Section 10 of Ordinance 2271

Exhibit J

New Urbanization Report, Appendix L of the Bend Comprehensive Plan

URBAN GROWTH BOUNDARY REMAND

MAKING BEND EVEN BETTER

# Bend Urbanization Report

*Bend's Growth to 2028*

*July 18, 2016*

# ACKNOWLEDGEMENTS

## City of Bend

### *Growth Management Department*

Nick Arnis
Brian Rankin
Wendy Robinson
Damian Syrnyk
Karen Swirsky

## Consultant Team

### *Urbanization Report*

Joe Dills, Angelo Planning Group
Mary Dorman, Angelo Planning Group
Becky Hewitt, Angelo Planning Group
Andrew Parish, Angelo Planning Group
Bob Parker, ECONorthwest

### *Supporting Technical Analyses*

DKS Associates
Fregonese Associates
Murray Smith Associates

## Advisory Committees

### *Residential Lands Technical Advisory Committee*

Kristina Barragan
David Ford
Stuart Hicks
Andy High
Allen Johnson
Thomas Kemper**
Katrina Langenderfer
Lynne McConnell
Michael O'Neil
Kurt Petrich
Gary Everett
Don Senecal
Sidney Snyder
Kirk Schueler
Stacey Stemach
Mike Tiller, Bend-La Pine Schools
Laura Fritz, Bend Planning Commission (PC)
Steve Jorgensen, Bend Park & Recreation District (BPRD)*
Gordon Howard, Oregon Department of Land Conservation and Development (DLCD)*

### *Employment Lands Technical Advisory Committee*

Ken Brinich
Peter Christoff
Ann Marie Colucci
Todd Dunkelberg
Brian Fratzke
Christopher Heaps
Patrick Kesgard
William Kuhn
Robert Lebre
Dustin Locke
Wesley Price**
Damon Runberg
Cindy Tisher
Jennifer Von Rohr
Ron White
Joan Vinci, PC
Wallace Corwin, Bend Economic Development Advisory Board
Jade Mayer, Bend Budget Committee
Tom Hogue, DLCD*

### *Boundary Technical Advisory Committee*

Toby Bayard
Susan Brody
Peter Carlson
Paul Dewey
John Dotson
Ellen Grover
Steve Hultberg
Brian Meece
Charlie Miller
Mike Riley
John Russell
Ron Ross
Sharon Smith
Gary Timm
Rod Tomcho
Robin Vora
Dale Van Valkenburg
Ruth Williamson
Thomas Kemper**
Wesley Price**
Rockland Dunn, PC
Scott Edelman, DLCD*
Jim Bryant, Oregon Dept. of Transportation*
Nick Lelack, Deschutes County*

*Denotes Ex-Officio, non-voting members
** Member of Residential / Employment TAC in Phase 1, participating in Boundary TAC in Phase 2

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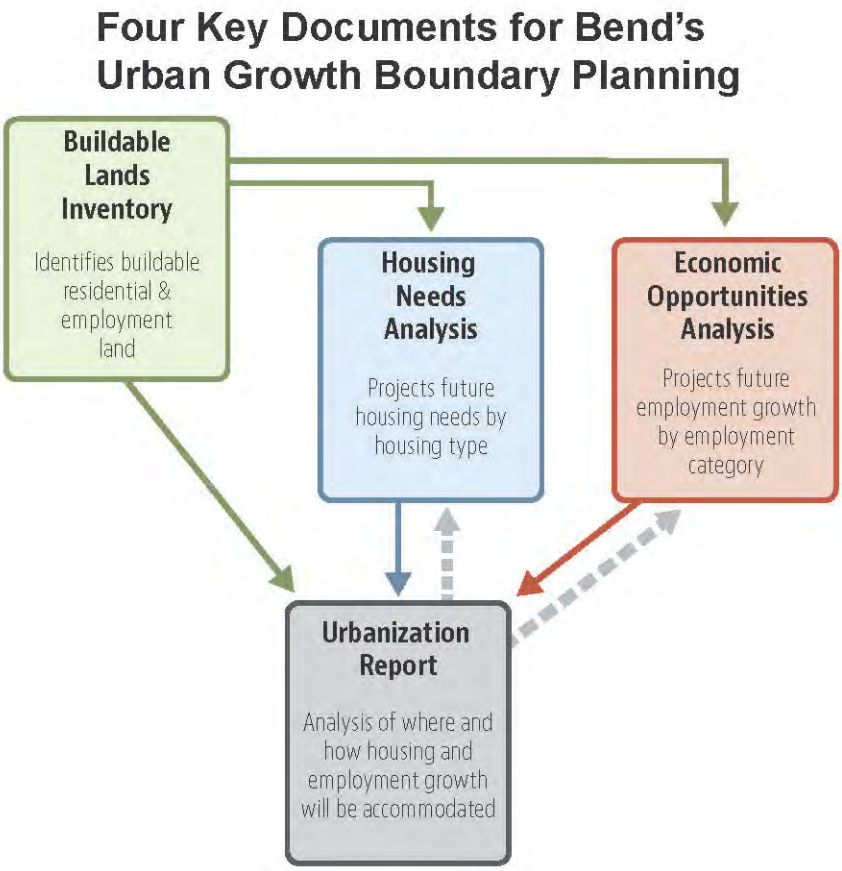
# EXECUTIVE SUMMARY

## 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 in Figure ES-1.

**Figure ES-1: Relationship of Urbanization Report to other Technical Documents for UGB Planning**

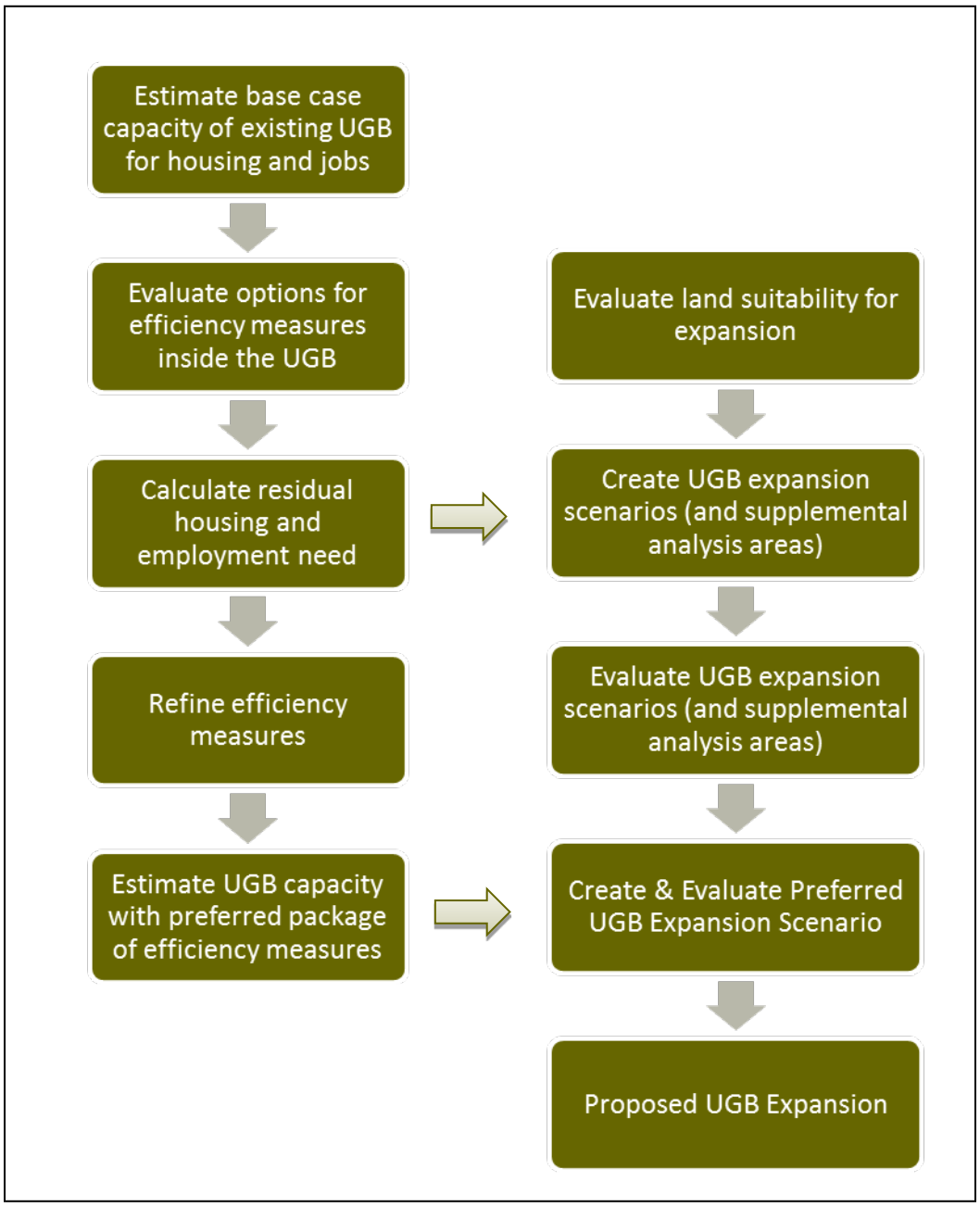



This Urbanization Report: summarizes the methodology used to determine land sufficiency and future UGB land need (illustrated in Figure ES-2); estimates the capacity of the existing UGB under current policies and with land use efficiency measures[1] applied; summarizes the remaining residual growth that cannot be accommodated within the existing UGB; documents the evaluation of UGB expansion alternatives; identifies proposed UGB expansion areas to

[1] "Efficiency measures" are changes to plan designations, zoning designations, and development code standards to allow and encourage more efficient use of land within the existing UGB. State regulations require cities to consider efficiency measures prior to expanding the UGB.

meet residual land needs; and documents the factual base for the inclusion of expansion areas in the UGB.

**Figure ES-2: UGB Expansion Analysis Process Summary**




A scenario planning tool called "Envision Tomorrow"[2] 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

[2] Information and download available at http://www.envisiontomorrow.org/

building prototypes, which are based on information including parking requirements, height limits, and lot coverage ratios; streets, open space, and other set-asides; net residential and job density; and rate of redevelopment (see Chapter 2, page 22 for more about how development assumptions work together in the model). All assumptions are calibrated to Bend's development and market conditions (see Chapter 3, page 26 for more about how assumptions were calibrated). 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 10,039 housing units and about 13,622 jobs under the current plan designations and policies and historic trends in development density. This represents roughly 60% of both the total housing and total employment need 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 65% single family detached, 30% multifamily, and 5% single family attached, because most of the total housing capacity (nearly 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 half of the multifamily housing needs can be accommodated.

Nearly all of the public employment growth and about 80% of the industrial employment growth can be accommodated on land inside the UGB, but just a little over a third of the retail and hospitality needs can be met inside the UGB with current policies and trends.

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.

## Efficiency Measures

After a series of detailed discussions, the Residential Lands and Employment Lands Technical Advisory Committees (Residential and Employment TACs) for the project recommended a robust package of efficiency measures. These are summarized in brief below, followed by an

estimate of their impact on capacity (see Chapter 4, page 34 for more on the efficiency measures).

- Increase the maximum density in the RL zone.
- Increase the minimum density in the RS zone.
- In the RS zone, make additional housing types permitted rather than conditional.
- Prohibit new single family detached housing in the RH zone.
- In the RM zone, require a mix of housing types for all sites over 3 acres.
- Increase the minimum density for master planned neighborhoods in the RS zone.
- Set maximum percentages of housing units that may be single family detached (SFD) for new master planned neighborhoods in each zone.
- Reduce minimum lot sizes for certain housing types in RM and RH zones and remove minimum lot size for multifamily housing in those zones, letting the gross density standard control the allowed number of units.
- Offer density bonus for affordable housing (adopted in May 2015).
- Create two new mixed use zones that allow a mix of housing and employment uses and that support walkable, transit-supportive development.
- Reduce parking requirements for mixed use development and development adjacent to transit (regardless of zone) and for all residential and commercial uses in the new Mixed Use - Urban zone.
- Reduce parking requirements for 1-bedroom duplexes and triplexes and all affordable housing.
- Remove lot coverage limitations and front setback requirements in the Mixed Employment zone.
- Set minimum residential densities for housing along transit corridors in commercial and mixed use zones.
- Apply mixed use plan designations and/or zones to key opportunity areas, such as the Bend Central District, East Downtown, the Century Drive area, and the “Korpine” industrial area.
- Up-zone portions of the 15$^{th}$ Street Ward property– the largest piece of vacant residential land inside city limits - to RM and RH.

After accounting for the projected impact of efficiency measures, the current UGB can accommodate roughly 11,950 housing units (an increase of about 20% over the base case housing capacity) and roughly 14,720 jobs (an increase of about 8% over the base case employment capacity). The mix of housing units projected inside the current UGB with efficiency measures is roughly 55% single family detached, 36% multifamily, and 9% single family attached – much more closely aligned with the overall needed housing mix. The mix of employment is also better aligned with the employment forecast after accounting for efficiency measures.

## 2016 UGB Expansion

Creation and evaluation of UGB expansion alternatives was conducted in coordination with the Boundary Technical Advisory Committee (Boundary TAC). The evaluation process included:

- Study Area Creation and Screening: Establishment of a 2-mile study area, with a focus on exception lands, and elimination a few areas within the Deschutes County Wildlife Overlay and active surface mine sites.
- Initial Suitability Evaluation: Mapping of the best available information related to the four Goal 14 factors for exception land within the study area that was not screened out, and exclusion of the worst-performing lands from further analysis and consideration.
- Alternatives Analysis: Creation of six land use alternatives or "scenarios" to evaluate the best-performing lands in a variety of combinations and with a variety of land uses; and evaluation of scenarios for land use, transportation, environmental, and infrastructure impacts.
- Proposed UGB Expansion: Creation of a preferred scenario from the best-performing subareas and land from the alternatives analysis.
- Evaluation of Proposed UGB / Preferred Scenario: evaluation of Goal 14 factors for the hybrid scenario that was recommended as the proposed UGB expansion.

The scenario that performed the best in the initial evaluation (Scenario 2.1) provided complete communities in all quadrants of the city; focused growth primarily on large, vacant parcels; provided enhanced transportation connections; was fairly cost-effective for sewer infrastructure; avoided riparian areas; limited expansion in wildlife areas; avoided areas where topographic features prevent mitigation of wildfire risk; had good housing mix in nearly all subareas; and offered opportunities for relatively affordable housing with significant housing growth in the southeast.

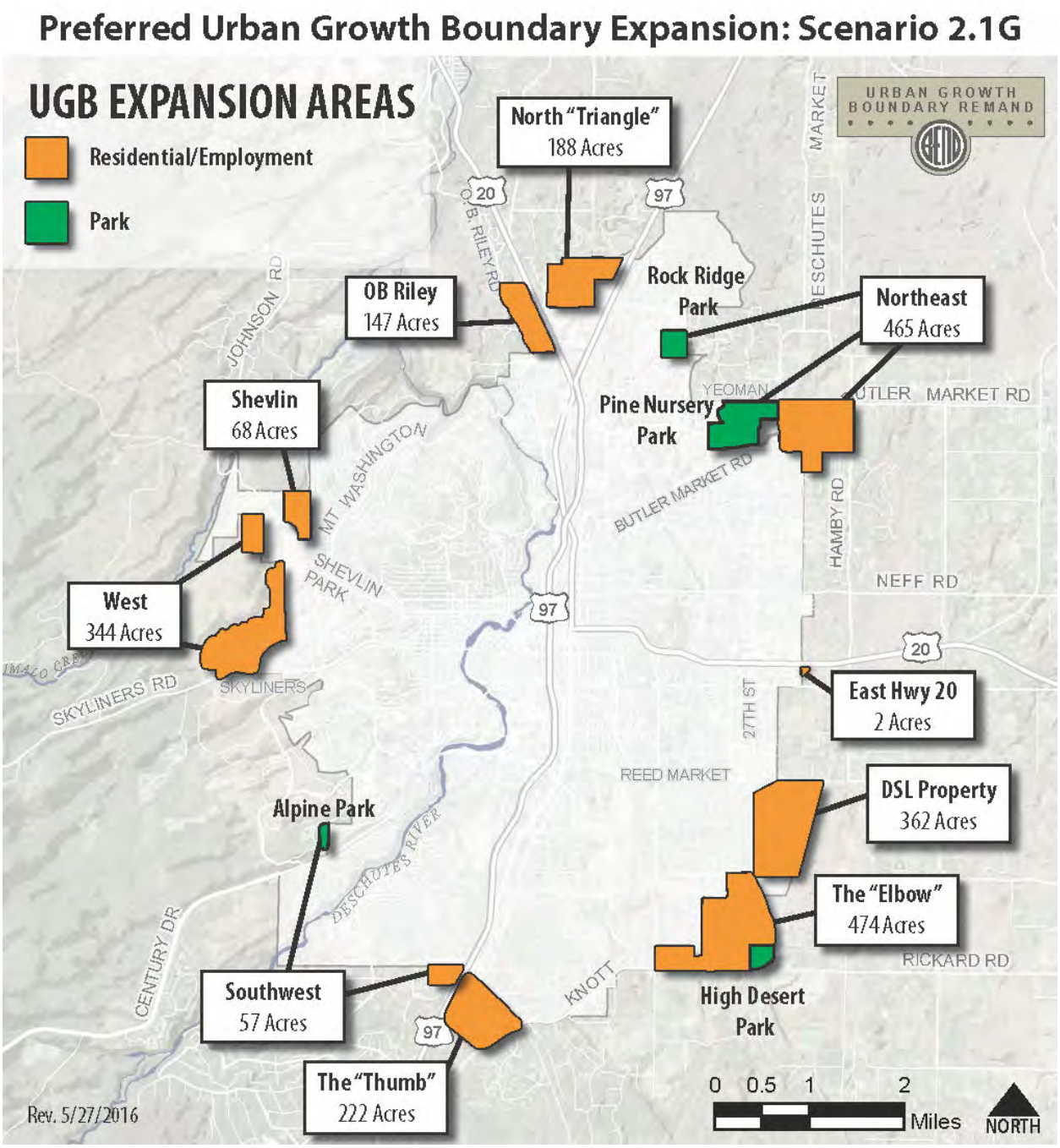
Scenario 2.1 became the basis for the preferred scenario. Subsequent refinements included:

- removing small areas that performed poorly or would not be cost-effective to urbanize;
- refining the land uses within some sub-areas in order to address compatibility concerns and ensure an appropriate mix and intensity of uses in each area, given its context and the potential for additional future expansions that would build on the current expansion;
- distributing growth across more of the land in the west and northwest rather than relying on a single property owner in this area; and
- consolidating growth in the northeast to a single larger block of land where a new complete community is possible, rather than including multiple small expansion areas.

The Boundary TAC and UGB Steering Committee (USC) provided input at multiple meetings, and directed refinements based on public testimony in the context of balancing the four Goal 14 factors.

The proposed UGB expansion is for a total of 2,380 acres – 1,142 gross acres of residential land (including land for future schools and future parks not yet in BPRD or school district ownership); 815 gross acres of employment land; 285 acres of land for public facilities currently in BPRD or school district ownership; and 138 acres of existing right-of-way within and fronting UGB expansion areas, needed to provide urban street improvements to support growth in the expansion areas. The proposed future UGB is shown on Figure ES-3.

**Figure ES-3: Proposed Future UGB and Generalized Land Uses**




The preferred scenario offers a balance of:

- strong focus on complete communities to improve access to schools, parks and commercial areas within existing neighborhoods as well as in expansion areas;
- area planning policies to support complete communities and efficient development;
- highly efficient land use in areas with few constraints, and an overall increase in residential density relative to existing conditions;

- a sensitive approach to development in areas adjacent to natural resources to improve environmental consequences and reduce natural hazard risk;
- expansion areas that provide a mix of housing types and costs and that will leverage voluntary affordable housing commitments from property owners in order to improve social consequences and ensure that housing is available to meet the needs of residents at all income levels;
- new employment land focused in suitable areas where it will contribute to Bend's economic growth;
- cost-effective use of recent and future sewer investments;
- an orderly and connected network of new roads that will support efficient travel by all modes; and
- minimal concerns for farm and forest compatibility.

The proposed UGB expansion accommodates the projected land needs through 2028, and complies with Goal 14, relevant state statutes, and administrative rules.

# CHAPTER 1. INTRODUCTION

## 1.1 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 (Appendix L) of the City of Bend General Plan, referred to as the Bend Comprehensive Plan in this report.[3] 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 the land use efficiency measures 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.

[3] 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 Standards**[4] | ORS 197.296<br>OAR 660, Divisions 8 and 9 | Statewide Planning Goal 10: Housing<br>ORS 197.296 and 197.303<br>OAR 660, Division 8 | Statewide Planning Goal 9: Economic Development<br>OAR 660, Division 9 | Statewide Planning Goal 14: Urbanization<br>ORS 197.298<br>OAR 660, Division 24 |
| **Key Subject Matter** | Development status categories and definitions<br>Methodology for assigning categories and conducting inventory<br>Inventory results: acres by plan designation and development status | Projection of population and total housing growth<br>Housing market and development trends<br>Demographic characteristics and trends<br>Analysis of affordability<br>Estimate of needed housing (mix and density)<br>Comparison of housing capacity to need | Existing policy and vision<br>National, state, local trends<br>Employment projections<br>Target industries<br>Site needs and characteristics<br>Special site needs<br>Redevelopment analysis<br>Comparison of employment capacity to need and characteristics | Methodology for capacity estimates<br>Pre-policy ("base case") capacity estimate for current UGB<br>Efficiency measures (EMs) proposed<br>Current UGB capacity with EMs<br>UGB alternatives evaluation methodology and results<br>Proposed UGB expansion and summary of Goal 14 evaluation results |

[4] OAR = Oregon Administrative Rules; ORS = Oregon Revised Statutes

## 1.2 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.

#### *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.[5] 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).[6] Employment needs must comply with applicable requirements of Goal 9 and related administrative rules (see EOA for a summary of these requirements). [7]

#### *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).[8]

"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".[9] Local governments may adopt new measures that increase the housing capacity of the existing UGB as part of meeting demonstrated housing needs (referred to in this report as "efficiency measures").[10] Local

[5] Goal 14: OAR 660-015-0000(14), effective April 28, 2006.

[6] OAR 660-024-0040(4), adopted by LCDC on 10/5/06; effective 4/5/07. (Note: Because of the timing of the original UGB expansion notice and the fact that the current proposal is a response to a Remand, DLCD and the City agreed that the version of OAR 660-024 in effect on April 5, 2007 applies to the city's decision.)

[7] OAR 660-024-0040(5), adopted by LCDC on 10/5/06; effective 4/5/07.

[8] OAR 660-024-0050(1), adopted by LCDC on 10/5/06; effective 4/5/07.

[9] OAR 660-024-0050(4), adopted by LCDC on 10/5/06; effective 4/5/07.

[10] ORS 197.296(6) through (9), effective 2003.

governments must demonstrate that needs cannot reasonably be accommodated on land already inside the urban growth boundary prior to expanding the UGB. [11]

### *Identifying Boundary Expansion Areas*

In considering locations for UGB expansions, local governments must determine which land to add by evaluating alternative boundary locations.[12] 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.[13] 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.[14]

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.[15] 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.[16]

## 1.3 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 conducted extensive public outreach, including work sessions and hearings, on the UGB

[11] Goal 14: OAR 660-015-0000(14), effective April 28, 2006; OAR 660-024-0050(4), adopted by LCDC on 10/5/06; effective 4/5/07.

[12] Goal 14: OAR 660-015-0000(14), effective April 28, 2006; and OAR 660-024-0060(1), adopted by LCDC on 10/5/06; effective 4/5/07.

[13] ORS 197.298, effective 1999; and OAR 660-024-0060(1), adopted by LCDC on 10/5/06; effective 4/5/07.

[14] ORS 197.298, effective 1999; and OAR 660-024-0060, adopted by LCDC on 10/5/06; effective 4/5/07.

[15] OAR 660-024-0060(8), adopted by LCDC on 10/5/06; effective 4/5/07.

[16] ORS 197.298, effective 1999; and OAR 660-024-0060(5), adopted by LCDC on 10/5/06; effective 4/5/07.

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).[17] 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 of this decision 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 A for the 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).

## 1.4 Time Periods and Data used in the Urbanization Report

State statute and rules 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.[18] 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 2016 based on analysis that began in 2014. Despite the economic recession that affected most of the 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

[17] LUBA dismissed the appeals after the City showed the matter was before LCDC.

[18] OAR 660-024-0040(2)

has already occurred, the buildable lands inventory was updated in 2014 and housing and employment growth through 2014[19] has been estimated and deducted from the projected 2028 needs. This report focuses on the remaining capacity and growth needs from 2014 to 2028.

## 1.5 Forecasts and Land Needs

### *Housing and Employment*

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 (2013/14 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.

**Table 2: Summary of New Housing Units by Type and Category, Bend UGB, 2014-2028** [20]

| | 2014-2028 Needed Housing Units | | 2014-2028 Needed Group Quarters Units | 2014-2028 Second Homes | 2014-2028 Total New Housing Units | |
|---|---|---|---|---|---|---|
| **Needed Housing Types** | **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%** |

*Source: Bend Housing Needs Analysis, June 2016.*

[19] Employment data uses 2013 as the base year, as this was the most recent available data available at a spatially disaggregated level when the housing and employment growth numbers were updated to account for changes since 2008.

[20] 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).

**Table 3: Employment Forecast by Employment Category, non-shift workers, Bend 2013 to 2028** [21]

| 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 |

*Source: Bend Economic Opportunities Analysis, June 2016.*

## *Other Urban Land Needs*

In addition to housing and employment needs, the City has identified several other land needs, including public parks, public schools, and other uses (e.g. churches and fraternal organizations). These are summarized in brief below.

### *Parks*

BPRD adopted a Parks and Recreation Master Plan in 2012 that identified needs for additional neighborhood and community parks from 2012 to 2020 in order to meet adopted Level of Service (LOS) standards. The additional park land need from 2020 to 2028 can be estimated by extending the park need projection out to 2028 using the population forecast that is the basis for the UGB expansion and the Park District's adopted LOS standards. After accounting for parks developed since the publication of the Master Plan in 2012, the total need for additional parks to be developed from 2014 to 2028 is estimated to be 65.6 acres of neighborhood parks and 161.8 acres of community parks, for a total of 227.4 acres of parks (see Table 4).

[21] 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.

**Table 4: Park Land Need Projections**

| | Neighborhood Parks | Community Parks | Total |
|---|---|---|---|
| **2012 to 2020 need for additional developed park land from BPRD Master Plan** | 31.6 | 96 | 127.6 |
| **Additional acres to be developed to 2028 @ current LOS[22]** | 34.0 | 113.3 | 147.3 |
| **Total acres to be developed 2012 to 2028** | 65.6 | 209.3 | 274.9 |
| **Acres developed since 2012** | 0.0 | 47.5 | 47.5 |
| **Acres remaining to be developed to 2028** | **65.6** | **161.8** | **227.3** |

*Source: Bend Park and Recreation District, Parks and Recreation Master Plan, 2012; Angelo Planning Group analysis.*

Note that some or all of this need may be met through development of existing undeveloped park land in BPRD ownership. How this need is accommodated is addressed in the following chapters.

### *Schools*

The Bend-La Pine Schools (BLPS) 2010 School Facility Plan identifies a need for three to four new elementary schools, one new middle school, and one new high school between 2014 and 2028 based on population and enrollment projections and capacity at existing schools. While updates to the plan will be needed in response to the proposed UGB expansion, the population projection that underlies this total need has not changed. Therefore, in order to maintain the preferred school sizes (in terms of enrollment per school), the total number of schools needed is likely to remain approximately the same regardless of where the growth occurs. In addition, the BLPS 2016 Site and Facilities Phase 1 Report, the first step in updating the School Facility Plan, confirms the same total school needs through 2028.[23] New elementary school sites are generally 10 to 15 acres; new middle school sites are generally 20 to 30 acres; new high school sites are generally 40 to 50 acres. The total land need for schools is estimated to be between 90 and 140 acres, depending on the size of sites and the number of elementary schools.

**Table 5: School Land Need Projections**

| School Type | Number Needed | Acres Per School | Acres Needed |
|---|---|---|---|
| **Elementary School** | 3 to 4 | 10 to 15 | 30 to 60 |
| **Middle School** | 1 | 20 to 30 | 20 to 30 |
| **High School** | 1 | 40 to 50 | 40 to 50 |
| **Total** | **5 to 6** | | **90 to 140** |

*Source: Angelo Planning Group summary based on BLPS 2010 School Facility Plan.*

[22] 2020 population forecast for need projections in BPRD Master Plan = 92,408

2028 population projection = 115,063

Additional population growth 2020-2028 = 22,655

Adopted level of service for neighborhood parks = 1.5 acres / 1000 population

Adopted level of service for community parks = 5.0 acres / 1000 population

[23] Bend-La Pine Schools Sites and Facilities Committee, Report of Work Completed, June 2016. Available at https://www.bend.k12.or.us/district/organization/sites-and-facilities.

Note that some of this need may be met through additional development on existing undeveloped school district property. How this need is accommodated is addressed in the following chapters.

### *Special Site Needs*

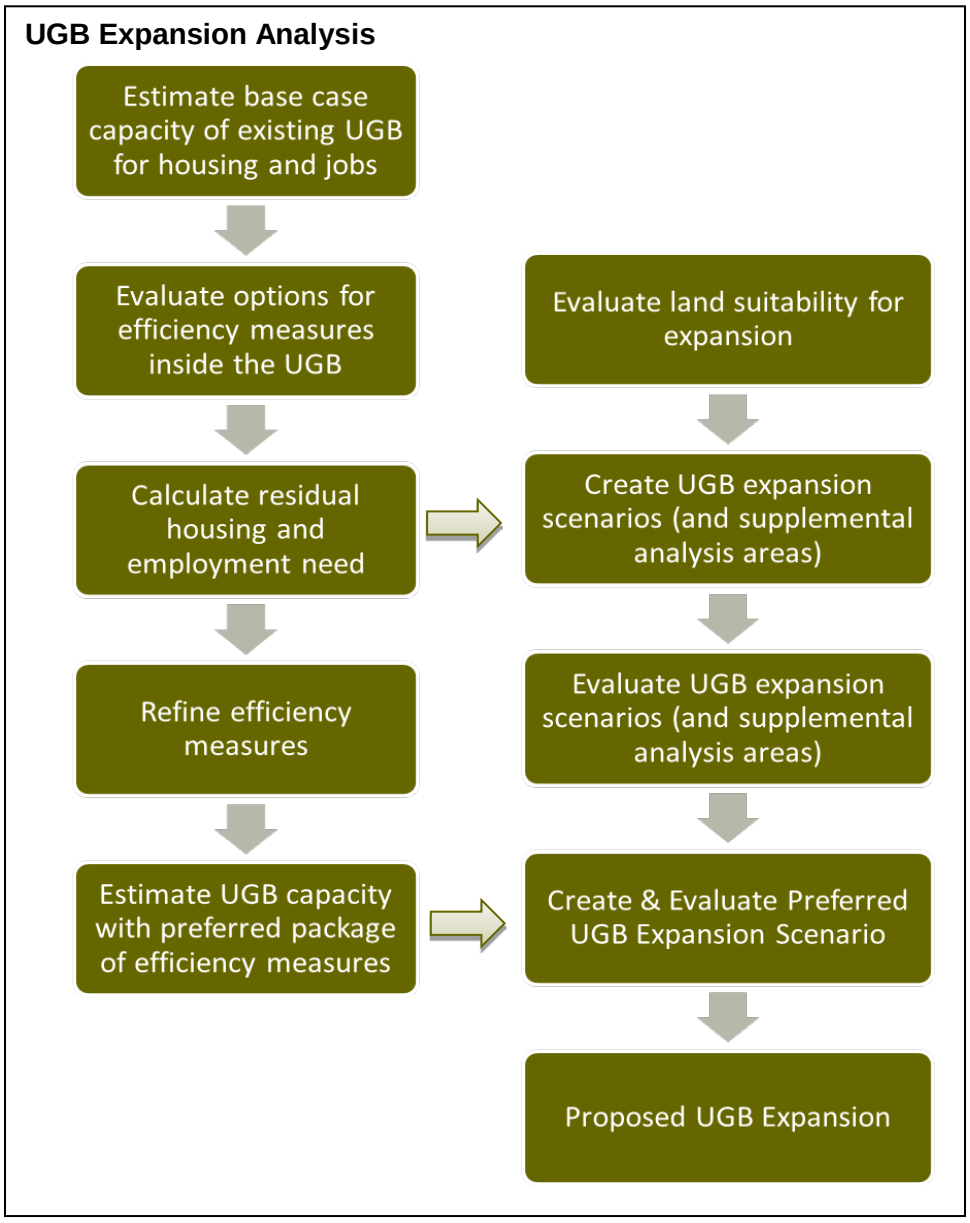
The City has identified special site needs for two large-lot industrial sites (56 acres each) and a University, as documented in the EOA. How this need is accommodated is addressed in the following chapters.

# CHAPTER 2. METHODOLOGY

## 2.1 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 recommendations and 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 1 through more than 40 meetings taking place over nearly two years.

**Figure 1: UGB Expansion Analysis Process Summary**



## 2.2 Analysis Tools

### *Overview*

A scenario planning tool called "Envision Tomorrow"[24] 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 or when 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. It is also worth noting that the results represent a projection of future development in the horizon year – they do not predict at what point development occur within the planning horizon.

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");[25]
- 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 23.

[24] Information and download available at http://www.envisiontomorrow.org/

[25] 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.[26] 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 asides 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;[27] 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 with regard to evaluation of UGB expansion alternatives.

## 2.3 Creating Development Types

### *Overview*

As noted previously, the development types generally match existing Comprehensive Plan categories. Multiple variations were created for certain development types to capture differing regulations. For example, a version of certain residential development types was created to capture the increased minimum density requirements that apply on large master planned sites. New versions of development types were created to reflect proposed changes to regulations to be adopted with the UGB decision. In addition, a few specialized development types were created to address specific situations, such as:

[26] 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.

[27] 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.

- 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 24);
- 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 and vacant lots subject to Covenants, Conditions and Restrictions (CC&Rs).[29]

Appendix D 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 to incorporate efficiency measures (the changes to plan and zoning designations and amendments to the development code intended to allow and encourage more efficient use of land within the existing UGB).

### *Redevelopment*

Redevelopment rates in Envision Tomorrow are set as a percentage of the developed acres identified as having potential for redevelopment (those that are "painted" in the model). The model accounts for housing and employment on developed land that is lost through redevelopment as well. The total amount of net new housing and employment growth through redevelopment generated in the model is a result of the redevelopment percentage, the number of developed acres that are "painted", and the existing housing and employment on the "painted" land. Additional information about how redevelopment rates were set is provided in Chapter 3 beginning on page 26.

### *Set-Asides*

In order to account for right of way, open space, 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 2009 UGB proposal, the City of Bend calculated the amount of land used for right of way city-wide, across all plan designations, at 21%.[30] The "development

[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] These development types includes exclusively or nearly exclusively single family housing and do not include set-asides for other uses or right of way. The density was calibrated to generate approximately one housing unit per lot. The development type for platted lots without CC&Rs includes some accessory dwelling units.

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.

### *Parks and Trails*

Parks are accounted for in two different ways in Envision Tomorrow. Future parks whose locations are known or can be approximated are identified with their own development type and an approximate location and size.[31] Most neighborhood parks and trails are provided for through open space requirements in new master-planned neighborhoods. This was reflected through a 10% open space / parks set-aside for large development sites using a "master plan" development type. The assumption is that, in many cases, the developer will transfer a neighborhood park (or, for very large developments, a community park) to the Park District, which will account for the majority of the required open space. Some additional private open space may be used to make up the rest of the required 10% set-aside.

### *Schools*

Future public K-12 schools are accounted for in Envision Tomorrow with their own development type. Future school locations were identified based on information provided by city staff and the Bend-La Pine School District. [32]

### *Other Lands*

In the 2009 proposal, and as modified on remand, 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[33] (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.[34] This percentage set aside is applied to development types representing all plan designations in Envision Tomorrow.

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[30] See Rights of Way Methodology from Brian Rankin; Rights-of-way for roadways variable: final memorandum post DLCD Comments (12/4/2008).

[31] Future 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.

[32] 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. Plan policies require coordination with the school district and siting in some expansion areas based on coordination with the school district.

[33] As documented in Bend's EOA, employment associated with such uses was excluded from employment projections and employment densities.

[34] The following uses are included in "Other (non-employment) Land" uses : benevolent/fraternal; church; utilities and unclassified and unbuildable uses related to utility uses; and private, public, and open spaces other than those owned by BPRD in the form of canals, cemeteries, common areas, golf courses, land owned by irrigation districts, RV parks, Oregon State Parks, and a small amount of acreage considered unbuildable or unclassified. A total of 2,265 net acres in "Other (non-employment) Land" uses was divided by a total of 17,695 total net acres of developed and vacant land in the prior UGB (excluding private and public rights-of-way) resulting in a ratio of these uses of 12.8 percent.

## 2.4 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 (see BLI for an explanation of how vacant acres were identified). For employment land, as noted previously, development types were also applied to developed land with redevelopment potential. The development type applied was generally consistent with the existing plan designations, except for the special situations identified on page 22 and where changes to plan designations are proposed as part of the UGB adoption package.

# CHAPTER 3. BASE CASE UGB CAPACITY

## 3.1 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. The following sub-sections describe how the assumptions for the development types were established for the Base Case.

### *Residential Land – Base Case Assumptions & Calibration*

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 B.[35] The city is required to base capacity analysis on data since the last periodic review, in 1998.[36] 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.[37] This means that the density for the development was set prior to 2008 for nearly all recent residential building activity.

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."[38]

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" (land planned or zoned for residential use that contains fewer dwelling units than permitted in the zone, but the lot is not large enough

[35] 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.

[36] 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.

[37] 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.

[38] OAR 660-008-0005(7), effective February 2012.

to divide under current zoning) had very low levels of building permit activity – only 80 permits over 10 years.

- Under 6% of lots (and 26% of acres) classified as "developed with infill potential" (land planned or zoned for residential use that is currently developed, but where the lot is large enough to further divide consistent with its current zoning) 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.[39]

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.[40] 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 residential redevelopment through demolition in Bend to date. Thus the redevelopment rate for the developed portion of residential properties classified as "partially vacant" and "developed with infill" (which also applies to land that is fully developed) is set at zero.

[39] 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 does not have the potential to add dwelling units under the existing zoning regulations.

[40] 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.

### *Employment Land – Base Case Assumptions and Calibration*

Employment development types were calibrated to the observed employment mix and density as of 2006, documented in Appendix C.[41]

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 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 D of the EOA.

In short, it found potential for roughly 1,360 new employees, or 6.6% of total forecast employment, to be accommodated through redevelopment 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.

In addition, because of the economic recession, the city lost roughly 2,500 industrial jobs between 2008 and 2013. Vacancy rates for industrial property at the end of 2013 were over 12% - much higher than usual.[42] These facts suggest that existing industrial areas within the city have capacity to re-absorb at least a portion of the jobs that were lost during the recession without tearing down existing buildings or building new ones. Because there is no way to directly account for this sort of re-absorption in Envision Tomorrow, it was captured as additional "redevelopment" / refill.[43] Redevelopment rates for the development types (as a percent of developed acres) were calibrated to the results of the redevelopment potential analysis and adjusted to account for the "refill" potential in industrial areas. Redevelopment rates for employment designations vary as follows:

- 6-10% for Community Commercial (CC), Commercial Limited (CL), General Commercial (CG), ME, Mixed Riverfront (MR) and MDOZ
- 20% for Central Business District (CB)

[41] The densities and mix in Appendix D 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.

[42] Documented trends in the Remand record identify an average industrial vacancy rate between 1993 and 2008 of roughly 6.5%.

[43] Specifically, the redevelopment rate for industrial land was increased and additional land was identified "redevelopable" where the current (2013) job density is below the average projected for new development. This simulates the effect of industrial jobs going back into already-developed industrial areas.

