Meeting Agenda

Urban Growth Boundary Steering Committee
Thursday April 21, 2016 1:00-4:30 PM
Barnes and Sawyer Room
Deschutes Services Building - 1300 NW Wall Street, Bend

Purpose of Meeting

The purpose of this meeting is for the Urban Growth Boundary Steering Committee (USC) to approve a package of Urban Growth Boundary (UGB) adoption documents *for finalization and advancement to public hearings.*

This packet and agenda includes the key map and policy related adoption documents, as recommended by the Technical Advisory Committees, including:

- Proposed UGB and expansion area Comprehensive Plan Map designations
- Proposed Comprehensive Plan and Zoning Map designations for Opportunity Areas inside the current UGB
- Draft Growth Management Chapter for the Comprehensive Plan

The remaining documents have been included in a separate Resource Packet, with "one-sheet" summaries included in this packet. Due to the volume of material, these materials will be discussed as a group, with individual issues as requested by USC members.

1. Welcome and Introductory Items — 1:00 PM

a. Welcome by Victor Chudowsky
b. Agenda overview (Joe Dills) and Opening Remarks (Brian Rankin)
c. Approval of February 10, 2016 Minutes *(See page 4 of 87)*

Joe Dills, Brian Rankin

2. Overview of Key Map and Policy Recommendations — 1:10 PM

a. Briefing *(See memo and attachments, page 18 of 87)*:

- Proposed UGB and expansion area Comprehensive Plan Map designations

Project team & TAC chairs

For additional project information, visit the project website at http://bend.or.us or contact Brian Rankin, City of Bend, at brankin@bendoregon.gov or 541-388-5584

Accessible Meeting/Alternate Format Notification
This meeting/event location is accessible. Sign and other language interpreter service, assistive listening devices, materials in alternate format such as Braille, large print, electronic formats, language translations or any other accommodations are available upon advance request at no cost. Please contact the City Recorder no later than 24 hours in advance of the meeting at rchristie@ci.bend.or.us, or fax 385-6676. Providing at least 2 days notice prior to the event will help ensure availability.

- Proposed Comprehensive Plan and Zoning Map designations for Opportunity Areas inside the current UGB
- Selected policy issues from the draft Growth Management Chapter for the Comprehensive Plan

b. USC discussion: initial questions and comments from the USC. The TAC chairs will be available to support the USC's discussion.

3. Public Comment

1:45 PM

Persons wishing to testify should fill out a comment card, located at the welcome table. Testimony will be limited to 2 minutes per person, depending on the number of people wishing to speak.

Public comment will managed by the Chair.

4. USC Discussion and Action – Key Map and Policy Recommendations

2:30 PM

Chair

a. USC discussion:

- Proposed UGB and expansion area Comprehensive Plan Map designations
- Proposed Comprehensive Plan and Zoning Map designations for Opportunity Areas inside the current UGB
- Growth Management Chapter of the Comprehensive Plan

Action requested: approve the above-listed package of recommendations for finalization and advancement to public hearings.

5. USC Discussion and Action – Resource Packet Recommendations

3:30 PM

a. Discussion: questions or comments from the USC on the draft adoption documents included in the Resource Packet *(See summaries beginning page 74 of 87)*:
    - Buildable Lands Analysis
    - Housing Needs Analysis
    - Economic Opportunities Analysis
    - Urbanization Report
    - Comprehensive Plan Housing and Employment Chapters
    - Urbanization Report
    - Urban Form Report
    - Integrated Land Use and Transportation Plan

Action requested: approve the above-listed package of recommendations for finalization and advancement to public hearings.

6. Next Steps and Adjourn 4:30 PM

City of Bend
Urban Growth Boundary Steering Committee
Meeting Minutes
Date: February 10, 2016

The Urban Growth Boundary Steering Committee (USC) held its February 2016 meeting at 1:00 pm in the Council Chambers of Bend City Hall (710 NW Wall Street).

Members Present: Mayor Jim Clinton, Councilor Victor Chudowsky (Chair), Councilor Nathan Boddie, Councilor Barb Campbell, Councilor Casey Roats, Councilor Sally Russell, Councilor Doug Knight, County Commissioner Tony DeBone, Planning Commissioner Bill Wagner (Vice Chair), and Planning Commissioner Rex Wolf.

1. Welcome and Introductory Items

Chair Chudowsky called the meeting to order at 1:02 pm. He welcomed everyone and explained the purpose for this meeting, thanked the TACs (technical advisory committees) for their work, and then turned facilitation of the meeting over to Joe Dills of the Angelo Planning Group and Brian Rankin of the City of Bend. Mr. Dills thanked visitors for attending today's meeting. He gave a brief overview of the meeting agenda, and identified three (3) parts to the agenda – presentations, public comments, and then UGB scenario.

After his overview, Mr. Dills turned to Mr. Rankin of the City for any opening comments. Mr. Rankin thanked the USC for their last meeting, and the direction they provided to the Boundary TAC. He praised the work of the Boundary TAC, and noted that they worked hard over a year and half. He observed that the committee gelled at their last meeting, did a great job, and reached a level of consensus.

Mr. Dills then asked if there was a motion to approve the minutes from the committee's December 2014 meeting. Councilor Knight moved approval of the minutes, with Councilor Russell providing a second to the motion. The motion passed unanimously.

2. Draft Preferred Scenario – Boundary TAC Recommendation

Mr. Dills then turned to Boundary TAC Co-Chairs Sharon Smith and Mike Riley to present the Boundary TAC's recommendation to the USC. Ms. Smith started by thanking Mr. Rankin and his team, and expressing her appreciation for their guidance. She also thanked the USC for allowing the Boundary TAC to spend some additional time working on the scenario and bringing a better product to the USC. She commented that she and Mr. Riley had worked with staff to work toward consensus on a scenario. If consensus was not possible, then to provide the USC with policy choices. The TAC leadership considered this direction, and worked with the project team to come up with a scenario that would be a starting point for discussion with the Boundary TAC. She stated Mr. Riley would cover the Boundary TAC's discussions in his comments. She also mentioned that they had asked the team to look at refinements inside the boundary, and the team has now identified 200 more acres to work with and an additional 350 acres of parks. She

pointed out the policy framework ideas and the concepts discussed on page 23 of the meeting packet. She noted that the Boundary TAC recommends the USC approve the policy framework, and the addition of the transect concept for hard edges. The policy framework, as presented on pages 23 and 234 of the meeting packet, is reproduced below for reference.

- **Use Bend's existing urban land wisely.** Make efficient use of land inside the boundary, with infill and redevelopment focused in key opportunity areas.

- **Plan the City's urban form.** Focus the City's growth strategies to support great and diverse neighborhoods, centers and corridors, and employment districts.

- **Create new walkable, mixed use and complete communities.** Build complete communities in expansion areas by leveraging existing land use patterns inside the existing boundary and using expansion to create more complete communities.

- **Complement existing communities in Bend.** Utilize new growth in expansion areas as a strategy to help make existing neighborhoods, centers and corridors, and employment districts inside the boundary more "complete" by: diversifying the housing mix; providing local commercial services and jobs; increasing transportation connectivity; and providing needed public facilities such as parks and schools.

- **Locate jobs in suitable locations.** Plan new employment areas where there is access to transportation corridors, larger parcels, and good visibility for commercial uses.

- **Plan Bend's infrastructure investments for the long term**. Plan the City's infrastructure systems so that they serve the City efficiently over both the short term (20 years) and the very long term (50-100 years).

- **Meet state requirements while implementing local goals**. Emphasize growth in areas that perform well relative to Statewide Planning Goal 14, Urbanization, so that Bend's growth strategies provide opportunities for efficient, cost-effective, environmentally-sensitive, and farm/forest-compatible development.

- **Take a balanced approach.** Balance and distribute the UGB expansion geographically around the city to distribute the benefits (and impacts) of growth and to provide more options for new neighborhoods.

- **Lay the groundwork for the future growth of Bend.** Take into consideration the context of land beyond the current UGB expansion – ranging from lands with high suitability for future growth to other lands that may have low suitability to be urbanized in the future.

• **Utilize a transect approach where appropriate to establish a transitions to natural areas.** Plan transitions from higher to lower density where appropriate to: (1) recognize and respond to natural permanent edges (such as Federal land ownership near UGB expansion areas) of the city; and/or (2) promote compatibility with adjacent areas subject to wildlife, wildfire, public ownership (for recreation and/or preservation), and/or similar considerations. Transect planning will be used on a case-by-case basis, in response to the specific context of urban form, adjacent open space, and suitability for future urban growth.

Mr. Riley followed Ms. Smith. He presented the recommendations from the Boundary TAC to the Steering Committee. The TAC's recommended UGB scenario includes a total of 2,150 acres, including 350 acres for parks added to the boundary, and another 200 acres of residential land. He referred the USC to maps in the packet and in a powerpoint slide, starting from the Northeast Edge and working clockwise around to the North. With respect to the Northeast edge, the proposed scenario includes the entire scope of the Perfect Rectangle. This subareas is largely residential and other mixed uses, with a small node of property that extends to the south. With respect to the DSL property, he noted that there were no proposed changes to the boundary of this subarea. He did describe a slightly different shift in land uses. With respect to the Elbow, this scenario left that largely the same with the boundary, some uses were changed, and it now includes compatible transitions to residential uses. He noted a gateway concept incorporated in to the Thumb. Moving to the West, he noted several big changes based around testimony. This scenario caps the total residential units on the Westside to 1,000 units, with 200 units allocated to the Coats' property (aka Shevlin Area). The West Area uses the transect to recognize the edge of the national forest, wildfire risk, and wildlife habitat. He commented that there was not complete consensus on the West Area; one member asked that the north 40 acres of the Rio Lobo/Day property be brought in.

Councilor Roats asked what the rationale was for the 1,000 units on the West side. Mr. Riley responded that there are citizens that are sensitive to a lot of growth on the west side and the potential impact on infrastructure. He added that the TAC wanted to distribute growth across the community, and needed to set some limit to support the transect. Councilor Roats followed up by asking if there was any engineering or hard data to support the 1,000 units. Mr. Riley responded that Scenario 2.1 proposed 750 units, and that the TAC tried to stay close to that number. Ms. Smith added that the development of this number was not a science, and noted that the TAC was tasked with coming to consensus. Mr. Riley concluded by adding that higher numbers of units would trigger certain sewer infrastructure improvements.

Councilor Knight asked for clarification that the 1,000 units were distributed between the West Area and the notch in Shevlin Area.

Mr. Riley then referred the committee to the OB Riley Road area. The recommended scenario includes residential on east side of OB Riley, and more commercial was the west side of Highway 20. With respect to the North Triangle, the recommended scenario includes a mix of uses and a transition buffer for the rural residential areas to the north.

Councilor Campbell asked what was the reason to bring the parks in the UGB. Ms. Smith replied that doing so allows streets to city standards to be built around parks, and also allows the park district to connect to sewer. Mr. Riley added that this was requested by the parks district.

Mr. Dills then asked if there were any further questions for Mr. Riley and Ms. Smith. Hearing none, he referred the Steering Committee to Page 21 of the meeting packet. This portion of the meeting packet included a background memorandum to answer a question from the committee's December 2014 meeting. The question was what changed to reduce the proposed UGB expansion from 8,000 acres to the current size of the proposal. He noted that these changes included changes to the buildable lands inventory (BLI), and how they affected capacity estimates. He referred to the COID (Central Oregon Irrigation District) property with new metes and bounds for a scenic easement. The Third Street MMA (mixed use multi-modal area) that reflects six years have passed since the original estimates were. Mr. Dills then turned the committee's attention to a review of the elements of the policy framework outlined in a series of slides. He concluded this presentation by providing more background on the Transect Concept.

Mr. Dills then turned the slide presentation over to Becky Hewitt with the Angelo Planning Group. She noted that Mr. Riley and Ms. Smith had identified the key changes in the recommended scenario. Her presentation was intended to provide a "step back view" of the scenario and subareas. She began her presentation by referring to a slide titled "Draft Preferred Scenario by the Numbers" – this slide referred to the population forecast, total new housing units, total new jobs, and the overall housing mix for needed housing. She noted that 70% of total growth (jobs and housing units) can be accommodated inside the current UGB, with most on vacant land and infill land. Scenario 2.1 included a total of 1,730 acres for UGB expansion, and now Scenario 2.1D includes a total of 2,150 acres. She then referred to the Draft Preferred Scenario Evaluation Report, in which the team evaluated six UGB expansion scenario. She noted that Scenario 2.1D combines a lot of ideas evaluated in the evaluation report. She presented the highlights of the scenario evaluation using the sanitary sewer system, which was the same system used for Scenario 2.1. With respect to transportation connectivity, she noted that the cost effective scenario to start with was Scenario 2.1.

Councilor Knight asked why Scenario 2.3 was not included in the comparison. Chris Maciejewski of DKS and Associates responded by confirming the team did not have the data at this meeting for Scenario 2.3. He did note that with respect to VMT (vehicles miles traveled), the team has completed a preliminary analysis, and the results for 2.1D would be comparable to Scenario 2.1.

Andrew Parish of the Angelo Planning Group then took over the presentation and moved on to the presentation of the UGB expansion subareas. His presentation included reviewing the proposed land uses, size, and boundary of each subarea, with one slide per subarea. He noted that he would focus on the big planning concepts, and that Mr. Maciejewski would be available to handle any transportation questions. Councilor Knight commented that he would ask about housing unit mix.

Regarding the OB Riley Area, Mr. Parish noted this subarea is 137 acres in size and includes commercial frontage on Highway 20 and Cooley, Industrial and Mixed Employment designations, and a residential buffer in south and along OB riley. Mr. Dills referred to a map on page 28 of the meeting packet.

Regarding the North Triangle, Mr. Parish pointed out it was the same as it was in Scenario 2.1B, with an increase of single family units arranged toward the north end to serve as a buffer. He also noted commercial on the frontage of Cooley to the south. Mr. Maciejewski noted with respect to transportation, a collector road to Hunnell would not be needed, and this saves roughly $9 million.

Councilor Roats asked whether the Highway 20/Highway 97 proposals are far enough along to affect zoning, or whether they are still a loose concept for a $200 million concept. Mr. Maciejewski described the Highway 97 reroute extension, and noted that the latest EIS (environmental impact statement) includes the footprint on the east side of Highway 97, which is removed from the expansion areas. He noted that the project is in the regional MPO plan, and that the team still needs to complete work to determine compliance with the state's transportation planning rule (TPR).

Mr. Parish then referred to the Northeast edge. This subareas now includes the complete Butler Market Village/Perfect Rectangle Area, a total of 245 acres. The proposed land uses include a school, and more single family residential than what was proposed in Scenario 2.1B. In addition, the subarea includes two parks that are now outside the UGB. With respect to transportation, Mr. Maciejewski noted connectivity in this area, with one large area and not what he described as three pockets. This change will yield savings from not having to make road improvements in the Bear Creek Road area. With the full extent of the Perfect Rectangle, the City as now added the ability for an extension of Yeoman Road, which will add $15 million in costs.

Councilor Boddie asked about the proposed school site, and whether this site was likely rather than letting the school district site the school. Mr. Parish noted that the site is of suitable size for a school, but not a final location. Mr. Rankin added that the exact siting of the school would take place as part of the master planning process. In this situation, there is a different arrangement of property owners, with multiple owners of property in one subarea. This topic of master planning will be covered at next the TAC meetings, and will included an annexation discussion when involving multiple owners working together.

Mr. Parish then turned to the DSL property. This scenario includes 362 acres of the DSL property, same size, but with a higher proportion of multi-family units. The land uses have been dialed back with open space acres for bat caves on the site. Councilor Roats asked what would trigger improvements from the local CIP (capital improvement plan). As an example, he cited the extension of Murphy Road to the east. Mr. Maciejewski responded that this decision would be based on what data was included in a proposed master plan.

Regarding the subarea identified as the Elbow, Mr. Parish pointed out that this subarea includes a total of 443 acres with commercial frontage along Knott to the south. This subarea now includes a bit more multi-family, which will change the housing mix. He also mentioned that the DSL and the Elbow add a lot of new uses to existing single family neighborhoods

Regarding the Thumb, Mr. Parish pointed out that this subarea is the same as presented in Scenario 2.1B, with commercial frontage on Highway 97. Chair Chudowsky cited and inquired about concerns from the Southeast Bend Neighborhood Association (SBNA), and noted that he and the team met with Bill Galaway to walk through the transportation system in the southeast. Mr. Parish also noted the addition of Alpine Park on the west side.

Regarding the West Area, Mr. Parish noted it was 304 acres in size in this scenario, and was modified to incorporate a transect concept. Another 69 acres are included from the Shevlin Area, which now also includes a proposed commercial node, and employment uses along Skyline Ranch Road. He noted that the West Area includes an open space corridor lining up with Discovery Park. With respect to housing, a total of 800 units have been allocated to the West Area and 200 units to the Shevlin Area. Regarding transportation, Mr. Maciejewski noted that Skyline Ranch Road is included and runs through the West Area. He also noted a connection of Skyline Ranch Road to Regency, which would add roughly $5million to the project list. The mix of housing in the West Area includes multi-family units, which represent 20% of the total units.

Planning Commissioner Wagner asked about whether trips from Tumalo through the Shevlin Area were accounted for in the transportation modeling. Mr. Maciejewski noted that not many trips were going out that way, but confirmed they were included in the model. Councilor Roats inquired about the proposed mix of housing in this area; 20% multi-family, 10% attached single family and 70% detached single family. Mr. Parish responded that the needed housing mix is 55% single family detached, 10% single family attached, and 35% multi-family attached.

After the team reviewed the respective subareas in Scenario 2.1D, Mr. Dills noted that it was time for public comment, and asked persons who were signed up to testify to speak from the podium.

3. Public Comment

1. Ann Brayfield, Bend resident of Shevlin Park Commons. Ms. Brayfield supported the recommendation of the Boundary TAC. She testified that she was pleased about the transect concept and what was worked out. She cited the tree farm development, and the development pressure on Shevlin Park. She commented that all folks in Bend benefit from this proposal, and further cited concerns over wildfire and fire near Aspen hall. She concluded by testifying that fire is a real reality the closer we are to the forest, and was pleased with work the TAC has done.

2. Al Johnson, 2522 Northwest Crossing Drive. Mr. Johnson stated that he was delighted to work with the committee and with serving on the Residential TAC. He noted that he was testifying in his own capacity today, but added that the Residential TAC has not considered the current proposal, but we're about 95% to 99% of the way there. He commented that there is a

missing link of affordability in the housing work; not only by type, but at price ranges and rent levels, and locations. He testified that the City needs to make this link, and cited several handouts he brought to the meeting. He noted that the City has an opportunity to get at affordability that we won't get for a long time, and on the west side. He cited the social and economic consequences of Goal 14 that need to be considered, along with Goal 10, and invited the development community to tell us how they are going to do this around town.

3. Ann Marie Colucci, representing Ryan Bell and Tammy Lamb. She referred to two 10 acres parcels located in the northern triangle. She noted that these properties had been included in prior UGB scenario maps, and these parcels were not included in the current scenario. She testified that her clients are working on a master plan, and that this would access Berg Lane. Councilor Russell pointed out on the slide the location of the property, and noted that it is currently zoned UAR10.

4. Dean Wise, JL Ward Company. He referred to property owned by the Ward family located inside the UGB and outside the UGB. He referred to written testimony in which the Wards proposed exchanging 12.8 acres of land between the Thumb and the Ward's 15th Street property. The purpose for making the request is that the Wards want to master plan the entire 15th street property, and the correct mix of uses is important. He also testified on Chris Brown's testimony during the Boundary TAC's January 20th meeting, and noted the EFU (exclusive farm use) lands to the south of Knott Road that should be taken into consideration.

5. Tia Lewis, representing the Coats Family. She testified in support of Scenario 2.1D and passed out a handout that is already in the record. She testified that she supported the 2.1C map before the Boundary TAC, and supports the limit in density to 200 units and the added commercial zone. She indicated her clients are supportive of the consensus of the Boundary TAC, and added request to add a 17 acre strip to hug the western edge of the UGB for a sewer connection in Hilton Court. Regarding wildlife corridors, she noted that her client has hired a wildlife biologist, and that they are respectful of the 1,000 unit cap on the west side.

6. Laurie Craghead, representing Rodney Pack and Akemi Wheeler. She testified in support of forming a new rectangle along the eastern UGB from Butler Market Road and south to Neff Road, including Eagle Road. She cited several benefits for this addition. She also noted that the property was in Scenario 2.3, and that it's in the urban reserve boundary.

7. James Dorofi, representing the Old Farm Neighborhood Association. He testified in support of the UGB expansion scenario, and added that he does not want to delay the process. He mentioned the Old Trap Club property, and that a new elementary school is being built on this property. He noted that a new road with sidewalks on both sides is under construction, and that sewer will be constructed in 27th Street. He questioned the building of new roads without sidewalks, and expressed a concerned about southeast Bend becoming an island.

8. Myles Conway, representing Rio Lobo investments. He testified in support of including Skyline Ranch Road in the UGB, and noted the importance of this road connection for schools, and fire and life safety. He requested that the UGB scenario be amended to include a 40-acre parcel owned by his client, and submitted a letter that addressed sewer capacity and design

layout. He cited to language in the General Plan that says his client's property should be included. With respect to the boundary location analysis, he testified that there is little or no basis to distinguish his client's property from other properties in the scenario. He commented that the analysis aggregated properties in the Goal 14 process, and that there was no independent look at the 40 acre portion of his client's property. He noted that that this property ranked comparably with both the Miller and the Coats properties. He concluded by supporting the transect concept, but added that it is incomplete without the Rio Lobo Property.

Councilor Knight asked about what he described was a lack of vision communicated about this property. He also asked what if we (the city) transposed the transect concept on the north 40; would his client be amenable. Mr. Conway replied that the Days/Rio Lobo have a lot of property, and offer a unique property and opportunity. Council Knight asked again about the vision for the property, to which Mr. Conway replied that his client has prepared a master plan, including for the northern 40 acres of the property. Councilor Knight then asked about whether the property was evaluated for Goal 5. Mr. Conway replied that the property was burned during the Awbrey Hall Fire, trees are not growing back, not in wildlife overlay zone, and not in any of the ODFW (Oregon Department of Fish and Wildlife) special areas.

9. Paul Dewey, representing Central Oregon Landwatch. He began by thanking the members of the USC who came to the Boundary TAC meeting in January. He added that he can't summarize the meeting in two minutes. He recommended that the USC respect the consensus that was reached. He noted that Skyline Ranch Road and the Coats property were included as requested, and that this scenario moved significantly from Scenario 2.1. He asked that the USC respect what we (Boundary TAC) did, and concluded by noting that we will have another UGB process and people could also pursue a post-acknowledgement plan amendment.

10. Kirk Schueler, representing Brooks Resources and Westbend Property Company. He mentioned working with Miller Tree Farm, and that their property is included in the West Area in this scenario. He testified in support of implementation of the transect concept. He noted that the transect goes beyond the boundaries of the city. In reference to testimony from Mr. Conway, he indicated others are interested in implementing the transect in the county. He also provided testimony as to how the transect will look when implemented. He noted the limit of 650 units and that the density will taper out from the city. There will be three densities with the most eastern piece near Northwest Crossing and the schools at 7 units to the acres, the middle piece will be developed at 3.3 units to the acre, and the most western piece will develop at about 1.3 units per net acre against the Tree Farm. He added that this include substantial open space. With respect to the mix of housing, he noted that to implement the transect, you need larger lots toward the edge, and concluded by stating he supports the recommendation to the USC.

11. Kevin Spencer, on behalf of Rio Lobo. He referenced the 40 acre parcel that represents the northern 40 of the Day/Rio Lobo property in his testimony. He recommended and asked for this property to be included. He observed that things have moved quickly, and that the Coats property is now included. He asked whether things were happening outside the meeting. He noted that Matt Day has requested the same. He testified in support of the transect plan, and asked that it include the 40 acres parcel he referred to earlier. He concluded by noting that the sewer has capacity, and that he did not get the full opportunity to participate.

12. Leslie Blair Graham, 25053 Cultus Lane. She testified that the Shevlin Commons development that included an easement near Shevlin Park set a good precedent. She expressed concern over the Day/Rio Lobo proposal for the 40 acres and the effect this would have on the traffic at Mt. Washington Drive and Shevlin Park Road. She supports the proposed transect for the Tree Farm, and testified that including the Day's property would undercut this.

13. Gary Knight, lives on the north end of Highway 97. He testified in support of low income housing and mentioned he has been dealing with the state and ODOT regarding his and other mobile home parks on the north end of Highway 97. He noted that the proposed improvements to Highway 97 affect his property. He observed that the City has not said anything about this area, and noted that water and sewer are accessible. He pointed out that he has 10 acres approved for a mobile home park by the county and that he could have more density in the city. Chair Chudowsky asked where his property is located, and Mr. Knight directed the committee's attention to a section along highway (east side) northeast of the North Triangle.

14. Joe Emerson, testified that he lives on Park Commons Drive. He testified that he is a strong supporter of the urban transect and noted the lower density as you get closer to the forest. He also mentioned he is an advocate for Shevlin Park. He testified in opposition to the Day proposal, especially if it means bringing urban density closer to the park. He recommended that the committee stick to the plan as stated, and if the Days want to have property included in the UGB, consider that area closer to the city.

4. Approval of Draft Preferred UGB Scenario

After the close of public comment, Chair Chudowsky turned the meeting facilitation back over to Mr. Dills. He proposed proceeding in two steps. He asked if there was any discussion among USC members, and how they were leaning. Second step; he also asked if there were any refinements to 2.1D that they wanted to propose.

Councilor Russell started with a question to Mr. Riley and Ms. Smith. She asked if Mr. Hultberg of the Boundary TAC represent the Days. She also asked who was invited to participate in meetings on the transect that came to the Boundary TAC. Mr. Riley replied that he and Ms. Smith were not part of the negotiations, and stated his understanding that Mr. Day was invited.

Chair Chudowsky suggested a way to move the conversation, and recommended starting with the west side, and then the other items raised in comments.

Planning Commissioner Wagner asked about the comment about the 10 acres east of Highway 97 from Mr. Knight's testimony. He directed his question to Mr. Dills and Mr. Rankin and asked what bringing this area in would mean for the city. He noted that it is already developed as a mobile home park.

Commissioner DeBone interjected that approvals have been granted for the existing use from the County. He commented that the issue for this areas is transportation. The areas sees traffic traveling at high speeds with inadequate accel (acceleration) and decel (deceleration) lanes.

Councilor Boddie commented that the public seems to see areas such as this one and Deschutes River Woods as good areas for expansion. He added that these areas are already developed and do not do much for expansion.

Councilor Knight asked what if these areas were eligible for rezoning. Planning Commissioner Wagner commented that he presumes that such areas would be rezoned for high density if brought in the UGB.

Mayor Clinton commented that he agreed with Commissioner DeBone and saw access as the major issue in this area, and that it's boxed in due to the railroad tracks in the area.

Mr. Dills interjected that the team checked and confirmed that this property did not make it through the suitability mapping; the mapping completed to determine what lands would be suitable for expansion and urbanization.

Following this brief discussion, Chair Chudowsky recommended moving subarea by subarea, starting with the West.

West Area and Shevlin Area - Chair Chudowsky commented that he was happy with the agreement and consensus at the Boundary TAC. He thought everyone got something. He recommended against reopening this topic. He indicated he is sensitive to the time and money we've spent to add meetings and bring consultants in. He concluded by stating he agrees with the people who think we should go forward with the west side arrangement.

Planning Commissioner Wagner followed by stating he supported what Chair Chudowsky said and he added that the compromise that was forged accomplishes land owner, Landwatch, and city objectives.

Planning Commissioner Wolf commented that he attended the Boundary TAC meeting and noted the extensive discussion of the alternatives. He also supports this recommendation.

Councilor Knight stated that it is eminently important we empower our committees and admitted to being a tinkerer. He concurred that Chair Chudowsky stated it best and that we face the law of diminishing returns. He added that some people may feel that they're not getting everything they want, but that it's important we empower the Boundary TAC and their recommendation. He stated he was very impressed with this work.

Mayor Clinton commented that he remembered strongly urging the Boundary TAC to reach consensus. He added that he thought it would be really rude to blow up the consensus. He stated that he had confidence that Boundary TAC could pull it together, and acknowledged the hard work everyone did.

Councilor Boddie commented that there are parts he likes and parts he doesn't like. He noted that he likes a more inclusive tent. He congratulated everyone on their effort.

Councilor Russell commented on the October 22 meeting, and the committee's December meeting. She commended the work of the Boundary TAC and property owners working on this, and acknowledged they were working within an aggressive time frame.

Councilor Campbell stated she agreed with the prior comments. She also added that the transect addresses wildfire concerns, and represents an economic opportunity for more property owners instead of just one.

Councilor Roats took issue with what he described as the somewhat arbitrary nature of who comes in. He questioned the factual basis for limiting the number of units on the west side to 1,000 units. He questioned what would happen if we had a number in mind for a cap for housing units on the east side; he offered people would question such a decision where 50% of the land mass of Bend would accept 20 percent of the growth. He cited east side growth along Reed Market Road. He raised the fear of an appeal if the city were to not include 40 acres in a 2,000 acre plan, and 1,000 units. If an appeal does get filed, he raised the question of whether the City should have leaned on a 1,000 unit cap and not asked for another 100 units. He acknowledged the Mayor's direction on consensus, and offered that a grand bargain is not without the risk of an appeal.

Planning Commissioner Wagner noted some interesting points when he was on the MPO board. He observed that there is no beltline around the city, and cited potential constraints of the transportation system. He cited the difficulty in getting to one part of town or another depending on direction, and offered that we need more transportation options on the east side of Bend.

Mr. Maciejewski commented that the team's analysis considered barriers to connectivity, and that this was incorporated in the areas scoring on connectivity, such as arterial and collector connections. He noted the difficulties with the west side to complete this framework.

Mr. Dills offered that he thought the committee was working toward a motion to approve the West side subarea map, which included both the West Area and the Shevlin Area. Councilor Boddie moved approval of this motion, with Councilor Russell providing a second to this motion.

Councilor Campbell made a comment on the process, and that it had been data driven. She added that the USC has re-considered prior votes and now we're considering more units on the west side; we're up to 1,000 units. She noted that this is not a hard or random cap, and defended the consultants and what we've paid them to do.

Councilor Roats questioned the justification on the 1,000 units. Councilor Campbell responded not just the 1,000 units, but that there's an answer for every data point.

Mr. Riley commented that the Boundary TAC had 6,000 acres to work with that rated high for UGB expansion. He reminded the USC that the TAC needed to choose about 2,000 acres. Doing so required the Boundary TAC to balance a number of issues, such as affordability and transportation. He concluded that that's grounded with what we're tasked with.

Ms. Smith also cited wildfire concerns, wildlife habitat, hard edge on the west side to explain why the west side was looked at differently than the east side. She commented on how units were allocated in the expansion area, and stated that there is no science for why only 1,000 units on the west side.

Councilor Roats commented on the disconnect between what he described as land use issues and on the ground political realities. He questioned why someone would oppose 350 acres at urban densities and why not 40 acres that would be transected.

At the conclusion of this discussion, the USC voted on the motion from Councilor Boddie, with the motion passing unanimously.

OB Riley Road – Councilor Knight moved approval of the TAC recommendations for this subarea with Chair Chudowsky providing a second to the motion. There was no discussion, and the motion passed unanimously.

North Triangle - Chair Chudowsky asked about the road savings for the North Triangle. Mr. Dills referred to a change in a collector road; a consequence of some adjustment of the land uses. Councilor Knight moved approval of adopting the recommendations of the Boundary TAC with Councilor Boddie providing a second to this motion. The motion passed unanimously.

Northeast Edge - Mr. Dills summarized this area and its land uses, including the parks. Planning Commissioner Wagner asked about the testimony of Laurie Craghead on Eagle Road, and referred to the proposal to change the map significantly. Mr. Parish summarized the proposal and showed it paralleling Eagle Road and halfway to Hamby Road. Mr. Riley offered that this particular area is heavily parcelized and some of the parcels have restrictive CCRS's. Councilor Russell moved approval of the Northeast Edge with Councilor Knight providing a second. The motion passed unanimously.

DSL Property - Councilor Campbell moved approval of the DSL recommendation, with Chair Chudowsky providing a second to this motion. The motion passed unanimously.

Elbow and Thumb – Mr. Rankin reminded the USC of the testimony from the Ward family on the request to swap 12.8 acres of commercial on 15th Street property in the Elbow and move it to the Thumb. Through this swap, 12.8 acres of residential would be moved to the 15th Street property in the Elbow. Mr. Dills mentioned no concerns from the team level, and that this topic was not discussed at the Boundary TAC. Councilor Boddie asked about the effect of this change on creating a walkable community? Mr. Dills replied that we would still have a mixed, walkable community, and still a lot of commercial services in this area. Councilor Russell asked if there

were any infrastructure concerns, and that what is proposed is just a swap. Mr. Rankin that there are none and that it is a small scale swap. Councilor Boddie asked for confirmation that we are dealing with the same land owner and just a swap of land uses. At this point the committee asked Jodie Ward to elaborate on her testimony. Ms. Ward did so and provide some additional background on why they (Wards) had proposed moving 12.8 acres of commercial out of the Elbow, and putting it on the Thumb. Their goal is to create one master plan community. Mayor Clinton asked for an explanation of how these designations would translate into reality. Mr. Rankin replied that this would happen through plan policies, the comprehensive plan map, and the zoning map. These products would show how the designations correspond to the kinds of uses on the property. He summarized the state's requirements, and that land needs need to add up when reflected on the plan and zone maps. He also mentioned that the map shows generalized land use designations. He summarized that there will be a process for going from rural to urban, including the development of annexation policies and how to address one property or a group of properties. He added that the team has not yet determined what to do in areas like the Elbow with multiple owners and with the City trying to meet multiple land needs.

At this point the committee had a brief discussion of the amount of different land uses in the Elbow, and what the result would be. Following this discussion, Councilor Roats questioned whether this process started with the chip game. He then asked whether the committee has some flexibility for land owners; are we asking people to do the impossible? He concluded by asking the open question of whether the committee is being flexible with economic realities. Mayor Clinton offered that one way to proceed is having a master plan for annexation.

Councilor Russell made a motion to accept the recommendations on the Thumb, the Elbow, and Alpine Park, and referred to the Wards' letter of February 8 that incorporates the swap of 12.8 acres of property. Councilor Knight provided a second to this motion. Planning Commissioner Wager raised an issue for discussion – he declared a potential conflict in interest due to his property abutting Alpine Park, and declared the potential conflict for the record. The motion passed unanimously.

After this series of motions and votes, Mr. Dills brought one last action item forward to the committee, which was outlined on Page 23 of the meeting packet. These action items are recommendations from the Boundary TAC, which are reproduced below:

> The Boundary TAC's recommendations include:
>
> • A policy framework (included in these minutes)
>
> • Refinements to Scenario 2.1C, which are captured in the Scenario 2.1D map and metrics

Mr. Dills summarized the recommendation from the Boundary TAC, and asked if there was a motion to approve these recommendations. Chair Chudowsky moved approval of this motion, with Councilor Boddie providing a second to the motion. Councilor Russell asked for

confirmation that the policy framework started on page 23 and included the bullet points half way down page 24.

Planning Commissioner Wolf commented that he thought it was good to include this. He also wanted to point out that the transect does not apply to the entire UGB. After this discussion on the motion, the motion passed unanimously.

5. Next Steps and Adjourn

Mr. Rankin informed the TAC that there are a number of products that the project team will be taking through the advisory committee process. These products include codes and plan policies, and he underscored that the next meeting series are important. He added that the BLI (buildable lands inventory) is final, the urbanization report is almost final, and that the team will present draft products to the TACs with a request to receive their comments on these by email. He noted that new topics will be heard in the next TAC meetings, and will include urbanization policies as well as a presentation on the total package of adoption materials.

He continued by noting that the TACs will finish their meetings with the final series of meetings in March. The project team will come back to the USC in April with a large package of products, including the final modeling for this meeting. He concluded by adding that findings are already in process, and that it's been a big day for the team

With no further business, Mr. Dills adjourned the meeting at 3:36 pm.

DRAFT

Memorandum

April 14, 2016

To: Bend Urban Growth Boundary Steering Committee
Cc: Technical Advisory Committees
From: Project Team
Re: Growth Management Chapter Overview and Draft Map Amendments

OVERVIEW

The purpose of this memorandum is to describe and recommend the:

- Draft Growth Management Chapter for the Comprehensive Plan, including the approach to area planning in the expansion areas
- Draft Comprehensive Plan designations for expansion areas
- Draft map amendments for opportunity areas inside the current Urban Growth Boundary (UGB)

DRAFT GROWTH MANAGEMENT CHAPTER HIGHLIGHTS

Overview

The draft Growth Management chapter is a new chapter for Bend's General Plan (which is being renamed to the Bend Comprehensive Plan). It captures the City's goals and policies regarding future planning for growth. The following is a brief overview of the chapter and its organization.

The Background section provides: the legal context on growth management; a brief summary of Bend's community setting, history and priorities; an aspirational future urban form diagram for the City along with an overview of urban form typologies; and brief descriptions of the opportunity areas identified through the UGB project.

Goals set broad direction and intent (e.g. *Implement an overall strategy to "Wisely grow up and out"*). They are intended to be guiding and aspirational; they are not regulatory policies.

The policies are regulatory; they are used as the basis for determining "consistency with the Comprehensive Plan", when specified by either the development code or the comprehensive plan. There are many policies, organized under headings, including:

- general growth management policies (e.g. *The City will encourage infill and redevelopment of appropriate areas within Bend's Central Core, Opportunity Areas and transit corridors.*);
- policies for centers and corridors, employment districts, and neighborhoods (e.g. *The City will encourage development and redevelopment in commercial corridors that is transit-supportive and offers safe and convenient access and connections for all modes.*);
- policies for special site needs identifying the City's site needs for a university and two large-lot industrial sites, and the locations where those will be met;
- policies laying out how more detailed planning for specific areas within the City can be done, both at the initiative of property owners and the City;
- annexation policies that provide guidance to annexation procedures and criteria in the municipal code (e.g. *Existing rural infrastructure systems and urban systems (water, sewer, transportation, stormwater) serving annexed areas may be required to be modernized and constructed to the City's standards and specifications, as determined by the City.*);
- general UGB expansion policies intended as local policy guidance to evaluating alternative future UGB expansions in the context of meeting state laws and administrative rules and balancing the factors established in state regulations; and
- specific expansion area policies that provide guidance to future planning and development in UGB expansion areas.

Approach to Area Planning for Expansion Areas

"Area planning" is a term used to capture a variety of tools to refine land use, transportation, and/or infrastructure plans for a specific geographic area. The Boundary TAC discussed area planning policy options at two meetings in March 2016, focusing on how area planning might help achieve the various objectives for the expansion areas, and align with the annexation process. The project team suggested four "givens" for the city's approach to annexation and area planning:

- Specific plan designations will be applied to expansion areas
- Flexibility should be provided to re-arrange land uses consistent with the Comprehensive Plan or a proposed amendment
- Housing numbers and mix, as well as the total acreage by generalized plan designation categories (e.g. commercial, industrial, residential), will be set in policy for each subarea to ensure that area planning remains consistent with the capacity work and assumptions for the UGB
- Laws and policies give the City broad discretion over annexation

Key recommendations from the March Boundary TAC meetings included:

1. **Support for area planning** - The Boundary TAC was supportive of area planning for expansion areas as a tool to ensure the objectives for each area are implemented.

2. **Ideas for Flexibility** - There should be flexibility in the approach – flexibility to: apply multiple tools; adjust land uses (without changing either capacities or housing mix); consider planning portions of subareas; and have public and/or private parties conduct the work subject to City review and adoption.
3. **Two basic approaches** - The TAC supported two approaches to area planning, depending on ownership patterns in each subarea. The first approach is *master planning* (as defined in the Development Code). It is an appropriate tool for expansion areas with a large property under one ownership or a few owners where all are large enough to be subject to master planning requirements (i.e. over 20 acres). The second approach is *City-initiated area plans* is an appropriate tool for subareas where there are many parcels and owners.
4. **Framework-level planning** – There was a shared concern that comprehensive area planning could be expensive and take many years to complete, leading to delays in annexation and development. This discussion led to the idea that "framework-level" area planning - focusing on the basics of transportation, parks, schools, water infrastructure, sewer collection infrastructure, and minor land use refinements - could be done relatively quickly and provide appropriate guidance to the physical cohesion of various subareas.
5. **Implementation of needed housing** – How to ensure multifamily and related affordable housing choices are planned and developed was raised as an important issue.

The Boundary TAC concluded by approving the area planning approach summarized below.

Require area planning

- Master plan approach: DSL, Thumb, West, Shevlin
- City-initiated area plan approach: OB Riley, North Triangle, Northeast Edge, Elbow

Provide flexibility

- The City will define the geographic area of each city-initiated area plan, meaning it can allow an area smaller than a full subarea if City criteria are met (consideration of a full subarea is desirable as the general rule).
- In OB Riley, North Triangle, Northeast Edge, and the Elbow, there is an option for property owners to propose annexation along with a master plan covering at least 40 acres if a framework-level area plan is submitted concurrently for the remainder of the subarea.

The team has written policies as directed by the Boundary TAC to establish the above approach in the draft Growth Management Chapter of the Comprehensive Plan.

Affordable Housing

TAC review of the draft Growth Management chapter led to a discussion of why housing affordability was not mentioned in the goals or general growth management policies. The Residential and Employment TACs were provided an email comment period to give input on housing affordability and how and where it should be addressed in the Comprehensive Plan.

The Housing Chapter includes background information and multiple policies related to housing affordability.

In addition to the email comment period, Residential TAC Chair Al Johnson was requested by the TAC to draft a potential policy for consideration by the Boundary TAC. Chair Johnson proposed (with support of some Residential TAC members but not all) to include a new policy in the Growth Management chapter regarding consideration of affordable housing in balancing the social and economic consequences of bringing future alternative expansion areas into its urban growth boundary.[1] The Boundary TAC could not reach consensus on this proposed policy. The Boundary TAC passed the following motion (with two abstentions) in their March 30th meeting, summarizing their discussion and recommendation:

"There is general consensus that affordability is important, and we included that in our analysis, and that there are some strong feelings that it should be in the Growth Management chapter in some form. We could not agree on where or in what form, so the TAC is sending the issue on to the USC with the recommendation that they consider it and add policy as appropriate."

Staff proposes two policy options for consideration by the USC:

Option 1 is a policy that would be placed in the General UGB Expansion Policies section. This approach would be directive to future UGB expansions. The text below was recommended by Chair Johnson:

> *11-XX - The city will consider the relative ability of proposed expansion areas to address the city's affordable housing needs in balancing the social and economic consequences of bringing alternative expansion areas into its urban growth boundary.*

Option 2 is to incorporate relevant policies on affordable housing from the Housing chapter into the "Policies for Residential Areas and Neighborhoods" section. This approach would not be specifically directive to future UGB expansion efforts, but would acknowledge the City's intent to implement the statewide goal. The text below comes from the current draft of the Housing Chapter of the Comprehensive Plan:

> *11-YY – The City will continue to create incentives for and remove barriers to development of a variety of housing types in all residential zones, consistent with the density ranges and housing types allowed in the zones. This policy is intended to implement the City's obligation under the State Housing Goal to "encourage the availability of adequate numbers of needed housing units at price ranges and rent levels which are commensurate with the financial capabilities of Oregon households and allow for flexibility of housing location, type, and density".*

[1] It should be noted that Chair Johnson recommended this policy in 2015 during TAC discussions of the Housing Chapter. At the time, the team responded that the issue should be considered in the Growth Management Chapter, but inadvertently overlooked including the policy when the chapter was drafted some months later.

11-ZZ - The City will apply plan designations, zoning districts and development code regulations to implement the mix of housing indicated in the adopted Housing Needs Analysis.

Wildfire

The Background section of the Growth Management chapter includes text to introduce the concept of wildfire (see page 3). More detailed background information about wildfire risk, hazard, and mitigation is proposed to be added to Chapter 10 (Natural Forces). A new policy is proposed to be included in both chapters (with cross-references; see policy 11-5, page 12).

University Special Site Need Policy

Deschutes County Facilities Division submitted written testimony requesting a modification to Policy 11-18 (University Special Site need) to clarify that the county-owned former demolition dump site is not limited solely to/for use by the university. During the March 30th Boundary TAC, member Nick Lelack from Deschutes County told the TAC that he would be checking with others at the County regarding further input into Policy 11-18. Based on the County's testimony, the project team suggests the following addition to Policy 11-18 (shown in underline text):

11-18 The City has identified a need for a special site for a university. This need will be met on the land currently owned by Oregon State University between Century Drive, Mt. Washington Drive and Simpson Avenue (see Figure 11-3). Further expansions of the university on the adjacent County-owned property and property within this general area are consistent with meeting the special site need. However, property not currently owned by Oregon State University is not subject to restrictions on future uses.

DRAFT COMPREHENSIVE PLAN MAPS FOR EXPANSION AREAS

Approach to Plan Designations

In the 2008 UGB expansion proposal, the City drafted General Plan maps for UGB expansion areas that included a mix of specific plan designations for smaller properties and Master Plan Area designations for larger ownerships, coupled with tables describing the required number of acres for each General Plan designation within a given area. The Remand did not take issue with this approach.

During the current UGB process, scenarios have been created using "development types" that represent specific plan designations. Scenario maps that have been shared with the project's committees and the public have shown generalized land uses (based on "development types" used in the Envision Tomorrow scenario model tool) applied in specific areas. The review of scenario maps has also included TAC discussions and public testimony on proposed land uses on various parcels, transportation facilities, and possibilities for parks and schools. Planning concepts have been part of the dialogue, addressing issues such as use of the transect

approach, compatibility with adjacent development, and how new development in expansion areas can complement existing development in the city.

Given the work accomplished to date, the Boundary TAC and project team recommend that specific plan designations be adopted for expansion areas. It is important that flexibility be coupled with the more specific maps, as reflected in the area planning policies.

Draft Preferred UGB Expansion Scenario 2.1E

At the meeting on February 10, 2016, the USC approved the recommended scenario from the Boundary TAC's January 20, 2016 meeting (identified as Scenario 2.1D) with one modification (a swap of 12.8 acres of residential land owned by the Ward family in the Thumb for 12.8 acres of commercial land also owned by the Ward family in the Elbow). The swap did not change the total expansion acreage in either subarea, but did change the mix of uses. The resulting scenario was identified as Scenario 2.1E. On March 30, 2016, the Boundary TAC reviewed the draft UGB and Comprehensive Plan designations to implement Scenario 2.1E and approved them with several minor changes to the plan designations. The updated Comprehensive Plan maps (identified as Scenario 2.1F) are included as an attachment to this memo.

Overview of the Draft Comprehensive Plan Designation Maps

Draft Comprehensive Plan maps (reflecting Scenario 2.1F) are attached. The maps were created by translating Scenario 2.1E using the principles and assumptions below, then updating to capture the Boundary TAC's recommendations.

- The "development types" comprising Scenario 2.1E, as approved by the USC, were used as the starting point.
- Total acres of each comprehensive plan designation match those of Scenario 2.1E.
- Land use designations were adjusted to follow property lines and centerlines of rights-of-way wherever possible.
- Large properties are expected to re-arrange land use designations (through master planning) in a way that will best meet their individual development priorities while maintaining the same overall acreage of each designation.

Based on input from the Boundary TAC, a refinement to the maps has been proposed that deviates slightly from what is shown in Scenario 2.1E: removal of the IG plan designation on vacant land owned by the School District south of High Desert Middle School in the Elbow. Scenario 2.1E assumed employment uses on this land consistent with ME/IG designations, but the IG designation precludes construction of additional school uses. The Boundary TAC recommended a swap of roughly 9 acres of IG from the school district property in the Elbow to the northern-most property in the OB Riley area, and applying the ME plan designation that would be displaced from OB Riley on the southern portion of the school district property.

The Boundary TAC also recommended "reshaping" (no acreage change) of the non-residential land use designations in the Shevlin and West subareas, so as to have the plan designations

better mirror the intended zoning and future master plan land uses. The maps resulting from these changes, as directed by the Boundary TAC, are attached.[2]

DRAFT MAP AMENDMENTS FOR OPPORTUNITY AREAS

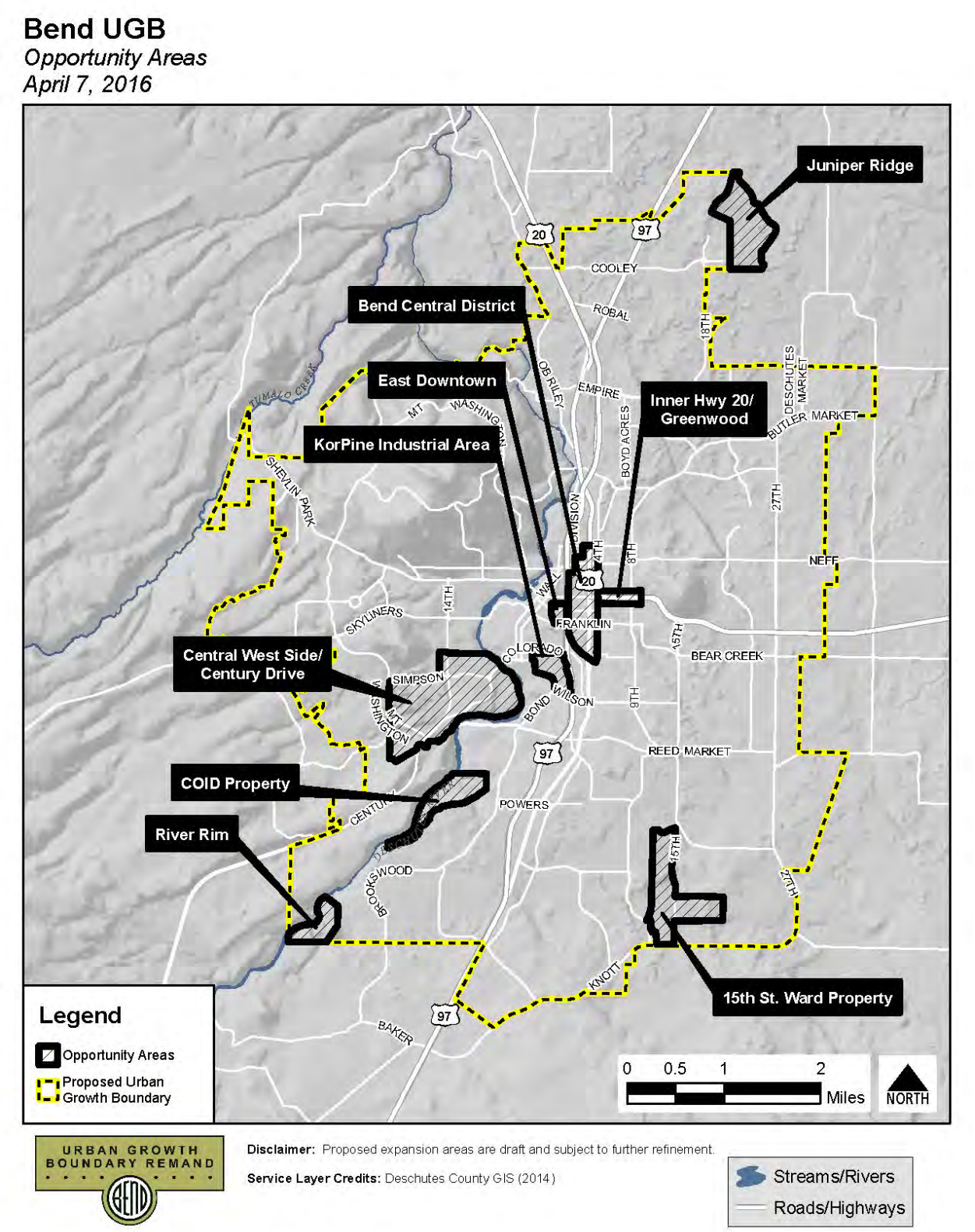
Overview

This section summarizes the joint Residential and Employment TAC recommendation for plan map amendments and zone changes to implement the assumptions that underlie the UGB capacity analysis in identified opportunity areas. The team believes this approach meets the requirements of the Remand Order and state law. The project team discussed the options with the USC in December 14, 2015 and was directed to prepare a recommendation for a "blended approach" to zone changes. That approach was prepared for TAC review and approved at the joint Residential and Employment TAC meeting on March 17, 2016.

Figure 1 identifies the opportunity areas discussed in this section. The attached map series illustrates the proposed Comprehensive Plan and Zoning map amendments for each area.

[2] Note that the adjustment to the placement of the commercial and mixed employment designations on the Miller property result in a slight update to the acreage of these designations due to the fact that they will no longer extend to the centerline of existing street right of way. The acreage on private property remains the same.

Figure 1: Opportunity Areas Reference Map



Opportunity Area Recommendations

The table below summarizes the impact of and recommendations for map amendments for the opportunity areas.

Opportunity Area		Modeling Assumptions		Affected Properties (Approx.)	Recommend Plan Amendment?	Recommend Zone Change?
#	Name	New Housing Units	New Jobs			
1	Bend Central District	330	481	330	No[3]	Yes (Special Plan District; IL to ME)[3]
2	East Downtown	5	8	80	Yes (CG to MU)	No[4]
3	Inner Hwy 20	-	-	65	Yes (CC to MN)	No[4]
4	Century Drive	413	931	~200	Yes[5]	No[4]
5	KorPine	189	278	14	Yes (IG & ME to MU)	Yes (IG & ME to MU)
6	Juniper Ridge East	-	1,486	1	No	No[6]
7	15th Street / Ward	1,013	386	4	Yes (RS to CC, ME, RM, RH)[7]	Yes (RS to CC, ME, RM, RH)[7]
8	River Rim	147	6	2	No[8]	No[8]
9	COID	-	-	2	Yes (PF to RS)[9]	No[9]

[3] A Special Plan District is recommended for the Bend Central District. The Special Plan District was developed during the planning process for the area. It supersedes the base zones; thus, the recommendation from the Bend Central District planning process was to leave the existing plan designations in place. Rezoning areas currently zoned IL within the Bend Central District that have a plan designation of ME was recommended during the planning process.

[4] Rezoning is recommended to be deferred to property owner initiative.

[5] The specific plan designation(s) to be applied within this area are subject to the recommendations of the CWP advisory committee. A combination of the two new mixed use designations is anticipated.

[6] The City will need to coordinate with ODOT to amend or expand the existing Inter Governmental Agreement pertaining to transportation improvement phasing and financing in conjunction with rezoning of the easterly portion of the site.

[7] Note that the majority of the site is recommended to remain RS.

[8] This property already has the RS plan designation in place. It is currently zoned RL. Rezoning consistent with the plan designation is proposed to be deferred to property owner initiative.

[9] Removed from scenario modeling based on testimony demonstrating that it is encumbered by a view easement through 2032. Will not impact capacity, but would make it easier for COID to develop the property if/when they can resolve the easement issue. The property is already zoned RS, so a zone change is not necessary.

Streamlining Rezoning Consistent with the Comprehensive Plan

Currently, the city's zone change process for properties that have a plan/zone conflict and are seeking to re-zone consistent with the General Plan are a quasi-judicial zone change, which is a Type III procedure, subject to Hearing Officer's decision. There is no distinction between zone changes that are consistent with the plan designation and those that are combined with a plan amendment. In order to reduce uncertainty and streamline the process for applicants, the project team recommends that the City adopt amendments to Chapter 4.6 of the Development Code to make zone changes that are consistent with the comprehensive plan designation subject only to a criterion regarding adequate public facilities, and not require analysis of compliance with statewide planning goals or Comprehensive Plan policies. This would limit the potential for appeal to issues of infrastructure adequacy.

DRAFT | April 13, 2016

City of Bend Comprehensive Plan

Chapter 11: Growth Management









Chapter

Adopted Amendments

(insert table // quick table)

EFFECTIVE DATE	ORD #	CHANGES

BACKGROUND

Legal Context and Supporting Documents

Statewide Planning Goal 14 requires that cities establish and maintain Urban Growth Boundaries (UGBs) to provide land for urban development needs and to identify and separate urban and urbanizable land from rural land. The goal's purpose is: "To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside UGBs, to ensure efficient use of land, and to provide for livable communities".[1]

Like the statewide goal, Bend's growth management planning, goals and policies are comprehensive. The City plans for how much and what types of land are needed for future growth and what the form of new development should be to ensure a livable community and enhance Bend's high quality of life.

Bend's Urbanization Report documents: (1) the capacity of land inside the UGB to accommodate growth, including measures intended to result in efficient use of land; and (2) the City's evaluation of potential locations for UGB expansions and the consideration of the four Goal 14 factors in reaching a proposed UGB expansion. The Urbanization Report is focused primarily on the legal and technical aspects of growth management in Bend. The Urbanization Report for growth to 2028 is adopted and incorporated as Appendix X of the Comprehensive Plan.

Bend's Urban Form Report describes the physical form of the city. Urban form provides a way to understand the relationships between land uses and between the natural and built environments that give meaning to the legal exercise of planning for growth within and expansions of the city. Urban form encompasses the physical shape and design of the city. The layout of Bend's streets, the location and design of homes and businesses, and the distances between destinations all affect the quality of life for residents and visitors. Urban form influences land values; where residents live, work, shop and relax; everyday travel choices; and whether commute trips can be made by walking or biking, using transit, or driving. Bend's urban form also directly affects natural systems such as air and water quality, wildfire risk, health, and diversity of plants and wildlife. The Urban Form Report is a non-regulatory document that supports the goals and policies in this chapter of the Comprehensive Plan. It is adopted as Appendix Y of the Comprehensive Plan.

Community Context

Bend's identity and unique urban form stem from the city's regional context, beautiful natural setting, and growth over approximately 100 years. Bend is the largest urban area in Oregon east of the Cascade Mountains. The city is uniquely situated between the Cascade Mountain Range and Deschutes National Forest to the west, and high

[1] OAR 660-015-0000(14)

desert plains to the east. Bend's varied topography and abundant natural features are major influences in its existing urban form and identity as a city. In many ways, the city's rapid growth is a direct result of its natural and scenic resources and proximity to the outdoors. The city's physical and visual access to Mt. Bachelor, the Three Sisters, the buttes within the city (such as Awbrey Butte and Pilot Butte), Deschutes River, and Tumalo Creek provide defining contextual elements of the city's urban environment and community identity.

Bend's location in the high desert also means that the community is susceptible to wildfires. While wildfire risk and hazard have had only a modest impact on the city's urban form historically, as the city expands further into the Wildland-Urban Interface, strategies to minimize and mitigate wildfire hazard will become increasingly important (see Chapter 10 for more about wildfire risk and hazard).

Comment: The proposed additional background language above is intended as a brief way of introducing the topic of wildfire, which will be addressed more thoroughly through new text in Chapter 10 (Natural Forces).

In the built environment, key transportation facilities such as Highway 97 and Highway 20 as well as freight rail lines connect Bend with other major regional destinations but also create barriers to pedestrian and habitat connectivity, and shape an auto-oriented urban form along the adjacent land. Bend's trail system, on the other hand, is essential to creating connected neighborhoods because it provides recreation opportunities and active transportation options, and contributes to the economic vitality of the community. Its parks provide places to play, connect, and socialize; access to nature; and natural system functions.

The city's historic development patterns, including the historic downtown and adjacent neighborhoods, which were developed in the late 19th and early 20th centuries, create a vibrant core with a gridded street system and short block lengths that provide a pedestrian-oriented setting as well as iconic public spaces such as Drake Park. Later development through the mid- to late-20th century produced quiet, generally low-density suburban neighborhoods with winding streets, and busy commercial corridors along major roads. As the lumber and farming industries waned in importance and tourism and recreation grew, the nature of employment areas shifted, with the beginnings of redevelopment within the city's urban core, such as the Old Mill District.

Today, Bend is a city in transition. In the first two decades since 2000, Bend is increasingly becoming less of a town and more of a small *city*, as evidenced by:

- A 2016 resident population of over 80,000, expected to grow to over 115,000 by 2028;
- A growing role as the regional economic center for Central Oregon;
- Recent rapid growth - the 7th fastest growing metro area in the country in 2015;
- A resident plus visitor population that swells the city's population to over 100,000 (2016) at the height of the summer tourism season;

- A prosperous downtown with 3-4 story mixed use development and structured parking;
- The success of Northwest Crossing, where traditional neighborhood development, convenient access to shops, parks, schools, and trails, as well as pedestrian friendly streetscapes are central to the development concept;
- New development, redevelopment, and adaptive re-use in the Mill District, employment lands north of Century Drive, and other industrial and mixed-employment lands throughout the City;
- A significant growth in transit ridership since fixed route service was established in 2007;
- Oregon State University's decision to establish the 4-year Cascades Campus in Bend;
- Public planning and investments in key infrastructure (e.g. the citywide sewer system) and urban amenities (e.g. Drake and Shevlin Parks, recreational amenities such as the Ice Skating Pavilion and reconstructed white water park on the Deschutes River, and Healy Bridge, to name a few);
- Housing affordability challenges; and
- The growth of the "makers" economy, such as craft brewing.

Bend's growth management strategies are intended to help make the transition described above from small town to city and contribute to maintaining Bend's livability and desirability as the city grows and evolves.

Complete Communities

Key Ingredients

Complete communities have varied housing options and many of the essential services and amenities needed for daily living, including quality public schools, parks and open spaces, shops and services, all within a convenient walking or biking distance. Complete communities should also have convenient access to public transportation and employment areas.

Community Priorities

In Bend, and across the nation, residents and local officials are increasingly making walkability, mixed use and access to amenities a high priority. This trend will spur the growth and redevelopment of areas within Bend that are walkable and have many amenities and services close by. Research indicates that walkable and mixed use communities have higher property values, more opportunities for affordable housing, and also encourage greater bike, pedestrian, and transit use. An increased interest in complete communities is also expected to heighten demand for thoughtfully planned neighborhoods and employment districts in expansion areas where uses are knit

together and accessible by a variety of travel modes. As land prices increase and demographic shifts increase demand and need for a greater variety of housing options, densities are expected to increase in newly-built neighborhoods and through modest amounts of infill and redevelopment in existing neighborhoods.

Urban Form Typologies

Urban form "typologies" are used in Bend's growth management planning to provide a standardized system for organizing and classifying different development patterns around the city. The typologies help capture the current mixture of land uses and create a palette to describe the desired future urban form of Bend; however, they are intended to be descriptive rather than regulatory.

The typologies are broadly organized into Centers and Corridors, Employment Districts, and Neighborhoods. These are summarized in brief below. For additional description of the typologies and how they were developed, see the Urban Form Report in Appendix Y.

Centers and Corridors

Bend's commercial areas take the form of one of two general shapes: (1) Centers, which are focal areas of commercial or mixed uses at an intersection, or contained within one to three blocks; or (2) Corridors, which follow a distinctly linear shape of commercial uses, typically along a busy street. The Centers and Corridor typologies vary in the intensity of commercial development and also the scale of area they serve. There are four different types of commercial centers and corridor typologies in Bend, summarized below. Centers and corridors include pedestrian-oriented and transit-supportive design within the Central Core, Opportunity Areas, and transit corridors.

Center or Corridor Type	Characteristics
Urban Mixed Use Center	Serve the entire city/region Hubs of commercial, employment, and community services. Relatively high development densities.
Major Commercial Corridor	Located along transportation routes Primarily commercial uses that thrive on high visibility and accessibility. May include mixed-use development.
Community Commercial Center or Corridor	Serve surrounding neighborhoods. Provide a range of retail, service, and/or office uses, and may include mixed-use development
Local Community Center or Corridor	Smaller centers or corridors with small-scale retail and local services. Generally surrounded by neighborhoods May include mixed-use development

Employment Districts

Employment Districts are areas where the predominant uses are offices or industrial uses. Retail may be present but is a relatively minor use. Bend's Employment Districts support a diverse range of jobs and industries, and vary mainly in their primary function and the mix of employment uses. There are four different typologies of Employment Districts in Bend, summarized below. Employment Districts include pedestrian-oriented and transit-supportive design within the Central Core, Opportunity Areas, and transit corridors, and where noted below.



Employment District Type	Characteristics
Institutional	Educational institutions and campuses such as Central Oregon Community College and Oregon State University Typically pedestrian-oriented and transit-supportive
Medical Center	Focused on uses including hospitals, medical offices, and other related facilities, such as St. Charles Medical Center and the surrounding uses Residential uses are generally limited to group homes with some multi-family development
Industrial or Professional Office	Uses include manufacturing, industrial and office uses Typically auto-oriented with large parking areas Few or no residential uses
Mixed Employment	Mix of retail and community services, office uses, manufacturing and light industrial uses such as creative and flexible work spaces May include mixed-use development

Neighborhoods

Neighborhood typologies are based on a range of factors including mix of housing types, permitted density (dwelling units per acre), block layout, connectivity and proximity to amenities such as parks and schools. Bend has a wide variety of neighborhoods. Five existing neighborhood typologies have been identified, and are summarized below. Neighborhoods may include pedestrian-oriented design, and can be transit-supportive where transit is available or planned.

Neighborhood Type	Characteristics
Historic	Close association with the early development of Bend, such as Drake Park Historic District. Historic buildings and architecture with unique cultural or historic value Neighborhood streets in a grid pattern
Traditional	Typically developed with a grid street pattern. Some mix of housing types, but moderate overall densities. Often have commercial nodes or corridors within walking distance May be older neighborhoods such as Bend's "Midtown" and inner west neighborhoods or new development such as Northwest Crossing
Mixed Suburban	Moderate residential densities with a mix of housing types, including some multifamily, duplex/triplex and/or single family attached housing. Local street patterns may be meandering rather than a grid layout
Single Family Suburban	Largely single family detached homes at low to moderate densities. Local street patterns may be meandering rather than a grid layout
Large Lot	Primarily single family detached homes on large lots Local streets often winding to follow natural features with long driveways or private drives

Providing for Forecast Growth

The City is required to provide enough suitable land to accommodate 20-year land needs each time the UGB is evaluated in order to meet the requirements of Goals 9 and 10 for Employment and Housing land, respectively. As noted at the beginning of this Chapter, Bend's Urbanization Report presents an analysis of where and how Bend's future growth will be accommodated through growth on vacant land, infill/redevelopment, and UGB expansion. In order to ensure that the City's available land can accommodate the growth projected, the City has adopted "efficiency measures" in the Development Code, which are supported by policies in this Chapter as well as the Housing and Employment Chapters. Key components of the efficiency measures include minimum densities for each urban residential plan designation (and the corresponding zoning district), increased minimum densities for large master plan sites, and eliminating barriers to efficient development, such as overly restrictive lot size requirements in medium- and high-density zones.

Opportunity Areas

During the UGB Remand planning process (2014 to 2016), the City evaluated the efficient use of existing urban land through the lens of "opportunity areas". Opportunity areas are locations within the City that are appropriate to focus new growth due to their location, zoning (existing or planned), amount of vacant or underdeveloped land, and/or proximity to urban services. Each opportunity area will serve a unique role in the City's future – some are vacant land and will develop primarily through private sector initiative; others are redevelopment opportunities and will require a partnership of private sector investment and City support or investment.

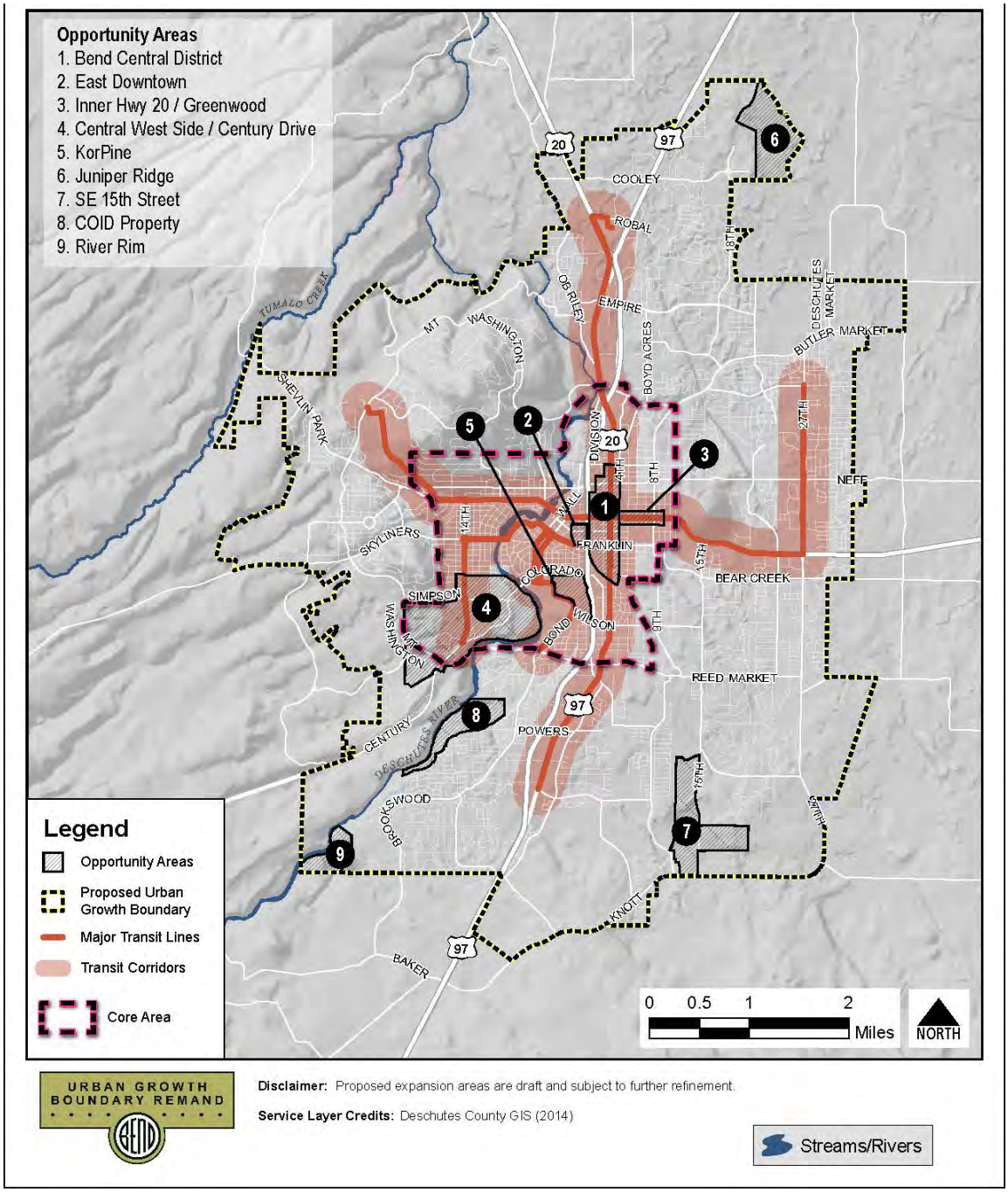
Bend's opportunity areas are summarized below – please see the Urbanization Report for more detailed descriptions of the opportunity areas.

- Bend Central District – opportunity for the 3rd Street commercial strip to transition to a mixed use corridor
- East Downtown – long term opportunity for an extension of the downtown
- Century Drive Area – a key part of the Central Westside Plan, the siting of OSU's new four-year Cascades campus offers an opportunity to create a new mixed use center anchored and supported by the new institutional employment district.
- KorPine – opportunity to transform an industrial area into a vibrant urban mixed use district
- Inner Highway 20 / Greenwood Ave – opportunity to shift to a more walkable mixed use corridor
- Juniper Ridge – opportunity for a future industrial and professional office employment district
- 15th Street Ward Property – As the largest vacant residentially-designated property in Bend, this area offers an opportunity to create a new complete neighborhood including a local commercial center, a variety of housing options, parks and a school

- COID Property – long term opportunity for a new neighborhood adjacent to the Deschutes River
- River Rim – opportunity for an environmentally-sensitive new neighborhood adjacent to the Deschutes River

The Opportunity Areas are shown on Figure 11-1.

Figure 11-1: Core Area, Transit Corridors, and Opportunity Areas



Bend's Central Core

Bend Central Core is a uniquely livable part of the city. The central core offers proximity to downtown, the Deschutes River, Mirror Pond, Juniper Park, many other smaller parks, and a variety of regional destinations; a walkable street grid; neighborhoods with historic character; successful small neighborhood centers and corridors (2nd and 4th Streets, 8th and 9th Streets, Newport Avenue, Galveston Avenue, SW 14th Street); access to a high concentration of jobs by a variety of modes; and transit service. This blend of the "D" Variables (Density, Diversity, Design, and Destinations) is the foundation of the area's livability and an important influence on travel behavior.

As described in Bend's Integrated Land Use and Transportation Plan, national research has shown that the "D" variables are highly influential on how much walking, biking, transit use, and linking of trips occurs – which reduces the need to drive.[2] This is important because the availability of transportation choices contributes to Bend's overall livability. It is also important because state law requires the City to reduce the reliance of the automobile. During the UGB Remand process (2014-2016), the City modeled vehicle miles traveled (VMT) per capita throughout the urban area under different growth scenarios as in indicator (required by the state) of reliance on the automobile. Predictably, the Central Core showed the lowest levels of VMT per capita, and the highest potential for "moving the needle" toward relatively less VMT per capita through infill and redevelopment to focus growth and further increase the density and diversity of uses in this area.

For all of the reasons described above, the Central Core is considered a particularly important part of the City's growth management efforts. The success of Bend's transition to more of an urban community will follow the continued growth, in appropriate areas, of the Central Core. It is important to note that placing a priority on growth within the Central Core does not mean that all areas should redevelop. In this context, "appropriate areas" means development and redevelopment on vacant lands, underutilized lands, and where development is designed to be compatible with adjacent, stable areas.

The Central Core area is shown on Figure 11-1. The "boundary" on this figure is illustrative only. The Central Core is a planning concept – its applicability to specific development and policy implementation needs to be interpreted on a case-by-case basis.

"Growing up" in appropriate areas within the Central Core, as well as transit corridors and opportunity areas, is a goal for Bend because these areas already have (or will have) the base infrastructure, population density, and urban amenity "completeness" that is needed for their success. They offer the best opportunities to reverse the growth of vehicle miles traveled per capita and increase walking, biking, transit, and linked trips by automobiles.

[2] See Bend Integrated Land Use and Transportation Plan, _____, 2016, page ___.

Urban Form Diagram

Figure 11-2 provides an illustrative future urban form diagram for the City of Bend. [Note: this map will be provided with the final version of the chapter.] This diagram is not intended to be regulatory in nature. Rather, it is a visual tool that captures the city's growth concept and its intentions for expansion areas as well as infill and redevelopment areas.

Area Planning Tools

The City has a number of tools and processes available to refine planning for specific areas. They include master plans, a development review tool used to guide the development of larger properties; and City-initiated planning efforts for specific geographic areas, such as refinement plans and special planned districts. Master plans are requested by property owners and approved as quasi-judicial land use decisions. City-initiated Area Plans are initiated by the City Council (sometimes at the request of property owners) and are adopted as legislative land use decisions. Additional area planning tools may be developed in the future to respond to specific needs.

In this chapter, the term "Area Plans" is used to encompass the full range of tools available for refinement of land uses, infrastructure and public facilities, and development regulations for specific geographic areas. Area planning can also be used as a tool for new growth in expansion areas to ensure that development is coordinated and efficient. Several types of area planning tools are described in the development code. Policies guiding area planning generally and master plans in particular are provided in the policy section of this Chapter.

Goals

Comment: A policy should be added to Chapter 1 (or the Preface) that says:

The Goals stated within this Comprehensive Plan are intended to be guiding and aspirational; they are not regulatory policies. The Policies in the Comprehensive Plan are regulatory, when applicable to a land use decision. They are used as the basis for determining "consistency with the Comprehensive Plan", when specified by the development code and this chapter.

The following goal statements describe the future urban form and growth aspirations of the community and serve as the foundation for policy statements in this chapter. The citizens and elected officials of Bend wish to:

- Encourage the city's evolution from small town to livable city, with urban scale development, amenities, and services in appropriate locations, while preserving and enhancing the natural environment and history of the community;
- Use Bend's existing urban land wisely, making efficient use of land inside the boundary, with infill and redevelopment focused in appropriate areas within the Central Core, along transit corridors, and in key opportunity areas (see Figure 11-1);

- Create new walkable, mixed use and complete communities by leveraging and complementing land use patterns inside the existing boundary and using expansion to create more complete communities;
- Locate jobs in suitable locations, where there is access to transportation corridors, larger parcels, and good visibility for commercial uses;
- Plan Bend's infrastructure investments for the long term;
- Meet state requirements for growth management and the UGB while achieving local goals;
- Lay the groundwork for the future growth of Bend by taking into consideration the context of lands beyond the UGB;
- Utilize best practices (e.g. cluster development, transect planning) in appropriate locations to reinforce the City's urban form, reduce risk of wildfire, and recognize natural features that present "hard edges" for urbanization; and
- Implement an overall strategy to *"Wisely grow up and out".*

Policies

General Growth Management Policies

(See related policies in Chapter 1, *Plan Management and Citizen Involvement* and Chapter 10, *Natural Forces.*)

11-1 The City will encourage compact development and the integration of land uses within the Urban Growth Boundary to reduce trips, vehicle miles traveled, and facilitate non-automobile travel.

11-2 The City will encourage infill and redevelopment of appropriate areas within Bend's Central Core, Opportunity Areas and transit corridors (shown on Figure 11-1).

11-3 The City will ensure that development of large blocks of vacant land makes efficient use of land, meets the city's housing and employment needs, and enhances the community.

11-4 Streets in the Centers and Corridors, Employment Districts, Neighborhoods, and Opportunity Sites will have the appropriate types of pedestrian, biking, and transit scale amenities to ensure safety, access, and mobility.

11-5 The City will adopt strategies to reduce wildfire hazard on lands included in the Urban Growth Boundary. These strategies may, among others, include the application of the International Wildland-Urban Interface Code with modifications to allow buffers of aggregated defensible space, or similar tools, as appropriate, to the land included in the UGB and annexed to the City of Bend.

Policies for Centers and Corridors

(See related policies in Chapter 6, *Economy.*)

11-6 The City will encourage vertical mixed use development in commercial and mixed use zones, especially where those occur within the Central Core, Opportunity Areas and along transit corridors.

11-7 The existing pattern of commercial plan designations shown on the Comprehensive Plan Map along arterial and collector streets including Newport Avenue and Galveston Avenue will not be extended into residentially designated areas unless approved through an Area Plan.

11-8 New commercially designated areas are encouraged to develop with mixed-use centers to include housing, open space, commercial development, and other employment uses.

11-9 The City will encourage development and redevelopment in commercial corridors that is transit-supportive and offers safe and convenient access and connections for all modes.

11-10 The City will encourage the development of Neighborhood Commercial centers. Such centers should be scaled to serve the frequent needs of the residents of the neighborhood.

11-11 Unless otherwise approved through an Area Plan, new Convenience Commercial Comprehensive Plan designations should be limited to five acres and should be one mile from another commercial Comprehensive Plan designation.

Policies for Employment Districts

(See related policies in Chapter 6, *Economy.*)

11-12 New employment districts with a mix of Plan designations such as commercial, industrial, and mixed employment may be created along Highway 97, Highway 20, and O.B. Riley Road.

11-13 The City will periodically review existing development and use patterns on industrial and commercial lands. The City may consider modifying Comprehensive Plan designations and Zoning to better respond to opportunities for redevelopment and revitalization of employment lands in underutilized areas.

Policies for Residential Areas and Neighborhoods

(See related policies in Chapter 5, *Housing.*)

11-14 The City will support re-designation of suitable areas that are within a 1/4 mile walk to transit corridors from a lower density designation to a higher density designation, where plan amendment criteria are otherwise met..

11-15 Neighborhood Commercial shopping areas may be located within residential districts and have development standards that appropriately limit their scale and recognize their residential setting.

11-16 Medium-and high-density residential developments should have good access to transit, K-12 public schools where possible, commercial services, employment, and public open space to provide the maximum access to the highest concentrations of population.

11-17 Schools and parks may be distributed throughout the residential sections of the community, and all types of dwelling units should have safe and convenient access to schools and parks. The School District and Park District facilities plans will determine the location and size of needed schools and parks.

Policies for Special Site Needs

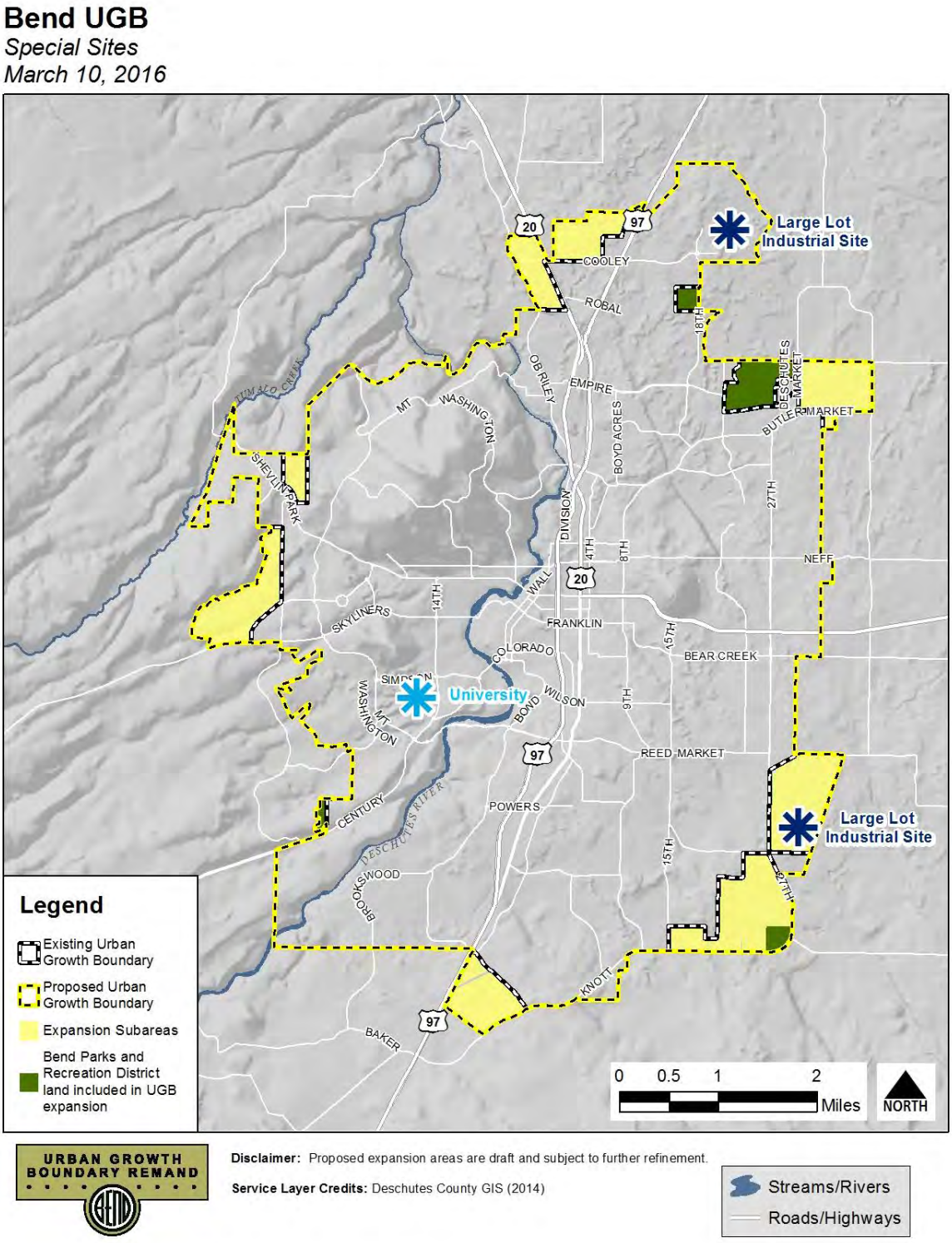
11-18 The City has identified a need for a special site for a university. This need will be met on the land currently owned by Oregon State University between Century Drive, Mt. Washington Drive and Simpson Avenue (see Figure 11-3). Further expansions of the university on the adjacent County-owned property and property within this general area are consistent with meeting the special site need.

11-19 The City has identified a need for two large lot industrial sites for targeted industries. This need will be met through the opportunity for one large lot industrial site in the eastern portion of Juniper Ridge and one large lot industrial site on the DSL property (see Figure 11-3).

11-20 Subsequent area planning for properties that are identified as meeting a special site need shall include regulations to protect the site for the identified use. The regulations will be consistent with the Regional Large Lot Industrial Land provisions for Crook, Deschutes and Jefferson Counties in Oregon Administrative Rules, Chapter 660, Division 24. The regulations will be consistent with the model code prepared as part of the 2011 Regional Economic Opportunities Analysis.

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Figure 11-3: Special Sites



General Area Planning Policies

11-21 Area Plans are intended to coordinate development and provide flexibility to tailor land use regulations and/or transportation and infrastructure plans to respond to area- or site-specific conditions.

11-22 The city will establish development codes to provide a variety of approaches to area planning in order to further the development of complete communities, unique developments which implement comprehensive plan policies, and provide for adequate public infrastructure.

11-23 The City may require Area Plans prior to development in UGB expansion areas.

11-24 Where Area Plans propose land uses that are inconsistent with the adopted plan designation(s), a plan amendment must be approved prior to or concurrent with adoption of the Area Plan.

11-25 An Area Plan that includes residentially designated land may prescribe residential density limits on specific properties that differ from the density range provided for in the Comprehensive Plan. However, the average density of housing within each residential plan designation in the plan area must remain within the range established by the adopted comprehensive plan map designations and applicable Comprehensive Plan policies, including applicable density bonuses or transfers. Deviation from this range requires approval of a plan amendment prior to or concurrent with the Area Plan that creates consistency between the plan designations and the average densities within each plan designation in the area plan. Certain areas, including large master plan sites and UGB expansion areas are subject to additional policies in this Chapter and/or additional standards in the development code regarding residential densities.

11-26 Area Plans for land within UGB expansion areas shall comply with the policies of this chapter. There is flexibility to refine the spatial arrangement of plan map designations provided that identified land and housing needs are still met. Where specific expansion area policies identify acreages of specific plan designations or general categories of plan designations (e.g. commercial) are identified, compliance is defined as providing the required acreages of gross buildable land to the nearest acre. Where expansion area policies identify a required minimum housing capacity and mix, compliance is defined as providing no less than the required number of units and providing the housing mix specified to the nearest percentage point (e.g. 37%).

11-27 Where changes are proposed to the arrangement of plan designations, the proposed arrangement must comply with the relevant policies of this Chapter.

11-28 Some UGB expansion areas have identified preliminary needs for schools and parks. The need and location for schools and parks is determined by the facility planning of the School District and Park

District. The School Attendance Areas and Park Service Areas may change and the Area Plans for the UGB expansion areas should take into account any updated school and park needs when the plan is prepared.

Master Planning Policies

11-29 The City will provide a mechanism in the development code for property owner-initiated master plans. The development code shall specify approval criteria and procedures for such master plans.

11-30 Master plans in expansion areas are subject to policies 11-54 to 11-115 of this chapter.

11-31 The purposes of master plans are to:

- Encourage innovative planning that results in complete neighborhoods, more mixed-use development, improved protection of open spaces, transportation options, and site phasing of development;
- Encourage developments that recognize the relationship between buildings, their use, open space, and transportation options, providing varied opportunities for innovative and diversified employment environments;
- Facilitate the efficient use of land;
- Promote an economic arrangement of land use, buildings, circulation systems, open space, and utilities;
- Preserve to the greatest extent possible the existing natural landscape features and amenities that may not otherwise be protected through conventional development;
- Encourage energy conservation and improved air and water quality; and
- Assist the City in planning infrastructure improvements.

Comment: the above bullets will be updated when the revised purpose statement is completed as part of the Master Plan code update. The policy and new code will be made consistent.

11-32 The City will provide the opportunity for master plans to proceed under clear and objective standards where the applicant does not seek to deviate from the standards of the development code, the adopted zoning map, or Comprehensive Plan map.

11-33 Residentially designated land within master plans must meet higher minimum density standards than established for the residential plan designations generally and must provide for a variety of housing types. The City will set appropriate standards in the Development Code for housing mix and density for master plans in each residential zone/plan



designation. Such standards will ensure minimum densities and minimum housing mix that are no less than those listed in Table 11-1.

Table 11-1. Residential Master Plan Minimum Density and Housing Mix

Residential District	Implementing Zone(s)	General Density Range*	Master Plan Minimum Density *	Master Plan Minimum Housing Mix**
Urban Low Density	Residential Low Density (RL)	Min: 1.1 Max: 4.0	2.0	10%
Urban Standard Density	Residential Standard Density (RS)	Min: 4.0 Max: 7.3	5.84	10%
Urban Medium Density	Residential Medium Density (RM)	Min: 7.3 Max: 21.7	13.02	67%
	Medium–10 Density Residential (RM-10)	Min: 6.0 Max: 10.0	6.0	67%
Urban High Density	Residential High Density (RH)	Min: 21.7 Max: 43.0	21.7	90%

* Density is expressed as dwellings per gross acre. See Bend Development Code for methodology to calculate minimum and maximum densities.

** Housing mix is expressed as the minimum percent of units that must be single-family attached townhome, duplex/triplex and/or multifamily residential units. See Bend Development Code for definitions of housing types.

11-34 Where a specific expansion area policy specifies a required overall housing mix for a given area, the total housing mix specified in policy shall apply in addition to the mix by plan designation listed in Table 11-1.

11-35 Master plans are required for developments over 20 acres unless otherwise specified in the Development Code. Properties in UGB expansion areas where a master plan is required are shown on Figure 11-4.

11-36 Where an approved City-initiated Area Plan exists, the City may find that some or all elements of a required master plan have been addressed and satisfied if they are already addressed by the Area Plan.

11-37 Approval of a City-initiated Area Plan that encompasses one or more properties over 20 acres (including abutting land in common ownership) does not exempt such properties from master plan requirements.

City-Initiated Area Plan Policies

11-38 The City may initiate Area Plans for neighborhoods, UGB expansion areas, opportunity areas within the city, or other discrete geographic areas.

11-39 Area Plans may be initiated by the City Council at its own initiative or at the request of property owners, if the owners agree to bear the cost of creating the plan. The City may, at its discretion, assist with some or all of the cost of creating an Area Plan initiated at the request of property owners.

11-40 The area to be included in a City-initiated Area Plan, and the scope, shall be approved by the City Council by resolution.

Annexation Policies

11-41 Annexations will follow the procedural requirements of state law.

11-42 Annexations will be consistent with the Comprehensive Plan and applicable annexation procedures and approval criteria.

11-43 Requests for annexation must demonstrate how the annexed land is capable of being served by urban services for sanitary sewer collection, domestic water, transportation, schools and parks, consistent with applicable district facility plans and the City's adopted public facility plans.

11-44 Annexations will be consistent with an approved Area Plan where applicable. The Area Plan may be reviewed and approved concurrent with an annexation application.

11-45 The City may, where appropriate in a specific area, allow annexation and require area planning prior to development approval.

11-46 Land to be annexed must be contiguous to the existing City limits unless the property owners requesting annexation show and the City Council finds that a "cherry-stem" annexation will both satisfy a public need and provide a public benefit.

11-47 Compliance with specific expansion area policies and/or Area Plans will be implemented through master plan approval or binding annexation agreement that will control subsequent development approvals.

11-48 Existing rural infrastructure systems and urban systems (water, sewer, transportation, stormwater) serving annexed areas may be required to be modernized and constructed to the City's standards and specifications, as determined by the City.

11-49 The City may consider funding mechanisms and agreements to address on- and off-site improvements, modernization of existing infrastructure to the City's standards and specifications, and impacts to infrastructure inside the current City limits.

11-50 Properties over 20 acres (including adjacent property in common ownership) as of the adoption of the UGB expansion (shown on Figure 11-4) are subject to master plan requirements, regardless of property acreage upon annexation.

General UGB Expansion Policies

The following policies are intended as local policy guidance to evaluating alternative future UGB expansions in the context of meeting state laws and administrative rules and balancing the factors established in state regulations. The emphasis on "guidance" above recognizes that the City will define goals and evaluation criteria to be applied for each unique UGB expansion process.

11-51 The City will consider the value of balancing and distributing UGB expansions geographically around the city consistent with State of Oregon laws and rules to distribute the benefits (and impacts) of growth and to provide more options for new neighborhoods.

11-52 The City will utilize new growth in expansion areas as a strategy to help make existing neighborhoods, centers, corridors, and employment districts inside the boundary more "complete" by: diversifying the housing mix; providing local commercial services and jobs; increasing transportation connectivity; and providing needed public facilities such as parks and schools.

11-53 The City will take into consideration the context of land beyond a single UGB expansion to inform the type and intensity of uses that are appropriate in each potential expansion area.

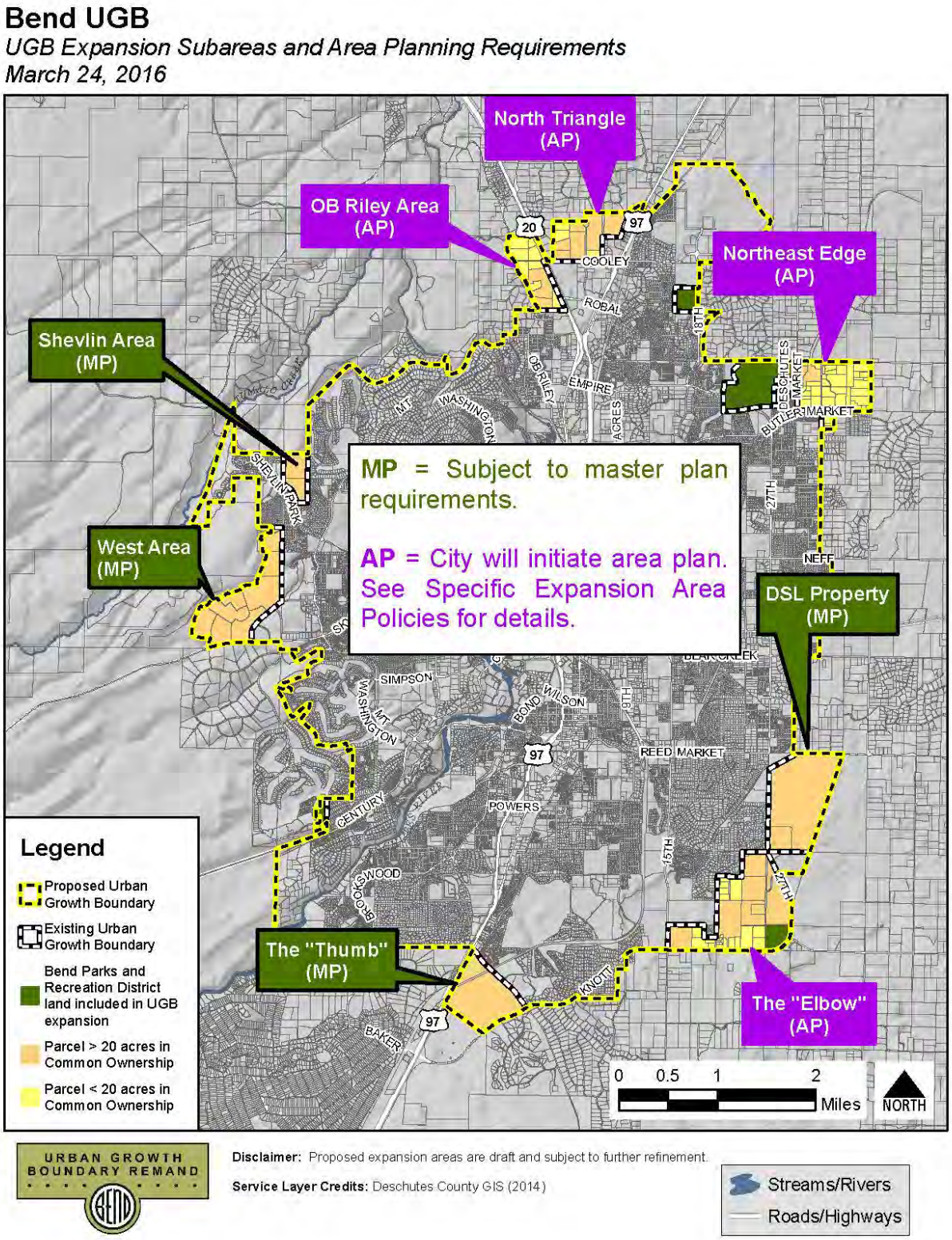
11-54 The City will consider applying the concept of a "transect" to appropriate areas. The transect is a series of zones that transition from urban to rural which can reduce the risk of wildfire and provide an appropriate transition from urban uses to national forest lands and other resource areas, such as wildlife habitat, that will not be urbanized within the long-range future.

Specific Expansion Area Policies

Area-specific policies for land added to the UGB established in 2016 are intended to guide the development of Area Plans (including Master Plans) for expansion areas (see Figure 11-4). These areas are also subject to policies in this Chapter regarding urbanization and annexation.

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Figure 11-4: UGB Expansion Subareas Reference Map



Northeast – Butler Market Village:

11-55 The City will initiate an Area Plan for the Northeast – Butler Market Village area. The Area Plan will address policies 11-56 through 11-62. Prior to completion of the Area Plan, annexations in this area must be a minimum of 40 contiguous acres and be the subject of a master plan application, which includes a framework level Area Plan for the rest of the subarea. Following adoption of the Area Plan, annexation and development of individual properties or groups of properties of any size, consistent with the Area Plan, may be approved.

11-56 Within the area identified on Figure 11-4, the central planning concepts are to: create a new, complete community as a node that sets the stage for additional urban growth in the future; and increase the mix of housing and land uses in the area to increase the completeness of the existing neighborhoods inside the UGB.

11-57 This area shall provide for a mix of residential and commercial uses, including 233 gross acres of residential plan designations and 25 gross acres of commercial plan designations (including existing right of way).

11-58 In order to provide sufficient housing capacity and mix, the residential plan designations shall include 188 gross acres of RS, 29 gross acres of RM, and 16 gross acres of RH. Acreages include existing right of way. The acreage of RS includes roughly 14 acres for an elementary school site, which may be designated PF if a site has been acquired by the School District prior to completion of the Area Plan. Alternatively, the Area Plan may demonstrate that this area will provide capacity for a minimum of 1080 housing units, including at least 11% single family attached housing and at least 40% multifamily and duplex/triplex housing types. The Area Plan may include and rely on plan designations, zones, special plan districts, and/or other binding development regulations to demonstrate compliance with the specified mix and capacity.

11-59 The street, path and bikeway network shall provide connectivity throughout this area, connect to existing abutting local roads, and provide opportunities for connections to adjacent undeveloped land both inside and outside the UGB. The transportation network shall be consistent with the Bend Transportation System Plan.

11-60 Coordination with the Bend-LaPine School District is required in order to identify a suitable site for an elementary school within this area.

11-61 Coordination with Bend Parks and Recreation District is required in order to address provision of parks and/or trails within this area.

11-62 Coordination with Central Oregon Irrigation District is required in order to address circulation and access issues related to the existing canals in this area and to identify opportunities for trails to be co-located with canal easements or right of way.

DSL Property:

11-63 Master planning is required for this area. The master plan must be consistent with both master plan standards in the development code and policies 11-64 through 11-72 below.

11-64 The overall planning concept for the DSL property as identified in Figure 11-4 is for a new complete community that accommodates a diverse mix of housing and employment uses, including the potential for a large-lot industrial site.

11-65 This area shall provide for a mix of residential and commercial uses, including 166 gross acres of residential plan designations, 60 gross acres of residential and/or public facility plan designations, 41 gross acres of commercial plan designations, and 95 gross acres of industrial plan designations, including one large-lot industrial site. (Gross acreages include existing right of way.)

11-66 In order to provide sufficient housing capacity and mix, the residential plan designations shall include 198 gross acres of RS, 9 gross acres of RM, and 19 gross acres of RH. Acreages include existing right of way. The acreage of RS includes roughly 21 acres for an elementary school site and up to 35 acres of parks and public open space, which may be designated PF if land has been acquired by the school or park district at the time of the master plan. Alternatively, the master plan may demonstrate that this area will provide capacity for a minimum of 1130 housing units, including at least 12% single family attached housing and at least 38% multifamily and duplex/triplex housing types.

11-67 Subsequent planning for this area shall address preservation of at least 50 acres for a large lot industrial site in compliance with the policies in Chapter 6.

11-68 Coordination with the Bend-LaPine School District is required in order to identify a suitable site for an elementary school within this area.

11-69 Coordination with Bend Parks and Recreation district is required in order to address provision of parks and/or trails within this area.

11-70 Coordination with other special districts and utility providers is required within this area.

11-71 Bat habitat should be mapped and protected from development, including a suitable buffer around any identified habitat areas in order to ensure their continued habitat value.

11-72 Trail connections should be provided along canal easements and through other open space wherever feasible.

The Elbow:

11-73 The City will initiate an Area Plan for the Elbow area. The Area Plan will address policies 11-74 through 11-82. Prior to completion of the Area Plan, annexations in this area must be a minimum of 40 contiguous

acres and be the subject of a master plan application which includes a framework level Area Plan for the rest of the subarea. Following adoption of the Area Plan, annexation and development of individual properties or groups of properties of any size, consistent with the Area Plan, may be approved.

11-74 This area, as identified in Figure 11-4, is intended to provide for employment uses to take advantage of good transportation access on Knott Road and 27th and existing city streets (and future improved access with the Murphy Extension) with a mix of residential uses providing a compatible transition from the employment lands to existing neighborhoods to the west. This mix of uses is also intended to increase the completeness of the existing low density neighborhoods.

11-75 This area shall provide for a mix of residential, commercial and industrial uses, including 125 gross acres of residential plan designations, 73 gross acres of commercial plan designations, 81 gross acres of industrial designations, 110 gross acres of mixed employment plan designations, and 85 gross acres of public facilities.

11-76 In order to provide sufficient housing capacity and mix, the residential plan designations shall include 80 acres of RS, 36 acres of RM, and 9 acres of RH. Alternatively, the Area Plan may demonstrate that this area will provide capacity for a minimum of 860 housing units, including at least 18% single family attached housing and at least 46% multifamily and duplex/triplex housing types. The Area Plan may include and rely on plan designations, zones, special plan districts, and/or other binding development regulations to demonstrate compliance with the specified mix and capacity.

11-77 The alignment of a new collector street between 15th Avenue and 27th Avenue / Knott Road shall be determined in coordination with the City, consistent with the Transportation System Plan.

11-78 Subsequent planning for this subarea shall address funding for the Murphy Road extension from Brosterhous to 15th Avenue.

11-79 The street, path and bikeway network shall provide connectivity throughout this area, connect to existing abutting local roads, and provide opportunities for connections to adjacent undeveloped land inside the UGB. The transportation network shall be consistent with the Bend Transportation System Plan.

11-80 Coordination with Bend Parks and Recreation district is required in order to address provision of parks and/or trails within this area.

11-81 Coordination with the Bend-La Pine School District will occur during area planning within this subarea.

11-82 Coordination with other special districts and utility providers is required within this area.

The Thumb:

11-83 Master planning is required for this area. The master plan must be consistent with both master plan standards in the development code and policies 11-84 through 11-89 below.

11-84 The planning concepts for the Thumb, which is depicted in Figure 11-4, include: a new complete community; provision of needed local commercial services to serve the Thumb and existing neighborhoods to the north; inclusion of industrial and other employment uses near the railroad line to take advantage of good proximity to Highway 97 and Knott Road, and, creation of an attractive southern gateway to Bend.

11-85 This area shall provide for a mix of residential and commercial uses, including 44 gross acres of residential plan designations, 87 gross acres of commercial plan designations, and 60gross acres of industrial designations, and 31 acres of mixed employment plan designations (including existing right of way).

11-86 In order to provide sufficient housing capacity, the residential plan designations shall include 35 gross acres of RS, 7 gross acres of RM, and 2 gross acres of RH. Alternatively, the master plan may demonstrate that this area will provide capacity for a minimum of 300 housing units, including at least 15% single family attached housing and at least 36% multifamily and duplex/triplex housing types.

11-87 Coordination with Bend Parks and Recreation district is required in order to address provision of parks and/or trails within this area.

11-88 Coordination with the Bend-La Pine Schools District is required during area planning for this subarea.

11-89 Coordination with other special districts and utility providers is required within this area.

West Area:

11-90 Master planning is required for this area. The master plan(s) must be consistent with both master plan standards in the development code and policies 11-91 through 11-96 below.

11-91 For the West Area, shown on Figure 11-4, the central planning concepts are to: provide a limited westward expansion that complements the pattern of complete communities that has begun with Northwest Crossing due to the existing concentration of schools, parks, commercial and employment lands; and create a transect from higher densities along Skyline Ranch Road to lower density and open space along the western edge in this area which approaches National Forest land and park open spaces, in order to provide buffers for wildlife and wildfire.

11-92 This area shall provide for a mix of residential and commercial uses, including 285 gross acres of residential plan designations, 7 acres of commercial plan designations, and 14 gross acres of mixed employment plan designations (including existing right of way).

11-93 This area shall provide capacity for a minimum of 720 housing units and a maximum of 800 housing units, including at least 9% single family attached housing and at least 21% multifamily housing types (including duplex and triplex). The required minimum of 720 housing units represents 90% of the maximum allowed number of units.

11-94 In the absence of an approved Area Plan for this subarea as a whole, each property included in the 2016 UGB expansion in this subarea shall provide the maximum number and mix of units specified below. The minimum required units (total and by housing type) is 90% of the specified maximum.

- Anderson Ranch (Swisher): 65 housing units, including at least 12 single family attached units.
- Rio Lobo (Day): 85 housing units, including at least 24 multifamily and/or duplex/triplex units.
- Miller Properties: 650 housing units, including at least 60 single family attached units and at least 142 multifamily and duplex/triplex units.

11-95 The master plan process shall be used to establish appropriate development regulations to implement the transect concept and RL plan designation densities within this area while providing for a mix of housing types and clustering developed areas to provide for open space preservation.

11-96 Coordination with Bend Parks and Recreation district is required in order to address provision of parks and trails within this area.

11-97 Coordination with the Bend-La Pine Schools District is required during area planning for this subarea.

Shevlin Area:

11-98 Master planning is required for this area. The master plan must be consistent with both master plan standards in the development code and policies 11-99 through 11-102 below.

11-99 The concepts for the Shevlin area, shown on Figure 11-4, are to promote efficient land use and neighborhood connectivity by filling in a "notch" in the prior UGB with compatible residential development; help complete adjacent neighborhoods with small, neighborhood-scale commercial services; and avoid development in sensitive areas nearer to Tumalo Creek.

11-100 This area shall provide for a mix of residential and commercial uses, including 60 gross acres of residential plan designations and 8 gross acres of commercial plan designations.

11-101 This area shall provide capacity for a minimum of 162 housing units and a maximum of 200 housing units, including at least 10% single family

attached housing and at least 21% multifamily and duplex/triplex housing types.

11-102 Coordination with Bend Parks and Recreation district is required in order to address provision of parks and/or trails within this area.

11-103 Coordination will occur with the Bend-La Pine School District during area planning for this area.

OB Riley area:

11-104 The City will initiate an Area Plan for the OB Riley area. The Area Plan will address policies 11-105 through 11-109. Prior to completion of the Area Plan, annexations in this area must be a minimum of 40 contiguous acres and be the subject of a master plan application which includes a framework level Area Plan for the rest of the subarea. Following adoption of the Area Plan, annexation and development of individual properties or groups of properties of any size, consistent with the Area Plan, may be approved.

11-105 The OB Riley area, shown on Figure 11-4, is intended to provide for a mix of employment uses to take advantage of good transportation access, while also including residential uses to ensure a complete community and provide a transition to existing urban residential areas to the south. The OB Riley area will also provide an attractive northern gateway into Bend.

11-106 This area shall provide for a mix of residential and commercial uses, including 30 gross acres of residential plan designations, 52 gross acres of commercial plan designations, 43 gross acres of industrial designations, and 22 gross acres of mixed employment plan designations (including existing right of way).

11-107 In order to provide sufficient housing capacity and mix, the residential plan designations shall include 27 gross acres of RS and 3 gross acres of RM. Alternatively, the Area Plan may demonstrate that this area will provide capacity for a minimum of 140 housing units, including at least 9% single family attached housing and at least 22% multifamily and duplex/triplex housing types. The Area Plan may include and rely on plan designations, zones, special plan districts, and/or other binding development regulations to demonstrate compliance with the specified mix and capacity.

11-108 The street, path and bikeway network shall provide connectivity throughout this area and connect to existing abutting local roads.

11-109 Coordination with Bend Parks and Recreation district is required in order to address provision of parks and/or trails within this area.

North Triangle:

11-110 The City will initiate an Area Plan for the North Triangle area. The Area Plan will address policies 11-111 through 11-117. Prior to completion of the Area Plan, annexations in this area must be a minimum of 40



contiguous acres and be the subject of a master plan application. Following adoption of the Area Plan which includes a framework level Area Plan for the rest of the subarea, annexation and development of individual properties or groups of properties of any size, consistent with the Area Plan, may be approved.

11-111 The concept for this area, shown on Figure 11-4, is to provide for a mix of uses, including residential development to balance the mix of employment uses in this area and provide a transition to existing rural residential areas to the north.

11-112 This area shall provide for a mix of residential and commercial uses, including 79 gross acres of residential plan designations, 45 gross acres of commercial plan designations, and 34 gross acres of industrial designations, and 18 gross acres of mixed employment plan designations (including existing right of way).

11-113 In order to provide sufficient housing capacity and mix, the residential plan designations shall include 59 gross acres of RS, 15 gross acres of RM, and 5 gross acres of RH. The acreage of RM includes 3 to 4 acres for a neighborhood park site, which may be designated PF if a site has been acquired by the Bend Park and Recreation District prior to completion of the Area Plan. Alternatively, the Area Plan may demonstrate that this area will provide capacity for a minimum of 460 housing units, including at least 14% single family attached housing and at least 40% multifamily and duplex/triplex housing types. The Area Plan may include and rely on plan designations, zones, special plan districts, and/or other binding development regulations to demonstrate compliance with the specified mix and capacity.

11-114 Buffering measures are required between industrial uses and abutting residential within and adjacent to this area.

11-115 The street, path and bikeway network shall provide connectivity throughout this area and connect to existing abutting local roads. Circulation plans for this area shall be coordinated with ODOT.

11-116 Coordination with the Bend Park and Recreation District is required to identify a suitable site for a neighborhood park within this area.

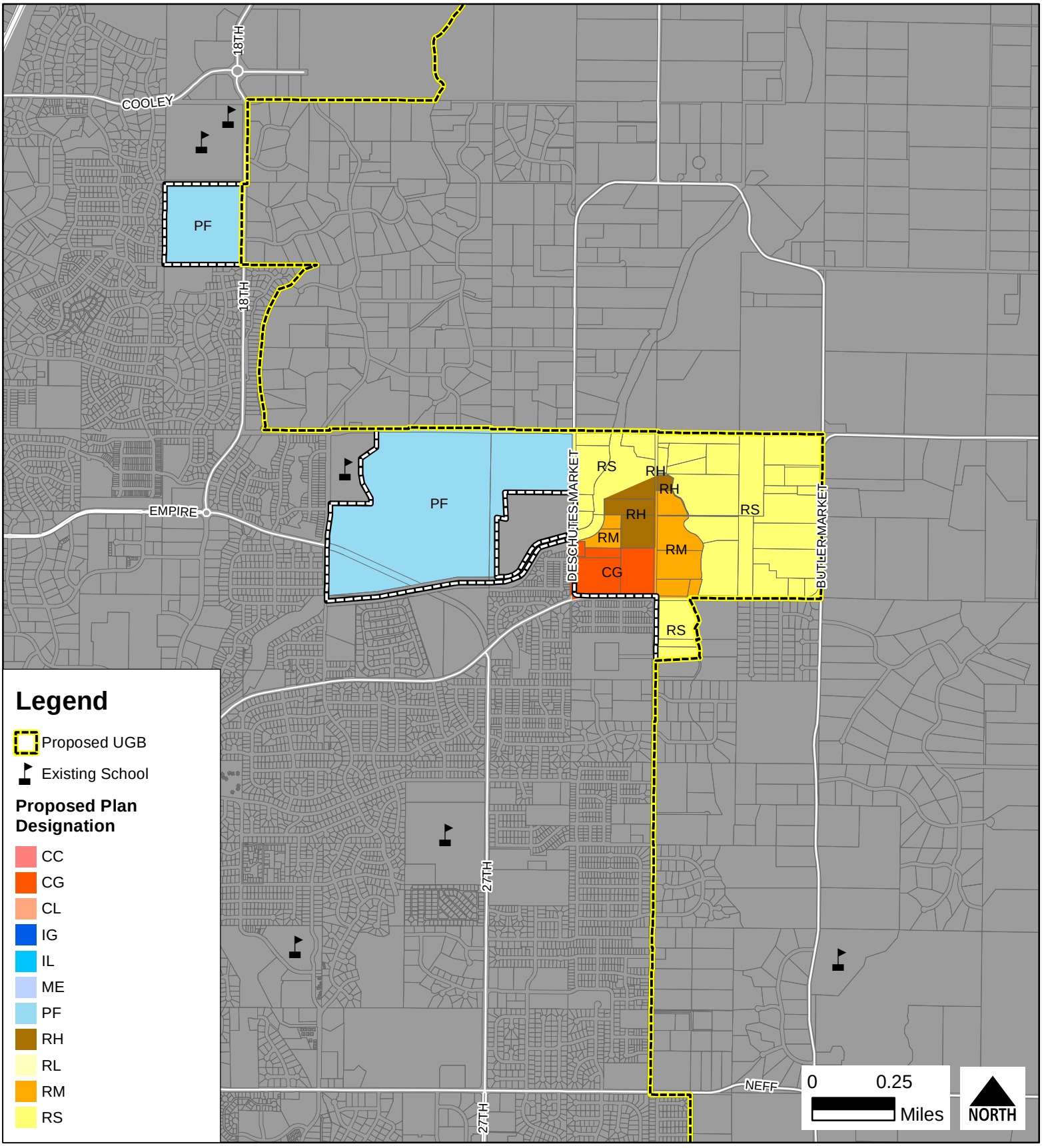
11-117 Coordination with other special districts and utility providers is required within this area.

DRAFT

Bend UGB

Draft Proposed Plan Designations in Expansion Areas

April 14, 2016



URBAN GROWTH BOUNDARY REMAND

Disclaimer: Land uses are subject to refinement during master planning and City-initiated area planning.

