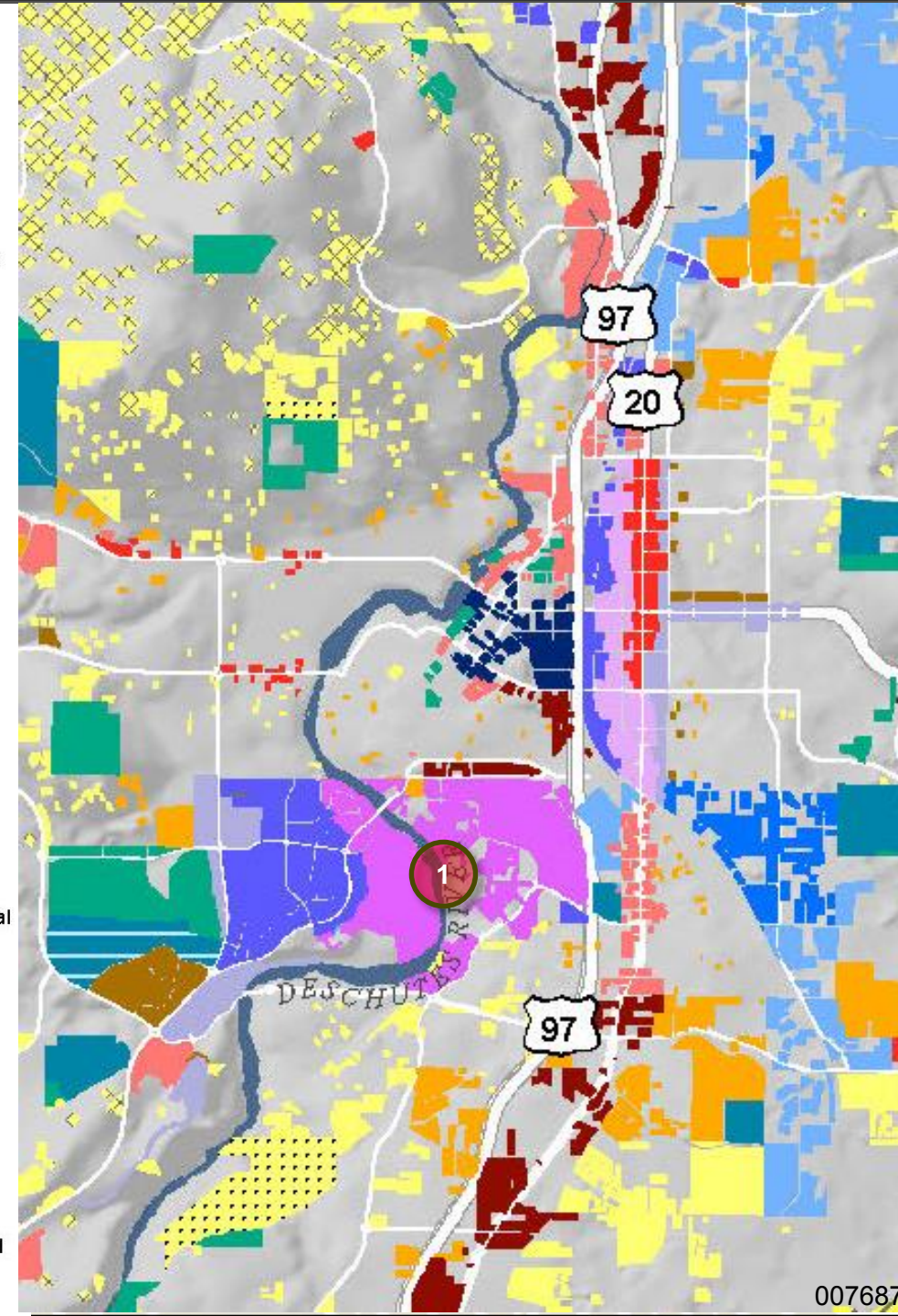
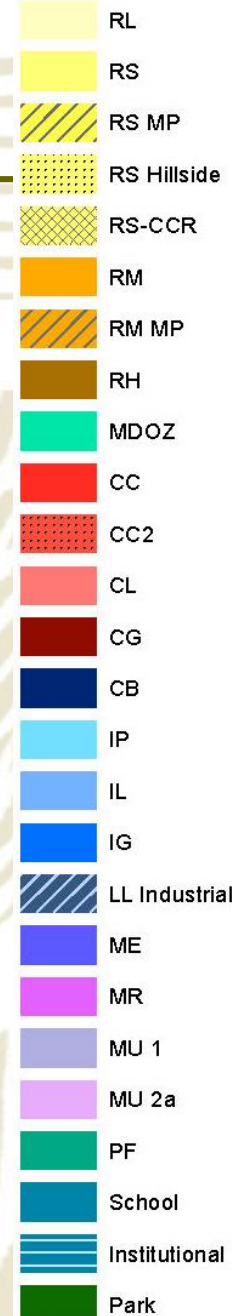
Proposed Land Use Changes for ILUTP

#1: Old Mill District

- **Today:** Mixed Riverfront (MR) Plan designation
 - Height: 35' max, except with variance
 - Allows single family and multifamily housing outright
 - Allows office, manufacturing, small- to medium-scale retail, etc.
- **Scenarios:** Mixed Riverfront (MR) Development Type
 - Primarily office with some retail and industrial
 - Small amount of single family and multifamily housing
 - 1-3 story buildings
- **ILUTP test:** MU-1 (Neighborhood Mixed Use) Development Type
 - Mix of retail and office, multifamily housing, some single family attached
 - Up to 4 story buildings

Dev Types

Scenario 1



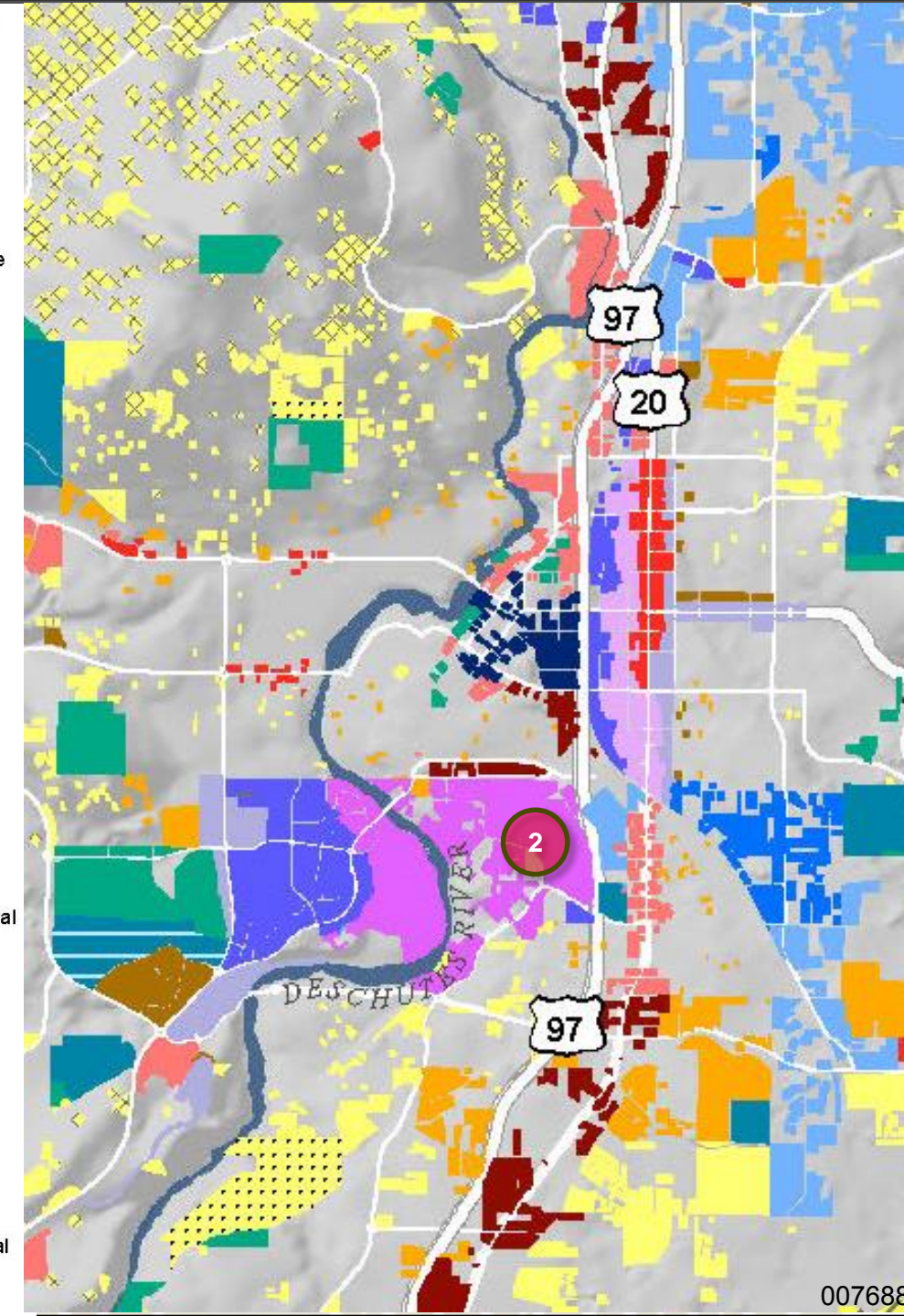
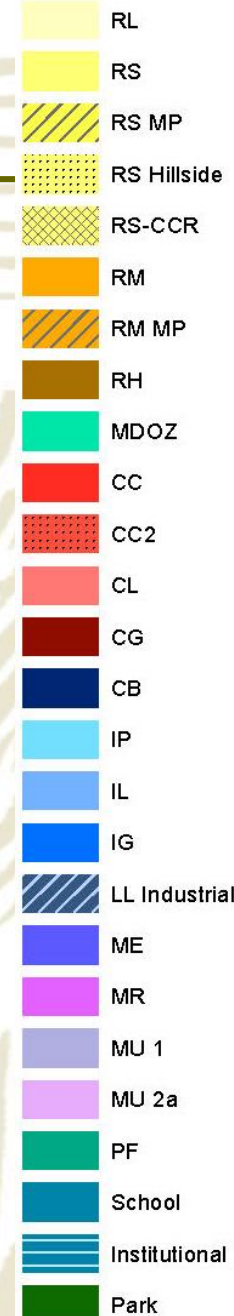
Proposed Land Use Changes for ILUTP

#2: Core Pine

- **Today:** Light Industrial (IL) Plan designation
 - Height: 50' max, except with variance
 - Prohibits nearly all residential
 - Allows a range of industrial & manufacturing, limited office, very limited retail
- **Scenarios:** Mixed Riverfront (MR) Development Type
 - Primarily office with some retail and industrial
 - Small amount of single family and multifamily housing
 - 1-3 story buildings
- **ILUTP test:** MU-2a (Urban Mixed Use) Development Type
 - Mix of retail and office, multifamily housing, some single family attached
 - Up to 5 story buildings

Dev Types

Scenario 1



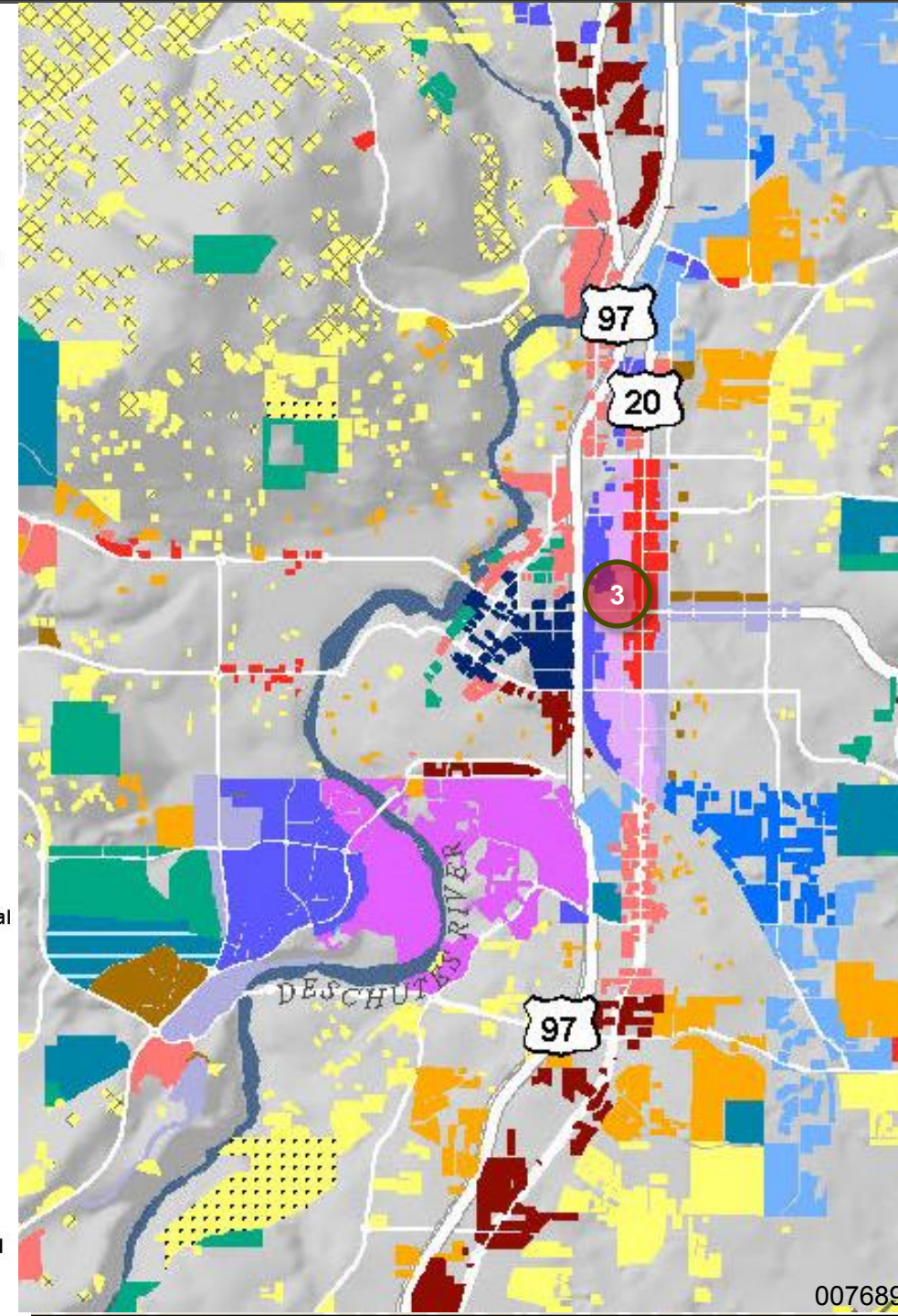
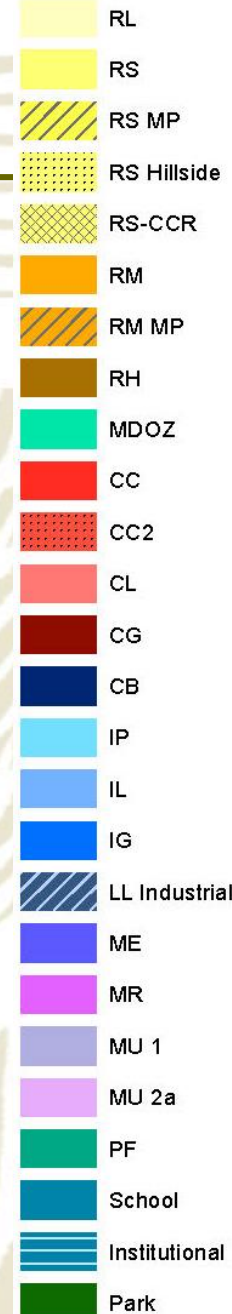
Proposed Land Use Changes for ILUTP

#3: Central Area Plan

- **Today:** Mixed Employment (ME) and Limited Commercial (CL) Plan designations
 - Height: 45'-55'
 - Residential allowed as secondary use / part of mixed use
 - Allow office, auto-dependent retail, some manufacturing and industrial
- **Scenarios:** follows CAP land uses
 - roughly: ME along 1st, MU2a along 2nd, CC along 3rd, MU1 along 4th
 - Up to 5 story buildings along 2nd, lower elsewhere
- **ILUTP test:** Replace CC along 3rd with MU2a and ME along 1st with Urban Industrial / Maker Space

Dev Types

Scenario 1



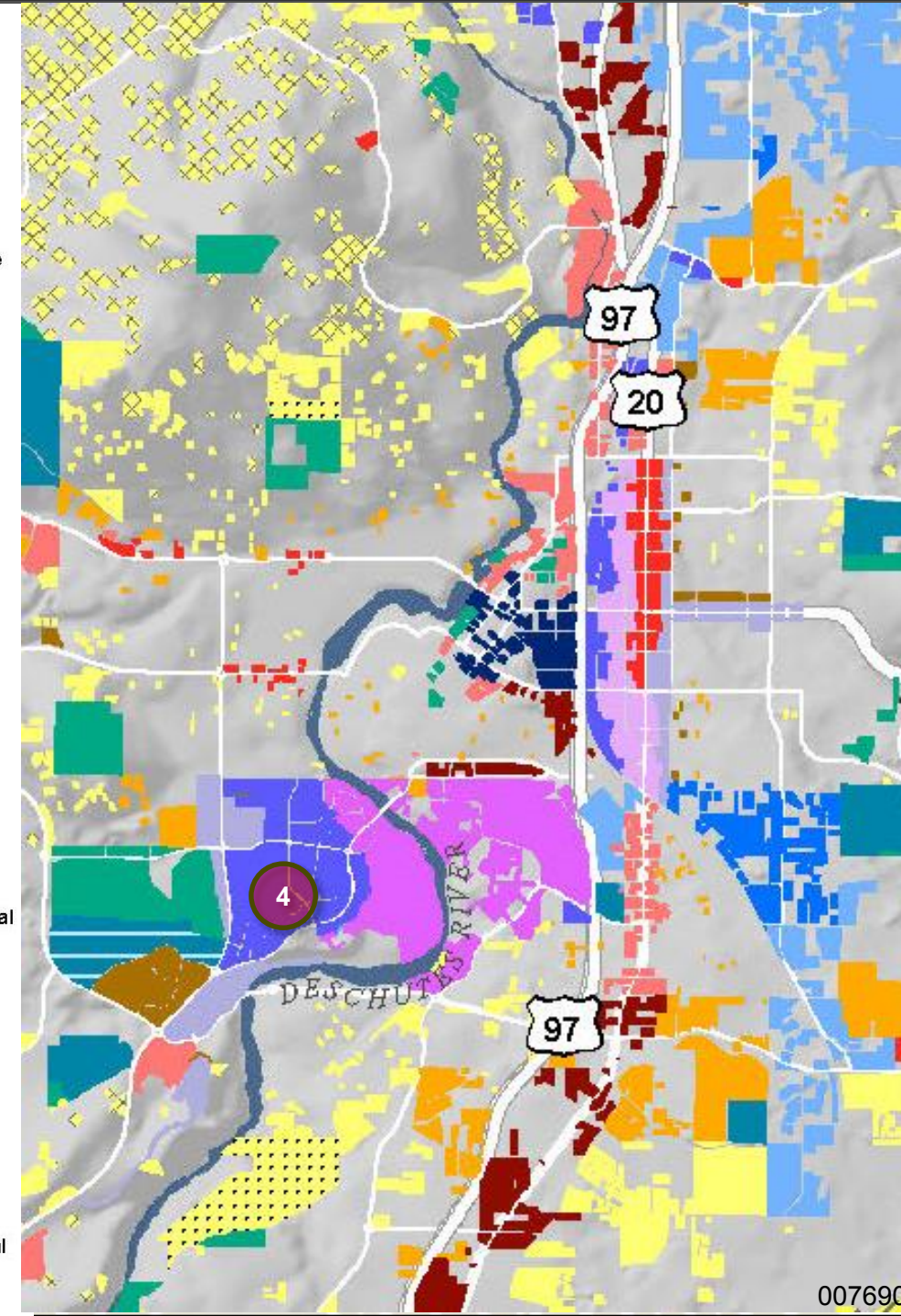
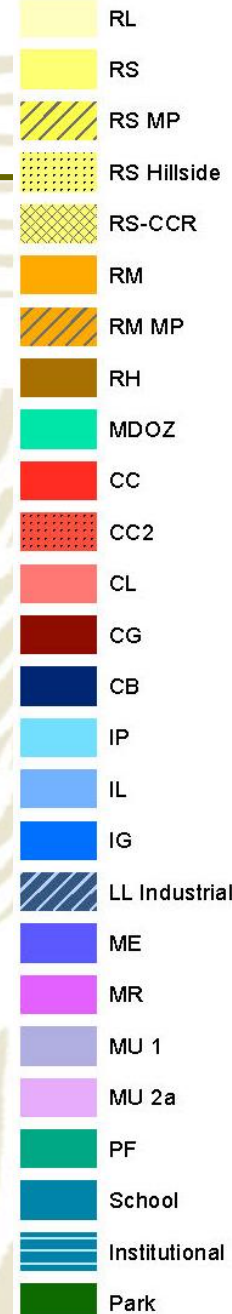
Proposed Land Use Changes for ILUTP

#4: Central Westside

- **Today:** Community Commercial (CC), General Commercial (CG) along Century; Light Industrial (IL) and Mixed Employment (ME) west of Colorado; and Limited Commercial (CL) north of Mt. Washington
 - Height: 35'-55' (varies by zone)
 - Residential allowed as secondary use / part of mixed use in some areas, prohibited in others
 - Allow office, auto-dependent retail, manufacturing and industrial
- **Scenarios:** MU1 along Century; ME west of Colorado; some RH north of Mt. Washington
- **ILUTP test:** MU2a west of Colorado (otherwise same as scenarios)

Dev Types

Scenario 1



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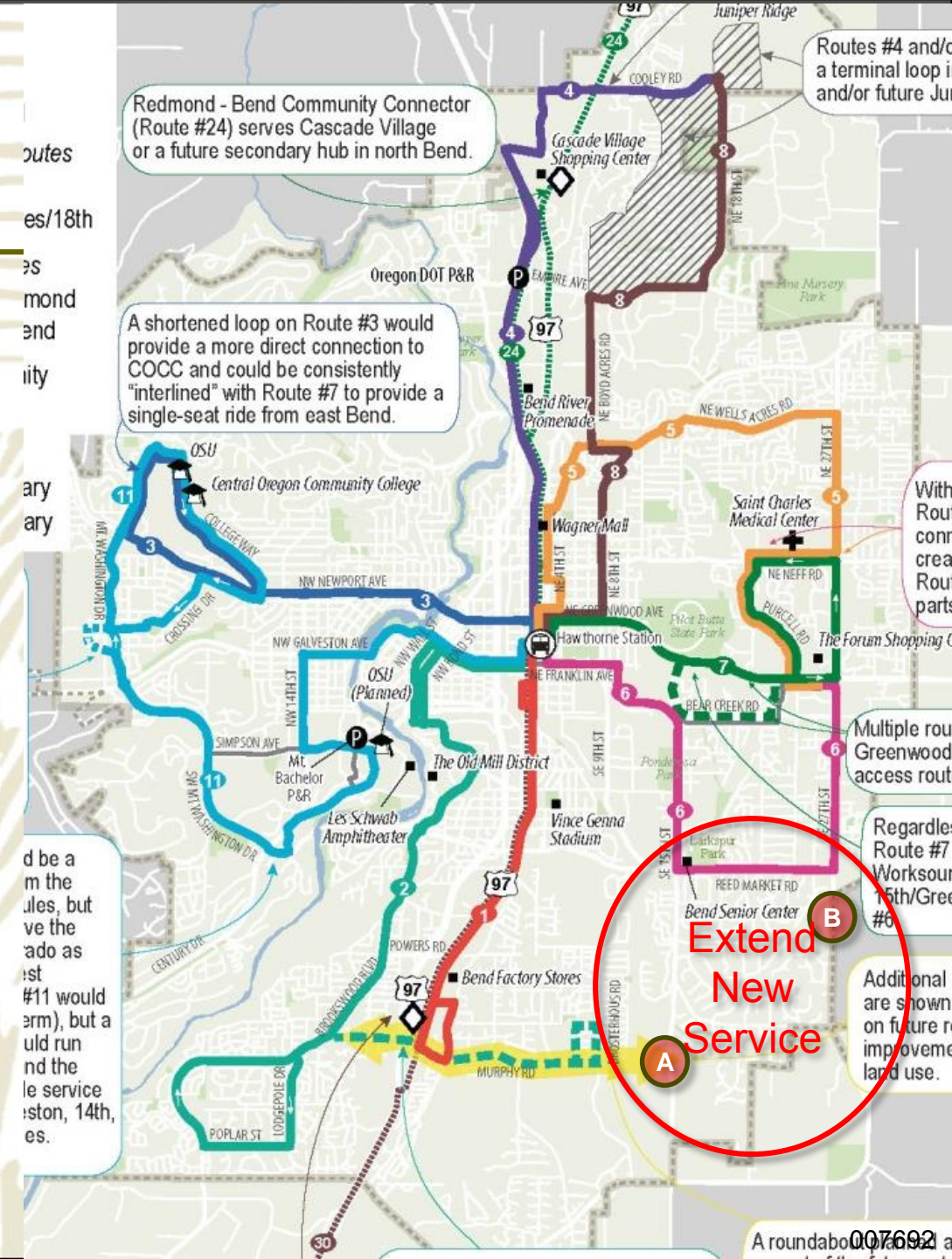
Transportation Changes

Transit

- Use mid- to long-range service concept as starting point
- Increase priority transit corridor bus frequency by reducing headways to 15 minutes
- Additional route options
 - A. Murphy / 15th Ave
 - B. 27th Ave extension

Street Connectivity

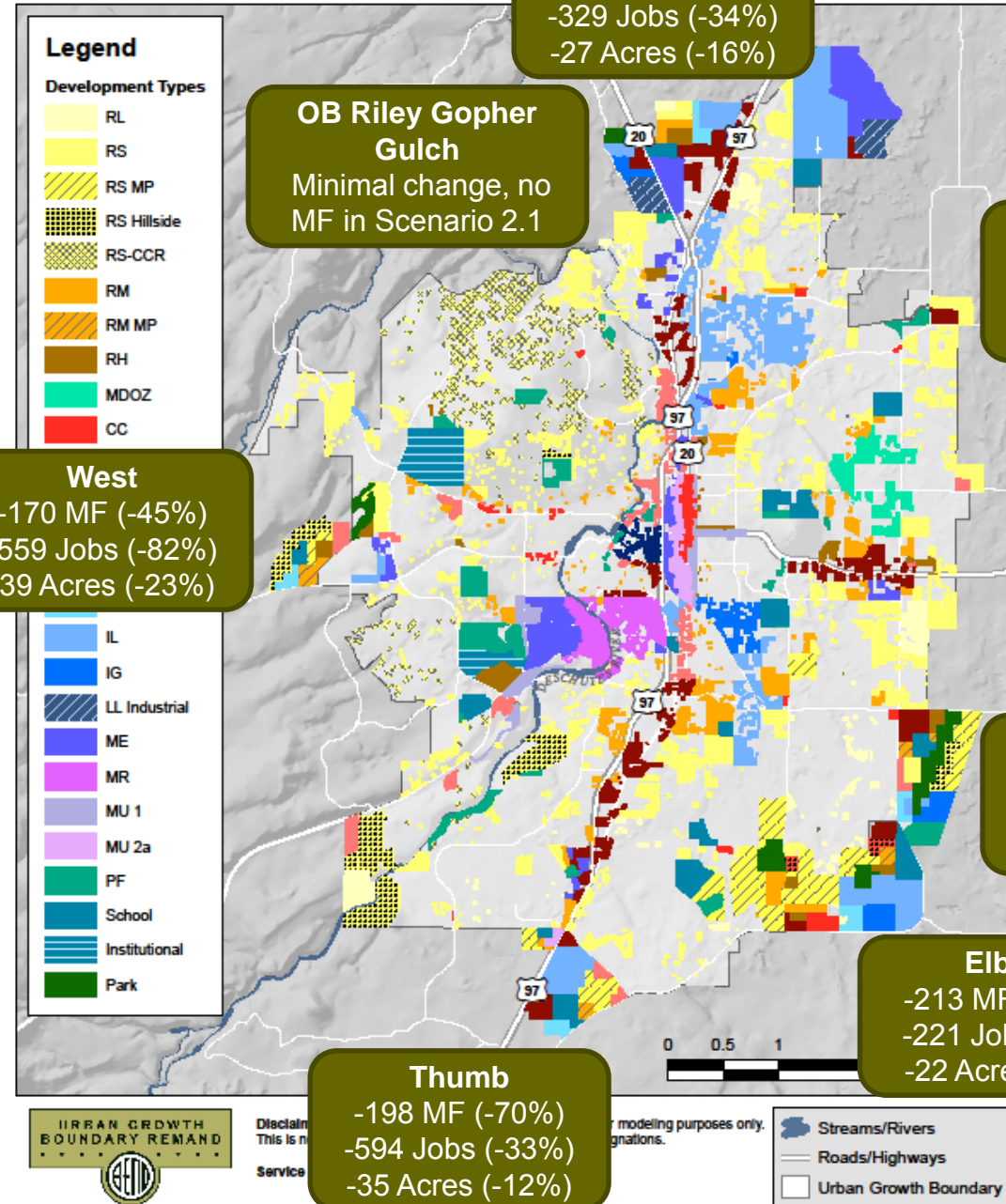
- Increase street connectivity (intersection densities) in master planned areas
- Increase walkability