- 40% for the industrial designations (due to the expectation of refill into existing buildings, rather than true redevelopment)

Only employment parcels with some likelihood of development or redevelopment were painted with a development type in Envision Tomorrow. Development types were generally not "painted" on developed land unless the existing employment density was less than one-third of the average employment density of the development type in question (except in existing industrial areas where all parcels with employment densities below the employment density of the development type were "painted").[44]

## 3.2 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. Loss of units through redevelopment is shown in parentheses.

In total, the base case shows that the current UGB can accommodate roughly 10,039 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 65% single family detached, 30% multifamily, and 5% single family attached. Most of the total housing capacity (nearly 60%) is in the RS plan designation. Just under 6% 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 roughly a third of the total multifamily housing capacity in the city, and are geographically concentrated in a few areas.

**Table 6: Base Case Housing Capacity**

| Housing Type | Net New Housing Units | Percent of new housing units |
|---|---|---|
| **Single Family Detached** | 6,496 | 65% |
| **Single Family Attached** | 498 | 5% |
| **Multi-Family** | 3,045 | 30% |
| **Total** | **10,039** | **100%** |

[44] "Painting" only those parcels with relatively low existing employment densities ensures that the model does not project excessive job loss through redevelopment in locations with thriving businesses that are unlikely to redevelop.

**Table 7: Base Case Housing Capacity by Existing Plan Designation***

| Plan Designation* | Single Family Detached Units | Single Family Attached Units | Multi-Family Units | Total New Housing Units |
|---|---|---|---|---|
| **RL** | 152 | - | - | 152 |
| **RS** | 5,574 | 179 | 221 | 5,974 |
| **RM*** | 753 | 225 | 1,569 | 2,547 |
| **RH*** | 30 | 46 | 508 | 583 |
| **MDOZ*** | - | - | 490 | 490 |
| **MR** | 12 | 49 | 51 | 111 |
| **Other**** | (25) | - | 206 | 181 |
| **Total** | **6,496** | **498** | **3,045** | **10,039** |

** Development capacity in the MDOZ is counted there rather than by plan designation.*
*** Other includes COCC on-campus student housing in the PF zone and incremental housing loss through redevelopment in commercial zones.*

## *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. In total, the base case shows that the current UGB can accommodate about 13,622 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 weighted towards office and industrial jobs.

**Table 8: Base Case Employment Capacity by Category**

| Employment Category | Net New Jobs | Percent of new jobs |
|---|---|---|
| **Industrial** | 5,216 | 38% |
| **Retail & Hospitality** | 2,420 | 18% |
| **Office** | 4,350 | 32% |
| **Public** | 1,637 | 12% |
| **Total** | **13,622** | **100%** |

**Table 9: 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** | 7 | - | - | - | 7 |
| **RM*** | 49 | 35 | - | - | 84 |
| **RH** | 4 | 3 | - | - | 7 |
| **MDOZ*** | 15 | 744 | 90 | 1 | 850 |
| **CC** | 109 | 30 | - | - | 145 |
| **CL*** | 609 | 514 | 94 | 75 | 1,291 |
| **CG** | 1,122 | 224 | 24 | 1 | 1,371 |
| **CB** | 92 | 201 | - | 19 | 312 |
| **IL**** | 82 | 1,856 | 4,211 | 133 | 6,282 |
| **IG** | 9 | 130 | 408 | - | 548 |
| **MR** | 185 | 246 | 55 | - | 487 |
| **ME** | 115 | 360 | 334 | 1 | 809 |
| **PF***** | 22 | - | - | 1,406 | 1,428 |
| **Total** | **2,420** | **4,350** | **5,216** | **1,637** | **13,622** |

** Development capacity in the MDOZ is counted there rather than by plan designation.*
*** Juniper Ridge capacity counted with the IL plan designation.*
**** PF plan designation includes COCC.*

Employment growth through redevelopment and "refill" in the Base Case is estimated at 1,803 jobs. This is 444 jobs more than the amount of redevelopment potential estimated in the EOA, which is accounted for by the inclusion of "refill" in existing industrial areas as companies rehire lost employees without redeveloping their site.

### *Land for Parks, Schools, and Other Uses*

The Base Case includes 705 acres for right-of-way (19% of acres developed or redeveloped). This percentage is lower than the overall percentage for the city as a whole because so much of the vacant residential land is in platted lots where right-of-way has already been dedicated. When vacant platted lots are excluded, the total acreage of new right-of-way represents just over 21% of land developed or redeveloped.

Two new school sites are identified inside the existing UGB – one middle school and one high school. Both are on land owned by the School District. Together, these sites represent roughly 75 acres of land for future schools.

BPRD owns 29.1 acres of undeveloped land slated for neighborhood parks, plus an additional 43.8 acres of undeveloped land for future community parks inside the existing UGB. In addition, the open space set-asides yield a total of 52 acres of land inside the UGB that is not currently under BPRD ownership that may be dedicated for public parks under the Base Case.

The "other uses" set aside yields a total of 405 acres of land for these uses under the Base Case. This represents a little under 11% of the total acres developed or redeveloped under the

Base Case. After excluding vacant platted lots, it accounts for roughly 12% of the total land area developed (including redevelopment).

## 3.3 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 10, the Base Case is estimated to accommodate roughly 60% 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 less than a third of the single family attached and less than half of the multifamily housing needs can be accommodated with current policies and trends (see Table 10). For employment, nearly all of the public employment growth and about 80% of the industrial employment growth can be accommodated on land inside the UGB, but a little over a third of the retail and hospitality needs can be met inside the UGB with current policies and trends (see Table 11).

**Table 10: Base Case Housing Capacity Compared to Housing Needs by Housing Type**

| Housing Type | Net New Housing Units | Total Housing Need[45] | Residual Housing Need | Percent of Housing Need Met |
|---|---|---|---|---|
| **Single Family Detached** | 6,496 | 9,225 | 2,728 | 70% |
| **Single Family Attached** | 498 | 1,677 | 1,179 | 30% |
| **Multi-Family** | 3,045 | 6,331 | 3,286 | 48% |
| **Total** | **10,039** | **17,233** | **7,193** | **58%** |

**Table 11: Base Case Employment Capacity Compared to Employment Needs by Employment Category**

| Employment Category | Net New Jobs | Total Employment Need[46] | Residual Employment Need | Percent of Employment Need Met |
|---|---|---|---|---|
| **Industrial** | 5,216 | 6,522 | 1,306 | 80% |
| **Retail & Hospitality** | 2,420 | 6,546 | 4,126 | 37% |
| **Office** | 4,350 | 7,158 | 2,808 | 61% |
| **Public**[47] | 1,637 | 1,717 | 80 | 95% |
| **Total** | **13,622** | **21,943** | **8,321** | **62%** |

[45] 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.

[46] The employment need categories have been generalized for simplicity in comparing against capacity as measured in Envision Tomorrow. See EOA for details.

[47] 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.

# CHAPTER 4. EFFICIENCY MEASURES

## 4.1 Overview & Evaluation Process

The Residential and Employment TACs considered and discussed a robust package of efficiency measures[48] over a series of meetings. The efficiency measure concepts were approved by the USC in the Phase 1 package. The Residential and Employment TACs focused on efficiency measures that are proposed to be implemented through code text amendments packaged with the adoption of the UGB. Additional measures have been or will be implemented through other processes, including code amendment work by the Community Development Department (CDD) with the Planning Commission and the Parking Study, which are both underway.

The Residential and Employment TAC recommendations on new efficiency measures reflect a recognition that Bend's UGB expansion proposal and package of amendments are taking place in a time of transition. Vertical mixed use is relatively uncommon in Bend. There are concerns in existing neighborhoods about infill and redevelopment, as well as the scale and uses in neighboring commercial areas. Topics like ADUs are controversial. At the same time, there is a need for more affordable housing, housing supply in general, and a greater mix of housing types. These are hot topics, and elicit many different perspectives. Operating in this environment, the Residential and Employment TACs have taken clear steps to encourage a greater diversity and density of housing and mixed use development, described below, but care was taken to balance these efforts with the concerns of residents in existing neighborhoods. This balance is reflected in the efficiency measures that apply city-wide. The Residential and Employment TAC recommendations focused more drastic change in opportunity areas, which tend to be in the core of the city, and which also tend to not be adjacent to existing neighborhoods. These recommendations focus on good urban form with more intensive development in more central locations in the city. They recognize the opportunities provided by larger vacant sites to be master planned in the future, as well as the need to provide modest code changes to remove barriers to slightly higher intensity and a greater mix of housing in existing residential areas. Together, these measures support and guide Bend's transition from a small town to a city.

### *Estimating the Impact of Efficiency Measures*

The anticipated impacts of the efficiency measures inside the existing UGB were evaluated using the Envision Tomorrow model by making adjustments to the mix and density of housing projected in certain plan designations to reflect the removal of barriers, creation of incentives, and adjustments to minimum standards in the development code. Proposed changes to plan designations for opportunity areas, including application of new mixed use zones, were also evaluated using Envision Tomorrow by applying a development type that reflects the proposed plan designation rather than the existing one. The model does not provide a mechanism to

[48] "Efficiency measures" are changes to plan designations, zoning designations, and development code standards to allow and encourage more efficient use of land within the existing UGB. State regulations require cities to consider efficiency measures prior to expanding the UGB.

quantify the magnitude of the impact to capacity for each individual efficiency measure; rather, a cumulative impact of all proposed efficiency measures relative to the base case is provided in this chapter.

## 4.2 Proposed Package of Efficiency Measures & Nature of Anticipated Impact

### *Changes to Broadly-Applicable Development Code*

#### *Approach to Minimum Density*

The Residential TAC reviewed existing minimum densities in the residential zones and made the following recommendations:

- increase the maximum density in the RL zone from 2.2 to 4.0 units per gross acre;
- increase the minimum density in the RS zone from 2.0 to 4.0 units per gross acre; and
- retain the existing range of 7.3 to 21.7 units per gross acre in the RM zone.

The Residential TAC did not support the idea of creating an additional zone, and was uncomfortable with having a density gap between the maximum density in the RS zone and the minimum density in the RM zone. Instead of increasing the minimum density in the RM zone, the Residential TAC recommended removing barriers to development of a broader range of housing types in the RS and RM zones (see below). These changes are intended to create a greater mix of housing types generally within the currently allowed density ranges. The overall set of changes focus on requiring more mixing of units rather than dramatic increases to density levels.

Given that the average net density of new housing built in the RS zone between 1998 and 2008 was 4.9 units per net acre, which is roughly 3.9 units per gross acre, the increase in the minimum density for the RS zone is expected to cause an increase in overall gross densities for new development in that zone. However, given the history of housing development tending towards the lower end of the allowed density range in Bend, housing densities in RS are not expected to increase significantly above the new minimum through the 2028 planning horizon.

The code amendments also revise some aspects of how the density standards apply:

- Replacement of existing housing in any zone (provided the number of units does not change) and development on a vacant platted lot consistent with an approved land division are exempt from density standards. These are tighter and clearer exceptions than in the existing code, which excludes “redevelopment within a residential neighborhood with an existing pattern of development” and “infill development on a vacant platted lot consistent with the adjacent existing pattern of development”.
- Sensitive lands (wetlands, significant trees, steep slopes, floodplains and other natural resource areas designated for protection or conservation) as well as fire breaks (as defined in the code) and canal easements are excluded from minimum, but not maximum, density calculation. This will mean that constrained sites will have greater flexibility to shift development or not, depending on the site and the market. Sites with

heavier constraints are less likely to achieve the full density transfer from those constrained lands.

### *Ensuring Housing Mix*

In order to ensure that housing mix targets are met without increasing the minimum density in RM, additional code amendments are targeted at facilitating the needed housing mix in the RS zone and ensuring the needed housing mix in the RM zone.

In the RS zone, the Residential TAC recommended making additional housing types permitted rather than conditional, including: 1) single family attached townhomes; 2) courtyard housing (detached housing with modified side setbacks); and 3) duplexes and triplexes. These proposed amendments build on work that has already been done by the Community Development Department and Planning Commission to allow a greater housing mix in the RS Zone (including allowing ADUs, cottage homes, and duplexes on corner lots outright subject to special standards).[49]

It is worth noting that a development site generally would need to be over 10,000 square feet[50] in order to add a unit (other than an ADU) or partition due to the maximum density standard for the RS zone, regardless of the changes proposed. As a result, townhomes and duplexes are less likely to be an attractive option for small infill projects, except in the case where the lot is large enough to add units, but the siting of the existing home makes it difficult to partition lots large enough for a detached home. The option to retain the existing home on a larger lot and still add a few units may enable small infill projects in some circumstances where layout is a barrier (rather than land area), but making duplexes, triplexes, and townhomes permitted instead of conditional will have minimal impact on infill on small lots. It will, however, make it easier for developers to incorporate a few townhomes or duplexes into mid-size subdivision projects where they can use lot size averaging to provide a variety of housing types.

In the RM zone, the Residential TAC supported the proposal to require at least half of the units in developments between 3 and 20 acres (large enough for a mix of housing, but smaller than the master plan threshold) to be townhomes, duplex/triplex, or multifamily. This is intended to help that zone achieve the needed mix of housing units without changing the minimum density. There are exceptions for affordable housing projects that meet City standards, mobile homes parks, and cottage homes, all of which provide other ways to achieve affordable housing.

Between 1998 and 2008, single family detached housing comprised only about 24% of the new housing units in the RM zone overall, so this provision may not significantly shift the balance of housing types in that zone. It does, however, provide an additional back-stop to housing mix to avoid relying solely on market forces to produce the mix and to ensure that nearly all housing development in the RM zone (other than small infill projects) provides a mix of housing types.

[49] The code amendments related to ADUs, cottage homes, and duplexes on corner lots are all included as efficiency measures, despite the fact that they were adopted prior to the UGB adoption package, because they have been done since 2008, in response to the Remand.

[50] There are over 8,000 properties with the RS plan designation and/or zone that are over 10,000 square feet (including public land, open space, etc.); however, this is less than a third of all properties in the RS plan designation / zone.

In addition, efficiency measure code amendments prohibit new single family detached housing in the RH zone, in order to preserve that zone for attached housing types.

### *Master Plan Density and Mix Requirements*

The current code requires a flat minimum percentage of the maximum density (60%) for master planned sites. The efficiency measure code amendments tailor the requirements to each of the residential zones in order to ensure that the standard is realistic for all zones while still making efficient use of land in the RS zone. This is important not only for land inside the UGB, but for sites in UGB expansion areas that are large enough to trigger the master planning requirements (20 acres or greater). The Residential TAC recommended the following minimum density for master planned sites in each zone:

- RL: 50% of maximum (2.0)
- RS: 70% of maximum (5.11)
- RM: 60% of maximum (13.02)
- RH: base zone minimum (21.7)

In addition to a higher minimum density standard for master plan sites, the efficiency measure code amendments include the following minimum percentages of housing units that must be townhomes, duplex/triplex, or multifamily:

- RL and RS: at least 10% of units
- RM: at least 67% of units
- RH: Single Family Detached not permitted

Observed past development trends indicate that without minimum mixing requirements, developments tend to be built at near minimum densities with higher percentages of single-family detached dwellings than the needed mix going forward. The newly proposed mix requirements have been calibrated based on the assumptions built into the development types within the Envision Tomorrow model so that they help ensure that the needed housing mix can be met.

To support achieving the required mix of housing types, townhomes, duplex/triplex, and multifamily housing are all permitted outright when part of a masterplan in the RL and RS zones.

### *Minimum Lot Size Requirements*

Reductions to minimum lot sizes for certain housing types in the higher-density residential zones are proposed in order to allow more opportunities to build at the higher end of the allowed density range. Proposed changes to minimum lot area include:

- Single Family Detached Housing in the RL zone: from 15,000 square feet (sf) to 10,000 sf
- Single Family Detached Housing in the RM zone: from 3,000 sf to 2,500 sf
- Duplex/triplex in the RL zone: from 30,000 sf to 20,000 sf
- Duplex/triplex in the RM & RH zones: remove minimum lot size, and allow gross density, minimum open space requirements, and other development standards to control

- Townhomes in the RH zone: from 2,000 sf per unit to 1,200 sf per unit
- Townhomes in the RM zone: from 2,000 sf per unit to 1,600 sf per unit
- Multifamily housing in the RM & RH zones: remove minimum lot size, and allow gross density and other development standards to control the allowed number of units

Because the gross density standards control the number of units allowed on a given property, these changes primarily provide greater flexibility to achieve the upper ranges of the gross density standard for the zone on constrained sites and sites with more right-of-way and/or open space dedication.

### *Density Bonuses and other Affordable Housing Incentives*

In May 2015, the City adopted an affordable housing density bonus provision in the development code that allows development at up to 1.5 times the maximum gross density of the zone where some or all of the units are affordable (in conformance with City standards addressing target income levels and maintaining affordability[51]) – the greater the percentage of affordable units, the greater the density bonus. The City also has other affordable housing incentives, including a height bonus (10'), an allowance for more lot coverage, expedited review and permit processing, planning and building fee exemptions, and system development charge deferrals. These are considered efficiency measures and are important tools to encourage production of affordable housing and reduce costs for developers of affordable housing, but will have limited impact on capacity overall since affordable housing represents a relatively small portion of housing growth.

### *New Mixed Use Zones*

The proposed code amendments include two new mixed use plan designations and corresponding implementing zones: urban-scale ("Mixed Use – Urban" or MU) and neighborhood-scale ("Mixed Use – Neighborhood" or MN). The new zones are intended to accommodate a range of residential and commercial uses in pedestrian-oriented mixed use centers and corridors. The scale of uses in the MN zone (primarily building heights) is less intense than the MU zone. The Employment TAC recommended including the new mixed use zones in the Development Code and designating specific opportunity sites with the new Mixed Use plan designations and, in some cases, zones (see "Changes to Plan Designations for Opportunity Sites" on page 38).

The mixed use zones allow residential uses outright as well as when part of mixed use development. There are no maximum density standards for residential uses other than the height and setback standards. They are subject to the RM zone minimum density (7.3 units per acre) on the portion of the site used for ground-floor residential, though there is no minimum density for vertical mixed use. They also allow for an urban style of development with no minimum landscaping requirement (aside from parking lot and setback landscaping); reduced minimum parking standards for the MU zone (similar to the CBD rather than the standard for the rest of the city – see next section for details); no minimum front setback and a 10' maximum front setback.

[51] BDC 3.6.200(C)

The impact of the new mixed use zones is discussed under "Changes to Plan Designations for Opportunity Sites" on page 38.

### *Revisions to Parking Standards*

Targeted revisions to parking standards are proposed as part of the draft package of code amendments adopted with the UGB.

- Reductions to parking requirements for residential and commercial uses in the MU zone, similar to those in place for the CBD (e.g. 1 space per housing unit, regardless of size and type; 1 space per 500 square feet of commercial for all commercial uses).
- Allow on-street parking along the property frontage to count for up to 100% of required parking in the MU and MN zones.
- Allow on-street parking along the property frontage to count even if parking is only allowed on one side of the street.
- Provide automatic 5% reduction to minimum parking requirements for mixed use development.
- Provide automatic 10% reduction to minimum parking requirements for development adjacent to transit.
- Apply existing parking reduction for affordable housing (1 space per housing unit) regardless of location, rather than limiting it to locations within 660 feet of transit.
- Reductions to parking for 1-bedroom duplexes and triplexes (from 2 to 1 space per unit)

More comprehensive revisions to parking standards will be considered through the Parking Study, which is currently underway.

### *Allowing More Intense Development in the Mixed Employment Zone*

The Mixed Employment (ME) zone allows for a wide range of uses. Currently, it is subject to a 50% maximum lot coverage limitation and a 10-foot minimum front setback that make it difficult to build more intense development. The package of code amendments includes removing both of those limitations. It also includes a height bonus of 10 feet for vertical mixed use or affordable housing in the ME zone.

Amendments to the ME zone also ensure that housing is built as part of a mixed use development. Housing that is part of horizontal mixed use must meet RM zone minimum densities where there is only a small non-residential component to the development or where the site is adjacent to transit.

Several auto-oriented commercial uses are also proposed to become conditional, rather than permitted uses, in order to encourage more walkable, pedestrian-friendly development.

Combined with modest reductions to parking requirements, these adjustments will allow and encourage more intensive and efficient development, though parking requirements will still limit the ability to build urban-scale development in this zone.

### *Residential Density in Commercial and Mixed Use Zones*

Currently, there are no minimum or maximum density standards for residential uses developed in commercial or mixed use zones. In commercial zones, residential uses are only permitted as part of a mixed use development, but this can include "horizontal" mixed use where the uses are in separate buildings and the residential uses are on the ground floor. In mixed use zones, residential uses are allowed (outright or conditionally) as stand-alone uses as well as through mixed use developments.

In order to ensure that land for housing in the commercial and mixed use zones is used efficiently, the package of code amendments includes minimum density standards for targeted areas. Minimum residential density standards apply to:

- all horizontal mixed use development adjacent to transit in commercial and mixed use zones;
- horizontal mixed use development in which residential uses are primary in the ME and PO zones; and
- all residential development (except vertical mixed use) in the MU and MN zones.

The minimum density for such sites is the same as in the RM zone (7.3 units per acre), measured only on the portion of the site dedicated to residential uses on the ground-floor.

There continues to be no maximum density standard (except through the height and lot coverage limitations) for residential in the commercial or mixed use zones, and no minimum or maximum for "vertical" mixed use, where the housing is above commercial.

### *Impact of Changes to the Development Code*

The impact of proposed changes to the development code was estimated through changes to density and building mix in certain development types. A brief summary of key adjustments to the assumptions for certain development types is provided below, along with rough estimates of the magnitude of the impact, considering only land inside the existing UGB, and excluding the impact of changes to plan designations (discussed separately). For residential land, the assumptions only affect vacant land and land with infill potential that does not have a current land use approval under the existing rules. The redevelopment rate for residential land remains at zero, except for a token (1%) redevelopment rate for properties with some infill potential in the RH zone where removing barriers may allow a trivial amount of redevelopment (less than one acre of redevelopment is assumed in the RH zone in total). For employment land, the assumptions affect all vacant land and land that was already identified as having redevelopment potential under the Base Case. The exception is in opportunity areas, where redevelopment potential was assessed more specifically due to significant changes in land use regulations in those areas (see next section).

#### *RL:*

- **Adjustments in Model:** increased average density of single family detached homes slightly, and added a small amount of ADU development.
- **Approximate Yield:** 10-20 additional units inside UGB (mostly on larger properties that are developed with infill potential – spread across over 100 acres).

*RS:*

- **Adjustments in Model:** increased proportion of duplex/triplex and townhome, added a small amount of ADU and cottage home development, and increased average density of single family detached homes so that overall average density is just above the new required minimum density. Increased average density and housing mix further for the RS development type applied to master plan sites to meet new minimum density and mix standards.
- **Approximate Yield:** 450-500 additional units inside UGB on RS land under 20 acres (vacant parcels and larger properties that are developed with infill potential – spread across close to 800 acres); plus 150-200 additional units inside UGB on vacant RS land over 20 acres.

*RM:*

- **Adjustments in Model:** introduced a small amount of cottage home development and a small amount of single family detached housing on 2,500 sf lots. In the RM development type used for master plan sites, incorporated some higher-density multifamily to reflect the removal of the minimum lot size (which was linked to the number of units) for multifamily.
- **Approximate Yield:** 50-100 additional units inside UGB on RM land under 20 acres (vacant parcels and larger properties that are developed with infill potential – spread across over 250 acres); plus 10-20 additional units inside UGB on vacant RM land over 20 acres.

*RH:*

- **Adjustments in Model:** eliminated single family detached homes from the mix; increased density of single family attached housing (townhomes); and slightly increased the average density of multifamily housing to reflect the removal of the minimum lot size for multifamily
- **Approximate Yield:** 30-40 additional units inside UGB (spread across over 50 vacant acres of RH land).

*ME:*

- **Adjustments in Model:** shifted to slightly more urban building types and incorporated a small amount of live/work use and multifamily housing.
- **Approximate Yield:** 250-300 additional jobs inside UGB; 20-30 housing units inside UGB (spread across over 100 acres of vacant and redevelopable land).

In addition, new development types were created to reflect the allowed mix of uses, building heights and development standards for the new mixed use zones.

Details of the development types before and after accounting for efficiency measures can be found in Appendix E.

### *Changes to Plan Designations for Opportunity Sites*

The Residential and Employment TACs identified a number of opportunity sites within the existing UGB to consider site-specific efficiency measures. A map of the opportunity sites is

provided in Figure 2. Some opportunity areas were identified as having redevelopment potential, while others are large vacant sites where the TACs considered enabling or requiring a broader range of uses or housing types than is permitted under existing zoning. After much discussion, the following opportunity areas are identified for comprehensive plan map amendments and/or zone changes as efficiency measures:

*Bend Central District*

- **Recommendation:** Apply the Bend Central District (BCD) Special Plan District and rezone areas currently zoned IL that have an ME plan designation to ME. No change to plan designations.
- **Impact:** The Bend Central District area is expected to generate capacity for roughly 240 housing units and greater employment density, primarily through redevelopment of the areas along 1st and 2nd streets.

*East Downtown*

- **Recommendation:** Change General Commercial (CG) plan designations to MU. No change to zoning at this time (defer to property owner initiative).
- **Impact:** There is minimal redevelopment potential in this area in the 2028 planning horizon, though it presents a longer-term opportunity to extend the downtown.

*Century Drive area*

- **Recommendation:** Change IL, CC, CG, and CL plan designations to MU. Change the plan designation on the strip of Deschutes County-owned property north of Simpson from PF to RM. No changes to zoning at this time (defer to Phase 2 of the Central Westside Plan or property owner initiative).
- **Impact:** This area is expected to have capacity for roughly 490 dwelling units and greater employment density by 2028 through a mix of redevelopment and development on remaining vacant land.

*KorPine*

- **Recommendation:** Change plan designation and zone from IG to MU.
- **Impact:** This area could have substantial redevelopment potential within the planning horizon, with capacity for roughly 150 dwelling units and greater employment density.

*Juniper Ridge (eastern portion)*

- **Recommendation:** Consider extending the Employment Sub-District overlay as a future action. No change to plan designation or zoning at this time.
- **Impact:** This large, vacant area can accommodate a wider variety of employment than the base Light Industrial plan designation would allow. It is also targeted to accommodate one of the two large lot industrial sites.

*15th Street Ward property*

- **Recommendation:** Adopt plan and zone amendments to portions of the site, which is currently zoned entirely RS (about 204 acres) - change roughly 8.3 acres to RM, 6.4

acres to RH, 10.2 acres to ME, 5 acres to Community Commercial (CC), and 11 acres to Limited Commercial (CL).

- **Impact:** Changing some residential land to employment designations reduces the potential for housing on that land, but helps create a complete community in this area and increases employment capacity inside the UGB. Housing mix is increased due to the change in residential zones, and total housing capacity is increased on the portions rezoned to RM and RH by a minimum of about 170 housing units relative to the RS zoning. Note that the changes to the master plan standards, increasing minimum density for the RS portion and setting housing mix requirements, also increase minimum housing capacity and expected housing mix on this site.

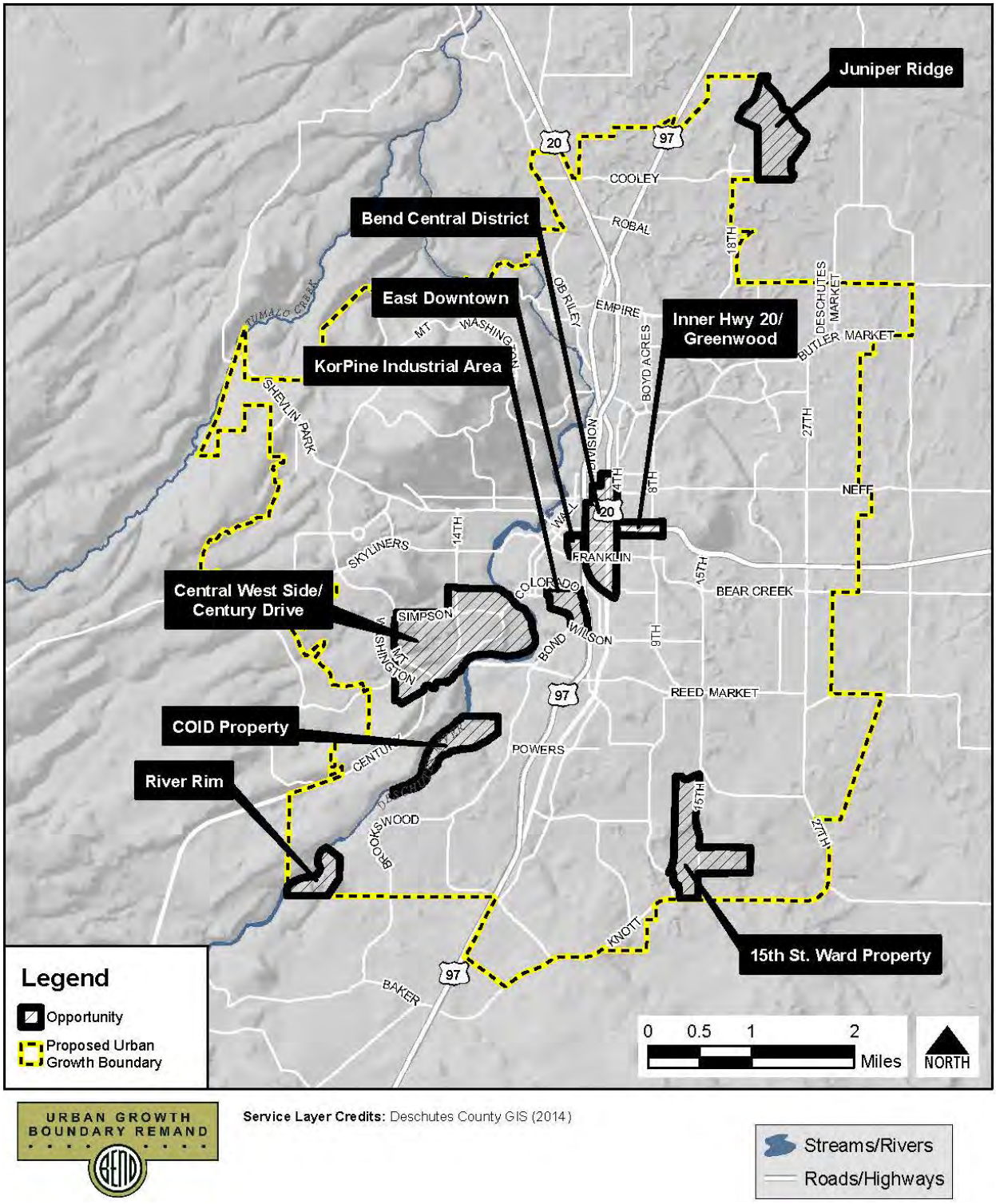
*COID property*

- **Recommendation:** Change comprehensive plan designation from PF to RS on the portion of the site that is outside the river canyon and not constrained by steep slopes or Areas of Special Interest (RS zone already in place).
- **Impact:** This 130-acre area is currently in public ownership by the Central Oregon Irrigation District (COID), which submitted testimony requesting to make the land available for residential development. It is encumbered by a view easement through 2035, but over the longer-term future may provide an opportunity for housing.

*River Rim*

- **Recommendation:** Keep the current RS comprehensive plan designation in place; but do not include the zone change for the property (from RL to RS) with the UGB adoption package. The property owner will be required to develop consistent with plan designation due to City regulations, and the code amendments include measures to streamline zone changes consistent with the comprehensive plan designation.
- **Impact:** The property has always been assumed to develop consistent with the RS plan designation; however, the changes to the RS master plan standards, increasing minimum density and setting housing mix requirements, will increase minimum housing capacity and expected housing mix on this site.

**Figure 2: Opportunity Areas Reference Map**




URBAN GROWTH BOUNDARY REMAND

**Service Layer Credits:** Deschutes County GIS (2014)

Streams/Rivers
Roads/Highways

### *Redevelopment Potential in Opportunity Areas*

Changing the allowed uses and intensity in several of the opportunity areas creates the potential for additional redevelopment, beyond what was estimated under the Base Case.[52] Redevelopment potential in opportunity areas was estimated by comparing the acquisition cost of property in the opportunity area against the land cost that new development in the new mixed use zones and special plan district would be able to afford. Acquisition cost was based on total property value per square foot in the tax assessor's database. The land cost that new development can afford was estimated based on an assumed return on investment, approximate construction costs, and market rents for the applicable uses. This analysis assumed that, on average, new development in opportunity areas could afford to pay roughly $18 per square foot of land. Properties with total values below this threshold were generally identified as having redevelopment potential, and "painted" with the appropriate development type. Properties that are "painted" are assumed to have some probability of redevelopment; that probability is set in the redevelopment rate. For the new mixed use zones, the redevelopment rate was set at 10-15% of "painted" acres within the planning horizon, accounting for the fact that not all properties that *could* redevelop *will* redevelop. Properties above $18 per square foot were generally not considered to have a strong likelihood of redeveloping within the planning horizon and were not "painted."

## 4.3 Capacity Estimate with Efficiency Measures

### *Housing Capacity*

The following tables and figures describe the residential capacity estimated within the existing UGB with the efficiency measures described above in place. 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.

In total, the current UGB can accommodate roughly 11,950 housing units after accounting for the projected impact of efficiency measures. The mix of units projected with efficiency measures is roughly 55% single family detached, 36% multifamily, and 9% single family attached. This is an increase of roughly 20% relative to the Base Case. Most of that increase comes from growth in single family attached and multifamily housing. The increase in single family detached and single family attached housing mostly comes from changes to the residential zones, while the increase in multifamily housing capacity comes both from changes to the residential zones and the use of the new mixed use zones in key opportunity areas.

**Table 12: Housing Capacity with Efficiency Measures**

| Housing Type | Net New Housing Units | Percent of new housing units |
|---|---|---|
| **Single Family Detached** | 6,599 | 55% |
| **Single Family Attached** | 1,039 | 9% |
| **Multi-Family** | 4,313 | 36% |
| **Total** | **11,950** | **100%** |

[52] Analysis of redevelopment potential under the Base Case is described in Appendix D of the EOA. A summary of how redevelopment rates were integrated into Envision Tomorrow in the Base Case is provided on page 28 of this report.

**Table 13: Housing Capacity with Efficiency Measures by Proposed Plan Designation***

| Plan Designation* | Single Family Detached Units | Single Family Attached Units | Multi-Family Units | Total New Housing Units |
|---|---|---|---|---|
| RL** | 177 | 2 | 8 | 187 |
| RS | 5,726 | 253 | 385 | 6,364 |
| RM* | 698 | 494 | 1,598 | 2,790 |
| RH* | - | 139 | 838 | 978 |
| MDOZ* | - | - | 490 | 490 |
| ME | (1) | 17 | 9 | 26 |
| MR | 9 | 38 | 38 | 85 |
| MN | 12 | 78 | 332 | 422 |
| MU | - | 10 | 142 | 152 |
| BCD* | (6) | 3 | 242 | 239 |
| Other*** | (14) | 4 | 231 | 221 |
| **Total** | **6,599** | **1,039** | **4,313** | **11,950** |

** Development capacity in the MDOZ and the Bend Central District is counted under the relevant overlay zone rather than by plan designation.*
*** RL includes a small area north of Shevlin Park Road that is proposed to be developed as part of a master plan with land outside the UGB.*
**** Other zones include commercial zones (with trace amounts of housing lost through redevelopment) and the PF zone, where student housing associated with COCC is projected.*

Table 14 shows the increase in housing capacity over the Base Case as a result of the efficiency measures.

**Table 14: Housing Capacity with Efficiency Measures by Housing Type Compared to Base Case**

| Housing Type | Base case | Increase from Efficiency Measures | With Efficiency Measures |
|---|---|---|---|
| **Single Family Detached** | 6,496 | 103 | 6,599 |
| **Single Family Attached** | 498 | 541 | 1,039 |
| **Multi-Family** | 3,045 | 1,267 | 4,313 |
| **Total** | **10,039** | **1,911** | **11,950** |

## *Employment Capacity*

The following tables and figures describe the employment capacity estimated with efficiency measures. Note that the number of new jobs reported is net of any existing jobs that may be lost through redevelopment in non-residential districts. In total, the current UGB can accommodate just over 14,720 jobs after accounting for the projected impact of efficiency measures for employment lands described on pages 37-39. This is an increase of close to 8% relative to the Base Case. The additional employment capacity relative to the Base Case is primarily due to the designation of additional employment land on the 15th Street opportunity site, which is currently all designated RS. Changes to opportunity sites primarily have the effect of changing

the type of jobs projected to be gained in those areas, with minimal impact on the total number of jobs expected through redevelopment (this is in part because some of the land is expected to be developed with housing instead).

**Table 15: Employment Capacity by Category with Efficiency Measures**

| Employment Category | Net New Jobs | Percent of new jobs |
|---|---|---|
| **Retail & Hospitality** | 3,223 | 22% |
| **Office** | 5,324 | 36% |
| **Industrial** | 4,506 | 31% |
| **Public** | 1,671 | 11% |
| **Total** | **14,723** | **100%** |

**Table 16: Employment Capacity by Plan Designation and Category with Efficiency Measures**

| Plan Designation* | Net New Retail & Hospitality Jobs | Net New Office Jobs | Net New Industrial Jobs | Net New Public Jobs | Total Net New Jobs |
|---|---|---|---|---|---|
| RS | 37 | 23 | - | - | 60 |
| RM* | 48 | 35 | - | - | 83 |
| RH* | 7 | 5 | - | - | 12 |
| MDOZ* | 15 | 744 | 90 | 1 | 850 |
| CC | 206 | 139 | 12 | 1 | 357 |
| CL* | 446 | 383 | 69 | 56 | 955 |
| CG | 1,073 | 214 | 23 | 1 | 1,311 |
| CB | 92 | 201 | - | 19 | 312 |
| IL** | 4 | 297 | 1,724 | - | 2,025 |
| IG | 4 | 88 | 293 | - | 385 |
| MR | 143 | 190 | 43 | 1 | 377 |
| ME | 483 | 397 | 369 | 14 | 1,263 |
| MN | 367 | 488 | (27) | (9) | 820 |
| MU | 158 | 55 | (14) | 1 | 200 |
| BCD* | 67 | 200 | (10) | 5 | 262 |
| PF*** | 23 | - | - | 1,394 | 1,416 |
| Juniper Ridge** | 49 | 1,865 | 1,934 | 187 | 4,034 |
| **Total** | **3,223** | **5,324** | **4,506** | **1,671** | **14,723** |

** Development capacity in the MDOZ and the Bend Central District is counted under the relevant overlay zone rather than by plan designation.*

*** Juniper Ridge employment capacity is calculated separately from the rest of the IL plan designation.*

**** PF plan designation includes COCC.*

Table 17 shows the change in jobs capacity as a result of the efficiency measures.

**Table 17: Employment Capacity with Efficiency Measures Compared to Base Case**

| Employment Category | Base case | Increase (Decrease) from Efficiency Measures | With Efficiency Measures |
|---|---|---|---|
| **Retail & Hospitality** | 5,216 | (710) | 4,506 |
| **Office** | 2,420 | 803 | 3,223 |
| **Industrial** | 4,350 | 975 | 5,324 |
| **Public** | 1,637 | 34 | 1,671 |
| **Total** | **13,622** | **1,102** | **14,723** |

With the proposed efficiency measures, employment growth through redevelopment and "refill" is estimated at 1,841 jobs. Because some industrial land is proposed to be converted to mixed use designations, the efficiency measures are projected to result in a net increase of 161 jobs through redevelopment in opportunity areas, but a decrease of 124 jobs through refill in existing industrial areas, for a small total difference in job capacity (roughly 38 jobs) due to redevelopment and refill combined. The remaining increase in job capacity due to efficiency measures comes from more intense use of vacant land.