Service Layer Credits: Deschutes County GIS (2014)

Roads/Highways

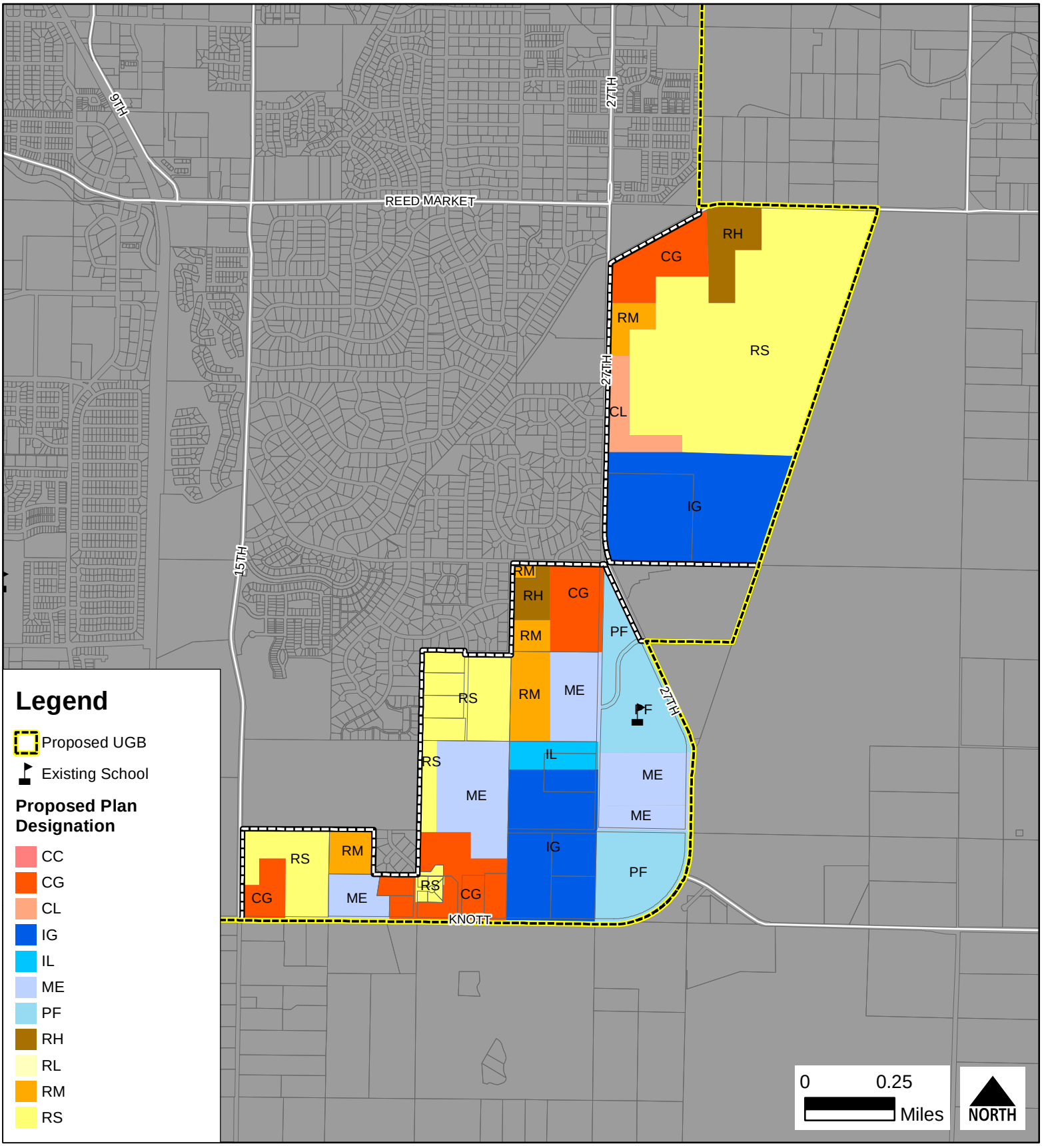
Current Urban Growth Boundary

09261

Bend UGB

Draft Proposed Plan Designations in Expansion Areas

April 14, 2016



URBAN GROWTH BOUNDARY REMAND

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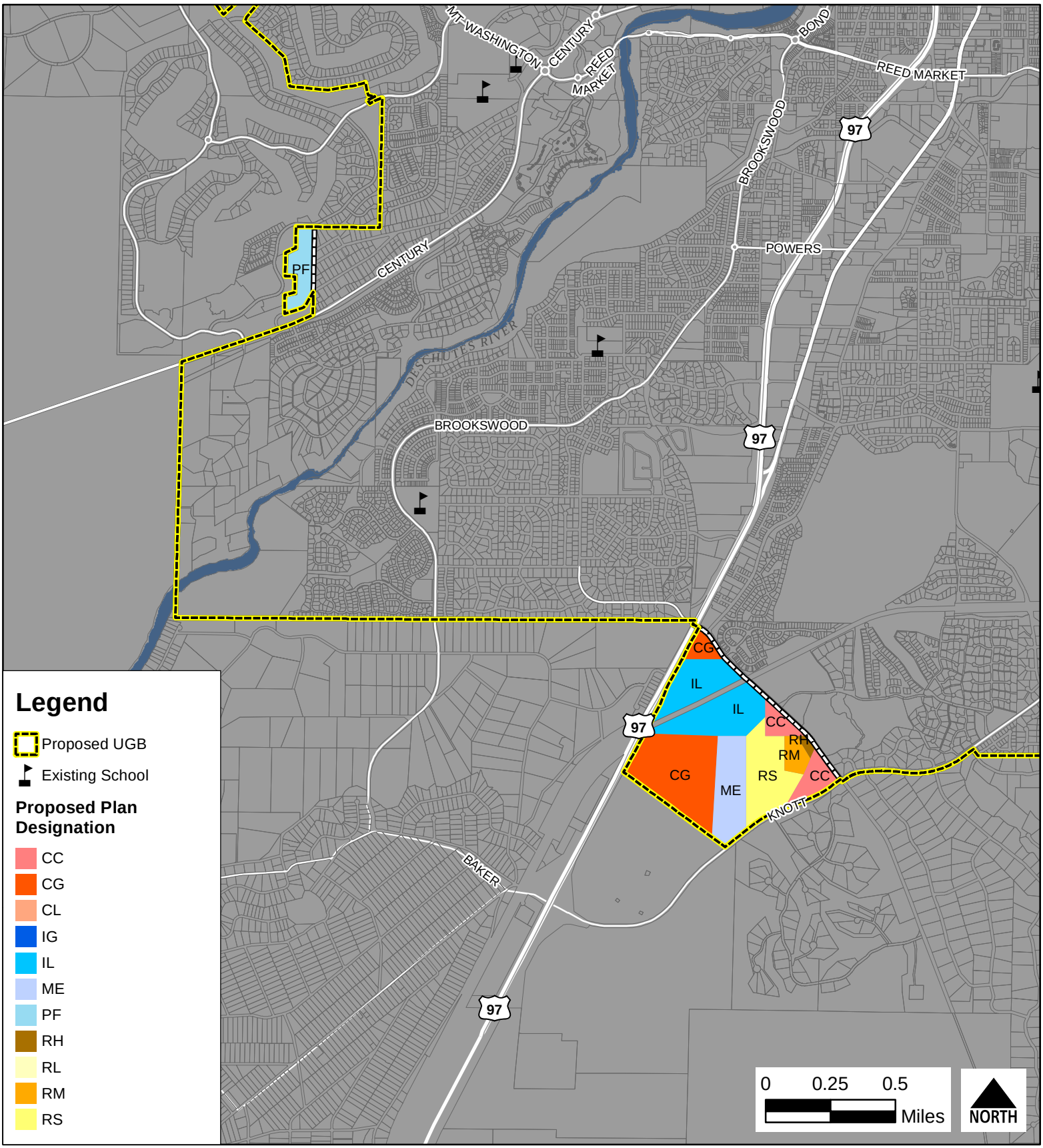
Current Urban Growth Boundary

09262

Bend UGB

Draft Proposed Plan Designations in Expansion Areas

April 14, 2016



URBAN GROWTH BOUNDARY REMAND

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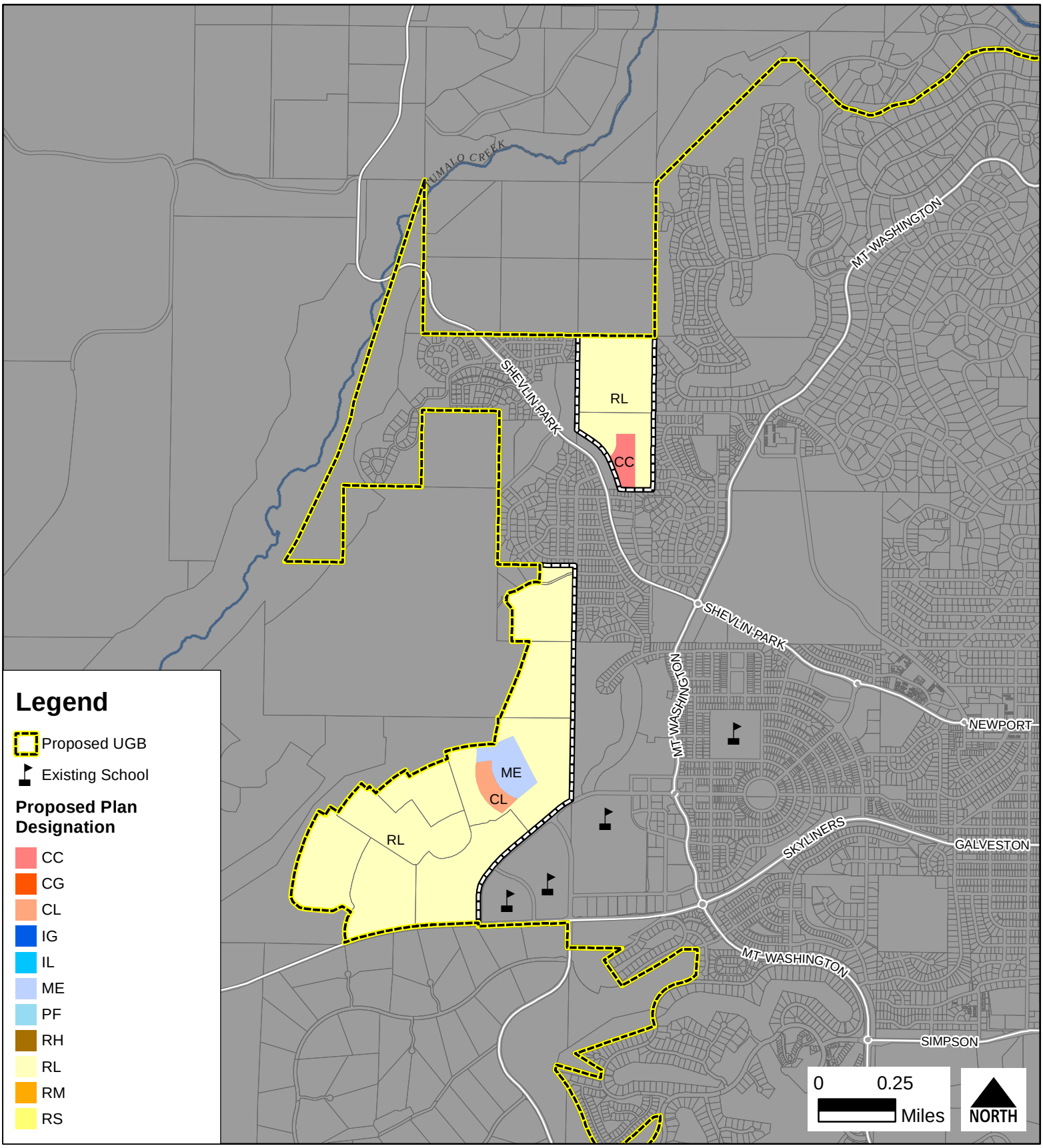
Streams/Rivers
Roads/Highways
Current Urban Growth Boundary

09263

Bend UGB

Draft Proposed Plan Designations in Expansion Areas

April 14, 2016



URBAN GROWTH BOUNDARY REMAND

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Service Layer Credits: Deschutes County GIS (2014)

Streams/Rivers

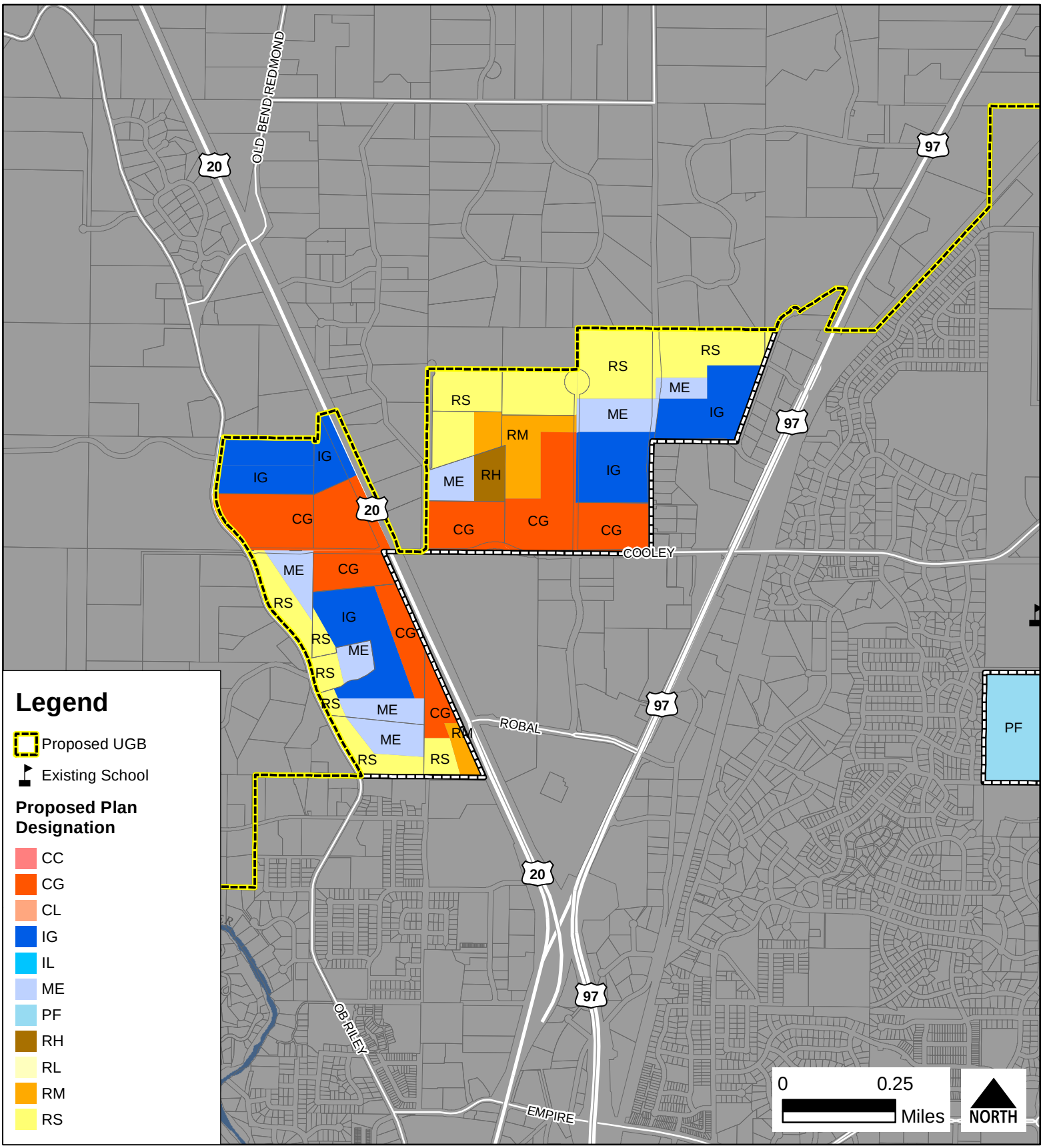
Current Urban Growth Boundary

09264

Bend UGB

Draft Proposed Plan Designations in Expansion Areas

April 14, 2016



URBAN GROWTH BOUNDARY REMAND

Disclaimer: Land uses are subject to refinement during master planning and City-initiated area planning.

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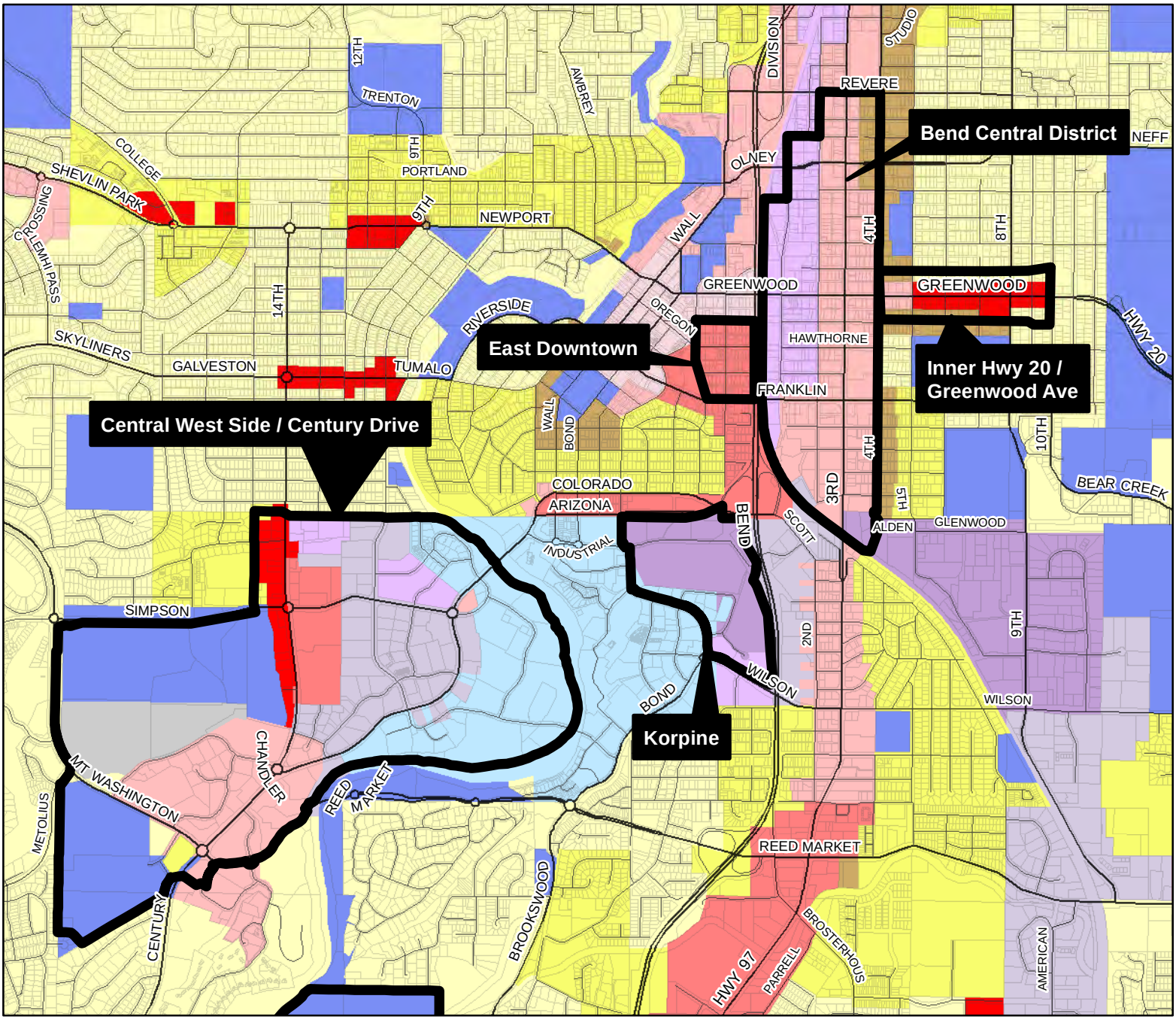
Streams/Rivers
Roads/Highways
Current Urban Growth Boundary

09265

Bend UGB

Opportunity Areas

Existing Comprehensive Plan Designations



Map Amendments
Taxlots
Opportunity Areas

Plan Designation

CB
CC
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PO/RM/RS
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SM
UAR10
URA
Bend Central District Overlay

URBAN GROWTH BOUNDARY REMAND

Disclaimer: Proposed plan designations are preliminary and subject to change.

Service Layer Credits: Deschutes County GIS (2014)

Last Updated: 3/8/2016

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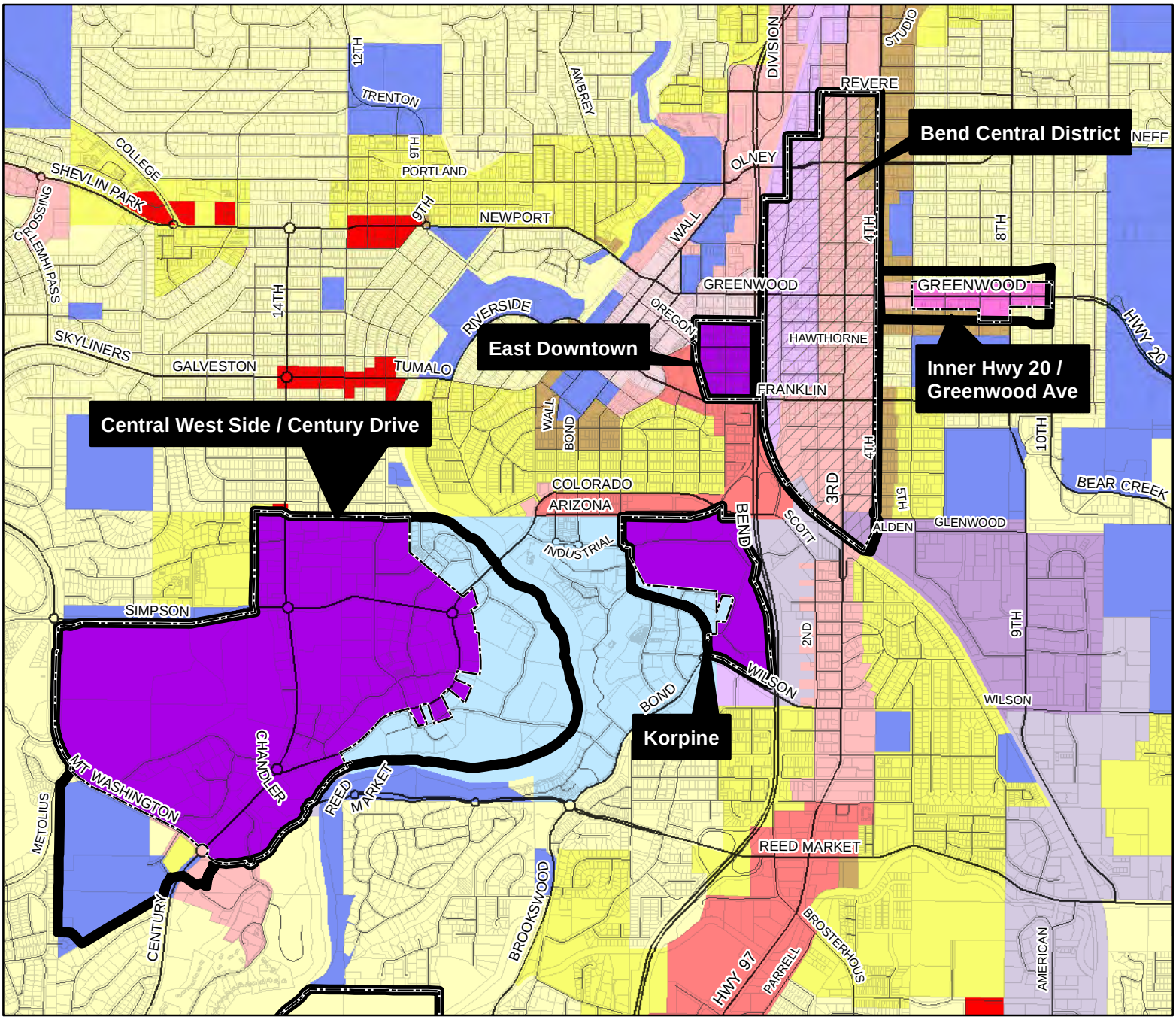
NORTH

09266

Bend UGB

Opportunity Areas

Proposed Comprehensive Plan Designations



Map Amendments
Taxlots
Opportunity Areas

Plan Designation

CB	IP	PO/RM/RS	URA
CC	ME	RH	Bend Central District Overlay
CG	MN	RL	
CL	MR	RM	
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URBAN GROWTH BOUNDARY REMAND

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Service Layer Credits: Deschutes County GIS (2014)

Last Updated: 4/14/2016

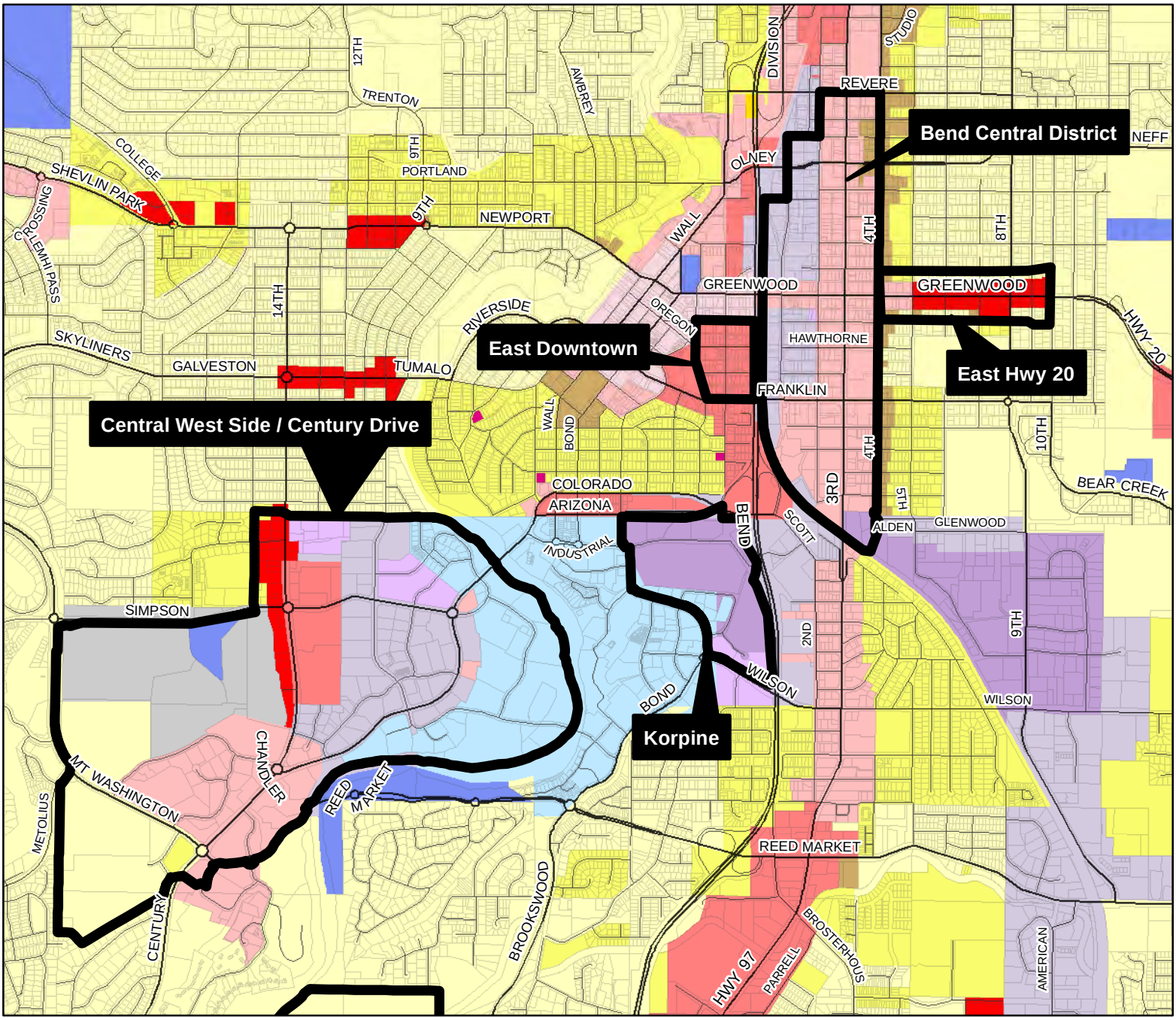
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NORTH

09267

Bend UGB

Opportunity Areas
Existing Zoning



Taxlots
Opportunity Areas
Map Amendments

Zoning

- CB
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- UAR10
- Bend Central District Overlay

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Service Layer Credits: Deschutes County GIS (2014)

Last Updated: 3/8/2016

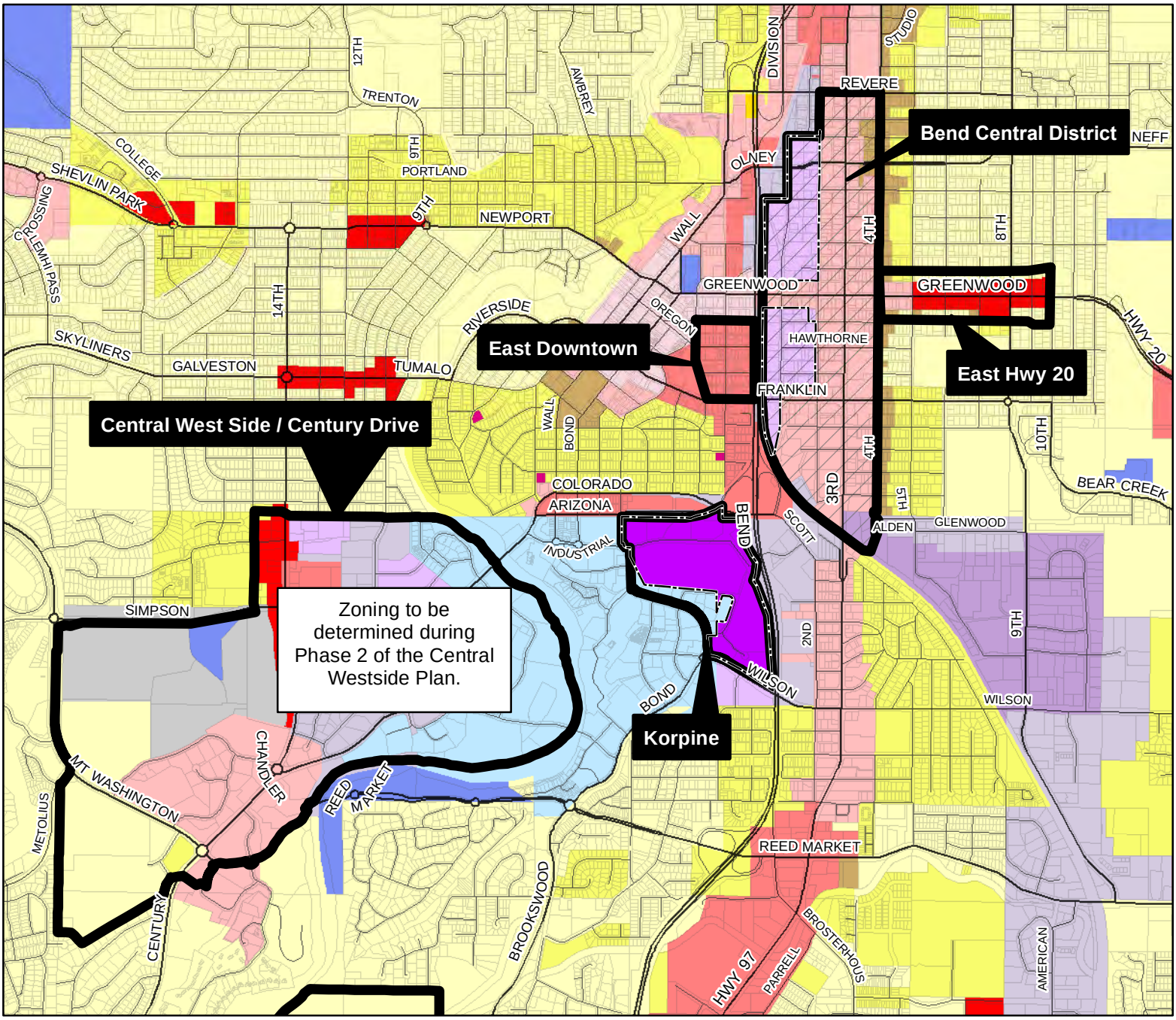
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NORTH

09268

Bend UGB

Opportunity Areas
Proposed Zoning



Taxlots
Opportunity Areas
Map Amendments

Zoning

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- SR2-1/2
- UAR10
- Bend Central District Overlay

URBAN GROWTH BOUNDARY REMAND

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Last Updated: 3/8/2016

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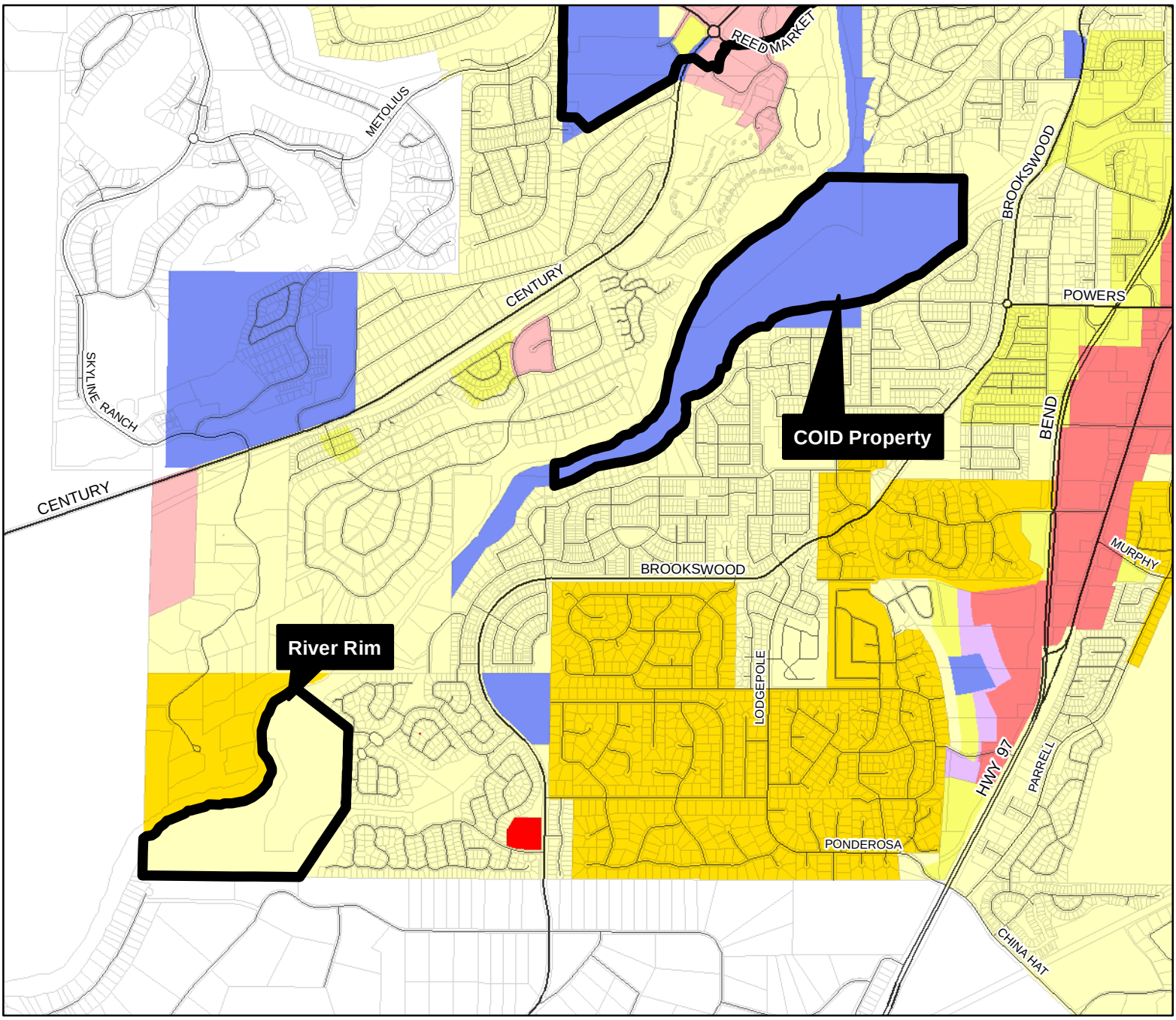
NORTH

09269

Bend UGB

Opportunity Areas

Existing Comprehensive Plan Designations



Map Amendments
Taxlots
Opportunity Areas

Plan Designation

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Bend Central District Overlay

URBAN GROWTH BOUNDARY REMAND

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Last Updated: 3/8/2016

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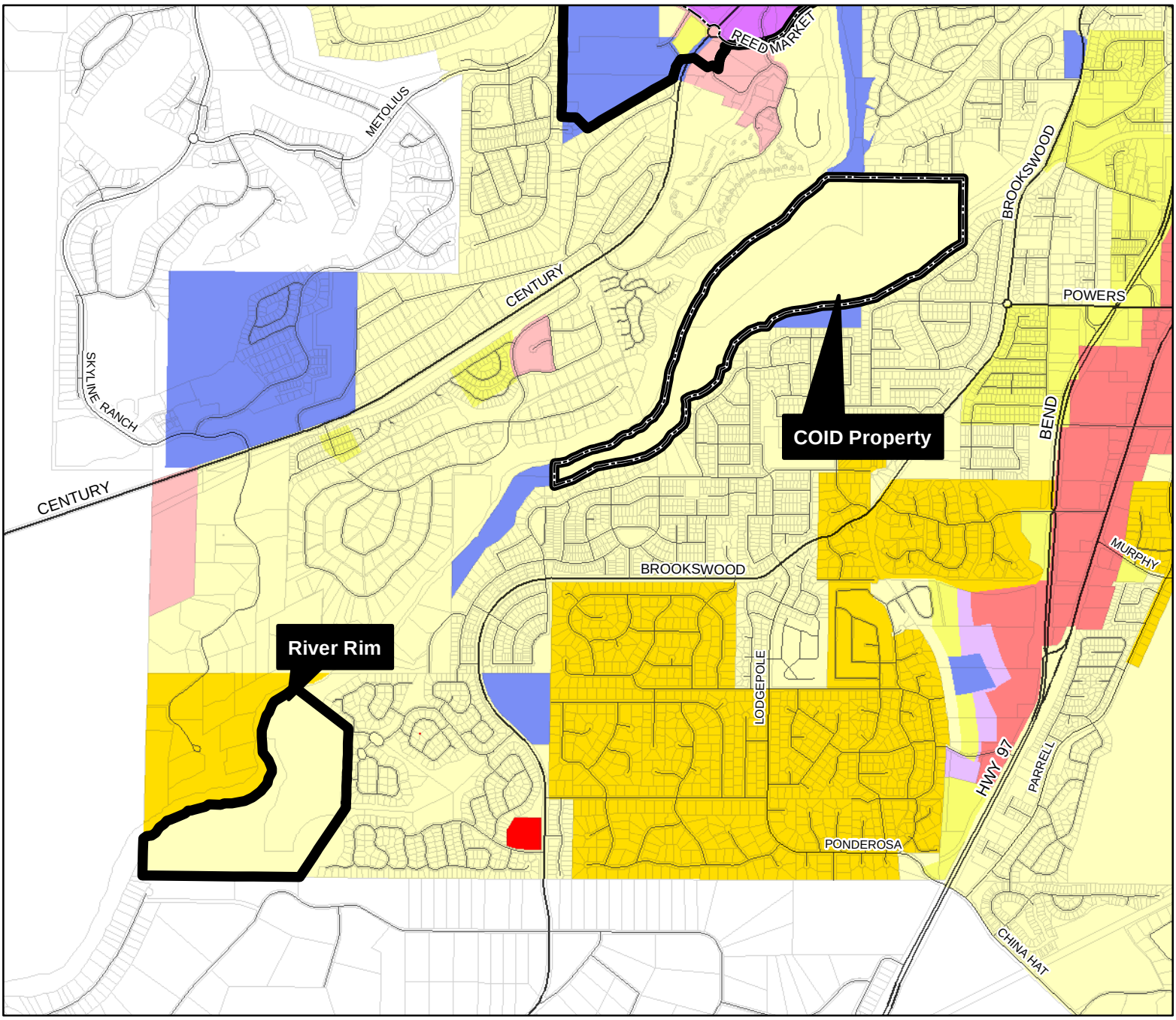
NORTH

09270

Bend UGB

Opportunity Areas

Proposed Comprehensive Plan Designations



Map Amendments
Taxlots
Opportunity Areas

Plan Designation

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URA
Bend Central District Overlay

URBAN GROWTH BOUNDARY REMAND

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Service Layer Credits: Deschutes County GIS (2014)

Last Updated: 3/8/2016

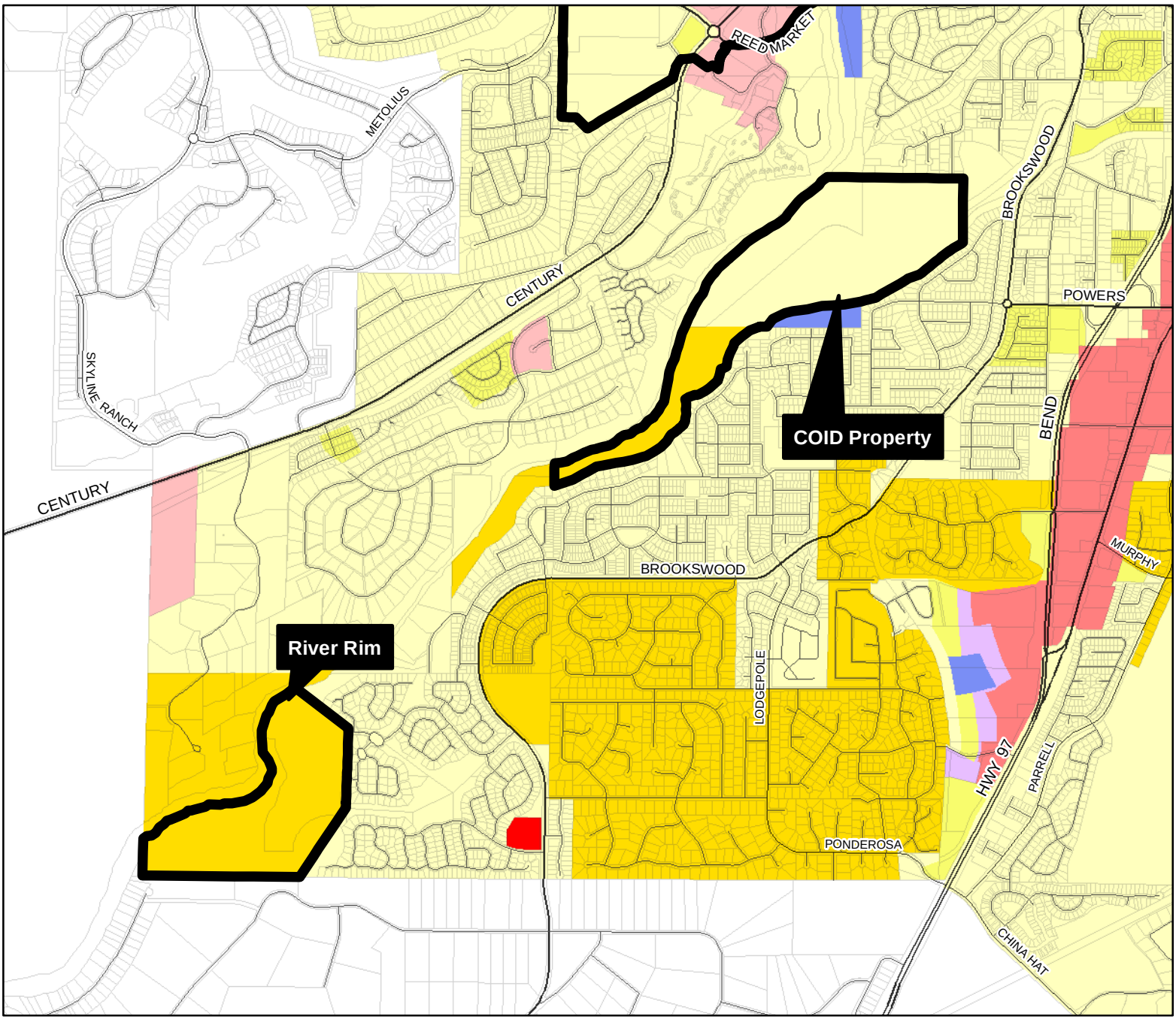
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NORTH

09271

Bend UGB

Opportunity Areas
Existing Zoning



Taxlots
Opportunity Areas
Map Amendments

Zoning

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- UAR10
- Bend Central District Overlay

URBAN GROWTH BOUNDARY REMAND

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Service Layer Credits: Deschutes County GIS (2014)

Last Updated: 3/8/2016

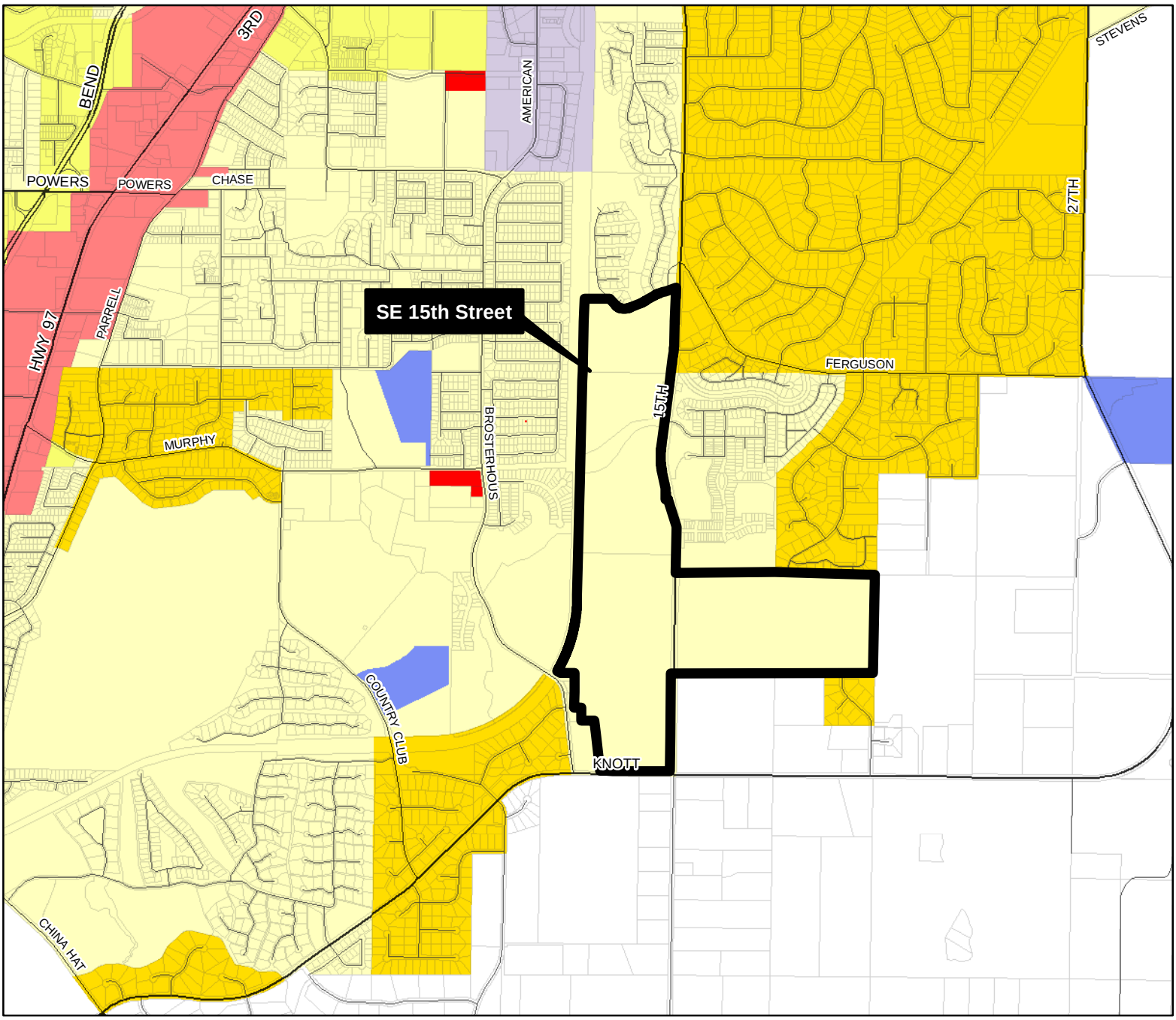
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NORTH

09272

Bend UGB

Opportunity Areas
Existing Comprehensive Plan Designations



Map Amendments
Taxlots
Opportunity Areas

Plan Designation

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URA
Bend Central District Overlay

URBAN GROWTH BOUNDARY REMAND

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Last Updated: 3/8/2016

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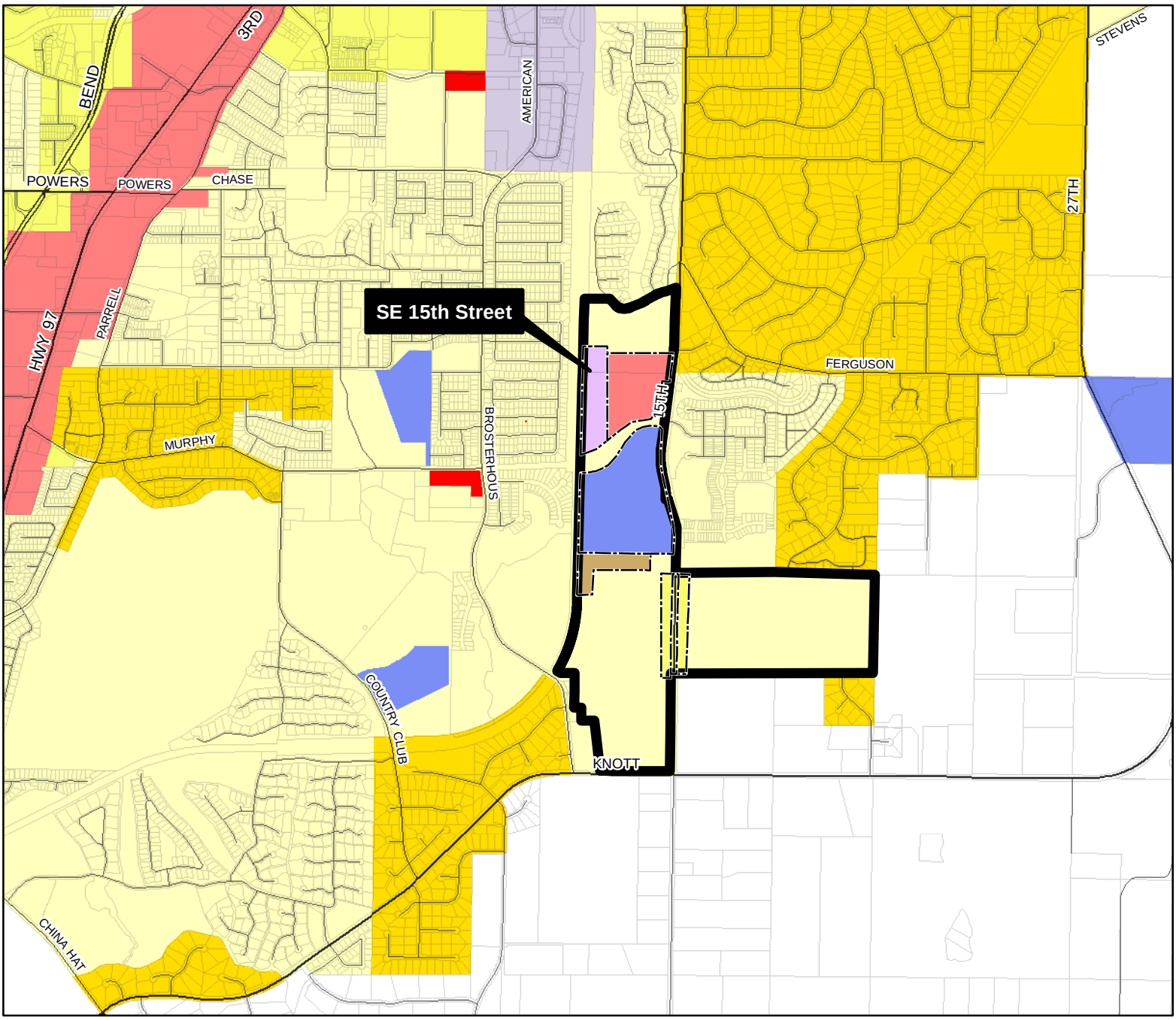
NORTH

09273

Bend UGB

Opportunity Areas

Proposed Comprehensive Plan Designations



Map Amendments
Taxlots
Opportunity Areas

Plan Designation

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UAR10
URA
Bend Central District Overlay

URBAN GROWTH BOUNDARY REMAND

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Last Updated: 3/8/2016

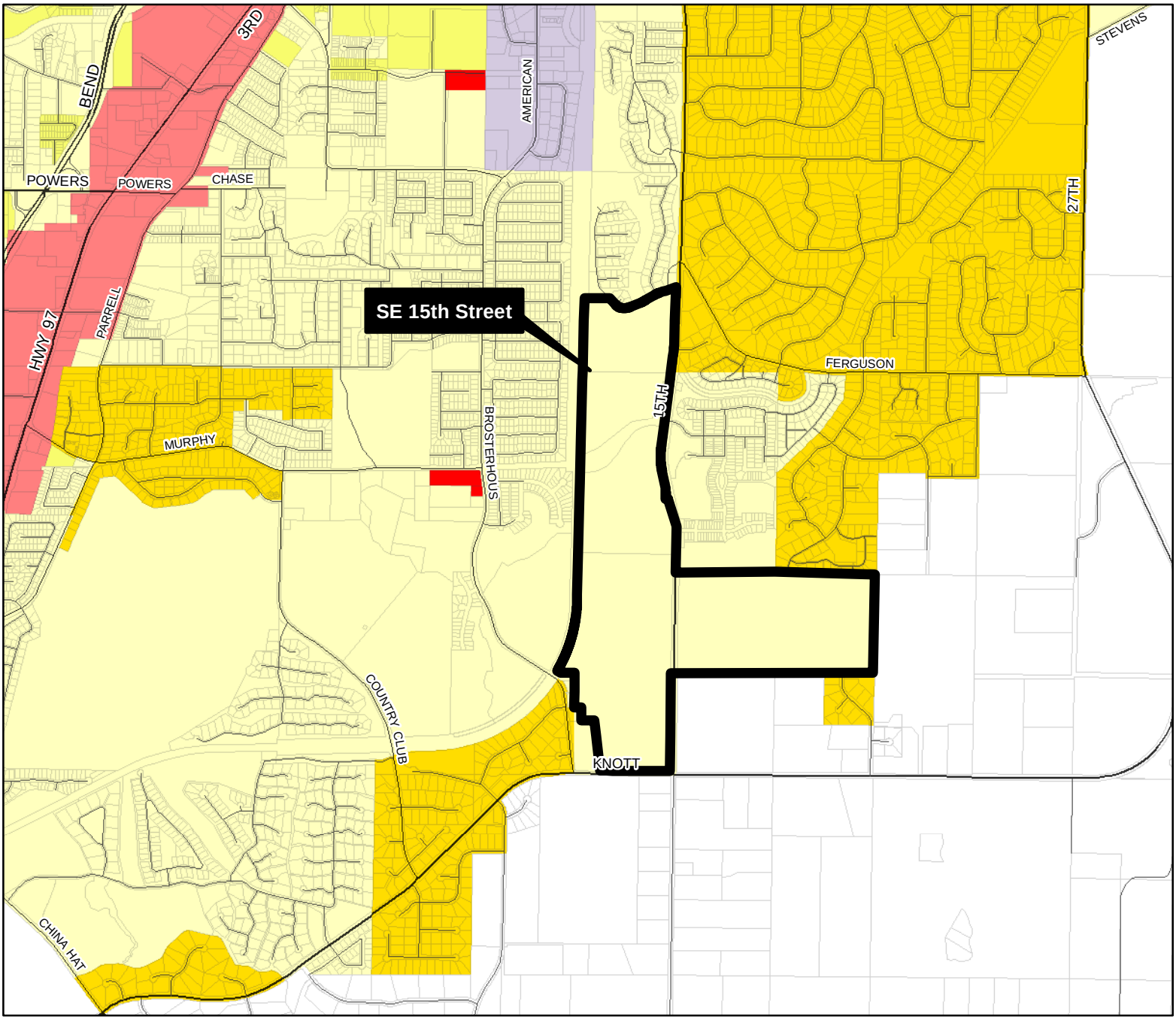
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NORTH

09274

Bend UGB

Opportunity Areas
Existing Zoning



Taxlots
Opportunity Areas
Map Amendments

Zoning

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PO/RM/RS
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SR2-1/2
UAR10
Bend Central District Overlay

URBAN GROWTH BOUNDARY REMAND

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Service Layer Credits: Deschutes County GIS (2014)

Last Updated: 3/8/2016

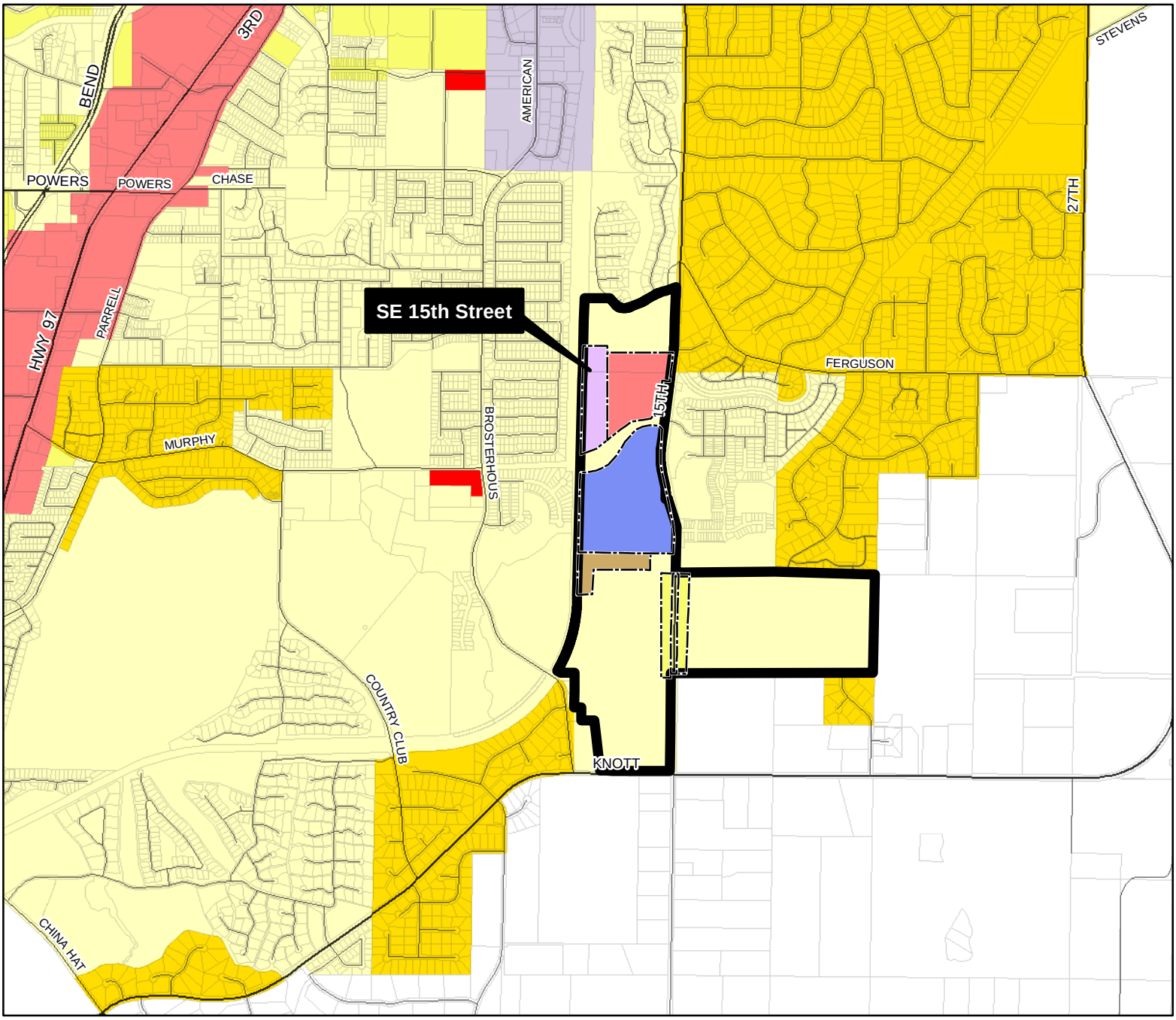
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NORTH

09275

Bend UGB

Opportunity Areas
Proposed Zoning



Taxlots
Opportunity Areas
Map Amendments

Zoning

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- SR2-1/2
- UAR10
- Bend Central District Overlay

URBAN GROWTH BOUNDARY REMAND

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Service Layer Credits: Deschutes County GIS (2014)

Last Updated: 3/8/2016

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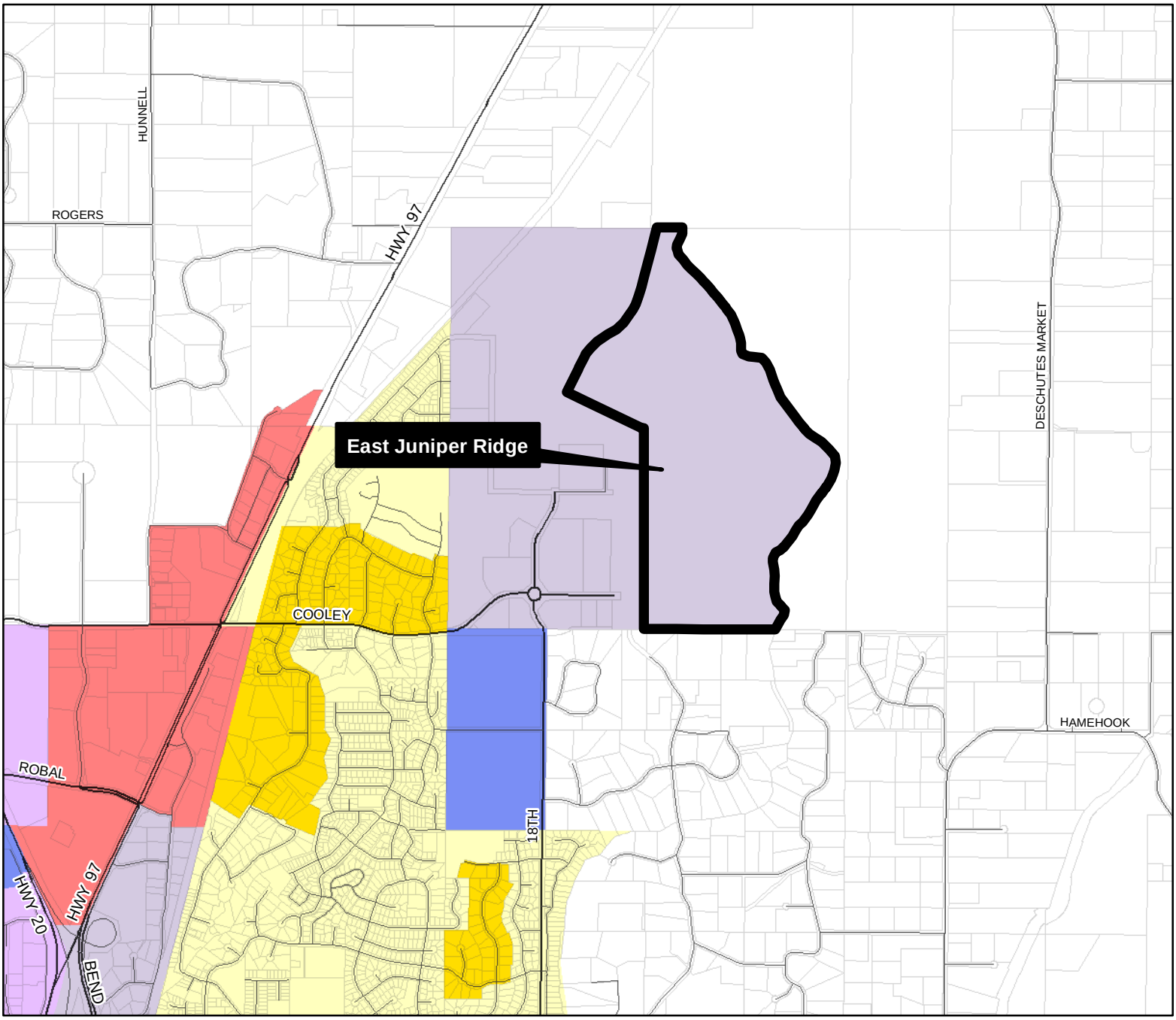
NORTH

09276

Bend UGB

Opportunity Areas

Existing Comprehensive Plan Designations



Map Amendments
Taxlots
Opportunity Areas

Plan Designation

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SM
UAR10
URA
Bend Central District Overlay

URBAN GROWTH BOUNDARY REMAND

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Service Layer Credits: Deschutes County GIS (2014)

Last Updated: 3/8/2016

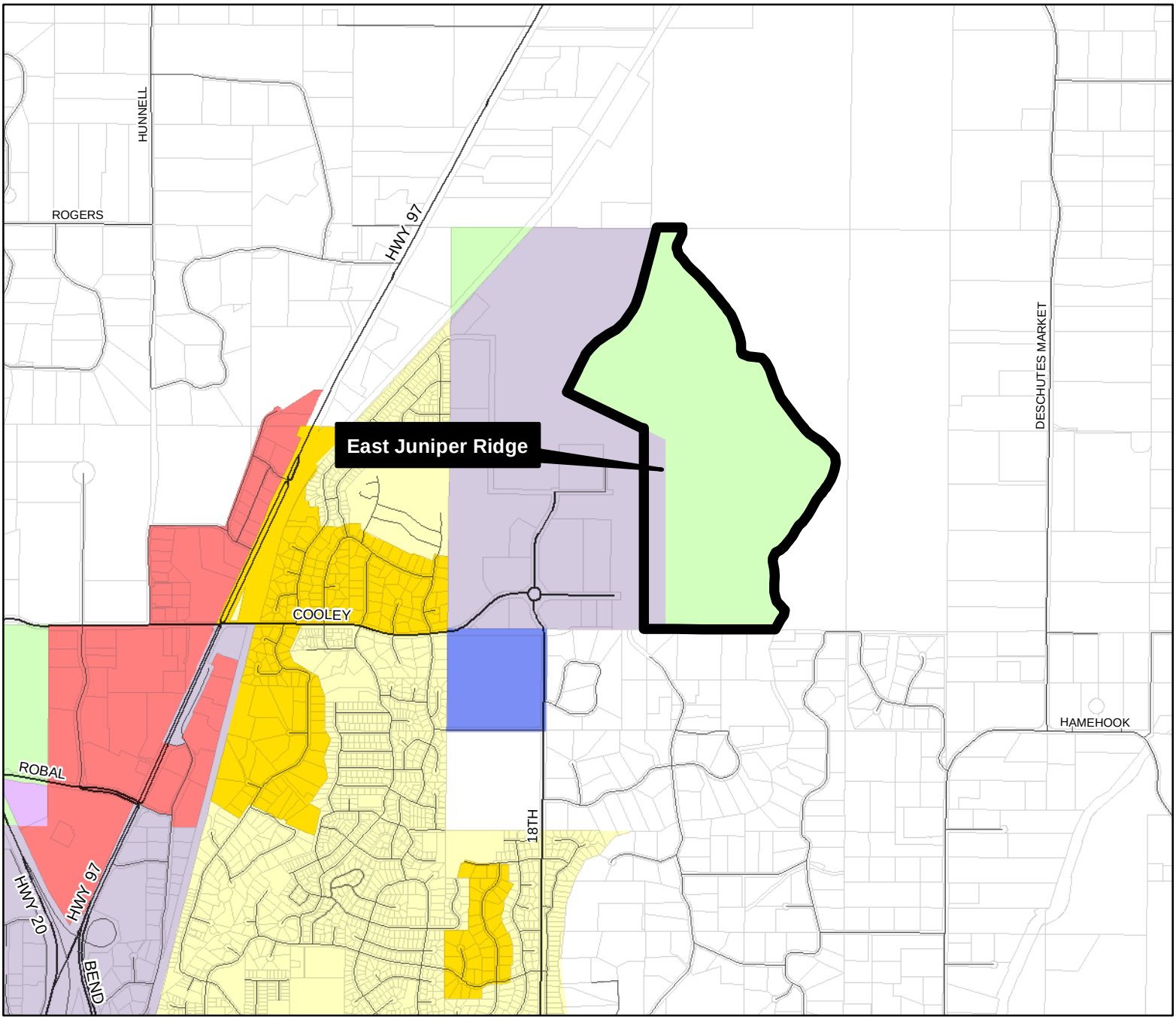
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NORTH

09277

Bend UGB

Opportunity Areas
Existing Zoning



Taxlots
Opportunity Areas
Map Amendments

Zoning

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- RL
- RM
- MU
- RS
- SM
- SR2-1/2
- UAR10
- Bend Central District Overlay

URBAN GROWTH BOUNDARY REMAND

Disclaimer: Proposed plan designations are preliminary and subject to change.

Service Layer Credits: Deschutes County GIS (2014)

Last Updated: 3/8/2016

0 1,000 2,000 4,000 Feet

NORTH

09278

Adoption Document Summaries

The following summaries of Bend UGB Remand Adoption Documents are included in this packet:

1. Integrated Land Use & Transportation Plan (ILUTP)
2. Development Code Updates
3. Comprehensive Plan – Updated Housing Chapter
4. Comprehensive Plan – Updated Economy Chapter
5. Comprehensive Plan – Other Chapters
6. Transportation System Plan (TSP) Updates
7. Buildable Lands Inventory (BLI)
8. Housing Needs Assessment (HNA)
9. Economic Opportunities Analysis (EOA)
10. Urbanization Report
11. Urban Form Report

Adoption Document Summary:

Integrated Land Use And Transportation Plan (ILUTP)

WHAT IS AN ILUTP?

Oregon's Transportation Planning Rule (TPR) requires Oregon's larger communities, including Bend, to plan transportation systems and land use patterns that increase transportation choices and reduce reliance on the automobile. How much people are driving, measured as vehicle miles traveled (VMT) per capita (the average distance driven in a day per person) is a key measure of reliance on the automobile. When a city's adopted land use and transportation plans are expected to result in an increase in VMT per capita, the TPR requires preparation of an Integrated Land Use and Transportation Plan (ILUTP) that sets standards and policy direction to change that trend. The purpose of the ILUTP is to describe what can be done to lessen that increase in VMT and "demonstrate progress towards increasing transportation choices and reducing automobile reliance" (OAR 660-012-0035(5)).

In addition to being subject to legal requirements, policies to reduce VMT are also important to quality of life in Bend.. Having more options to get around and shorter distances to travel to meet daily needs, both of which lead to VMT reduction, also improve quality of life. Lowering VMT has a positive effect on air quality and public health, and transportation safety, as well as reducing fossil fuel consumption, greenhouse gas emissions, and travel costs.

VMT ANALYSIS AND KEY FINDINGS TO DATE

As is true with most U.S. cities of Bend's age, urban form, and rapid growth, Bend's VMT per capita has been increasing in recent decades. Bend is measuring growth in VMT per capita against baseline years of 2003 (as specified in the Remand) and 2010 (which the project team believes is a better indicator of conditions in 2008 – the beginning of the 20-year planning horizon for the UGB work). Key conclusions and findings from the VMT analysis to date are summarized below.

From the UGB scenario evaluation

- Each of the six scenarios tested increased per capita VMT relative to 2010 (ranging from a 2.9% to a 5.1% increase) due to the amount of growth located outside the center of the city. The increase relative to 2003 ranged from 8.1% to 10.3%.
- An emphasis on complete communities in expansion areas (and using expansion areas to complete existing neighborhoods) helps reduce VMT overall.
- The downtown and core areas of Bend are key destinations and conducive to walking, biking and transit use, so trip lengths and household VMT are generally lower in the these areas of the city. Focusing growth close to the key transit and multimodal corridors that connect to downtown helps keep average trip lengths down.

From testing other hypothetical land use and transportation scenarios for 2028

- A significant shift in housing and jobs from expansion areas to opportunity areas in the core could reduce household VMT per capita relative to 2014 when combined with transit service improvements and reduced block size in new master planned neighborhoods, but that amount of redevelopment is not reasonably likely by 2028.

- Even a relatively modest shift in multifamily housing development to opportunity areas in the core of the city rather than at the edge helps reduce growth in VMT.

From the preferred UGB expansion scenario

- Preliminary analysis shows that additional single family housing in the expansion areas relative to the original scenario 2.1 is counter-balanced by an increase in multifamily housing in core opportunity areas, yielding similar results on household VMT overall.
- Note: the official VMT results for the preferred UGB expansion scenario are still being analyzed as of the writing of this summary.

From testing hypothetical land use and transportation scenarios for 2040

- The market will need to support relatively aggressive rates of redevelopment with higher intensities and greater mix of uses in core opportunity areas in order to reduce VMT.
- Even with significant redevelopment and intensification in core opportunity areas and somewhat denser future development elsewhere, the strategies proposed with the 2028 UGB expansion are not enough to stop the increase in VMT, even when continued through 2040. The City will need to implement additional strategies over the coming years, as outlined below, in order to curb growth in VMT.

STRATEGIES TO REDUCE VMT IN BEND

The approach to implementation will be to identify corridors and centers (e.g. opportunity areas in the core) that have the highest likelihood to reduce VMT. Coordination of the transportation system and land use patterns has the most impact on VMT reduction. The greatest VMT reductions will happen in locations that have some or many of the needed land use and transportation attributes already in place, such as diversity of land uses, density, connected and walkable design, and accessibility to key destinations. For modest amounts of funding, such areas can greatly reduce reliance on the automobile.

The ILUTP identifies “Proposed Strategies”, which are proposed to be adopted with the UGB expansion proposal, and also “Additional Strategies for Further Consideration” over the longer-term future. Key strategies are summarized below.

ILUTP Element	Proposed Strategies	Additional Strategies for Further Consideration	
		Medium-Term	Long-Term
Land Use Strategies	Designate mixed use opportunity areas identified in UGB project. Adopt efficiency measures identified in UGB project.	Designate additional mixed use areas along transit corridors Adopt design standards for key pedestrian areas and transit corridors. Strengthen connectivity standards for new master-planned neighborhoods.	Evaluate up-zoning selected neighborhoods where there is potential and community support for infill development.
Transportation Demand Management (TDM) and Parking Management	Incentives approach to TDM (parking reductions; trip generation reductions for transportation impact studies). Analyze parking management and pricing.	TDM requirements for large businesses / institutions. Implement parking management programs in key areas based on outcomes of parking study. Consider Transportation Management Associations (TMAs) in key areas of the City.	Implement parking pricing in key areas (e.g. downtown and 3rd Street / Central Area), based on the results of the parking study.

ILUTP Element	Proposed Strategies	Additional Strategies for Further Consideration	
		Medium-Term	Long-Term
Transit	Enhancement of transit centers and corridors in opportunity and core areas.	Implement most components of Bend Transit Plan, including additional hours of service, more frequent peak headways, and two new routes.	Implement further hours of service, improved service and headways on specific routes primarily in opportunity and Core areas
Roadway Improvement Management and Policies	Allow reducing existing lanes and widths at key intersections and corridors on major roadways in opportunity and core areas under certain conditions.	Develop pedestrian and biking safety projects for the opportunity areas that enhance walking, biking, and transit modal splits.	
Complete Streets and Connectivity Investment	Implement planned and funded projects in & around opportunity areas. Prioritize streetscapes in opportunity and core areas and transit corridors.	Evaluate funding mechanisms such as Urban Renewal to implement planned but not-yet-funded projects, focusing improvements in opportunity areas and adjoining corridors.	Refine aspirational projects, such as major roadway connections & US 97/Parkway bike/pedestrian crossings.

STANDARDS TO MEASURE PROGRESS

The City also must propose standards that will be used to measure progress towards reducing VMT. The proposed standards are performance measures that provide insights into the effectiveness of the City's ILUTP strategies. They are linked to variables that are key to changing travel behavior. The City's draft proposed standards emphasize evaluating performance in certain targeted areas of the City, including opportunity areas, transit corridors, and the central core. This reflects the City's overall approach of focusing resources on areas that will have the highest likelihood to reduce VMT. Standards will be set for both 2028 and 2040 due to the shortened nature of the UGB Remand planning horizon. The standards will be revisited when the City undertakes a more comprehensive Transportation System Plan update in the future. The draft proposed standards include:

- Activity density (population plus employment per acre) in targeted areas
- Neighborhood Connectivity (a measure of intersection density weighted to areas with more population)
- Streetscape Project Implementation (streetscape and bicycle/pedestrian safety improvement projects completed in targeted areas)
- Household and employment transit access (percent of residents and employees within a quarter mile of transit)
- Transit service density (number of buses expected to stop within a given area during the peak period)
- Proximity to activity centers (percent of the population that can access core opportunity areas and the downtown within a half-mile on streets or trails (walking distance), within 2 miles on streets (a reasonable bike ride or short drive), and within 1 mile on transit (an easy bus ride)
- Businesses with TDM plans and/or participating in TMAs
- Jobs-housing balance (ratio of jobs to housing in the specified area)

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Adoption Document Summary:

Development Code

OVERVIEW

Portions of the Bend Development Code are being updated as part of the Bend Urban Growth Boundary (UGB) process to ensure efficient use of land within the current UGB prior to expanding the boundary. The UGB adoption package approved by the City in 2008 proposed minimal Development Code amendments or "efficiency measures." The 2010 LCDC Remand order identified efficiency measures that the City *must* consider on remand to address Goal 10 and ORS 197.296 requirements.[1]

The Residential and Employment Technical Advisory Committees (TACs) considered and discussed a robust package of efficiency measures over a series of meetings. The efficiency measure concepts were approved by the USC in the Phase 1 package. The 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.

HIGHLIGHTS OF PROPOSED CODE AMENDMENTS

Approach to Minimum Density

LCDC concluded that the City's densities for housing were, in their view, low. The Residential TAC reviewed densities 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.

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. The amendments also clarify how minimum and maximum density are calculated and the land area subject to each.

Ensuring Housing Mix

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.

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

[1] The Remand Order referenced consideration of: 1) raising minimum densities, particularly in RS and RM zones; 2) potential plan/zone changes for larger sites that are vacant or partially vacant; 3) rezoning areas long transit corridors and in neighborhood centers; etc.

plan threshold) be something other than single family detached housing (now clarified to include any combination of single family attached, duplex/triplex, and/or multifamily housing). This is intended to help that zone achieve the needed mix of housing units without changing the minimum density.

Master Plan Density and Mix Requirements

The current code requires a flat minimum percentage of the maximum density (60%) for master planned sites. The draft code amendments tailor the requirements to each of the residential zones. The Residential TAC recommended the following minimum density for master planned sites in each zone:

- RL: 50% of maximum (2.0 units per gross acre)
- RS: 80% of maximum (5.84 units per gross acre)
- RM: 60% of maximum (13.02 units per gross acre)
- RH: base zone minimum (21.7 units per gross acre)

In addition, the draft code amendments include housing mix standards for each zone:

- RL and RS: at least 10% single family attached, duplex/triplex, or multifamily housing
- RM: at least 67% single family attached, duplex/triplex, or multifamily housing
- RH: at least 90% single family attached, duplex/triplex, or multifamily housing[2]

A minority of the Residential TAC did not support housing mix standards in the RS zone. In response to those concerns, the percentage of units that may be single family detached in master planned neighborhoods in the RS zone was raised from 80% to 90%. In the current draft, the project team has recommended clarifying that any combination of single family attached, duplex/triplex, and/or multifamily housing could be used to meet the standard, but not other housing types such as ADUs or cottage housing. This aligns better with the HNA and the policies for expansion areas in the draft Growth Management Chapter of the Comprehensive Plan.

The current draft of the Development Code amendments also allows single family attached townhomes and duplex/triplex outright as part of a master plan in the RL zone (which will be applied in some expansion areas on properties subject to master planning) to make it easier to meet mix standards.

Minimum Lot Size Requirements

Minimum lot sizes for certain housing types in certain residential zones are proposed to be reduced or eliminated in order to make it easier to build at the higher end of the allowed gross density range. Proposed changes to minimum lot area by zone and housing type include (sf = square feet):

- **RL zone**: Single Family Detached reduced from 15,000 sf to 10,000 sf; duplex/triplex reduced from 30,000 sf to 20,000 sf
- **RS zone**: no changes proposed
- **RM zone**: Single Family Detached reduced from 3,000 sf to 2,500 sf; townhomes reduced from 2,000 sf per unit to 1,600 sf per unit; Multifamily housing, duplexes and triplexes – no minimum (gross density controls)
- **RH zone**: townhomes reduced from 2,000 sf per unit to 1,2000 sf per unit; Multifamily housing, duplexes and triplexes – no minimum (gross density controls)

[2] Note that new single family detached housing is not permitted in the RH zone; however, the master plan process allows flexibility to adjust some development standards. The proposed minimum housing mix ensures that even if some SFD housing is allowed in an RH master plan area, it will still be predominately other housing types.

Regulating Building Mass and Lot Coverage

In order to ensure that development is feasible on smaller lots but also compatible with surrounding development, the Residential TAC recommended regulating Floor Area Ratio (FAR) rather than lot coverage for residential development. The current version of the Development Code amendments includes eliminating lot coverage standards in favor of FAR for nearly all housing types and zones. The proposed FAR standard (0.55) was researched and developed during CDD's work on accessory dwelling unit (ADU) regulations. The Planning Commission and stakeholders in that process expressed a desire to apply the FAR standard more broadly, but CDD felt that was outside the scope at the time.

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 Residential and Employment TACs recommended including the new mixed use zones in the Development Code and designating specific opportunity sites with the new Mixed Use plan designations. Zone map amendments to apply the Mixed Use Zones outside of the opportunity sites may be deferred for some areas, but enabled through new plan designations.

In addition, a new special plan district is proposed for the Bend Central District. Staff is finalizing the code language based on recommendations from the Bend Central Multimodal Mixed Use Area study completed in 2014-15. The special plan district will be added to Chapter 2.7 of the development code as part of the UGB adoption package and applied to the Bend Central District opportunity site.

Revisions to Parking Standards

Targeted revisions to parking standards are proposed as part of the UGB adoption package, including:

- Reductions to parking requirements for residential and commercial uses in the MU zone, similar to those in the CBD (1 space per housing unit; 1 space per 500 square feet of commercial);
- Automatic 5% reduction to minimum parking requirements for mixed use development;
- 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; and
- 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.

Simplified Zone Changes

In order to make it easier for property owners to obtain a zone change that is consistent with the Comprehensive Plan designation, the Residential and Employment TACs recommended simplified approval criteria for zone changes that are consistent with the plan designation, focusing only on adequate public facilities, and not requiring showing compliance with the Comprehensive Plan policies or statewide planning goals.

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Adoption Document Summary:

Comprehensive Plan Housing Chapter

OVERVIEW

The Housing Chapter of Bend's General Plan was last amended in 1998, and it contains data that is more than twenty years old.[1] The Housing Chapter is being updated through the Bend Urban Growth Boundary (UGB) Remand process to reflect new information from the City's updated Housing Needs Analysis (HNA) and policy direction related to the UGB. The overall purpose of the Housing Chapter is to establish Bend's long term vision and policies for housing, consistent with Statewide Planning Goal 10: Housing. Proposed updates to the Housing Chapter (Background and Policies) were discussed at three meetings of the Residential Technical Advisory Committee (July 21, August 25, and November 19, 2015). The new draft reflects multiple rounds of input and refinement from the Residential TAC and staff from multiple City departments. Several policies from the Housing chapter are also included in the Growth Management chapter because they have spatial implications; these policies went through an additional round of TAC review in March 2016. Housing affordability was a subject of discussion at the March meetings as well, leading to additions to the Housing chapter as well as potential additions to the Growth Management chapter (discussed separately).

SUMMARY OF KEY UPDATES AND POLICY CHANGES

The proposed draft chapter retains most of the current policies with few or no amendments; however, the non-regulatory context/background section has been updated and significantly shortened, with additional background in the HNA. Policy changes focus on supporting the updated Housing Needs Analysis and new efficiency measures for housing, including:

- New policy to initiate a legislative review for the UGB and/or urban reserve area planning within 5 years after acknowledgement of the current UGB update is final.
- New policy to create incentives for and remove barriers to development of a variety of housing types in all residential zones.
- New policy to provide two options for approval of master plans: 1) applying clear and objective standards or 2) applying discretionary standards for more flexibility.
- New policy to support re-designation of suitable residential areas within a ¼-mile walk to transit corridors for higher-density development.
- New policy to monitor parking needs for residential uses and reduce parking requirements as appropriate.
- New policy to monitor and regularly report on performance of new efficiency measures.

The draft Housing chapter includes a strong goal and policy framework to address housing affordability. The TACs supported minor changes to the Background/Context of the Housing chapter to define "affordability". TAC review of the draft Growth Management chapter also led to modifications to the wording of several of policies incorporated from Chapter 5. In order to keep consistency between the chapters, the policy language in Chapter 5 has been updated to reflect the version recommended by the TACs. In addition, with area planning emerging as a key tool for UGB expansion areas, capturing the policy intent for each plan designation (the types of areas where they are intended to be used and what type of uses they are meant to emphasize) will be more important for guidance. As a result, the project team has proposed refinements to the descriptions of the plan designations so that they provide a better indication of whether a proposed plan amendment is appropriate and whether the land uses proposed in a special plan district are consistent with the comprehensive plan designations.

[1] The Housing Chapter was updated in 2008 as part of the initial UGB proposal. However, the updated chapter was not acknowledged by LCDC.

Staff Contact: Damian Syrnyk (dsyrnyk@bendoregon.gov) *Updated: 4/14/16*

Adoption Document Summary:

Comprehensive Plan Economy Chapter

OVERVIEW

The Economy Chapter of Bend's General Plan was last amended in 2006, and it contains some data that is more than twenty years old.[1] The Economy Chapter is being updated as part of the Bend Urban Growth Boundary (UGB) Remand process to reflect new information from the City's updated Economic Opportunities Analysis (EOA) and policy direction related to the UGB. The overall purpose of the Economy Chapter is to establish Bend's long term vision and policies for the economy, consistent with Statewide Planning Goal 9: Economic Development. Proposed updates to the Economy Chapter (Background and Policies) were discussed at two meetings of the Employment Technical Advisory Committee (July 21 and August 25, 2015). The chapter incorporates multiple rounds of edits from the TAC and multiple city departments and also aligns with the new Economic Development department's emerging strategic plan. Several policies from the Economy chapter are also included in the Growth Management chapter because they have spatial implications. These policies went through an additional round of review by all three TACs in March 2016.

SUMMARY OF KEY UPDATES AND POLICY CHANGES

The proposed draft chapter retains most of the current policies with few or no amendments; however, the non-regulatory context/background section has been updated and significantly shortened, with additional background in the EOA. **Key policy changes include** new policies to **support Bend's role as a regional job center**; policies to **maintain a competitive short-supply of employment lands**; revised policies reinforcing **importance of Juniper Ridge for meeting long-term industrial and other employment land needs**; new and modified policies to **support new Mixed Use zones and other efficiency measures for employment lands**; and new policies to **limit ground-floor residential development in the commercial and mixed employment zones**, to preserve employment land for employment purposes.

TAC review of the draft Growth Management chapter led to modifications to the wording of several of the policies incorporated from Chapter 6. In order to keep consistency between the chapters, the policy language in Chapter 6 has been updated to reflect the version recommended by the TACs. In addition, with area planning emerging as a key tool for UGB expansion areas, capturing the policy intent for each plan designation (the types of areas where they are intended to be used and what type of uses they are meant to emphasize) will be more important for guidance. As a result, the project team has proposed refinements to the descriptions of the plan designations so that they provide a better indication of whether a proposed plan amendment is appropriate and whether the land uses proposed in a special plan district are consistent with the comprehensive plan designations.

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[1] The Economy Chapter was updated in 2008 as part of the initial UGB proposal. However, the updated chapter was not acknowledged by LCDC.

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Updated: 4/14/16

Adoption Document Summary:

Comprehensive Plan: Other Chapters

OVERVIEW AND KEY OUTCOME

An updated Comprehensive Plan will be adopted with the UGB package. The term "Comprehensive Plan" is used here as a substitute for "General Plan" because it is the new proposed title. The vintage 1998 format of the General Plan has been updated to a new template and reviewed and accepted by the Residential and Employment Technical Advisory Committees (TACs). The updated Housing and Economy chapters and the draft Growth Management chapter reflect the new template for the Comprehensive Plan.

Beyond these three chapters, the working approach for the other Comprehensive Plan chapters is to retain the existing content and reformat them to match the new template. Amendments to other chapters will be limited to amending language that is in conflict with the UGB recommendations and removing outdated text that no longer has any relevance (e.g. because the policy has been fully implemented already). The primary outcome of the updates to the other chapters will be a consistent format for the Comprehensive Plan document.

Chapter 7 (Transportation) of the General Plan currently includes all of the goals, objectives, policies, benchmarks and implementation funding from the TSP. The chapter will be cleaned up and amended to delete benchmarks and implementation funding notes since these are largely outdated and can be found in the TSP. In addition, policies that are obsolete because they include an action item that has been completed (i.e., the Southern River Crossing and the Bend Parkway) will be deleted from the Comprehensive Plan. Chapter 7 will also be amended to include policy language to implement the ILUTP.

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Adoption Document Summary:

Transportation System Plan

OVERVIEW

The City's existing Transportation System Plan (TSP) was adopted in 2000 and included a number of remand items. Consequently, it has been amended many times since, most recently in 2014. The TSP was acknowledged by the Oregon Department of Land Conservation and Development (DLCD) in 2013 after the last TSP remand item was approved. The City intends to undertake a complete TSP update within the next several years, including updating the analysis and background elements. However, because a full TSP update is expected to take up to two years to complete, the City intends to do only targeted TSP amendments to support the Urban Growth Boundary (UGB) adoption at this time.

Amendments to the TSP will include updated maps, tables and text that support the Integrated Land Use and Transportation Plan (ILUTP), Opportunity Areas, and the new UGB boundary areas. The overall approach is that existing information will be retained, even where outdated, but context about the UGB expansion analysis will be added throughout the TSP wherever relevant, and new information will be integrated wherever appropriate and needed to support the UGB recommendations.

HIGHLIGHTS OF PROPOSED UPDATES

- The section that summarizes applicable state administrative rules will be updated to include requirements related to being in a Metropolitan Planning Organization (MPO), including VMT per capita analysis, and other recent, relevant amendments to the administrative rules.
- New information about volume to capacity ratios and vehicle miles traveled (VMT) in the ILUTP will be referenced in the section that summarizes the results of original alternatives analysis regarding those measures.
- The funding section will be updated where necessary based on the financial analysis done by City staff in 2014 on funding through 2032, which is the basis for a prioritized project list and Capital Improvement Plan (CIP) and the region's Metropolitan Transportation Plan (MTP). It will also include assumptions on funding for the improvements needed to serve UGB expansion areas.
- The tables of new roadways, and roadway and bicycle and pedestrian system maps in Appendix A of the TSP will be updated to incorporate the new facilities needed to serve the UGB expansion areas and to address projects identified in the Opportunity Areas such as the Bend Central District refinement plan.

Section 6.9 includes transportation goals, policies, benchmarks, and implementation items. Currently, Chapter 7 of the General Plan mirrors this section of the TSP. The project team proposes leaving Section 6.9 of the TSP as is, adding an introductory note in that section that references the General Plan and states that the official transportation policies for the City are now found only in the General Plan as updated for the UGB work, until the TSP is updated, at which time the General (Comprehensive) Plan Transportation Chapter would also be updated.

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Updated: 4/14/16

Adoption Document Summary:

Buildable Lands Inventory

OVERVIEW & KEY POLICY SUPPORT

The Bend Buildable Lands Inventory (BLI) describes the land within the existing Urban Growth Boundary (UGB) that can be developed to accommodate future residential and employment growth. The determination of developable land in the BLI is a key input for the Housing Needs Analysis, the Economic Opportunities Analysis, and the Urbanization Report.

The BLI takes into consideration the following factors:

- **Environmental Constraints.** Slopes over 25%, the FEMA 100-year floodplain, Bend's River and Upland Areas of Special Interest (ASI's), and land that is both within the Waterway Overlay Zone (WOZ) and within 100' of the Deschutes River are considered unbuildable.
- **Vacant Land.** Residential land with no improvements, and employment land with no or few improvements, are identified as vacant.
- **Developed Land**. Land that is developed with the maximum number of dwelling units allowed by the zoning, and where lots cannot further subdivide, are considered developed.
- **Partially Vacant / Lots with Infill Potential.** State statute and the Remand require the BLI to address the development capacity of lots that can further subdivide or add additional units with their existing zoning.
- **CC&Rs.** Where Covenants, Conditions & Restrictions (CC&Rs) restrict further subdivision, capacity is limited to one home per lot.

The primary outcome of the Buildable Lands Inventory was a GIS dataset with values for vacant, developed, and constrained acres for each parcel within the City of Bend. These values provide a basis for estimating future development and redevelopment. Notably, the BLI indicates that there are:

- Nearly 1,000 acres of vacant employment land within the current UGB;
- Over 1,600 acres of vacant residential land within the current UGB; and
- An additional roughly 850 acres of residential land on about 600 taxlots within the current UGB that have some infill capacity.

The BLI methodology and results were the subject of several Residential TAC and Employment TAC meetings, and were approved by the USC as a part of the Phase 1 Growth Scenarios. The designation of ASI's and land within the WOZ as constrained land, and a re-evaluation of development capacity in some of the project's "Opportunity Areas" were changes made to the BLI in response to USC direction at their December 14, 2015 meeting.

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Updated: 4/14/16

Adoption Document Summary:

Housing Needs Analysis

OVERVIEW

Bend's Housing Needs Analysis (HNA) was locally adopted as part of the 2008 Urban Growth Boundary process. It was only partially acknowledged by the Land Conservation and Development Commission in 2010, and the Remand order identified many elements of the HNA that required revisions.

The HNA was updated during the UGB Remand process to comply with the Remand Order and establish an adequate factual base to plan for residential land needs to 2028. The Residential Lands Technical Advisory Committee (Residential TAC) reviewed and provided input on key components of the HNA, including forwarding recommendations about trends and needed housing mix to the USC (Summer 2014) and reviewing and recommending the final draft of the HNA to the USC (Summer 2015).

SUMMARY OF KEY FINDINGS

- **Bend's population and housing stock are growing fast:** both have tripled since 1990. Most new housing development from 1990-2008 was single-family detached housing.
- **Housing has become less affordable in Bend, especially since 2000.** Housing sales prices more than doubled between 2000 and 2013, while household income (not adjusted for inflation) increased by 18%. Rental costs also increased.
- **Demographic changes and affordability trends are fueling a need for a wider variety of housing types in Bend.** This includes smaller single-family detached housing, single-family attached housing (such as townhomes) and multifamily housing.
- **The HNA forecasts a total of 17,234 new housing units for 2014 to 2028** based on the original 2008-2028 forecast, updated to account for housing built since 2008. This includes needed housing, group quarters, and second homes.
- **The HNA identifies the needed housing mix as 55% single-family detached (SFD), 10% single family attached (SFA) and 35% multi-family (MF).** This housing mix was approved by the USC.
- **The current UGB can accommodate roughly 9,960 housing units under current plan designations and historic trends in development density.** The housing mix projected under the base case is roughly 70% SFD -- not aligned with the needed housing mix.
- **After accounting for efficiency measures, the current UGB can accommodate roughly 12,250 housing units (an increase of 23% over base case housing capacity).** The housing mix with efficiency measures is roughly 54% SFD, 9% SFA, and 37% MF – much better aligned with the needed housing mix.
- **Bend needs to expand the UGB to accommodate the residual need for about 4,985 housing units to 2028.**

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Updated: 4/14/16

Adoption Document Summary:

Economic Opportunities Analysis

OVERVIEW

Bend's Economic Opportunities Analysis (EOA) was locally adopted as part of the 2008 Urban Growth Boundary process. It was only partially acknowledged by the Land Conservation and Development Commission in 2010, and their Remand order identified specific elements of the EOA that required revisions. The EOA was updated during the Bend Urban Growth Boundary (UGB) Remand process to comply with the Remand and establish an adequate factual base to plan for employment land needs to 2028.

The updated 2015 draft EOA resulted from extensive review by the Employment Technical Advisory Committee (Employment TAC). The TAC forwarded recommendations related to employment trends, redevelopment and opportunity areas to the UGB Steering Committee (USC) (Fall 2014) and reviewed and recommended the final draft of the EOA to the USC (Fall 2015).

SUMMARY OF KEY FINDINGS

- **The basis of the EOA is Bend's vision for economic development in the future.** The EOA articulates a vision that includes diversifying the city's economy, increasing employment in targeted sectors that provide higher than median wage jobs, ensuring there is enough commercial and industrial land to accommodate future jobs and businesses, and prioritizing infrastructure investment to support economic development.
- **The 2008-2028 employment forecast was upheld in the Remand.** Accounting for job growth from 2008, the EOA forecasts 21,943 new employees between 2013 and 2028.
- **The current UGB includes about 1,000 acres of vacant land designated for employment uses.** About 1/4 of this vacant land supply is in sites smaller than 5 acres.
- **Bend meets the state requirement to assure 25% of its total employment land supply qualifies as short-term supply.** Short-term supply means suitable land that is ready for construction within one year of an application for a building permit or request for service extension. Engineering feasibility is sufficient to qualify land for the short-term supply; funding availability is not required. Limitations exist in some areas such as Juniper Ridge that could preclude full build-out in the short-term, but other options are available to meet the short-term supply requirement.
- **Bend can expect to accommodate roughly 1,360 additional employees inside the UGB through redevelopment under current plan designations and regulations**. Efficiency measures, including the new mixed use zones, will increase redevelopment potential.
- **Bend does not have sufficient employment land to accommodate forecast employment growth.** The current UGB can accommodate roughly 13,670 jobs under current plan designations and historic trends. This is roughly 60% of the employment need forecast for 2028. Accounting for efficiency measures (including new Mixed Use zones), the current UGB can accommodate roughly 14,880 jobs. **This leaves an overall deficit of land for 7,080 employees, which will be met through UGB expansion.**

Staff Contact: Brian Rankin (brankin@bendoregon.gov) *Updated: 4/14/16*

UGB Steering Committee 8 Resource Packet

The following documents are included in this packet for the UGB Steering Committee Meeting 8:

1. Integrated Land Use & Transportation Plan (ILUTP)
2. Development Code Updates
3. Comprehensive Plan – Updated Housing Chapter
4. Comprehensive Plan – Updated Economy Chapter
5. Buildable Lands Inventory (BLI)
6. Housing Needs Assessment (HNA)
7. Economic Opportunities Analysis (EOA)
8. Urbanization Report
9. Urban Form Report



Bend Integrated Land Use and Transportation Plan

WORKING DRAFT

April 14, 2016

DRAFT

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EXECUTIVE SUMMARY

What is an ILUTP?

Oregon's Transportation Planning Rule (TPR) requires Oregon's larger communities, including Bend, to plan transportation systems and land use patterns that increase transportation choices and reduce reliance on the automobile. How much people are driving, measured as vehicle miles traveled (VMT) per capita (the average distance driven in a day per person) is a key measure of reliance on the automobile. When a city's adopted land use and transportation plans are expected to result in an increase in VMT per capita, the TPR requires preparation of an Integrated Land Use and Transportation Plan (ILUTP) that sets standards and policy direction to change that trend. The purpose of the ILUTP is to describe what can be done to lessen that increase in VMT and "demonstrate progress towards increasing transportation choices and reducing automobile reliance" (OAR 660-012-0035(5)).

In addition to being subject to legal requirements, policies to reduce VMT are also important to quality of life in Bend. Having more options to get around and shorter distances to travel to meet daily needs, both of which lead to VMT reduction, also improve quality of life. Lowering VMT has a positive effect on air quality and public health, and transportation safety, as well as reducing fossil fuel consumption, greenhouse gas emissions, and travel costs.

VMT Analysis and Key Findings to Date

As is true with most U.S. cities of Bend's age, urban form, and rapid growth, Bend's VMT per capita has been increasing in recent decades. Bend is measuring growth in VMT per capita against baseline years of 2003 (as specified in the Remand) and 2010 (which the project team believes is a better indicator of conditions in 2008 – the beginning of the 20-year planning horizon for the UGB work). Key conclusions and findings from the VMT analysis to date are summarized below.

From the UGB scenario evaluation

- Each of the six scenarios tested increased per capita VMT relative to 2010 (ranging from a 2.9% to a 5.1% increase) due to the amount of growth located outside the center of the city. The increase relative to 2003 ranged from 8.1% to 10.3%.
- An emphasis on complete communities in expansion areas (and using expansion areas to complete existing neighborhoods) helps reduce VMT overall.
- The downtown and core areas of Bend are key destinations and conducive to walking, biking and transit use, so trip lengths and household VMT are generally lower in the these areas of the city. Focusing growth close to the key transit and multimodal corridors that connect to downtown helps keep average trip lengths down.

From testing other hypothetical land use and transportation scenarios for 2028

- A significant shift in housing and jobs from expansion areas to opportunity areas in the core could reduce household VMT per capita relative to 2014 when combined with transit service improvements and reduced block size in new master planned neighborhoods, but that amount of redevelopment is not reasonably likely by 2028.
- Even a relatively modest shift in multifamily housing development to opportunity areas in the core of the city rather than at the edge helps reduce growth in VMT.

From the preferred UGB expansion scenario

- Preliminary analysis shows that additional single family housing in the expansion areas relative to the original scenario 2.1 is counter-balanced by an increase in multifamily housing in core opportunity areas, yielding similar results on household VMT overall.
- *[Note: the official VMT results for the preferred UGB expansion scenario are still being analyzed as of the writing of this summary.]*

From testing hypothetical land use and transportation scenarios for 2040

- The market will need to support relatively aggressive rates of redevelopment with higher intensities and greater mix of uses in core opportunity areas in order to reduce VMT.
- Even with significant redevelopment and intensification in core opportunity areas and somewhat denser future development elsewhere, the strategies proposed with the 2028 UGB expansion are not enough to stop the increase in VMT, even when continued through 2040. The City will need to implement additional strategies over the coming years, as outlined below, in order to curb growth in VMT.

Strategies to Reduce VMT in Bend

The approach to implementation will be to identify corridors and centers (e.g. opportunity areas in the core) that have the highest likelihood to reduce VMT. Coordination of the transportation system and land use patterns has the most impact on VMT reduction. The greatest VMT reductions will happen in locations that have some or many of the needed land use and transportation attributes already in place, such as diversity of land uses, density, connected and walkable design, and accessibility to key destinations. For modest amounts of funding, such areas can greatly reduce reliance on the automobile.

The ILUTP identifies “Proposed Strategies”, which are proposed to be adopted with the UGB expansion proposal, and also “Additional Strategies for Further Consideration” over the longer-term future. Key strategies are summarized below.

ILUTP Element	Proposed Strategies	Additional Strategies for Further Consideration	
		Medium-Term	Long-Term
Land Use Strategies	Designate mixed use opportunity areas identified in UGB project. Adopt efficiency measures identified in UGB project.	Designate additional mixed use areas along transit corridors Adopt design standards for key pedestrian areas and transit corridors. Strengthen connectivity standards for new master-planned neighborhoods.	Evaluate up-zoning selected neighborhoods where there is potential and community support for infill development.
Transportation Demand Management (TDM) and Parking Management	Incentives approach to TDM (parking reductions; trip generation reductions for transportation impact studies). Analyze parking management and pricing.	TDM requirements for large businesses / institutions. Implement parking management programs in key areas based on outcomes of parking study. Consider Transportation Management Associations (TMAs) in key areas of the City.	Implement parking pricing in key areas (e.g. downtown and 3rd Street / Central Area), based on the results of the parking study.

ILUTP Element	Proposed Strategies	Additional Strategies for Further Consideration	
		Medium-Term	Long-Term
Transit	Enhancement of transit centers and corridors in opportunity and core areas.	Implement most components of Bend Transit Plan, including additional hours of service, more frequent peak headways, and two new routes.	Implement further hours of service, improved service and headways on specific routes primarily in opportunity and Core areas
Roadway Improvement Management and Policies	Allow reducing existing lanes and widths at key intersections and corridors on major roadways in opportunity and core areas under certain conditions.	Develop pedestrian and biking safety projects for the opportunity areas that enhance walking, biking, and transit modal splits.	
Complete Streets and Connectivity Investment	Implement planned and funded projects in & around opportunity areas. Prioritize streetscapes in opportunity and core areas and transit corridors.	Evaluate funding mechanisms such as Urban Renewal to implement planned but not-yet-funded projects, focusing improvements in opportunity areas and adjoining corridors.	Refine aspirational projects, such as major roadway connections & US 97/Parkway bike/pedestrian crossings.

Standards to Measure Progress

The City also must propose standards that will be used to measure progress towards reducing VMT. The proposed standards are performance measures that provide insights into the effectiveness of the City's ILUTP strategies. They are linked to variables that are key to changing travel behavior. The City's draft proposed standards emphasize evaluating performance in certain targeted areas of the City, including opportunity areas, transit corridors, and the central core. This reflects the City's overall approach of focusing resources on areas that will have the highest likelihood to reduce VMT. Standards will be set for both 2028 and 2040 due to the shortened nature of the UGB Remand planning horizon. The standards will be revisited when the City undertakes a more comprehensive Transportation System Plan update in the future. The draft proposed standards include:

- Activity density (population plus employment per acre) in targeted areas
- Neighborhood Connectivity (a measure of intersection density weighted to areas with more population)
- Streetscape Project Implementation (streetscape and bicycle/pedestrian safety improvement projects completed in targeted areas)
- Household and employment transit access (percent of residents and employees within a quarter mile of transit)
- Transit service density (number of buses expected to stop within a given area during the peak period)
- Proximity to activity centers (percent of the population that can access core opportunity areas and the downtown within a half-mile on streets or trails (walking distance), within 2

miles on streets (a reasonable bike ride or short drive), and within 1 mile on transit (an easy bus ride)

- Businesses with TDM plans and/or participating in TMAs
- Jobs-housing balance (ratio of jobs to housing in the specified area)

CHAPTER 1. INTRODUCTION

Purpose of the Integrated Land Use and Transportation Plan

The purposes of this Integrated Land Use and Transportation Plan (ILUTP) are to:

- Provide a policy framework for increasing transportation choices in Bend through an integrated set of long range land use and transportation strategies
- Address Transportation Planning Rule[1] and Urban Growth Boundary (UGB) Remand[2] requirements related to reduction of Vehicle Miles Traveled (VMT) per capita and reduced reliance on the automobile
- Describe Bend's policies and standards to be used in demonstrating progress toward a reduction of VMT over time

This ILUTP is a supporting and supplemental document to the Bend Comprehensive Plan and Transportation System Plan. Bend's Comprehensive Plan and Transportation System Plan have many policies and standards which support transportation choices. This ILUTP provides an additional policy framework that is specifically targeted at the purposes listed above.

What is an ILUTP?

Oregon's Transportation Planning Rule requires that local governments within larger regions plan for transportation systems and land use patterns in ways that increase transportation choices and reduce reliance on the automobile. One way that this is often expressed is through how much people are driving, measured as vehicle miles traveled (VMT) per capita, the average distance driven in a day per person.

When the City's adopted land use and transportation plans are expected to result in an increase in VMT per capita, Oregon's Transportation Planning Rule requires preparation of a plan that sets standards and policy direction to change that trend (see below for the full legal context). The central purpose of the plan is to describe what can be done to lessen that increase in VMT and therefore "demonstrate progress towards increasing transportation choices and reducing automobile choices".[3]

As a practical matter, an ILUTP addresses four types of strategies for reducing VMT growth:

- Land use strategies
- Transportation demand management strategies
- Public transit planning
- Policies related to review and management of major roadway improvements

[1] OAR 660-012

[2] Remand Record 05844 (Section 8.6 e (c) page 121)

[3] OAR 660-012-0035(5)

Why VMT Matters to the Community

In addition to being the subject of legal requirements, VMT is also important to quality of life in Bend. VMT per capita measures how much people are driving; it generally reflects a combination of the following factors:

- the availability and desirability of alternatives to driving (such as transit service and bike lanes), which influences whether and to what degree people can meet their needs without using the car;
- proximity between land uses (e.g. the distance from home to the grocery store, work and school), which affects both the potential to reach a destination by walking or biking and the length of the car trip for those who drive; and
- efficiency of the transportation system (e.g. whether there are direct routes between destinations or whether drivers must travel out of their way to reach their destinations).

Lower VMT can result from fewer and shorter auto trips, and by converting auto trips to other modes such as walking, biking, or transit. Having more options to get around and having shorter distances to travel to meet daily needs, both of which lead to VMT reduction, are generally seen as improvements to quality of life. VMT also impacts transportation emissions, which affect air quality and public health, as well as fossil fuel consumption, greenhouse gas emissions, transportation safety, and travel costs.

Legal Context

The Transportation Planning Rule and Remand Requirements

State administrative rule (Oregon Administrative Rule 660, Division 12, Section 0035; Division 12 is also called the Transportation Planning Rule or TPR) requires that Transportation System Plans (TSPs) be based upon "evaluation of potential impacts of system alternatives that can reasonably be expected to meet the identified transportation needs."[4] Areas in Metropolitan Planning Organizations (such as Bend) must "evaluate alternative land use designations, densities and design standards to meet local and regional transportation needs."[5]

This evaluation informs a strategy and adopted standards "for increasing transportation choices and reducing reliance on the automobile.[6] There are a number of strategies that must be evaluated such as improvements to existing facilities and services, enhancements to alternative modes of travel, transportation systems management, travel demand management, and land use standards. These strategies must result in "adopted standards to demonstrate progress towards increasing transportation choices and reducing automobile reliance," which requires a qualitative and quantitative description in the plan explaining how reliance on the automobile is reduced, convenience in using alternative modes has increased, there is a likelihood of a significant increase in non-automobile use, Vehicle Miles Traveled (VMT) does not increase

[4] OAR 660-012-0035(1).

[5] OAR 660-012-0035(2).

[6] OAR 660-012-0035(4).

more than five percent, and that the standards are measurable and reasonably related to the goal of reducing reliance on the auto.[7]

The TSP must include "policies to evaluate progress towards achieving the standard or standards adopted and approved pursuant to this rule. Such evaluation shall occur at regular intervals corresponding with federally-required updates of the regional transportation plan. This shall include monitoring and reporting of VMT per capita."[8] The current TSP has policies directed at reducing reliance on the automobile and improving access to alternative modes. However, the TSP will be amended to include new policies specific to meeting the TPR requirements about reducing VMT.

If an MPO area can show that adopted plans and measures are likely to achieve a five percent reduction in VMT per capita over the 20-year planning period, they will be found to be in compliance with the rule, but must still adopt interim benchmarks for VMT reduction and evaluate progress with each TSP update.[9]

If an alternate standard is approved, but an increase in VMT (of less than 5%) is anticipated, the local jurisdictions in the MPO area must prepare and adopt an ILUTP containing specific required elements within three years of the approval of the standard.[10] The required elements are:[11]

- Changes to land use plan designations, densities, and design standards such as increasing residential densities adjacent to transit, major employment areas, and major retail areas; increasing employment densities in designated community centers; designating land for neighborhood shopping centers; and providing housing opportunities in close proximity to employment areas (see full list below);
- A transportation demand management plan that includes significant new transportation demand management measures;
- A public transit plan that includes a significant expansion in transit service; and
- Policies to review and manage major roadway improvements to ensure that their effects are consistent with achieving the adopted strategy for reduced reliance on the automobile.

The land use strategies that local governments "shall consider" are listed in detail below.

> *"(a) Increasing residential densities and establishing minimum residential densities within one quarter mile of transit lines, major regional employment areas, and major regional retail shopping areas;*

[7] OAR 660-012-0035(5).

[8] OAR 660-012-0035(5)(e)

[9] OAR 660-012-0035(6)

[10] OAR 660-012-0035(5)(c)

[11] OAR 660-012-0035(5)(c) and OAR 660-012-0035(2)

"(b) Increasing allowed densities in new commercial office and retail developments in designated community centers;

"(c) Designating lands for neighborhood shopping centers within convenient walking and cycling distance of residential areas; and

"(d) Designating land uses to provide a better balance between jobs and housing considering:

"(A) The total number of jobs and total of number of housing units expected in the area or subarea;

"(B) The availability of affordable housing in the area or subarea; and

"(C) Provision of housing opportunities in close proximity to employment areas."[12]

The examples given in the rule of policies regarding review and management of major roadway improvements (defined to include "new arterial roads or streets and highways, the addition of travel lanes, and construction of interchanges to a limited access highway") include:[13]

"(i) An assessment of whether improvements would result in development or travel that is inconsistent with what is expected in the plan;

"(ii) Consideration of alternative measures to meet transportation needs;

"(iii) Adoption of measures to limit possible unintended effects on travel and land use patterns including access management, limitations on subsequent plan amendments, phasing of improvements, etc..."

Prior Work and Remand Issues

In the 2008 UGB expansion effort, the City did not address compliance with OAR 660-012-0035.[14] The Remand summarizes it as follows: "The [Department of Land Conservation and Development (DLCD)] Director's Decision found that:

- the metropolitan planning requirements of the TPR are applicable to Bend at this time;
- Bend has not complied with provisions of the TPR applicable to metropolitan areas for adoption of standards and benchmarks to reduce reliance on the automobile; and
- the metropolitan area planning requirements in the TPR must be met prior to a significant amendment of the UGB." [15]

[12] OAR 660-012-0035(2)

[13] OAR 660-012-0035(5)(c)(D)

[14] Note that Bend's adopted TSP projects a 6% decrease in VMT from 2000 to 2020. However, due to issues with land use buildout consistencies and partner agency support of the technical modeling work that underlies the analysis, it does not provide an adequate basis for establishing compliance with the TPR.

[15] Remand Record 05844 (Section 8.6 pages 119-121) .

The City appealed this aspect of the Director's Decision, arguing that it is not required to comply with these requirements before amending its urban growth boundary.[16] The Remand states that *all* goals and rules apply to a UGB amendment, except for the listed exceptions, and there is no exception for the metropolitan area planning requirements specified in OAR 660-012-0035; the City is required to comply with OAR 660-012-0035 before it may complete its UGB expansion.

The Remand identifies three possible outcomes based on the estimated change in VMT per capita projected to result from the revised UGB expansion, along with proposed land use and transportation measures:[17]

(a) A decline of 5% or more per capita means the City is in compliance with this aspect of the TPR under 0035(6).

(b) A decline of between 0% and 4.99 percent per capita means the City may proceed by preparing for DLCD/LCDC review and approval concurrently with the revised UGB, a work program/plan to achieve a reduction of 5% or more over the planning period.

(c) An increase in VMT per capita means the city must prepare, submit and obtain DLCD/LCDC approval of an integrated land use and transportation plan (ILUTP) as provided in OAR 660-012-0035(5) prior to approval of a revised UGB.

While the Remand requirements do not exactly match the administrative rule, the City's approach is to first meet the requirements of the rule, and then the Remand Order. The City worked collaboratively with the State during the preparation of this ILUTP, and the approach cited here has been reviewed and approved in concept by DLCD staff.[18]

[16] Remand Record 05844 (Section 8.6 pages 119-121)

[17] Remand Record 05844 (Section 8.6 pages 119-121)

[18] Personal communication between Karen Swirsky, Senior Planner with the City of Bend and Bill Holmstrom, DLCD Transportation Planner, January 13, 2016

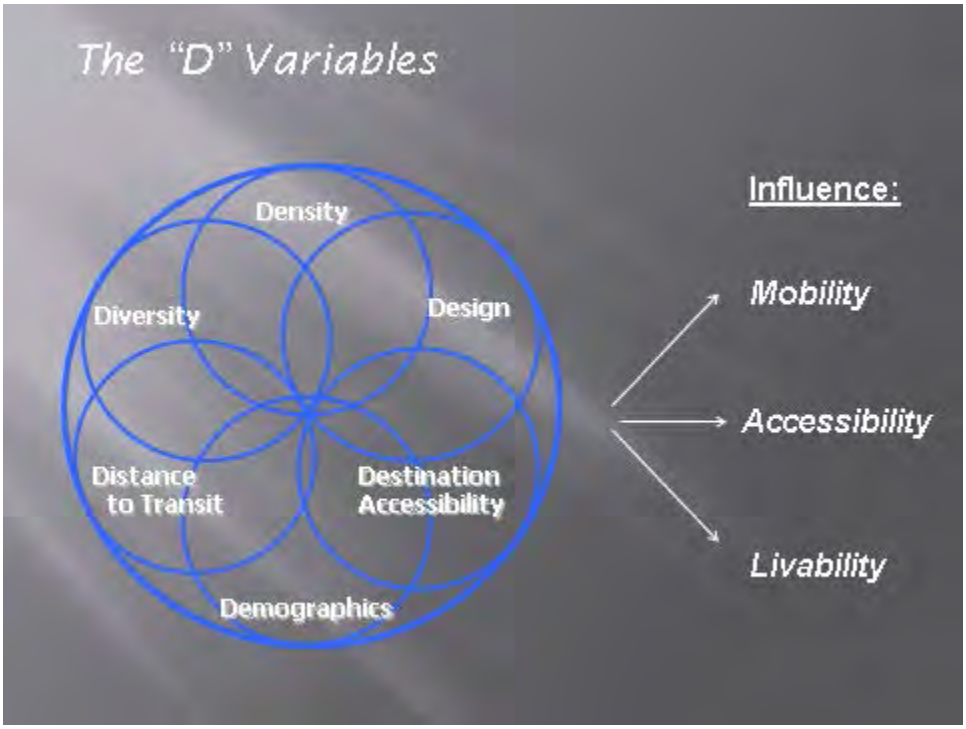
CHAPTER 2. BEST PRACTICES

This chapter provides a brief overview of the key factors that influence VMT -- land use, transportation demand management, parking, and the design of the transportation system -- and examples from other Oregon communities related to these factors. For examples of how these best practices are already being used in Bend, please see Chapter 4, Existing and Proposed VMT Reduction Strategies.

Land Use: The "D" Variables

Research by Drs. Chris Nelson and Reid Ewing of the University of Utah (among others) has identified a number of key factors that influence travel behavior, as summarized in Figure 1.

Figure 1: The "D" Variables



In brief, this research has found the following estimated impacts on travel behavior from the variables identified above:[19]

- Density (Housing and employment densities):
  - Doubling housing density reduces VMT 4%, increases walking and transit usage 7%
  - Doubling of commercial density increases walking 7%
- Diversity (mix and types of land uses primarily housing and commercial):

[19] Ewing, Tan, Goates, Zhang, Greenwald, Joyce, Kircher, and Greene (2014) Varying influences of the built environment on household travel in 15 diverse regions of the United States, *Urban Studies* 1-19.

    - Doubling diversity of land uses, aka “Entropy” score within one mile (0-1 score) yields -9% VMT, +15% walking, +12% transit (twice as influential as housing density)
    - Doubling ratio of jobs to housing (i.e. 0.5 to 1) yields -2% VMT, +19% walking (significant impact on walking, less so on VMT)
- Design (Design refers to street patterns and also streetscape design) :
    - Intersection density important, but measures of connectivity (% 4-way intersections) have a compounding influence; doubling intersection density yields -12% VMT, +30% increase in walking. Most influential predictor of walking.
- Destinations (Accessibility to employment and uses central to an urban area such as downtowns):
    - Employment within 1 mile, employment within 20 and 30 minutes by auto, and employment within 30 minutes by transit: most influential variable on VMT – doubling job accessibility by auto yields a 20% reduction in VMT.

The approach outlined above is supported in the technical literature. Washington State Department of Transportation published an analysis of the relationships between urban form and travel behavior[20], and the Florida Department of Transportation confirmed that strategies to reduce transportation demand via coordination of land use and transportation planning can contribute to meeting future mobility needs[21].

In addition, the City used an extensive literature review to ensure that the proposed approaches would be effective. In particular, the Transportation Research Board has published a paper documenting the positive effects of growth management policies on travel demand[22]. The City has incorporated measures from the Environmental Protection Agency’s Guide to Sustainable Transportation Performance Measures, which describes 12 performance measures that can be used in transportation decision-making, from transit accessibility to bicycle and pedestrian facilities[23].

The urban form studies prepared in the UGB Remand project illustrate where many of the key variables identified above are present in Bend today, including density, connectivity, access to destinations / neighborhood completeness, and access to transit. In addition, the UGB scenario evaluations included analysis of many of these indicators for the future urban form expressed in the scenarios. Please see Attachment X for maps and urban form diagrams that illustrate where these conditions are present within the current UGB. [Note: a set of urban form maps

[20] Washington Department of Transportation, 1994, Publication WA-RD 351.2: An Analysis of Relationships between Urban Form (Density, Mix and Jobs-Housing Balance) and Travel Behavior (Mode Choice, Trip Generation, and Travel Time).

[21] Florida Department of Transportation, 2004, Publication BC353-46: The Relationship between Land Use, Urban Form, and Vehicles Miles of Travel: The State of Knowledge and Implications for Transportation Planning.

[22] Transportation Research Board, 2013, Publication SHRO 2 C16: The Effect of Smart Growth Policies on Travel Demand.

[23] Environmental Protection Agency, 2011, Publication 231-K-10-004: Guide to Sustainable Transportation Performance Measures

prepared early in the project showing completeness and connectivity will be included.] Reducing VMT may be achieved by focusing growth to areas that already have the necessary conditions such as intersection density (grid system of streets), proximity to employment and services, and/or transit corridors, to support reduced reliance on the automobile, and/or improving conditions in areas that lack one or more of the "D"s and also have vacant land or infill/redevelopment opportunities. For instance, in Bend, the older grid pattern neighborhoods close to downtown tend to lack safe pedestrian and bicycle crossings of major roadways and streetscape elements that encourage walking and transit use.

Transportation Demand Management

Transportation Demand Management (TDM) aims to maximize the efficiency of the urban transportation system by discouraging unnecessary private vehicle use and promoting more efficient, healthy, and environmentally-friendly transportation alternatives. TDM strategies can be more cost-effective than capital investments in new roads or parking lots.

TDM strategies focus on changing travel behavior – trip rates, trip length, travel mode, time-of-day, etc. – generally in order to reduce traffic during congested (peak) periods. TDM strategies generally focus on reducing travel in automobiles and light-duty trucks. The Federal Highway Administration has conducted studies that demonstrate the effectiveness of various TDM strategies.[24]

Some TDM measures require large-scale system changes (e.g., new transit routes), while others can be implemented on a local or site-by-site basis. When TDM is implemented on a site-by-site basis through land use and zoning, the focus is typically on creating supportive infrastructure. In many communities, some form of TDM is already required by the development code. Because the land use process usually involves a one-time decision, it lends itself more easily to reviewing these types of built improvements. Programmatic TDM measures that require ongoing monitoring are more challenging to implement through land use review

Examples of Development-Related TDM Measures[25]	
TDM-Supportive Infrastructure	**Programmatic TDM**
• Pedestrian or transit oriented design	• Subsidized transit passes for employees
• Parking maximums	• Parking cash-out programs
• Minimum bicycle parking standards	• Provide bicycle safety education classes
• Requirements for transit amenities	• Transportation Management Associations

Other TDM program elements can include such strategies as:

- Priced parking
- Free emergency rides home
- Alternative transportation commute planning

[24] http://www.fhwa.dot.gov/environment/air_quality/conformity/research/mpe_benefits/mpe03.cfm

[25] Transportation Demand Management (TDM) Plans for Development. Transportation and Growth Management Program, September 2013.

- Preferential rideshare parking
- Employee vanpools (may be subsidized by employer)
- Bicycle parking (short- and long-term)
- Financial incentives for transit, biking, walking, or
- Carpooling
- Car-sharing programs

TDM strategies can vary from voluntary to regulatory programs and can be focused on specific areas such as institutions or office parks.