Reductions in Expansion Subareas

- Generally: MU1 removed or converted to CC2; RH removed
- MU1 is a modest density, vertical mixed-use place type, that contains apartments, retail and mixed-use
- CC2 is a walkable retail and office place type -- residential uses generally surround those areas, so would be “horizontal mixed-use”

Bend UGB Scenario 2.1



Changes to Expansion Areas



Expansion Area - Subareas	Total Acres				MF				OFF				IND			
	Pre	Post	Diff	% Change	Pre	Post	Diff	% Change	Pre	Post	Diff	% Change	Pre	Post	Diff	% Change
DSL Property	362	333	(29)	-8%	369	170	(198)	-54%	530	336	(194)	-37%	677	498	(178)	-26%
Elbow	427	405	(22)	-5%	452	239	(213)	-47%	830	646	(184)	-22%	1,086	916	(169)	-16%
North Triangle	172	145	(27)	-16%	346	162	(184)	-53%	319	157	(163)	-51%	502	274	(228)	-46%
Northeast Edge	114	108	(6)	-5%	75	68	(7)	-10%	93	50	(43)	-46%	15	8	(7)	-44%
OB Riley Gopher Gulch	120	116	(4)	-4%	6	8	2	25%	143	137	(6)	-4%	260	263	3	1%
Thumb	289	254	(35)	-12%	282	84	(198)	-70%	634	288	(347)	-55%	735	532	(203)	-28%
West	171	132	(39)	-23%	373	204	(170)	-45%	324	50	(274)	-85%	241	2	(239)	-99%
Total	1,656	1,495	(161)	-10%	1,904	934	(969)	-51%	2,874	1,663	(1,211)	-42%	3,515	2,493	(1,022)	-29%



Opportunity Areas	Total Acres				MF				OFF				IND			
	Pre	Post	Diff	% Change	Pre	Post	Diff	% Change	Pre	Post	Diff	% Change	Pre	Post	Diff	% Change
Central District Mixed-Use Multimodal Area (MMA)	137	129	(8)	-6%	534	571	37	7%	349	379	29	8%	13	47	34	267%
Central Highway 20	19	19	-	0%	35	51	16	45%	40	16	(24)	-60%	-	-	-	-
COID Property	90	90	-	0%	24	21	(2)	-10%	6	6	-	0%	-	-	-	-
East Downtown	8	8	-	0%	-	25	25	-	181	102	(79)	-44%	-	-	-	-
Juniper Ridge	219	219	-	0%	5	6	1	25%	488	1,121	633	130%	677	873	196	29%
Mill District/Core Pine	61	61	-	0%	11	367	357	3247%	68	202	134	198%	12	1	(11)	-90%
River Edge	69	69	-	0%	21	19	(2)	-10%	1	1	-	0%	-	-	-	-
SE 15th St	274	274	-	0%	295	236	(59)	-20%	61	56	(6)	-9%	-	-	-	-
SW Century Drive	138	103	(36)	-26%	310	780	470	151%	313	404	91	29%	94	14	(79)	-85%
Total	1,016	973	(43)	-4%	1,235	2,077	842	68%	1,508	2,287	779	52%	795	936	140	18%

Big Picture Shifts



Acres:

- 161 fewer acres developed in expansion areas (-10%)
- No new acres “painted” in Opportunity Areas
 - Increased capacity assumed on existing “painted” lands (i.e.- up-zone)

Housing and Jobs:

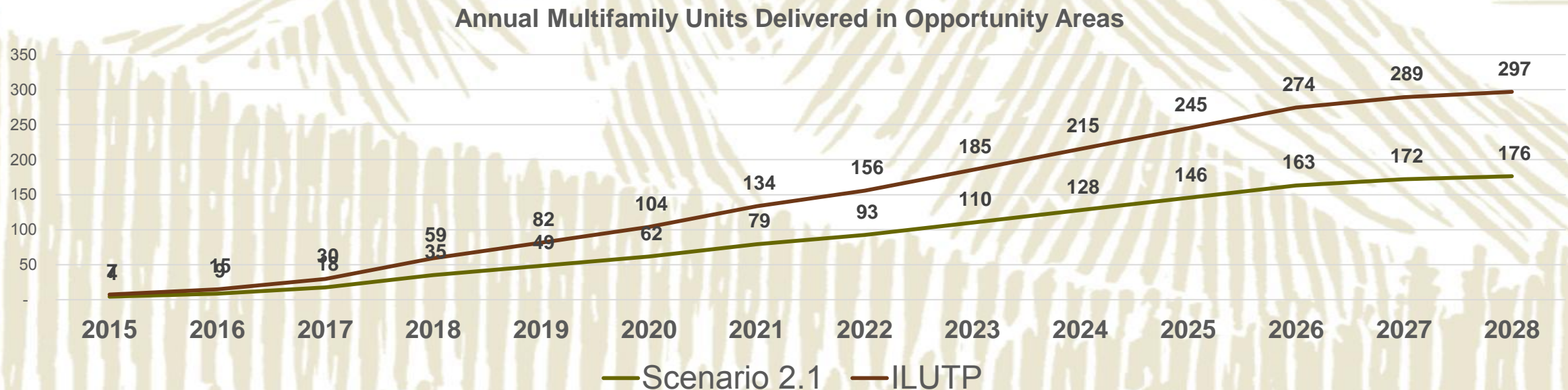
- 1,000 MF units shifted to green areas (53%)
 - 1,900 multifamily units currently assumed in expansion areas
- 1,000 industrial jobs shifted
 - New place type created; 1 and 2 story flex employment (i.e.- “maker space,” for tech, light fabrication, brewing, etc.)
- 1,200 office jobs shifted
 - Office jobs increased in new and up-zoned mixed-use areas

Expansion Area Housing Mix			
Scenario	SF	TH	MF
ILUTP	52%	15%	33%
Scenario 2.1	40%	14%	46%

How to Think About the Magnitude



- 1,235 vs. 2,077 **OR** 88 vs. 148 units per year on average
- Typical single site, urban apartments have 20-40 units
 - 1-2 additional apartments or mixed-use buildings annually compared to Scenario 2.1?
- Hypothetical annual MF unit pipeline in Opportunity Areas (2015 – 2028)





1,500 new apartments on the way in Bend

Apartment-building boom might be coming

By [Joseph Ditzler](#) / The Bulletin / [@josefditzler](#)

Published Oct 4, 2015 at 12:01AM / Updated Oct 4, 2015 at 05:57AM

New plans for apartment complexes in Bend submitted this year bring the total number of proposed units in a rental-starved market to more than 1,500.

However, most of those applications remain on the drawing board, or in some phase of plan review at the city Community Development Department. Two projects are under construction and a third, a public housing project, opened its doors to tenants this summer.

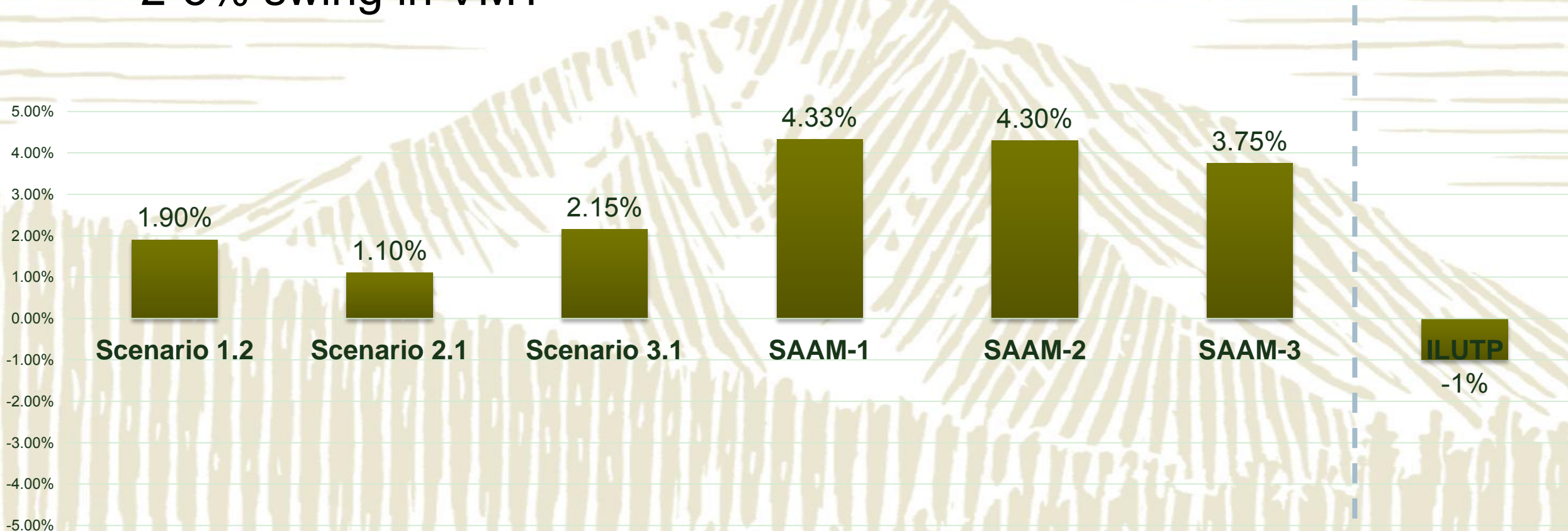
One project, filed by Monte Vista Homes, would erect a five-building apartment complex of 136 units on Empire Avenue. The developer, SGS Development, of Bend, in August applied for five building permits for the project, valued at nearly \$17 million. A company representative did not return calls seeking comment.

Other projects have shown little progress beyond the first meeting with city planning staff and would-be

Transportation Impacts



- Reversal of VMT trends (-1% VMT)
- 2-5% swing in VMT





Meeting Agenda

Current UGB Workshop

Monday, December 15, 2014 2:00 PM – 5:00 PM

Deschutes Services Building (1300 NW Wall Street), Barnes/Sawyer Room

1. **Welcome** 2:00 PM
By Victory Chudowsky
2. **Briefings** 2:05 PM
 - a. Process overview - Where we are in the process, our focus today, and urban form as our discussion tool Joe Dills, APG
 - b. Urban form overview – description of the typologies Jay Renkens, MIG
 - c. Instructions to the small groups – the questions, base map and chips Joe Dills
3. **Small Group Work** 2:25 PM

Please see the Small Group Instructions for the specific questions to be addressed. Project team members will serve as facilitators and recorders for the groups.
4. **Break** 3:45 PM

Maps will be collected and posted on easels so they can be seen together. During the break, the project team will make a list of common themes shown on the maps.
5. **All Group Discussion** 3:55 PM
 - a. Discussion of common themes
 - b. Listing and discussion of additional ideas and alternatives from the small groups
 - c. Discussion of how the themes and ideas might be packaged into scenarios to be evaluated

For additional project information, visit the project website at <http://bend.or.us> or contact Brian Rankin, City of Bend, at brankin@bendoregon.gov or 541-388-5584



Accessible Meeting/Alternate Format Notification

This meeting/event location is accessible. Sign and other language interpreter service, assistive listening devices, materials in alternate format such as Braille, large print, electronic formats, language translations or any other accommodations are available upon advance request at no cost. Please contact the City Recorder no later than 24 hours in advance of the meeting at rchristie@ci.bend.or.us, or fax 385-6676. Providing at least 2 days notice prior to the event will help ensure availability.

6. Public Comment 4:40 PM

Visitors will be able to comment on the workshop questions and working ideas.

7. Summary 4:50 PM

8. Adjourn 5:00 PM

Note: Results from the workshop will be available at an informal UGB drop-in session on Tuesday, December 16th, at 3:30 to 5 PM in the City Hall Council Chambers.



MetroQuest Survey:

PROJECT GOALS & STRATEGIES

Summary of Results

October 31, 2014





MetroQuest Online Engagement

Round 1 Summary of Results
Prepared by Angelo Planning Group

Contents

Introduction	1
Survey Purpose	1
Survey Composition and Background.....	1
Publicity and Number of Respondents.....	2
Community Demographics	3
How this information will be used.....	3
Project Goals	4
Overall Ranking.....	4
Goal Rankings by Age.....	7
Goal Rankings by Location of Residence	8
Goal Rankings by Work Location.....	10
Project Strategies.....	11
Goals and Strategies Comments	18
Places and Opportunities Map	20
Land Use Map Pins	23
Transportation Map Pins	29
Natural Areas Map Pins.....	34
Additional Comments	37
Issues and Implications for Planning	38

INTRODUCTION

This report summarizes input received from the Bend Urban Growth Boundary Remand MetroQuest Survey (survey) active from July 31, 2014 through August 24, 2014.

Survey Purpose

The primary purpose of this survey was to receive input about the proposed project goals, their relative importance, and the level of support for project strategies among members of the community. The survey also served to:

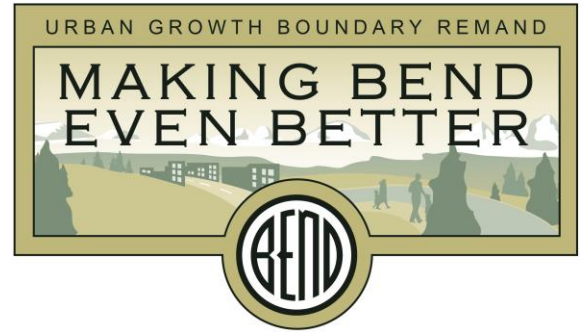
- Spur discussion about the project at meetings and in various media outlets
- Educate community members about the project
- Provide a platform for various open-ended comments

Although the term “survey” is used in this report, it is important to note that this effort was not intended as a scientific and statistically valid survey. It is solely an on-line platform for community input, serving the purposes described above. It met that goal by significantly expanding the number of people who participated in this planning process beyond the number who attended more traditional public meetings.

Survey Composition and Background

The survey was comprised of four “Screens,” each with its own theme and interactive questions. The data analyzed in this report is broken down into these screens, described below.

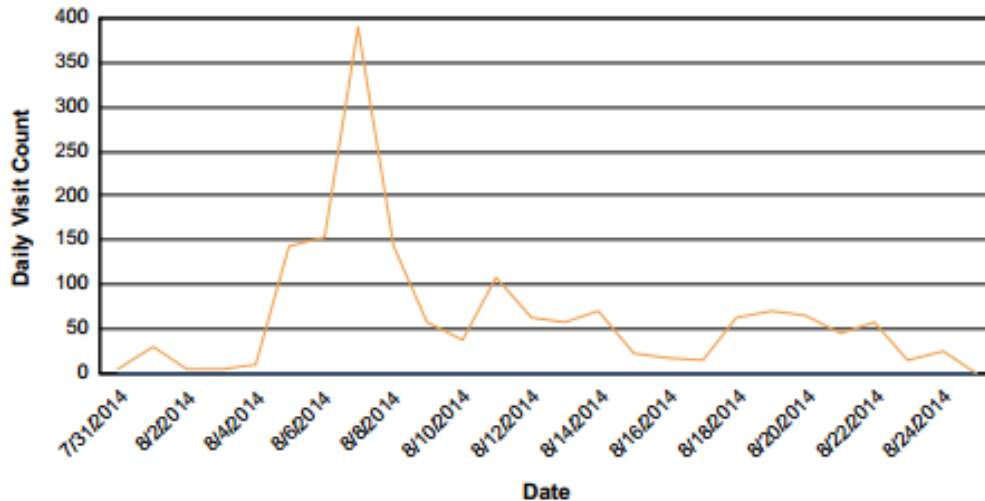
- **Screen 1: Welcome.** This screen provided background information about the project and the survey. No data was collected on Screen 1.
- **Screen 2: Community and Project Goals.** This screen asked users to **rank** their top five project goals (out of eight listed) by dragging them above a dashed line. Respondents could provide comments about the goals themselves or suggest a new goal.
- **Screen 3: Strategies.** Screen 3 asked respondents to **rate** their level of support for strategies aimed at achieving the goals listed in the earlier screen. Respondents gave each strategy a rating of one to five stars and could enter comments related to each strategy.
- **Screen 4: Places and Opportunities Map.** Screen 4 allowed users to place map “pins” of various themes, such as New Commercial Development or Protect Natural Resource, along with various comments. Users could place as many pins as desired.
- **Screen 5: Community Demographics.** This screen asked respondents for additional information about their age, gender, neighborhood of residence, and whether or not they worked within the city.



Publicity and Number of Respondents

Overall, there were a total of **1,677** visits to the survey website. Of those, 1,014 visitors (roughly 60%) entered information that was recorded¹. There were a total of 1,522 entries in the comment fields of the survey, and 5,440 map pins placed on Screen 4. Figure 1 shows the number of daily visits to the survey site.

Figure 1. Survey Visits by Date



The large spike after August 6th, 2014 is due to publicity efforts used to promote this survey, including:

- Press release and resulting media coverage in the *Bend Bulletin*, *The Source* and on local television and radio stations;
- Public meetings conducted on August 13 and 14;
- Links from multiple pages of the City of Bend Website;
- Direct e-mail announcements to the City's interested parties distribution list;
- Announcements and e-mails from partner community groups to their e-mail distribution lists;
- Facebook and Twitter announcement by the City of Bend; and
- Announcements at local community group meetings, including several conducted during the first two weeks of August.

¹ Users did not have to fully complete the survey for their choices to be recorded, allowing the website to capture as much information as possible.

Community Demographics

Roughly 630 respondents provided demographic information, which is described in Table 1. In the following sections, this report uses this information to discuss differences between survey responses by age, location of residence, and location of employment.²

Table 1. Demographic Information

Group	Number	Percent
<i>Age Range</i>		
18 and under	6	1%
19-35	127	20%
26-50	232	37%
51-65	178	28%
65+	89	14%
<i>Gender</i>		
Female	303	49%
Male	320	51%
<i>Location of Residence</i>		
NE Bend	125	20%
NW Bend	221	35%
SE Bend	125	20%
SW Bend	82	13%
Outside Bend	74	12%
<i>Location of Employment</i>		
Work In Bend	471	75%
Don't Work In Bend	155	25%

How this information will be used

The results from this survey have been used to refine the project goals and strategies. Revisions, which were based largely on MetroQuest feedback, were approved by the Urban Growth Boundary Steering Committee (USC) on September 4, 2014.

Results also will continue to inform recommendations and decision-making by the project Technical Advisory Committees (TACs) and USC about potential Urban Growth Boundary (UGB) amendment alternatives, efficiency measures and other strategies. As those groups discuss specific strategies, the project team will present relevant feedback from the MetroQuest effort to inform those discussions and decisions. Members of the community are also anticipated to use this information in their discussion and engagement with the UGB Remand Project.

² However, no statistical tests were performed as part of this analysis.

PROJECT GOALS

The City of Bend has entered the next phase of its Urban Growth Boundary (UGB) expansion to chart a path for Bend's future growth. The UGB is a line drawn on the City's General Plan map that identifies Bend's urban land. This land represents an estimated 20-year supply of land for employment, housing, and other urban uses. As the city continues to grow, we have an opportunity to develop a plan for future growth that reflects the community's goals and meets state planning requirements.

The UGB Steering Committee approved the following Project Goals on September 4, 2014.

A Quality Natural Environment

As Bend grows, it preserves and enhances natural areas and wildlife habitat. Wildfire risk management is a key consideration. Bend takes a balanced approach to environmental protection and building a great city.

Balanced Transportation System

Bend's balanced transportation system incorporates an improved, well-connected system of facilities for walking, bicycling, and public transit, while also providing a reliable system for drivers. Bend's transportation system emphasizes safety and convenience for users of all types and ages.

Great Neighborhoods

Bend has a variety of great neighborhoods that promote a sense of community and are well-designed, safe, walkable, and include local schools and parks. Small neighborhood centers provide local shops, a mix of housing types, and community gathering places. The character of historic neighborhoods is protected and infill development is compatible.

Strong Active Downtown

Bend's downtown continues to be an active focal point for residents and visitors with strong businesses, urban housing, civic services, arts and cultural opportunities, and gathering places. Parking downtown is adequate and strategically located. Planning in other areas continues to support a healthy downtown.

Strong Diverse Economy

Bend has a good supply of serviced land planned for employment growth that supports the City's economic development goals, provides a range of diverse jobs and industries, and supports innovation. Employment areas, large and small, have excellent transportation access.

Connections to Recreation and Nature

Bend continues to enhance its network of parks, trails, greenbelts, recreational facilities, and scenic views inside and outside the city.

Housing Options and Affordability

Bend residents have access to a variety of high quality housing options, including housing affordable to people with a range of incomes and housing suitable to seniors, families, people with special needs, and others. Housing design is innovative and energy efficient.

Cost Effective Infrastructure

Bend plans and builds water, wastewater, storm water, transportation, and green infrastructure in a cost-effective way that supports other project goals. Efficient use of existing infrastructure is a top priority.

Overall Ranking

Respondents were asked to rank their top 5 goals from those listed by “dragging and dropping” text boxes. The overall results are shown in Table 2 and Figure 2 below. Note that a *lower* average position denotes a *higher* rank. When users ranked a goal 6th through 8th they were not counted, so the “Times Ranked” figure is included to give a broader picture of responses.

Table 2. Overall Goal Rankings

Overall Rank	Goal	Average Position	Times Ranked
1	A Quality Natural Environment	2.50	668
2	A Strong Diverse Economy	2.82	614
3	Connections to Recreation and Nature	2.84	636
4	Housing Options	2.96	440
5	Great Neighborhoods	3.15	557
6	Cost-Effective Infrastructure	3.16	544
7	A Strong Active Downtown	3.24	428
8	Balanced Transportation System	3.24	491

2

Community and Project Goals Which goals are important to you?

GOALS

Drag your top 5 goals above this line.

Cost effective infrastructure

A quality natural environment

Connections to recreation and nature

Balanced transportation system

Housing options

Strong diverse economy

Great neighborhoods

Strong active downtown

Suggest Another Goal

The draft goals listed here are based on input from the UGB Steering Committee, the Bend 2030 Vision, Deschutes County Greenprint, and recent stakeholder interviews.

All eight project goals listed here will help guide the UGB remand project and city planning efforts, but some of these goals may be more or less important to you.

To help us understand which goals are most important to you, drag your top five goals to the top of the screen in order of importance to you. Please note the final list of goals will not be prioritized. You may comment on the goals, and add a goal if you like.

Figure 2. Project Goals Mean Rank and Times Ranked



Overall, the goal “A quality natural environment” was ranked the highest and most often, with an average position of 2.5 and 668 rankings. “Balanced transportation system” and “A strong active downtown” were tied for the lowest ranking overall. Generally speaking, the goals that were ranked most frequently have a lower average position, with the notable exception of Housing Options. This may indicate that a smaller proportion of respondents think Housing Options is an important goal, but those that do value Housing Options rank it very highly compared to the other goals. While some goals were ranked higher than others, the variation among the rankings was not particularly high, with an average difference between each ranking of about 0.1 and a total spread of 0.75, indicating that on average all of the goals are relatively important to community members.

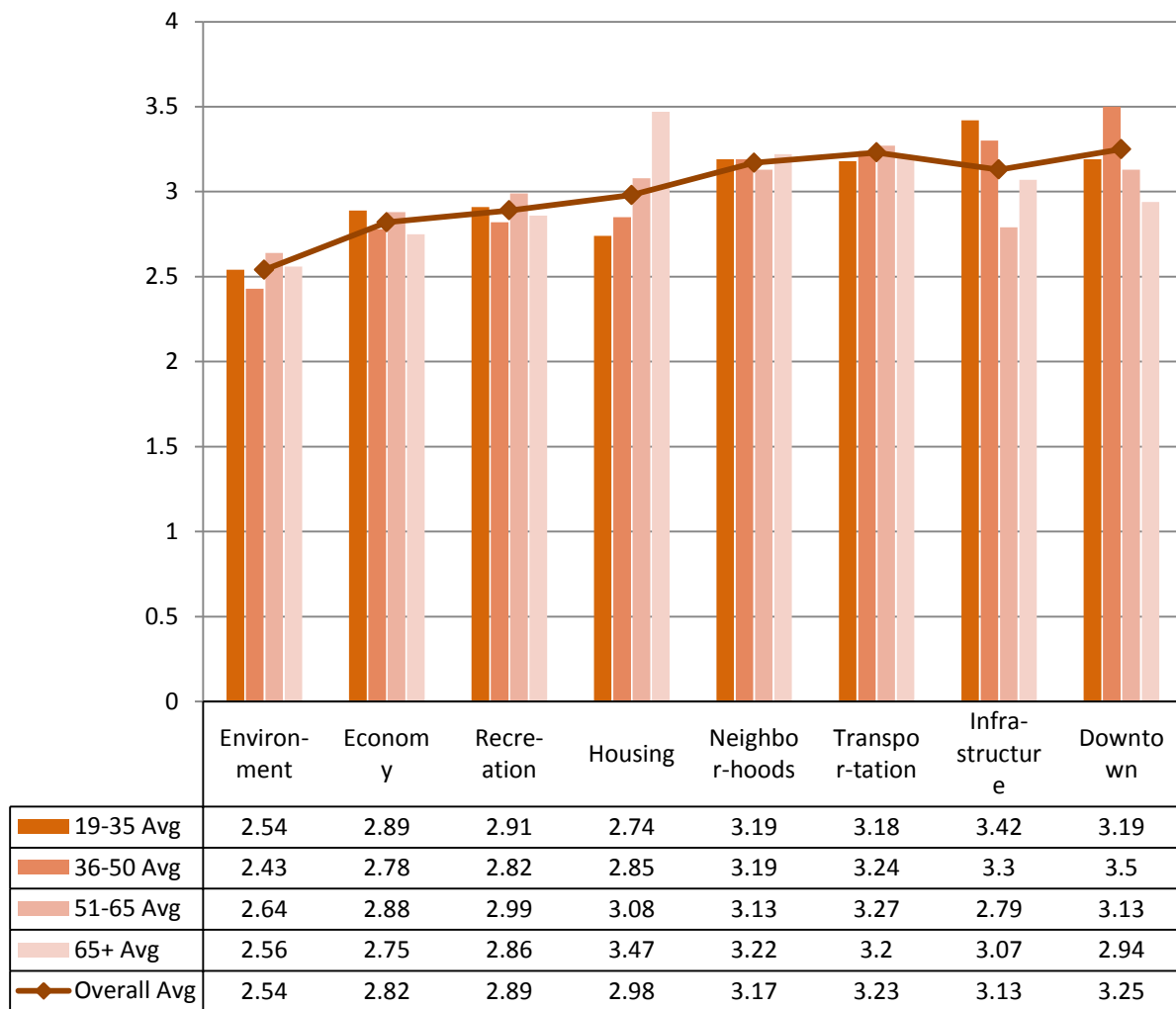
Figure 3 through Figure 5 break the goal rankings out by age, location of residence, and work location.³

³ Roughly 630 respondents provided this information.

Goal Rankings by Age

Figure 3 shows the mean goal rankings by age cohort. There were only six respondents who identified themselves as 18 or under, and they have not been included in this analysis due to the small sample size. The importance of housing options appears to have an inverse relationship with age, with younger respondents ranking it higher than older respondents. It was the 2nd highest ranked option for the 19-35 cohort, and the lowest ranked option for the 65+ cohort. “A quality natural environment” was the highest ranked goal for all age groups.