### *Land for Parks, Schools, and Other Uses*

The existing UGB capacity estimates, after accounting for efficiency measures, include the following amounts of new land for other urban uses:

- 699 acres of land for right-of-way (19% of acres developed, but 21% of acres developed after excluding vacant platted lots);
- the same 73 acres of park land already in BPRD ownership as identified in the Base Case, plus a total of 60 acres of open space set-asides that may be dedicated for public parks where appropriate;
- the same middle school and high school site identified in the Base Case, plus a proposed elementary school on vacant, privately-owned land on 15th Street for a total of roughly 90 acres of land for schools; and
- 405 acres of land for other uses (11% of total acres developed or redeveloped, but 12% of land developed after excluding vacant platted lots), such as churches, benevolent/fraternal organizations, utilities, canals, cemeteries, golf courses, properties owned by irrigation districts, and RV parks.

## 4.4 Comparison to Need

With efficiency measures, roughly 70% of the total housing and employment growth can be accommodated inside the existing UGB, as shown in Table 18 and Table 19, respectively. Compared to the Base Case, the biggest increases in capacity are in multifamily housing and retail and office employment. With efficiency measures, the housing mix inside the UGB is much more closely aligned with the overall needed housing mix and the employment mix is better aligned with the employment forecast.

**Table 18: Housing Capacity with Efficiency Measures Compared to Housing Needs by Housing Type**

| Housing Type | Net New Housing Units | Total Housing Need[53] | Residual Housing Need | Percent of Housing Need Met |
|---|---|---|---|---|
| **Single Family Detached** | 6,599 | 9,225 | 2,626 | 72% |
| **Single Family Attached** | 1,039 | 1,677 | 638 | 62% |
| **Multi-Family** | 4,313 | 6,331 | 2,018 | 68% |
| **Total** | **11,950** | **17,233** | **5,282** | **69%** |

**Table 19: Employment Capacity with Efficiency Measures Compared to Employment Needs by Employment Category**

| Employment Category | Net New Jobs | Total Employment Need[54] | Residual Employment Need | Percent of Employment Need Met |
|---|---|---|---|---|
| **Industrial** | 4,506 | 6,522 | 2,016 | 69% |
| **Retail & Hospitality** | 3,223 | 6,546 | 3,323 | 49% |
| **Office** | 5,324 | 7,158 | 1,834 | 74% |
| **Public**[55] | 1,671 | 1,717 | 46 | 97% |
| **Total** | **14,723** | **21,943** | **6,791** | **67%** |

[53] 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.

[54] The employment need categories have been generalized for simplicity in comparing against capacity as measured in Envision Tomorrow. See EOA for details.

[55] 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.

# CHAPTER 5. 2016 UGB EXPANSION

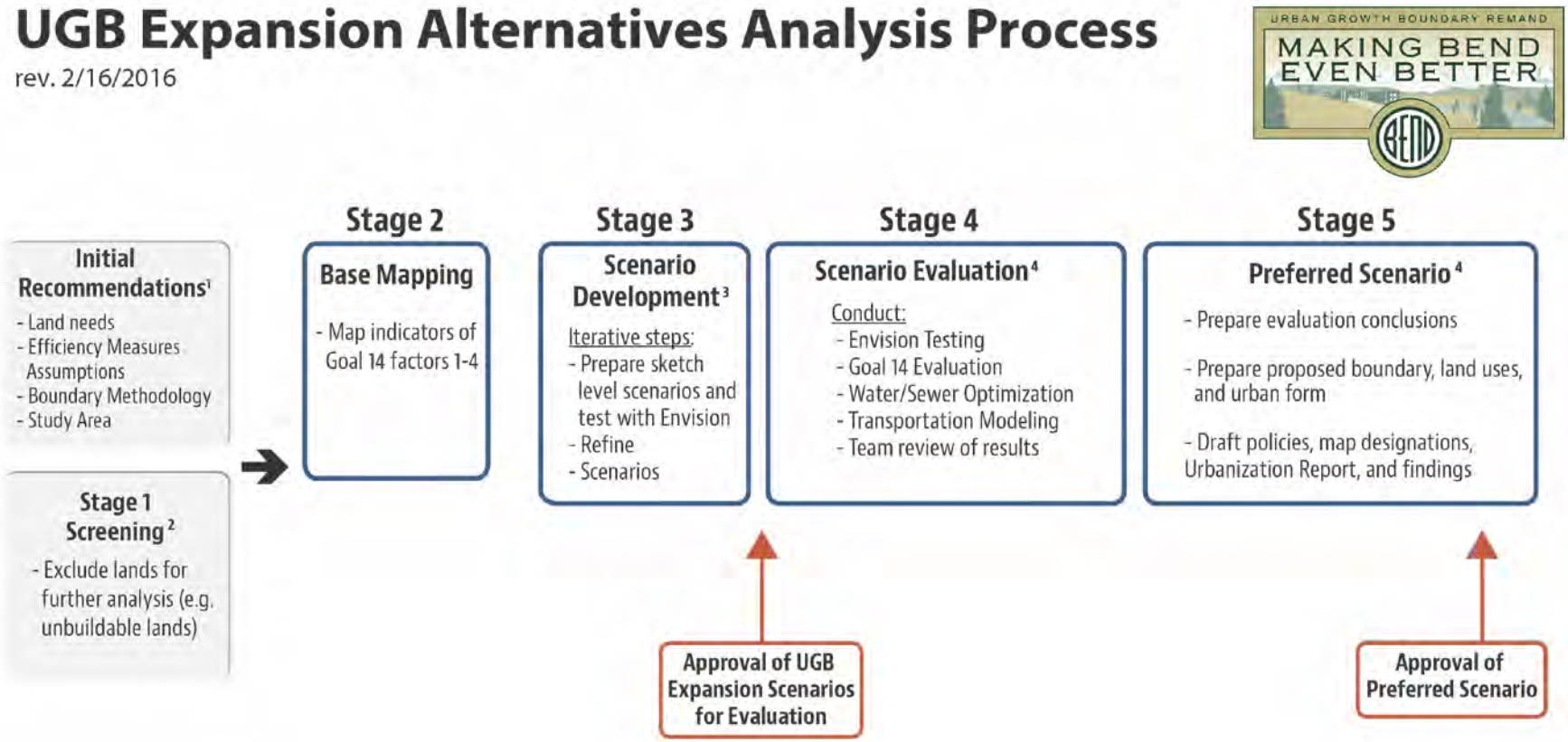
## 5.1 Overview & Evaluation Process

Creation and evaluation of UGB expansion alternatives was conducted in coordination with the Boundary and Growth Scenarios Technical Advisory Committee (Boundary TAC). The Boundary TAC's members spent almost a year narrowing the pool of available land outside the UGB and deciding on an evaluation methodology, followed by an extensive evaluation and UGB refinement process.

The evaluation process was divided into the following stages, described in detail in the following sections and illustrated on Figure 3:

- Initial Suitability Evaluation: (Stage 1 and Stage 2) Mapping of the best available information related to the four Goal 14 factors and exclusion of the worst-performing lands for further analysis.
- Alternatives Analysis: (Stage 3 and Stage 4) Creation of six land use alternatives or "scenarios" to evaluate the best-performing lands in a variety of combinations and with a variety of land uses; and evaluation of scenarios for land use, transportation, environmental, and infrastructure impacts.
- Proposed UGB Expansion (Stage 5) Creation of a preferred scenario from the best-performing subareas and land under Stage 4.

**Figure 3: UGB Expansion Evaluation Process Overview & Stages**

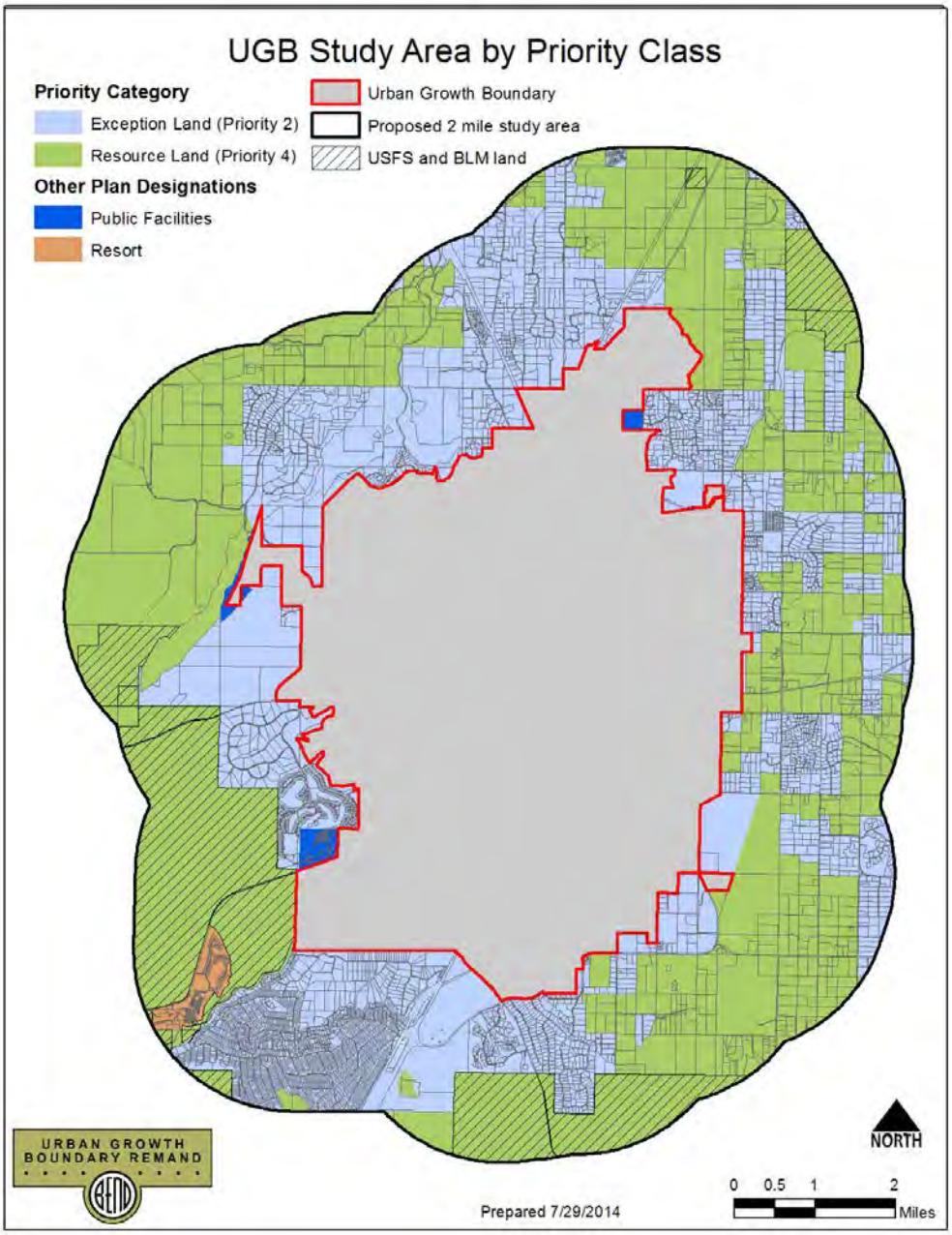


## 5.2 Stage 1: Screening of lands for further analysis

### *Approach*

The identification of suitable land began with defining an initial study area: a two-mile buffer from the existing UGB. Within this study area, evaluation was based on a tiered approach, in which higher priority lands (i.e. exception lands) were evaluated first for each identified land need, as required under OAR 660 Division 24. The starting pool of exception lands within the two-mile buffer was approximately 18,000 acres (see Figure 4).

**Figure 4: UGB Two-Mile Study Area by Priority Class**



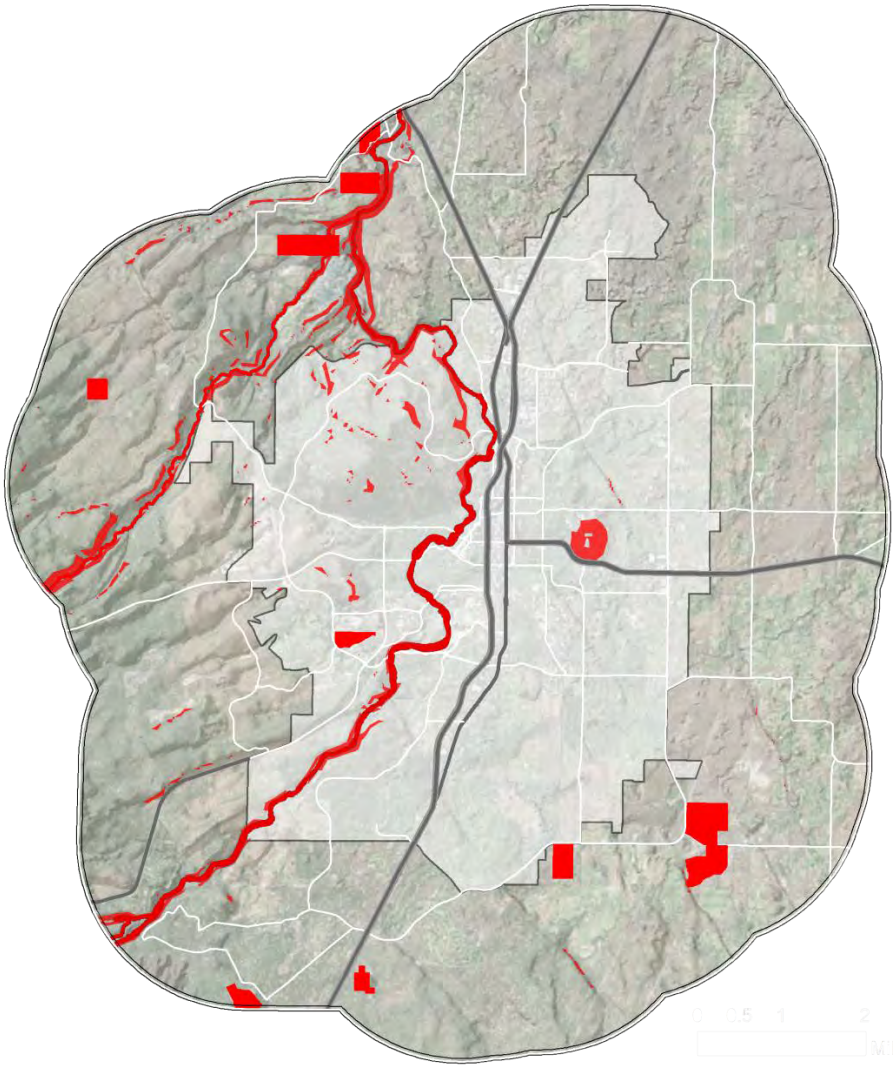
The City's approach to screening land from further consideration prior to applying the Goal 14 evaluation is summarized below.

### *Exclude lands that are not buildable*[56]

The following lands were identified as unbuildable:

- 100-year floodplain
- Steep slopes (25% and greater)
- Upper Deschutes River State & Federal Scenic River Overlays (100 feet from OHW)
- Middle Deschutes State Scenic Waterway (100 feet from OHW)
- Deschutes River & Tumalo Creek Riparian Corridors (100 feet from OHW)
- Significant aggregate sites in Deschutes County Goal 5 inventory with Surface Mining plan designation

**Figure 5: Unbuildable land in UGB Expansion Study Area**



Identifying lands that are unbuildable doesn't necessarily mean that these lands can't be included in the UGB; however, if they are included, they aren't counted as developable in the BLI. The lands identified as unbuildable in the expansion areas are shown in red on Figure 5.

### *Exclude lands that are incompatible with urbanization*

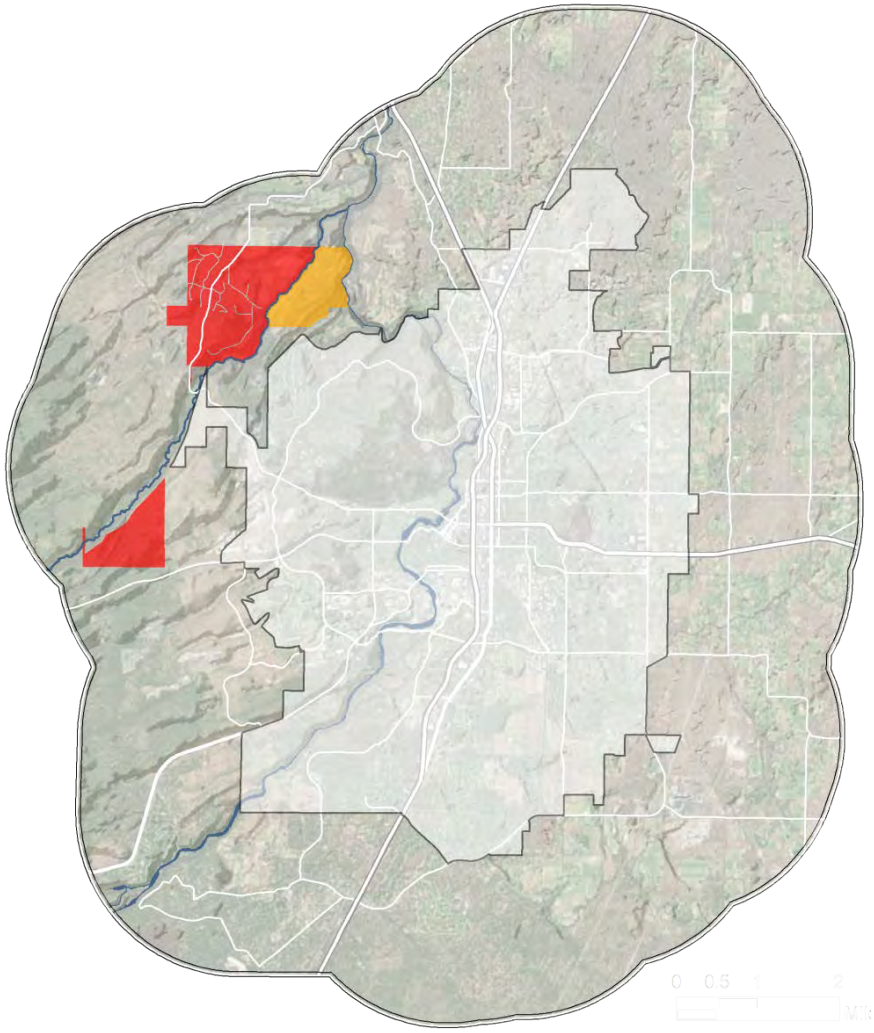
Exception lands within the acknowledged Deschutes County Wildlife Overlay (deer winter range) were screened from further analysis. These areas are considered significant habitat by

[56] OAR 660, Division 8 defines buildable land. See Bend's BLI for more information.

ODFW. The Goal 5 “program” to protect the big game winter range is based in large part on restricting densities, requiring clustering and requiring protection of open space (50% of site). Potential urbanization of these lands would inherently conflict with protection of the big game winter range.

In addition, the Shevlin Sand and Gravel (SSG) site located in the northwest quadrant of the City on Shevlin Park Road was screened from further analysis. Based on testimony from the property owner representative stating that the aggregate resources at the Shevlin Sand & Gravel site are not expected to be exhausted and the site reclaimed during the planning period (2008-2028), the portion of the site under DOGAMI Permit 09-0018 was excluded from consideration for UGB scenarios. This did not affect consideration of the remainder of the property.

**Figure 6: Land screened from consideration for UGB expansion**




The lands excluded are shown in red (wildlife overlay) and orange (aggregate site) on Figure 6.

### *Results*

After excluding the lands listed above, the total acreage of exception land that was advanced for further consideration and evaluation in Stage 2 was roughly 16,200 acres.

## 5.3 Stage 2: Base Mapping

### *Approach*

Because the pool of available exception lands within the study area is so large relative to the land need, additional information was needed in order to identify better performing lands to consider for the UGB expansion alternatives analysis. It would not have been possible to develop alternatives to encompass all of the exception lands for evaluation. In the Base

Mapping stage, the Boundary TAC recommended using a few key indicators of the Goal 14 factors to help identify the best land to include in boundary scenarios. This stage of analysis helped to narrow the scope of the study area to focus on the areas that ranked higher and also informed the development of scenarios in Stage 3.

Using available GIS and other data, a series of maps were prepared to illustrate the relative ranking of parcels based on the key indicators associated with each of the four factors of Goal 14. The Boundary TAC reviewed and suggested refinements to the base maps over a series of meetings, and ultimately approved roughly 25 Stage 2 maps. The project team then prepared one composite map for each of the four Goal 14 factors and a composite map combining indicators for all four factors. The approach was to prepare "un-weighted" composite maps, so the information was displayed without value judgments about what factors are more important than others. In addition, areas within the 2-mile study area that have low suitability for urbanization and were "annotated" or highlighted on the maps, including: (a) rural subdivisions with CC&Rs; (b) "islands" that are either completely or mostly surrounded by resource lands; and (c) edge parcels that are relatively small and very irregularly shaped, making them difficult to serve with infrastructure and develop as complete communities.

The indicators included in Stage 2 Base Mapping for each of the goal 14 factors are listed below.

*Factor 1: Efficient accommodation of identified land needs*

- Parcel size
- Improvement to land value ratio
- Proximity to existing UGB – adjacency more efficient than edge of study area
- Topography (25% slopes or greater)
- Existing that CC&Rs prohibit or limit additional development

*Factor 2: Orderly and economic provision of public facilities and services*

*Transportation*

- **Barriers**: Consideration of physical barriers to connectivity (new river crossings, railroad crossings, steep slopes, etc.).

- **Reliance on Congested Corridors:** Consideration of key congested highway corridors based on the recently completed Bend MPO MTP. Using the Bend 2040 travel demand model, identify which exception lands have a higher reliance on a congested corridor.

- **System Connectivity**: Consideration of whether the existing major roadway network meets ideal grid-spacing (e.g., one-mile spacing for arterials and half-mile spacing for collectors). Rank exception areas with a more subjective approach based on ability to extend collectors into the study area. Also consider if subareas in the study area are adjacent or near well connected streets inside the current UGB.

*Water*

- **Pressure system (City of Bend)**: Consideration of exception areas that could be served by existing pressure zones by City of Bend

*Sewer*

- **Gravity system**: Consideration of areas that can be served via gravity. This would be illustrated with a map showing areas in the study area that can be served with gravity sewer vs. areas requiring additional pumping.

- **Maximize existing/planned improvements**: Consideration of areas with capacity or planned short-term improvements. This would be illustrated with a map showing any areas in the study area outside the current UGB that could be served with sewer without major new investments in addition to planned facilities in the Collection System PFP.

*Stormwater*

- **Drinking water protection areas**: Consider proximity to drinking water protection areas (DWPA)

- **Surface geology**: Consider presence of surface geology (welded tuff) that limits on-site stormwater management.

*Factor 3: Comparative environmental, social, economic and energy consequences (ESEE)*

- Presence of significant Goal 5 resources or other resources (consider Greenprint mapping or other data sources)

- Relative wildfire risk and presence of other natural hazards (floodplains)

- Proximity to existing or planned parks, trails, elementary schools

- Proximity to irrigation districts, irrigated lands and canals in study area

- Presence of water quality limited streams (303d) in study area

*Factor 4: Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB*

- Proximity to designated forest land

- Proximity to designated high-value agricultural land (irrigated)

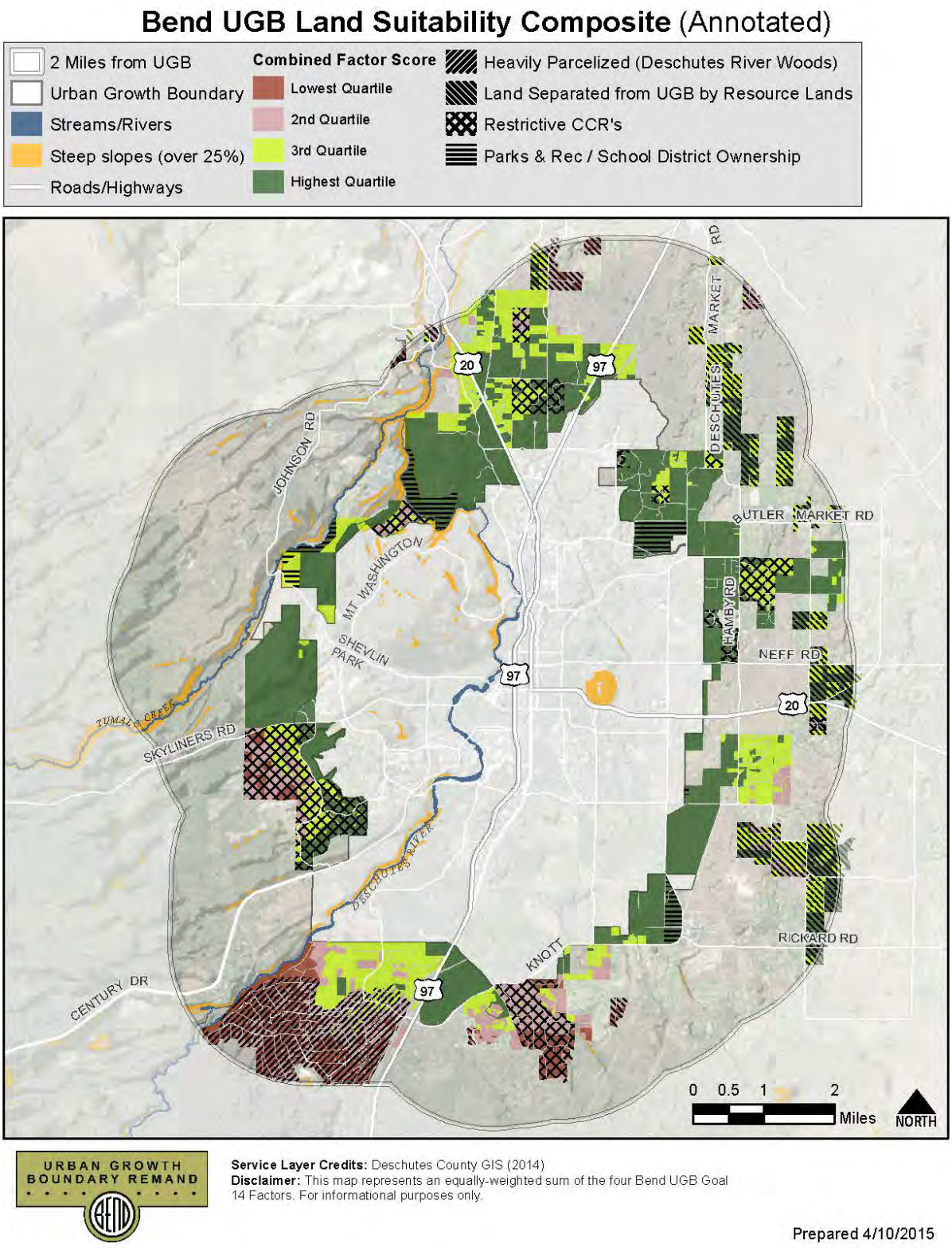
### *Results*

The combined results of the Stage 2 Base Mapping, with annotations as described above, are shown on Figure 7. The Stage 2 Base Mapping revealed certain exception lands that were highly problematic based on one or more of the Goal 14 factors, and that, on balance, were not suitable for inclusion in the alternatives analysis:

- Properties with recorded CC&Rs that preclude land divisions and additional dwellings (based on Factor 1 considerations and inability to accommodate identified land needs)

- Heavily parcelized areas with smaller parcels (less than 2 acres) and numerous dwellings that severely limit capacity for new development (based on Factor 1 considerations and inability to efficiently accommodate identified land needs)
- Rural residential subdivisions (generally less than 5 acre lots) with higher improvement to land value ratios that severely limit capacity for new development within the 2028 planning horizon (based on Factor 1 considerations and inability to efficiently accommodate identified land needs)
- Lands that are separated from the existing UGB by resource lands (based on Factor 4 considerations and impact to resource lands)

**Figure 7: Stage 2 Mapping Combined Results**

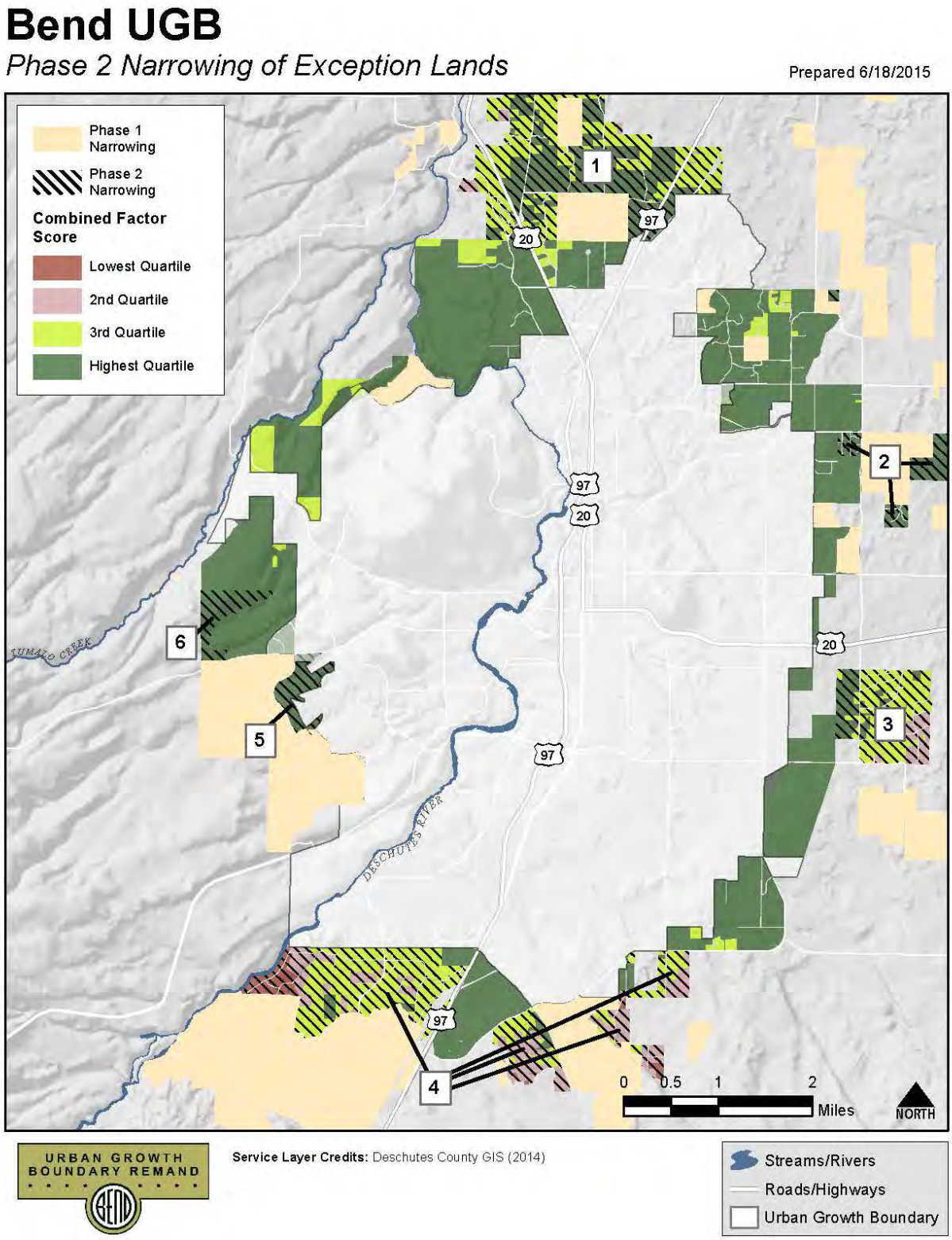


Further consideration of the Stage 2 Base Mapping results in Phase 2 of the project highlighted additional areas that were, on balance, less appropriate to bring forward for further evaluation. The brief summaries below are keyed to specific locations on the map on Figure 8: Further Narrowing of Exception Lands.

1. A large rural residential exception area (just under 1,600 acres) located north of Cooley Road generally between Hwy 97 and Hwy 20A relatively large rural residential subdivision (about 220 acres) with restrictive CC&R's is located at the southerly boundary that represent a barrier to efficient expansion to the north.
2. Several small subdivisions in the northeast - the portion west of Hamby Road is subdivided into small lots (average lot size is a half-acre) with a relatively high improvement to land value ratio. The portion east of Hamby is separated from the UGB by a mix of land with restrictive CC&Rs and resource land.
3. An area located between Hwy 20 and Stevens Road surrounding Hamby Road that is relatively far from the UGB and would further surround zoned resource land.
4. Several large rural residential exception areas that overall did not score well based on the balancing of the Goal 14 factors.
5. A small area associated with common open space tracts for Cascade Highlands and Tetherow destination resort that should not be considered buildable or suitable for urbanization.
6. The portion of the Miller Tree Farm rural cluster subdivision property that was not screened out based on the County's wildlife overlay zone.

This left 5,400 remaining acres of exception land for further evaluation.

**Figure 8: Further Narrowing of Exception Lands**



## 5.4 Stage 3: Scenario Development

### *Approach*

Initially, three geographically specific UGB expansion scenarios to meet anticipated land needs were created based on input from all three TACs and the USC in a workshop. These scenarios were brought to the Boundary TAC and USC for review and refinement. The Boundary TAC recommended and USC approved three specific UGB Expansion Scenarios for evaluation, but also asked the project team to evaluate all land that had been given the top rating (i.e. scored in the top quartile when all indicators were combined) during the "Stage 2" evaluation of exception land within the two-mile study area and had not been excluded by subsequent refinements and narrowing. The areas that met those tests and were not included in one of the three UGB Expansion Scenarios were identified as "Supplemental Analysis Areas".

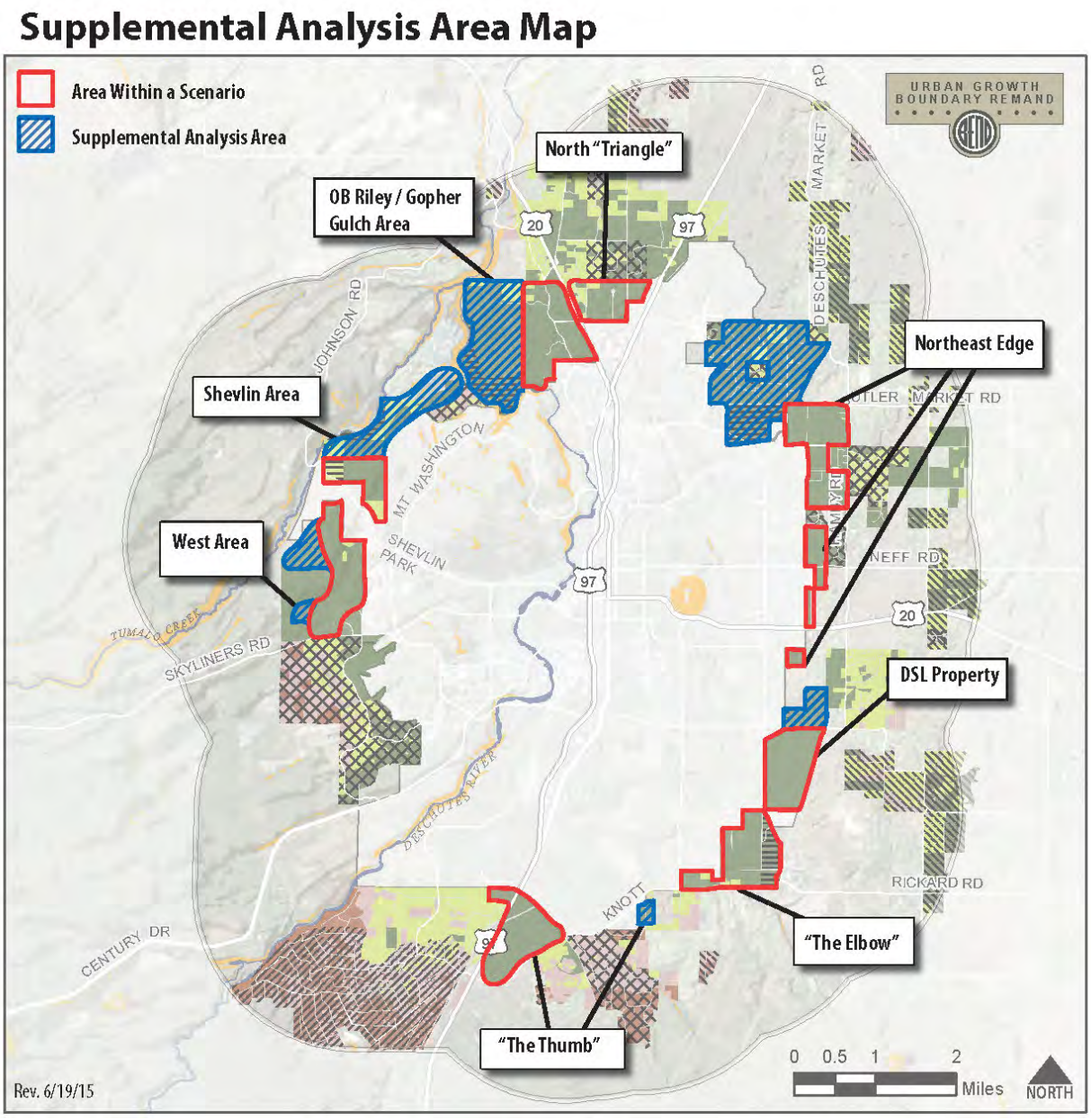
Some of the models used for scenario evaluation (such as the transportation model) require "budgeted" land use assumptions in order to do a full evaluation and an "apples to apples" comparison against land included in the three UGB Expansion Scenarios. In order to respond to the direction for equal evaluation, the team created three Supplemental Analysis Area Maps ("SAAMs") that collectively incorporate all the land in the Supplemental Analysis Areas in packages with roughly the same total levels of employment and residential growth and the same assumptions about the amount and type of development that can be accommodated inside the UGB as the UGB Expansion Scenarios. The SAAMs were intended to test full utilization of certain geographic areas rather than distributed growth across a variety of potential expansion areas. The level of analysis for the SAAMs was identical to that done for the Scenarios.

The Scenarios and SAAMs are organized around eight general geographic areas that were identified as the most suitable to meet the identified land needs:

- West Area
- Shevlin Area
- OB Riley/Gopher Gulch Area
- North "Triangle"
- Northeast Edge
- DSL Property
- "The Elbow"
- "The Thumb"

These subareas are shown on Figure 9. Figure 9 also identifies the portions that were included in scenarios and those that were part of the Supplemental Analysis Areas.

**Figure 9: Subareas, Scenario Areas, and Supplemental Analysis Areas**




## *Summary of Alternatives Considered*

The UGB Expansion Scenarios and SAAMs are described and illustrated below. The categories shown on the generalized scenario maps are as follows:

- *Residential area with locally-serving employment*: Predominately residential uses, with supportive uses such as parks, schools, and local commercial centers.
- *Residential area with significant employment*: A full mix with residential uses, parks and/or schools, and commercial and employment areas.

- *Employment area*: Employment-focused area providing for a mix of jobs (retail, office, and/or industrial) with little or no residential use.

Note that these categories reflect the combination of the many development types applied to the expansion areas to match the need for employment and housing by types. They are used for communication purposes only, and are not official land use plan designations that would be applied to expansion areas.

Figure 10 illustrates the six alternatives, while Table 20 summarizes the land use concept in each subarea for each of the three scenarios and three SAAMs.