Transportation Management Associations (TMAs) are organizations that are created to implement TDM measures in a coordinated fashion. Commute Options conducted a study for the City of Bend in 2015[26], examining five TMAs in Oregon (Go Lloyd TMA, South Waterfront TMA, Swan Island TMA, Westside Transportation Alliance, and Metro Medford). The formation of Go Lloyd, South Waterfront, and Swan Island TMAs were driven by traffic congestion and limited parking. The Westside Transportation Alliance was created to assist Washington County companies comply with the Department of Environmental Quality (DEQ) Employer Commute Options (ECO) Rules. Metro Medford's impetus was the availability of federal Congestion Mitigation and Air Quality (CMAQ) funds. For all of them, continued and reliable funding is the greatest challenge. The following suggestions were gleaned from interviews with the five TMAs:

- Business Support: Businesses must believe there is a problem that affects their ability to be successful. Each needs a compelling reason to participate.
- Stable Funding: Having guaranteed funding on a consistent basis is critical. It allows staff to focus on programs and services rather than worrying where the next grant will come from and for how much.
- Geographic Area: Have a small, clearly-defined geographic area. Larger areas generally mean more diverse transportation needs. Having a small area with a common problem to solve has a greater likelihood of success. Downtowns, campuses, and major activity centers are great places for a TMA.
- Create a Non-Profit TMA: A TMA that is housed under another organization is often subject to shared funding and priorities that are not in their best interest. A non-profit is eligible for more grants and can take advantage of discounts in services and products. In a business association where there are multiple members, it can be difficult to get consensus. With a non-profit there is a board of directors that have been chosen because of their expertise and priorities that support the TMA.
- Share Your Successes: Make sure people throughout the community, especially those that questioned the need or value of the TMA, know how well it's working and the programs and services you offer.

[26] A Report on Transportation Management Associations, Commute Options, June 1 2015.

Parking

The supply and use of parking are influenced by — and have influences on — development practices, local policies, economic impacts on builders and households, and community goals. The supply and price of parking also have direct relationships with travel behavior. Too much parking correlates with more automobile ownership, more vehicle miles traveled, more congestion, and higher housing costs. In addition, excess parking interferes with the efficient development of urban land, which presents barriers to efficient transit, increasing density and diversity of land uses, and pedestrian-oriented development. Parking supply and pricing often have a direct impact on the ability to create compact, healthy communities.[27]

VMT has been demonstrated to be strongly related to measures of accessibility to destinations, particularly the supply of parking.[28] Parking strategies such as parking management, pricing, and establishing maximums, when combined with mode split goals, tend to decrease VMT. Parking management can be particularly effective when used in specific areas, such as downtowns or complete neighborhoods.

Parking Management is a general term for strategies that encourage more efficient use of existing parking facilities. This reduces total parking demand, shifts travel to other modes, reduces VMT and ensures a minimum number of parking spots are always available, avoiding the "circling" problem adding to congestion. Managing parking helps to reduce the undesirable impacts of parking demand on local and regional traffic levels and the resulting impacts on community livability and design. The most effective parking strategies are those that link parking rates more directly to demand or provide financial incentives and/or prime parking spaces to preferred markets such as carpools, vanpools and short term parkers[29].

Some key parking management practices that may be applicable to Bend include:

- **Ensure right-sizing parking.** Older codes (such as Bend's) can require more parking than is really needed or desired. An audit would reveal areas in the City's code where parking requirements are potentially higher than actually needed.
- **Impose parking maximums.** When a limit is imposed on the number of off-street parking spaces provided at new developments, this strategy can help encourage transit use and other alternatives to single-occupant automobile use.
- **Allow or require shared parking.** This strategy can shift parking demand into shared facilities rather than a duplicative of dedicated, accessory spaces. This strategy is particularly effective in areas of dense, mixed land uses.
- **Unbundle parking costs.** This strategy allows parking spaces to be leased or sold separately from the rent or sale price. This gives a financial incentive inducing individuals to drive less or own fewer cars for residential uses, and for commercial uses,

[27] Urban Land Institute Northwest, "Right Size Parking," 2013

[28] Ewing R, Cervero R. (2010). Travel and the built environment. Journal of the American Planning Association 76(3): 265–294.

[29] Best Practices Transportation Demand Management (TDM), Seattle Urban Mobility Plan, January 2008.

encouraging companies to increase transit commute rates among their employees. Including the price of parking in an overall lease can increase costs by as much as 25% – and so can have an effect on affordability.

- **Build park-and-ride lots.** Remote lots connected with shuttles, transit, or carpool programs can help alleviate demand for parking in congested areas. This is a strategy being considered by OSU-Cascades to minimize parking demand at its new urban campus.
- **Create new parking management districts.** Parking districts, similar to the existing downtown Bend central business district, can provide centralized and coordinated management of parking services. Centralization of management can occurred through public/private partnerships between the city and a business association, parking authority, or economic/business improvement district. New parking districts can be a part of a Transportation Management Area or a separate entity.
- **Institute cost-based parking in appropriate areas.** The most effective parking strategies are cost based or pricing measures that link parking rates more directly to demand or provide financial incentives and/or prime parking spaces to preferred markets such as carpools, vanpools and short term parkers. This reduces total parking demand, shifts travel to other modes, reduces vehicle miles traveled (VMT) and ensures a minimum number of parking spots are always available, avoiding the "circling" problem adding to congestion. Cost-based pricing is appropriate for parking districts, such as downtowns.

Some examples of successful parking programs include:

- Bellevue, Washington – Shared use, and unbundling parking
- Milwaukie, Oregon – Shared parking in mixed use districts
- Hood River, Oregon – Downtown Parking Pricing
- Portland, Oregon – Variable rate parking depending on location
- Seattle, Washington – Parking maximums instead of minimums

Transit

A solid transit system can be a powerful tool for reducing VMT by offering a viable alternative to automobile use. The "D" factors discussed above have been demonstrated to increase transit use.[30] Enhanced transit service such as decreased headways, system improvements such installing bus-only lanes at intersections and improving pedestrian access increases transit use. Focusing these efforts along transit corridors and between identified destinations such as large employment centers and commercial districts is also effective.

Bend's transit provider, Cascades East Transit (CET), recognizes that the City's plans to intensify land uses inside the UGB will support their efforts to grow the system. As funding becomes available, CET plans to implement best practices such as:

[30] Moudon E, Stewart O. (June 2013). Tools for Estimating VMT Reductions from Built Environment Changes. Washington State Department of Transportation.

- Providing headways of no more than 30 minutes on all routes
- Providing 15 minute headways on key routes
- Create new hubs in quadrants of the City of Bend
- Provide Sunday service and improve Saturday service
- Upgrade buses to coach style with low floors to improve comfort and efficiency

Longer term, CET would like to create new routes and study the possibility of Bus Rapid Transit.

An example of a mid-sized transit district that has successfully implemented the best management practice is Lane Transit District (LTD) in Eugene. LTD began in 1970 with 18 buses and two vans, and it has grown and changed along with the community. Since 1970, it appears that Eugene has an increased awareness of the relationship between automobile traffic and quality of life. Not only does the community want alternatives to relieve problems with increased traffic, federal and state governments have demanded it.

Unlike Bend, Eugene has had some air quality challenges, and the Federal Clean Air Act Amendments of 1992 set standards for clean air that, if not met, can result in the loss of federal transportation funding. Since half of the air pollution in the country is caused by automobiles, alternative forms of transportation must be part of the solution. In the past, LTD received Federal funding to help meet clean air standards.

In addition, Eugene, like Bend, is subject to the requirements of Planning Rule Goal 12, which requires cities with populations of 25,000 or more to have a plan for gradually reducing vehicle miles traveled (VMTs). In the last decade of the 30-year plan, outlined in the TransPlan, VMTs per person must be reduced 20 percent from current levels. LTD has responded to the challenge and has become a leader in shaping local and regional transportation strategies.

Road and System Improvements that Influence Walking and Biking

Walking, bicycling, and transit use are increased with street and safety projects such as the addition of bike lanes, buffered bike lanes, bicycle boulevards, and enhanced pedestrian crossings[31]. Numerous studies indicate that projects to eliminate or reduce conflicts with vehicles will substantially increase the walk and bike modes. In addition, streetscape or complete street projects that satisfy the Design variable will increase walking and biking. For example, bicycle ridership on buffered bike lane corridors and bicycle boulevards have been shown to increase significantly.[32,33]

Similarly, good pedestrian oriented street design, including wide sidewalks, street trees, and safe crossings, can significantly increase walking.[34] In particular, this literature demonstrates that real and perceived safety issues have a strong influence on mode choice.

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[31] Moudon E, Stewart O. (June 2013). Tools for Estimating VMT Reductions from Built Environment Changes. Washington State Department of Transportation.

[32] "Evaluation of Innovative Bicycle Facilities," Final Report, Portland Bureau of Transportation (2011).

[33] "Traffic Calming: State of the Practice," ITE/FHWA, 1999.

[34] Georgia Department of Transportation, Pedestrian and Streetscape Guide, 2003.

Bellingham, Washington is an example of a city that regularly commits planning and construction resources to improving bicycle, pedestrian, and transit facilities, and has seen a resulting increase in use of these modes.[35]

The City has conducted a traffic safety study[36] that found, among other things, that multi-lane (more than three lanes of traffic) higher-volume and higher-speed roadways were significantly more likely to have a higher number of serious pedestrian and biking crashes. The study concluded that the City should focus efforts and funding on high-crash locations. In 2015, the City created a concept plan for implementing safety projects[37]. This report summarizes the conceptual design of safety solutions at priority locations in the four corridors addressed by this project:

- 3rd Street between Greenwood Avenue and Murphy Road
- Colorado Avenue between Bend Parkway and Bond Street
- Greenwood Avenue West between 3rd Street and Awbrey Road
- Greenwood Avenue East between 3rd Street and 12th Street

Within those four corridors, the City has selected a number of projects for design and implementation:

- 27th Street and Conners Avenue
- 3rd Street and Reed Market Road
- 3rd Street and Roosevelt Avenue
- 3rd Street and Hawthorne Avenue
- Colorado Avenue and Bend Parkway Approach Ramps
- Colorado Avenue - Bond Street to Bend Parkway
- Purcell Boulevard and Neff Road
- Franklin Avenue and 3rd Street
- Greenwood Avenue and 3rd Street
- Greenwood Avenue and 4th Street
- Greenwood Avenue and 6th Street
- Neff Road and Williamson Boulevard

[Note: a map identifying these projects in relationship to opportunity areas and transit corridors will be provided with the final version of the ILUTP.]

[35] http://www.cob.org/services/transportation

[36] City of Bend Multimodal Traffic Safety Study 2012-2014.

[37] City of Bend Safety Implementation Plan, 2015.

VMT Reduction Efforts in Other Oregon Communities

Portland Metro satisfied the VMT requirement by adopting and implementing the Metro 2040 Plan. Since that time Metro has adopted the Green House Gas Emissions strategy and plan that includes VMT reduction policies and actions such as increasing transit intensity, pricing, and promoting mixed use development.

TransPlan is the Eugene-Springfield land use and transportation plan that adopted VMT reduction polices and strategies for the area. TransPlan centered on a set of land use, transit, demand management, and bicycle strategies and transportation system performance measures.

Rogue Valley Metropolitan Planning Organization has been working with DLCD to draft alternative measures for increasing transit and non-motorized travel mode splits. These measures include increasing the percent of residences within a ¼ mile walk of transit service, percent of collectors and arterials with bicycle and pedestrian facilities, and increasing employment in mixed-use pedestrian-friendly areas.

The Corvallis Area Metropolitan Planning Organization has been working on a Greenhouse Gas Emissions Reduction Project. The resulting plan includes strategies to reduce VMT through pricing, demand management, infrastructure improvements (particularly for non-motorized modes), increasing mixed use land development, and increasing transit investment.

Salem MPO jurisdictions adopted local code and ordinances that set existing and benchmark measures for reducing reliance on the automobile. Pedestrian and biking infrastructure increases and land use actions such as encouraging employment and dwelling units along or near transit stops were some of the general types of measures.

CHAPTER 3. ANALYSIS: METHODS, APPROACH AND RESULTS

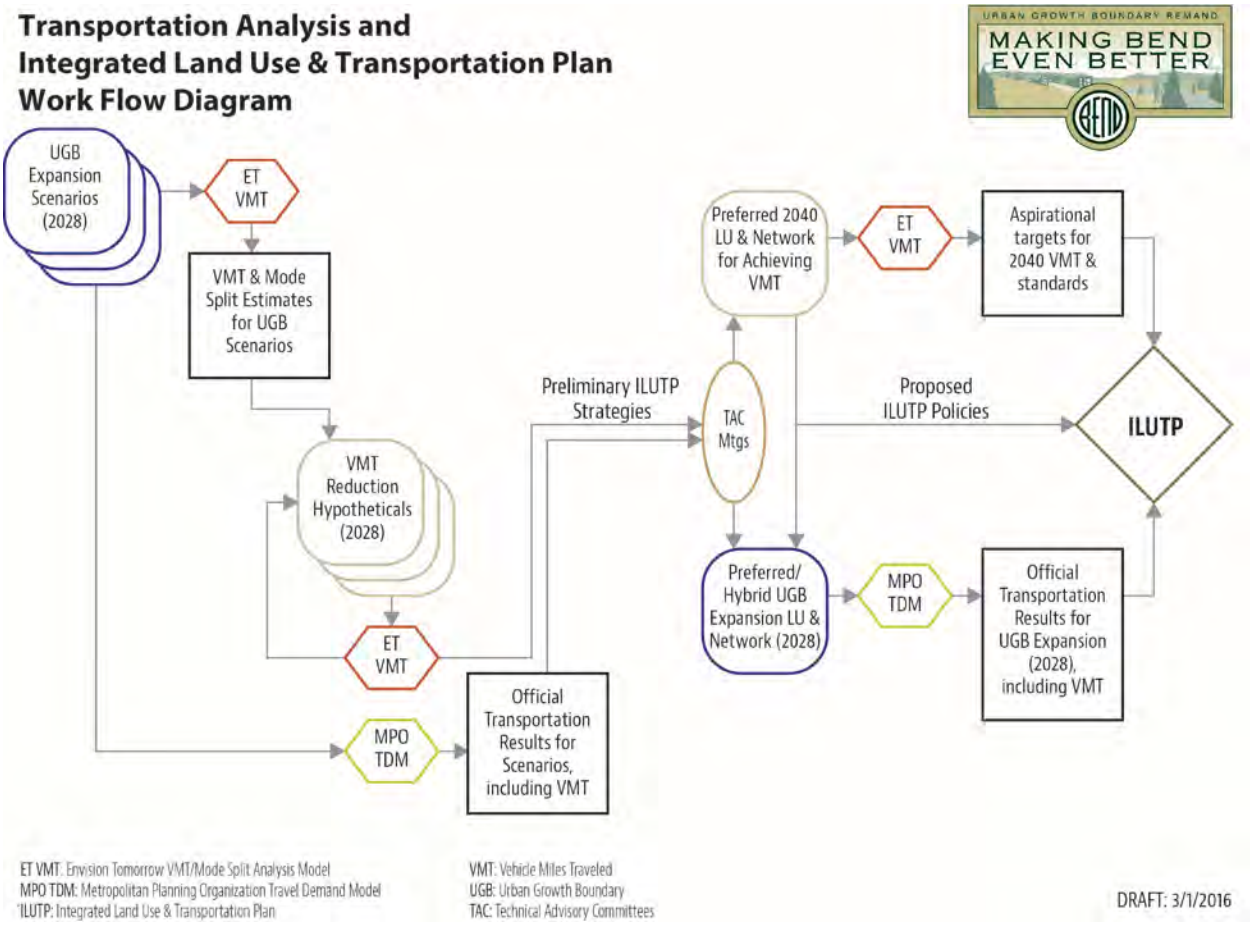
This chapter summarizes the analysis that underlies the strategies and standards proposed in Chapters 4 and 5 of this ILUTP. Note that the analysis for this ILUTP was performed in conjunction with the evaluation of alternative UGB expansion scenarios for the 2016 UGB proposal.

Methodology

Modeling Tools

The analysis used two primary tools, Envision Tomorrow (ET) 7D Travel Model and the Bend MPO regional travel demand model. These tools were used, in tandem, to assess preliminary outputs from the UGB scenarios, develop a final scenario, and ultimately make findings that address TPR requirements for the Remand (VMT) and changes that may be implemented through the ILUTP.

Figure 2: Analysis process for ILUTP



The purpose of Envision Tomorrow in the transportation analysis was to assist in identifying and analyzing the land use and transportation strategies that would be required in Bend to achieve the levels of VMT reduction required by the TPR and Remand. The ET 7D Travel Model[38] is sensitive to changes previously described in the "D" variables, including Density, Design, Destinations, Demographics[39] and Diversity of land uses. The ET model is able to estimate total internal and walking trips resulting from land uses. It does not measure VMT in the precise way required by the TPR, but it is well-calibrated to the travel demand model and offers a quick and efficient way to estimate the big picture transportation impacts from different land use and transportation strategies.

The Travel Demand Model was used for formal analysis of transportation system performance and VMT as defined in the TPR. The travel demand model was run through the formal four-step process with TPAU to analyze the alternative scenarios, and then the proposed hybrid scenario (proposed UGB). The modeling methodology is documented in the June 15, 2015 memorandum from DKS Associates (see Attachment X). [Note: this memorandum will be included with the final ILUTP.]

Time Periods Used in this ILUTP

The Remand specifies 2003 as the baseline year. A later clarification letter from DLCD staff[40] also described using the regional travel demand models for year 2003 and 2030 (which were the model years available at the time to approximate the 2008 to 2028 planning horizon). However, the MPO and TPAU have since updated the regional models to base year 2010 and future year 2028. The updated base 2010 travel demand model includes enhancements that better reflect 2008 conditions in Bend and are better for assessing the Remand requirements. The enhancements include (see Attachment X for more details):

[Note: a technical memo will be provided with the final version of the ILUTP that documents the details of the updates to the transportation model from the 2003 version to the 2010 version. This memo will describe the reasons that the 2010 model is a better reflection of the existing conditions as of 2008 and is the appropriate baseline for VMT comparison.]

- An updated base land use developed for the Metropolitan Transportation Plan (MTP), which more closely aligns with 2008 land use patterns in Bend compared to the prior model base year of 2003;
- An updated transportation network to reflect what was built between 2003 and 2010, which more closely aligns with the 2008 network in Bend compared to the prior model base year of 2003; and

[38] Envision Tomorrow Plus (ET+) User manual, Metropolitan Research Center University of Utah, http://www.envisiontomorrow.org/storage/user_manuals/20131029ENVISION%20TOMORROW%20PLUS_USER%20MANUAL_1st%20COMPLETE%20VERSION_updated_sm2.pdf

[39] The supporting socio-demographic factors for the land use data include household size, household income, and the number of workers in a household. As scenarios are “painted” with ET, these socio-demographic factors are updated based on the type of predicted development.

[40] RE: Questions relating to the Bend Urban Growth Boundary *UGB) Vehicle Miles Traveled (VMT) Analysis, Letter from DLCD, November 10, 2011.

- A transit model component to reflect the transit system that now exists in Bend but was not present in 2003.

The year 2028 future scenario includes updates to model components consistent with year 2010 model (noted above) and offers an analysis year that aligns with Remand (as opposed to prior model year 2030).

In addition to providing the benefits listed above, the distinction between the baseline years is important because VMT increased in the Bend area by nearly 5% between 2003 and 2010. For purposes of analysis, the project team is evaluating both 2003 and 2010 as baseline years. It is likely that only the Land Conservation and Development Commission will be able to provide definitive guidance regarding which base year to use; for the sake of the current city's planning work related to VMT, both 2003 and 2010 VMT estimates will be used.

The ILUTP uses 2028 as the future year for the purposes of measuring VMT changes over the planning horizon. However, the ILUTP also looks further ahead to how the policies and measures included in this ILUTP may affect VMT in the longer-range future to 2040. This is consistent with the TPR's ILUTP provisions applying to the development and amendment of TSPs, which specify a 20-year planning period from adoption of the TSP.[41]

Approach

Analysis of VMT-Reduction Strategies

This section offers a brief summary of the VMT-reduction strategies considered for inclusion in this ILUTP. Those included in the modeling work to identify the most promising strategies are shown on **bold** below. Those not in bold were considered but could not be adequately captured with the modeling tools available. Instead, they were evaluated in a qualitative manner using the research cited in Chapter 2. The full list of strategies proposed as part of this ILUTP can be found in Chapter 4.

Land Use Strategies

- **Development code efficiency measures (from the UGB Remand project) including increasing the minimum density in the RS zone, making it easier to build a variety of housing types in the RS zone, and increasing density requirements for master planned neighborhoods***
- **Land use changes within Opportunity Areas (from the UGB Remand project) including designating new mixed use centers in central portions of the city that have potential for redevelopment***
- **Implementation of the Bend Central District Multi-Modal Mixed Use Area Plan***
- **Implementation of the Central Westside Plan***
- **The "Complete Communities" approach in expansion areas***
- **Focusing growth along strategic portions of transit corridors***

[41] OAR 660-012-0005(22)

* Land use strategies were tested using the Envision Tomorrow 7D travel model (through the type and intensity of development projected in each area of the city) as well as the regional travel demand model (through the housing and employment allocations at the transportation analysis zone level).

Transit system

- **Increase service frequency in primary transit corridors***
- **New corridors to serve growth areas***
- Capital improvements (e.g. major bus stop improvements)
- Transit priority lanes and queue jumps at major signalized intersections
- Enhancements to connect to transit services (e.g., ped/bike improvements within ¼ mile of bus stops)

* Transit service improvements were tested using the Envision Tomorrow 7D travel model and the regional travel demand model by adjusting the assumed future transit networks and service frequencies.

Transportation Facility Improvements and Policies

- Streetscape improvement policies (looking at intersection and street "completeness" for all modes)
- Alternative transportation performance measures such as safety policies that can trump mobility concurrency requirements
- Planning for 3-lane corridors and minimizing the number of 5-lane corridors in the future
- Consideration of roadway grid completeness (e.g., arterials every mile)
- Major bike and pedestrian enhancements at transit nodes and targeted mixed use centers and corridors – implement the city bike and pedestrian priority projects
- **Smaller block size standards for new neighborhoods and large developments to increase intersection density***
- Urban Renewal Districts at Juniper Ridge, Murphy Crossing, and consideration of forming new Urban Renewal Districts in the Central Area and other locations to help fund multimodal transportation improvements

* The effect of reduced block sizes in new master planned neighborhoods was evaluated through Envision Tomorrow's 7D travel model, which takes future intersection density into consideration in estimating mode split and other travel outcomes.

Demand Management/Transportation Options

- **Demand management associations in key areas/institutions (for example: Juniper Ridge (existing), OSU Cascades, COCC, Downtown, Central Area, and Medical Overlay District/St. Charles, and/or other opportunity areas)***
- TDM plan requirements in development code (e.g., for site with 50 or more employees)

* The effect of TMAs in the key areas noted was estimated through post-processing analysis of the regional travel demand model – adjusting the trip generation from those areas slightly (e.g.

5% reduction based on literature review and best practices) to simulate the effect of commute trip reduction programs or other travel demand management efforts.

Scenario Testing

In order to evaluate the impact of the VMT reduction strategies identified, a series of land use and transportation packages were created and tested using Envision Tomorrow. These packages include a mix of 2028 growth scenarios used to inform the UGB expansion analysis as well as 2040 scenarios that explore how the impact of the strategies could mature over a longer time horizon. The packages tested include the following and are documented in Attachment X:

- Six UGB expansion scenarios testing different potential growth areas, with consistent assumptions about growth, redevelopment and transit service inside the UGB;
- Two iterations of hypothetical land use and transportation scenarios to 2028 to test the impact of increasing redevelopment in the core, increasing transit frequency, and reducing block sizes in new neighborhoods;
- The draft and final preferred UGB expansion scenario; and
- An extension of the policies and plan designations put in place in the preferred UGB expansion scenario to the year 2040 to understand how the policies may affect growth over time and determine what it will take to reverse the trend on VMT growth.

[Note: a summary of the land use and transportation scenarios and the details of their VMT results will be compiled for the final version of the ILUTP and included as an attachment.]

VMT Results and Conclusions

Key conclusions and findings from the VMT analysis described above are summarized in this section.

- From the UGB scenario evaluation (see Attachment X for a summary of VMT results from the UGB expansion scenarios and Supplemental Analysis Area Maps):
    - Each scenario increased VMT relative to 2010 (ranging from a 2.9% to a 5.1% increase) due to the amount of growth located outside the center of the city. The increase relative to 2003 ranged from 8.1% to 10.3%.
    - An emphasis on complete communities in expansion areas (and using growth areas to complete existing neighborhoods) helps reduce VMT overall.
    - The UGB scenarios that had the lowest growth in VMT all included better connectivity and more complete communities. (Note that the UGB Steering Committee selected a preferred UGB expansion scenario which had one of the lowest rates of VMT growth for further refinement as demonstrated by the UGB expansion proposal.)
    - Even where there are complete communities in outer neighborhoods, the downtown remains a key destination. As a result, trip lengths and household VMT are generally lower in the core area of the city (see Figure 3 and Figure 4).
    - Focusing growth close to the key transit and multimodal corridors that connect to downtown helps keep average trip lengths down.

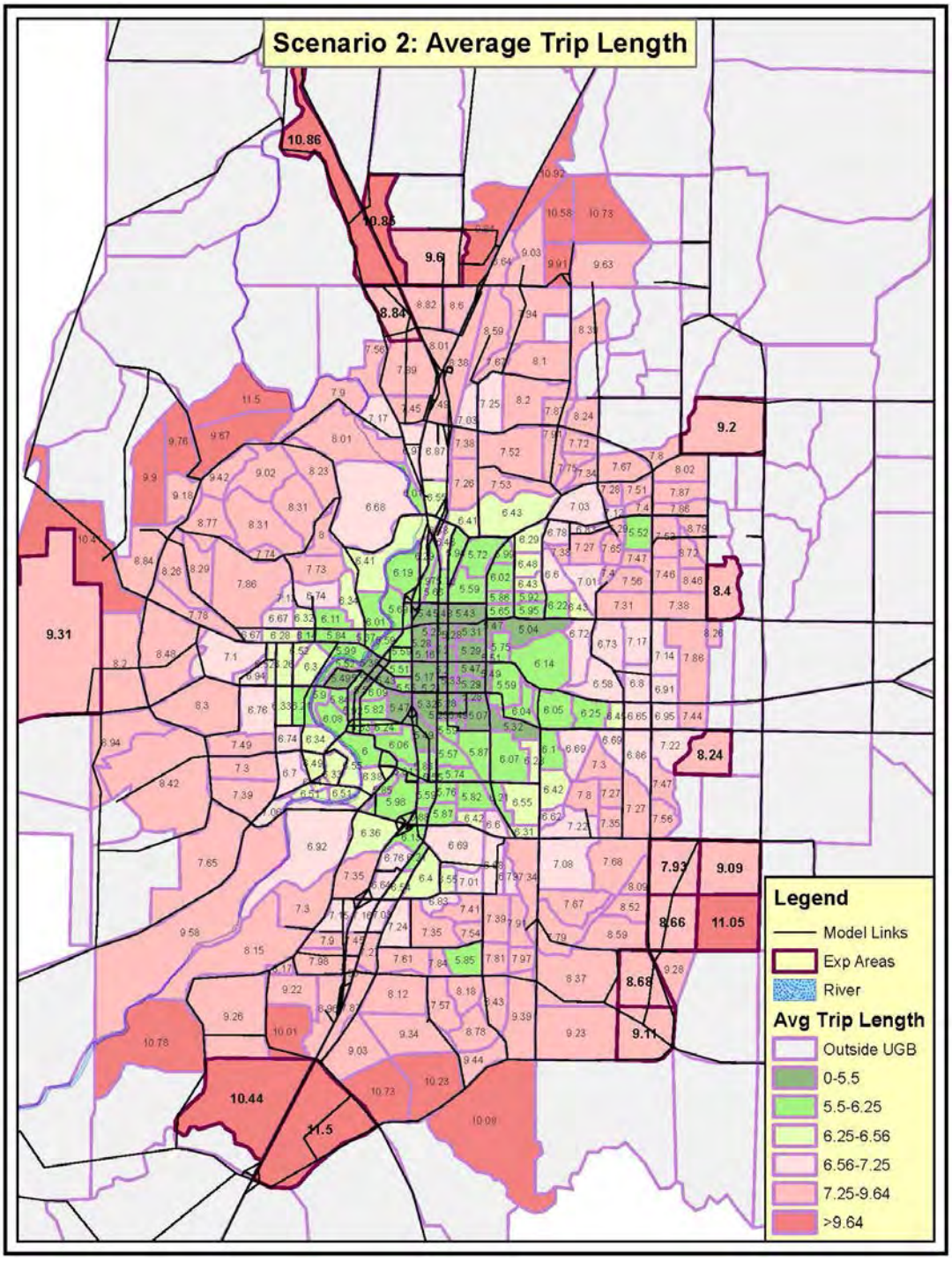
  - The Envision Tomorrow household VMT estimate correlates closely to the VMT results from the regional travel demand model.
- From the 2028 hypotheticals:
  - Shifting roughly 1,000 housing units and 2,000-2,500 jobs from expansion areas to opportunity areas in the core could reduce the growth in household VMT per capita relative to 2014 when combined with transit service improvements and reduced block size in new master planned neighborhoods, but that amount of redevelopment is not reasonably likely within the time horizon of 2028.
  - Even a relatively modest shift in multifamily housing development to opportunity areas in the core of the city rather than at the edge helps reduce growth in VMT.
  - Reducing block size and increasing transit frequency both contribute to reducing growth in VMT.
  - A focused approach to land use and transportation policies, programs, and projects in opportunity areas and the Core area has greatest effect on reducing or maintaining VMT growth.
- From the preferred UGB expansion scenario:
  - Preliminary results from a draft of the preferred scenario (using the Envision Tomorrow 7D travel model) indicate that the additional single family growth in the expansion areas relative to the original scenario 2.1 is largely or entirely counter-balanced by the increase in multifamily housing in core opportunity areas, yielding similar results on household VMT overall. This indicates the importance of focusing growth in the core opportunity areas.
  - [Note: additional findings will be provided when the results are available from the regional travel demand model run for UGB Scenario 2.1E.]
- From the 2040 projection of 2028 strategies:
  - The market response to City policies and evolving consumer preferences will need to include fairly aggressive rates of redevelopment and shifts in development trends to higher intensities and greater mix of uses in opportunity areas in the core and transit corridors in order to create sufficient housing and employment growth in the core to affect VMT.
  - Even with optimistic but reasonable levels of redevelopment and intensification in core opportunity areas and shifts towards higher density in future development trends, continuing only the strategies that are proposed as part of the 2028 UGB expansion adoption package does not do enough to alter growth trends to result in less than a 5% increase in VMT relative to 2014. Additional strategies will need to be implemented over the coming years in order to bring per-capita VMT down to its current levels.

Table 1: VMT per Capita in 2003, 2010, and 2028 (preferred UGB expansion scenario)

	2003 baseline[42]	2010 baseline	Preferred UGB Expansion Scenario (2028 projection)
Daily Vehicle Miles Traveled per capita	9.18	9.64	[to be filled in when model run results are available]
Percent increase relative to 2010	N/A	N/A	[to be filled in when model run results are available]
Percent increase relative to 2003	N/A	5.0%	[to be filled in when model run results are available]

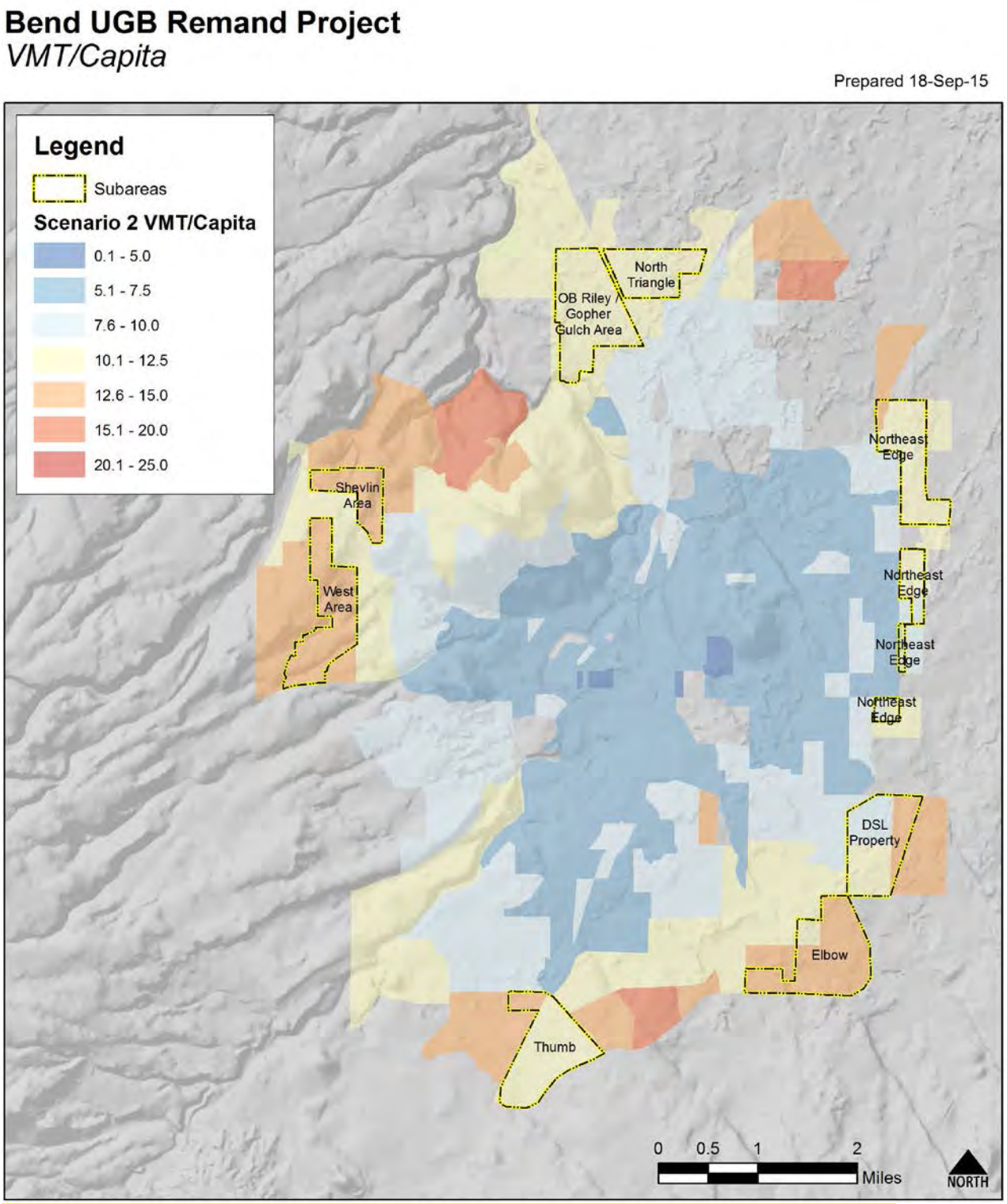
[42] Note: the TPR allows local governments to take credit for "regional and local plans, programs, and actions implemented since 1990 that have already contributed to achieving the objectives specified...", including that VMT per capita is unlikely to increase by more than five percent. OAR 660-012-0035(5)(b) This has been interpreted to mean that the local government may estimate an amount of VMT reduction that is being achieved through plans, programs and actions taken prior to the planning period but since 1990. [Note: the project team is coordinating with DLCD to ensure that this allowance is properly accounted for in reporting the change in VMT relative to the baseline years.]

Figure 3: Average trip lengths from UGB Expansion Scenario 2.1



[Note: this map may be replaced with a map illustrating trip lengths from the preferred UGB expansion scenario for the final version of the ILUTP.]

Figure 4: VMT per capita from UGB Expansion Scenario 2.1



[Note: this map may be replaced with a map illustrating household VMT/capita from the preferred UGB expansion scenario for the final version of the ILUTP.]

CHAPTER 4. EXISTING AND PROPOSED VMT REDUCTION STRATEGIES

Introduction

High Level Outcomes

The high level outcomes intended for this ILUTP are to:

- Support the City's goal to create a balanced transportation system;
- Create a transportation system and facilities that support the UGBs complete communities goal;
- Implement a transportation system that is consistent with the in-fill and opportunity, city core and new boundary areas;
- Increase transportation choices and reduce reliance on the automobile; and
- Over time, reduce vehicle miles traveled per capita in Bend.

This plan takes a comprehensive approach, where land use, transportation, and other tools are integrated to achieve the above-stated outcomes. The plan recognizes that land use and transportation policies and strategies focused on the opportunity and core areas will have the best chances for reducing VMT. This plan also takes an evolutionary approach, recognizing that both short- and long-term strategies are essential, and that time and monitoring of progress will be needed for successful implementation.

The approach to implementation will be to identify corridors and centers (e.g. opportunity areas in the core) that will have the highest likelihood to reduce VMT for a set of costs. Coordination of the transportation system and land use patterns has the most impact on VMT reduction. The greatest VMT reductions will happen in locations that have some or many of the needed land use and transportation attributes already in place, and which, for modest amounts of funding, can greatly reduce reliance on the automobile. Assessing how the "7 Ds" (see page 6) interact along corridors or in centers will be important as projects and programs are developed and implemented to reduce VMT. For instance, neighborhoods and centers that have an extensive network of gridded streets may only require key pedestrian or bicycle safety projects to greatly increase the potential for walking and biking trips.

Overview and Organization

This chapter is organized by the topic areas identified as elements of an ILUTP under Division 12, Section 0035(5)(C):

- Land use strategies
- Transportation demand management strategies[43]
- Public transit planning
- Policies related to review and management of major roadway improvements

[43] Parking management is combined with transportation demand management in this chapter.

- Additional Plan and Ordinance Provisions (focused on Complete Streets and connectivity investments)

The strategies are grouped into efforts to date, which describes existing policies and work that Bend has done since 1990 to address the topic; proposed strategies, which identifies the new actions, policies, and plan or code amendments that are proposed at present (these are proposed to be included with the 2016 UGB adoption package, unless otherwise noted) to address the topic; and strategies for further study, which lays out additional measures that require more detailed planning or additional funding.

This chapter closes with a summary of how the city could advance the direction set in this ILUTP over the longer-term future. The final section of this chapter identifies "medium-term", and "long-term" levels of implementation of the strategies described in the sections below. The levels of implementation correspond to varying degrees of effort and cost as well as time.

Note that where specific existing policies are cited in this chapter, the numbering is based on the General Plan as of 2016 and also reflects the numbering in the TSP. This numbering may change with updates to Chapter 7 of the newly titled Comprehensive Plan. The policies in the TSP will remain as a record of the original policies, and the policies cited may be found there by their original numbering.

Land Use Strategies

Efforts to Date

- In 2005, Bend established minimum densities for all residential zones.
- The parking code was updated in the mid-2000s to match TGM Smart Code parking standards, establishing parking maximums.
- In 2006, the Bend code was updated to allow the maximum height to be increase by 10 feet above maximum when residential uses are provided above the ground floor in all commercial zones.
- RM zoning is already focused near major employment and retail shopping areas and in proximity to transit corridors.
- The City developed the Bend Central District Refinement Plan in 2014 to bring a greater mix of uses to that area and help it transition to a less auto-oriented development pattern.
- Existing Neighborhood Commercial standards allow small neighborhood commercial services in residential areas without a zone change.
- Current neighborhood masterplan standards require new neighborhoods to provide convenient access to commercial services inside or outside the neighborhood.

Proposed Strategies

The City is adopting a package of "efficiency measures" with the 2016 UGB expansion that also address many of the land use strategies identified in the TPR. The measures proposed that address each of the required categories are summarized below.

"(a) Increasing residential densities and establishing minimum residential densities within one quarter mile of transit lines, major regional employment areas, and major regional retail shopping areas;

"(b) Increasing allowed densities in new commercial office and retail developments in designated community centers;

In Bend, many areas in close proximity to transit, employment, and retail areas that have the most opportunity to increase residential development are currently designated for commercial or industrial uses. The city is proposing a set of land use re-designations in key "Opportunity Areas" identified through the UGB project and other planning studies (e.g. the Central Westside Plan (CWP) project and the Bend Central Multimodal Mixed Use Area study). Many of these are changes from commercial or industrial designations to mixed use designations that allow for and encourage residential development and more compact form. Specifically, new mixed use designations and/or zones are proposed in concert with the 2016 UGB expansion for:

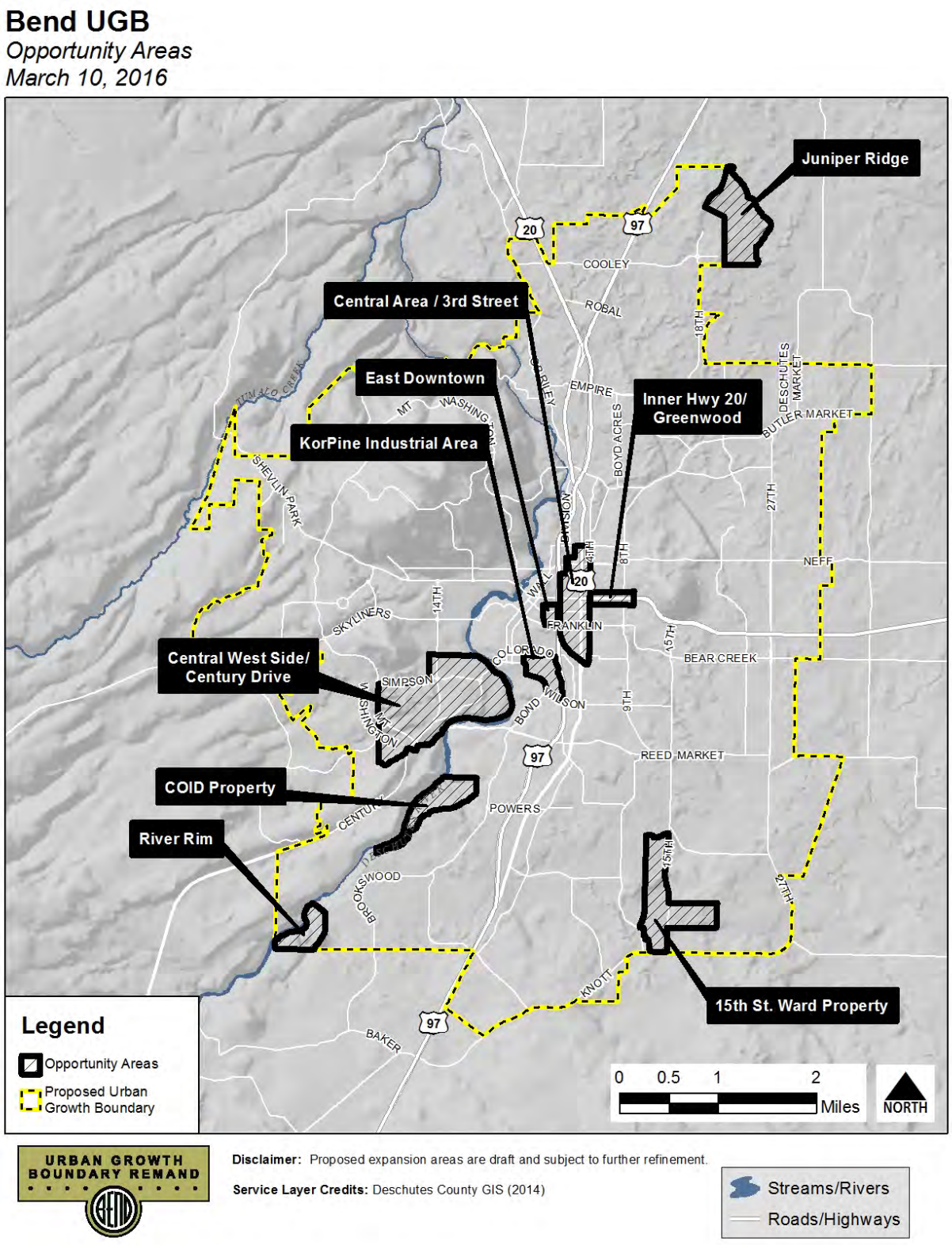
- The Bend Central District, between the Parkway and 4th Avenue from roughly the railroad on the south to Revere on the north (implemented as a special plan district developed through the Bend Central District Refinement Plan);
- CWP/Century Drive opportunity site (the City is currently proposing land use designations and projects in the CWP that have been predicted through both Envision Tomorrow and transportation demand modeling to result in lower VMT);
- KorPine opportunity site (implemented using the new mixed use plan designations and ultimately the new mixed use zones developed for the UGB project);
- East Downtown opportunity site (implemented using the new mixed use plan designations and ultimately the new mixed use zones developed for the UGB project); and
- The Inner Highway 20 / Greenwood Ave opportunity site (implemented using the new mixed use plan designations and ultimately the new mixed use zones developed for the UGB project).

See Figure 5 for a map of these and other opportunity areas.

By enabling and encouraging mixed use, more residential development will be possible in close proximity to transit, employment, and shopping within Bend's core. In addition, a minimum residential density is proposed for mixed use areas within 660 feet of transit so that the land is used efficiently and developed at transit-supportive densities.

The new mixed use zones also reduce parking standards and allow for taller buildings and more urban development patterns that effectively increase allowed density for new commercial office and retail developments.

Figure 5: Opportunity Areas



In addition, because there are many existing low-density neighborhoods near transit, employment, and retail, several of the city-wide modifications to the development code also have the effect of potentially increasing residential densities in those targeted areas. This proposed package of efficiency measure code changes include:

- raising the minimum density in the RS zone (especially for new master-planned neighborhoods);
- allowing a greater mix of housing types outright in the RS zone;
- increasing the maximum residential density in RL zone; and
- removing the cap on net density for multi-family housing in the RM and RH zones to allow greater flexibility in reaching the allowed maximum gross density.

Other proposed code amendments allow for greater densities in the ME zone (by removing maximum lot coverage and the minimum front setback), which is largely applied along major roadway corridors that are also transit routes. Finally, proposed reductions to parking requirements for mixed use development and for development within 660 feet of a transit route also have the effect of slightly increasing allowed densities for new office and retail development, particularly around transit.

> *"(c) Designating lands for neighborhood shopping centers within convenient walking and cycling distance of residential areas;*
>
> *"(d) Designating land uses to provide a better balance between jobs and housing considering:*
>
> > *"(A) The total number of jobs and total of number of housing units expected in the area or subarea;*
> >
> > *"(B) The availability of affordable housing in the area or subarea; and*
> >
> > *"(C) Provision of housing opportunities in close proximity to employment areas."*

All UGB expansion areas include commercial nodes to complete existing and new residential neighborhoods. In addition, a new commercial node is proposed on the largest vacant residential site in the existing UGB (the 15th Street opportunity area). These new nodes will help provide walkable local services for many more neighborhoods.

The expansion areas also help improve jobs/housing balance in many areas, including:

- South and Southeast Bend, where new employment areas are proposed north of Knott Road and east of US 97 to help balance a largely residential area of the city;
- the "North Triangle", where a mix of housing types, including multifamily housing, is proposed in an area dominated by employment uses with excellent access to jobs; and
- the OB Riley area, where a mix of housing and employment is proposed, providing additional housing opportunities in close proximity to large employment areas.

Furthermore, the adoption of new mixed use designations in opportunity areas within central Bend also helps provide affordable housing opportunities in the central core where there is access to significant employment opportunities.

Additional Strategies for Further Consideration

In order to ensure that the new mixed use areas succeed, the city may wish to develop Refinement Plans for key Opportunity Areas that also focus on strategies to reduce VMT.

The UGB project also identified several longer-range land use strategies that merit additional consideration, including:

- conducting an assessment of rezoning selected areas along transit corridors that have the greatest potential for transit-supportive infill and redevelopment (see discussion below);
- additional code measures to support pedestrian- and transit-oriented development, such as design and development standards for key pedestrian areas and transit corridors; and
- changes to block size and/or connectivity standards for new master-planned neighborhoods, or other tools to increase bicycle and pedestrian connectivity and intersection density in new neighborhoods.

Draft development code language related to enhanced pedestrian-/transit-oriented design areas is included in Attachment X as an example and a starting point for further refinement.

In addition, the City may identify other amendments which increase densities, destination density and diversity, and good pedestrian design.

Opportunities within Transit Corridors

The UGB project identified potential for infill and redevelopment over the longer-term future in the Bear Creek & 27th Avenue residential area, and the inner Highway 20 corridor (identified as Opportunity Area 5 in the UGB project). [The project team is working on an evaluation of long-term redevelopment potential in transit corridors outside the UGB project opportunity areas. Key findings from this analysis will be summarized here when this analysis is complete.]

Transportation Demand Management and Parking Management

Efforts to Date

Currently, the city contracts with Commute Options for implementing a volunteer TDM program (Drive Less Connect), which includes education and outreach about transportation options such as walking, biking, and includes a ridesharing matching tool. Commute Options directs its efforts toward larger employers, and currently has approximately 50 businesses in Bend participating. In addition, Cascades East Transit and Commute Options offer a group bus pass program.

The City's Development Code also provides an existing incentive for Transportation Demand Management (TDM) through reductions to required parking of up to 10% for implementing TDM measures including:[44]

- Designating at least 10% of the employee motor vehicle parking spaces as carpool/vanpool parking and placing such spaces closer to the building than other employee parking;
- Providing showers and lockers for employees who commute by bicycle;
- Providing twice as many covered, secured bicycle parking racks or facilities as required by this code;
- Providing a transit facility (e.g., bus stop) that is approved by the local transit authority, with related amenities. Related amenities include, but are not limited to, a public plaza, pedestrian sitting areas, shelter, and additional landscaping.
- Other incentives provided in an approved Employee TDM Plan.

Proposed Strategies

A new policy is proposed that will address the direction and intent for creating Transportation Management Areas (TMAs). The intent is to support an incentives approach to TDM and to focus on businesses/institutions with 50+ employees and/or students and/or specific geographic areas such as downtown, Central Area, portions of the Medical District Overlay Zone around St Charles, Juniper Ridge (existing) and COCC.

The City has also proposed amendments to Chapter 4.7 of the Development Code, which outlines the process and requirements for traffic impact studies, that would allow applicants to use a reduced trip generation rate in estimating traffic impacts when TDM program elements, including those listed above for parking reductions as well as several on-going incentive options, are proposed. These draft amendments have been reviewed by the Planning Commission and will be considered by the City Council in May of 2016 (separate from the UGB adoption decision).

The City is also committed to conducting an analysis of parking management and pricing options (see below). Depending on the outcomes of the parking study, the City may have additional policies and commitments relating to parking practices and policies that are tied to VMT reductions.

Additional Strategies for Further Consideration

One near-term strategy for further consideration is to apply the trip-generation reductions currently under consideration for traffic impact studies to the Transportation System Development Charge (SDC) methodology. The City will be updating the Transportation SDC methodology next year (2017). At that time, it may consider making the TDM trip generation reduction automatic for those applicants who have been approved to use it for the traffic impact study. This would provide an additional monetary incentive to implement TDM.

[44] BDC 3.3.300(D)(1)(b)

An expanded TDM program, such as the Commute Trip Reduction Program directed by the Washington Department of Transportation[45], specifically directed toward larger employers, could be an effective VMT reduction tool, particularly for peak travel times. The City could consider using a regulatory plus incentives approach to TDM, through actions such as:

- Requiring TDM plans for large businesses/institutions. This could be applied in a number of different ways, such as:
  - required in specific areas, such as within 660 feet of transit;
  - limited to zones that generally have conditions conducive to successful TDM programs, such as the new mixed use zones and the Central Business District;
  - required for large developments that go through a master plan process; or
  - applied to all businesses/institutions with more than a certain number of employees or students of driving age (e.g. 50 or 100), or those projected to generate more than a certain number of trips.
- Partnering with employers to create TMAs in certain geographic areas such as downtown, Central Area, portions of the Medical District Overlay Zone around St Charles, Juniper Ridge (existing) and COCC.
- City incentives and support for small businesses located along major pedestrian corridors (e.g. Newport Avenue, NW 14th Street, or 3rd Street).

The City of Bend is currently conducting a city-wide parking study, which began in the fall of 2015. The City is required to comply with Transportation Planning Rule (TPR) OAR 660-012-0045(5)(c), which requires the development of a parking plan that would result in a city-wide 10% reduction of per capita parking spaces, among other tools. Currently, the City does not have a citywide parking plan. This project will create new policies and code language that will result in parking programs to support Bend's goals for a livable and economically healthy city.

In 2016-17, the City will also conduct two parking studies to determine the feasibility and appropriate tools for establishing parking management districts and/or transportation management areas. These studies will be conducted for the Galveston Avenue and 14th Street corridors. The City's only existing parking district is in downtown.

The City will also conduct a review of the potential for TMAs and related parking strategies for the opportunity areas identified in the UGB remand. The strategies would be part of a more comprehensive transportation approach in these areas to broaden travel options and reducing VMT.

Transit

Efforts to Date

The City of Bend has a long range transit plan created in 2012 that included service plans and potential for future routes and services based on broad land use assessments, development opportunities and demographics. Cascades East Transit has recently implemented transit service improvements that were identified in the long-range plan as "mid-term" improvements

[45] http://www.wsdot.wa.gov/transit/ctr

(e.g. adding new bus routes, extending service hours, and decreasing headways in peak periods). The plan estimated the mid-term improvements (the changes in service that went into effect Sept 21, 2015) to have an annual operating cost of about $2.4 million.

In addition, the City has existing policies in the transportation section of the comprehensive plan that support transit and encourage transit-supportive land use and street design, including several policies that the city will work with other agencies to plan and seek funding for transit, and a policy regarding transit-supportive land use:

- *To accommodate a fixed-route transit system, land use ordinances and other regulations shall be implemented that establish pedestrian and transit-friendly design along potential or existing transit routes.* (6.9.5.5)

Proposed Strategies

Enhance transit priority corridors in the opportunity areas through a combination of land use codes (i.e. new mixed use zones in opportunity areas) and transportation enhancements that support increased transit use.

Include transit policies and enhancements when conducting transportation and land use planning studies within identified opportunity areas.

Additional Strategies for Further Consideration

The long range transit plan includes additional service improvements for the mid- to long-term contingent on funding:

- Add one hour of new service in the morning from 5-6 am (60 minute service during that extra hour)
- Add two hours of new service in the evening from 8-10 pm (would be 60 minute service)
- Extending Saturday service to operate from 7 am to 7 pm (30 or 60 minute service depending on route) – service today is roughly 8 am – 5 pm with 60 minute service
- Add Sunday service from 8 am – 5 pm (currently only limited dial-a-ride service on Sundays)
- Add a new route that would provide service to part of the Butler/Brinson/Empire business area as well as Juniper Ridge
- Decrease headways to 15 minutes during peak periods (6-9 am and 3-6 pm) on primary routes (3rd Street, and Greenwood, Brookswood, and Galveston avenues, and possibly others). During non-peak hours, those routes would operate on 30 minute headways.
- Decrease headways on non-primary routes to 30 minutes during peak periods and either 30 or 60 minute headways during non-peak periods.

The plan estimated the long-term improvements to have an annual operating cost of about $5.7 million. A potential new route to serve the opportunity area in southeast Bend has also been discussed as part of the UGB project, but requires more detailed evaluation.

Beyond the improvements identified in the long-range plan, additional ideas that need more work include developing new point to point routes and developing additional transit centers.

Cost estimates for these types of improvements will be determined during the planning for specific areas and corridors.

The most ambitious and expensive transit plan would include planning, design and construction of a bus rapid transit system along major transit corridors. This could begin with a series of incremental improvements, such as preferred lanes, queue jumps, and transit signal priority.

A description of potential Medium-Term and Long-Term transit service scenarios developed to support modeling efforts for this ILUTP is attached as Attachment X. These have been discussed informally with COIC and the MPO but are not intended to represent an approved plan.

Roadway Improvement Management and Policies

Efforts to Date

The City's General Plan includes a policy that minor arterials may not be widened for additional travel lanes without first evaluating the potential for eliminating the need to widen by implementing certain transportation demand management and transportation system management measures[46]. This is intended to emphasize community and streetscape design that will continue to foster and enable non-automobile modes of travel. In the text of the TSP, specific minor arterials in the Central Area of Bend are identified as "not authorized for lane expansion" unless the Plan is amended by Council action.[47] These include:

- NW 14th Street between Newport and Galveston avenues
- NW Newport Avenue between 14th and Wall streets
- NW Galveston Avenue between 14th Street and Riverside Avenue
- NW Greenwood Avenue between Wall Street and the Parkway
- NW Riverside Avenue between Tumalo and Franklin avenues
- NW Franklin Avenue between Wall Street and the Parkway
- NW Wall Street between Greenwood and Franklin avenues
- NW Bond Street between Greenwood and Franklin avenues
- NE 8th Street between Olney/Penn and Franklin avenues
- NE Olney Avenue between 4th and 8th streets
- NE Franklin Avenue between 4th and 11th streets
- NE Bear Creek Road between Franklin Avenue and 15th Street

Other relevant existing policies in the Transportation System Plan and General Plan include:

- *The City shall adopt land use regulations to limit the location and number of driveways and access points, and other access management strategies on all major collector and arterial streets.* (6.9.2.1)

[46] Bend Area General Plan, Chapter 7, policy 6.9.6.21.

[47] Bend Transportation System Plan, Section 6.5.1.4

- *The City and State shall implement transportation system management measures to increase safety, reduce traffic congestion to improve the function of arterial and collector streets, and protect the function of all travel modes.* (6.9.2.3)
- *Access control shall be part of the design standards for major collectors, arterials, principal arterials and expressways to ensure that adequate public safety and future traffic carrying capacity are maintained while at the same time preserving appropriate access to existing development and providing for appropriate access for future development. ...* (6.9.6.6)

The City standards and specifications include Roundabout Design Guidelines which is a comprehensive approach to intersection design, The Guidelines focus on roundabouts as the preferred intersection form in the City. Roundabouts are significantly safer, have lower carbon emissions, and more efficient capacity. These attributes, although not directly related to VMT reduction, roundabouts increase the possibilities for safer pedestrian and biking mode splits in complete communities.

The Bend Development Code, Chapter 10-10, Section 3.1.400, includes standards and procedures for evaluating and managing vehicular access and circulation during development review to maintain adequate safety and operational performance standards, and to preserve the functional classification of roadways as required by the City's TSP.

Proposed Strategies

Outcomes from the 2012 Safety Study found that roadways larger than three travel lanes have more frequent and serious injury pedestrian and biking crashes. The 3rd Street and Highway 20 corridors were found to have systemic crash issues. These corridors are also in or adjacent to the East Downtown, Central Area Plan, and Central Highway 20 opportunity areas. Because of this, the City recognizes that adding width to roadways to achieve mobility standards might be counter-productive. The City has been updating the Transportation Analysis chapter (Chapter 4.7) of the Bend Development Code. Several sections of the draft code allow flexibility in requiring turn lanes or other widening, including analysis of safety, adjacent land uses, and other factors. Projects that affect intersections in unique situations, such on streets within special planned areas, the Central Business District, historic districts, that are identified in the City's TSP as "not being authorized for lane expansion," or where widening might result in unacceptable tradeoffs to other modes of travel, may exceed the City's operation standards. The City has identified the ability to suspend the mobility standard for a particular intersection as an action of the City Manager.

In addition, the City has been implementing selective "road diets" consisting of lane removal or narrowing in areas where specific safety issues related to lane configuration have been identified through the citywide Safety Implementation Project.

Additional Strategies for Further Consideration

Develop pedestrian and biking safety plans for the opportunity areas that enhance the possibility for higher walking, biking, and transit modal splits.

Additional Plan and Ordinance Provisions: Complete Streets and Connectivity Investments

Efforts to Date

The City of Bend has a program for identifying pedestrian and bicycle improvement priorities[48]. There are $3-5 million for design and construction of pedestrian and bike improvement projects in the current Capital Improvement Program. The City has a list of priority safety crossing projects identified in the 2012 Bend Safety Implementation Plan and another priority list for walking and bicycling corridors, and bicycling and walking structures found in the 2014 Strategic Implementation Plan for Pedestrian and Bike Infrastructure. For instance, there are safety crossing projects on 3rd Street and Highway 20 corridors that are in, adjacent, or lead to and through three opportunity areas: East Downtown, Central Area, and Highway 20. The pedestrian and bike plan priorities were created by identifying existing walkable and biking areas in the City that had the most potential to increase those mode splits. These areas in most cases overlap with the UGB opportunity and core areas.

[Note: a map will be prepared for the final ILUTP that identifies the projects referenced here as well as the opportunity areas and transit corridors.]

Proposed Strategies

The City will review the existing pedestrian and biking plan and priorities for consistency with the opportunity and core areas. This will include an update to the methods and approaches to the priorities.

The City will update the transportation CIP and the transportation system development charge policies and documents after the UGB remand is approved. The updates will include the ILUTP implementation.

In the near-term, the City anticipates being able to implement planned and funded projects from the work described above, including sidewalks, bike lane improvements, and up to six enhanced roadway crossings in or adjacent to opportunity areas.

The City will also conduct planning and prioritization of streetscape corridors in opportunity and core areas and transit priority corridors and centers. In the near-term, the City anticipates being able to construct two or more streetscape projects in opportunity areas or transit corridors (14th Street, Galveston, and Newport streetscape improvements are scheduled for construction in 2018).

Additional Strategies for Further Consideration

As funding allows, the City can implement additional projects that are planned but not funded, focusing improvements in opportunity areas and adjoining corridors. Examples include streetscape corridor enhancements, canal bridges and key structures (such as Greenwood and Franklin undercrossing improvements) and bike boulevards. The City may evaluate funding

[48] See “Safety Implementation Plan” 2014; “2014 Strategic Implementation Plan for Walking and Biking”

mechanisms such as Urban Renewal for areas including Opportunity Areas to provide additional funding for such projects.

Over the long-term, the City can pursue aspirational projects, such as major roadway connections, bike/pedestrian US 97/Parkway crossings, and additional streetscape corridors.

Summary and Implementation

Table 2 summarizes how the city can implement supportive strategies to reduce VMT through implementation of the "Proposed Strategies" associated with the UGB expansion proposal, and also with "Additional Strategies for Further Consideration" over the longer-term future. The second column captures the implementation of the policies and programs that are already in place and those that are proposed for adoption with the UGB. The third and fourth columns capture additional work the city could do to further reduce reliance on the automobile over the long term if staff time and funding allow. There is a time component to the feasibility of implementing the additional strategies in the sense that the actions generally build on one another and greater levels of implementation may be possible and appropriate over time based on available public funding and private redevelopment proposals. This is reflected in the categorization of the additional strategies as "Medium-Term" or "Long-Term".

ILUTP implementation is dependent on City Council goals and CIP priorities. The projects and programs that implement the ILUTP will need to be prioritized with other community transportation and land use plans and projects. Funding, staff resources, and community values will have to be constantly weighed and balanced as the ILUTP is implemented and will influence the timing of the ILUTP projects and programs. Another factor that guides how fast and to what degree the ILUTP is implemented is how the private market responds to the UGB remand land use policies, especially in the opportunity areas. Standards or benchmarks to reduce VMT rely on land use strategies such as diversity and density that are dependent not only on land use policies but the national, regional, and local land use market trends that the City does not control. Consequently, ILUTP implementation must be managed with the understanding the City plans to allow the land uses to allow the market to respond in a way that ultimately reduces VMT through a combination of land use and transportation actions.

The UGB Remand has analyzed Bend urban typologies and form in relation to VMT reduction. The initial findings indicate that the Core area of the City that includes identified Opportunity Areas have the greatest chance for reducing VMT. Therefore, the implementation strategies will also focus transportation projects and programs in these areas and corridors. This does not preclude implementation in other areas of the city which will also support lowering VMT. This approach builds on and supports the goals and policies found in the UGB Growth Management Report and will ensure that limited transportation resources are applied strategically to lower VMT.

Table 2: Summary: VMT Reduction Strategies[49]

ILUTP Element	Proposed Strategies	Additional Strategies for Further Consideration	
		Medium-Term	Long-Term
Land Use Strategies	Designate and ultimately rezone mixed use opportunity areas identified in UGB project.[50] Adopt city-wide modifications to the development code to increase efficiency and housing mix for new residential development and offer targeted reductions to parking standards.	Designate additional mixed use areas along transit corridors where there is redevelopment potential Adopt design and development standards for key pedestrian areas and transit corridors Strengthen connectivity standards for new master-planned neighborhoods	Consider up-zoning selected residential neighborhoods in the city where there is potential for infill development based on additional analysis and community support
Transportation Demand Management and Parking Management	Incentives approach to TDM (parking reductions; trip generation reductions for TIS) City conducts analysis and feasibility for parking management and pricing	Regulatory plus incentives approach to TDM (TDM requirements for large businesses / institutions) City implements parking management programs in key areas based on outcomes of parking study. Consider implementing TMAs in key areas of the City.	Parking pricing implemented in key areas, based on outcomes of the parking pricing study (e.g. downtown and Bend Central District).
Transit[51]	Existing service as of 2016 Enhancement of transit centers and corridors in opportunity and core areas.	Implement most components of Bend Transit Plan, including additional hours of service, more frequent peak headways, and two new routes.	Implement further additional hours of service, improved headways on specific routes primarily in opportunity and Core areas, and conversion of 3 routes from bus service to pre-BRT types of service

[49] This table is a summary. Please see the text in Chapter 4 for the full description of all strategies.

[50] Zoning may be deferred in some opportunity areas until requested by the property owner.

[51] See attached Explanation of Transit Scenarios and CET Service Schedule for details.

ILUTP Element	Proposed Strategies	Additional Strategies for Further Consideration	
		Medium-Term	Long-Term
Roadway Improvement Management and Policies	Consideration of reducing existing lanes and widths at key intersections and corridors on major roadways in opportunity and core areas	Develop pedestrian and biking safety plans for the opportunity areas that enhance the possibility for higher walking, biking, and transit modal splits.	
Complete Streets and Connectivity Investment[52]	Implementation of planned and funded projects in or adjacent to opportunity areas. Conduct planning and prioritization of streetscape corridors in opportunity and core areas and transit priority corridors and centers.	Evaluate funding mechanisms such as Urban Renewal for areas including Opportunity Areas Implementation of planned but not-yet-funded projects, focusing improvements in opportunity areas and adjoining corridors.	Refinement and potential implementation of aspirational projects, such as major roadway connections, US 97/Parkway bike/pedestrian crossings, and additional streetscape corridors.

[52] See attached Complete Streets and Connectivity – Future Scenarios for details.

CHAPTER 5. POLICIES, STANDARDS AND BENCHMARKS

Proposed ILUTP Policies

The Bend TSP and General Plan include existing goals and policies that call for reducing reliance on the automobile and encourage mixed use development, which support the ILUTP. The policies below are new policies specific to implementing the ILUTP. These policies will be added to Chapter 7 (Transportation) of the City's Comprehensive Plan and included as an amendment to the City's TSP as part of the UGB expansion project.

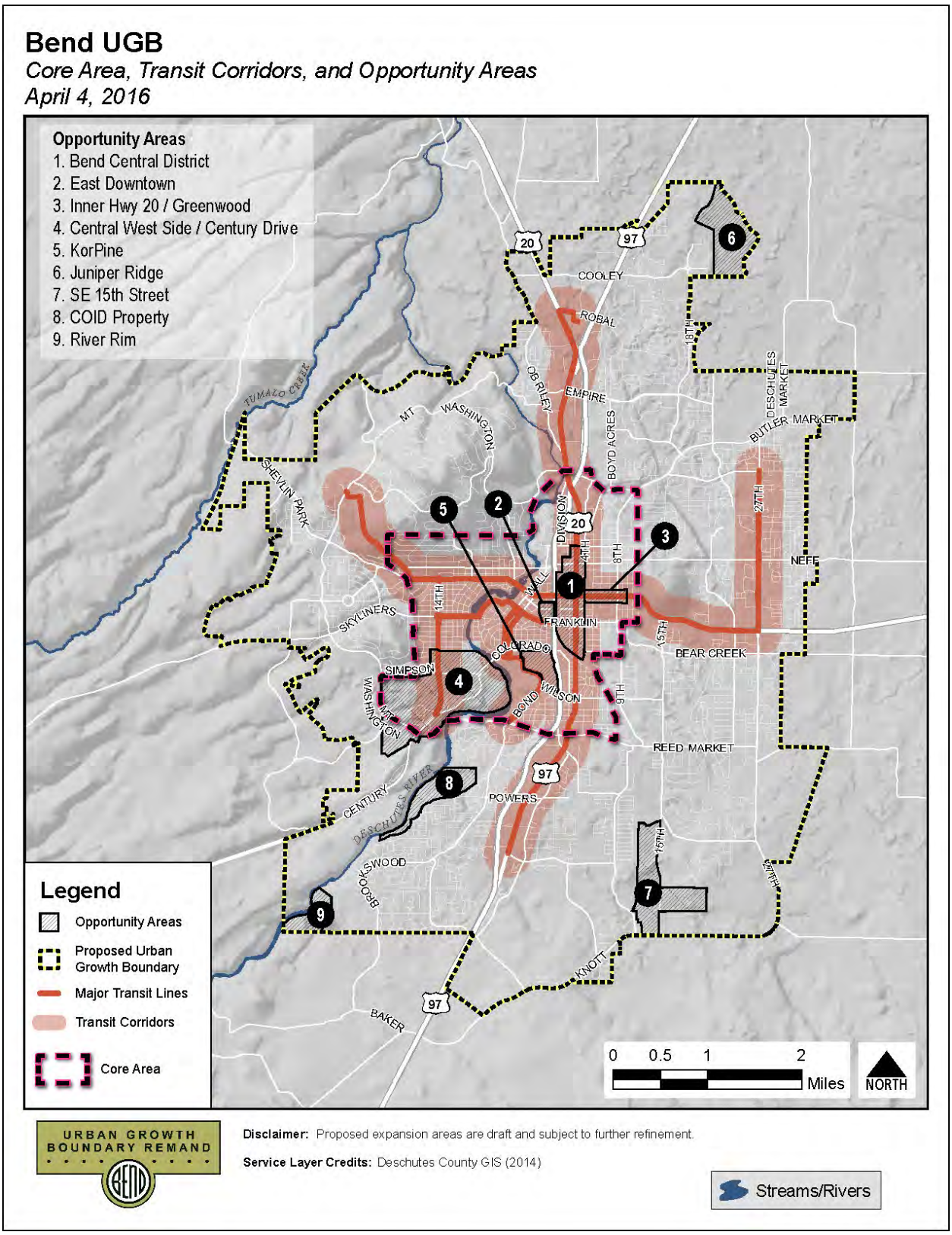
- The City will implement the land use, transportation demand management, parking management, transit, and complete streets strategies, projects and programs that are identified as Proposed Strategies in Chapter 4 of the ILUTP.
- The City will conduct a planning study to determine Transportation Management Areas for the opportunity areas, transit centers, and public and private institutions and companies.
- The City will include streetscape projects in opportunity and core areas and transit corridors when developing the transportation CIP priorities and projects.
- The City will develop transit priority corridors in the opportunity and core areas that include a combination of land use policies and codes and transportation enhancements that encourage transportation options.
- The City will update the assessments of the ILUTP benchmarks at each update of the regional transportation system plan.

Proposed Standards

In addition to tracking implementation of the strategies identified in Chapter 4, the City proposes to use the standards identified in this section to measure progress towards developing and implementing transportation systems and land use plans that increase transportation choices and reduce reliance on the automobile. The proposed standards focus on outcomes that are not fully within the City's control; they can be thought of as performance measures that provide insights into the effectiveness of the City's ILUTP strategies. They are linked to the "D" variables discussed in Chapter 2 of this ILUTP because those have been shown to be key drivers of travel behavior. Standards are proposed for both 2028 and 2040 due to the shortened nature of the UGB Remand planning horizon and the likelihood that the City will undertake a more comprehensive TSP update in the relatively near future.

The proposed standards emphasize evaluating performance in certain key areas of the City, including opportunity areas, transit corridors, and the Central Core. This reflects the City's overall approach of focusing the available resources on areas that will have the highest likelihood to reduce VMT. These key areas are shown on Figure 6. Note that there is (intentionally) a great deal of overlap among these key areas; however, because they area each important for their own reasons, the City proposes using the combination of these areas to track progress.

Figure 6: Central Core area, Transit Corridors, and Opportunity Areas



Note: Table 3 below is a draft framework and will be filled in when model results are available.

Table 3: Standards for Reducing Reliance on the Automobile

Topic	Measure	Geographic Area[53]	Current (2014)	2028 – preferred UGB	2040[54]
Density (Land Use)	Activity density[55]	Core			
		Opportunity Areas			
		Transit Corridors			
Design (Complete Streets)	Neighborhood Connectivity[56]	City/UGB-wide			
Destinations (Transit, Land Use, and TDM)	Household transit access[57]	City/UGB-wide			
	Employment transit access[58]	City/UGB-wide			
	Transit service density[59]	Core			
		Opportunity Areas			
		Transit Corridors			
	Proximity to activity centers[60]	Half-mile travel distance from Core Opportunity Areas			

[53] See Figure 6 for a map of the areas in question. Note that "Transit Corridors" is limited to primary transit corridors, and does not include all transit routes.

[54] The standards for 2040 will be set to achieve per capita VMT in line with or below 2010 levels, achieving an overall VMT per capita increase of less than 5% relative to 2003. [Note: this is the project team's working assumption. Further coordination with DLCD and further modeling work is needed to confirm this approach.]

[55] Activity density is measured as population plus employment over area. It represents an average over the geographic area specified.

[56] Neighborhood Connectivity is measured as a weighted average (weighted by TAZ population) of intersection density (number of intersections divided by TAZ area).

[57] Household transit access is measured as the percent of residents within a quarter mile of a transit stop.

[58] Employment transit access is measured as the percent of employment within a quarter mile of a transit stop.

[59] Transit service density is measured as the total number of buses expected to stop within a given area during the peak period based on transit route locations and peak period headways.

[60] Proximity to activity centers is measured as the percent of the population that can access the core opportunity areas and the downtown within a half-mile on streets or trails (walking distance), within 2 miles on streets (a reasonable bike ride or short drive), and within 1 mile without a transfer on a transit route (an easy bus ride).

Topic	Measure	Geographic Area[53]	Current (2014)	2028 – preferred UGB	2040[54]
		2-mile travel distance from Core Opportunity Areas			
		1-mile transit trip from Core Opportunity Areas			
	Active TMAs	City/UGB-wide	1 (Juniper Ridge)	2 (Juniper Ridge, OSU)	
Diversity (Land Use)	Jobs-housing balance[61]	Opportunity Areas			
		Core			

TPR Compliance

[Note: this section will explain how the proposed standards comply with the TPR requirements. The text below is a placeholder – this will be included with the final version of the ILUTP.]

These standards comply with the TPR requirements as demonstrated below.

(A) Achieving the standard will result in a reduction in reliance on automobiles;

[response]

(B) Achieving the standard will accomplish a significant increase in the availability or convenience of alternative modes of transportation;

[response]

(C) Achieving the standard is likely to result in a significant increase in the share of trips made by alternative modes, including walking, bicycling, ridesharing and transit;

[response]

(D) VMT per capita is unlikely to increase by more than five percent; and

[response]

(E) The standard is measurable and reasonably related to achieving the goal of increasing transportation choices and reducing reliance on the automobile as described in OAR 660-012-0000.

[61] Jobs-housing balance is measured as the ratio of jobs to housing in the specified area.

[response]



Development Code Update
Draft: April 14, 2016
Prepared by:
Angelo Planning Group &
City of Bend Growth Management Department

Note:
Text in underlined typeface is proposed to be added
Text in ~~strikethrough~~ typeface is proposed to be deleted.
***Indicates where text from the existing code has been omitted because it will remain unchanged.
Project team comments are ***bold and italicized***
Yellow highlighting indicates sections that have been updated since the previously published draft.

Chapter 1.2

DEFINITIONS

***

Infill, residential means the development of ~~a~~ up to three dwellings on land that is zoned for residential use where at least 75 percent of the abutting parcels have a structure but not counting any abutting parcel that is too small for a residence or any parcel that is large enough that it can be divided into four or more lots or developed with multifamily residential as an outright use. “Residential infill” also refers to a situation in which a home is removed to make way for ~~a~~ up to three new dwellings (e.g., a house, manufactured home, duplex, or attached house). “Residential infill” shall not refer to the development of one dwelling on land that is large enough that it can be divided into four or more lots.

***

Several minor clarifications are proposed for the definition of residential infill so that the exception to minimum density that relies on this definition is clearer.

Chapter 2.1

RESIDENTIAL DISTRICTS (UAR, UH-10, UH-2 1/2, SR 2 1/2, RL, RS, RM-10, RM, RH)

Sections:

2.1.100 Purpose, Applicability and Location.
2.1.200 Permitted Land Use
2.1.300 Building Setbacks.
2.1.400 Building Mass and Scale.
2.1.500 Lot Area and Dimensions.
2.1.600 Residential Density.
2.1.700 Maximum Lot Coverage.
2.1.800 Building Height.
2.1.900 Architectural Design Standards.
2.1.1000 Multifamily Residential Districts (RM, RH).
2.1.1100 Urban Holding Districts, UH-10 and UH-2 1/2.

2.1.100 Purpose, Applicability and Location.

***

Table 2.1.100
Zone District Characteristics

The minimum density for RS is proposed to increase to 4 units per acre, with the maximum density for RL increasing to 4 since those areas now have sewer service or can be served by community sewer. No changes to minimum or maximum density are proposed for the RM or RH zones.

Zone District	Location and Characteristics
Urban Area Reserve (UAR)	The Urban Area Reserve District is a holding zone for urban development. The maximum residential density for the district is 1 dwelling unit per 10 gross acres.
Suburban Low Density Residential (SR 2 1/2)	Areas with the Suburban Low Density Residential zoning reflect the existing development patterns and the presence of community water systems located on the perimeter of the City intended for urban redevelopment. The maximum density in the district is 1 unit per 2.5 gross acres.
Low Density Residential (RL)	The Low Density Residential District consists of large urban residential lots that are served with a community water system and DEQ permitted community or municipal sewer systems. The residential density range in this district is 1.1 to ~~2.2~~4.0 dwelling units per gross acre.
Standard Density Residential (RS)	The Standard Density Residential District is intended to provide opportunities for a wide variety of residential housing types at the most common residential densities in places where community sewer and water services are available. The residential density range in this district is ~~2.0~~4.0 to 7.3 dwelling units per gross acre.
Medium-10 Density Residential (RM-10)	The Medium-10 Density Residential District is intended to provide opportunities for manufactured home park development and a variety of single and multifamily residential housing types. The density range in this district is 6.0 to 10.0 dwelling units per gross acre.
Medium Density Residential (RM)	The Medium Density Residential District is intended to provide primarily for the development of multifamily residential in areas where sewer and water service are available. The residential density range in the district is 7.3 to 21.7 units per gross acre and shall provide a transitional use area between other Residential Districts and other less restrictive areas.
High Density Residential (RH)	The High Density Residential District is intended to provide land for primarily high density residential multifamily residential in locations close to shopping and services, transportation and public open space. The density range of the district is 21.7 to 43.0 units per gross acre and shall provide a transitional use area between other Residential Districts and other less restrictive areas.

2.1.200 Permitted Land Use.

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Table 2.1.200 – Permitted and Conditional~~Land~~ Uses

The changes below to how housing types in the RS zone are regulated are intended to make it easier to build a mix of housing types in the RS zone by moving away from conditional uses towards permitted subject to clear and objective standards. It is worth noting that the maximum density standard for the RS zone will limit the potential for these housing types to be built through small infill projects, and making them permitted instead of conditional will have minimal impact on infill on small lots. It may, 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.

Land Use	SR 2 1/2	RL	RS	RM-10	RM	RH	UAR
Residential							
Single-family detached housing ***Single family housing is proposed to be prohibited in the RH zone because it can't meet the minimum density for the RH zone and there are many other more appropriate places for single family homes.***	P	P	P	P	P	~~C~~N	P
*Single-family courtyard housing ***Courtyard housing has existing special standards related to setbacks***	N	C/P**	~~C~~P	P	P	~~C~~N	C
*Accessory dwelling units (ADUs) ***ADUs proposed to be permitted outright. CDD working on revisions to ADU standards now.***	P~~/C~~	P~~/C~~	P~~/C~~	P	P	P	P
*Manufactured homes on individual lots	P	P	P	P	P	N	P
*Manufactured home park ***Manufactured home parks is proposed to be prohibited in the RH zone because they are limited to a maximum density of 10 units per acre, which is well below the minimum for the RH zone.***	N	C	C	P	P	~~P~~N	N
*Attached single-family townhomes	N	N/P**	P~~C~~	P	P	P	N
*Two- and three-family housing							
• Duplex when located on a corner lot	N	P	P	P	P	P	N
• Duplex on other lot or parcel	N	C/P**	P~~C~~	P	P	P	N
• Triplex	N	C/P**	P~~C~~	P	P	P	N

***

Key to Districts:

UAR = Urban Area Reserve

RL = Low Density Residential

RS = Standard Density Residential

RM = Medium Density Residential

RM-10 = Medium-10 Density Residential

RH = High Density Residential

Key to Permitted Uses

P = Permitted, subject to BDC Chapter 4.1, Development Review and Procedures

N = Not Permitted

C = Conditional Use, subject to permit standards in BDC Chapter 4.4.

* Subject to special standards as described in BDC 2.1.900, Architectural Design Standards, and/or BDC Chapter 3.6, Special Standards for Certain Uses.

** Permitted as part of a Neighborhood Master Plan subject to BDC Chapter 4.5.

Note: Existing Neighborhood Commercial (CN) zoned properties will remain as mapped recognizing neighborhood commercial properties established prior to the adoption of this code. The development of these sites shall conform to the standards outlined in BDC Chapter 3.6, Special Standards for Certain Uses, for the uses described above.

[Ord. NS-2251, 2015; Ord. NS-2241, 2015; Ord. NS-2240, 2015; Ord. NS-2158, 2011; Ord. NS-2016, 2006]

The changes to permitted uses in the RL zone are intended to allow for greater flexibility on housing mix as part of a Neighborhood Master Plan while retaining the largely single-family character of existing established neighborhoods with the RL zone. By making additional housing types permitted outright with a Neighborhood Master Plan, master plans in the RL zone may be able to provide for a mix of housing types that meets the master plan standards without needing to deviate from the standards of the zone, so that they do not require a Type III review in order to meet the master plan mix standards.

***

2.1.400 Building Mass and Scale.

The amendments below are proposed as a way to change from regulating based on lot coverage to regulating based on FAR, which does a better job of addressing neighborhood feel and compatibility. The starting text below reflects the recently-approved code amendments from the ADU code update project. The proposed amendments were informed by the research and committee input from the ADU code update, which honed in on an appropriate FAR standard and definitions. There was support for applying the FAR regulations that were developed for properties with ADUs more broadly, but it was outside the scope of the ADU project. The UGB project proposes applying those same standards to virtually all residential development in the RL, RS, and RM zones as a way to address compatibility concerns with other efficiency measures such as reducing minimum lot sizes and allowing additional housing types outright in the RS zone. FAR is not proposed to apply in the RH zone – it does not currently apply there, and the lot coverage standard was proposed to be eliminated for that zone already. In the RM zone, large-scale multifamily developments (20 or more units) have their own standards that address open space and landscaping, so those are not proposed to be subject to FAR. All lot coverage standards are proposed to be eliminated (see BDC 2.1.700).

A. ~~Floor Area Ratio~~Applicability. Floor area ratio (FAR) shall apply to ~~the following:~~

~~1.~~ Aall new ~~single-family~~ residential ~~construction~~ development in the RL, RS, and RM Zones, except as otherwise specified in subsection (C) of this section.~~including building additions on lots 6,000 square feet or less in size located in a subdivision platted prior to December 1998;~~

~~2. Existing homes on lots subject to a partition or lot line adjustment that will result in a lot size of 6,000 square feet or less;~~

~~3. The perimeter lots of all new single-family residential subdivisions that are 6,000 square feet or less in size and are adjacent to a subdivision platted prior to December 1998 where the adjoining lot development has a 0.5 FAR or less.~~

B. Floor area Ratio. The floor area ratio as defined in Chapter 1.2 Definitions, shall ~~Building construction may~~ not exceed ~~0.50~~0.55 for all buildings on site, cumulatively. ~~FAR (50 percent) of the total lot area. The areas of a building subject to this development standard shall include the following:~~

~~1. Floor area as defined in Chapter 1.2 Definitions. For garages, see 2.1.400.B.2.~~

~~2. Only garage floor area that exceeds 480 square feet in size on lots or parcels 4,000 square feet or greater and only garages exceeding 325 feet in size for lots or parcels less than 4,000 square feet. The first 480 square feet or 325 square feet, respectively, of the garage are excluded from floor area.~~

C. Exceptions to FAR.

~~1. Attached single-family townhomes without an accessory dwelling unit.~~

~~2. Single family detached dwellings with an accessory dwelling unit and attached single-family townhomes with an accessory dwelling unit. See Section 3.6.200. B Accessory Dwelling Unit (ADU) for FAR.~~

~~3~~1. Accessory structures less than 10 feet in height and 200 square feet in area.

~~4~~2. Lots and parcels subject to BDC 2.1.300(G), Residential Compatibility Standards.

3. Large-scale Multifamily Developments subject to 2.1.1000(B).

2.1.500 Lot Area and Dimensions.

Lot areas and lot dimension standards for residential uses are listed in Table 2.1.500. Exceptions to these standards may be approved subject to Master Planned Development approval (see BDC Chapter 4.5). For other residential uses listed in Table 2.1.200, the lot area and dimensions are subject to the type of residential structure being occupied. Lot development and the total number of dwelling units permitted shall be in conformance with BDC 2.1.600, Residential Density.

Table 2.1.500
Lot Areas and Dimensions in the Residential Districts By Housing Type and Zone

Residential Use	Zone	Lot Area	Lot Width/Depth
Single-Family Detached Housing; Manufactured Homes on Lots; Residential Care Homes and Facilities	RL	Minimum area: ~~15,000~~10,000 sq. ft. with approved septic or sewer system ***The minimum lot size needs to be reduced in order to allow development up to 4 units per gross acre. This change would allow a minimal amount of lot-splitting while largely retaining the character of existing neighborhoods.***	Minimum width: 100 ft. min. average lot width with a min. street frontage of 50 ft. except on approved cul-de-sac lot frontage may be reduced to 30 ft; flag lots and lots served by private lanes are subject to BDC 4.5.200. Minimum lot depth: 100 ft, except in conformance with BDC 4.5.200.
	RS	Minimum area: 4,000 sq. ft.	Minimum width: 40 ft. at front property line, except for flag lots and lots served by private lanes (see BDC 4.5.200) Minimum lot depth: 80 ft, except in conformance with BDC 4.5.200.
	RM-10	Minimum area: 4,000 sq. ft.	
	RM	Minimum area: ~~3,000~~ 2,500 sq. ft.	Minimum width: 30 ft, except for flag lots and lots served by private lanes (see BDC 4.5.200).

Residential Use	Zone	Lot Area	Lot Width/Depth
			Minimum lot depth: 80 ft, except in conformance with BDC 4.5.200.
	~~RH~~	~~Minimum area: 2,500 sq. ft.~~ ***A minimum lot size for SFD in the RH zone is no longer needed since new SFD is not permitted in the RH zone.***	~~Minimum lot width: 30 ft.~~ ~~Minimum lot depth: 80 ft.~~
Two- and Three-Family Housing (duplex/triplex)	UAR	Not Applicable	Not Applicable
	RL	Minimum area: ~~30~~20,000 sq. ft. with approved septic or sewer system ***Minimum lot size for duplex reduced for consistency with lot size for SFD and to allow building at the new maximum gross density.***	Minimum lot width: 100 ft. average Minimum lot depth: 100 ft.
	RS	Minimum area – duplex: 8,000 sq. ft. Minimum area – triplex: 10,000 sq. ft.	Minimum width: 40 ft. at front property line, except for flag lots and lots served by private lanes. (see BDC 4.5.200) Minimum lot depth: 80 ft.
	RM-10	Minimum area – duplex: 7,000 sq. ft. Minimum area – triplex: 9,000 sq. ft.	
	RM	~~Minimum area – duplex: 4,500 sq. ft.~~ ~~Minimum area – triplex: 6,500 sq. ft.~~ None ***Minimum lot size for duplex & triplex in RM & RH eliminated because gross density standard already controls the density; retaining lot dimension standards to keep enough frontage to have a building face the street and enough depth to match up with the same block size as other housing types.***	Minimum width: 30 ft. Minimum lot depth: 80 ft.
	RH	~~Minimum area – duplex: 3,000 sq. ft.~~ ~~Minimum area – triplex: 4,000 sq. ft.~~ None	Minimum width: 30 ft. Minimum lot depth: ~~80~~ 60 ft.
Single-Family Attached Housing (townhomes)	UAR ~~and RL~~	Not Applicable	Not Applicable
	RL, RS, RM-10~~, RM, RH~~	Minimum area: 2,000 sq. ft. for each unit ***Provided a minimum lot size for townhomes in the RL zone when they are permitted as part of a Neighborhood Master Plan.***	Minimum width: 20 ft. at front property line, except for flag lots and lots served by private lanes (see BDC 4.5.200) Minimum lot depth: 80 ft.
	RM	Minimum area: 1,600 sq. ft. for each unit ***Reduces the lot area required for townhomes in the RM zone so that they can be built at a higher density***	Minimum width: 20 ft. at front property line, Minimum lot depth: 80 ft.
	RH	Minimum area: 1,200 sq. ft. for each unit ***Reduces the lot area required for townhomes in the RH zone so that they can be built at a higher density. Minimum lot size brought down to 1,200 based on experience with Basecamp townhome project in the MR zone, which had lots around this size and depth. Allows a net density of about 36 units per acre for townhomes, which means more options to build in the upper end of the allowed gross density range.***	Minimum width: 20 ft. at front property line, Minimum lot depth: 60 ft. ***Minimum lot depth brought down to 60 feet based on experience with Basecamp townhome project in the MR zone, which had lots around this size and depth.***
Multifamily Housing (more than 3 units)	UAR, RL, ~~RS,~~	Not Applicable	Not Applicable
	RM-10	Minimum area: 4,000 sq. ft. for each unit	Minimum width: 30 ft. at front property line. Minimum lot depth: 80 ft.
	~~RM~~	~~Minimum area: 2,500 sq. ft. for the first unit, 2,000 sq. ft. for each additional unit~~	
	RM, RH	~~Minimum area: 2,000 sq. ft. for the first unit, 1,000 sq. ft. for each additional unit~~ None	

Residential Use	Zone	Lot Area	Lot Width/Depth
		Eliminates maximum net density for multifamily housing in the RM and RH zones. Intended to make it easier to reach the upper end of the gross density range, even on a site with some right-of-way and/or open space dedication. The maximum gross density will still control total number of units on the site, as it does for all housing types regardless of minimum lot size standards. Most multifamily housing is developed on a single lot and does not require land division or right-of-way dedication. There should be little difference for that circumstance. However, where multifamily housing is developed as a component of a larger project, this may come into play and allow more flexibility in how the gross density range is met.	

[Ord. NS-2113, 2009; Ord. NS-2016, 2006]

2.1.600 Residential Density.

A. Residential Density Standard. The following density standards apply to all new developments ~~and subdivisions~~ in all of the Residential Districts, except as specified in Section (B). ~~Redevelopment or expansion of existing uses within areas of existing land use patterns shall comply with these standards to the extent practical.~~ The density standards shown in Table 2.1.600 are intended to ensure efficient use of buildable lands and provide for a range of needed housing, in conformance with the General Plan.

The definition of "development" includes a partition or subdivision. Listing subdivisions is duplicative and potentially misleading. All exceptions have been consolidated to Section (B), Exemptions.

1. The density standards may be averaged over more than one development phase (i.e., as in a Master Planned Development). Duplex and triplex lots used to comply with the density standard shall be so designated on the final partition or subdivision plat.

~~2. Partitions shall be planned, and the construction of dwellings on parcels or lots shall be sited to allow future redevelopment on these lots or parcels at minimum densities.~~

Moved the provision above regarding partitions to Section (B), Exemptions.

Table 2.1.600
Residential Densities

Suggest deleting the third column, which lists primary uses. It is not regulatory in nature and implies an intent other than the mix of housing types we are trying to encourage in each zone.

Residential Zone	**Density Range**	**~~Primary Uses~~**
Urban Area Reserve (UAR10)	1 unit/10 gross acres	~~Single-family detached housing~~
Suburban Low Density Residential (SR 2 1/2)	1 unit/2.5 gross acres	~~Single-family detached housing~~
Low Density Residential (RL)	1.1 – ~~2.2~~4.0 units/gross acre ***RL maximum density increased because these areas now have sewer service or can be served by community sewer***	~~Single-family detached housing~~
Standard Density Residential (RS)	~~2.0~~4.0 – 7.3 units/gross acre ***RS minimum density raised to 4.0 units***	~~Single-family detached housing~~

Residential Zone	Density Range	~~Primary Uses~~
	per gross acre to ensure efficient use of this predominant residential district.	
Medium Density Residential (RM-10) ***This zone could be deleted since it is not applied and is no longer needed.***	6.0 – 10.0 units/gross acre	~~Manufactured homes and attached housing~~
Medium Density Residential (RM)	7.3 – 21.7 units/gross acre ***After further study, the project team recommends leaving the minimum density in RM at 7.3 units per gross acre to avoid creating a gap between the densities allowed in RS and RM and because increasing the maximum density in the RS zone has more potential for incompatible development.***	~~Attached multifamily housing~~
High Density Residential (RH)	21.7 – 43 units/gross acre	~~Attached multifamily housing~~

B. Exemptions. The following ~~types of housing~~ are exempt from the density standards in subsection (A) of this section:

1. Residential care homes/facilities.

2. Accessory dwelling units (ADUs).

3. Bed and breakfast inns.

4. ~~Neighborhood commercial~~Non-residential uses, including Neighborhood Commercial uses, Public and Institutional Uses, and Miscellaneous uses that do not include a dwelling unit. ***(Ensuring that it is clear that the non-residential uses in residential zones are not subject to the density standards. Worded to ensure that timeshares, short-term rentals, and other uses that do include a dwelling unit but are not listed under residential uses are still subject to density standards.)***

5. Buildings that are listed in the Inventory of Historic Sites within the Bend Area General Plan Exhibit "A" or buildings designated on the Historic National Landmarks Register.

6. Manufactured ~~housing development~~home parks within the ~~RM or RH Zone~~RS Zone are exempt from the maximum density standards of the zone, provided that the standards of BDC 3.6.200(G) are met. ***(A manufactured home on an individual lot is still subject to density standards. Manufactured home parks are no longer proposed to be allowed in the RH zone, since they cannot meet the minimum density standards. If they are allowed, subject to a conditional use, in the RS zone, the maximum density standard of 10 units per acre, which is found in state and local regulations, applies.)***

7. ~~Redevelopment within a residential neighborhood consistent with the adjacent existing pattern of development.~~Replacement, renovation, or expansion of an existing single-family home in any zone. (***More targeted exemption)***

8. ~~Infill d~~Development on a vacant platted lot consistent with ~~the adjacent existing pattern of development~~an approved land division, except tracts identified for future phases. (***More specific exemption)***

9. Residential infill, as defined in BDC Chapter 1.2, is exempt from minimum, but not maximum, density standards.

10. Partitions on properties that are large enough to be divided into four or more lots are exempt from minimum density standards provided that the size of the resulting parcels and siting of dwellings

allow future development on these parcels at minimum densities. ***(Moved from Section (A) above and reworded slightly. This exemption intended for very large lots that someone splits into two or three. The limit for partitions is two new lots in a calendar year.)***

C. Density Calculation.

1. Maximum housing densities are calculated ~~by multiplying the parcel or lot area, including the area for streets being dedicated, by the applicable density standard~~ as follows:

a. The area subject to maximum housing density is the total site area excluding any land to be developed with or dedicated for Neighborhood Commercial uses, Public and Institutional Uses, and Miscellaneous uses that do not include a dwelling unit.

b. The area for future streets is included in the area subject to maximum housing density.

c. Where no new streets will be created, the area of up to 30 feet of the abutting right-of-way width multiplied by the site frontage shall be added to the area subject to maximum housing density.

d. Sensitive lands, fire breaks, and canals and their associated easements on the site are included in the area subject to maximum housing density.

e. For purposes of calculating maximum density, fractional units are rounded down to the next whole unit.

f. ~~For~~ As an illustrative example, if the total site area is five acres, of which a half-acre is sensitive lands, and another acre will be developed with Neighborhood Commercial uses, and new streets will be created, the area subject to maximum housing density is four acres (total site area minus one acre of Neighborhood Commercial uses, but including the sensitive lands). If ~~and~~ the maximum allowable density is 7.3 dwelling units per acre, then a maximum number of ~~36~~ 29 units are allowed on the site~~, regardless of the amount of land area dedicated for public right-of-way or open space in conjunction with the project~~.

Amendments above are intended to clarify a number of aspects of the maximum density calculation, including how fractional units should be addressed and how land for non-residential uses is treated. The proposed change on fractional units reflects current staff interpretation; however, there is some discussion among staff of whether this should be changed so that fractional units simply round to the nearest whole number (e.g. 1.51 rounds to 2 rather than 1). Doing so would have the effect of creating potential for infill or redevelopment on more platted lots. The Residential TAC did not support this idea, and it is not included in the current amendments.

~~For the purpose of calculating the density for partition lots only, the area of one-half of right-of-way abutting the proposed partition lots shall be added to the gross area.~~

Amendments for sites where no new streets will be created are a modification of an existing standard that applied only to partitions, since, in some cases, counting the extra right-of-way can mean you're allowed to build more units than you can do through a partition, creating a catch-22. The proposed amendments also limit the amount of ROW you can count to 30' of width (half of a typical local street), so that if you abut a big street, you don't get to count a huge amount of right-of-way.

2. Minimum housing densities are calculated as follows:

a. The area subject to minimum housing density is the total site area excluding any land to be developed with or dedicated for Neighborhood Commercial uses, Public and Institutional Uses, and Miscellaneous uses that do not include a dwelling unit; sensitive lands; fire breaks; and canals and their associated easements.

b. The area for future streets is included in the area subject to minimum housing density.

c. For purposes of calculating minimum density, fractional units are rounded up to the next whole unit.

d. As an illustrative example, if the total site area is five acres, of which a half-acre is sensitive lands, and another acre will be developed with Neighborhood Commercial uses, and new streets will be created, the area subject to minimum housing density is three and a half acres (total site area minus one acre of Neighborhood Commercial uses, minus a half-acre of sensitive lands). If the minimum density is 4.0 dwelling units per acre, then a minimum number of 14 units are required on the site.

Amendments above are intended to make it so that sites with environmental constraints, canal easements, or a need for fire breaks, are allowed, but not required, to transfer the density within a site from the constrained lands to other portions of the site, and also clarify rounding of fractional units. Note that there are standards related to density transfers in BDC 3.5.100 that cover sensitive lands. BDC Chapter 1.2 includes the following definition of "fire break": "Fire break means a break in the ground cover fuels as specified by the fire protection agency involved"

3. Where a property has multiple zones, the minimum and maximum number of units are calculated based on the acreage in each residential zone that is subject to the density standard as specified above multiplied by the applicable minimum and maximum density standards. Areas with non-residential zones are excluded from the density calculation.

Amendments above intended to make clear how the standards apply to split-zoned sites, including sites with non-residential zones.

D. Density Bonus for Affordable Housing. As an incentive to create affordable housing, the maximum densities provided in Table 2.1.600 may be increased when a developer provides "affordable housing" as part of a proposed development in conformance with BDC 3.6.200(C). The density increase is based on the percentage of affordable housing units within the proposed development. Any development that receives the density bonus shall be deemed an "affordable housing development." The table below provides the corresponding percent of increase. In no case may the density bonus exceed 1.5 percent of the existing residential zone.

Table 2.1.600A - Density Bonus

Percentage of Units That Are Affordable:	Density for Development, by Percentage, of Existing Maximum Density Range:
10%	1.1
20%	1.2
30%	1.3
40%	1.4
50%	1.5

When calculating the number of additional units, fractional units are rounded up to the next whole unit.

No changes are proposed to Section (D), above; it is included for context and as a reminder that this density bonus is available. Some tweaks may be needed for clarity of how the density bonus is calculated, but those will be addressed by CDD if needed.

~~**2.1.700 Maximum Lot Coverage.**~~

Maximum lot coverage standards are proposed to be eliminated in favor of FAR (floor area ratio) standards in BDC 2.1.400.

~~A. Maximum Lot Coverage. The following maximum lot coverage standards shall apply to all development within the Residential Districts as follow:~~

~~**Table 2.1.700**~~
~~**Residential Lot Coverage**~~

~~**Residential Zone**~~	~~**Lot Coverage**~~
~~Low Density Residential (RL)~~	~~35%~~
~~Standard Density Residential (RS)~~	~~50% for single-story homes~~ ~~35% for all other uses~~
~~Medium-10 Density Residential (RM-10)~~	~~50% for single-story homes~~ ~~35% for all other uses~~
~~Medium Density Residential (RM)~~	~~40%~~
~~High Density Residential (RH)~~	~~50%~~ ~~***No lot coverage, as recommended previously. Landscaping / open space and parking requirements will set upper limits on the lot coverage.***~~

~~B. Lot Coverage Defined. **Lot coverage** is defined as all areas of a lot or parcel covered by buildings (as defined by foundation perimeters) and other structures with surfaces greater than 18 inches above the finished grade, excluding unenclosed covered porches and uncovered decks up to five percent of the total lot area.~~

~~C. Lot Coverage Compliance. Compliance with other sections of this code may preclude development of the maximum allowed lot coverage for some land uses.~~

~~D. Lot Coverage Exception. For affordable housing developments where 50 percent or more of the dwelling units are deemed affordable in conformance with BDC 3.6.200(C), the entire development may develop with a 50 percent lot coverage. [Ord. NS-2241, 2015; Ord. NS-2016, 2006]~~

~~***~~

2.1.900 Architectural Design Standards.

A. Purpose. The architectural standards are intended to provide detailed, human-scaled design, while affording flexibility to use a variety of building styles for certain types of residential development.

B. Applicability. This section applies to all of the following types of buildings:

1. Duplexes and triplexes;
2. Multifamily residential;
3. Public and institutional buildings in residential zones;
4. Neighborhood commercial; ~~and~~

5. ~~m~~Mixed-use buildings in residential zones; and

6~~7~~. All other types of permitted/conditional nonresidential use buildings listed in Table 2.1.200 when built in a residential zone.

Clarified that the architectural design standards in this chapter only apply to non-residential uses when these uses are built in a residential zone. These standards for the residential uses are referenced from other zones, including the proposed new mixed use zones. (Note: the starting text in this section reflects the recently-approved amendments from the ADU code amendment process.)

***

2.1.1000 Multifamily Residential Districts (RM, RH).

A. Purpose/Intent Statement. The Medium and High Density Residential Districts are intended to provide land for ~~townhouses, multiple-family housing developments, and to provide opportunities for small-lot and courtyard-type single-family homes~~a mix of housing types in locations that are convenient to service commercial uses and future transit opportunities.

The existing text in (A) makes it sound like single family homes are allowed in RH, which they will not be with the proposed amendments. This purpose statement is not really a purpose statement for the zones, but rather for the additional standards in those zones. It has been generalized to eliminate the conflict.

B. Development Standards for Large-Scale Multifamily Developments in the RM and RH Districts. In addition to the site development standards in BDC Chapter 4.2, the following standards shall apply to multifamily developments of 20 units or more:

***

C. Housing Mix Standards in the RM District. In order to ensure a mix of housing types that meets the city's overall housing needs, in addition to minimum and maximum density standards in BDC 2.1.600, at least 50 percent of the total housing units in residential developments on any property or combination of properties between three acres and 20 acres in the RM District shall be two- and three-family housing, Attached single-family townhomes, and/or multifamily residential housing units. The standards of BDC 4.5.400(C) apply to properties of 20 acres in size and greater.

The proposed housing mix standards above in Section (C) are intended as a way to ensure that the RM zone helps meet the city's overall housing needs without increasing the minimum density for that zone. It applies to developments that are below the 20-acre master planning threshold and are not subject to those standards, but that are at least 3 acres so that there's room to provide a mix of types. The 50% number is suggested based on the assumptions that are built into the modeling work to date – if this standard is met, then the RM zone will achieve the mix assumed in prior modeling work even if the minimum density is not increased. Note that the mix is now expressed as requiring a minimum percentage of single family attached, two- and three-family housing, and/or multifamily residential units in order to be more consistent with the HNA housing mix.

***

Chapter 2.2

COMMERCIAL ZONING DISTRICTS (CB, CC, CL, CG)

Sections:
2.2.100 Purpose and Applicability.
2.2.200 Zoning District Locations and Characteristics.
2.2.300 Permitted and Conditional Uses.
2.2.400 Development Standards.
2.2.500 Site Layout and Building Orientation.
2.2.600 Commercial Design Review Standards.
2.2.700 Pedestrian Amenities.
2.2.800 Development and Design Standards for the Central Business Zoning District.

2.2.400 Development Standards.

The following table provides the general numerical development standards within the Commercial Districts. Additional standards are contained in subsections (A), (B) and (C) of this section.

Table 2.2.400
Commercial Zoning District Development Standards

***

STANDARD	CB	CC	CL	CG
Maximum Building Footprint, see note (2) below	None	~~15,000 sq. ft. for single tenant~~ 50,000 sq. ft. ~~for multi-tenant 35,000 sq. ft. for grocery store~~	None	None

(1) Subject to the special setback standards of BDC Chapter 3.4 and the site layout and building orientation standards of BDC 2.2.500.
(2) See subsection (C) of this section.

***

C. Convenience Commercial Development Standards. The purpose of this subsection is to provide special development standards for the development of new uses within the CC Zone. The zone is intended to provide locations for a wide range of small and medium sized businesses and services as a convenience to surrounding residents. The CC Zone has the following limitation on uses:

1. Maximum Building Size. ~~Except as provided in subsections (C)(2) and (3) of this section, the maximum size for any building in the CC Zone is 15,000 square feet of floor area, unless a larger floor area is approved through a Conditional Use Permit.~~

~~2. Exceptions to Maximum Building Size.~~

~~a. Grocery stores 35,000 square feet in size or less are permitted.~~

~~b. All buildings located in a CC Zone that are located along a street classified as a major collector or higher may have a building floor area up to 25 percent of the total lot area.~~

~~3. Multi-tenant buildings or developments shall be restricted to a maximum of 15,000 square feet of gross floor area per tenant.~~ The maximum building size ~~for multi-tenant buildings~~ is 50,000 square feet

per building, unless a larger area is approved through a Conditional Use Permit. ~~A tenant is defined as an independent operator unrelated to other tenants within the multi-tenant building or development.~~

Revisions suggested by Employment TAC to remove distinction between different types of buildings and focus on a single maximum building footprint for the CC zone.

2.2.600 Commercial Design Review Standards.

This section contains the design standards that are applicable to commercial and mixed use development. Minor changes are proposed to clarify applicability for mixed use buildings. The standards themselves are not proposed to change, but are included for context and ease of reference.

...

C. Standards. For developments subject to site plan or design review, the following standards shall be met. A design feature used to comply with one standard may be used to comply with another standard.

1. Residential Building Design Review. All residential buildings subject to site plan or design review shall comply with the Residential District design guidelines, as listed in BDC 2.1.900, Architectural Design Standards, and not the Commercial Design Review standards of this section.

2. Commercial Design Review. The following standards apply ~~For~~ to all commercial and mixed use buildings ~~subject to Commercial Design Review, all of the following standards apply~~:

a. Buildings with exterior walls greater than 50 feet in horizontal length shall be constructed using the installation of a combination of architectural features and a variety of building materials. Landscaping should be planted adjacent to the walls. Walls that can be viewed from public streets shall be designed with windows totaling a minimum of 10 percent of the wall area and using architectural features and landscaping (abutting the building) for at least 50 percent of the wall length. Other walls shall incorporate architectural features and landscaping for at least 30 percent of the wall length.

b. Architectural features include, but are not limited to, the following: recesses, projections, wall insets, arcades, window display areas, awnings, balconies, window projections, landscape structures or other features that complement the design intent of the structure and are acceptable to the Review Authority.

c. In addition, a portion of the on-site landscaping shall be planted adjacent to the walls of a building so that the vegetation combined with the architectural features significantly reduces the visual impact of the building mass as viewed from the street. Additional landscaping requirements are in BDC Chapter 3.2, Landscaping, Street Trees, Fences and Walls.

d. The predominant building materials should be characteristic of Central Oregon such as brick, wood, native stone and tinted/textured concrete masonry units and/or glass products. Other materials such as smooth-faced concrete block, undecorated tilt-up concrete panels, or pre-fabricated steel panels should only be used as accents and not dominate the building exterior of the structure. Metal roofs may be allowed if compatible with the overall architectural design of the building.

e. Roofs should be designed to reduce the apparent exterior mass of a building, add visual interest and be appropriate to the architectural style of the building. Variations within one architectural style are highly encouraged. Visible rooflines and roofs that project over the exterior wall of a building enough to cast a shadow on the ground are highly encouraged. Architectural methods shall be used to conceal flat rooftops; however, a maximum of 30 percent of the building elevations visible from the adjacent right-of-way may include flat roof components. Overhanging eaves, sloped roofs, parapet walls that have variations vertically and horizontally with decorative features, and multiple roof elements are highly encouraged. Mansard style roofs are discouraged.

f. Clearly defined, highly visible customer entrances using features such as canopies, porticos, arcades, arches, wing walls, and/or integral planters are required.

g. Community amenities such as patio/seating areas, water features, art work or sculpture, clock towers, pedestrian plazas with park benches or other features located in areas accessible to the public are encouraged and may be calculated as part of the landscaping requirements of BDC Chapter 3.2.

h. Exterior colors shall be of low reflectance, subtle, neutral or earth tone colors. The use of high intensity colors such as black, neon, metallic or fluorescent for the facade and/or roof of the building is prohibited except as approved for building trim. The City of Bend color guide provides samples of acceptable and unacceptable colors. The use of trademark colors requires City approval.

i. Exterior lighting shall comply with the outdoor lighting provisions of BDC 3.5.200. Light poles and/or fixtures and flag poles shall not exceed 25 feet in height.

j. Outdoor and rooftop mechanical equipment as well as trash cans/dumpsters shall be architecturally screened from view. Heating, ventilation and air conditioning units shall have a noise attenuating barrier to protect adjacent Residential Districts from mechanical noise.

3. Large-Scale Buildings and Developments. For the purpose of this section, “large-scale buildings and developments” are defined as:

a. Individual buildings with more than 20,000 square feet of enclosed ground-floor space. Multi-tenant buildings shall be counted as the sum of all tenant spaces within the same building shell; and

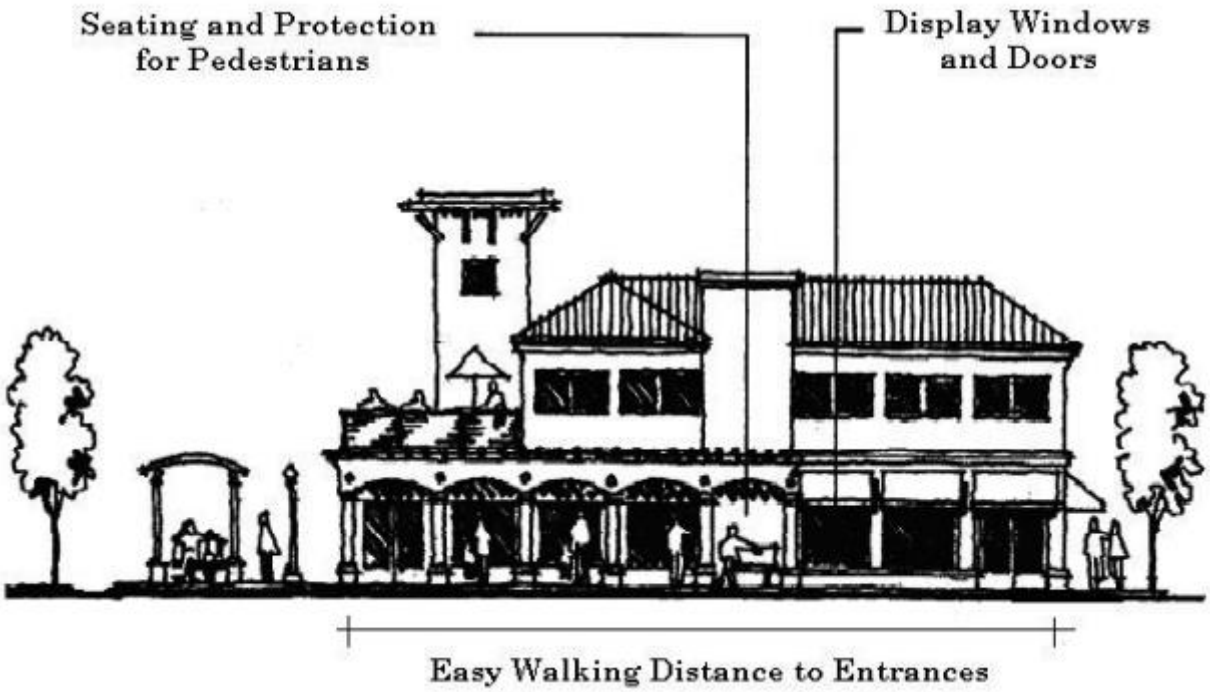
b. Multiple-building developments with a combined enclosed ground-floor space more than 40,000 square feet (e.g., shopping centers, public/institutional campuses, and similar developments).

4. Design Standards for Large-Scale Buildings and Developments. All large-scale buildings and developments, as defined above, shall provide human-scale design by conforming to all of the following standards:

a. Incorporate changes in building wall direction and divide large masses into varying heights and sizes, as shown in Figure 2.2.600. Such changes may include building offsets; projections; changes in elevation or horizontal direction; sheltering roofs; terraces; a distinct pattern of divisions in surface materials; windows; screening trees; small-scale lighting (e.g., wall-mounted lighting, or up-lighting as described in BDC 3.5.200 (Other Design Standards)); and similar features.

Figure 2.2.600

Design of Large-Scale Buildings and Developments (Typical)



Note: the example shown above is meant to illustrate examples of these building design elements, and should not be interpreted as a required design style.

5. Exceptions to Commercial Design Review Standards. An exception to the design standards of this section may be approved by the Planning Commission through a Type III Process if the Commission finds that the proposed development complies with the purpose and intent of the Commercial Design Review standards. The applicant shall pay a fee specified by the City for Planning Commission review.

Chapter 2.3

MIXED-USE ZONING DISTRICTS (ME, MR, ~~AND~~ PO, MU, and MN)

Sections:
2.3.100 Purpose and Applicability.
2.3.200 Permitted and Conditional Uses.
2.3.300 Development Standards.
2.3.400 Building Orientation.
2.3.500 Architectural Standards.
2.3.600 Special Development Standards for the MR Zone.

2.3.100 Purpose and Applicability.

A. The Mixed-Use Districts are intended to provide a balanced mix of residential and employment opportunities. These mixed-use areas to create focal points of activity in the form of mixed use centers, nodes, or corridors provide a transition between existing urban environments and both existing and future residential developments. The Mixed-Use Districts support service commercial, employment, and housing needs of a growing community. The Mixed-Use District standards are based on the following principles:

- Ensure efficient use of land and public services.
- Create a mix of housing and employment opportunities.
- Provide transportation options for employees and customers and reduce reliance on the automobile.
- Provide business services close to major employment centers.
- Ensure compatibility of mixed-use developments with the surrounding area and minimize off-site impacts associated with development.
- Create economically successful mixed use centers and transit corridors.

The Mixed-Use Districts: Mixed Employment (ME), Mixed-Use Riverfront (MR), and Professional Office (PO), Mixed-Use Urban (MU), and Mixed-Use Neighborhood (MN) are identified on the City's official Zoning Map. The districts serve distinctly different purposes as described below.

Zone District	Location and Characteristics
Mixed Employment District (ME)	The Mixed Employment Zone is intended to provide a broad mix of uses that offer a variety of employment opportunities. Where Mixed Employment Districts occur on the edge of the City, their function is more transitional in nature providing service commercial businesses and supporting residential uses in an aesthetic mixed environment. In this instance, when residential units are provided, the units shall be within easy walking distance to the commercial and employment uses.
Mixed-Use Riverfront District (MR)	The Mixed-Use Riverfront District is intended to implement the General Plan policies for the creative redevelopment of mill site properties adjacent to the Deschutes River. It is intended to allow for a mix of uses that: • Provide a variety of employment opportunities and housing types; • Foster pedestrian and other non-motor vehicle activity; • Ensure functionally coordinated, aesthetically pleasing and cohesive site planning and design; • Ensure compatibility of mixed-use development with the surrounding area and minimize off-site impacts associated with the development; and • Encourage access to, and enjoyment of, the Deschutes River.
Professional Office District (PO)	The Professional Office Zone is intended to provide for professional offices in locations near arterial or collector streets and to provide a transition of uses between residential areas and other more intensive

Zone District	Location and Characteristics
	zones. Through design standards, the Professional Office Zone is intended to create a mix of high density residential housing, office and service commercial developments that are pedestrian-oriented and provide a positive contribution to the streetscape.
Mixed-Use Urban (MU)	The Mixed Use – Urban Zone is intended to provide opportunities for vibrant mixed use centers and districts in areas with high-quality connectivity to and within the area. It is intended to allow for a denser level of development of a variety of commercial and residential uses than in surrounding areas with an emphasis on retail and entertainment uses at the street level. It is intended to provide for development that is supportive of transit by encouraging a pedestrian-friendly environment.
Mixed-Use Neighborhood (MN)	The Mixed Use – Neighborhood Zone is intended to provide neighborhood-scaled, pedestrian-oriented mixed use centers and corridors with a range of residential, retail, service, and office uses that are compatible with adjacent development.

The code uses "MU" as the abbreviation for Mixed Use Urban (rather than MU-U), and "MN" as the abbreviation for Mixed Use Neighborhood (rather than MU-N). This is consistent with the existing two letter zoning district abbreviations. (The existing abbreviation for Mixed Use Riverfront is MR, not MU-R.)

B. Applicability. The standards of this chapter apply to all development in the Mixed-Use Zoning Districts. [Ord. NS-2195, 2013; Ord. NS-2016, 2006]

2.3.200 Permitted and Conditional Uses.

***

B. Exceptions. Existing uses and buildings lawfully established under previously effective land use regulations are allowed to continue subject to BDC Chapter 5.2, except as otherwise specified in this section.

1. Existing lawfully established residential uses are permitted in all mixed use zones and are not subject to BDC Chapter 5.2 unless otherwise non-conforming.

2. Uses in the MU and MN zones that are not in conformance with the provisions in this section but that were lawfully established in their current location prior to the adoption of this code shall be treated as permitted uses. Expansion or enlargement 25 percent or less of the above-referenced uses or structures that are nonresidential shall be subject to the provisions of BDC Chapter 4.2, Site Plan Review and Design Review. For expansion or enlargement greater than 25 percent, the conditional use criteria, standards and conditions within BDC Chapter 4.4, Conditional Use Permits, shall also apply. Conditions of prior approvals shall continue to apply unless modified in conformance with BDC 4.1.1000, Reconsideration.

The above amendments are proposed in order to protect existing businesses within areas rezoned to MU or MN. They are based on the language in the proposed 3rd Street / Bend Central MMA special plan district. In other parts of the city, non-conforming uses are subject to BDC Chapter 5.2, which restricts expansion and precludes re-establishment of a non-conforming use after 12 months or more of the use being discontinued.