Figure 3. Goal Ranking by Age Cohort

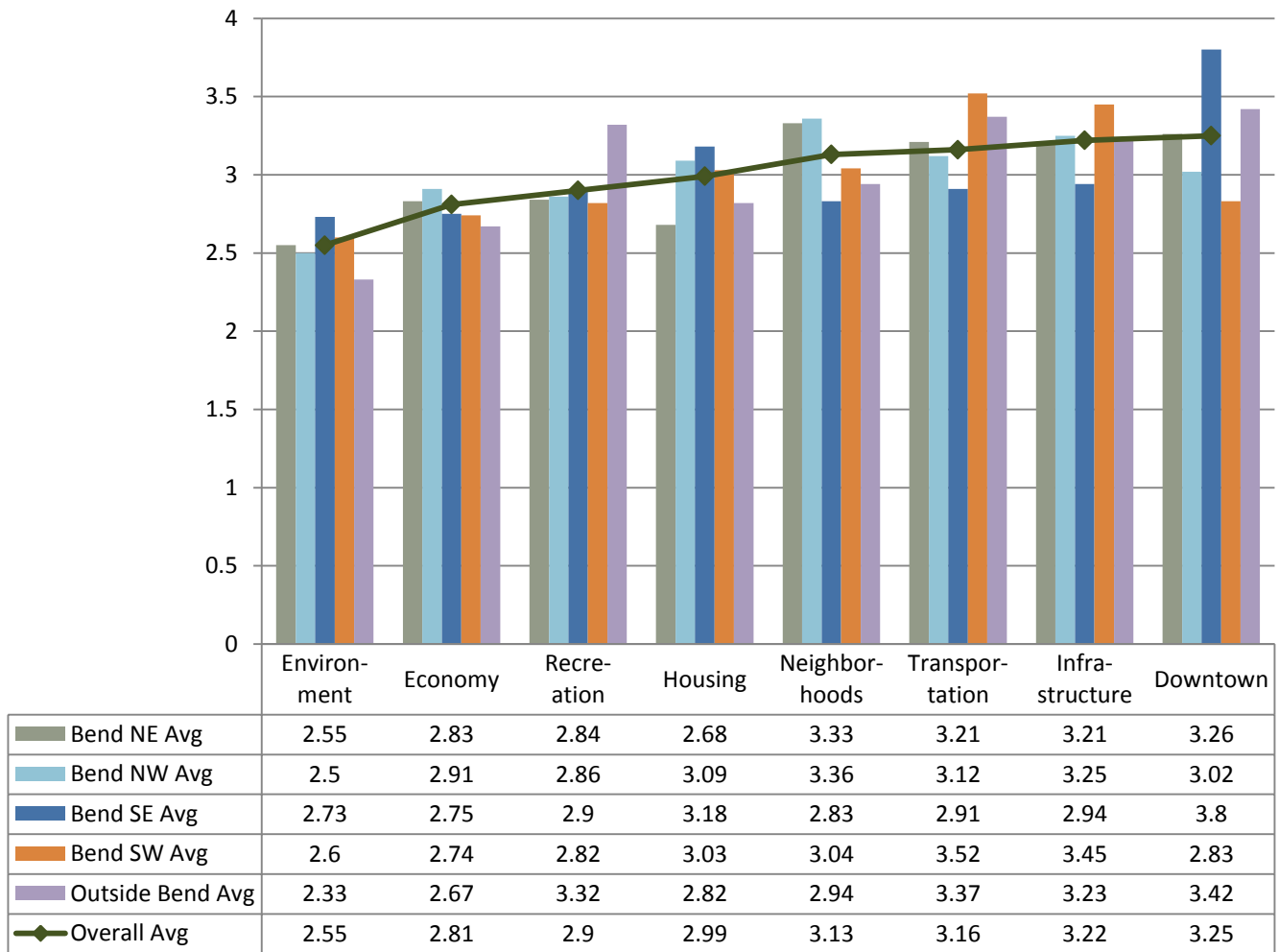


Goal Rankings by Location of Residence

Some differences emerged in the goal rankings of respondents who live in different parts of Bend (Figure 4). Note that these figures represent only the portion of respondents who chose to provide demographic information:

- Respondents living outside of Bend ranked “Connections to Recreation” lower on average (3.32) than residents within Bend (2.82-2.90).
- Respondents living in Northeast Bend ranked Housing Options higher on average (2.68) than residents living in other quadrants of the city (above 3.0), and similar to respondents living outside the city (2.82).
- Respondents living in Southeast Bend ranked Cost Effective Infrastructure somewhat higher on average (2.83) than respondents living in other quadrants of the city (above 3.0), and similar to respondents living outside the city (2.94).
- Respondents living in Southwest Bend ranked Great Neighborhoods lower on average (3.52) than residents living in Southeast Bend (2.91). Respondents in other parts of the city and outside Bend ranked this goal between 3.12 and 3.37 on average.
- Respondents in Southeast Bend ranked a Balanced Transportation System higher on average (2.94) than others (3.23 to 3.45). Residents of Southwest Bend ranked it the lowest of these groups (3.45).
- Respondents in Southeast Bend ranked “Strong Active Downtown” fairly low at 3.80, while residents in Bend Southwest ranked it fairly high at 2.83.
- Respondents living outside the city ranked “A Quality Natural Environment” the highest of these groups, at 2.33. All groups ranked this goal high, however, with an average of 2.55.

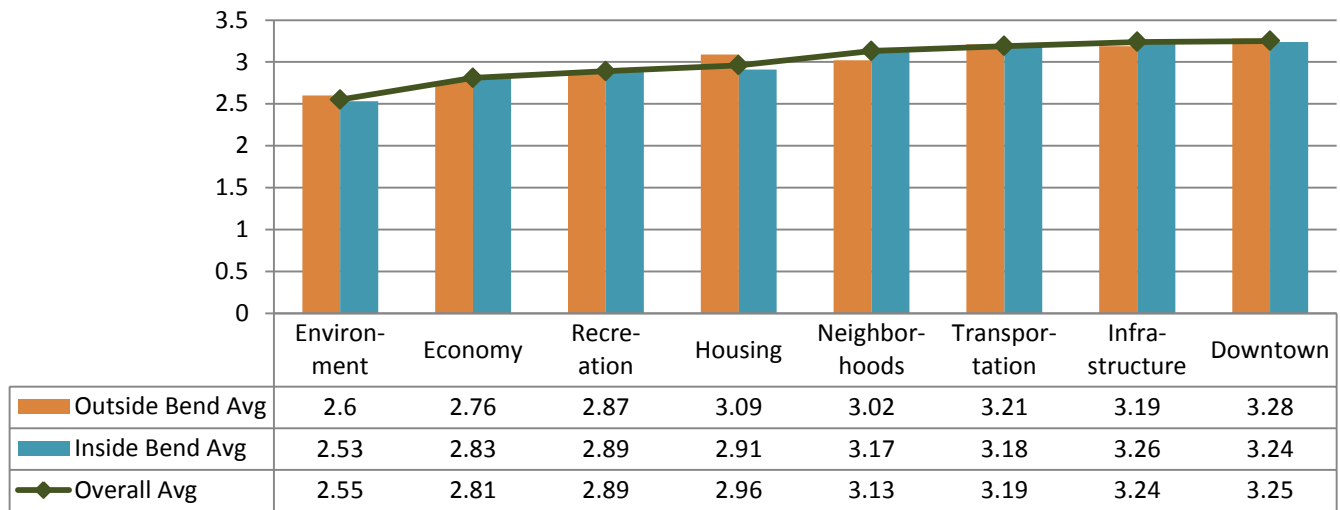
Figure 4. Goal Ranking by Location of Residence



Goal Rankings by Work Location

There were only minor differences in the rankings of those who work within the City of Bend as compared to those who work outside the City (Figure 5). Housing options were ranked slightly higher by those who work within the city, and cost effective infrastructure was ranked slightly higher by those who work outside.

Figure 5. Goal Ranking by Work Location



PROJECT STRATEGIES

3
Strategies
What will help us reach our goals?

Cost effective infrastructure

A quality natural environment

Connections to recreation and nature

Balanced transportation system

Housing options

Strong diverse economy

Great neighborhoods

Strong active downtown

Cost effective infrastructure
Please use the 5 star rating scale to indicate your level of support for the strategy, with 1 star meaning the least support and 5 stars meaning the most support.

Create development patterns and systems with the lowest long-term cost to construct, operate, and maintain.

★ ★ ★ ★ ★

Comment

Spend more on infrastructure systems that are considered to be environmentally friendly or more sustainable.

★ ★ ★ ★ ★

Comment

The city's current approach to infrastructure planning and construction is adequate.

★ ★ ★ ★ ★

Comment

Users were asked to rate their level of support for several strategies to achieve the goals listed on Screen 2 on a scale of 1 star to 5 stars. A higher score denotes a higher rating. Figure 6 through Figure 13 on the following pages show the breakdown of responses to individual strategies, grouped by project goal. Table 3 shows these ratings numerically.

Figure 6. Strategies: Great Neighborhoods

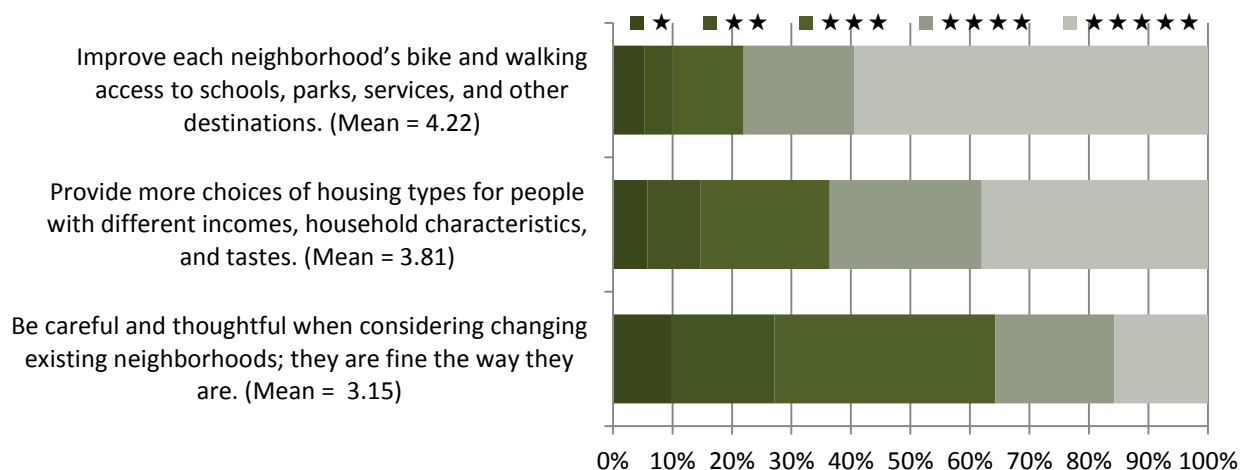


Figure 7. Strategies: Strong Active Downtown

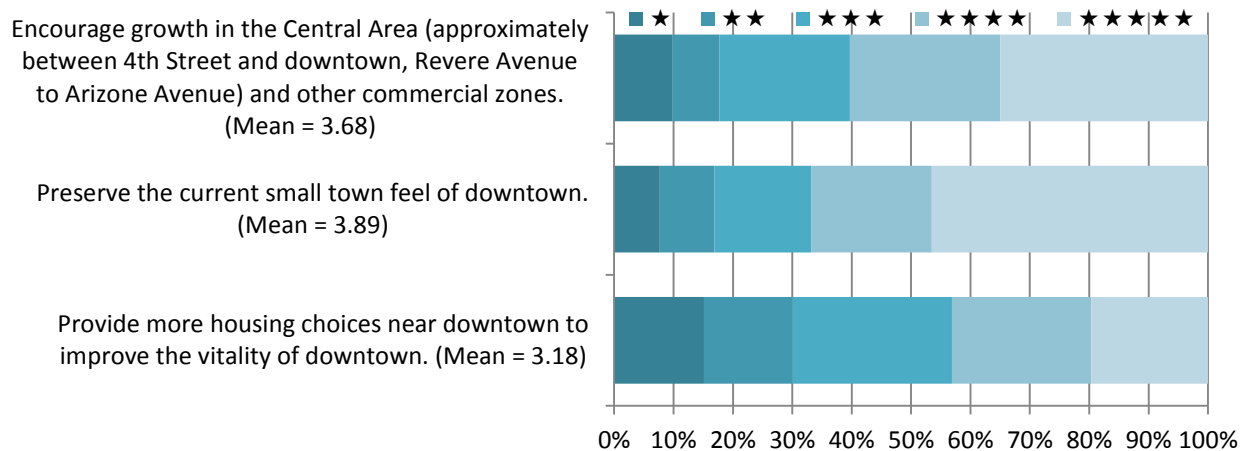


Figure 8. Strategies: Strong Diverse Economy

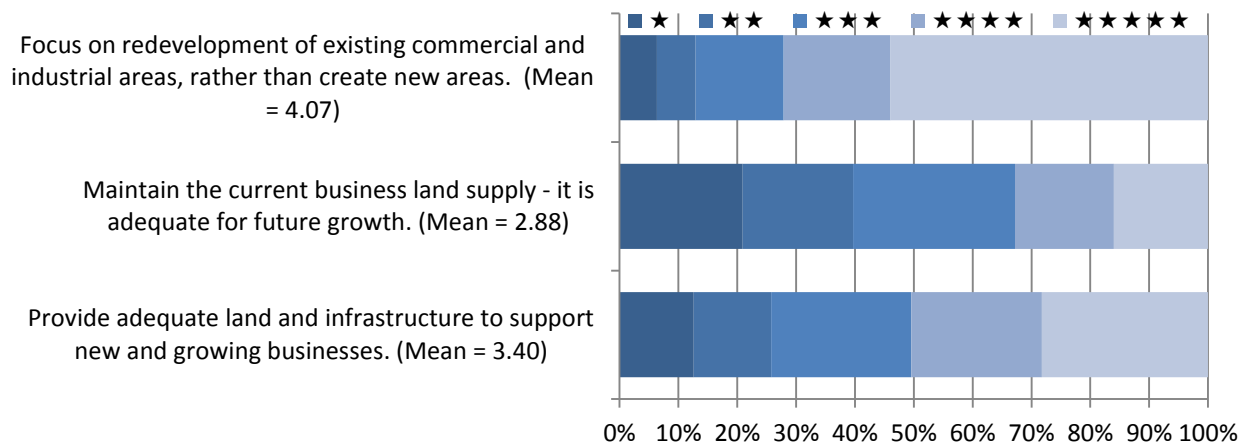


Figure 9. Strategies: Quality Natural Environment

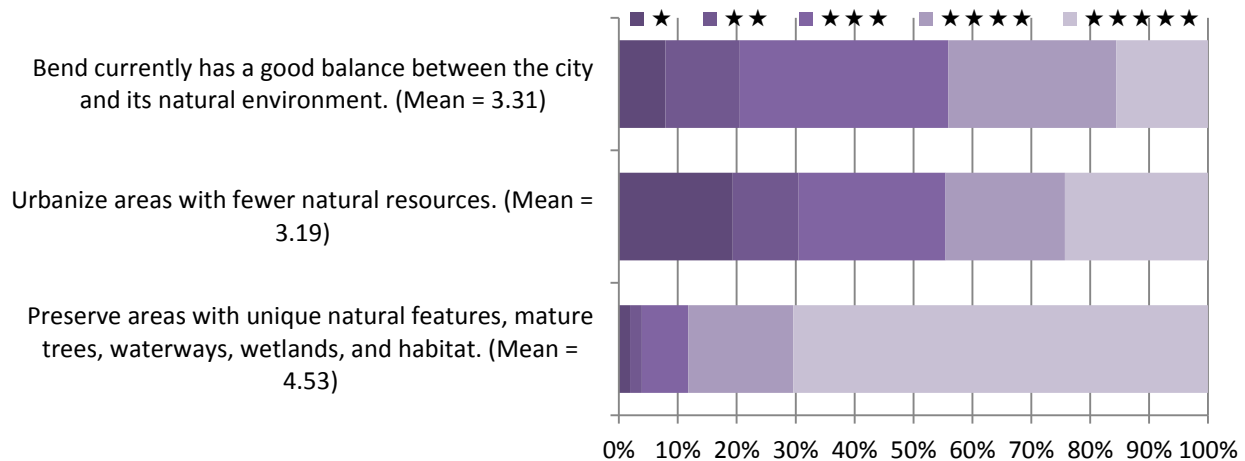


Figure 10. Strategies: Balanced Transportation System

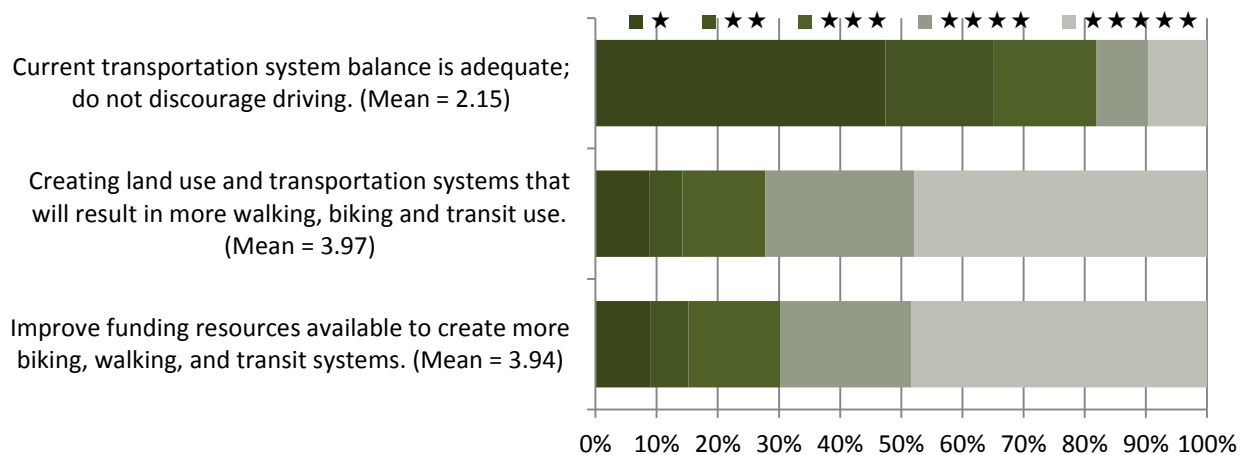


Figure 11. Strategies: Housing Options

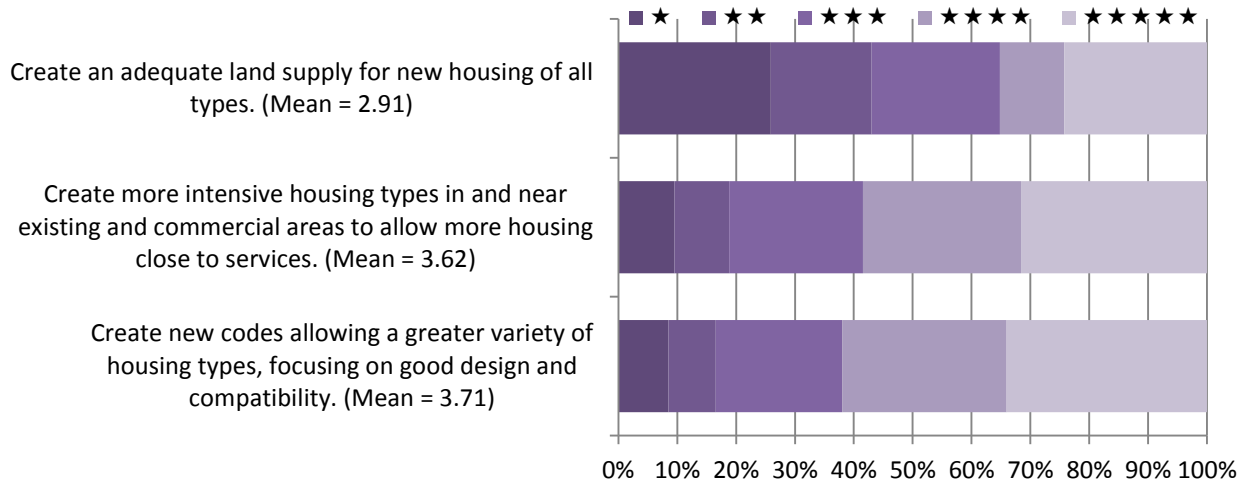


Figure 12. Strategies: Connections to Recreation and Nature

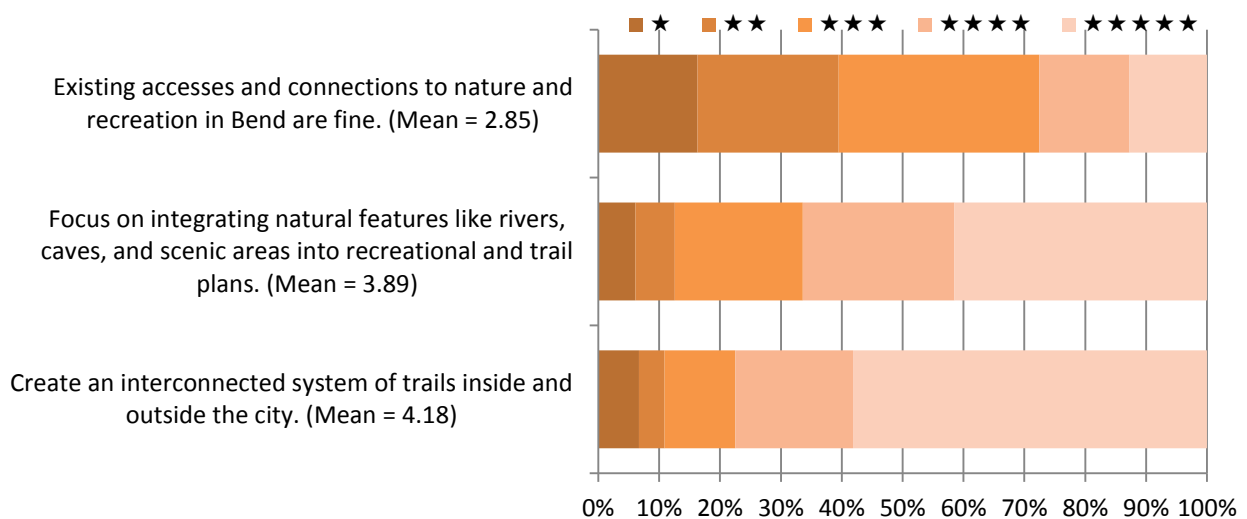


Figure 13. Strategies: Cost Effective Infrastructure

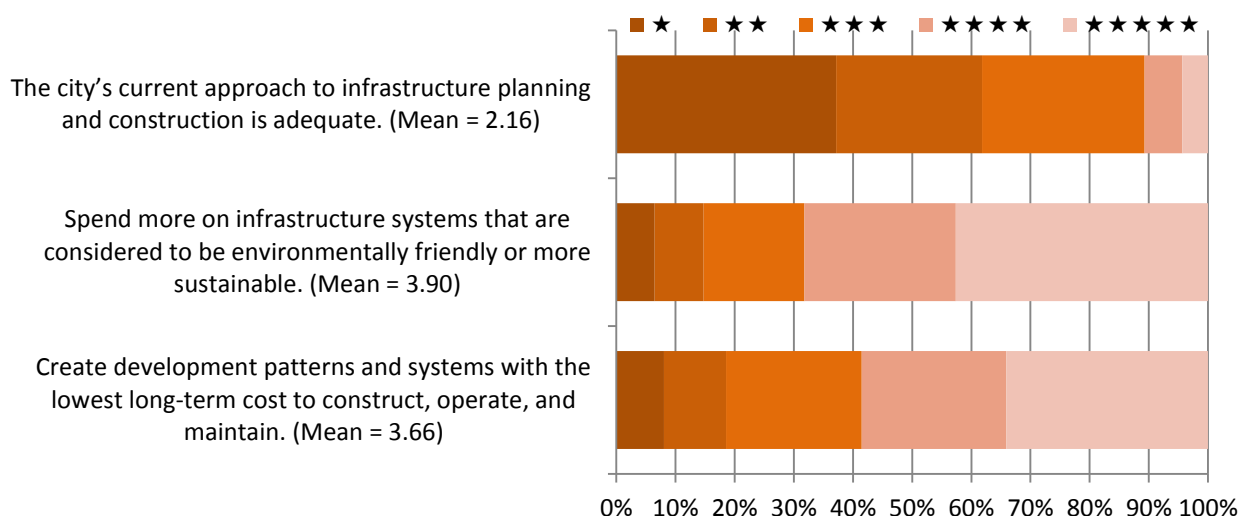


Table 3. Strategy Rankings

Great Neighborhoods	1	2	3	4	5	Grand Total	Mean
Be careful and thoughtful when considering changing existing neighborhoods; they are fine the way they are.	73 10%	130 17%	278 37%	150 20%	118 16%	749 100%	3.15
Provide more choices of housing types for people with different incomes, household characteristics, and tastes.	44 6%	68 9%	165 22%	194 26%	289 38%	760 100%	3.81
Improve each neighborhood's bike and walking access to schools, parks, services, and other destinations.	41 5%	36 5%	92 12%	143 19%	458 59%	770 100%	4.22
Strong Active Downtown	1	2	3	4	5	Grand Total	Mean
Provide more housing choices near downtown to improve the vitality of downtown.	112 15%	110 15%	199 27%	174 24%	145 20%	740 100%	3.18
Preserve the current small town feel of downtown.	58 8%	70 9%	123 16%	154 20%	352 46%	757 100%	3.89
Encourage growth in the Central Area (approximately between 4th Street and downtown, Revere Avenue to Arizona Avenue) and other commercial zones.	73 10%	58 8%	163 22%	188 25%	259 35%	741 100%	3.68

Strong Diverse Economy	1	2	3	4	5	Grand Total	Mean
Provide adequate land and infrastructure to support new and growing businesses.	95 13%	99 13%	180 24%	167 22%	213 28%	754 100%	3.40
Maintain the current business land supply - it is adequate for future growth.	149 21%	134 19%	196 27%	120 17%	114 16%	713 100%	2.88
Focus on redevelopment of existing commercial and industrial areas, rather than create new areas.	48 6%	50 7%	114 15%	138 18%	410 54%	760 100%	4.07
A Quality Natural Environment	1	2	3	4	5	Grand Total	Mean
Preserve areas with unique natural features, mature trees, waterways, wetlands, and habitat.	15 2%	16 2%	63 8%	142 18%	562 70%	798 100%	4.53
Urbanize areas with fewer natural resources.	145 19%	84 11%	187 25%	152 20%	182 24%	750 100%	3.19
Bend currently has a good balance between the city and its natural environment.	60 8%	96 13%	269 35%	217 29%	118 16%	760 100%	3.31
Balanced Transportation System	1	2	3	4	5	Grand Total	Mean
Improve funding resources available to create more biking, walking, and transit systems.	69 9%	47 6%	114 15%	163 21%	369 48%	762 100%	3.94
Creating land use and transportation systems that will result in more walking, biking and transit use.	66 9%	41 5%	102 14%	183 24%	360 48%	752 100%	3.97
Current transportation system balance is adequate; do not discourage driving.	344 47%	129 18%	122 17%	61 8%	70 10%	726 100%	2.15
Housing Options	1	2	3	4	5	Grand Total	Mean
Create new codes allowing a greater variety of housing types, focusing on good design and compatibility.	64 8%	61 8%	162 21%	211 28%	257 34%	755 100%	3.71
Create more intensive housing types in and near existing and commercial areas to allow more housing close to services.	71 10%	69 9%	169 23%	200 27%	235 32%	744 100%	3.62
Create an adequate land supply for new housing of all types.	192 26%	127 17%	162 22%	81 11%	180 24%	742 100%	2.91

Connections to Recreation and Nature	1	2	3	4	5	Grand Total	Mean
Create an interconnected system of trails inside and outside the city.	53 7%	33 4%	92 12%	153 19%	460 58%	791 100%	4.18
Focus on integrating natural features like rivers, caves, and scenic areas into recreational and trail plans.	47 6%	50 6%	162 21%	192 25%	320 42%	771 100%	3.89
Existing accesses and connections to nature and recreation in Bend are fine.	123 16%	175 23%	249 33%	112 15%	96 13%	755 100%	2.85
Cost Effective Infrastructure	1	2	3	4	5	Grand Total	Mean
Create development patterns and systems with the lowest long-term cost to construct, operate, and maintain.	59 8%	77 11%	168 23%	179 24%	250 34%	733 100%	3.66
Spend more on infrastructure systems that are considered to be environmentally friendly or more sustainable.	48 6%	61 8%	126 17%	189 26%	315 43%	739 100%	3.90
The city's current approach to infrastructure planning and construction is adequate.	256 37%	170 25%	189 27%	44 6%	30 4%	689 100%	2.16
Grand Total – All Goals	2305 13%	1991 11%	3846 21%	3707 21%	6162 34%	18011 100%	3.52

Overall, most strategies received a good level of support, with average rankings higher than 3 stars. However, the following strategies ranked relatively low (under 3 stars on average):

- Cost Effective Infrastructure - “The City’s current approach to infrastructure planning and construction is adequate” (2.16 average rating)
- Balanced Transportation System - “Current transportation system balance is adequate; do not discourage driving” (2.15 average rating)
- Connections to Recreation and Nature – “Existing connections to nature and recreation are fine” (2.85 average rating)
- Housing Options - “Create an adequate land supply of housing for all types” (2.91 average rating)
- Strong Diverse Economy – “Maintain the current business land supply - it is adequate for future growth” (2.88 average rating)

Some strategies had very divergent ratings, while others received similar ratings across respondents.

- The ratings of “Create an adequate land supply for housing of all types” were quite varied, with roughly 25% of respondents rating it with one star and 25% rating it with 5 stars (Figure 11).
- “Current infrastructure is adequate,” on the other hand, was rated with 5 stars by only 4% of respondents (Figure 10).

- “Current transportation system is adequate” was rated the lowest of any strategy, with nearly half of respondents rating it with one star (Figure 10).

Strategies ranked very high (above 4 stars) include:

- “Improve each neighborhood’s bike and walking access to schools, parks, services, and other destinations.” (4.22)
- “Focus on redevelopment of existing commercial and industrial areas, rather than create new areas.” (4.07)
- “Preserve areas with unique natural features, mature trees, waterways, wetlands, and habitat.” (4.53)
- “Create an interconnected system of trails inside and outside the city.” (4.18)
- “Preserve areas with unique natural features...” was ranked the highest of any strategy, with 70% of respondents rating it 5 stars (Figure 9)

GOALS AND STRATEGIES COMMENTS

Respondents were able to comment on Screen 2 to suggest an additional goal as well as provide comments on each goal specifically. Screen 3 allowed respondents to comment on individual strategies. Table 4 below describes recurring themes and other relevant comments.