**Figure 10: UGB Expansion Scenarios and SAAMs**

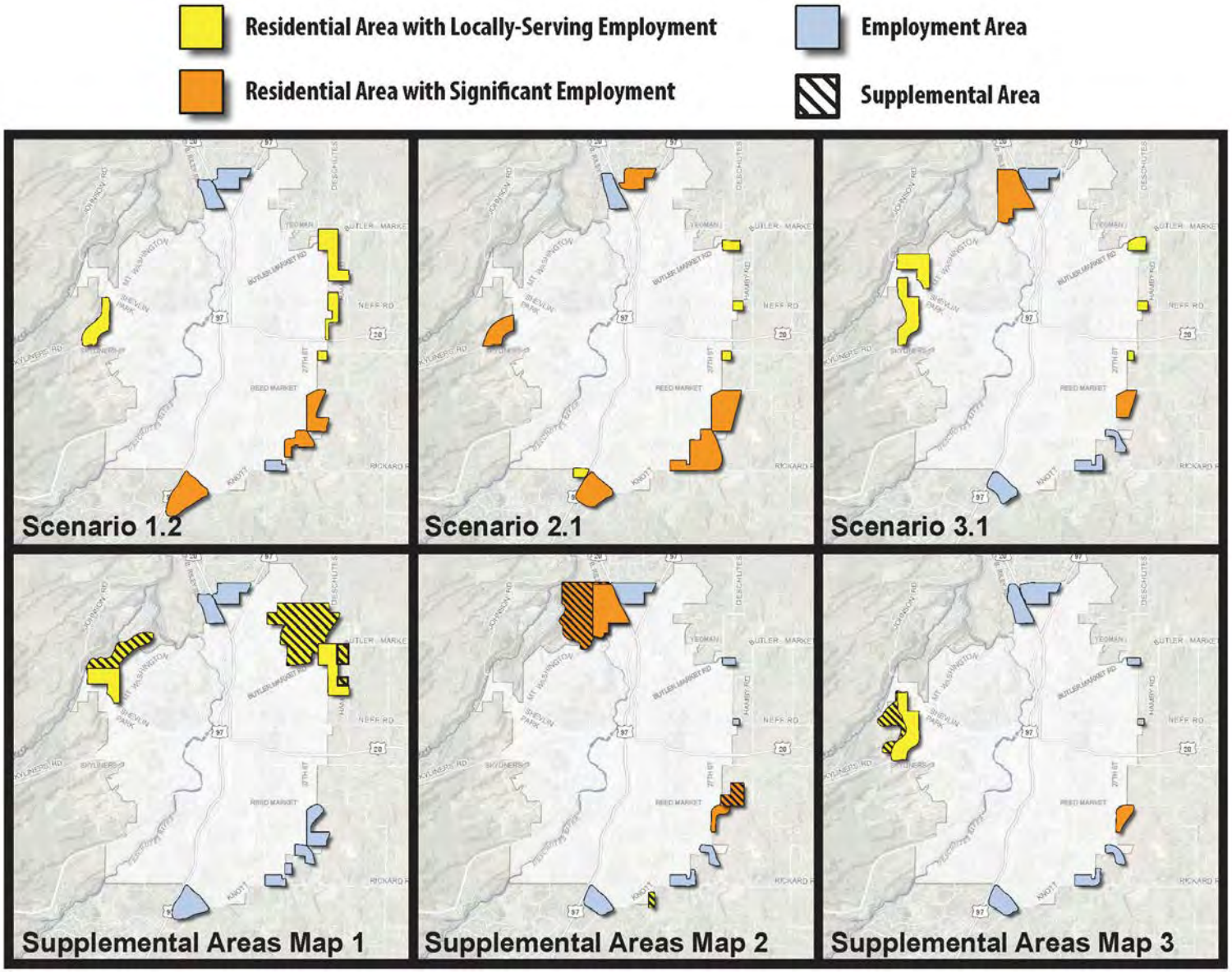


**Table 20: Land Use Concepts by Subarea for UGB Expansion Scenarios and SAAMs**

| Subarea | Scenario 1.2 | Scenario 2.1 | Scenario 3.1 | SAAM-1 | SAAM-2 | SAAM-3 |
|---|---|---|---|---|---|---|
| **OB Riley / Gopher Gulch** | Limited to area east of OB Riley; employment-focused | Limited to area east of OB Riley; employment-focused | Both sides of OB Riley, but not large Gopher Gulch ownership; mix of housing & employment | Limited to area east of OB Riley; employment-focused | Both sides of OB Riley, and large Gopher Gulch ownership; mix of housing & employment | Limited to area east of OB Riley; employment-focused |
| **North Triangle** | Excludes parcelized area on the western edge adjacent to Hwy 20; employment-focused | Excludes parcelized area on the western edge adjacent to Hwy 20; mix of housing & employment | Full subarea included; employment-focused | Excludes parcelized area on the western edge adjacent to Hwy 20; employment-focused | Full subarea included; employment-focused | Full subarea included; employment-focused |
| **Northeast Edge** | Several large blocks of land contiguous to the UGB included; residential focus with commercial nodes | Small commercial nodes at Neff & Butler Market roads with small residential areas adjacent to each and small residential node at Bear Creek Road | Small commercial nodes at Neff & Butler Market roads with small residential areas adjacent to each and small residential node at Bear Creek Road | Large block of land between Eagle Road and Hamby Road, plus rural subdivision between Juniper Ridge and Yeoman Road | Small commercial nodes at Neff & Butler Market roads | Small commercial nodes at Neff & Butler Market roads |
| **DSL Property & Darnell Estates** | Roughly two-thirds of area included; mix of housing and employment uses | Full area included; mix of housing and employment uses | Roughly one-third of area included; mix of housing and employment uses | Roughly half of area included; employment-focused | Small sliver of DSL included plus Darnell Estates to the north; mix of housing and employment uses | Small node included; mix of housing and employment uses |

| Subarea | Scenario 1.2 | Scenario 2.1 | Scenario 3.1 | SAAM-1 | SAAM-2 | SAAM-3 |
|---|---|---|---|---|---|---|
| **"The Elbow"** | Two blocks of land contiguous to existing UGB; mix of housing and employment uses | Full area included; mix of housing and employment uses | Two small fragments included; employment-focused | Three small fragments included; employment-focused | Two small fragments included; employment-focused | Two small fragments included; employment-focused |
| **"The Thumb"** | Full area included; mix of housing and employment uses | Roughly two-thirds of area included plus Baney property; mix of housing and employment uses | Roughly one-third of area included; employment focused | Roughly two-thirds of area included; employment focused | Roughly one-third of area included plus Woodside Road area; employment focused except residential in Woodside Road area | Roughly one-third of area included; employment focused |
| **West Area** | Narrow expansion hugging existing UGB; residential focus with small commercial node | Node on Miller property, focused around schools; mix of housing and employment uses | Roughly half of area included; residential focus with small commercial node | Not included | Not included | Full area included; residential focus with commercial nodes |
| **Shevlin Area** | Not included | Not included | Southern area included; residential focus with small commercial node | Full area included; residential focus with commercial node | Not included | Not included |

## 5.5 Stage 4: Scenario Evaluation / Alternatives Analysis

### *Approach*

The comparison, evaluation and balancing of Bend's UGB expansion alternatives was based on the following hierarchy of considerations:

- **Goal 14 Factors** – The legal requirements for what must be considered and balanced.
- **Community Outcomes** – Eight intended outcomes that reflect the city's goals for the project, articulate what the Goal 14 factors mean for Bend, and provide a way to summarize results for performance measures.
- **Performance Measures** – Detailed measures for each Goal 14 factor: the factual base for the evaluation. Some performance measures are quantitative and others are qualitative.

The Community Outcomes **(bold type)** and a summary of the performance measures under each Goal 14 Factor are listed below.

*Factor 1: Efficient accommodation of identified land needs*

- **Complete Communities and Great Neighborhoods**: walkability to schools, parks, and businesses; jobs/housing balance, and opportunities for master planning
- **Efficient, Timely Growth:** total expansion, density, land contiguous to existing UGB, and vacant vs. developed land included

*Factor 2: Orderly and economic provision of public facilities and services*

- **Balanced Transportation System**: reliance on the automobile (vehicle miles traveled per capita or VMT, trip length, mode split, walk trips), congestion, safety and connectivity, proximity to transit, and intersection density
- **Cost Effective Infrastructure**: total cost and cost per acre of transportation and sewer improvements, new miles of local roads, water system improvements in city water service area, impervious surface area, and development in welded tuff geology and Drinking Water Protection Areas

*Factor 3: Comparative environmental, social, economic and energy consequences (ESEE)*

- **Quality Natural Environment** (Environmental and Energy Consequences): development in wildlife areas, development adjacent to riparian areas, wildfire hazard, greenhouse gas emissions, energy use, and water consumption
- **Housing Options and Affordability** (Social Consequences): cost and mix of new housing
- **Strong Diverse Economy** (Economic Consequences): site suitability for commercial and industrial uses and for the large lot special site need

*Factor 4: Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB*

- **Compatibility with Farms and Forests**: farm practices on high value farm land adjacent to expansion areas, impact to irrigation districts, and proximity to forest land

In Stage 2, the Boundary TAC and USC directed the team to use an "unweighted" (or, more precisely, an equally-weighted) approach to combining results from different indicators to identify overall performance of different areas. For the Stage 4 scenario evaluation, neither the Boundary TAC nor the USC provided specific guidance on how the performance measures should be weighed and balanced against one another. However, not all performance measures identify equally important advantages or disadvantages. Table 1 identifies which performance measures the project team identified as most and least important (relative to others within the same Community Outcome) and a rationale for why the team recommended they be given greater consideration in reaching a decision on the preferred UGB.

In addition, there are a handful of performance measures that identify truly significant differences between the alternatives – differences that will meaningfully affect the community in 2028 and/or that are critical to meeting the legal requirements for this UGB expansion. These "difference makers" are identified as "Very High" relative importance in Table 21, indicating their importance beyond a single community outcome. Additional performance measures are especially important at the subarea level, such as development in wildlife areas and adjacent to riparian areas, wildfire hazard, proximity to farms and forests, irrigation district impacts, suitability for commercial and industrial uses, and per acre costs for needed infrastructure extensions (framework roads and sewer lines).

The project team evaluated overall results using both an equally-weighted and an unequally-weighted approach, including several variations of weighting. The different approaches to weighting were presented and considered by the Boundary TAC as well. Using or not using weighting and the degree of weighting had minimal impact on the overall results: the top performing scenarios were found to rank in the same order regardless of whether and how the performance measures are weighted (see Scenario Evaluation Report for details).

**Table 21: Goal 14 Factors, Community Outcomes, and Performance Measures**

| Goal 14 Factor | Community Outcome | Performance Measures | Relative Importance[57] | Rationale |
|---|---|---|---|---|
| **Factor 1: Efficient accommodation of identified land needs** | Complete Communities and Great Neighborhoods | Housing units within walking distance of schools | Moderate | Some differentiation among scenarios, but relatively easy to refine potential future school locations to improve walk access to schools (and also better match the School District's input on where they hope to provide future schools). |
| | | Housing units within walking distance of parks and trails | Low | Little differentiation among the alternatives. Most of the existing city and most of the expansion areas have excellent access to parks; there are few residential or mixed use areas that do not have at least one park or trail within walking distance. |
| | | Housing units within walking distance of commercial services | High | The hardest performance measure of this group to improve through refinement of land uses. This measure showed meaningful variations among the scenarios. |
| | | Jobs/housing balance (by subarea) | Moderate | No meaningful variation at the scenario / SAAM level because all alternatives have roughly the same total housing and jobs. When evaluated by subarea, a greater degree of jobs/housing balance may make it possible for people to live and work in the same neighborhood, potentially reducing VMT. |
| | | Opportunities for master planning | Moderate | Large properties that will be required to undergo master planning offer the potential for greater input from the city in the ultimate design of the new development; however, the master planning process does add time and expense to development. |

[57] Relative importance is relative to other performance measures within a given Community Outcome. Weighting of Community Outcomes against one another may be assigned at a later time based on community, TAC and/or USC input, but has not been applied at this time. However, performance measures identified as "Very High" importance are considered "difference makers" with importance beyond a single community outcome.

| Goal 14 Factor | Community Outcome | Performance Measures | Relative Importance[57] | Rationale |
|---|---|---|---|---|
| | Efficient, Timely Growth | Total acres of expansion | Low | Some of the variation among alternatives is attributable to the efficiency of the land included (based on topography and existing development patterns) and is not easy to change for a given area, but some of the variability is a function of the number of schools or parks included or the need to include an entire area for testing and are not indicative of efficiency of the land. |
| | | Gross density for new housing | Very High | Gross residential densities vary among the alternatives, and factor in land with existing development that is assumed not to redevelop, making this measure a good indicator of residential efficiency, a key issue for compliance with state law and a key indicator of Bend's existing density of housing development. |
| | | Net density for new jobs | Low | Little to no variation among the alternatives. More a function of nuances in the type of employment uses assumed than the efficiency of the land itself. |
| | | Parcels under 20 acres and contiguous to the existing UGB | Moderate | Some variation among alternatives. Not a perfect measure of development readiness, but the best available measure of this. |
| | | Vacant vs. developed land included | Low | Development on vacant land may be more likely to occur in a shorter amount of time because there are no existing land uses generating income or providing value for the property owner, but this is not always the case. |
| **Factor 2: Orderly and economic provision of public facilities and services** | Balanced Transportation System | Total VMT per capita | Very High | Used for determining compliance with a key provision of the Transportation Planning Rule (TPR).[58] Shows meaningful variation among the alternatives. |
| | | Average trip length | Moderate | Shows meaningful variation among the alternatives; highly correlated with VMT, but informative at the subarea level. |
| | | Household VMT per capita | Moderate | Highly correlated with Total VMT per capita; captures only travel to and from home. |

[58] Oregon Administrative Rule 660, Division 12, Section 0065.

| Goal 14 Factor | Community Outcome | Performance Measures | Relative Importance[57] | Rationale |
|---|---|---|---|---|
| | | Congestion | High | Some areas rely heavily on congested corridors where increases in capacity are either costly or are difficult or inappropriate. Increasing congestion on state highways is a primary issue both because of the impacts it can cause those who rely on the highways and because of regulations that require mitigation (which may be expensive, unlikely to be funded, and/or complex) if a change in land use will worsen congestion on a road that already does not meet standards. |
| | | Walk/bike safety and connectivity | Moderate | Certain subareas have connectivity issues for integrating with the surrounding system that are difficult to overcome. |
| | | System connectivity & progression of system hierarchy | Moderate | Certain subareas have connectivity and/or access issues that are difficult to overcome. |
| | | Mode split | Moderate | Little variation at the full Scenario / SAAM level, though small differences in percentages can have a relatively large impact on the transportation system. Also informative at the subarea level. |
| | | Average weekly walk trips per capita | Low | Correlated with mode split. Little variation at the Scenario / SAAM level. More informative at a subarea level. |
| | | Proximity to transit corridors | Low | Minimal variation at the Scenario / SAAM level; more informative at the subarea level. |
| | | Housing & jobs within ¼ mile of transit corridors | Low | Minimal variation at the Scenario / SAAM level, and since transit routing can and should be modified to respond to the final proposed UGB expansion, there is some ability to improve transit access for alternatives that scored lower. |
| | | Intersection density | Moderate | Intersection density is an influential predictor of walking, and impacts VMT and bicycling as well. This performance measure is based on both existing intersection density and projected future intersection density (based on assumptions built into the development types), which makes it more hypothetical and somewhat less robust in the expansion areas. |

| Goal 14 Factor | Community Outcome | Performance Measures | Relative Importance[57] | Rationale |
|---|---|---|---|---|
| | Cost-Effective Infrastructure | Total cost of transportation improvements required | Very High | Transportation costs are generally the single biggest expense associated with new development. Funding sources to cover anything not eligible for System Development Charges (SDCs) are limited and uncertain unless born directly by developers. |
| | | Cost per acre of transportation improvements | Moderate | Rewards larger, less efficient expansions at the full scenario / SAAM level; more useful at the subarea level. |
| | | New linear miles of local streets | Low | Based on assumptions built into the development types; city regulations and topography will influence what is ultimately built beyond what is captured in the development type assumptions. |
| | | Efficiency of additional sewer system improvements required | Very High | Captures how well each alternative makes use of infrastructure that will be needed to serve growth inside the UGB and/or that can serve multiple expansion areas and how many improvements are needed that are not aligned with the preferred long-range system identified through optimization. |
| | | Initial capital cost of sewer system improvements required | Moderate | A financing strategy for sewer has not been established yet; however, some or all of the capital costs identified may affect rate-payers. The city has recently increased rates to pay for upgrades needed to serve the existing UGB, so rate-payers will be sensitive to additional increases in rates, which makes keeping costs low important. Long-term improvement strategies typically are the most cost-effective, but this measure does not include life-cycle or operations and maintenance costs. |
| | | Initial capital cost of sewer system improvements per acre of development | Moderate | Primarily relevant at the subarea level. Certain sub-areas have fixed costs to extend service, so when smaller areas are identified for development, the costs can become disproportionate to the area served. |
| | | Water system improvements required in city water service area | Low | This measure addresses only areas within the city's water service area. Some areas are more challenging to upgrade capacity than others, but differences are fairly minor and no major issues were discovered. |

| Goal 14 Factor | Community Outcome | Performance Measures | Relative Importance[57] | Rationale |
|---|---|---|---|---|
| | | Capacity of Avion Water system | Low | Avion did not identify any concerns with providing future water service to any of the expansion areas. |
| | | Total impervious area for new development | Low | Little meaningful variation at the full Scenario / SAAM level. Stormwater costs are not significant relative to other types of infrastructure. |
| | | Acres of new development within Drinking Water Protection Areas (DWPA) | Low | DWPA can be protected through regulations; the primary concern is industrial uses. |
| | | Acres of new development with welded tuff geology | Low | While geology is an important factor in the cost of building new infrastructure, the available spatial data is not at a detailed enough resolution to allow for accurate prediction of where excavation costs will be affected. |
| **Factor 3: Comparative environmental, social, economic and energy consequences (ESEE)** | Quality Natural Environment (Environmental and Energy Consequences) | Development in wildlife areas | Moderate | The ODFW mapped wildlife winter range is broad and includes the existing city. The areas where ODFW indicated that elk and deer are more likely to congregate are, by their nature, imprecise; however, they are important to consider. |
| | | Linear distance of riparian areas adjacent to development | Moderate | Riparian areas will be protected with buffers / setbacks and other regulations (such as Waterway Overlay Zone) that will limit impacts from adjacent development. |
| | | Wildfire hazard | High | Wildfire risk is an important issue for the Bend area. Vegetation management can reduce wildfire hazard, and construction mitigation measures are possible in most areas. However, there are limited areas where steep slopes make certain types of mitigation infeasible. |
| | | Greenhouse gas emissions | Low | Highly correlated with VMT and housing mix. The majority of variation among scenarios / SAAMs is due to transportation emissions. |
| | | Energy Use | Low | Little variation among Scenarios / SAAMs; highly correlated with housing mix and patterns match closely with greenhouse gas emissions. Some variation at the Scenario / SAAM level may be due to nuances in the type of land uses assumed rather than the characteristics of the area itself. |

| Goal 14 Factor | Community Outcome | Performance Measures | Relative Importance[57] | Rationale |
|---|---|---|---|---|
| | | Average Water Consumption per Household | Low | Little variation among Scenarios / SAAMs; highly correlated with housing mix. Some variation at the Scenario / SAAM level may be due to nuances in the type of land uses assumed rather than the characteristics of the area itself. |
| | Housing Options and Affordability (Social Consequences) | Average cost of new single family housing | Very High | Affordability is a key issue for Bend and for this UGB expansion. Enough variation at the scenario level for meaningful distinctions. |
| | | Housing mix of new housing (subarea balance) | Low | Having a balanced mix of housing in most or all subareas helps prevent income segregation at the neighborhood level, but can fairly easily be adjusted through adjustments to land use assumptions. |
| | Strong Diverse Economy (Economic Consequences) | Site suitability for large lot industrial use | Low | Identifying an appropriate site for a large lot industrial use is important; however, the large lot site can fairly easily be incorporated into any of the scenarios, so it is not a differentiating measure. |
| | | Site suitability for areas identified for industrial uses | High | This is important at a subarea level and for the creation of the preferred scenario. |
| | | Site suitability for areas identified for commercial uses | High | This is important at a subarea level and for the creation of the preferred scenario. |
| **Factor 4: Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB** | Compatibility with Farms and Forests | Farm practices & high value farm land adjacent to expansion areas | High | Protection of farms from impacts of development is a key tenet of the Oregon land use system, and greater distances betwee urbanizing areas and farms and forests reduces legal risk due to fewer or no compatibility issues. Some variation at the Scenario / SAAM level; more relevant at the subarea level. |
| | | Impact to irrigation districts | Moderate | Meaningful variation among alternatives, particularly at the subarea level. Irrigation districts are important to the agricultural economy of Central Oregon. Loss of water rights due to development will have a financial impact on the Irrigation Districts and possibly impact the delivery of water to agricultural operations that are not directly affected by the boundary expansion. |

| Goal 14 Factor | Community Outcome | Performance Measures | Relative Importance[57] | Rationale |
|---|---|---|---|---|
| | | Designated forest land adjacent to expansion areas | Moderate | Greater distances beween urbanizing landuses and forest operations helps reduce concerns about compatibility and associated legal rise. However, very little area is proximate to designated forest land (several subareas are located more than one mile from the closest forest lands). Adjacent forest land is generally managed for recreation rather than timber harvest, so there are fewer compatibility concerns with adjacent development. |

## *Summary of Scenario Evaluation Results*

The following evaluation summary rolls up the results from each of the performance measures to conclusions at the community outcome level, answering the question: How well does this Scenario (or SAAM) achieve this Community Outcome? This section offers a summary and synthesis of the evaluation results. The detailed evaluation results were published in the "Bend Urban Growth Boundary Expansion Scenarios Evaluation Report", reissued October 20, 2015.

### *Factor 1: Efficient accommodation of identified land needs*

#### *Complete Communities and Great Neighborhoods*

*Top Tier*

**Scenario 2.1** performed the best overall on this Community Outcome, particularly on access to schools and commercial services, because it was created with the intention of providing for complete communities (neighborhoods with a mix of housing, jobs, commercial services, parks, and schools) in all quadrants of the city.

*Middle Tier*

**Scenario 3.1** and, to a lesser extent, **Scenario 1.2** and **SAAM-2**, also performed well. These alternatives all had some subareas that are fairly complete, and others that were less so. Scenario 3.1 performed well on walk access to both schools and commercial; nearly all new residential expansion areas in each included at least a small commercial center and many included a school. Scenario 3.1 did the best at increasing the walk access of housing inside the existing UGB to commercial services. This appears to have been due to the placement of commercial areas in a few key locations. For example, within "The Thumb", placing commercial adjacent to China Hat Road provided walkable access to neighborhoods at the southern edge of the city that currently lack it. In the Shevlin Area, placing commercial along Shevlin Park Road provided walk access to portions of Awbrey Butte.

*Bottom Tier*

**SAAM-1** and **SAAM-3** had mixed results on this Community Outcome, with performance below that of the other alternatives. In part, this is because they included one or two large, primarily residential expansion areas and fragmented employment areas elsewhere. SAAM-1 was the only alternative that did not perform well on park/trail access, because the northernmost extent of the Northeast Edge would not have walkable park/trail access. SAAM-3 performed poorly on school and commercial access, because of the large amount of new housing in the outer portion of the west area, away from existing and future commercial uses and schools. Because of the nature of the areas included in SAAM-1 and SAAM-3, it would be difficult to improve their performance on these measures – there are few or no suitable locations for additional schools, parks, or commercial areas in either one.

#### *Efficient, Timely Growth*

*Top Tier*

**Scenario 1.2** performed the best overall on this Community Outcome, with high ratings across the board, because it provided a mix of large, vacant properties and smaller parcels contiguous

to the existing UGB. **Scenarios 2.1** and **SAAM-3** also performed well on this Community Outcome. Both did well on measures of density and efficiency because of their reliance on larger, vacant parcels, but both had a lower percentage of land under 20 acres and contiguous to the existing UGB.

*Middle Tier*

**SAAM-2** and **Scenario 3.1** performed moderately well, though not as well as the others mentioned above. This is in part because lower residential densities were assumed in parts of the West Area and the Shevlin Area due to topography and the possible need for cluster development in order to allow for natural resource/wildlife habitat protection. Both also include a number of developed parcels between OB Riley Road and Gopher Gulch, which are less efficient to develop than vacant parcels.

*Bottom Tier*

**SAAM-1** performed the worst on this Community Outcome, because the outer Northeast Edge and the Shevlin area both had lower residential densities; the outer Northeast edge includes quite a few developed properties, particularly in the subdivisions south of Juniper Ridge; and, while the parcels are smaller in the Northeast Edge, the outer portion is not contiguous to the current UGB.

*Factor 2: Orderly and economic provision of public facilities and services*

*Balanced Transportation System*

*Top Tier*

Across the various performance measures included in this Community Outcome, **Scenario 2.1** performed the best overall, with the lowest VMT per capita, the best overall walk/bike safety and connectivity, and the best system connectivity and progression of system hierarchy.

*Middle Tier*

**Scenario 1.2**, **Scenario 3.1**, **SAAM-1** and **SAAM-3** all performed moderately well – the relative ranking among these depended on which measures were given most importance, although differences were subtle. Scenario 1.2, SAAM-1 and SAAM-3 did fairly well on congestion, with relatively low overall congestion; they also did fairly well on walk/bike safety and connectivity, with no major barriers identified. It is worth nothing that SAAM-1 did poorly on VMT, but well on congestion (because there is relatively little existing congestion near the Shevlin area) and walk/bike safety and connectivity (because including the full extent of the Shevlin area provides for better connections to the existing road and trail system).

*Bottom Tier*

**SAAM-2** did the worst on this Community Outcome overall, with poor performance on VMT, mode split, average trip length, and a number of other factors. It also performed less well on walk/bike safety and connectivity because the river forms a barrier with connections to the west.

*Cost-Effective Infrastructure*

*Top Tier*

**Scenario 2.1** performed the best overall on this Community Outcome, in particular because of the low cost of transportation improvements required (low cost for connecting growth areas and low cost for projects to increase capacity). It also performed fair to well on measures of sewer system cost-effectiveness as well as new linear miles of local streets, water system improvements within the Bend water service area, and total impervious area for new development. It had only one negative rating, on new development within a Drinking Water Protection Area, because of the amount of development in The Thumb.

*Middle Tier*

**SAAM-2** performed somewhat poorly on sewer, though it was not the worst performer; it takes advantage of major trunk infrastructure to the north but the DSL property and The Elbow are not cost-effective due to small area included and fixed costs to serve those areas. It had moderate transportation costs, with low costs for connecting growth areas but high costs for required capacity improvements (including the need to widen US 20 from Robal Rd to 3rd Street). It's only other drawback was having a relatively high proportion of development in areas with potentially challenging geology (welded tuff).

*Bottom Tier*

**Scenarios 1.2** and **3.1, SAAM-1** and **SAAM-3** all had at least one significant drawback on transportation and/or sewer infrastructure, though most had mixed results overall. **Scenario 3.1** performed acceptably across most performance measures in this group, but had high transportation costs relative to the other scenarios due to high cost for connecting growth areas and the need to widen US 20 from Robal Rd to 3rd Street. **Scenario 1.2** also performed poorly on transportation infrastructure, due to high cost for connecting expansion areas and high cost for capacity improvements, but performed the best on sewer infrastructure, because it focused more growth on the Northeast edge, which is efficient for sewer service. **SAAM-3** had high costs for sewer improvements because of the need for a new regional pump station to serve the northwest portion of the West Area, but low costs for transportation improvements due to low cost for connecting growth areas and moderate cost for congestion mitigations (including the need to widen US 20 from Robal Rd to 3rd Street). SAAM-3 also had the greatest amount of development in areas with welded tuff geology, which can add to the cost of excavation. **SAAM-1** had high costs for sewer because of the need for a new regional pump station to serve the Shevlin Area (though it did take advantage of cost-effective sewer in the Northeast edge), and also had relatively high transportation costs due to high costs for connecting expansion areas as well as high costs for intersection improvements.

*Factor 3: Comparative environmental, social, economic and energy consequences (ESEE)*

*Quality Natural Environment (Environmental and Energy Consequences)*

*Top Tier*

**Scenario 1.2** and **Scenario 2.1** rated fair to very good across all performance measures under this Community Outcome. Neither had development adjacent to riparian areas, and both had

limited total expansion in elk and deer range, with no expansion into ODFW areas of potential concern. Neither had features that prevent mitigation of wildfire hazard in any expansion areas. Both had reasonably good performance on energy consumption, greenhouse gas, and water consumption measures as well.

*Middle Tier*

**Scenario 3.1**, **SAAM-2** and **SAAM-3** had mixed results. SAAM-2 performed fair to well on all measures except greenhouse gas emissions and energy use. Scenario 3.1 rated poorly on development in wildlife areas and wildfire hazard due to the inclusion of roughly half of the Shevlin area, which is both an ODFW area of potential concern and has topographic features that make it difficult to fully mitigate wildfire risk. SAAM-3 rated poorly on development in wildlife areas because so much growth was focused in the West area, but performed fairly or well on other performance measures.

*Bottom Tier*

**SAAM-1** performed poorly on many of the performance measures, and did not perform well on any. It rated very low on development in wildlife areas and lower also on wildfire hazard because it included the full Shevlin area (see reasons noted above). It also rated lower than other scenarios on development adjacent to riparian areas because of the inclusion of the upper portion of the Shevlin Area.

*Housing Options and Affordability (Social Consequences)*

*Top Tier*

**Scenario 2.1** and **SAAM-1** performed the best on this Community Outcome, though there were only two performance measures. Scenario 2.1 had good housing mix in nearly all subareas and good housing affordability with significant housing growth in the southeast. SAAM-1 had good housing mix in both primary residential expansion areas and had moderately affordable housing due to the heavy expansion in the Northeast Edge.

*Middle Tier*

**Scenario 1.2** performed well on affordability, but less well on housing mix, with most subareas somewhat imbalanced (too much single family or too little). **SAAM-2** performed well on housing mix, but less well on affordability, with growth focused on the northwestern side of the city.

*Bottom Tier*

**Scenario 3.1** and **SAAM-3** performed poorly on affordability due to the heavy focus on the west side of the city. SAAM-3 also did not perform well on housing mix because there were small residual areas of almost exclusively multifamily housing.

*Strong Diverse Economy (Economic Consequences)*

*Top Tier*

Nearly all alternatives – **Scenario 1.2**, **Scenario 3.1**, **SAAM-1**, **SAAM-2**, and **SAAM-3** -- performed well or very well across all performance measures in this Community Outcome.

*Middle Tier*

**Scenario 2.1** rated somewhat lower, because it placed employment and commercial uses in more of the expansion areas (e.g. the West Area) where they are somewhat less well suited.

*Factor 4: Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB*

*Compatibility with Farms and Forests*

*Top Tier*

**Scenario 1.2** rated the highest on farm and forest compatibility because it affected the fewest irrigation district customers and has no forest land within a mile of any expansion area.

*Middle Tier*

**Scenario 2.1**, **SAAM-3**, and, to a lesser extent, **SAAM-1** also rated fair to good on this Community Outcome. SAAM-3 had less farm impacts but more forest adjacency than other alternatives. Scenario 2.1 and SAAM-1 both had moderate levels of farm impacts, moderate impacts to irrigation districts, and little to no forest land adjacency.

*Bottom Tier*

**Scenario 3.1** and **SAAM-2** rated the lowest on farm and forest compatibility because they were proximate to the greatest number of working farms and also affect the greatest number of irrigation district customers. Scenario 3.1 also had some forest land between a mile and a quarter-mile away from the expansion in the West Area.

*Best-Performing Alternative*

Based on the full alternatives evaluation, in considering and balancing the four Goal 14 Factors, Scenario 2.1 performed the best of the alternatives overall, regardless of whether and to what degree weighting is applied to distinguish between the more and less important performance measures. Scenario 2.1 was in the "top tier" relative to other alternatives on nearly all community outcomes, including:

(1) Complete Communities and Great Neighborhoods (because it was created with the intention of providing for complete communities in all quadrants of the city);
(2) Efficient, Timely Growth (because of its efficient use of residential land and reliance on some large, vacant parcels balanced with some areas with more parcelization);
(3) Balanced Transportation System (because of the above advantages plus enhanced connectivity due to the extension of Murphy Road to 27$^{th}$ / Knott and keeping growth in the northeast focused to nodes along major east-west corridors);
(4) Cost-Effective Infrastructure (because of relatively low cost for both connectivity- and capacity-related transportation improvements and reasonable costs for sewer improvements);
(5) Quality Natural Environment (because it avoided riparian areas, limited expansion in wildlife areas, did not have any features that prevent mitigation of wildfire risk in any expansion areas, and had fairly low energy and water consumption and greenhouse gas emissions); and

(6) Housing Options and Affordability (because it had good housing mix in nearly all subareas and good housing affordability with significant housing growth in the southeast[59]).

The two Community Outcomes where Scenario 2.1 was not in the Top Tier were Strong Diverse Economy (because it placed employment and commercial uses in some areas, such as the West Area, where they are somewhat less well suited) and Compatibility with Farms and Forests (because it had relatively more impact to Arnold Irrigation District from inclusion of full Elbow area and development adjacent to several commercial farms, including the greatest amount of development next to a feed lot south of Knott Road).

No other alternative had as strong a performance on as many community outcomes, and each of the other alternatives has at least one important weakness identified through the evaluation, as documented in the Scenario Evaluation Report. These weaknesses often related to one or more specific subareas. Subarea-level results are summarized below.

### *Subarea Advantages, Disadvantages and Trade-Offs*

This section provides a summary of findings from the evaluation on the key advantages and disadvantages of each subarea (those that are either inherent to the geography or that do not vary appreciably between the alternatives).

#### *North Triangle*

**Key Advantages**

- Cost-effective sewer
- Fairly close to existing transit
- Well-suited to commercial uses
- No commercial farms or forest lands nearby

**Key Disadvantages**

- Contributes to congestion on 97 & 20
- Canals create barriers
- Industrial / rural residential compatibility concerns
- Large format retail reduces attractiveness for housing
- Impacts Swalley Irrigation District
- New collector roads relatively costly

#### *OB Riley / Gopher Gulch*

**Key Advantages**

- Master planning opportunities (Gopher Gulch)
- Proximity to planned parks on west
- Eastern portion generally well-suited to industrial & commercial uses
- Close to transit on SE corner

**Key Disadvantages**

- Many developed parcels in south
- Connectivity limited in west
- Requires extension of major sewer line
- Wildfire hazard difficult to mitigate adjacent to river
- Impacts Swalley Irrigation District

[59] Housing costs for new construction were found to be roughly 30% lower in neighborhoods on the outer east side of the city relative to neighborhoods on the outer west side of the city. Housing in expansion areas is assumed to follow this trend.

*Northeast Edge*

**Key Advantages**

- Cost-effective sewer
- Well-suited to commercial uses adjacent to major roads
- Mid-size parcels, possibility for near-term development
- Housing affordability

**Key Disadvantages**

- Limited connectivity
- Canals create barriers
- Not near transit
- Some commercial farms nearby

*DSL Property (& Darnell Estates)*

**Key Advantages**

- Master-planning opportunity (DSL)
- No irrigation district impacts (DSL)
- Housing affordability
- Relatively close to transit
- Well-suited for commercial & employment uses along major roads (DSL)

**Key Disadvantages**

- Potential impacts to bat caves on DSL property
- Darnell Estates requires additional sewer extension – not cost-effective

*The "Elbow"*

**Key Advantages**

- Existing school & possible future park site
- Housing affordability
- Fairly well-suited to commercial and employment along 27th / Knott Rd.

**Key Disadvantages**

- Connectivity limited unless connection built from Rickard to 15th near Murphy
- New collector roads relatively costly
- Requires interim pump station for sewer
- Partially in Elk/Deer Range
- Farm adjacency, including feed lot along Knott Rd.
- Not near transit
- Impacts Arnold Irrigation District

*The "Thumb" (& southern area)*

**Key Advantages**

- Master planning opportunities
- Housing affordability
- Well-suited to a wide range of uses (Ward)
- South end of US 97 relatively uncongested

**Key Disadvantages**

- Connectivity limited unless full collector system built from China Hat to Knott (highway & railroad barriers)
- Canal creates barriers
- Reliant on US 97
- Long average trip lengths
- Fully in Elk/Deer Range
- Impacts Arnold Irrigation District
- Drinking Water Protection Areas – concern for certain industrial uses

*West Area*

**Key Advantages**

- Master planning opportunities
- Relatively close to transit on eastern edge
- No irrigation district impacts

**Key Disadvantages**

- Largely welded tuff geology
- Entirely within Deer & Elk Winter Range
- Housing likely to be more expensive
- Limited suitability for industrial & commercial uses

*Shevlin Area*

**Key Advantages**

- Master planning opportunities
- Includes planned school site
- Relatively close to transit at SE corner
- Minimal congestion
- Proximity to existing/planned parks & trails
- No irrigation district impacts

**Key Disadvantages**

- Long trip lengths
- Difficult to build connected local streets
- Entirely within Deer & Elk Winter Range, largely within ODFW Areas of Potential Concern
- Housing likely to be more expensive
- Limited suitability for industrial & commercial uses
- NW edge adjacent to Tumalo Creek
- Outer portions may be difficult to reduce fire hazard
- Proximity to forest land in western corner

## 5.6 Stage 5: Refining the Preferred Scenario

Scenario 2.1 was selected as the starting point for creating a preferred scenario due to its performance in the alternatives evaluation. The USC chose Scenario 2.1, in brief, to balance growth on both the east and the west, reduce the traffic impact on the west, include the area referred to as the "Perfect Rectangle," and reduce the risk of wildfire on the west. The USC discussion also noted survey results where Scenario 2.1 rated well in an online survey.

The refinement process addressed arrangement of land uses and changes to boundary location in certain subareas. It also included adjustments to assumptions about yield from efficiency measures and capacity of land inside the current UGB in order to ensure that these assumptions were "reasonably likely". The refinements included:

- removing small areas that performed poorly or would not be cost-effective to urbanize (e.g. area south of Bear Creek Road);
- refining the land uses within some sub-areas in order to address compatibility concerns and ensure an appropriate mix and intensity of uses in each area, given its context and the potential for additional future expansions that would build on the current expansion (e.g. rearranging land uses in the North Triangle, Thumb, and the Elbow);
- distributing growth across more of the land in the west and northwest (adding the Anderson Ranch property and portions of the Rio Lobo property, plus the southernmost

portion of the Shevlin area) rather than relying on a single property owner in this area, which also facilitates creating a new north/south transportation connection (Skyline Ranch Road);
- consolidating growth in the northeast to a single larger block of land (around Butler Market Road) where a new complete community is possible rather than multiple small expansion areas (eliminated the small node at Neff Road);
- inclusion of park land as requested by the Park District in their testimony (Alpine Park in Southwest, Rock Ridge Park and Pine Nursery Park in Northeast); and
- including specific properties that offered commitments to provide affordable housing (e.g. a portion of the PacWest /Porter/Kelly Burns property south of Highway 20 and a portion of the Rio Lobo property in the West), in order to ensure that housing will be available to meet the needs of residents at all income levels.

The Boundary TAC and USC provided input at multiple meetings, and directed refinements based on public testimony in the context of balancing the four Goal 14 factors. In considering whether to add land that was not included in Scenario 2.1, the USC, city staff, and consultant team considered whether scenario evaluation provided evidence that a certain area performed better with the land in question included, and any public testimony providing new evidence of a compelling advantage from including the land. The USC, city staff, and consultant team also ensured that components of Scenario 2.1 that were essential to its strong performance in the scenario evaluation (e.g. emphasis on complete communities, strong growth in the southeast area of the city, and moderate amounts of expansion in the south, west/northwest) were retained throughout the refinement process.

## 5.7 Proposed 2016 UGB Expansion

### *Summary of Proposal*

The proposed 2016 UGB expansion (the "preferred scenario") is for a total of 2,380 acres:

- 1,142 gross acres of residential land (including land for future schools and future parks not yet in BPRD or school district ownership);
- 815 gross acres of employment land;
- 285 acres of land for public facilities currently in BPRD or school district ownership; and,
- 138 acres of existing right-of-way within and fronting UGB expansion areas, needed to provide urban street improvements to support growth in the expansion areas.

Like previous expansion scenarios, the preferred scenario focuses future growth in opportunity areas within the existing UGB and in new complete communities in expansion areas. Nearly all expansion areas include a mix of housing, employment areas, shopping/services, and schools and parks. A "transect" concept[60] in the West Area reduces the density of development near the west edge of the city in recognition of the natural resources and open spaces to the west.