Table 2.3.200
Permitted and Conditional Uses

A few overall notes for changes to this table: proposed regulation of specific uses in the new MU and MN zones is shown. In addition, some changes are proposed for the ME zone, since there is some vacant land in the city in the ME zone and it is likely to be used in expansion areas. There is almost no land zoned PO in Bend today, and it is not anticipated to be used in expansion areas, so no changes to the PO zone are proposed. It may ultimately be deleted, but to do so would require amending the Lava Ridge Refinement Plan, which uses the PO zone, and that is beyond the scope of the UGB project. The MR zone is applied to an important area of the city, but it is tailored to that

specific area, which has been subject to master planning already, and is not recommended to be used anywhere else. Changes to the MR zone would require more outreach to property owners in that area and are not essential to UGB capacity.

Regulations for residential uses are proposed to change from relying on the existing definition of "primary" (and the implied but not explicitly codified definition of "secondary") to a limitation, applicable only in the ME and PO zones, that allows residential uses outright when part of a mixed use development that includes a major non-residential component, allows residential conditionally when part of a mixed use development with a minor non-residential component, and prohibits stand-alone residential uses in these zones. This is because those zones are intended as primarily employment zones that allow some compatible residential uses rather than the other way around.

Land Use	ME	MR	PO	MU	MN
Residential					
Existing Residential Use ***Suggest adding this, which the commercial zones have, to be clear that existing housing will not become non-conforming even if that housing type is not allowed for new development.***	P	P	P	P	P
Single family detached dwelling ~~Single-Family Dwelling as a primary use~~ ***Changed wording to match defined term, and recommending that no new stand-alone single family homes be permitted in the ME zone***.	~~C~~N	P	~~C~~ L [see Subsection (C)(1)]	N	N
~~Single-Family Dwelling as a secondary use~~	~~P~~	~~P~~	~~P~~		
Attached single-family townhomes* ***Adding attached townhomes as a listed use so that it's clear how they're regulated***.	~~C~~ L [see Subsection (C)(1)]	P	~~C~~ L [see Subsection (C)(1)]	P	P
Two- and three-family housing* – ***Adding two- and three-family housing as a listed use so that it's clear how it's regulated***.	~~C~~ L [see Subsection (C)(1)]	P	~~C~~ L [see Subsection (C)(1)]	P	P
Multifamily Residential* ~~as a primary use~~	~~C~~L [see Subsection (C)(1)]	P	~~C~~ L [see Subsection (C)(1)]	P	P
~~Multifamily Residential* as a secondary use~~	~~P~~	~~P~~	~~P~~		
Temporary Housing* ~~as a secondary use~~	~~P~~ L [see Subsection (C)(1)]	N	~~P/C~~ L [see Subsection (C)(1)]	P	C
Commercial					
Retail Sales and Service ***Suggest using limitations with notes below the table (as was done with draft MMA code amendments) so that it's easier to specify different limitations in different zones.***	L [see Subsection (C)(2)]	L [see Subsection (C)(2)]	N	P	L [see Subsection (C)(2)]
~~• not to exceed 50,000 sq. ft. ground floor~~	~~P~~	~~P~~	~~N~~		
~~• not to exceed 75,000 sq. ft. ground floor for ME zoned property five acres or greater~~	~~P~~	~~N~~	~~N~~		
Retail Sales and Service (auto dependent*) ***Suggest making these uses conditional in the ME zone so that that zone becomes somewhat less auto-oriented, while not prohibiting the use entirely.***	~~P~~C	N	N	N	N
Retail Sales and Service (auto oriented*)	P	N	N	N	N

Land Use	ME	MR	PO	MU	MN
Restaurants/Food and Beverage Services					
– with drive-through* ***Suggest making these uses conditional in the ME zone so that that zone becomes somewhat less auto-oriented, while not prohibiting the use entirely.***	~~P~~C	N	N	N	N
– without drive-through	P	P	P	P	P
Offices and Clinics	P	P	P	P	P
~~Conference Centers/Meeting facility associated with a hotel/motel~~ ***This use is duplicative with the listing under hotels/motels.***	~~C~~	~~P~~	~~N~~	~~P~~	~~N~~
Lodging (e.g., *bed and breakfast inns, hostels, timeshare)	P	P	N	P	P
*Short-Term Rentals	P	P	N	P	P
Hotel/Motels	P	P	N	P	C
– with conference center	P	P	N	P	N
Commercial and Public Parking as primary use ***Having a public parking lot can help create a park-once district and support reduced parking ratios. Could look at making it permitted subject to limitations or special standards (e.g. no frontage on a collector street, landscaping requirements, require a pedestrian plaza between the street and the parking, etc.) in the new MN zone***	P	P	C	P/C [see Subsection (C)(3)]	C
Commercial Storage					
– enclosed in building and on an upper story	P	P	N	L [see Subsection (C)(4)]	L [see Subsection (C)(4)]
– not enclosed in building	N	N	N	N	N
– enclosed in building on ground floor (i.e., mini-storage)	P	P	N	N	N
Entertainment and Recreation					
– enclosed in building (e.g., theater)	P	P	C	P	L/C [see Subsection (C)(5)]
– not enclosed (e.g., amusement)	P	C	C	C	N
Wholesale Sales (more than 75% of sales are wholesale)	P	P	N	N	N
Broadcasting Studios and Facilities	P	P	N	P	N
Hospital	P	C	C	C	N
Day Care	P	P	P	P	P
Production Offices	P	P	P	P	N
*Medical Marijuana Dispensary and Marijuana Recreational Retailer ***Marijuana businesses proposed to be regulated the same as the most similar non-marijuana businesses in the new mixed use zones, as in other zones .***	L [see Subsection (C)(2)]	L [see Subsection (C)(2)]	N	P	L [see Subsection (C)(2)]
~~– not to exceed 50,000 sq. ft. ground floor~~	~~P~~	~~P~~	~~N~~		
~~– not to exceed 75,000 sq. ft. ground floor for ME zoned property~~	~~P~~	~~N~~	~~N~~		

Land Use	ME	MR	PO	MU	MN
~~five acres or greater~~					
*Marijuana Wholesale (more than 75% of sales are wholesale)	P	P	N	N	N
*Marijuana Testing, Research and Development Facilities	P	P	N	P	C
Public and Institutional					
Government – point of service intended to serve the entire City (e.g., City Hall, main library, main post office, main Department of Motor Vehicles service center)	P	P	C	P	C
Government – branch service intended to serve a portion of the City	P	P	P	P	P
Government – limited point of service (e.g., public works yards, vehicle storage, etc.)	N	N	N	N	N
Parks and Open Space	P	P	P	P	P
Schools					
– pre-school, and primary, secondary ***Suggest allowing up to a certain size (e.g. 2 acres) so that small pre-schools and private schools could be allowed without a conditional use permit.***	P	P	C	L/C [see Subsection (C)(6)]	L/C [see Subsection (C)(6)]
– Institutions for Higher Education~~colleges, universities and vocational schools~~	P	P	P	P	C
Clubs and Places of Worship	P	P	P	P	P
*Utilities (above ground)	P	P	P	P	P
Industrial					
Manufacturing and Production	P	P	N	L [see Subsection (C)(7)]	L [see Subsection (C)(7)]
Warehouse	P	P	N	N	N
Transportation, Freight and Distribution	C	C	N	N	N
Production businesses (e.g., IT support centers, biotechnology, software/hardware development, broadcast and production studios)	P	P	C	P	C
Industrial Service (e.g., cleaning, repair)	P	N	N	N	N
Miscellaneous Uses					
Wireless and Broadcast Communication Facilities	See BDC Chapter 3.7				

Key to Districts

ME = Mixed Employment

MR = Mixed-Use Riverfront

PO = Professional Office

MU = Mixed-Use Urban

MN = Mixed-Use Neighborhood

Key to Permitted Uses

P = Permitted

N = Not Permitted

C = Conditional Use

L = Limited as specified in subsection (C)

* Special standards for certain uses subject to BDC Chapter 3.6 and BDC 2.1.900.

C. Limitations. The following limitations apply to those uses identified as "L" in Table 2.3.200.

1. New residential uses. In order to ensure that the ME and PO zones retain a focus on employment uses, new residential uses in the ME and PO zones are limited as follows:

a. Residential uses that are part of a mixed use development in which non-residential uses occupy at least the floor area equivalent to the entire ground-floor area of the development are permitted.

b. Residential uses that are part of a mixed use development in which non-residential uses occupy less than the floor area equivalent to the entire ground-floor area of the development are conditional.

c. Residential uses that are not part of a mixed use development are prohibited.

The limitations above are intended to allow new residential uses only as part of a mixed use development in the ME and PO zones, and to make it easier to do mixed use developments that retain a significant non-residential component so that employment uses are not displaced by residential uses in those zones.

2. Retail sales and service and Medical Marijuana Dispensary and Marijuana Recreational Retailer. Retail sales and service uses and Medical Marijuana Dispensary and Marijuana Recreational Retailer uses are limited in certain mixed use zones as follows:

a. In the MR and MN zones, retail sales and service uses and Medical Marijuana Dispensary and Marijuana Recreational Retailer uses shall not exceed 50,000 sq. ft. ground floor.

b. In the ME zone, retail sales and service uses and Medical Marijuana Dispensary and Marijuana Recreational Retailer uses shall not exceed 50,000 sq. ft. ground floor, except that on property five acres or greater retail sales and service uses shall not exceed 75,000 sq. ft.

Subsections (a) and (b) are just a different way of capturing the existing limitations from the use table. The regulations on marijuana are highlighted because amendments were adopted recently – these amendments reflect what was recently adopted. No changes to the substance of how marijuana is regulated in the existing zones are proposed. The MN zone is proposed to have a limit on retail uses as well that matches the MR zone.

3. Commercial and Public Parking. In the MU zone, commercial or public parking in a parking structure shall be permitted. Surface parking lots for Commercial and Public Parking as a stand-alone use (not accessory to another use on the site) shall require a conditional use permit.

4. Commercial Storage. Commercial storage is permitted in an enclosed building and on an upper story provided that active uses, such as retail sales and service or Restaurants/Food Services, are provided on at least 50% of the ground floor.

Suggesting the language in (4) as a compromise for these uses to ensure that they don't detract from a vibrant mixed use area while still allowing a use that can support urban living.

5. Entertainment and Recreation. Entertainment and Recreation uses in the MU and MN zones that are enclosed in a building shall not exceed 50,000 square feet per building without a conditional use permit.

Entertainment and Recreation is not defined in the code, but based on the NAICS code descriptions, it is a rather broad and ambiguous use. Suggesting the limitations in (5) to allow

smaller uses, like small movie theaters, arcades, etc. but evaluate larger uses on a case-by-case basis.

6. Schools. Schools – pre-school, primary and secondary – in the MU and MN zones shall not exceed a total site size of two acres without a conditional use permit.

7. Manufacturing and Production. Manufacturing and production uses in the MU and MN zones are limited to uses less than 5,000 sq. ft. with a retail outlet.

Subsection (7) parallels the limitation in the CB and CC zones.

2.3.300 Development Standards.

The following table provides the numerical development standards within the Mixed-Use Districts. Additional standards specific to each district follow within a separate section of this chapter.

~~Building setback standards provide building separation for fire protection/security, building maintenance, sunlight and air circulation, noise buffering, and visual separation. Building setbacks are measured from the building foundation to the respective property line.~~

Table 2.3.300
Mixed-Use District Development Standards

Standard	ME	MR	PO	MU	MN
Minimum Front Yard Setback	~~10 feet~~None	None**	10 feet	None	None
Maximum Front Yard Setback (See Section (A)(1))	10 feet / 80 feet* (see (A)(1)(c) below)	None**	10 feet	10 feet	10 feet
Rear Yard Setback	None / 10 feet (see ~~standards~~ (A)(2) below)	None**	None / 10 feet (see (A)(2) ~~standards~~ below)	None / 10 feet (see (A)(2) below)	None / 10 feet (see (A)(2) below)
Side Yard Setback	10 feet (see (A)(2) ~~standards~~ below)	None**	None / 10 feet (see (A)(2) ~~standards~~ below)	None / 10 feet (see (A)(2) below)	None / 10 feet (see (A)(2) below)
Lot Coverage	~~50%~~None	None**	50%	None	None
Building Height (See Section B)	45 feet	45 feet, except within 100 feet from the ordinary high water mark of the Deschutes River where the height is 35 feet **	45 feet	65 feet	45 feet
Minimum Residential Density	See Section C below	None	See Section C below	Subject to RM zone minimum density (see Section C below)	Subject to RM zone minimum density (see Section C below)
Maximum Residential Density	None	None	None	None	None

* Subject to special standards in BDC 2.3.400

** Subject to special standards in BDC 2.3.600

Lot coverage in ME removed as discussed previously with Employment TAC to allow higher intensity development in that zone (though parking is likely the bigger obstacle).

Minimum setback in ME eliminated in order to remove a barrier to urban-style development in that zone.

Added minimum residential density standards for the mixed use zones to ensure that when housing is allowed on its own or as part of horizontal mixed use that the land used for housing is used efficiently. See details of how density is applied and calculated below in Section (F).

A. Setbacks. Building setback standards provide building separation for fire protection/security, building maintenance, sunlight and air circulation, noise buffering, and visual separation. Building setbacks are measured from the building foundation to the respective property line. ~~Applicability.~~ The setback standards outlined in Table 2.3.300 apply to all new buildings and any building expansion, including primary structures and accessory structures.

Relocated purpose statement from before Table 2.3.300 to above since it is focused only on setbacks.

~~B~~1. Front Yard Setbacks. In some of the Mixed Use Districts, buildings are placed close to the street to create a vibrant pedestrian environment, to slow traffic, provide a storefront character to the street, support future transit service, and encourage walking. The setback standards are flexible to encourage public spaces between sidewalks and building entrances (e.g., extra-wide sidewalks, plazas, squares, outdoor dining areas, and pocket parks). The standards also encourage the formation of solid blocks of commercial and mixed-use buildings for walkable Mixed Use Districts.

The commercial zones have the above purpose statement, but mixed use zones did not. Recommend including it here.

~~1~~a. General Standards. See Table 2.3.300, Mixed-Use District Development Standards.

b. Maximum Setback Calculation. Conformance with the maximum setback standard is achieved when one or both of the following is met:

i. At least 90 percent of the building elevation facing the street that is subject to the maximum setback standard is at or within the maximum setback.

ii. Where more than one building is proposed on a site, no less than 40 percent of the site's frontage on a public or private street is occupied by one or more buildings that conform with the building setback and orientation standards of this chapter.

c. The maximum setback standard may be increased as necessary when an approved usable public space with pedestrian amenities (e.g., extra-wide sidewalk, plaza, pocket park, outdoor dining area or a public square with seating) is provided between the building and front property line. (See also BDC 2.2.600, Commercial Design Review Standards, and 2.2.700, Pedestrian Amenities, for related building entrance standards.)

The maximum setback calculation above is modified from the current version in the commercial zones chapter in order to provide more flexibility for small sites and sites with multiple frontages that may be subject to the standard.

~~2~~c. Multiple Frontage Lots. For buildings on sites with more than one frontage or through lots, the minimum front yard setback standards in Table 2.3.300 shall be applied ~~to all street frontages~~as follows.

i. For corner lots with two frontages, the maximum setback standards indicated in Table 2.3.300 shall be applied to all street frontages.

ii. For through lots with two frontages, the maximum setback standards indicated in Table 2.3.300 shall be applied to only one of the frontages; provided, that where the abutting streets are of different street classification, the maximum setback standard shall be applied to the street with the higher classification.

iii. For properties with three or more frontages, the maximum setback must be met on two abutting frontages.

~~In the ME and PO Zoning Districts, the maximum setback standards indicated in Table 2.3.300 shall be applied to only one of the frontages; provided, that where the abutting streets are of different street classification, the maximum setback standard shall be applied to the street with the higher classification.~~

Amendments requires buildings to "hold the corner" by placing a building close to both streets on a corner. This is stricter for the ME and PO zones; currently, this is only required at the intersection of collector and/or local streets. Given how many of the key corridors are minor arterials (e.g. Newport, Galveston), applying this standard at the corner of arterials is important. The provision for sites with three or more frontages is intended to address larger developments with more than two frontages, such as entire city blocks that redevelop with one use.

d. Exceptions to Front Yard Setbacks. ~~The following exceptions apply to ME and PO zoned properties.~~

~~a. Buildings on corner lots at the intersection of collector and/or local streets are encouraged to have an entrance oriented to the street corner. Therefore, the minimum front yard setback specified in Table 2.3.300 shall be met for both the collector and/or local street frontages.~~

Moved the first sentence of (a) to the building entrances section (2.3.400(A)), since it is more relevant to that. Addressed the second sentence under (2), above, since it is more about sites with multiple frontages.

i. In the ME and PO zones, ~~When~~ when the street fronting the development does not allow on-street parking, the maximum front yard setback of 80 feet applies.

~~c.~~ When on-street parking is permitted on the street fronting the development, the maximum front yard setback is 10 feet.

The fact that the code currently allows buildings in the ME and PO zones, as well as the CL, CC, and CG zones, to set back up to 80 feet from the street when there is no on-street parking is an obstacle to achieving pedestrian-oriented development in these areas. However, in order to avoid creating many non-conforming buildings and to avoid impacting a very large number of property owners who have not been part of the process to date, the Project Team recommends creating a Pedestrian Street Overlay Zone (a draft of which will be attached to the Integrated Land Use and Transportation Plan) that can be applied to key areas where more pedestrian-friendly development is desired (e.g. no parking in front, more window requirements, possibly reduced parking standards) and can be linked to streetscape improvements, transit improvements, or other investments.

ii. The following items are allowed to encroach into setbacks:

- Canopies, marquees, and awnings.
- Uncovered stairways and wheelchair ramps that lead to the street-facing facade.

• Uncovered decks and stairways that are no more than two and one-half feet above ground.

• Mechanical structures such as heat pumps, air conditioners, and emergency generators are not allowed.

Subsection (b) was pulled from the CB zone (2.2.800(L)) and seems relevant to the new mixed use zones.

~~d~~e. Other special setbacks in conformance with BDC 3.4.200(J) may apply.

2~~C~~. Side and Rear Yard Setbacks.

Amendments to this section try to draw a distinction between "set back" and "step back" and use those terms consistently – setback to refer to base of building, step-back to refer to upper floors. Step-back should be added to the definitions section in Chapter 1.2. Also recommend including at least one figure.

a~~1~~. ME, ~~and~~ MR, MU and MN Zones. There is no rear yard setback required, except when abutting a Residential Zone. In such cases, the rear yard setback is 10 feet, and ~~for all portions of the structure less than 35 feet in height. In the ME Zone,~~ portions of the building above 35 feet shall ~~set back~~be subject to step back standards in subsection (D) of this section~~an additional one foot for each foot the building height exceeds 35 feet~~.

b~~2~~. PO Zone. There is no rear yard setback required, except when abutting a Residential Zone. In such cases, the rear yard setback is 10 feet and shall increase by one foot for each one foot the building height exceeds 25 feet.

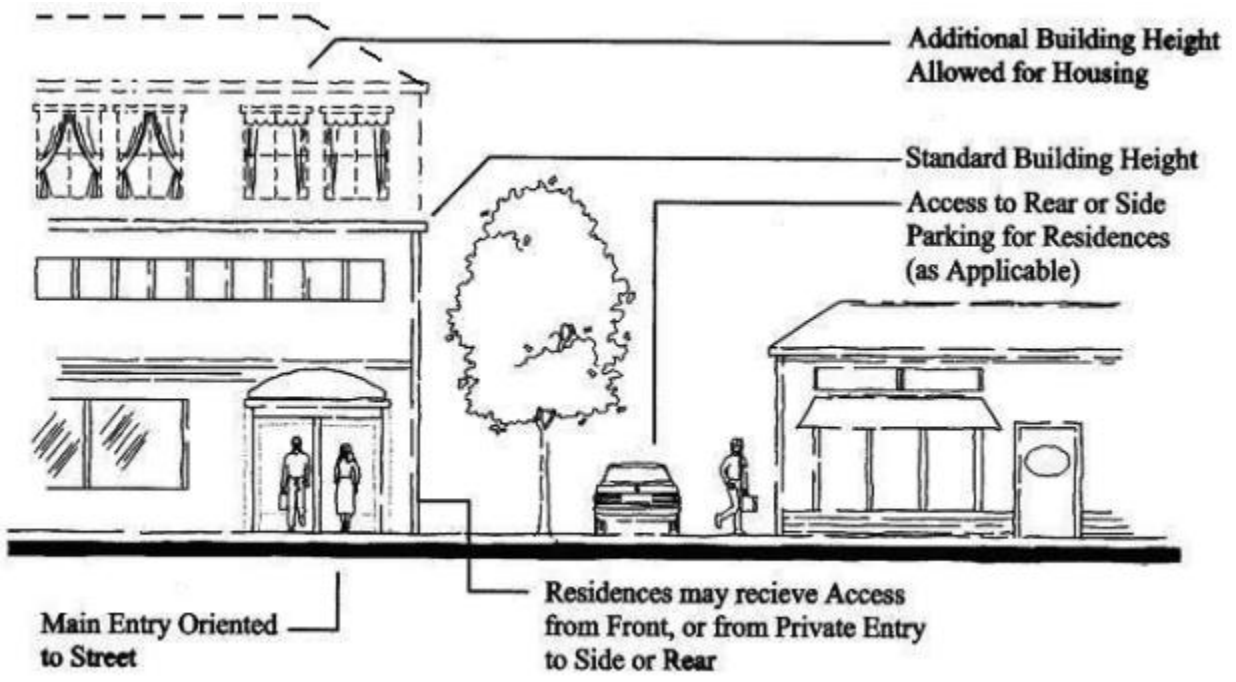
c~~3~~. When a public alley abuts a side or rear yard of property within the PO or ME Zones, the width of the alley can be included in the additional setback calculation as described in subsections (C)(1) and (2) of this section for the purpose of offsetting the impacts of the building height over 35 feet. The alley does not eliminate the required 10-foot building setback.

The provision above relating to alleys is confusing and may need further revisions.

B. Height. All buildings in the Mixed Use Districts shall comply with the height standards contained in Table 2.2.400 except as described below or in compliance with a variance approval.

1. Height Bonus for Vertical Mixed Use. In the ME, MU and MN zones the maximum height may be increased by 10 feet above the maximum allowed height when residential uses are provided above the ground floor ("vertical mixed use"), except for buildings abutting a residentially designated district. The building height increase for residential uses applies only if the top floor is residential and does not apply to buildings that have variance approval to exceed the permitted height.

Figure 2.3.300 – Building Height Diagram (Residential Exception)



The vertical mixed use height bonus above is copied from the commercial zones as an incentive for vertical mixed use. It could potentially be increased to 12' to allow for higher ceilings while still effectively allowing one additional story.

2. Height Bonus for Affordable Housing. An increase in building height not to exceed 10 feet above the height of the zoning district may be allowed for multifamily housing when the additional units gained by the height increase are affordable housing units, except for buildings abutting a residentially designated property. This shall not be combined with the increase in building height for vertical mixed use under subsection (1) above.

The affordable housing height bonus above is copied from the residential zones as an incentive for to provide affordable housing. It will have little applicability for mixed use buildings, since it cannot be applied in addition to the vertical housing bonus above, but it would be applicable to stand-alone multifamily development. It could potentially be increased to 12' to allow for higher ceilings while still effectively allowing one additional story.

3. Building Height Step-backs in the MU Zoning District.

a. Where portions of a building's street-facing facade are higher than 45 feet, 60 percent of the street-facing facades higher than 45 feet must step back one foot from the street-facing property line for every one foot that the building exceeds 45 feet in height, with a minimum step-back of 10 feet and a maximum step-back of 15 feet. The required step-back may be reduced by one foot for each foot below the 45-foot height level that the step-back begins, e.g., for a building that begins its step-back at the 35-foot height level (10 feet below what is required) the required step-back can be reduced by 10 feet.

a. A reduction to the building height step-backs can be made for buildings that designate 25 percent of all residential units as affordable housing units (defined as 100% of the area median income). In those cases, where portions of a building are higher than 45 feet, 60 percent of the street-facing facades higher than 45 feet must step back one foot from the street-facing property line for every one foot that the building exceeds 45 feet in height, with a minimum step-back of 5 feet and a maximum step-back of 10 feet.

Step-back requirements above pulled from draft MMA code text. These step-backs apply on the front of the building, stepping back from the front lot line, to reduce the impression of height from the sidewalk.

4. Building Height Step-backs abutting a residentially designated district. In the ME, MU, and MN Zoning Districts, portions of the building subject to subsection (B) of this section that exceed 35 feet in height shall step back one foot from side or rear lot lines abutting a residentially designated district for each foot the building height exceeds 35 feet.

Step-back requirements above are based on the current step-back requirements in the ME zone. These step-backs apply on the back and/or sides of a building where the side or rear lot line abuts a residential district.

C. Residential Density. The following density standards apply to all new developments for residential uses in the Mixed Use Districts. The density standards are intended to ensure efficient use of buildable lands and provide for a range of needed housing, in conformance with the General Plan. In the mixed use zones, residential density standards apply to any portions of the development where ground-floor residential uses are proposed. Area used to calculate residential density includes all area dedicated to parking and landscaping required for the ground-floor residential uses. Where ground-floor residential uses are part of a mixed use development, area used to calculate residential density does not include land dedicated to right-of-way.

1. ME and PO Zoning Districts. The minimum residential density standard in the ME and PO zoning districts is as follows:

a. Where residential uses are part of a mixed use development in which non-residential uses occupy at least the floor area equivalent to the entire ground-floor area of the development, there is no minimum residential density standard except that for properties located within 660 feet of a transit route, the minimum residential density standards of the RM zone shall apply.

b. Where residential uses are part of a mixed use development in which non-residential uses occupy less than the floor area equivalent to the entire ground-floor area of the development, the minimum density standards of the RM zone apply.

2. MN and MU Zoning Districts. The minimum residential density standards of the RM zone apply.

3. There is no minimum residential density standard for “vertical” mixed use.

4. Maximum residential density is controlled by the applicable lot coverage and building height standards.

The proposed residential density standards are intended to make sure that land in mixed use zones is not consumed for low-density residential uses. Based on input from the Employment Lands TAC, the minimum density for the ME and PO zones is applicable to only adjacent to transit for developments in which employment uses are primary, in order to allow greater flexibility in outlying areas. However, for mixed use developments in which non-residential uses are a smaller component, the minimum residential density of RM applies so that the ME and PO zone are primarily retained for employment uses. Maximum density standards are not included because

they can preclude efficient multifamily housing development up to the maximum height and size. If there are concerns about scale beyond setting a maximum height, a maximum floor area ratio (FAR) could be included that would regulate the total building mass.

D. Other Requirements.

1. Buffering. A 10-foot-wide landscape buffer is required along the side and rear property lines between nonresidential uses and any adjacent ~~R~~residentially designated d~~D~~istricts. The buffer is not in addition to (may overlap with) the side and rear setbacks required in subsection (C) of this section. The buffer shall provide landscaping to screen parking, service and delivery areas and walls without windows or entries. The buffer may contain pedestrian seating but shall not contain trash receptacles or storage of equipment, materials, vehicles, etc. The landscaping standards in BDC Chapter 3.2, Landscaping, Street Trees, Fences and Walls, provide other buffering requirements where applicable.

Amended (1) so that the buffer can be provided within the 10' setback, because there is not much sense in requiring a 20' total setback, with landscaping in half of it.

2. Outdoor and rooftop mechanical equipment as well as trash cans/dumpsters shall be architecturally screened from view. Heating, ventilation and air conditioning units shall have a noise attenuating barrier to protect adjacent Residential Districts from mechanical noise.

3. Building and Fire Codes. All developments shall meet applicable fire and building code standards. Larger setbacks than those listed above may be required due to the proposed use and/or storage of combustible materials. [Ord. NS-2251, 2015; Ord. NS-2195, 2013; Ord. NS-2016, 2006]

E. Landscaping. Development in the MU and MN zones is exempt from the minimum landscaping area requirements of BDC 3.2.300(C). All other standards of BDC Chapter 3.2 are applicable.

The current landscaping standard is 15% of gross site area for virtually all land uses. This makes it more difficult to build urban-style development. Parking lot landscaping standards and requirements for landscaping in setbacks adjacent to residential land would still apply; however, there would be no minimum total amount of landscaping.

2.3.400 Site Layout and Building Orientation.

In addition to the site layout and building orientation standards of BDC 2.2.500, all of the following standards shall apply to new and expanded development within the Mixed-Use Districts, unless otherwise specified in this code, in order to reinforce streets as public spaces and encourage alternative modes of transportation, such as walking, bicycling and ~~future~~ transit.

~~A. Building Entrances. All buildings shall have an entrance(s) visible or oriented to a street. "Oriented to a street" means that the building entrance faces the street, or is visible to the street and connected by a direct and convenient walkway. Building entrances may include entrances to individual units, lobby entrances, entrances oriented to pedestrian plazas, or breezeway/courtyards. Streets used to comply with this standard may be public streets or private streets and shall contain sidewalks and street trees, in accordance with the standards in BDC Chapter 3.0.~~

Struck text was duplicative with BDC 2.2.500 and is unnecessary.

A~~B~~. Walkway Connections. Walkways may be installed in setbacks as necessary to provide direct and convenient pedestrian circulation between developments and neighborhoods. Walkways shall conform to the standards in BDC Chapter 3.1, Lot, Parcel and Block Design, Access and Circulation.

B~~C~~. Parking.

1. In the MU and MN zones, ~~P~~parking and maneuvering areas shall be prohibited between the street and the building.

2. In the ME and PO zones, parking and maneuvering areas is prohibited between the street and the building when on-street parking is allowed on the street fronting the development property. Parking shall be provided in conformance with BDC Chapter 3.3. [Ord. NS-2195, 2013; Ord. NS-2016, 2006]

As with the allowance for an 80' front setback, the fact that the code currently allows buildings in the ME and PO zones, as well as the CL, CC, and CG zones, to site parking in front when there is no on-street parking is undesirable for pedestrian-oriented areas. It is not applied to the new mixed use zones. However, in order to avoid creating many non-conforming buildings and to avoid impacting a very large number of property owners who have not been part of the process to date, the Project Team recommends creating a Pedestrian Street Overlay Zone (a draft of which is in progress internally) that can be applied to key areas where more pedestrian-friendly development is desired (e.g. no parking in front, more window requirements, possibly reduced parking standards) and can be linked to streetscape improvements, transit improvements, or other investments.

2.3.500 Architectural Standards.

All developments in the Mixed-Use Districts ~~shall be~~are subject to Commercial Design Review, BDC 2.2.600, or BDC 2.1.900, Architectural Design Standards for multifamily residential uses, as applicable, and shall be reviewed for conformance with the standards in ~~subsections (A) and (B) of~~ this section unless otherwise specified in this code.

~~A. Building Mass. Where building elevations are oriented to the street, architectural features, such as windows, pedestrian entrances, building offsets, projections, detailing, a change in materials or similar features, shall be used to break up and articulate large building surfaces and volumes greater than 50 linear feet in length. A minimum of 15 percent of the horizontal building facade shall contain a variety of architectural features.~~

~~B. Pedestrian Scale Building Entrances. Recessed entries, canopies, and/or similar features shall be used at the entries to buildings in order to create a pedestrian scale~~

A and B are duplicative with the standards of BDC 2.2.600 – while not identical, they address similar issues in a slightly different way that does not appear to achieve a larger policy objective. Suggest striking these for the sake of streamlining.

A. In the MU and MN Districts, building facades that are oriented to the street and are within the maximum front setback standard under BDC 2.3.300 (referred to as "Street Walls") shall be designed to provide visual interest for pedestrians as follows:

1. Ground-floor windows must be installed for at least 50 percent of the length of the Street Wall and have an area equal to 60 percent of the ground-floor wall area of the Street Wall. Ground-floor wall area includes all wall areas up to 10 feet above finished grade. Windows are required to be transparent to foster both a physical and visual connection between activities in the building and pedestrian activities on the street.

2. Weather protection shall be provided along 50 percent of the Street Wall and at all street-facing entrances. Weather protection projections may include but are not limited to awnings, marquees, balconies, overhangs, or building appendages. Weather projections are required to extend five feet over the sidewalk in order to meet this standard and must not obstruct or prevent the placement of street trees, tree canopies or other improvements within the public right-of-way.

The standards above are intended to create a more pedestrian-friendly street environment in the new mixed use zones.

Chapter 3.3

VEHICLE PARKING, LOADING AND BICYCLE PARKING

3.3.300 Vehicle Parking Standards for On-Site Requirements.

The minimum number of required off-street vehicle parking spaces (i.e., parking that is located in parking lots and garages and not in the street right-of-way) shall be determined based on the standards in this section.

A. Off-Street Parking Requirements. The number of required off-street vehicle parking spaces shall be determined in accordance with the following standards. Off-street parking spaces may include spaces in garages, carports, parking lots, and/or driveways if vehicles are not parked in a vehicle travel lane (including emergency or fire access lanes). In applying the exceptions and reductions listed in Sections (B), (C), and (D), reductions and exceptions may be combined except where otherwise specified. Where a fractional number of spaces results, the required number of spaces shall be rounded down to the nearest whole number.

The text added above is intended to make clear that the various reductions are meant to be applied cumulatively unless otherwise specified, and provides clarification on rounding of fractional spaces. Current planning staff and the project team recommend rounding down for parking requirements, as it will make the difference between "go" or "no go" for small properties.

Table 3.3.300
Required Off-Street Vehicle Parking Spaces

Use	Minimum Requirement
Residential	
Accessory dwelling unit	1 space per unit ***Note: exceptions to this requirement were proposed with package of ADU amendments that was recently approved, but were not approved as part of that package. This should be revisited during the parking study.***
Residential care home	2 parking spaces per dwelling unit
All residential uses within the CB and MU Zoning Districts ***Applies reduced parking standard for residential uses to the MU zone as well as the CB zone***	1 space per dwelling unit
Bed and breakfast inns	1 space per bedroom, plus 1 space for the manager or proprietor
Short-term rentals	1 space per bedroom
Duplex and triplex	1-bedroom units – 1 space/unit~~2 spaces per dwelling unit~~
	2- or more bedroom units – 2 spaces per unit
Manufactured home parks	2 parking spaces per dwelling unit
Multifamily residential	Studio units or 1-bedroom units – 1 space/unit
	2-bedroom units – 1.5 spaces per unit
	3- or more bedroom units – 2 spaces per unit
	Retirement complexes for seniors 55 years or older – 1 space per unit
Single-family, attached or detached, including a manufactured home on individual lot.	2 parking spaces per dwelling unit

Use	Minimum Requirement
Commercial	
All ~~Central Business District~~ commercial uses within the CB and MU Zoning Districts ***Applies reduced parking standard for commercial uses to the MU zone as well as the CB zone***	1 space per 500 square feet of gross area
Banking services	1 space per 350 square feet floor area
Bulk and outdoor retail trade and services, including: auto, boat or trailer sales, retail nurseries, lumberyards, and similar bulk retail uses	1 space per 1,000 square feet of gross floor area
Commercial storage (e.g., ministorage, self-storage)	1 space per 6,000 square feet of net leasable square footage, with up to half the required spaces and associated driveway areas permitted to remain unmarked for trucks and other large vehicles.
Entertainment (e.g., theaters, clubs, and other completely enclosed amusement uses)	1 space per 4 seats
Hotels/motels	1 space for each guest room, plus 1 space for the manager
Laundromats and dry cleaners	1 space per 350 square feet of customer use area, plus 2 spaces per 3 employees on the largest shift
Office use (including medical and dental offices, clinics and laboratories, alternative health care)	1 space per 350 square feet of gross floor area
Restaurants and bars (subject to BDC 3.6.300(J)(10))	1 space per 200 square feet of gross leasable floor area
Retail trade and services • General trade • Bulky merchandise (appliance, furniture)	 • 1 space per 350 square feet of gross floor area • 1 space per 750 square feet of gross floor area
Industrial Uses	
Heavy industrial	1 space per 2 employees on the largest shift or for each 1,000 square feet of gross floor area, plus 1 space per company vehicle
Light manufacture and production businesses (e.g., electronic equipment, printing, bindery, furniture, bakery, crafts, call center and similar uses)	1 space per 2 employees on the largest shift or for each 700 square feet of gross floor area, plus 1 space per company vehicle
Public/private utilities (e.g., natural gas, electricity, telephone, cable, and similar facilities)	1 space per 2 employees on the largest shift, plus 1 space per company vehicle; a minimum of 2 spaces is required
Warehousing and distribution	1 space per 2,000 square feet of gross floor area
Public and Institutional Uses	
Adult day care	2 parking spaces per dwelling unit
Child care facility	1 space per 2 employees; a minimum of 2 spaces is required
Clubs, lodges, similar uses	1 space per 3 persons allowed by Building Code in the main assembly room or auditorium
Community and regional parks and recreational facilities	1 space per 10,000 square feet of gross area or 1 space per 1,000 square feet of building floor area, whichever is greater, or as required by a Conditional Use Permit
Golf courses, including miniature golf	2 spaces per hole, plus additional spaces for auxiliary uses as required elsewhere in this section
Government – limited point of service (e.g., public works yards, vehicle storage, etc.)	1 space per 2 employees on the largest shift or for each 500 square feet of gross floor area, plus 1 space per fleet vehicle
Government – point of service intended to serve the entire City	1 space per 350 square feet of gross floor area

Use	Minimum Requirement
Government – point of service intended to serve a portion of the City	1 space per 350 square feet of gross floor area
Hospitals	1.5 spaces per bed
Neighborhood parks and recreational facilities	None except as required for accessibility compliance or as required by a Conditional Use Permit
Places of worship	1 space per 4 seats in the main worship area
Residential care facility	1 space per 2 patient beds or 1 space per apartment unit
Registered or certified family child care home	2 parking spaces per dwelling unit
Schools (public and private) – elementary and middle	1 space per employee or 4 seats in the auditorium, whichever is greater
Schools (public and private) – high schools	1.5 spaces per classroom, plus 1 space per 10 students. If the school is designed to accommodate related uses such as auditoriums, stadiums, theatres, and gymnasiums, additional parking shall be provided at a rate of 1 space per 4 seats.
Schools (public and private) – college and university campuses and trade schools	Parking needs based on a Parking Management Plan for all uses contemplated for the entire campus
Unspecified uses	
For uses not specified in Table 3.3.300, the Review Authority shall determine the minimum number of required parking spaces as part of the development review process accompanying the proposed use, based upon similar uses listed in this table.	
The Review Authority may approve a Parking Management Plan for developments with multiple uses.	

B. Credit for On-Street Parking. The amount of off-street parking required may be reduced by one off-street parking space for every on-street parking space abutting the development, up to 50 percent of the requirement, except ~~for uses within the CB Zone~~as specified in subsections (1) and (2) below. On-street parking shall follow the established or approved configuration of existing on-street parking, except that angled parking may be allowed for some streets, where permitted by City, ODOT and/or County standards.

1. Uses within the CB zone shall not receive credit for on-street parking, but have the option to pay a fee in lieu of providing off-street parking per BDC 3.3.200~~Parking credit can only be granted for developments with frontage on streets that allow parking on both sides in accordance with BDC Chapter 3.1, Lot, Parcel and Block Design, Access and Circulation.~~.

2. For uses within the MU and MN zones, the amount of off-street parking required may be reduced by one off-street parking space for every on-street parking space abutting the development, up to 100 percent of the requirement.

The proposed amendment removes the limitation that this can only apply where on-street parking is allowed on both sides. This may provide an incentive for developers to improve their side of the street if it would allow them to count that space for parking. The exceptions to the default have been re-organized for clarity and the exception for the CB zone now includes the reference to the existing fee-in-lieu provision that allows downtown uses to pay a fee rather than providing additional required off-street parking. The new mixed use zones would allow up to 100 percent of the requirement to be met through on-street parking. As part of the parking study, the city should consider extending the ability to count on-street for 100% of required parking more broadly (e.g. whole city, or certain zones/uses).

...

C. Parking Location and Shared Parking.

1. Location. Vehicle parking is allowed only on approved streets, within garages, carports and other structures, or on driveways or parking lots that have been developed in conformance with this code. Specific locations for parking are indicated within the individual land use districts for some land uses (e.g., the requirement that parking be located to side or rear of buildings, with access from alleys, for some uses). Required off-street parking shall not be located within the front yard setbacks except for single-family dwellings, ADUs, duplexes and triplexes.

2. ~~Off-Street Parking~~Screening.

~~a.~~ Commercial or industrial off-street parking which adjoins a Residentially ~~Zone~~ designated district shall be effectively screened by a fence and landscaping with a minimum width of 10 feet unless otherwise specified in this code.

~~b. Off-street parking shall not be located within the required front yard setbacks.~~

Amendments to (2) above are clean ups for clarity and to reduce redundancy. Subsection (1) already prohibits off-street parking within required front yard setbacks.

3. Off-Site Parking. Except for single-family dwellings, the vehicle parking spaces required by this chapter may be located on another parcel of land when commercial off-site parking is permitted in the underlying zone, provided the parcel is within 1,000 feet of the use it serves and the amount of off-site parking does not exceed the minimum amount of parking required for the intended use. The distance from the parking area to the use shall be measured from the nearest parking space to a building entrance, following a sidewalk or other pedestrian route. The right to use the off-site parking must be evidenced by a recorded deed, lease, easement, or similar written instrument.

4. Mixed-Use Developments. If more than one type of land use occupies a single structure or parcel of land, the total requirements for off-street automobile parking shall be 95 percent of the sum of the requirements for all uses, unless it can be shown that the peak parking demands are actually less (i.e., the uses operate on different days or at different times of the day). In that case, the total requirements shall be reduced accordingly. (See subsection (C)(5) of this section, Shared Parking.)

The amendment to (4), above, provides an automatic 5% reduction to parking requirements for mixed use developments. This could be combined with other parking reductions, including for TDM (see (D)(1)(b)), affordable housing, and/or housing adjacent to transit.

...

D. Exceptions and Special Standards for Parking.

1. Exceptions for Required Parking.

...

c. The total number of required motor vehicle parking spaces for all uses except for single family detached dwellings may be reduced by up to 10 percent for developments within 660 feet of a transit route (as the crow flies). Where only a portion of the site lies within 660 feet of a transit route, the reduction shall be applied only to buildings that are fully or partially within 660 feet of a transit route.

Subsection (c) applies the existing reduction to parking for affordable housing adjacent to transit more broadly to nearly all development within 660 feet (1/8 mile) of a transit route, and changes it from a reduction to 1 space per unit to a percentage reduction to the total requirement so that it can be combined with other reductions and applied to nearly any use. It is a small reduction that will have limited impact, but may be relevant for smaller development projects.

d. The parking requirement for affordable housing units is one on-site parking space per affordable housing unit.

Subsection (d) applies the existing exception for affordable housing (which was relocated from subsection (3) of this section) more broadly, allowing the reduction for all affordable housing, regardless of location, and also allowing the additional reduction for transit proximity on top of the affordable housing reduction.

Chapter 3.6

SPECIAL STANDARDS AND REGULATIONS FOR CERTAIN USES

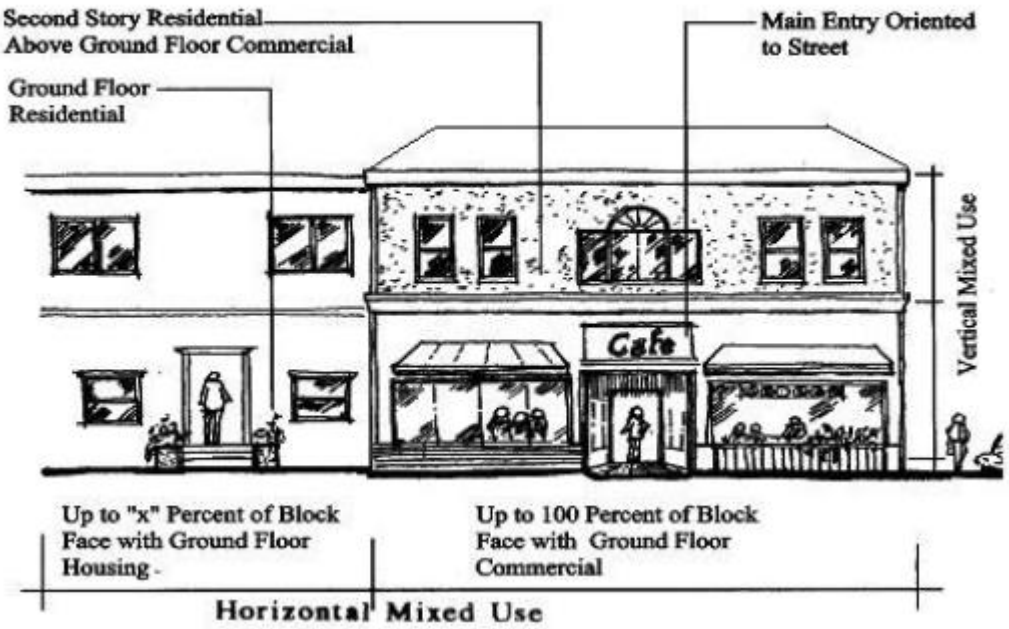
3.6.200 Residential Uses.

***

I. Residential Uses within Commercial Districts. Residential uses, such as multifamily housing, are encouraged adjacent to employment, shopping and services. All residential developments shall comply with subsections (I)(1) through (5) of this section, which are intended to guide mixed-use development; allow limited residential uses within commercial districts while conserving~~e~~ the community's supply of commercial land for commercial uses; provide for designs which are compatible with a storefront character; avoid or minimize impacts associated with traffic and parking; and ensure proper management and maintenance of common areas. Residential uses that existed prior to the effective date of the ordinance codified in this chapter are considered permitted uses and not a nonconforming use.

Figure 3.6.200.I

~~**Residential Development in Commercial Districts**~~**Example of Vertical and Horizontal Mixed Use**



Note: the example shown above is meant to illustrate required building design elements, and should not be interpreted as a required design style.

1. Mixed-Use Development. Residential uses shall be permitted in Commercial Districts only when part of a mixed-use development (residential with commercial or public/institutional use). Both "vertical" mixed-use (housing above the ground floor), and "horizontal" mixed-use (housing on the ground floor) developments are allowed, subject to the following standards in subsections (I)(2) through (5) of this section.

2. Limitation on Street-Level Housing.

a. Central Business District. Ground-floor residential uses on street frontages are prohibited except ground-floor entrances or breezeways are permitted for housing located above or behind a nonresidential storefront use.

b. Other Commercial Districts. On arterial and collector street frontages in other Commercial Zoning Districts, ground-floor residential uses are limited to 25% of the street frontage, except ground-floor entrances or breezeways for housing located above or behind a nonresidential storefront use.

Sets a limit on residential uses on key street frontages in commercial zones in order to preserve the most visible and desirable commercial locations for primarily commercial uses. (Does not apply in Mixed Use Districts.)

3. Density. The density standards are intended to ensure efficient use of buildable lands. Residential density standards apply to any portions of the development where ground-floor residential uses are proposed. Area used to calculate residential density includes all area dedicated to parking and landscaping required for the ground-floor residential uses, but does not include land dedicated to right-of-way.

a. There is no minimum ~~or maximum~~ residential density standard for "vertical" mixed use in a Commercial Zoning District.

b. Maximum residential ~~D~~density in a Commercial Zoning District shall be controlled by the applicable lot coverage and building height standards.

c. For "horizontal" mixed use in a Commercial Zoning District, where the site is located within 660 feet of a transit route, the minimum residential density standards of the RM zone shall apply for the portion of the site dedicated to housing on the ground floor.

The proposed residential density standards are intended to make sure that land in commercial and mixed use zones is not consumed for low-density residential uses. The minimum density is applicable to only adjacent to transit, in order to allow greater flexibility in outlying areas.

***

5. The commercial or public/institutional uses shall occupy at least ~~20 percent of the total floor area of the development, or~~ the floor area equivalent to the entire ground-floor area of the development, whichever is greater. The commercial or public/institutional uses shall be constructed prior to or concurrently with the residential uses.

The amendments above are proposed to simplify the requirements in this section and provide greater clarity.

Chapter 4.5

MASTER PLANNING AND DEVELOPMENT ALTERNATIVES

CDD is in the process of revising this chapter of the code with input from a separate committee. That effort has incorporated the substance of the key changes to BDC 4.5.300 and 4.5.400 from the UGB project efficiency measures into a broader update that clarifies the two-track process and offers other improvements on the current code language. The updates from that process may be adopted prior to UGB adoption. If that is the case, the amendments to this section as well as BDC 4.5.400 will be removed from the UGB adoption package. Should the broader master planning code update run into difficulties, then the UGB project will carry forward the more surgical amendments shown below to adoption.

4.5.300 Master Planned Developments.

The amendments shown below to subsection (A) are a working draft for UGB-project recommendations. They attempt to address the desire for a "two-track" system for large developments that are not deviating from the standards in the code, and also extend applicability to large sites in UGB expansion areas. Further revisions and refinements will likely be needed to streamline this section and refine applicability. For example, these requirements could pose an obstacle to siting a large-lot industrial use because of the time and discretionary process required.

A. Applicability.

1. ~~The~~ A Master Planned Development ~~designation~~ in conformance with this section may be ~~applied over~~ approved in any of the City's land use districts for any property or combination of properties three acres or greater in size.

2. For projects consisting of one or more properties under common ownership totaling 20 acres or larger at the date of adoption of this code, a Master ~~Neighborhood~~ Planned Development ~~Plan shall be~~ is required in conformance with ~~BDC 4.5.400, Master Planned Neighborhood Development.~~ this section. A master planned development is not required if a Special Planned District has been adopted for the subject area.

B. Review and Approval Process.

1. Review Steps. There are three required steps for Master Planned Development approval:

a. Step 1 – the approval of a concept development plan. The concept development plan shall include an area plan that depicts the development site concept including the surrounding area within 500 feet, and a facilities plan for sewer, water and transportation, and park facilities;

b. Step 2 – the approval of a tentative development plan. A tentative development plan shall identify the final proposed location of all lots, tracts, parcels, open space, rights-of-way, building envelopes, zoning designations and other features; and

c. Step 3 – the approval of preliminary subdivision plat(s) and/or site development review application(s).

2. Approval Process.

a. Concept development plan approval. There are two "tracks" for concept development plan approval, depending on whether the ~~A~~ Master Planned Development seeks to change one or

more of the development standards contained in this code and/or the Bend Area General Plan designations. ~~Therefore,~~

i. ~~a~~A Master Planned Development concept plan application in compliance with the development standards in this code and the General Plan designations may be reviewed under the Type II procedure in accordance with BDC Chapter 4.1, Development Review and Procedures.

ii. A Master Planned Development that seeks to change one or more of the development standards contained in this code and/or the Bend Area General Plan designations ~~shall be reviewed using~~is required to be reviewed under the Type III procedure in accordance with BDC Chapter 4.1, Development Review and Procedures. Modifications to the location and arrangement of zoning and/or General Plan designations on the Master Planned Development site or sites that retain the same total acreage of each zone and General Plan designation in order to achieve the planning objectives described in the General Submission Requirements may be processed through a Master Planned Development concept plan application. All other changes to plan designations and/or zones require a plan amendment and/or zone change in conformance with BDC Chapter 4.6, which may be processed prior to, or concurrently with, the Master Planned Development.

The amendments proposed to subsection (B)(2) above are intended to clarify that the Master Planned Development does not exempt a project that is seeking to deviate from the adopted zoning or plan designations from compliance with the plan amendment / zone change standards and approval criteria, which include consistency with the Statewide Planning Goals and General Plan policies, and demonstration of adequate facilities and services. Ideally, the master plan would provide a somewhat streamlined path for developments that are seeking only to modify the way designations are arranged on the property but not the designations themselves or the amount of each applied to the property. Accomplishing this may take more work and refinements.

b. Tentative development plan approval. The tentative development plan may be reviewed using the Type II procedure in accordance with BDC Chapter 4.1, Development Review and Procedures, and shall ensure substantial compliance with the approved/proposed MPD concept development plan.

In order to expedite the process, the review steps, notification and hearings may be combined.

3. Submittal requirements. The applicant shall submit an application in conformance with the following provisions:

a. The Master Planned Development shall include, but not be limited to, the informational requirements of BDC 4.3.200, General Requirements, as well as the following elements:

i. Existing and planned major street network plans, including proposed arterial, collector and local street alignments within the master planned area and where the streets will connect with the existing street system.

ii. Existing and planned water and sewer facilities to serve the master planned area, including line sizes, general location or routes and how the lines will tie into adjacent areas and facilities.

iii. Existing and planned pedestrian, trail, and bicycle corridors within the master planned area and where these facilities will connect with existing facilities.

iv. Public and/or private parks, open space or common areas.

v. Planned densities and types of uses within the affected area.

vi. A written narrative that explains or describes:

(A) How the proposed water, sewer and street system will be adequate to serve the size and type of development and uses planned for ~~this~~the area;

(B) How the location and sizing of water and sewer facilities on site will be consistent with the existing and planned facilities;

(C) How adequate water flow volumes will be provided to meet fire flow and domestic demands; and

(D) The function and location of any private utility system.

vii. Draft Development Code text in a format prescribed by the City, which provides special development standards intended to implement the proposed MPD.

b. No application for a Master Planned Development shall be approved unless the applicant can explain in a written narrative how the following requirements are met:

The requirements below are effectively approval criteria, and could be moved to that section for the sake of clarity as part of CDD's amendments to this section.

i. The MPD contributes to orderly development and land use patterns in the area, will be compatible with adjacent developments and will not adversely affect the character of the area.

ii. The MPD will not create excessive demand on public facilities and services required to serve the development.

iii. The MPD contributes to the orderly development of the Bend area transportation network of roads, bikeways, and pedestrian facilities as required by the Transportation Systems Plan, and does not conflict with existing public access easements within or adjacent to the development.

iv. The MPD provides for the preservation of natural features and resources such as streams, lakes, natural vegetation, designated areas of special interest, and other natural resources to the maximum degree practicable. Preservation shall be considered impracticable when it would prevent development of public streets, public utilities, needed housing or land uses permitted by the applicable land use district. The term **prevent** in this standard means that the development cannot be designed to avoid the significant tree(s). An inability to achieve maximum permitted density by complying with this subsection shall not in itself be considered to prevent development.

v. The MPD conforms to the Bend Area General Plan Map, the amendments to the General Plan Map retain the same total area of all general plan designations on the subject site, or amendments to the General Plan Map, text or policies shall be proposed and approved as part of the Master Planned Development plan in conformance with BDC Chapter 4.6.

C. Applicability of BDC Title 3, Design Standards. The development standards of BDC Title 3 apply to all Master Planned Developments, unless otherwise specified as part of a MPD concept proposal.

1. Concept Development Plan Submission.

a. General Submission Requirements. The applicant shall submit an application containing all of the general information required for a Type II or III procedure, as governed by BDC Chapter 4.1, Development Review and Procedures. In addition, the applicant shall submit the following information:

i. A statement of planning objectives to be achieved by the Master Planned Development through the particular approach proposed by the applicant. This statement should include a description of the character of the proposed development and the rationale behind the assumptions and choices made by the applicant.

ii. A concept schedule indicating the approximate dates when construction of the Master Planned Development and its various phases are expected to be initiated and completed.

iii. Narrative report or letter documenting compliance with the applicable approval criteria contained in this code.

iv. Special studies or reports prepared by qualified professionals may be required by this code, the City Planning Director, Planning Commission or City Council to determine potential traffic, geologic, noise, environmental, natural resource and other impacts, and required mitigation.

b. Additional Information. In addition to the general information described above, the concept development plan application shall include the following exhibits and information:

i. Site analysis map, as defined in BDC 4.2.300, Design Review;

ii. Conceptual site plan (e.g., general land use, building envelopes, circulation, open space, utility connections, and other information necessary to convey the concept plan);

iii. Grading concept plan (for hillside or sloping properties, or where extensive grading is anticipated);

iv. Landscape concept plan and tree preservation plan in accordance with BDC Chapter 3.2;

v. Architectural concept plan (e.g., information sufficient to describe architectural styles, building heights, and general materials);

vi. Sign concept plan (e.g., locations, general size, style and materials of signs);

vii. Copies of all existing covenants and restrictions, and general description of proposed restrictions or covenants (e.g., for common areas, access, parking, etc.);

viii. Facilities plan showing how the planned development will be served by streets, sewer and water.

ix. General Plan Map compliance analysis which explains how plan designation acreages in the General Plan Map which exist on the subject site or sites prior to the Master Plan Development with their minimum and maximum residential density ranges are implemented through the Concept Development Plan, unless a plan amendment and zone change is being processed concurrently with the Concept Development Plan.

2. Concept Development Plan Approval Criteria. The applicant shall submit a narrative and plans detailing how the following criteria are satisfied. The City shall make findings demonstrating that all of the following criteria are satisfied when approving, or approving with conditions, the concept plan. The City shall make findings demonstrating that one or all of the criteria are not satisfied when denying an application:

a. Bend Area General Plan. All relevant provisions of the Bend Area General Plan and General Plan Map designations are met except as proposed to be modified by the applicant in conformance with the submittal requirements and criteria of subsection (B)(2) of this section.

b. Land Division Chapter. All of the requirements for land divisions, as applicable, shall be in conformance with BDC Chapter 4.3, Subdivisions, Partitions, Replats and Property Line Adjustments; except as proposed to be modified by the applicant in conformance with subsection (B)(2) of this section.

c. Applicability of BDC Chapters 2.0 and 3.0. All of the land use and design standards contained in BDC Chapters 2.0, Land Use District Administration, and 3.0, Development Standards Administration, are met, except as proposed to be modified by the applicant in conformance with subsection (C)(1) of this section.

Note: the open space standards below in (d) and (e) are somewhat vague and confusing, and may be amended as part of CDD's update to this section.

d. Requirements for Open Space. Public and private open space within a development is highly encouraged as a public benefit. Open space in addition to that required under other sections of this code, consistent with the purpose of this chapter, shall be designated within a Master Planned Development when:

i. The Master Planned Development area is 40 acres or greater; or

ii. The applicant is seeking exceptions to Bend Area General Plan, zoning designations or the standard Development Code provisions and/or density.

e. Standards for Open Space Designation. The following standards shall apply:

i. The open space area shall be shown on the concept development plan and recorded with the final plat or separate instrument; and

ii. The open space shall be conveyed in accordance with one of the following methods:

(A) By dedication to the Park District or City as publicly owned and maintained open space. Open space proposed for dedication to the Park District or City must be acceptable with regard to the size, shape, location, improvement, environmental condition, and budgetary and maintenance abilities;

(B) By leasing or conveying title (including beneficial ownership) to a corporation, owners association or other legal entity. The terms of such lease or other instrument of conveyance must include provisions (e.g., maintenance, property tax payment, etc.) suitable to the City.

f. Standards for Approval. In granting approval for a Master Planned Development concept development plan the applicant must demonstrate that the proposal is consistent with the criteria for land division approval in BDC 4.3.300, Tentative Plan.

g. Applicability of Master Planned Neighborhood Standards. For Master Planned Developments that include residential General Plan designations and those that include mixed use zoning districts or General Plan designations where residential uses are proposed, the standards of BDC 4.5.400 are met.

New text above attempts to clarify the relationship between section 300 and section 400 and make clear that the standards in section 400 must be met for residential master plans. Ultimately, it may be preferable to explore opportunities to consolidate and streamline these sections rather than having multiple sections devoted to master planning in different situations.

~~g~~h. Additional Approval Criteria for Master Planned Development Applications. A recommendation or a decision to approve, approve with conditions or to deny an application for a

MPD application shall be based on the criteria listed in BDC 4.6.300(B), Criteria for Quasi-Judicial Amendments.

D. Administrative Procedures.

1. Land Use District Map Designation. After a Master Planned Development concept development plan and tentative development plan have been approved, the approved Master Planned Development designation for the subject development site shall be shown on a map maintained by the City that illustrates the location of approved Master Planned Developments and the approved MPD overlay text will be added to BDC Chapter 2.7 as a new planned district.

As a condition of approval, the applicant shall record a deed restriction on the subject properties and all future lots and parcels created, noting inclusion in the approved Master Planned Development area.

2. Time Limit for Filing a Tentative Development Plan. Within three years after the date of approval of the concept plan, the applicant or his or her successor shall prepare and file with the City a tentative development plan, in conformance with the requirements of this chapter. If the tentative development plan is not submitted within three years, the Master Planned Development concept plan shall expire.

3. Extension. The City shall, upon written request by the applicant and payment of the required fee, grant a written extension of the approval period not to exceed one year; provided, that all of the following are satisfied:

a. No changes have been made on the original conceptual development plan as approved;

b. There have been no changes to the applicable Bend Area General Plan policies and ordinance provisions on which the approval was based.

4. Tentative Development Plan Submission Requirements. The applicant shall submit an application for a tentative development plan. The contents of the application information shall be determined by the conditions of approval for the concept development plan. At a minimum, the tentative development plan shall identify the final proposed location of all lots, tracts, parcels, open space, rights-of-way, building envelopes and other features, prior to approval of a development permit (e.g., Land Division, Development Review, Site Development Review, etc.). The tentative development plan shall be reviewed using a Type II procedure in conformance with BDC Chapter 4.1, Development Review and Procedures.

5. Tentative Development Plan Approval. The City shall approve the tentative development plan upon finding that the final plan conforms to the concept plan and all required conditions of approval. Minor changes to the approved concept development plan may be approved with the tentative development plan, if consistent with all of the site development review standards set forth in this code and the following criteria:

a. Increase or decrease of residential densities or lot coverage relative to that approved in the Concept Development Plan by no more than 15 percent, when such change conforms to the Bend Area General Plan and its density ranges and the minimum density standards of BDC 4.5.400(C);

b. A reduction to the amount of open space or landscaping relative to that approved in the Concept Development Plan by no more than 10 percent, when such change conforms to the standards of this section and BDC 4.5.400(C);

c. An increase in lot coverage by buildings or changes in the amount of parking relative to that approved in the Concept Development Plan by no more than 15 percent. Greater changes require approval of a modification in conformance with BDC Chapter 4.1, Development Review and Procedures;

d. No change in land use shall be permitted without approving a modification to an approved concept development plan in conformance with BDC Chapter 4.1, Development Review and Procedures;

e. No change that places development within environmentally sensitive areas including ASIs or areas subject to a potential hazard shall be approved without approving a modification to an approved concept development plan in conformance with BDC Chapter 4.1, Development Review and Procedures;

f. The location of buildings, proposed streets, parking lot configuration, utility easements, landscaping or other site improvements shall be as proposed on the concept development plan, or as modified through conditions of approval. Changes in the location or alignment of these features by more than 50 feet shall require approval of a modification, in conformance with BDC Chapter 4.1, Development Review and Procedures; and

g. Other changes made to the approved concept development plan shall require approval of a modification, in conformance with BDC Chapter 4.1, Development Review and Procedures.

6. Development Review and Building Permit Approvals. Upon receiving tentative development plan approval, the applicant may apply for one or more development reviews (e.g., Land Division, Development Review, Site Development Review, etc.). Building permits shall not be issued until all required development permits have been issued and appeal periods have ended.

a. Development Review. BDC Chapter 4.2, Site Plan Review and Design Review, applies to developments requiring Site Development Review or Architectural Design Review. BDC Chapter 4.3, Subdivisions, Partitions, Replats and Property Line Adjustments, applies to land divisions (partitions and subdivisions). [Ord. NS-2229, 2014; Ord. NS-2016, 2006]

4.5.400 Master Planned Neighborhoods ~~Development.~~ ***(Trying to improve clarity so it sounds less like Master Planned Development)***

The purpose of this section is to ensure the development of fully integrated, mixed-use, pedestrian-oriented neighborhoods. The intent is to minimize traffic congestion, urban and suburban sprawl, infrastructure costs, and environmental degradation, particularly as new development takes place on large parcels of land.

A. Applicability. This section applies to all properties comprised of one or more lots, parcels, and/or tracts under common ownership that total 20 acres or larger in any residential zoning district or General Plan designation or any mixed use zoning district or General Plan designation when residential uses are proposed ~~which totals 40 acres or larger at the date of this code adoption~~.

B. Master Plan Required. Prior to land division approval, a master plan shall be prepared for all properties, lots, parcels and/or sites meeting the criteria in subsection (A) of this section. Master plans shall follow the procedures in BDC 4.5.300, Master Planned Developments. A master plan may not be required if a Special Planned District has been adopted for the subject area.

The amendments in 4.5.300 attempt to create a "two-track" system that allows certain projects to avoid the Type III discretionary review process if they are not seeking flexibility from the standards of this section or other parts of the code.

C. Land Use and Design Standards. Master Planned Neighborhoods ~~Developments shall be evaluated based on the criteria in BDC 4.5.300, Master Planned Developments, and~~ shall include the following design elements:

The amendments to (1) and (2) below increase the distance within which recreation areas and commercial services must be available. Input from developers indicates that the current quarter-mile distance will become a barrier to meeting the required density.

1. Access to recreation. All lots have access to active or passive recreational areas or uses by walking or bicycling a distance not greater than one-~~fourth~~ half mile as measured~~s~~ along an existing or proposed trail or sidewalk route. Such areas or uses may include natural open space and developed and maintained park land located within adjacent neighborhoods. Trails or trail corridors are not to be considered as a recreational use/open space for the purpose of meeting this requirement.

2. Access to commercial services. All lots have ~~easy~~ access to neighborhood commercial services by walking or bicycling a distance not greater than one-~~fourth~~ half mile as measured along an existing or proposed sidewalk or pedestrian route. Such neighborhood commercial uses may be provided outside the boundaries of the proposed master planned neighborhood within adjacent neighborhoods or Commercial Districts.

Previous recommendations related to minimum density for master plan neighborhoods focused on a single standard for minimum density for master plan sites. On further reflection, the team recommends tailoring the minimum density and the housing mix standards to the zone – a one size fits all approach will be challenging when the RS zone can easily hit the upper end of the density range but that's not true for RH. See specific recommendations below. Some residential TAC members had concerns about setting a minimum percentage of non-single family detached housing that would be required. The original minimum percentage suggested was 20% - it has since been revised to 10% in response to these concerns. The team believes that achieving housing mix in the RS zone is important enough that it is worth setting a prescriptive standard as long as that standard is reasonable and achievable. A standard has also been added for the RL plan designation/zone. ADUs are excluded from the mix and minimum density calculations because they are exempt from minimum and maximum density standards for the zone, which makes it complicated to include them in master plan calculations, and because they may or may not be used as independent dwelling units (i.e. they may be used as bonus rooms, guest quarters, or an extension of the primary dwelling unit rather than rented out). Their use may also change over time (one homeowner may rent the ADU, while the next uses it as a home office). Note that the mix is now expressed as requiring a minimum percentage of single family attached, two- and three-family housing, and/or multifamily residential units in order to be more consistent with the HNA housing mix.

3. Housing density and mix. The neighborhood shall ~~consist of~~provide a diverse mix of housing types ~~to achieve~~and achieve efficient minimum housing densities in conformance with the standards of subsections (a) through (d) below, as applicable. Minimum and maximum densities shall be calculated in conformance with BDC 2.1.600(C).

a. RL General Plan Designation/Zone: at least 50 percent of the maximum gross density of the RL General Plan designation/zone (2.0 units per gross acre), with two- and three-family housing, attached single-family townhomes, and/or multifamily residential housing units comprising at least 10 percent of total housing units.

b. RS General Plan Designation/Zone: at least ~~60~~ 80 percent of the maximum gross density of the RS General Plan designation/zone (5.84 units per gross acre), with two- and three-family housing, attached single-family townhomes, and/or multifamily residential housing units comprising at least 10 percent of total housing units. ~~designated within the underlying zone regardless of the total number of actual acres developed with housing. Density shall be calculated by multiplying the maximum density allowed in the underlying zones by the gross area of the property. (Example: RS Zone has a maximum density of 7.3 units per acre x 40 gross acres = 292 dwelling units.) In addition, the area developed with housing shall not exceed 110 percent of the allowable density for the developed acreage. In the example above, if only 36 acres of the 40 acres were developed in housing, the total housing allowed on the 36 acres would be 289 dwelling units instead of the entire 292 units.~~

c. RM General Plan Designation/Zone: at least 60 percent of the maximum gross density of the RM Plan designation/zone (13.02 units per gross acre), with two- and three-family housing, attached single-family townhomes, and/or multifamily residential housing units comprising at least 67 percent of total housing units. This standard supersedes the housing mix standard for the RM zone in BDC 2.1.1000(C).

d. RH General Plan Designation/Zone: the minimum density of the RH General Plan designation/zone applies. If flexibility is sought through the Master Planned Development process to allow single-family detached housing in the RH zone, in no case shall such housing comprise more than 10 percent of total housing units or more than 10 percent of total acres of RH zoned or designated land.

Some Residential TAC members were concerned that developers would simply allocate a portion of the site for multi-family housing but fail to build it and suggested adding a requirement that the alternative housing types be constructed prior to or concurrent with the single family detached housing. Such a standard is not included in this draft; however, the city should monitor permit data and consider whether such a standard may be needed.

4. Public facilities. Land needed for public use (e.g., schools, parks, fire stations, and other facilities) shall be designated on the master plan, in accordance with the City of Bend, Bend Metro Parks and Recreation District, Bend La Pine School District Sites and Facility Plans.

5. Open space. The neighborhood shall contain at least 10 percent of the gross area as public space such as parks, pavilions, squares and plazas to encourage public gatherings.

6. Multi-modal connections. The neighborhood shall provide ~~easy access~~convenient multi-modal connections to regional employment, shopping and service located outside of the proposed neighborhood by providing opportunities for multi-modal transportation (e.g., transit nodes, multi-use pathways and trails). Existing and planned trail systems adjoining the Master Planned Neighborhood shall be continued through the entire Master Planned Development based on the most recent adopted Bend Parks and Recreation District trails master plan.

7. The required neighborhood design elements shall be included in all Master Planned Neighborhoods~~Neighborhood Development Master Plans~~ unless it can be proven that the abutting and/or adjacent developed lands include the elements necessary to meet the intent of this section. Adequate proof shall include studies, demographics, and other suitable information in order to provide the City with factual data to support findings for approval. The expense for supplying the proof shall be borne solely by the property owner or applicant. The proof shall provide reliable evidence that the adjacent and/or abutting properties contain the elements necessary to create or complement the proposed neighborhood.

D. Implementation. Upon approval of a Master Planned Neighborhood~~Neighborhood Development Master Plan~~, the development shall follow the land division procedures in BDC Chapter 4.3, and the Site Design Review procedures in BDC Chapter 4.2, as applicable. Any modifications to the approved master plan shall be subject to the standards and procedures in BDC Chapter 4.1, Development Review and Procedures. [Ord. NS-2016, 2006]

~~4.5.500 Master Plan Development within the Urban Holding Districts.~~

The section below is left over from the 2008 UGB expansion effort. It is shown struck because the project team is recommending using the same masterplan process and requirements that apply inside the UGB for new expansion areas (sections 4.5.300 and 4.5.400, above). Annexation policies are being developed for the general plan that will apply to new UGB expansion areas.

~~A. Master Plan Required. A master plan is required as a condition of annexation into the City limits prior to or concurrent with rezoning.~~

~~B. Applicability. This section shall apply to all properties within the Urban Growth Boundary with an Urban Holding designation. A proposal for a master plan shall be required for properties which have a total land area of 10 acres or more, or the aggregate of several assembled properties under the same ownership which totals 10 or more acres at the time the UGB is adopted.~~

~~C. Purpose. The purpose of master planning is to provide:~~

~~1. Orderly and efficient development of the City of Bend.~~

~~2. Compatibility and/or transitions with adjacent developments and the character of the area.~~

~~3. A complementary mix of uses and activities consistent with the Framework Plan and the City's Housing Needs Analysis and the Economic Opportunities Analysis.~~

~~4. An interconnected transportation network both within the master plan area and connecting to existing and planned City streets, routes and trails including bicycle and pedestrian facilities.~~

~~5. A range of open space and recreational facilities.~~

~~6. Public and semi-public facilities and services, including schools and parks.~~

~~7. Preservation of historic buildings, scenic views and natural resources to the greatest extent possible where applicable.~~

~~8. Transition or buffers between urban development and rural areas.~~

~~9. Implementation of the Bend Urban Area General Plan.~~

~~D. Procedures. Proposals for a master plan shall demonstrate consistency with this section and shall follow the procedures set forth in BDC 4.5.300, Master Planned Developments.~~

~~E. Designated Master Plan Areas. The City's Framework Plan identifies seven large property holdings as special Master Plan Areas. Within these areas, various required land uses have been specified on the Framework Plan. The master plan shall be developed in a manner that will accommodate the required uses consistent with the Framework Plan.~~

~~Areas without a designated master plan area may join together with surrounding properties for master planning purposes. In such instances, the Framework Plan uses may be re-arranged within the aggregated area as long as the ratio of uses identified on the Framework Plan is developed and any unforeseen impacts can be mitigated.~~

~~F. Land Use and Design Standards for Master Plans. The proposed uses shall be consistent with the City of Bend "Framework Plan" as illustrated in the Bend Area General Plan as Figure 1-2. The Framework Plan is a planning tool used by the City to guide the future pattern of development and land uses within the UGB for the 20-year planning period. The Framework Plan also demonstrates that the new Urban Growth Boundary can accommodate the identified land needed for residential, commercial and industrial uses. The Framework Plan shows the proportionate size and approximate locations of urban uses, open space and the City's expanded Transportation System Plan within the UGB. Each Master Planned Development area shall demonstrate conformance with the Framework Plan and the applicable standards below.~~

~~1. New Residential Districts.~~

~~a. A mix of housing types and densities within proposed large residential and mixed-use developments is encouraged. Where possible, a ratio of 65 percent detached to 35 percent attached housing shall be encouraged.~~

b. Medium and high density residential developments shall be located where there is good access to arterial streets and nearby commercial services, employment and public open space to provide the maximum convenience to the highest concentrations of population.

c. Exceptions.

i. RL Buffers. The west side master plans allow the development of Low Density Residential housing as a transition between wild lands and the Goal 5 Study area which may include Areas of Special Interest. Low density development provides a compatible transition for wildlife protection and to provide for fire fuels reduction to protect against wildfire. The use of RL buffers cannot exceed the acreage size identified for the master plan area. However, the RL buffer can be designed in any configuration necessary to achieve the intended purpose.

2. New Economic Uses. The Framework Plan illustrates areas best suited for economic use as commercial, industrial and mixed-use.

a. Commercial. There are a wide variety and type of commercial designations. The three districts identified on the Framework Plan map are:

• Convenience Commercial – The smallest Commercial District is neighborhood-oriented and provides frequent shopping and service commercial uses within one-fourth mile of residential neighborhoods. This type of commercial node typically does not exceed five acres in size.

• Limited Commercial – An intermediate Commercial District might include both small and more intense service commercial and office uses clustered together between neighborhoods. These areas do not exceed 30 acres in size. They are served by large capacity streets but not solely reliant on street frontage. A mix of uses including high density housing is encouraged as a secondary use above or behind the commercial buildings.

• General Commercial – The largest Commercial District has a regional draw and is reliant on the principal transportation system for access. These areas although predominantly an employment center will incorporate high density housing within the building blocks and in stand-alone housing projects not to exceed 10 percent of the total development area. There is no size limit on the General Commercial Districts.

b. Industrial. The Industrial Districts are categorized as light and general industry. The difference between the two designations is site size requirements and outward impacts to adjoining properties. The overall size of an industrial designation is not mandated.

• Light Industrial – Typically requiring smaller sites, these industrial areas accommodate a variety of uses including light manufacturing, research and development facilities and sometimes heavy commercial.

• General Industrial – There is a need for large sites located in close proximity to supporting smaller sites and a principal transportation system for receiving and transporting goods and materials.

• Mixed Employment – Often viewed as an opportunity for redevelopment, these mixed-use areas are a hybrid between commercial and small site industrial uses, the Mixed Employment District works well as transition zone between true commercial and industrial uses. ME designations also can provide a functional transition between a high capacity transportation system and a Residential District.

i. New industrial designations are very location sensitive and shall locate to the greatest extent practical within one-half mile of major highways and principal arterials for shipping and receiving good and materials.

ii. Where an industrial designation abuts a commercial or residential designation, a transition of development consisting of a mix of commercial, open space and/or residential uses shall be provided.

iii. General Industrial designations are sited in areas where impacts to adjacent properties can be minimized. A light industrial designation may be used to buffer or insulate the impacts of the General Industrial District.

c. Mixed-Use. Mixed-use development is a blending of industrial, commercial and/or residential uses. A mixed-use area shall function primarily as a transition between more intense and less restrictive uses.

i. No more than 65 percent of one type of use can dominate a mixed-use area. The edge of the mixed-use zone shall consist primarily of permitted uses allowed within the adjacent or abutting district.

ii. Residential units within a mixed-use building or development are encouraged and shall not have a density minimum or maximum.

iii. Residential uses shall not be the primary use of a mixed-use building.

iv. Mixed-use areas shall contain a minimum public open space area equivalent to 10 percent of the total mixed-use district.

3. New Goal 5 Resources. The Deschutes River, Tumalo Creek drainage corridor and volcanic upland rock features within the expanded UGB may be potential new Goal 5 visual resources. A formal Goal 5 analysis will be completed by the City for the expanded UGB. Until such time, areas of significance are not considered buildable. Prior to the completion of the Goal 5 inventory, analysis and ordinance by the City, properties seeking annexation shall conduct a Goal 5 inventory pursuant to OAR 660-023. Where a significant Goal 5 resource is identified, amendments to the Bend Area General Plan and Bend Development Code shall be proposed and adopted, consistent with inventory findings and OAR 660-023, to ensure appropriate protection of the resource, prior to approval of any land use action.

A determination of significance shall be based on the quality, quantity and location of the resource. The Goal 5 analysis will include at a minimum a visual impact assessment, slope analysis, vegetation inventory and wildlife assessment. In addition, the Goal 5 rule requires an analysis of positive and negative economic, social, environmental and energy consequences that could result from a decision to allow, limit or prohibit a conflicting use. Using the Goal 5 analysis information, the City will develop a program that will balance the impacts and determine the appropriate level of protection.

4. Open Space. Open space is a required element of all Master Planned Developments.

a. A minimum of 10 percent of the development area shall be designated as usable open space as part of the master plan.

• Passive open space may consist of geological features, treed areas, waterways and areas with significant slopes or areas that are otherwise constrained by environmental factors.

• Active open space shall be of a size that is adequate for group activities (10,000 square feet minimum area with a minimum average width of 50 feet).

b. Open space areas shall include walking or bicycle trails, landscaping and/or natural vegetation preservation and may be developed in conjunction with Bend Metro Park and Recreation District.

i. Open space used as a compatibility buffer shall consist of a mix of trees, shrubs and ground cover in a manner that provides a visual screen as well as partial auditory buffer where appropriate.

c. Open space along a canal right-of-way shall include added width to accommodate public facilities including trails.

d. Preserve and protect significant rock outcroppings and trees with development where practical.

5. Schools and Parks. Adequate space for planned schools and parks is a requirement of all Master Planned Developments.

a. Developers will defer to the Bend La Pine School District and the Sites and Facilities Study (as updated) to determine the need for and location of school sites within the master planned area.

b. Developers will defer to the Bend Metro Park and Recreation District and the Parks, Recreation and Green Spaces Comprehensive Plan (as updated) to determine the need for and location of neighborhood and community park sites and connector trails within the master planned area.

6. General Provisions. All development proposals shall address findings related to the following:

a. Chapter 2, Natural Features and Open Space, of the Bend Urban Area General Plan, addressing how the proposed Master Plan Development will assist in meeting the identified needs for open space and natural areas.

b. Chapter 3, Community Connections, of the Bend Urban Area General Plan, addressing how the proposed Master Plan Development will assist in meeting the identified needs for schools and parks.

c. Chapter 5, Housing and Residential Lands, of the Bend Urban Area General Plan, addressing how the proposed Master Plan Development will assist in meeting the identified needs for types and densities of housing at price ranges and rent levels which are commensurate with the financial capabilities of Bend-area households.

d. Chapter 6, Economy and Lands for Economic Growth, of the Bend Urban Area General Plan and the Economic Opportunities Analysis for the City of Bend.

G. Special Review Criteria. In order to approve a master plan within the Urban Holding Zone, the Review Authority must find that the proposal is consistent with the following criteria:

1. Whether the proposal is generally consistent with the Framework Plan and Bend Area General Plan in terms of land use/need, density, transportation systems and open space.

2. Whether the proposal is generally suitable for the area in which it is proposed, considering existing and planned neighborhoods, shopping, and employment areas and natural resources and hazards.

3. Whether the proposal is functionally integrated and compatible with existing developed or planned areas.

4. Whether the proposal implements the following elements where applicable:

a. Land Use Types and Housing Densities. The plan provides a mix of needed commercial and industrial land uses and housing types and densities which meet the projected goals of the Residential Land Needs Analysis and the Economic Land Needs Assessment.

~~b. Interconnected Multi-Modal System. The plan provides an integrated street network and pedestrian- and bicycle-friendly system which connects to existing and planned areas.~~

~~c. The proposed open space is commensurate with the proposed residential and economic densities contemplated with the master plan. [Ord. NS-2113, 2009; Ord. NS-2016, 2006]~~

Chapter 4.6

LAND USE DISTRICT MAP AND TEXT AMENDMENTS

4.6.300 Quasi-Judicial Amendments.

A. Applicability, Procedure and Authority. Quasi-judicial amendments generally refer to a plan amendment or zone change affecting a single or limited group of properties and that involves the application of existing policy to a specific factual setting. Quasi-judicial amendments shall follow the Type III procedure, as governed by BDC Chapter 4.1, Development Review and Procedures, using the standards of approval in subsection (B) and/or (C) of this section, ~~Criteria for Quasi-Judicial Amendments.~~as applicable. Based on the applicant's ability to satisfy the approval criteria, the applicant may be approved, approved with conditions, or denied.

B. Criteria for Quasi-Judicial Comprehensive Plan Map Amendments. The applicant shall submit a written narrative which explains how the approval criteria will be met. A recommendation or a decision to approve, approve with conditions or to deny an application for a quasi-judicial amendment shall be based on all of the following criteria:

1. Approval of the request is consistent with the relevant Statewide Planning Goals that are designated by the Planning Director or designee;

2. Approval of the request is consistent with the relevant policies of the Comprehensive Plan that are designated by the Planning Director or designee;

3. The property and affected area is presently provided with adequate public facilities, services and transportation networks to support the use, or such facilities, services and transportation networks are planned to be provided concurrently with the development of the property; ~~and~~

4. Evidence of change in the neighborhood or community or a mistake or inconsistency in the Comprehensive Plan or Land Use District Map regarding the property that is the subject of the application; and

5. Approval of the request is consistent with the provisions of BDC 4.6.600, Transportation Planning Rule Compliance.

C. Criteria for Quasi-Judicial Zone Changes. The applicant must submit a written narrative which explains how the approval criteria will be met. A recommendation or a decision to approve, approve with conditions or to deny an application for a quasi-judicial zone change must be based on meeting both of the following criteria:

1. The amendment will bring the zone map into conformance with the Comprehensive Plan map.

2. The property and affected area is presently provided with adequate public facilities, services and transportation networks to support the use, or such facilities, services and transportation networks are planned to be provided concurrently with the development of the property.

4.6.600 Transportation Planning Rule Compliance.

When a development application includes a proposed Comprehensive Plan amendment or land use district change, or both, the proposal shall be reviewed to determine whether it significantly affects a transportation facility, in accordance with Oregon Administrative Rule (OAR) 660-012-0060. [Ord. NS-2016, 2006]

DRAFT – April 2016

City of Bend Comprehensive Plan

Chapter 5: Housing









Housing

Adopted Amendments

EFFECTIVE DATE	ORD #	CHANGES
7/14/2015	-	Created template

BACKGROUND

Context

Oregon Statewide Planning Goal 10 (Housing) requires cities to "encourage the availability of adequate numbers of needed housing units at price ranges and rent levels which are commensurate with the financial capabilities of Oregon households and allow for flexibility of housing location, type and density." Goal 10 and the related Needed Housing Statute require Oregon cities to maintain adequate supplies of properly planned and zoned lands to meet their identified housing needs. The law recognizes that this may require expanding an urban growth boundary. That process is governed by other statutes and goals, and by the Growth Management chapter of this plan. Goal 10 and related statutes require the City to adopt and incorporate two important documents into the Comprehensive Plan.

The first document is a buildable lands inventory (BLI) that catalogues the development status (developed, vacant, etc.) and capacity (housing units) that can be accommodated on lands within the UGB. Bend's BLI for both housing and employment lands is adopted and incorporated as Appendix X of the Comprehensive Plan.

The second document is a housing needs analysis (HNA) that includes an analysis of national, state, and local demographic and economic trends, and recommendations for a mix and density of needed housing types. Bend's HNA for growth to 2028 is adopted and incorporated as Appendix X of the Comprehensive Plan. The HNA documents historical housing and demographic trends, the projection of population and housing growth, and an analysis of housing affordability.[1] Based on this analysis, the HNA presents an estimate of needed housing density and mix for growth to 2028.

The BLI and the HNA provide the factual base to support the housing goals and policies in this chapter of the Comprehensive Plan. A major objective of the Comprehensive Plan is to establish residential areas that are safe, convenient, healthful, and attractive places to live, and which will provide a maximum range of housing choices for the people in Bend. The City of Bend will face a variety of issues over the coming years in meeting these needs, including:

- Maintaining an adequate supply of land available and zoned appropriately to provide opportunities for a range of housing types needed in Bend in the face of rapid population growth.

[1] A primary indicator of affordability is whether a household is paying more than 30% of its income, including utilities, rent, mortgage payments, interest and insurance, and is therefore experiencing housing "cost burden" under federal housing guidelines. Using cost burden as an indicator is consistent with the Goal 10 requirement of providing housing that is "commensurate with the financial capabilities" of all Oregon households.



- Responding to a land and housing market that has appreciated significantly in recent years, driving the cost of housing up significantly and leaving relatively few market opportunities for low-cost owner-occupied housing.
- Affordable housing for service workers, both for individuals and families, is in short supply in Bend. Rapid increases in home and rental prices have combined with growth in the (low wage) service sector to make it difficult for much of Bend's workforce to live in the City.
- The increasing gap of housing affordable to low and moderate income households is resulting in many area workers living in other Central Oregon cities and commuting to Bend for work. This is exacerbating traffic congestion and it also affects the ability of area employers to attract workers for jobs at many income levels, including service and professional workers.
- The City is currently limited to some degree in what it can do by state and other regulations that restrict the ability to enact funding mechanisms or regulatory approaches to meeting housing needs.

As summarized in the HNA, Bend's population grew rapidly between 1990 and 2014, increasing from about 20,000 to 80,000 people during that period (in part due to significant annexations in 1998). At the same time, Bend's housing stock nearly tripled. Most new housing development during this time was single-family detached housing.

This rapid population growth increased the demand for all types of housing. During the same period, average wages were flat and the combined result was a decline in housing affordability. Housing sales prices more than doubled between 2000 and 2014, while household income levels increased by only about 18 percent. In addition to wage stagnation, several other factors contributed to a decline in affordability between 1990 and 2014, including:

- High demand for second homes in Bend
- Significant growth in the tourism/recreation economy and the associated jobs that tend to pay lower wages
- Demographic changes, as described in the Demographic Trends section below

As growth continues, Bend must carefully plan for new housing that meets the needs of its changing population. The Comprehensive Plan's goals and policies support a range of housing choices matched to Bend's needs. One of the challenges facing the community is how to plan for a variety of housing options in existing neighborhoods and new residential areas that support the changing demographics and lifestyles of Bend's current and future residents.

The need for housing correlates strongly to the need for land within Bend's urban growth boundary. The Urbanization Report provides a discussion about how land needs for housing and other uses are determined and how Bend will meet residential land needs over time.

Demographic Trends

There are a number of factors that will increasingly affect the choices people make when it comes to housing type; three primary factors are a person's age, the number of people in the household and household income. In Bend, and across the country, the first two decades of the 21st century saw some key demographic changes that will impact the way communities plan for the housing needs of their existing and future populations.

- **Growth in Baby Boomers.** The number of people over age 65 is projected to increase significantly. Households over 65 tend to have less income than younger households and are more likely to choose lower-cost multifamily housing. Some baby boomers may also choose to downsize their housing, resulting in greater demand for small dwellings.
- **Growth in Millennials**. Millennials are people who will be between 31 and 44 years old in the year 2028. This segment of the population is also expected to increase in Bend. Younger millennials typically have lower incomes and may have higher debt. Growth in millennials will increase need for affordable housing rental and ownership options.
- **Growth in Hispanic and Latino population.** The Hispanic and Latino population in Bend more than doubled between 2000 and 2014, and growth is expected to continue. Many Hispanic and Latino residents in Bend are also within the Millennial age range. To the extent that Hispanic and Latino households currently have lower household incomes than the population as a whole, demand for more affordable housing, both rental and ownership options, will increase.

In 2016, Bend will also see the opening of its first dedicated four-year university campus, which will ultimately bring up to 5,000 students into the mix. While some of these students will live on campus, there will also be a need for affordable student housing off campus.

Based on these trends, the future housing mix in Bend will look different than it has in the past. There is a growing need to provide a wider range of housing sizes and prices to accommodate the shifting demographics. Evidence suggests that a substantial portion of Bend's residents will live in attached housing, such as townhouses, cottage housing, duplexes, garden apartments, or urban apartments. At the same time, Bend also has a continuing demand for single family detached housing, primarily on small or moderately sized lots (5,000 to 7,000 square feet). A growing share of households will be renters, either by choice (e.g., Baby Boomers who prefer to rent smaller units) or by economic necessity. Demand for these types of homes will be particularly high in areas close to Bend's commercial and recreational amenities. In planning for future housing, Bend must pay close attention to the following housing issues:

- **Widening demand for a range of housing types by retirees**. Older households tend to move less frequently than younger households, and a large majority would like to age in place. Being near family, friends, and social organizations in walkable neighborhoods also becomes increasingly important with age.

- **Increasing demand for family housing.** Millennials and Hispanic households are poised to account for the largest percentages of growth in Bend over the next 20 years. Millennial will be entering the phase of life when they form families and have children. In addition, Hispanic households have larger than average household size because they often live in multi-generational households and have a larger average number of children. Growth in households with families will drive need for housing that is both affordable and has sufficient space.
- **Increasing demand for affordable housing**. A substantial proportion of Bend's households cannot afford housing in Bend. Many workers in Bend live in nearby communities because affordable housing is in short supply in Bend, and the demand for small-lot housing with nearby amenities is increasing. For two of the fastest growing demographics in Bend, the Millennials and Hispanic and Latino population, affordability is more likely to be a barrier to homeownership or higher-cost rental housing.
- **Location and design of housing.** The location of housing is becoming increasingly important, with increased demand for housing in walkable neighborhoods near retail and other amenities. Integrated multi-family and compact single-family homes located in neighborhoods can provide opportunities for a wider range of housing and transportation options.

Vision for Neighborhood Livability in Bend

While the range of housing types and prices in Bend will expand, Bend will continue to emphasize livability in all neighborhoods, old and new. What does a livable neighborhood look like?

- Safe and convenient for travel by foot, car and bike
- Natural features, parks, open space
- Small-scale shops and places to eat and drink in the neighborhood or nearby
- Quality housing that provides diverse housing types and flexibility that meets market demand
- Comfortable integration and transitions between housing types and commercial uses

RESIDENTIAL PLAN DISTRICTS

The Comprehensive Plan has five residential districts that are shown on the Comprehensive Plan Map and described in Table 5-1 below. These districts provide for variety and choice in housing types, lot sizes, and locations needed to serve the existing and future housing markets. In addition to these residential districts, some future housing will occur in the Plan's mixed use districts and as secondary uses in some commercial areas.

Table 5-1. Residential Plan Districts

Plan Designation	Characteristics	Implementing Zone(s)*	Density Range (dwellings per gross acre)**
Urban Low Density	The Urban Low Density designation is intended for low density urban residential development. It may be used in areas that are already developed with low density housing where minimal infill is appropriate or on vacant land as part of a "transect" from urban to rural densities where consistent with the Growth Management policies of this Plan. It is intended to provide for residential uses, with an emphasis on single family detached homes, although a broader mix of housing types is encouraged for new neighborhoods.	Residential Low Density (RL)	Min: 1.1 Max: 4.0
Urban Standard Density	The Urban Standard Density designation is intended to provide opportunities for a variety of residential housing types at the most common residential densities in places where sewer and water services are available. It is intended to provide for residential uses, with a mix of single family detached homes and other housing types at a scale compatible with single family homes. It also provides opportunities for supporting public and institutional uses on a case-by-case basis.	Residential Standard Density (RS)	Min: 4.0 Max: 7.3
Urban Medium Density	The Urban Medium Density designation is intended to provide for a mix of housing types, with an emphasis on multifamily residential and medium-scale attached housing types, and opportunities for limited neighborhood commercial uses. It also provides opportunities for supporting public and institutional uses on a case-by-case basis. It is suitable in areas where sewer and water service are available. It is most appropriate for areas in proximity to commercial areas and along or near major transportation and transit corridors.	Residential Medium Density (RM)	Min: 7.3 Max: 21.7
		Medium–10 Density Residential (RM-10)	Min: 6.0 Max: 10.0

Plan Designation	Characteristics	Implementing Zone(s)*	Density Range (dwellings per gross acre)**
Urban High Density	The Urban High Density designation is intended to provide land for primarily high density multifamily residential, with opportunities for neighborhood commercial uses. It also provides opportunities for supporting public and institutional uses on a case-by-case basis. It is generally suitable for locations in proximity to downtown, commercial areas and/or transit corridors.	Residential High Density (RH)	Min: 21.7 Max: 43.0

* Inside the Bend UGB, the Urban Area Reserve (UAR-10) and Suburban Residential (SR-2½) zoning districts are holding zones to preserve land for future urban development consistent with underlying urban plan designations. They are intended to provide limited opportunities for housing and limited other rural uses that will not interfere with future development of urban uses. Inside the Bend UGB, the SR-2½ district is intended for use only for areas with existing rural development patterns, and is generally not appropriate for large tracts of vacant land.

** See Bend Development Code for methodology to calculate minimum and maximum densities.

GOALS

The intent of the Comprehensive Plan is to provide and maintain sufficient residential land to accommodate needed housing units under Statewide Planning Goal 10 (Housing). The following goals set the context for the policies in this chapter. The citizens and elected officials of Bend wish to:

- Keep our neighborhoods livable by offering a variety of living styles and choices, creating attractive neighborhoods located close to schools, parks, shopping and employment.
- Accommodate the varied housing needs of citizens with particular concern for safety, affordability, open space, and a sense of community.
- Recognize the importance of transportation linkages (streets, bikeways, side-walks and paths) in connecting neighborhoods and building and maintaining a sense of community.
- Promote more flexibility in development standards to balance the need for more efficient use of residential land and preservation of natural features.
- Zone adequate land in specific designations to allow for production of needed housing units.

POLICIES

Population Forecasts

5-1 The City will coordinate with and provide data to Portland State University for their preparation and regular update of a coordinated 50-year population forecast for the Urban Growth Boundary.

5-2 Using the new coordinated 50-year forecast, the City will, within 5 years after acknowledgment of the current update becomes final and no longer subject to appeal, initiate a supplemental legislative review of the UGB and/or urban reserve area planning to demonstrate continuing compliance with state needed housing laws for a new full 20-year planning period.

5-3 The City will use regular updates of population forecasts and Housing Needs Analyses to monitor housing trends relative to the planned housing mix, densities, location, and affordability assumed within the Urban Growth Boundary.

Housing Mix, Density, and Affordability

5-4 The City will apply plan designations, zoning districts and development code regulations to implement the mix of housing indicated in the adopted Housing Needs Analysis.

5-5 The main purpose of maximum densities shown on the Plan Map is to maintain proper relationships between proposed public facilities and services and population distribution. One purpose of minimum densities is to assure efficiency of land use, particularly for larger sites. Another is to encourage development of housing in locations and at densities that support healthy, accessible, and affordable housing choices.

5-6 Upon application, the City shall zone residential lands within City's corporate limits in accordance with their plan designations, and without a separate showing of public need, subject only to conditions, if applicable, requiring availability of public sewer or public water before occupancy.

5-7 The City will continue to create incentives for and remove barriers to development of a variety of housing types in all residential zones, consistent with the density ranges and housing types allowed in the zones. This policy is intended to implement the City's obligation under the State Housing Goal to "encourage the availability of adequate numbers of needed housing units at price ranges and rent levels which are commensurate with the financial capabilities of Oregon households and allow for flexibility of housing location, type, and density".

5-8 The City will apply innovative and flexible zoning tools to support a mix of housing types and densities.

5-9 The City and County will support public and private non-profit and for-profit entities that provide affordable housing in Central Oregon.

5-10 The City and County will coordinate with each other and other affected governments as required by the State Housing Goal to ensure that "the needs of the region are considered in arriving at a fair allocation of housing types and densities" and that "needed housing is provided on a regional basis through coordinated comprehensive plans".

5-11 The City will continuously monitor the yield of efficiency measures as required by the state needed housing statute and publish the results on its Growth Management Documents website not less than once a year.

5-12 To promote complete neighborhoods and the integration of other supporting uses, the City will employ a master planning process for large development sites which are 20 acres or greater. The master plan process will offer two options for approval: 1) applying clear and objective standards or 2) applying discretionary standards for more flexibility.

5-13 Existing residentially-designated areas that are adjacent to commercial or mixed use designations may be re-designated for Residential Medium and High density development.

5-14 The City will support re-designation of suitable areas that are within a 1/4-mile walk to transit corridors from a lower density designation to a higher density designation, where plan amendment criteria are otherwise met.

5-15 The City shall employ special redevelopment standards and other strategies for manufactured home parks as an incentive to retain and redevelop existing affordable housing stocks at affordable prices and rent levels.

5-16 The City may consider density bonuses as an incentive to providing affordable housing.

5-17 The City will monitor parking needs for residential uses and set parking requirements to the lowest standards that will meet the community's needs in order to reduce land utilized for parking, reduce the cost of housing development, and encourage a more walkable development pattern.

5-18 The City will assist in identifying, obtaining and leveraging funding sources for the development of new housing for very low, low, and moderate - income residents, as determined by appropriate

percentages of Area Median Family income in the Housing Needs Assessment.

5-19 The City will monitor the results of actions and programs funded through the use of the City's Affordable Housing Fee Trust Fund.

Residential Compatibility

5-20 Private and public nonresidential uses are necessary and will be encouraged within residential areas for the convenience and safety of the residents. Such facilities shall be compatible with surrounding developments, and their appearance should enhance the area.

5-21 Of necessity, nonresidential uses may abut residentially planned and zoned areas in different parts of the community. In these instances, nonresidential uses will be subjected to special development standards such as setbacks, landscaping, sign regulations, and building design that harmonize and provide transitions consistent with the primary purposes of the adjacent zones.

5-22 Homes built to HUD Class A manufactured home standards will be permitted in manufactured home parks, or on individual lots. Non-Class A manufactured homes may be allowed in manufactured home parks or as replacement for non-conforming manufactured homes subject to conditional use approval standards that are clear and objective and that encourage retention and replacement of existing affordable housing stock.

5-23 Homes built to HUD manufactured home standards located on individual lots in areas already developed with conventional housing shall be subject to special siting standards as provided by state needed housing law.

5-24 Manufactured and modular homes meeting IRC Modular and CABO building code standards shall be permitted on the same basis as site-built homes.

5-25 Private covenants and deed restrictions recorded hereafter that support compact urban form, higher densities and better access to affordable housing are encouraged as supportive of City policy.

5-26 Neighborhood commercial shopping areas may be located within residential districts and have development standards that appropriately limit their scale and recognize their residential setting.

5-27 In many cases, small home-based businesses are a legitimate use within residential areas, and may be permitted subject to design and nuisance standards in the Development Code.

5-28 Certain private recreational uses, such as golf courses or tennis courts, may be successfully integrated into residential areas



provided the location, design, and operation are compatible with surrounding residential developments and do not prevent development of lands inventoried for needed housing to minimum density standards.

5-29 Residential areas will offer a wide variety of housing types in locations best suited to a range of housing types, needs and preferences.

Neighborhood Appearance

(See related policies in Chapter 9, Community Appearance.)

5-30 Above-ground installations, such as water and sewer pumping stations, power transformer substations or natural gas pumping stations, shall be screened and designed to blend with the character of the area in which they are located.

5-31 All new developments shall include trees in the road right of way, as practical, in the planter strip between the curb and sidewalk.

5-32 Walls and fences along arterial or collector streets shall be subject to special design standards. The fence or wall, and the area between the fence or wall and the curb or pavement, shall be landscaped.

5-33 All residential development will respect the natural ground cover of the area and existing and mature trees within the community should be preserved where practicable.

5-34 The City encourages flexibility in design to promote safety, livability and preservation of natural features. To that end, the City will provide development code standards to allow flexibility on dimensional standards, such as lot size and setbacks, to achieve these objectives.

5-35 Hillside areas shall be given special consideration in site design by both the developer and local regulations. Building sites, streets, and other improvements shall be designed and permitted in a manner that will minimize excessive cuts and fills and other erosion-producing changes. (Note: see related policies in Chapter 10, Natural Forces.)

Transportation connectivity

(See related policies in Chapter 7, Transportation Systems, and Chapter 3, Community Connections.)

5-36 Medium-and high-density residential developments should have good access to transit, K-12 public schools where possible,

commercial services, employment and public open space to provide the maximum access to the highest concentrations of population.

5-37 Street widths on residential local streets shall be as narrow as reasonably possible to preserve safety, and limit the effects of surface runoff and excessive vehicle speed.

5-38 The City may require adjustments to the street design in order to discourage high speed traffic on local residential streets.

5-39 In all residential areas the City shall encourage the use of open space amenities such as landscaped traffic islands or extra-width planting strips.

5-40 Schools and parks may be distributed throughout the residential sections of the community, and all types of dwelling units should have safe and convenient access to schools and parks.

5-41 The City will coordinate with the school and parks districts to ensure that the respective plans of each local government are coordinated and consistent with state law.

5-42 Sidewalks will be required in all new developments. Separated sidewalks will be required on all new streets. However, an alternative system of walkways that provide adequate pedestrian circulation may be approved.

5-43 Per the City's Transportation Systems Plan, the City will complete or connect priority walkways on routes to schools, parks, or commercial areas.

5-44 Bikeways shall be considered as a transportation element, and adequate facilities shall be provided as a part of new development.

5-45 Efforts will be made to extend trails, pedestrian ways, and bikeways through existing residential areas. Existing trails, pedestrian ways, and bikeways will be extended through new developments to allow further extension and promote alternative modes of travel.

5-46 The City will encourage pedestrian scale block length to encourage connectivity and pedestrian access. When existing conditions or topography prevent a cross street, a pedestrian accessway to connect the streets may be required.

5-47 Residential local streets shall be developed whenever practicable to increase connectivity within and between neighborhoods.

5-48 Cul-de-sac and "hammer-head" residential streets may be allowed only where existing development, steep slopes, open space, or natural features prevent connections, or when the objectives of connectivity are met within the neighborhood.

5-49 The City will consider the need for emergency equipment access for any new development.

Public utilities and services

(See related policies in Chapter 1, Plan Management and Citizen Involvement and Chapter 8, Public Facilities and Services.)

5-50 All residential areas will be provided with community water and sewer services and other facilities necessary for safe, healthful, convenient urban living consistent with the density of development.

5-51 Residential development shall be coordinated with other land use elements and community facilities which are consistent with projected housing densities.

5-52 Electric power, telephone, and cable TV distribution and service lines shall be located underground in new developments.

5-53 Street names shall be unique within the County.

Destination Resorts

5-54 A destination resort within the Urban Area Reserve may be served by municipal water and sewer service or an approved community water and sewer service for domestic use compliant with state law.

5-55 Properties that are eligible for destination resort development will lose that eligibility upon inclusion into the UGB.

Refinement Plan Areas

(See related policies in Chapter 11, Growth Management.)

5-56 A refinement plan that includes residential areas may prescribe residential density limits on specific properties which differ from the density range provided for in the General Plan. However, the average density of residential development allowed within a refinement plan area shall not be less than 80 percent or more than 100 percent of the maximum density, including applicable density bonuses or transfers, prescribed for the area by its pre-existing comprehensive plan map designations.

DRAFT - April 2016

City of Bend Comprehensive Plan

Chapter 6: Economy









Economy

Adopted Amendments

EFFECTIVE DATE	ORD #	CHANGES
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BACKGROUND

Context

Bend's economy is shaped by its historic role as a trade, service, education and tourist center for Central Oregon. Bend is attractive to expanding companies primarily because of its quality of life, growing population dominated by in-migration, and access to a labor force that is young and well-educated. As Bend's economy grows, its role as a regional center will guide and stimulate economic growth throughout Central Oregon and beyond.

This regional economic role will influence the number and types of jobs that existing and future businesses create. Downtown Bend is the cultural, culinary, and specialty retail hub of the region. Bend hosts the region's largest medical facility, the largest news media organization, and numerous governmental agencies, from federal (U.S. Forest Service), to regional (Deschutes County seat), to local (City of Bend). Bend is also home to a majority of the region's largest and most influential employers.

Bend's role as a regional social and cultural center is also an important consideration as a driver of economic growth. Bend's high quality cultural and natural amenities are repeatedly cited by business owners and employees as reasons to relocate to, or remain in, Bend. They are also the driver of much of the tourism industry, which is a significant portion of the economy. Such amenities play an important role in continuing to attract tourist dollars, new households and future firms.

Bend's economic growth relies on the City's ability to create an environment for businesses of the future to thrive. The industries of the past are not the industries of the future. Governments, economic development groups, and developers must play complementary roles in retaining, expanding, and recruiting businesses that will serve Bend's 21st century economy.

Economic Trends

Economic development in Bend will continue to occur in the context of long-term national, state and regional trends. A number of those trends, and their implications for Bend's economy, are highlighted below.

- **Moderate growth rates and recovery from the national recession.** The "Great Recession" is widely considered to have ended in 2009; however, economies take time to recover and Bend's economy is no exception. After 2009, Bend experienced a period of minimal growth, followed by a period of dramatic growth. Bend can expect continued economic growth (measured by employment growth, unemployment rates and wage growth) over the coming years.



- **Growth of service-oriented industries.** As the goods-producing industries decline, service-oriented industries are on the rise. This trend will continue to impact the composition of Bend's economy, leading to an even higher percentage of jobs in health care, government, retail trade, personal services and food services. Historically, Bend's economy was heavily dependent on manufacturing and resource extraction industries such as sawmills and pumice mines. Similar to state and national trends, Bend's economy has undergone fundamental changes over several decades as employment in traditional manufacturing sectors declined and growth in service-oriented sectors increased.
- **Availability of trained and skilled labor.** In Bend, population and in-migration growth rates are generally high and residents are more likely to have a Bachelor's degree (relative to state and national rates). This results in a pool of available labor in Bend, a trend that is forecast to continue over the coming years.

Vision for Economic Development in Bend

What does a healthy Bend economy look like?

- Bend attracts and retains targeted industries. The City targets employment sectors that are projected to grow, that are a good fit for the City, and that help Bend achieve its economic goals – including an emphasis on jobs that pay higher than median wages. Targeted sectors include higher education, health care, recreation equipment, and specialty manufacturing.
- Bend's downtown is strong. The downtown continues to be an active focal point for residents and visitors with strong businesses, urban housing, civic services, arts and cultural opportunities, and gathering places. Parking downtown is adequate and strategically located.
- Bend maintains an adequate supply of serviceable industrial and commercial lands. There is enough suitable land within Bend's UGB to accommodate future jobs and businesses. The City monitors and maintains the land supply.
- Bend builds a diversified economy. Bend continues to move toward a more diversified economy that provides professional service, high-skill manufacturing, high-tech, and other higher than median wage jobs.
- Bend provides opportunities for university education and research. A high-quality university in Bend provides education and training for the next generation of Central Oregonian workers whose ideas, talents and energy will create the foundation of Bend's future economy.

- **Aging population.** While Bend's population is younger than the state's as a whole, it is still aging and the percentage of people over age 60 is expected to increase. Businesses in Bend will need to replace workers as they retire, at a rate that will likely outpace job growth.
- **Importance of natural resource amenities.** Bend is widely acclaimed as one of the top "smaller" cities in the country. The City has a distinctive and appealing vibe, a growing national profile, a fun and relaxed way of life, and a beautiful natural setting for outdoor living and recreation. As a fast-growing City, Bend's attractiveness brings a central challenge: how to accommodate more people and jobs while preserving what the community values so Bend gets better, not just bigger.

Additional information about how Bend forecasts employment growth, identifies target industries, and evaluates its ability to accommodate future employment can be found in the 2016 Economic Opportunities Analysis (EOA). The EOA is adopted and incorporated as Appendix X of the comprehensive plan and it provides the factual base to support the goals and policies for the economy in this chapter. It includes estimates of the amount of employment that can be accommodated on existing land in the UGB and the amount of residual employment that will require new land.

The need for employment growth correlates strongly to the need for land within Bend's urban growth boundary. The Urbanization Report provides a discussion about how employment land needs are determined and how Bend will meet those needs over time.

EMPLOYMENT AND MIXED USE PLAN DISTRICTS

The role of the Comprehensive Plan is to provide and maintain an adequate supply of industrial, commercial, and mixed-use land to accommodate and promote quality economic growth and assure a diverse economy. The Plan also provides the policy framework to guide on-going land use decisions and public infrastructure investments relating to employment lands.

The Comprehensive Plan designates lands for a range of commercial, industrial and mixed-use districts that are shown on the Comprehensive Plan Map and described in Table 6-1 below. These employment districts provide for a variety of locations with different characteristics to support the continued growth and diversity of Bend's economy. With the exception of the Industrial districts, there is a significant amount of "mixing" of uses in different employment districts as allowed by the Bend Development Code. This trend is expected to continue, with plan policies and code provisions that allow and support a mix of employment and residential uses in commercial and mixed use districts, particularly in centers and along transit corridors.



Table 6-1. Employment and Mixed-Use Plan Districts

Employment Plan Designation	Implementing Zone(s)	Characteristics
Commercial		
Central Business District	Central Business (CB)	The Central Business District designation is intended to apply to the historic downtown and central business district. This designation is intended to provide for commercial and/or mixed-use development with a storefront character. Areas with this designation have higher employment densities and building mass, and require high-quality pedestrian, bicycle, and multi-modal transportation systems.
Convenience Commercial	Convenience Commercial (CC)	The Convenience Commercial designation is intended for relatively small commercial areas adjacent and connected to the residential districts they serve. It is intended to provide for primarily commercial uses to meet the frequent shopping and service needs of nearby residents. Areas with this designation have lower employment densities and building scales than the Central Business District, but require high-quality pedestrian, bicycle, and multi-modal transportation systems.
Limited Commercial	Limited Commercial (CL)	The Limited Commercial designation provides locations for a wide range of retail, service, and tourist commercial uses in the community along highways or in new centers. This designation is intended for small and large commercial uses which may be more auto-oriented, yet also provide multi-modal access.
General Commercial	General Commercial (CG)	The General Commercial designation provides a broad mixing of commercial uses that have large site requirements, are oriented to the higher classification roadways and provide services to the entire City and surrounding area.
Industrial		
Industrial General	General Industrial (IG)	The Industrial General designation provides for light and heavier industrial uses in an industrial environment with a minimum conflict between industrial uses and nonindustrial uses.



Employment Plan Designation	Implementing Zone(s)	Characteristics
Industrial Light	Light Industrial (IL)	The Light Industrial designation provides for light industrial uses and limited heavy commercial and corporate office uses in areas with easy access to collector and arterial streets.
Surface Mining	Surface Mining (SM)	The Surface Mining designation provides for the extraction of pumice, ash, and rock to serve the construction needs of the urban area.
Mixed Use		
Mixed Employment	Mixed Employment (ME)	The Mixed Employment designation provides for a broad mix of employment uses and mixed use development. It is intended for areas that already exhibit a pattern of mixed development, or in new areas that provide a transition between different employment and residential uses.
Mixed Use Riverfront	Mixed Use Riverfront (MR)	The Mixed Use Riverfront designation provides a mix of commercial, industrial, and residential uses to implement policies for redevelopment of mill site properties adjacent to the Deschutes River.
Mixed Use Urban	Mixed-Use Urban (MU)	The Mixed-Use Urban designation provides opportunities for vibrant mixed use centers and districts with a mix of commercial, residential, and/or public and institutional uses. Suitable for areas generally within or adjacent to the central core of the city with high-quality connectivity to and within the area.
Mixed Use Neighborhood	Mixed-Use Neighborhood (MN)	The Mixed-Use Neighborhood designation provides neighborhood-scaled, pedestrian-oriented mixed use centers and corridors with a range of residential, retail, service, and office uses that are compatible with adjacent development. Suitable for areas with high-quality pedestrian, bicycle, and multi-modal transportation systems.
Professional Office	Professional Office (PO)	The Professional Office designation provides for professional offices, housing as part of mixed use development, and limited service commercial in locations near arterial or collector streets or to provide a transition between residential areas and other more intensive zones.



GOALS

The intent of the Comprehensive Plan is to provide sufficient land to meet the City's goals of promoting quality economic growth and assuring a diverse economy. The following goal statements describe the economic hopes of the community and serve as the foundation for policy statements in this chapter. The citizens and elected officials of Bend wish to:

- Promote a vital, diverse and sustainable economy, while enhancing the community's overall livability.
- Ensure an adequate supply of appropriately zoned land for industrial, commercial, and mixed-use development opportunities.
- Strengthen Bend's position as a regional economic center.
- Create more opportunities in Bend for jobs that pay a higher than median wage.
- Create commercial areas that support multimodal access.
- Encourage more small neighborhood commercial developments and convenience commercial centers to reduce the number and length of single occupancy vehicle (SOV) trips.

POLICIES

General Policies

6-1 Bend's economic lands (commercial, industrial and mixed use) serve Bend residents and the needs of a larger region.

6-2 Bend is a regional center for health care, art and culture, higher education, retail, tourism, and employment. The economic land policies recognize Bend's role in the region, and the need to support uses that bolster the local and regional economy:

- The Medical District Overlay Zone provides economic lands for a variety of health care and related services to a population much larger than the City of Bend.
- Commercial and Mixed Use-designated lands support retail, tourism, and arts and culture uses to serve a local and regional role.
- Public Facility and Special Plan Districts support higher education to serve Bend residents and the needs of the region.
- Industrial and Mixed Employment-designated land located at Juniper Ridge has a local and regional role.



6-3 Investment in transportation, water, sewer, fiber, and other utility infrastructure should be prioritized to serve economic lands.

6-4 Infrastructure will be planned, designed, and constructed to support continued economic growth and orderly development.

6-5 The Bend Municipal Airport is one of the City's highest-value economic development assets. Bend will coordinate with Deschutes County to create policies and development regulations that ensure long-term employment growth at the airport.

6-6 Employment lands for Bend's target sectors will be provided and protected to promote expansion of existing businesses and attract new businesses.

6-7 Bend will diversify its economic base to withstand expansions and contractions in the business cycle.

6-8 The City will recognize the statements of the City's overall economic development objectives and desirable types of employment contained in the 2016 Economic Opportunities Analysis (EOA).

6-9 The City will prioritize providing an adequate number of suitable industrial sites while also providing a variety of commercial sites.

6-10 The City will seek opportunities to designate or allow additional sites for employment use and increase the use of existing employment land within the existing urban growth boundary prior to expanding the UGB.

6-11 The City will periodically review existing development and use patterns on industrial and commercial lands. The City may consider modifying Comprehensive Plan designations and zoning to better respond to opportunities for redevelopment and revitalization of employment lands in underutilized areas.

Short Term Supply Policies

6-12 The City establishes a goal to have at least 25% of the predicted economic land need identified in the adopted EOA qualify as competitive short-term land supply.

6-13 Beginning in 2019, and every two years thereafter, the City will:

- Update the economic lands Buildable Lands Inventory to identify developed and vacant economic lands by Comprehensive Plan designation;
- Estimate the acreage of vacant economic lands that qualify as competitive short-term supply;
- If the acreage of vacant lands that qualify as competitive short-



term supply is less than the 25% goal, then staff will deliver a report to the City Council that details:

- Economic lands that have a relatively good opportunity to qualify as competitive short-term land supply to meet the 25% goal,
- Obstacles preventing those lands from qualifying as competitive short-term supply, and
- Efforts, plans, and potential funding mechanisms to prepare the lands to qualify as competitive short-term supply.

Industrial Development

6-14 Large-lot industrial sites, those sites 50 or more acres in size, are important to the overall inventory of available economic land. Any sites included in the UGB to meet this special site need will be protected with specific plan and/or code provisions.

6-15 The City supports the redevelopment of brownfield sites to make efficient use of existing economic lands and improve the quality of the City's land and water resources.

6-16 The Juniper Ridge District inside the Bend UGB will be used to help meet the long-term need for future industrial and employment development.

6-17 At least 30% of the total net buildable area of the portion of Juniper Ridge District inside the UGB should be reserved for sites of ten acres and larger in size.

6-18 The City will work to preserve prime industrial lands for industrial purposes and protect them from incompatible commercial and residential uses.

6-19 The community will attempt to diversify its industrial base.

6-20 Existing industrial operations are encouraged to reduce waste discharge levels and improve air quality conditions.

6-21 Industrial developments along highways will be subject to special development standards relating to setbacks, landscaping, signs, and outside storage.

6-22 Wherever industrial uses abut residential uses or residential zoning, special development standards relating to setbacks, screening, signs, and building height will be established for the industrial uses.

Mixed Use Development

6-23 Mixed-use development may be regulated through one or more plan designations and zoning districts to encourage the development of a mix of employment, or a mix of employment and



residential uses.

6-24 Mixed-use development will achieve the following purposes:

- provide a variety of employment opportunities and housing types;
- foster pedestrian and other non-motor vehicle access within and to the site;
- ensure compatibility of mixed-use development with the surrounding area and minimize off-site impacts associated with the development;
- ensure the site planning, access, parking areas and building designs are functionally coordinated and aesthetically pleasing; and
- where applicable, improve the natural conditions along the Deschutes River, and encourage access to and enjoyment of the Deschutes River.

6-25 The City will encourage vertical mixed use development in commercial and mixed use zones, especially where those occur within the Central Core, Opportunity Areas and along transit corridors.

Commercial Development

6-26 The existing pattern of commercial plan designations shown on the Comprehensive Plan Map along arterial and collector streets including Newport Avenue and Galveston Avenue will not be extended into residentially designated areas unless approved through an Area Plan.

6-27 New employment districts with a mix of employment designations such as commercial, industrial, and mixed use may be created along Highway 97, Highway 20, and O.B. Riley Road.

6-28 The City will encourage development and redevelopment in commercial corridors that is transit-supportive and offers safe and convenient access and connections for all transportation modes.

6-29 New commercially designated areas are encouraged to develop with mixed-use centers to include housing, open space, commercial development, and other employment uses.

6-30 The City shall strive to retain and enhance desirable existing commercial areas and encourage property owners' efforts to rehabilitate or redevelop older commercial areas.

6-31 Proposed Comprehensive Plan Map amendments for new commercial centers shall meet the location and size standards in the Comprehensive Plan text in addition to Plan amendment and/or

zone change criteria.