Table 4. Screen 2 and Screen 3 Comments

Screen 2 - Suggest Another Goal	
Potential new goals:	
Recurring themes	<ul style="list-style-type: none"> • Avoid sprawl! Keep Bend compact and maintain small town feel by focusing on infill. If expansion is necessary, expand east. • Provide access to higher education • Balanced planning and growth for east and west sides of town.
Relevant single comments	<ul style="list-style-type: none"> • Enhance public safety
Potential tweaks to existing goals:	
Recurring themes	<ul style="list-style-type: none"> • Avoid increasing density in existing residential neighborhoods. • Enhance pedestrian network, particularly east/west connections. • Enhance public transit options, including rail to Mt. Bachelor. • Ensure adequate infrastructure planning has occurred before expansion. Fix existing infrastructure deficiencies first.
Relevant single comments	<ul style="list-style-type: none"> • Promote innovate and creative community design
Specific recommended uses:	<ul style="list-style-type: none"> • Well-placed truck stop • Baseball complex • Four-year university
Other relevant comments:	<ul style="list-style-type: none"> • Bend 2030 Plan should be updated to Bend 2045
Goal: Great Neighborhoods	
Recurring themes	<ul style="list-style-type: none"> • Need to regulate/limit vacation rentals in residential neighborhoods. • Develop more village-like neighborhoods like NW Crossing. • Regulate infill so it is compatible with surrounding, older neighborhoods. • Keep densities low and lot sizes large in existing neighborhoods. • Neighborhoods need more parks and open space. • Protect historic neighborhoods.
Goal: Strong Active Downtown	
Recurring themes	<ul style="list-style-type: none"> • Provide convenient public parking structures with reasonable rates and good signage. • Focus on re-activating 3rd Street • Develop a strategic parking plan for downtown that balances the need for parking with pedestrian amenities. • Promote dense residential development in and near downtown.
Relevant single comments	<ul style="list-style-type: none"> • Reduce the amount of on-street parking downtown; use parking structures instead. • Provide better public transit to and around downtown.

Goal: Strong Diverse Economy

- | | |
|------------------|---|
| Recurring themes | <ul style="list-style-type: none">• A university will strengthen the economy and bring non-service jobs.• The economy needs to rely less upon tourism and service jobs.• Focus on internet-based and eco-friendly businesses instead of manufacturing businesses that are potentially high-polluters.• Focus on efficient use of existing employment lands before expanding. |
|------------------|---|

- | | |
|--------------------------|--|
| Relevant single comments | <ul style="list-style-type: none">• Provide opportunities and assistance for small, local business owners. |
|--------------------------|--|

Goal: Quality Natural Environment

- | | |
|------------------|--|
| Recurring themes | <ul style="list-style-type: none">• Evaluate wildfire and related safety issues that may arise from expansion.• The only way to protect the natural environment is to limit growth.• Focus on green belts that protect wildlife habitat and riparian areas; and provide a fire buffer. |
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|--------------------------|---|
| Relevant single comments | <ul style="list-style-type: none">• Preserving and protecting wildlife corridors and habitat should be a priority over "enhancing". |
|--------------------------|---|

Goal: Balanced Transportation

- | | |
|------------------|---|
| Recurring themes | <ul style="list-style-type: none">• Improve public transportation, particularly in the southeast part of Bend. Specifically, buses should have more stops and route schedules, should be easy to access and should be safe and convenient for senior users.• Improve the bike and pedestrian network including: more paved trails, more bike lanes, emphasis on bike safety, safe routes to schools, and continuous sidewalks.• Improve public transit options to employment areas. |
|------------------|---|

- | | |
|--------------------------|--|
| Relevant single comments | <ul style="list-style-type: none">• Do not prioritize bicycles, transit or other alternative modes over the motor vehicle.• Public investment should focus on transit and bike/ped connections rather than motor vehicle connections.• Reroute commercial trains away from downtown. |
|--------------------------|--|

Goal: Housing Options

- | | |
|------------------|---|
| Recurring themes | <ul style="list-style-type: none">• Bend needs more options for small affordable houses and apartments.• Need to regulate and/or limit vacation rentals in residential neighborhoods.• Focus on sustainable/energy efficient housing.• Focus on high quality and varied housing designs. |
|------------------|---|

- | | |
|--------------------------|--|
| Relevant single comments | <ul style="list-style-type: none">• Develop neighborhoods with a true mix of housing types and prices to encourage more diverse communities. |
|--------------------------|--|

Goal: Connections to Recreation/Nature

- | | |
|------------------|--|
| Recurring themes | <ul style="list-style-type: none">• None |
|------------------|--|

- | | |
|--------------------------|--|
| Relevant single comments | <ul style="list-style-type: none">• More paved trails should be developed, particularly dog-friendly trails• Plan a paved path skirting through the national forest adjacent to Cascade Lakes Hwy.• Do not build more paved trails.• Open space should be available to everyone; this includes providing affordable transit to parks/open spaces. |
|--------------------------|--|

Goal: Cost Effective Infrastructure

- Recurring themes
- Focus on green infrastructure options.
 - Build where these services already exist. The most cost-effective infrastructure is the infrastructure you already have.
 - Bend should be required to sewer areas that have been annexed for years but are still served by failing septic systems prior to any UGB expansion.

PLACES AND OPPORTUNITIES MAP

Screen 4 asked users “Where should we guide growth and change to accomplish our strategies?” and instructed users to drag markers on the map to indicate where changes or improvements should happen over the next 15 years. A comment could be included with each pin as well. Screen 4 was divided into three panels with the following instructions:

- Panel 1: Land Use Suggestions – To create **Great Neighborhoods, Housing Options, a Strong Active Downtown, and a Strong Diverse Economy**, tell us where to put more:
 - Housing (Apartments, Townhomes, 2-3-4-Plex Homes, Single Family Homes, Mixed Use)
 - Shopping (Small Neighborhood Centers, Larger Retail Centers, Other)
 - Employment (Small Industrial, Offices, Large Industrial, Other)
 - Other
- Panel 2: Transportation Improvements – To create a **Balanced Transportation System**, tell us where to improve:
 - Roadway (New Facility or Improve Existing)
 - Bicycle (New Facility or Improve Existing)
 - Pedestrian (New Facility or Improve Existing)
 - Transit (New Facility or Improve Existing)
 - Other
- Panel 3: Natural Area Suggestions – To improve our **Quality Natural Environment and Connections to Recreation and Nature**, tell us where to:
 - Increase Access
 - Enhance Protection
 - Trail Opportunity
 - Other

Table 5 shows the number of map pins and comments received for each of these questions. Overall, the survey received nearly 5,500 map pins and over 2,100 comments on Screen 4 in 665 visits⁴.

⁴ The MetroQuest survey tool tracks individual survey sessions or visits. Some visits included just one map pin, and in one instance a single visitor placed 287 map pins. The median number of map pins per visit was 5.

Table 5. Map Input Gathered

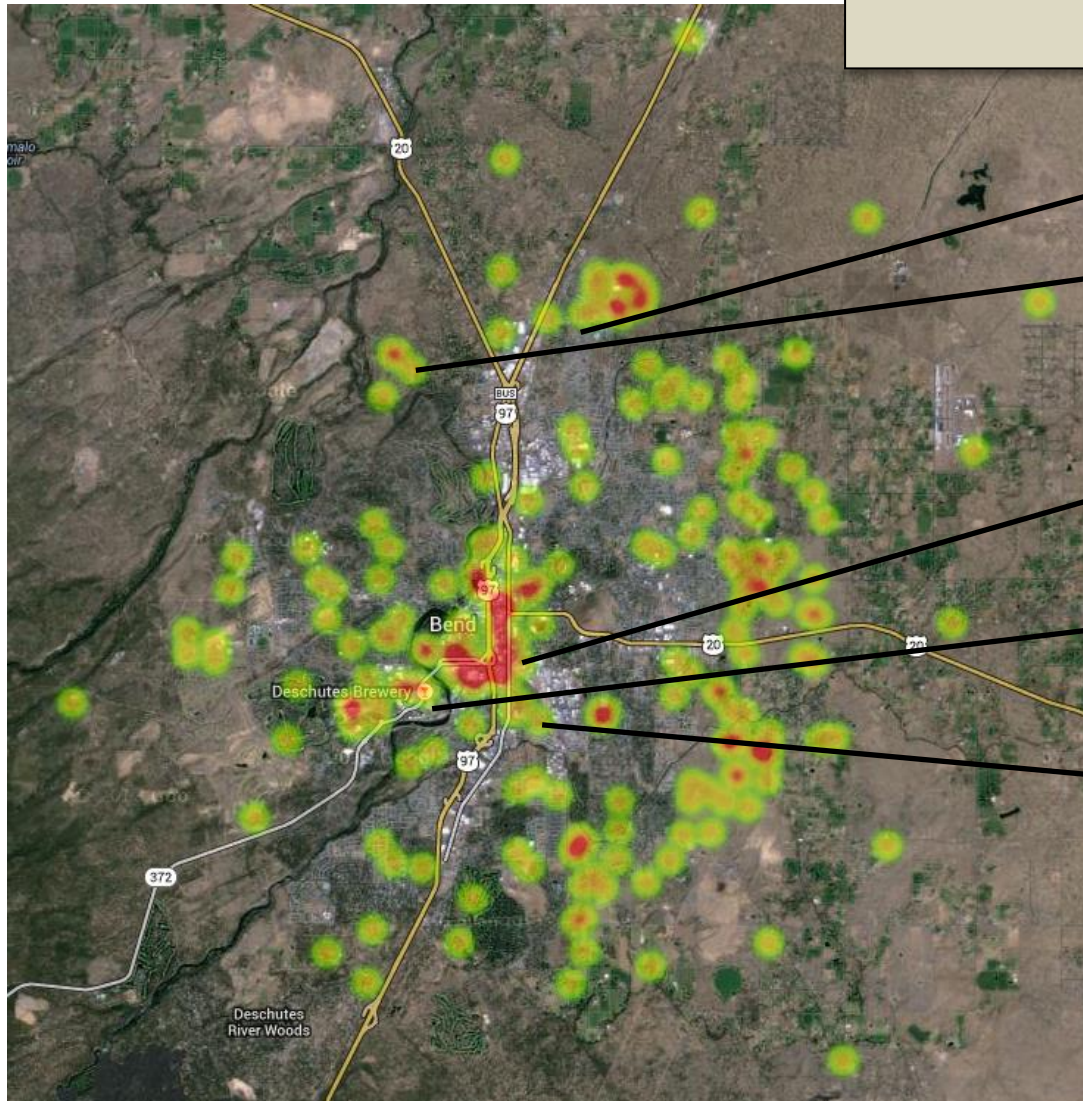
Topic	Number of Pins	Number of Comments	Number of Visits
Land Use	2,422	625	580
Employment	556	92	
Large Industrial	62	2	
Offices	121	11	
Small Industrial	132	11	
Other	29	15	
<i>No Category Selected</i>	212	53	
Residential	1,002	217	
2- 3- 4- Plex Homes	44	2	
Apartments	104	20	
Mixed Use	227	44	
Single Family	183	40	
Townhomes	58	7	
<i>No Category Selected</i>	386	104	
Shopping	662	141	
Larger Retail Centers	83	10	
Smaller Retail Centers	340	58	
Other	17	13	
<i>No Category Selected</i>	222	60	
Other Land Use	202	175	
Transportation	1,846	924	431
Cycling	621	274	
Improve Existing	215	75	
New Facility	210	133	
<i>No Category Selected</i>	196	66	
Roadway	296	183	
Improve Existing	143	84	
New Facility	80	60	
<i>No Category Selected</i>	73	39	
Transit	380	132	
Improve Existing	134	31	
New Facility	107	45	
<i>No Category Selected</i>	139	56	
Pedestrian	489	277	
Improve Existing	154	63	
New Facility	210	167	
<i>No Category Selected</i>	125	47	

Topic	Number of Pins	Number of Comments	Number of Visits
Other Transportation	60	58	
Improve Existing	14	13	
New Facility	32	32	
<i>No Category Selected</i>	14	13	
Natural Areas	1,171	585	331
Protection	495	162	
Access	233	132	
Other	73	67	
Trail	370	224	
TOTAL	5,439	2,134	665

The annotated “heat maps” on the following pages show the locations of map pins and various related comments provided by survey respondents. Redder areas have a higher concentration of markers. The data was compiled by MetroQuest and the maps were created by Angelo Planning Group using Google Fusion Tables.

Land Use Map Pins

Figure 14. Residential Mixed Use Heat Map



To create Great Neighborhoods, Housing Options, a Strong Active Downtown, and a Strong Diverse Economy, tell us where to put more:

HOUSING – Mixed Use

Live/Work Units

Ensure housing diversity

Improve urban form of 3rd
Street corridor

Infill and Mixed Use on
Transit Corridors

More development in
eastside neighborhoods

Figure 15. Residential – Single Family

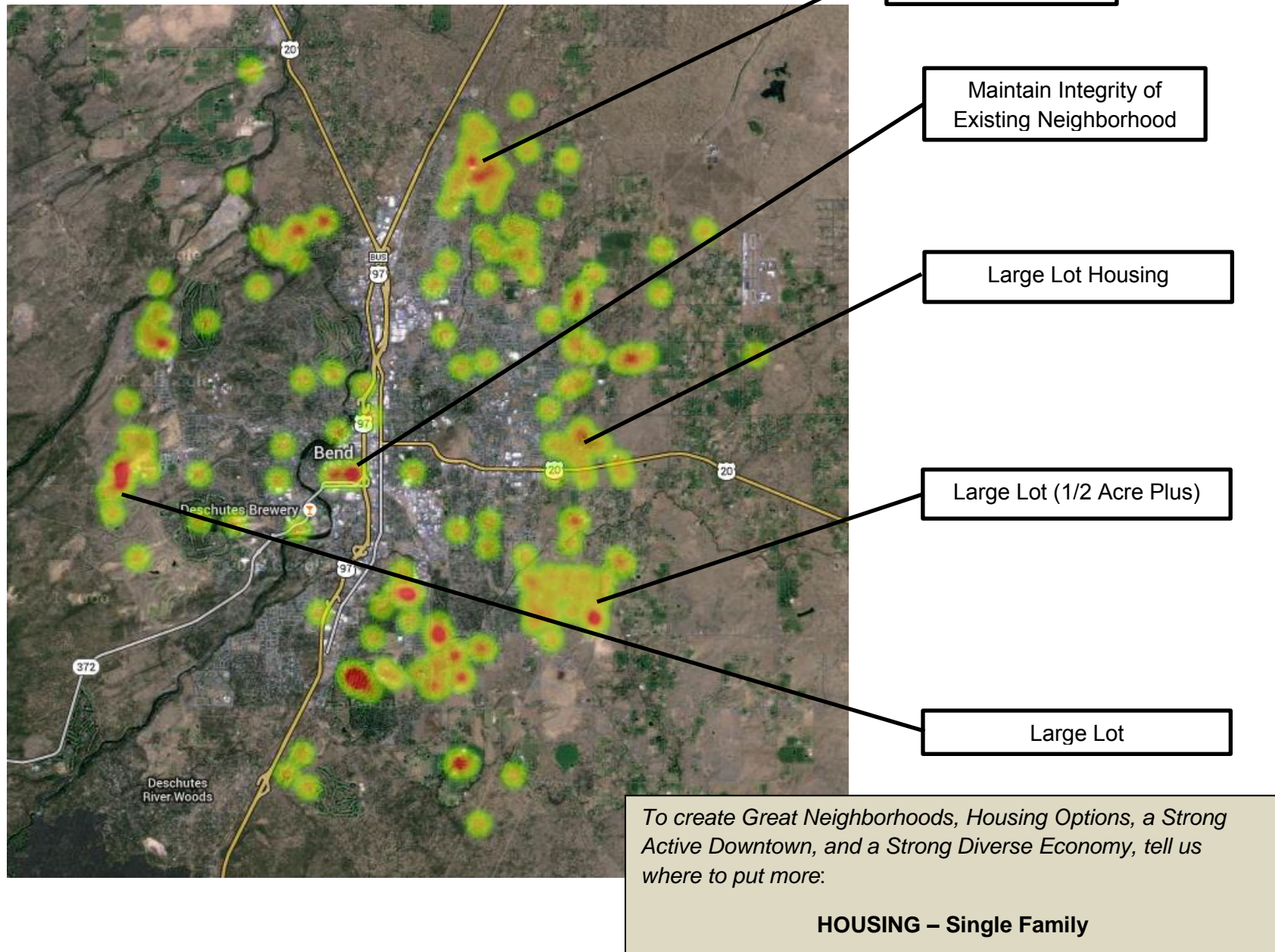


Figure 16. Townhomes, 2- 3- and 4-plex, Apartments

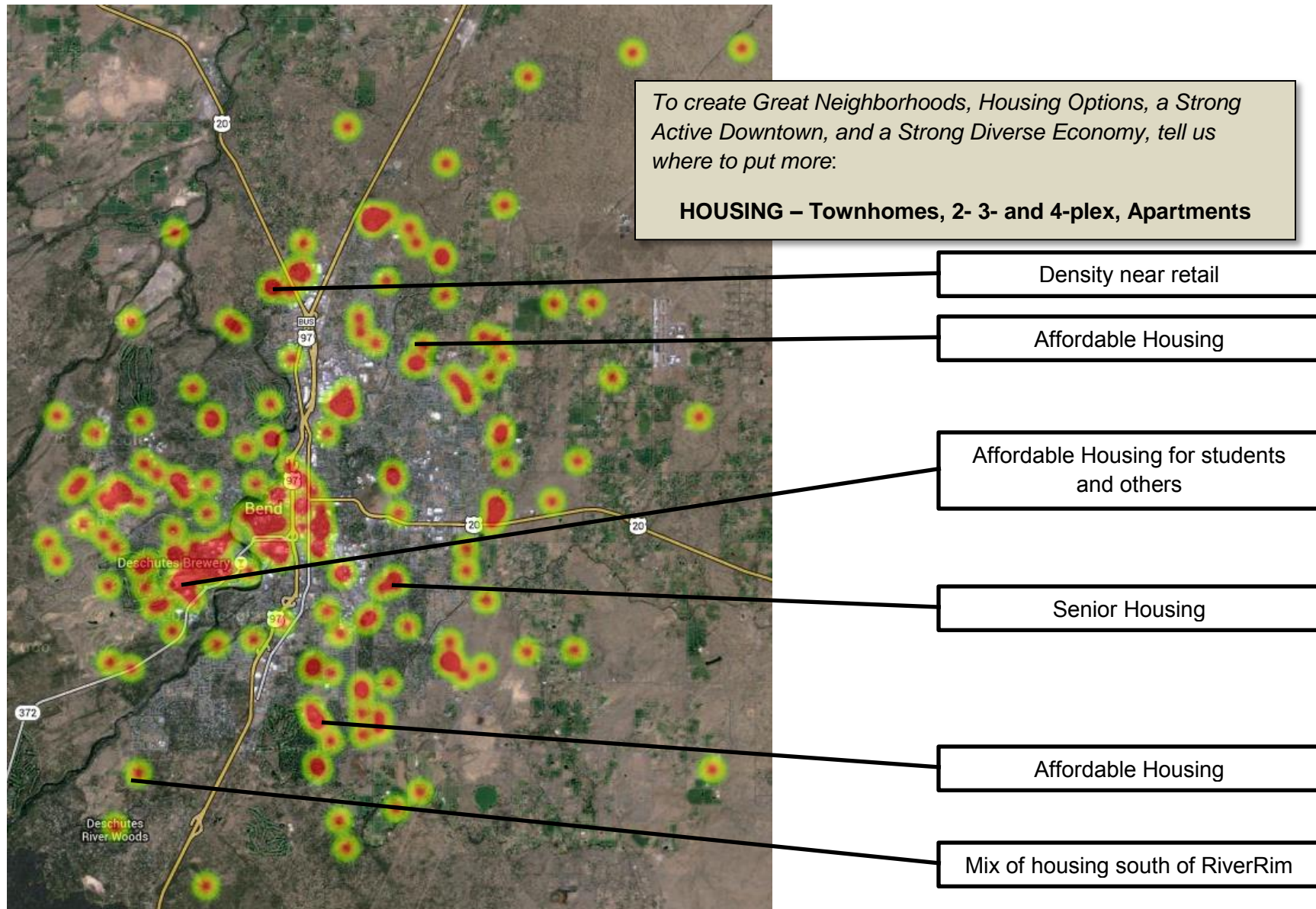


Figure 17. Employment Heat Map

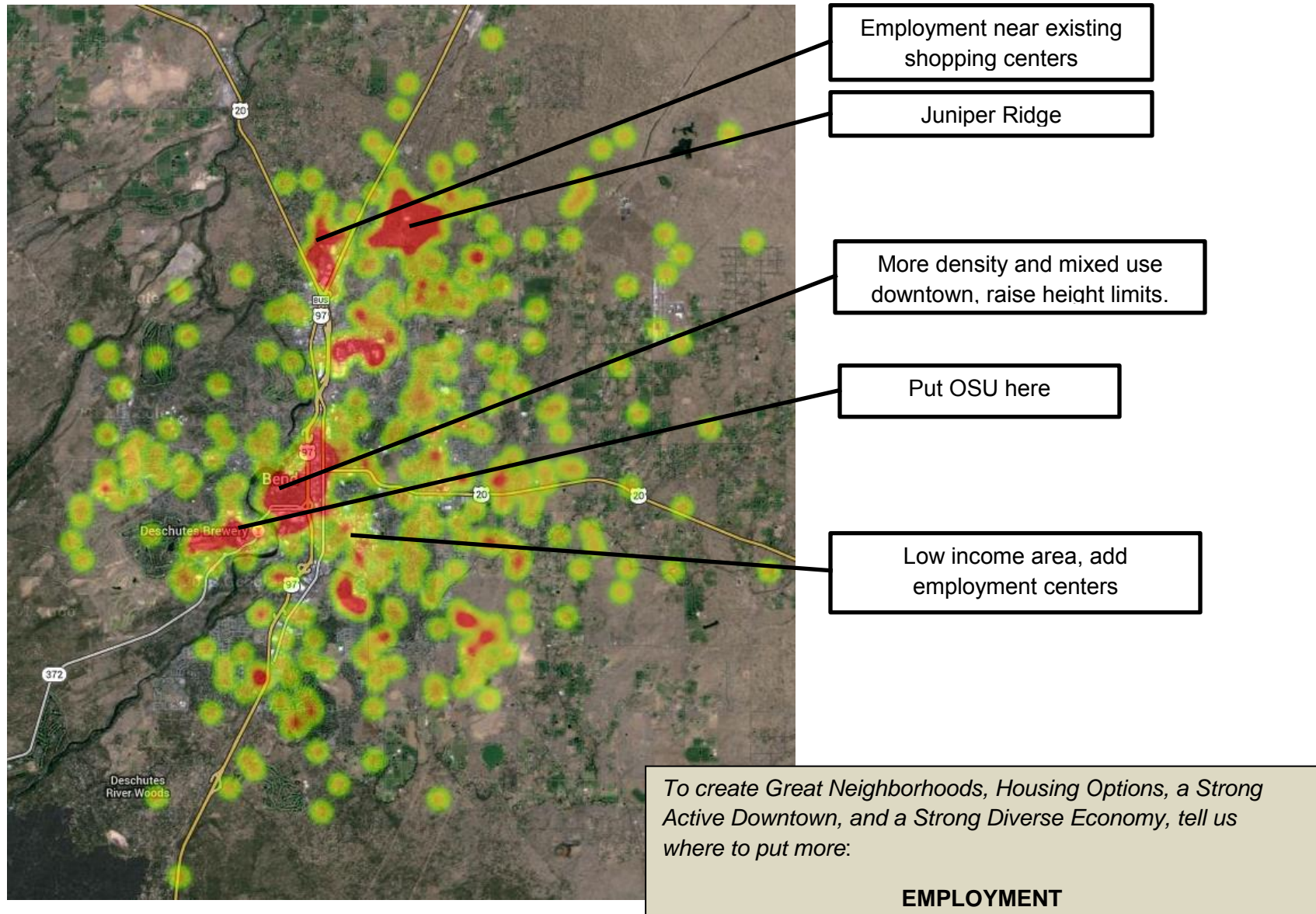


Figure 18. Shopping Heat Map

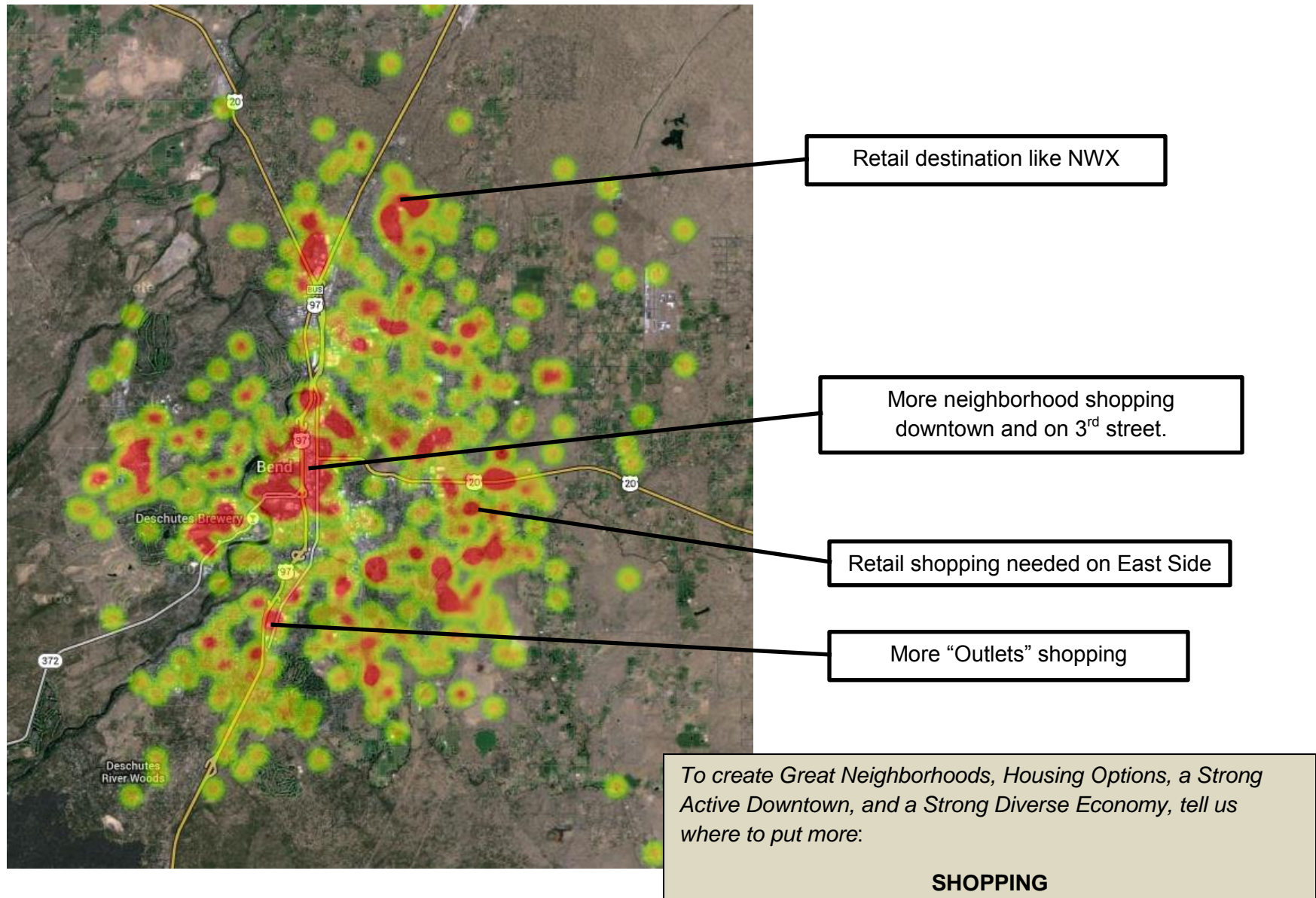
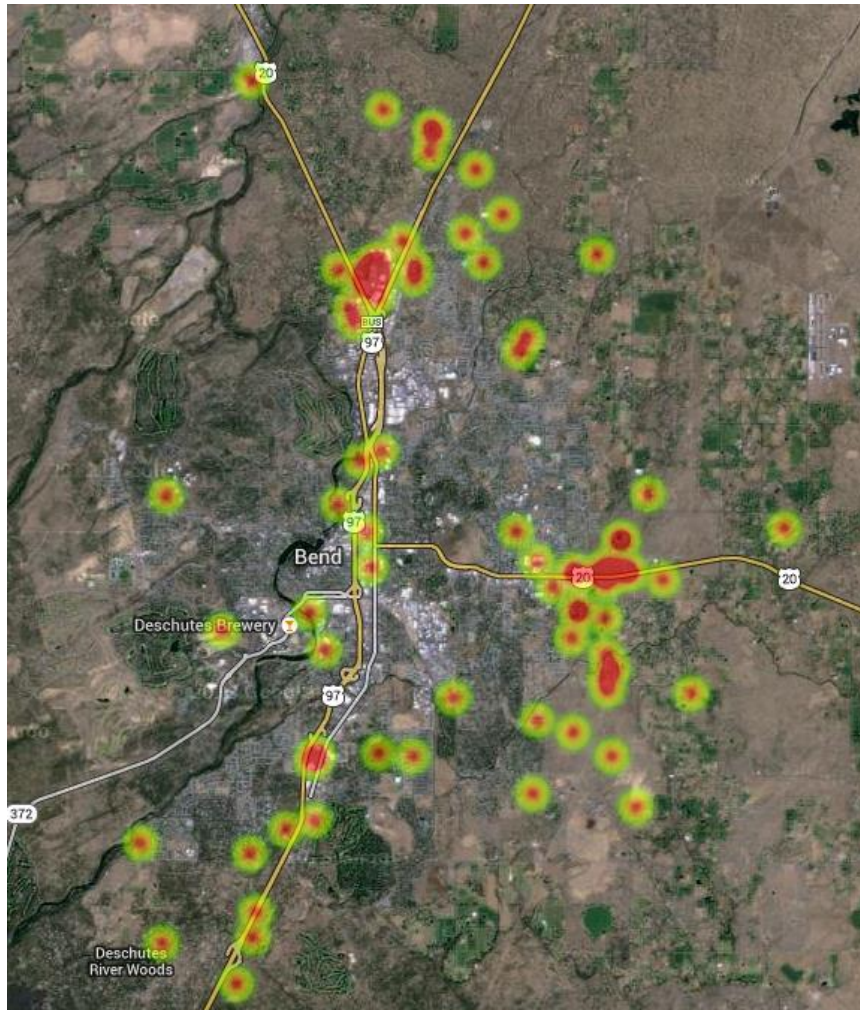