[60] An urban to rural transect is a urban planning model created by New Urbanist Andres Duany, in which development intensity transitions from sparse settlement to a dense urban core through a series of zones. For more information: http://www.dpz.com/Initiatives/Transect.

A summary map of the preferred scenario is provided below (Figure 11) followed by a map of proposed Comprehensive Plan designations (Figure 12). Tables summarizing key metrics for the preferred scenario begin on page 86.

**Figure 11: Preferred UGB Expansion Scenario**

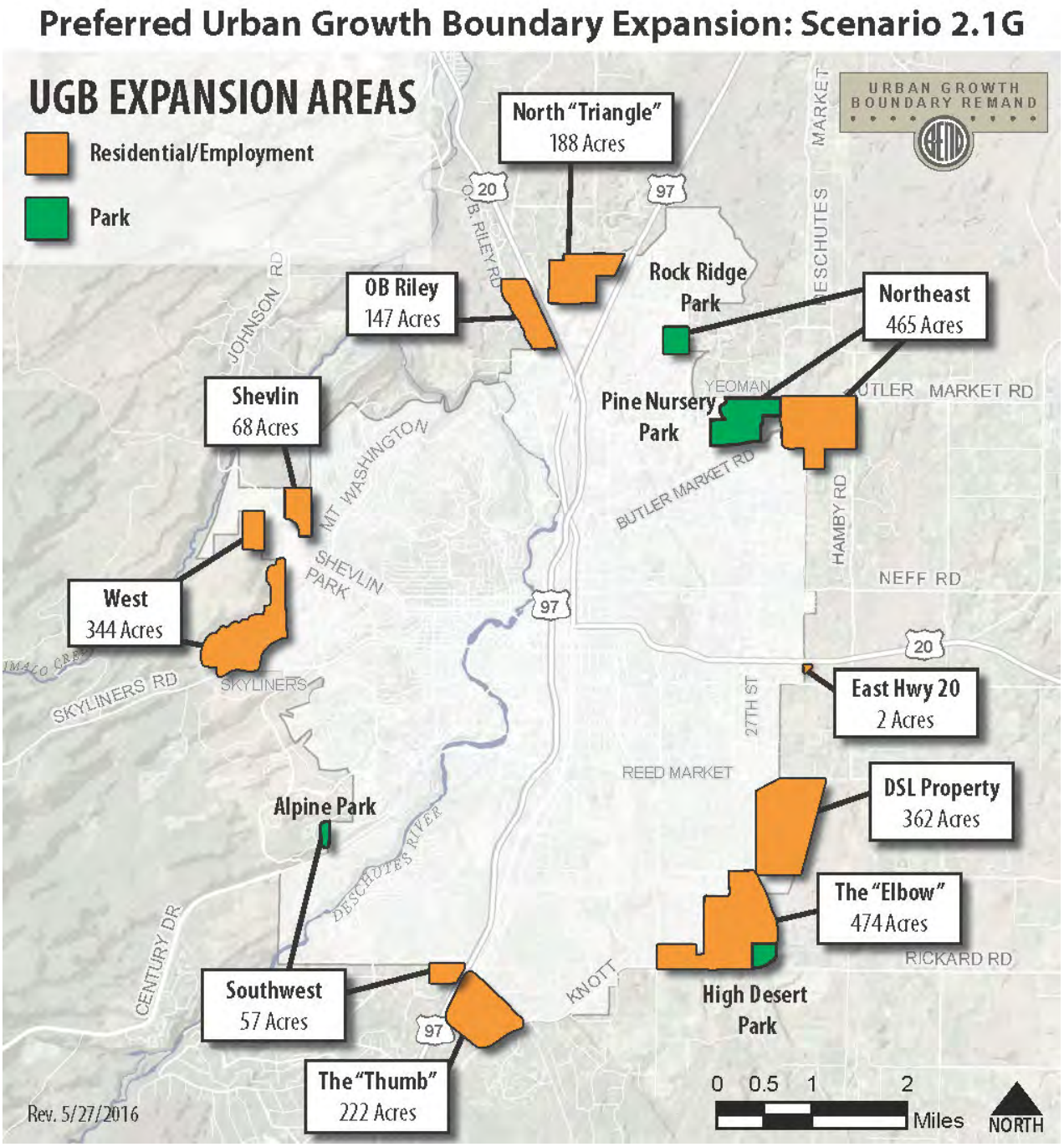
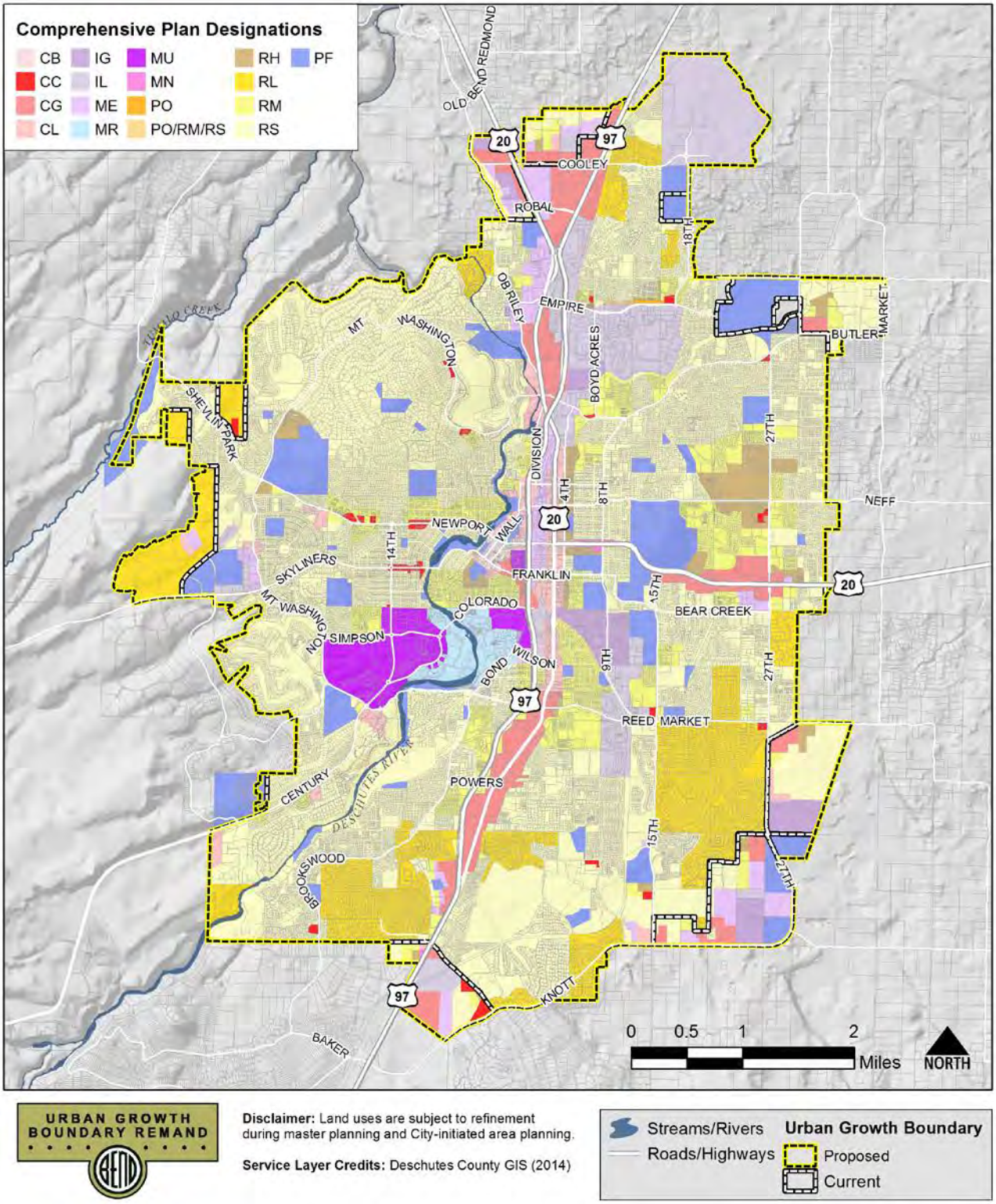


**Figure 12: Proposed Comprehensive Plan Designations**



### *Key Metrics and Land Needs in Proposed UGB Expansion Areas*

Table 22, below, summarizes key facts about the proposed UGB expansion by subarea, including acreage by land use and housing and employment estimates for each area.

**Table 22: Preferred UGB Expansion - Key Metrics**

| Expansion Area | Total Acres | Resid-ential Land (ac)[61] | Employ-ment Land (ac)[62] | Public Facilities Land (ac)[63] | Existing Right of Way (ac) | Housing Units[64] | Housing Mix[65] | | | Est. Jobs |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | SFD | SFA | MF | |
| **North "Triangle"** | 188 | 86 | 88 | 0 | 14 | 505 | 44% | 13% | 42% | 835 |
| **Northeast** | 471 | 222 | 22 | 196 | 31 | 1,099 | 50% | 10% | 40% | 214 |
| **East Hwy 20** | 2 | 2 | 0 | 0 | 0 | 70 | 0% | 14% | 86% | 0 |
| **DSL Property** | 368 | 223 | 139 | 0 | 6 | 1,001 | 49% | 11% | 41% | 880 |
| **"The Elbow"** | 479 | 122 | 246 | 75 | 36 | 819 | 36% | 17% | 47% | 2,274 |
| **"The Thumb"** | 245 | 44 | 177 | 0 | 24 | 266 | 49% | 15% | 37% | 1,573 |
| **Southwest** | 57 | 34 | 5 | 14 | 4 | 240 | 24% | 16% | 60% | 80 |
| **West** | 347 | 321 | 21 | 0 | 5 | 983 | 69% | 10% | 21% | 261 |
| **Shevlin** | 68 | 60 | 8 | 0 | 0 | 174 | 69% | 10% | 21% | 74 |
| **OB Riley** | 154 | 28 | 109 | 0 | 17 | 125 | 70% | 10% | 20% | 990 |
| **Expansion Total** | **2,380** | **1,142** | **815** | **285** | **138** | **5,282** | **50%** | **12%** | **38%** | **7,181** |

The total residential, employment and park and school land need in the UGB expansion includes within it small amounts of buildable land and developed land that is unlikely to redevelop within the planning horizon located on parcels that have other vacant, buildable land. It also includes land for things like future parks and open space, future schools, future right-of-way, and other future urban uses. A breakdown of the land need is provided in Table 23.

[61] Residential Land identifies total acres of residential plan designations on tax lots.

[62] Employment Land identifies total acres of employment plan designations on tax lots.

[63] Public Facilities land indicates land owned by the park or school district to which the PF plan designation is being applied; land for additional parks & schools is provided within residential land acreage.

[64] Housing units are modeled capacity estimates. Policies in the new Growth Management chapter of the Comprehensive Plan specify minimum and/or maximum housing capacities for each expansion area that are based on the modeled capacity estimates, but may be rounded slightly or incorporate slight refinements based on negotiated agreements.

[65] SFD = Single Family Detached; SFA = Single Family Attached; MF = Multifamily (includes duplex & triplex). Housing mix reflects policy requirements for the expansion area in total; individual properties may vary.

**Table 23: Components of Land Need**

| | Residential Land | Employment Land | Public Facilities |
|---|---|---|---|
| **Total expansion acres on parcels by plan designation** | 1,142 | 815 | 285 |
| **Unbuildable Land**[66] | 11 | 2 | 3 |
| **Developed Land Not Expected to Redevelop**[67] | 13 | 13 | 152 |
| **Vacant and Redevelopable Buildable Acres** | 1,119 | 800 | 130 |
| **Land for future right of way, future parks & open space, future schools, and other urban uses** | 475 | 255 | 130 |
| **Net Buildable Residential / Employment Acres** | **644** | **545** | **0** |

## *Accommodating Projected Growth: Summary of Proposed UGB Capacity*

A summary of the how the total need for housing units, jobs, and land for schools, parks, and other urban uses is met in the UGB proposal as a whole (including the existing UGB plus the proposed UGB expansion) is provided on the pages that follow.

### *Housing Capacity*

The following tables summarize how housing need is met within the existing UGB and in the proposed UGB expansion. 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.

**Table 24: Full Proposed UGB Housing Capacity by Type**

| Housing Type | Total Housing Need[68] | Net New Housing Units Inside Current UGB | New Housing Units in UGB Expansion Areas | Total New Housing Units |
|---|---|---|---|---|
| **Single Family Detached** | 9,225 | 6,599 | 2,628 | 9,227 |
| **Single Family Attached** | 1,667 | 1,039 | 636 | 1,675 |
| **Multi-Family** | 6,331 | 4,313 | 2,018 | 6,331 |
| **Total** | **17,233** | **11,950** | **5,282** | **17,233** |

While there are very minor differences between the number of units by type needed and the number estimated to be provided through the proposed UGB expansion and efficiency measures inside the existing UGB, they are so slight as to be attributable to rounding errors and the precision of the Envision Tomorrow model. In total, the UGB expansion proposal meets the City's identified housing needs as well as accommodating the projected number of second homes and group quarters.

[66] See page 46 for an explanation of lands identified as unbuildable.

[67] A quarter acre of land on each property with an existing home(s) was assumed to be developed. Redevelopment assumptions are the same as those for developed land inside the UGB (based on the plan designation / development type). For existing schools and parks, the area developed with existing uses was estimated based on aerial photography.

[68] 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.

### *Residential Density*

Overall housing density for new housing throughout the proposed UGB averages roughly 8 units per net residential acre (including land developed with vertical mixed use buildings). The net density of residential uses in commercial and mixed use plan designations is much higher: close to 50 units per net residential acre (including land developed with vertical mixed use buildings). Looking only at residential plan designations, the net density is roughly 7 units per net residential acre. This is an increase in residential density relative to historic trends and relative to the Base Case, and represents efficient use of residential land.

### *Employment Capacity*

The following tables summarize how projected employment growth is accommodated within the existing UGB and in the proposed UGB expansion. Note that the number of new jobs reported is net of any existing jobs that may be lost through redevelopment in non-residential districts.

**Table 25: Full Proposed UGB Employment Capacity by Category**

| Employment Category | Total Employment Need[69] | Net New Jobs Inside Current UGB | New Jobs in UGB Expansion Areas | Total New Jobs |
|---|---|---|---|---|
| **Industrial** | 6,522 | 4,506 | 2,018 | 6,524 |
| **Retail & Hospitality** | 6,546 | 3,223 | 3,313 | 6,536 |
| **Office** | 7,158 | 5,324 | 1,797 | 7,121 |
| **Public** | 1,717 | 1,671 | 53 | 1,724 |
| **Total** | **21,943** | **14,723** | **7,181** | **21,901** |

While there are very minor differences between the number of jobs by category projected and the number estimated to be provided through the proposed UGB expansion and efficiency measures inside the existing UGB, they are so slight as to be attributable to rounding errors and the precision of the Envision Tomorrow model. In total, the UGB expansion proposal provides adequate land for employment, consistent with the employment projections in the EOA.

### *Land for Parks*

The proposed UGB includes the following land for parks:

- 73 acres of undeveloped park land already in BPRD ownership inside the UGB;
- 70 acres of undeveloped community park land already in BPRD ownership in UGB expansion areas (Rock Ridge Park and High Desert Park);
- 14 acres of undeveloped neighborhood park land already in BPRD ownership in UGB expansion areas (Alpine Park);
- 147 acres of developed park land in UGB expansion areas (Pine Nursery Park);[70] and

[69] The employment need categories have been generalized for simplicity in comparing against capacity as measured in Envision Tomorrow. See EOA for details.

[70] As of the 2012 Master Plan, the Pine Nursery Community Park had already been developed, and had been used to close the gap in identified needs for community parks based on growth inside the UGB since 2008. Since it is already serving urban residents, it should be managed as an urban park and brought into the UGB so that it can be more effectively and efficiently managed.

- 170 acres of open space set-asides that may be dedicated for public parks where appropriate.

In total, the 227 acres of park land need identified in Chapter 1 (see page 17) is met by the proposed future UGB, as shown in Table 26. Since only about 70 acres of the 170 provided for by all open space set-asides in the future UGB are expected to be needed for public parks, the remainder (about 100 acres) is assumed to be private open space.

**Table 26: How Park Land Needs are Met**

| | Neighborhood Parks | Community Parks | Total |
|---|---|---|---|
| Available undeveloped BPRD land inside existing UGB | 29.1 | 43.8 | 72.9 |
| Undeveloped BPRD land outside current UGB and proposed for inclusion in future UGB | 14.3 | 69.7 | 84.0 |
| Additional acres provided through master plans or other dedication / acquisition in UGB expansion areas and large vacant opportunity sites within the current UGB | 22.1 | 48.3 | 70.4 |
| **Total Park Acreage to be developed 2014 to 2028** [71] | **65.6** | **161.8** | **227.3** |

### *Land for Schools*

For schools, two new elementary schools are identified in UGB expansion areas, in addition to the new elementary school location identified inside the UGB (along 15th Street). Combined with the existing School District land for a middle school and a high school inside the UGB, this meets the identified needs for three to four elementary schools, one middle school and one high school based on the School District's master plan (see page 18). The total amount of land provided for new school sites in the proposed UGB is roughly 125 acres. In addition, the existing school site at High Desert Middle School is proposed to be included in the UGB. This site is a total of 74 acres; however, a portion of the site is assumed to be made available for other development. The amount of land assumed to be dedicated to school use on that site is roughly 40 acres.

### *Land for Other Urban Uses*

Land for other urban uses inside the existing UGB and in expansion areas is summarized in Table 27.

**Table 27: Summary of Other Urban Land Uses**

| | Current UGB (Ac) | Expansion Areas (Ac) | Total (Ac) | Percent of Vacant & Redeveloped Acres | Percent of Vacant & Redeveloped acres, excluding platted lots |
|---|---|---|---|---|---|
| **Future Right of Way** | 699 | 416 | 1,116 | 19.6% | 21.1% |
| **Other Uses** | 405 | 242 | 648 | 11.3% | 12.3% |

[71] See Table 4 on page 14 for an explanation of the park land need estimate.

The proposed future UGB provides for 21% right of way (after excluding vacant platted lots). This meets the total need for new right of way, and is consistent with the right of way need established by the City.

The proposed future UGB provides a total of 648 acres of land for other land needs (such as churches, benevolent/fraternal organizations, utilities, canals, cemeteries, golf courses, properties owned by irrigation districts, and RV parks). When the 100 acres of private open space (the open space set-asides above and beyond the need for public parks) are included, the total is 673 acres. This represents 11% of total acres of development / redevelopment, and 12% of acres developed after excluding vacant platted lots. This meets the total need for new other land uses, and is consistent with the land need for other urban uses established by the City.

## *Preferred Scenario Goal 14 Evaluation*

### *Overview*

The purpose of this section is to summarize the evaluation of the Preferred UGB Expansion Scenario relative to the four Goal 14 factors. This summary draws on technical memoranda prepared by Angelo Planning Group, Fregonese Associates, DKS Associates, and Murray Smith Associates addressing specific topics and provides a summary of key findings from those evaluations.

The evaluation of the preferred scenario was based on the same "Community Outcomes" and largely the same set of "Performance Measures" used to evaluate the original scenarios and SAAMs (see page 66). The methodology used to evaluate each performance measure was generally similar to previous evaluations for the initial scenarios and SAAMs. Some refinements to land use and transportation assumptions have been applied in order to more accurately reflect elements such as current and proposed development code regulations, updates to the BLI, street and block size standards, and housing cost factors. In addition, the details of the methodology were refined for a few of the performance measures in order to make the results more informative. This is noted in the summary below where applicable. In some cases, these refinements, while more accurately capturing the performance of Scenario 2.1G, cannot be directly compared to the results of the original scenarios and SAAMs because the differences are not a result of the alternative boundary locations. In cases where results are not comparable to the original scenarios and SAAMS, other reference points (e.g. existing conditions, or an average for the current UGB) have been provided where possible.

### *Factor 1: Efficient accommodation of identified land needs*

#### *Complete Communities and Great Neighborhoods*

Scenario 2.1G efficiently accommodates the land need through a focus on complete communities and using expansion areas to complete existing neighborhoods inside the UGB. Access to schools, parks, and commercial services is among the highest of all scenarios considered:

- 62% of all future housing units (existing plus new, throughout the existing UGB and expansion areas) in Scenario 2.1G are within a half-mile of existing or future school sites.
- 99% of all future housing units in Scenario 2.1G are within a half-mile of existing or future parks.
- 86% of all future housing units are projected to be within a half-mile of commercial services in the preferred scenario.

Nearly all subareas have a mix of residential and employment land. Only the small East Hwy 20 expansion area is exclusively residential, and it is very small and adjacent to existing commercial areas. The OB Riley area has a high ratio of jobs to housing, due to its good transportation access (Hwy 20, Cooley Road, Hwy 97, OB Riley Road), generally flat topography, and larger parcel sizes.

The efficient accommodation of land needs in Scenario 2.1G is supported by new proposed policies that require area planning (see "Specific Expansion Area Policies" in the draft Growth Management Chapter of the Comprehensive Plan). The proposed area planning policies require that all expansion areas will be subject to either new City-initiated area plans or property-owner led master planning under the Bend Development Code, Chapter 4.5. The policies and code will regulate new development to implement, through adopted area plans and master plans, the identified land needs, specifically: the amounts, types, and mix of housing; the amounts and types of employment; and lands for parks, schools and other needs. Area planning and master planning will coordinate the land use with needed transportation facilities, natural resource protection, and compatibility with adjacent uses. Taken together, the area planning policies will support complete communities which will efficiently accommodate identified land needs.

A significant expansion in the West area and expansions on other large sites make this scenario mostly (over 75%) large property owners. This is among the highest shares of growth that will be subject to master planning requirements of all the alternatives considered.

*Efficient, Timely Growth*

Scenario 2.1G achieves a distribution of residential density across many subareas. East Hwy 20 has a very high housing density (estimated at over 23 units per gross acre), because it is small (just over two acres) and dedicated to providing affordable housing. The West and Shevlin areas have wildlife and wildfire considerations that make high densities inappropriate. A "transect" concept was applied in these areas to address transitions to natural resource areas; the transect reduces density at the western edge in order to reduce environmental impacts as compared to medium- and high-density development. As a result, the gross density for these areas is a little over 3 units per gross acre of residential land. Other subareas range from 4.3 to 8.7 units per gross acre of land in residential and mixed use plan designations.

Net densities for new residential development are much higher – close to 10 units per net residential acre on average for the UGB expansion area. The difference is due to land needed for right of way, parks and open space, and other non-residential uses within residential plan

designations. This is substantially higher net density than the existing UGB, which had an overall average net residential density of 4.4 units per net acre as of 2008 (see Appendix C).

Overall residential densities are somewhat lower than for the initial set of scenarios and SAAMs due to refinements to assumptions about the yield for efficiency measures inside the UGB and refinements to the recommended minimum density threshold for master plans in the RS zone. These refinements result in more "reasonably likely" assumptions about density, market response to efficiency measures, and redevelopment rates in opportunity areas.

The proposed recommendations and assumptions about efficiency measures inside the UGB, as well as the inclusion of additional land to meet the need for future parks and the inclusion of adjacent right of way abutting UGB expansion areas, translates to a larger total expansion than the initial set of scenarios and SAAMs (2,380 acres in total). The additional land is needed to meet identified land needs.

Scenario 2.1G includes very little land in expansion areas that is currently developed (only 5% of acres, primarily located in the Northeast Edge and the Elbow). It includes a greater proportion of development on vacant land than nearly all previous scenarios/SAAMs.

### *Factor 2: Orderly and economic provision of public facilities and services*

#### *Balanced Transportation System*

Scenario 2.1G retains a focus on walkable mixed use redevelopment in the core and complete communities in expansion areas, which are important elements of reducing reliance on the automobile.

#### *Vehicle Miles Traveled Per Capita*

As measured with the regional travel demand model, Scenario 2.1G performs better than the prior scenarios and SAAMs, with 9.76 daily VMT per capita versus 9.92 to 10.13 daily VMT per capita for the initial scenarios. This is attributable mostly to refinements to demographic and land use inputs, with some influence of land use patterns and improved connectivity in expansion areas. Projected VMT growth in Scenario 2.1G results in a 1.2% increase over 2010 and 4.1% increase over 2003 (after accounting for all of the nuances of the TPR requirements).[72] This meets the requirement that VMT is unlikely to increase by more than 5% over the planning horizon.[73] However, Scenario 2.1G generated a higher average daily round trip length than the prior scenarios. This is due to additional growth in non-centralized areas, including the West and Thumb areas. This impact is compounded by The Thumb having the highest average trip distance of the subareas.

Looking solely at household VMT (only trips that begin or end at home, as measured using the Envision "7D" travel behavior model), the preferred scenario has an overall average of 9.41 household vehicle miles traveled per capita in 2028. Because there were several minor

[72] Percent change relative to 2003 incorporates credit for connectivity improvements since 1990. See Attachment 6 of Bend's Integrated Land Use and Transportation Plan for details.

[73] See Bend's Integrated Land Use and Transportation Plan for additional discussion of VMT growth relative to requirements in the TPR.

adjustments to the methodology (including the calculation of activity density and fine-tuning household income assumptions) between the analysis of the original scenarios and SAAMs and Scenario 2.1, the results are not directly comparable to previous results. As in the previous analysis, the expansion areas and areas on the fringe of the city generally are projected to generate more vehicle miles traveled per capita than areas closer to the city's existing major activity centers, even with the emphasis on complete communities in the expansion areas.

*Mode Split, Walk Trips, and Transit Access*

The preferred scenario is projected to result in an 8% non-auto share and a 92% auto share for all household trips. Despite the minor changes to methodology mentioned previously, this is nearly indistinguishable from the previous scenarios at the full future UGB scale. There was little variation in mode split at that level for the original scenarios and SAAMs, and the preferred scenario continues to show the same pattern. The estimate for Scenario 2.1G is also essentially unchanged from the ET model estimate of existing conditions (using 2014 built environment and demographic data and 2016 transit service), which estimates an 8.5% non-auto share and a 91.5% auto share for all household trips UGB-wide (including existing population in proposed UGB expansion areas). However, these results do not capture additional strategies and policies that the City has committed to through its Integrated Land Use and Transportation Plan, which would be expected to improve mode split beyond what is reflected in the model.

Weekly walk trips per capita are down slightly from the original scenarios and SAAMs, but the variation is minimal at the full future UGB scale. Walk trips are also slightly below the existing (2014) average. However, analysis of walk trip frequencies at a smaller geographic scale reveals that the complete communities approach to UGB expansion will encourage greater walking, biking, and transit usage in many peripheral areas inside the current UGB and adjacent to UGB expansion areas. These areas will have new opportunities to walk and bike to parks, schools, and commercial services.

An estimated 49% of all future housing units and 65% of all future jobs (existing and new, throughout the existing UGB and expansion areas) are projected to be within a quarter mile of transit in Scenario 2.1G. While this is a decrease relative to 2014 (due to the expansion areas being mostly outside of transit corridors), this is a higher proportion of housing and employment than in any of the other scenarios and SAAMs. This level of transit access does not depend on expansions to the current transit network, which would further increase access.

*Safety and Connectivity*

As in all prior scenarios, the primary connections from the expansion areas to the rest of the city will be via collector and arterial roads. Scenario 2.1G provides enhanced connectivity in west and northeast relative to Scenario 2.1 due to the inclusion of Skyline Ranch Road and Yeoman Road extensions. It also retains and enhances the important new connections in the southeast that were part of Scenario 2.1. In the North Triangle, fewer collector roads are proposed than in Scenario 2.1, which somewhat reduces connectivity in this area, but key connections remain. East Highway 20 is a very small expansion area with access directly onto Highway 20; making

other connections to the east will depend on coordination with undeveloped land inside the UGB. Most other subareas are similar to Scenario 2.1.

*Congestion*

Overall, Scenario 2.1G would include 12.14 peak hour miles of congested network, which is a ten percent decrease from the prior lowest scenario. While Scenario 2.1G was shown to generate longer trips in some growth areas, there are two primary reasons for the reduction in congested corridors:

- Growth was emphasized in some UGB expansion subareas that were less reliant on congested corridors. These areas made use of existing under-utilized capacity in the transportation system.
- The mix of uses (including employment uses in non-centralized areas) created a reverse commute in some cases that would take advantage of remaining roadway capacity on routes that experience congestion in one direction.

*Cost-Effective Infrastructure*

*Transportation*

Capital costs for transportation infrastructure for Scenario 2.1G are lower than the preliminary estimates for the initial scenarios and SAAMs reported as part of the scenario evaluation in October 2015. This is due to more detailed consideration of and refined assumptions about railroad and canal crossing needs, and functional classifications and alignments for new roads. Scenario 2.1G includes additional connectivity improvements relative to Scenario 2.1, including Skyline Ranch Road and Yeoman Road. The transportation improvements needed to support Scenario 2.1G, beyond those already planned for and funded as part of the City's existing Transportation System Plan (TSP), include:

- $119 million for close to 12 miles of new collector roadways to serve and link expansion areas as well as the large vacant opportunity area in southeast Bend; and
- $2.4 million for intersection improvements (at two intersections) and $2.5 million for capacity improvements (on one road segment), based on increased traffic volumes.

This results in a total cost estimate, using consistent methodology with the analysis of the original scenarios and SAAMs, of $126.3 million.

In addition to repeating the scenario evaluation methodology originally used for the initial scenarios and SAAMs[74], which focused on identifying roads where volumes are projected to exceed roadway capacity,[75] a more detailed analysis (sometimes referred to as "TPR analysis" because it is required by OAR 660-012-0060, a section of the Transportation Planning Rule or TPR) was done for Scenario 2.1G. TPR analysis is required to identify whether any parts of the

[74] See "Scenario Evaluation: Transportation Analysis Technical Memorandum" from DKS Associates to the Urban Growth Boundary and Growth Scenarios Technical Advisory Committee, dated October 7, 2015, for a detailed explanation of the methodology used for the scenario evaluation.

[75] On the state highway system, if corridor demand was forecasted to exceed capacity, but the volumes were less than those in the Bend MPO MTP, additional mitigations were not recommended.

state highway system in Bend would both exceed ODOT's adopted mobility standards (which are generally below the physical capacity of the roadway) and experience more traffic volume based on Scenario 2.1G than based on the City's current UGB and current adopted comprehensive plan designations.[76] TPR analysis was not done for the six initial scenarios and SAAMs because of the level of effort and detail involved and because identifying appropriate mitigation for impacts to the state highway system can require negotiations with ODOT that are more appropriately focused on the preferred alternative.

The TPR analysis for Scenario 2.1G identified only one additional project, a roughly $4.8 million widening of US 20 from Robal Road to about Empire Avenue. This project is already planned as part of the Bend Metropolitan Planning Organization's 2040 Metropolitan Transportation Plan (MTP) but is not expected to be funded and built prior to 2028 in the absence of the UGB expansion and the related efficiency measures. (Three of the six alternatives initially considered in the scenario evaluation would have resulted in volumes exceeding capacity in that segment of US 20, and were identified as needing the same mitigation project even without the finer-grained TPR analysis.)

Another type of roadway improvement that has been considered in greater detail since the initial scenario evaluation is urban upgrades to existing rural roads. Roughly 9 miles of rural roads will need some level of improvement, ranging from the addition of sidewalks on one side to full street improvements with sidewalks, bike lanes and curbs on both sides. The estimated cost for these improvements is roughly $25.8 million. As with the TPR analysis, this is a more detailed evaluation that goes beyond what was identified in the costs for the original scenarios and SAAMs. Rural to urban upgrades are common in the current UGB, and are typically installed and funded by developers during the site development process in order for developments to demonstrate they have adequate and safe transportation systems.

Scenario 2.1G is also expected to result in a greater amount of local road lane-miles than Scenario 2.1 in the expansion areas due to the increased overall acreage of development. (The Envision Tomorrow model was also calibrated with more precise roadway assumptions for Scenario 2.1G, which may account for some of the difference.)

*Sanitary Sewer*

In terms of total initial capital costs for sanitary sewer, Scenario 2.1G falls between the least-cost and highest-cost initial alternatives, and is more expensive than Scenario 2.1. Comparing cost per acre, it is slightly higher than Scenario 2.1 and other low-cost initial alternatives.

The main reason for the increased cost is a larger expansion in the West area, especially the northern portions, and the inclusion of a portion of the Shevlin area. These areas contribute to additional improvements beyond those identified in Scenario 2.1, including a lengthy gravity line to convey wastewater from the northern West area to the Awbrey Glen pump station, and capacity improvements of the Awbrey Glen pump station. These areas also rely on pumping

[76] The methodology and assumptions for the TPR analysis are documented in in a memo titled "Bend UGB Expansion – TPR Evaluation For Changes Within the Current UGB" from DKS Associates, dated July 14, 2016.

rather than gravity conveyance, which is less efficient in the long run than other expansion subareas. However, Scenario 2.1G avoids an expensive new pump station in the northwest plus constructing the extension of the Northeast Interceptor from the north of the city, across the Deschutes River, and southward by keeping growth in that area within the capacity of the existing Awbrey Glen force main.

Scenario 2.1G continues to make efficient use of the Hamby alignment with growth in the northeast and southeast; avoids an additional pump station to serve the Bear Creek Road area; and is otherwise largely comparable to Scenario 2.1 in those areas. The Northeast Edge relies on the Hamby alignment, as in Scenario 2.1. Growth in this area is focused around Butler Market Road, so it does not need to contribute to the cost of the portion of the Hamby alignment south of Butler Market Road. This reduces the costs assigned to the subarea slightly (there is no change to the total cost of the Hamby alignment). The Thumb, Elbow, and DSL all require similar improvements to Scenario 2.1 – contributions to the Southeast Interceptor and the Hamby alignment as well as gravity line extensions to connect to existing lines. As in Scenario 2.1, the eastern portion of The Elbow requires an interim lift station and force main to connect to the Southeast Interceptor. The East Highway 20 area can be served by short connections to existing gravity sewer lines and does not require an interim lift station.

As in Scenario 2.1, the Southwest area requires extension of a new gravity line, which may also provide service to adjacent areas inside the UGB that are on septic currently. In addition, the Southwest service area requires up-sizing of existing gravity lines above the sizing recommended in the CSMP and increased sizing of unconstructed portions of the Southeast Interceptor. This would require modifying the design of the most upstream segment of the Southeast Interceptor between Highway 97 and Parrell Rd.

The North Triangle and OB Riley also require the same improvements as Scenario 2.1 which include contributions to the Northeast Interceptor east of Highway 97 to the Wastewater Treatment Plant (including increasing sizing relative to the CSMP) and extension of the Northeast Interceptor to the west to serve these areas.

*Drinking Water*

Because few distinctions were identified between the initial scenarios and SAAMs, a detailed analysis of the water system was not conducted for Scenario 2.1G. However, interpolating based on how the land use in Scenario 2.1G compares to prior scenarios, minimal concerns are anticipated for the drinking water storage or distribution system assuming implementation of the WMP capital improvement program including a major perimeter transmission pipeline in the northwest and additional system storage. The one exception includes the highest elevations of the West subarea, which may experience pressures below 40 psi during peak hour demands. These higher elevation water customers may require individual booster pumps to improve system pressure.

Like all of the six initial scenarios and SAAMs, Scenario 2.1G includes development within Drinking Water Protection Areas (DWPA). The Thumb, Southwest, portions of the West area, and portions of the existing UGB lie within the DWPA. The total acreage of development within

DWPA in Scenario 2.1G is less than any of the initial scenarios and SAAMs (partly due to modifications to BLI assumptions inside the UGB).

*Stormwater and Geology*

Scenario 2.1G has a greater amount of total impervious area than Scenario 2.1 in the expansion areas due to the increased overall acreage of development, but less impervious area within the existing UGB because the COID property is not expected to develop within the planning horizon and larger portions of the River Rim area are expected to be preserved for open space than previously assumed.

Expansion areas in Scenario 2.1G contain somewhat greater development in Welded Tuff areas than Scenario 2.1 – primarily in the West Area. However, there is less development in Welded Tuff areas overall due to changes in development assumptions within the existing UGB, specifically the COID property and areas in the southwestern part of the city. In such areas, on-site retention and treatment are required rather than a community stormwater system.

*Factor 3: Comparative environmental, social, economic and energy consequences (ESEE)*

*Quality Natural Environment (Environmental and Energy Consequences)*

*Development in Wildlife Areas*

Scenario 2.1G strikes a balance between urban development and protection of wildlife habitat on the outskirts of Bend. Protected areas within the Deschutes County "Wildlife Combining Zone" were not part of any growth scenario analyzed, but Scenario 2.1G does include land labeled by the Oregon Department of Fish and Wildlife (ODFW) as big game winter range in the Shevlin Area, the West Area, the Southwest Area, the "Thumb," and the "Elbow." In addition to the winter range areas, an ODFW biologist identified general areas that the agency believes may be particularly important for wintering elk and deer, which have been identified as "Potential Elk/Deer Range."

The original six scenarios evaluated contained between 325 and 1,400 acres of mapped big game winter range in the expansion areas. Scenario 2.1G includes about 820 acres of mapped big game winter range in the expansion areas, roughly at the midpoint of other scenarios evaluated. Scenario 2.1G also includes a small portion of the Shevlin area, which is partially included in the "Potential Elk/Deer Range" identified by ODFW biologists. The portion of the Shevlin area included in Scenario 2.1G is smaller than the portion included in Scenario 3.1 and SAAM-1, the original alternatives that included that area, and is surrounded on three sides by urban development. It is also only partially within the general area identified as Potential Elk/Deer Range. Currently, this portion of the site has numerous buildings which are associated with the surface mining operation to the north. These uses will be replaced with lower density housing. The City has provided a Goal 5 ESEE report describing the included areas in detail and recommending a protection program for these areas. Many areas included in the proposed expansion are generally adjacent to urbanized areas and roadways, or disturbed by existing industrial activity. The West neighborhood will be developed at a low density, using the "transect" concept to transition to the lowest density at the western edge, and is expected to provide habitat corridors and other features that will be as friendly to wildlife as possible. It is

also important to note the presence of a large (400+ ft.) rural buffer between the existing UGB (Shevlin Commons) and the 40 acre expansion on the west just south of Shevlin Road, which provides a natural corridor in this area to facilitate north/south movement of large game.

*Development along Riparian Corridors*

Scenario 2.1G does not include any proposed development adjacent to identified Goal 5 riparian areas of Tumalo Creek. This is the same as Scenario 2.1, and better than the scenarios that included the full extent of the Shevlin Area and the Gopher Gulch area.

*Wildfire Hazard*

The City conducted analysis of wildfire hazard for each potential expansion subarea using a mix of aerial photography and on-the-ground evaluation by wildfire experts. Wildfire risk was evaluated as high to extreme around the entire UGB. However, the evaluation concluded that proper vegetation management and imposition of mitigation measures (e.g. special building codes) could minimize risk in nearly all areas. The combination of topography and adjacent vegetation bordering Tumalo Creek in the Shevlin area creates a mitigation challenge. Scenario 2.1G avoids development along steep slopes adjacent to Tumalo Creek. In addition, areas of particular concern to some TAC and community members – the West Area and Shevlin Area – will use the Rural-Urban Transect to provide better wildfire hazard mitigation and development under the "Firewise" standards on the edge of the City. The lower density in conjunction with fuel reduction and fire resistant building practices plus enhanced road access (Skyline Ranch Road) and access to municipal water sources further reduce the threat from wildfire in the West and Shevlin Areas. In addition, the City is adopting a policy addressing wildfire into both the new Growth Management chapter of the Comprehensive Plan and Chapter 10 (Natural Forces):

> *The City will adopt strategies to reduce wildfire hazard on lands inside the City and included in the Urban Growth Boundary. These strategies may include the application of the International Wildland-Urban Interface Code with modifications to allow buffers of aggregated defensible space, or similar tools, as appropriate.*

*Water Use, Energy Use, and Greenhouse Gas Emissions*

The household carbon emissions, energy use, and water consumption showed little variation between the original scenarios because they are strongly correlated with housing mix. As a result they can be expected to be roughly the same as Scenario 2.1 and the other scenarios and SAAMs.