6-32 All commercial developments shall be subject to development standards relating to setbacks, landscaping, physical buffers, screening, access, signs, building heights, parking areas, and design review.

6-33 The City will encourage the development of Neighborhood Commercial centers. Such centers should be scaled to serve the frequent needs of the residents of the neighborhood.

6-34 Unless otherwise approved through an Area Plan, new Convenience Commercial Comprehensive Plan designations should be limited to five acres and should be at least one mile from another commercial Comprehensive Plan designation.

6-35 Commercial developments that abut residential zones or residential uses shall be subject to special setback and screening provisions.

6-36 The City shall continue the revitalization process in the Central Business District through rehabilitation or redevelopment of existing areas.

6-37 The City will provide a process through the development code to review and approve exceptions to height limits where it supports City goals and policies.

6-38 Commercial development adjacent to arterial streets and highways shall be subject to City of Bend and/or Oregon Department of Transportation access management standards (as applicable) and shall provide for multimodal access.

6-39 The City will limit the amount of ground-floor residential development in the commercial zones and mixed employment zones to preserve economic lands for economic uses.

6-40 The City will monitor parking needs for commercial uses and set requirements at the lowest level to meet the community needs.

6-41 The City will write parking requirements to encourage walkable commercial development while providing for adequate parking.



Bend Buildable Lands Inventory

Bend's Land Base and Growth to 2028

Draft Document: February 26, 2016

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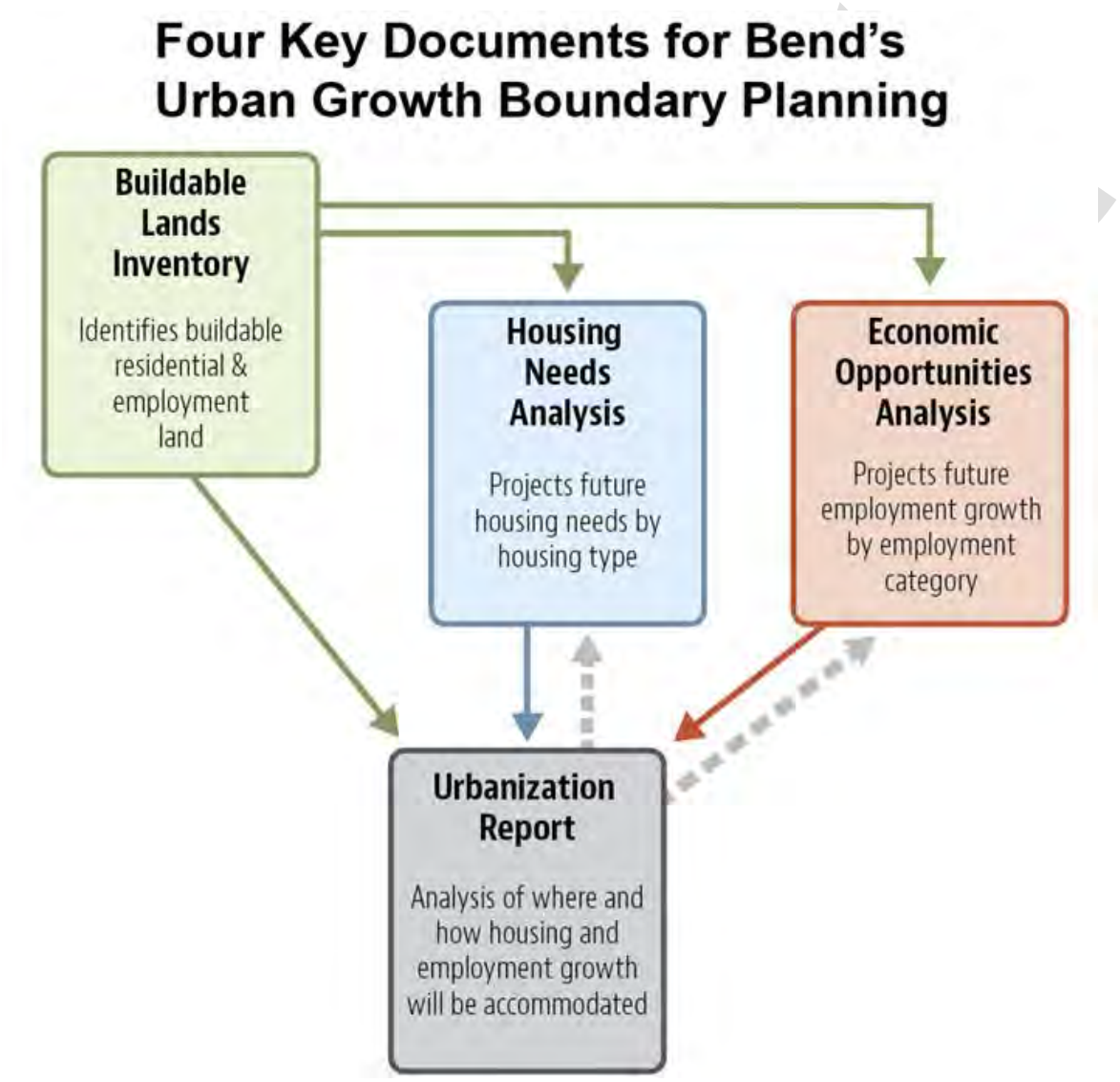
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EXECUTIVE SUMMARY

The Bend Buildable Lands Inventory (BLI) describes the land within the Bend Urban Growth Boundary (UGB) that can be developed to accommodate future residential and employment growth. The determination of developable land in the BLI is a key input for the Housing Needs Analysis, the Economic Opportunities Analysis, and the Urbanization Report, as shown in Figure EX-1.

Figure EX-1. Role of the BLI



There are four steps to the BLI. Each will be discussed in detail in this report:

Step 1 – Calculate Physical Constraints
Step 2 – Define Residential Land
Step 3 – Define Employment Land
Step 4 – Assign Developable Acreage to Each Parcel

Step 1: Calculate Physical Constraints

Land that is physically constrained is not assumed to be "buildable".[1] Land was identified as constrained if it: has 25% or greater slopes; is within the Federal Emergency Management Agency (FEMA) 100-year floodplain; is within a river or upland Area of Special Interest (ASI);[2] or is within the Waterway Overlay Zone (WOZ) and within 100 feet of the Deschutes River, where building setbacks may apply[3]. The total area affected by one or more of the constraints was calculated for each tax lot in Bend. There are roughly 1,420 acres of physically constrained land within the UGB, of which roughly 1,170 are within tax lots.

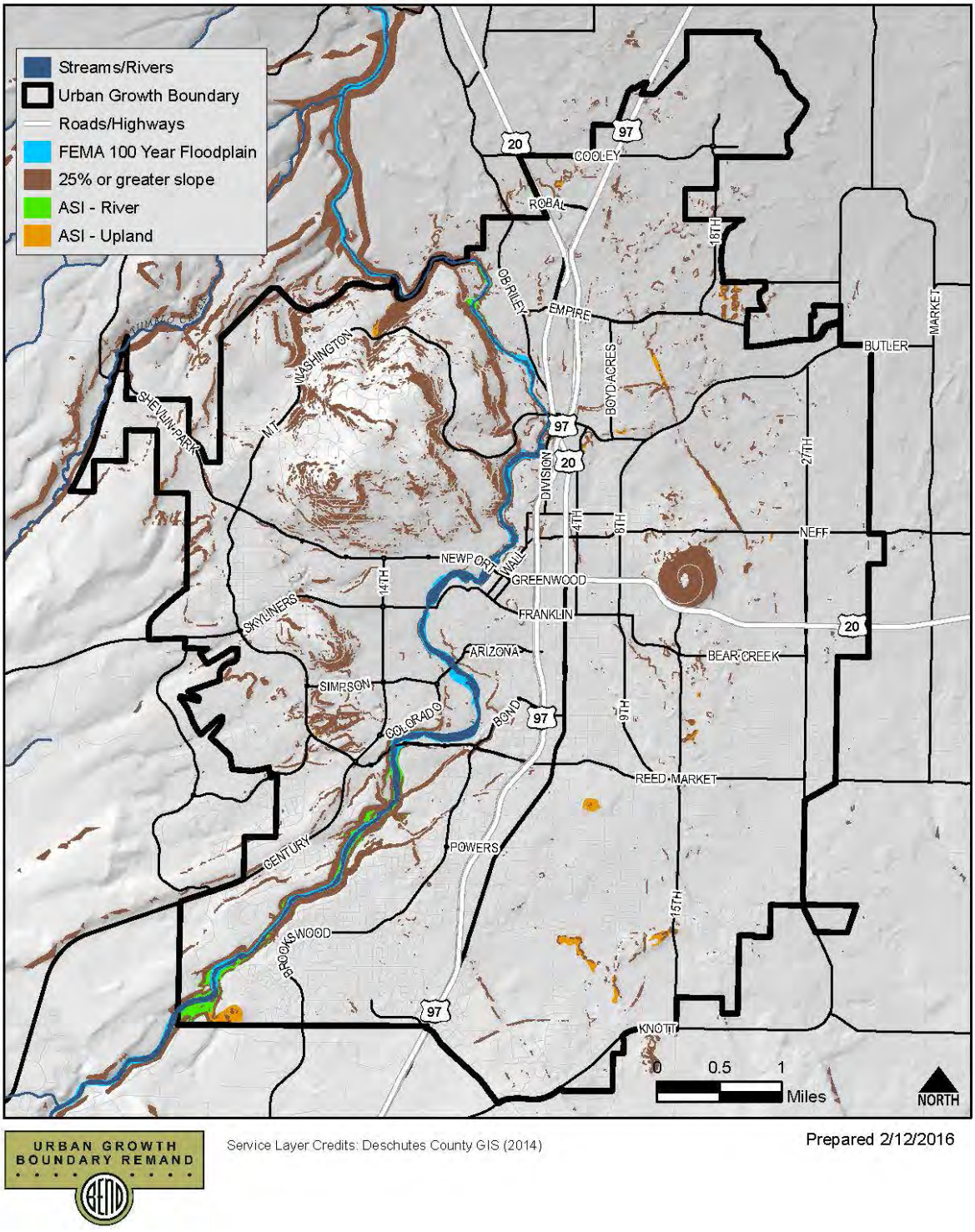
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[1] OAR 660-008-0005 (2) describes land generally not considered "suitable and available" for development, including areas with slopes of 25% or greater and areas within the 100-year floodplain.

[2] Bend's ASI's are not acknowledged Goal 5 resources. However, the city's regulations largely preclude development within these areas. Density transfers are allowed; however, there is no history of developers utilizing this option.

[3] Bend's WOZ combines four different sub-areas: the Deschutes River Corridor Design Review overlay; the Floodplain Combining Zone; Goal 5 Riparian Corridor protection; and River Corridor ASIs. Each sub-area has its own set of standards and setbacks for protection. Setbacks vary from 30 to 100 feet depending on the stretch of river and the sub-zone; some are measured from ordinary high water, while others are measured from the canyon rim. Because the setbacks are not mapped in detail, the generalized assumption was made that development restrictions are likely within 100 feet of the mapped edge of the river throughout its length.

Figure EX-1. Physical Constraints



Steps 2 & 3: Define Residential and Employment Land

The categorization of Residential Land and Employment Land and is described in table EX-2. Descriptions of comprehensive plan designations and zones are included in Appendix A.

Table EX-2. Residential and Employment BLI Categories

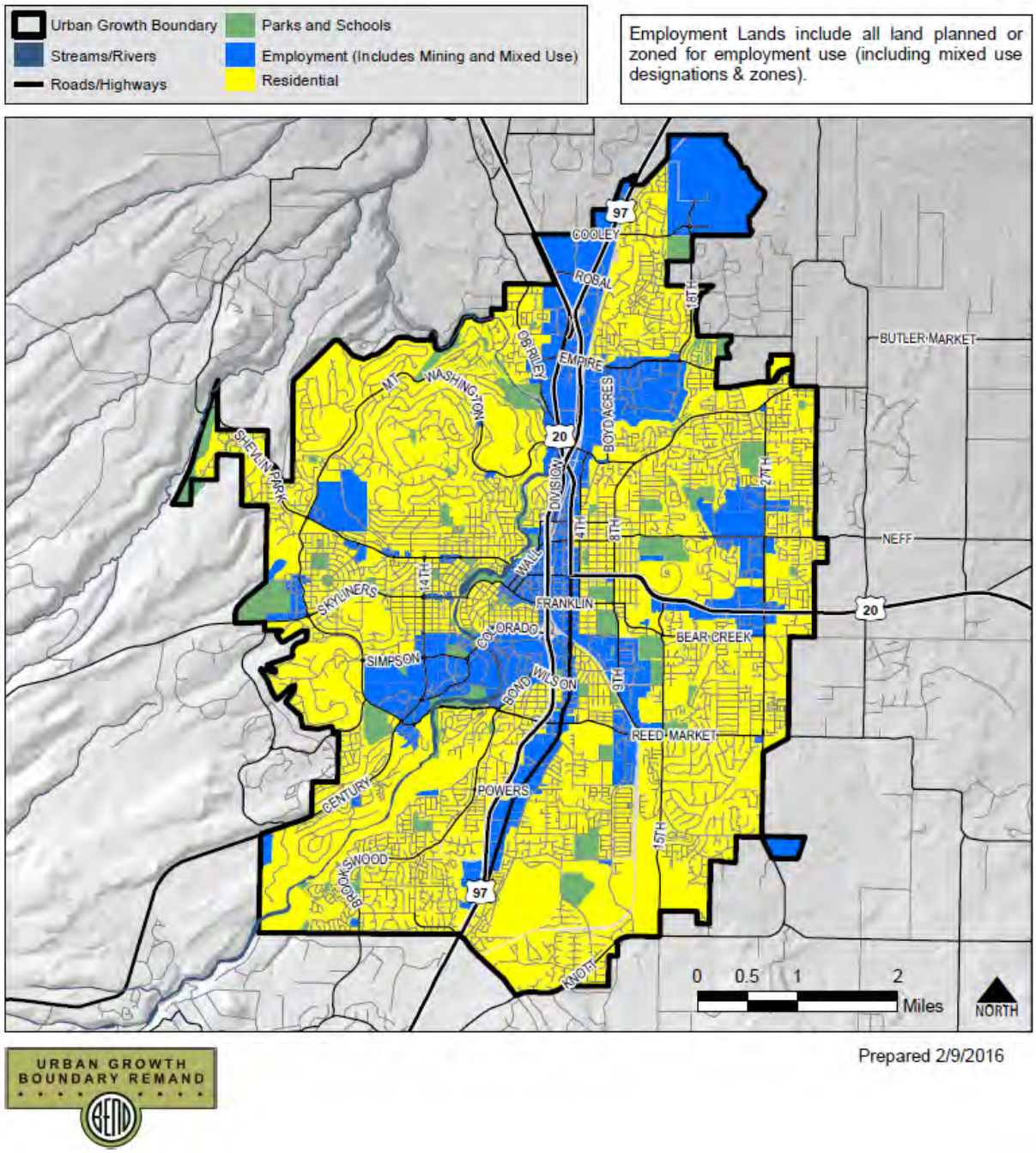
Residential BLI Categories	Employment BLI Categories
Residential Land has a Residential plan designation (RL, RS, RM, RH) or a residential zone category (RL, RS, RM, RH, SR2.5)*, with a few exceptions for special cases *(See Chapter 3 for details).*	**Employment Land** has a plan designation of CC, CG, CB, CL, MR, ME, PO, SM, IL, IG, or PF*, with a few exceptions for special cases *(See Chapter 3 for details)*.
Vacant – Land planned (per Comprehensive Plan map) or zoned (per zoning map) for residential use with no improvements. **Developed** – Land planned or zoned for residential use that is currently developed with the maximum number of dwelling units allowed in the zone, and the size of the lot does not allow for further division. Residential land that contains an employment use is also considered "Developed." **Lots Large Enough for an Additional Unit under Current Zoning *("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 to divide under current zoning. **Lots Large Enough to Divide Under Current Zoning *("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.	**Vacant** - a lot or parcel equal to or larger than one half-acre not currently containing permanent buildings or improvements; or equal to or larger than five acres where less than one half-acre is occupied by permanent buildings or improvements. **Developed** - All other employment land is identified as developed.[4]

* See Appendix A – Glossary.

[4] Developed employment land identified in this BLI includes all employment land that is not vacant, rather than land with a likelihood of redevelopment (as it is defined under Goal 9). A subset of developed employment land was identified as having a likelihood of redevelopment.

Figure EX-2 depicts the locations of residential and employment lands within the City.[5] Table EX-2 and Table EX-3 show the BLI designation of residential and employment land within the City of Bend.

Figure EX-2. Bend Residential and Employment Land



[5] Some properties have a zoning designation that is different from their comprehensive plan designation. For example – many properties with a "PF" plan designation have "RS" zoning. In these cases, residential zoning designations and residential uses put the property into the "Residential Land" category.

Table EX-2. BLI Designation of Residential Tax Lots (Excludes Parks & Schools)

BLI Designation of Residential Tax Lots	Number of Tax Lots	Total Acres
Developed	25,849	7,737
Lots Large Enough to Divide Under Current Zoning *("Developed with Infill Potential")*	4,573	2,554
Lots Large Enough for Additional Units under Current Zoning *("Partially Vacant")*	827	93
Publicly Owned (excludes schools and parks)[6]	179	544
Vacant	2,854	1,718
TOTAL	**34,282**	**12,646**

Table EX-3. BLI Designation of Employment Tax Lots (Excludes Parks & Schools)

Employment BLI Status	Number of Tax Lots	Total Acres
Developed	3,451	2,762
Vacant	247	1,056
TOTAL	**3,698**	**3,818**

Step 4: Assign Developable Acreage to Each Parcel

Each parcel within the City of Bend was assigned vacant acreage and developed acreage, based on its BLI designation. The methodology for assigning vacant acreage to infill categories is described in detail in Chapter 3 of this document. Table EX-4 lists the amount of vacant and developed acreage by plan designation for employment and residential land. These acreages are the basis for the jobs and housing capacity estimates used in the Housing Needs Analysis, the Economic Opportunities Analysis, and the Urbanization Report.

[6] Lands identified as being in public ownership, except for land owned by the Bend-La Pine School District and the Bend Park and Recreation District (whether or not currently developed with schools/parks).

Table EX-4. Vacant and Developed Acres by Plan Designation[7]

Plan Designation	Vacant Acres	Developed Acres
CB	0	38
CC	12	66
CG	117	613
CL	84	282
IG	8	178
IL	638	596
MDOZ*	73	177
ME	92	200
MR	33	127
PF	218	191
PO	6	0
PO/RM/RS	0	6
RH	24	111
RL	168	1,389
RM	292	847
RS	1,905	6,410
SM	20	0
URA	0	52
Grand Total	**3,690**	**11,284**

**Land within the Medical District Overlay Zone (MDOZ) is primarily within residential plan designations, but the overlay encourages development of medical and office uses. It is treated separately within the BLI where possible.*

Conclusion

The primary outcome of the Buildable Lands Inventory is a GIS dataset with values for vacant and developed acres for each parcel within the City of Bend UGB. These values provide a basis for estimating future development and redevelopment. The assumptions that have been applied to this inventory to estimate capacity are documented in the Urbanization Report, which estimates the potential for growth of housing and jobs within the current UGB based on existing conditions, as well as alternate growth scenarios involving changes to the Comprehensive Plan map and development code.

[7] Excludes public and private right of way, and land under Park District or School District ownership.

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CHAPTER 1. INTRODUCTION

This report is the City of Bend's Buildable Land Inventory (BLI), as defined and required by Oregon Administrative Rule (OAR) 660-024-0050, the Bend Urban Growth Boundary (UGB) Remand[8], and other relevant law[9]. This report provides information pertaining to the background, process, and results of the Bend Buildable Lands Inventory; detailed maps and methodology are provided as appendices.

Role of the BLI

The BLI is a supporting document of the City of Bend Comprehensive Plan[10]. In simplest terms, the BLI documents the urban land supply of Bend, and estimates the growth capacity for housing and jobs within the existing UGB. It is a key part of the factual base for growth management policy in Bend. The BLI also serves a very specific role, required by law, in analyzing and documenting specific categories of buildable land and providing the basis for estimating capacity for growth within Urban Growth Boundary (UGB). The BLI is one of four inter-related documents that are central in the City's planning related to the UGB. The purpose and major components of each of these documents are summarized in Table 1.

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[8] Remand and Partial Acknowledgement Order 10-Remand-Partial Acknow-001795, November 2, 2010.

[9] See "Framework for a Buildable Lands Inventory on page 3.

[10] The City of Bend is in the process of updating its General Plan, which includes changing the name of the document to the "Comprehensive Plan." These terms are synonymous and used interchangeably.

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

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

Framework for a Buildable Lands Inventory

The following section describes Oregon's requirements for a BLI and some key concepts necessary for understanding the BLI.

State Statues and Administrative Rules: Residential Land

Oregon state statute and administrative rules require local governments to produce a local buildable lands inventory as part of preparation of a Housing Needs Analysis. That BLI "must document the amount of buildable land in each residential plan designation."[12]

State statute identifies the following categories of buildable lands:[13]

> *(A) Vacant lands planned or zoned for residential use;*
>
> *(B) Partially vacant lands planned or zoned for residential use;*
>
> *(C) Lands that may be used for a mix of residential and employment uses under the existing planning or zoning; and*
>
> *(D) Lands that may be used for residential infill or redevelopment.*

It further requires that the local government "demonstrate consideration of:"[14]

> *(A) The extent that residential development is prohibited or restricted by local regulation and ordinance, state law and rule or federal statute and regulation;*
>
> *(B) A written long term contract or easement for radio, telecommunications or electrical facilities, if the written contract or easement is provided to the local government; and*
>
> *(C) The presence of a single family dwelling or other structure on a lot or parcel.*

The State administrative rules further define buildable land in the context of a Residential BLI as follows:[15]

> *(2) "Buildable Land" means residentially designated land within the urban growth boundary, including both vacant and developed land likely to be redeveloped, that is suitable, available and necessary for residential uses. Publicly owned land is generally not considered available for residential uses. Land is generally considered "suitable and available" unless it:*
>
> > *(a) Is severely constrained by natural hazards as determined under Statewide Planning Goal 7;*
> >
> > *(b) Is subject to natural resource protection measures determined under Statewide Planning Goals 5, 6, 15, 16, 17 or 18;*

[12] OAR 660-008-0010, effective February 14 2012

[13] ORS 197.296(4)(a), effective 2003

[14] ORS 197.296(4)(b), effective 2003

[15] OAR 660-008-0005(2), effective February 14 2012

(c) Has slopes of 25 percent or greater;

(d) Is within the 100-year flood plain; or

(e) Cannot be provided with public facilities.

(6) "Redevelopable Land" means land zoned for residential use on which development has already occurred but on which, due to present or expected market forces, there exists the strong likelihood that existing development will be converted to more intensive residential uses during the planning period.

State Statues and Administrative Rules: Employment Land

A similar inventory is required for employment land as part of the preparation of an Economic Opportunities Analysis (EOA). The categories used in the EOA inventory differ from those used for residential lands, and are as follows:[16]

(1) "Developed Land" means non-vacant land that is likely to be redeveloped during the planning period.

(14) "Vacant Land" means a lot or parcel:

(a) Equal to or larger than one half-acre not currently containing permanent buildings or improvements; or

(b) Equal to or larger than five acres where less than one half-acre is occupied by permanent buildings or improvements.

(3) Inventory of Industrial and Other Employment Lands. Comprehensive plans for all areas within urban growth boundaries must include an inventory of vacant and developed lands within the planning area designated for industrial or other employment use.

Prior BLI and Remand Issues

The Bend Urban Growth Boundary Remand (Remand) required the City to make a number of changes to the way residential land was classified for the purposes of the BLI and the way the capacity of that land was estimated (Sub-issue 2.2). The City has done a significant amount of work to address the issues raised in the Remand related to the BLI, summarized below.

Definitions and Categories

DLCD provided the following definitions to use while conducting a GIS parcel-based analysis of residentially planned or zoned land in the Bend UGB.[17] Where definitions were not provided in rule or statute, the Department provided one consistent with the terms outlined in ORS 197.296(4)(a).

[16] OAR 660-009-0005, effective [date].

[17] E-mail from Gloria Gardiner, DLCD, to Damian Syrnyk, October 21, 2010 and e-mail response from Gloria Gardiner, DLCD, to Karen Swirsky, dated June 9, 2011.

- **Vacant** – Land planned or zoned for residential use that shows no improvement value in the assessor's data.
- **Developed** – Land planned or zoned for residential use that is currently developed with the maximum number of dwelling units allowed in the zone, and the size of the lot does not allow for further division.
- **Lots Large Enough for an Additional Unit under Current Zoning** ("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 to divide under current zoning.
- **Lots Large Enough to Divide Under Current Zoning** ("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.
- **Redevelopable Land -** In addition to the four categories above, the city must consider whether developed land may be redevelopable within the planning horizon. 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."[18] Note the planning period in this UGB process is between 2008 and 2028.

These definitions and their operationalization within the BLI are further detailed in "Step 2 – Defining Residential Land" later in this document.

Exclusions

In 2008, the city identified certain categories of tax lots as unbuildable in the BLI, including:

- lots and parcels smaller than 0.5 acres with no improvements;
- lots and parcels subject to private, Covenants, Conditions and Restrictions (CC&Rs); and
- lots and parcels with physical constraints over 50 percent or more of the lot.

The Remand required the city to include vacant lots and parcels under 0.5 acres, to include land 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," and to reexamine the land identified as "constrained" to determine whether the remainder of the lot is buildable.[19]

This update of the BLI complies with these requirements. The City has included vacant lots and parcels under 0.5 acres and excluded only the portion of a lot that has physical constraints on it, leaving the remainder. The City has also conducted research on CC&Rs in effect on subdivisions within the UGB to determine whether and to what extent they restrict further development and infill. Restrictive CC&Rs have been addressed specifically in the BLI and

[18] OAR 660-008

[19] LCDC Remand Order, page 26.

Envision Tomorrow model.[20] A description of how CC&Rs have been addressed can be found in Step 2 – Defining Residential Land.

Time Periods and Data used in the Buildable Lands Inventory

Timing of Data

The City of Bend originally prepared a BLI in 2008 to support the 2008 UGB expansion proposal. It was refined in 2011 to use new definitions without updating the underlying data. This BLI is a new inventory, applying new definitions to a new parcel dataset from July 2014.

Source Data

This BLI is based on July 2014 assessors data from Deschutes County augmented with information from city GIS and building permit data. The underlying data and its sources are summarized below.

Tax lots and Assessor's Data. Deschutes County GIS tax lot data dated July 27, 2014 was used to create a base layer of all properties inside and within 3 miles of the existing Bend UGB. General property information from the Deschutes County Assessor's Office was included, containing attributes such as:

- ownership information (including public agency ownership, e.g. City, County, State, Federal, College District, Irrigation District, Parks District, School District, and Other Special District);
- property classification (for tax assessment purposes),
- structure information (including building square footage and number of structures); and
- improvement value (real market improvement value according to the tax assessor's office).

Physical Constraints. Detailed slope data from the City of Bend was used to identify areas with 25% or greater slopes. FEMA mapping was used to identify the 100-year floodplain. City data was used to identify River and Upland Areas of Special Interest (ASI's), as well as the Waterway Overlay Zone (WOZ).

Zoning and Comprehensive Plan Designation. These designations were applied to each tax lot. If the tax lot contained two or more zones, they were split into multiple polygons so they could be accounted for individually.

Property Use and Type. These attributes indicate the general property use (e.g. Single Family Residential, Employment, Open Space) and specific type (e.g. Duplex, Office, Golf Course) on the tax lot. These were identified through a combination of Assessor's Office data, City building permit data, aerial photography, and existing City tax lot inventory data.

[20] Envision Tomorrow is a scenario planning tool used to model growth and redevelopment. It has been used extensively in the Bend UGB Remand work to evaluate growth scenarios and identify land capacity. See Appendix D for additional description.

Number and Type of Existing Housing Units. The number of dwelling units on each property by type of dwelling unit was established, as with the property use and type, through a combination of Assessor's Office data, City building permit data, aerial photography, and existing City tax lot inventory data.

Zoned Development Potential (Residential Land Only). The maximum number of units allowed by the current plan designation based on lot area and maximum density for the applicable plan designation, and whether the lot size is more than double the minimum lot size (for single family detached housing) for the zone.

2008 BLI data. Data from previous BLI work was used as a reference and to provide context for specific tax lots.

CHAPTER 2: BUILDABLE LANDS INVENTORY

Overview

The methods used, and inventory results, are described in this chapter and organized into the four steps used to prepare the BLI. The four steps are:

- **Step 1 –** Calculate Physical Constraints
- **Step 2** – Define and Categorize Residential Land
- **Step 3** – Define and Categorize Employment Land
- **Step 4** – Assign Developable Acreage to Each Parcel

Step 1 – Calculate Physical Constraints

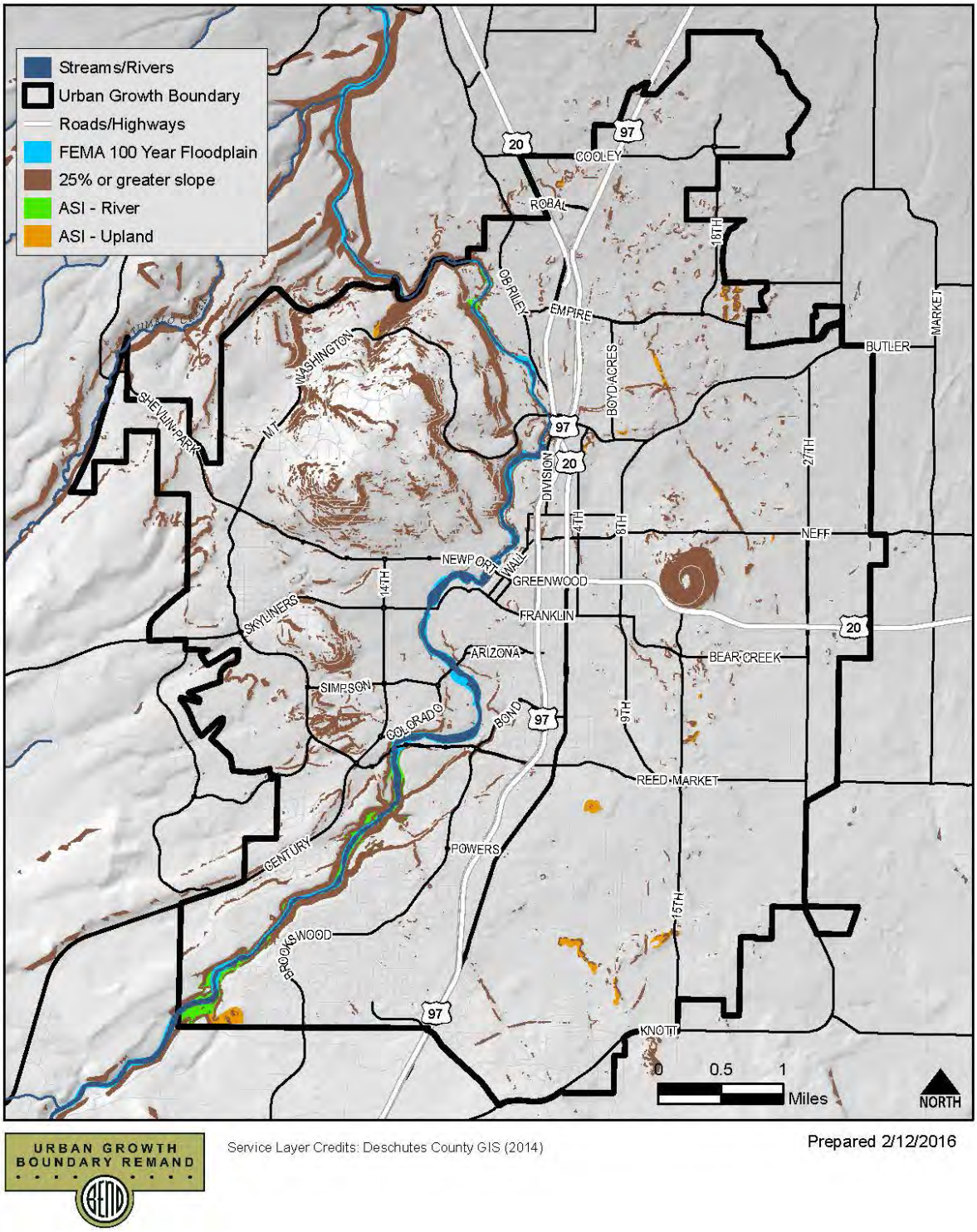
Land that is physically constrained per state requirements and definitions is assumed to be not "buildable" for the purposes of this inventory. Land was identified as constrained if it: has 25% or greater slopes; is within the Federal Emergency Management Agency (FEMA) 100-year floodplain; is within a river or upland Area of Special Interest (ASI);[21] or is within the Waterway Overlay Zone (WOZ) and within 100 feet of the Deschutes River, where building setbacks may apply[22]. The total area affected by one or more of the constraints was calculated for each tax

[21] Bend's ASI's are not acknowledged Goal 5 resources. However, the city's regulations largely preclude development within these areas. Density transfers are allowed; however, there is no history of developers utilizing this option.

[22] Bend's WOZ combines four different sub-areas: the Deschutes River Corridor Design Review overlay; the Floodplain Combining Zone; Goal 5 Riparian Corridor protection; and River Corridor ASIs. Each sub-area has its own set of standards and setbacks for protection. Setbacks vary from 30 to 100 feet depending on the stretch of river and the sub-zone; some are measured from ordinary high water, while others are measured from the canyon rim. Because the setbacks are not mapped in detail, the generalized assumption was made that development restrictions are likely within 100 feet of the mapped edge of the river throughout its length.

lot in Bend. There are roughly 1,420 acres of physically constrained land within the UGB, of which roughly 1,170 are within tax lots.

Figure 1. **Physical Constraints**



Step 2 - Define and Categorize Residential Land

Following is a detailed description of how different categories of residential land were defined for purposes of the inventory, as well as tables summarizing the total acres of land in each category.

Definition

Lands with a Residential plan designation (RL, RS, RM, RH), and lands with a residential zone category (RL, RS, RM, RH, SR2.5), are categorized as Residential Land, except for the "Special Cases" listed below.[23]

- **Land within School District or Park District Ownership** was considered unavailable for residential development.
- **Land in the Medical District Overlay Zone (MDOZ)** with a residential plan category was identified as "Mixed Use" and treated as part of the Employment land supply, but with the ability to accommodate some housing.[24]
- **Land with an employment plan designation but zoned Urban Area Reserve** (UAR), which is primarily a holding zone and does not indicate availability for urban residential development, was identified as Employment land.[25]
- **Land planned or zoned for surface mining** (SM) was identified as Employment land, [26] with one exception where landowners have proposed a residential use.[27]

Other land in mixed-use and commercial designations (not zoned for residential use) that allow residential development were treated as part of the Employment land supply, but with the ability to accommodate some housing, based on past trends.[28]

[23] There are over 200 parcels with residential zones and non-residential plan designations; however, the vast majority are developed. Those that are vacant are mostly identified as "special cases".

[24] The MDOZ is a special planned district applied to land around the St. Charles Medical Center intended to "allow for the continuation and flexible expansion of the hospital, medical clinics and associated uses in a planned and coordinated manner." (Bend Development Code, Section 2.7.510.A.) The residential, public, and institutional uses permitted or conditionally allowed in the base residential zones are subject to the same regulations , but hospitals are allowed in the RH zone within the overlay, and other limited commercial uses, including offices, are allowed or conditionally allowed in all zones within the MDOZ.

[25] There are roughly 51 acres on two tax lots designated ME but zoned UAR.

[26] One taxlot has an SM plan designation and an RS zone, covering roughly 30 acres inside the UGB, and currently mined.

[27] This taxlot is located along Shevlin Park road at Skyline Ranch Road, and is part of an existing mining operation that extends outside of the UGB.

[28] Bend has three mixed-use districts: the Mixed Employment District (ME), the Mixed Use Riverfront District (MR) and the Professional Office District (PO). Each of these allows some housing, as well as various combinations of retail, commercial, public/institutional, and light industrial uses. In addition, all four of the city's commercial zones (CB, CC, CL, and CG) allow new residential use outright as part of a mixed-use development.

BLI Status

Pursuant to the statues and administrative rules and guidance from DLCD summarized in Chapter 1 (See pages 3 and 4), each residential tax lot was assigned a BLI status corresponding to one of the following categories:

- Vacant
- Developed
- Lots Large Enough for an Additional Unit under Current Zoning ("Partially Vacant")
- Lots Large Enough to Divide Under Current Zoning ("Developed with Infill Potential")

Details of the way the definitions provided by statute, rule, and DLCD were operationalized for the purposes of this analysis are provided below.

Vacant: Land planned or zoned for residential use that has $0 in improvement value. Tax lots that are planned or zoned for residential use, but are dedicated for other uses such as parks, common areas, rights of way or utilities are excluded.[29] Publicly owned land is also excluded.[30]

Developed: Land planned or zoned for residential use that is currently developed with the maximum number of dwelling units allowed in the plan designation/zone[31]. Residentially zoned land that is currently developed with an employment or institutional use is also categorized as Developed. Properties with restrictive Covenants, Conditions, and Restrictions (CC&Rs) and containing a dwelling were categorized as fully developed, even where minimum lot sizes are large enough to allow land division under the current plan designation/zoning.[32]

Lots Large Enough for an Additional Unit under Current Zoning ("Partially Vacant"): Land planned or zoned for residential use that has an improvement value greater than $0, but contains fewer dwelling units than permitted in the plan designation. Based solely on lot size (not considering limiting factors such as setback and frontage requirements, lot coverage, or

[29] Private Open Space, including common areas that are part of an approved subdivision and/or owned by a Homeowners Association, unbuildable fragments, canal right of way, cemeteries, private roads, RV parks, and developed golf courses were identified as developed. The only exception is the undeveloped portion of the Back Nine golf course at Mountain High, which was considered vacant.

[30] As stated in ORS 660-008-005(2), publicly owned land is generally not considered available for residential uses. Publicly owned land was identified and designated "Public Land" and not considered vacant for residential purposes, unless information was available indicating otherwise.

[31] The zone that implements the current general plan designation for each parcel was used to identify maximum development potential, except for parcels with a non-residential plan designation and a residential zone. This is because the code does not allow development that is inconsistent with the plan designation, and each plan designation is implemented by a single zone.

[32] CC&Rs were reviewed to determine whether they limit or preclude infill and redevelopment. Only those parcels subject to CC&Rs that restrict addition of units to the lot and/or restrict land division were identified as having restrictive CC&Rs and categorized as fully developed. Note that vacant, platted lots subject to CC&Rs were categorized as vacant, but were also assumed not to have the potential for more than one dwelling unit. See the Urbanization Report for additional detail.

location of existing structures), additional units could be built on the site, but the lot is not large enough to further divide.[33]

Lots Large Enough to Divide under Current Zoning ("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 plan designation/zone, based on the minimum lot size of the applicable zone. As with Partially Vacant land, this category does not consider limiting factors such as setback and frontage requirements, lot coverage, or location of the existing unit on the lot.[33]

Note that redevelopable land is not identified as a BLI category. Theoretically, the developed portions of parcels that have additional zoned development potential (those that are identified as partially vacant or developed with infill potential) could allow for redevelopment; however, 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."[34] Redevelopment potential is addressed in the Urbanization Report.

[33] To identify partially vacant lands and land developed with infill potential, the maximum number of units that could be built on each residential tax lot was calculated, based on the maximum density allowed under the existing plan designation per the development code (which is expressed as a gross density) and the tax lot size. The number of existing units was then subtracted from the maximum number of units allowed. If one or more new units would be allowed based on the maximum density allowed by the zoning, the lot size was compared to the minimum lot size for single family detached housing in the zone. If the lot was more than double the minimum lot size, it was categorized as developed with infill potential. If it was not (but the maximum density of the zone would allow one or more additional units), the tax lot was categorized as partially vacant. (Considerations such as setback and frontage requirements, lot coverage, or location of the existing unit on the lot were not considered, although those will be limiting factors in many cases.)

[34] OAR 660-008-0005(7), effective February 14 2014.

Figure 2.**BLI Status of Residential Lands Map (2014)**

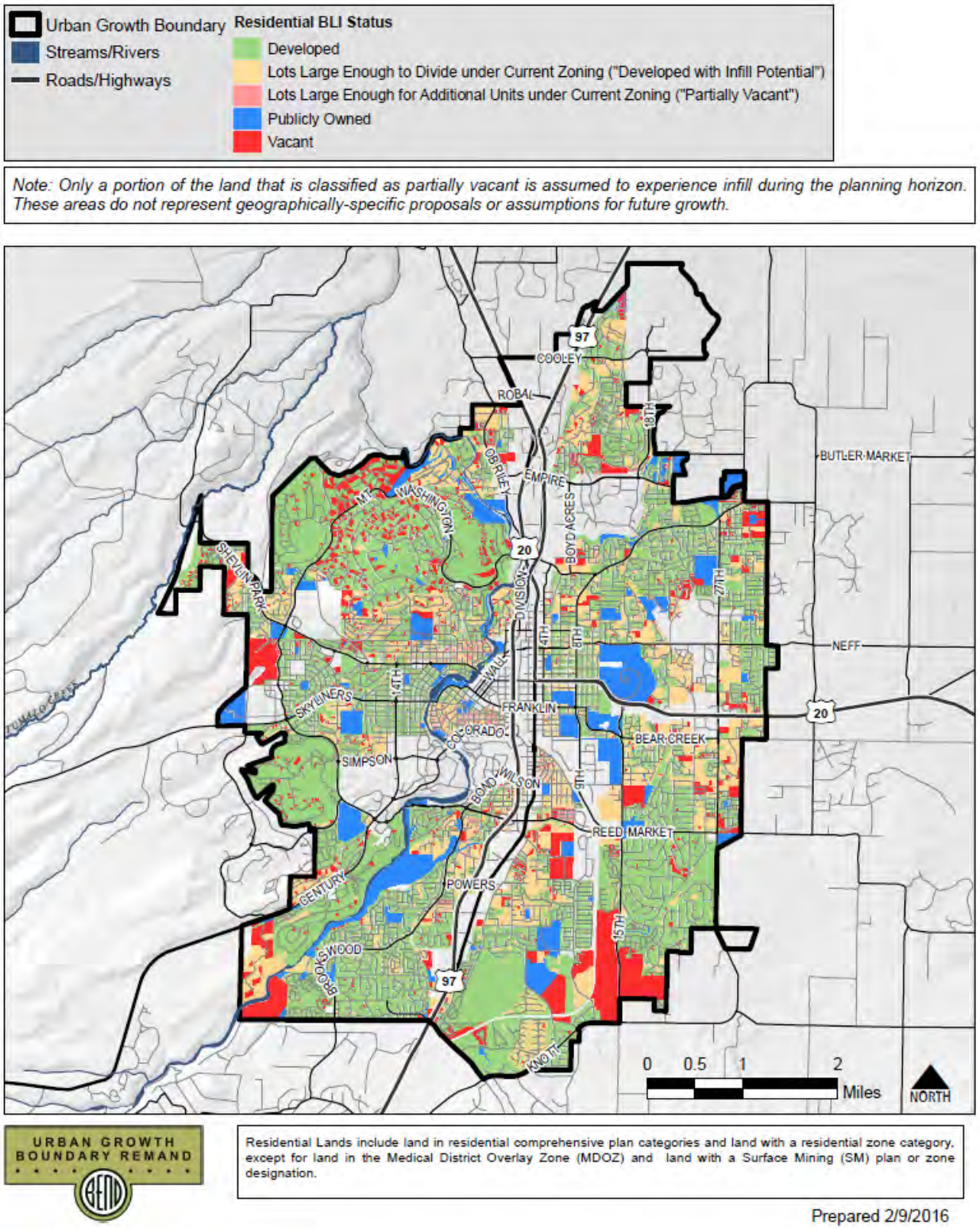
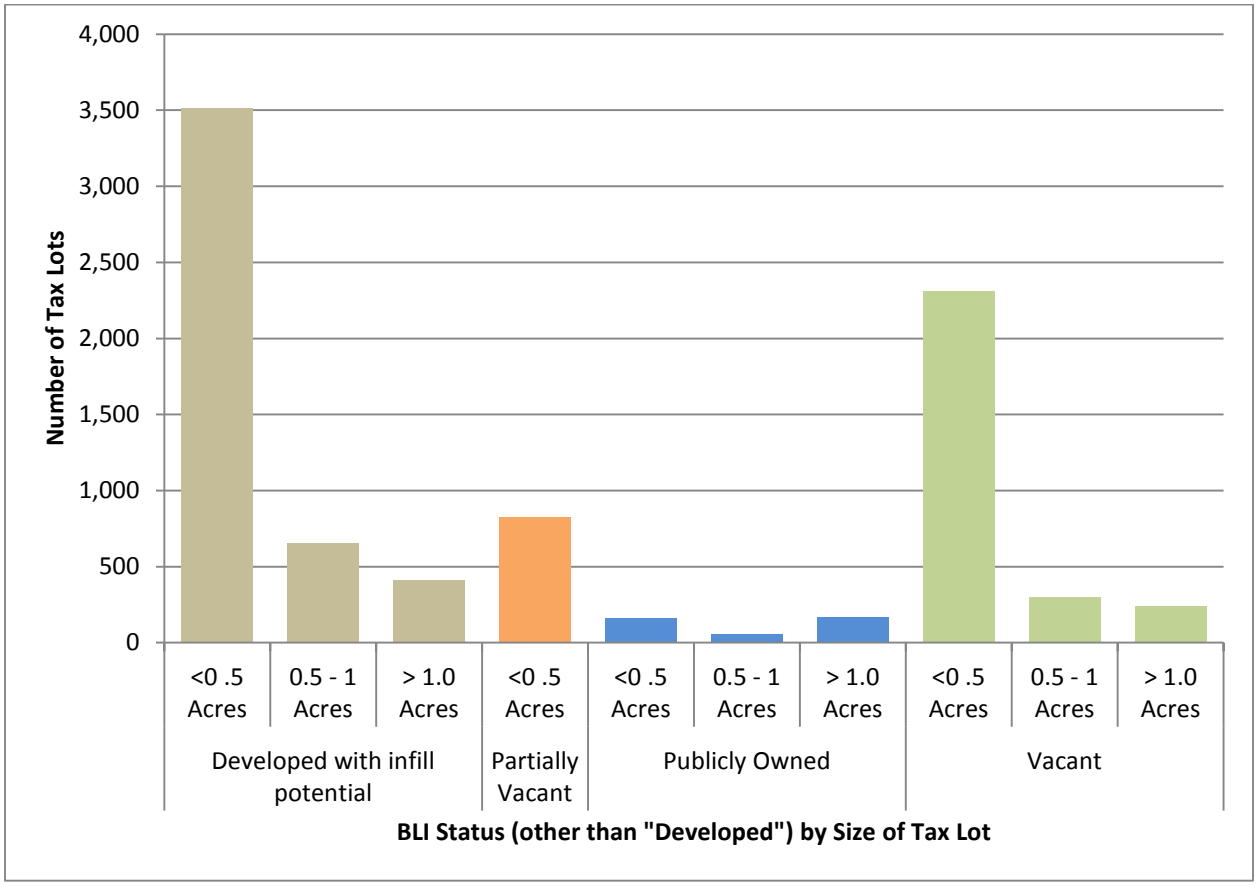


Table 1. BLI Designation of Residential Tax Lots

BLI Designation of Residential Tax Lots	Number of Tax Lots	Total Acres
Developed	25,849	7,737
Lots Large Enough to Divide Under Current Zoning *("Developed with Infill Potential")*	4,573	2,554
Lots Large Enough for Additional Units under Current Zoning *("Partially Vacant")*	827	93
Publicly Owned (excludes schools and parks)[35]	179	544
Vacant	2,854	1,718
TOTAL	**34,282**	**12,646**

Figure 3. **Size Distribution of Tax Lots by Residential BLI Status**



[35] Lands identified as being in public ownership, except for land owned by the Bend-La Pine School District and the Bend Park and Recreation District (whether or not currently developed with schools/parks).

Table 2. BLI Status for Residential Land by Comprehensive Plan Category[36]

Comprehensive Plan Designation	Number of Taxlots	Total Acres
RH	**526**	**136.9**
Developed	200	45.6
Developed with infill potential	165	46.5
Partially Vacant	63	6.0
Vacant	88	19.5
Publicly Owned	10	19.3
RL	**3,019**	**1,613.0**
Developed	2,836	1367.1
Developed with infill potential	98	184.9
Partially Vacant	1	0.5
Vacant	69	53.7
Publicly Owned	15	6.9
RM	**4,891**	**1,225.7**
Developed	1,977	336.8
Developed with infill potential	1,615	198.6
Partially Vacant	750	85.1
Vacant	517	182.5
Publicly Owned	32	22.5
RS	**25,615**	**9,181.4**
Developed	20,705	5,912.8
Developed with infill potential	2,963	1,723.2
Partially Vacant	13	1.6
Vacant	2,111	1,439.3
Publicly Owned	93	104.5
URA	**13**	**53.4**
Developed	10	20.7
Developed with infill potential	0	0.0
Partially Vacant	0	0.0
Vacant	2	0.1
Publicly Owned	1	32.5
Commercial / Industrial Designation[37]	**54**	**8.0**
Developed	53	6.8
Developed with infill potential	0	0.0
Partially Vacant	0	0.0
Vacant	0	0.0
Publicly Owned	1	1.2

[36] Excludes land owned by the Bend-La Pine School District and the Bend Park and Recreation District, and land within the MDOZ.

[37] These lands have a comprehensive plan designation of CC, CG, CL, or IL, but have a zoning designation of RS or RM and are considered part of the Residential inventory.

Comprehensive Plan Designation	Number of Taxlots	Total Acres
PF	**164**	**427.5**
Developed	68	47.2
Developed with infill potential	2	0.6
Partially Vacant	0	0.0
Vacant[38]	67	22.6
Publicly Owned[39]	27	357.1
Grand Total	**34,282**	**12,645.9**

Step 3 – Define and Categorize Employment Land

Following is a detailed description of how different types of employment land were defined for purposes of the BLI and tables summarizing the total acres of land in different categories.

Definitions

The BLI status for all land planned or zoned for employment use (including mixed use designations & zones) was assigned using the statutory definitions for employment land, with the exception of school and park land.[40]

- Vacant - a lot or parcel equal to or larger than one half-acre not currently containing permanent buildings or improvements; or equal to or larger than five acres where less than one half-acre is occupied by permanent buildings or improvements.
- Developed - All other employment land is identified in the BLI map as developed, although only a subset of this will meet the state definition of “developed” land that may be part of the inventory of available employment land ("Developed Land" means non-vacant land that is likely to be redeveloped during the planning period).

A map of BLI status of employment lands is shown in Figure 6. Detailed maps are provided in Appendix A.

[38] The vacant land that has a PF designation and is included in the residential BLI is zoned RS and includes land platted as part of residential subdivisions, and one large parcel (roughly 14 acres in southeast Bend) under common ownership with adjacent vacant RS-designated land.

[39] This category includes the Central Oregon Irrigation District (COID) property that has a PF designation and residential zoning. However, the site is encumbered by a view easement and is not considered developable through the year 2035.

[40] OAR 660-009-0005(1) and (14)

Table 3. Tax Lots and Acres by Employment BLI Status (Excludes School and Park Land)

Employment BLI Status	Number of Tax Lots	Total Acres
Developed	3,451	2,762
Vacant	247	1,056
Grand Total	**3,698**	**3,818**

Figure 4. **Developed and Vacant Employment Land by Number of Tax Lots**

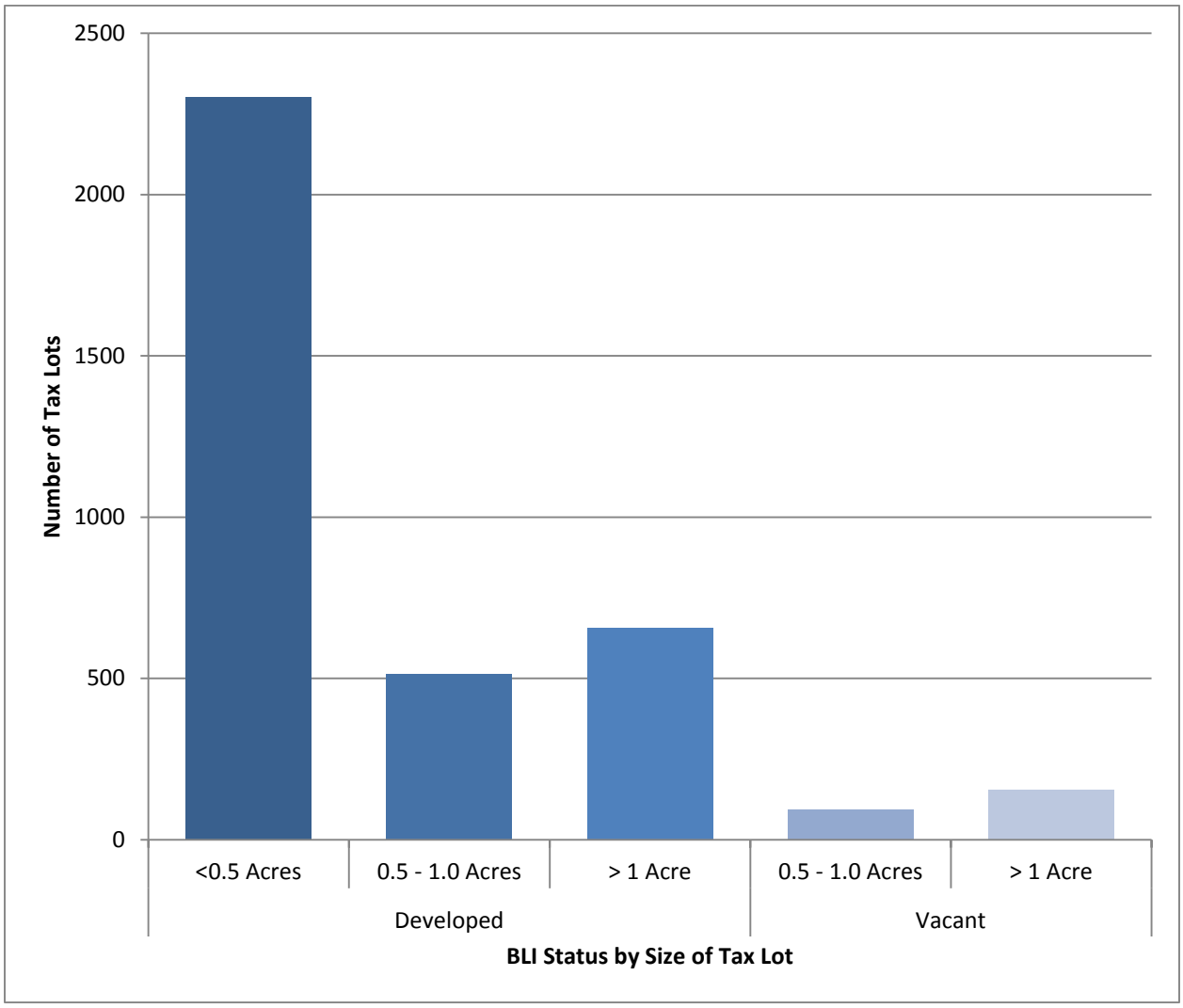
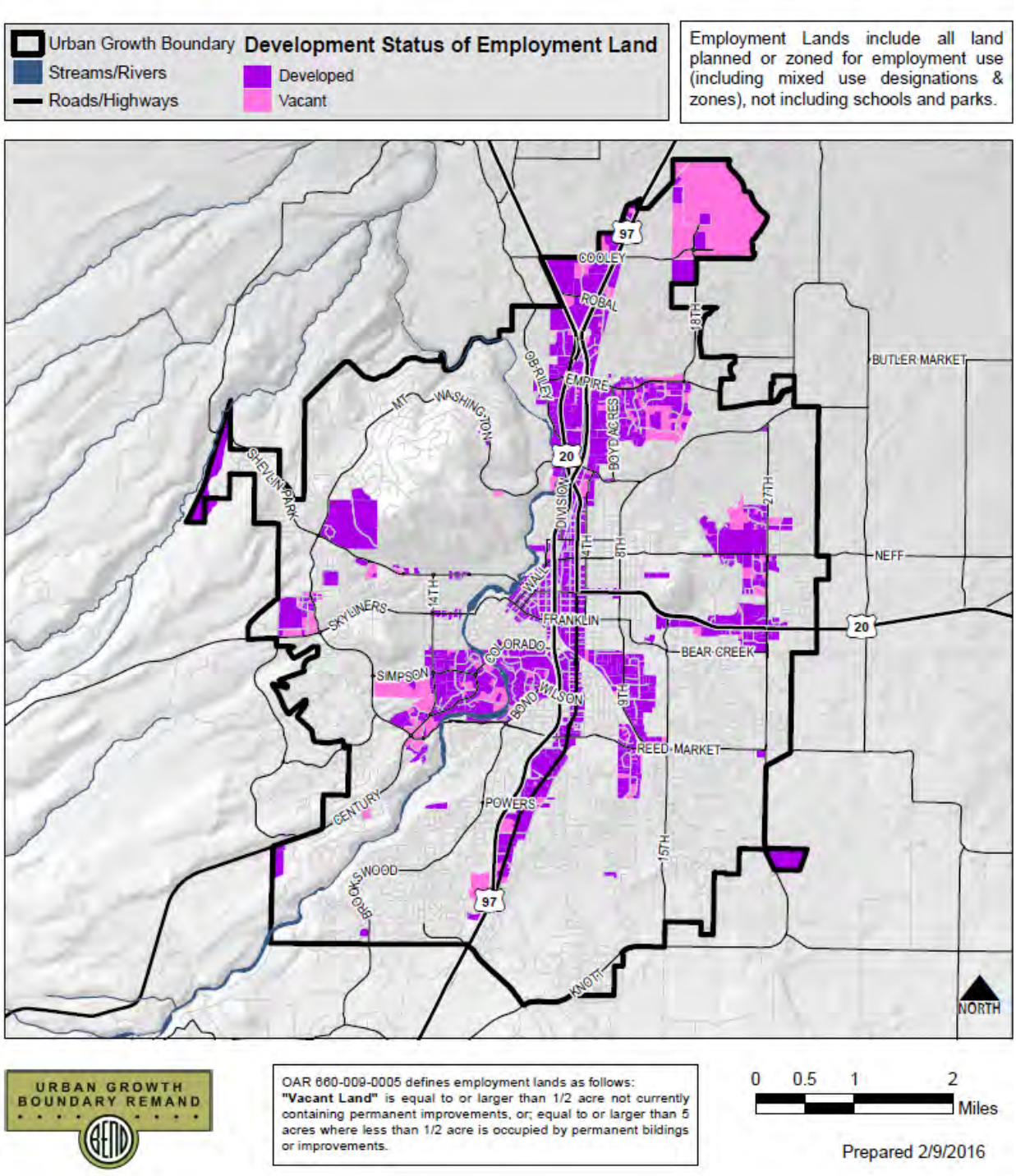


Table 4. Employment Land by Comprehensive Plan Designation (Excluding Park and School Land)

Comprehensive Plan Designation	Number of Taxlots	Total Acres
CB	**322**	**40.2**
Developed	322	40.2
Vacant	0	0.0
CC	180	77.8
Developed	173	65.8
Vacant	7	12.0
CG	**564**	**724.8**
Developed	515	627.8
Vacant	49	97.0
CL	**763**	**374.4**
Developed	734	305.4
Vacant	29	69.0
IG	**152**	**196.6**
Developed	146	188.2
Vacant	6	8.4
IL	**669**	**1259.3**
Developed	579	658.8
Vacant	90	600.5
MDOZ*	**186**	**250.7**
Developed	126	75.9
Vacant	20	55.2
ME	**335**	**308.1**
Developed	318	270.0
Vacant	17	38.1
MR	**453**	**221.1**
Developed	435	180.8
Vacant	18	40.3
PF	**45**	**543.8**
Developed	38	457.8
Vacant	7	86.0
PO	**2**	**6.1**
Developed	0	0.0
Vacant	2	6.1
PO/RM/RS	**25**	**5.8**
Developed	25	5.8
Vacant	0	0.0
SM	**2**	**43.1**
Developed	0	0
Vacant	2	43.1
Grand Total	**3,698**	**3817.5**

** Land within the Medical District Overlay Zone (MDOZ) is primarily within residential plan designations, but the overlay encourages development of medical and office uses. It is treated separately within the BLI where possible.*

Figure 5.**Employment BLI Status Map (2015)**



Step 4 – Assign Developable Acreage

After assigning a BLI category to residential and employment land, the next step is to identify how much of the land that has some remaining development potential is available. To this end, this BLI uses three attributes related to development capacity for each parcel: "Vacant Acres," "Developed Acres," and "Constrained Acres". "Vacant Acres" are available for development; "Developed Acres" are developed but may potentially undergo redevelopment[41]; and "Constrained Acres," such as steep slopes or floodplains, are undevelopable. The assignment of acreages to these three categories was done based on the BLI categories described in the previous sections. The Urbanization Report describes how this capacity, measured in acres, is translated into projected housing units and jobs.

Constrained acres are identified first, based on the physical constraints listed in Step 1 (see page 7). Land developed with certain types of uses, such as private right-of-way, canal right-of-way, utilities, developed schools and parks, open space in common ownership (e.g. homeowners associations), and cemeteries, is also assigned to the "constrained" category. This land was categorized as "constrained" rather than "developed" because it does not have a strong likelihood of redevelopment within the planning horizon, even if adjacent land used for private development may have redevelopment potential.

The remaining acreage of each parcel is classified as vacant or developed as described below.

Developable Acreage: Residential Land

The methodology for assigning vacant and developed acres for residential land is summarized below by BLI category.

- **Vacant –** All unconstrained acreage was coded as vacant. Developed acreage was set to zero.
- **Developed** – All unconstrained acreage was coded as developed. Vacant acreage was set to zero.
- **Lots Large Enough for an Additional Unit under Current Zoning** ("Partially Vacant") and **Lots Large Enough to Divide Under Current Zoning** ("Developed with Infill Potential") – The overall assumption is that lots in these categories are made up of a mix of developed and vacant land. The amount of land that is committed to existing structures was estimated based on building footprint information (where available) and/or zoning requirements. Where there was less than ½ acre available after accounting for land committed to existing structures, the unconstrained portion of the tax lot was coded as Developed. Where there was greater than ½ acre available, the land committed to existing structures was coded as developed, and the estimated remaining available amount was coded as Vacant. [42]

[41] See Chapter 2 of the Urbanization Report for methodology used in forecasting redevelopment.

[42] Methodology for "Partially Vacant" and "Developed with Infill Potential" is as follows:

1. Calculate Zoning Required Acres - Methodology was based on Table 2.1.500 from Bend's Zoning Code. The area that is "committed" based on the existing zoning equals the number of units times

Table 5. Developed and Vacant Acres on Residential Land (Excludes School and Park Land)

Plan Designation and Development Status	Vacant Acres	Developed Acres
RH	**24.0**	**111.0**
Developed	0.0	43.9
Developed with infill potential	4.5	41.9
Partially Vacant	0.0	6.0
Publicly Owned	0.0	19.2
Vacant	19.5	0.0
RL	**167.9**	**1,389.1**
Developed	0.0	1339.8
Developed with infill potential	116.8	42.9
Partially Vacant	0.0	0.5
Publicly Owned	0.0	5.9
Vacant	51.1	0.0
RM	**291.8**	**846.8**
Developed	0.0	292.3
Developed with infill potential	118.8	462.7
Partially Vacant	0.0	84.1
Publicly Owned	0.0	7.7
Vacant	173.0	0.0
RS	**1,905.5**	**6,409.9**
Developed	0.0	5328.7
Developed with infill potential	622.9	998.9
Partially Vacant	0.0	1.6
Publicly Owned	0.0	80.8
Vacant	1,282.6	0.0
URA	**0.1**	**51.9**
Developed	0.0	19.3
Publicly Owned	0.0	32.5
Vacant	0.1	0.0

the minimum lot size or the area required for each unit. The remaining acreage that is "available" under the existing zoning is then subtracted from the constrained land.

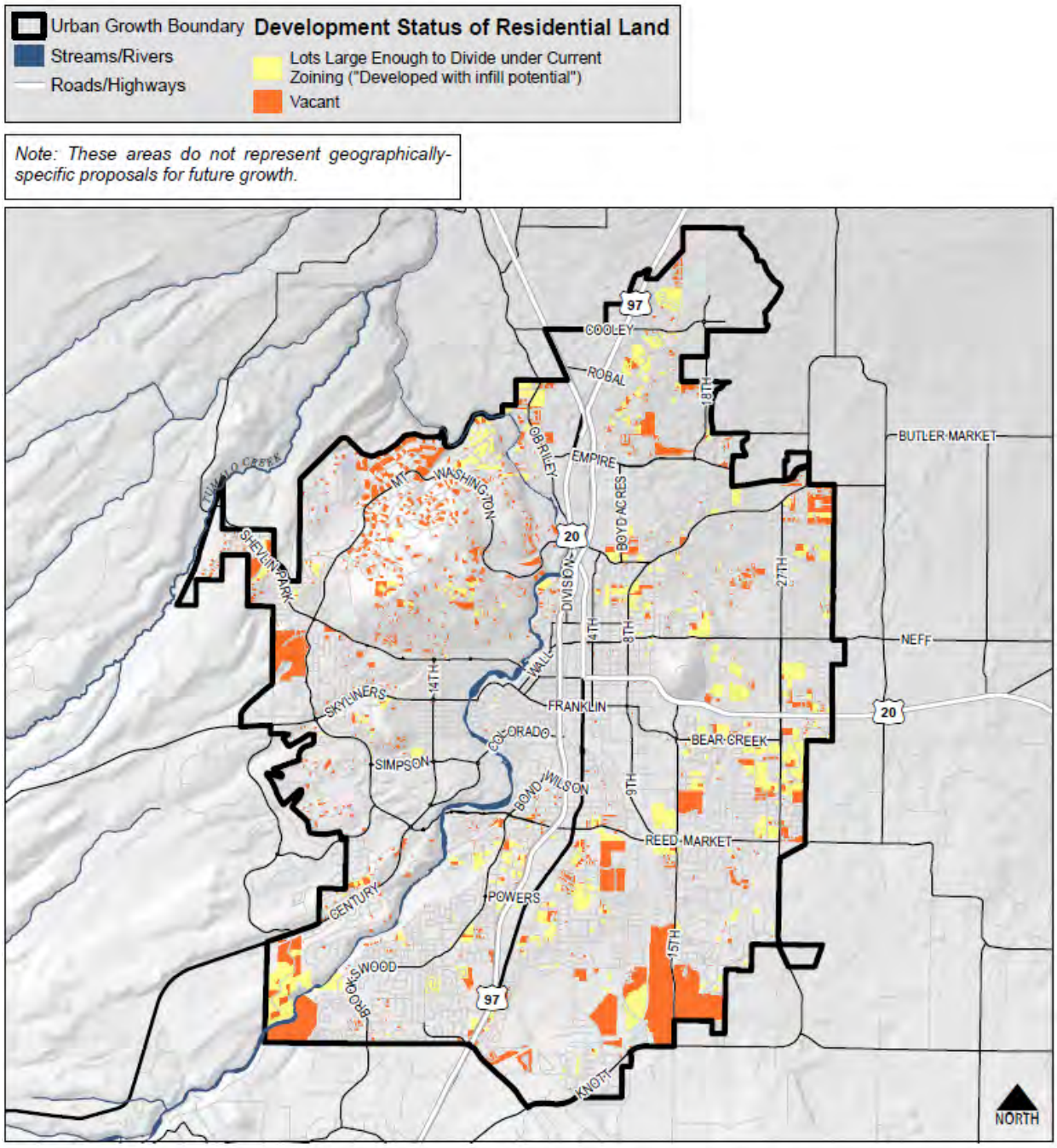
2. Calculate Building Footprint Area - Using a 2004 building footprint layer plus a 10-foot buffer from all mapped buildings, summed the total square feet of building footprint and buffer by tax lot. For tax lots with development but no building footprint information, used average building footprint + buffer area square footages for the same number of units (1 unit: 5000sf, 2 units: 5500 sf, 3-4 units: 6650 sf). For the two lots with >4 units and no building footprint info, used aerial photo and/or comparable adjacent lot to approximately measure area around existing buildings.
3. Calculate Vacant and Developed Area
    a. Where either acres available under zoning or acres remaining after subtracting building footprints & buffers are less than ½-acre, code unconstrained portion of lot developed.
    b. Where both acres available under zoning and acres remaining after subtracting building footprints & buffers are more than a half-acre, code the greater of the two as the developed acres, with the remainder coded as vacant.

Plan Designation and Development Status	Vacant Acres	Developed Acres
Commercial / Industrial Designations[43]	**0.0**	**5.6**
Developed	0.0	4.4
Publicly Owned	0.0	1.2
PF	**92.4**	**35.5**
Developed	0.0	9.7
Developed with infill potential	0.0	0.6
Publicly Owned	69.9	25.2
Vacant	22.4	0.0
Total	**2,481.6**	**8,849.8**

As Table 6 shows, there were no tax lots identified as "Lots Large Enough for Additional Units under Current Zoning (Partially Vacant)" that received any vacant acreage. This is because there were no tax lots with this designation that passed the screen detailed in footnote 42. Furthermore, there were no tax lots with this designation greater than ½ acre in total, as shown in the chart in Figure 2.

[43] These lands have a comprehensive plan designation of CC, CG, CL, or IL, but have a zoning designation of RS or RM and are considered part of the Residential inventory.

Figure 6.**Residential BLI Status – Taxlots with Vacant Acreage**



Developable Acreage: Employment Land

Based on the State's definitions, the extent of physical development was estimated based on aerial photography for parcels over five acres with some improvements. This information was used to classify land into a BLI category, but it was also used to identify vacant and developed portions of those parcels, so that a large parcel with some development but significant vacant acreage is identified as having both vacant and developed acres, to more accurately reflect its (re)development potential. This is consistent with OAR 660-009-0005, because this area represents land that is "likely to be redeveloped during the planning period".

Table 6. Developed and Vacant Acres on Employment Land

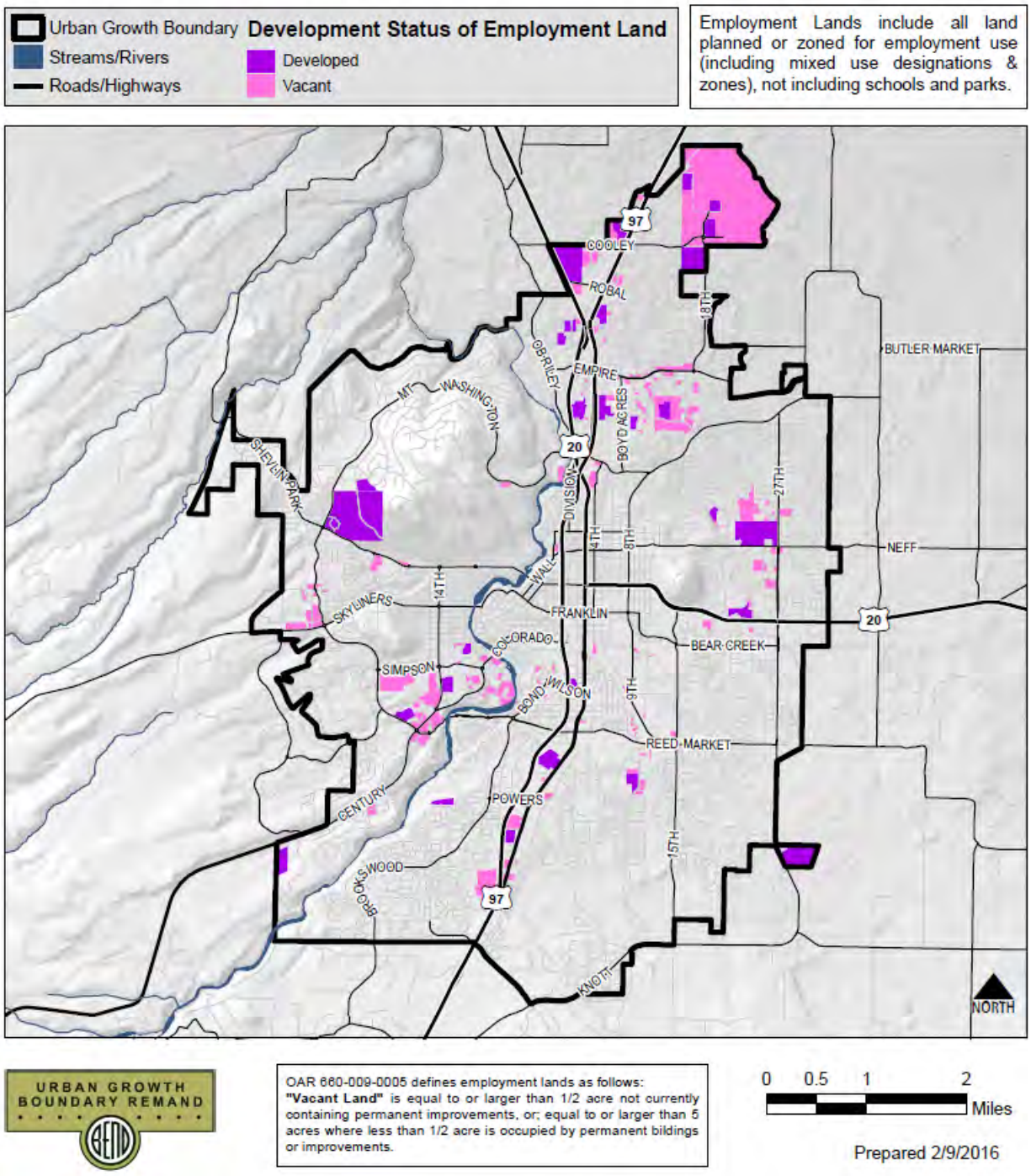
Plan Category and Employment BLI Status	Vacant Acres	Developed Acres
CB	**0.0**	**37.8**
Developed	0.0	37.8
Vacant	**0.0**	**0.0**
CC	**11.6**	**65.8**
Developed	0.0	65.8
Vacant	11.6	0.0
CG	**117.1**	**610.4**
Developed	22.0	599.4
Vacant	95.1	10.9
CL	**84.3**	**281.1**
Developed	20.3	281.1
Vacant	64.0	0.0
IG	**7.8**	**178.0**
Developed	0.0	178.0
Vacant	7.8	0.0
IL	**638.4**	**595.3**
Developed	44.7	595.3
Vacant	593.7	0.0
MDOZ*	**72.6**	**176.8**
Developed	17.4	176.8
Vacant	55.1	0.0
ME	**92.5**	**200.3**
Developed	54.6	200.3
Vacant	37.9	0.0
MR	**32.5**	**126.5**
Developed	0.0	126.5
Vacant	32.5	0.0
PF	**125.7**	**155.7**
Developed	113.4	155.7
Vacant	12.3	0.0

Plan Category and Employment BLI Status	Vacant Acres	Developed Acres
PO	**6.0**	**0.0**
Developed	0.0	0.0
Vacant	6.0	0.0
PO/RM/RS	**0.0**	**5.8**
Developed	0.0	5.8
Vacant	00	0.0
SM	**19.5**	**0.0**
Developed	0.0	0.0
Vacant	19.5	0.0
Grand Total	**1,208.0**	**2,433.6**

** Land within the Medical District Overlay Zone (MDOZ) is primarily within residential plan designations, but the overlay encourages development of medical and office uses. It is treated separately within the BLI where possible.*

*** Site has zoning of Surface Mining (SM) and is included in employment inventory.*

Figure 7.**Employment BLI Status - Taxlots with Vacant Acreage**



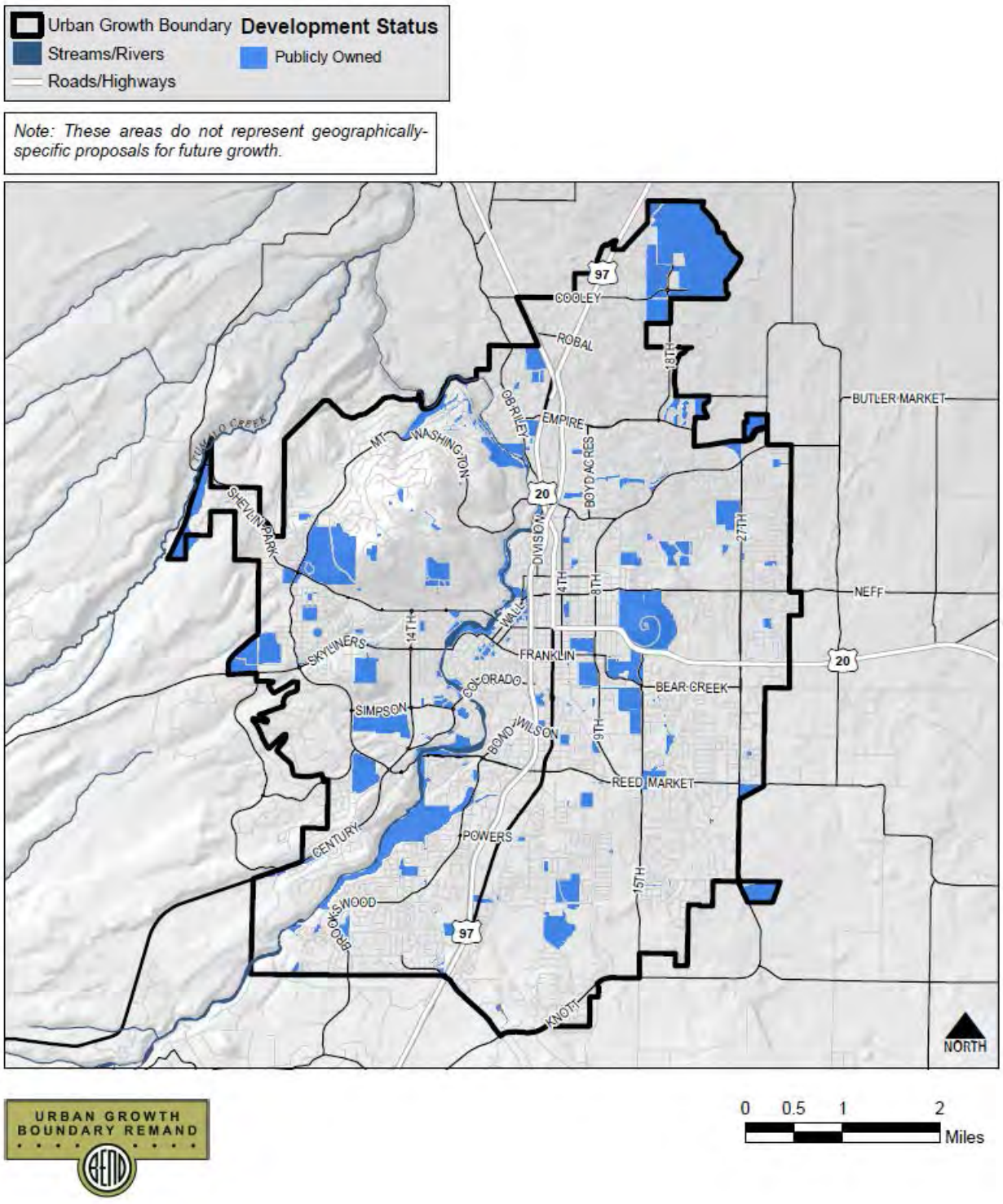
Developable Acreage: Publicly Owned Land

Publically owned lands were classified as developed because they are generally unavailable for residential development or redevelopment. If the public owner has indicated to the City that the land is available for development, it has been classified that way, such as Juniper Ridge, which is owned by the City of Bend and considered available for employment uses. Note that certain public land, such as canal right-of-way, utilities, developed schools and parks, was categorized as "constrained" rather than "developed" because it does not have a strong likelihood of redevelopment within the planning horizon, even if adjacent land used for private development may have redevelopment potential. "Developed" acres on publicly-owned land are generally developed with institutional or administrative uses other than K-12 public schools, such as public offices and maintenance facilities.

Table 7. Developed and Vacant Acres on Publicly Owned Land

Plan Category	Vacant Acres	Developed Acres
CB	0.0	3.1
CG	10.9	12.8
CL	2.2	8.8
IG	0.0	2.7
IL	455.7	24.5
ME	7.5	26.9
MR	0.0	6.7
PF	195.0	477.3
RH	1.1	23.7
RL	0.0	5.9
RM	0.0	42.5
RS	0.0	167.1
URA	0.0	47.5
Grand Total	**672.5**	**849.6**

Figure 8.**Publicly Owned Land**



CONCLUSION

The primary outcome of the Buildable Lands Inventory is a GIS dataset with values for vacant and developed acres for each parcel within the City of Bend UGB. These values provide a basis for estimating future development and redevelopment. The assumptions that have been applied to this inventory to estimate capacity are documented in the Urbanization Report, which estimates the potential for growth of housing and jobs within the current UGB based on existing conditions, as well as alternate growth scenarios involving changes to the Comprehensive Plan map and development code.

APPENDIX A – GLOSSARY

Plan Designations

Plan designations are spelled out below. For additional information, see the Bend Comprehensive Plan.

Residential Designations:

RL: Residential Low Density

RS: Residential Standard Density

RM: Residential Medium Density

RH: Residential High Density

SR2.5: Suburban Low Density Zone

Employment/Mixed Use Designations:

CB: Central Business District

CC: Community Commercial

CG: General Commercial

CL: Commercial Limited

MR: Mixed Riverfront.

ME: Mixed Employment

PO: Professional Office

SM: Surface Mining

IL: Industrial Limited

IG: Industrial General

PF: Public Facilities

URBAN GROWTH BOUNDARY REMAND

MAKING BEND EVEN BETTER

Bend Housing Needs Analysis

Bend's Growth to 2028

Document: April 14, 2016






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EXECUTIVE SUMMARY

Bend's population grew from about 20,000 people in 1990 to 78,000 people in 2013, nearly tripling. Over the same period, Bend's housing stock grew from about 9,000 dwelling units to nearly 34,000 dwelling units, also nearly tripling. Most new housing development in Bend was single-family detached housing.

As Bend has grown, housing has become less affordable, especially since 2000. Housing sales prices more than doubled between 2000 and 2013, while household income (not adjusted for inflation) increased by 18%. Rental costs also increased in Bend, with the percentage of households paying $1,000 or more in monthly rent increasing from 9% of households in 2000 to more than 40% of households in 2013.

Bend is planning for growth of about 38,500 people between 2008 and 2028, requiring nearly 16,700 new dwelling units. Bend's housing needs are changing, based the following key demographic changes occurring in Bend and across the nation:

- **Growth in Baby Boomers (Age in 2014: 48 to 67 years old; Age in 2028: 62 to 81 years old).** The number of people over age 65 years old is projected to grow by more than 37,000 over the planning period. Given that Bend's population accounts for about half of the County's population, about half of this growth will be in Bend. Households with a householder over the age of 65 typically have lower income than younger households. Those without accumulated wealth (e.g., housing equity or investments) may choose lower-cost multifamily housing. Some Baby Boomers may choose to downsize their housing, resulting in greater demand for small single-family dwellings, cottages, accessory dwelling units, townhomes, apartments, and condominiums.
- **Growth in Millennials (Age in 2014: 17 to 30 years old; Age in 2028: 31 to 44 years old).** The number of Millennials is expected to grow by about 14,000 in Deschutes County over the planning period. Given that Bend's population accounts for about half of the County's population, about half of this growth will be in Bend. Younger Millennials typically have lower income and may have higher debt. Growth in Millennial households will increase the need for affordable housing for renters and homeowners such as: small single-family dwellings, cottages, accessory dwelling units, duplexes, townhomes, garden apartments, and apartments.
- **Growth in Hispanic and Latino population.** The Hispanic and Latino population more than doubled between 2000 and 2013, growing by nearly 6,000 people. The Hispanic and Latino population is expected to continue to grow throughout the State, including in Bend, through 2028. To the extent that in-migrating Hispanic and Latino households have lower than average income, then in-migration of ethnic groups will increase demand for housing affordable to low- and moderate-income households relative to demand for other types of housing. Growth in Hispanic and Latino households will increase the need for affordable housing for renters and homeowners such as: single-family dwellings (both smaller and larger sized dwellings), duplexes, larger townhomes, garden apartments, and apartments. Ownership opportunities for Hispanic and Latino

households will focus on moderate-cost ownership opportunities, such as single-family dwellings on a small lot or in a more suburban location, duplexes, and townhomes.

These demographic changes, combined with the existing and growing need for affordable housing, shows a growing need for single-family attached housing (such as townhomes) and multifamily housing. While the majority of new housing will continue to be single-family detached housing, the type of single-family detached dwellings may change, with more emphasis on smaller and more affordable new single-family detached housing and a decrease in demand for large-lot single-family detached housing.

Bend's current housing policies and regulations support the development of a mix of housing that is not consistent with Bend's needed mix for a larger percentage of single-family attached and multifamily housing types (relative to past trends) and a higher percentage of more affordable single-family detached housing types. The City will need to enact policy and regulatory changes in order to move from the observed trend of building approximately 75% single-family detached units (between 1998 and 2014) to a rate of 55% single-family detached, 10% single-family attached and 35% multifamily units going forward from 2014 to 2028. This housing mix (55% SFD, 10% SFA and 35% MF) is the basis for determining residential land needs for the remainder of the planning period (2014-2028). Using this needed mix will ensure that a greater supply of land is available for needed types of housing. In addition, the City is proposing a package of efficiency measures to maximize the capacity of buildable residential lands within the existing UGB, enable development of multifamily and attached housing in mixed use opportunity areas, and make it more feasible and likely that the market will achieve the needed housing mix and densities. Doing so will have the effect of increasing the supply of needed types of housing at the needed mix that will be affordable to households in Bend in 2028.

CHAPTER 1. INTRODUCTION

Role of the HNA

This report presents a housing needs analysis (HNA) for the City of Bend. The purpose of this analysis is to address the requirements for planning for needed housing in urban areas with a population of 25,000 or more under ORS 197.296(3) and (5). These requirements include, but are not limited to, an inventory of buildable lands for housing, an analysis of national, state, and local demographic and economic trends, and recommendations for a mix and density of needed housing types.

The HNA is a supporting document of the City of Bend Comprehensive Plan. The HNA documents historical housing and demographic trends, the projection of population and housing growth, and analysis of housing affordability. Based on this analysis, the HNA estimates needed housing density and mix for the 2008 to 2028 period. The HNA compares the forecast of needed housing with the capacity of Bend's land base to accommodate new housing from the Bend Buildable Lands Inventory Report (BLI). The BLI is one of four inter-related documents that are central in the City's planning related to the UGB. The major components of each are summarized below in Table 1.

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 housing and demographic trends, the projection of employment growth, identification of target industries, and evaluation of site characteristics needed to accommodate target industries	Analysis of where and how Bend's future growth will be accommodated, both inside the existing Urban Growth Boundary (UGB) and in expansion areas
Primary Legal Standards[1]	ORS 197.296 OAR 660, Divisions 8 and 9	Statewide Planning Goal 10: Housing ORS 197.296 and 197.303 OAR 660, Division 8	Statewide Planning Goal 9: Economic Development OAR 660, Division 9	Statewide Planning Goal 14: Urbanization ORS 197.298 OAR 660, Division 24
Key Subject Matter	Development status categories and definitions Methodology for assigning categories and conducting inventory Inventory results: acres by plan designation and development status	Projection of population and total housing growth Housing market and development trends Demographic characteristics and trends Analysis of affordability Estimate of needed housing (mix and density) Comparison of housing capacity to need	Existing policy and vision National, state, local trends Employment projections Target industries Site needs and characteristics Special site needs Redevelopment analysis Comparison of employment capacity to need and characteristics	Methodology for capacity estimates Pre-policy ("base case") capacity estimate for current UGB Efficiency measures (EMs) proposed Current UGB capacity with EMs UGB alternatives evaluation methodology and results Proposed UGB expansion and summary of Goal 14 evaluation results

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

This HNA uses the 2008 HNA adopted by the City of Bend as a foundation. The information and conclusions of the updated HNA are the basis for determination of residential land sufficiency for the 2008-2028 period. This HNA collects the most recent works on residential land need for the City of Bend, addresses issues identified in the 2010 Remand Order, and incorporates direction from the Remand Task Force (RTF) and the Bend Urban Growth Boundary (UGB) Remand project's Residential Technical Advisory Committee (Residential TAC) and Urban Growth Boundary Steering Committee (USC).

An important consideration for the HNA update is that it must address issues identified in the Remand and partial acknowledgement of a decision made in December 2008. A key issue is the planning horizon for the project. The HNA uses the 2008-2028 timeframe, but updates key elements of the HNA to reflect changes that have occurred since 2008. This updated HNA relies on the 2008-2028 population and housing forecasts that were acknowledged by the Land Conservation and Development Commission's (LCDC) 2010 remand order.[2] The HNA presents data from the updated buildable land inventory, which was updated to reflect development that occurred in Bend between 2008 and 2014. The HNA also analyzes changes in Bend's housing market between 2008 and 2013 to account for housing from the 2008-2028 forecast that already occurred.

Framework for a Housing Needs Analysis

The following section describes the state requirements for a housing needs analysis and some key concepts necessary for understanding the housing needs analysis. This section concludes with a discussion of the steps in completing a housing needs analysis, based on a 1997 guidebook, "Planning for Residential Growth."

State Statutes and Administrative Rules

In an effort to address all requirements in statutes and administrative rules for an HNA, this document follows the suggested framework of "Planning for Residential Growth," a guide book prepared in 1997 by the Oregon Transportation and Growth Management (TGM) Program to assist local governments in developing an HNA that complies fully with applicable portions of ORS 197.296 and 197.303, as well as OAR 660-008.[3]

Statewide Planning Goal 10, Housing, is to provide for the housing needs of the citizens of the state.[4] Goal 10 requires cities to inventory lands for residential use and to develop plans that encourage the development of adequate numbers of needed housing units at price ranges and rent levels which are commensurate with the financial capabilities of Oregon households and allow for flexibility of housing location, type and density.

ORS 197.296 provides further requirements for complying with Goal 10. ORS197.296 requires the city to conduct an analysis of housing need by type and density range in accordance with

[2] The Commission's Remand Order is available on-line at: http://bendoregon.gov/modules/showdocument.aspx?documentid=5343.

[3] The guidebook is available on-line at http://www.oregon.gov/LCD/docs/publications/planning_for_residential_growth.pdf.

[4] See OAR 660-0015-0000(10)

ORS 197.303 and statewide planning goals and rules relating to housing. The purpose of this is to determine the amount of land needed for each needed housing type for the next 20 years.

ORS 197.296 requires cities to inventory buildable residential lands and determine the capacity of that land. It requires cities to determine housing capacity and housing need based on: (1) analysis of residential development, (2) trends in residential density and mix, and (3) demographic and economic trends.

ORS 197.296 requires the analysis of housing mix and density to include the past five years or since the most recent periodic review, whichever time period is greater.[5] Bend completed periodic review in 1998. The City had relatively little development over the 2008 to 2014 period, resulting in little change in development densities since 1998. However, the 2007-2009 recession resulted in substantial and long-lasting changes in the housing market, including changes that will affect future housing mix in Bend. As a result, the analysis of housing density is based on analysis of data from 1998 to 2008 but this HNA presents an update the analysis of trends affecting housing mix to include changes in the housing market, demographics, and other factors over the 2008 to 2014 period. These changes will affect Bend's housing market throughout the HNA's planning period.

ORS 197.303 defines needed housing as: single-family detached housing, single-family attached housing, multifamily housing, government assisted housing, and mobile or manufactured homes on lots or in parks.

Appendix B provides the text of key sections of ORS 197.296 and 197.303.

LCDC has adopted an administrative rule at OAR 660-008 to ensure opportunity for the provision of adequate numbers of needed housing units, the efficient use of buildable land within urban growth boundaries and to provide greater certainty in the development process so as to reduce housing costs[6], This rule is intended to define standards for compliance with Goal 10 and to implement ORS 197.303 through 197.307.

Key definitions for the Housing Needs Analysis

This section defines key terms used in the HNA: housing need, housing market demand, and affordable housing.

The language of Goal 10 and ORS 197.296 refers to housing *need*: it requires communities to provide needed housing types for households at all income levels. Put another way, a city's comprehensive plan must show that an adequate supply of land has been planned and zoned for all types of needed housing. Goal 10's broad definition of need covers all households—from those with no home to those with second homes. State policy does not make a clear distinction between need and demand. Following is the definition commonly used in housing needs analysis, which is consistent with definitions in state policy:

---

[5] Specifically, ORS 197.296(5) (b) states: "A local government shall make the determination described in paragraph (a) of this subsection using a shorter time period than the time period described in paragraph (a) of this subsection if the local government finds that the shorter time period will provide more accurate and reliable data related to housing capacity and need. The shorter time period may not be less than three years."

[6] See OAR 660-008-0000, Purpose

- *Housing need* can be defined broadly or narrowly. The broad definition is based on the mandate of Goal 10 that requires communities to plan for housing that meets the needs of households at all income levels. Goal 10, though it addresses housing, emphasizes the impacts on the households that need that housing. Since everyone needs shelter, Goal 10 requires that a jurisdiction address, at some level, how every household will be affected by the housing market over a 20-year period. Public agencies that provide housing assistance (primarily the Department of Housing and Urban Development – HUD, and the Oregon Housing and Community Services Department - HCS) define housing need more narrowly. For them, households in need do not include most of the households that can purchase or rent housing at an "affordable" price, consistent with the requirements of their household characteristics. Households that cannot find and afford such housing have need: they are either unhoused, in housing of substandard condition, overcrowded, or spending more of their monthly income on housing than their income and federal standards say they can afford.
- *Housing market demand* is what households demonstrate they are willing to purchase in the market place. Growth in population means growth in the number of households and implies an increase in demand for housing units. That demand is met, to the extent it is, primarily by the construction of new housing units by the private sector based on its judgments about the types of housing that will be absorbed by the market. ORS 197.296 includes a market demand component: buildable land needs analyses must consider the density and mix of housing developed over the previous five years or since their most recent periodic review, whichever is greater. In concept, what got built in that period was the effective demand for new housing: it is the local equilibrium of demand factors, supply factors, and price.

In short, a housing needs analysis should make a distinction between housing that people might need (a normative, social judgment) and what the market will produce (an observable outcome).

Another term using in the housing needs analysis is "affordable housing." The terms "affordable" and "low-income" housing are often used interchangeably. These terms, however, have different meanings:

- *Affordable housing* refers to a household's ability to find housing within its financial means. This term does not refer to either the development or the occupancy of housing through a public subsidy. A number of indicators exist that can be used to determine whether housing is affordable. One indicator is cost burden: households that spend more than 30% of their income on housing and certain utilities are considered to experience cost burden.[7] Any household that pays more than 30% experiences cost burden and does not have affordable housing. Thus, affordable housing applies to all households in the community.

[7] Cost burden is a concept used by HUD. Utilities included with housing cost include electricity, gas, and water, but do not include telephone expenses. All of the indicators ECO has reviewed, including cost burden, have limitations that can distort results. Cost burden does not consider the impact of household size or accumulated assets. As a result a single-person household with an annual income of $20,000 and accumulated assets of $500,000 would be in the same category as a family of seven with an annual income of $20,000 and no accumulated assets.

- *Low-income housing* refers to housing for "low-income" households. HUD considers a household low-income if it earns 80% or less of median family income. In short, low-income housing is targeted at households that earn 80% or less of median family income, which equated to an annual household income of $47,760 or less in 2013. Low-income households may include those that need some type of financial assistance to close the gap between what they can afford to spend on housing and the prices of housing available in the market.
- *Workforce housing* generally refers to housing that is affordable to households that earn between 60% and 120% of the median family income, which was an annual household income of between $35,800 and $71,640 in 2013.

Steps in the Housing Needs Analysis

The methodology used in the HNA is consistent with the DLCD guidebook, "Planning for Residential Growth," that outlined what steps to perform to complete a housing needs analysis that satisfies state law.[8] These six steps are:

Step 1 – Project the number of new housing units needed in the next 20 years,

Step 2 – Identify relevant national, state, and local demographic and economic trends and factors that may affect the 20-year projection of structure type mix.

Step 3 – Describe the demographic characteristics of the population, and, if possible, household trends that relate to demand for different types of housing.

Step 4 – Determine the types of housing that are likely to be affordable to the projected households based on household income.

Step 5 – Estimate the number of additional needed units by structure type.

Step 6 – Determine the needed density ranges for each plan designation and the average needed net density for all structure types.

To summarize, the City is required to consider its needs for future housing based on type and density over a 20-year planning period. This analysis of housing must examine current and future demographic and economic trends that will influence the types of housing produced and purchased or rented, In addition, this analysis must consider the types of housing needed at various price ranges and rent levels. One of the final steps in this process is an estimate of the number of additional units that will be needed by structure type. Once the City has done this, the City must show that an adequate supply of land for needed housing has been or will be planned and zoned within the existing UGB, and if necessary any area added through an expansion, to demonstrate that the General Plan satisfies Goal 10.

The housing needs analysis is organized by these steps. The next section of the report presents residential development trends, which forms the basis for the housing needs analysis.

[8] See pages 25 through 33, Planning for Residential Growth: A Workbook for Oregon's Urban Areas, Transportation and Growth Management Program, Lane Council of Governments, and ECO-Northwest (1997) -: http://www.oregon.gov/LCD/docs/publications/planning_for_residential_growth.pdf.

Prior Housing Needs Analyses and Remand Issues

The purpose of this section is to provide a brief review of the city's past work on completing a housing needs analysis consistent with Goal 10. The City provided this information to the Department of Land Conservation and Development (DLCD) and LCDC in January of 2010 as a component of the City's Appeal of the Director's January 8, 2010 Order and Report on the City's Proposed UGB Expansion,

In 2005, the City completed a buildable lands inventory (2005 BLI) (Supp. Rec. 1987) and a housing needs analysis (2005 HNA) (Rec. 2046). The City followed DLCD's Goal 10 guidebook to develop both products. After further work with a technical advisory committee (TAC), the City updated the 2005 HNA in April 2006 (Supp. Rec. 2157).

In 2007, consultant Angelo Planning Group (APG) prepared a final report that presented land need estimates for housing, schools, parks, and institutional uses (Rec. 2137). This 2007 report also presented a series of forecasts for residential land needs, following Oregon Revised Statutes (ORS) 197.296 and DLCD's Goal 10 workbook. Another consultant, Cogan Owens, prepared a draft General Plan housing element that, along with the 2007 APG land need report, were submitted to DLCD with a 45-day notice on June 11, 2007. (Supp. Rec. 1587, 1789.) Following the initial public hearings in July and August of 2007, the City, working in public work sessions of the Bend Planning Commission and with liaisons of the Deschutes County Planning Commission, reviewed and amended the proposed elements of the UGB expansion, including the work that supported the housing element.

From September 2007 through October 2008, the Bend Planning Commission held 35 public work sessions on the UGB expansion. Through these work sessions, which included extensive public input, the City revised its draft buildable lands inventory, housing needs analysis, and residential land need estimate. This work resulted in 2008 versions of the buildable lands inventory, housing needs analysis (Rec. 1280, 1728), and residential land needs analysis that were incorporated in the 2008 version of the housing element submitted to DLCD in 2009.

On November 2, 2010, LCDC issued its final order of remand and partial acknowledgement on the UGB expansion and its components. The final order was not appealed, and became final in January 2011. With respect to the HNA adopted as part of the UGB expansion, the Commission's order remands the city's decision for it to revise its findings and chapter 5 of its comprehensive plan consistent with a detailed analysis contained in the order.[9] That analysis is based on the January 2010 Director's Report and Order which specifies those tasks the City must complete, described in Appendix B.

Time Periods and Data used in the Housing Needs Analysis

This housing needs analysis uses three periods of time for historical analysis and for the forecast of housing need:

- **Planning Period**, ORS 197.296(2) further requires the City to ensure a 20-year supply of buildable land for needed housing. The statute stats that the 20-year period shall

[9] See Remand and Partial Acknowledgment Order ACKNOW-001795, LCDC, November 2, 2010, Sub-Issue 2.3, p. 33.

commence on the date initially scheduled for completion of the legislative review. For this HNA, the 20-year period begins in 2008 and ends in 2028.

- **Trend Period**, ORS 197.296(3)(b) requires the HNA 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. This HNA relies on data collected from 1998 to 2008.
- **Extended Trend Period**. The HNA was originally developed with data available up to 2008. This HNA extends the trend data to include data available between 2008 and 2013. This additional data provides information about changes in Bend's housing market since 2008.

This analysis uses data from multiple well-recognized and reliable data sources. One of the key sources for data about housing and household data is the U.S. Census. This report primarily uses data from two Census sources:

- The **Decennial Census**, which is completed every ten years and is a survey of all households in the U.S. The Decennial Census is considered the best available data for information such as demographics (e.g., number of people, age distribution, or ethnic or racial composition); household characteristics (e.g., household size and composition); and housing occupancy characteristics. As of the 2010 Decennial Census, it does not collect more detailed household information, such as income, housing costs, housing characteristics, and other important household information. The HNA uses Decennial Census data from 1990, 2000, and 2010.
- The **American Community Survey (ACS)**, which is completed every year and is a sample of households in the U.S. The ACS collects detailed information about households, such as demographics (e.g., number of people, age distribution, ethnic or racial composition, country of origin, language spoken at home, and educational attainment); household characteristics (e.g., household size and composition); housing characteristics (e.g., type of housing unit, year unit built, or number of bedrooms); housing costs (e.g., rent, mortgage, utility, and insurance); housing value; income; and other characteristics. This report uses three types of data from the 2013 ACS: (1) one-year ACS data for 2013, (2) three-year ACS data for 2011-2013, and (3) five-year ACS data for 2009-2013. In some cases, one-year data from the 2013 ACS is not available in Bend (as a result of sampling and statistical reasons). In those instances, this report uses 3-year estimates for 2011-2013 data or 5-year estimates for 2009-2013 for Bend.

The housing needs analysis incorporates key information from the 2008 adopted Housing Needs Analysis, such as the forecast of new housing for the 2008-2028 period. This analysis addresses the issues identified in the 2008 Housing Needs Analysis, described in Appendix B.

CHAPTER 2. HISTORICAL AND RECENT DEVELOPMENT TRENDS

Analysis of historical development trends in Bend provides insights into how the local housing market functions. The housing type mix and density are also key variables in forecasting future land need. Moreover, such an analysis is required by ORS 197.296. The specific steps are described in Task 2 of the Transportation Growth Management's *Planning for Residential Lands* Workbook:

1. Determine the time period for which the data must be gathered
2. Identify types of housing to address (all needed housing types)
3. Evaluate permit/subdivision data to calculate the actual mix, average actual gross density, and average actual net density of all housing types

ORS 197.296 requires the analysis of housing mix and density to include the past five years or since the most recent periodic review, whichever time period is greater.[10] Bend's last periodic review was completed in 1998. The period used in the analysis of housing mix is 1999 to 2013, to account for trends in housing mix beyond 2008. The period used in the analysis of housing density was 1999 to 2008, from the adopted 2008 housing needs analysis.

The HNA presents information about residential development by housing types. There are multiple ways that housing types could be grouped. For example, housing types could be grouped by:

1. Structure type (e.g., single-family detached, apartments, etc.)
2. Tenure (e.g., distinguishing unit type by owner or renter units)
3. Housing affordability (e.g., units affordable at given income levels)
4. Some combination of these categories

LCDC's November 2010 order identifies the types of housing the City must consider through this housing needs analysis. The Commission's disposition of this matter was based, in part, on ORS 197.303(3)(a), which identifies "needed housing:"

[10] Specifically, ORS 197.296(5) (b) states: "A local government shall make the determination described in paragraph (a) of this subsection using a shorter time period than the time period described in paragraph (a) of this subsection if the local government finds that the shorter time period will provide more accurate and reliable data related to housing capacity and need. The shorter time period may not be less than three years."

(a) Housing that includes, but is not limited to, attached and detached single-family housing and multiple family housing for both owner and renter occupancy;

(b) Government assisted housing;

(c) Mobile home or manufactured dwelling parks as provided in ORS 197.475 to 197.490; and

(d) Manufactured homes on individual lots planned and zoned for single-family residential use that are in addition to lots within designated manufactured dwelling subdivisions.

The Commission's rules further define the three types of housing that must be considered in the housing needs analysis. The following table lists these three types of housing and how they are classified under the Bend Development Code.

Table 2. Comparison of OAR 660, Division 8 Definitions with Types of Housing Allowed under the Bend Development Code

OAR 660-008-005, Definitions	Bend Development Code (See BDC Chapter 1.2)
"Attached Single Family Housing" means common-wall dwellings or rowhouses where each dwelling unit occupies a separate lot. OAR 660-008-0005(1).	Dwelling, single family attached
"Detached Single Family Housing" means a housing unit that is free standing and separate from other housing units. OAR 660-008-0005(3).	Courtyard housing Dwelling, single family detached Accessory dwelling units Manufactured home on individual lot Manufactured homes in parks
"Multiple Family Housing" means attached housing where each dwelling unit is not located on a separate lot. OAR 660-008-0005(5).	Condominium Two and three family housing (duplex and triplex) Multi-family housing (more than 3 units)

Residential Development Trends

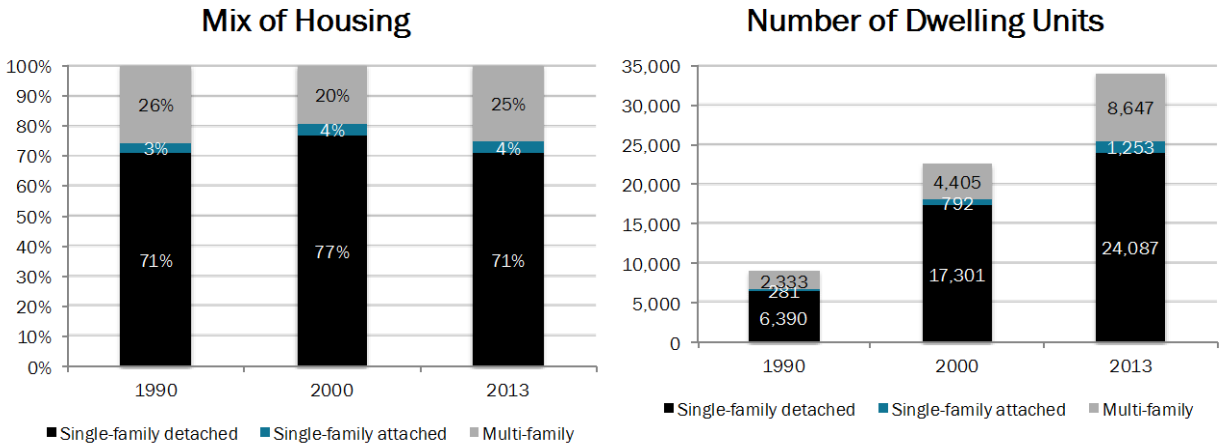
Trends in Housing Mix

Housing mix is the mixture of housing (structure) types (e.g., single-family detached, single-family attached, or multi-family housing) within a city. This section presents data on the distribution of housing by type, or the number of units in each structure. The purpose for considering this data is to see whether the distribution of housing has changed, thereby reflecting different housing choices among Bend households. Figure 1 shows changes in units by structure type from 1990 to 2013 in Bend. Since 1990:

- The supply of housing units in Bend grew by 150% (about 13,500 units) between 1990 and 2000 because of housing construction and annexation. Growth of housing between 2000 and 2013 (nearly 11,700 units) was primarily the result of new construction; no additional units were added through annexation.
- The distribution of units by type did not change significantly over the 23 year period; single family detached dwellings represented 71% to 77% of the supply of housing units.
- Single family attached units increased slightly from 3% to 4% of the housing units.

- Multi-family attached units (all other units), decreased slightly, from 26% to 25%, of all units. Between 2000 and 2013, more than 4,000 multi-family dwellings were built in Bend. As of July 2015, more than 1,300 multifamily units were in the permitting process (not shown in Figure 2).

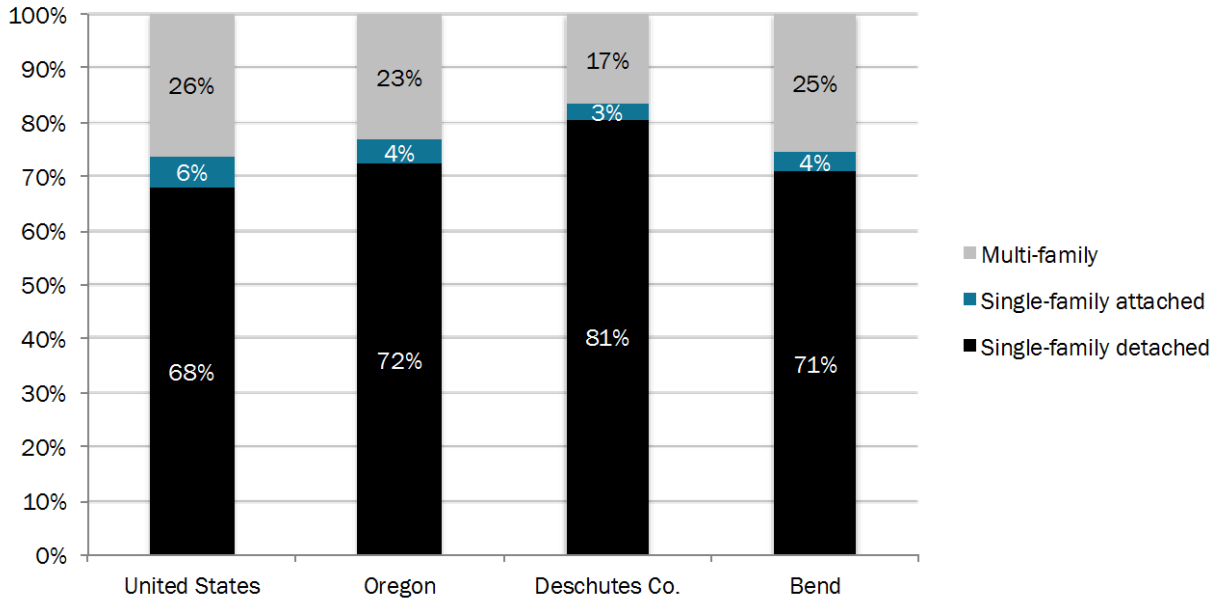
Figure 1. Mix of Housing and Number of Dwelling Units by Housing Type, Bend, 1990, 2000, and 2013



Source: 1990 and 2000 Census SF3, 2013 American Community Survey 1-Year Estimates

Figure 2 shows the mix of housing by unit type (for all housing units in the housing stock) at the national, state, and local levels in 2013. About 71% of Bend's housing was single-family-detached, compared to the state average of 72% and the national average of 68%.

Figure 2. Mix of Housing by Type for all Dwelling Units, US, Oregon, Deschutes Co. and Bend, 2013

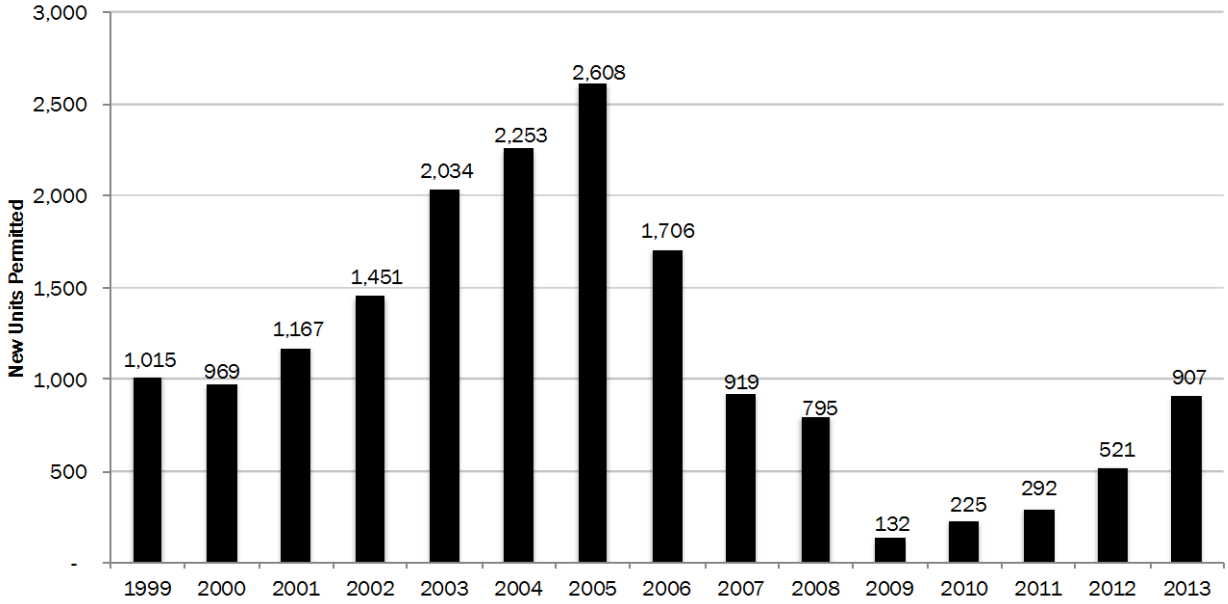


Source: 2013 American Community Survey 1-Year Estimates

Building permit activity

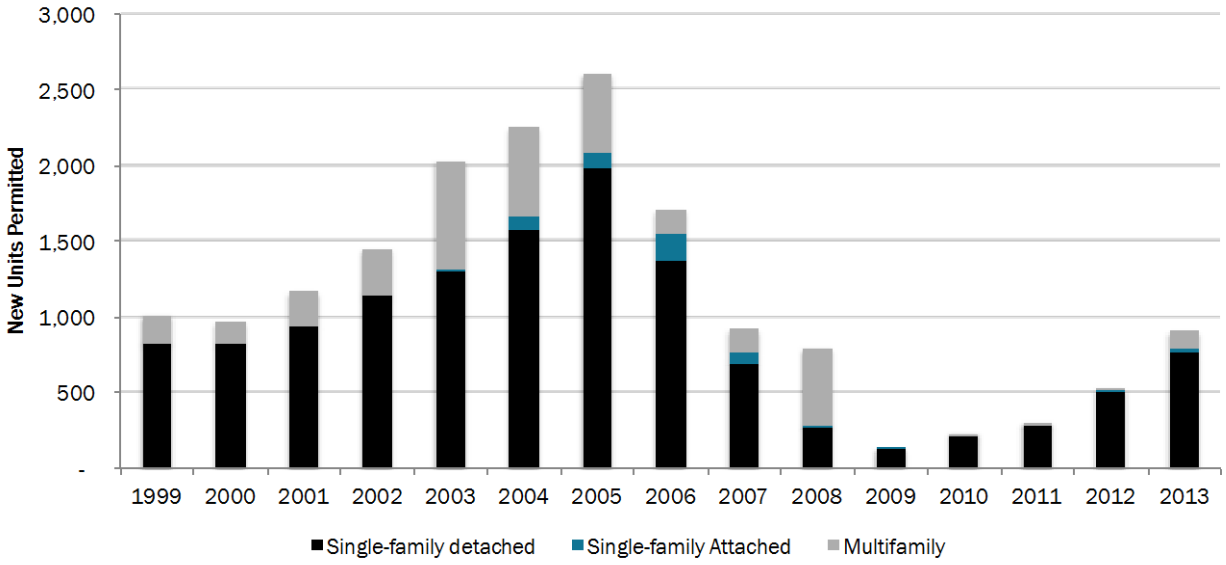
Figure 3 shows total number of dwelling units permitted for housing of all types in Bend between 1999 and 2013. The data show growth of building permit activity between 2001 and 2005 and a significant decline in residential development activity between 2006 and 2009, which corresponds with the national growth and decline of the housing market bubble. Development has steadily increased since 2009 to a total of 907 permits issued for 2013 and 512 permits issued through the first six months of 2014.

Figure 3. Total Permits Issued for New Residential Development (in dwelling units) by Year, 1999 through July 2014, Bend



Source: City of Bend building permit data; analysis by ECONorthwest

Figure 4. Total Permits Issued by Type of Unit for New Residential Development (in dwelling units) by Year, 1999 through July 2014, Bend



Source: City of Bend building permit data; analysis by ECONorthwest

Table 3 shows new dwellings permitted in Bend for the January 1999 and June 2008, between July 2008 and 2008 through 2013 periods by housing type. The data shows that the majority (about 3/4) of housing development in Bend during these periods was single-family detached housing.

Between January 2014 and June 2015, the City has issued permits for more than 1,300 additional permits, 85% of which were single-family detached. However, by July 2015, 16 multifamily projects were in the permitting process, with a total of 1,367 multifamily units.[11] If these units are permitted, then the City will have permitted in one year almost half as many multifamily units as the City permitted over the entire 1999 to 2014 period. Including these multifamily units, more than 55% of new housing permitted for the January 2014 to mid-2015 period.

Table 3. Total Permits Issued for New Residential Development (in dwelling units) by Housing Type and Year, 1999 through July 2014, Bend

Housing Type	1999-June 2008		July 2008-June 2014		Total Units		Annual Average (1999-July 2014)	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Single-family detached	10,875	77%	2,411	83%	13,286	78%	949	78%
Single-family Attached	463	3%	112	4%	575	3%	41	3%
Multifamily	2,741	19%	389	13%	3,130	18%	224	18%
Total	14,079	100%	2,912	100%	16,991	100%	1,214	100%

Source: City of Bend building permit data; analysis by ECONorthwest

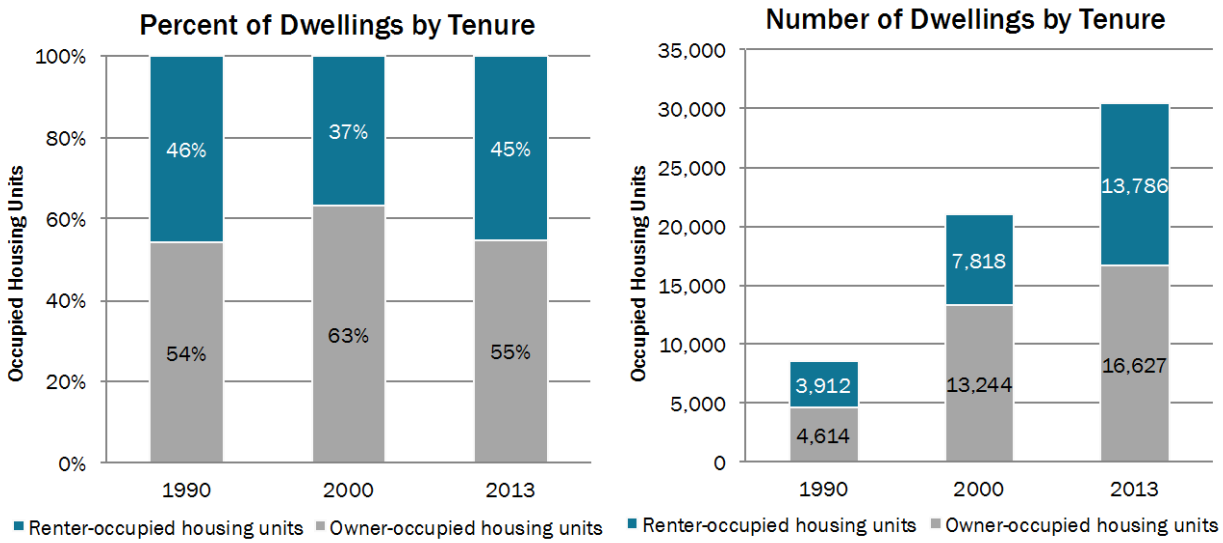
[11] These units are at different parts of the permitting process, ranging from pre-application conference to site plan review to site plan approval.