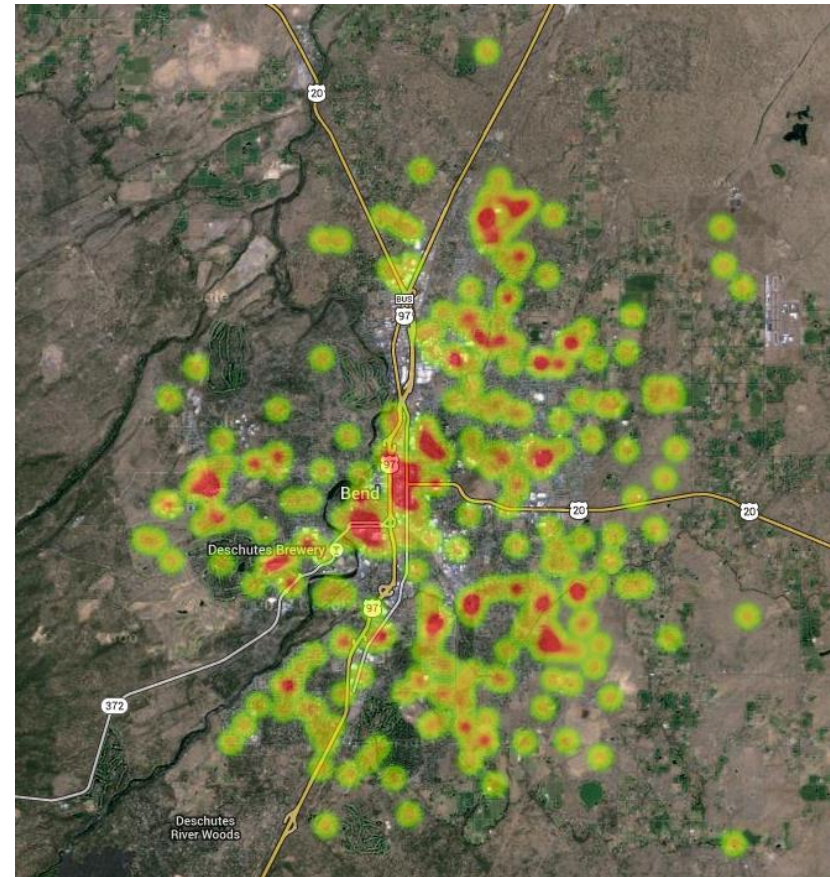
Figure 19. Large Retail Centers Heat Map



To create Great Neighborhoods, Housing Options, a Strong Active Downtown, and a Strong Diverse Economy, tell us where to put more:

SHOPPING – Large Retail Centers

Figure 20. Small Neighborhood Centers Heat Map



To create Great Neighborhoods, Housing Options, a Strong Active Downtown, and a Strong Diverse Economy, tell us where to put more:

SHOPPING – Small Neighborhood Centers

Transportation Map Pins

Figure 21. Roadway Map Pins Map

To create a Balanced Transportation System, tell us where to improve: **ROADWAYS**

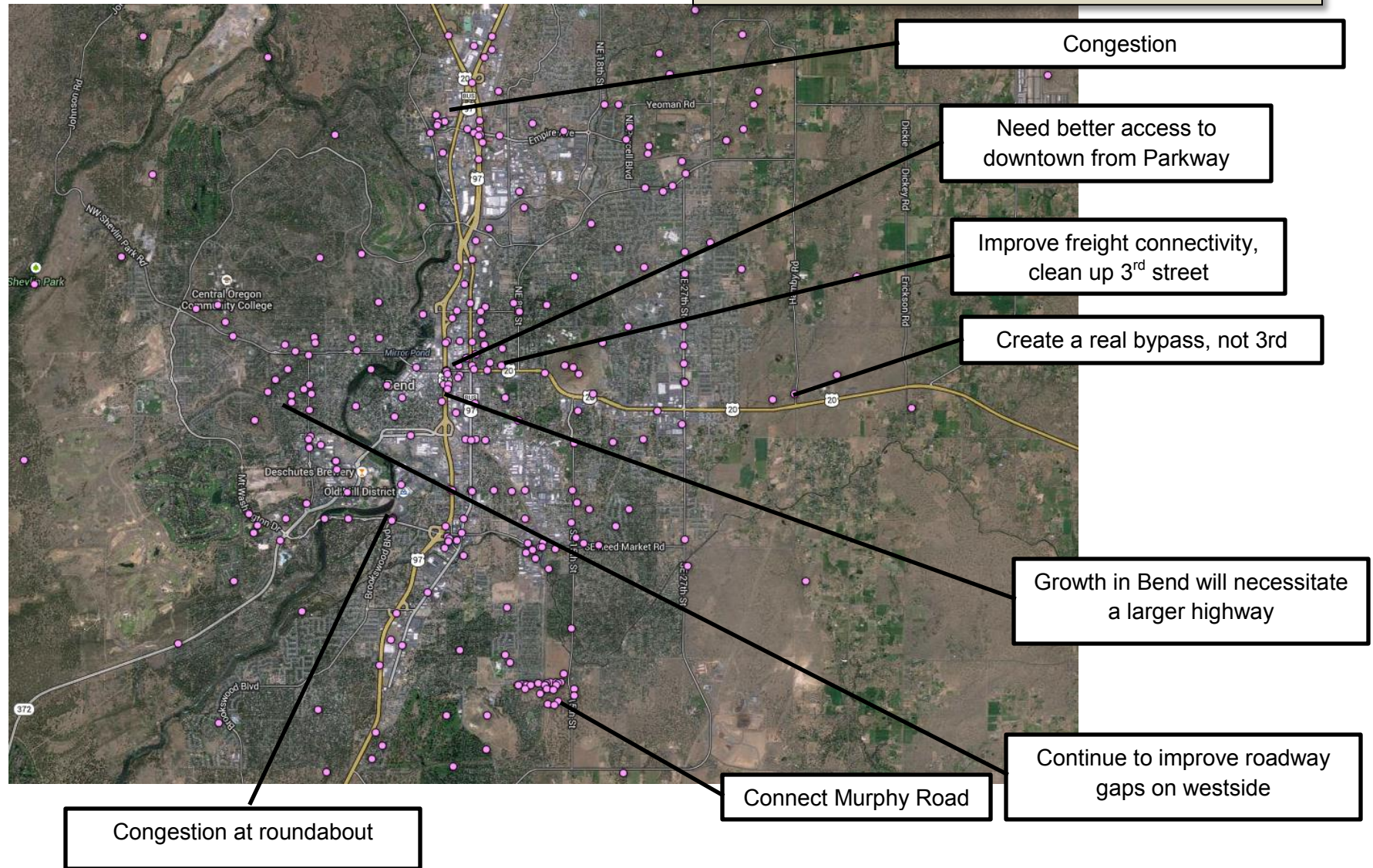


Figure 22. Cycling Heat Map

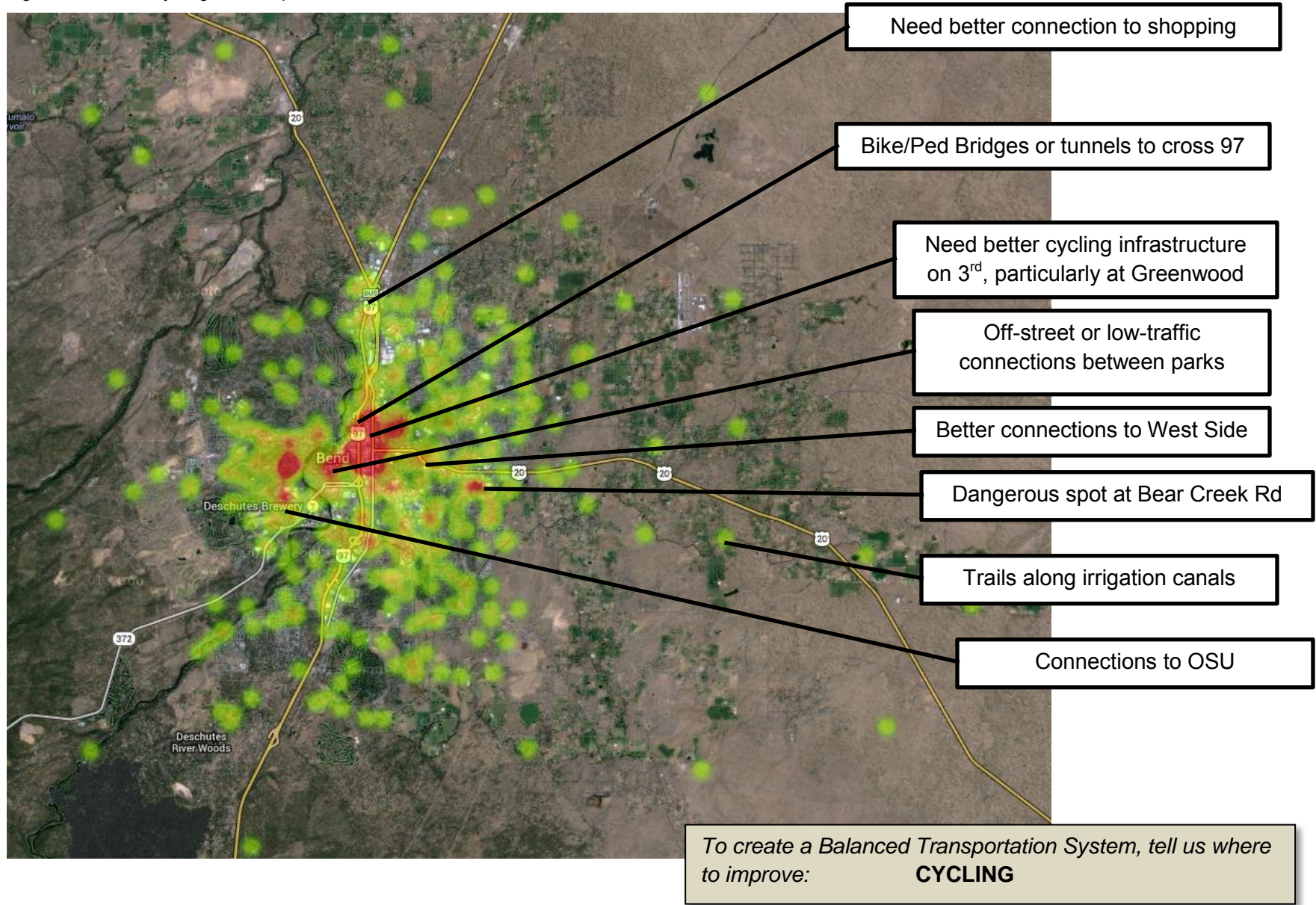


Figure 23. Transit Heat Map



Figure 24. Other Transportation

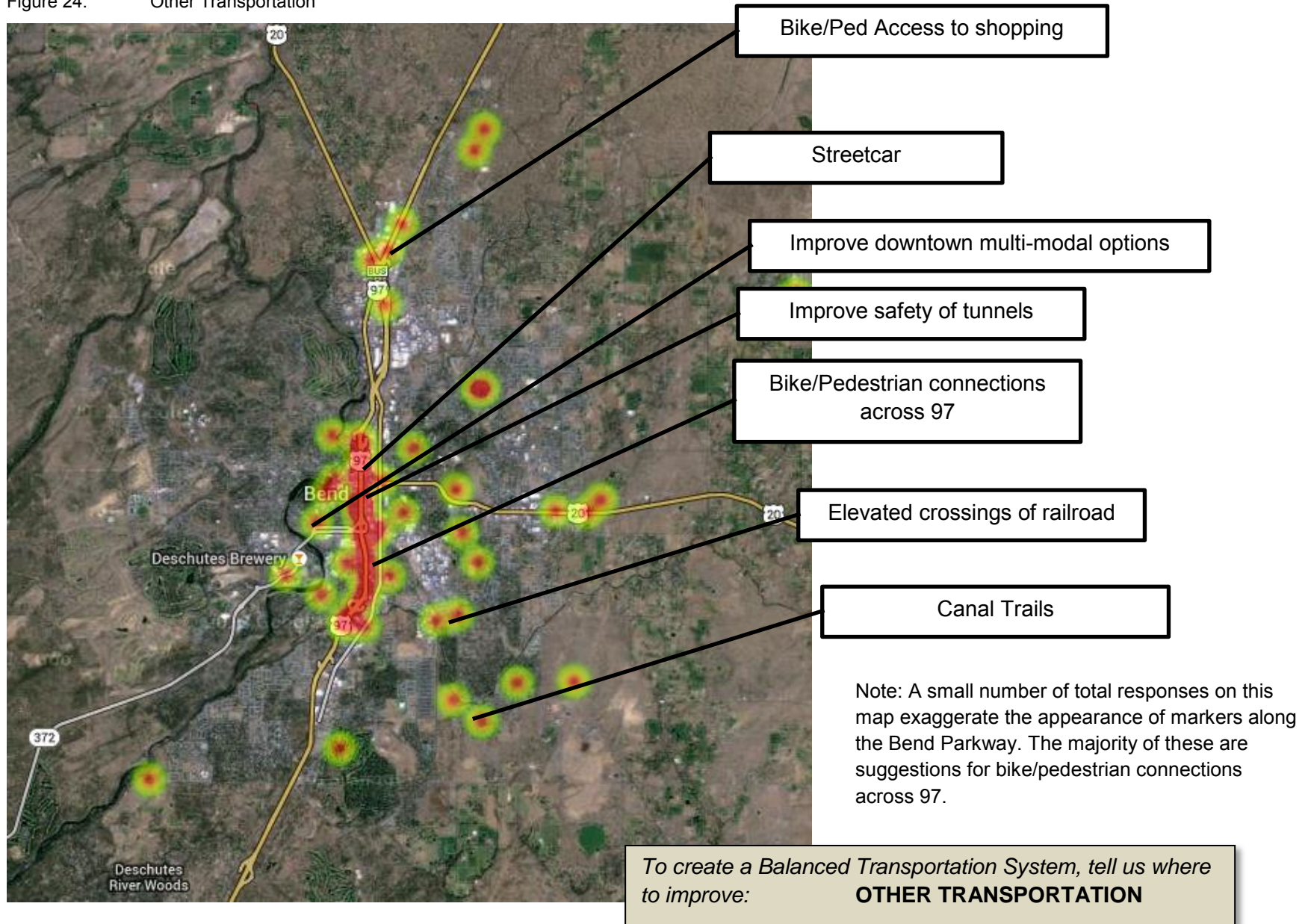
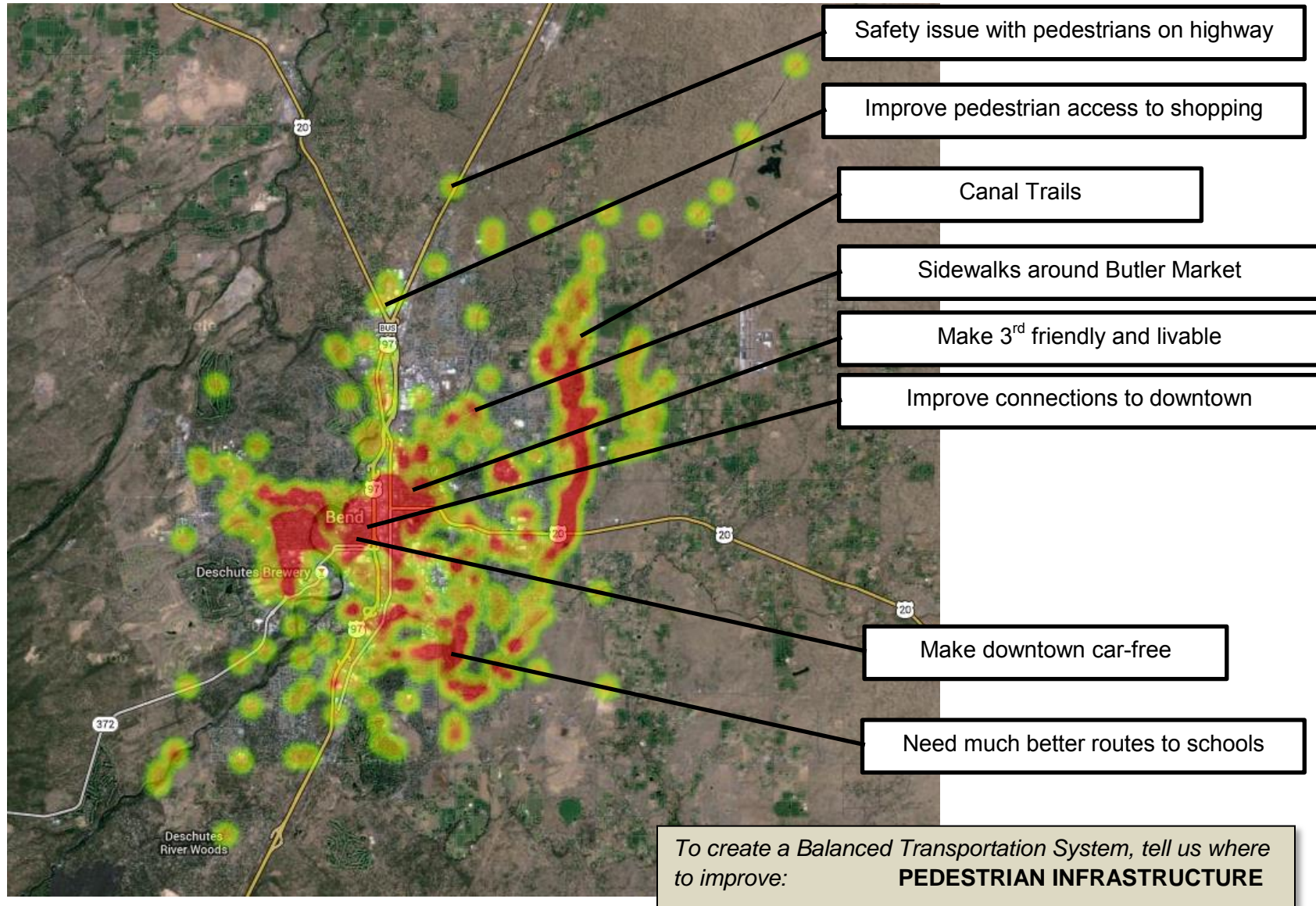


Figure 25. Pedestrian Heat Map



Natural Areas Map Pins

Figure 26. Protection Heat Map

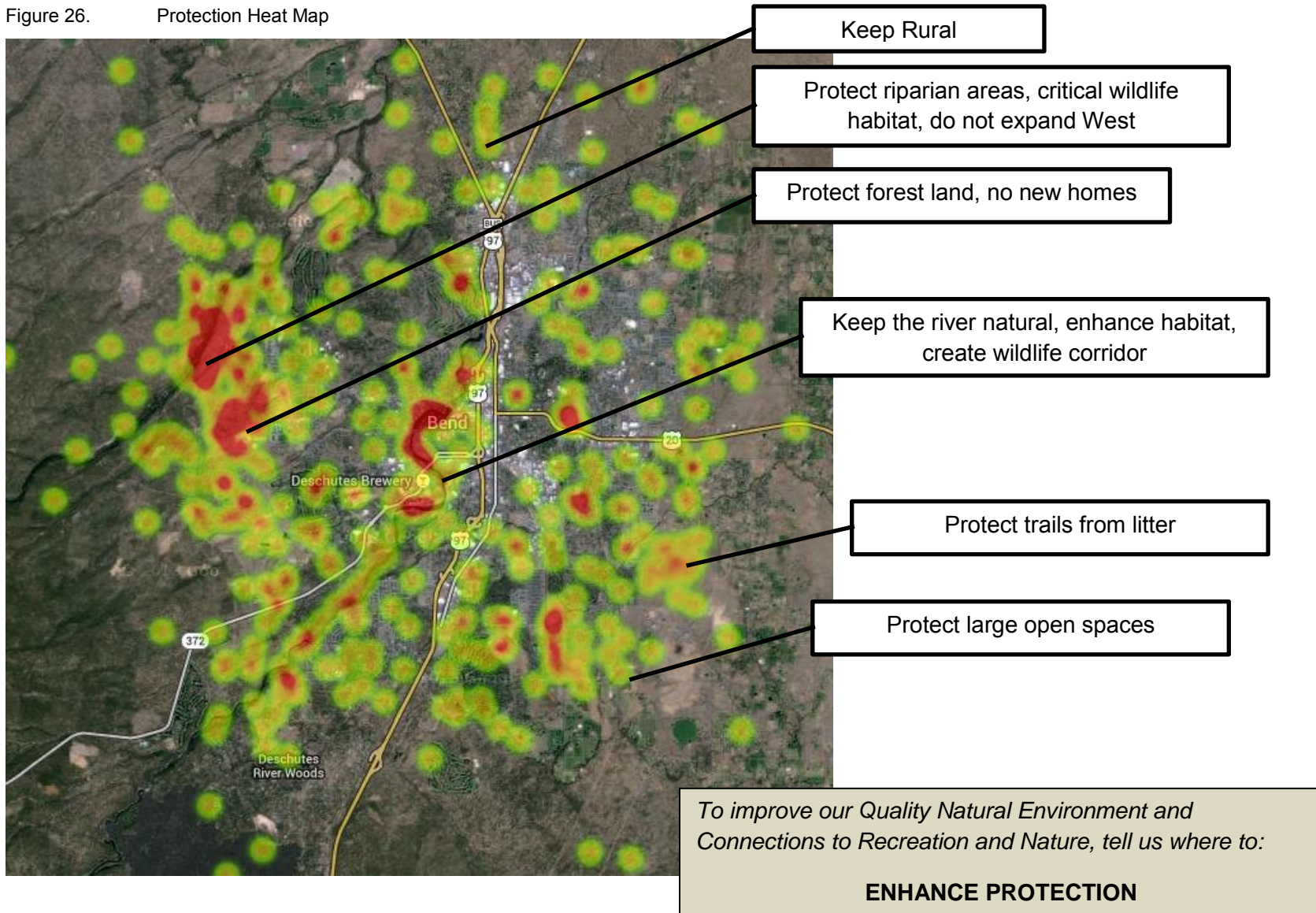


Figure 27. Access Heat Map

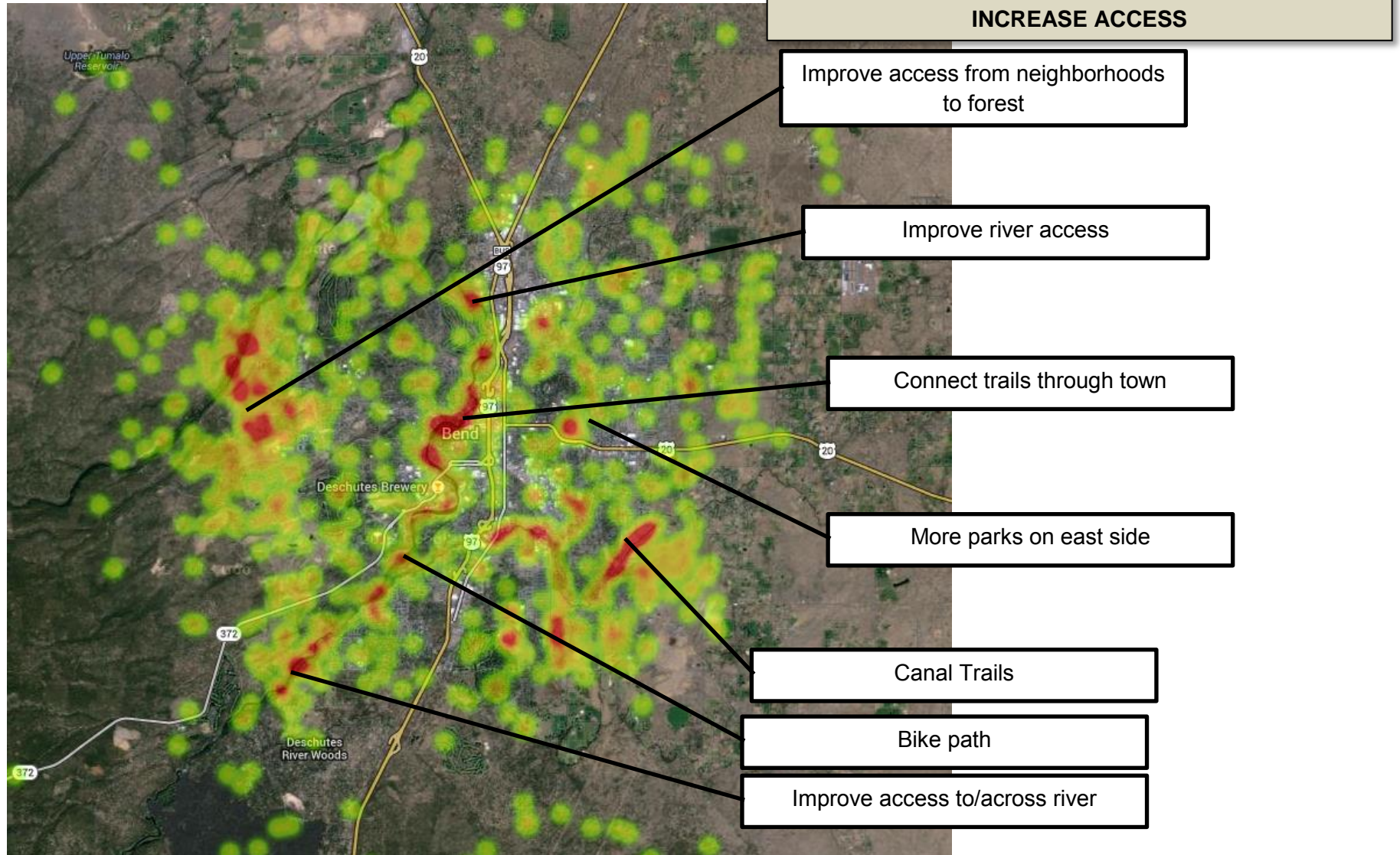
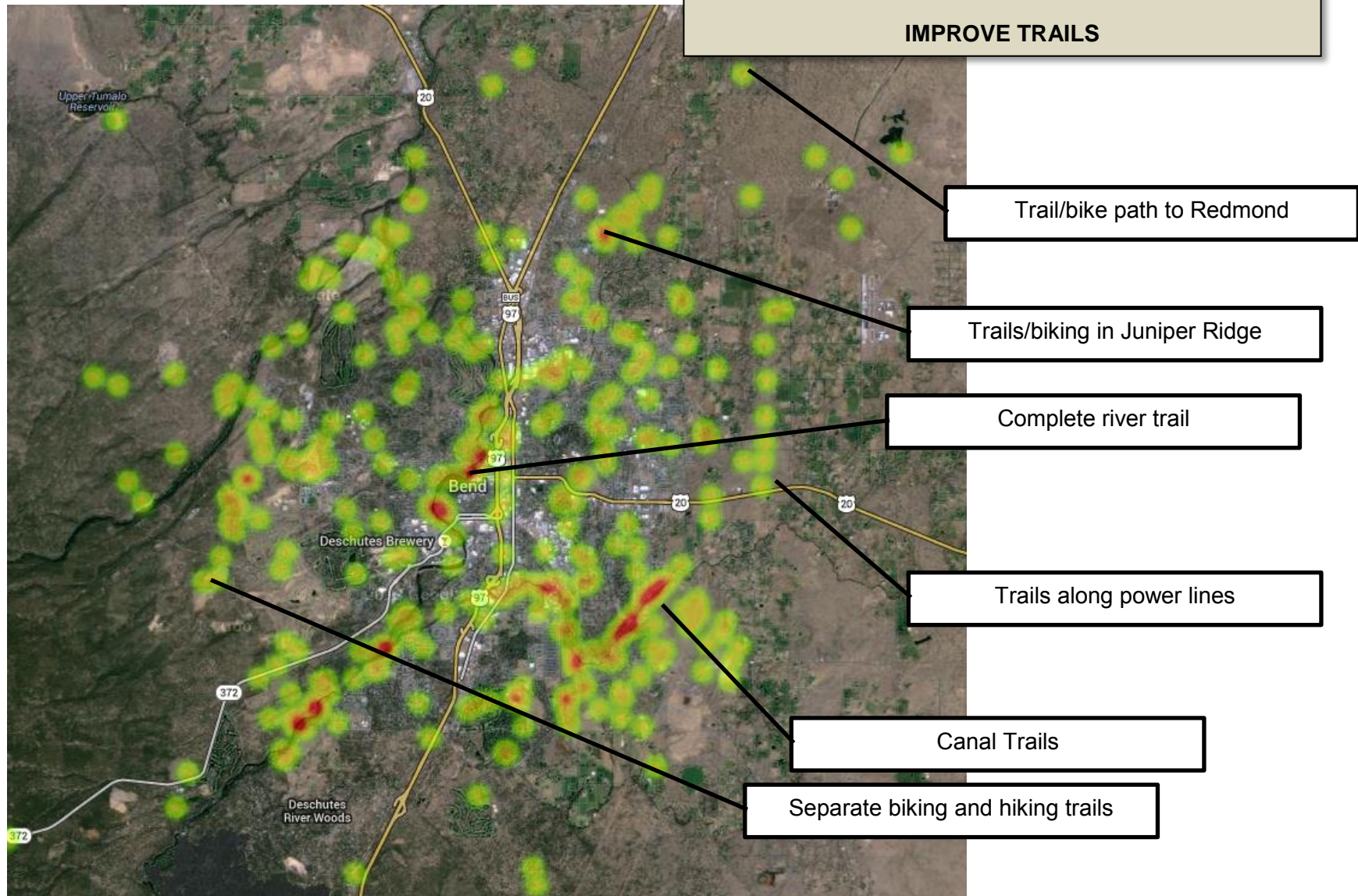


Figure 28. Trails Heat Map



Additional Comments

Table 6 below lists several other comments from Screen 4.