Greenhouse gas emissions are linked to VMT, but these also showed little variation among the original scenarios and SAAMs. Scenario 2.1G falls within the range of the original scenarios and SAAMs.

*Housing Options and Affordability (Social Consequences)*

*Housing Mix*

Scenario 2.1G continues to provide a mix of housing types in all subareas, even the relatively low-density West Area and Shevlin Area. East Highway 20 and the Southwest Area contain a high percentage of multifamily housing, but they are small properties that are expected to help

"complete" nearby single-family neighborhoods. By providing a mix of housing types in each subarea, and increasing the housing mix in opportunity areas within the existing UGB, Scenario 2.1G distributes new housing opportunities to all areas of the city.

*Housing Cost*

Due to the complexity of the housing affordability analysis done for the original scenarios and SAAMs, and the fact that changes to building assumptions would have meant that results were not directly comparable to prior scenarios, this evaluation was not repeated for Scenario 2.1G. Based on the areas where growth is focused in Scenario 2.1G relative to Scenario 2.1, there are several hundred more housing units in the expansion areas west and northwest of the City that are likely to have relatively higher costs. However, there are also more housing units that will be built in relatively lower cost areas in the north, northeast, southeast, and south.

A comparison of projected housing costs to Bend income levels (not done for the original scenarios and SAAMs, but useful as an absolute indicator of affordability) shows that roughly 29% of new housing units in Scenario 2.1G as a whole are projected to be affordable to households making at or below the median family income for Bend ($59,400). Under the Base Case, only about 20% of new housing units within the current UGB would be projected to be affordable at or below the MFI. In addition, affordable housing commitments by several property owners in UGB expansion areas will provide income-restricted housing units affordable to those below the area median income, which will further contribute to housing affordability in Scenario 2.1G.

### *Strong Diverse Economy (Economic Consequences)*

*Site Suitability for Large Lot Industrial*

Scenario 2.1G includes Industrial Large Lot sites at Juniper Ridge and at the southern portion of the DSL property. An ideal site for this use is large and under a single ownership, flat, and with good transportation access. Each scenario included one site at Juniper Ridge and one additional site elsewhere within the UGB expansion areas. The Employment TAC recommended the DSL site as the preferred location of the Large Lot Industrial site outside of the existing UGB (as originally evaluated in Scenario 1.2, and incorporated into Scenario 2.1G) due primarily to its public ownership. Thus, the two sites identified in Scenario 2.1G are the best performing sites evaluated.

*Site Suitability for Other Industrial and Mixed Employment Land*

Other industrial sites have similar needs to the Large Lot Industrial sites, but are less reliant on large tracts of land in single ownerships.[77] Scenario 2.1G is performs very similarly to Scenario 2.1 in this evaluation, but arrangement of land uses and creation of urbanization of policies aim to address the compatibility issues of industrial land adjacent to existing and planned residential development. Scenario 2.1G has intentionally provided better buffers between industrial areas and residential areas in the North Area. Sizing of other industrial areas (i.e. Mixed Employment in the West area) refined to be more context-sensitive.

[77] See Bend EOA, Table 15.

*Site Suitability for Commercial Land*

Commercial sites have similar needs to industrial sites, but can tolerate somewhat greater topography and site-preparation costs, and have more need of visibility from pass-by traffic.[78] Scenario 2.1G is very similar to Scenario 2.1. Commercial uses are generally supported by surrounding land uses and transportation network. The West area and Shevlin Area lack a large amount of pass-by traffic, so commercial uses will likely be locally-serving.

### *Factor 4: Compatibility of proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB*

*Compatibility with Farms and Forests*

#### *Impact to Farms*

Scenario 2.1G is similar to Scenario 2.1 in the amount of development near high value farm lands. The Northeast Edge properties, East Highway 20, DSL Property, and the "Elbow" include development within ¼ mile of EFU land. The Northeast Edge and DSL properties are within ¼ mile of commercial farms and low-impact hay fields. The "Elbow" properties are within ¼ mile of two commercial farms, one of which is an active operation that includes a feed lot for beef along Knott Rd. To aid in compatibility, Scenario 2.1G limits residential uses near the feed lot.

#### *Impact to Irrigation Districts*

Scenario 2.1G is similar to Scenario 2.1 in the amount of development that may impact irrigation district lands. Scenario 2.1G contains somewhat more development in the OB Riley area and the Northeast Edge than Scenario 2.1, but less development in impacted areas than other scenarios evaluated. By not including any highly-parcelized areas served by these irrigation districts, Scenario 2.1G lessens its overall impact to irrigation districts.

#### *Impact to Forest Land*

Scenario 2.1G continues to avoid development in close proximity to designated forest land. Only a very small portion of the West Area is within ¼ mile of designated forest land (see map), and this area is expected to implement a "transect" concept, providing an appropriate transition to natural areas West of the city.

### *Preferred Scenario Evaluation Conclusion*

The preferred scenario offers a balance of:

- strong focus on complete communities to improve access to schools, parks and commercial areas within existing neighborhoods as well as in expansion areas;
- area planning policies to support complete communities and efficient development;
- highly efficient land use in areas with few constraints, and an overall increase in residential density relative to existing conditions;
- a sensitive approach to development in areas adjacent to natural resources to improve environmental consequences and reduce natural hazard risk;

[78] See Bend EOA, Table 15.

- expansion areas that provide a mix of housing types and costs and that will leverage voluntary affordable housing commitments from property owners in order to improve social consequences and ensure that housing is available to meet the needs of residents at all income levels;
- new employment land focused in suitable areas where it will contribute to Bend's economic growth;
- cost-effective use of recent and future sewer investments;
- an orderly and connected network of new roads that will support efficient travel by all modes; and
- minimal concerns for farm and forest compatibility.

This demonstrates consideration and balancing of the required Goal 14 location factors, consistent with the requirements of Statewide Planning Goal 14 and OAR 660 Division 24.

# CHAPTER 6. CONCLUSION

As demonstrated in the previous chapters of this report, Bend has:

- established land needs for needed housing, employment, and other urban uses based on the coordinated 20-year population forecast established in the pre-Remand analysis;
- inventoried land inside the UGB to determine whether there is adequate development capacity for 20-year needs;
- increased the development potential of land inside the city through efficiency measures;
- demonstrated that, even with reasonably likely increases to development potential as a result of efficiency measures, estimated needs cannot reasonably be accommodated on land already inside the UGB;
- evaluated alternative boundary locations consistent priority land statutes and Goal 14 Boundary Location Factors; and
- assigned appropriate urban plan designations to the added land, consistent with identified land needs.

The proposed UGB expansion accommodates the projected land needs through 2028, and complies with Goal 14, relevant state statutes, and administrative rules.

# APPENDICES & RELATED DOCUMENTS

## Appendices

Appendix A Index of relevant Remand directives

Appendix B Observed mix and density of housing by residential plan designation *(from 2011 BLI memo)*

Appendix C Observed mix and density of employment by employment plan designation *(from 2008 EOA)*

Appendix D Envision Tomorrow scenario and development type details

## Related Documents

Housing Needs Analysis

Economic Opportunities Analysis

Buildable Lands Inventory

Findings Report

Comprehensive Plan

Bend Development Code

Bend UGB Remand Scope Index
*(issues relevant to Urbanization Report shown in **bold**)*

| Remand Subissue | Directives to City on Remand |
|---|---|
| | **Buildable Lands Inventory** |
| 2.2 (Analysis)<br><br>Page 24 | 1. Additional findings also are necessary to clarify how the City considered “redevelopable” lands.<br><br>**2. On remand, the City must analyze the development capacity of the vacant and redevelopment lands in light of the actual trends in redevelopment of developed properties and infill of vacant properties.**<br><br>3. While the Commission understands that this development may have utilized much of the vacant and redevelopable land within the prior UGB, to the extent the City projects that it will deviate from those past trends significantly in the future, the City needs to explain why in its findings |
| 2.2 (Conclusion)<br><br>Page 26 | 4. The city's findings must explain what criteria it uses (based on ORS 197.296, OAR 660-024 and 660-008) to determine whether particular lands are vacant or redevelopable, examine the amount and type of development that has occurred on the vacant and redevelopable lands since its last periodic review, and project the capacity of the city's buildable lands (prior to additional measures being implemented) based on that analysis (and as further detailed in connection with Goal 14, below).<br><br>5. If the amount of redevelopment and infill within the city's UGB is projected to differ significantly from past trends, the City must explain why, and provide an adequate factual and policy basis to support that change<br><br>6. The city's buildable lands inventory may not exclude lots and parcels smaller than 0.5 acres with no improvements without specific findings consistent with OAR 660-008-0005.<br><br>7. City may not exclude lots and parcels subject to CC&Rs unless it adopts specific findings, supported by an adequate factual base, that show why the lands are not available for development or redevelopment during the planning period.<br><br>8. City has agreed to reexamine lands it identified as "constrained" to determine whether the lands are buildable under OAR 660-008-0005. |
| 2.2 (Director’s Report)<br><br>Page 45 | 9. Include a map of buildable lands, as required by ORS 197.296(4)(c), as well as a zoning map and a comprehensive plan map for the lands within the prior UGB;<br><br>10. Include as its inventory of buildable lands, an analysis for each residential plan district of those lands that are “vacant,” and of those lands that are “redevelopable” as those terms are used in ORS 197.296(4)-(5) and OAR 660-008-005(6). As part of this inventory, include an analysis of what amount of redevelopment and infill has occurred, and the density of that development, by plan district, since 1998. The inventory must include the UAR and SR 2 ½ plan districts, |

| Remand Subissue | Directives to City on Remand |
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| | as well as the RL, RS, RM and RH district<br>11. If the city excludes lands on the basis that there is not a strong likelihood that existing development will be converted to more intense residential uses during the planning period, include an analysis of lands within all districts showing the extent to which infill and redevelopment has or has not occurred since 1998<br>**12. For each zoning district, analyze the number of units, density and average mix of housing types of urban residential development that has actually occurred since 1998 (including through rezoning) and how much of this occurred on vacant lands, and how much occurred through redevelopment**<br>**13. For each zoning district, analyze whether future trends over the 20-year planning period are reasonably expected to alter the amount, density and mix of housing types that has actually occurred since 1998**<br>14. **For each zoning district, adopt findings and conclusions regarding the number of units, the density, and the mix of housing types that the city concludes is likely to occur over the planning period, and identify how much is expected to occur on vacant lands, and how much is expected to occur through redevelopment** |
| **Housing Needs Analysis – Goal 10** | |
| 2.3 (Analysis)<br><br>Pages 31-32 | 15. While the City is free to *separate* the three basic housing types required to be analyzed by statute into subcategories, it may not *combine* categories as this effectively makes it impossible to do the analysis required by statute<br>16. Goal 10, the Goal 10 implementing rule, and the needed housing statutes also require that the City analyze needed housing types at particular price ranges and rent levels commensurate with the financial capabilities of present and future residents of area residents.<br>17. …under Goals 10 and 14 the City also must consider the *future* housing needs of area residents during the (twenty-year) planning period. The purpose of the analysis of both past trends and future needs is that -- if there is a difference – the local government must show how it is planning to alter those past trends in order to meet the future needs.<br>18. if the *future* needs require a different density or mix of housing types than has occurred in the past, then ORS 197.296(7) requires the local government to show how new measures demonstrably increase the likelihood that the needed density and/or mix will be achieved. |
| 2.3 (Conclusion) | 19. remands the city's decision for it to revise its findings and chapter 5 of its comprehensive plan consistent with the preceding analysis |

| Remand Subissue | Directives to City on Remand |
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| Pages 32-33 | |
| 2.3 (Director's Report)<br><br>Pages 45-46 | 20. Revise the Housing Needs Analysis to comply with ORS 197.296, OAR 660-008-0020, and ORS 197.303. The Housing Needs Analysis must include an evaluation of the need for at least three housing types at particular price ranges (owner occupancy) and rent levels (renter occupancy), and commensurate with the financial capabilities of current and future residents. Those housing types include: (a) attached single family housing (common-wall dwellings or rowhouses where each dwelling unit occupies a separate lot pursuant to OAR 660-008-0005(1)); (b) detached single family housing (a housing unit that is free standing and separate from other housing units pursuant to OAR 660-008-0005(3); and (c) multiple family housing (attached housing where each dwelling unit is not located on a separate lot pursuant to OAR 660-008-0005(5));<br><br>21. Adopt the revised Housing Needs Analysis as an element of the comprehensive plan, along with findings that demonstrate how the revised Housing Needs Analysis complies with the applicable statutory, goal and rule requirements described above;<br><br>**22. Analyze what the mix of plan designations should be in the UGB expansion area in direct relation to the city's projected housing needs, and consider the adoption of new residential plan districts that encourage more multi-family, higher density single family housing, and other needed housing types for a greater proportion of the expansion area, in order to meet the city's and the region's demonstrated housing needs;** |
| 2.4 (Analysis)<br><br>Page 35- | 23. The City must (under Goal 10 and the needed housing statutes) plan for an adequate supply of buildable land for affordable housing, including workforce housing (whether that land is inside the prior UGB, on lands in a UGB expansion area, or both).<br><br>24. On remand, the City also must explain why it believes particular areas planned to meet the future housing needs of residents are appropriate for the expected housing types. |
| 2.4 (Conclusions)<br><br>Page 35 | 25. The City must plan lands within its existing UGB and any expansion area so that there are sufficient buildable lands in each plan district to meet the city's anticipated needs for particular needed housing types.<br><br>**26. To the extent that the City continues to determine that there is a current and projected future shortage of land for affordable housing that translates into a need for more multi-family housing, the City must show how it's planning for lands within the exiting UGB and lands in any expansion area will provide sufficient buildable lands in plan districts that are designed to meet that need.**<br><br>27. If the City continues to project a future housing mix of 65% single- |

| Remand Subissue | Directives to City on Remand |
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| | family and 35% multi-family, it must explain why that housing mix will provide sufficient buildable lands to meet its projected future housing needs over the planning period, and that projection and explanation must be supported by an adequate factual base. |
| 2.8 (Analysis)<br><br>Page 47 | 28. The City agreed to adopt findings clarifying why its decision is consistent, and the Commission concurs that this issue can be resolved by the adoption of findings explaining why the city's decision is consistent with its plan policies. |
| 2.8 (Conclusion)<br><br>Page 47 | 29. The Commission denies the city's appeal for the reasons stated above, but also clarifies that its remand is solely for the lack of adequate findings by the City. |
| **HNA and Efficiency Measures** | |
| 3.1 (Analysis)<br><br>Pages 50-53 | **30. LCDC concluded that the City's densities for housing were, in their view, low**<br><br>**31. Need to determine if raising the minimum densities of the residential zones is necessary to encourage the development of needed housing**<br><br>**32. On remand, the City must address both prior trends (as required by ORS 197.296(5)) and recent existing steps it already has taken to increase density and meet its housing needs. The requirement of Goal 14 to reasonably accommodate future land needs within its UGB does not allow the city to use an unreasonably conservative projection of future development capacity**<br><br>**33. Nevertheless, given the apparent market demand for increasing density relative to existing planning and zoning designations, the City must explain why increasing the density allowed, particularly for large blocks of vacant land outside of existing established neighborhoods, is not reasonable during the 20-year planning period.**<br><br>**34. The Director's Decision identifies a number of other efficiency measures that the City should consider (drawn from the city's own Residential Lands Study), but that list is not intended to be exclusive or directive; it is up to the City to determine in the first instance what is reasonable to accommodate its future housing needs within its UGB (<u>See</u> Director's Decision 45-46)** |
| 3.1 (Conclusion)<br><br>Pages 53-54 | **35. The City must reconsider the projected capacity of lands within its prior UGB for residential development during the planning period in light of its revised BLI, recent development trends, and existing and potential new measures to increase that capacity.**<br><br>**36. The measures the City considers must include, but are not limited to, evaluating the infill capacity (including plan and zone** |

| Remand Subissue | Directives to City on Remand |
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| | **changes) of residential lands with more than five acres that are vacant or partially vacant.**<br>**37. The City also should consider the measures as listed in the Director's Decision, at 45-46, that are related to efficiency measures.** |
| 3.1 (Director's Report) | **38. Consider measures to encourage needed housing types within additional areas of the city, including rezoning of areas along transit corridors and in neighborhood centers;**<br>**39. Consider splitting the existing RS zone, which covers most of the residential areas of the city, into two or more zones in order to encourage redevelopment in some areas while protecting development patterns in well-established neighborhoods;**<br>**40. In areas where the city is planning significant public investments, consider upzoning as a means to help spread the costs of such investments;**<br>**41. Consider strengthening the minimum density provisions in the existing UAR and SR 2½ zones by eliminating PUDs and other clustering tools; and**<br>**42. Consider strengthening the minimum density provisions in the existing RS and RM zones to encourage development of needed housing types, rather than relying on low density residential development.** |
| 3.2 (Analysis)<br><br>Pages 55-56 | **43. Under Goal 10 and ORS 197.296 the City must adopt definitive measures and find, based on an adequate factual base, that those measures demonstrably increase the likelihood that residential development will occur at the housing types and density and at the mix of housing types required to meet housing needs over the next 20 years.**<br>**44. The City agreed, on remand, to include provisions in the General Plan requiring adoption and implementation of the Central Area Plan and rezoning of lands along transit corridor as described in its findings.** |
| 3.2 (Conclusion)<br><br>Page 56 | **45. …directs the City on remand to address the requirements of ORS 197.296(7) and (9) with respect to any new efficiency measures that it relies on.**<br>**46. The City may do this by adopting specific timelines for initiation and completion of efficiency measures, including detail about the outcomes that will be achieved as part of the Housing Element of its comprehensive plan.**<br>**47. The City also must adopt findings that show why those outcomes are more likely to occur as a result of the measure(s), and how they relate to needed housing types and locations.** |

| Remand Subissue | Directives to City on Remand |
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| | **48. In addition, in coordination with its Work Plan for Outstanding Metropolitan Transportation Planning Work (issue area 8), if the City continues to rely on these two particular measures, it must:**<br>**49. 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.**<br>**50. Within two years following acknowledgement, complete and adopt provisions of its comprehensive plan that authorize at least 600 additional medium-density and high-density housing units on lands abutting or within ¼ mile of existing or planned transit routes.** |
| **Other Land Needs** | |
| 4.1 (Analysis)<br><br>Page 58 | 51. Absent the safe-harbor, the City must demonstrate that the identified need for institutional, private open space and private rights-of-way is an urban need that must be accommodated within the expansion area.<br>52. …the City's findings must explain why the City believes that the increase from 12.8 percent to fifteen percent is justified |
| 4.1 (Conclusion)<br><br>Page 59 | 53. (a)dopt findings that explain why an increase in the amount of land required for these uses from 12.8 percent to fifteen percent is justified. To the extent the City is basing its estimate on the need for stormwater facilities, it should explain why such facilities can't be located within open space and right-of way areas.<br>54. …the city's findings should not be based only on past trends, but should include consideration of future conditions and needs (and explain why the trend will continue or change over the future planning period). |
| **Park & School Land Needs** | |
| 4.2 (Analysis)<br><br>Pages 60-61 | 55. The City's findings need to be revised to explain clearly what evidence the city relied on for types of projected school and parks needs and siting criteria and the relation to the districts plans.<br>56. In addition, to satisfy the requirements of ORS 197.296(6)(a), the city's findings should explain how the City has coordinated with the Bend-La Pine School District. |
| 4.2 (Conclusion)<br><br>Page 61 | 57. Adopt revised findings explaining what evidence it relied on in determining the amount of land needed for parks and schools, and how that evidence relates to the districts plans and analyses. |
| 4.3 (Analysis) | **58. Given that much of the city's future housing and population growth is projected within its prior UGB, the city's findings should explain how it will meet its future needs for these uses.** |

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|---|---|
| Page 63 | |
| 4.3 (Conclusion)<br><br>Page 63 | **59. The Commission concludes that the City must make findings to address OAR 660-024-0050(4), regarding the extent to which the estimated need for future parks and schools can reasonably be accommodated inside the existing UGB.**<br>60. The required findings must address how the needs analysis accounts for lands already owned by the districts that are outside of the prior UGB, particularly if those lands were determined to not be suitable for urbanization. |
| **Economic Opportunities Analysis – Goal 9** | |
| 5.1 (Conclusion)<br><br>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 |
| 5.2 (Conclusion)<br><br>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**<br>**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.** |
| 5.4 (Analysis)<br><br>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 |
| 5.4 (Conclusion)<br><br>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) |
| 5.5 (Analysis)<br><br>Page 77 | 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.<br>67. This short-term supply analysis required for jurisdictions within MPOs |

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| | 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)<br>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). |
| 5.5 (Conclusion)<br>Page 78 | 69. The Commission concludes that the Goal 9 rule requires the City to include policies for maintaining a short-term supply.<br>70. The City must plan for required infrastructure and have identified the funding mechanisms. |
| 5.6 (Analysis)<br>Page 80 | 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.<br>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. |
| 5.6 (Conclusion)<br>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)<br>Page 84 | 74. The City agreed that on remand it would move the analysis and calculation to the residential/other lands analysis and calculation. |
| 5.8 (Conclusion)<br>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.** |
| 5.9 (Analysis)<br>Page 85 | 76. The City designated a substantial amount of land as Commercial General along Highway 20 in the expansion area. The City concedes that it did not make findings related to the General Plan policies cited by appellant, but agrees to develop findings addressing the policies on remand. |
| 5.9 (Conclusion)<br>Page 85 | 77. The Commission remands the submittal to the City to allow it to address Commercial Development Policy 27 and 28 contained in Chapter 6 of the Bend Area Plan |
| **Natural Resources – Goal 5** | |
| 6.1 | 78. The rule requires the city to evaluate the expansion area where |

| Remand Subissue | Directives to City on Remand |
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| (Analysis)<br><br>Pages 90-91 | resources are identified and evaluate them for significance and possible protection.<br><br>79. The city may use the county's inventory as a starting point, but it must also evaluate other information and make its own determination of significance. |
| 6.1 (Conclusion)<br><br>Page 91 | 80. State scenic waterway – Should a revised UGB expansion area include any areas within the Middle Deschutes River Scenic Waterway as described in OAR 736-040-0072, the city must adopt local requirements to implement the state plan for protecting the Middle Deschutes Scenic Waterway, including a setback from the canyon rim for structures.<br><br>81. Riparian protection – Should a revised UGB expansion area include areas along the Deschutes River, Tumalo Creek, or both, the city must prepare and adopt an inventory of the significant riparian area that either: 1) finds that the topography along the river does not restrict the use of the safe harbor inventory under OAR 660-023-0090(5)(d) and apply the 75 feet upland from top of each bank safe harbor width provided in OAR 660-023-0090(5)(a); or 2) apply the standard inventory methodology, used within the current UGB, to the expansion area. In either case, the significant riparian area will fall within the canyon walls. For a protection program the city will adopt the county measures that serve to protect the scenic waterway and add restrictions for vegetation removal within the significant riparian area. The City must develop the protection program to meet the safe harbor protection measure standards.<br><br>82. Wildlife habitat – Should a revised UGB expansion area include areas along the Deschutes River, Tumalo Creek, or both, the city must apply OAR 660-023-0110, the Goal 5 wildlife habitat rule, by conducting a safe harbor inventory under OAR 660-023-0110(4). The rule allows the city to limit consideration of significant habitat to the five habitat categories specified in subsections (a)-(e). The Commission understands that the City anticipates that ODFW will provide the City a letter stating that the agency does not have information that any of the five habitat categories are documented, identified or mapped within the portion of the Deschutes River or Tumalo Creek corridors that pass through the expansion area.<br><br>83. Tumalo Creek – Should a revised UGB expansion area include Tumalo Creek in the final expansion area, the city must apply the Goal 5 safe harbor inventory and protection measures for riparian areas along the creek.<br><br>84. ..the Commission concludes that the City may not exclude identified ASIs from its BLI (if they are already inside the prior UGB), or excluded ASIs from inclusion in the expansion area. |
| 6.3 (Conclusion) | 85. On remand, if the City includes the property in the revised UGB expansion area, the City should only plan for surface mining that |

| Remand Subissue | Directives to City on Remand |
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| Page 95 | portion of the property within the DOGAMI permit 09-0018 area, as the site is not on the county's acknowledged surface mining inventory. |
| **Wildlife Risk – Goal 7** | |
| 6.2 (Conclusion)<br><br>Page 93 | 86. It is entirely appropriate and permissible for the City to consider relative risk of wildfire in alternate UGB expansion candidate areas in considering the environmental, energy, economic and social consequences of the alternatives under locational factor 3 of Goal 14. |
| **Public Facilities – Goal 11** | |
| 7.1 (Conclusion) Page 101 | 87. The City may adopt public facilities plans as needed for acknowledged land uses within its prior, acknowledged UGB on remand.<br><br>88. The city may then, subsequently, adopt revisions to its public facilities plans for any revised UGB expansion proposal and any other related amendments to its acknowledged comprehensive plan. |
| 7.7 (Conclusion)<br><br>Page 110 | 89. On remand, the City must address the entire expansion area under Goal 11 and Goal 14, locational factor 2. The City is not required to do so through amendments to its public facilities plan, although it may do so.<br><br>90. If the City elects to carry out the analysis(es) of the feasibility of serving the expansion area independently of its public facilities plan, it should nevertheless formally adopt the analysis and incorporate it into the city's comprehensive plan (and the analysis must not conflict with existing provisions of the public facilities plan). |
| **Transportation – Goal 12** | |
| 8.1 (Analysis)<br><br>Pages 114-115 | **91. The city is required to compare lands in the same priority classes under ORS 197.298, Goal 14 and OAR 660-024-0060 (except when lower priority lands are included as necessary to serve higher priority lands under ORS 197.298(3)(b)).**<br><br>92. The city may aggregate its underlying data, by TAZs and priority category, and address the results in revised findings |
| 8.1 (Conclusion)<br><br>Page 115 | **93. On remand, the city must analyze the relative costs of lands in the same priority category, rather than aggregating its analysis into subareas without regard to the priorities under ORS 197.298.** |
| 8.1 (Director's Report)<br><br>Page 89 | **94. Identify and assign costs of individual UGB expansion areas, rather than combinations of different areas;**<br><br>**95. Provide additional information regarding the costs of providing transportation facilities to serve individual areas, including any extraordinary costs related to overcoming topographic barriers or rights of way;** |

| Remand Subissue | Directives to City on Remand |
|---|---|
| | **96. Provide more detailed analysis of the extent to which the costs of improvements for major roadway improvements in north area (including proposed improvements to Highways 20 and 97) are a result of and should be assigned to development in the north area rather than the city as a whole. (That is, the city's analysis and evaluation should assess whether the extent of improvements in north area might be avoided or reduced in scale or cost if the UGB was not expanded in this area, or if the extent of the UGB expansion was reduced.); and**<br>**97. Provide comparable estimates for providing needed roadway capacity for areas that, because of topographic constraints, may need to be served by different types of road networks. For example, growth on the east side can apparently be served by a fairly complete grid of streets, while topographic barriers limit potential for a full street grid in this area.** |
| 8.2 (Conclusion)<br><br>Page 116 | **98. On remand, the city must revise its findings to address this issue. If the city chooses to rely on existing analysis that there is no cost differential between alternate lands in the same priority category, that decision must be supported by substantial evidence in the record as a whole.**<br>**99. While no specific method or outcome is required, the city must explain its basis(es) for assigning the costs of extraordinary improvements to expansion areas in the same priority category, and consider whether changes in the extent or location of the UGB expansion would reduce the need for major improvements in this area.** |
| 8.3 (Conclusion)<br><br>Pages 117-118 | **100. On remand, the city must revise its findings to address this issue including not only the relative cost of required transportation improvements, but the relative advantages and disadvantages as well. OAR 660-024-0060(8) (which may include the relative amount of development capacity the city can support for a particular unit of cost).**<br>**101. On appeal, at oral argument, the city agreed to strengthen its findings in this area to the extent that lands on the west of the city are included in the UGB expansion area on remand.** |
| 8.6 (Conclusion)<br><br>Pages 120-121 | 102. The City is required to comply with OAR 660-012-0035 before it may complete its UGB expansion.<br>103. The City has agreed to prepare analyses of its baseline VMT per capita in 2003 (with VMT as defined in OAR 660-012-0005), along with an analysis of projected VMT per capita over the planning period with proposed "packages" of land use and transportation measures to reduce VMT per capita.<br>104. If the City demonstrates that its revised UGB expansion, along with proposed land use and transportation measures, results in an |

| Remand Subissue | Directives to City on Remand |
|---|---|
| | estimated change in VMT per capita:<br>a. of a decline of 5% or more per capita, then the City is in compliance with this aspect of the TPR under 0035(6);<br>b. of a decline of between 0% and 4.99 percent per capita, then 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; or<br>c. of an increase in VMT per capita, then the city must prepare, submit and obtain DLCD/LCDC approval of an integrated land use and transportation plan as provided in OAR 660-012-0035(5) prior to approval of a revised UGB. |
| **UGB Methodology & Boundary Analysis (Goal 14)** | |
| 9.1 (Conclusion)<br><br>Pages 129-130 | In evaluating which lands to include within its UGB expansion on remand, the City must follow the following steps:<br>**105. Establish suitability criteria for general housing, employment, and related land needs. These criteria must be consistent with (in the sense of implementing, or being in harmony with) the definitions in OAR 660-008-0005(2) (for lands planned for future general residential uses), and 660-009-0005(9) and (12) and 660-009-0025(1) and (2) (for lands planned for future general employment uses) as well as other provisions of law applicable in determining whether the land will meet the city's general land needs.**<br>**106. Document the criteria used to locate lands required to meet any "specific identified needs" as allowed by ORS 197.298(3)(a). The identified land needs include a future university site, a medical center, and two large-lot industrial uses.**<br>**107. Document (through existing or supplemental findings) that the sites identified by the City for a university, a medical center, and two large-lot industrial uses. The Commission agrees with the City that these identified future uses are justified under 197.298(3)(a). The City must demonstrate, however, through additional findings, that these future uses cannot reasonably be accommodated within the prior UGB.**<br>**108. Apply the suitability criteria (from step 1, above) for general housing, employment and related land needs to exception lands within the expansion study area. In this step, the City must identify exception lands (including lands designated by the City as urban area reserve) that will not accommodate any of its general land needs during the planning period. These lands may be "screened out" from further analysis.**<br>**109. For its remaining (general) future land needs over the planning** |

| Remand Subissue | Directives to City on Remand |
|---|---|
| | **period, the City must compare the remaining (after the screening described above for suitability) exception lands using the Goal 14 locational factors to determine which of those lands are best to include in its UGB expansion area.42 In this step, the City may rely on ORS 197.298(3)(c) (maximum efficiency of land uses *** requires inclusion of [resource lands] *** to include or to provide services to [the exception lands]") to include resource lands, particularly resource lands interspersed with exception lands, within its UGB expansion area. Resource lands included under ORS 197.298(3)(c) need not be evaluated for soil capability, as called for under ORS 197.298(2).**<br>110. **If the City is unable to accommodate its need for additional lands during the planning period after undertaking the preceding steps, it may then evaluate lands in the next priority category under ORS 197.298(1) (e.g., resource lands) for its general land needs. If the City does so, it must consider resource lands with lower soil capability first, as specified in ORS 197.298(2). To the extent that resource lands are needed to meet remaining (general) future land needs over the planning period, the City must apply the general suitability criteria used in Step 1 (above) and then compare suitable resource lands using the Goal 14 location factors to determine which of those lands are the best to include in its UGB expansion area.** |
| 9.2 (Analysis)<br><br>Page 131 | 111. The remaining work for the City on remand is simply to show, using those criteria, that the uses "cannot reasonably be accommodated" within the prior UGB. |
| 9.2 (Conclusion)<br><br>Pages 131-132 | 112. The City must, however, analyze whether these needs could reasonably be accommodated within the prior UGB using its site suitability criteria and buildable lands inventory, and adopt findings explaining its reasoning. |
| 9.3 (Analysis)<br><br>Page 132 | 113. The City will need to work through the particular application of ORS 197.298(3)(c) to the facts on remand, and that application may depend, in part, on what the City does with its public facilities plans. |
| 9.3 (Conclusion)<br><br>Page 133 | 114. ORS 197.298(3)(c) may be used, as described above under issue 9.1., where resource lands are interspersed with exception lands, and in order to urbanize (provide public services to) exception lands that couldn't otherwise be served. |
| **Implementation – Plan & Zoning Designations** | |
| 10.2 (Conclusion)<br><br>Pages 141- | On remand, the city and county must:<br>115. Clearly designate on the appropriate comprehensive plan map, the areas planned for the specific identified land needs described in the |

| Remand Subissue | Directives to City on Remand |
|---|---|
| 142 | city's analysis under 197.298(3)(a), and include policies to assure that the lands are, in fact, used for their intended purpose;<br>116. Either maintain the former county zoning districts until areas added to the UGB are ready to urbanize, or specifically determine that interim zoning designations maintain the likelihood that the land will develop for the uses and at the intensity that the city's underlying analysis of the capacity of the lands is based on;<br>117. If the County or City adopt interim zoning for the UGB expansion area, they must determine that the assigned interim zoning in each area will not generate more vehicle trips than development allowed by the zoning designations in place before the UGB expansion; and<br>118. The City and County must coordinate, and clarify the applicability of the city's plan map and plan policies, including its Framework Plan map, within the UGB expansion area. |

# Attachment A

## HOUSING UNITS BY TYPE AND PLAN DESIGNATION

**PRE-1998** [1]

| | RL | | RS | | RM | | RH | | ALL RESIDENTIAL ZONES | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TOTAL UNITS[2] | AVE DENSITY[3] | TOTAL UNITS[2] | AVE DENSITY[3] | TOTAL UNITS[2] | AVE DENSITY[3] | TOTAL UNITS[2] | AVE DENSITY[3] | TOTAL UNITS[2] | AVE DENSITY[3] | Pre-1998 Units - % of Total | |
| Single Family - Detached[4] | 2,146 | 1.9 | 8,846 | 3.1 | 1,606 | 4.7 | 145 | 6.6 | **12,743** | **2.9** | 66% | SFD |
| Single Family - Attached[5] | 0 | 0.0 | 26 | 5.1 | 22 | 21.5 | 0 | 0.0 | **48** | **7.8** | 0% | SFDA |
| Multiple Family Housing[6] | 57 | 8.8 | 500 | 9.7 | 3,314 | 16.6 | 539 | 20.9 | **4,410** | **15.5** | 23% | Multifamily |
| Manufactured Homes - In Parks[7] | 148 | 2.7 | 557 | 3.4 | 593 | 6.5 | 0 | 0.0 | **1,298** | **4.1** | 7% | Manuf in Parks |
| Manufactured Homes - On Lots[8] | 382 | 2.9 | 241 | 3.2 | 73 | 5.8 | 0 | 0.0 | **696** | **3.1** | 4% | Manuf on Lots |
| **TOTAL** | **2,733** | **2.1** | **10,170** | **3.2** | **5,608** | **8.5** | **684** | **14.4** | **19,195** | **3.7** | **100%** | **TOTAL** |

**1998-2008**

| | RL | | RS | | RM | | RH | | ALL RESIDENTIAL ZONES | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TOTAL UNITS[2] | AVE DENSITY[3] | TOTAL UNITS[2] | AVE DENSITY[3] | TOTAL UNITS[2] | AVE DENSITY[3] | TOTAL UNITS[2] | AVE DENSITY[3] | TOTAL UNITS[2] | AVE DENSITY[3] | New Units - % of Total | |
| Single Family - Detached[4] | 210 | 2.0 | 10,306 | 4.6 | 828 | 8.7 | 27 | 13.4 | **11,371** | **4.7** | 72% | SFD |
| Single Family - Attached[5] | 0 | 0.0 | 435 | 8.7 | 175 | 12.5 | 0 | 0.0 | **610** | **9.5** | 4% | SFDA |
| Multiple Family Housing[6] | 0 | 0.0 | 514 | 14.2 | 2,547 | 16.1 | 535 | 17.1 | **3,596** | **16.0** | 23% | Multifamily |
| Manufactured Homes - In Parks[7] | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | **0** | **0.0** | 0% | Manuf in Parks |
| Manufactured Homes - On Lots[8] | 43 | 3.1 | 71 | 6.6 | 43 | 7.0 | 0 | 0.0 | **157** | **5.1** | 1% | Manuf on Lots |
| **TOTAL** | **253** | **2.1** | **11,326** | **4.9** | **3,593** | **13.4** | **562** | **16.9** | **15,734** | **5.7** | **100%** | **TOTAL** |

**ALL YEARS**

| | RL | | RS | | RM | | RH | | ALL RESIDENTIAL ZONES | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TOTAL UNITS[2] | AVE DENSITY[3] | TOTAL UNITS[2] | AVE DENSITY[3] | TOTAL UNITS[2] | AVE DENSITY[3] | TOTAL UNITS[2] | AVE DENSITY[3] | TOTAL UNITS[2] | AVE DENSITY[3] | All Units - % of Total | |
| Single Family - Detached[4] | 2,356 | 1.9 | 19,152 | 3.8 | 2,434 | 5.6 | 172 | 7.2 | 24,114 | **3.6** | 69% | SFD |
| Single Family - Attached[5] | 0 | 0.0 | 461 | 8.4 | 197 | 13.1 | 0 | 0.0 | 658 | **9.4** | 2% | SFDA |
| Multiple Family Housing[6] | 57 | 8.8 | 1,014 | 11.3 | 5,861 | 16.6 | 1,074 | 18.8 | 8,006 | **15.8** | 23% | Multifamily |
| Manufactured Homes - In Parks[7] | 148 | 2.7 | 557 | 3.4 | 593 | 6.5 | 0 | 0.0 | 1,298 | **4.1** | 4% | Manuf in Parks |
| Manufactured Homes - On Lots[8] | 425 | 2.9 | 312 | 3.6 | 116 | 6.2 | 0 | 0.0 | 853 | **3.4** | 2% | Manuf on Lots |
| **TOTAL** | **2,986** | **2.1** | **21,496** | **3.9** | **9,201** | **9.9** | **1,246** | **15.5** | **34,929** | **4.4** | **100%** | **TOTAL** |

Summary data prepared 12/28/2010 by C. Miller from February 2008 Buildable Lands Inventory

[1] Pre-1998 data includes all properties, and the dwelling units on those properties, that are in the current Urban Growth Boundary. Some properties were outside of Bend's current UGB at the time they were constructed.

[2] Total units includes all built and permitted units, including units in the MDOZ, by general plan designation.

[3] Average density is the total number of built and permitted units (WHERE ONLY ONE TYPE OF HOUSING UNIT WAS ON A PROPERTY), divided by the total acres of those properties, by housing unit type and general plan designation.

[4] "Single Family - Detached" means a housing unit that is free standing and separate from other housing units. OAR 660-008-0005(3)

[5] "Single Family - Attached" means common-wall dwellings or row houses where each dwelling unit occupies a separate lot. OAR 660-008-0005(1)

[6] "Multiple Family Housing" means attached housing where each dwelling unit is not located on a separate lot. OAR 660-008-0005(5) This category includes duplexes, triplexes, fourplexes, buildings with five or more dwelling units, and condominiums.

[7] "Manufactured Homes - In Parks" are those in designated manufactured home parks.

[8] "Manufactured Homes - On Lots" are manufactured homes located on a separate lot, including those in designated manufactured home subdivisions.

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 ace 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.