Trends in Tenure

Figure 5 and Figure 6 present data on occupancy and tenure trends for Bend between 1990 and 2013. The data on occupancy presents the numbers of housing units either occupied or vacant. The data on tenure informs the analysis by describing the numbers of units that are either owner-occupied or renter occupied. Please note that the number of units described by tenure are occupied and also describe household choices on whether to purchase or rent housing.

Figure 5 shows that homeownership rates increased from 1990 to 2000 (from 54% to 63%) but returned to roughly 1990 levels by 2013 (55%).

Figure 5. Occupied Housing and Number of Occupied Dwellings by Tenure, Bend, 1990, 2000, and 2013



Source: 1990 and 2000 Census SF3, 2013 American Community Survey 1-Year Estimates

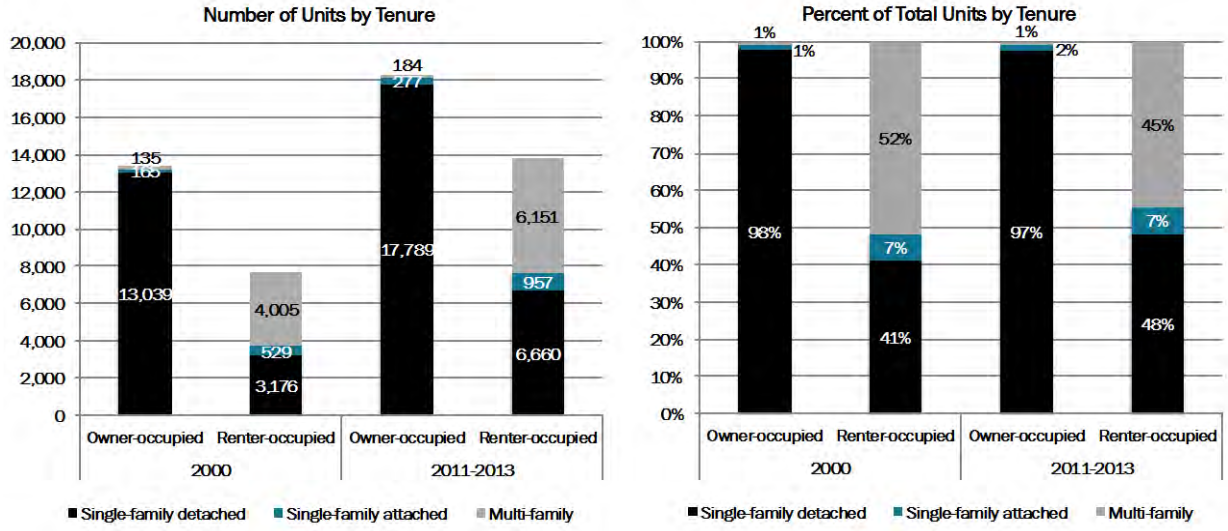
Figure 6 presents data on tenure by housing type for 2000 and 2011-2013.[12]

- The number of dwelling units of all types and tenure increased between 2000 and 2011-2013.
- Nearly all owner-occupied housing was and remains in single-family detached housing types, with a 1% increase in the percentage of owner-occupied single-family attached housing between 2000 and 2011-2013.
- The number and percentage of single-family detached units that were renter-occupied increased over this period, with single-family detached units accounting for 41% of rent-occupied units in 2000 and 48% in 2011-2013. This change may, in part, be the continued effects of the recent recession and housing market downturn, where some single-family detached units that were foreclosed on were used for rental units.

[12] This figure presents data from the American Community Survey for the 2011 to 2013 period, known as a 3-year estimate from the American Community Survey, because data was not available in Bend for a 1-year estimate for 2013.

Compared to other Oregon cities, Bend has a relatively large percentage of rental housing that is single-family detached housing. In 2011-2013, single-family detached housing accounted for the following percentages of rental housing: 26% in Portland, 29% in Eugene, 32% in Salem, and 40% in Medford.

Figure 6. Occupied Units by Tenure and Type, Bend, 2000 and 2011-2013

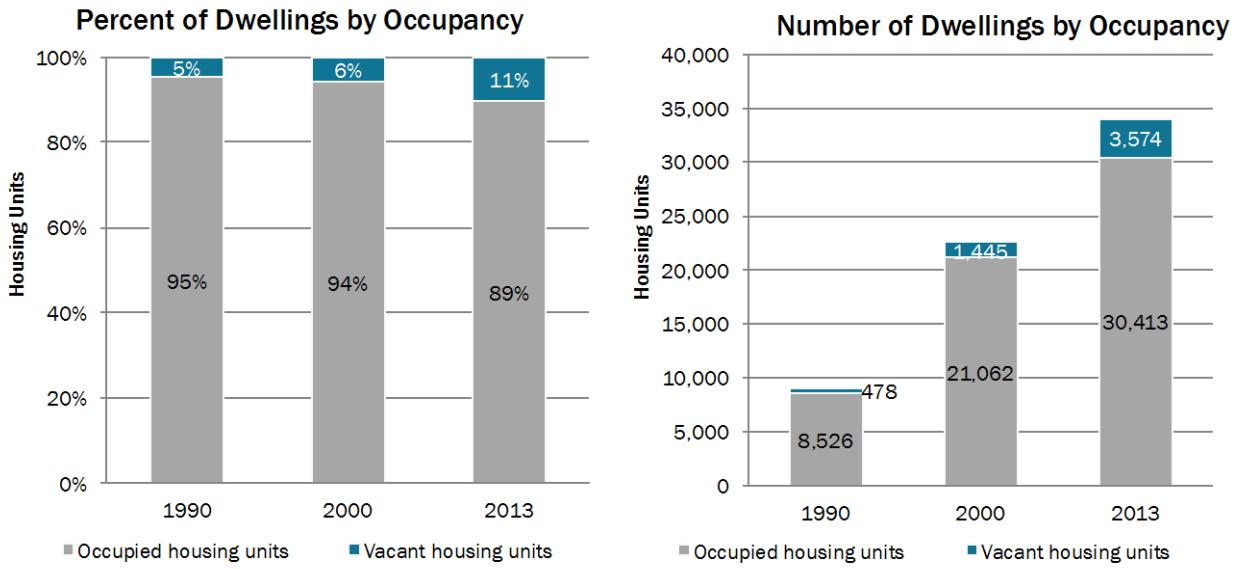


Source: 2000 Census SF3, 2013 American Community Survey 3-Year Estimates

Vacancy Rates

Vacancy rates are cyclical and represent the lag between housing demand and the market's response to that demand by producing additional dwelling units. Figure 7 shows that housing vacancies were about 5% in 1990 and 6% in 2000. In 2013, Bend vacancies were 11%. While vacancy rates were relatively high in 2013 when compared to 1990 and 2013, it is reasonable to expect Bend's vacancy rates to decrease to historical averages (e.g., 5%) with changes in the housing market. In 2015, a survey of rental properties showed that rental vacancy rates were below 2% in Bend, demonstrating a sharp decrease in vacancy rates in Bend since 2013.[13] [14]

Figure 7. Percentage and Number of Units by Occupancy, Bend, 1990, 2000, and 2013



Source: 1990 and 2000 Census SF3, 2013 American Community Survey 1-Year Estimates

[13] Article in the Bend Bulletin; Survey of rental properties by the Central Oregon Rental Owners Association http://www.bendbulletin.com/business/3176538-151/apartment-complex-slated-for-bend

[14] The residential vacancy rate was not a subject questioned in the Remand. As a result, this analysis uses the vacancy rate from the 2008 HNA. The additional information presented in this section simply shows that assuming a 6% vacancy rate is reasonable, given changes in vacancy rate between 2008 and 2015.

Residential Development Densities

Table 4 shows allowed densities by zone in Bend by gross and net acres. OAR 660-024-0010(6) defines Net Buildable Acres as follows: "Net Buildable Acre" consists of 43,560 square feet of residentially designated buildable land after excluding future rights-of-way for streets and roads. A gross acre does not exclude land for future rights-of-way for streets and roads.

Table 4. Range of Allowed Densities, Dwelling Units per Acre, Bend

Density	Low Density Residential (RL)	Standard Density Residential (RS)	Medium Density Residential (RM)	High Density Residential (RH)
Dwelling Units per Gross Acres	1.1 - 2.2	2.0 - 7.3	7.3 - 21.7	21.7 - 43.0
Dwelling Units per Net Acres	1.4 - 2.8	2.5 - 9.1	9.1 - 23.9	23.9 - 47.3

Source: City of Bend
Note: The net densities shown in Table 4 are an approximation based on gross densities, accounting for land needed for rights of way. Bend's development code only regulates density based on gross densities.

Table 5 shows historical development trends in residential zones for three periods: (1) units built before 1998, (2) units built during the 1998-2008 period, and (3) all units in Bend by 2008. Table 5 shows that average net densities increased over time in most zones. Note that Bend adopted minimum densities for each zone for the first time in 2006.

- **Single-family detached densities.**
  - The overall density in the low-density RL zone remained around 2.1 units/net acre (the RL zone contains less than 10% of total housing units).
  - Density in the RS, RM, and RH zones increased from the pre-1998 period to 2008.
  - The majority of housing built in Bend was single-family detached, most of which was developed in the RS zone. Average net densities in the RS zone increased from 3.1 units/acre overall as of 1998 to 3.8 units/acre as of 2008.
  - The average density for single-family detached units increased by 24%, from 2.9 units/net acre as of 1998 to 3.6 units/net acre by 2008.
- **Single-family attached densities.**
  - Single-family attached units were relatively new to Bend's housing inventory, Only 48 units (less than 1% of total housing units) existed prior to 1998. During 1998-2008 they made up 9.5% (610) of total new housing units permitted. Most of those (71%) were built in the RS zone, with the rest built in the RM zone.
  - Table 5 shows that the average net density for single-family attached units built in the RS zone during 1998-2008 was 71% above the overall average for that type existing prior to 1998. Overall, the average density of single-family attached units in all zones increased from 7.8 units/net acre prior to 1998 to 9.4 units/net acre in 2008.

- The average density for single-family attached units across all zones was 21% higher for units built over the 1998-2008 period than for those existing in 1998.

- **Multi-family densities.**
  - The average net density for multi-family units in the RM zone held steady at 16.6 units/net acre from 1998 to 2008, and decreased slightly in the RH zone from 20.9 to 18.8 units/net acre.
  - At the same time, multi-family density in the RS zone (consisting primarily of duplex units) increased from 9.7 to 11.3 units per net acre during that period.[15]
  - The average density for multi-family attached units across all zones increased by 2% from 15.5 units/net acre before 1998 to 15.8 units/net acre as of 2008.

- **All housing types and zones.**
  - The average net density for development in the 1998 to 2008 period was 5.7 dwelling units per net acre.
  - The average density for the 1998-2008 period for all housing types in the RH zone is lower than the current allowed density in the RH zone, based on the minimum densities implemented in 2006.

Table 5. Historical Average Net Density by Zone, Dwelling Units per Net Acre, Bend

	RL			RS			RM			RH			All Res. Zones		
	Pre-1998	1998-2008	2008	Pre-1998	1998-2008	2008	Pre-1998	1998-2008	2008	Pre-1998	1998-2008	2008	Pre-1998	1998-2008	2008
Single-family detached	2.0	2.1	2.0	3.1	4.6	3.8	4.7	8.6	5.6	6.6	13.4	7.2	2.9	4.7	3.6
Single-family attached	-	-	-	5.1	8.7	8.4	21.5	12.5	13.1	-	-	-	7.8	9.5	9.4
Multi-family attached	8.8	-	8.8	9.7	14.2	11.3	16.6	16.1	16.6	20.9	17.1	18.8	15.5	16.0	15.8
Manufactured homes in parks	2.7	-	2.7	3.4	-	3.4	6.5	-	6.5	-	-	-	4.1	-	4.1
Manufactured homes on lots	2.9	3.1	2.9	3.2	6.6	3.6	5.8	7.0	6.2	-	-	-	3.1	5.1	3.4
Average Density – All Housing Types	2.1	2.1	2.1	3.2	4.9	3.9	8.5	13.4	9.9	14.4	16.9	15.5	3.7	5.7	4.4

Source: City of Bend memorandum: "Bend Buildable Lands Inventory – Sub-Issue 2.2" revised January 9, 2014

[15] This density of development for duplexes exceeds the maximum density of the RS Zone.

Summary of Key Findings about Historical Residential Development in Bend

The majority of housing in Bend is single-family detached housing.

- The mix of housing stock in Bend was relatively consistent over the past two decades, with about 70% of Bend's housing stock in single-family detached housing in 1990 and in 2013.

Building activity has varied substantially over the 1999 to 2013 period.

- Bend permitted an average of about 1,200 units per year between 1999 and 2014, the majority of which were single-family detached units.
- Building permit activity peaked in 2005 with 2,600 units permitted. In 2009 to 2011, fewer than 300 units were permitted per year. The number of units permitted exceeded 900 in 2013, showing that development activity in Bend is returning to historical levels.
- More than three-quarters of units permitted between 1999 and 2013 were single-family detached units.
- Permits issued for multi-family housing averaged about 225 units per year, peaking in number in 2003. Between 2009 and 2012, very few multi-family units were permitted. Between 2010 and 2012, the only multi-family attached units permitted in Bend were duplexes.

Bend's housing tenure remained stable between 1990 and 2013.

- About 55% of dwellings were owner-occupied in 1990 and 2013.
- Nearly all owner-occupied units were single-family detached housing, with a small number of owner-occupied single-family attached and multi-family units.
- Renter-occupied units were generally divided among single-family detached and multi-family, with single-family attached units accounting for about 7% of renter-occupied units.

Housing density generally increased for housing built between 1998 and 2008, compared to housing built before 1998.

- Single-family detached densities in the RS, RM, and RH zones increased, with densities in the RL remaining flat.
- Multi-family densities increased in the RS zone and decreased slightly in the RM and RH zones.

CHAPTER 3. HOUSING NEEDS ANALYSIS

Step 1 – Project the number of new housing units needed in the next 20 years

The first step in the HNA process is to forecast the number of housing units that will be needed to house the projected population growth over the planning period. In 2008, the City developed and relied on a 2028 population forecast for Bend of 115,063, reflecting an increase in population of 38,512 people between 2008 and 2028.[16] The January 2010 DLCD Director's Report and Order on the UGB Expansion concluded that the forecast complied with applicable law.[17] The 2028 population forecast for Bend was prepared using the 2004 Coordinated Population Forecast for Bend as a base. The Coordinated Population Forecast for Bend is 109,389 people by 2025.[18] Staff extended the forecast out another three (3) years to 2028 using the same growth rate used to forecast population beyond 2025 in the Housing Needs Analysis.[19]

The City relied on this 2028 population forecast to develop a housing unit forecast for Bend from 2008 to 2028.

The forecast of housing units is based on data from the 2000 Census results for Bend.[20] The steps in the forecast are:[21]

- Determine the amount of new population growth by subtracting Bend's population in 2008 (76,551 people) from the 2028 population forecast (115,063 people). The result shows that Bend's population will grow by 38,512 between 2008 and 2028.
- Remove population in group quarters (2.3% or 886 people) to determine the amount of new population in households (37,626 people) over 2008 and 2028.
- Identify the number of new occupied housing units by dividing the population by average household size (2.4 persons per household), which results in growth of 15,678 new households and new occupied housing units in Bend between 2008 and 2028.
- Account for vacant units, with a vacancy rate of 6.4%, which results in 1,003 more housing units, the vacancy rate in Bend in 2000 (Figure 7).

The DLCD Director also concluded that the housing unit forecast of 16,681 new units between 2008 and 2028 complied with the applicable law in his January 2010 Report and Order.[22] Table 6 presents the 2008 to 2028 housing unit forecast for the City of Bend.

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[16] See September 2, 2011 memorandum to the Remand Task Force, presented at the RTF's September 8, 2011 meeting.

[17] See page 25 of 156, January 8, 2010 Director's Report and Order

[18] See Exhibit L-2, Deschutes County Coordinated Population Forecast 2000-2025 (2004) to 45-Day notice

[19] See Exhibit L-3, City of Bend Housing Needs Analysis (2005) to 45-day notice, pages 7-8.

[20] See the 2000 Demographic profile for Bend at: http://censtats.census.gov/data/OR/1604105800.pdf.

[21] These steps are consistent with the Residential Land Needs 2005-2030 Memorandum (April 25, 2007); Table 3, Page 5.

Table 6. Housing Unit Forecast, 2008 to 2028

Variable	Housing Need 2008-2028
Population forecast for 2028	115,063
(-) Less Population on 7/1/08	76,551
(=) New population 2008 to 2028	38,512
(-) Less population in group quarters (2.3%)	886
(=) New population in households	37,626
(/) Divided by household size (2.4)	
(=) Equals new occupied housing units	15,678
(+) Plus vacancy factor (6.4%)	1,003
= New housing units 2008 to 2028	**16,681**

Between 2009 and the end of July 2014, Bend issued building permits for 2,912 new dwelling units, shown in Table 3. As a result, **the number of additional units that Bend will need to accommodate over the 2014-2028 period is 13,770 units.**

Summary of Key Findings about Needed Housing Units

Step 1 of the housing needs analysis shows that:

- Bend is projected to grow by 16,681 dwelling units over the 2008 to 2028 period.
- Bend issued building permits for 2,912 units between 2009 and July 2014.
- Bend will need to accommodate an additional 13,770 units over the 2014 to 2028 period.

Step 2 – Identify relevant national, state, and local demographic and economic trends and factors that may affect the 20-year projection of structure type mix

ORS 197.296(5) requires communities to examine demographic and economic trends that will inform the city's analysis of what types of housing will be needed in the future. This section presents an examination of relevant national, state, and local demographic and economic trends and factors that may affect the 20-year projection of the types and mix of housing.[23] The analysis of trends focuses on the period following the acknowledgement of the 1998 City of Bend Comprehensive Plan to 2013. For many variables, this analysis will include data from 1998 or 1999 to 2013; for others, two periods will be presented to look at trends. These periods will include 1990 to 2000, between the two Censuses, and from 2000 to 2013. For 2013, the City is relying on data collected about the State of Oregon and Bend from the American Community Survey.[24] In addition, this analysis incorporates previous work from the 2005 Housing Needs Analysis and the 2007 Residential Land Need Analysis.[25] Most of this data and background was shared with the Residential technical advisory committee (TAC) during their August 5, 2014 meeting.[26]

National Housing Market Trends

This section briefly summarizes national housing trends and builds on previous work by ECONorthwest, Urban Land Institute (ULI) reports, and conclusions from *The State of the Nation's Housing, 2014* report from the Joint Center for Housing Studies of Harvard University. The Harvard report summarizes the national housing outlook as follows:

> "With promising increases in home construction, sales, and prices, the housing market gained steam in early 2013. But when interest rates notched up at mid-year, momentum slowed. This moderation is likely to persist until job growth manages to lift household incomes. Even amid a broader recovery, though, many hard-hit communities still struggle and millions of households continue to pay excessive shares of income for housing."

Several challenges to a strong domestic housing market remain. Demand for housing is closely tied to jobs and incomes, which are taking longer to recover than in previous cycles. While trending downward, the number of underwater homeowners, delinquent loans, and vacancies remains high. *The State of the Nation's Housing* report projects that it will take several years for market conditions to return to normal and, until then, the housing recovery will likely unfold at a moderate pace.

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[23] See September 2, 2011 memorandum to the UGB Remand Task Force, presented at their September 8, 2011 meeting.

[24] For more information about the American Community Survey (ACS), See http://www.census.gov/acs/www/. The ACS data can be accessed from the Census Bureau's American Factfinder website at http://factfinder.census.gov/home/saff/main.html?_lang=en.

[25] See 2005 Housing Needs Analysis at Rec p 2046 and 2007 Residential Land Need Analysis at Rec. P. 2114,

[26] See meeting packet for Residential TAC meeting #1 - http://bendoregon.gov/Modules/ShowDocument.aspx?documentid=17619.

National housing market trends include: [27]

- **Post-recession recovery slows down**. Despite strong growth in the housing market in 2012 and the first half of 2013, by the first quarter of 2014, housing starts and existing home sales were both down by 3% from the same time a year before, while existing home sales were down 7% from the year before. Increases in mortgage interest rates and meager job growth contributed to the stall in the housing market.
- **Continued declines in homeownership**. After 13 successive years of increases, the national homeownership rate declined each year from 2005 to 2013, and is currently at about 65%. The Urban Land Institute projects that homeownership will continue to decline to somewhere in the low 60% range.
- **Housing affordability**. In 2012, more than one-third of American households spent more than 30% of income on housing. Low-income households face an especially dire hurdle to afford housing. Among those earning less than $15,000, more than 80% paid over 30% of their income and almost 70% of households paid more than half of their income. For households earning $15,000 to $29,000, more than 60% were cost burdened, with about 30% paying more than half of their income on housing.
- **Changes in housing characteristics**. National trends show that the size of single-family and multi-family units, and the number of household amenities (e.g., fireplace or two or more bathrooms) has increased since the early 1990s. Between 1990 and 2013 the median size of new single-family dwellings increased 25% nationally from 1,905 square feet to 2,384 square feet and 18% in the western region from 1,985 square feet to 2,359 square feet. Moreover, the percentage of units smaller than 1,400 square feet nationally decreased from 15% in 1999 to 8% in 2013. The percentage of units greater than 3,000 square feet increased from 17% in 1999 to 29% of new one-family homes completed in 2013. In addition to larger homes, a move towards smaller lot sizes is seen nationally. Between 2009 and 2013, the percentage of lots less than 7,000 square feet increased from 26% of lots to 30% of lots. Similarly, in the western region, the share of lots less than 7,000 square feet increased from 43% to 48% of lots.
- **Long-term growth and housing demand**. The Joint Center for Housing Studies forecasts that demand for new homes could total as many as 13.2 million units nationally between 2015 and 2025. Much of the demand will come from Baby Boomers, Millennials,[28] and immigrants.
- **Changes in housing preference**. Housing preference will be affected by changes in demographics, most notably the aging of the Baby Boomers, housing demand from the Millennials, and growth of foreign-born immigrants. Baby Boomers' housing choices will affect housing preference and homeownership, with some boomers likely to stay in their

[27] These trends are based on information from: (1) The Joint Center for Housing Studies of Harvard University's publication "The State of the Nation's Housing 2013," (2) Urban Land Institute, "2011 Emerging Trends in Real Estate," and (3) the U.S. Census.

[28] Millennials are, broadly speaking, the children of Baby Boomers, born from the early 1980's through the early 2000's.

home as long as they are able and some preferring other housing products, such as multi-family housing or age-restricted housing developments.

In the near-term, Millennials and new immigrants may increase demand for rental units. The long-term housing preference of Millennials and new immigrants is uncertain. They may have different housing preferences as a result of the current housing market turmoil and may prefer smaller, owner-occupied units or rental units. On the other hand, their housing preferences may be similar to the Baby Boomers, with a preference for larger units with more amenities. Recent surveys about housing preference suggest that Millennials want affordable single-family homes in areas that offer transportation alternatives to cars, such as suburbs or small cities with walkable neighborhoods.[29]

State Economic Trends and Cycles

Oregon's *2011-2015 Consolidated Plan* includes a detailed housing needs analysis as well as strategies for addressing housing needs statewide.[30] The plan concludes that, "Oregon's changing population demographics are having a significant impact on its housing market." It identified the following population and demographic trends that influence housing need statewide.

- Oregon's households have higher rates of cost burden, with increases due to higher unemployment and lower wages, when compared to the nation.
- Oregon's foreclosure rates have been at a historical high since 2005, compared with the previous two decades.
- Oregon, like other states, is continuing to loose federal housing subsidies, with losses of about 8% of federally subsidized Section 8 housing units.
- Oregon's communities are losing manufactured housing parks over time, with a 25% decrease in the number of manufactured home parks between 2003 and 2010.
- Oregon's population is increasingly older, more diverse, and, has less affluent households.[31]

[29] The American Planning Association, "Investing in Place; Two generations' view on the future of communities." 2014. "Survey Says: Home Trends and Buyer Preferences," National Association of Home Builders International Builders Show, accessed January, 2015, http://www.buildersshow.com/Search/isesProgram.aspx?id=17889&fromGSA=1. "Access to Public Transportation a Top Criterion for Millennials When Deciding Where to Live, New Survey Shows," Transportation for America, accessed January 2015, http://t4america.org/wp-content/uploads/2014/04/Press-Release_Millennials-Survey-Results-FINAL-with-embargo.pdf.

[30] http://www.ohcs.oregon.gov/OHCS/HRS_Consolidated_Plan_5yearplan.shtml

[31] State of Oregon *Consolidated Plan 2011 to 2015*. http://www.oregon.gov/ohcs/hd/hrs/consplan/2011_2015_consolidated_plan.pdf

Step 3 – Describe the demographic characteristics of the population, and, if possible, household trends that relate to demand for different types of housing[32]

Regional and local demographic trends largely follow the statewide trends and provide additional insight into how demographic trends might affect housing in Bend. National and state demographic trends that might affect the key assumptions used in the baseline analysis of housing need are: (1) the aging population, (2) changes in household size and composition, and (3) increases in diversity. This section describes how those trends are playing out at the local level. Most of this data and background was shared with the Residential technical advisory committee (TAC) during their August 5, 2014 meeting[33].

Demographic and socioeconomic factors affecting housing choice

In the context of housing markets, past and current housing conditions demonstrate *the intersection of the forces of housing supply and demand at a price of housing.* Housing demand is derived from the characteristics of households that create or are correlated with *preferences* for different types of housing, and *the ability to pay* (the ability to exercise those preferences in a housing market by purchasing or renting housing; in other words, income or wealth).

One way to forecast housing demand is with detailed analysis of demographic and socioeconomic variables. If one could measure housing demand for each household, one might find that every household has a unique set of preferences for housing. But no city-wide housing analysis can expect to build from the preferences of individual households.[34] Most housing market analyses that get to this level of detail describe *categories* of households on the assumption that households in each category will share characteristics that will make their preferences similar.

The main demographic and socioeconomic variables that may affect housing choice include: age of householder, household composition (e.g., married couple with children or single-person household), size of household, ethnicity, race, household income, or accumulated wealth (e.g., real estate or stocks). The literature about housing markets identify the following household characteristics as those most strongly correlated with housing choice: age of the householder, size of the household, and income:[35]

- **Age of householder** is the age of the person identified (in the Census) as the head of household. Households make different housing choices at different stages of life. For example, a person may choose to live in an apartment when they are just out of high

[32] The Residential TAC reviewed the information in this section during the August 5, 2014 meeting.

[33] See meeting packet for Residential TAC meeting #1 - http://bendoregon.gov/Modules/ShowDocument.aspx?documentid=17619.

[34] Not only could one not measure the preferences of all existing households (now and in the future); one could not know what specific households would be migrating to the region.

[35] The research in this section is based on numerous articles and sources of information about housing. The memorandum "Demographic Characteristics and Trends that will Affect Housing Demand in Bend for the 2008-2028 period" to the Residential Lands Technical Advisory Committee (July 23, 2014) presents an analysis of our research of the academic literature about the relationship between demographics and housing demand.

school or college but if they have children, they may choose to live in a single-family detached house.

- **Size of household** is the number of people living in the household. Household size is related to household composition, which describes the age and relationships of people living within the household. Younger and older people are more likely to live in single-person households and people in their middle years are more likely to live in multiple person households (often with children).
- **Income** is the income from all people in the household who have income. Income is probably the most important determinant of housing choice. Income is strongly related to the type of housing a household chooses (e.g., single-family detached, duplex, or a building with more than five units) and to household tenure (e.g., rent or own). A review of census data that analyzes housing types by income in most cities will show that as income increases, households are more likely to choose single-family detached housing types. Consistent with the relationship between income and housing type, higher income households are also more likely to own than rent.

Growing Population

Bend has a rapidly growing population. Population growth figures for Oregon, Deschutes County, and Bend, between 1990 and 2013, are shown in Figure 8.

Deschutes County's 2013 population was an estimated 162,525.

- Between 2000 and 2013, the county's population grew by 53%, or 61,475. Of this growth, net migration accounted for 53,163 in population growth, or 87% of the population growth between 2000 and 2013. In comparison, net migration accounted for 60% of Oregon's growth over the 13-year period.
- Natural increase accounted for 13% of the county's population growth between 2000 and 2013.
- Deschutes County's estimated population growth of 61,475 represents 12% of the state's population growth between 2000 and 2013.

Bend's population has grown significantly since 1990.

- Between 1990 and 2000, Bend's population grew from 20,469 to 52,029, an increase of 31,560 people. About 17,060 of this growth was the result of annexations to the city between 1990 and 1998. Actual population growth accounted for an increase of 14,500 people, representing a 71% increase over the city's 1990 population.
- The city's population grew by 26,251 over between 2000 and 2013. This growth occurred during a period where the City did not annex new housing with population. This new growth in population occurred through natural increase and positive net migration.
- Bend's population grew at an average annual rate of 6.3% over the 1990 to 2013 period, compared to the state average of 1.5%. Bend's average annual growth rate between 2000 and 2013 was 3.5% per year, compared to 1.1% statewide. This growth includes annexations that occurred over the 1990 to 1999 period.

Figure 8. Population Growth, Oregon, Deschutes County, Bend, 1990 through 2013

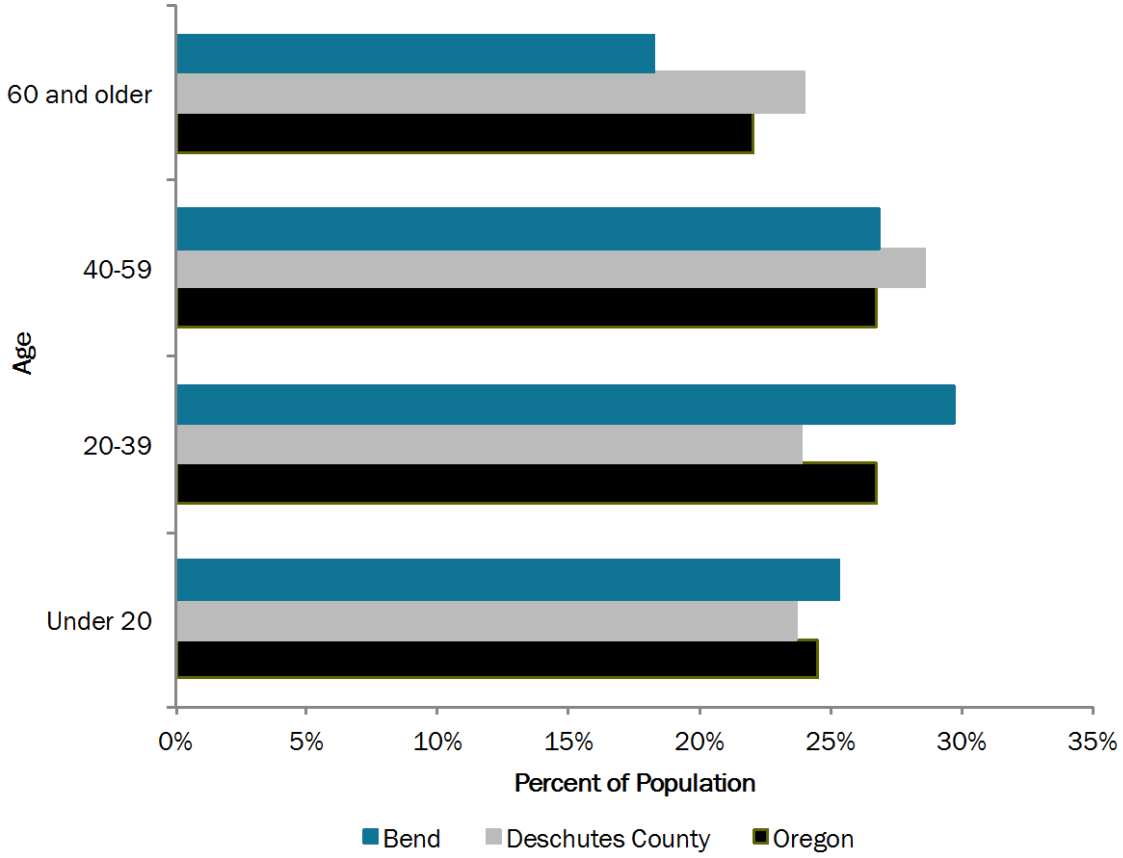
				1990 - 2013 Change		
	1990	2000	2013	Change	% Change	Average Annual Growth Rate
Oregon	2,842,321	3,421,399	3,919,020	1,076,699	38%	1.5%
Deschutes County	74,958	115,367	162,525	87,567	117%	3.6%
Bend	20,469	52,029	78,280	57,811	282%	6.3%

Source: Population Research Center, Portland State University

Aging Population

In 2013, the median age in Bend was 36.6, compared to the median of 42.3 in Deschutes County and 39.1 across the State. Figure 9 shows that Bend had a larger share of population between age 20 and 39 than either the county or state averages.

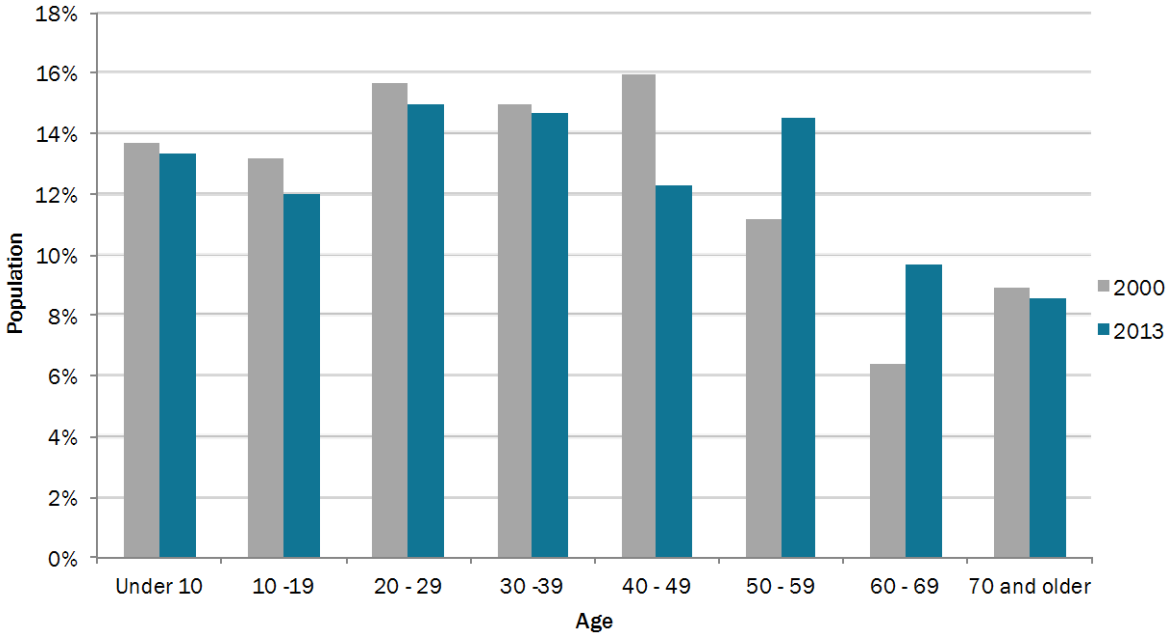
Figure 9. Population by Age, Bend, Deschutes County, and Oregon, 2013



Source: 2013 American Community Survey 1-Year Estimates

Figure 10 shows the age change in Bend's population between 2000 and 2013. While all age groups grew over the 13-year period, people between the ages of 50 and 59 years added the largest number of people, followed by people aged 60 to 69 years. Together, people aged 50 to 69 accounted for growth of more than 10,000 people or one-third of Bend's growth. People 20 to 39 years old accounted for growth of about 8,000 people over the 13-year period.

Figure 10. Age of Population, Bend, 2000 and 2013



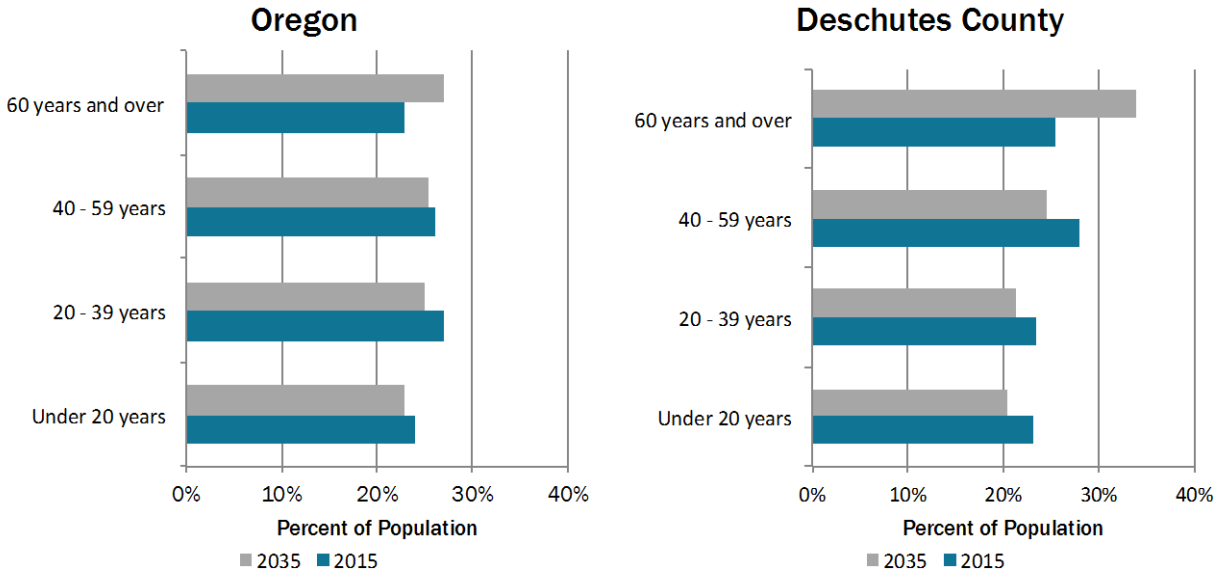
Source: 2000 Census SF3, 2013 American Community Survey 1-Year Estimates

Figure 11 shows a comparison of the current and 2035 projected population for Oregon and Deschutes County by age.[36]

- The entire population of Deschutes County is projected to increase by 37%, compared to a total population increase of 25% across the state.
- Oregon and Deschutes County are projected to see an increase in the share of the population over 60 years of age. 56% of the population growth in Deschutes County through 2035 is projected to come from this age group.
- The Deschutes County population between 20 and 59 years of age are projected to increase by roughly 15%, at a slower rate than across the state.
- While the age distribution of Bend's population is different from the County average (Figure 9), Bend accounts for nearly half of Deschutes County's population. The growth in people over 60 years old in Deschutes County (Figure 11) will be reflected in growth in the percentage of population over 60 years old in Bend.

[36] See the Long-Term County Forecast "2013 Release" through the OEA website: http://www.oregon.gov/DAS/OEA/Pages/demographic.aspx

Figure 11. Forecast of Population by Age, Oregon and Deschutes County, 2015 and 2035

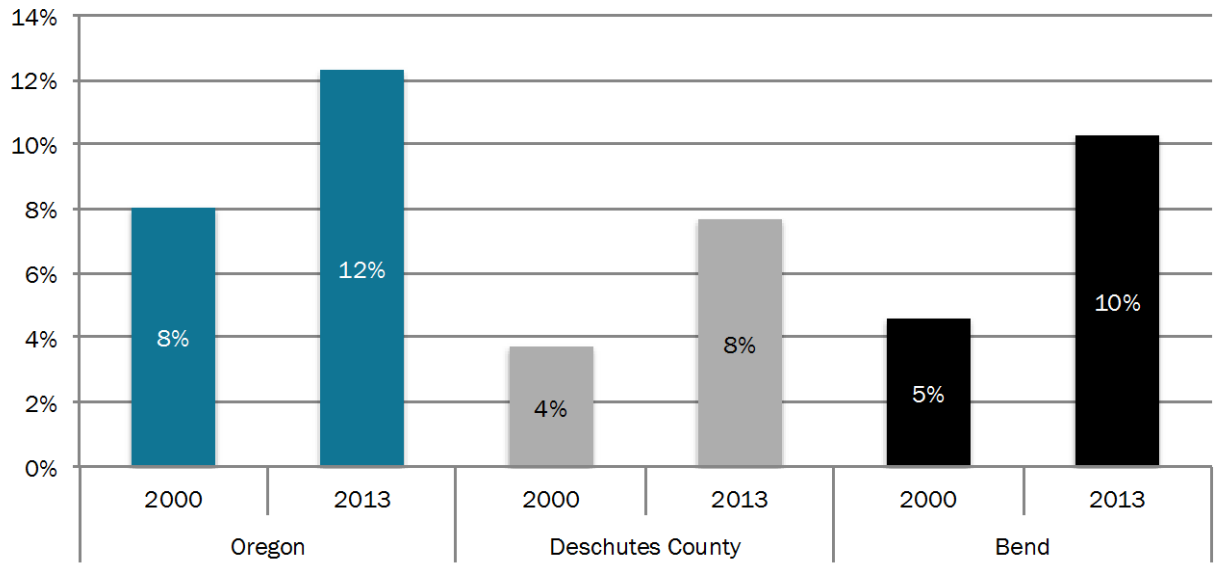


Source: Oregon Office of Economic Analysis.
See the Long-Term County Forecast "2013 Release" through the OEA website:
http://www.oregon.gov/DAS/OEA/Pages/demographic.aspx

Increased ethnic diversity

Figure 12 shows the percentage of the total population that is of Hispanic or Latino origin for Oregon, Deschutes County, and Bend, in 2000 and 2013. Between 2000 and 2013, Hispanic or Latino population increased from 5% of the population to 10% of the population, adding nearly 6,000 additional Hispanic or Latino residents. Bend has a greater percentage of Hispanic or Latino population than the county average, but a smaller percentage than the state average.

Figure 12. Hispanic or Latino Population by Percentage, Oregon, Deschutes County, Bend, in 2000 and 2013



Source: U.S. Census 2000 SF1, American Community Survey 2013 1-year Estimates

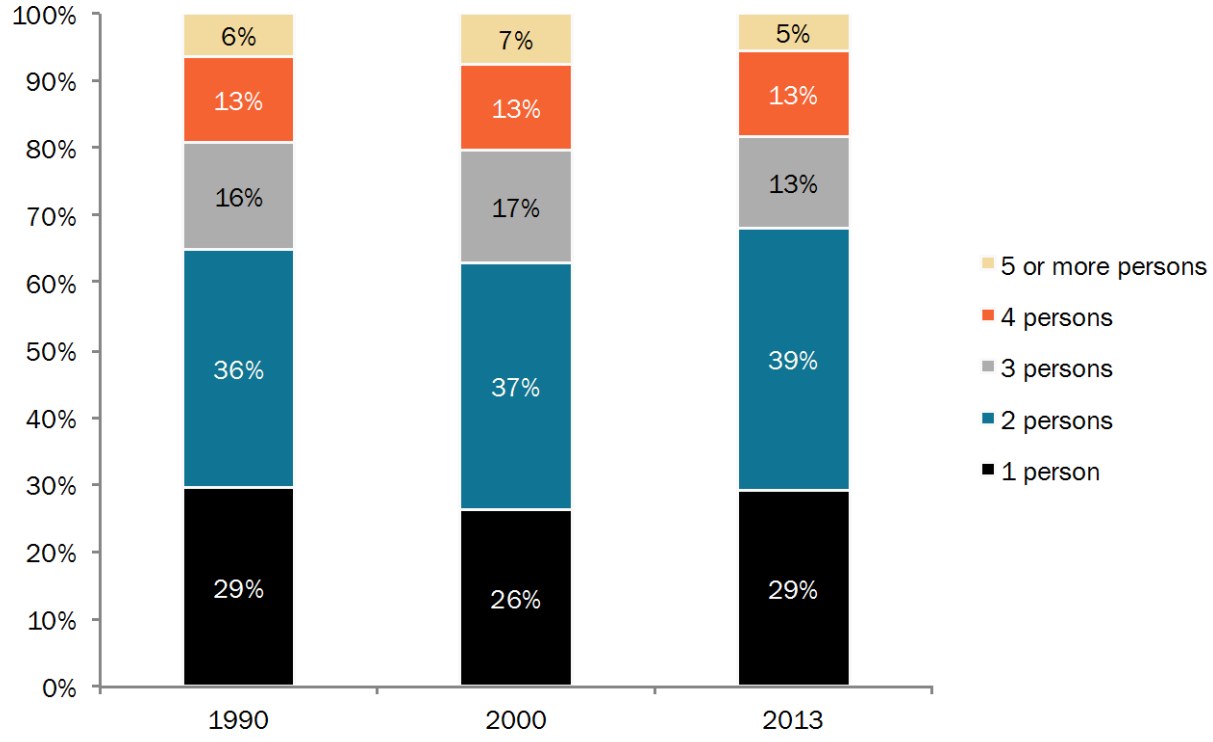
Household Size and Composition

This section of the report considers household types (family or nonfamily) by size and how this information relates to household-level decisions to purchase or rent housing.

Household Size

Figure 13 shows change in household size in Bend between 1990, 2000, and 2013. The percentage of one-person households held stable at about 29% of households. The percent of two-person household increased from 36% to 39%. The percentage of households with three or more persons decreased slightly between 1990 and 2013. The trend towards an increase in single-person households between 2000 and 2013 is consistent with national and statewide trends.

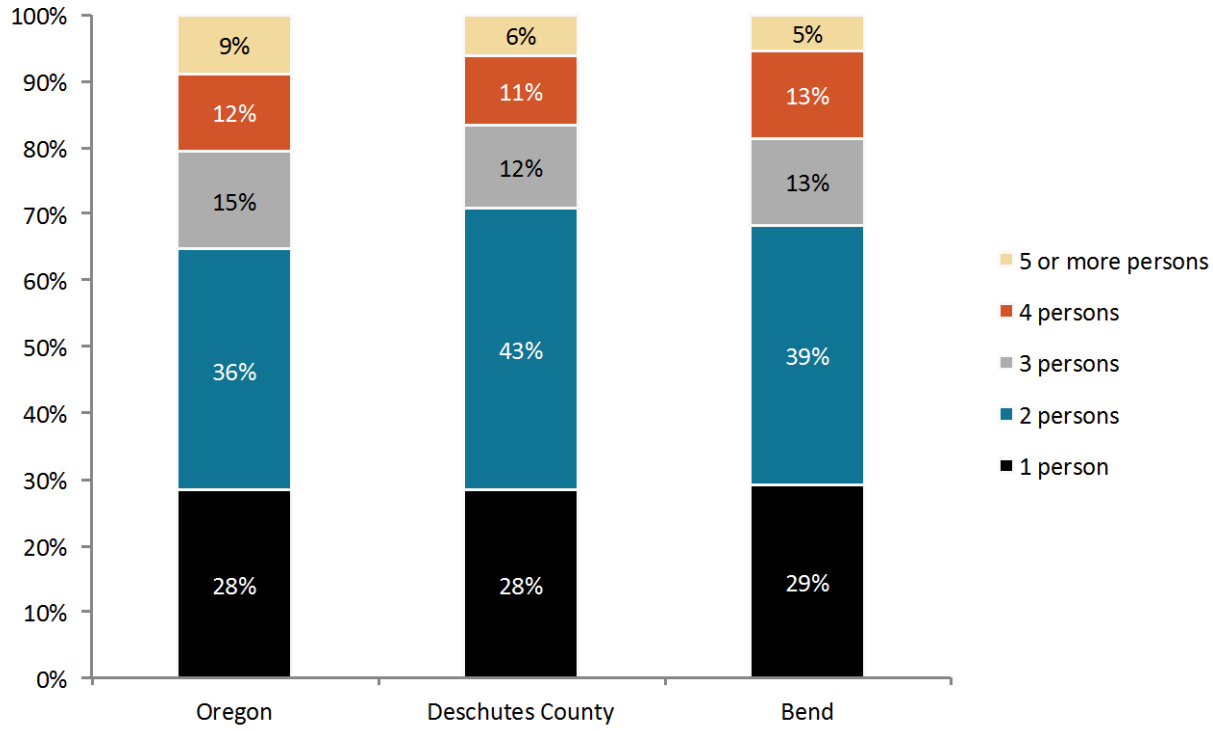
Figure 13. Households by Household Size, Bend, 1990, 2000, and 2013



Source: 1990 and 2000 Census SF3, 2013 American Community Survey 1-Year Estimates

Figure 14 compares household size in Bend with the state and county averages. Bend has a slightly larger share of single-person and two person households than the state average. Bend has a smaller percentage of households with four or more people than the state average. Over the next 20 years, households with one or two persons per household are expected to represent the largest category of households by size.

Figure 14. Households by Household Size, Oregon, Deschutes County, Bend, 2013

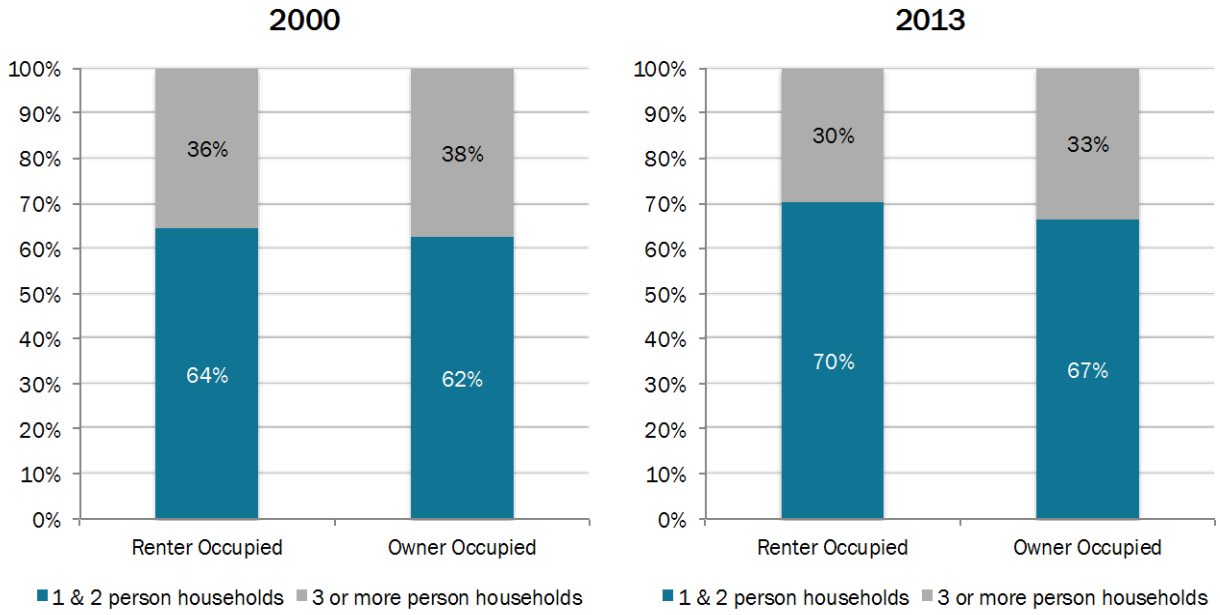


Source: 2013 American Community Survey 1-Year Estimates

Figure 15 shows Bend households by size, and the proportions that were owner-occupied and renter-occupied in 2000 and 2013.

- The share of households with one or two persons increased between 2000 and 2013 for both owner occupied and renter occupied households.
- Between 2000 and 2013, 1-person households saw the most growth (43%) among owner occupied households and 2-person and 4-person households saw the most growth (105% and 92%, respectively) among renter occupied households.

Figure 15. Mix of Households by Tenure and Household Size, Bend, 2000 and 2013



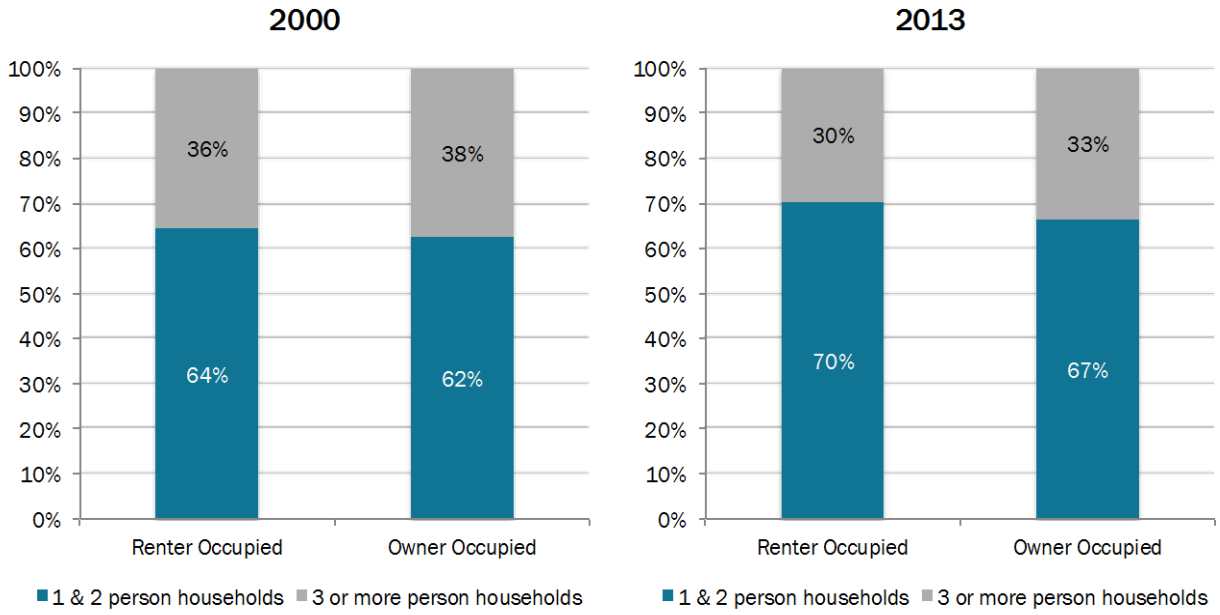
Source: 2000 Census SF3, 2013 American Community Survey 1-Year Estimates

Household Composition

Figure 16 shows household composition in Oregon, Deschutes County, and Bend in 2013.

- A larger share of Bend's housing composition is family households with children (30%) compared to that of Deschutes County (24%) and Oregon (27%).
- Bend also has a larger share of non-family households (e.g., unrelated people living in the same house) than compared to the county and state.

Figure 16. Household Composition of Oregon, Deschutes County, and Bend, 2013

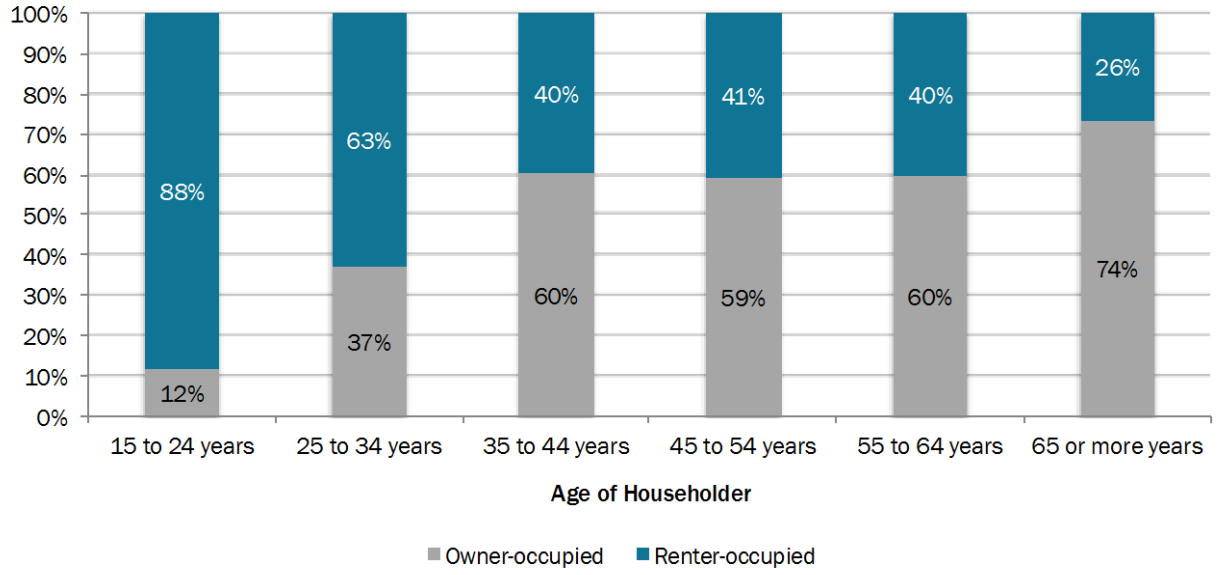


Source: American Community Survey 2013 1-year Estimates

Householder Age

Figure 17 shows the distribution of owner-occupied and renter-occupied housing by age groups in Bend in 2013. The majority of householders younger than 35 years old were renters. Homeownership increased with age. Two-thirds of householders aged 45 to 54 were homeowners. Homeownership rates typically remain stable until age 65 or older, when they begin to decline; however, in Bend, households 55 to 64 years had lower homeownership rates than people 65 years or older.

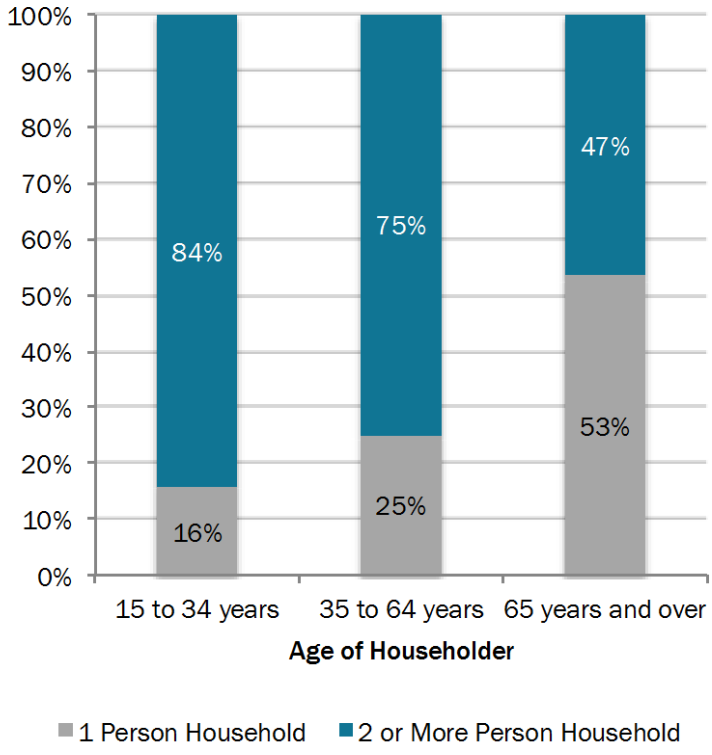
Figure 17. Households by Age of Householder and Tenure, Bend, 2011-2013



Source: 2013 American Community Survey 3-Year Estimates

Figure 18 shows that the percentage of single-person households increases with age. For householders under age 64, 25% or fewer households are single person households. By age 65, 53% of households are single-person households.

Figure 18. Households by Age of Householder and Household Size, Bend, 2013



Source: 2013 American Community Survey 1-Year Estimates

Summary of demographic and socioeconomic factors effect on housing choice in Bend

The prior sections described key demographic and socioeconomic factors that affect housing choice in Bend based on historical data.

Over the next decades, the national demographic trends that will affect housing demand across the U.S., as well as Oregon and Bend are:

- **Aging of the baby boomers.** By 2030, the youngest baby boomers will be over 65 years old. By 2030, people 65 years and older are projected to account for about 20% of the U.S. population, up from about 12% of the population in 2000.
- **Growth in Millennials.** Millennials are a large group of people (i.e., Echo Boomers or Generation Y) born from the early 1980's to early 2000's, with the largest concentration born between 1982 and 1995. By 2030, Millennials will all be older than 35 years old, with the oldest Millennials over 50 years old. The Millennials will form households and enter their prime earnings years during the 20-year planning period.
- **Growth of Hispanic and Latino population.** One of the fastest growing groups in the U.S. will be the Hispanic and Latino population. By 2030, Hispanic and Latino population is projected to account for about 20% of the U.S. population, an increase from about 13% of the U.S. population in 2000. Growth in the Hispanic population will be the result of natural increase (more births than deaths) and immigration from other countries.

Table 7 through Table 9 describe the changes in these demographic and socioeconomic trends and their potential effect on housing choice in Bend over the next 20 years. These tables discuss the characteristics of the householder, which is the person identified (by the household) as the head of household on the Census. The tables combine past trends (documented in the prior sections) with future demographic projections and information about housing preferences for these key demographic groups. Appendix A provides the background research that forms the basis for the conclusions in these tables.[37]

[37] The data presented in Tables 7 through 9 were reviewed with the Residential TAC during their August 5, 2014 meeting. Some of the data has been updated since this meeting.

Table 7. Baby boomers (Age in 2014: 48 to 67 years old; Age in 2028: 62 to 81 years old)

Demographic trends		Baby boomers are the fastest growing segment of Deschutes County's population. • People over 65 years are forecast to grow from 15% of Deschutes County's population in 2010 to 27% in 2035.[38] • Growth in people over 65 years old in Deschutes County will result in growth of more than 37,000 people in this age group in Deschutes County or 24% of population growth over the 2010 to 2035 period.[39] Bend's population accounts for about half of the population in Deschutes County. As population over 65 grows in the County over time, this age group will grow in Bend as well.
Effect of trends on household choice	**Age of household head**	Bend's older householders are more likely to own their home. • Homeownership peaks for householders 65 years and older. Nearly 75% of householders 65 years and older in Bend are homeowners. National studies about the housing preferences of older residents show that the majority express an interest in remaining in their home or in their community as long as possible, a trend that increases with age.[40] • Between about 65% and 80% of people over 65 would like to stay in their homes as long as possible.[41] • The Baby Boomers who want to move generally want to live in a typical community setting, with a mixture of people of different ages, and in a setting where recreational amenities are available.[42] • Of people over 65 who expect to move in the next five years, a smaller proportion of these households expect to live in a single-family home and to be homeowners, compared with households of all ages who expect to move in the next 5 years.[43] • Seniors who moved recently were much more likely to have moved into a smaller home, compared to households of all ages who moved recently.[44]
	Household size and composition	Household size decreases with age after age 65 in Bend. • More than 54% of households 65 years and older were single-person households in Bend. • Growth in households 65 years and older will result in growth in single-person households.
	Household income	Bend's household income peaks around age 45. • Household income decreases after age 65. About 65% of Bend's households over 65 had income of less than $50,000, compared with 49% of households 45 to 64.

[38] Oregon Office of Economic Analysis, *Forecasts of Oregon's County Populations by Age and Sex, 2010 – 2050*, [Excel Workbook] (March 2013).

[39] Ibid.

[40] Ada-Helen Bayer, Ph.D. and Leon Harper, Fixing to Stay: A National Survey of Housing and Home Modification Issues (Washington, D.C.: AARP, 2000).
William H. Frey, Mapping the Growth of Older America: Seniors and Boomers in the Early 21st Century, (Conducted for the Metropolitan Policy Program at the Brookings Institution, May 2007).
Teresa A. Keenan, Home and Community Preferences of the 45+ Population, (Conducted for AARP, November 2010).

[41] Ada-Helen Bayer, Ph.D. and Leon Harper, *Fixing to Stay: A National Survey of Housing and Home Modification Issues* (Washington, D.C.: AARP, 2000).
Andrew Kochera, Audrey Straight, and Thomas Guterbock, *Beyond 50: A Report to the Nation on Livable Communities: Creating Environments for Successful Aging*, (Washington, D.C.: AARP, 2005).
Stephen Engblom, Greg Ault, and Lisa Fisher, *Boomer Residential Preferences*, (Conducted for the Urban Land Institution, Multi-family Trends, May/June 2007).
Teresa A. Keenan, *Home and Community Preferences of the 45+ Population*, (Conducted for AARP, November 2010).

[42] Stephen Engblom, Greg Ault, and Lisa Fisher, *Boomer Residential Preferences*, (Conducted for the Urban Land Institution, Multi-family Trends, May/June 2007).

[43] Teresa A. Keenan, *Home and Community Preferences of the 45+ Population*, (Conducted for AARP, November 2010).

[44] Ibid.

		• Households with householders over 65 years have a lower than average household income, at about 70% of Bend's median household income, compared with ages 45 to 64 years with 107% of Bend's median household income. • Lower income does not necessarily result in greater problems with housing affordability or lower homeownership rates for people over 65 years because: • Some householders over 65 have paid off their mortgage. For households who have paid off their mortgage, lower income does not necessarily result in lower disposable income or affect their ability to continue to own their home. • Older households may have more accumulated wealth, which could include assets like the value of their house or investments.
	Potential effect on housing demand	The major impact of the aging of the baby boomers on demand for new housing will be through demand for housing types specific to seniors, such as assisted living facilities. Baby boomers will make a range of housing choices in Bend: • Many will choose to remain in their houses as long as they are able. • Those that do move are more likely to move into smaller homes, attached homes, or apartments and are more likely to rent than other households headed by other generations. • Some may downsize to smaller single-family homes (detached and attached) or multi-family units. These will be a mixture of owner and renter units. Nationally, of the 20% Baby Boomers that expect to move, 11% plan to move to an apartment, 16% to attached housing, 65% to single family housing, and 6% to a mobile home.[45] • Baby Boomers who move are likely to choose housing in areas with nearby shopping and other services, such as neighborhoods with integrated services or in downtown Bend. • As their health fails, some will choose to move to group housing, such as assisted living facilities or nursing homes.

[45] Ibid.

Table 8. Millennials (Age in 2014: 17 to 30 years old; Age in 2028: 31 to 44 years old)

Demographic trends		Millennials are one of the fastest growing segments of Deschutes County's population • By 2035, the State projects that there will be nearly 67,000 people 25 to 49 years in Deschutes County, up from more than 52,000 people in 2010.[46] • There will be an increase of about 14,000 people between the ages of 25 to 49 years. This group will account for 20% of total population growth over the 2010 to 2035 period.[47] Bend's population accounts for about half of the population in Deschutes County. As Millennials grow in the County, this age group will grow in Bend as well.
Effect of trends on household choice	**Age of household head**	Housing preferences shift for householders as they get older. • Under 25 years old: 88% were renters in Bend • 25 to 34 years old: 76% were renters in Bend • 35 to 44 years old: 44% were renters in Bend
	Household size and composition	Household size increases until householder age 35 in Bend. • 84% of householders in Bend between ages 15-34 years live in households with two or more persons. • About 16% of Bend's householders between 15 to 34 years live in single-person households, compared with 25% of householders 35 to 64 years and 53% of householders over 65 years old.
	Household income	Younger households have lower income and homeownership rates on average. • Younger households generally had less accumulated wealth, such as housing equity. • About 33% of households under 25 years had an income of less than $25,000 in Bend. About 40% of households between 25 and 44 had income of less than $50,000. • Households between 25 and 44 years had higher than average income, at about 129% of Bend's median household income. Higher incomes in this age group suggest greater opportunities for homeownership among people in this age group. • Higher incomes generally correlate with homeownership. The median income for homeowners in Bend was $67,755 (in 2013), compared with $33,121 for renters.
	Potential effect on housing demand	Growth in Millennials will result in increased demand for all housing types in Bend. Recent research hypothesizes that Millennials may make different housing choices than their parents as a result of the on-going recession and housing crisis. Some studies suggest that Millennials will prefer to rent and will prefer to live in multi-family housing, especially in large cities. Other studies suggest that the majority of Millennials' housing preference is to own a single-family home. Recent surveys suggest that as Millennials age and form families, they will increasingly prefer to live in single-family homes in suburban locations or in walkable communities with alternatives to driving. Based on review of recent research it seems unlikely that the majority of Millennials will make fundamentally different housing choices than previous generations as they age and have families, but their housing choices may be constrained by what they can afford due to student loan debt, and prolonged entry into higher paying positions due to the Baby Boomers putting off retirement. These trends are consistent with national housing trends, such as decreased homeownership rates and increases in housing affordability issues. • Millennials are more interested in living within a city (including in a downtown area) or a suburb closer to a city than prior generations.[48] • Millennials are more willing than other age groups to choose to live in a community with a wider range of housing and denser housing, where it is easier to talk to work or nearby urban amenities, and where transportation by automobile is less common.[49]

[46] Oregon Office of Economic Analysis, Forecasts of Oregon's County Populations and Components of Change, 2010 – 2050, [Excel Workbook] (March 2013).

[47] Ibid.

[48] American in 2013 Focus on Housing and Community, Urban Land Institute
Belden Russonello & Stewart Research and Communications, 2004 National Community Preference Survey,(Conducted for Smart Growth America and National Association of Realtors, 2004).
Eugenia L. Birch, Who Lives Downtown, Living Cities Census Series(Washington, D.C.: The Brookings Institute, November 2005).

		• Millennials are likely to choose to rent and are more likely to rent a multi-family unit than older households. This choice may be made from preference but is likely to be necessitated by lower income. • Millennials who prefer single-family units may prefer, or only be able to afford, smaller single-family units.[50] • As they establish their careers, their incomes increase, and they form families, it seems likely that a large share of Millennials in Bend will choose to live in an owner-occupied single family house. Some Millennials may prefer to rent or own a multi-family unit in or near Bend's downtown. • Bend is a suburban market, with urban amenities that may appeal to Millennials who prefer to live in a smaller city but in an area with a wide range of access to outdoor recreational activities. Bend itself does not have distant suburbs but nearby smaller cities have filled the role of distant suburbs for Bend. Millennials may choose to live in Bend's suburban neighborhoods, rather than in nearby smaller cities, if housing in Bend is affordable.

[49] *American in 2013 Focus on Housing and Community*, Urban Land Institute
Belden Russonello & Stewart Research and Communications, *2004 National Community Preference Survey*,(Conducted for Smart Growth America and National Association of Realtors, 2004).

[50] Joint Center For Housing Studies of Harvard University, *State of the Nation's Housing,* (Cambridge, MA: President and Fellows of Harvard College, 2013).

Table 9. Growth of immigrants and change in ethnic composition[51]

Demographic trends		Bend is becoming more ethnically diverse, with growth in the Hispanic and Latino population (both from immigration and from current residents in Bend). • Bend became more ethnically diverse, with Hispanic and Latino population growing by almost 250% between 2000 and 2013, an addition of 5,963 Hispanic or Latino residents. • Nationally, growth in Hispanics is driving population growth, both from immigration and from natural increase of Hispanics living in the U.S.[52]
Effect of trends on household choice	**Age of household head**	The Hispanic population in Bend has a different age structure than Bend's overall population. • In 2013, median age for Hispanics (23.0 years) was lower with the median age for the total population (36.6 years) in Bend. Nationally, growth in Hispanic population between 2013 and 2023 will help off-set decreases in white householders between the ages of 30 and 49.[53]
	Household size and composition	Nationally, Hispanic households with children grew at a faster rate than other minority populations between 1995 and 2005, resulting in increased demand for housing to accommodate families.[54] • In 1999, 51% of Hispanic households had children, compared with 33% of all households.[55] Hispanic households in Bend are more likely to be larger and less likely to be homeowners. • In 2010, the average size of Hispanic households in Bend was 3.4 persons per household, compared with an average of 2.4 persons per household for all households in Bend.[56] • Hispanic households in Bend live in single-family houses (detached and attached) less often than non-Hispanic households. About one-third of Hispanic households live in single-family dwellings, as compared to about 75% of non-Hispanic households. • About one-third of Hispanic households are homeowners, compared with an ownership rate of almost 60% for all households in Bend. In 2013, Oregon's Hispanic households were more likely to be younger homeowners. Nearly three-quarters of Hispanic homeowners in Oregon were younger than 45 years old. In comparison, about one-third of non-Hispanic homeowners were younger than 45 years old.[57].
	Household income	Hispanic households in Bend have lower than average income. • Hispanic households in Bend have lower than average income, with household income at 78% of Bend's median ($37,586) and family income at 81% of Bend's median ($39,052).[58] Immigrants generally have lower income than U.S.-born workers but income increases for immigrants the longer they have been in the U.S. and through successive generations. • First generation immigrants may take several decades to earn sufficient incomes to become homeowners[59] and to have income comparable to a person born in the U.S., of a similar age and education. This is true of Hispanic immigrants.[60]

[51] This table contains information from the U.S. Census 2010 and 2011 American Community Survey. Information at the national (U.S.) level about Hispanics in this section is from the Pew Research Center report *Second-Generation Americans: A Portrait of the Adult Children of Immigrants.*

[52] Ibid.

[53] Ibid.

[54] Ibid.

[55] Martha F. Riche, *The Implications of Changing U.S. Demographics for Housing Choice and Location in Cities*, (Washington, D.C.: The Brookings Institution Center on Urban and Metropolitan Policy, March 2001).

[56] U.S. Census, 2000 Decennial Census.

[57] U.S. Census, 2013 American Community Survey

[58] U.S. Census, 2013 American Community Survey, 3-year estimates

[59] James P. Allen, How Successful Are Recent Immigrants to the United States and Their Children? Presidential Address delivered to the Association of Pacific Coast Geographers, 68th annual meeting, Phoenix, Arizona, October 22, 2005 (Los Angeles: The Association of Pacific Coast Geographers, 2006)

		• Income generally increases for second-generation immigrants, who have higher educational attainment.[61] This is true of recent Hispanic immigrants.[62] • In 2012, the national median household income for first generation Hispanic households was $34,600, compared to $48,400 for second-generation Hispanic households, compared with the U.S. average of $58,200.[63] Hispanic households suffered steeper drops in household wealth than non-Hispanic white households during the recession, which may affect their ability to own homes, although the desire for homeownership remains strong.[64]
	Potential effect on housing demand	Growth in Hispanic and Latino households may result in increased demand for multi-family and single-family housing in Bend. Growth in Hispanic and Latino households will increase need for affordable housing for renters and homeowners such as: single-family dwellings (both smaller and larger sized dwellings), duplexes, larger townhomes, garden apartments, and apartments. Ownership opportunities for Hispanic and Latino households will focus on moderate-cost ownership opportunities, such as single-family dwellings on a small lot or in a more suburban location, duplexes, and townhomes. • Affordability is likely to be a more common problem for Hispanic and Latino households, especially recent immigrants, because they have lower income on average. • Homeownership increases the longer immigrants stay in the U.S. Longer-term first generation immigrants and second-generation immigrants may become home owners, depending on their ability to afford owning a home.[65] • Hispanic population with lower income is more likely to choose lower-cost housing, such as multi-family housing because that is what they can afford. • Hispanics are more likely to rent but when they are homeowners, they are more likely to live in a more urban area, compared with white households.[66] • Growth in Hispanics will increase demand for smaller “starter homes” and entry-level apartments.[67]

[60] Pew Research Center report Second-Generation Americans: A Portrait of the Adult Children of Immigrants, 2013.

[61] Allen, James P. “How Successful Are Recent Immigrants to the United States and Their Children?” Presidential Address delivered to the Association of Pacific Coast Geographers, 68th annual meeting, Phoenix, Arizona, October 22, 2005.

[62] Pew Research Center report Second-Generation Americans: A Portrait of the Adult Children of Immigrants, 2013.

[63] Pew Research Center report Second-Generation Americans: A Portrait of the Adult Children of Immigrants, 2013.

[64] Joint Center for Housing Studies of Harvard University, *The State of the Nation’s Housing*, 2013.

[65] Gregory Rodriguez, *Immigrants Today: Where they Come From, Where They Live in the US*, Emergences, Volume 9, Number 2 (Washington, D.C.: Taylor & Francis Ltd 1999).

[66] Martha F. Riche, *The Implications of Changing U.S. Demographics for Housing Choice and Location in Cities*, (Washington, D.C.: The Brookings Institution Center on Urban and Metropolitan Policy, March 2001).

[67] Joint Center For Housing Studies of Harvard University, *State of the Nation’s Housing,* (Cambridge, MA: President and Fellows of Harvard College, 2007).

Summary of key findings about how demographic trends may affect housing choice

Identifying future housing needs based on expected demographic changes requires making qualitative assessments of the future housing market. Demographic changes are likely to affect housing in Bend's housing market in the following ways over the next 20 years. The future housing mix will look different than the recent past. Based on the future demographic trends, the most pressing need is to increase the range (both in size and in pricing) of housing products in walkable neighborhoods.

- **Recession may have delayed some effects of demographic shifts.** The impacts of major demographics shifts are being delayed due to the financial effects of the recession, however, substantial housing demand shifts are underway that will change land use patterns. Baby Boomers are working longer and may not be moving because of a loss of home equity. Millennials have taken on college debt, are having a hard time getting a foothold in the workforce, and are therefore delaying household formation. The extended effects of the recession will mean that more households are renting for an extended period of time before being able to make a home purchase, or will only be financially capable of purchasing a smaller, less-expensive home. In summary, this delay means more near-term demand for rental housing or smaller less-expensive ownership housing.
- **Continued but slower demand for large-lot single-family housing.** In Bend, demand for large-lot single-family housing is likely to take the form of three or four bedroom houses on a lot of about 8,000 to 10,000 square feet. Generation X (the generation born after the Baby Boomers and before the Millennials), is currently in its prime family raising years, and the demographic group most likely to need larger single family homes. Generation X is much smaller than either the Baby Boomer or Echo Boomer generations. As the Baby Boomers move out of their existing single-family homes, there will be fewer households to take them over in the short-term. In recent years, Bend has been attracting retirees who are purchasing (and, in some cases, renting) available single-family dwellings.

  In the future, growth of Millennials and shrinking of the Baby Boomer generation may slow demand for new large-lot single-family housing. The Echo Boomer's preferences are generally for more walkable communities and they are willing to accept smaller homes in closer proximity to amenities. In addition, Millennials have lower income and higher debt.

  However, much of Bend's growth results from in-migration of people from outside of Central Oregon, many of whom are attracted to Bend's access to outdoor amenities, open space, and rural quality of life that Bend offers. Interviews with Bend's development community noted that demand for single-family housing that offers ample parking and storage for outdoor equipment is strong.

  All of these factors contribute to continued demand for large-lot single-family detached

housing but suggest that demand for this type of housing is likely to slow between the 2008 to 2028 period. Demand for this type of housing is likely to be driven by migration of people to Bend with wealth, as well as increase in income overtime from people living in Bend, especially households with growing families.

- **Demand will increase for a wider range of housing types.** Most of the evidence suggests that the bulk of the change will be in the direction of smaller average house and lot sizes for single-family housing. An aging population, increase in single-person households, increasing housing costs, and other variables are factors that support the conclusion that the future housing supply will include smaller and less expensive units and a broader array of housing choices. A substantial portion of Bend's residents will live in attached housing, such as townhouses, cottage housing, duplexes, garden apartments, or urban apartments. While most households may prefer to own their home, a growing share of households will be renters, either from choice (e.g., Baby Boomers who prefer to rent smaller units) or by economic necessity. Demand for these units will be particularly high in close-in areas near Bend's commercial and recreational amenities.
    - **Demand for a wider range of housing types by retirees**. Older households tend to move less frequently than younger households, and a large majority would like to age in place—a desire that grows stronger with age. Being near family, friends, and social organizations in walkable neighborhoods also becomes increasingly important with age. Of those that have moved recently, a third of Baby Boomers and half of the generation older than Baby Boomers have moved to smaller housing units. Those Baby Boomers who do move may be more likely than they were earlier in their lives to choose smaller homes (both smaller lots and smaller dwellings) and homes in locations with more amenities located near friends and family. These choices apply to both older households already living in Bend who choose to move and to older households who move to Bend from other communities. Interviews with members of Bend's development community indicated that small lot, cluster, or cottage housing might be appropriate housing types to meet this need.
    - **Housing for families will be in demand.** Millennials and Hispanic households are poised to account for the largest percentages of growth in Bend over the next 20 years. Millennials will be entering the phase of life when they form families and have children. In addition, Hispanic households have larger than average household size because they live in multi-generational households and have a larger number of children on average. Growth in households with families will drive need for housing that is both affordable and has sufficient space for a family.
    - **Housing affordability will continue to be an issue.** More than one-third of Bend's households were cost burdened in 2013.[68] This shows that a substantial proportion of Bend's households cannot afford housing in Bend. Interviews with

[68] A household is considered "cost-burdened" if they pay 30% or more of their gross household income on housing costs. Bend's rate of cost burden was comparable to the State average in 2013.

members of Bend's development community suggest a shortage of homes priced for first-time homebuyers. Many workers in Bend live in nearby communities because affordable housing is in short supply in Bend, and that the demand for small-lot housing with nearby amenities is increasing. The interviewees also indicate that, while there is demand for urban housing products (particularly rental apartments), the wages in Bend's service and tourism economy may not allow workers to afford rents sufficient to pay for units in newly-constructed buildings, which may inhibit further development of these types of housing. For two of the fastest growing demographics in Bend, the Millennials and Hispanic and Latino population, affordability is more likely to be a barrier to homeownership or higher-cost rental housing.

- **Location of housing will be increasingly important.** The location of housing is becoming increasingly important, with increased demand for housing in walkable neighborhoods near retail and other amenities. Where they can afford it, the Millennials generally prefer housing in walkable areas with retail and other amenities nearby, rather than housing in more suburban areas or in outlying cities. Some Baby Boomers who are downsizing are also choosing to live in similar walkable areas.
- **Design of housing and neighborhoods is important.** Well-designed multi-family and compact single-family located in a desirable neighborhood can provide opportunities for a wider range of housing options. Consumers are more likely to make the tradeoff of a smaller lot and home size when neighborhood parks, schools, and retail amenities are within walking distance. Therefore, there will be steady demand for multi-family and small-lot or attached single family housing in close-in locations proximate to Bend's downtown amenities and jobs.

Step 4 – Determine the types of housing that are likely to be affordable to the projected households based on household income

This section summarizes regional and local income, and housing cost trends. Income is a key determinant in housing choice and a household's ability to afford housing. A review of historical income and housing price trends provides insight into the local and regional housing markets. This section presents information about changes in income, housing costs, and housing affordability, including:

- Identifying the types of housing that are likely to be affordable to the projected population based on household income.
- Organizing data gathered on household incomes by income range categories (e.g., high, medium, and low) and calculating the percent of total households that fall into each category.
- Considering local housing prices for the same timeframe as the income data, identifying the structure types financially attainable by each income.[69]

Income

As of 2013, median household income in Bend was about $48,000, compared to $46,800 in Deschutes County and $50,250 for Oregon. Between 1999 and 2013, income in Bend decreased by 16% in inflation adjusted dollars, consistent with state and county trends.

Table 10. Median Household Income (2013 dollars), Oregon, Deschutes County, Bend, 1999 and 2013, Inflation-adjusted

	1999	2013	Change, 1999 to 2013	% Change, 1999 to 2013
Oregon	$57,282	$50,251	-$7,031	-12.3%
Deschutes County	$58,230	$46,791	-$11,439	-19.6%
Bend	$57,200	$48,014	-$9,186	-16.1%

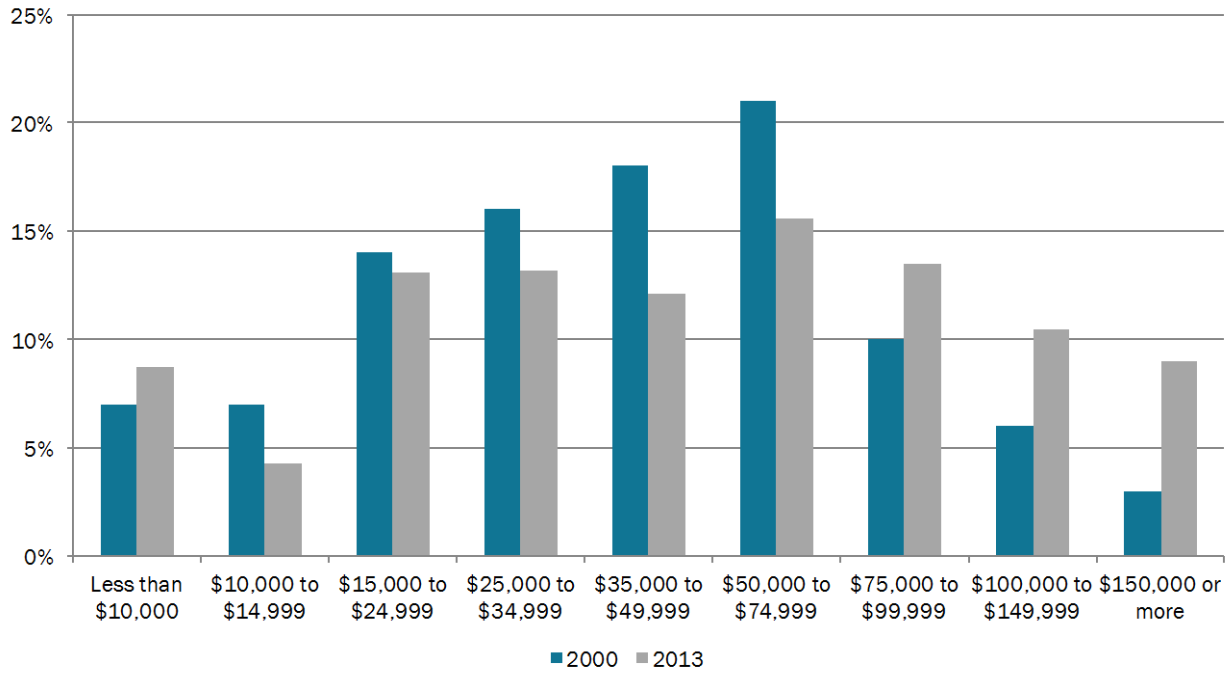
Source: 2000 Census and American Community Survey 2013 1-year Estimates

Figure 19 summarizes data from the 2000 Census and 2013 ACS for household income in Bend.

- Note that, by 2000, 62% of Bend's households had household incomes less than $50,000. A total of 31% of households had incomes between $50,000 and $99,999. The remaining 9% of households had incomes of $100,000 or more. The median household income in 2000 was $40,857.
- In 2013, the median household income had increased to $48,014, representing an 18% increase over 2000 levels.

[69] Please note that the 1997 guidebook directs the reader to consider structure types and tenure, For the purpose of this analysis, LCDC concluded that the city is not required to consider tenure in this HNA because the City does not regulate housing by tenure, See LCDC's Order pages 26-33.

Figure 19. Share of Households by Household Income (in nominal dollars), Bend, 2000 and 2013



Source: 2000 Census SF3, 2013 ACS 1-Year Estimates
Note: Household income is shown in 1999 dollars for 2000 Census data and in 2013 dollars for 2013 Census data.

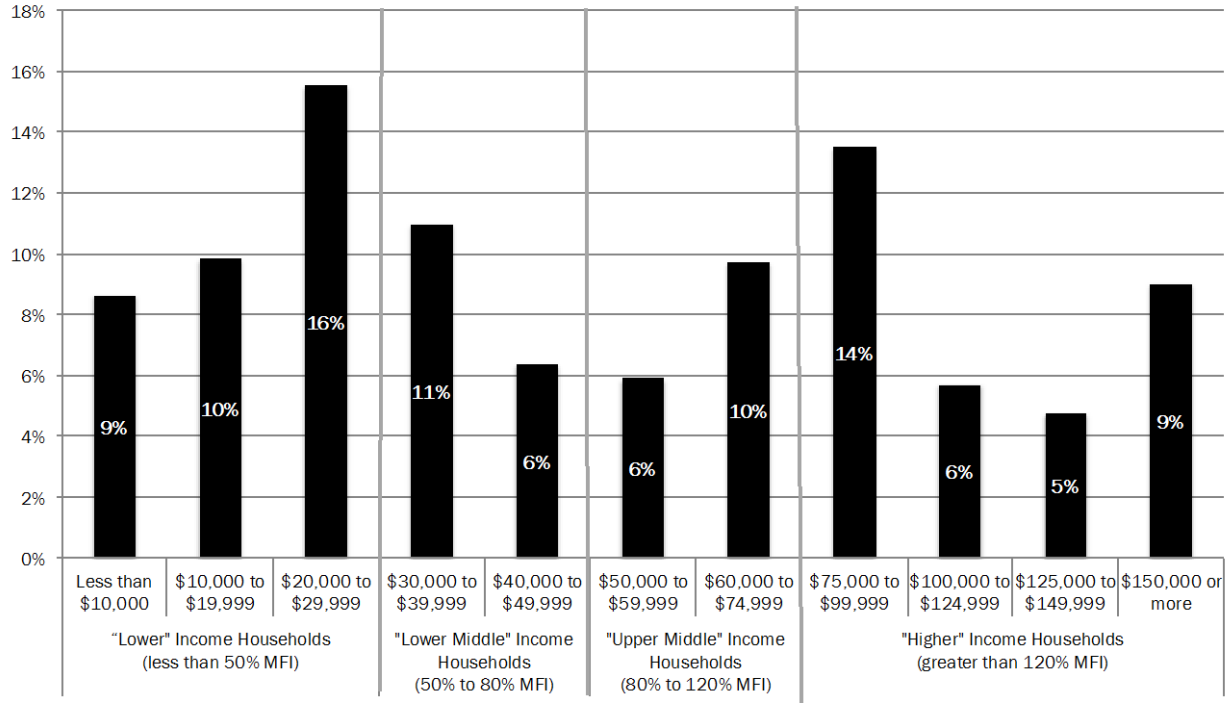
Figure 20 divides Bend's income data into one of four categories of Median Family Income (MFI): lower, lower middle, upper middle, and higher. These categories correspond to households that make less than 50%, 50% to 80%, 80% to 120%, and greater than 120% of the 2013 Deschutes County median family income ($59,700).[70] The purpose for this organization of the data is to better estimate the types of housing that will be affordable to each group based on household income.

- Households in the "lower" category are those that have household incomes of less than $29,850 (50% of MFI); these households represent 34% of all households in 2013. These households are generally considered "low-income" and may be eligible for government-subsidized housing. The types of housing that these households can afford are generally rental housing, such as older apartments, duplexes, or manufactured housing in parks (which could be either owner- or renter-occupied).
- Households in the "lower middle" category are those that have household incomes between $29,850 and $47,760 (50% to 80% of MFI); these households represent 17% of all households in 2013. These households are in the lower-earnings category of "workforce housing." While they can generally afford market-rate rents, they are more likely to be renters than homeowners. The types of housing households in this category can generally afford include smaller single-family detached houses, manufactured homes on lots or in parks, townhouses, duplexes, and apartments.

[70] HUD publishes Median Family Income by county each year.
http://www.huduser.org/portal/datasets/il/il13/index.html

- Households in the “upper middle” category are those that have household incomes between $47,760 and $71,640 (80% to 120% of MFI); these households represent 16% of all households in 2013. These households are in the higher-earnings category of “workforce housing.” These households are a mixture of renters and homeowners. The types of housing households in this category can generally afford include single-family detached houses, manufactured homes on lots or in parks, townhouses, duplexes, and apartments.
- Households in the “higher” category have household incomes of $71,640 or more (120% or more of MFI); these households represent 33% of all households in 2013. These households can afford most types of housing, with the majority of these households living in owner-occupied single-family detached housing.

Figure 20. Distribution of Households by Income Level, Bend, 2013



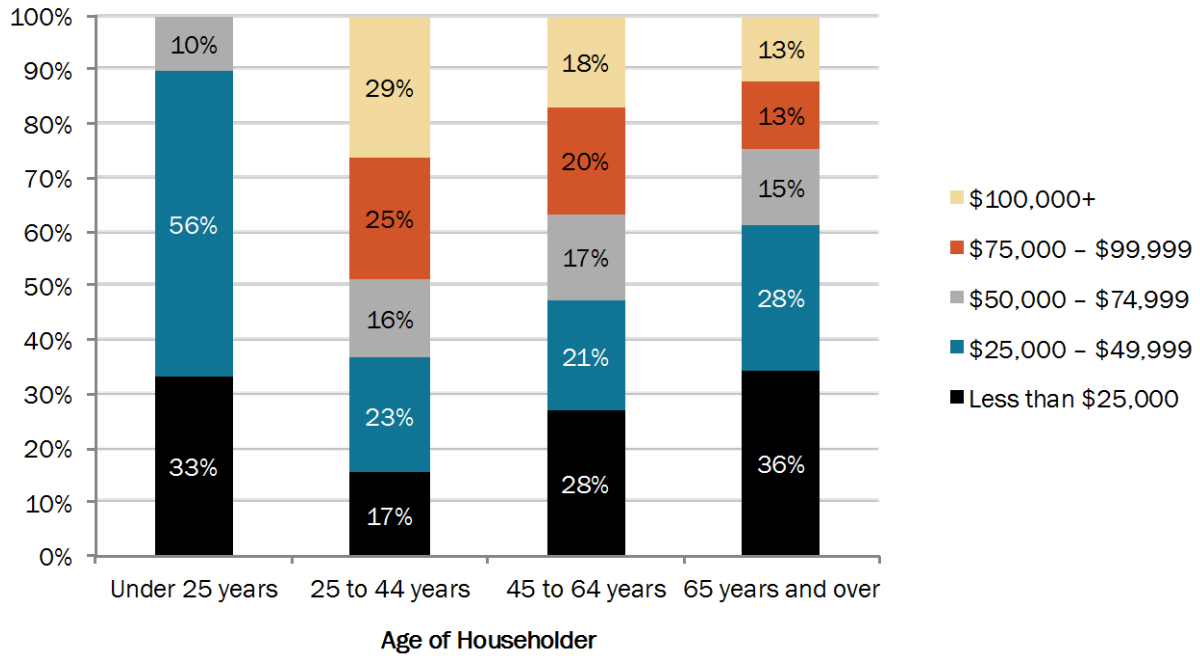
Source: 2013 American Community Survey 1-Year Estimates

Figure 21 presents data on age of householder by household income. These two variables are valuable indicators for identifying the housing choices that households make at different points in life, based on what they can afford.

- 33% of households with a householder under 25 years of age had household incomes under $25,000; 56% of these households had incomes between $25,000 and $49,999.
- 69% of households with a householder between 25 and 44 years of age had incomes between $50,000 and $100,000 or more.
- 55% of households with a householder between 45 and 64 years of age had incomes between $50,000 and $100,000 or more.

- 36% of households with a householder that was 65 years of age and over had incomes less than $25,000.

Figure 21. Distribution of Households by Household Income and Age of Householder, Bend, 2013

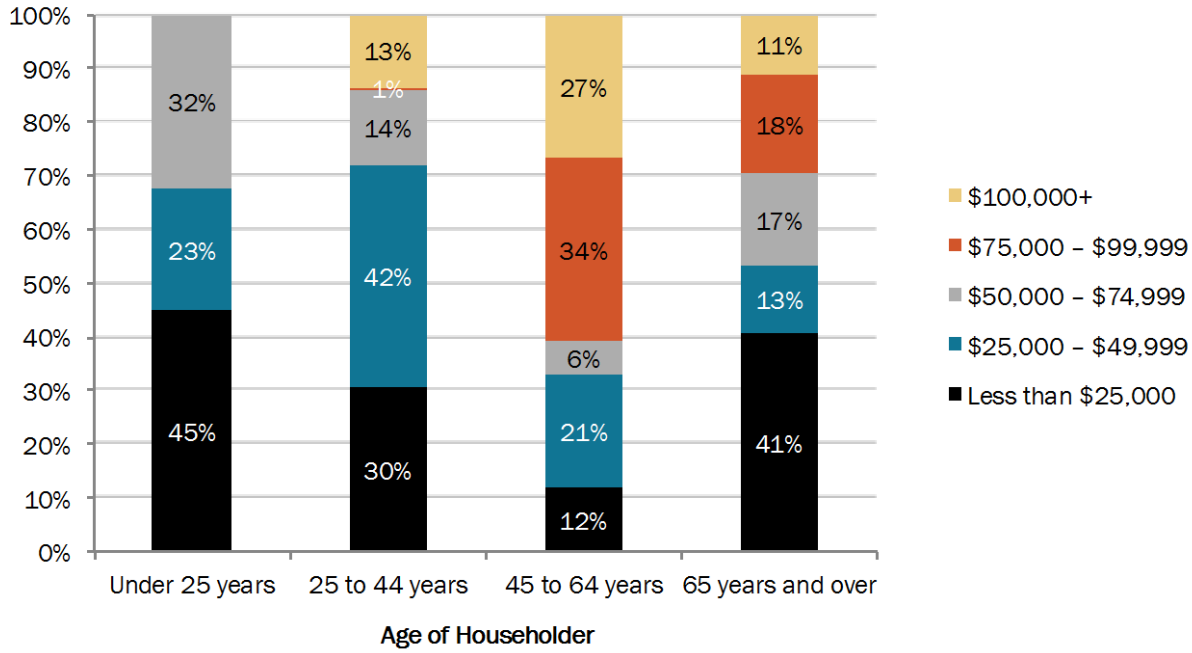


Source: 2013 American Community Survey 1-Year Estimates

Figure 22 shows this same information for Hispanic households in 2009 through 2013.

- 45% of households with a householder under 25 and 41% of households with a householder 65 years of age or older had incomes of less than $25,000.
- Households with householders between the age of 45 and 65 had the greatest share of incomes over $75,000 (61%).

Figure 22. Distribution of Hispanic Households by Household Income and Age of Householder, Bend, 2009-2013

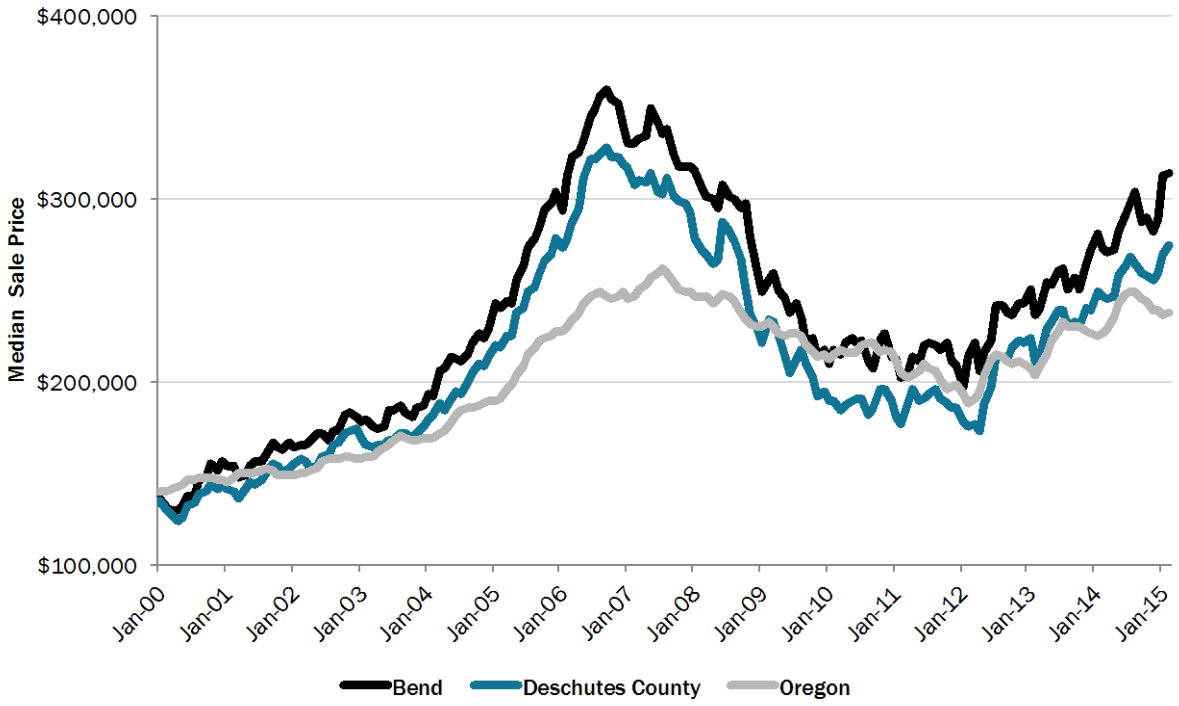


Source: 2013 American Community Survey 5-Year Estimates

Housing values

Figure 23 shows the median sales price in Oregon, Deschutes County, and Bend between 2000 and February 2015. As of February 2015, median sales prices in Bend were $314,000, higher than in Deschutes County ($274,400) and Oregon ($238,250).

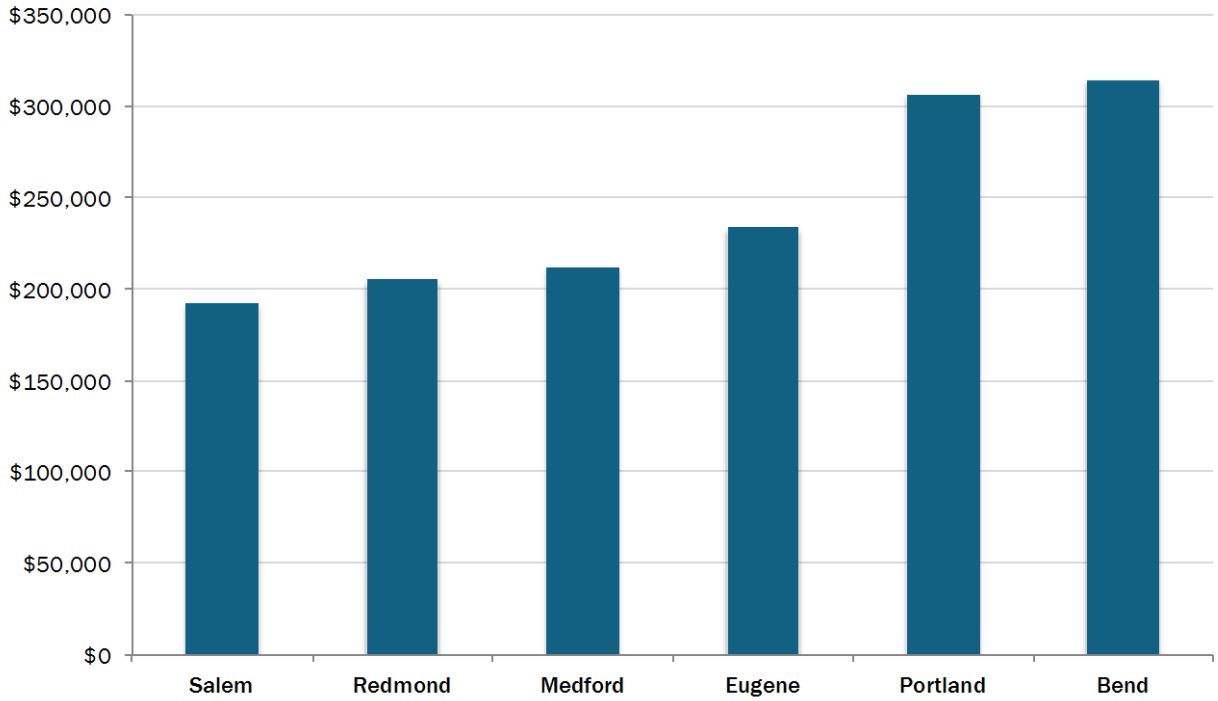
Figure 23. Median Sales Price, Oregon, Deschutes County, Bend, Jan 2000 through Feb 2015



Source: Zillow Real Estate Research

Figure 24 shows median home sales prices for Bend and regional cities in February 2015. In that month, median home sale prices in Bend were about $314,000, above sales prices in Oregon's largest cities, like Eugene, Salem, and Portland, and other central and southern Oregon communities, such as Redmond, and Medford.

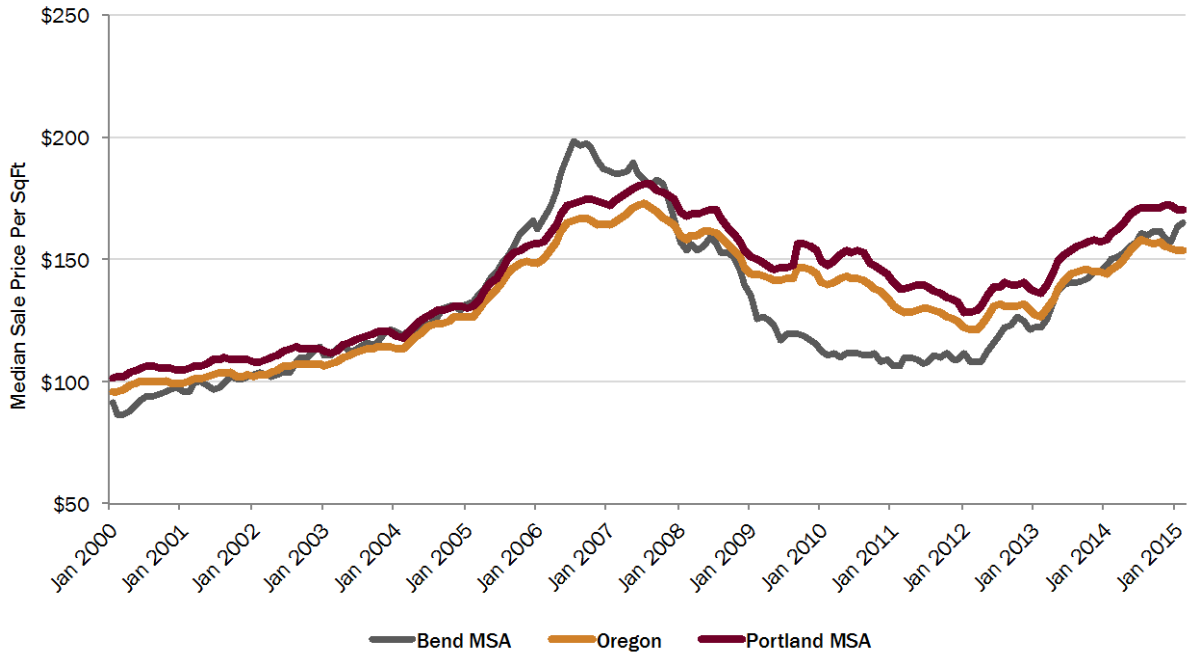
Figure 24. Median Home Sales Price, Bend, Portland, Eugene, Medford, Redmond, Salem, February 2015



Source: Zillow Real Estate Research.

Figure 25 shows median home sales price per square foot for Oregon, Portland MSA, and Bend MSA from January 2000 through February 2015. Prices per square foot rose in Bend from $91 per square foot in January 2000 to $199 in July 2006. Prices fell after 2007 and rose again starting in 2012. In February 2015, the median price per square foot in Bend was about $165 dollars, comparable to the price in the Portland Region (about $170) and above that of the state as a whole ($154 per square foot).

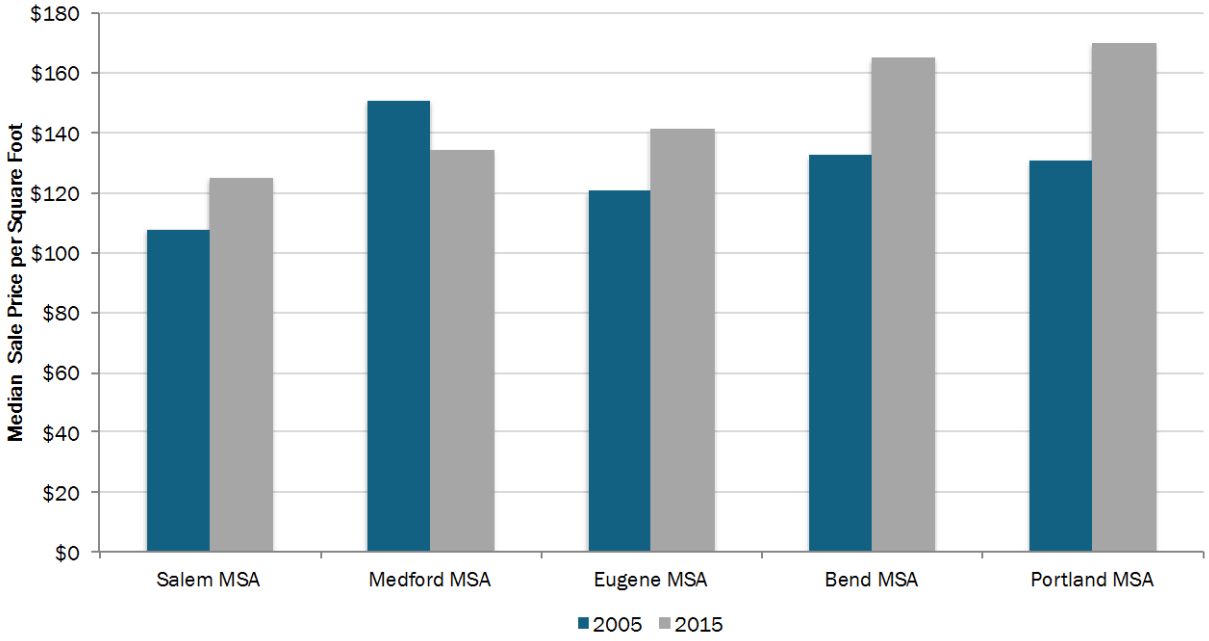
Figure 25. Median Sales Price per Square Foot, Bend, Oregon, and Portland, Jan 2000 - Feb 2015



Source: Zillow Real Estate Research
MSA is metropolitan statistical area. The Bend MSA is Deschutes County.

Figure 26 shows median home sales price per square foot for the Bend MSA and other large urban areas in Oregon in February 2005 and February 2015. Of the area sampled, Bend had the second-highest price per square foot, at $165 per square foot. Bend also saw the second highest growth in price per square foot ($32), with Portland just ahead at an increase of $39 per square foot and Eugene just behind at an increase of $21 per square foot.

Figure 26. Median Sales Price Per Square Foot, Salem, Medford, Eugene, Bend, Portland, Feb 2005 and Feb 2015



Source: Zillow Real Estate Research.
MSA is metropolitan statistical area.

Table 11 shows median household income and owner value (the estimated value of owner-occupied housing) in Bend between 1999 and 2013. During this period, housing costs increased faster than incomes, with an 18% increase observed in median household income, compared to an 81% increase in median owner value. Results show that the median owner value was 3.4 times the median household income in 1999—a figure that had increased to 5.2 by 2013.

Table 11. Comparison of Household Income and Housing Value Trends, Bend, 1999 to 2013

Indicator	1999	2013	% Change 1999 to 2013
Median Household Income	$40,857	$48,014	18%
Median Owner Value	$138,100	$250,300	81%
Ratio of Housing Value to Income	3.4	5.2	

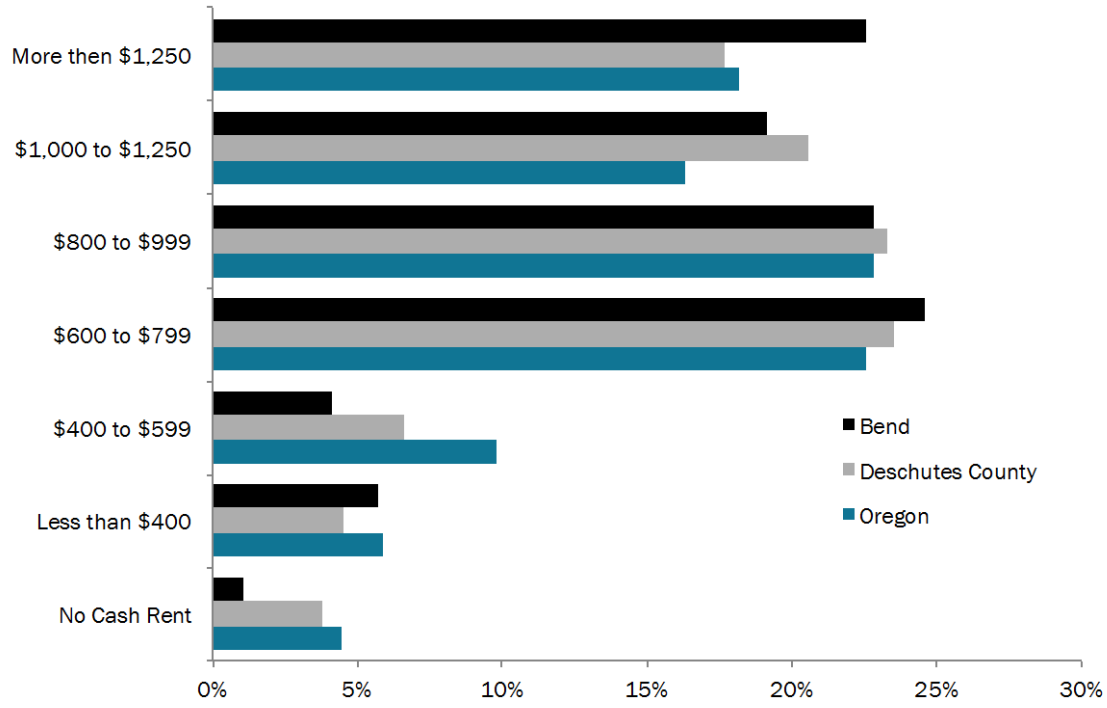
Source: 2000 Census SF3, 2013 ACS 1-Year Estimates

Housing rental costs

Figure 27 shows gross rent for renter-occupied units in Oregon, Deschutes County, and Bend, for 2011-2013.

- Almost 23% of all renter occupied dwellings in Bend had gross rent of more than $1,250, compared to roughly 18% of county and state renter occupied dwellings.
- About 10% of renter occupied dwellings in Bend had gross rent of less the $600, compared to 11% for Deschutes County and 15% for Oregon.

Figure 27. Gross Rent for Renter-Occupied Units, Oregon, Deschutes County, and Bend, 2011-13



Source: 2013 American Community Survey 3-Year Estimates

Table 10 shows median gross rent for Oregon, Deschutes County, and Bend from 2000 to 2013, adjusted for inflation. Rent increased in Bend by 6%, comparable to increases in Deschutes County, and the state. Over roughly the same period, median household income fell by 16% in Bend (See Table 11), showing that the cost of rent grew faster than incomes.

Table 12. Median Gross Rent, Oregon, Deschutes County, Bend, 2000 and 2013, Inflation-adjusted

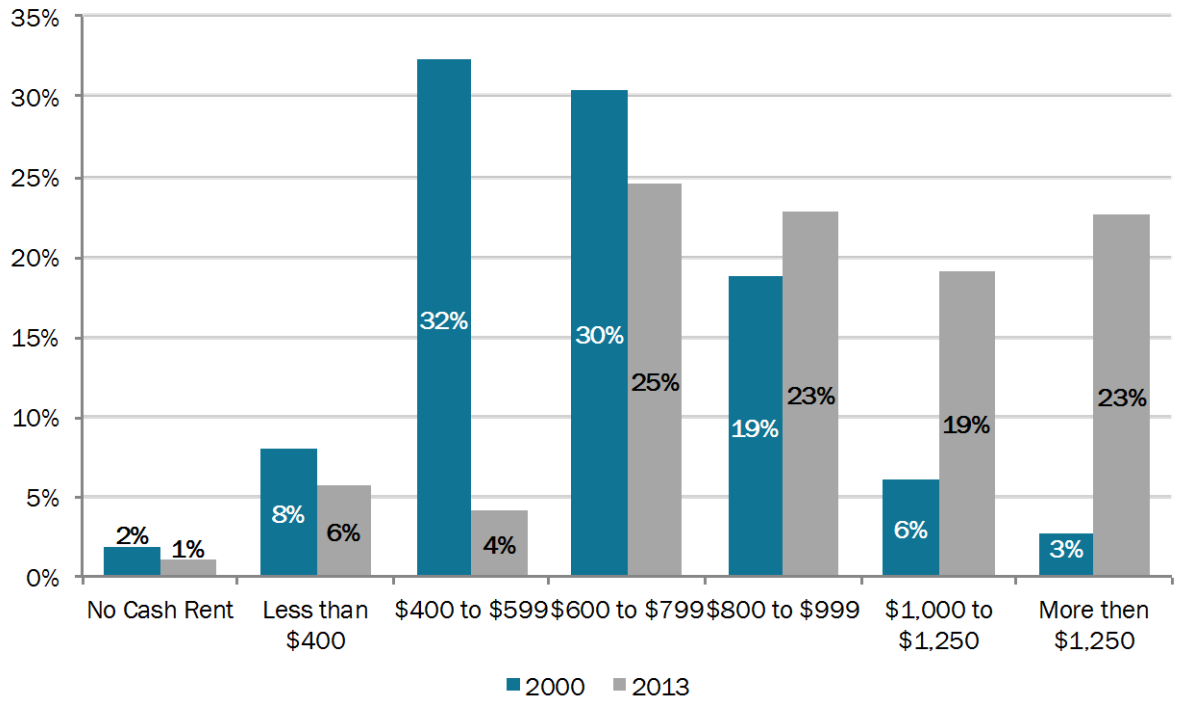
	2000	2013	Change, 2000 to 2013	% Change, 2000 to 2013
Oregon	$837	$877	$40	4.8%
Deschutes County	$869	$918	$49	5.6%
Bend	$876	$928	$52	5.9%

Source: 2000 Census American Community Survey 2013 1-year Estimates

Figure 28 describes changes in gross rent in Bend in between 2000 and 2013. Units with gross rent of $1,000 or more accounted for 84% of the growth in units available to rent between 2000 and 2013.

- The number of rental units that cost $499 or less decreased between 2000 and 2013.
- Conversely, the proportion of units available for rent for $600 or more increased between 2000 and 2013. By 2007, units renting for $600 or more represented 89% of the units rented.

Figure 28. Gross Rent in Bend, 2000 and 2013



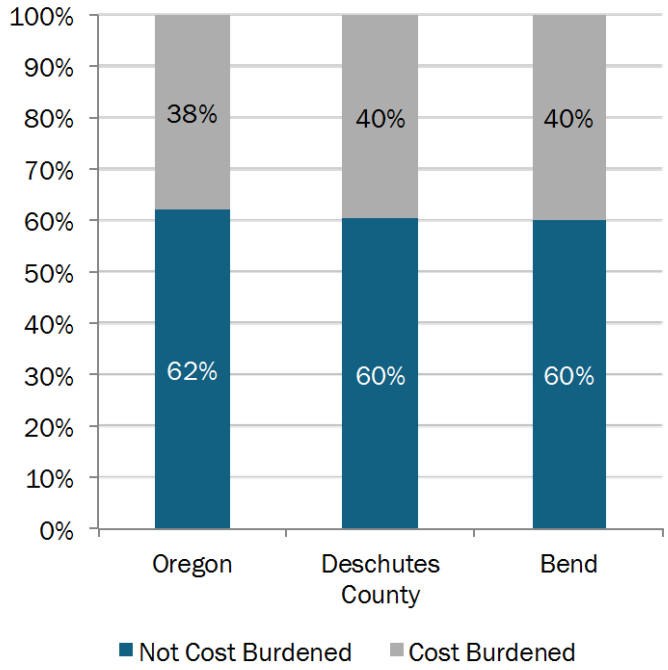
Note: The number of units included in this table includes all types of units available for rent in Bend in 2000 and 2013.
Source: 2000 Census SF3, 2013 American Community Survey 1-Year Estimates

Housing Affordability

As noted previously, a widely used standard for determining housing affordability is that a household should pay no more than a certain percentage of household income for housing (including payments, interest, rent, utilities, and insurance). HUD guidelines place this percentage at 30%, indicating that households paying more than 30% of their income on housing experience “cost burden”. Households paying more than 50% of their income on housing, meanwhile, experience “severe cost burden.”

Figure 29 shows the share of households that were cost burdened in 2013 in Oregon, Deschutes County, and Bend. In Deschutes County as a whole, roughly the same percentage of all households – 40% – were cost burdened in 2013, with about 54% of renter households and 31% of owners experiencing cost burden. For comparison, 38% of Oregon’s households were cost burdened in 2013, corresponding to 50% of renter households and 29% of owner households.