Table 6. Additional Comments from Screen 4

Comments and Themes	
Land Use	<ul style="list-style-type: none"> • Many comments regarding alternative locations for the OSU campus. • Lack of affordable student housing. Need to attract college students and get them to stay. • Variety of housing needed close to downtown and schools/universities • Many suggestions for grocery locations. • Need for more dense development, multi-story housing, and mixed use to protect the natural environment. • Need for more large-lot single family homes to protect the natural environment. • Fire danger to the west, unsuitable for expansion. • Need for more active uses on the east side • Need to increase employment downtown. • Need for more big box stores. • No new big box stores. • Many suggestions for neighborhood commercial locations. • Develop Juniper Ridge.
Natural Areas	<ul style="list-style-type: none"> • Need to protect wildlife and natural areas from invasive species and pets. • Need for more off-leash areas. • Need for better recreation opportunities, green space, and access to nature in SE Bend. • Respect the Wildland-Urban Interface Area; fire danger and habitat danger approaching the National Forest. • Need for more bike/ped connections between schools, downtown, old mill district, and natural areas outside bend. More urban trails. • Many comments about the public vs private nature of trail system, suggestions for more clear signage. • Improve access for pedestrians, bicycles, kayaks. • City does a good job with the natural environment – our parks are beautiful.
Transportation	<ul style="list-style-type: none"> • Many suggestions for new roundabout locations. • Many suggestions for replacing existing roundabouts with stop lights. • Increase bicycle connectivity North/South. • Increase bicycle connectivity East/West – major commuting route. • More urban bike/ped trail connections. • Bike lanes on all major streets • Improve transit stops with amenities (benches, trash cans). • Improve bike access across bridges. • Many transit improvements needed. More frequency, longer hours, more options without transfers, sidewalks to transit stops. • Congestion during events, during rush hour, all the time. • Streets on the east side not as nice as those on the west side. • Plan for light rail. • Provide more transit to Mt Bachelor.

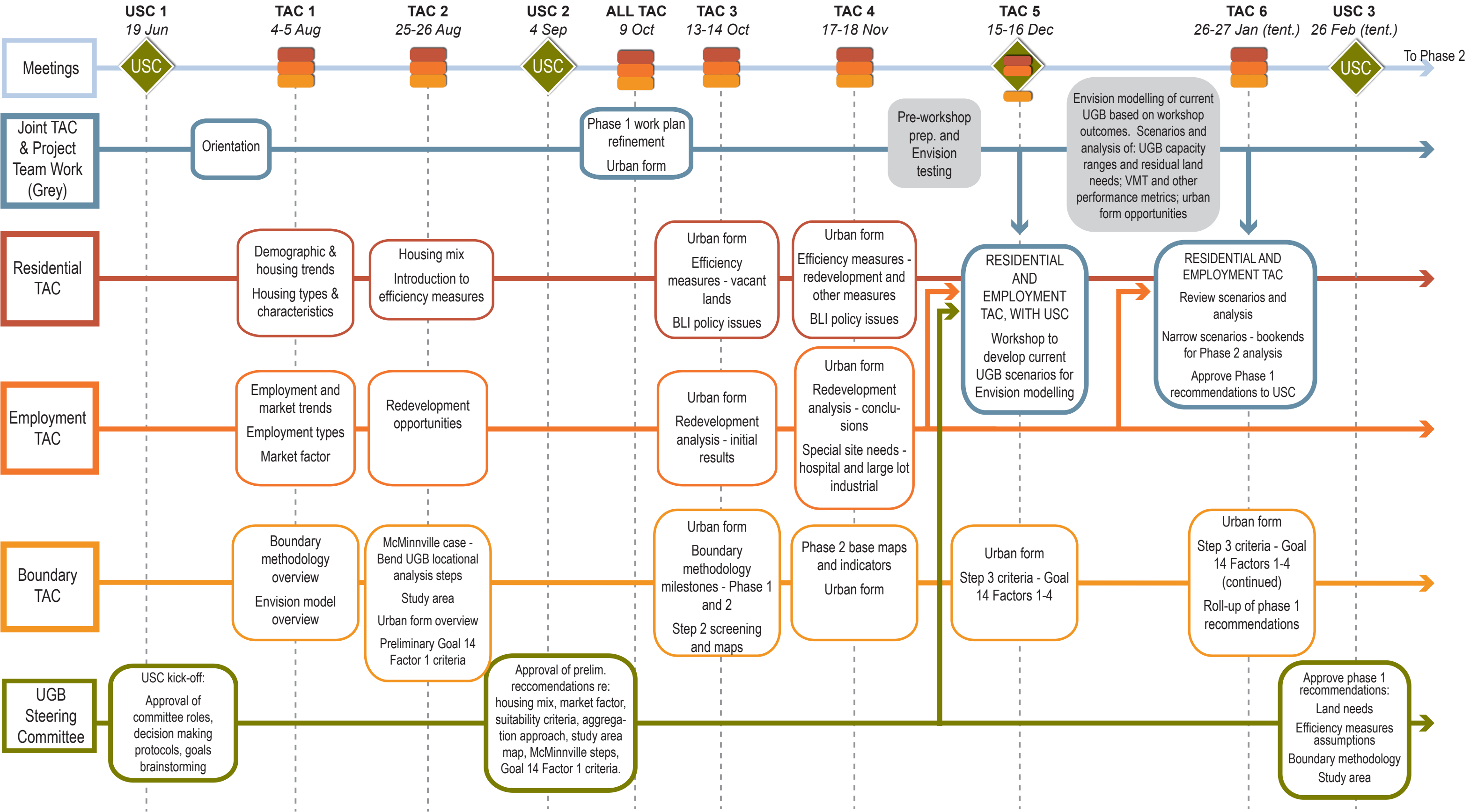
ISSUES AND IMPLICATIONS FOR PLANNING

This survey was not conducted with a random sample of residents and this analysis has not included tests of statistical significance, so we cannot be sure that the findings we see are indicative of the population as a whole. However, the level of response in this survey has been very high for a planning process, and has significantly increased the citizen participation in the UGB project.

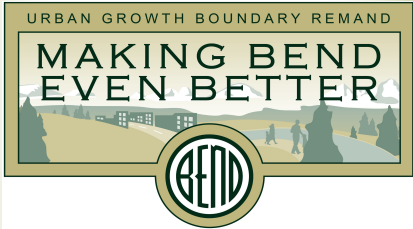
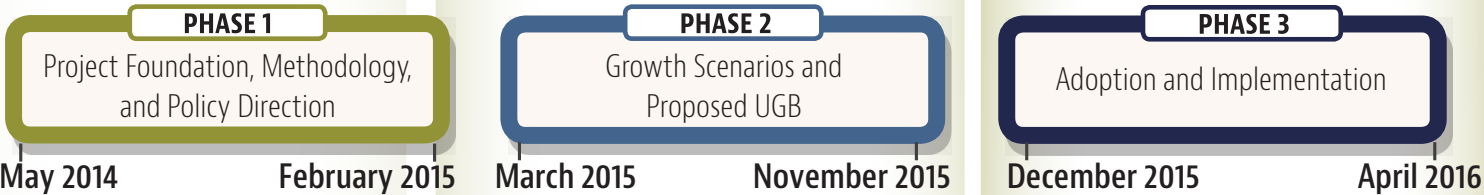
That said, this successful public engagement effort has yielded the following takeaways:

- There are many issues on which the community of Bend agrees, and serve as a foundation for UGB planning, such as:
 - The importance of a quality natural environment and preservation of areas with unique natural features, habitat, waterways, and wetlands.
 - The inadequacy of the current transportation system
 - The desire for pedestrian and bicycle connections to schools, parks, and other services
- There are strategies which some community members feel are very important, while others do not, such as:
 - Creating new housing of all types
 - Maintaining the current transportation system balance
 - Continuing the city's current approach to infrastructure planning and construction
- There is a certain amount of tension between the overall goals of the project, which people broadly support, and some of the specific strategies that can be undertaken to achieve them. For example, many people say that the City should avoid sprawl, keep Bend compact and maintain small town feel by focusing on infill. At the same time, others say that the City should minimize changes and keep densities low and lot sizes large in existing neighborhoods. Balancing these potentially conflicting aspirations will be a challenge.
- The heat maps reveal some interesting perspectives on land use and other needs in various parts of the city. A few examples include:
 - Mixed use, higher densities, employment and retail focused in the downtown and central area.
 - Transit, shopping and retail in the southwest area near the proposed OSU campus.
 - Many different potential locations for townhomes and other attached housing throughout the city.
 - The need for pedestrian improvements in many areas.
 - Desire for neighborhood-scale retail in many neighborhoods throughout the city.

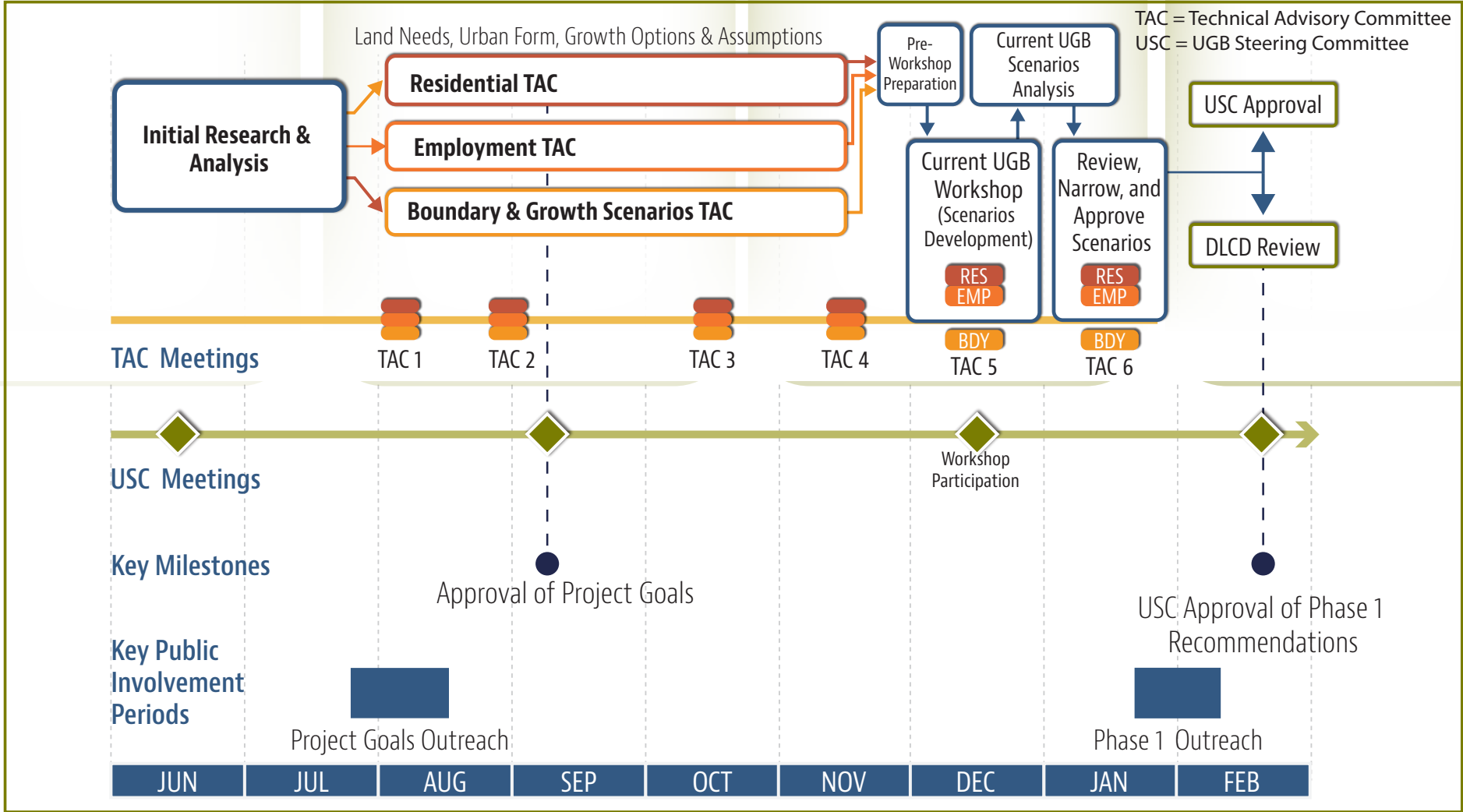
Phase 1 Detailed Work Plan - Committee Meetings and Topics



Overall Project Schedule



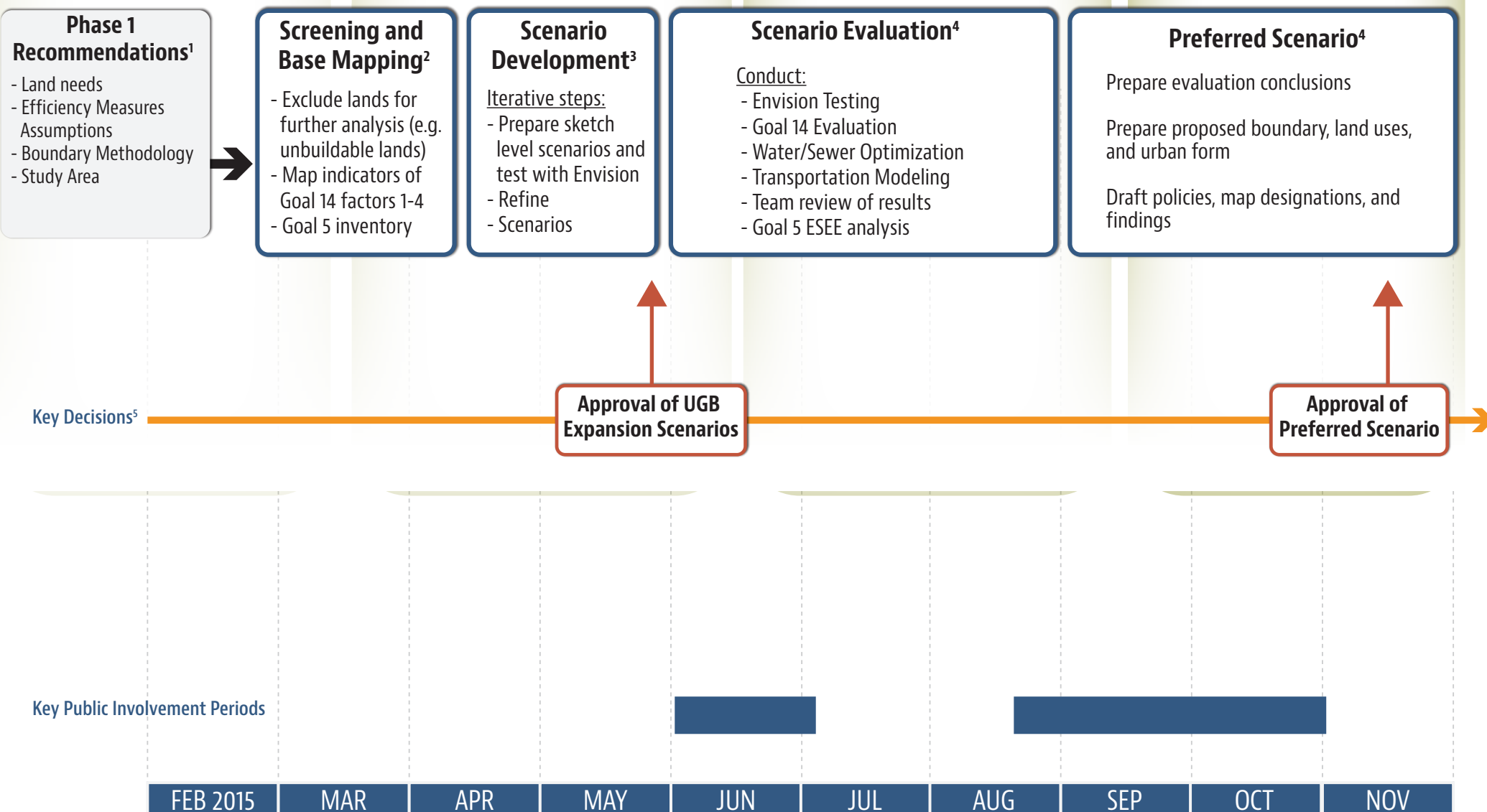
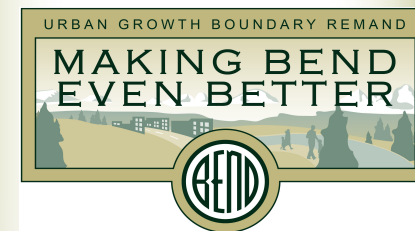
Phase 1 Work Plan - Milestones



Phase 2 Milestones

Draft October 8, 2014

Preliminary and Subject to Change



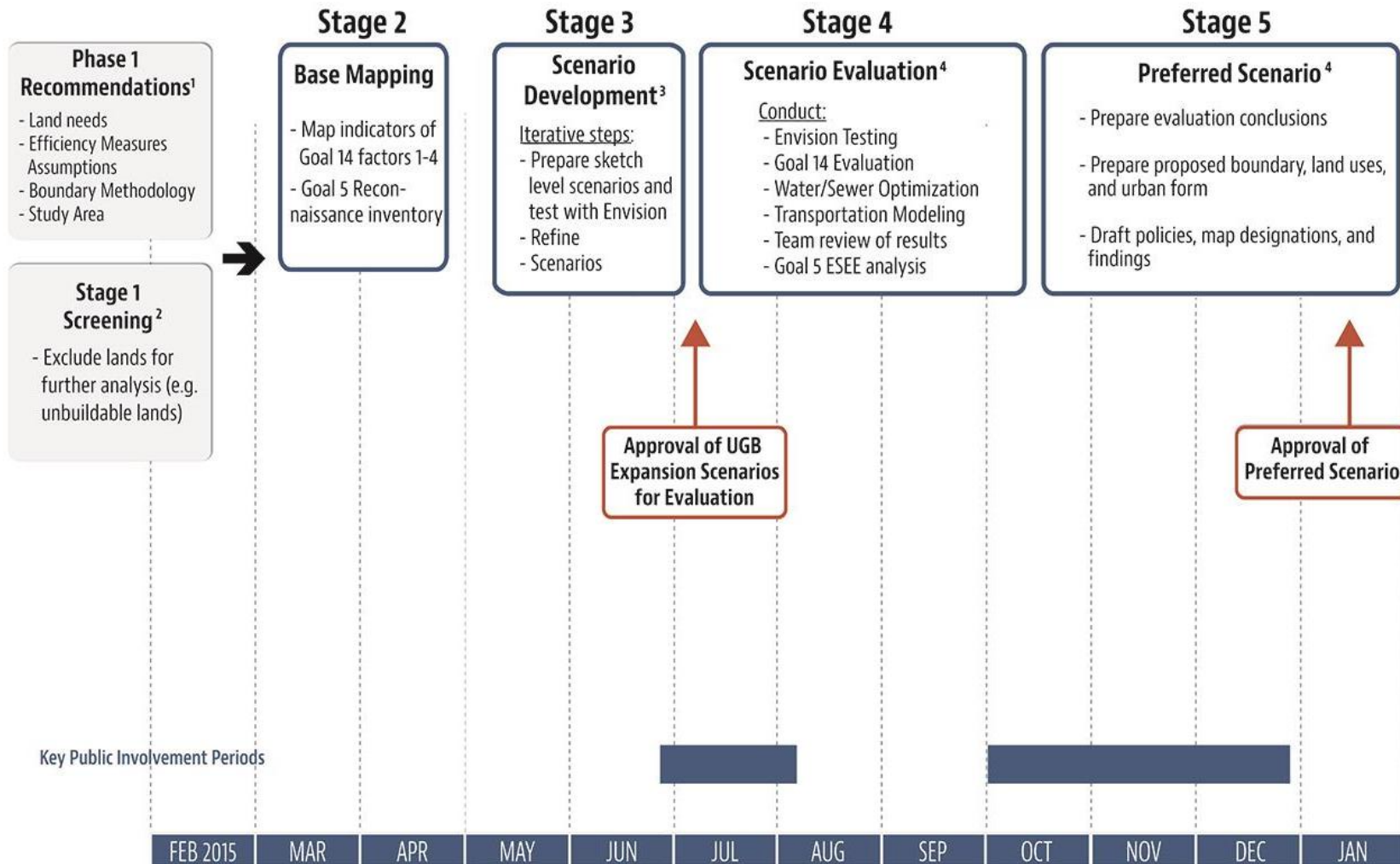
Notes:

1-4: Steps per City Attorney Memorandum, Aug 19 2014: 1 = Step 1; 2 = Step 2; 3 = Step 3A Preparation; 4 = Step 3A (3B if necessary)
5: Meeting schedule TBD, including TAC participation in meetings and workshops

Phase 2 Milestones

rev. 3/9/2015

Preliminary and Subject to Change



Notes:

1-4: Steps per City Attorney Memorandum, Aug 19 2014: 1 = Step 1; 2 = Step 2; 3 = Step 3A Preparation; 4 = Step 3A (3B if necessary)
 Additional work during Phase 2 includes: Housing Needs Analysis (HNA), Economic Opportunities Analysis (EOA), Buildable Lands Inventory (BLI)



Phase 1 Growth Scenario

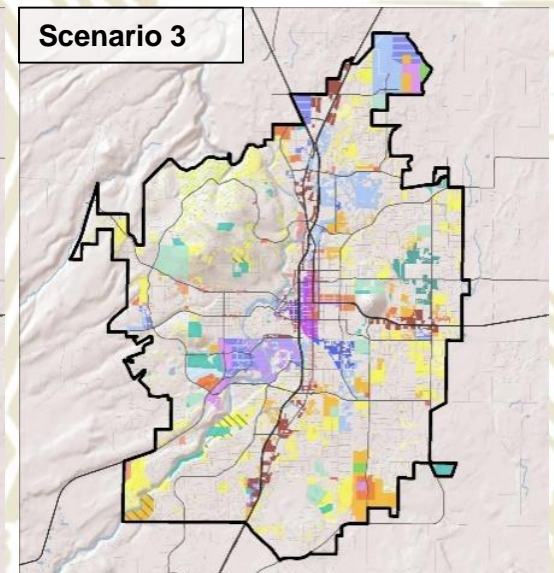
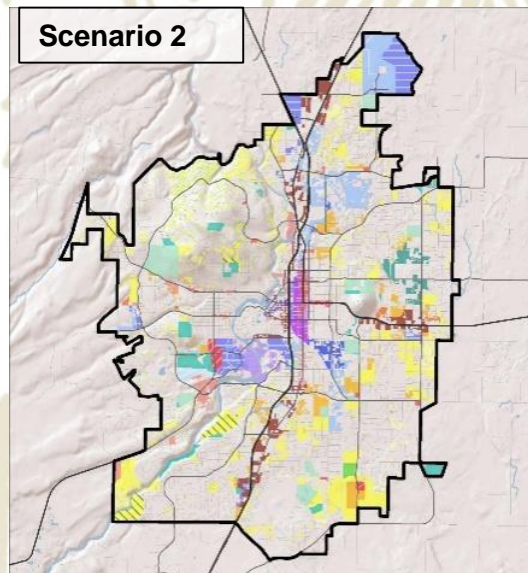
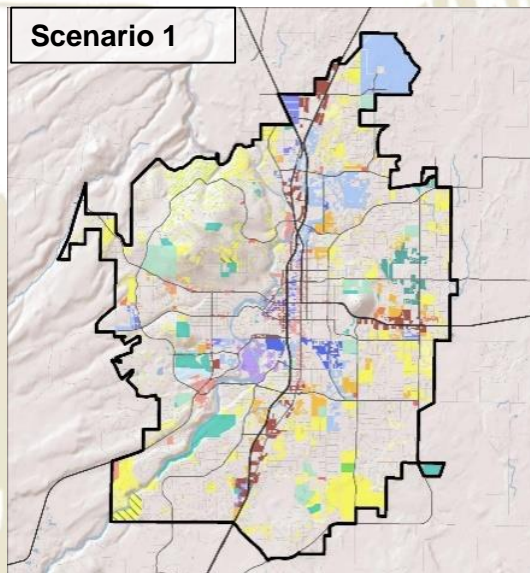
Bend UGB Remand Project

February 23, 2015

Scenarios to Date



- **January:** 3 Spatial Scenarios x 3 Efficiency Measure Packages



Scenarios to Date



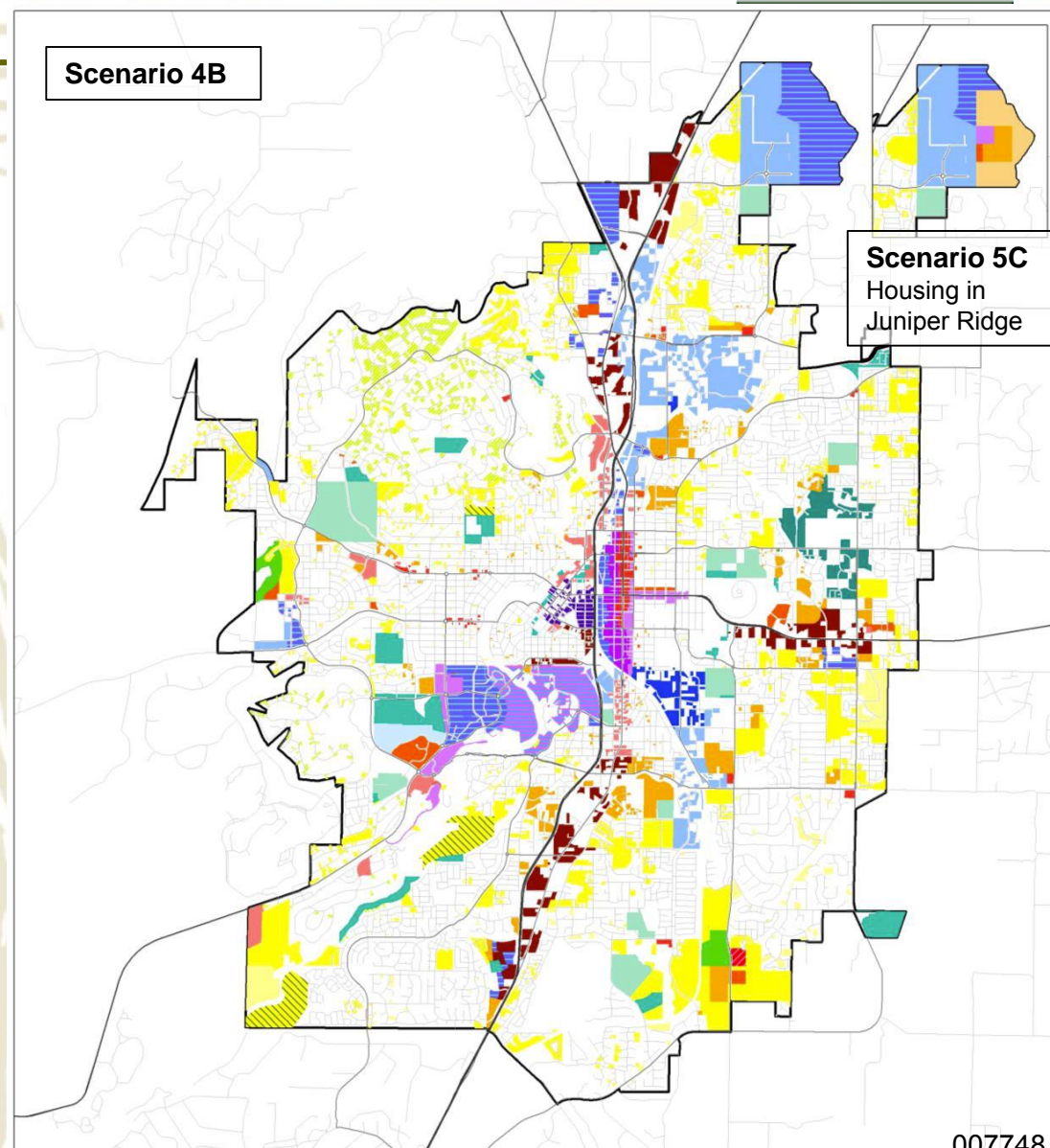
- **January: 3 Spatial Scenarios x 3 Efficiency Measure Packages**

Table 1. Development Scenarios and Efficiency Measures Matrix

	Package A Current Code	Package B Revised Code	Package C Revised Code & Additional Efficiency Measures
Scenario 1 – Base Case No location-specific changes	Scenario 1A	Scenario 1B	Scenario 1C
Scenario 2 - Intensify Location-specific changes largely inspired by TAC recommendations ("intensify")	Scenario 2A	Scenario 2B	Scenario 2C
Scenario 3 – Intensify & Mix Location-specific changes largely inspired by workshop recommendations ("intensify & increase mixing")	Scenario 3A	Scenario 3B	Scenario 3C