# Memorandum

July 18, 2016

**To:** Project Management Team

**Cc:**

**From:** Angelo Planning Group

**Re:** Envision Tomorrow Model Details – Scenario 2.1G and Base Case

## INTRODUCTION

The purpose of this memorandum is to provide an overview of the following detailed maps and tables (attached):

- Figure 1: Map of Base Case Development Types
- Figure 2: Map of Scenario 2.1G Development Types
- Table 1: Development Type Attributes
- Table 2: Summary of Acreages, Units, and Employment for Base Case
- Table 3: Summary of Acreages, Units, and Employment for Scenario 2.1G (Inside Current UGB Only)
- Table 4: Summary of Acreages, Units, and Employment for Scenario 2.1G (UGB Expansion Areas Only)
- Table 5: Summary of Acreages, Units, and Employment for Scenario 2.1G (Full Scenario)

The above-listed maps and tables document the assumptions used in Envision Tomorrow, the scenario planning tool, to project growth inside Bend's existing Urban Growth Boundary (UGB) and in proposed UGB expansion areas. As described in the Urbanization Report, Envision Tomorrow applies development assumptions spatially and provides the ability to compare the possible impacts of different policies, development decisions and growth trajectories.

## ABOUT THE DEVELOPMENT TYPES

### Overview

Future development assumptions are organized into "development types" that define different types of residential and employment development. Development assumptions that are built into the development types include:

- a mix of specific building prototypes, which are based on information including parking requirements, height limits, and lot coverage ratios;
- streets, open space, and other set-asides;

- net residential and job density; and
- rate of redevelopment.

The full list of development types used in Scenario 2.1G and the Base Case is provided below, along with a brief description of the purpose for each. The development types are associated with either an existing plan designation on the Bend Comprehensive Plan map or a new plan designation. However, for some plan designations there are a number of different development types to reflect different circumstances, such as platted lots versus large vacant tracts, areas that are likely to be more pedestrian-oriented than others, lots constrained with deed restrictions, and other unique situations.

Figure 1 illustrates where each development type was "painted" in the model. Table 1 provides the details of gross-to-net set asides, redevelopment rate, and housing and/or employment mix and density for each development type. Tables 2 through 5 summarize:

- the acreages of each development type;
- the new housing units and jobs generated through projected new development;
- the housing units and jobs projected to be lost through redevelopment of existing structures; and
- the net growth projected to result from all future development within the planning horizon.

Table 2 presents these numbers for the Base Case; Table 3 shows numbers for Scenario 2.1G inside the current UGB only; Table 4 shows Scenario 2.1G for the UGB expansion only; and Table 5 shows Scenario 2.1G for the full scenario (inside the current UGB plus expansion areas).

## Commercial Development Types

- **CB**: represents the Central Business (CB) plan designation and zone; initially calibrated to observed mix and net employment density in the zone (as of 2006[1]) and the history of residential development in the zone (1998 to 2014), but employment mix adjusted to more closely reflect needed mix going forward.
- **CG**: represents the General Commercial (CG) plan designation and zone; initially calibrated to the observed mix and net employment density in the zone (as of 2006) and the history of residential development in the zone (1998 to 2014), but employment mix adjusted to more closely reflect needed mix going forward.
- **CL**: represents the Limited Commercial (CL) plan designation and zone; initially calibrated to the observed mix and net employment density in the zone (as of 2006) and

[1] 2006 data on employment density and mix was used in order to maintain consistency with the starting assumptions underlying the 2008 Employment Opportunities Analysis, from which the employment projections originated. In addition, industrial, office, and commercial vacancy rates in 2013, the year for which updated employment data was obtained, were unusually high. (This affects calculations of employees per developed acre, because the space is still counted as developed but has no employees.)

the history of residential development in the zone (1998 to 2014), but employment mix adjusted to more closely reflect needed mix going forward.

- **CC:** represents the Convenience Commercial (CC) plan designation and zone; initially calibrated to the observed mix and net employment density in the zone (as of 2006) and the history of residential development in the zone (1998 to 2014), but employment mix adjusted to more closely reflect needed mix going forward.
- **CC2:** a modified version of the CC development type intended to reflect a more pedestrian-oriented commercial development style.

## Mixed Use Development Types

- **MU2a:** represents the proposed new Mixed Use – Urban (MU) plan designation and zone; calibrated to match the type and intensity of uses allowed under the proposed zoning regulations.
- **MU1:** represents the proposed new Mixed Use – Neighborhood (MN) plan designation and zone; calibrated to match the type and intensity of uses allowed under the proposed zoning regulations.
- **MMA MU:** represents the proposed Bend Central District (BCD) special plan district;[2] calibrated to reflect the type and intensity of uses allowed under the proposed zoning regulations.
- **MR:** represents the Mixed Use Riverfront (MR) plan designation and zone; calibrated to match the observed mix and net employment density in the zone (as of 2006) and the history of residential development in the zone (1998 to 2014).
- **MDOZ**: represents the Medical District Overlay Zone (MDOZ), which allows certain medical offices and hospitals in addition to the residential uses allowed under the base residential zones; calibrated to match observed trends in this zone.
- **ME-BC**: represents the Mixed Employment (ME) zone and plan designation under the existing zoning regulations; calibrated to the observed mix and net employment density in the zone (as of 2006) and the history of residential development in the zone (1998 to 2014).
- **ME-EM:** represents the ME zone and plan designation under the proposed zoning regulations.

## Industrial Development Types

- **IG:** reflects the General Industrial (IG) plan designation and zone; calibrated to match the observed mix and net employment density in the zone (as of 2006).
- **IL:** reflects the Light Industrial (IL) plan designation and zone; calibrated to match the observed mix and net employment density in the zone (as of 2006).

[2] Note that the development type reflects a generalized version of the multiple sub-districts within the BCD special plan district. The CL development type was used to capture 3rd street development assumptions, because residential uses are not allowed outright in that subdistrict, making it more similar to the base CL zone than to the other subdistricts.

- **Large Lot Industrial:** a placeholder development type that identifies areas for a large lot industrial site; does not generate employment because the employment from these sites is outside the trend-based employment projection and because there is no available data to project employment density.
- **Juniper Ridge Employment:** represents the Juniper Ridge Employment district; calibrated to match the mix of uses allowed in the Employment Sub-District (ESD) of the overlay zone and the intensity of uses allowed within the ESD under an Inter-Governmental Agreement (IGA) with the Oregon Department of Transportation (ODOT) based on the transportation improvements identified as reasonably likely to be funded by 2028.[3]
- **Juniper Ridge East:** represents the eastern portion of Juniper Ridge that is inside the current UGB but not within the ESD; calibrated to match the type of uses allowed within the ESD and the intensity of employment assumed as background growth in the phasing study for Juniper Ridge through 2025.[4]

## Public Facilities and Institutional Development Types

- **PF:** represents the Public Facilities (PF) plan designation and zone; calibrated based on the observed employment mix and net density in the zone (as of 2006). Used only where the PF plan designation is applied to sites that do not meet one of the other categories identified below.
- **Institutional:** represents the Central Oregon Community College (COCC) campus; calibrated to generate the employment and student housing projected by COCC representatives for 2028.
- **University:** represents the Oregon State University (OSU) Cascades campus; calibrated to generate the employment and student housing projected by OSU representatives for 2028.[5]
- **Park:** represents future neighborhood and community park placeholders; no employment or housing. Application to existing park sites is inconsistent (because it has

[3] The Phasing Analysis conducted for Juniper Ridge in 2010 ("Juniper Ridge Transportation Study – Mitigation Phasing Analysis for Employment Sub-District (ESD)", from Chris Maciejewski and Garth Appanaitis of DKS Associates, dated September 1, 2010) projects a total of 1,075 industrial jobs and 2,736 office jobs in the ESD by 2025. This amount of growth corresponds to the improvements identified as reasonably likely to be funded by 2028.

[4] The Juniper Ridge Employment Sub-District Zone Change Transportation Study, prepared by DKS Associates, June 2010, documents the land use assumptions used for the full 500 acres of Juniper Ridge. Table 4 lists land use assumptions, including the employment for the east area (not the ESD), which is approximately 2,000 employees.

[5] Note that the employment and housing generated by OSU are not included in the housing and employment need projections (the university was identified as a special site need instead), but the housing and employment are significant enough to be important to transportation modeling and are included in the development type. The housing units and jobs were tracked separately in the model to ensure that the needed number of housing units and jobs was provided.

no effect on the model); application to potential future park sites is for capacity and land need purposes and is not intended to reflect a site-specific proposal.

- **School:** represents existing and future school site placeholders; no employment or housing because school employment was excluded from the employment projections in the Employment Opportunities Analysis. Application to existing school sites is inconsistent (because it has no effect on the model); application to potential future school sites is for capacity and land need purposes and is not intended to reflect a site-specific proposal.

## Residential Development Types

- **RL-BC**: represents the Residential Low Density (RL) plan designation and zone under existing zoning regulations; calibrated to the observed housing mix and density in that zone (1998-2008).
- **RL-EM:** represents the RL plan designation and zone under proposed amendments to the zoning regulations and plan designation density range; calibrated based on expected changes to observed trends as a result of the proposed code amendments.
- **Westside Residential**: represents the "transect" concept for the West UGB expansion area (and proposed to be captured with the RL plan designation plus master plan regulations and special policies); calibrated to produce the number and mix of housing units approved by the UGB Steering Committee. Open space is not accounted for within the development type; rather, the "park" development type was used to generate placeholders for required open space dedications based on the transect concept.
- **RS-BC:** represents the Residential Standard (RS) plan designation and zone under existing zoning regulations; calibrated to the observed housing mix and density in that zone (1998-2008).
- **RS-EM:** represents the RS plan designation and zone under proposed amendments to the zoning regulations and plan designation density range; calibrated based on expected changes to observed trends as a result of the proposed code amendments, including achieving an average density[6] that is just above the proposed minimum density for the zone (4.0 units per acre).
- **RS-Platted**: represents vacant platted lots in the RS zone; calibrated to produce roughly one house per lot, with a small number of Accessory Dwelling Units (ADUs) and duplexes, and no set-asides.
- **RS-CCR**: represents vacant platted lots in the RS zone that are subject to Contracts, Covenants, and Restrictions (CC&Rs) that restrict land division and/or limit the number of dwelling units allowed on the lot; calibrated to produce one single family detached dwelling unit per lot.

[6] Based on the proposed methodology for calculating density, densities for all residential development types that reflect the efficiency measures are calibrated using residential land only, excluding open space and other / civic land set-asides but including right-of-way set-asides. Densities are also calibrated excluding Accessory Dwelling Units, because these do not count towards meeting density or housing mix requirements under the proposed development code amendments.

- **RS-Hillside**: represents vacant land in the RS zone that has slopes that are great enough to push density toward the lower end of the allowed density range but are not over 25%.
- **RS Masterplan – BC**: represents vacant sites over 40 acres in the RS zone that are subject to existing master planning requirements; density and open space set asides are based on the current master plan requirements for the RS zone.
- **RS Masterplan – EM:** represents vacant sites over 20 acres in the RS zone that would be subject to the proposed master planning requirements. Calibrated based on the proposed master plan requirements for the RS zone, including achieving an average density[6] that is just above the proposed minimum density for the master plan sites in the RS zone (5.11 units per acre) and a housing mix that matches the required mix proposed for master plans in the RS zone (no more than 90% single family detached).
- **RM-BC**: represents the Residential Medium Density (RM) plan designation and zone under the existing zoning regulations; calibrated based on observed housing mix and density in that zone (1998-2008).
- **RM-EM:** represents the RM plan designation and zone under proposed amendments to the zoning regulations; calibrated based on expected changes to observed trends as a result of the proposed code amendments.
- **RM Masterplan – BC:** represents vacant sites over 40 acres in the RM zone that are subject to existing master planning requirements; density and open space set asides are based on the current master plan requirements for the RM zone.
- **RM Masterplan – EM:** represents vacant sites over 20 acres in the RM zone that would be subject to the proposed master planning requirements. Calibrated based on the proposed master plan requirements for the RM zone, including achieving an average density[6] that is just above the proposed minimum density for the master plan sites in the RM zone (13.02 units per acre) and a housing mix that matches the required mix proposed for master plans in the RM zone (no more than 33% single family detached).
- **RH-BC**: represents the Residential High Density (RH) plan designation and zone under the existing zoning regulations; calibrated based on the minimum density in the zone, which is above the observed housing mix and density in that zone (1998-2008).
- **RH-EM**: represents the RH plan designation and zone under proposed amendments to the zoning regulations; calibrated based on expected changes as a result of the proposed code amendments.

## ABOUT THE MAPS

The attached maps illustrate the application of development types to parcels. As noted in the Urbanization Report, only those parcels with development or redevelopment potential have development types applied, resulting in a speckled appearance to the maps. Areas shown in grey were identified as not having development or redevelopment potential in the model. It is important to note that although development types are applied at the parcel level, the model does not predict exactly how or when 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. Where land with existing development has a development type applied, 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.

Note that large parcels were divided into a grid in order to allow for applying assumptions at a finer grain. Within the UGB, parcels over 14 acres were divided into 14-acre or less grid squares (only large parcels were divided, based on the assumption that most parcels would not be split-zoned inside the UGB unless they are quite large). Outside the UGB, a maximum size of 3.5 acres was selected in order to allow for more nuanced land use layouts, because split-zoning of parcels to be brought into the UGB is more likely. Despite the use of the grid for modeling purposes, on some large sites, the arrangement and shaping of land uses for proposed comprehensive plan designations was refined from the level of detail available in the grid cells. As a result, some areas (e.g. the West, DSL, and Shevlin UGB Expansion Areas; and the 15$^{th}$ Street Ward property opportunity area) show a somewhat different spatial configuration of development types than proposed on the comprehensive plan designation maps. The grid square system also affected the shape of the expansion area in "the Thumb" – a more "squared-off" UGB line is proposed than could be effectively modeled.

As discussed in the Urbanization Report, no redevelopment is assumed on fully-developed residential land (although sites with more than a half-acre of available land are assumed to experience infill). Redevelopment on employment land outside opportunity areas (and for all areas in the base case) is based on job density – parcels with an existing job density of less than three times the average job density projected for the development type were "painted", unless they were developed with multifamily housing or institutional uses. In industrial zones / plan designations, any parcel with an existing employment density below the average for the development type was "painted", in order to model "refill" of jobs into existing buildings. (Note that only a fraction of the developed employment land "painted" with a development type is assumed to redevelop. That redevelopment rate is specified for each development type as a percent of developed acres that are assumed to redevelop.)

Redevelopment within core opportunity areas was evaluated based on total land value (from the tax assessor's database) per square foot of parcel area. This analysis assumed that, on average, new development in opportunity areas could afford to pay roughly $18 per square foot of land, based on an assumed return on investment, approximate construction costs, and market rents for the applicable uses in the new mixed use zones. Properties with total values below this threshold were generally identified as having redevelopment potential, and "painted" with the appropriate development type (in addition to parcels with vacant land available). For the new mixed use zones, the redevelopment rate was set at 10-15% of "painted" acres within the planning horizon, accounting for the fact that not all properties that *could* redevelop *will* redevelop.

For properties with approved development applications (including subdivisions and master plans), the development type(s) that most closely match the proposed development on the site

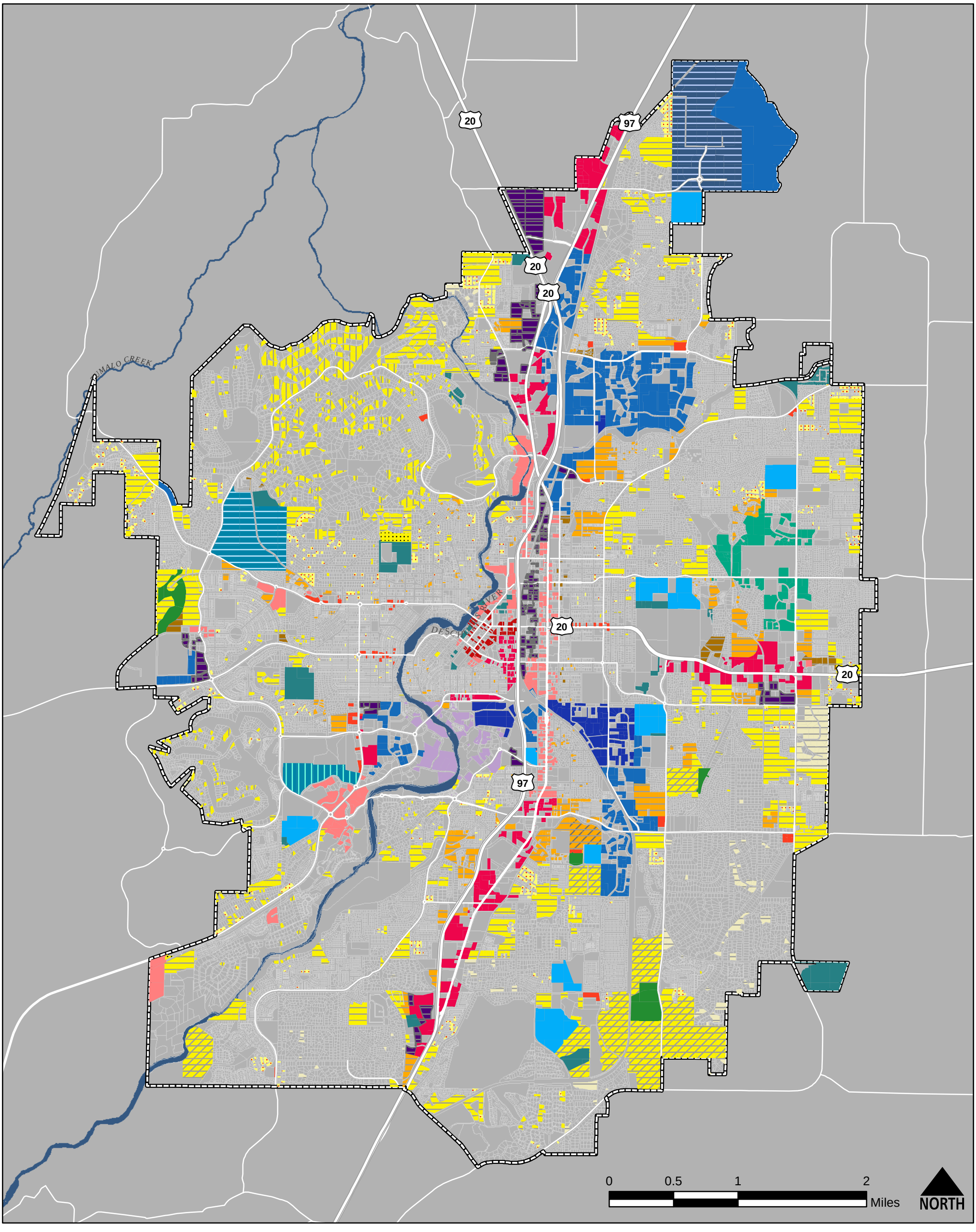
were applied.  In some cases (e.g. portions of the Northwest Crossing Master Plan that are identified for future multifamily development), this is different than the base plan designation or zone.

# Bend UGB

*Base Case Development Types*

**Urbanization Report Appendix D - Figure 1**

Prepared 6/14/2016




## Legend

**Base Case Development Types**

- Juniper Ridge
- CB
- MDOZ
- MR
- ME-BC
- CL
- CC
- CG
- IG
- IL
- PF
- Park
- School
- University
- Institutional
- RL-BC
- RS Hillside
- RS Platted
- RS-CCR
- RS-BC
- RS Masterplan - BC
- RM-BC
- RM Masterplan - BC
- RH-BC
- Juniper Ridge Employment
- Current UGB
- Taxlots
- Streams/Rivers
- Roads/Highways

URBAN GROWTH BOUNDARY REMAND

**Disclaimer:** This map represents land use assumptions for modeling purposes only.

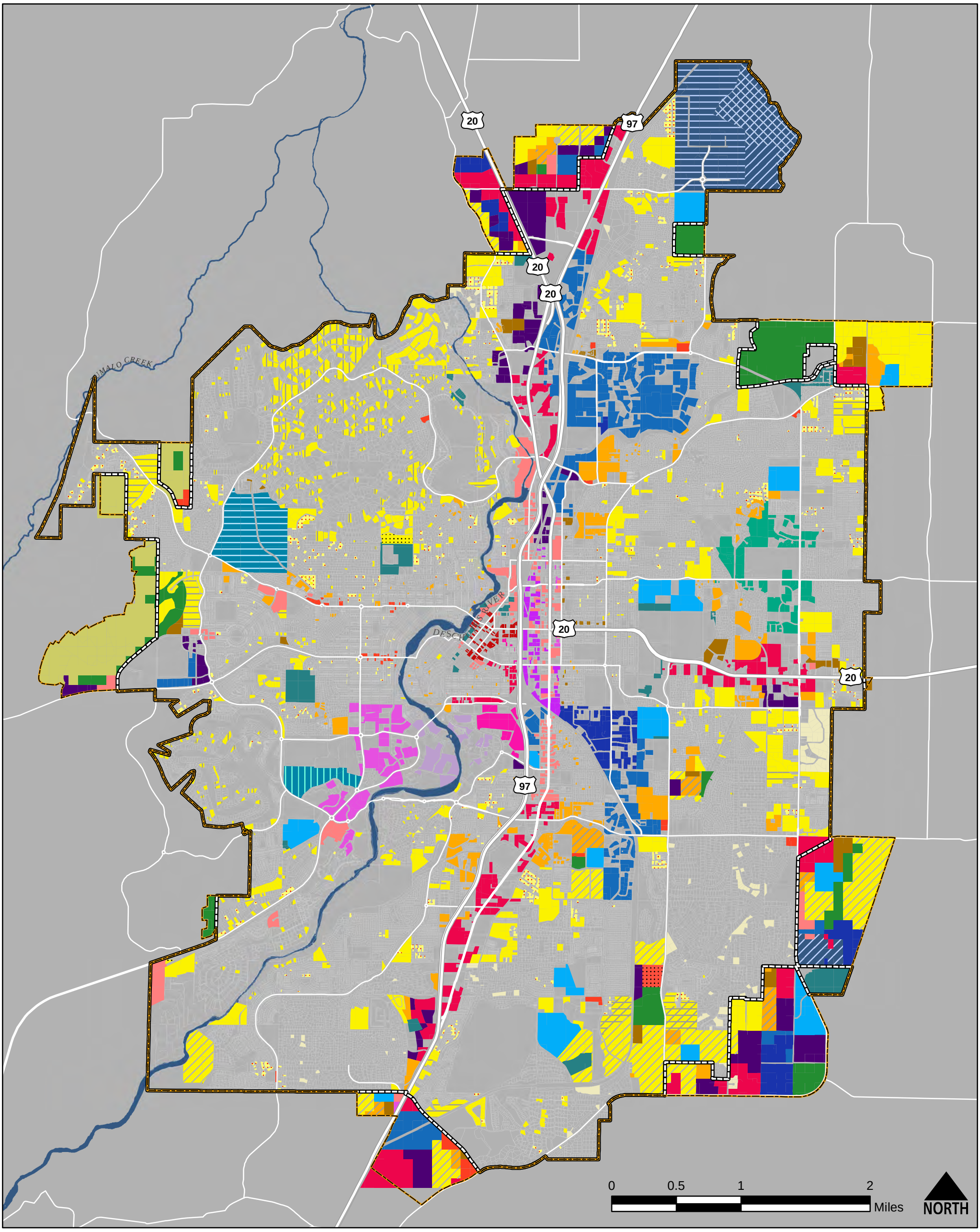
**Service Layer Credits:** Deschutes County GIS (2014)

# Bend UGB

*Scenario 2.1G Development Types*

**Urbanization Report Appendix D - Figure 2**

Prepared 6/13/2016




## Legend

- Proposed UGB
- Current UGB
- Taxlots
- Streams/Rivers
- Roads/Highways

**Scenario 2.1 G**

- CB
- MU 2a
- MU 1
- MDOZ
- MR
- ME-EM
- CL
- CC2
- CC
- CG
- IG
- IL
- Large Lot Industrial
- PF
- Park
- School
- University
- Institutional
- RL-EM
- RS Hillside
- RS Platted
- RS-CCR
- RS-BC
- RS-EM
- RS Masterplan - BC
- RS Masterplan - EM
- RM-EM
- RM Masterplan - EM
- RH-EM
- Juniper Ridge Employment
- MMA MU
- Juniper Ridge East
- West Side Residential

URBAN GROWTH BOUNDARY REMAND

BEND

**Disclaimer:** This map represents land use assumptions for modeling purposes only.

**Service Layer Credits:** Deschutes County GIS (2014)

***Table 1: Development Type Attributes***

| Development Types | Net Land Reductions - % of vacant acres | | | Net Buildable Acre (out of 1) | Redev. Rate | Net Density | | Gross Density | | Land Use Mix (percent of net acres) | | | Housing Mix (percent of units) | | | Employment Mix (Percent of jobs) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Streets | Civic | Park | | | Housing Units / Net Acre | Jobs / Net Acre | Housing Units / Gross Acre | Jobs / Gross Acre | Empl-oyment | Mixed Use | Resid-ential | MF | SFA | SFD | Retail & Hospitality | Office | Industrial | Public / Civic & Edu. |
| **Commercial Types** | | | | | | | | | | | | | | | | | | | |
| CB | 0% | 13% | 0% | 0.87 | 20% | 2.71 | 79.72 | 2.36 | 69.52 | 81% | 39% | 0% | 100% | 0% | 0% | 29% | 65% | 0% | 6% |
| CG | 20% | 13% | 0% | 0.67 | 10% | - | 13.84 | - | 9.28 | 100% | 0% | 0% | 0% | 0% | 0% | 81% | 17% | 2% | 0% |
| CL | 20% | 13% | 0% | 0.67 | 10% | 0.47 | 20.36 | 0.32 | 13.66 | 100% | 0% | 0% | 100% | 0% | 0% | 47% | 40% | 7% | 6% |
| CC | 29% | 13% | 0% | 0.58 | 10% | - | 16.57 | - | 9.65 | 100% | 0% | 0% | 0% | 0% | 0% | 75% | 25% | 0% | 0% |
| CC2 | 29% | 13% | 0% | 0.58 | 10% | 2.34 | 25.33 | 1.36 | 14.74 | 89% | 11% | 0% | 81% | 19% | 0% | 49% | 46% | 5% | 0% |
| **Mixed Use Types** | | | | | | | | | | | | | | | | | | | |
| MU 2a | 29% | 13% | 0% | 0.58 | 15% | 21.45 | 31.15 | 12.48 | 18.13 | 68% | 21% | 10% | 93% | 7% | 0% | 72% | 28% | 0% | 0% |
| MU 1 | 29% | 13% | 0% | 0.58 | 10% | 13.80 | 31.11 | 8.03 | 18.11 | 61% | 12% | 28% | 79% | 18% | 3% | 40% | 59% | 0% | 0% |
| MMA MU | 29% | 13% | 0% | 0.58 | 15% | 36.35 | 44.02 | 21.16 | 25.62 | 52% | 27% | 22% | 99% | 1% | 0% | 26% | 71% | 1% | 2% |
| MR | 29% | 13% | 0% | 0.58 | 10% | 5.35 | 22.53 | 3.11 | 13.11 | 96% | 2% | 2% | 48% | 42% | 10% | 38% | 51% | 11% | 0% |
| ME-BC | 20% | 13% | 0% | 0.67 | 6% | - | 12.54 | - | 8.39 | 100% | 0% | 0% | 0% | 0% | 0% | 14% | 44% | 41% | 0% |
| ME-EM | 20% | 13% | 0% | 0.67 | 10% | 0.34 | 16.77 | 0.23 | 11.22 | 100% | 0% | 0% | 35% | 65% | 0% | 38% | 32% | 29% | 1% |
| MDOZ | 25% | 13% | 0% | 0.62 | 10% | 13.02 | 20.56 | 8.12 | 12.82 | 64% | 0% | 36% | 100% | 0% | 0% | 2% | 88% | 10% | 0% |
| **Industrial Types** | | | | | | | | | | | | | | | | | | | |
| IG | 20% | 13% | 0% | 0.67 | 40% | - | 12.17 | - | 8.17 | 100% | 0% | 0% | 0% | 0% | 0% | 3% | 28% | 70% | 0% |
| IL | 20% | 13% | 0% | 0.67 | 40% | - | 10.12 | - | 6.79 | 100% | 0% | 0% | 0% | 0% | 0% | 3% | 17% | 80% | 0% |
| Large Lot Industrial | 9% | 0% | 0% | 0.91 | 0% | - | - | - | - | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| Juniper Ridge | 20% | 13% | 5% | 0.62 | 0% | - | 16.17 | - | 10.04 | 100% | 0% | 0% | 0% | 0% | 0% | 1% | 49% | 45% | 5% |
| Juniper Ridge East | 20% | 13% | 5% | 0.62 | 0% | - | 14.41 | - | 8.95 | 100% | 0% | 0% | 0% | 0% | 0% | 1% | 41% | 54% | 4% |
| **Public Facilities & Institutional Types** | | | | | | | | | | | | | | | | | | | |
| PF | 19% | 13% | 0% | 0.68 | 0% | - | 17.86 | - | 12.14 | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100% |
| Park | 15% | 0% | 85% | - | 0% | - | - | - | - | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| School | 12% | 88% | 0% | - | 0% | - | - | - | - | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| University | 12% | 0% | 8% | 0.80 | 0% | 17.65 | 14.60 | 14.11 | 11.66 | 0% | 100% | 0% | 100% | 0% | 0% | 0% | 0% | 0% | 100% |
| Institutional | 12% | 0% | 25% | 0.63 | 0% | 3.66 | 14.53 | 2.30 | 9.14 | 98% | 0% | 2% | 100% | 0% | 0% | 3% | 0% | 0% | 97% |
| **Residential Types** | | | | | | | | | | | | | | | | | | | |
| RL-BC | 23% | 13% | 0% | 0.64 | 0% | 2.11 | - | 1.35 | - | 0% | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 0% |
| RL-EM | 23% | 13% | 0% | 0.64 | 0% | 2.35 | - | 1.51 | - | 0% | 0% | 100% | 2% | 0% | 98% | 0% | 0% | 0% | 0% |
| West Side Residential | 23% | 2% | 0% | 0.75 | 100% | 4.45 | - | 3.33 | - | 0% | 0% | 100% | 21% | 10% | 69% | 0% | 0% | 0% | 0% |
| RS-BC | 23% | 13% | 0% | 0.64 | 0% | 4.65 | 0.01 | 2.99 | 0.01 | 0% | 0% | 100% | 4% | 5% | 92% | 100% | 0% | 0% | 0% |
| RS-EM | 23% | 13% | 0% | 0.64 | 0% | 5.62 | 0.01 | 3.61 | 0.01 | 0% | 0% | 100% | 8% | 6% | 87% | 100% | 0% | 0% | 0% |
| RS Platted | 0% | 0% | 0% | 1.00 | 0% | 6.73 | - | 6.73 | - | 0% | 0% | 100% | 4% | 0% | 96% | 0% | 0% | 0% | 0% |
| RS-CCR | 0% | 0% | 0% | 1.00 | 0% | 1.91 | - | 1.91 | - | 0% | 0% | 100% | 0% | 0% | 100% | 0% | 0% | 0% | 0% |
| RS Hillside | 23% | 13% | 0% | 0.64 | 0% | 5.74 | - | 3.68 | - | 0% | 0% | 100% | 2% | 0% | 98% | 0% | 0% | 0% | 0% |
| RS Masterplan - BC | 23% | 13% | 10% | 0.54 | 0% | 6.36 | 0.01 | 3.45 | - | 0% | 0% | 100% | 5% | 3% | 92% | 100% | 0% | 0% | 0% |
| RS Masterplan - EM | 23% | 13% | 10% | 0.54 | 0% | 7.52 | 0.36 | 4.08 | 0.19 | 1% | 0% | 99% | 8% | 6% | 86% | 58% | 42% | 0% | 0% |
| RM-BC | 23% | 13% | 0% | 0.64 | 0% | 13.36 | 0.45 | 8.58 | 0.29 | 2% | 0% | 98% | 61% | 7% | 32% | 58% | 42% | 0% | 0% |
| RM-EM | 23% | 13% | 0% | 0.64 | 0% | 13.89 | 0.45 | 8.92 | 0.29 | 2% | 0% | 98% | 56% | 16% | 28% | 58% | 42% | 0% | 0% |
| RM Masterplan - BC | 23% | 13% | 10% | 0.54 | 0% | 18.67 | 0.45 | 10.12 | 0.25 | 1% | 0% | 99% | 63% | 28% | 9% | 58% | 42% | 0% | 0% |
| RM Masterplan - EM | 23% | 13% | 10% | 0.54 | 0% | 19.64 | 0.36 | 10.64 | 0.19 | 1% | 0% | 99% | 64% | 27% | 10% | 58% | 42% | 0% | 0% |
| RH-BC | 23% | 13% | 0% | 0.64 | 0% | 27.91 | 0.36 | 17.91 | 0.23 | 0% | 0% | 100% | 87% | 8% | 5% | 58% | 42% | 0% | 0% |
| RH-EM | 23% | 13% | 0% | 0.64 | 1% | 29.46 | 0.37 | 18.91 | 0.24 | 0% | 0% | 99% | 86% | 14% | 0% | 60% | 40% | 0% | 0% |

## *Table 2: Summary of Acreages, Units, and Employment for Base Case*

| Development Types | Vacant Acres Developed (gross) | Redev. Acres | Total Acres Developed (Gross) | Net Land Reductions - acres | | | Net Acres Developed | Net Acres by Land Use | | | New Housing Units | | | | Housing Units Lost through Redevelopment | | | | Net New Housing Units | | | | New Jobs | | | | | Employment Lost through Redevelopment | | | | | Net New Jobs | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Streets (ac) | Civic (ac) | Park / OS (ac) | | Empl-oyment | Mixed Use | Resid-ential | Total | MF | SFA | SFD | Total | MF | SFA | SFD | Total | MF | SFA | SFD | Total | Retail & Hospitality | Office | Industrial | Public / Civic & Edu. | Total | Retail & Hospitality | Office | Industrial | Public / Civic & Edu. | Total | Retail & Hospitality | Office | Industrial | Public / Civic & Edu. |
| **Commercial Type** | **195.8** | **46.5** | **242.3** | **48.8** | **31.5** | **-** | **162.0** | **161.1** | **1.4** | **0.2** | **41** | **41** | **-** | **-** | **65** | **44** | **0** | **21** | **(24)** | **(2)** | **(0)** | **(21)** | **3,157** | **1,947** | **997** | **119** | **96** | **38** | **16** | **21** | **1** | **-** | **3,120** | **1,931** | **975** | **118** | **96** |
| CB | - | 4.1 | 4.1 | - | 0.5 | - | 3.5 | 2.9 | 1.4 | - | 11 | 11 | - | - | 10 | 9 | - | 1 | 1 | 2 | - | (1) | 323 | 95 | 209 | - | 19 | 11 | 3 | 8 | - | - | 312 | 92 | 201 | - | 19 |
| CG | 113.7 | 23.9 | 137.6 | 27.5 | 17.9 | - | 92.2 | 92.2 | - | - | - | - | - | - | 17 | 8 | - | 8 | (17) | (8) | - | (8) | 1,386 | 1,129 | 232 | 24 | 1 | 15 | 7 | 8 | 1 | - | 1,371 | 1,122 | 224 | 24 | 1 |
| CL | 71.7 | 15.8 | 87.6 | 17.5 | 11.4 | - | 58.7 | 58.5 | - | 0.2 | 30 | 30 | - | - | 33 | 23 | - | 11 | (3) | 7 | - | (11) | 1,302 | 614 | 518 | 94 | 75 | 11 | 5 | 5 | 1 | - | 1,291 | 609 | 514 | 94 | 75 |
| CC | 10.4 | 2.7 | 13.2 | 3.8 | 1.7 | - | 7.6 | 7.6 | - | - | - | - | - | - | 5 | 3 | 0 | 2 | (5) | (3) | (0) | (2) | 146 | 109 | 37 | - | 0 | 1 | 0 | 1 | - | - | 145 | 109 | 36 | - | 0 |
| CC2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Mixed Use Types** | **173.9** | **18.4** | **192.3** | **44.7** | **25.0** | **-** | **122.6** | **107.9** | **0.5** | **14.2** | **662** | **601** | **49** | **12** | **61** | **60** | **0** | **1** | **601** | **541** | **49** | **11** | **2,178** | **318** | **1,371** | **484** | **4** | **32** | **4** | **21** | **5** | **2** | **2,146** | **315** | **1,350** | **479** | **2** |
| MU 2a | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| MU 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| MMA MU | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| MR | 30.8 | 3.8 | 34.6 | 10.0 | 4.5 | - | 20.1 | 19.2 | 0.5 | 0.4 | 116 | 55 | 49 | 12 | 5 | 4 | 0 | 0 | 111 | 51 | 49 | 12 | 489 | 185 | 248 | 55 | 1 | 3 | - | 1 | - | 1 | 487 | 185 | 246 | 55 | 0 |
| ME-BC | 88.0 | 7.1 | 95.1 | 19.0 | 12.4 | - | 63.7 | 63.7 | - | - | - | - | - | - | 1 | - | - | 1 | (1) | - | - | (1) | 827 | 118 | 368 | 339 | 2 | 18 | 4 | 8 | 5 | 1 | 809 | 115 | 360 | 334 | 1 |
| ME-EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| MDOZ | 55.1 | 7.5 | 62.7 | 15.7 | 8.1 | - | 38.8 | 25.0 | - | 13.8 | 545 | 545 | - | - | 55 | 55 | - | - | 490 | 490 | - | - | 862 | 15 | 756 | 90 | 1 | 12 | - | 12 | - | - | 850 | 15 | 744 | 90 | 1 |
| **Industrial Types** | **639.4** | **194.5** | **833.9** | **166.8** | **108.4** | **13.5** | **545.2** | **545.2** | **-** | **-** | **-** | **-** | **-** | **-** | **5** | **2** | **-** | **3** | **(5)** | **(2)** | **-** | **(3)** | **7,298** | **161** | **2,184** | **4,820** | **133** | **468** | **70** | **198** | **200** | **-** | **6,830** | **92** | **1,986** | **4,620** | **133** |
| IP | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| IG | 7.8 | 48.0 | 55.8 | 11.2 | 7.2 | - | 37.4 | 37.4 | - | - | - | - | - | - | 2 | 2 | - | 0 | (2) | (2) | - | (0) | 648 | 19 | 178 | 450 | - | 100 | 10 | 48 | 42 | - | 548 | 9 | 130 | 408 | - |
| IL | 361.9 | 146.5 | 508.4 | 101.7 | 66.1 | - | 340.6 | 340.6 | - | - | - | - | - | - | 3 | - | - | 3 | (3) | - | - | (3) | 3,941 | 106 | 684 | 3,150 | - | 368 | 60 | 150 | 158 | - | 3,573 | 46 | 534 | 2,992 | - |
| Large Lot Industrial | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Juniper Ridge Employment | 269.8 | - | 269.8 | 54.0 | 35.1 | 13.5 | 167.3 | 167.3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2,709 | 36 | 1,322 | 1,219 | 133 | - | - | - | - | - | 2,709 | 36 | 1,322 | 1,219 | 133 |
| Juniper Ridge East | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Public Facilities** | **231.0** | **-** | **231.0** | **32.9** | **7.8** | **75.7** | **114.6** | **89.7** | **23.8** | **1.1** | **630** | **630** | **-** | **-** | **-** | **-** | **-** | **-** | **630** | **630** | **-** | **-** | **1,775** | **22** | **-** | **-** | **1,753** | **-** | **-** | **-** | **-** | **-** | **1,775** | **22** | **-** | **-** | **1,753** |
| PF | 48.9 | - | 48.9 | 9.3 | 6.4 | - | 33.2 | 33.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 593 | - | - | - | 593 | - | - | - | - | - | 593 | - | - | - | 593 |
| Park | 59.4 | - | 59.4 | 8.9 | - | 50.4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| School | 1.7 | - | 1.7 | 0.2 | 1.5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| University | 29.8 | - | 29.8 | 3.6 | - | 2.4 | 23.8 | - | 23.8 | - | 420 | 420 | - | - | - | - | - | - | 420 | 420 | - | - | 347 | - | - | - | 347 | - | - | - | - | - | 347 | - | - | - | 347 |
| Institutional | 91.3 | - | 91.3 | 11.0 | - | 22.8 | 57.5 | 56.5 | - | 1.1 | 210 | 210 | - | - | - | - | - | - | 210 | 210 | - | - | 835 | 22 | - | - | 813 | - | - | - | - | - | 835 | 22 | - | - | 813 |
| **Residential Type** | **2,216.5** | **-** | **2,216.5** | **411.4** | **232.6** | **43.7** | **1,528.8** | **3.5** | **-** | **1,525.3** | **9,256** | **2,298** | **450** | **6,509** | **-** | **-** | **-** | **-** | **9,256** | **2,298** | **450** | **6,509** | **98** | **60** | **38** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **98** | **60** | **38** | **-** | **-** |
| RL-BC | 112.3 | - | 112.3 | 25.8 | 14.6 | - | 71.9 | - | - | 71.9 | 152 | - | - | 152 | - | - | - | - | 152 | - | - | 152 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RL-EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| West Side Residential | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | - | - | - | - | - | - | - | - | - | - | - | - |
| RS-BC | 935.6 | - | 935.6 | 215.2 | 121.6 | - | 598.8 | 0.1 | - | 598.7 | 2,795 | 98 | 131 | 2,566 | - | - | - | - | 2,795 | 98 | 131 | 2,566 | 5 | 5 | - | - | - | - | - | - | - | - | 5 | 5 | - | - | - |
| RS-EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RS Platted | 191.8 | - | 191.8 | - | - | - | 191.8 | - | - | 191.8 | 1,290 | 54 | - | 1,236 | - | - | - | - | 1,290 | 54 | - | 1,236 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RS-CCR | 235.8 | - | 235.8 | - | - | - | 235.8 | - | - | 235.8 | 451 | - | - | 451 | - | - | - | - | 451 | - | - | 451 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RS Hillside | 6.3 | - | 6.3 | 1.4 | 0.8 | - | 4.0 | - | - | 4.0 | 23 | 0 | - | 23 | - | - | - | - | 23 | 0 | - | 23 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RS Masterplan - BC | 410.1 | - | 410.1 | 94.3 | 53.3 | 41.0 | 221.4 | 0.1 | - | 221.4 | 1,414 | 68 | 48 | 1,298 | - | - | - | - | 1,414 | 68 | 48 | 1,298 | 2 | 2 | - | - | - | - | - | - | - | - | 2 | 2 | - | - | - |
| RS Masterplan - EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RM-BC | 265.0 | - | 265.0 | 61.0 | 34.5 | - | 169.6 | 3.0 | - | 166.6 | 2,273 | 1,398 | 148 | 727 | - | - | - | - | 2,273 | 1,398 | 148 | 727 | 77 | 45 | 32 | - | - | - | - | - | - | - | 77 | 45 | 32 | - | - |
| RM-EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RM Masterplan - BC | 27.1 | - | 27.1 | 6.2 | 3.5 | 2.7 | 14.6 | 0.2 | - | 14.5 | 274 | 171 | 77 | 26 | - | - | - | - | 274 | 171 | 77 | 26 | 7 | 4 | 3 | - | - | - | - | - | - | - | 7 | 4 | 3 | - | - |
| RM Masterplan - EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RH-BC | 32.6 | - | 32.6 | 7.5 | 4.2 | - | 20.8 | 0.1 | - | 20.7 | 583 | 508 | 46 | 30 | - | - | - | - | 583 | 508 | 46 | 30 | 7 | 4 | 3 | - | - | - | - | - | - | - | 7 | 4 | 3 | - | - |
| RH-EM | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **TOTAL** | **3,456.7** | **259.4** | **3,716** | **704.7** | **405.3** | **132.9** | **2,473** | **907.5** | **25.7** | **1,540.8** | **10,589** | **3,570** | **499** | **6,521** | **130** | **105** | **0** | **25** | **10,459** | **3,465** | **498** | **6,496** | **14,506** | **2,508** | **4,590** | **5,422** | **1,985** | **537** | **89** | **240** | **206** | **2** | **13,969** | **2,420** | **4,350** | **5,216** | **1,984** |