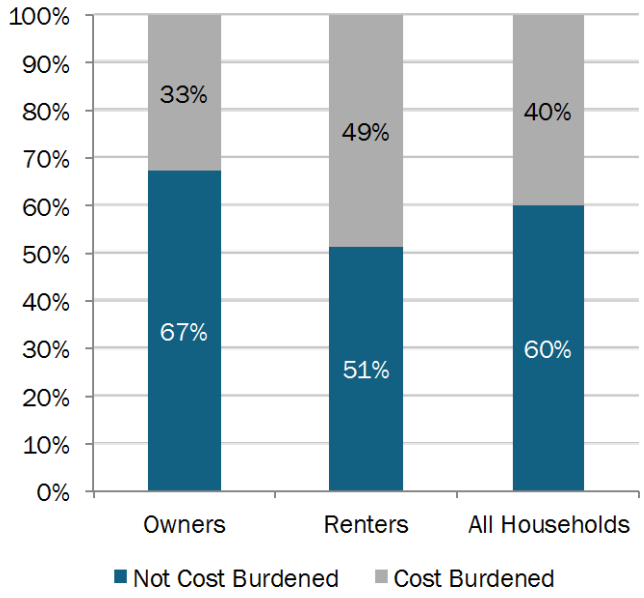
Figure 29. Cost Burdened, Oregon, Deschutes County, Bend, 2013



Source: American Community Survey 2013 1-year Estimates

Figure 30 shows the share of Bend households by tenure that were cost burdened in 2013. According to the U.S. Census, approximately 12,119 households in Bend—40% of all households—paid more than 30% of their income for housing expenses in 2013. About 49% of renter households in Bend were cost burdened, compared with 33% of owner households. In 2000, 42% of renter households and 26% of owner households in Bend were cost burdened.

Figure 30. Cost Burden by Tenure, Bend, 2013



Source: 2013 American Community Survey 1-Year Estimates

Cost burden is only one indicator of housing affordability. Another way of exploring the issue of financial need is through analysis of wages relative to housing affordability. Table 13 shows an illustration of the affordable housing wage and rent gap for households in Bend at several different percentages of median family income (MFI).

Table 13 uses HUD's estimate of fair market rent for a two-bedroom dwelling in Deschutes County. Fair market rent is estimated as the 40th percentile of gross rents for typical, non-substandard rental units occupied by recent movers in a local housing market.

Table 13 shows that a typical family of four must earn $15.44 an hour to be able to afford a two-bedroom unit.

Table 13. Affordable Housing Wage and Rent Gap for Households, Bend, 2013

Value	Minimum Wage	30% MFI	50% MFI	80% MFI	100% MFI	120% MFI
Annual Hours	2088	2088	2088	2088	2088	2088
Derived Hourly Wage	$8.95	$8.58	$14.30	$22.87	$28.59	$34.31
Annual Wage At Minimum Wage	$18,688	$17,910	$29,850	$47,760	$59,700	$71,640
Annual Affordable Rent	$5,606	$5,373	$8,955	$14,328	$17,910	$21,492
Monthly Affordable Rent	$467	$448	$746	$1,194	$1,493	$1,791
HUD Fair Market Rent (2 Bedroom)	$803	$803	$803	$803	$803	$803
Is HUD Fair Market Rent Higher Than The Monthly Affordable Rent?	Yes	Yes	Yes	No	No	No
Rent Paid Monthly OVER 30% of Income	$336	$355	$57	na	na	na
Rent Paid Annually OVER 30% of Income	$4,030	$4,263	$681	na	na	na
Percentage of Income Paid OVER 30% of Income for Rent	22%	24%	2%	na	na	na
Total Spent on Housing	52%	54%	32%	20%	16%	13%
For this area what would the "Affordable Housing Wage" be?	$15.38	$15.38	$15.38	$15.38	$15.38	$15.38
The Affordable Housing Wage Gap IS:	**$6.43**	**$6.81**	**$1.09**	**na**	**na**	**na**

Source: US Department of Housing and Urban Development 2013 Fair Market Rents , HUD 2013 MFI
HUD sets fair market rents based on an of market rent costs within a county, based on gross rent.
The values in Table 13 are:
Annual hours are the number of hours per year worked at a year-round, 40-hour per week job.
Derived hourly wage is the average annual wage divided by 2,080. For a household earning 80% of MFI, the hourly wage is $22.96.
Annual wage is the average wage made per year. For example, a household earning 80% of MFI has an annual wage of $47,760 (80% of $59,700 (Median Family Income)).
Annual affordable rent is 30% of the annual wage. For a household earning 80% of MFI, this is $14,328 (30% times $47,760).
Monthly affordable rent is the annual affordable rent divided by 12 months.
HUD Fair Market Rent (2 Bedrooms) is the fair market rent in Deschutes County in 2013.
Is HUD Fair Market Rent Higher Than The Monthly Affordable Rent? says whether the fair market rent is greater than the monthly affordable rent.
Rent Paid Monthly OVER 30% of Income is the difference between fair market rent and monthly affordable rent, if fair market rent is greater than monthly affordable rent.
Rent Paid Annually OVER 30% of Income is rent paid monthly over 30% of income multiplied by 12 months.
Percentage of Income Paid OVER 30% of Income for Rent is the annual percentage of the household's rent paid over the amount of rent that is affordable (30% of gross income).
Total Spent on Housing is the percentage of income spent on fair market rent per year.
For this area what would the "Affordable Housing Wage" be? is the wage that a household has to earn to afford a two-bedroom dwelling at fair market rent. This is the same amount for all households, regardless of income.
The Affordable Housing Wage Gap IS: is the difference between the derived hourly wage and the Affordable Housing Wage.

Table 14 shows a rough estimate of affordable housing cost and units by income levels for Bend in 2013 based on Census data about household income, the value of owner occupied housing, and rental costs in the city. The table shows the number and percentage of households in each income level in Bend (e.g., Bend has about 2,631 households (9% of households) with income less than $10,000) based on Census data about income. The table shows the affordable monthly housing costs and affordable housing price, using HUD's standards for affordability. The Table shows the estimated number of owner and renter units in Bend based on Census data about the housing costs of people in Bend. The column "surplus (deficit)" subtracts the estimated number of owner and renter units from the number of households, showing whether Bend has enough housing to meet demand at each income level.

The data indicate that, in 2013:

- About one-fifth of Bend's households could not afford a studio apartment according to HUD's estimate of $557 as fair market rent;
- Almost 40% of households in Bend could not afford a two-bedroom apartment at HUD's fair market rent level of $803;
- A household earning median family income ($59,700) could afford a home valued up to around $149,250.

Based on the data presented in Table 14, in 2013 Bend had a deficit of approximately 5,243 affordable housing units for households that earn less than $25,000 annually (26% of households in the city earn this amount or less).[71]

Table 14. Affordable Housing Costs and Units by Income Level, Bend, 2011-2013

Income Level	Number of HH	Percent	Affordable Monthly Housing Cost	Crude Estimate of Affordable Purchase Owner-Occupied Unit	Est. Number of Owner Units	Est. Number of Renter Units	Surplus (Deficit)	HUD Fair Market Rent (FMR) in 2013
Less than $10,000	2,631	9%	$0 to $250	$0 to $25,000	509	360	(1,763)	
$10,000 to $14,999	1,299	4%	$250 to $375	$25,000 to $37,000	254	364	(681)	
$15,000 to $24,999	3,996	13%	$375 to $625	$37,500 to $62,500	176	1,021	(2,800)	Studio: $557
$25,000 to $34,999	4,028	13%	$625 to $875	$62,500 to $87,500	226	4,262	460	1 bdrm: $645 2 bdrm: $803
$35,000 to $49,999	3,676	12%	$875 to $1,250	$87,500 to $125,000	959	4,556	1,839	3 bdrm: $1,147
$50,000 to $74,999	4,753	16%	$1,250 to $1,875	$125,000 to $187,500	4,004	2,015	1,265	4 bdrm: $1,373
Deschutes County 2013 MFI: $59,700			$1,493	$149,250				
$75,000 to $99,999	4,107	14%	$1,875 to $2,450	$187,500 to $245,000	2,434	904	(769)	
$100,000 to $149,999	3,181	10%	$2,450 to $3,750	$245,000 to $375,000	4,289	154	1,262	
$150,000 or more	2,742	9%	More than $3,750	More than $375,000	3,877	51	1,186	
Total	30,413	100%			16,727	13,686	0	

Source: American Community Survey 2013 3-year Estimates, HUD 2013 Fair Market Rents, HUD 2013 MFI

Based on the forgoing analysis of household and economic trends, the City concludes that the following types of housing will be those types that are needed and financially attainable by each income group listed above in Table 13 and Table 14.

[71] The Surplus or deficit in Table 14 is calculated by subtracting the estimated number of owner units and renter units from the number of households in the income category. For example, for households with an income of $10,000 to $14,999, the math is 1,299 households minus 254 owner units minus 364 renter units equals a deficit of 681 units.

Table 15 shows the type of housing that is attainable at different household income categories (relative to the 2013 Deschutes County MFI), and the distribution of these households in Bend in 2013.

Table 15. Housing Attainability, Bend, 2013

Market Segment by Income	Income Range	Number of households	Percent of Households	Financially Attainable Products		
				Owner-occupied	Renter-occupied	
High (120% or more of MFI)	$71,640 or more	10,622	35%	All housing types; higher prices	All housing types; higher prices	
Upper Middle (80%-120% of MFI)	$71,640 to $47,760	4,618	15%	All housing types; lower values	All housing types; lower values	Primarily New Housing
Lower Middle (50%-80% of MFI)	$47,760 to $29,850	4,817	16%	Manufactured on lots; single-family attached; duplexes	Single-family attached; detatched; manufactured on lots; apartments	Primarily Existing Housing
Lower (30%-50% of less of MFI)	$29,850 to $17,910	5,068	17%	Manufactured in parks	Apartments; manufactured in parks; duplexes	
Very Low (Less than 30% of MFI)	Less than $17,910	5,288	17%	None	Apartments; new and used government assisted housing	

Source: American Community Survey 2013 1-year Estimates

Manufactured homes

Manufactured homes are and will be an important source of affordable housing in Bend. They provide a form of homeownership that can be made available to low- and moderate-income households. Cities are required to plan for manufactured homes—both on lots and in parks (ORS 197.475-492).

Generally, manufactured homes in parks are owned by the occupants who pay rent for the space. Monthly housing costs are typically lower for a homeowner in a manufactured home park for several reasons, including the fact that property taxes levied on the value of the land are paid by the property owner rather than the manufactured homeowner. The value of the manufactured home generally does not appreciate in the way a conventional home would, however. Owners of manufactured homes in parks are also subject to the mercy of the property owner in terms of rent rates and increases. It is generally not within the means of an owner of a manufactured home to relocate the home to escape rent increases. Living in a park is desirable to some because it can provide a more secure community with on-site managers and amenities, such as laundry and recreation facilities.

OAR 197.480(4) requires cities to inventory the mobile home or manufactured dwelling parks sited in areas planned and zoned or generally used for commercial, industrial or high-density residential development. Table 16 presents the inventory of mobile and manufactured home parks within Bend in 2015. The results show that there are 12 manufactured home parks with 1,348 spaces and 27 vacant spaces in or adjacent to Bend. Table 16 shows that two

manufactured home parks are in commercial zones and non are in industrial or high-density residential zones (although two parks are in a medium density zone).

In response to dwindling numbers of affordable mobile home units, City Council has adopted a program to promote re-zoning of closed manufactured home parks to higher-density zoning to provide an incentive for park owners to replace those units with affordable rental housing.

Table 16. Inventory of Mobile/Manufactured Home Parks, City of Bend, 2014

Name	Location	Park Type	Total Spaces	Vacant Spaces	Zone
Bend Trailer Park	**335 SE Roosevelt**	**Family**	**7**	**0**	**Commercial Limited**
Cascade Village - Bend	63700 Cascade Village Dr	55+	89	0	Residential Standard Density
Country Sunse	61445 SE 27th St	Family	148	0	Residential Low Density
Fox Hills Mobile Home Court	61058 Alopex Ln	Family	62	5	Residential Standard Density
Golfside Park	61055 Parrell Rd	Family	94	0	Residential Standard Density
Parrell/Sisters Mobile Home Park	61310 & 61292 Parrell Road	Family	87	6	Residential Standard Density
Rock Arbor Villa Mobile Home Park	**2200 NE Hwy 20**	**55+**	**77**	**0**	**General Commercial**
Romaine Village Country Estates	19940 Mahogany St	Family	177	5	Residential Low Density
Snowberry Village	1188 NE 27th	55+	132	0	Residential Standard Density
Suntree Village Mobile Home Park	1001 SE 15th St	55+	214	0	Residential Medium Density
The Pines	61000 Brosterhous Rd	Family	191	11	Residential Standard Density
West Side Pines Cooperative	141 SW 15th St	Family	71	0	Residential Medium Density
Total			**1,349**	**27**	

Source: Oregon Manufactured Dwelling Park Directory; http://o.hcs.state.or.us/MDPCRParks/ParkDirQuery.jsp
Note: Several of these mobile/manufactured home parks are located on Bend's periphery, outside of the city and UGB.

Summary of Key Findings about Housing Affordability

The analysis of housing affordability shows the following trends that will result in increased need for a broader range of housing in Bend:

- **Housing sales prices for owner-occupied units grew substantially faster than incomes over the 2000 to 2013 period.** Since 2000, household income increased by 18% ($7,200 per year) and median sales price increased by 110% ($151,600). The median owner value increased from 3.4 times the median household income in 1999 to 5.2 by 2013. Cost burden for owners increased from 26% of owner-occupied households being cost burdened in 2000 to 33% of owners in 2013.

  The decreases in housing affordability for homeowners shows an increased need for less costly smaller single-family detached housing, both smaller lots and smaller units, such as cottages or cluster housing, and for townhouses. Demand for owner-occupied multifamily housing, such as garden apartments or urban condominiums, may increase, especially in walkable areas with access to services. These types of more affordable owner-occupied units are the types likely to be preferred by some downsizing Baby Boomers and Millennials, especially as the first houses for Millennials.

- **Bend has a substantial level of demand for rental housing affordable to low- and moderate-income households.** The share of renter households paying $1,000 or more in rent per month increased from 9% of households in 2000 to 42% in 2013. Cost burden for renters increased from 42% in 2000 to 49% of owners in 2013.

  The increase in rent costs, combined with expected growth of households who will need

affordable rental housing, such as young Millennials and some Hispanic and Latino households, suggest that Bend will have increased need for affordable types of housing such as townhouses, duplexes, garden apartments, urban apartments, and other multifamily housing types.

Step 5 – Estimate the number of additional needed units by structure type and Step 6 – Determine the needed density ranges for each plan designation and the average needed net density for all structure types

This section summarizes the most important facts and conclusions presented in previous sections, focusing on the specific requirements of ORS 197.296. Cities are required to determine the average density and mix of *needed* housing over the 20-year planning period (ORS 197.296(5)). The statute requires the determination of the Housing Needs Projection (e.g., needed density and mix) consider the following factors that may affect future housing need:

A. The number, density and average mix of housing types of urban residential development that have actually occurred;

B. Trends in density and average mix of housing types of urban residential development;

C. Demographic and population trends;

D. Economic trends and cycles; and

E. The number, density and average mix of housing types that have occurred on the buildable lands.

Thus, the HNA must consider a range of factors, and they do not lend themselves to an empirical formula. The data and analysis are intended to inform the community's discussion of what types of housing will be needed. The remainder of this section presents the estimate of additional needed units by structure type and the rationale for the estimate.

The needed housing density and mix for the 2008 to 2028 period in Bend is different than actual housing density and mix, based on the following factors:

Housing mix (ORS 197.296(5)(A) and (E)). The most common type of housing developed in Bend was single-family housing types.

- While the mix of housing types in Bend has varied over time, single-family detached housing has historically accounted for the majority of housing in Bend. In 2013, about 71% of Bend's total housing stock was single-family detached, 4% was single-family attached, and 25% was multifamily.
- Bend permitted an average of about 1,200 units per year between 1999 and 2014, 78% of which were single-family detached units.
- Fifty-five percent of housing in Bend was owner-occupied in 2013, a changed from 63% in 2000 and 54% in 1990.

Housing Density (ORS 197.296(5)(A), (B) and (E)). The average density of single-family housing was 4.7 dwelling units per net acre and for multi-family housing was 15.8 dwelling units per acre over the 1998 to 2008 period.[72]

- The average density for residential development in Bend was 5.7 dwelling units per net acre during the 1998 to 2008 period, compared to an average for Bend's housing stock before 1998 of 3.7 dwelling units per net acre.
- The average density by zone during the 1998 to 2008 period was: 2.1 dwelling units per net acre (du/net acre) in RL, 4.9 du/net acre in RS, 13.4 du/net acre in RM, and 16.9 du/net acre in RH.
- The average density for single-family detached housing developed over the 1998 to 2008 period was 4.7 du/net acre and 5.1 du/net acre for manufactured homes on lots.
- The average density for single-family attached housing developed over the 1998 to 2008 period was 9.5 du/net acre and 16.0 du/net acre for manufactured homes on lots.

Regional Growth (ORS 197.296(5)(C). Bend's existing mix of housing is a result of a range of historical factors, related to both local and regional growth.

- The City grew rapidly from a small city in 1990 to a city of more than 78,000 people by 2013. The largest source of pressure for housing over this period was the Baby Boomers (especially younger Baby Boomers), who needed housing to accommodate children.
- Between 1990 and 20013, Bend's growth accounted for two-thirds of population growth in Deschutes County. Population and economic growth in Bend drives regional growth in Deschutes County and Central Oregon.
- The predominant type of housing built in many of Oregon's communities during the 1990's and early 2000's was single-family housing. In particular, single-family housing types dominated residential development during the high growth "boom" period from 2004 to 2007.[73]
- Between 1990 and 2013, about 85% of Deschutes County's population growth was from positive net migration (in-migration exceeded out migration) from other parts of Oregon or from outside of Oregon. Interviews with real estate professionals suggest Bend attracts in-migrants who have sufficient capital and income to afford higher-cost housing in Bend. In addition, Bend is attracting Millennials, many of whom prefer to live in an area with easy access to outdoor recreation.
- Bend annexed more than 17,000 people between 1990 and 1999. The majority of areas annexed were developed with relatively low-density single-family housing. All of Bend's population growth since 2000 has been due to natural increase (# births > # deaths) and positive net migration.

[72] The analysis about historical housing density used the density analysis from the 2008 housing needs analysis, for the 1998 to 2008 period, because the majority of residential development took place over that period and the majority of new housing developed between 2009 and 2013 was single-family detached. There was no reason to expect that development densities over the 2009 to 2013 period would have been substantially different from the 1998 to 2008 period, given the fact that Bend's development policies did not change over that period.

[73] This statement is based on ECONorthwest's experience developing housing needs analysis since 2007 for cities across Oregon, such as Salem, Eugene, Madras, Newport, Harrisburg, as well as other cities.

Economic Trends (ORS 197.296(5)(D). The economy in Bend grew over the last two decades. A separate analysis of economic opportunities shows that employment in Bend will continue to grow over the 20-year period.

- Between 2001 and 2013, Deschutes County added nearly 10,800 jobs. The majority of new jobs were in commercial sectors, such as health care and professional services, accommodations and food services, and administrative support.
- The per capita income (accounting for inflation), in Deschutes County increased by about 20% ($7,100 in 2014 dollars) between 1990 and 2013.
- Between 2008 and 2028, Bend is forecast to add 22,891 jobs, mostly in office and service sectors. While the economy and the housing market recently experienced a severe downturn in growth, Bend can expect to experience one to two complete economic cycles (from faster growth to little or no growth) over the planning period.

Demographic trends (ORS 197.296(5)(C). The population is aging and household sizes are generally decreasing within the region, with small increase in the share of single-person households.

- Future housing demand will be driven by in-migration, changes in age-demographics, and changes in household composition, with an increase in single-person households. New households and existing households are likely to undergo similar changes in age-demographics.
- Baby Boomers are the fastest growing segment of Deschutes County's population. People over 65 years old are projected to grow from 13% of the County's population in 2000 to 24% in 2030. These households will make a variety of housing choices. The major impact of the aging of the Baby-Boomers on demand for new housing will be through demand for housing types specific to seniors, such as assisted living facilities.

  In 2013, about 36% of householders over 65 years old in Bend had incomes of $25,000 or below. While people over 65 years old may have financial reserves (beyond income) or may own their home outright, the large share of households with incomes below $25,000 suggest that many older households will need access housing costing about $600 per month or less. About 28% of householders over 65 years old had incomes between $25,000 to $50,000 (near or below the median family income), suggesting that this group will need access to housing costing between $600 and $1,200 per month.

  Implications for Housing Product Types. Baby Boomers will make a range of housing choices as they age, from continuing to remain in their homes as long as possible, to downsizing to smaller dwellings, to moving into group housing (e.g., assisted living facilities or nursing homes) as their health fails. The aging of the Baby Boomers will increase need for: small single-family dwellings, cottages, accessory dwelling units, townhomes, apartments, and condominiums. Baby Boomers who move are likely to choose housing in areas with nearby shopping, health care and other services, such as neighborhoods with integrated services or in downtown Bend.
- Millennials are the second fastest growing segment of Deschutes County population. People aged 25 to 49 years old are projected grow by nearly 27,500 people between 2000 and 2030, an increase of 64%. This will result in between 2,200 to 2,600 more households in Bend with a head of household who is between 30 and 45 years old.

In 2013, about 17% of householders 25 to 45 years old in Bend had incomes of $25,000 or below and could afford $600 in housing costs per month. About 23% of householders in this age grouping had incomes between $25,000 to $50,000 (near or below the median family income), and could afford housing costing between $600 and $1,200 per month. About 16% of households in this age group had incomes of $50,000 to $75,000 and could afford monthly housing costs of about $1,200 to $1,900, which is the range when homeownership begins to be financially feasible in Bend. As Millennials age, the amount that they can afford to spend on housing may be lower than people in this age range in 2013 because of increases in debt, as discussed in the prior section about demographic characteristics and trends affecting housing demand in Bend.

Implications for Housing Product Types. Growth in Millennials will increase need for affordable housing for renters and homeowners such as: small single-family dwellings, cottages, accessory dwelling units, duplexes, townhomes, garden apartments, and apartments. The size of dwelling units will vary depending on household size, from single-person households to households with children. Millennials who move are likely to choose housing in areas closer to services and activities, such as downtown Bend and nearby neighborhoods, as discussed previously.

- Hispanic and Latino population grew by more than 200% in Bend between 2000 and 2013, growing from about 2,400 people to about 8,400 people. The U.S. Census projects that Hispanic and Latino population will grow from about 16% of the nation's population in 2010 to 22% of the population in 2030, with growth fastest in the western U.S., as discussed in the prior section about demographic characteristics and trends affecting housing demand in Bend. This will result in between 2,000 to 3,000 new households in Bend with a Hispanic or Latino head of household.

  In the previous period from 2009 to 2013, 28% of Hispanic and Latino households in Bend had incomes of $25,000 or below and could afford rents of $600 or less. About 30% of Hispanic and Latino households had incomes between $25,000 and $50,000, (near or below the median family income), and could afford housing costing between $600 and $1,200 per month. About 15% of Hispanic and Latino households had incomes of $50,000 to $75,000 and could afford monthly housing costs of about $1,200 to $1,900, which is within the range of when homeownership begins to be financially feasible in Bend.

  Implications for Housing Product Types. Hispanic and Latino households will need affordable housing that can accommodate larger households, including multi-generational households. Growth in Hispanic and Latino households will increase need for affordable housing for renters and homeowners such as: single-family dwellings (both smaller and larger sized dwellings), duplexes, larger townhomes, garden apartments, and apartments. Ownership opportunities for Hispanic and Latino households will focus on moderate-cost ownership opportunities, such as single-family dwellings on a small lot or in a more suburban location, duplexes, and townhomes.

- In addition to these large-scale demographic changes affecting Bend, development of the OSU Cascades Campus will impact housing need in Bend. OSU projects that the campus will grow to 5,000 students by 2025. The City recently approved a site plan for

development of 10 acres of OSU's campus. This approval included some on-site student housing in a dormitory for 300 students.[74]

Some students may live on campus in dormitories, may already live in Bend, or may commute to the campus from a nearby community. Some students, however, will move to Bend specifically to attend the University and will need student housing. Demand for off-campus student housing may significantly affect Bend's housing market, depending on how many students need off-campus housing and how soon they need it.[75] This analysis assumes that dormitory-style student housing will be accommodated on OSU's campus and is not accounted for in the land need estimate. Demand for off-campus student housing is not accounted for in the projection of population growth. As the timing of OSU's growth becomes more certain, the City should update its policies to address this need.

Housing Affordability (ORS 197.296(5)(C) and (D)). Bend's housing became less affordable for both renting and owning over the last decade.

- Between 1999 and 2013, growth in homeownership costs outpaced growth in income. In Bend, median owner value increased by 81% between 1999 and 2013, while median household income grew by 18%.
- Between 2000 and 2014, average sales price more than doubled, increasing from $137,000 to $288,000.
- Forty percent of Bend's households were cost burdened in 2013, with renters cost burdened more frequently than owners (49% compared to 33%). In comparison, 40% of households in Deschutes County and 38% of State households were cost burdened in 2013.
- In 2013, Bend had a gap in affordable housing for households that earn less $25,000.
    - Bend had a deficit of about 5,200 dwelling units that would be affordable to households earning $25,000 or less based on the U.S. Department of Housing and Urban Development's (HUD) affordability guidelines.
    - More than 13% of Bend's households could not afford a studio apartment at HUD's fair market rent level of $557, and just under one-third of households could not afford a two-bedroom apartment at HUD's fair market rent level of $803.
    - A household earning median family income ($59,700) could afford a home valued up to about $149,250, about half of the median sales price in Bend in 2014.
- Continued increases in housing costs may increase demand for denser housing (e.g., multifamily housing or smaller single-family housing) or locating outside of Bend. To the extent that denser housing types are more affordable than larger housing types, continued increases in regional housing cost will increase demand for denser housing.

When the balance of factors required by ORS 197.296(5) are considered, we conclude that the needed density and mix for the 20-year planning period is different than the actual density and mix achieved between 1999 and 2013. This is in part because the analysis period largely covers

[74] See Final Decision of the City of Bend Hearings Officer on PZ-14-0210.

[75] Final Recommendations (2014) OSU Cascades Housing Task Force

the housing boom period between 2004 and 2007—a period when an extraordinary number of higher cost single-family detached dwellings were built. It is also reflective of the fact that the data suggest the region has a significant affordability gap. This gap suggests that the region needs more lower cost housing, which in turn may be addressed through higher densities of certain types of housing and smaller housing types.

Table 17 presents the assessment of needed mix for housing built in Bend over the 2008 to 2028 period. The analysis in Table 17 is based on the following information and assumptions:

- The number of new dwelling units is based on the forecast for new dwelling units in Table 6.
- The majority of new housing will continue to be single-family detached housing. The type of single-family detached dwellings may change, with more emphasis on smaller and more affordable new single-family detached housing and a decrease in demand for large-lot single-family detached housing.
- Bend's housing need will change, with an increase in demand for single-family attached housing and multifamily housing. The forecast concludes that the needed mix of new housing is different from the mix of existing housing stock (Figure 1) and the mix of housing produced over the last decade (Table 3). The following demographic trends will result in an increase in demand for multifamily and single-family attached housing:
    - Growth in Baby Boomers. Households over 65 typically have lower income than younger households. Those without accumulated wealth (e.g., housing equity or investments) may choose lower-cost multifamily housing. Some Baby Boomers may choose to downsize their housing, resulting in greater demand for small single-family dwellings, cottages, accessory dwelling units, townhomes, apartments, and condominiums.
    - Growth Millennials. Younger Millennials typically have lower income and may have higher debt. Growth in Millennials will increase need for affordable housing for renters and homeowners such as: small single-family dwellings, cottages, accessory dwelling units, duplexes, townhomes, garden apartments, and apartments.
    - Growth in Hispanic and Latino population. To the extent that in-migrating Hispanic and Latino households have lower than average income, then in-migration of ethnic groups will increase demand for housing affordable to low- and moderate-income households relative to demand for other types of housing. Growth in Hispanic and Latino households will increase need for affordable housing for renters and homeowners such as: single-family dwellings (both smaller and larger sized dwellings), duplexes, larger townhomes, garden apartments, and apartments. Ownership opportunities for Hispanic and Latino households will focus on moderate-cost ownership opportunities, such as single-family dwellings on a small lot or in a more suburban location, duplexes, and townhomes.
    - The growing need for affordable housing in the Bend, much of which is likely to be located in Bend, the largest metropolitan area in the region.
    - The current deficit of housing units (5,244) affordable to households earning $25,000 or less a year (See Table 14).

Table 17. Needed mix for housing built in Bend, 2008 to 2028

	Units	Percent of New Units
Single-family detached	9,175	55%
Single-family attached	1,668	10%
Multi-family	5,838	35%
Total	16,681	100%

Source: ECONorthwest

Table 18 shows that, between 2009 and the end of June 2014, 2,912 new units were developed in Bend. The City is considering policy options to achieve the needed mix shown in Table 17. Those policies were not in place between 2008 and 2014. Because the City had not adopted any policies to help achieve the needed mix, the mix of housing developed between 2009 and July 2014 did not show substantial changes in the development pattern from housing developed in Bend between 1999 and 2008.

As a result, Table 18 applies the needed mix (Table 17) to the remaining need. Table 18 shows that Bend has a need for 13,770 additional dwellings for the remainder of the 2008-2028 forecast period, between 2014 and 2028[76].

Table 18. Needed housing by needed mix, Bend, 2014-2028

	Needed Units (2008 - 2014)	Units permitted 2009 to end of July 2014	Remaining Need (Mix applied to remaining total)	
			Units	Percent of New Units
Single-family detached	9,175	2,411	7,574	55%
Single-family attached	1,668	112	1,377	10%
Multi-family	5,838	389	4,819	35%
Total	16,681	2,912	13,770	100%

Source: ECONorthwest

Note: The numbers do not balance going across because the needed mix was applied to the first and third columns, while the units permitted column reflects the actual percentage of what was permitted from 2009-2014.

Based on the analysis above, we come to the following conclusions about Bend's needed densities:

- **Average development densities increased over time in most zones.** The densities in the RS, RM, and RH zones increased for development over the 1998-2008 period, when compared with the densities before 1998 (Table 5). Density in the RL zone did not change over the 1998-2008 period, compared to densities before 1998. The reasons for this increase in density include the historically high levels of residential development

[76] See meeting packets for the Residential TAC dated August 25, 2014 and January 26, 2015

during the 1998-2008 period, with an emphasis on high demand for single-family detached housing.

- **Bend's average development density will change with a shift in the type of housing developed in Bend over the 2014-2028 period.** The conclusion of the housing needs analysis is that Bend will have increased demand for a wider range of housing types, especially more affordable housing types. These housing types include: small lot single-family detached, smaller single-family detached units such as cottages, townhouses (aka rowhouses), duplexes, tri-plexes and quad-plexes, garden apartments, and urban apartments and condominiums. Development of these housing types will generally be at higher densities than Bend's historical densities. These housing types will be developed primarily in the RS and RM zones, with some denser multifamily housing in the RH zone.

The starting point for discussion of needed future densities in Bend is the historical development densities for the 1998-2008 period (Table 5). These densities serve as the basis for the base case capacity analysis, presented in the *Bend Urbanization Report*. Bend's needed density for development over the 2014-2028 period will be determined through additional analysis of future development patterns.

The *Bend Urbanization Report* provides information and analysis of efficiency measures that will increase housing density in Bend over the 2014-2028 period.

The next step in estimating units by structure type is to evaluate income as it relates to housing affordability. Table 19 shows an estimate of needed dwelling units by income level for the 2014-2028 period. The analysis uses market segments consistent with HUD income level categories, based on the income distribution in Bend in 2013 (See Table 15).

The analysis shows that about 50% of households in Bend could be considered high or upper-middle income in 2013 and that about half of the housing need in the 2014-2028 period will derive from households in these categories. The analysis also shows that 50% of Bend's households could be considered lower-middle, low, or very low income in 2013 and that about half of the housing need in the 2014-2028 period will derive from households in these categories. Housing that is affordable to these households will generally be existing housing.

While the housing needs analysis focuses on housing that will be built in the future, many households in Bend (as in other Oregon cities) will be able to afford existing housing and newly built housing will be too expensive. In most cities, the stock of housing affordable to low-income households increases through the addition of new subsidized units, smaller market rate units, and older market rate units that become more affordable over time. Most new market rate development is affordable to moderate and high income households. Through the market filtering process, these stocks become affordable to lower-income households over time, as the housing stock ages.[77]

[77] Based on analysis presented in the ECONorthwest report "Seattle Housing Affordability Policy Framework and Recommendations," March 2015.

Table 19. Estimate of needed dwelling units by income level, Bend, 2014-2028

Market Segment by Income	Income Range	New Households 2014-2028		Financially Attainable Products		
		Number of households	Percent of Households	Owner-occupied	Renter-occupied	
High (120% or more of MFI)	$71,640 or more	4,809	35%	All housing types; higher prices	All housing types; higher prices	
Upper Middle (80%-120% of MFI)	$71,640 to $47,760	2,092	15%	All housing types; lower values	All housing types; lower values	Primarily New Housing
Lower Middle (50%-80% of MFI)	$47,760 to $29,850	2,181	16%	Manufactured on lots; single-family attached; duplexes	Single-family attached; detatched; manufactured on lots; apartments	Primarily Existing Housing
Lower (30%-50% of less of MFI)	$29,850 to $17,910	2,295	17%	Manufactured in parks	Apartments; manufactured in parks; duplexes	
Very Low (Less than 30% of MFI)	Less than $17,910	2,393	17%	None	Apartments; new and used government assisted housing	

Source: Analysis by ECONorthwest;
Number of households by income range from the 2011-2013 American Community Survey, Table B19001
Income range based on HUD's 2013 Median Family Income of $59,700 for the Bend MSA

Additional Residential Housing Needs

This section presents estimates of residential land needs for: (1) second homes; (2) persons in group quarters; (3) government assisted housing, and; (4) manufactured housing.

Second Homes

The 2008 Housing Needs Analysis identified a land need of 500 acres for second homes.[78] In a 2011 memorandum to the Remand Task Force, staff summarized the issue as follows:

> "Findings adopted with the 2009 UGB amendment estimated that second homes could be expected to absorb 500 acres of residential land during the 2008-28 planning period. This estimate was based on evidence in the record that the number of second homes forecasted to develop in the future could be expressed as a proportion of total housing units for permanent residents. Specifically, the City estimated that new second homes, equivalent to 18% of needed housing units, could be expected to be built in Bend during 2008-28. This would amount to slightly over 3,000 units. Based on an average density assumption of 6 units per acre, these second homes would occupy 500 residential acres that would otherwise be available for permanent residents (see Record p. 7692). The total amount of residential acres needed for the planning period was adjusted to include these 500 acres (see Record p. 1058)."

[78] The memorandum titled *Rationale for Second Homes Land Absorption Estimate*, April 24, 2008, documented the analysis for second homes.

In summary, LCDC accepted the City's findings on this issue, and the factual base which supports them. LCDC added:

> "If during the remand process the density assumption of 6 units/acre for second homes is revised, the 500-acre estimate adopted in 2009 will be revised upward or downward accordingly."

Second homes can be any type of housing, such as single-family detached housing, townhouses, or condominiums in a multifamily structure. The mix of housing types for second homes is similar to the mix of housing for needed units, with 55% of secondary housing in single-family detached, 10% in single-family attached, and 35% in multifamily housing types[79].

Persons in Group Quarters

The forecast of new housing (Table 6) assumes that the percentage of persons in group quarters in Bend would remain the same as reported in the 2000 Census (2.3%), resulting in 886 persons who would require group housing for the 2008-2028 period. People in group quarters will need housing, beyond the forecast for new housing (Table 6). This housing will be located in group quarters, such as assisted living facilities, nursing homes, or jails and will require land.

For the purposes of determining land needs, we will assume that group quarters are similar to multifamily housing with a similar amount of space per individual. In 2000, Bend had an average of 1.92 persons per household in multifamily dwellings.[80] Based on this analysis, Bend will need the equivalent of 461 additional multifamily units to provide adequate capacity for group quarters.

Government assisted housing

ORS 197.303 requires cities to plan for government-assisted housing. Government-subsidies can apply to all housing types (e.g., single family detached, apartments, etc.). Bend allows development of government-assisted housing in all residential plan designations, with the same development standards for market-rate housing. This analysis assumes that Bend will continue to allow government housing in all of its residential plan designations. Because government assisted housing is similar in character to other housing (with the exception the subsidies), it is not necessary to develop separate estimates of land needed for government-assisted housing.

Manufactured housing

ORS 197.303 also requires cities to plan for manufactured housing on lots and manufactured housing in parks.

Bend allows manufactured housing on lots as a permitted use in the following zones: Urban Area Reserve (UAR10, Suburban Low Density Residential (SR 2 ½), Low Density Residential (RL), Standard Density Residential (RS), Medium-10 Density Residential (RM-10), and Medium Density Residential (RM)[81]. These zones allow for a range of densities, from 1 to 2.5 dwelling

[79] See meeting packet for January 26, 2015 Residential TAC meeting – http://bendoregon.gov/Modules/ShowDocument.aspx?documentid=20303.

[80] 2000 Decennial Census

[81] See Bend Development Code (BDC) Table 2.1.200 – Permitted Land Uses

units per gross acre in SR 2 ½ to 7.3 to 21.7 dwelling units per gross acre in in RM. As a result, Bend is not required to estimate the need for manufactured dwellings on individual lots per OAR 660-024-0040(8)(c).

OAR 197.480(4) requires cities to inventory the mobile home or manufactured dwelling parks sited in areas planned and zoned or generally used for commercial, industrial or high density residential development. Bend allows manufactured home parks in Medium-10 Density Residential (RM-10), and Medium Density Residential (RM), and the High Density Residential (RH) zones. According to the Oregon Housing and Community Services' Manufactured Dwelling Park Directory,[82] Bend has 12 manufactured home parks with 1,349 spaces and 27 vacant spaces (Table 16). These parks are either located within the city or adjacent to it.

ORS 197.480(2) requires Bend to project need for mobile home or manufactured dwelling parks based on: (1) population projections, (2) household income levels, (3) housing market trends, and (4) an inventory of manufactured dwelling parks sited in areas planned and zoned or generally used for commercial, industrial or high density residential.

- Table 18 shows that the Bend planning area will need another 16,681 dwelling units over the 2008 to 2028 period to house the forecasted growth in population of 38,512 new people. Between 2014 and 2028, an additional 13,770 dwelling units will be needed to house the forecasted growth in population.
- Analysis of housing affordability (in Table 15) shows that about 34% of Bend's existing households are low income, earning 50% or less of the region's median family income. One type of housing affordable to these households is manufactured housing.
- Manufactured housing in parks accounts for about 4% (about 1,349 dwelling units) of Bend's current housing stock.
- National, state, and regional trends during the 2000 to 2010 period showed that manufactured housing parks were closing, rather than being created. For example, between 2003 and 2010, Oregon had a statewide decrease of 25% in the number of manufactured home parks. Before the housing market crash in 2008, there were discussions in Bend about the potential closing of several manufactured home parks.
- The longer-term trend for closing manufactured home parks is the result of manufactured home park landowners selling or redeveloping their land for uses with higher rates of return, rather than lack of demand for spaces in manufactured home parks. Manufactured home parks contribute to the supply of lower-cost affordable housing options, especially for affordable homeownership. The concurrent trends of manufactured home parks closing and no development new of manufactured home parks will exacerbate the shortage of affordable manufactured home park spaces. . Without some form of public investment to encourage continued operation of existing manufactured home parks and construction of new manufactured home parks, this shortage will continue.

[82] Oregon Housing and Community Services, Oregon Manufactured Dwelling Park Directory, http://o.hcs.state.or.us/MDPCRParks/ParkDirQuery.jsp

The households most likely to live in manufactured homes in parks (shown in Table 15) are those with incomes between $18,000 and $30,000 (30% to 50% of median family income).

Assuming that about 5% of Bend's new single-family detached households (13,770 new dwellings) choose to live in manufactured housing parks, the City may need about 690 new manufactured home spaces. The City allows development of manufactured housing parks in residential zones, except the RH. This need for land for manufactured home parks is included in the projection of need for land for single-family detached housing.

However, development of a new manufactured home park in Bend over the planning period may be unlikely, given the trend towards closing manufactured home parks. If manufactured home parks are not developed in Bend in the future, demand will increase for other types of smaller, affordable owner-occupied housing, such as affordable cottage housing or single-family attached housing.

Summary of All New Housing Units

Table 20 builds from Table 18 to show all new housing units forecast in Bend, including needed housing, units for group quarters, and second homes. Table 20 shows housing demand for the following types of housing:

- Needed housing for 2014-2028 (Table 18)
- Second homes (assumed the needed housing mix of 55% single-family detached, 10% single-family attached, and 35% multifamily).
- Group quarters, all of which is assumed to be accommodated through additional equivalent multifamily units

Table 20. Summary of All New Housing Units by Type and Category, Bend, 2014-2028

	2014-2028 Needed Housing Units		2014-2028 Needed Group Quarter Units	2014-2028 Second Homes	2014-2028 Total New Housing Units	
	Units	Mix	Units	Units	Units	% of Total Units
Single-family detached (including mobile homes)	7,574	55%		1,652	9,225	54%
Single-family attached	1,377	10%		300	1,677	10%
Multi-family	4,819	35%	461	1,051	6,331	37%
Total	13,770	**100%**	461	3,003	17,234	**100%**

Source: ECONorthwest

CHAPTER 5. RESIDENTIAL LAND SUFFICIENCY AND CONCLUSIONS

This chapter provides a brief summary of the implications of the housing needs analysis for Bend. This chapter begins with an estimate of Bend's residential capacity within the current UGB. This chapter includes a general comparison of land supply and demand for housing, including second homes and group quarters.

Residential Land Capacity

Pre-policy Base Case Capacity

The *Bend Urbanization Report* provides an explanation of the assumptions used in the Base Case analysis. Table 21 presents the "Base Case" housing capacity estimate before changes to housing policies (referred to as land use efficiency measures) are applied. Refer to the *Bend Urbanization Report* for more detail on the analysis of residential land 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. The Base Case represents the current UGB's remaining capacity **prior** to applying assumptions regarding new residential efficiency measures. It does not identify housing need; rather, it provides an estimate of how much of the identified need can be met within the current UGB if no policy changes are made. The Base Case generally assumes development builds out according to current plan designations and uses the results of the *Bend Buildable Lands Inventory Report*, applying the historical densities observed for development over the 1998-2008 period (Table 4).

Table 21. Base Case Housing Capacity

Housing Type	New Units	Mix Based on Capacity
Single-family detached	6,520	65%
Single-family attached	470	5%
Multi-family	2,970	30%
	9,960	**100%**

Source: "Draft Analysis of Current Urban Growth Boundary – Base Case and Scenarios" memorandum to the Residential and Employment Technical Advisory Committees, dated January 21, 2015. Table 3.

Residential Land Sufficiency

Table 22 compares the Base Case capacity with demand for housing. Table 22 shows:

- Capacity of Bend's residential land under the Base Case scenario (Table 21)
- Housing demand for the following types of housing:
    - Needed housing for 2014-2028 (Table 18)
    - Second homes (assumed the needed housing mix of 55% single-family detached, 10% single-family attached, and 35% multifamily).
    - Group quarters, all of which is assumed to be accommodated through additional equivalent multifamily units
- Comparison of the Base Case capacity and the total demand.

Under the Base Case capacity estimate, Bend has a deficit for land to accommodate 7.273 new dwelling units. Each category of housing shows a deficit in the Base Case capacity estimate.

Table 22. Base Case Residential Land Sufficiency, Bend, 2014-2028

	Net New Housing Units Capacity (Base Case)	Total Housing Demand	Comparison (Capacity *minus* Total Demand)	
			Residual Housing Need	% of Housing Need Met
Single-family detached	6,520	9,225	2,705	71%
Single-family attached	470	1,677	1,207	28%
Multi-family	2,970	6,331	3,361	47%
Total	**9,960**	**17,233**	**7,273**	**58%**

Source: ECONorthwest

Efficiency Measures (Post-Policy Capacity)

The Bend Urbanization Report provides an overview of amendments to the Bend Development Code that are being updated as part of the Bend UGB process to ensure efficient use of land within the current UGB prior to expanding the boundary. The package of land use efficiency measures that will be adopted with the HNA include: increasing the maximum density in the RL zone and increasing the minimum density in the RS zone, allowing a wider range of housing types in the RS zone, reducing minimum lot sizes for some housing types in certain zones,, providing new mixed-use zones, targeted revisions to parking standards, and other policy changes.

Table 23 shows the increase in housing capacity as a result of the efficiency measures. Even with this additional capacity, Bend has a residual housing need that cannot reasonably be met within the UGB.

Table 23. Housing Capacity with Efficiency Measures Compared to Housing Needs by Housing Type, Bend, 2014-2028

Housing Type	Housing Unit Capacity			Total Housing Need	Residual Housing Need	Percent of Housing Need Met
	New Housing Units (Base Case)	New Housing from Efficiency Measures	Total New Housing Units			
Single Family Detached	6,520	170	6,690	9,225	2,535	73%
Single Family Attached	470	590	1,060	1,677	617	63%
Multi-Family	2,970	1,530	4,500	6,331	1,831	71%
Total	**9,960**	**2,290**	**12,250**	**17,233**	**4,983**	**71%**

Source: ECONorthwest

Employment Land Needs in Residential Areas

The *Bend Urbanization Report* provides details about employment land needs in residential areas. In the Base Case, approximately, 90 jobs are expected to be accommodated in the following zones: RS, RM, and RH. See the *Bend Urbanization Report* for more information.

Conclusions

The conclusions of the housing needs analysis are:

- **Bend's current policies result in a housing mix (in the Base Case scenario) that is not consistent with needed mix.** Bend's land base, under current policies, would result in a mix of housing similar to the historical mix, with 70% of new housing in single-family housing types.
- **With efficiency measures, roughly 70% of the total housing growth can be accommodated inside the existing UGB.** With efficiency measures, the housing mix inside the UGB is closely aligned with the overall needed housing mix.
- **Even with efficiency measures, Bend has a residual need for land to accommodate 4,983 housing units outside the UGB.** The proposed UGB expansion has been calibrated to accommodate the needed housing units and housing mix to 2028.

APPENDIX A. RESEARCH ABOUT DEMOGRAPHIC CHANGES AND IMPLICATIONS FOR FUTURE HOUSING MIX

This appendix provides greater detail on the research conducted on the demographic trends that are summarized in the Table 7 through Table 9 in the HNA. This appendix is extracted from the memorandum to the Residential Lands Technical Advisory Committee called "Demographic Characteristics and Trends that will Affect Housing Demand in Bend for the 2008-2028 period" and dated July 23, 2014.

Key Findings by Topic

Aging Boomers

Question: Are aging Baby Boomers downsizing or staying put?

- **Some are downsizing.** "Thirty-two percent of Americans have moved in the past five years. More than half of the gen Yers report moving, and 31 percent of gen Xers have moved. Baby boomers and the oldest Americans are the least likely to have moved…Baby boomers and war babies/members of the silent generation are the most likely to have downsized in their most recent move. In fact, 50 percent of the oldest Americans report that their new home is smaller than their old one. One-third of baby boomers report moving into a smaller home, and 44 percent say they have moved into a larger home."[83]

Table A-24. Recent Movers Change in Home Size

	Recently moved?		Recent Change in Home Size			Expected Homeownership Status	
	Yes	No	Larger	Smaller	Same	Own	Rent
All Adults	32%	**67%**	**48%**	**27%**	**25%**	**73%**	**25%**
Gen Y	53%	47%	48%	25%	27%	69%	31%
Gen X	31%	69%	59%	20%	20%	81%	16%
Baby Boomers	20%	80%	44%	33%	22%	79%	20%
War babies/silent generation	19%	80%	24%	50%	25%	55%	36%

Source: ULI America in 2013, Leland Consulting Group

- **Preference for staying put increases with age.** The AARP conducted a housing preference survey of people age 45 or older and found that 73 percent of them strongly agreed with the statement, *"what I'd really like to do is stay in my current residence for as long as possible".* This preference increases with age. Seventy-eight percent of the respondents over 65 strongly agreed with the statement, whereas only 72 percent of those 50-64 and 60 percent of those age 45-49 strongly agreed with the statement.[84]

[83] American in 2013 Focus on Housing and Community, Urban Land Institute

[84] "Home and Community Preferences of the 45+ Population" November 2010, AARP, Keenan Teresa A.

"The aging of the population poses a different policy challenge. Most seniors prefer to age in place. While many of these households are currently well housed, their needs will change over time. Meeting those needs will require modifications to existing homes, the expansion of transportation networks and supportive services, and additions to the housing stock aimed specifically at the senior population. Many older Americans are also heading into their retirement years with little financial cushion and may find it difficult to find suitable housing that fits within their budgets. Expanding the range of housing options available to the country's growing senior population will require concerted efforts from both the public and private sectors."[85]

"Despite their shrinking households and declining labor force participation, Boomers do not appear to be altering their housing consumption by abandoning their detached single-family homes…In fact, contrary to the downsizing perception, the percent of Baby Boomers residing in single-family detached homes was at least as high in 2012 as at any time since the onset of the housing crisis. Even the oldest members of the Boomer generation, who have largely exited the childrearing stage and begun to retire in large numbers, show no major shift away from single-family residency….One likely mobility constraint is the substantial decline in Boomers' home values during the housing bust. Between 2006 and 2012, the average value of an owner-occupied single-family detached home with a Boomer householder declined by 13 percent."[86]

- **Being near friends, family, and social organizations grows increasingly important with age.** An AARP Housing Preference survey of householders 45 years and older, found that "Roughly two-thirds of respondents agreed that they want to stay in their home because *I like what my community has to offer me."* In contrast, roughly one-quarter agreed with the statement that they want to stay in their home because *"I cannot afford to move."…*When asked about seven different community aspects and the level of importance they have for them, two-thirds of respondents said that being near friends/and or family and being near where one wants to go (i.e., grocery stores, doctor's offices, the library) is *extremely* or *very important* to them. Roughly half noted that being near church or social organizations or being somewhere where it's easy to walk are *extremely* or *very important* to them, while somewhat fewer said the same thing about being near good schools or being near work. Only about one-fifth of respondents report that being near transit (bus or rail) was *extremely* or *very important* to them."[87]

[85] Joint Center for Housing Studies of Harvard University, The State of the Nation's Housing, 2013

[86] "Are Aging Baby Boomers Abandoning the Single-Family Nest?" June 12, 2014. Fannie Mae Housing Insights, Volume 4, Issue 3.

[87] "Home and Community Preferences of the 45+ Population," Keenan Teresa A. November 2010, AARP

Table A-25. Importance of Community Aspects for Staying in One's Community

Extremely or Very Important	Age		
	45-49	50-64	65+
Being near friends and/or family	60%	64%	71%
Being near where you want to go	68%	62%	70%
Being near church or social organizations	42%	43%	57%
It's easy to walk	46%	43%	51%
Being near good schools	64%	38%	31%
Being near work	43%	36%	21%
Being near transit	16%	22%	21%

Source: AARP

- **Retiring later.** "To put these trends in perspective, incomes among households under age 35 are back to 1990s levels. The recession had an even bigger impact on households between the ages of 35 and 54, whose incomes are now lower than those of similarly aged households in 1971. Now in what are typically the peak earning years, 45–54 year-olds have instead seen their real median incomes fall 6.0 percent from what they made ten years earlier (when they were aged 35–44). Over the next ten years, these households will be approaching typical retirement age, but the loss of income at such a critical point in their careers will make it difficult for many to save enough to stop working."[88]
- **Affordability for seniors.** "Affordability is a serious problem for seniors, especially for renters. According to a U.S. Department of Housing and Urban Development (HUD) report to Congress earlier this year, 1.33 million elderly renters (where the householder or spouse is age 62 or over, with no children under 18 present) had "worst case" housing needs in 2009. This meant that they earned less than half their metropolitan area's median income, received no government housing assistance and either paid more than half their income for rent, lived in severely inadequate housing, or both. Compared to 2007, the number of older renters in this category had increased by 120,000 (10 percent) – a change that the HUD report attributes to fallout from the foreclosure crisis and recession, as shrinking incomes drove increased competition for already scarce affordable housing. Seventy percent of senior renters spend at least 30 percent of their income on housing costs. Senior homeowners are not immune from affordability problems either: about three in 10 senior homeowners spend at least 30 percent of their income on housing and 17 percent pay at least half their income. Even seniors who own their houses free and clear face rising energy costs and, in some locations, rising property taxes."[89]
- **Housing released by seniors.** "Some seniors occupy newly constructed housing (so the total release of housing exceeds the net release). In 2009, for example, housing built since 2000 accounted for about seven percent of owner-occupied dwellings occupied by seniors

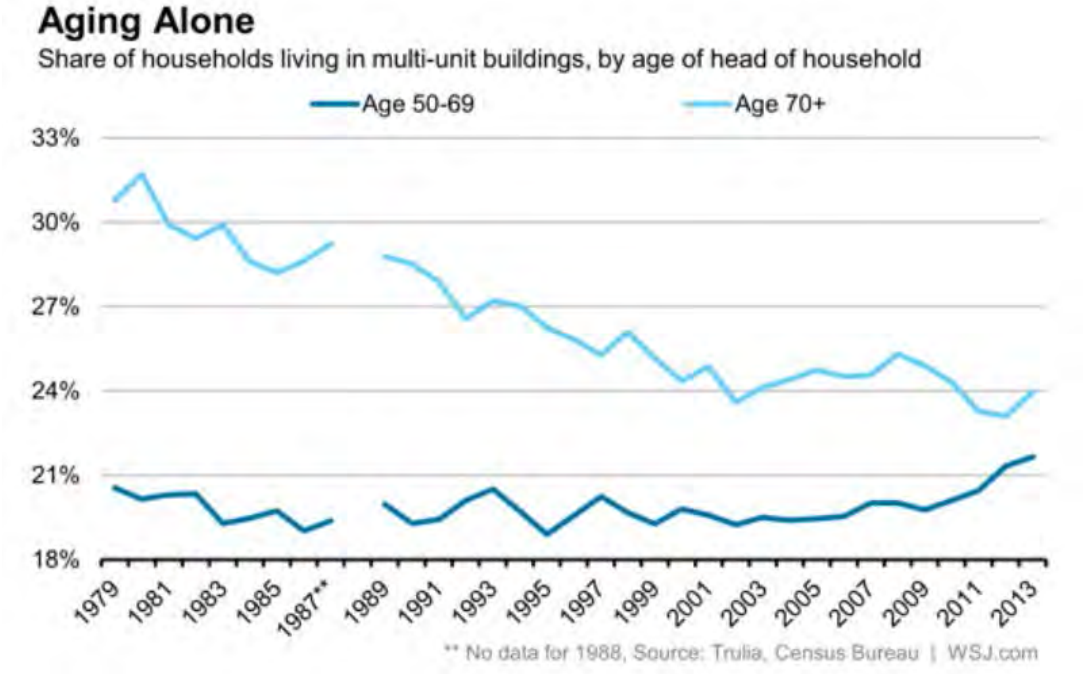
[88] Joint Center for Housing Studies of Harvard University, The State of the Nation's Housing, 2013

[89] Demographic Challenges and Opportunities for U.S. Housing Markets, March 2012, Bipartisan Policy Center

and 10 percent of rentals. Seniors' consumption of new housing may rise in the next two decades as Baby Boomers – whose wealth and income are higher than that of today's retirees and who are entering retirement in vastly larger numbers – seek new options to downsize, accommodate disabilities or live in different types of neighborhoods. Just as demand created by Baby Boomers spurred new apartment construction in the 1970s, the sheer size of the Baby Boom generation could cause a dramatic increase in the construction of senior-accessible housing over the coming decades. Baby Boomers' ability to move into new housing, however, will depend on where, when and for how much they will seek to sell their current residences…..Despite potential increases in new construction, most of the houses that seniors will release in coming years were built when energy was inexpensive, nuclear families were the rule, incomes were increasing for most Americans, and mortgages were generally predictable and easy to obtain. Most observers expect the next 20 to 30 years to depart from this historic picture, with more expensive energy, growing diversity in race, ethnicity and in household structure, and more intense international economic competition. All of these factors will likely reduce demand for large single-family homes on large lots far away from established centers of employment and entertainment."[90]

- **Fewer elderly living alone in multifamily buildings.** The percent of people 70 years or older that head households in multifamily buildings has been in decline since 1979.[91]

Table A-26. Aging Alone



Source: The Wall Street Journal, Trulia, Census Bureau

[90] Demographic Challenges and Opportunities for U.S. Housing Markets, March 2012, Bipartisan Policy Center

[91] "Baby Boomers Aren't (Yet) Downsizing in Droves", Nick Timiraos, June 27, 2014, The Wall Street Journal

Delayed Millennial Household Formation

Are Millennials putting off housing formation as a short-term response to the recession or are there other underlying factors that will impact their housing decisions much farther into the future?

- **Student debt.** "For today's younger households, student loan debt may make the transition to homeownership more difficult. According to the Federal Reserve Bank of New York, the number of young adults under age 30 with student loan debt outstanding increased by 39 percent between the start of 2005 and the end of 2012, with the average amount rising from $13,300 to $21,400. However, concerns over rising student loan debt often overlook the fact that the trend also affects older households. The increase was even larger among adults in their 30s, with the number of borrowers up 76 percent and average debt climbing from $20,000 to $29,400. Moreover, of the $600 billion increase in student loans outstanding in 2005–12, fully 38 percent was among households over age 40. Since many of these older households already own homes, the sharp rise in student loan debt could affect their ability to meet their mortgage obligations."[92]
- **Diversity and household formation.** "To estimate the magnitude of the demand that Millennials may (or may not) bring to housing markets in the next 20 years, we developed three scenarios. We began with the 1990, 2000 and 2010 Census results and the Census Bureau's national population projections assuming a constant net rate of immigration at 975,000 people per year. Using the observed and projected population series, we computed national rates of household formation and homeownership for people grouped by age cohort (10-year groups starting at age 15) and by race/ethnicity (white non-Hispanic, black non-Hispanic, other non-Hispanic and Hispanic)…The range of estimates in these scenarios can be attributed to different rates of household formation for Millennials. Under the low scenario, people between 15 and 34 years old in 2010 (a span that includes Millennials plus five years of the Baby Bust generation) would form 15.6 million new households between 2010 and 2020. Other cohorts would account for the formation of an additional 5.4 million households over the same time period. The medium scenario would result in 17.1 million new Echo Boomer households and 6.1 million other households. The high scenario, finally, yields 18.8 million new Echo Boomer households and 6.7 million new households from other generations. Because changes in the number of older households are less sensitive to differences in economic assumptions, the decline in older households is more consistent across the three scenarios, ranging from 10.6 million fewer old households in the high scenario to 11.6 million fewer old households in the low scenario."[93]
- **Education.** "Compared to previous generations at the same age, Millennials are more likely to have completed high school, and more than half (54 percent) have at least some college education, compared to 49 percent of people in the Baby Bust generation and 36 percent of Baby Boomers when they were 18 to 28 years old. In terms of educational achievement, women of the Echo Boom generation have vaulted far above women of previous generations; in fact, among Millennials, more women than men and more women than in

[92] Joint Center for Housing Studies of Harvard University, The State of the Nation's Housing, 2013

[93] Demographic Challenges and Opportunities for U.S. Housing Markets, March 2012, Bipartisan Policy Center

any previous generation have attained a college education…The growth in female educational attainment may also portend higher levels of household formation if it results in greater gender equity and gives women more financial independence. Other factors, however, could inhibit household formation and homeownership. Young adults carry high levels of credit card and student loan debt; even young people who already had formed households had higher debt loads in 2009 than people of the same age 10 years earlier.31 Rates of marriage declined in the 2000s from 8.2 per thousand to 6.8 per thousand.32 Finally, while all households lost wealth during the recession, average household wealth fell well below $10,000 for Hispanic and black households. Considering the diversity of the young population, this reduction in wealth among older adults will reduce the purchasing power of a significant fraction of young people who can no longer count on their parents' housing wealth."[94]

- **Household formation.** "At a basic level, changes in the number of adults and the rates at which adults head independent households determine household growth. On the plus side, the number of adults aged 18 and older rose by 18.1 million from 2005 to 2012 and fully 2.4 million in the past year alone. The echo-boom generation (born after 1985) fueled much of this growth, helping to boost the number of adults in their mid-20s—the group most likely to form new households. But while the young adult population has been growing, the rate at which members of this age group head their own households has declined. As a result, household growth has not kept pace with population growth. Going forward, though, even if today's low household formation rates persist, the aging of the large echo-boom cohort into their 30s will raise household headship rates because of lifecycle effects. Indeed, one out of every two 30–34 year-olds heads an independent household, compared with just one in four 20–24 year-olds. Since household headship rates continue to rise (albeit more slowly) through older adulthood, the rates for the Millennials will likely increase for years to come."[95]
- **Mobility and homeownership.** "While mobility rates have fallen for nearly all household types, the decline was particularly steep for homeowners that have mortgages. Mobility rates for this group fell from 7.1 percent in 2007 to only 4.9 percent in 2011. The reasons for this short-term drop are numerous and include the lock-in effect of home price declines, falling incomes, fewer new employment opportunities, and tightened credit standards making it more difficult to qualify for a new mortgage Mobility rates are highest among renters and young adults. In 2011, fully 28.8 percent of renter households changed residences, compared with just 4.4 percent of homeowners. Young householders are also more mobile, with rates at 52.7 percent for those under age 25—significantly higher than the 19.7 percent for household heads in the next older age group…The oldest Millennials are just beginning to swell the ranks of young adult movers. Having more young adults in the population may thus change the composition of housing demand in the coming years, given that younger households are more likely than older households to move into rentals (82

[94] Demographic Challenges and Opportunities for U.S. Housing Markets, March 2012, Bipartisan Policy Center

[95] Joint Center for Housing Studies of Harvard University, The State of the Nation's Housing, 2013

percent vs. 67 percent) and less likely to move into single-family homes (42 percent vs. 50 percent)."[96]

- **Gen Y has more urban community characteristic preferences.** "Gen Y expresses preferences that differ from those of the other generations in interesting ways. Gen Y is the least likely to value neighborhood safety or space between neighbors, but the most likely to want high-quality public schools, a short distance to work or school, walkability, and proximity to amenities like shopping and transit...Among gen Yers, 54 percent—representing nearly 39 million people—would trade a larger home for a shorter commute. Among all generations, gen Y is the most attracted to living in a neighborhood close to a mix of shops, restaurants, and offices. Sixty-two percent of gen Yers (representing more than 44 million people) prefer this type of mixed-use community over one where shops, restaurants, and offices are farther away. Gen Y is also the only age cohort that shows a preference for living in a neighborhood where there is a mix of housing types. Fifty-nine percent of gen Yers—representing more than 42 million people—would like to live in a community where there is a range of housing. Similarly, 52 percent of gen Yers (representing more than 37 million people) would like to live in a community where there is a range of incomes."[97]

[96] Joint Center for Housing Studies of Harvard University, The State of the Nation's Housing, 2013

[97] American in 2013 Focus on Housing and Community, Urban Land Institute

Table A-27. Community Characteristics

Importance of Community Characteristics Percentage ranking each characteristic 6 or higher in importance on a scale of 1 to 10	Homeownership status		By Generation				
	Owners	Renters	All Adults	Gen Y	Gen X	Baby boomers	War babies/ silent generation
Neighborhood safety	94%	88%	**92%**	88%	97%	92%	92%
Quality of local public schools	77%	83%	**79%**	87%	82%	74%	68%
Space between neighbors	75%	68%	**72%**	69%	79%	70%	70%
Short distance to work or school	66%	76%	**71%**	82%	71%	67%	57%
Distance to medical care	68%	65%	**71%**	73%	63%	72%	78%
Walkability	75%	79%	**70%**	76%	67%	67%	69%
Distance to shopping/entertainment	63%	71%	**66%**	71%	58%	67%	69%
Distance to family/friends	59%	70%	**63%**	69%	57%	60%	66%
Distance to parks/recreational areas	63%	64%	**64%**	68%	62%	63%	60%
Convenience of public transportation	44%	67%	**52%**	57%	45%	50%	56%

Source: Urban Land Institute

Housing choices of Hispanic and Latino households

Does the growing Hispanic population have different housing needs/preferences than the average household and how will this impact Bend's housing supply in the future?

- **Growth in home ownership.** "U.S. Census data over the past 12 years shows that despite suffering significant losses during the recent foreclosure crisis, Hispanics have achieved homeownership gains in all but two of those years. During the same 12-year period, the number of Hispanic homeowners grew from 4.24 million in 2000 to 6.69 million in 2012, a remarkable increase of 58 percent at a time when the rest of the U.S. population saw a net increase of only 5 percent. In 2012, home prices increased significantly in most markets across the country for the first time in half a decade. Hispanic household growth and home purchases were arguably the most important drivers of the housing recover."[98]
- **Recession and home value drop.** "Between 1995 and 2004, rates of homeownership among blacks rose by seven percentage points; among Hispanics, homeownership grew even more quickly – from about 40 percent in 1993 to 50 percent in 2005–2006. Between 2004–2006 and 2010, however, homeownership rates dropped sharply, and more so for Hispanic and black households than for white non-Hispanics. The overall homeownership rate of 65.1 percent in April 2010 was 1.1 percentage points lower than 10 years earlier. While the housing crisis has hurt people of all races and ethnicities, it has been devastating for many Hispanic and black families, reducing their median wealth by one half to two-thirds

and significantly increasing the number of households with negative net worth."[99]

"The recession-induced drop in home values has been especially damaging to minority and low-income households. On average, real home values for Hispanic owners plummeted nearly $100,000 (35 percent) between 2007 and 2010, while the decline for black owners was nearly $69,000 (31 percent). By comparison, average values for white homeowners fell just 15 percent over this period…Moreover, white homeowners still had $166,800 in home equity on average in 2010—about twice the amount that blacks and Hispanics held…Over the next decade, minorities will make up an increasing share of young households and represent an important source of demand for both rental housing and starter homes. While their housing aspirations are similar to those of whites, minorities face greater constraints in pursuing those goals because of their lower incomes and wealth."[100]

- **Hispanic population is younger.** "Hispanics are also a much younger demographic averaging a full 10 years younger than the overall population…Every month 50,000 young Hispanics reach the age of 18**…**With a median age of 27, the Hispanic population is 10 years younger than the total U.S. median age of 37 years. In particular, Hispanics are heavily represented in the 26 to 46 age range involved in most home sales."[101]
- **Hispanic households are larger.** Hispanic households are typically larger than the households of non-Hispanic Whites….Sixty-one percent of all Hispanic households consist of a married couple with children younger than 18."[102]
- **Hispanics believe that home ownership is a good investment.** "Despite being hit hard by the housing market downturn, three-in-four (75%) Latinos agree that buying a home is the best long-term investment a person can make in the U.S. This compares with 81% of the general population who say the same….Fully 83% of Latino homeowners say owing a home is the best long-term investment, while 70% of renters say the same. All of these demographic and cultural characteristics make Hispanics ideal homebuyers in the housing market. In fact, Hispanics are expected to comprise half of all new homebuyers by 2020"[103]
- **First-time homebuyers.** "Forward thinking companies are already changing their strategy to reflect this shift. Case in point: D.R. Horton, the nation's largest residential homebuilder, achieved huge profits in 2012 by constructing low-priced homes. Rather than focus on the move-up market, Horton cornered the entry-level market—the market most heavily represented by minority Hispanic and Asian first-time homebuyers…By virtue of their

[99] Demographic Challenges and Opportunities for U.S. Housing Markets, March 2012, Bipartisan Policy Center

[100] Joint Center for Housing Studies of Harvard University, The State of the Nation's Housing, 2013

[101] State of Hispanic Homeownership Report, National Association of Hispanic Real Estate Professionals (NAHREP), 2012

[102] State of Hispanic Homeownership Report, National Association of Hispanic Real Estate Professionals (NAHREP), 2012

[103] Pew Research Hispanic Trends Project, "III. Latinos and Homeownership", January 26, 2012.

population growth, rate of household formation and purchasing power, Hispanics are expected to drive demand for small starter homes in vibrant, high-density communities."[104]

- **Multigenerational.** "Indeed, as the Hispanic share of the U.S. population continues to grow, a substantial increase in demand is being created for building new homes that meet the structural housing needs of large and multi-generational Hispanic families…Some builders are already creating products that meet the shifting demand and needs of these consumer segments who want home with enough space to accommodate parents, adult children or tenants. These new floor plans feature a second, self-contained unit with its own entrance, bathroom and kitchenette—a development that meets both the short- and long-term needs of many Hispanic households."[105]
- **Demand for smaller units.** "Hispanics, in particular, will stimulate demand for condominiums, smaller starter homes, first trade-up homes and the estimated 11 million housing units that will become available between 2010 and 2020 as baby boomers retire."[106]
- **Preference for walkable neighborhoods.** According to the Pew Research Center, Hispanics prefer to live in neighborhoods where houses are smaller and closer together, but schools/stores are within walking distance by 60 percent compared to 44 percent of non-Hispanic Whites.[107]

Opportunities to provide housing development through infill and redevelopment

Are Bend residents really willing to trade single-family homes on larger lots for urban walkable neighborhoods?

- **Shorter commute for a smaller home.** According to the ULI, "among older Americans, many of whom have spent substantial time in the workforce and may continue working beyond the traditional retirement age, the preference for a shorter commute is very strong, even if it means living in a smaller home. Seventy-two percent of baby boomers, or nearly 53 million people, would make that tradeoff. Similarly, 65 percent of war babies and members of the silent generation—nearly 23 million people—would trade a larger home for a shorter commute. Almost 51 percent of these older Americans (representing 18 million people) also show a slight preference for living in areas close to a mix of shops, restaurants, and offices, reinforcing their preference, particularly as they age, for walkable communities near amenities."[108]

[104] State of Hispanic Homeownership Report, National Association of Hispanic Real Estate Professionals (NAHREP), 2012

[105] State of Hispanic Homeownership Report, National Association of Hispanic Real Estate Professionals (NAHREP), 2012

[106] State of Hispanic Homeownership Report, National Association of Hispanic Real Estate Professionals (NAHREP), 2012

[107] 2014 Political Polarization Survey, Table 3.1 Preferred Community, Pew Research Center for the People and the Press, June 12, 2014

[108] American in 2013 Focus on Housing and Community, Urban Land Institute

Table A-28. Community Attribute Preferences

Community Attribute Preferences	Homeownership status		By Generation				
Percentage preferring listed attribute	Owners	Renters	All Adults	Gen Y	Gen X	Baby boomers	War babies/ silent generation
Shorter commute/smaller home	63%	56%	**61%**	54%	54%	72%	65%
Close to mix of shops, restaurants, and offices	49%	60%	**53%**	62%	50%	49%	51%
Mix of incomes	50%	53%	**52%**	52%	53%	53%	47%
Public transportation options	44%	62%	**51%**	55%	45%	52%	48%
Mix of homes	43%	57%	**48%**	59%	47%	42%	44%
Percentage choosing three or more of these compact development attributes	-	-	***54%***	*59%*	*49%*	*57%*	*51%*

Source: Urban Land Institute

- **Likelihood of moving and anticipated new housing.** "Many Americans report that they are likely to change homes during the next five years. *"America in 2013"* found that 42 percent of Americans—representing 98 million people—are likely movers. Making up that 42 percent are 25 percent who are very likely to move and 17 percent who are somewhat likely. Gen Yers are the most likely to move: 63 percent say they expect to move during the next five years. America's oldest generations are the least likely to move. Lower-income people are more likely to move than those with higher incomes. Fifty-one percent of the people making less than $25,000 report that they are likely to move in the next five years, compared with 43 percent of those making more than $75,000. Most movers—73 percent—believe they will own the primary residence they move into; one-quarter expect to rent. Gen Yers and the oldest Americans are the most likely to expect to rent their new home, and gen Xers are the least likely to expect to rent. Just 20 percent of the baby boomers expect to rent…Most movers in Generation X—87 percent—expect to live in a single-family home. For the oldest generations, 30 percent of movers expect to move to apartments or compact homes like townhouses or rowhouses."[109]

[109] *American in 2013 Focus on Housing and Community, Urban Land Institute*

Table A-29. Recently Moved and Change in Home Size

	Recently moved?		Recent Change in Home Size		
	Yes	No	Larger	Smaller	Same
All Adults	32%	**67%**	**48%**	**27%**	**25%**
Gen Y	53%	47%	48%	25%	27%
Gen X	31%	69%	59%	20%	20%
Baby Boomers	20%	80%	44%	33%	22%
War babies/silent generation	19%	80%	24%	50%	25%

Source: Urban Land Institute

Table A-30. Likelihood of Moving and Expected Type of New Home

	Likely to Move		Expected Homeownership Status		Movers' Expected Type of Home			
	Likely to move	Not likely to move	Expect to own	Expect to rent	Single-family	Apartment	Duplex, townhouse, rowhouse	Manufactured/ mobile home
All Adults	42%	**57%**	**73%**	**25%**	**65%**	**15%**	**14%**	**2%**
Gen Y	63%	36%	69%	31%	60%	21%	17%	1%
Gen X	41%	59%	81%	16%	87%	6%	4%	1%
Baby Boomers	31%	68%	79%	20%	65%	11%	16%	6%
War babies/silent generation	22%	76%	55%	36%	58%	17%	13%	0%

Source: Urban Land Institute

- **Community preference.** "Americans prefer walkable communities, but only to a point. In most comparisons tested, a majority prefers the community where it is easier to walk or the commute is shorter. But when comparing a detached single-family house to an apartment or townhouse, the detached home wins out—even with a longer commute and more driving.

    - A majority prefers houses with small yards and easy walks to schools, stores and restaurants over houses with large yards but where you have to drive to get to schools, stores and restaurants (55 percent to 40 percent).

    - An even larger majority prefers houses with smaller yards but a shorter commute to work over houses with larger yards but a longer commute to work (57 percent to 36 percent).

- A neighborhood with a mix of houses, stores and businesses that are easy to walk to is preferred over a neighborhood with houses only that requires driving to stores and businesses (60 percent to 35 percent).
- Nevertheless, when given a choice between a detached, single family house that requires driving to shops and a longer commute to work and an apartment or condominium with an easy walk to shops and a shorter commute to work, a strong majority prefers the single family home –even with the longer commute (57 percent to 39 percent)."[110]

Table A-31. Current Community Versus Preferred Community

	Where You Live Now	Where you Prefer to Live
City -Near mix of offices, apartments, and shops	16%	15%
City - Mostly residential neighborhood	19%	13%
Suburban neighborhood with a mix of houses, shops, and businesses	27%	30%
Suburban neighborhood with houses only	15%	11%
Small Town	11%	14%
Rural Area	11%	16%

Source: National Association of Realtors, 2013 Survey

- **Housing demand will shift.** According to the Director of the Metropolitan Research Center at the University of Utah, Arthur Nelson, housing demand is shifting from large lot homes to small lot, townhomes and attached housing and the current supply of housing will not meet future needs.[111]

[110] National Association of Realtors, National Community Preference Survey, 2013

[111] "Reshaping America's Built Environment", Arthur C. Nelson

Table A-32. US Housing Demand Shift 2010-2030

House Type	2010 Supply 2030 Demand	2030 Demand	Difference
Attached/Other	26%	34%	8%
Townhome	6%	18%	12%
Small Lot	11%	50%	39%
Large Lot	69%	34%	-35%

Source: Arthur C. Nelson, Presidential Professor & Director, Metropolitan Research Center, University of Utah

- **Political influence on housing preference.** "Given the choice, three-quarters (75%) of consistent conservatives say they would opt to live in a community where "the houses are larger and farther apart, but schools, stores and restaurants are several miles away," and just 22% say they'd choose to live where "the houses are smaller and closer to each other, but schools, stores and restaurants are within walking distance." The preferences of consistent liberals are almost the exact inverse, with 77% preferring the smaller house closer to amenities, and just 21% opting for more square footage farther away."[112]
- **Fewer households with children.** "Currently, only one third of U.S. households have children, and over the next two decades only 12% of new households being formed will have children. Childfree households are prime candidates for locating in denser areas of cities, within walking range of commercial services and entertainment. Households with two working parents are also increasingly seeking to live in urban areas to simplify their lives, taking advantage of child-care services and after-school educational opportunities available in urban areas."[113]
- **Recent movers prefer walkable communities.** "There is a wider divide among those who have moved in the last three years or are planning to move in the next three years. Recent movers prefer the walkable community by 20 points (58 to 38 percent), almost identical to the walkable community preference expressed by those who plan to move in the next three years (+18 points, 57 to 39 percent)."[114]

[112] Pew Research, Center for the People and the Press, Political Polarization in the American Public, Section 3: Political Polarization and Personal Life. June 12, 2014

[113] Business Performance in Walkable Shopping Areas, November 2013, Robert Wood Johnson Foundation.

[114] National Association of Realtors, National Community Preference Survey, 2013

Sources

The following list provides examples of key articles used in the research for this memorandum.

American Association of Retired Persons (AARP)

Multiple studies show that people over age 45 prefer to stay in their home or community as long as possible, including multiple surveys by AARP.

The AARP survey *Home and Community Preferences of the 45+ Population* shows that 85% of respondents want to stay in their current residence and community as long as possible.

The AARP survey *Approaching 65: A Survey of Baby Boomers Turning 65 Years Old* of people 65 years old shows that about 15% of responding households are planning to downsize to smaller homes over the next few years.

http://www.aarp.org/research/surveys

Bipartisan Policy Center

The *Demographic Challenges and Opportunities for U.S. Housing Markets* report discusses the housing implications of demographic trends and change including the growing senior population, the Millennials, the setbacks suffered by minorities during the recession, and the increasing demand for rental housing.

http://www.urban.org/UploadedPDF/412520-Demographic-Challenges-and-Opportunities-for-US-Housing-Markets.pdf

Fannie Mae

The report *Are Aging Baby Boomers Abandoning the Single-Family Nest?* by Fannie Mae notes that Baby Boomers are becoming empty-nesters, but they have not been giving up single family homes as once expected.

http://www.fanniemae.com/resources/file/research/datanotes/pdf/housing-insights-061214.pdf

Joint Center for Housing Studies of Harvard University

The State of the Nation's Housing is an annual report by Harvard University discussing national demographic trends, the housing recovery from the recession, mortgage markets and the implications for the ownership and rental housing.

http://www.jchs.harvard.edu/research/state_nations_housing

Metropolitan Research Center, University of Utah

Arthur C. Nelson, Presidential Professor & Director of the Metropolitan Research Center at the University of Utah, is well regarded for his research on the changing nature of housing in the US. He frequently posts research and presentations on his findings. The *"Reshaping America's Built Environment"* presentation in particular was referenced in this research.

http://faculty.utah.edu/u0621068-ARTHUR_C_NELSON/bibliography/index.hml

National Association of Hispanic Real Estate Professionals (NAHREP)

The *State of Hispanic Homeownership Report*, delves into the demand and drivers behind Hispanic homeownership.

http://nahrep.org/downloads/state-of-homeownership.pdf

National Association of Realtors (NAR)

The *National Community Preference Survey* asks residents about specific housing preferences. According to their 2013 survey, 60 percent of respondents prefer to live in mixed-use, walkable communities, and are willing to trade a shorter commute for a smaller house.

http://www.realtor.org/reports/nar-2013-community-preference-survey

Pew Research Center

The Pew Research Center is well-known for producing surveys and reports on a variety of topics, one report researched in this effort includes the *Second-Generation Americans: A Portrait of the Adult Children of Immigrants,* which compares first generation immigrants to their children and to the general population.

http://www.pewsocialtrends.org/2013/02/07/second-generation-americans/

The Hispanic Trends Project produced a report *"Latinos and Homeownership"* which looked specifically at the growing Hispanic population and the implications for homeownership, and noted that Hispanics were particularly hard hit during the recession.

http://www.pewhispanic.org/2012/01/26/iii-latinos-and-homeownership/

Another report looks at the correlation between a person's political preferences and housing and community preferences. *Political Polarization in the American Public, Section 3: Political Polarization and Personal Life.* June 12, 2014

http://www.people-press.org/2014/06/12/political-polarization-detailed-tables/

Robert Wood Johnson Foundation

The report, *Business Performance in Walkable Shopping Areas,* quantifies the performance of walkable places compared to suburban locations in the same market area.

Urban Land Institute (ULI)

The ULI is well known for its expertise on land use issues. Examples of research include *Housing in America: The New Decade,* and the *Generation Y: America's New Housing Wave.* A national survey of Millennials in 2010 showing that: two-thirds of Millennials expect to own their home by 2015, that nearly two-thirds expect to live in a single-family home, one-quarter expects to live in an apartment or condominium. Another report, *America in 2013 Focus on Housing and Community,*

http://uli.org/wp-content/uploads/ULI-Documents/America-in-2013-Compendium_web.pdf

APPENDIX B. REMAND DIRECTIVES AND STATUTORY REQUIREMENTS

Remand Directives

Table B-1 lists the directives to the City from the Remand. Each of the directives is addressed in the housing needs analysis. Other remand directives about land use efficiency measures are addressed in the *Bend Urbanization Report*.

Table B-1. Policy Direction on BLI Issues to Date

HNA Issue	Directives to City on Remand	Where the HNA addresses the issue
Categories of housing used in the Housing Needs Analysis Section 2.3, Pages 26-33	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.[115] 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 area residents. [116]	Table 6
Comply with the analysis required in ORS 197.296, ORS 197.303 Section 2.3, Pages 26-33	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));[117]	Table 6 Table 19

[115] Remand and Partial Acknowledgment Order ACKNOW-001795, LCDC, November 2, 2010, Sub-Issue 2.3 d, p. 31

[116] Remand and Partial Acknowledgment Order ACKNOW-001795, LCDC, November 2, 2010, Sub-Issue 2.3 d, p. 31

[117] Report on Bend and Deschutes County's Amendment to the Bend Urban Growth Boundary, DLCD Order 001775, January 8, 2010, p. 46

HNA Issue	Directives to City on Remand	Where the HNA addresses the issue
Future Housing Needs Section 2.3, Pages 26-33	…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. [118]	Table 19
Adequate supply of buildable lands for affordable housing Section 2.4, Pages 33-36	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).[119]	Table 19
Future housing mix Section 2.4, Pages 33-36	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. If the City continues to project a future housing mix of 65% single-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.[120]	The City is planning for a different housing mix, shown in Table 17.
HNA and Efficiency Measures		

[118] Remand and Partial Acknowledgment Order ACKNOW-001795, LCDC, November 2, 2010, Sub-Issue 2.3 d, p. 32

[119] Remand and Partial Acknowledgment Order ACKNOW-001795, LCDC, November 2, 2010, Sub-Issue 2.3 d, p. 35

[120] Remand and Partial Acknowledgment Order ACKNOW-001795, LCDC, November 2, 2010, Sub-Issue 2.3 d, p. 35-36

HNA Issue	Directives to City on Remand	Where the HNA addresses the issue
Residential development density assumptions Section 3.1, Pages 48-54	LCDC concluded that the City's densities for housing were, in their view, low, resulting in land use that is not sufficiently efficient to meet Bend's needed housing. Need to determine if raising the minimum densities of the residential zones is necessary to encourage the development of needed housing 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 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.[121]	This issue will be addressed in the HNA by the time it is finalized. For now, the HNA uses the Base Case scenario to estimate capacity, based on historical densities, shown in Table 21.
HNA and Employment Lane Needs		
Using residentially designated land for employment uses Section 5.8 Pages 82-	The City identified 119 gross acres of land as being necessary to accommodate employment on residentially zoned land. The analysis was presented in the City's economic opportunities analysis (EOA), not HNA. LCDC required the City's revised HNA to include analysis of land needed for employment uses within residential zones.	This issue will be addressed in the HNA by the time it is finalized.

[121] Remand and Partial Acknowledgment Order ACKNOW-001795, LCDC, November 2, 2010, Sub-Issue 3.1 d, p. 50-53

Statutory Requirements

This section provides the full text of the key Oregon Revised Statutes that describe the requirements of a housing needs analysis.

ORS 197.296

(2) At periodic review pursuant to ORS 197.628 to 197.651 or at any other legislative review of the comprehensive plan or regional plan that concerns the urban growth boundary and requires the application of a statewide planning goal relating to buildable lands for residential use, a local government shall demonstrate that its comprehensive plan or regional plan provides sufficient buildable lands within the urban growth boundary established pursuant to statewide planning goals to accommodate estimated housing needs for 20 years. The 20-year period shall commence on the date initially scheduled for completion of the periodic or legislative review.

(3) In performing the duties under subsection (2) of this section, a local government shall:

(a) Inventory the supply of buildable lands within the urban growth boundary and determine the housing capacity of the buildable lands; and

(b) Conduct an analysis of housing need by type and density range, in accordance with ORS 197.303 and statewide planning goals and rules relating to housing, to determine the number of units and amount of land needed for each needed housing type for the next 20 years.

(4)(a) For the purpose of the inventory described in subsection (3)(a) of this section, "buildable lands" includes:

(A) Vacant lands planned or zoned for residential use;

(B) Partially vacant lands planned or zoned for residential use;

(C) Lands that may be used for a mix of residential and employment uses under the existing planning or zoning; and

(D) Lands that may be used for residential infill or redevelopment.

(b) For the purpose of the inventory and determination of housing capacity described in subsection (3)(a) of this section, the local government must demonstrate consideration of:

(A) The extent that residential development is prohibited or restricted by local regulation and ordinance, state law and rule or federal statute and regulation;

(B) A written long term contract or easement for radio, telecommunications or electrical facilities, if the written contract or easement is provided to the local government; and

(C) The presence of a single family dwelling or other structure on a lot or parcel.

(c) Except for land that may be used for residential infill or redevelopment, a local government shall create a map or document that may be used to verify and identify specific lots or parcels that have been determined to be buildable lands.

(5)(a) Except as provided in paragraphs (b) and (c) of this subsection, the determination of housing capacity and need pursuant to subsection (3) of this section must be based on data relating to land within the urban growth boundary that has been collected since the last periodic review or five years, whichever is greater. The data shall include:

(A) The number, density and average mix of housing types of urban residential development that have actually occurred;

(B) Trends in density and average mix of housing types of urban residential development;

(C) Demographic and population trends;

(D) Economic trends and cycles; and

(E) The number, density and average mix of housing types that have occurred on the buildable lands described in subsection (4)(a) of this section.

(b) A local government shall make the determination described in paragraph (a) of this subsection using a shorter time period than the time period described in paragraph (a) of this subsection if the local government finds that the shorter time period will provide more accurate and reliable data related to housing capacity and need. The shorter time period may not be less than three years.

(c) A local government shall use data from a wider geographic area or use a time period for economic cycles and trends longer than the time period described in paragraph (a) of this subsection if the analysis of a wider geographic area or the use of a longer time period will provide more accurate, complete and reliable data relating to trends affecting housing need than an analysis performed pursuant to paragraph (a) of this subsection. The local government must clearly describe the geographic area, time frame and source of data used in a determination performed under this paragraph.

In addition, ORS 197.303 and 197.307 define needed housing and what actions a local government must take to ensure an adequate supply of land is available for the development of needed housing. The pertinent sections of these statutes are:

197.303 "Needed housing" defined. *(1) As used in ORS 197.307, until the beginning of the first periodic review of a local government's acknowledged comprehensive plan, "needed housing" means housing types determined to meet the need shown for housing within an urban growth boundary at particular price ranges and rent levels. On and after the beginning of the first periodic review of a local government's acknowledged comprehensive plan, "needed housing" also means:*

(a) Housing that includes, but is not limited to, attached and detached single-family housing and multiple family housing for both owner and renter occupancy;

(b) Government assisted housing;

(c) Mobile home or manufactured dwelling parks as provided in ORS 197.475 to 197.490; and

(d) Manufactured homes on individual lots planned and zoned for single-family

residential use that are in addition to lots within designated manufactured dwelling subdivisions.

197.307 Effect of need for certain housing in urban growth areas; approval standards for certain residential development; placement standards for approval of manufactured dwellings.

***

(3)(a) When a need has been shown for housing within an urban growth boundary at particular price ranges and rent levels, needed housing, including housing for farmworkers, shall be permitted in one or more zoning districts or in zones described by some comprehensive plans as overlay zones with sufficient buildable land to satisfy that need.

URBAN GROWTH BOUNDARY REMAND

MAKING BEND EVEN BETTER

Bend Economic Opportunities Analysis

Bend's Growth to 2028

Draft Document: November 11, 2015









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EXECUTIVE SUMMARY

An Economic Opportunities Analysis (EOA) is a technical analysis that projects trends, but it is also an aspirational economic development tool that identifies the land needs to achieve the type of employment that the community desires. Thus, it is important to have a vision for what type of city Bend wants to be in the future.

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

- *Targeted Industries*. Identify "target industries" that match community attributes and provide job opportunities over the long term.
- *Living Wage Jobs*. Increase employment in its targeted industries, too many jobs may be in the retail services and other relatively low-paying sectors.
- *Available Industrial and Commercial Lands*. Ensure that there is enough land to accommodate future jobs and businesses.
- *Diversified Economy*. Continue to diversify from a wood products and tourism-oriented economy to a more resilient economy that provides professional service, high-skill manufacturing, high-tech, and other living wage jobs.
- *Sustainable Industries*. Attract and retain businesses that maintain the high-quality natural environment.
- *Establish a university and research center*. Such an institution could have a dramatic positive impact on the workforce by training the next generation of Central Oregonians and visiting students to participate in a diversified economy.

Bend's role as a social and cultural center is an important consideration as a driver of economic growth. Bend's high quality cultural and natural amenities are repeatedly cited by business owners and employees as reasons to relocate to or remain in Bend.

Bend forecasts that employment will grow by 22,891 employees (about 61%) over the 20 year period between 2008 and 2028, at an average annual growth rate of 2.4%. Employment in Bend increased by 948 between 2008 and 2013; thus, the City forecasts 21,943 new employees between 2013 and 2028. Based on site requirements of target employers, Bend will need 726 sites less than five acres and 32 sites greater than five acres to accommodate new employment forecast for the 2013-2028 period.

In 2014, Bend had 1,162 vacant acres of vacant employment land. About one-quarter of Bend's vacant employment land is in sites smaller than 5 acres, 28% is on sites 5 to 50 acres, and 36% is in three sites larger than 50 acres.

The EOA concludes that Bend has a deficit of 366 sites smaller than five acres and 17 sites between 5 and 50 acres. It also concludes that 25% of Bend's total employment land supply meets the Goal 9 definition of short-term supply.

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CHAPTER 1. INTRODUCTION

This report presents an update of the 2008 Economic Opportunities Analysis (EOA) for the City of Bend consistent with the requirements of statewide planning Goal 9 and the Goal 9 administrative rule (OAR 660-009). Goal 9 describes the EOA as "an analysis of the community's economic patterns, potentialities, strengths, and deficiencies as they relate to state and national trends" and states that "a principal determinant in planning for major industrial and commercial developments should be the competitive advantage of the region within which the developments would be located."

Role of the EOA

The EOA will be adopted as a supporting document of the Bend General Plan. The EOA documents demographic trends, the projection of employment growth, identification of target industries, and evaluation of site characteristics needed to accommodate target industries. Based on this analysis, the EOA estimates the amount of employment that can be accommodated on existing land in the Urban Growth Boundary (UGB) and the amount of residual employment that will require new land. The EOA compares the employment forecast with the capacity of Bend's land base to accommodate new employment from the Buildable Lands Inventory (BLI). The BLI is one of four inter-related documents that are central in the City's planning related to the UGB. The Urbanization report identifies the amount of employment land that cannot be accommodated within the UGB, once land use efficiency measures are applied to the analysis and adopted. The major components of each document are summarized in Figure 1.

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Figure 1. Four Key Planning document for Bend's UGB Planning

Document	Buildable Land Inventory (BLI)	Housing Needs Analysis (HNA)	Economic Opportunities Analysis (EOA)	Urbanization Report (UR)
Purpose	Identify buildable residential & employment land by category	Address the requirements for planning for needed housing, including analysis of national, state, and local demographic and economic trends, and recommendations for a mix and density of needed housing types	Document historical housing and demographic trends, the projection of employment growth, identification of target industries, and evaluation of site characteristics needed to accommodate target industries	Analysis of where and how Bend's future growth will be accommodated, both inside the existing Urban Growth Boundary (UGB) and in expansion areas
Primary Legal Standards[1]	ORS 197.296 OAR 660, Divisions 8 and 9	Statewide Planning Goal 10: Housing ORS 197.296 and 197.303 OAR 660, Division 8	Statewide Planning Goal 9: Economic Development OAR 660, Division 9	Statewide Planning Goal 14: Urbanization ORS 197.298 OAR 660, Division 24
Key Subject Matter	Development status categories and definitions Methodology for assigning categories and conducting inventory Inventory results: acres by plan designation and development status	Projection of population and total housing growth Housing market and development trends Demographic characteristics and trends Analysis of affordability Estimate of needed housing (mix and density) Comparison of housing capacity to need	Existing policy and vision National, state, local trends Employment projections Target industries Site needs and characteristics Special site needs Redevelopment analysis Comparison of employment capacity to need and characteristics	Methodology for capacity estimates Pre-policy ("base case") capacity estimate for current UGB Efficiency measures (EMs) proposed Current UGB capacity with EMs UGB alternatives evaluation methodology and results Proposed UGB expansion and summary of Goal 14 evaluation results

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

Framework for an Economic Opportunities Analysis

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

> **Goal 9: Economic Development**, aspires to "provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens." It requires city comprehensive plans to "contribute to a stable and healthy economy" by analyzing economic "patterns, strengths, and weaknesses", contain economic development policies, and provide at least an adequate supply of economic lands.
>
> **Goal 14: Urbanization**, seeks to "provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities." Goal 14 directs cities to establish urban growth boundaries which contain urban levels of development and prevent urbanization of nearby rural lands. Goal 14 requires cities to establish UGBs based on residential land needs to serve a 20-year population as well as provide opportunities for employment, parks, schools, public facilities, and necessary public infrastructure. Prior to expanding a UGB a city must demonstrate that "needs cannot reasonably be accommodated on land already inside the urban growth boundary."

The analysis in this report is designed to conform to the requirements for an Economic Opportunities Analysis in OAR 660-009 as amended.

1. **Economic Opportunities Analysis (OAR 660-009-0015)**. The Economic Opportunities Analysis requires communities to identify the major categories of industrial or other employment uses that could reasonably be expected to locate or expand in the planning area based on information about national, state, regional, county or local trends; identify the number of sites by type reasonably expected to be needed to accommodate projected employment growth based on the site characteristics typical of expected uses; include an inventory of vacant and developed lands within the planning area designated for industrial or other employment use; and estimate the types and amounts of industrial and other employment uses likely to occur in the planning area. Local governments are also encouraged to assess community economic development potential through a visioning or some other public input based process in conjunction with state agencies.
2. **Industrial and commercial development policies (OAR 660-009-0020)**. Cities with a population over 2,500 are required to develop commercial and industrial development policies based on the EOA. Local comprehensive plans must state the overall objectives for economic development in the planning area and identify categories or particular types of industrial and other employment uses desired by the community. Local comprehensive plans must also include policies that commit the city or county to designate an adequate number of employment sites of suitable

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sizes, types and locations. The plan must also include policies to provide necessary public facilities and transportation facilities for the planning area.

3. **Designation of lands for industrial and commercial uses (OAR 660-009-0025)**. Cities and counties must adopt measures to implement policies adopted pursuant to OAR 660-009-0020. Appropriate implementation measures include amendments to plan and zone map designations, land use regulations, public facility plans, and transportation system plans. More specifically, plans must identify the approximate number, acreage and characteristics of sites needed to accommodate industrial and other employment uses to implement plan policies, and must designate serviceable land suitable to meet identified site needs.

This report is an Economic Opportunities Analysis, the first key element required by Goal 9. This EOA includes an analysis of national, state, regional, and county trends as well as an employment forecast that leads to identification of needed development sites. It also includes an inventory of buildable commercial and industrial land in the Bend UGB. It partially addresses the requirements of Goal 14 to determine if future needs can be accommodated on land already inside the UGB. Further evaluation of the capacity of lands within the UGB to accommodate employment and the impact of "land use efficiency" measures is presented in the *Bend Urbanization Report*.

This report reflects a "pre-policy" evaluation of employment land need in Bend for the 2008-2028 period. In this context, pre-policy means that it reflects base conditions and assumptions and does not include evaluations of land use efficiency measures as required by OAR 660-024-0050 and the Remand. It provides an evidentiary basis for the analysis contained in this report. Chapter 6 identifies other analysis necessary to comply with OAR 660-024 and the Remand. This additional analysis will be presented in a companion "Urbanization Report" that addresses Goal 14 requirements and other issues in the Remand that are not addressed in this report.

Prior Economic Opportunities Analyses and Remand Tasks

This EOA examines Bend's recent employment and land development trends and projects future employment and employment land needs. This is an update of the 2008 EOA that (1) addresses issues identified in the Remand, (2) addresses economic activity that occurred between 2008 and 2013, and (3) reflects input received from the Bend Employment Technical Advisory Committee (Employment TAC) and the Urban Growth Boundary Steering Committee (USC).

The EOA update is a technical document compliant with Goal 9 and OAR 660-009 that supports the 2016 Urban Growth Boundary (UGB) expansion. This EOA uses the 2008 EOA adopted by the City of Bend as a foundation because the key findings of the 2008 EOA were found to meet Goal 9 by the Land Conservation and Development Commission (LCDC). The information and conclusions of the updated EOA are the basis for determination of employment land sufficiency for the 2008-2028 period. This EOA collects the most recent work on economic land need for the City of Bend, addresses issues identified in the 2010 Remand Order, and incorporates direction from the Employment Technical Advisory Committee (TAC) and the Bend Urban

Growth Boundary Steering Committee (USC). The issues identified as requiring changes in the 2008 EOA in the January 2010 Director's Report and Order are described in Appendix C.

An important consideration for the EOA update is that it must address issues identified in the Remand and partial acknowledgement of a decision made in December 2008. A key issue is the planning horizon for the project. The EOA uses the 2008-2028 timeframe, but updates key elements of the EOA to reflect changes that have occurred since 2008. The updated EOA relies on the 2008-2028 employment forecast and the 2008 buildable land inventory that was acknowledged by the Land Conservation and Development Commission's (LCDC) remand order. The EOA updates the 2008 buildable land inventory to 2014 to reflect development that occurred in Bend between 2008 and 2014. The EOA also analyzes changes in employment between 2008 and 2013 to deduct employment that already occurred from the 2008-2028 forecast.

Updates to the 2008 Economic Opportunities Analysis

This EOA incorporates key information from the 2008 adopted EOA, such as the forecast of new employment for the 2008-2028 period. This analysis addresses the Remand issues identified for the 2008 EOA, as described in Appendix C.

This EOA uses two periods of time for historical analysis and for the forecast of employment need:

- **Planning Period**. Goal 9 and OAR 660-009 requires the City to ensure a 20-year supply of buildable land for economic development and employment growth. For this EOA, the 20-year period begins in 2008 and ends in 2028.
- **Extended Trend Period**. The EOA was originally developed with data available up to 2008. This EOA extends the trend data to include data available between 2008 and 2013. This additional data provides information about changes in Bend's economy since 2008.

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CHAPTER 2. ECONOMIC DEVELOPMENT VISION AND SUPPORTING POLICIES

Sound economic development planning originates from a clear vision and is implemented through goals, strategies and actions. Goal 9 focuses on one element of an economic development strategy: land use. Specifically, one objective of Goal 9 is for cities to "provide for at least an adequate supply of sites of suitable sizes, types, locations, and service levels for a variety of industrial and commercial uses consistent with plan policies."

The EOA is not a statement of Bend's economic development vision or policies, it builds from and informs the vision and policy direction of the City. This chapter summarizes Bend's economic development vision and key policies related to economic development. It provides a comprehensive summary of community visioning efforts, including visioning efforts lead by the City of Bend and other efforts that were not lead by the City of Bend.

Vision for economic development

An EOA is a technical analysis that projects trends, but it is also an aspirational economic development tool that identifies the land needs to achieve the type of employment that the community desires. Thus, it is important to have a vision for what type of city Bend wants to be in the future. Bend has completed a number of visioning and planning exercises that clarify how it wants to grow. The following sections summarize the key points from these efforts and identify how they serve as guideposts in this EOA.

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

Bend 2030

The report "Bend 2030: A Visioning Project by and for the People of Bend Oregon," articulates a vision for the future of the community.[2] These goals do not represent formal policies or goals that have been adopted by the City of Bend; rather, they express the community's values based on a visioning process. Bend 2030 is being implemented by a nonprofit organization (called Bend 2030). This visioning was conducted in 2006. The vision identifies six primary goals:

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

[2] See www.bend2030.org

Within those six broad goals, Bend 2030 identifies more specific objectives. The following objectives identified in Bend 2030 are most relevant to the EOA:

- *Targeted Industries*. The city has identified a number of "target industries" in which it can excel and provide job opportunities over the long term.
- *Living Wage Jobs*. If Bend is unable to sufficiently increase employment in its targeted industries, too many jobs may be in the retail services and other relatively low-paying sectors.
- *Available Industrial and Commercial Lands*. This objective is perfectly aligned to the purpose of this report – to ensure that there is enough land to accommodate future jobs and businesses, and the buildings and land they will occupy.
- *Diversified Economy*. This objective overlaps considerably with "targeted industries." Bend must continue to diversity from a wood products and tourism-oriented economy to a more diversified one that provides professional service, high-skill manufacturing, high-tech, and other living wage jobs.
- *Sustainable Industries*. Bend seeks to attract and retain businesses that maintain the high-quality natural environment.
- *Establish a university and research center*. There is broad support in the community for a high-quality university in Bend. Such an institution could have a dramatic positive impact on the workforce by training the next generation of Central Oregonians and visiting students to participate in a diversified economy.

Bend's General Economic Objectives

State law requires a city to adopt policies stating Bend's community economic development objectives (OAR 660-009-0020). While this EOA does not, nor is it intended to, fully comply with the requirements of OAR 660-009-0020,[3] this EOA partially addresses this objective by bringing together concepts in Chapter 6 of the Bend General Plan (Economic Development), statements in recent economic visioning projects, Bend's economic advantages, and Bend's recent economic growth trends.

The following expression of Bend's economic development objectives is from the "Bend 2030, A Visioning Project by and for the People of Bend, Oregon*".* This narrative is considered in the EOA, and is implemented through policies of the General Plan, and represents the City's general economic development objectives.

> "Bend has a diversified economy that provides healthy work environments and sufficient living wage jobs to support our local population. Our economic vision has attracted people, resources, and investment focused on diverse industries that offer economic opportunity, longevity in the global market, and a clean and sustainable environment. Bend is a leader in 'green' building materials and technology, and sustainable energy. An established university and research center in Bend promote creativity, innovation, and entrepreneurship that empower and advance a skilled and competitive local

[3] The policies adopted as part of the revised Economic Element of the Bend General Plan will fully comply with the requirements of OAR 660-009-0020.

workforce. Our access to the global marketplace is efficient and viable due to enhancements of local and regional communications and transportation systems including air, rail, highways, and alternative modes of travel."

The city is required to identify particular types of desirable employment to develop during the planning period as part of the general economic objective. The following list reflects desirable employment uses identified in the "2030 Vision" as well as employment types Bend is well positioned to continue to grow into the future:

1. Employment in downtown Bend – opportunities for businesses, shops, restaurants, and housing should be expanded while preserving downtown's unique character.
2. Employment in targeted industries – the "2030 Vision" suggests expanding employment opportunities in industries identified as "target industries" by the "2005 Economic Sector Targeting" exercise. Target industries include:

    a. Leisure and hospitality uses
    b. Higher education
    c. Health care
    d. Secondary wood products
    e. Aviation-aerospace
    f. Renewable energy resources
    g. Recreation equipment
    h. Specialty manufacturing
    i. Information technologies

3. Employment in tourism – the "2030 Vision" supports building year-round tourism through developing a diverse mix of arts, entertainment, sports, and natural and cultural attractions. Projects to improve employment in the tourism industry include constructing a new performing arts center and museum of fine arts.
4. Employment in higher education – higher education enables and provides diverse employment options. The "2030 Vision" supports the Central Oregon Community college and a new University. The University should ideally provide an attractive learning environment, include a research emphasis, offer graduate programs and scholarship opportunities, and serve existing residents while attracting a diverse student body.
5. Small neighborhood centers – small service-oriented employment centers should be located so the city's residents can walk or bike to employment opportunities, public gathering places, parks, recreational facilities, and other services.
6. Mixed-use development – these uses should be located along key corridors and in designated centers, or as buffering uses.
7. Opportunity for all economic levels – the "2030 Vision" promotes economic and housing opportunities for all income levels so that all groups are able to live here.
8. In addition to economic uses stated in the "2030 Vision" and "2005 Economic Sector Targeting" work, the following economic uses are desirable and suitable to expand during the planning period based on the findings of the EOA:

    a. Regional employment centers for public agencies, health care providers, and retail uses

b. Employment in professional office and service uses
c. Employment in leisure and hospitality uses

Related Plans and Documents

Several plans and studies inform the EOA and the City's economic development vision. This section summarizes key elements of those plans and studies.

General Plan

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

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

Juniper Ridge Concept Plan

The Juniper Ridge Concept Plan represents an initial attempt by Bend to shape its vision for the 1,500-acre publicly owned parcel on the city's north border. Since the inception of the Juniper Ridge planning process, it has been clear that because of its size, location, and city ownership, the site had the potential to play a major role in Bend's economic future, by providing the area for future businesses to locate. The specifics contained in the Concept Plan will almost certainly undergo major and minor changes over its long implementation period, but the city hopes to stay true to the plan's underlying visions and aspirations. **The Concept Plan has not been officially adopted by the City, but provides a vision for the site. Because it has not been adopted, the EOA does not rely on any of the information for the land need and technical elements required by OAR 660-009-0015.**

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

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

Primarily due to the first two uses listed above, Juniper Ridge is seen as a key part of Bend's economic development strategy, as it will provide land on which the city's targeted industries can grow.

Approximately one third of Juniper Ridge's total area – 494 acres called Juniper Ridge Phase 1 – is currently within Bend's UGB and designated light industrial in the General Plan. About 306 acres of this area is within the Juniper Ridge Employment Sub-District, which is intended to promote economical, sustainable, and reasonable growth by allowing a mix of light industrial uses, offices for research and development, corporate and regional headquarters and accessory uses to serve the needs of these primary uses. The types and placement of the employment uses allowed in the Employment Sub-District are generally consistent with the conceptual master plan. At this time there are two businesses located in Juniper Ridge: Les Schwab corporate office, and Suterra.

About 194 additional acres are within the UGB and long-range plans for this area have not yet been developed. The General Plan designation for this area is Light Industrial.

Infrastructure planning for the portion of Juniper Ridge within the UGB is underway.[4] The City has plans for infrastructure upgrades needed within the Employment Sub-District, for transportation, water, and sewer. Funding for some infrastructure improvements, especially the transportation improvements, has not yet been identified. The remaining 194 acres of land at Juniper Ridge requires more planning to determine an appropriate zone and develop infrastructure plans and identify funding sources for needed infrastructure.

Development at Juniper Ridge, however, is constrained by transportation and wastewater infrastructure. Key constraints include a trip cap imposed on the site by ODOT and lack of wastewater facilities. The City is actively working on both of these infrastructure constraints. With respect to wastewater capacity, development will be limited until the Northeast Interceptor is developed. The project is currently scheduled for years 11-20 in the recently adopted (December 2014) City of Bend Collection System Master Plan.

The remaining approximately 1,000 acres is referred to in this document as Juniper Ridge Phase 2, despite the fact that the project may have many more phases before completion. The areas outside the UGB are not included in the buildable land inventory and are not considered suitable employment lands for the purpose of this EOA.

Deschutes County Coordinated Population Forecast

The Deschutes County Coordinated Population Forecast was finalized in 2004 by county and city staff, project consultants, and a broad range of stakeholders.[5] The population projections identified in their findings are used in this report as a factor considered in the employment projections, the Residential Lands Study, and the other studies undertaken by Bend and Deschutes County referenced below.

[4] For more detail about Juniper Ridge planning and infrastructure, see the memorandum "Juniper Ridge: background, location, zoning, infrastructure, and related issues" dated April 24, 2015.

[5] http://www.deschutes.org/cd/page/coordinated-population-forecast-2025

Economic Sector Targeting

In 2005, city staff and a broad group of economic stakeholders took part in an Economic Sector Targeting process, which included several daylong workshops and ultimately a report. Through this analysis, the city identified nine different industry sectors in which it should concentrate its efforts to retain existing businesses and attract new ones. The sectors were chosen due to a number of different criteria, including an existing industry cluster already in Bend; significant growth opportunity; living wage job potential; and likelihood for sustainable business practices. The group developed a set of nine targeted industries, including industries such as higher education, health care, renewable energy resources, and aviation-aerospace. The full list of target industries is discussed in more detail in Chapter 4.

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

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

Visit Bend Business Plan[6]

Bend receives 2.4 million visits annually. According to Visit Bend, this travel and tourism activity generated an estimated 8,500 jobs in the region and provided the City with $3.7 million in transient room tax revenue in 2014. The vast majority of this tourist activity occurs during the summer.

Visit Bend, a Bend-area tourism advocate, outlined a series of strategic objectives to support the tourism industry in their budget for the 2015 fiscal year. Among the most important issues to address, Visit Bend identified the seasonal variation in tourism and the decline in business that it causes during the off-season: "Despite the sustained growth in Bend's tourism industry, our destination continues to face an unhealthy drop in business during the shoulder seasons and winter months."

In order to reduce the industry's seasonality, and work to address other goals in support of Bend tourism, the report listed metrics to track how well the industry has improved, and identified multiple strategic actions for the upcoming year. For example, metrics included the rate of citywide lodging occupancy, the number of visitor guide requests, and volume of transient room tax collections, among others. The report also identified strategic actions, such as increased investment in Bend's brand, improved connections with news media, and more citywide events and conventions. Visit Bend is also working to increase the region's offerings of non-outdoor recreation attractions, with a focus on cultural amenities.

Supporting Studies

Other planning efforts inform the EOA, including planning for housing growth and infrastructure systems, such as:

[6] http://issuu.com/visitbendor/docs/visit-bend-business-plan-2015-webre

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- *Bend Housing Needs Analysis – 2015.* This report forecasts Bend's housing growth through 2028, describing likely changes in the types of housing needed in Bend.
- *Water System Master Plan - 2011 Update (Optimization Study)*. This report covers level of service goals, present and future deficiencies, assessment of fire flow capacity in the system and the results of a comprehensive analysis using an optimized decision support process to evaluate alternatives that address system deficiencies now and in the future. The results of this study are a recommended set of system improvements to meet the needs of Bend's water system for at least 20 years.
- *Water Management and Conservation Plan – 2011*. The purpose of the Plan is to guide the development, financing, and implementation of water management and conservation programs and policies to ensure sustainable use of publicly owned water resources while the City plans for its future water needs.
- *Collection System Master Plan – 2014*. The Wastewater Collection System Master Plan (CSMP) is a 20-year critical planning document that establishes a clear vision for Bend's community's sewer collection system, a vital framework beneath the City. The CSMP identifies both short term and long-term system improvements that are needed to address existing condition, existing capacity, and future capacity issues.
- *Water Reclamation Facility Plan.* This plan outlines several cost-effective solutions for increasing the plant's ability to meet projected wastewater flows through the year 2030.
- *Stormwater Master Plan*. In 2014, Bend approved the City's first formal Stormwater Master Plan. The Stormwater Master Plan serves as the oversight plan for addressing stormwater quantity and quality issues. In addition to providing an overall strategy for addressing stormwater concerns, it provides a delineation of drainage areas and runoff quantities throughout Bend, and programmatic goals for addressing quantity and quality concerns.
- *Bend Urban Area Transportation Plan*. This plan guides development of Bend's transportation system to meet the forecast needs of the Bend community to 2020. The plan provides a policy and plan framework to allow Bend to design a balanced transportation system over time.

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CHAPTER 3. FACTORS AFFECTING FUTURE ECONOMIC GROWTH IN BEND

According to OAR 660-0009, "the intent of the Land Conservation and Development Commission is to provide an adequate land supply for economic development and employment growth in Oregon." The intent of OAR 660-009 is to link planning for an adequate land supply to infrastructure planning, community involvement and coordination among local governments and the state. To meet those objectives, OAR 660-009-0015(1) requires cities to consider national, state, regional, county and local trends; this chapter summarizes economic trends and factors that will affect future economic growth in Bend.

The 2008 EOA included an extensive evaluation of factors affecting future economic growth in Bend, including national, state and local trends. That analysis was based on pre-2008 data. Clearly, changes have occurred since 2008, in part due to the Great Recession, which had significant negative impacts on Bend's economy.

Bend's economy is recovering from the Great Recession. As the regional employment center of Central Oregon, growth in Bend drives regional employment and economic growth. Bend's growth is supported by availability of labor and resources available in Central Oregon, especially in Deschutes County. More than 60% of employment in Deschutes County is located in Bend.[7] About 48% of population in Deschutes County is located within Bend.[8] Half of employees at businesses located in Bend live outside of the city, in places like unincorporated Deschutes County, Redmond, unincorporated Crook County, or Prineville.[9] Continued growth in Bend will drive growth in Deschutes County and in Central Oregon.

This chapter summarizes key findings from: (1) Appendix A: National, State, County, and Local Economic Trends, and (2) Appendix B: Factors Affecting Future Economic Growth in Bend.

National, State, Regional, and Local Trends

The U.S. economy continues to recover from the deep recession brought about by instability of financial and housing markets that impacted Oregon in a variety of ways, most notably with the labor market showing high unemployment and the housing market's oversupply of homes.

Economic development in Bend over the next twenty years will occur in the context of long-run national trends. Appendix A provides more detailed information on trends affecting future economic growth and is intended to support the analysis required by OAR 660-009-0015(1). The most important of these trends are summarized in Table 1 and include:

[7] Oregon Employment Department, Quarterly Census of Employment and Wages, 2013.

[8] Portland State University, Population Research Center, 2013.

[9] U.S. Census, OnTheMap, 2011.

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Table 1. Implications of national, state, and regional economic and demographic trends on economic growth in Bend

National, State, and Regional Economic Trends	Implications for economic growth in Bend
Moderate growth rates and recovery from the national recession According to the National Bureau of Economic Research, "The Great Recession" ended in 2009, but sluggish growth continued to affect businesses and workers alike for several years after. [10] Unemployment at the national level has gradually declined since the height of the recession.[11] Unemployment rates in Oregon and Deschutes County are typically higher than those of the nation as a whole. [12] The federal government's economic forecast projects a moderate pace of economic growth, with gradual increases in employment and real GDP (roughly 3% through the end of 2016). Economic growth in Oregon typically lags behind national growth. [13]	Economic growth in Bend – in measures such as employment growth, unemployment rates, and wage growth - will be markedly improved from previous years (i.e. since 2007). The rate of employment growth in Bend will depend, in part, on the rate of employment growth in Oregon and the nation. Bend's primary competitive advantages, location, access to regional transportation infrastructure, quality of life, and access to educated and skilled labor from within the region make Bend attractive to companies that want to grow, expand, or locate in the Central Oregon.

[10] "US Business Cycle Expansions and Contractions," The National Bureau of Economic Research, http://www.nber.org/cycles.html.

[11] Nelson D. Schwartz, "US Economy Adds 223,000 Jobs; Unemployment at 5.3%," *The New York Times*, July 2, 2015, http://www.nytimes.com/2015/07/03/business/economy/jobs-report-hiring-unemployment-june.html?_r=0.

[12] "Local Area Unemployment Statistics," State of Oregon Employment Department, https://www.qualityinfo.org/ed-uesti/?at=1&t1=0000000000,4101000000~unemprate~y~2000~2015.

[13] "The Budget and Economic Outlook: 2015 to 2025," January 2015, Congressional Budget Office, https://www.cbo.gov/sites/default/files/cbofiles/attachments/49892-Outlook2015.pdf.

National, State, and Regional Economic Trends	Implications for economic growth in Bend
Growth of service-oriented sectors Increased worker productivity and the international outsourcing of routine tasks led to declines in employment in the major goods-producing industries. Projections from the Bureau of Labor Statistics indicate that U.S. employment growth will continue to be strongest in healthcare and social assistance, professional and business services, and other service industries. Construction employment will grow with the economy, but manufacturing employment will decline. These trends are also expected to affect the composition of Oregon's economy, though Oregon's manufacturing employment may grow in the short-run. [14]	The changes in employment in Deschutes County have followed similar trends as changes in national and state employment. For example, since 2001, employment in Deschutes County Health Care and Social Assistance increased its share of total employment by 4.4%, while Manufacturing's share decreased by -3.8% as a result in decreases in wood products manufacturing. The Oregon Employment Department forecasts that the sectors likely to have the most employment growth in Deschutes County over the 2012 to 2022 period are: Construction, Health Care, Local and State Government, Retail Trade, Professional and Business Services, and Accommodation and Food Services. These sectors represent employment opportunities for Bend.
Lack of diversity in Oregon's economy Oregon's economy has diversified since the 1960's, but Oregon continues to rank low in economic diversity among states. These rankings suggest that Oregon is still heavily dependent on a limited number of industries. Relatively low economic diversity increases the risk of economic volatility as measured by changes in output or employment.	Data from the Bureau of Labor Statistics shows that employment in Deschutes County in 2013 was concentrated in a few sectors: Health Care and Social Assistance (15%), Retail Trade (15%), Accommodations and Food Services (13%), and Government (13%). Employment in the Government and Health Care sectors tends to be stable and pays above Bend's average wage of $37,755. Employment in Accommodations and Food Services and Retail Trade pays below Bend's average wage and employment may be volatile. Industries that have grown recently in Bend include bioscience, aviation and aerospace, outdoor recreation, software, specialty manufacturing, data center storage, and brewing. Each of these industries presents an opportunity for industrial growth in Bend.[15]

[14] "Employment Projections – 2012-2022," Bureau of Labor Statistics, December 19, 2013, http://www.bls.gov/news.release/pdf/ecopro.pdf. and "Oregon Economic and Revenue Forecast," Office of Economic Analysis, May 2015, http://www.oregon.gov/DAS/OEA/docs/economic/forecast0515.pdf.

[15] Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2013, http://www.bls.gov/cew/datatoc.htm (Hereafter BLS, QCEW). and Economic Development Central Oregon, Business and Economic Data, https://www.edcoinfo.com/business-and-economic-data/.