Phase 1 Growth Scenario

- **February: 2 Spatial Scenarios x 2 Efficiency Measure Packages**
- **Low & High Bookends: 4B & 5C**



Scenario Components



- Buildable Lands Inventory (BLI) designations
- “Painting” of Development Types (Table 1)
- Development Type Assumptions (Table 2)
- Efficiency Measures (Appendix C)
- Urban Form Map (Handout)
- Capacity Analysis (Tables 10 & 11)

Juniper Ridge



Base Case: Light Industrial



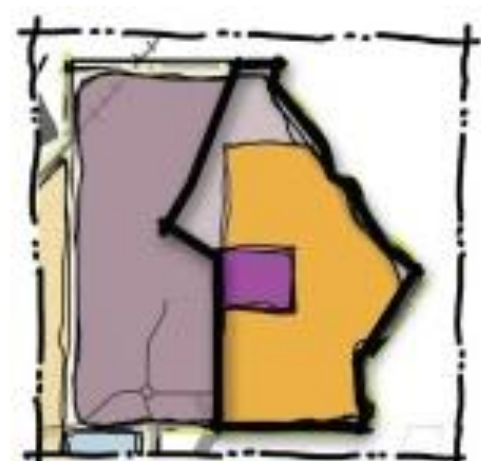
55% Industrial
25% Office
10% Civic
9% Retail

Scenario 4B: Mixed Employment



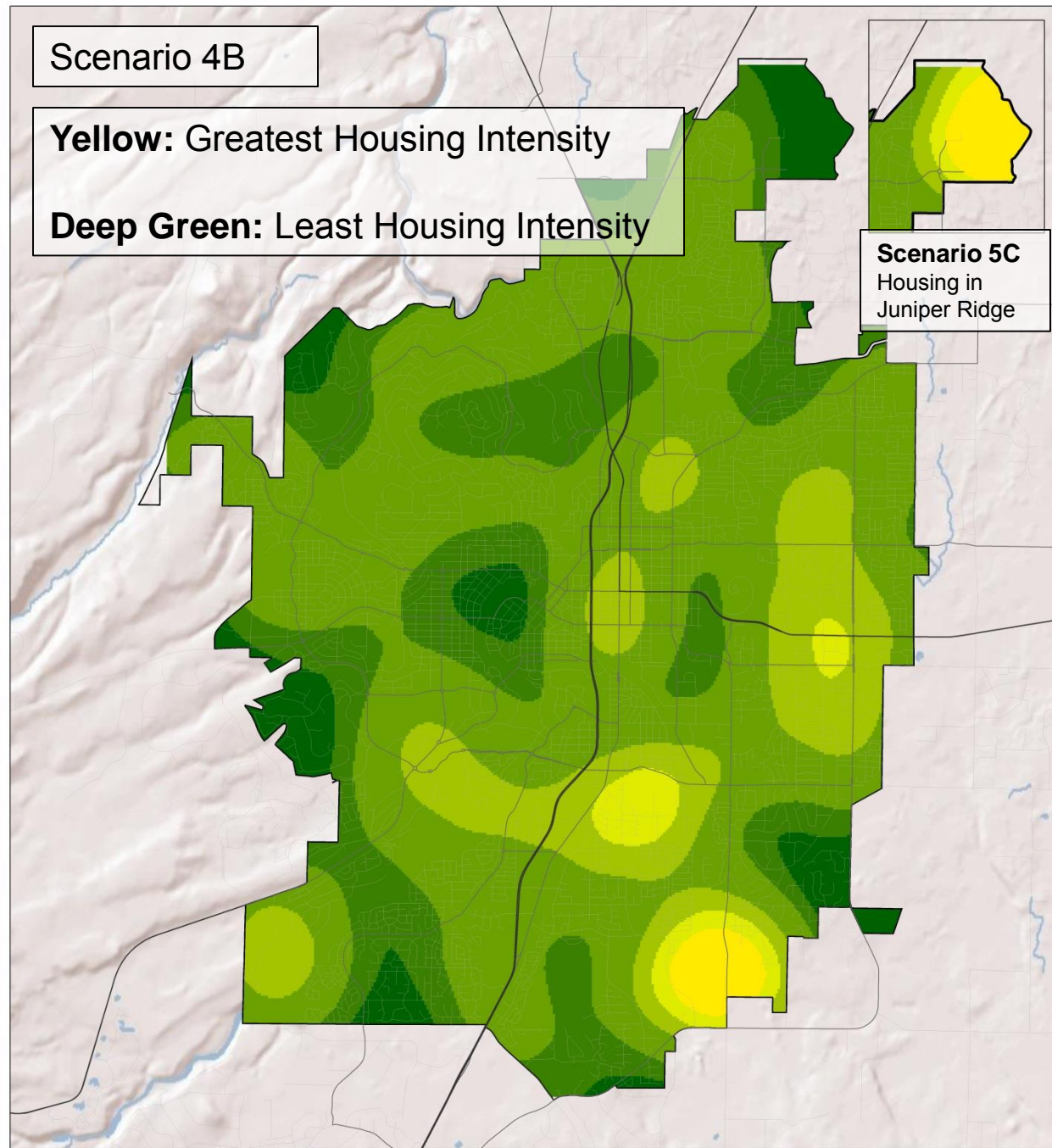
41% Industrial
31% Office
3% Civic
16% Retail
4% Hotel

Scenario 5C: New Neighborhood



Mix of Res. Standard (Masterplan), Res Medium, Res. High, Neighborhood Mixed Use, and some Mixed Employment

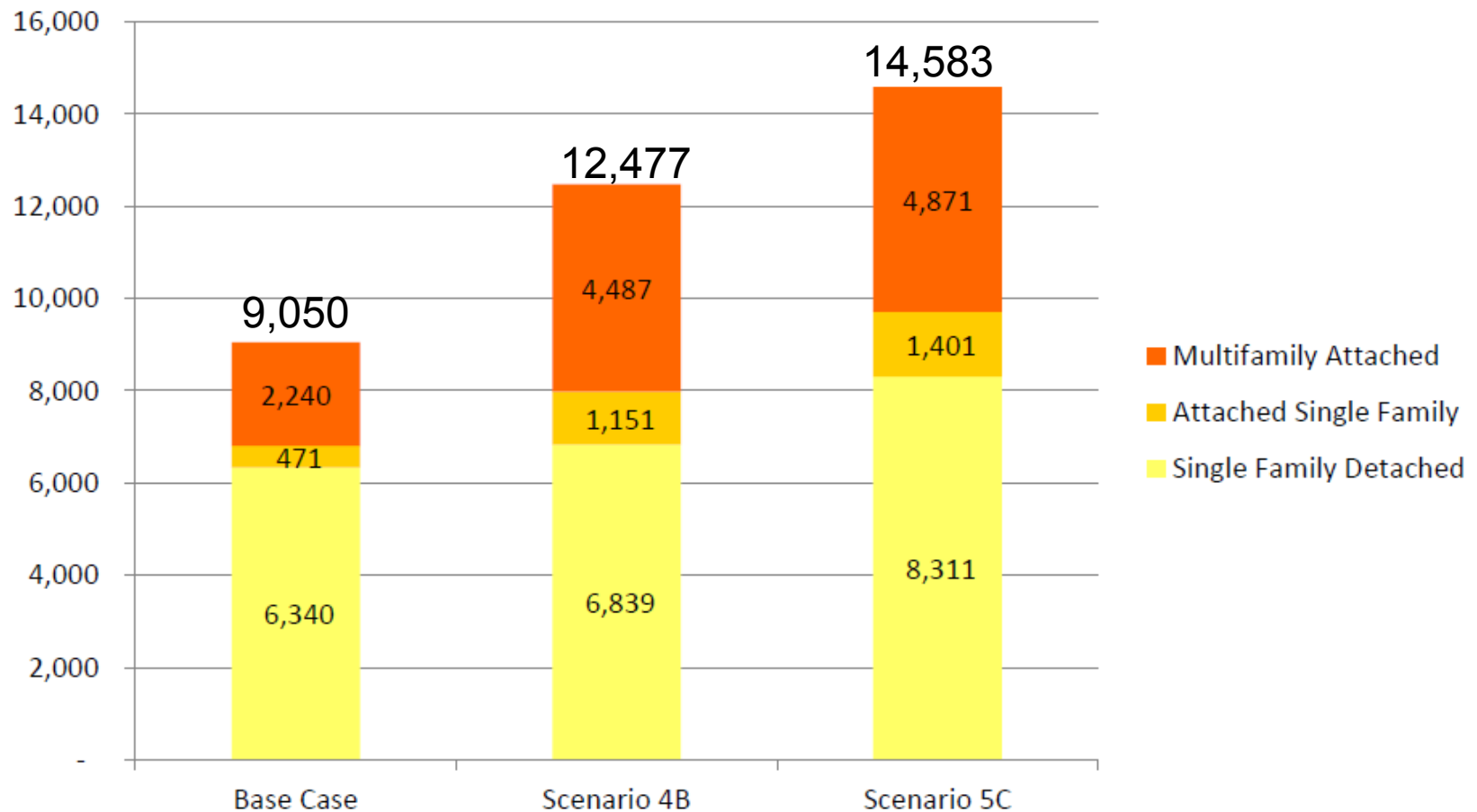
Added Housing



Results: Housing



Figure 3. Housing Capacity and Mix



Results: Infill Housing



Table 4. BLI status of Added Housing Units, by Scenario

BLI Status	Base Case		Scenario 4B		Scenario 5C	
Developed	138	2%	712	6%	738	5%
Lots large enough for an additional unit under current zoning	0	0%	0	0%	0	0%
Lots large enough to divide under current zoning	3,111	34%	4,079	33%	4,258	29%
Vacant	5,776	64%	7,479	60%	8,091	55%
Publicly Owned	25	0%	26	0%	1,302	9%
None of the above*	0	0%	180	1%	193	1%
Total	9,050	100%	12,477	100%	14,583	100%

* None of the Above indicates land that is not part of the residential BLI. These units are generated through mixed-use designations on what was previously employment land.

Infill Capacity




Hybrid Scenarios shows about 30% of new units on infill land.

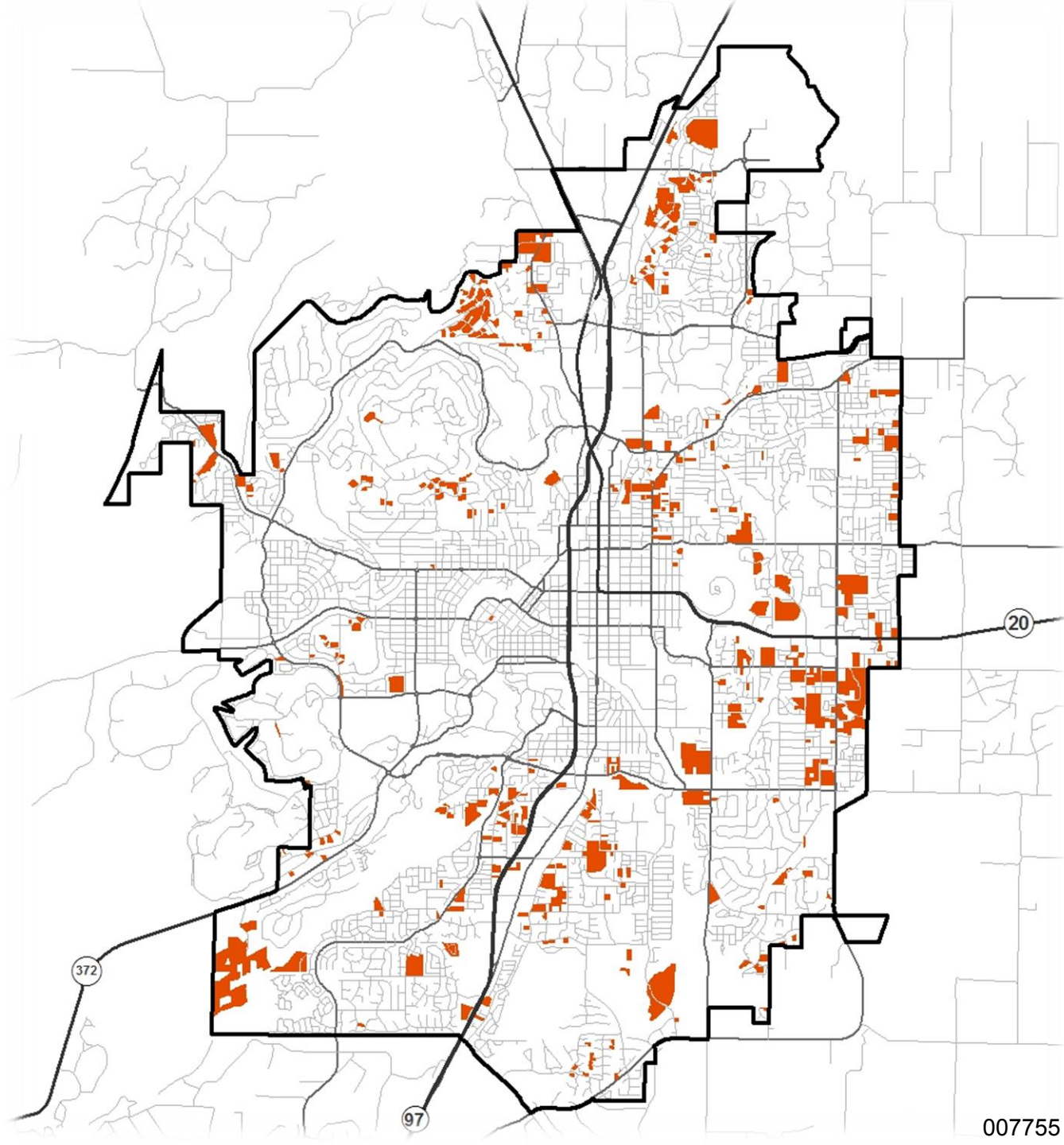
Table 3
Residential Building Permits by Land Category 1999-2008

Development Status	Building Permits	% of Total
Vacant	8,173	66.47 %
Redevelopment	2	0.002%
Developed (Replacement units)	48	0.39 %
Partially Vacant	80	0.65 %
Infill	3,724	30.29 %
Publicly Owned or Institutional/Open Space ⁸	268	2.18%
Total	12,295	100.00%

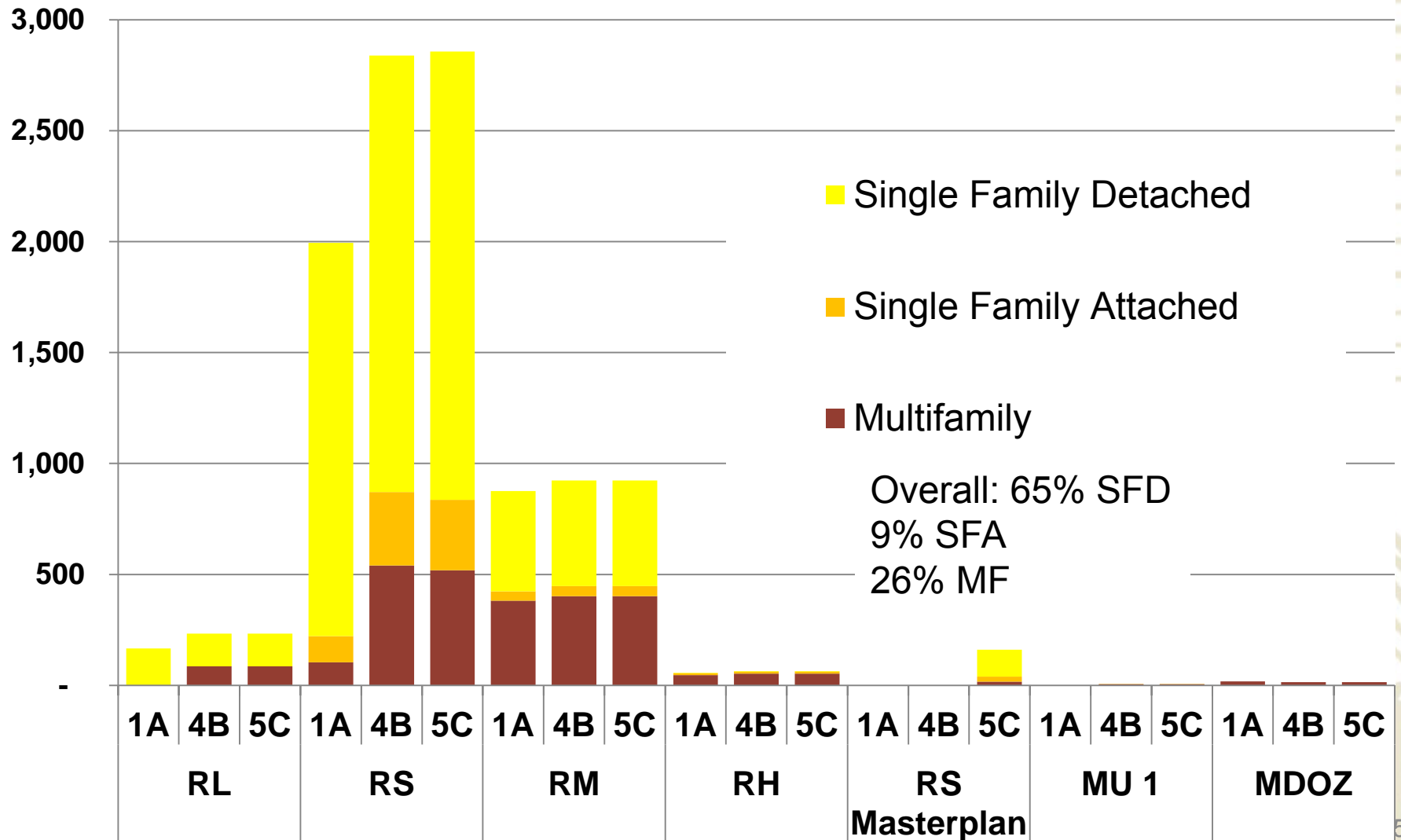
Infill Land

(has available
vacant acreage)

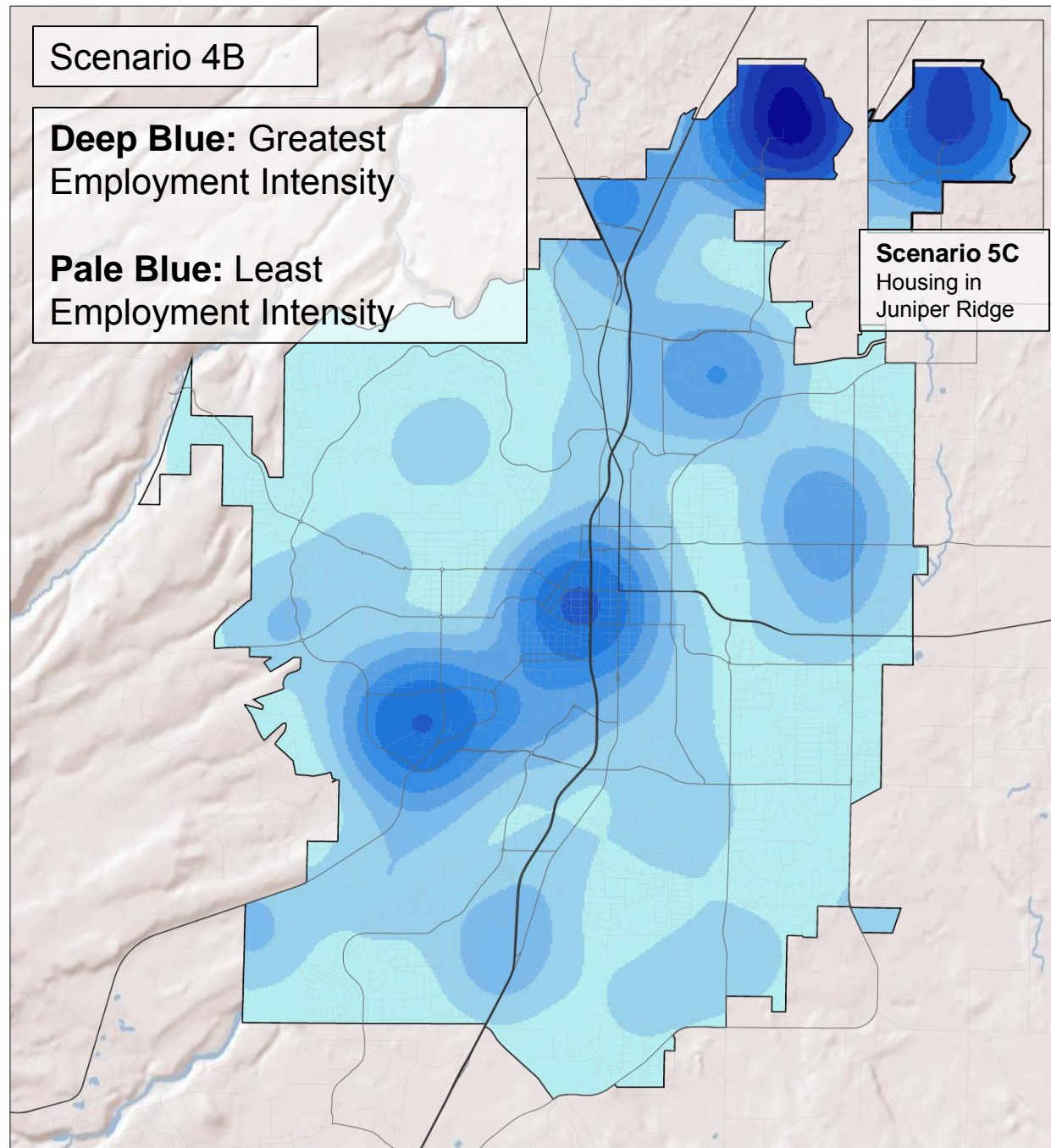
 Large Enough to Divide



Added Units in Infill Categories

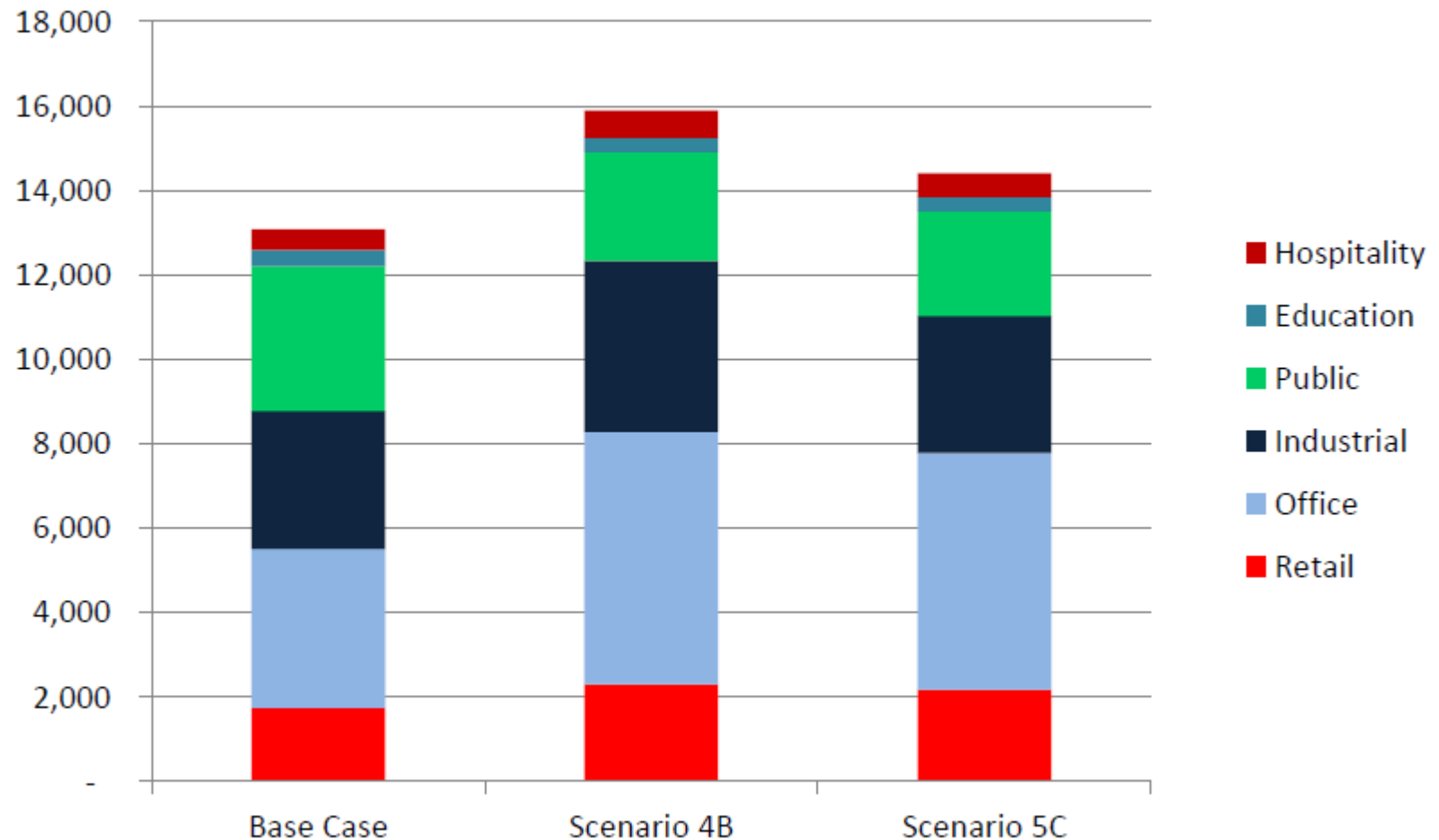


Added Jobs



Results: Employment

Figure 5. Potential Employment Capacity



Comparison to Need



Table 13. Housing Capacity Comparison to Need

	Need	Scenario 4B		Scenario 5C	
		Capacity	Residual	Capacity	Residual
Single Family Detached	9,225	6,839	-2,386	8,311	-914
Single Family Attached	1,677	1,151	-526	1,404	-273
Multifamily Attached	6,331	4,487	-1,844	4,871	-1,460
Total Housing Units	17,234	12,477	-4,757	14,583	-2,651

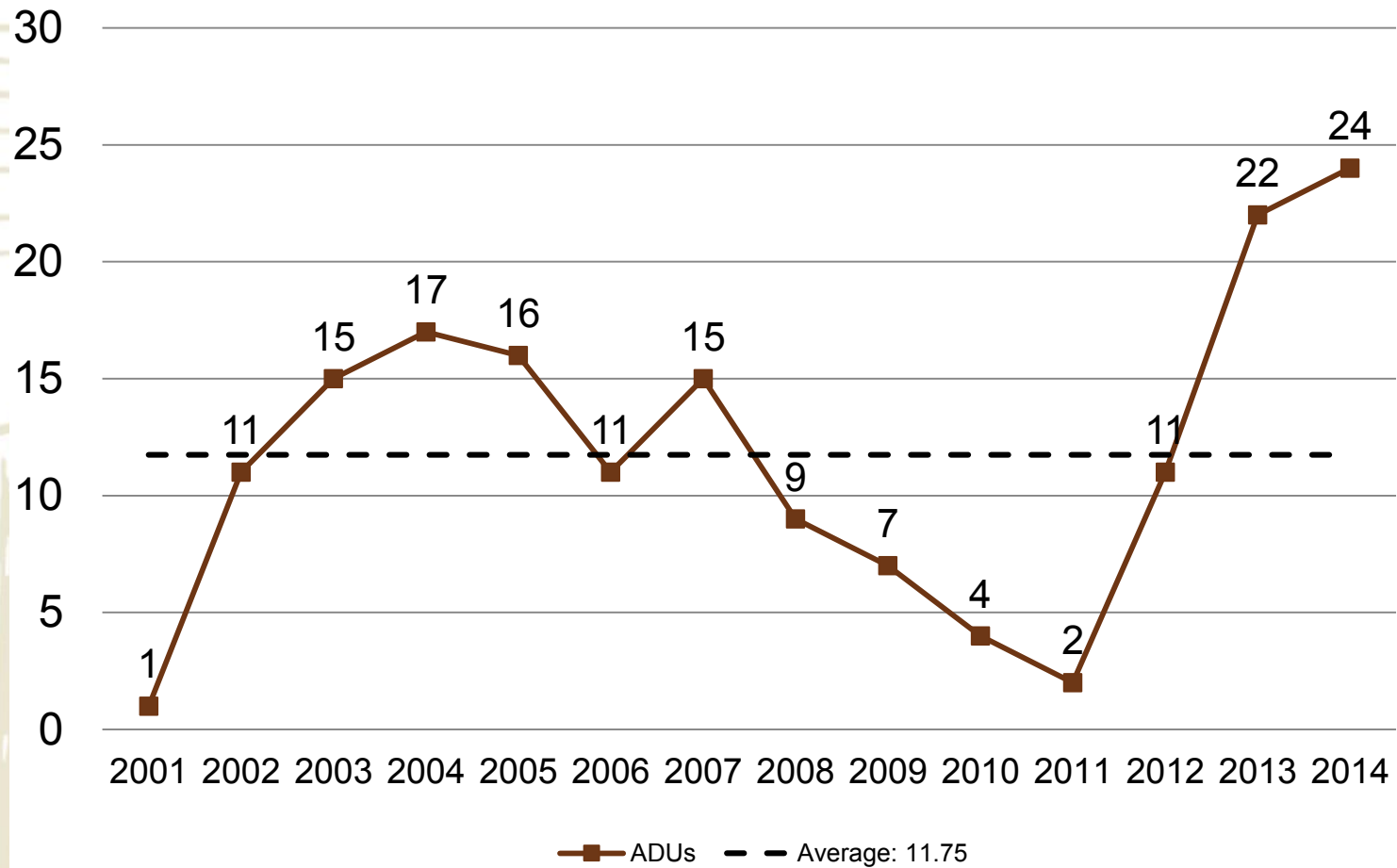
Table 14. Employment Capacity Comparison to Need