## *Table 3 - Summary of Acreages, Units, and Employment for 2.1G (Inside Current UGB Only)*

| Development Types | Vacant Acres Developed (gross) | Redev. Acres | Total Acres Developed (Gross) | Net Land Reductions - acres | | | Net Acres Developed | Net Acres by Land Use | | | New Housing Units | | | | Housing Units Lost through Redevelopment | | | | Net New Housing Units | | | | New Jobs | | | | | Employment Lost through Redevelopment | | | | | Net New Jobs | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Streets (ac) | Civic (ac) | Park / OS (ac) | | Empl-oyment | Mixed Use | Resid-ential | Total | MF | SFA | SFD | Total | MF | SFA | SFD | Total | MF | SFA | SFD | Total | Retail & Hospitality | Office | Industrial | Public / Civic & Edu. | Total | Retail & Hospitality | Office | Industrial | Public / Civic & Edu. | Total | Retail & Hospitality | Office | Industrial | Public / Civic & Edu. |
| **Commercial Type** | **184.5** | **44.2** | **228.7** | **47.4** | **29.7** | **-** | **151.6** | **149.8** | **2.4** | **0.1** | **56** | **52** | **4** | **-** | **55** | **40** | **0** | **12** | **2** | **12** | **4** | **(14)** | **3,009** | **1,854** | **969** | **107** | **79** | **73** | **36** | **31** | **4** | **1** | **2,936** | **1,818** | **937** | **104** | **78** |
| CB | - | 4.1 | 4.1 | - | 0.5 | - | 3.5 | 2.9 | 1.4 | - | 11 | 11 | - | - | 10 | 9 | - | 1 | 1 | 2 | - | (1) | 323 | 95 | 209 | - | 19 | 11 | 3 | 8 | - | - | 312 | 92 | 201 | - | 19 |
| CG | 107.0 | 24.0 | 131.1 | 26.2 | 17.0 | - | 87.8 | 87.8 | - | - | - | - | - | - | 12 | 6 | - | 5 | (12) | (6) | - | (6) | 1,326 | 1,080 | 222 | 23 | 1 | 15 | 7 | 8 | 1 | - | 1,311 | 1,073 | 214 | 23 | 1 |
| CL | 52.3 | 14.1 | 66.4 | 13.3 | 8.6 | - | 44.5 | 44.3 | - | 0.1 | 23 | 23 | - | - | 28 | 22 | - | 5 | (5) | 1 | - | (6) | 1,001 | 472 | 399 | 73 | 58 | 46 | 26 | 15 | 3 | 1 | 955 | 446 | 383 | 69 | 56 |
| CC | 9.0 | 2.0 | 11.0 | 3.2 | 1.4 | - | 6.4 | 6.4 | - | - | - | - | - | - | 4 | 3 | 0 | 2 | (4) | (3) | (0) | (2) | 120 | 90 | 30 | - | 0 | 1 | 0 | 0 | - | - | 119 | 89 | 30 | - | 0 |
| CC2 | 16.2 | - | 16.2 | 4.7 | 2.1 | - | 9.4 | 8.4 | 1.0 | - | 22 | 18 | 4 | - | - | - | - | - | 22 | 18 | 4 | - | 238 | 117 | 109 | 12 | 1 | - | - | - | - | - | 238 | 117 | 109 | 12 | 1 |
| **Mixed Use Types** | **224.8** | **38.3** | **263.1** | **63.8** | **34.2** | **-** | **165.1** | **136.3** | **5.7** | **23.2** | **1,484** | **1,317** | **146** | **22** | **70** | **63** | **0** | **3** | **1,414** | **1,253** | **146** | **15** | **4,010** | **1,268** | **2,202** | **513** | **26** | **238** | **35** | **89** | **62** | **14** | **3,771** | **1,233** | **2,074** | **452** | **13** |
| MU 2a | 1.3 | 6.3 | 7.6 | 2.2 | 1.0 | - | 4.4 | 3.0 | 0.9 | 0.5 | 152 | 142 | 10 | - | 0 | - | - | 0 | 152 | 142 | 10 | (0) | 220 | 158 | 62 | - | 1 | 21 | - | 3 | 14 | - | 200 | 158 | 55 | (14) | 1 |
| MU 1 | 40.0 | 7.5 | 47.6 | 13.8 | 6.2 | - | 27.6 | 16.7 | 3.2 | 7.6 | 426 | 335 | 78 | 12 | 4 | 4 | - | 0 | 422 | 332 | 78 | 12 | 960 | 386 | 570 | - | 3 | 140 | 19 | 48 | 27 | 13 | 820 | 367 | 488 | (27) | (9) |
| MMA MU | - | 6.7 | 6.7 | 2.0 | 0.9 | - | 3.9 | 2.0 | 1.0 | 0.9 | 245 | 242 | 3 | - | 6 | - | - | 2 | 239 | 242 | 3 | (6) | 297 | 77 | 211 | 3 | 5 | 35 | 11 | 11 | 13 | - | 262 | 67 | 200 | (10) | 5 |
| MR | 25.2 | 2.1 | 27.4 | 7.9 | 3.6 | - | 15.9 | 15.2 | 0.4 | 0.3 | 90 | 43 | 38 | 9 | 5 | 4 | 0 | 0 | 85 | 38 | 38 | 9 | 379 | 143 | 192 | 43 | 1 | 2 | - | 2 | - | - | 377 | 143 | 190 | 43 | 1 |
| ME-BC | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| ME-EM | 103.1 | 8.0 | 111.2 | 22.2 | 14.5 | - | 74.5 | 74.3 | 0.1 | 0.1 | 26 | 9 | 17 | - | 1 | - | - | 1 | 26 | 9 | 17 | (1) | 1,292 | 488 | 411 | 378 | 15 | 29 | 6 | 13 | 8 | 1 | 1,263 | 483 | 397 | 369 | 14 |
| MDOZ | 55.1 | 7.5 | 62.7 | 15.7 | 8.1 | - | 38.8 | 25.0 | - | 13.8 | 545 | 545 | - | - | 55 | 55 | - | - | 490 | 490 | - | - | 862 | 15 | 756 | 90 | 1 | 12 | - | 12 | - | - | 850 | 15 | 744 | 90 | 1 |
| **Industrial Types** | **622.9** | **169.1** | **792.0** | **152.4** | **95.8** | **20.9** | **522.9** | **473.0** | **-** | **-** | **-** | **-** | **-** | **-** | **4** | **2** | **-** | **3** | **(4)** | **(2)** | **-** | **(3)** | **6,843** | **125** | **2,399** | **4,132** | **187** | **399** | **70** | **107** | **181** | **-** | **6,444** | **56** | **2,250** | **3,951** | **187** |
| IP | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| IG | 6.4 | 33.1 | 39.6 | 7.9 | 5.1 | - | 26.5 | 26.5 | - | - | - | - | - | - | 2 | 2 | - | - | (2) | (2) | - | - | 456 | 13 | 125 | 317 | - | 71 | 10 | 30 | 24 | - | 385 | 4 | 88 | 293 | - |
| IL | 143.8 | 136.0 | 279.8 | 56.0 | 36.4 | - | 187.5 | 187.5 | - | - | - | - | - | - | 3 | - | - | 3 | (3) | - | - | (3) | 2,353 | 64 | 408 | 1,881 | - | 328 | 60 | 77 | 157 | - | 2,025 | 4 | 297 | 1,724 | - |
| Large Lot Industrial | 54.8 | - | 54.8 | 4.9 | - | - | 49.9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Juniper Ridge Employment | 270.1 | - | 270.1 | 54.0 | 35.1 | 13.5 | 167.4 | 167.4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2,712 | 36 | 1,323 | 1,220 | 133 | - | - | - | - | - | 2,712 | 36 | 1,323 | 1,220 | 133 |
| Juniper Ridge East | 147.7 | - | 147.7 | 29.5 | 19.2 | 7.4 | 91.6 | 91.6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1,322 | 13 | 542 | 714 | 54 | - | - | - | - | - | 1,322 | 13 | 542 | 714 | 54 |
| **Public Facilities** | **244.2** | **-** | **244.2** | **34.2** | **19.0** | **76.6** | **114.4** | **89.5** | **23.8** | **1.1** | **639** | **639** | **-** | **-** | **-** | **-** | **-** | **-** | **639** | **639** | **-** | **-** | **1,764** | **23** | **-** | **-** | **1,741** | **-** | **-** | **-** | **-** | **-** | **1,764** | **23** | **-** | **-** | **1,741** |
| PF | 45.0 | - | 45.0 | 8.6 | 5.9 | - | 30.6 | 30.6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 547 | - | - | - | 547 | - | - | - | - | - | 547 | - | - | - | 547 |
| Park | 59.4 | - | 59.4 | 8.9 | - | 50.4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| School | 14.9 | - | 14.9 | 1.8 | 13.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| University | 29.8 | - | 29.8 | 3.6 | - | 2.4 | 23.8 | - | 23.8 | - | 420 | 420 | - | - | - | - | - | - | 420 | 420 | - | - | 347 | - | - | - | 347 | - | - | - | - | - | 347 | - | - | - | 347 |
| Institutional | 95.1 | - | 95.1 | 11.4 | - | 23.8 | 59.9 | 58.8 | - | 1.1 | 219 | 219 | - | - | - | - | - | - | 219 | 219 | - | - | 869 | 23 | - | - | 847 | - | - | - | - | - | 869 | 23 | - | - | 847 |
| **Residential Type** | **2,172.5** | **0.1** | **2,172.6** | **401.5** | **226.3** | **38.7** | **1,506.1** | **5.5** | **0.1** | **1,500.4** | **10,323** | **2,833** | **889** | **6,601** | **3** | **2** | **-** | **0** | **10,320** | **2,830** | **889** | **6,601** | **156** | **93** | **63** | **-** | **-** | **0** | **-** | **0** | **-** | **-** | **156** | **93** | **62** | **-** | **-** |
| RL-BC | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RL-EM | 112.3 | - | 112.3 | 25.8 | 14.6 | - | 71.9 | - | - | 71.9 | 169 | 4 | - | 166 | - | - | - | - | 169 | 4 | - | 166 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| West Side Residential | 5.1 | - | 5.1 | 1.2 | 0.1 | - | 3.8 | - | - | 3.8 | 17 | 4 | 2 | 12 | - | - | - | - | 17 | 4 | 2 | 12 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RS-BC | 146.1 | - | 146.1 | 33.6 | 19.0 | - | 93.5 | 0.0 | - | 93.5 | 437 | 15 | 20 | 401 | - | - | - | - | 437 | 15 | 20 | 401 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | - | - | - |
| RS-EM | 782.0 | - | 782.0 | 179.9 | 101.7 | - | 500.5 | 0.1 | - | 500.3 | 2,820 | 213 | 160 | 2,446 | - | - | - | - | 2,820 | 213 | 160 | 2,446 | 4 | 4 | - | - | - | - | - | - | - | - | 4 | 4 | - | - | - |
| RS Platted | 192.0 | - | 192.0 | - | - | - | 192.0 | - | - | 192.0 | 1,292 | 54 | - | 1,237 | - | - | - | - | 1,292 | 54 | - | 1,237 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RS-CCR | 235.1 | - | 235.1 | - | - | - | 235.1 | - | - | 235.1 | 450 | - | - | 450 | - | - | - | - | 450 | - | - | 450 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RS Hillside | 6.3 | - | 6.3 | 1.4 | 0.8 | - | 4.0 | - | - | 4.0 | 23 | 0 | - | 23 | - | - | - | - | 23 | 0 | - | 23 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RS Masterplan - BC | 55.0 | - | 55.0 | 12.7 | 7.2 | 5.5 | 29.7 | 0.0 | - | 29.7 | 190 | 9 | 6 | 174 | - | - | - | - | 190 | 9 | 6 | 174 | 0 | 0 | - | - | - | - | - | - | - | - | 0 | 0 | - | - | - |
| RS Masterplan - EM | 283.3 | - | 283.3 | 65.2 | 36.8 | 28.3 | 153.0 | 2.1 | - | 150.9 | 1,155 | 94 | 67 | 995 | - | - | - | - | 1,155 | 94 | 67 | 995 | 55 | 32 | 23 | - | - | - | - | - | - | - | 55 | 32 | 23 | - | - |
| RM-BC | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RM-EM | 255.1 | - | 255.1 | 58.7 | 33.2 | - | 163.2 | 2.9 | - | 160.3 | 2,274 | 1,270 | 357 | 647 | - | - | - | - | 2,274 | 1,270 | 357 | 647 | 74 | 43 | 31 | - | - | - | - | - | - | - | 74 | 43 | 31 | - | - |
| RM Masterplan - BC | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RM Masterplan - EM | 48.5 | - | 48.5 | 11.2 | 6.3 | 4.8 | 26.2 | 0.2 | - | 26.0 | 516 | 328 | 137 | 51 | - | - | - | - | 516 | 328 | 137 | 51 | 9 | 5 | 4 | - | - | - | - | - | - | - | 9 | 5 | 4 | - | - |
| RH-BC | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RH-EM | 51.7 | 0.1 | 51.8 | 11.9 | 6.7 | - | 33.1 | 0.2 | 0.1 | 32.9 | 980 | 841 | 139 | - | 3 | 2 | - | 0 | 978 | 838 | 139 | (0) | 12 | 7 | 5 | - | - | 0 | - | 0 | - | - | 12 | 7 | 5 | - | - |
| **TOTAL** | **3,448.9** | **251.7** | **3,700.6** | **699.2** | **405.1** | **136.2** | **2,460.0** | **854.0** | **32.0** | **1,524.9** | **12,502** | **4,840** | **1,039** | **6,622** | **132** | **108** | **0** | **17** | **12,370** | **4,732** | **1,039** | **6,599** | **15,781** | **3,363** | **5,632** | **4,753** | **2,033** | **710** | **141** | **227** | **247** | **15** | **15,070** | **3,223** | **5,324** | **4,506** | **2,018** |

## *Table 4 - Summary of Acreages, Units, and Employment for 2.1G (UGB Expansion Areas Only)*

| Development Types | Vacant Acres Developed (gross) | Redev. Acres | Total Acres Developed (Gross) | Net Land Reductions - acres | | | Net Acres Developed | Net Acres by Land Use | | | New Housing Units | | | | Housing Units Lost through Redevelopment | | | | Net New Housing Units | | | | New Jobs | | | | | Employment Lost through Redevelopment | | | | | Net New Jobs | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Streets (ac) | Civic (ac) | Park / OS (ac) | | Empl-oyment | Mixed Use | Resid-ential | Total | MF | SFA | SFD | Total | MF | SFA | SFD | Total | MF | SFA | SFD | Total | Retail & Hospitality | Office | Industrial | Public / Civic & Edu. | Total | Retail & Hospitality | Office | Industrial | Public / Civic & Edu. | Total | Retail & Hospitality | Office | Industrial | Public / Civic & Edu. |
| **Commercial Type** | **324.2** | **0.3** | **324.5** | **67.3** | **42.2** | **-** | **215.0** | **215.0** | **-** | **0.1** | **11** | **11** | **-** | **-** | **1** | **-** | **-** | **1** | **10** | **11** | **-** | **(1)** | **3,176** | **2,405** | **663** | **77** | **30** | **1** | **-** | **0** | **-** | **0** | **3,175** | **2,405** | **662** | **77** | **30** |
| CB | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CG | 263.1 | 0.3 | 263.3 | 52.7 | 34.2 | - | 176.4 | 176.4 | - | - | - | - | - | - | 1 | - | - | 1 | (1) | - | - | (1) | 2,446 | 1,991 | 409 | 43 | 3 | 1 | - | 0 | - | - | 2,446 | 1,991 | 409 | 43 | 3 |
| CL | 34.9 | - | 34.9 | 7.0 | 4.5 | - | 23.4 | 23.3 | - | 0.1 | 11 | 11 | - | - | - | - | - | - | 11 | 11 | - | - | 476 | 225 | 190 | 35 | 27 | 0 | - | - | - | 0 | 476 | 225 | 190 | 35 | 27 |
| CC | 26.3 | - | 26.3 | 7.6 | 3.4 | - | 15.3 | 15.3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 254 | 189 | 64 | - | 0 | - | - | - | - | - | 254 | 189 | 64 | - | 0 |
| CC2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Mixed Use Types** | **186.3** | **1.1** | **187.4** | **37.6** | **24.4** | **-** | **125.4** | **124.8** | **0.2** | **0.4** | **55** | **25** | **30** | **0** | **1** | **0** | **-** | **1** | **55** | **25** | **30** | **(0)** | **2,120** | **802** | **682** | **611** | **25** | **2** | **0** | **0** | **-** | **2** | **2,118** | **802** | **682** | **611** | **23** |
| MU 2a | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| MU 1 | 1.6 | - | 1.6 | 0.5 | 0.2 | - | 1.0 | 0.6 | 0.1 | 0.3 | 13 | 10 | 2 | 0 | - | - | - | - | 13 | 10 | 2 | 0 | 30 | 12 | 18 | - | 0 | 0 | - | - | - | 0 | 30 | 12 | 18 | - | 0 |
| MMA MU | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| MR | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| ME-BC | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| ME-EM | 184.7 | 1.1 | 185.7 | 37.1 | 24.1 | - | 124.4 | 124.2 | 0.1 | 0.1 | 42 | 15 | 27 | - | 1 | 0 | - | 1 | 41 | 15 | 27 | (1) | 2,090 | 790 | 664 | 611 | 25 | 2 | 0 | 0 | - | 2 | 2,088 | 790 | 664 | 611 | 23 |
| MDOZ | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Industrial Types** | **287.4** | **0.6** | **288.0** | **52.1** | **31.0** | **-** | **204.9** | **159.6** | **-** | **-** | **-** | **-** | **-** | **-** | **2** | **0** | **-** | **2** | **(2)** | **(0)** | **-** | **(2)** | **1,809** | **51** | **428** | **1,330** | **-** | **12** | **-** | **12** | **-** | **-** | **1,797** | **51** | **416** | **1,330** | **-** |
| IP | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| IG | 136.2 | 0.5 | 136.7 | 27.3 | 17.8 | - | 91.6 | 91.6 | - | - | - | - | - | - | 2 | - | - | 2 | (2) | - | - | (2) | 1,119 | 33 | 308 | 778 | - | 12 | - | 12 | - | - | 1,107 | 33 | 296 | 778 | - |
| IL | 101.5 | 0.1 | 101.5 | 20.3 | 13.2 | - | 68.0 | 68.0 | - | - | - | - | - | - | 0 | 0 | - | 0 | (0) | (0) | - | (0) | 690 | 19 | 120 | 551 | - | - | - | - | - | - | 690 | 19 | 120 | 551 | - |
| Large Lot Industrial | 49.7 | - | 49.7 | 4.5 | - | - | 45.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Juniper Ridge Employment | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Juniper Ridge East | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Public Facilities** | **201.9** | **-** | **201.9** | **28.5** | **52.2** | **121.1** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| PF | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Park | 142.5 | - | 142.5 | 21.4 | - | 121.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| School | 59.4 | - | 59.4 | 7.1 | 52.2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| University | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Institutional | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Residential Type** | **998.5** | **5.7** | **1,004.2** | **231.0** | **92.7** | **32.0** | **648.5** | **3.0** | **0.1** | **645.4** | **5,219** | **1,982** | **606** | **2,631** | **0** | **-** | **-** | **0** | **5,219** | **1,982** | **606** | **2,631** | **91** | **54** | **37** | **-** | **-** | **0** | **-** | **-** | **-** | **0** | **91** | **54** | **37** | **-** | **(0)** |
| RL-BC | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RL-EM | 2.4 | - | 2.4 | 0.5 | 0.3 | - | 1.5 | - | - | 1.5 | 4 | 0 | - | 3 | - | - | - | - | 4 | 0 | - | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| West Side Residential | 338.1 | 5.7 | 343.7 | 79.1 | 6.9 | - | 257.8 | - | - | 257.8 | 1,152 | 240 | 113 | 799 | - | - | - | - | 1,152 | 240 | 113 | 799 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RS-BC | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RS-EM | 230.1 | - | 230.1 | 52.9 | 29.9 | - | 147.2 | 0.0 | - | 147.2 | 830 | 63 | 47 | 720 | - | - | - | - | 830 | 63 | 47 | 720 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | - | - | - |
| RS Platted | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RS-CCR | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RS Hillside | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RS Masterplan - BC | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RS Masterplan - EM | 266.0 | - | 266.0 | 61.2 | 34.6 | 26.6 | 143.6 | 2.0 | - | 141.7 | 1,084 | 88 | 63 | 934 | - | - | - | - | 1,084 | 88 | 63 | 934 | 51 | 30 | 21 | - | - | - | - | - | - | - | 51 | 30 | 21 | - | - |
| RM-BC | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RM-EM | 46.7 | - | 46.7 | 10.7 | 6.1 | - | 29.9 | 0.5 | - | 29.4 | 417 | 233 | 65 | 119 | - | - | - | - | 417 | 233 | 65 | 119 | 14 | 8 | 6 | - | - | - | - | - | - | - | 14 | 8 | 6 | - | - |
| RM Masterplan - BC | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RM Masterplan - EM | 54.1 | - | 54.1 | 12.5 | 7.0 | 5.4 | 29.2 | 0.2 | - | 29.0 | 576 | 367 | 153 | 56 | - | - | - | - | 576 | 367 | 153 | 56 | 10 | 6 | 4 | - | - | - | - | - | - | - | 10 | 6 | 4 | - | - |
| RH-BC | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RH-EM | 61.2 | 0.0 | 61.2 | 14.1 | 8.0 | - | 39.1 | 0.2 | 0.1 | 38.8 | 1,157 | 992 | 165 | - | 0 | - | - | 0 | 1,157 | 992 | 165 | (0) | 15 | 9 | 6 | - | - | 0 | - | - | - | 0 | 15 | 9 | 6 | - | (0) |
| **TOTAL** | **1,998.3** | **7.6** | **2,005.8** | **416.5** | **242.5** | **153.1** | **1,193.8** | **502.3** | **0.4** | **645.8** | **5,286** | **2,018** | **636** | **2,632** | **4** | **0** | **-** | **4** | **5,282** | **2,018** | **636** | **2,628** | **7,195** | **3,313** | **1,809** | **2,018** | **55** | **14** | **0** | **12** | **-** | **2** | **7,181** | **3,313** | **1,797** | **2,018** | **53** |

## *Table 5 - Summary of Acreages, Units, and Employment for 2.1G (Full Scenario)*

| Development Types | Vacant Acres Developed (gross) | Redev. Acres | Total Acres Developed (Gross) | Net Land Reductions - acres | | | Net Acres Developed | Net Acres by Land Use | | | New Housing Units | | | | Housing Units Lost through Redevelopment | | | | Net New Housing Units | | | | New Jobs | | | | | Employment Lost through Redevelopment | | | | | Net New Jobs | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Streets (ac) | Civic (ac) | Park / OS (ac) | | Empl-oyment | Mixed Use | Resid-ential | Total | MF | SFA | SFD | Total | MF | SFA | SFD | Total | MF | SFA | SFD | Total | Retail & Hospitality | Office | Industrial | Public / Civic & Edu. | Total | Retail & Hospitality | Office | Industrial | Public / Civic & Edu. | Total | Retail & Hospitality | Office | Industrial | Public / Civic & Edu. |
| **Commercial Type** | **508.7** | **44.4** | **553.2** | **114.6** | **71.9** | **-** | **366.6** | **364.7** | **2.4** | **0.2** | **67** | **63** | **4** | **-** | **56** | **40** | **0** | **13** | **12** | **23** | **4** | **(15)** | **6,185** | **4,259** | **1,632** | **185** | **109** | **73** | **36** | **31** | **4** | **-** | **6,111** | **4,223** | **1,599** | **181** | **108** |
| CB | - | 4.1 | 4.1 | - | 0.5 | - | 3.5 | 2.9 | 1.4 | - | 11 | 11 | - | - | 10 | 9 | - | 1 | 1 | 2 | - | (1) | 323 | 95 | 209 | - | 19 | 11 | 3 | 8 | - | - | 312 | 92 | 201 | - | 19 |
| CG | 370.1 | 24.3 | 394.4 | 78.9 | 51.3 | - | 264.2 | 264.2 | - | - | - | - | - | - | 14 | 6 | - | 6 | (14) | (6) | - | (7) | 3,772 | 3,071 | 631 | 66 | 4 | 15 | 7 | 8 | 1 | - | 3,757 | 3,064 | 623 | 66 | 4 |
| CL | 87.1 | 14.1 | 101.2 | 20.2 | 13.2 | - | 67.8 | 67.6 | - | 0.2 | 34 | 34 | - | - | 28 | 22 | - | 5 | 6 | 12 | - | (6) | 1,477 | 697 | 588 | 107 | 85 | 46 | 26 | 15 | 3 | - | 1,431 | 671 | 572 | 104 | 84 |
| CC | 35.3 | 2.0 | 37.3 | 10.8 | 4.9 | - | 21.6 | 21.6 | - | - | - | - | - | - | 4 | 3 | 0 | 2 | (4) | (3) | (0) | (2) | 374 | 279 | 94 | - | 1 | 1 | 0 | 0 | - | - | 373 | 279 | 94 | - | 1 |
| CC2 | 16.2 | - | 16.2 | 4.7 | 2.1 | - | 9.4 | 8.4 | 1.0 | - | 22 | 18 | 4 | - | - | - | - | - | 22 | 18 | 4 | - | 238 | 117 | 109 | 12 | 1 | - | - | - | - | - | 238 | 117 | 109 | 12 | 1 |
| **Mixed Use Types** | **411.1** | **39.4** | **450.5** | **101.4** | **58.6** | **-** | **290.5** | **261.1** | **5.9** | **23.6** | **1,539** | **1,342** | **176** | **22** | **71** | **63** | **0** | **3** | **1,468** | **1,278** | **175** | **15** | **6,129** | **2,070** | **2,884** | **1,124** | **51** | **240** | **35** | **89** | **62** | **14** | **5,889** | **2,035** | **2,756** | **1,062** | **36** |
| MU 2a | 1.3 | 6.3 | 7.6 | 2.2 | 1.0 | - | 4.4 | 3.0 | 0.9 | 0.5 | 152 | 142 | 10 | - | 0 | - | - | 0 | 152 | 142 | 10 | (0) | 220 | 158 | 62 | - | 1 | 21 | - | 3 | 14 | - | 200 | 158 | 55 | (14) | 1 |
| MU 1 | 41.7 | 7.5 | 49.2 | 14.3 | 6.4 | - | 28.5 | 17.3 | 3.4 | 7.9 | 439 | 346 | 80 | 13 | 4 | 4 | - | 0 | 435 | 342 | 80 | 13 | 989 | 398 | 588 | - | 4 | 140 | 19 | 48 | 27 | 13 | 849 | 379 | 506 | (27) | (9) |
| MMA MU | - | 6.7 | 6.7 | 2.0 | 0.9 | - | 3.9 | 2.0 | 1.0 | 0.9 | 245 | 242 | 3 | - | 6 | - | - | 2 | 239 | 242 | 3 | (6) | 297 | 77 | 211 | 3 | 5 | 35 | 11 | 11 | 13 | - | 262 | 67 | 200 | (10) | 5 |
| MR | 25.2 | 2.1 | 27.4 | 7.9 | 3.6 | - | 15.9 | 15.2 | 0.4 | 0.3 | 90 | 43 | 38 | 9 | 5 | 4 | 0 | 0 | 85 | 38 | 38 | 9 | 379 | 143 | 192 | 43 | 1 | 2 | - | 2 | - | - | 377 | 143 | 190 | 43 | 1 |
| ME-BC | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| ME-EM | 287.8 | 9.1 | 296.9 | 59.4 | 38.6 | - | 198.9 | 198.5 | 0.2 | 0.2 | 68 | 24 | 44 | - | 1 | 0 | - | 1 | 67 | 24 | 44 | (1) | 3,382 | 1,279 | 1,075 | 988 | 40 | 31 | 6 | 13 | 8 | 1 | 3,351 | 1,273 | 1,061 | 980 | 37 |
| MDOZ | 55.1 | 7.5 | 62.7 | 15.7 | 8.1 | - | 38.8 | 25.0 | - | 13.8 | 545 | 545 | - | - | 55 | 55 | - | - | 490 | 490 | - | - | 862 | 15 | 756 | 90 | 1 | 12 | - | 12 | - | - | 850 | 15 | 744 | 90 | 1 |
| **Industrial Types** | **910.3** | **169.7** | **1,079.9** | **204.5** | **126.8** | **20.9** | **727.7** | **632.6** | **-** | **-** | **-** | **-** | **-** | **-** | **7** | **2** | **-** | **5** | **(7)** | **(2)** | **-** | **(5)** | **8,651** | **177** | **2,826** | **5,462** | **187** | **411** | **70** | **118** | **181** | **-** | **8,241** | **107** | **2,666** | **5,281** | **187** |
| IP | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| IG | 142.7 | 33.6 | 176.3 | 35.3 | 22.9 | - | 118.1 | 118.1 | - | - | - | - | - | - | 4 | 2 | - | 2 | (4) | (2) | - | (2) | 1,575 | 46 | 433 | 1,095 | - | 83 | 10 | 41 | 24 | - | 1,492 | 36 | 384 | 1,071 | - |
| IL | 245.3 | 136.1 | 381.3 | 76.3 | 49.6 | - | 255.5 | 255.5 | - | - | - | - | - | - | 3 | 0 | - | 3 | (3) | (0) | - | (3) | 3,043 | 82 | 528 | 2,433 | - | 328 | 60 | 77 | 157 | - | 2,715 | 22 | 417 | 2,276 | - |
| Large Lot Industrial | 104.5 | - | 104.5 | 9.4 | - | - | 95.1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Juniper Ridge Employment | 270.1 | - | 270.1 | 54.0 | 35.1 | 13.5 | 167.4 | 167.4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2,712 | 36 | 1,323 | 1,220 | 133 | - | - | - | - | - | 2,712 | 36 | 1,323 | 1,220 | 133 |
| Juniper Ridge East | 147.7 | - | 147.7 | 29.5 | 19.2 | 7.4 | 91.6 | 91.6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1,322 | 13 | 542 | 714 | 54 | - | - | - | - | - | 1,322 | 13 | 542 | 714 | 54 |
| **Public Facilities** | **446.1** | **-** | **446.1** | **62.7** | **71.2** | **197.7** | **114.4** | **89.5** | **23.8** | **1.1** | **639** | **639** | **-** | **-** | **-** | **-** | **-** | **-** | **639** | **639** | **-** | **-** | **1,764** | **23** | **-** | **-** | **1,741** | **-** | **-** | **-** | **-** | **-** | **1,764** | **23** | **-** | **-** | **1,741** |
| PF | 45.0 | - | 45.0 | 8.6 | 5.9 | - | 30.6 | 30.6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 547 | - | - | - | 547 | - | - | - | - | - | 547 | - | - | - | 547 |
| Park | 201.8 | - | 201.8 | 30.3 | - | 171.6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| School | 74.3 | - | 74.3 | 8.9 | 65.4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| University | 29.8 | - | 29.8 | 3.6 | - | 2.4 | 23.8 | - | 23.8 | - | 420 | 420 | - | - | - | - | - | - | 420 | 420 | - | - | 347 | - | - | - | 347 | - | - | - | - | - | 347 | - | - | - | 347 |
| Institutional | 95.1 | - | 95.1 | 11.4 | - | 23.8 | 59.9 | 58.8 | - | 1.1 | 219 | 219 | - | - | - | - | - | - | 219 | 219 | - | - | 869 | 23 | - | - | 847 | - | - | - | - | - | 869 | 23 | - | - | 847 |
| **Residential Type** | **3,171.0** | **5.8** | **3,176.7** | **632.4** | **319.1** | **70.7** | **2,154.5** | **8.5** | **0.3** | **2,145.8** | **15,542** | **4,815** | **1,495** | **9,232** | **3** | **2** | **-** | **0** | **15,540** | **4,812** | **1,495** | **9,232** | **247** | **147** | **100** | **-** | **-** | **0** | **-** | **0** | **-** | **-** | **247** | **147** | **100** | **-** | **(0)** |
| RL-BC | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RL-EM | 114.6 | - | 114.6 | 26.4 | 14.9 | - | 73.4 | - | - | 73.4 | 173 | 4 | - | 169 | - | - | - | - | 173 | 4 | - | 169 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| West Side Residential | 343.2 | 5.7 | 348.9 | 80.2 | 7.0 | - | 261.6 | - | - | 261.6 | 1,169 | 243 | 115 | 811 | - | - | - | - | 1,169 | 243 | 115 | 811 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RS-BC | 146.1 | - | 146.1 | 33.6 | 19.0 | - | 93.5 | 0.0 | - | 93.5 | 437 | 15 | 20 | 401 | - | - | - | - | 437 | 15 | 20 | 401 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | - | - | - |
| RS-EM | 1,012.0 | - | 1,012.0 | 232.8 | 131.6 | - | 647.7 | 0.2 | - | 647.5 | 3,649 | 276 | 208 | 3,166 | - | - | - | - | 3,649 | 276 | 208 | 3,166 | 5 | 5 | - | - | - | - | - | - | - | - | 5 | 5 | - | - | - |
| RS Platted | 192.0 | - | 192.0 | - | - | - | 192.0 | - | - | 192.0 | 1,292 | 54 | - | 1,237 | - | - | - | - | 1,292 | 54 | - | 1,237 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RS-CCR | 235.1 | - | 235.1 | - | - | - | 235.1 | - | - | 235.1 | 450 | - | - | 450 | - | - | - | - | 450 | - | - | 450 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RS Hillside | 6.3 | - | 6.3 | 1.4 | 0.8 | - | 4.0 | - | - | 4.0 | 23 | 0 | - | 23 | - | - | - | - | 23 | 0 | - | 23 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RS Masterplan - BC | 55.0 | - | 55.0 | 12.7 | 7.2 | 5.5 | 29.7 | 0.0 | - | 29.7 | 190 | 9 | 6 | 174 | - | - | - | - | 190 | 9 | 6 | 174 | 0 | 0 | - | - | - | - | - | - | - | - | 0 | 0 | - | - | - |
| RS Masterplan - EM | 549.3 | - | 549.3 | 126.3 | 71.4 | 54.9 | 296.6 | 4.1 | - | 292.6 | 2,240 | 182 | 130 | 1,928 | - | - | - | - | 2,240 | 182 | 130 | 1,928 | 106 | 62 | 44 | - | - | - | - | - | - | - | 106 | 62 | 44 | - | - |
| RM-BC | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RM-EM | 301.8 | - | 301.8 | 69.4 | 39.2 | - | 193.1 | 3.4 | - | 189.7 | 2,691 | 1,503 | 422 | 766 | - | - | - | - | 2,691 | 1,503 | 422 | 766 | 88 | 51 | 37 | - | - | - | - | - | - | - | 88 | 51 | 37 | - | - |
| RM Masterplan - BC | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RM Masterplan - EM | 102.6 | - | 102.6 | 23.6 | 13.3 | 10.3 | 55.4 | 0.4 | - | 55.0 | 1,092 | 695 | 291 | 107 | - | - | - | - | 1,092 | 695 | 291 | 107 | 20 | 12 | 8 | - | - | - | - | - | - | - | 20 | 12 | 8 | - | - |
| RH-BC | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| RH-EM | 112.9 | 0.1 | 113.0 | 26.0 | 14.7 | - | 72.3 | 0.3 | 0.3 | 71.7 | 2,137 | 1,833 | 304 | - | 3 | 2 | - | 0 | 2,135 | 1,831 | 304 | (0) | 27 | 16 | 11 | - | - | 0 | - | 0 | - | - | 27 | 16 | 11 | - | (0) |
| **TOTAL** | **5,447.2** | **259.2** | **5,706.4** | **1,115.7** | **647.6** | **289.3** | **3,653.8** | **1,356.4** | **32.4** | **2,170.7** | **17,787** | **6,858** | **1,675** | **9,254** | **136** | **108** | **0** | **21** | **17,651** | **6,750** | **1,675** | **9,226** | **22,976** | **6,676** | **7,441** | **6,771** | **2,088** | **725** | **141** | **239** | **247** | **14** | **22,252** | **6,535** | **7,121** | **6,524** | **2,071** |