	Need	Scenario 4B		Scenario 5C	
		Capacity	Residual	Capacity	Residual
Total Jobs	20,626	15,887	-4,739	14,413	-6,213

ADUs



ADUs Permitted, 2001-2014

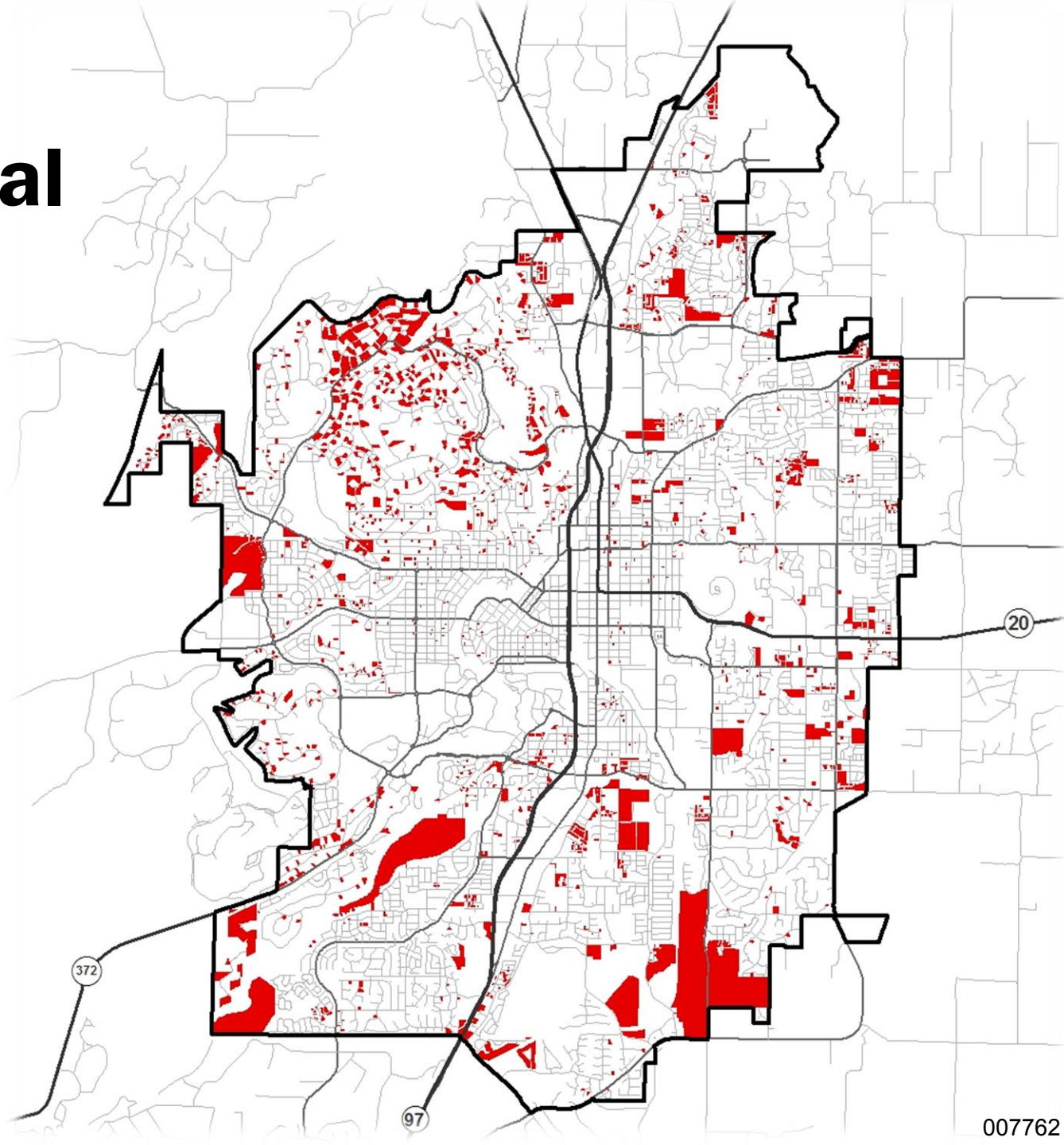


ADUs

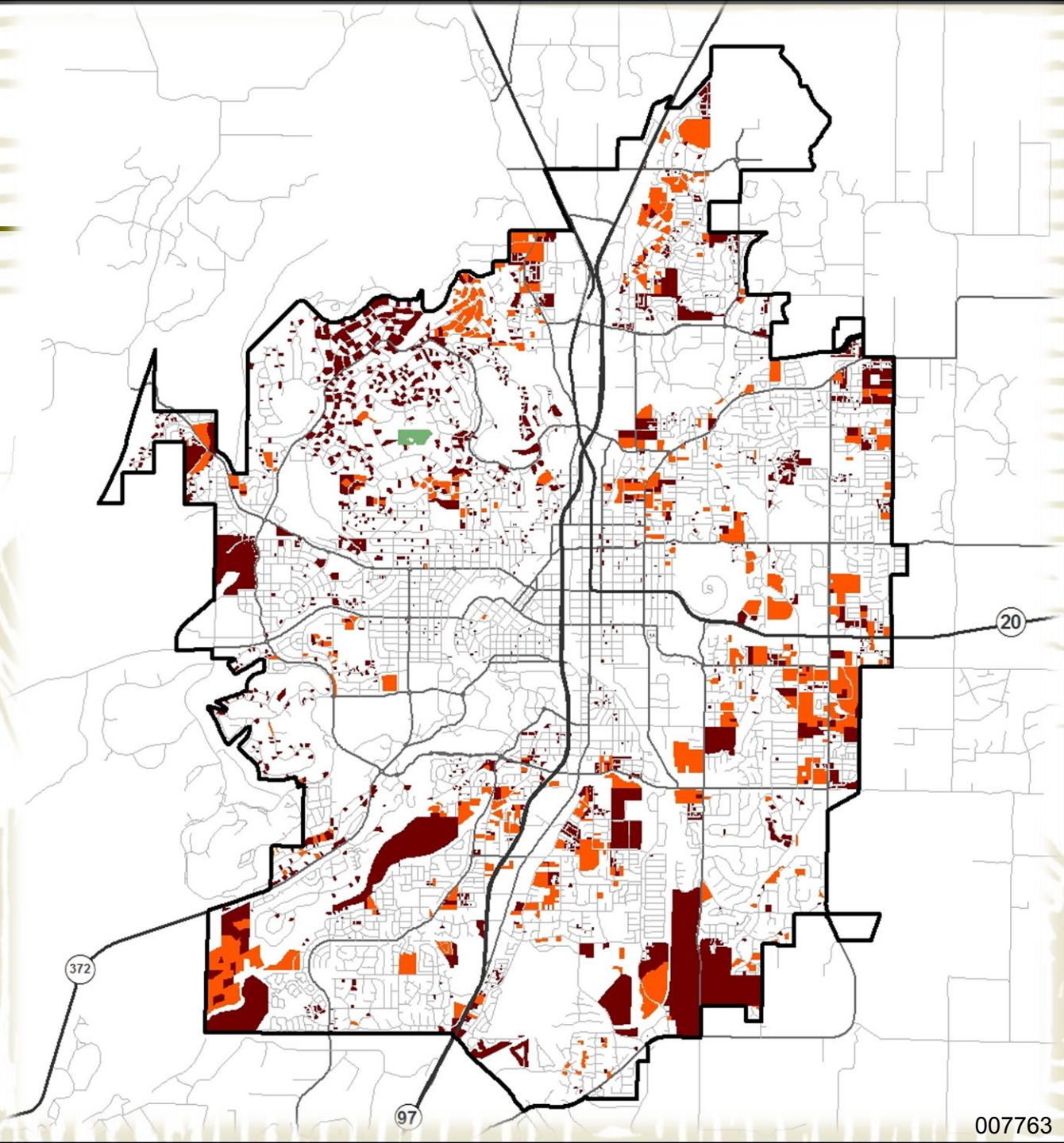
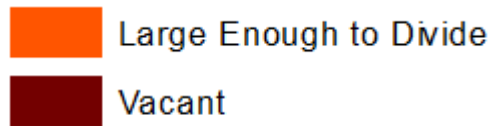


- Average Permitted 2001-2014 = 11.75
- Multiply over planning period (2014 to 2028)
- 11.75 per year x 14 years = 164.5
- **Recommendation:** Add 165 ADUs to Inside UGB Capacity to meet Single-family Attached need.

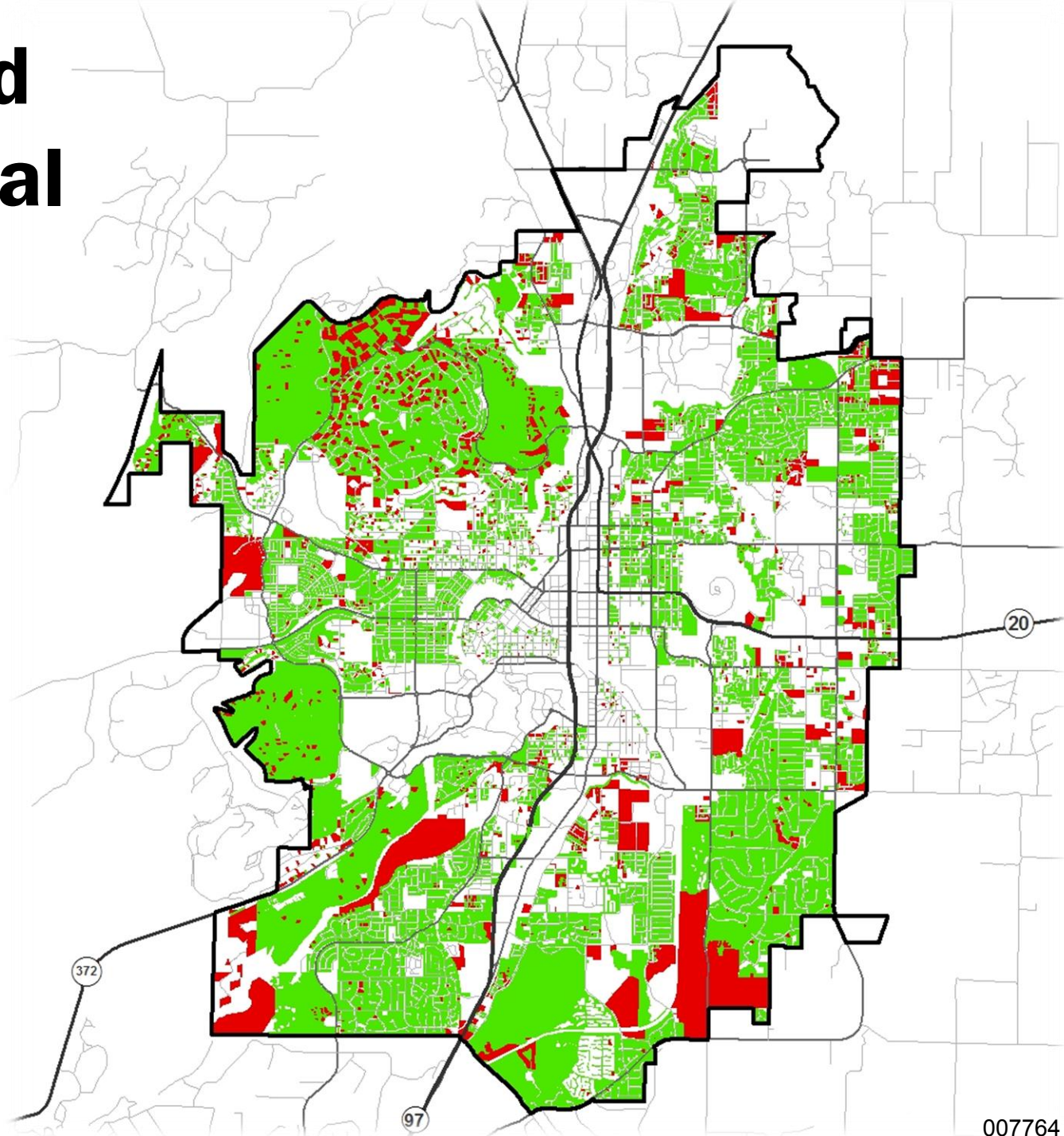
Vacant Residential



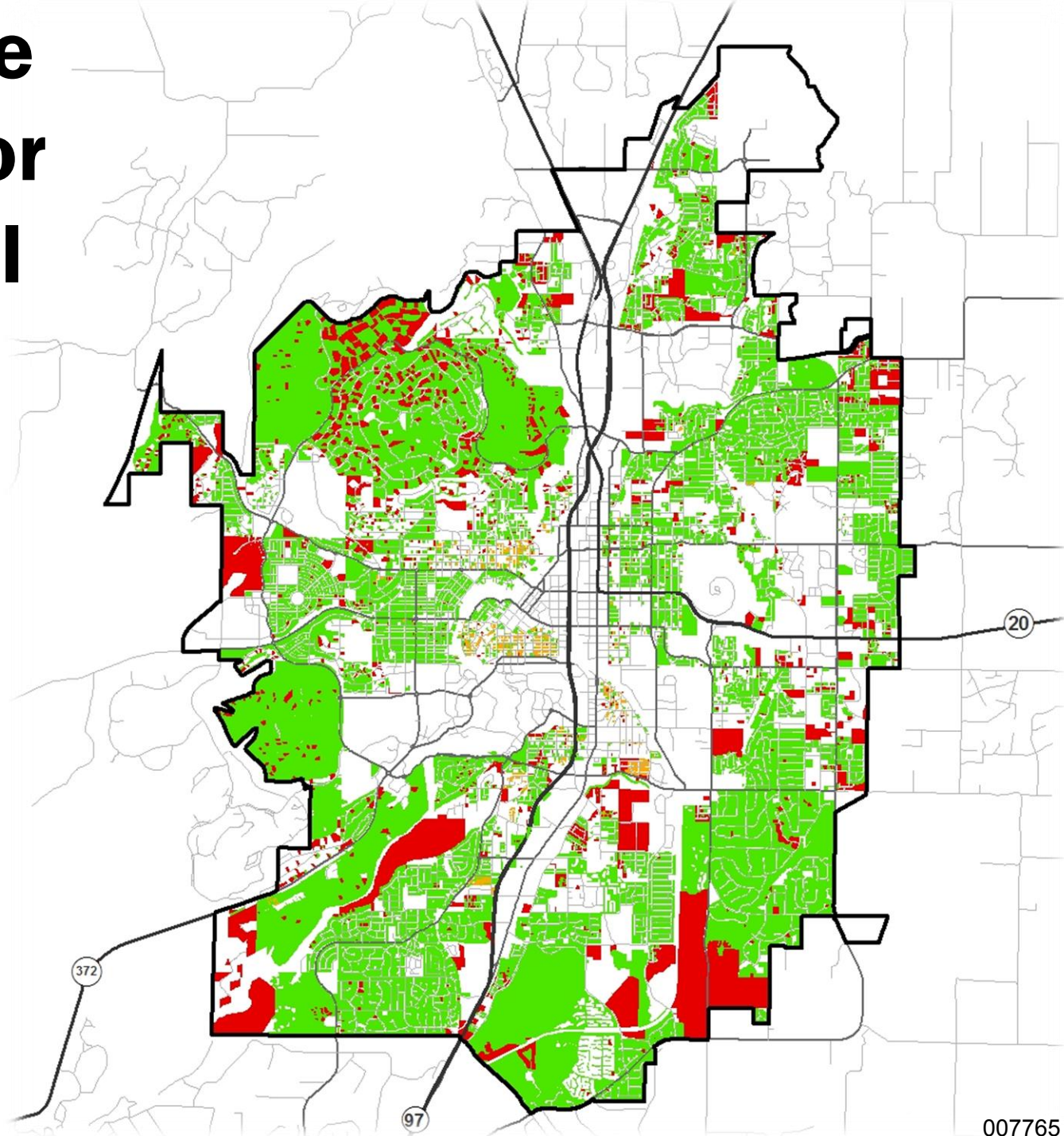
Vacant Acreage



Developed Residential



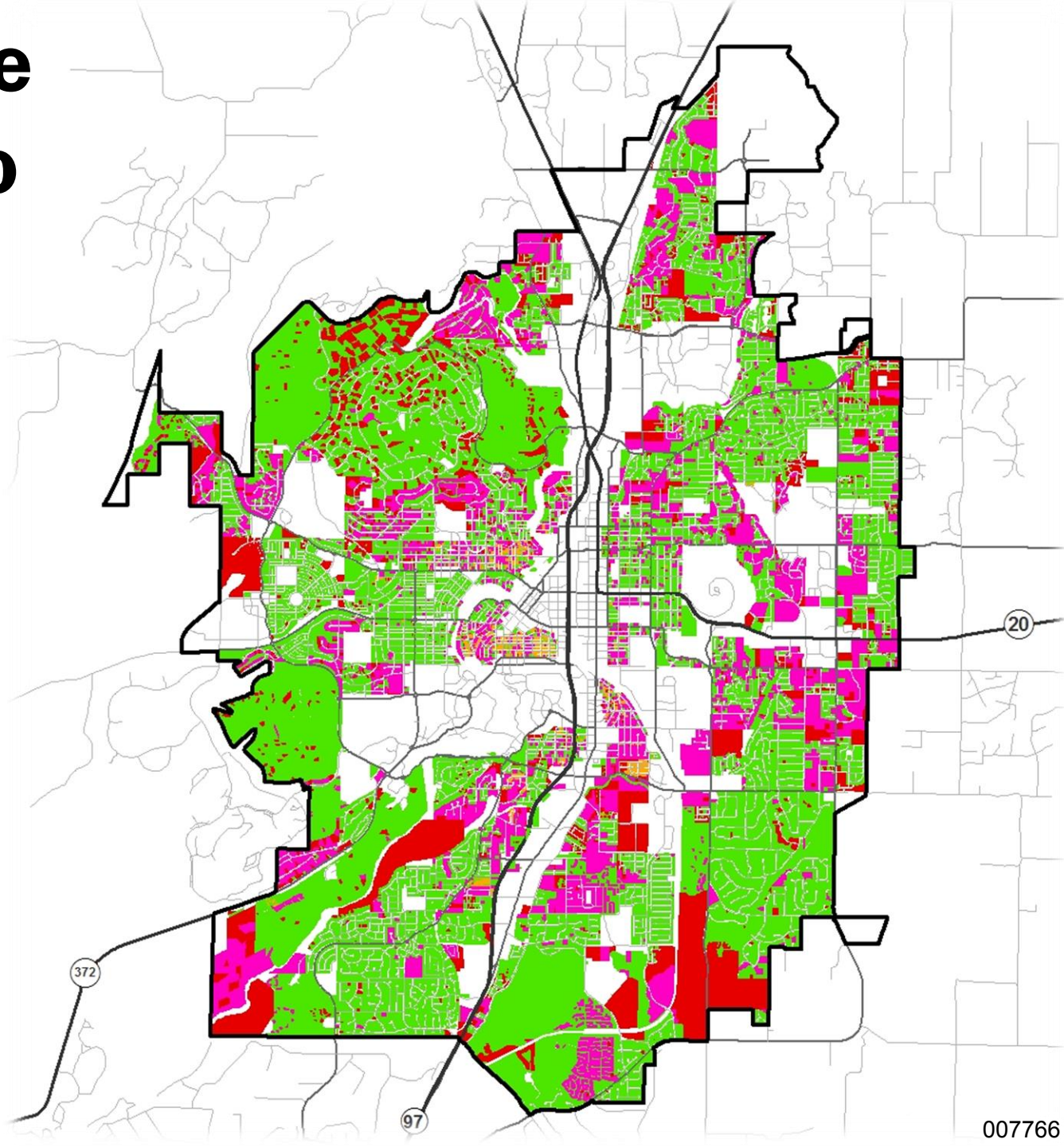
Lots Large Enough for Additional Units



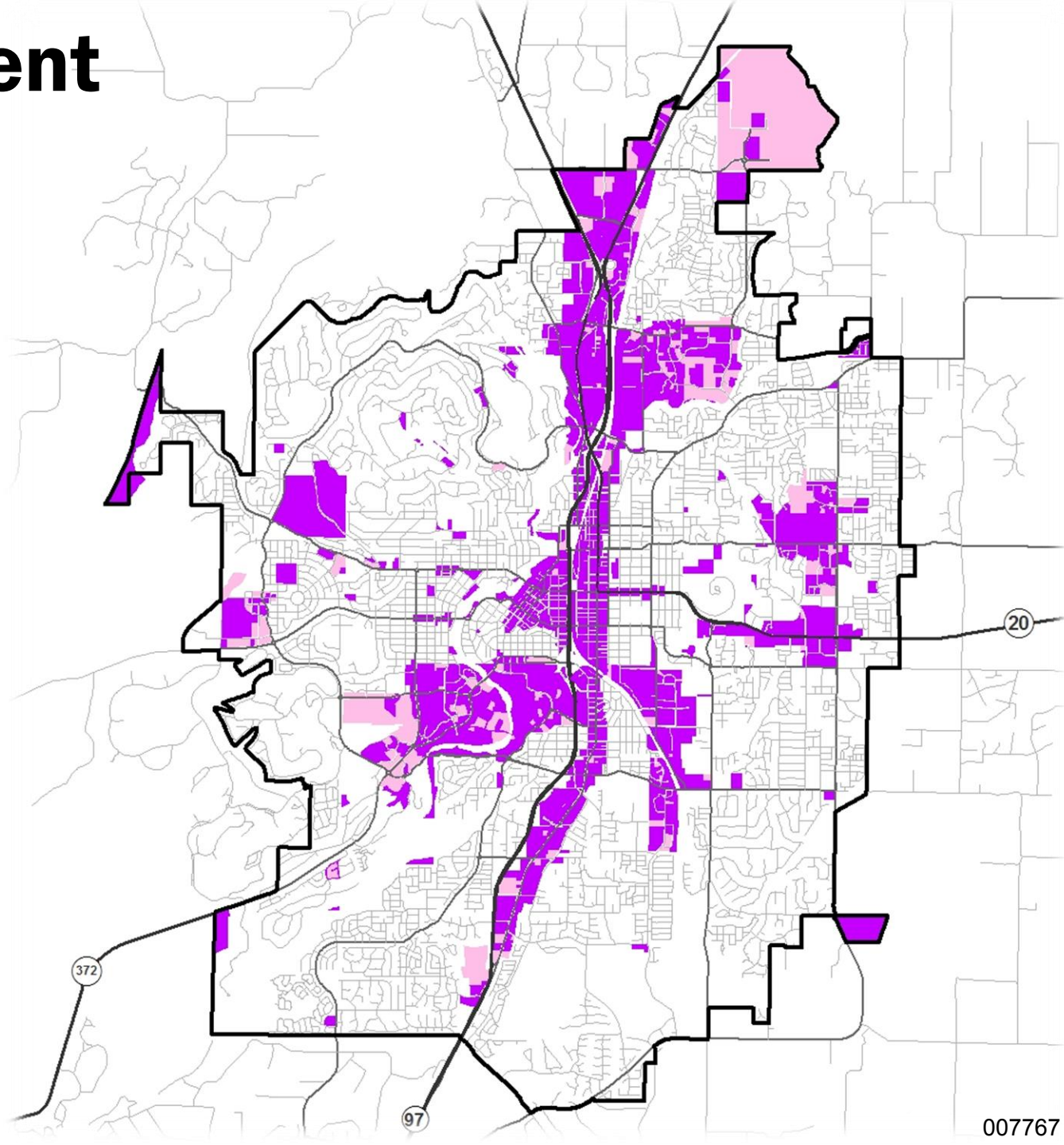
Lots Large Enough to Divide

e.g. Plan Designation
= "RM" and area \geq
6,000 SF

(minimum lot size is
3,000 SF)



Employment Land



URBAN GROWTH BOUNDARY REMAND

MAKING BEND EVEN BETTER



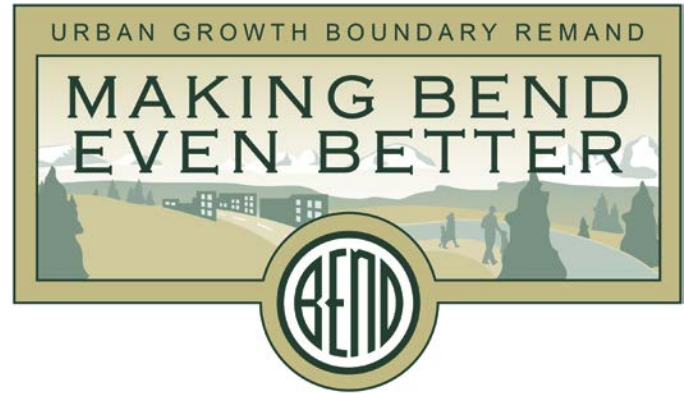
Note: This is for study purposes only. This is not a plan.

007768

Project Summary

HOW SHOULD WE GROW?

The City of Bend is making progress on evaluating its Urban Growth Boundary (UGB) expansion to chart a path for Bend's future growth. The UGB is a line drawn on the City's General Plan map that identifies Bend's urban land. This land represents an estimated 20-year supply of land for employment, housing, and other urban uses. As the city continues to grow, we have an opportunity to develop a plan for future growth that reflects the community's goals and meets state planning requirements.



The City is working with a team of planning experts and advisors to address requirements of a "Remand" of the City's previously proposed UGB expansion. This two-year process – scheduled to end April 2016 – will address a variety of specific technical issues and planning requirements established by the Oregon Land Conservation and Development Commission (LCDC) in the Remand. It is essential that the analysis and findings are ultimately consistent with the Remand's requirements. At the same time, the Remand project is an opportunity for us to establish a new long-term vision for how Bend should grow in the future. One of the City's key objectives is to use land, public infrastructure, and resources more efficiently, thereby encouraging development that saves residents and businesses a significant amount of money over the long term. Ultimately, this project should make Bend an even better place to live, work, and play in the years to come!

CHARTING OUR FUTURE

The process will address the following questions:

- What are the goals that should guide planning for the UGB?
- How much land is needed for jobs, homes, schools, and other land uses through the year 2028?
- What are the choices for efficient use of land and infrastructure within the current UGB?
- For new areas that might be added to the UGB, what are the costs, benefits, and choices for those options?
- What is the best long term growth scenario for the City that meets community goals and legal requirements?

GETTING INVOLVED

It is a high priority for the City to use a collaborative decision-making process that engages as many people as possible, including residents, business owners, local experts, and other interested parties. The project will provide many different opportunities for you to understand what is going on, weigh in with your priorities for Bend's future, and offer your opinions about the decisions the City will be making:

- Meetings of Technical Advisory Committees and a UGB Steering Committee open to the public.
- Online surveys, questionnaires, and comment forms.
- Regular updates in the City newsletter, Website, and BendVoice.
- Information and opportunities to comment at local festivals and community group meetings.
- Community workshops and open houses.
- Ability to comment via phone, e-mail, or in writing focused on the UGB.

For more information about the project, to provide comments, or to be added to a project contact list, please visit the City Website (www.bendoregon.gov/bendugb) or contact Brian Rankin at (541) 388-5584 or brankin@bendoregon.gov.

WRAPPING UP PHASE 1 - ACCOMPLISHMENTS

The project team has completed the first Phase of the UGB project. The team worked extensively with the project's three Technical Advisory Committees (TACs) and the UGB Steering Committee to complete the following tasks:

- Establish an overall vision and goals for future growth.
- Identify opportunity areas inside the UGB for more efficient growth that meet will multiple community objectives.
- Agree on key assumptions related to future housing and employment needs.
- Complete an inventory of land within the UGB that can meet some of projected future growth.
- Identify and begin assessing strategies for efficient use of remaining land in the current UGB.
- Estimate the capacity for future growth on land inside the existing UGB.
- Discuss and agree on a proposed process for evaluating potential UGB expansion scenarios during the second phase of the project.

This work involved extensive discussion with the TACs who provided their recommendations in late February. The Steering Committee reviewed and affirmed those recommendations on March 16. All TAC and Steering Committee meetings were open to and attended by other community members.

GETTING STARTED ON PHASE 2 – NEXT STEPS

Phase 2 of the UGB project began in April and will last until approximately January, 2016. This phase will focus on identifying and evaluating different potential UGB expansion scenarios and recommending a preferred scenario.

Current and upcoming activities include the following. For more information, please check the project Website:

- **Technical Advisory Committee.** Phase 2 Boundary TAC meetings in April, June and October; Residential and Employment TAC meetings in July, August and October.
- **TAC/UGB Steering Committee (USC) workshop.** All Phase 1 TAC and Steering Committee members participate in a workshop in late April to discuss potential UGB expansion scenarios.
- **Community Meetings and Events.** The City and team will provide information about the project at community events this spring and summer, with a community meeting this fall.