National, State, and Regional Economic Trends	Implications for economic growth in Bend
Importance of small businesses in Oregon's economy Small business, with 100 or fewer employees, account for 66% of private-sector employment in Oregon. Workers of small businesses typically have had lower wages than the state average.[16]	In 2013 average size for a private business in Deschutes County is 8.5 employees per business, compared to the State average of 11.2 employees per private business. [17] Growth of small businesses presents opportunities for economic growth in Bend.
Availability of trained and skilled labor Businesses in Oregon are generally able to fill jobs, either from available workers living within the State or by attracting skilled workers from outside of the State. Availability of labor depends, in part, on population growth and in-migration. Oregon added more than 980,000 new residents and about 475,000 new jobs between 1990 and 2008. The population-employment ratio for the State was about 1.6 residents per job over the 18-year period.[18] Availability of labor also depends on workers' willingness to commute. Workers in Oregon typically have a commute that is 30 minutes or shorter. [19] Availability of skilled workers depends, in part, on education attainment. About 30% of Oregon's workers have a Bachelor's degree or higher. [20]	Employment in Bend grew at about 1.6% annually over the 2001 to 2013 period, while population grew at about 3% annually from 2000 to 2013. [21] About 76% of workers at businesses located in Bend lived in Deschutes County, and 50% lived within Bend city limits. Firms in Bend attracted workers from as far away as Multnomah County.[22] Bend's residents who were 25 years and over were more likely to have a Bachelor's degree or higher (41%) than the county (34%) and state average (31%). Availability of these workers helps support the types of target industries that require a skilled, educated workforce discussed in Chapter 4. [23]

[16] Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2014 Q1, http://www.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables/.

[17] Bureau of Labor Statistics, Quarterly Census of Employment and Wages.

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

[19] US Census Bureau, 2013 American Community Survey, 1-Year Estimates, Table B08303.

[20] US Census Bureau, 2013 American Community Survey, 1-Year Estimates, Table B15003.

[21] Bureau of Labor Statistics, Quarterly Census of Employment and Wages.

[22] US Census Bureau, On the Map, 2011, http://onthemap.ces.census.gov.

[23] US Census Bureau, 2013 American Community Survey, 1-Year Estimates, Table B15003.

National, State, and Regional Economic Trends	Implications for economic growth in Bend
Aging of the population The number of people age 65 and older will more than double between 2010 and 2050, while the number of people under age 65 will grow by only 30%. [24] The economic effects of this demographic change include a slowing of the growth of the labor force, an increase in the demand for healthcare services, and an increase in the percent of the federal budget dedicated to Social Security and Medicare. People are retiring later than previous generations and continuing to work past 65 years old. This trend is seen both at the national and State levels. [25] Even given this trend, the need for workers to replace retiring baby boomers will outpace job growth. Management occupations and teachers will have the greatest need for replacement workers because these occupations have older-than-average workforces.	The changes in the Bend's age structure are similar to those of the State, with the most growth observed in people 45 years and older. Bend's population is generally younger than the State's. The median age in Bend in 2013 was 36.6 years, compared to 42.3 in Deschutes County, and 39.1 in the state as a whole.[26] The State projects that the share of the population over the age of 60 in Deschutes County will increase by 10% between 2015 and 2035. [27] Firms in Bend will need to replace workers as they retire. Demand for replacement workers is likely to outpace job growth in Bend, consistent with State trends.
Increases in energy prices Although energy prices are currently low by historical standards, over the long-term, energy prices are forecast to return to relatively high levels, such as those seen in the 2006 to 2008 period, possibly increasing further over the planning period.[28]	In 2015, low energy prices have decreased the costs of commuting. Over the long-term, if energy prices increase, these higher prices will likely affect the mode of commuting before affecting workers' willingness to commute. For example, commuters may choose to purchase a more energy-efficient car, use the bus, or carpool. Very large increases in energy prices may affect workers' willingness to commute, especially workers living the furthest from Bend or workers with lower paying jobs.

[24] "The Next Four Decades; The Older Population in the United States 2010 to 2050," US Census Bureau, May 2010, https://www.census.gov/prod/2010pubs/p25-1138.pdf.

[25] "Americans Settling on Older Retirement Age," Rebecca Riffkin, *Gallup*, April 29, 2015, http://www.gallup.com/poll/182939/americans-settling-older-retirement-age.aspx.

[26] U.S. Census Bureau, 2013 American Community Survey, 1-Year Estimates, Table B01002.

[27] Oregon Office of Economic Analysis, Demographic Forecast, "Long-term Oregon State's County Population Forecast (2010-2050)," http://www.oregon.gov/DAS/oea/Pages/demographic.aspx#Long_Term_County_Forecast"

[28] "Annual Energy Outlook 2015; With Projections to 2040," US Energy Information Administration, April 2015, http://www.eia.gov/forecasts/aeo/pdf/0383(2015).pdf.

National, State, and Regional Economic Trends	Implications for economic growth in Bend
Comparatively low wages The income of a region affects the workforce and the types of businesses attracted to the region. Average income affects workers and businesses in different ways. Workers may be attracted to a region with higher average wage or high wage jobs. Businesses, however, may prefer to locate in regions with lower wages, where the cost of doing business may be lower. Since the early 1980's, Oregon's per capita personal income has been consistently lower than the U.S. average. In 2013, Oregon's per capita wage was 89% of the national average.[29]	Per capita personal income in Deschutes County ($40,245 in 2014 dollars) was lower than that of the Portland MSA ($44,603), Oregon ($40,645), and the Nation as a whole ($45,660) in 2014. [30] Income in Oregon has historically been below national averages. There are four basic reasons that income has been lower in Oregon and Deschutes County than in the U.S.: (1) wages for similar jobs are lower; (2) the occupational mix of employment is weighted towards lower paying occupations; (3) a higher proportion of the population has transfer payments (e.g. social security payments for retirees), which are typically lower than earnings; and (4) lower labor force participation among working age residents. To a certain degree, these factors are all true for both Oregon and Deschutes County, and result in lower income. The lower wages in Bend may be attractive to firms that typically pay lower wages, such as call centers or firms that outsource professional services such as accounting or technical support.
Education as a determinant of wages The majority of the fastest growing occupations will require an academic degree, and on average they will yield higher incomes than occupations that do not require an academic degree. The fastest growing occupations requiring an academic degree will be: computer software application engineers, elementary school teachers, and accountants and auditors. Occupations that do not require an academic degree (e.g., retail sales person, food preparation workers, and home care aides) will grow, accounting for about half of all jobs by 2018. These occupations typically have lower pay than occupations requiring an academic degree.[31]	Bend's residents who were 25 years and over were more likely to have a Bachelor's degree or higher (41%) than the county (34%) and state average (31%) in 2013. [32] Wages in Bend are relatively low compared to Oregon as a whole, and this is largely a result of the composition of the regional economy, rather than the availability of workers with an academic degree. Increasing the relatively low wages in the region is dependent on changing the composition of the regional economy, through growing or attracting businesses with higher paying occupations.

[29] Bureau of Economic Analysis, Regional Data, GDP & Personal Income, Local Area Personal Income and Employment, Table CA1-3.

[30] Bureau of Economic Analysis, Regional Data, GDP & Personal Income, Local Area Personal Income and Employment, Table CA1-3. Adjusted for inflation using the BLS CPI Calculator at http://www.bls.gov/data/inflation_calculator.htm.

[31] Bureau of Labor Statistics, "Employment Projections: 2008-2018 News Release," Thursday, December 10, 2009, http://www.bls.gov/news.release/archives/ecopro_12102009.htm.

[32] US Census Bureau, 2013 American Community Survey, 1-Year Estimates, Table B15003.

National, State, and Regional Economic Trends	Implications for economic growth in Bend
Importance of high quality natural resources The relationship between natural resources and local economies has changed as the economy has shifted away from resource extraction. Increases in the population and in households' incomes, plus changes in tastes and preferences, have dramatically increased demands for outdoor recreation, scenic vistas, clean water, and other resource-related amenities. Such amenities contribute to a region's quality of life and play an important role in attracting both households and firms.	The region's high quality natural resources present economic growth opportunities for Bend, ranging from food and beverage production to the tourism industry.

Summary of Bend's Competitive Advantages

Bend's competitive advantages include a well-educated and growing population, a desirable location for employees—a scenic environment with unique access to outdoor recreation—and for businesses—proximity to major state highways and airports. Furthermore, Bend has competitive property tax rates and effective infrastructure systems and planning efforts that are on track to accommodate increasing usage.

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

This role will continue to be important to the quantity and types of jobs that Bend attracts. Downtown Bend is the cultural, culinary, and specialty retail hub of the region. Bend hosts the region's largest medical facility (St. Charles Medical Center and associated medical organizations), the largest news media organization (the Bend Bulletin), and numerous governmental agencies, from federal (U.S. Forest service), to regional (Deschutes County), to local (City of Bend) – all of which are major employers. Within the private sector, Bend is also the home address for many of the region's largest and most influential employers – either as the headquarters or the main employment location – including: Mt. Bachelor; Les Schwab; Bend Research; Nosler Inc.; GL Solutions; Navis; and IBEX.

The importance of Bend as a social and cultural center is an important consideration as a driver of economic growth. Bend's high quality cultural and natural amenities are repeatedly cited by business owners and employees as reasons to relocate to or remain in Bend. This will prove especially important in some industry sectors, such as Information-Technology, in which well-paid managers and their employers can choose between communities, and land and building space costs play a less significant factor in business success.

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CHAPTER 4. EMPLOYMENT GROWTH AND TARGET INDUSTRIES IN BEND

OAR 660-009 requires cities to maintain a 20-year inventory of sites designated for employment. To provide for at least a 20-year supply of commercial and industrial sites consistent with local community development objectives, Bend needs an estimate of the amount of commercial and industrial land that will be needed to accommodate forecast employment over the planning period. Demand for commercial and industrial land will be driven by development in target industries, the expansion and relocation of existing businesses, and new businesses locating in Bend.

Employment Forecast

Appendix B describes the methods and assumptions used to develop the 2008-2028 employment forecast. This section presents the 2008-2028 forecast and describes changes in employment that occurred between 2008 and 2013.[33]

Before presenting the updated information, it is important to note that the 2008 to 2028 employment forecast was upheld in the Remand. As such, the City is not required to revisit the 20-year forecast. The information provided in this section analyzes how much and what type of employment growth occurred in Bend between 2008 and 2013.

The foundation of the economic opportunities analysis (EOA) is the forecast of employment growth. In the Remand, Bend was found to have met the requirements of Goal 9, with the forecast of 22,891 new non-shift employees from 2008 to 2028. This serves as the foundation for the updated land need estimates.

Employment Changes in Bend

This section presents information about Bend's employment base in 2013[34], compared to 2008. Table 2 shows the forecast of growth by major employment categories for Bend for 2008 to 2028 that was originally developed for the 2008 EOA. The forecast shows that employment will grow by 22,891 employees (about 61%) over the 20 year period between 2008 and 2028, at an average annual growth rate of 2.4%.

[33] 2013 is the most recent year that employment data is available upon which to base the updates.

[34] We use 2013 employment data, rather than 2014 employment data, because it is the best available data for Bend. The employment data used is the Oregon Employment Department's Quarterly Census of Employment and Wages. Data for 2014 will not be available until mid- to late-2015.

Table 2. Employment Forecast by Employment Category, total non-shift employment, Bend 2008 to 2028

Employment Categories	2008 Employment	2028 Employment Forecast	Change 2008 to 2028		
			2008 to 2028 Growth	Percent Change	Average Annual Growth Rate
Industrial					
Industrial Heavy	3,807	5,180	1,373	36%	1.6%
Industrial General	5,370	8,002	2,632	49%	2.0%
Retail			0		
Large Retail	3,474	5,849	2,375	68%	2.6%
General Retail	3,244	5,293	2,049	63%	2.5%
Office/Srv/Medical	13,979	23,593	9,614	69%	2.7%
Leisure and Hospitalit	3,306	5,532	2,226	67%	2.6%
Other / Misc	1,051	1,547	496	47%	2.0%
Government	3,485	5,611	2,126	61%	2.4%
Total	**37,716**	**60,607**	**22,891**	**61%**	**2.4%**

Source: Bend EOA, 2008, Table 26; 2028 Employment forecast: Bend EOA, 2008, Table 25.
2008 data based on Oregon Employment Department 2006 geo-coded data for City of Bend
Note: While the employment in this table is based on covered employment data from the Oregon Employment Department, the 2008 covered employment data was adjusted, using the methods described in the EOA, to show total employment for non-shiftworkers.

Since the forecast for the 2008 EOA was developed, Bend's economy has changed, in large part as a result of the recent recession. Table 3 shows change in employment in Bend between 2008 and 2013. Overall, employment grew by 948 employees, at an average annual growth rate of 0.5%. Industrial employment decreased by about 2,500 employees and retail employment decreased by more than 550 employees. The majority of employment growth was in Office, Services, and Medical, which added more than 2,400 jobs.

Table 3. Employment Forecast by Employment Category, total non-shift employment, Bend 2008 to 2013

Employment Categories	2008 Employment	2013 Employment	Change 2008 to 2013		
			2008 to 2013 Growth	Percent Change	Average Annual Growth Rate
Industrial					
Industrial Heavy	3,807	2,889	-918	-24%	-5.4%
Industrial General	5,370	3,771	-1,599	-30%	-6.8%
Retail					
Large Retail	3,474	3,057	-417	-12%	-2.5%
General Retail	3,244	3,096	-148	-5%	-0.9%
Office/Srv/Medical	13,979	16,435	2,456	18%	3.3%
Leisure and Hospitalit	3,306	4,017	711	22%	4.0%
Other / Misc	1,051	1,505	454	43%	7.4%
Government	3,485	3,894	409	12%	2.2%
Total	**37,716**	**38,664**	**948**	**3%**	**0.5%**

Source: Bend EOA, 2008, Table 26.
2008 data based on Oregon Employment Department 2006 geo-coded data for City of Bend
2013 data based on Oregon Employment Department 2013 Quarter 3 geo-coded data for City of Bend
Note: While the employment in this table is based on covered employment data from the Oregon Employment Department, the 2008 and 2013 covered employment data was adjusted, as using the methods described in the EOA, to show total employment for non-shiftworkers.

Using the 2013 total non-shift employment figure of 38,664 and the 2028 acknowledged forecast of 60,607 yields an estimated increase of 21,943 new employees between 2013 and 2028. This equates to an average annual growth rate of 3.0% over that period. Table 2 shows that the acknowledged 2008 to 2028 forecast of 22,891 new employees resulted in an average annual growth rate of 2.4%. In short, employment growth between 2008 and 2013 occurred at a much slower pace than the average growth rate forecast by the City.

Table 4 compares employment in Bend in 2013 to the forecast for employment growth by 2028, from the 2008 EOA.

Table 4. Employment Forecast by Employment Category, non-shift workers, Bend 2013 to 2028

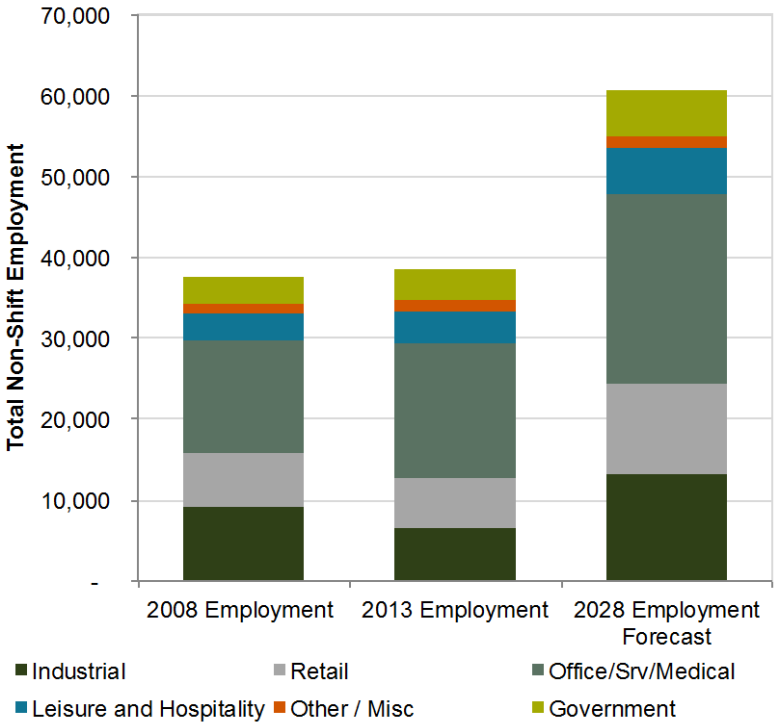
Employment Categories	2013 Employment	2028 Employment Forecast	Change 2013 to 2028		
			2013 to 2028 Growth	Percent Change	Average Annual Growth Rate
Industrial					
Industrial Heavy	2,889	5,180	2,291	79%	4.0%
Industrial General	3,771	8,002	4,231	112%	5.1%
Retail					
Large Retail	3,057	5,849	2,792	91%	4.4%
General Retail	3,096	5,293	2,197	71%	3.6%
Office/Srv/Medical	16,435	23,593	7,158	44%	2.4%
Leisure and Hospitalit	4,017	5,532	1,515	38%	2.2%
Other / Misc	1,505	1,547	42	3%	0.2%
Government	3,894	5,611	1,717	44%	2.5%
Total	**38,664**	**60,607**	**21,943**	**57%**	**3.0%**

Source: 2028 Employment forecast: Bend EOA, 2008, Table 25.
2013 data based on Oregon Employment Department 2013 Quarter 3 geo-coded data for City of Bend
Note: While the employment in this table is based on covered employment data from the Oregon Employment Department, the 2013 covered employment data was adjusted, as using the methods described in the EOA, to show total employment for non-shiftworkers.

Figure 2 shows a comparison of total non-shift employment by employment category in 2008 and 2013 and the forecast of employment growth in Bend for 2028.

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Figure 2. Comparison of Changes in Employment by Employment Categories in 2008, 2013, and 2028 Forecast, non-shift workers, Bend



Source: Bend EOA, 2008, Table 26.
2008 data based on Oregon Employment Department 2006 geo-coded data for City of Bend
2013 data based on Oregon Employment Department 2013 Quarter 3 geo-coded data for City of Bend
Note: While the employment in this figure is based on covered employment data from the Oregon Employment Department, the 2008 and 2013 covered employment data was adjusted, as using the methods described in Appendix B, to show total employment for non-shiftworkers.

Employment Forecast by Site Size

OAR 660-009-0015(2) requires cities to identify "required site types." Specifically, the rule states:

> "The economic opportunities analysis must identify the number of sites by type reasonably expected to be needed to accommodate the expected employment growth based on the site characteristics typical of expected uses. Cities and counties are encouraged to examine existing firms in the planning area to identify the types of sites that may be needed for expansion. Industrial or other employment uses with compatible site characteristics may be grouped together into common site categories."

This section describes the process for identifying the number of sites needed by type in Bend. The estimate of site needs is based on the employment forecast and historical development patterns, to illustrate the rough number and type of sites of various sizes needed to accommodate the forecast of employment growth. The forecast of land needed to accommodate growth and ability to accommodate that growth within the UGB is completed with use of the Envision Tomorrow modeling tool, as discussed in Chapter 5.

The process of identifying site needs based on historical development patterns builds from the employment forecast (Table 4) to the forecast of needed sites by size of site. Table 5 shows the distribution of existing employment (in 2013) by the employment categories and site size. To maintain consistency with the Envision Tomorrow model output and the Urbanization Report, the employment categories in Table 4 have been simplified and combined as follows:

- Retail & Leisure and Hospitality = Retail and Hospitality
- Office/Srv/Medical & Other/Misc = Office
- Heavy and General Industrial = Industrial
- Government = Public

Table 5. Distribution of existing employment by site size, Bend 2013

Employment Category	Smaller than 5 acres	5 to 49.99 acres	50.00 ac or more
Retail and Hospitality	71%	29%	0%
Office	75%	7%	18%
Industrial	83%	17%	0%
Public	73%	27%	0%
Total	75%	17%	8%

Source: Oregon Employment Department 2013 Quarter 3 geo-coded data for City of Bend and developed land in the Bend BLI, 2015

The next step in the process was to allocate employment growth by site size (Table 6). This allocation used the percentages in Table 5 to distribute employment growth in Table 4 to employment categories and site sizes.

Table 6. Forecast of employment growth by site size, Bend 2013-2028

Employment Category	Smaller than 5 acres	5 to 49.99 acres	50.00 ac or more
Retail and Hospitality	4,619	1,885	-
Office	5,412	481	1,307
Industrial	5,382	1,122	18
Public	1,253	464	-
Total	**16,666**	**3,952**	**1,325**

Source: Bend employment forecast in Table 5

Table 7 shows the average employees per site by site size for tax lots with employment in 2013 using data from the Quarterly Census of Employment and Wages (QCEW) and tax lot data. The results show that sites less than five acres averaged 23 employees and sites five to 50 acres averaged 134 employees. Average employment on sites of 50 acres or more cannot be disclosed for confidentiality reasons.

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Table 7. Average employees per site, Bend 2013

	Smaller than 5 acres	5 to 49.99 acres	50.00 ac or more
Employees per site	23	134	(D)

Source: Oregon Employment Department 2013 Quarter 3 geo-coded data for City of Bend and developed land in the Bend BLI, 2015
Note: The average number of employees more than 50 acres cannot be disclosed for confidentiality purposes. The average number of employees on sites 50-acres or more is substantially more than the average number of employees on sites 5 to 49 acres in size.

The average employees per site in Table 7 are then used to estimate the number of needed sites by employment type and size to accommodate new employment between 2013 and 2028. Needed sites are estimated by dividing the employment by category and site size in Table 6 by the average employees per site in Table 7. Note that sites larger than 50 acres are not included in this analysis—the Remand approved the need for two large-lot industrial employment sites over fifty acres. Thus, analysis of special site needs over 50 acres is not necessary using this methodology.

Table 8 shows the number of sites needed to accommodate employment growth between 2013 and 2028 by site size. The results show that Bend will need 726 sites less than five acres and 32 sites greater than five acres.

Table 8. Sites needed to accommodate employment growth by site size, Bend 2013-2028

Employment Category	Smaller than 5 acres	5 to 49.99 acres
Retail and Hospitality	201	15
Office	236	4
Industrial	234	9
Public	55	4
Total	**726**	**32**

Source: Bend employment forecast in Table 4, average employees per site in Table 7.

Table 9 allocates the needed sites in Table 8 to broad categories of plan designation based on the approximate percentage of employment for each employment category. For example, 89% of retail and hospitality employment in Bend is located in Commercial and Mixed Use plan designations. As a result, Table 9 allocates 89% of land needed to Commercial and Mixed Use, with 179 sites smaller than 5 acres and 13 sites between 5 and 49.9 acres. The remaining 24 sites are allocated to Industrial and Mixed Employment, where about 11% of Bend's retail and hospitality employment is located.

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Table 9. Sites needed to accommodate employment growth by comprehensive plan designation category and site size, Bend 2013-2028

Employment Category	Commercial / Mixed Use			Industrial / Mixed Employment			Public Facilities			Total	
	% of Sites	< 5 ac	5-49.9 ac	% of Sites	< 5 ac	5-49.9 ac	% of Sites	< 5 ac	5-49.9 ac	% of Sites	Sites
Retail and Hospitality	89%	179	13	11%	22	2	0%	-	-	100%	216
Office	73%	173	3	26%	61	1	1%	2	-	100%	240
Industrial	17%	40	2	82%	192	7	1%	2	-	100%	243
Public	27%	15	1	16%	9	1	57%	31	2	100%	59
Total		**407**	**19**		**284**	**11**		**35**	**2**		**758**

Source: Site needs forecast in Table 8 and distribution of employment by plan designation from Oregon Employment Department 2006 Covered Employment and analysis by City of Bend.

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Target Industries

In 2005, spurred by the realization that Bend's economy was in the midst of an ongoing series of changes, the City Council and other city leaders convened an Economic Sector Targeting workshop. The nine primary targeted economic sectors identified by the workshop are shown in Table 10.

Table 10. Targeted Economic Sectors

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

Source: City of Bend Economic Sector Targeting Report, 2005

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

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

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

Site Needs for Target Industries

Chapter 4 described target industries (described in this chapter as economic opportunities) for Bend, based on the city's economic advantages and evaluation of the types of industries that fit with Bend's vision for growth of traded-sector industries. These target industries focus on manufacturing, including secondary wood products, renewable energy, aviation – aerospace, recreation equipment, and specialty manufacturing, as well as information technology. This section focuses on the site needs for these target industries, as well as established industries, such as medical services. It also considers land needs from the broad range of commercial and industrial businesses, from small retail or service businesses to large-scale manufacturers.

This section addresses the requirements of OAR 660-009-0015(2) on required site types:

> Identification of Required Site Types. The economic opportunities analysis must identify the number of sites by type reasonably expected to be needed to accommodate the expected employment growth based on the site characteristics typical of expected uses. Cities and counties are encouraged to examine existing firms in the planning area to identify the types of sites that may be needed for expansion. Industrial or other employment uses with compatible site characteristics may be grouped together into common site categories.

The analysis that follows aggregates employment that has compatible site characteristics into common site categories.

Typical site needs of larger employers

Businesses considering locating in Oregon and in Bend will consider many factors before selecting a location (e.g., access to markets, availability of skilled workers, and availability of suitable land).

One of the key factors that businesses consider when making decisions about where to locate is the availability of vacant, large, and flat parcels of land. Table 11 shows examples of traded-sector firms that considered locating in Oregon and Southern Washington since 1997. Table 11 shows that firms looking for office or flex space required sites from 30 acres up to more than 100 acres. Manufacturing firms required sites from 25 acres to 250 acres in size.

These firms worked with Business Oregon to find suitable sites in Oregon. Some of the firms chose to locate in Oregon and some chose to locate elsewhere. One of the key factors that influenced decisions to locate elsewhere was availability of large parcels of land with infrastructure services (e.g., transportation access, wastewater, etc.).

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Table 11. Examples of firms that considered locating in Oregon and Southern Washington between 1997 and 2010

Type of business	General Location Considered	Site size (acres)	Building Size (square feet)	Located in Oregon ?
Office or Flex space				
Private technology firm	Northern Oregon I-5	100+	1 msf	
Facebook Data Center	Prineville	118	147,000 sf	Yes
Siltronics	Portland Harbor	35		
Nautilus	Vancouver	35	489,000	Yes
Google Data Center	The Dalles	30		Yes
Warehouse and Distribution				
Lowes	Lebanon	204	1.3 to 2.2 msf	Yes
NOAH-PepsiCo	Albany	204	2.5 msf	No
Wal-Mart	Hermiston	200	1.3 msf	Yes
Target	Albany	175	1.3 msf	Yes
Fed Ex	Troutdale	78	500,000 sf	Yes
Dollar-Tree	Ridgefield, Wa	75	800,000 sf	
Home Depot	Salem	50 to 100	400,000+	Yes
Manufacturing				
Apricus	Northern Oregon	250	Very large	No
Navitas	Oregon	150 to 200		No
Pacific Ethanol	Boardman	137		Yes
SolarWorld	Hillsboro	75	1 msf	Yes
Schott Solar	I-5 corridor	50+	up to 800,000 sf	No
Genentech	Hillsboro	50	500,000 sf	Yes
Amy's Kitchen	White City	50		Yes
Sanyo Solar	Salem	25	150,000 sf	Yes
Spectrawatt	Hillsboro	25	225,000 sf	No

Source: Business Oregon

Table 12 shows examples of manufacturers of clean energy technologies that announced plans to build new manufacturing plants in 2009 or 2010. More than one-third of these firms considered locating in Oregon. The site size requirements of these firms ranged from 50 to nearly 500 acres, with an average site size of around 100 acres. These firms are within one of the potential growth industries identified in Chapter 4, renewable energy manufacturing.

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Table 12. Examples of clean energy technologies that announced plans to build new manufacturing plants in 2009 or 2010

Company	Site Size (Acres)	Location	Industry
Tokuyama*	494	Malaysia	Solar
Vestas*	300	Colorado	Wind
US REG - A Power	150	Nevada	Wind
REC*	150	Singapore	Solar
Tindall	144	Kansas	Wind
Green2V	124	New Mexico	Solar
LG Chem Ltd.	120	Michigan	Batteries
Autoport/AC Propulsoin	102	Delaware	Electric Vehicles
Energy Composites Corps	94	Wisconsin	Wind
Tesla	90	California	Electric Cars
Mitsubishi Heavy Industries*	90	Arkansas	Wind
Schott Solar*	80	New Mexico	Solar
Enerdel	75	Indiana	Batteries
Energy Composites Corporation	54	Wisconsin	Wind
Proterra*	50	South Carolina	Electric Buses
Confluence	50	Tennessee	Solar

Source: Business Oregon
*Note: These firms considered locating in Oregon.

Table 13 shows the characteristics required to make a site competitive for businesses considering locating or expanding in Oregon, based on information from Business Oregon. Sites for most manufacturing uses are generally between 10 acres to 50 acres. Some large industrial uses, such as businesses in the renewable and clean energy sector, require sites of 100 acres. Industrial users need sites that are relatively flat, generally with a slope of 5% or less.

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Table 13. Site characteristics of common business types in Oregon

Industry Sector	Site size* (Acres)	Site Topography (Slope)	Site Access Max distance in miles to interstate or major arterial	Utilities (Min. line size in inches) Water / Sanitary Sewer
Regionally to Nationally Scaled Clean-Tech Manufacturer	50	0-5%	10	10 / 10
Globally Scaled Clean Technology Campus	100	0-5%	10	10 / 10
Heavy Industrial/ Manufacturing	25	0-5%	10	8 / 8
General Manufacturing	10	0-5%	20	8 / 8
Food Processing	20	0-5%	30	10 / 10
High-tech Manufacturing or Campus Industrial	25	0-7%	15	10 / 10
Regional (multistate) Distribution Center	200	0-5%	5 Only Interstate highway or equivalent	4 / 4
Warehouse/Distribution	25	0-5%	5 Only Interstate highway or equivalent	4 / 4
Call Center / Business Services	3	0 to 12%	Not applicable	4 / 4

Source: Business Oregon
*Note: Site size is the competitive acreage that would meet the site selection requirements of the majority of industries in this sector

Some industrial and large-scale commercial businesses may prefer to locate in an industrial or business park. Business parks are developments with multiple buildings, designed to accommodate a range of uses, from heavy industry to light industry to office uses. Most industrial parks, a subset of business parks, have large-scale manufacturing, distribution, and other industrial uses, with relatively little office space.

To provide context for business park type development, Table 14 shows examples of business park sites in the Portland Metro area. Business parks in the Portland area generally range in size from 25 acres to 75 or 100 acres in size. Some of the business parks are primarily industrial (e.g., Beaverton Creek, Columbia Commerce Park, or Southshore Corporate Park), some are primarily commercial (e.g., Creekside Corporate Park or Nimbus Corporate Center), and some are office and flex space (e.g., Cornell Oaks Corporate Center).

Table 14. Examples of business park sites, Portland Metro area

Business Park	Site Acres	Building Square Feet
AmberGlen Business Center	72	572,685
AmberGlen East and West	44	536,000
Beaverton Creek	56	512,852
Columbia Commerce Park	31	562,888
Cornell Oaks Corporate Center	107	684,000
Creekside Corporate Park	50	615,113
Kruse Woods Corporate Center	76	1,652,105
Lincoln Center	22	728,770
Nimbus Corporate Park	47	688,632
Oregon Business Park 1	36	782,294
Oregon Business Park 3	35	501,029
PacTrust Business Center	40	570,539
Pacific Business Park (South)	26	340,864
Pacific Corporate Center	56	601,542
Parkside Business Center	52	687,829
Southshore Corporate Park	312	1,630,000
Tualatin Business Center I and II	33	383,305
Wilsonville Business Center	30	710,000
Woodside Corporate Park	37	579,845

Source: Metro UGR, Appendix 5 Multi-tenant (business park)/Large lot analysis

In addition, the Portland Metro area has identified the following types of major employment sites, ranging from 25 acres to more than 500 acres:[35]

- **General industrial.** The Portland region has 21 general industrial major employment sites, ranging in size from 25 acres to 164 acres and averaging 53 acres. Firms on these sites range from beverage manufacturers to construction product manufacturers to specialty manufacturing enterprises.
- **Warehouse and distribution.** The Portland region has 15 warehouse and distribution major employment sites, ranging in size from 25 acres to 452 acres and averaging 74 acres. Firms on these sites range from wholesalers to general warehouse and distribution to company-specific distributors.
- **Flex.** The Portland region has 14 flex major employment sites, ranging in size from 25 acres to 522 acres and averaging 112 acres. Firms on these sites include small and large semiconductor manufacturing and other high tech manufacturing.

[35] These examples are documented in the Portland Metro 2009-2030 Urban Growth Report, Appendix 4

Site Needs of Target Industries

OAR 660-009-0015(2) requires the EOA identify the number of sites, by type, reasonably expected to be needed for the 20-year planning period. Types of needed sites are based on the site characteristics typical of expected uses. The Goal 9 rule provides flexibility in how jurisdictions conduct and organize this analysis. The Administrative Rule defines site characteristics as follows in OAR 660-009-0005(11):

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

Friends of Yamhill County v. City of Newberg, 62 Or LUBA 5 (2010), established a two-prong test for establishing relevant "site characteristics" as follows: (1) that the attribute be "typical of the industrial or employment use;" and (2) that it have "some meaningful connection with the operation of the industrial or employment use." The first of those prongs, that the attributes be "typical," appears expressly in OAR 660-009-0015(2), which refers to "site characteristics typical of expected uses." In upholding LUBA's two prong test, the Court of Appeals agreed, "[t]hat 'necessary' site characteristics are those attributes that are reasonably necessary to the successful operation of particular industrial or employment uses, in the sense that they bear some important relationship to that operation." Friends of Yamhill County v. City of Newberg, 240 Or App 738, 747 (2011).

Table 15 presents the site characteristics needed for the operation of major traded-sector industries, as well as for clusters of commercial and mixed-use development. Table 15 groups potential growth industries by site category (e.g., large industrial and flex). Any of the potential growth industries, however, may occur at a variety of sizes. For example, renewable energy companies could range from large solar panel manufacturers to small manufacturers of specialty renewable energy products and could use sites from five acres to over 250 acres. The opportunity sites in each potential growth industry will vary by size of the firms and the firm's activities.

Table 16 presents site infrastructure requirements necessary for the operations of potential growth industries. There are some common service requirements, regardless of the type of industry. For example, nearly all firms need access to roads, telecommunications, water and wastewater, and electricity. Some potential growth industries have specific service requirements for their operations. For example, food processors generally need access to large amounts of water and wastewater capacity or data centers need access to a large amount of electricity and redundant electricity sources.

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Table 15. Summary of site characteristics for target industries and clusters of commercial development

Site Category	Example Industries (Target Industries in bold)	Typical Site Size (acres)	Topology	Parcel configuration	Land Use Buffers	Visibility
Large Industrial and Flex	**Renewable Energy** **Information Technology**	50 to 250	0% to 5% slope	Preference for single parcels or parcels with two owners	Compatible with industrial or agricultural uses	No
Medium Industrial and Flex	**Specialty Manufacturing** **Aviation - Aerospace** **Secondary Wood Products** **Recreation Equipment** **Renewable Energy** **Information Technology**	10 to 75	0% to 5% slope	Preference for single parcels or parcels with two owners	Compatible with industrial or agricultural uses	No
Small Industrial	**Specialty Manufacturing** **Aviation - Aerospace** **Secondary Wood Products** **Recreation Equipment** **Renewable Energy** **Information Technology**	Less than 10	Less than 10% slope	Preference for single parcels or parcels with two owners	Compatible with some commercial, industrial, or agricultural uses	No
Large Commercial /Office	Mixed use Regional and community retail Big box retail **Higher Education**	10 to 50	Less than 10% slope	Preference for single parcels or parcels with two owners	Compatible with commercial and mixed uses	Yes
Medium Commercial /Office	**Information Technology** **Large medical offices** Mixed use **Hospitality** **Higher Education** Neighborhood retail Other services	5 to 20	Less than 15% slope	Preference for single parcels or parcels with three owners	Compatible with commercial and mixed uses	Yes
Small Commercial /Office	**Small medical offices** Retail and services	Less than 2	Less than 15% slope	Preference for single parcels or parcels with three owners	Compatible with commercial, mixed uses, and residential	Yes

Source: ECONorthwest research, City of Bend analysis, and Business Oregon Industrial Development Competitiveness Matrix

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Table 16. Summary of site infrastructure needs for potential growth industries and clusters of commercial development

Site Category	Transportation	Rail	Transit, Ped, Bike	Water and Sewer Meter Size (inches)	Gas (annual therms)	Electrical Demand (annual KWhr)	Telecom
Large Industrial and Flex	Direct access to an arterial; less than 10 miles from Highway 97 or Highway 20	Preferred	Preferred	4 to 10 High Pressure Preferred	10,000 – 80,000	10,000 – 100,000 + Secondary system dependency may be required	High speed Internet and phones Higher capacity Internet access may be required
Medium Industrial and Flex	Direct access to an arterial; less than 10 miles from Highway 97 or Highway 20	Preferred	Preferred	3 to 6 High Pressure Preferred	10,000 – 80,000	10,000 – 100,000 + Secondary system dependency may be required	High speed Internet and phones Higher capacity Internet access may be required
Small Industrial	Access to a major collector	Not required	Preferred	0.75 to 2	10,000 – 30,000	10,000 to 30,000	High speed Internet and phones Higher capacity Internet access may be required
Large Commercial	Direct access to an arterial or major collector	Not required	Preferred	2 to 4	Standard commercial usage	10,000 – 100,000 + Secondary system dependency may be required	High speed Internet and phones Higher capacity Internet access may be required
Medium Commercial	Direct access to an arterial or major collector	Not required	Preferred	1 to 3	Standard commercial usage	Standard commercial usage	High speed Internet and phones
Small Commercial	Access to a major collector	Not required	Preferred	1.5 or smaller	Standard commercial usage	Standard commercial usage	High speed Internet and phones

Source: ECONorthwest research, City of Bend analysis, and Business Oregon Industrial Development Competitiveness Matrix

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Characteristics of sites needed for manufacturing

Bend's target industries are manufacturing. Bend's large-scale manufacturing target industries are renewable energy and information technology (large data centers). Bend's medium-scale manufacturing target industries are renewable energy, secondary wood products, aviation – aerospace, recreation equipment, specialty manufacturing, and information technology (mid-sized data centers), all of which are high-tech or general manufacturing. This section presents the needed characteristics for large-scale manufacturing and medium-scale manufacturing.

The following summarizes the site characteristics for manufacturing and provides an overview of the two-prong test established for site characteristics under *Friends of Yamhill County v. City of Newberg.*

Large-scale manufacturing

1. **Site size.** Sites for manufacturing firms range in size from 50 to 250 acres. Some medium-scale and smaller manufacturing firms may prefer to locate in a manufacturing or flex business park, which range in size from about 25 acres to several hundred acres.

    - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites "a minimum acreage" as a site characteristic. Business Oregon finds that competitively-sized Regionally to Nationally Scaled Clean-Tech Manufacturers have sites 50 acres and larger. Large clean industry developments in 2010 occurred on sites ranging from 50 acres to nearly 500 acres. Data centers and other information technology businesses locating in Oregon located on sites ranging from 30 to more than 100 acres.

      Some businesses will prefer to locate in manufacturing to flex business parks. Business parks are typically at least 25 acres in size to allow for development of multiple buildings and associated parking. In the Portland area, these parks generally range in size from about 25 acres to 50 acres, with a few examples of parks around 75, 100, or 300 acres.

    - Attribute has "some meaningful connection with the operation of the industrial or employment use" – Site size is important to general industrial users. The site needs to be large enough to accommodate the needed built space, as well as to accommodate storage space or space for future expansion. In addition, the site needs to be large enough to accommodate not only the general industrial uses, but also parking, on-site circulation, connections to public transportation, rail connections, and other access to the transportation network.

2. **Land ownership.** Sites with two or fewer owners are necessary to reduce the cost and uncertainty of land assembly.

    - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the "site configuration" as a site characteristic. Developing an industrial building on a site with more than two owners requires negotiating land assembly and purchase from multiple owners. Land assembly is difficult and often costly for a number of reasons. People own land for a variety of reasons,

such as the desire to develop the land, keep the land undeveloped, or sell the land for a profit. Getting landowners to sell land can be difficult, especially if the ownership is legally disputed, as is the case with some inheritances. If a landowner is a willing seller, they may have an unrealistic expectation of their land's value, in the context of comparable land values. In addition, one parcel of land may have multiple owners, compounding the issues described above.

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

- Attribute has "some meaningful connection with the operation of the industrial or employment use" – The cost of land assembly, in financial terms and in terms of extra time needed for site assembly, can make developing an industrial site with multiple land owners financially infeasible.

3. **Automotive and freight access.** Manufacturing buildings generally are located on arterial or major collector streets. Traffic from the industrial development should not be routed through residential neighborhoods. Freight traffic should have unimpeded access to an arterial or state highway.
    - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the "proximity to a particular transportation or freight facility such as rail, marine ports and airports, multimodal freight or transshipment facilities, and major transportation routes" as a site characteristic. Business Oregon finds that manufacturing and industrial firms need to be located relatively close to an interstate highway or principal arterial road, generally within 20 miles or less.
    - Attribute has "some meaningful connection with the operation of the industrial or employment use" – This site characteristic helps to minimize the amount of traffic on local streets, minimize freight traffic in residential neighborhoods, improve mobility, minimize adverse effects on urban land use and travel patterns, and provide for efficient long distance travel, which are all necessary for effective industrial operations.
4. **Topography.** Manufacturing sites should be relatively flat, with slopes of not more than 5%.
    - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites "site configuration including shape and topography" as a site characteristic. Business Oregon finds that competitive sites generally have a slope of 5% or less.
    - Attribute has "some meaningful connection with the operation of the industrial or employment use" – Industrial buildings require level floor plates to reduce costs

and offer maximum flexibility, as well as level areas to provide for freight access and pedestrian walkways that meet ADA standards. The real estate development literature describes the increases in development costs and other difficulties associated with industrial development on a sloped site.

5. **Access to services.** City services should be directly accessible to the site, including sanitary sewer, and municipal water.
    - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the “specific types or levels of public facilities, services or energy infrastructure” as a site characteristic. Business Oregon finds that competitive sites must have access to urban services, including water, wastewater, natural gas, electricity, and major telecommunications facilities.
    - Attribute has "some meaningful connection with the operation of the industrial or employment use" – Industrial buildings require access to municipal water, municipal sanitary sewer, and electricity/gas. Developing a site with direct access to municipal services is substantially more cost-effective than extending municipal services to an unserviced site.[36]
6. **Surrounding land uses.** Industrial buildings are directly compatible with other industrial uses, commercial uses, and agricultural uses. Bend’s Development Code and other policies address issues of compatibility between uses, such as requirements for building setbacks, screening, fencing, visual buffering, and landscaping.
    - Attribute is "typical of the industrial or employment use" - OAR 660-009-0025(6) strongly encourages cities to manage encroachment and intrusion of incompatible uses with employment uses. Industrial uses are generally compatible with other industrial uses, commercial uses, and some public uses. Industrial uses may be compatible with agricultural uses, provided that the industrial use does not encroach on the agricultural uses.
    - Attribute has "some meaningful connection with the operation of the industrial or employment use" - Industrial uses are able to operate efficiency where they are not in conflicts with adjacent land uses that could disrupt industrial business activity. Noise or odor conflicts may make some industrial uses incompatible with nearby residential uses.

Commercial/Office and Industrial Flex

1. **Site size.** Sites for general manufacturing or high-tech manufacturing firms range in size from 10 to 25 acres. Some medium-scale and smaller manufacturing firms may prefer to locate in a manufacturing or flex business park, which range in size from about 25 acres or several hundred acres.

[36] Miles, Mike E., Haney, Richard L., Bernes, Gayle, “Real Estate Development: Principles and Process,” The Urban Land Institute, 1997.

- Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites “a minimum acreage” as a site characteristic. Business Oregon finds that competitively-sized general manufacturing firms have sites 10 acres in size. Competitive sites for heavy manufacturing, high-tech manufacturing, or campus industrial manufacturing require 25-acre sites.

  Some businesses will prefer to locate in manufacturing to flex business parks. Business parks are typically at least 25 acres in size to allow for development of multiple buildings and associated parking. In the Portland area, these parks generally range in size from about 25 acres to 50 acres, with a few examples of parks around 75, 100, or 300 acres.

  Major employment sites with general industrial uses in the Portland Metro area range in size from 25 to 160 acres and average about 50 acres in size. Businesses parks will need to be at least 25 to 50 acres and possibly as large as 75 to 100 acres.

- Attribute has "some meaningful connection with the operation of the industrial or employment use" – Site size is important to general industrial users. The site needs to be large enough to accommodate the needed built space, as well as to accommodate storage space or space for future expansion. In addition, the site needs to be large enough to accommodate not only the general industrial uses, but also parking, on-site circulation, connections to public transportation, rail connections, and other access to the transportation network.

2. **Land ownership.** Sites with two or fewer owners are necessary to reduce the cost and uncertainty of land assembly.

   - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the “site configuration” as a site characteristic. Developing an industrial building on a site with more than two owners requires negotiating land assembly and purchase from multiple owners. Land assembly is difficult and often costly for a number of reasons. People own land for a variety of reasons, such as the desire to develop the land, keep the land undeveloped, or sell the land for a profit. Getting landowners to sell land can be difficult, especially if the ownership is legally disputed, as is the case with some inheritances. If a landowner is a willing seller, they may have an unrealistic expectation of their land’s value, in the context of comparable land values. In addition, one parcel of land may have multiple owners, compounding the issues described above. As a result, developers of industrial buildings typically choose to develop sites with one or two owners.

   - Attribute has "some meaningful connection with the operation of the industrial or employment use" – The cost of land assembly, in financial terms and in terms of extra time needed for site assembly, can make developing an industrial site with multiple land owners financially infeasible.

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3. **Automotive access.** Manufacturing buildings generally are located on arterial or major collector streets. Traffic from the industrial development should not be routed through residential neighborhoods. The ideal site would have direct access to an arterial or state highway.

    - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the “proximity to a particular transportation or freight facility such as rail, marine ports and airports, multimodal freight or transshipment facilities, and major transportation routes” as a site characteristic. Business Oregon finds that manufacturing and industrial firms need to be located relatively close to an interstate highway or principle arterial road, generally within 20 miles or less.
    - Attribute has "some meaningful connection with the operation of the industrial or employment use" – This site characteristic helps to minimize the amount of traffic on local streets, minimize freight traffic in residential neighborhoods, improve mobility, minimize adverse effects on urban land use and travel patterns, and provide for efficient long distance travel, which are all necessary for effective industrial operations.

4. **Topography.** Manufacturing sites should be relatively flat, with slopes of not more than 5%.

    - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites “site configuration including shape and topography” as a site characteristic. Business Oregon finds that competitive sites generally have a slope of 5% or less, except high tech manufacturing and campus industrial, which have a slope of 7% or less.
    - Attribute has "some meaningful connection with the operation of the industrial or employment use" – Industrial buildings require level floorplates to reduce costs and offer maximum flexibility, as well as level areas to provide for freight access and pedestrian walkways that meet ADA standards. The real estate development literature describes the increases in development costs and other difficulties associated with industrial development on a sloped site.

5. **Access to services.** City services should be directly accessible to the site, including sanitary sewer, and municipal water.

    - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the “specific types or levels of public facilities, services or energy infrastructure” as a site characteristic. Business Oregon finds that competitive sites must have access to urban services, including water, wastewater, natural gas, electricity, and major telecommunications facilities.
    - Attribute has "some meaningful connection with the operation of the industrial or employment use" – Industrial buildings require access to municipal water, municipal sanitary sewer, and electricity/gas. Developing a site with direct access

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to municipal services is substantially more cost-effective than extending municipal services to an unserviced site.[37]

6. **Surrounding land uses.** Industrial buildings are directly compatible with other industrial uses, commercial uses, and agricultural uses. Bend's Development Code and other policies address issues of compatibility between uses, such as requirements for building setbacks, screening, fencing, visual buffering, and landscaping.

    - Attribute is "typical of the industrial or employment use" - OAR 660-009-0025(6) strongly encourages cities to manage encroachment and intrusion of incompatible uses with employment uses. Industrial uses are generally compatible with other industrial uses, commercial uses, and some public uses. Industrial uses may be compatible with agricultural uses, provided that the industrial use does not encroach on the agricultural uses.
    - Attribute has "some meaningful connection with the operation of the industrial or employment use" - Industrial uses are able to operate efficiency where they are not in conflicts with adjacent land uses that could disrupt industrial business activity. Noise or odor conflicts may make some industrial uses incompatible with nearby residential uses.

General Retail and Office Uses

1. **Site size**. Sites for general retail and office firms range in size from 0.1 to 10 acres.

    - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites "a minimum acreage" as a site characteristic. General retail and office uses do not have a minimum acreage beyond what is dictated in local zoning codes.
    - Attribute has "some meaningful connection with the operation of the industrial or employment use" – The City needs to provide a range of small site sizes. Needed site size is contingent on the type of business.

2. **Land ownership**. Sites with two or fewer owners are necessary to reduce the cost and uncertainty of land assembly.

    - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the "site configuration" as a site characteristic. Developing a commercial building on a site with more than two owners requires negotiating land assembly and purchase from multiple owners. Land assembly is difficult and often costly for a number of reasons. People own land for a variety of reasons, such as the desire to develop the land, keep the land undeveloped, or sell the land for a profit. Getting landowners to sell land can be difficult, especially if the ownership is legally disputed, as is the case with some inheritances. If a

[37] Miles, Mike E., Haney, Richard L., Bernes, Gayle, "Real Estate Development: Principles and Process," The Urban Land Institute, 1997.

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landowner is a willing seller, they may have an unrealistic expectation of their land's value, in the context of comparable land values. In addition, one parcel of land may have multiple owners, compounding the issues described above. As a result, developers of retail and office buildings typically choose to develop sites with one to three owners.

- Attribute has "some meaningful connection with the operation of the retail or office use" – The cost of land assembly, in financial terms and in terms of extra time needed for site assembly, can make developing a retail or office site with multiple land owners financially infeasible.

3. **Automotive access**. Retail and office buildings should be located on arterial or collector streets. The ideal site would have direct access to an arterial or collector.

    - Attribute is "typical of the industrial or employment use" - This site characteristic helps to minimize the amount of traffic on local streets, minimize commercial traffic in residential neighborhoods, improve mobility, minimize adverse effects on urban land use and travel patterns, and provide for efficient long distance travel, which are all necessary for effective commercial operations. A location with access to an arterial or state highway will have greater visibility, which is important to businesses that depend on in-person customer access.

    - Attribute has "some meaningful connection with the operation of the industrial or employment use" – Many retail and office uses depend on auto access and visibility for their business.

4. **Topography**. General retail and office sites should be relatively flat, with slopes of not more than 15%.

    - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites "site configuration including shape and topography" as a site characteristic. Business Oregon finds that competitive sites retail sites generally have a slope of 15% or less.

    - Attribute has "some meaningful connection with the operation of the industrial or employment use" – commercial buildings require level floorplates to reduce costs and offer maximum flexibility, as well as level areas to provide for freight access and pedestrian walkways that meet ADA standards. The real estate development literature describes the increases in development costs and other difficulties associated with commercial development on a sloped site.

5. **Access to services.** City services should be directly accessible to the site, including sanitary sewer, and municipal water.

    - Attribute is "typical of the industrial or employment use" - OAR 660-009-0005(11) specifically cites the "specific types or levels of public facilities, services or energy infrastructure" as a site characteristic. Business Oregon finds that competitive

commercial sites must have access to urban services, including water, wastewater, natural gas, electricity, and major telecommunications facilities.

- Attribute has "some meaningful connection with the operation of the industrial or employment use" – retail and office buildings require access to municipal water, municipal sanitary sewer, and electricity/gas. Developing a site with direct access to municipal services is substantially more cost-effective than extending municipal services to an unserviced site.

6. **Surrounding land uses**. General retail and office buildings are directly compatible with other commercial uses, mixed uses, and residential uses. Bend's Development Code and other policies address issues of compatibility between uses, such as requirements for building setbacks, screening, fencing, visual buffering, and landscaping.

   - Attribute is "typical of the industrial or employment use" - OAR 660-009-0025(6) strongly encourages cities to manage encroachment and intrusion of incompatible uses with employment uses. General retail and office uses are generally compatible with other commercial uses, mixed uses, and residential uses.

   - Attribute has "some meaningful connection with the operation of the industrial or employment use" - Commercial uses are able to operate efficiency where they are not in conflicts with adjacent land uses that could disrupt industrial business activity.

Special Site Needs: Aspirations for Bend's Economy and Corresponding Land Needs

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

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

Through discussions with the Stakeholders, Planning Commission, and public testimony, the 2008 EOA identified the following uses for aspirational employment and special sites. (1) a site for a new hospital; (2) a university district; and (3) two large lot industrial sites. The following discussion revises the "special site needs" for Bend based on changes that have occurred since 2008.[38] The City is only proceeding with the large-lot industrial special site needs. The need for

[38] The 2008 EOA identified a need for a hospital site and a new university campus. Because of recent events, the City has determined it no longer needs sites for these uses.

a university district is not being carried forward because Oregon State University has selected a site within the UGB. The need for a new hospital site is not being carried forward because the St. Charles Medical Center has decided to expand the existing hospital within the UGB.

Large Industrial Sites

The 2008 EOA identified a need for two, 56-acre industrial sites: one for targeted economic sector uses, and another for a heavy industrial site user. The Remand acknowledged this need, which is included as a special site need for the 2015 EOA.[39]

This land is not included in the general estimate for land need presented above and is in addition to existing land needs. These sites are not included in Bend's employment projections because the industries Bend seeks for these sites are generally not present in Bend.

The Sector Targeting work calls for attracting secondary wood products, renewable energy resources, aviation, recreation equipment and specialty manufacturing, and information technologies. While the estimated needed economic lands may suit some of these sectors, two sites with a dedicated size of 56 acres each to be reserved for these uses are needed for large site users such as secondary wood products, aviation, renewable energy resources, and information technology. Stakeholders concluded that they have been approached by industries seeking large sites for these uses, but since none are in the current supply, the firms looked to other communities.

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

The specific location of these sites will be identified as part of the "Alternatives Analysis" required by OAR 660-024.

Policies to protect these special large-lot industrial sites for their intended uses are required and will be included in Chapter 5 of Bend's Comprehensive Plan. Policies could include minimum size requirements (such as 25-50 acres) and use restrictions.

Juniper Ridge is the largest area designated for industrial uses in Bend. The base case assumes that all of Juniper Ridge will remain in an industrial plan designation and that it will accommodate future employment growth consistent with its designation. It can also accommodate one of the large lot industrial site needs due to its large size and the city ownership that allows it to be held to wait for a large lot user.

[39] The Remand states "The Commission concludes that the City has made an adequate showing under ORS 197.298(3)(a) that there is a specific identified land need for a future university campus, a site for a future medical center, and for two 50-acre large lot industrial sites." Pg 131-132

CHAPTER 5. EMPLOYMENT LAND SUFFICIENCY AND SITE NEEDS

This chapter provides an evaluation of land sufficiency in Bend. The analysis compares the land supply (as reported in the Buildable Lands Inventory) expressed in terms of capacity to accommodate new employees, with the updated 2013-2028 employment forecast. The land sufficiency analysis is followed by a discussion of the characteristics of needed sites to accommodate targeted industries. The chapter concludes with a discussion of shortterm land supply.

Buildable Employment Land Inventory and Land Capacity

The buildable land inventory (BLI) is adopted as a supporting document of the Bend General Plan. In simplest terms, the BLI documents the urban land supply of Bend, and estimates the growth capacity for housing and jobs. It is a key factual base for growth management policy in Bend. The BLI also serves a very specific role, required by law, in analyzing and documenting specific categories of buildable land, and, estimating capacity for growth that is ultimately used to determine how much land is needed within Urban Growth Boundary (UGB).

The full methods and results of the BLI are presented as a separate document (the *Bend Buildable Land Inventory*, 2015) and include an inventory of all lands (residential, employment, etc.) in the Bend UGB.

Commercial and Industrial Buildable Land Inventory Results

Table 17 shows employment land by general plan designation and lot size. In 2014, Bend had 1,162 acres of vacant land designated for employment uses. About one-quarter of Bend's vacant land is in sites smaller than 5 acres, 28% is on sites 5 to 50 acres, and 36% is in three sites larger than 50 acres.

Map 1 shows vacant and developed buildable lands in Bend.

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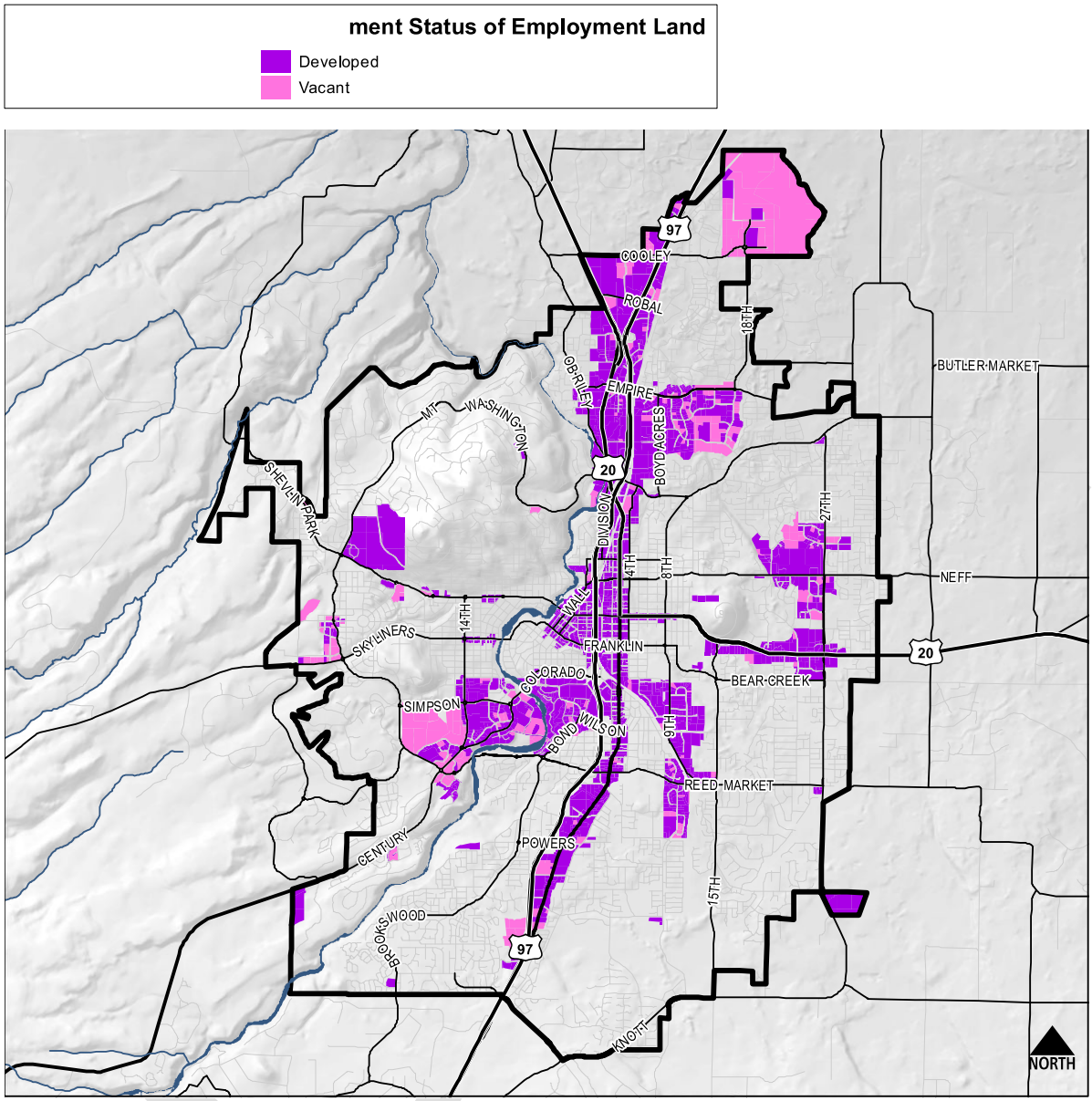
Table 17. Vacant Employment Land by General Plan Designation and lot size, Bend UGB 2014

Employment Category	Acres by Lot Size			Total	Percent of Total
	Smaller than 5 acres	5 to 49.99 acres	50.00 ac or more		
Commercial / Mixed Use	175	160	-	335	26%
Industrial / Mixed Employment	147	248	370	765	59%
Public Facilities	12	87	91	190	15%
Total	**334**	**494**	**462**	**1,290**	**100%**
Percent of Total	**26%**	**38%**	**36%**	**100%**	
	Number of Tax Lots				
Commercial / Mixed Use	121	18	-	139	50%
Industrial / Mixed Employment	108	18	2	128	46%
Public Facilities	5	5	1	11	4%
Total	**234**	**41**	**3**	**278**	**100%**
Percent of Total	**84%**	**15%**	**1%**	**100%**	

Source: Bend Buildable Lands Inventory, 2014
Note: RM and RH lands are part of the Medical District Overlay Zone (MDOZ)

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Map 1. Employment BLI Status



Source: Bend Buildable Lands Inventory, 2014

Capacity of Employment Land in the Bend UGB to Accommodate New Employment

This section combines work in the previous sections to calculate the sufficiency of employment lands in Bend to accommodate forecast employment growth for the 2013-2028 period. The issue of providing for a variety of locations, sizes, and types is addressed. Short-term demand and supply for economic lands is also discussed. For the purpose of this analysis, the term "demand" refers to land needs before being subtracted from existing supplies. The term "need" refers to land needs after subtracting out existing land supplies.

Methods used in the analysis

For the revised EOA, Bend used a scenario planning tool called "Envision Tomorrow" to estimate the capacity of employment land. This is a significant change from the methods used in the 2008 EOA. Envision Tomorrow can be used to project the impact of current policies and trends on capacity as well as a range of other metrics, and compare against alternative policy choices. A "base case" scenario was developed based on current plan designations and average employment densities discussed in this document. In short, on vacant land, "development types" representing plan designations and calibrated to match the employment densities listed in the following section, were applied to all buildable acres. A redevelopment rate calibrated to match the estimate of redevelopment potential was applied to developed land. The assumptions and methodologies used to translate buildable area into jobs in Envision Tomorrow are described in greater detail in the *Bend Urbanization Report*. This section summarizes the key assumptions and output used in Envision Tomorrow for the "base case", i.e. the pre-policy projection of current trends.

Employment land capacity and deficiency

As stated above, the Envision Tomorrow model estimates the capacity of vacant and redevelopable land to accommodate new employment. Table 18 shows the residual employment need for the 2013-2028 period by broad land use category. The results show that Bend does not have enough land in its UGB to accommodate all employment types with the exception of public employment. There is an overall deficit of land for 10,720 employees.

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Table 18. Vacant Employment Land by General Plan Designation and lot size, Base Case Scenario, Bend UGB 2014

Employment Category	Net New Jobs	Total Employment Need[1]	Residual Employment Need	Percent of Employment Need Met within the UGB
Retail & Hospitality	2,220	6,520	4,300	35%
Office	3,610	7,160	3,550	50%
Industrial	3,310	6,540	3,230	51%
Public	2,540	1,720	None[2]	100%
Total	**11,680**	**21,940**	**10,720**	**53%**

Source: Bend Urbanization Report
Notes: [1] The employment need categories have been generalized for simplicity in comparing against capacity as measured in Envision Tomorrow.
[2] Public jobs do not include school-based employment in actual school facilities which tend to be located in residential areas. Schools are addressed as a separate land need. The surplus of capacity for public jobs inside the UGB does not subtract from the need for employment capacity of other types, since land designated Public Facilities (where most of the public employment capacity comes from) generally will not provide opportunities for private-sector retail, office, or industrial development.

Table 19 estimates the number of sites needed to accommodate the residual employment need from Table 18. The distribution (e.g., percentage) of employment by employment category and site size from Table 5 was used allocate residual employment need to employment categories and site sizes. The average employees per site from Table 7 was used to estimate the number of needed sites. For example, 3,054 Retail & Hospitality employees expected to locate on sites smaller than five acres divided by an average of 23 employees per site for sites smaller than five acres yields a need of 133 sites smaller than five acres for Retail & Hospitality employees.

The results show that Bend has a deficit of 366 sites smaller than five acres and 17 sites between 5 and 50 acres.

Table 19. Vacant Employment Land by General Plan Designation and lot size, Base Case Scenario, Bend UGB 2014

Employment Category	Residual Employment Need		Sites Needed	
	Smaller than 5 acres	5 to 49.99 acres	Smaller than 5 acres	5 to 49.99 acres
Retail & Hospitality	3,054	1,246	133	10
Office	2,669	237	117	2
Industrial	2,665	556	116	5
Public	None	None	None	None
Total	**8,388**	**2,039**	**366**	**17**

Source: Residual Employment Need from the Bend Urbanization Report, Distribution of Employment in Bend (Table 5) and Average Employees per Site (Table 7)

Short-term land supply

Remand and State Requirements

The Remand requires the City provide more evidence to demonstrate that it complies with the requirement to maintain a short-term land supply as required by OAR 660-009-0015(3)(a)(C):

> "For cities and counties within a Metropolitan Planning Organization, the inventory must also include the approximate total acreage and percentage of sites within each plan or zoning district that comprise the short-term supply of land."

Bend is within a Metropolitan Planning Organization (MPO) and is therefore required to conduct the analysis. OAR 660-009-0005(10) defines short-term land supply as follows:

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

The Remand provides the following guidance with respect to meeting the requirements of OAR 660-009-0015(3)(a)(C):

> Under OAR 660-009-0015(3)(a)(C), the EOA Inventory of Industrial and Other Employment Lands for cities and counties within a Metropolitan Planning Organization, must include the approximate total acreage and percentage of sites within each plan or zoning district that comprise the short-term supply of land.
>
> This short-term supply analysis required for jurisdictions within MPOs is in addition to the EOA inventory requirements applicable to all comprehensive plans for areas within urban growth boundaries. OAR 660-009-0015(3)(a)
>
> Furthermore, division 9 requires that comprehensive plans for cities such as Bend "include detailed strategies for preparing the total land supply for development and for replacing the short-term supply of land as it is developed." OAR 660-009-0020(2).
>
> The Commission concludes that the Goal 9 rule requires the City to include policies for maintaining a short-term supply.

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

> "the city or county has determined that public facilities and transportation facilities, as defined by OAR chapter 660, division 011 and division 012, currently have

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adequate capacity for development planned in the service area where the site is located or can be upgraded to have adequate capacity within the 20-year planning period."

Since all vacant land is theoretically "serviceable" because a city could state it "can be upgraded", Bend staff created a working definition so that a site is "serviceable" if adopted water, sewer, and transportation master plans are currently written to serve the property. That is, all land within the current UGB is considered serviceable in the Goal 9 context.

Operationalizing short term supply analysis

It is worth parsing the elements of the rule to better understand the requirements. The first issue is temporal in nature: "land that is ready for construction within one year of an application for a building permit or request for service extension." Thus, the definition establishes a one year threshold. The second is the concept of "engineering feasibility." The rule doesn't provide guidance on how to operationalize "engineering feasilbility." For the purpose of this analysis, the consulting team defines engineering feasibility as the ability to provide the needed backbone infrastructure to the site within one year. On site infrastructure is not part of engineering feasibility. The final issue is related to funding. The City is not required to demonstrate that it has the funds available to develop the infrastructure.

The analysis includes evaluation of water, wastewater, stormwater, and transportation infrastructure. Whether a specific site meets the standards for short term supply was determined by analysis of functional plans and capital improvement programs. For the purpose of this analysis, we used the end of 2017 in the evaluation.

City Functional Planning Efforts

The evaluation of short-term land supply is directly related to infrastructure plans (called "functional" plans). For the purpose of this analysis the relevant functional plans are water, wastewater, stormwater, and transportation.

Since the Remand was issued in 2010, the City has completed substantial of planning work for infrastructure. These plans include:

- *Water System Master Plan - 2011 Update (Optimization Study)*. This plan covers level of service goals, present and future deficiencies, assessment of fire flow capacity in the system and the results of a comprehensive analysis using an optimized decision support process to evaluate alternatives that address system deficiencies now and in the future. The results of this study are a recommended set of system improvements to meet water needs within Bend's water service area for at least 20 years.
- *Water Management and Conservation Plan – 2011*. The purpose of this Plan is to guide the development, financing, and implementation of water management and conservation programs and policies to ensure sustainable use of publicly owned water resources while the City plans for its future water needs.
- *Collection System Master Plan – 2014*. The Wastewater Collection System Master Plan (CSMP) is a 20-year critical planning document that establishes a clear vision for the City's sewer collection system. The CSMP identifies both short term and long-term

system improvements that are needed to address existing condition, existing capacity, and future capacity issues.

- *Water Reclamation Facility Plan.* This plan outlines several cost-effective solutions for increasing the plant's ability to meet projected wastewater flows through the year 2030.
- *Stormwater Master Plan*. In 2014, the City Council approved the City's first formal Stormwater Master Plan that serves as the oversight plan for addressing stormwater quantity and quality issues. In addition, this Plan provides a delineation of drainage areas and runoff quantities throughout Bend, and programmatic goals for addressing quantity and quality concerns.
- Bend Urban Area Transportation Plan – 2011. The purpose of the Bend Urban Area TSP is to help guide the development of a transportation system that will meet the forecast needs of the Bend community. This plan provides a policy and plan framework that will continue to enable Bend to design a balanced transportation system for the near-term and the next twenty years.
- NE Bend Transportation Study – 2009. The NE Bend Transportation Study is an umbrella effort to coordinate transportation system planning, land use planning, and project development work underway in the north-east part of the City of Bend. The study was initiated by specific direction given from the City of Bend City Council and the Oregon Transportation Commission (OTC) to investigate strategies that support better use of the local (i.e., non-highway) transportation system for shorter distance travel and decrease local trip reliance on the state highways.

Analysis and Findings

This section evaluates Bend's ability to provide a short-term supply of employment lands. It evaluates key services—water, wastewater, stormwater and transportation—and concludes with a summary of land by plan designation that meets the short-term supply standard as stated in OAR 660-009-0015(3)(a)(C).

Water

To better understand the extent to which water capacity and systems will support employment growth, the City commissioned Murray, Smith & Associates (MSA) to analyze whether the existing system would accommodate a 25% increase in employment given planned system enhancements. The analysis builds on the capacity analysis performed for the City of Bend's Water System Master Plan (WMP) completed in 2011. The updated hydraulic model developed for the WMP was used as a tool to identify capacity constraints and bottlenecks associated with a twenty-five (25) percent increase in employment above existing conditions. In summary, the analysis answers the question of whether 25% of Bend's land could be provided water service making it available as short-term supply with the assumption that 25% of the forecast employment growth would consume 25% of the land.

The City's water service area includes the City's current urban growth boundary (UGB), which includes most of the City of Bend, as well as the Tetherow Development and Juniper Ridge Development Phases 1 and 2. Two private water utilities, Avion Water Company and Roats Water System, Inc., serve the portions of the area within the UGB not served by the City's water system. Seventy-five to eighty percent of the UGB is served by the City of Bend.

As described above, the City has recently completed system plans for water distribution and conservation. The *Water System Master Plan Update Optimization Study* (February 2011) is a detailed analysis of water supply and demand and includes a 10-year capital improvement plan to accommodate expected growth and system improvements to accommodate forecast growth. The *Water Management and Conservation Plan* (June 2011) is intended to guide the development, financing, and implementation of water management and conservation programs and policies for Bend.

To forecast system demand, the City used data from the 2008 buildable lands inventory and other sources. The plan forecasts that average daily demand (ADD) will increase from 14.3 million gallons in 2010 to 29.1 in 2030. Maximum daily demand (MDD) is projected to increase from 32.2 million gallons to 65.1 million gallons. The plan concludes that the water supply provided by the City's existing water rights, however, currently can be relied upon only to provide approximately 51.8 mgd of supply during periods of high demand. Consequently, the City will need to fully exercise its existing water rights and may need additional water supply to meet its projected 2030 MDD.

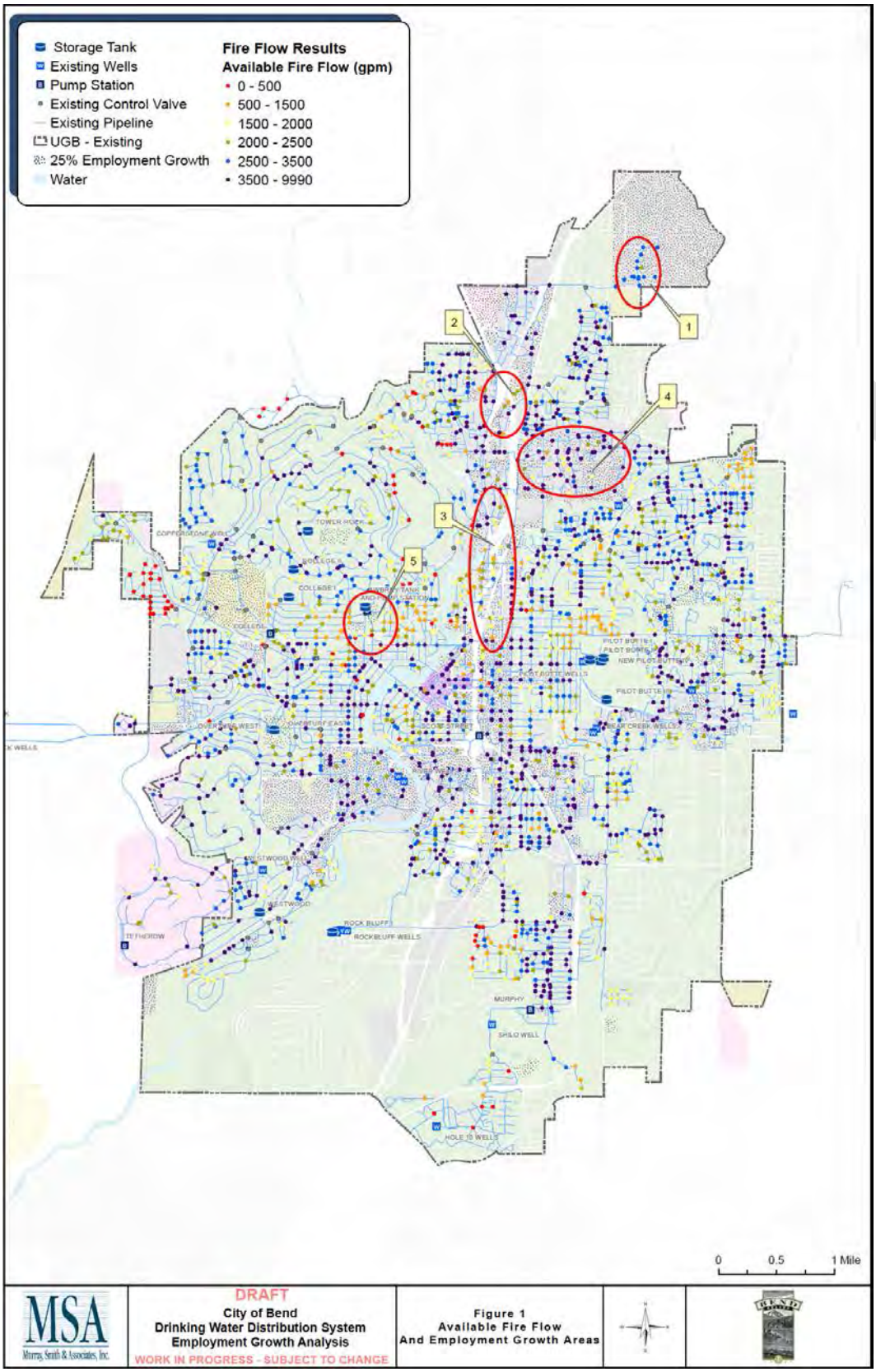
According to the MSA analysis, the City's sources of supply include the surface water source, and ground water sources. The WMP considers the largest single source to be the surface water supply. With the largest source unavailable, the firm capacity supply was identified in the WMP as 32.2 MGD. The estimated MDD with 25-percent employment growth is estimated at 29.8 MGD. Therefore the existing firm capacity is adequate to meet MDD with 25-percent employment growth. MSA also concludes that the WMP indicates an overall storage deficiency based on data collected in 2008 and 2009; however, near-term improvements at the City's Outback Facility improve system-wide storage.

The results MSAs of hydraulic analysis for average daily demand (ADD), maximum daily demand (MDD), and peak hour demand (PHD) scenarios with 25% employment growth indicate that system performance meets pressure criteria. However, fire flow requirements are not met in all areas of employment growth. Area that may experience fire flow deficiencies are highlighted in Map 1.

The key deficiency in all areas is fire flow requirements. Most of the areas (with the exception of Juniper Ridge) have a fire flow requirement of 2,500 gallons per minute (gpm). All of the areas will require system improvements to meet fire flow requirements at 25% employment growth. Within the context of short-term supply, areas that do not have sufficient fire flows are assumed to meet the criteria of being ready for construction within one year of an application for a building permit or request for service extension. In short, these lands could be serviced within one year of an application.

Neither plan identifies system or capacity constraints that would prohibit the city from serving employment lands. In fact, the city modeled higher water use for the Juniper Ridge site to ensure that it would have capacity to serve water-intensive industries if they chose to locate at Juniper Ridge. The City concludes that water systems do not constrain employment growth and that all lands within the UGB meet the definition of short term supply for water.

Map 2. Water System Constraints Under a 25% Forecast Employment Growth Scenario



Wastewater

To better understand the extent to which wastewater capacity and systems will support employment growth, the City commissioned Murray, Smith & Associates to analyze whether the existing system would accommodate a 25% increase in employment given planned system enhancements. The analysis builds on the capacity analysis performed for the City of Bend's Collection System Master Plan (CSMP) completed in 2014. The hydraulic model developed for the CSMP was used as a tool to identify capacity constraints and bottlenecks associated with a twenty-five (25) percent increase in employment above existing conditions. In summary, the analysis answers the question of whether 25% of Bend's land could be provided wastewater service making it available as short-term supply with the assumption that 25% of the forecast employment growth would consume 25% of the land.

To reflect system improvements in progress and the anticipated timeframe for the UGB project, the analysis assumed that programmed improvements for 2016 and 2017 were in place. These improvements are identified in the capital improvement section of the CSMP and are scheduled for completion by December 31, 2017 (this includes three key improvements identified in the CIP – the North Area improvements, Colorado Lift Station, and Southeast Interceptor Phase I).

Table 20 shows the employment assumptions by zoning district used in the system modeling. The forecast figures are derived from Table 6, but do not include employment that will locate in residential zones (about 500 additional employees).

Table 20. 25% of Employment Forecast and Acres Serviced by Wastewater Collection Systems, by Zoning District, 2016-2036

	25% of forecast employment	
Zoning	Employees	Acres
Central Business District	245	8
Convenience Commercial	71	17
General Commercial	282	84
General Industrial	36	18
Institutional	87	52
Light Industrial	790	162
Limited Commercial	236	40
Medical District	235	33
Mixed Employment	695	117
Mixed Use	279	39
Mixed Use Riverfront	156	49
Public Facilities	421	81
Total	**3,533**	**700**

Source: Murray Smith &Associates
Note: employment forecast does not include employment that is forecast to locate in non-employment zones

The key conclusion of the analysis is that the wastewater system generally has capacity for 25% employment growth without the risk of overflow. The analysis also identifies several critical

capacity constraints which are shown in Map 3. These are described in more detail in the following sections.

North Area

Constraints in the north area are related to available lift station capacity and gravity pipeline capacity prior to construction of the Northeast Interceptor. The area has capacity to serve near-term employment growth but has limitations with gravity sewer lines between Empire Avenue and Marsh Orchard Drive and between Town Drive and Wishing Well Lane.

The construction of the Northeast Interceptor (currently scheduled for the 2025-2035 period) will address these constraints in the long-term.

Central Corridor

The central corridor has limited ability to serve long-term growth due to available trunk sewer capacity prior to construction of the Southeast Interceptor Phase 2 and flow diversions from the south and southwest sub-basins to the interceptor. This area can accommodate some near-term growth, but capacity constraints exist at the following locations:

- Old Mill Lift Station
- Gravity lines between Studio Road and 6th Street and from Seward Avenue to Webster Avenue
- Gravity lines on Butler Market Road

South and Southeast

The south and southeast areas are limited to serve long-term growth due to available trunk sewer capacity prior to construction of the Southeast Interceptor Phase 2. This area can accommodate some near-term growth, but capacity constraints exist at the following locations:

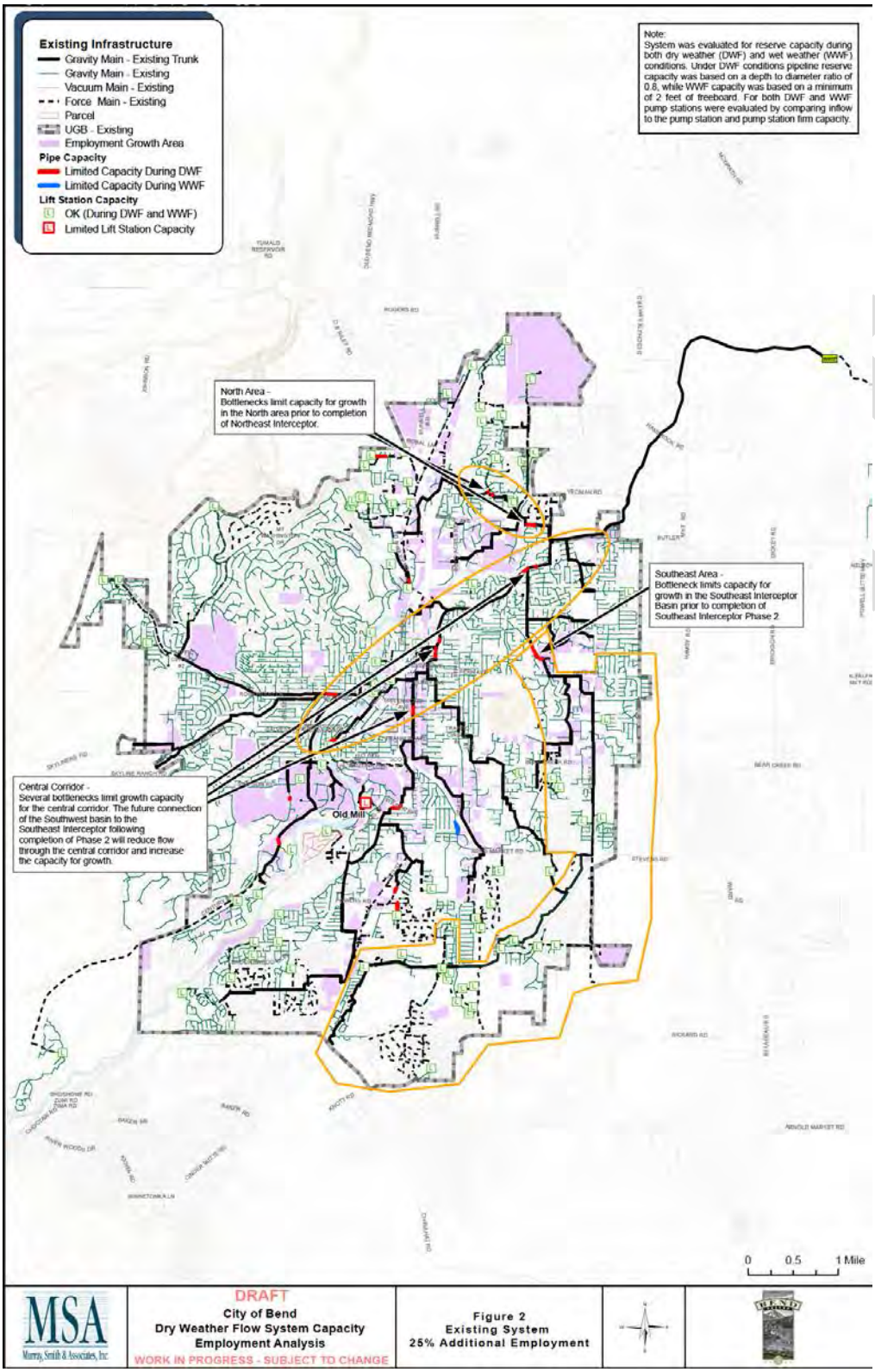
- Gravity sewer downstream of Purcell Boulevard, parallel to Cliff Drive
- Shallow gravity sewer on Centennial Street between Paiute Way and Stratford Court.

To summarize, the conclusion that the system can generally accommodate growth indicates that the additional 25% employment growth creates some system deficiencies based on the City standards; however it does not cause system overflows. Note that the model results are dependent on distributed growth. If all or most the employment growth were concentrated in one location such as the north area, greater system deficiencies would occur.

Moreover, it is important to note that all three areas identified with capacity constraints will experience bottlenecks even without the 25% employment growth. The key findings from previous analyses relative to the bottlenecks are that growth may be limited prior to construction of the Southeast Interceptor Phase 2 and the Northeast Interceptor.

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Map 3. Wastewater System Constraints Under a 25% Forecast Employment Growth Scenario



Stormwater

The City recently updated its stormwater system plan (November 2014). The *Stormwater Public Facilities Plan (Stormwater PFP)* describes the City's existing stormwater facilities and plans for future facilities needed over a 20 year planning period.

The City relies mainly on a dispersed drainage system, relying on infiltrating and injecting stormwater close to the source of its creation using low impact development practices. This type of system relies less on "grey" infrastructure (e.g., pipes and canals) and more on so-called "low-impact development" methods that allow stormwater to be handled at or near the source. The City's stormwater facility system is composed mainly of dry wells and drill holes, both of which are underground injection controls. In the central portion of the City, however, the City maintains a separate piped system that carries stormwater to the Deschutes River.

The plan identifies future storm drainage projects which focus on achieving design standards of designing to a 25-year storm with safe passage for the 100-year 24-hour storm. As new areas develop, the City will continue its dispersed system of handling the design storm on site as part of the project through the use of surface, regional or underground injection control disposal. New outfalls to the Deschutes River are not consistent with the City's General Plan and are not anticipated.

The plan does not identify any major system deficiencies and the low-impact development standards suggest that stormwater improvements will not be a limitation on future employment growth.

Transportation

Bend has long maintained transportation system plans. The Bend Urban Area Transportation System Plan (TSP) was updated in 2011. A special study of the Northeastern area of Bend (the NE Bend Transportation Study) was completed in 2009. The purpose of these plans and studies is to help guide the development of a transportation system that will meet the forecast needs of Bend.

The TSP concludes that several roadways throughout the urban area will approach, or exceed, their capacities under the "no-build" conditions during the peak hour. Many of the collector and arterial streets in the Bend urban area will be modernized or widened during the twenty-year planning period. The TSP identifies about 300 miles of city maintained streets and identifies approximately 15 miles of streets will be near or over capacity by the end of the planning horizon.

A key issue is addressing mobility standards. This is affected by the fact that multiple jurisdictions manage the transportation system. With respect to city-maintained facilities, the Bend city code has provisions that allow the City Manager some discretion in altering mobility standards. While relaxed mobility standards have implications for the functioning of the overall system, the flexible standards suggest that transportation on the city-maintained system will not prohibit development. In short, the conclusion is that city transportation capacity is not a limiting factor due to the ability to relax mobility standards for City streets.

Management of State facilities is more complex—particularly for the Northeast area. The NE Bend Transportation Study was an effort aimed at better understanding system limitations and to develop strategies to reduce trip reliance on state highways. Key outcomes of the project are (1) a recommended list of system improvements, (2) alternative mobility standards for state facilities, and (3) recommended transportation demand and system management strategies.

Changes to mobility standards are subject to Oregon Transportation Commission (OTC) review, a requirement would preclude a classification of short term supply for affected lands. This affects the entire northern area of the city and one site on S 3rd Street. Moreover, this directly affects lands in the North Triangle and Juniper Ridge. Growth at Juniper Ridge will have a significant impact on the Cooley/97 intersection – enough to require that the intersection be completely redesigned and reconstructed – a $40 million project.[40]

To address transportation issues at Juniper Ridge, the City and ODOT entered into Intergovernmental Agreement (IGA) No. 27115 to link the need for transportation through the north end of Bend to the amount of trips that could result from development at Juniper Ridge over time. Table 21 outlines the mitigation improvements tied to PM peak hour trips for each phase of development. The agreement essentially places a cap on PM peak hour trips for the site based on specific improvements.

Table 21. Mitigation Improvements, from Table 2.7.2030.B of IGA between Bend and ODOT

PHASE	P.M. PEAK HOUR TRIPS	MITIGATION IMPROVEMENT
1	700	Empire Avenue/18th Street Roundabout
		Empire Avenue/US-97 Northbound Ramp Terminal
		Empire Avenue/US-97 Southbound Ramp Terminal Third Street to US-97
2	600	US-97 Improvements between Nels Anderson and Bowery Lane
3	580	18th Street Corridor Improvements Cooley Road to Empire Avenue
4	340	US-97 Southbound Improvements Empire Avenue to Butler Market Road
		Purcell Street Extension Cooley Road to Yeoman Road

At this time, Juniper Ridge has capacity for 700 additional PM peak hour trips. This could be increased by implementing Transportation Demand Management (TDM) measures, but for the purpose of this analysis we rely on the figures in Table 21. To estimate the amount of land that could be developed under high and low traffic employment uses at Juniper Ridge, an analysis of trip generation using the Institute of Transportation Engineers (ITE) Trip Generation Report was

[40] More detail about Juniper Ridge can be found on the City website: http://www.bendoregon.gov/index.aspx?page=615. Details pertaining to the UGB review can be found in a memorandum from Brian Rankin to the UGB Steering Committee: http://www.bendoregon.gov/modules/showdocument.aspx?documentid=22403

completed. The analysis tested various industrial uses (e.g., light, heavy, warehousing, distribution) and office uses (e.g., single tenant offices, corporate headquarters, R&D center). Depending on the use, and without TDM strategies, between 20 and 100 acres could develop at Juniper Ridge under the trip cap. For the purpose of the short-term supply analysis, 50 acres at Juniper Ridge are assumed meet the definition of short-term supply.

In summary, Bend can accommodate 25% employment growth with the existing transportation system. Limitations exist in some areas such as Juniper Ridge that could preclude full build out, but other options exist for siting employment.

Summary

Table 22 presents a summary of total land supply and short-term land supply by plan designation for the current Bend UGB. The results show that nearly 60% of employment land meets the definition of short-term supply. Juniper Ridge is the key area where service deficiencies limit development.

Table 22. Total and short-term land supply for employment, Bend UGB, 2015

Plan Designation	Total Land Supply	Short-Term Land Supply	Percent of Total Land Supply
Commercial / Mixed Use	**257**	**257**	100%
CB	-	-	-
CC	12	12	100%
CG	117	117	100%
CL	87	87	100%
MR	36	36	100%
PO	6	6	100%
Industrial / Mixed Employment	**746**	**324**	43%
IG	8	8	100%
IL	643	220	34%
ME	96	96	100%
Public Facilities	**86**	**86**	100%
PF	86	86	100%
Total	**1,089**	**667**	**61%**

Source: Analysis by ECONorthwest

Based on this analysis, the City concludes that it meets the OAR 600-009-0025(3)(a) that the city provide at least 25 percent of the total land supply within the urban growth boundary designated for industrial and other employment uses as short-term supply. Additionally, the City will include policies in the General Plan to monitor and maintain the acreage of employment lands that qualify as competitive short-term supply. The policy framework will include:

- Identification of obstacles that prevent lands from qualifying as competitive short-term supply, and
- Efforts, plans, and potential funding mechanisms to prepare lands to qualify as competitive short-term supply.

Conclusions

The conclusions of the economic opportunities analysis are:

- **Bend does not have sufficient employment land to accommodate forecast employment growth**. The analysis shows that Bend does not have enough land in its UGB to accommodate all employment types with the exception of public employment. There is an overall deficit of land for 10,720 employees.
- **Bend has a deficit of employment sites**. The analysis shows that Bend has a deficit of 366 sites smaller than five acres and 17 sites between 5 and 50 acres.
- **Bend meets the requirement to provide 25% of its total employment land supply as short-term supply**. The analysis shows that nearly 60% of employment land meets the definition of short term supply. Juniper Ridge is the key area where service deficiencies limit development.

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APPENDIX A. NATIONAL, STATE, REGIONAL, COUNTY, AND LOCAL TRENDS AFFECTING FUTURE ECONOMIC GROWTH

Economic development in Bend over the next twenty years will occur in the context of long-run national trends. Appendix A provides more detailed information on trends affective future economic growth and is intended to support the analysis required by OAR 660-009-0015(1). The most important of these trends include:

- At the largest scale, the effects of "globalization" – the increasingly free movement of jobs, capital, and products throughout the world – are being felt in communities across the United States. One effect of globalization is that low-skill manufacturing jobs will increasingly take place elsewhere, where wages are far lower. Thus, in order to compete and earn living-wage salaries, American workers must pursue higher-skilled jobs in "knowledge based" industries. While some of these jobs will continue to be in manufacturing industries, the largest job growth will take place in new industries such as information technology, professional services, and other sectors.
- Economic growth will continue at a moderate pace. Annual growth rates (in real GDP) are projected to be roughly 3 percent through 2017. The Congressional Budget Office (CBO) estimates that unemployment rates will continue to decline but remain above 6.0 percent until late 2016.
- The aging of the baby boom generation, accompanied by increases in life expectancy. The number of people age 65 and older will more than double by 2050. This trend can be seen in Oregon, where the share of workers 65 years and older grew 2.9 percent of the workforce in 2000 to 4.1 percent of the workforce in 2010, an increase of 41 percent.
- The need for workers to replace retiring baby boomers will outpace job growth. According to the Bureau of Labor Statistics, net replacement needs will be 33.7 million job openings over the 2010-2020 period, compared with growth in employment of 21.1 million jobs.
- Education will be an important determinant of wages and household income. According to the Bureau of Labor Statistics, a majority of the fastest growing occupations will require an academic degree, and on average they will yield higher incomes than occupations that do not require an academic degree.

State, Regional, and Local Trends

State, regional, and local trends will all affect economic development in Bend. This section presents data for Bend and the surrounding areas that will affect the city's growth over the planning period.

Overall Employment Growth

According to the Oregon Employment Department, Oregon's employment peaked in the first quarter of 2008 (at more than 1.74 million jobs) and hit its lowest point in the first quarter of 2010 (at about 1.59 million jobs), losing 146,000 jobs over the two-year period. However, Oregon added about 52,000 jobs between 2010 and December 2012. After hovering around

1.5% in the early stages of the recovery, growth kicked into higher gear in late 2013. Since then, the state has added jobs to the tune of about 3% annually; similar to what Oregon experienced during the housing boom years preceding the Great Recession, and about a full percentage point faster than the nation.

The Oregon Office of Economic Analysis (OEA) points out that, in addition to job growth, other economic indicators have shown recent improvement. These trends point to a deeper, more robust economic recovery and a return to more normal labor market dynamics. For example, new business filings in Oregon are increasing. OEA sees firm creation as a positive sign, as entrepreneurs and start-ups often drive innovation and the development of new technology.

As in 2008, employment is still forecast to grow over the next decade. According to data from the Bureau of Labor Statistics and the Oregon Employment Department total employment in Deschutes County grew by about 21% from 2001 to 2013, and total covered employment throughout Central Oregon (Deschutes, Crook and Jefferson Counties) is forecast to grow by about 16% over the period from 2012 to 2022.

Labor Trends

Growing Population

Table A- 1 shows population change from 1990 to 2013 for Oregon, Deschutes County, and Bend. Bend's population grew at the fastest annual rate since 1990, increasing by an average of 6% per year, almost tripling over the 23-year period. In 2013, Bend's population was about 78,000 people, compared to 163,000 in the county as a whole and 3,919,000 throughout the state.

Table A- 1. Population, Oregon, Deschutes County, Bend, 1990-2013

				1990 - 2013 Change		
	1990	2000	2013	Change	% Change	Average Annual Growth Rate
Oregon	2,842,321	3,421,399	3,919,020	1,076,699	38%	1%
Deschutes County	74,958	115,367	162,525	87,567	117%	4%
Bend	20,469	52,029	78,280	57,811	282%	6%

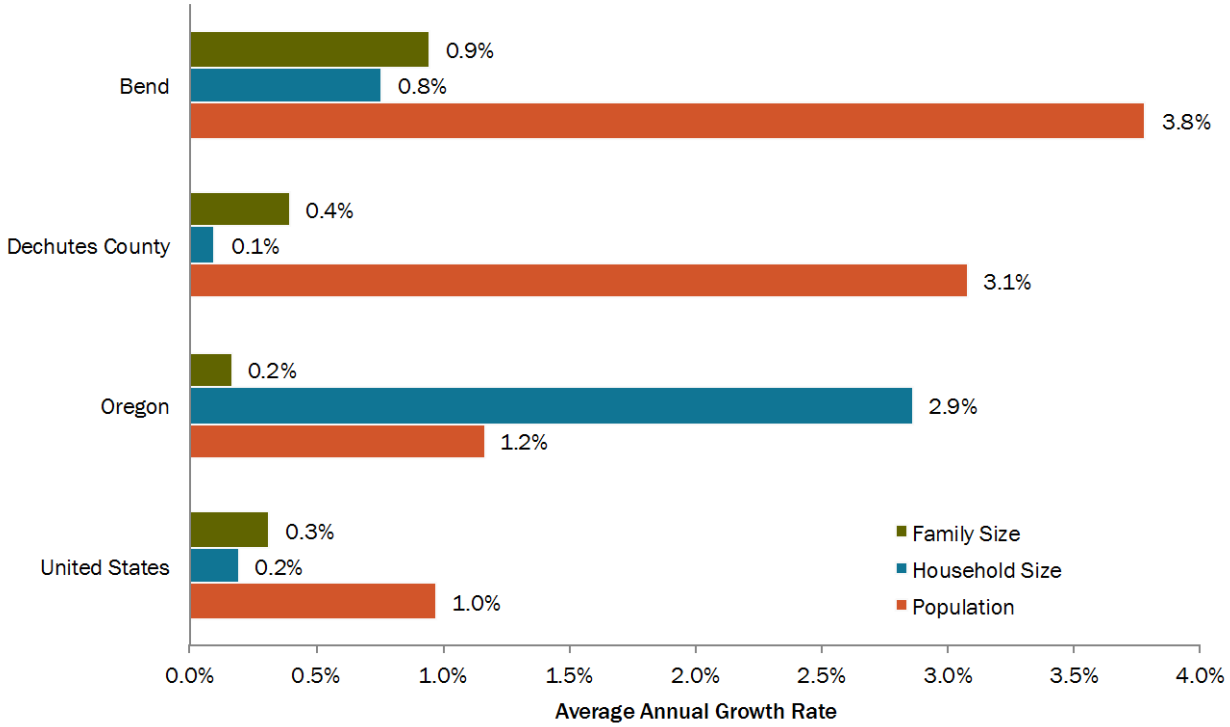
Source: Population Reseach Center, Portland State University, http://www.pdx.edu/prc/.

Figure A- 1 compares the average annual growth rates for population, household size, and family size for the nation, Oregon, Deschutes County, and Bend, from 2000-2013. Population grew faster than household size for all geographies except for Oregon.

From 2000 to 2013, Bend's population grew at a 3.8% average annual growth rate, compared to 3.1% in Deschutes County, 1.2% in Oregon, and 1.0 percent in the nation as a whole. Oregon's

household size increased at a 2.9% average annual growth rate, compared to 0.8% in Bend, 0.1% in Deschutes County, and 0.2% in the nation.

Figure A- 1. Average Annual Population Growth Rate, United States, Oregon, Deschutes County, Bend, 2000-2013



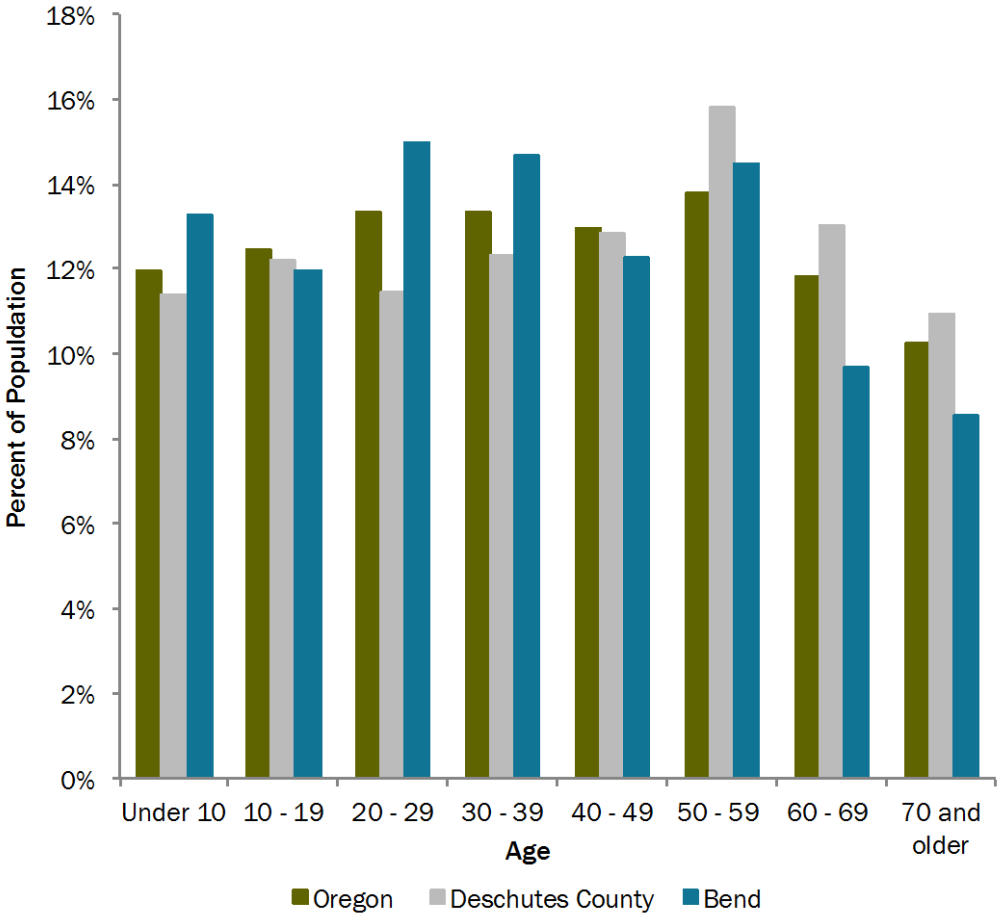
Source: US Census, Portland State University Population Research Center.

Aging Population

Figure A- 2 shows the distribution of age groups in Oregon, Deschutes County, and Bend in 2013. Bend has a larger share of 20 to 39 year olds, about 30% of the city's population, compared, to about 25% for Deschutes County as a whole, and about 27% in Oregon.

Since, 2000 60-to-69-year-old age group has grown the fastest, increasing by 138%, and increasing its share of the overall population by 15%. The next-fastest group was the 50-to-59-year-old group, who increased by 104%, and increasing their share of the population by 20%. People in these age groups will eventually retire, meaning they will both leave the workforce and require changes in their housing and care.

Figure A- 2. Population by Age, Oregon, Deschutes County, Bend, 2013



Source: Census Bureau, 2013 American Community Survey.

In-Migration

Continued in-migration from other states will drive growth in Oregon. Key trends are that:

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

These conclusions remain relevant. About 5.3 percent of Oregon's population lives in the Central Oregon counties of Crook, Deschutes, and Jefferson. OEA forecasts that Central Oregon's share of the population will increase to about 5.7 percent by the year 2040. The population in Deschutes County alone may grow by 45% over the period from 2014 to 2040, outpacing the rate of 31% for the state as a whole, according to data from OEA and Portland State University's Population Research Center.

According to a U.S. Census study, Oregon had net interstate in-migration (more people moved to Oregon than moved from Oregon) during the period 1990-2010. Oregon had an annual

average of about 15,600 more in-migrants than out-migrants during the period 2010-2013. Net migration will lead to over 71,000 new residents between 2015 and 2040, while births alone will add only about 54,000.

Income

The 2008 EOA found that, while in general Bend's income composition was similar to that of the county, the state, and the nation, Bend's median income was slightly lower than the national level. "The 2006 American Community Survey shows the City of Bend is similar to the U.S., State of Oregon, and Deschutes County. 2006 median income for Bend is $58,225, which is slightly higher than the $55,414 for Deschutes County, $55,923 for Oregon, and slightly lower than $58,526 for the U.S. Per capita income for the City of Bend is $26,140, which is slightly higher than the county, state, and nation" (2008 EOA).

Since the 2008 EOA, Bend's average income has diminished slightly. In 2013, Bend's median income of $48,014, was above that of Deschutes County ($46,791), but below that of Oregon ($50,251), and the nation ($52,250). The decrease from 2008 to 2013 may indicate a lag in the post-recession recovery, rather than a permanent shift downward for Bend-area wages.

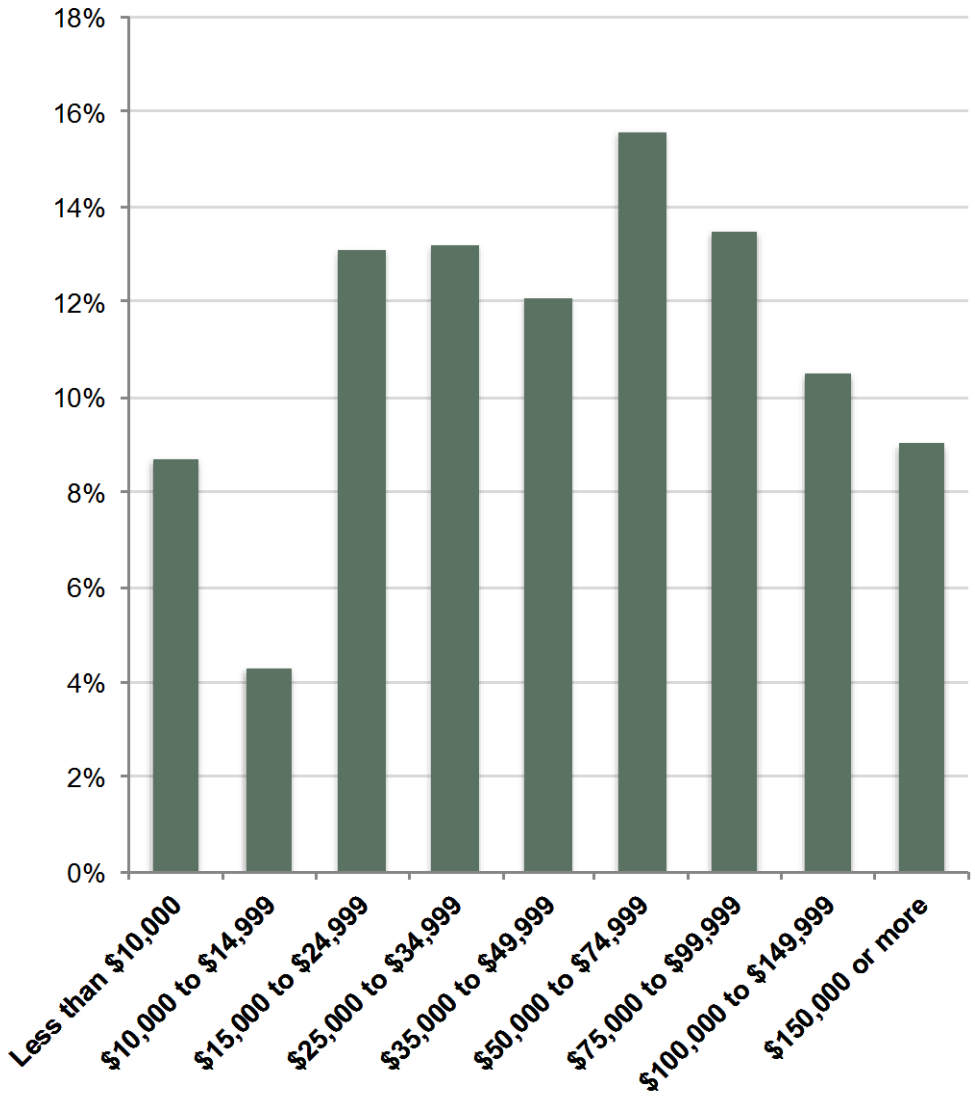
Statewide, wages fell during the recession, but increased after 2010. The Oregon Office of Economic Analysis in March 2015 had most recently observed a 7% annual increase in wages statewide, and per worker average wages increased 3% in 2015. OEA noted that growth in income, wages, and population picked up in 2014, and all grew more rapidly than the nation. However, after accounting for inflation, average wages had only increased less than half of one percent since 2000.

Personal income statewide is projected to grow by 5.1% in 2015, and 5.8% in 2016, according to the Oregon Employment Department. The Office of Economic Analysis also forecasts that wage growth will continue to increase as the labor market tightens, and it may tighten the fastest in Central Oregon, where employment growth is expected to occur faster than in any other metro area. In other words, the decrease in Bend's median household income since 2008 may illustrate its disproportionate shock from the recession; as the region's labor market continues to recover, so too will its typical wages. [41]

Figure A- 3 shows household income by income group for Bend from 1990 to 2013. In 2013, the largest household income group in Bend was the $50,000 to $74,999 group, which made up 16% of all households. About 26% of households earned less than $25,000, and about 20% of households earned more than $100,000.

[41] "Oregon Economic and Revenue Forecast," Oregon Office of Economic Analysis, March 2015, http://www.oregon.gov/DAS/OEA/docs/economic/forecast0315.pdf.

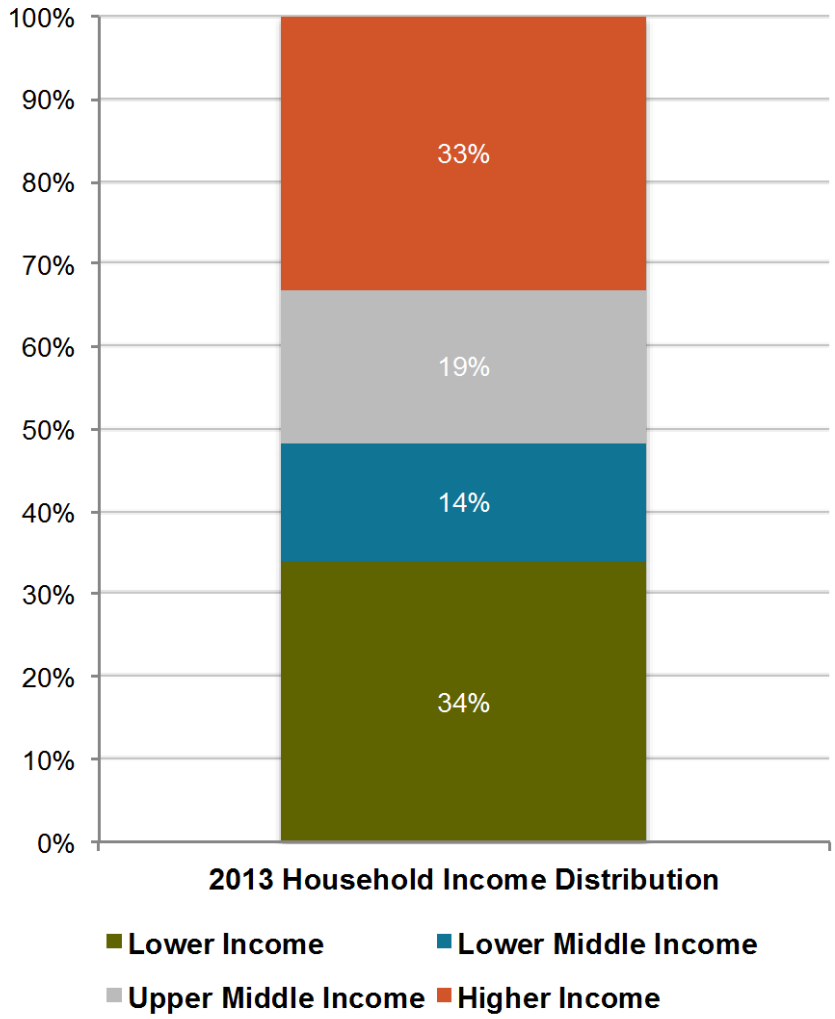
Figure A- 3. Household income by income group, Bend, 2013



Source: Census Bureau, 2013 American Community Survey.

Figure A- 4 shows household income by income by income group for Bend in 2013. About 34% of households earn incomes that put them in the lower income category, 15% earn lower-middle incomes, 19% earn upper-middle incomes, and 33% earn higher incomes.

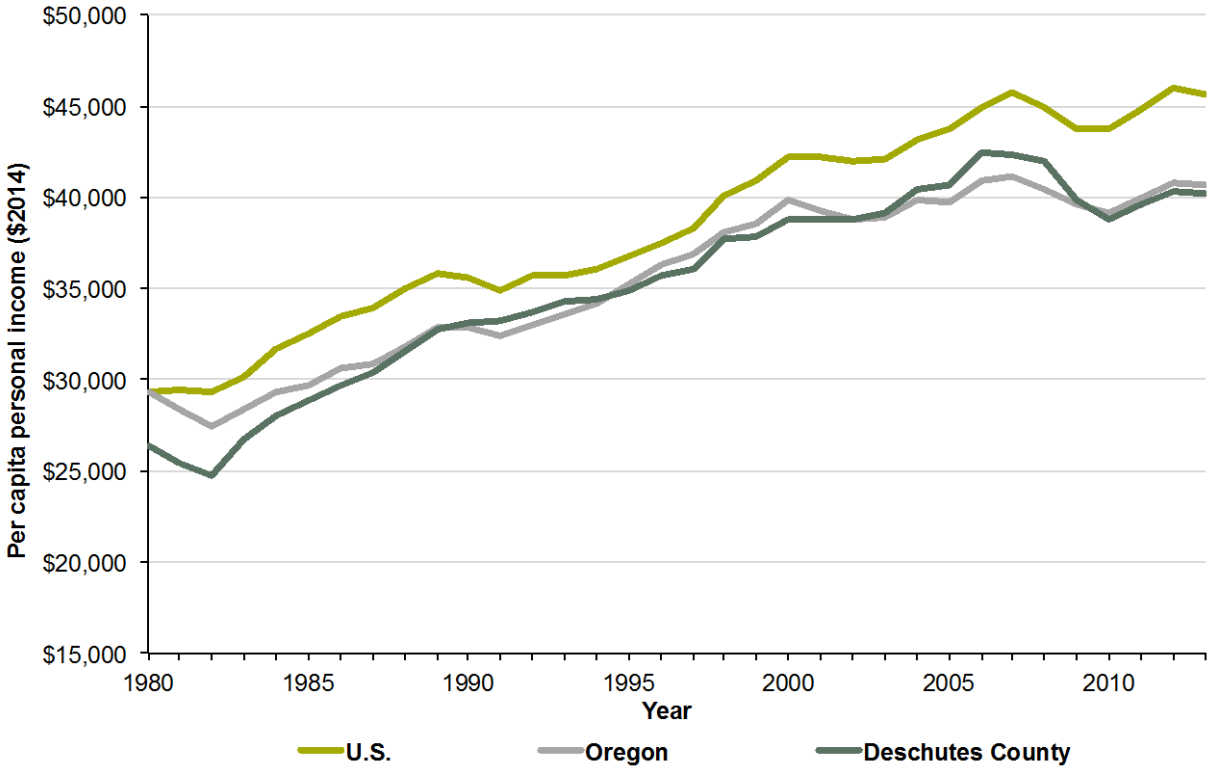
Figure A- 4. Household income by income group, Bend, 2013



Source: Census Bureau, 2013 American Community Survey.

Figure A- 5 shows per capita personal income in the U.S., Oregon, and Deschutes County, from 1980 to 2013 in base 2014 dollars. Real per capita income increased for all geographies since 1980. In 2013, incomes in the U.S. as a whole ($45,660 in 2014 Dollars) were higher than in Oregon ($40,645), and Deschutes County ($40,245).

Figure A- 5. Per Capita Personal Income, U.S., Oregon, and Deschutes County, 1980-2013, 2014 Dollars



Source: Bureau of Economic Analysis, Regional Data, Table CA1-3, http://www.bea.gov/iTable/index_regional.cfm.

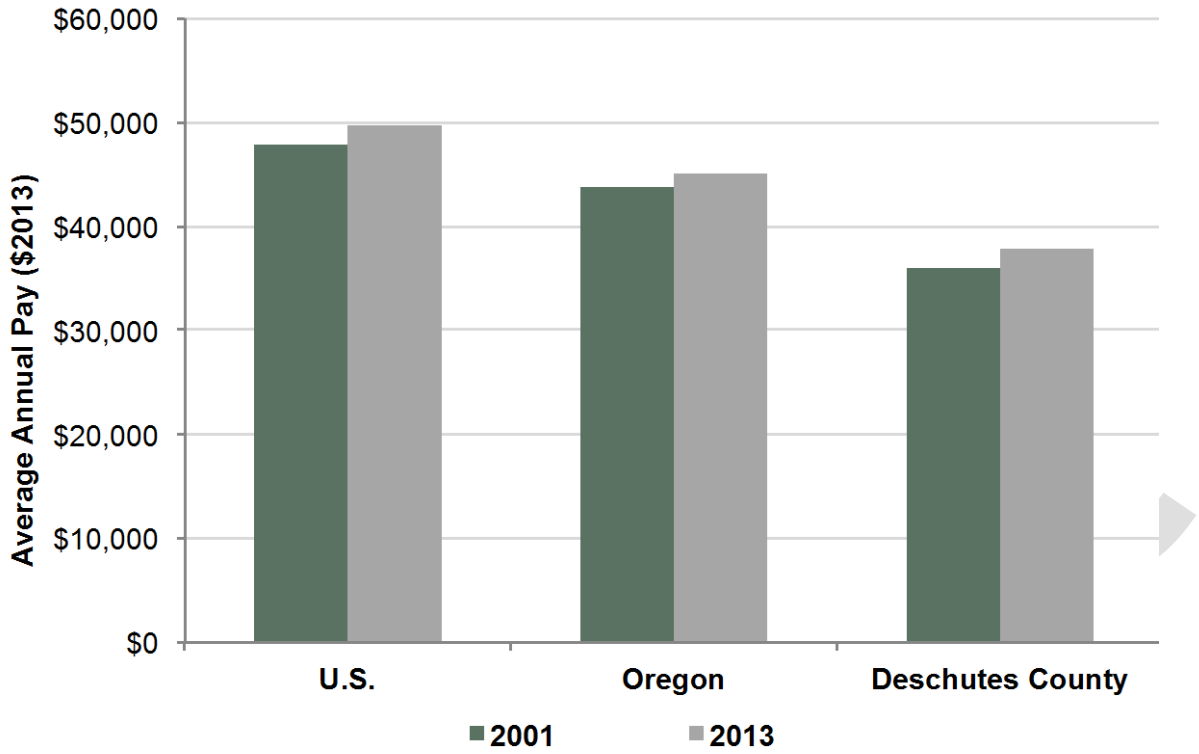
Table A- 2 and Figure A- 6 show average annual pay for covered employees in the U.S., Oregon, and Deschutes County from 2000 to 2013. Over the 13-year period, pay increased the fastest in Deschutes County where it grew by 5% or $1,657, compared to 3% and $1,999 in Oregon, and 4% and $1,999 in the U.S. Average annual pay in Deschutes County amounted to $37,755 in 2013.

Table A- 2. Average Annual Pay, U.S., Oregon, Deschutes County, 2001-2013

			Change 2000 to 2013	
	2001	2013	Amount	Percent
U.S.	$47,809	$49,808	$1,999	4%
Oregon	$43,829	$45,019	$1,190	3%
Deschutes County	$36,098	$37,755	$1,657	5%

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

Figure A- 6. Average Annual Pay, U.S., Oregon, Deschutes County, 2001-2013, 2013 Dollars

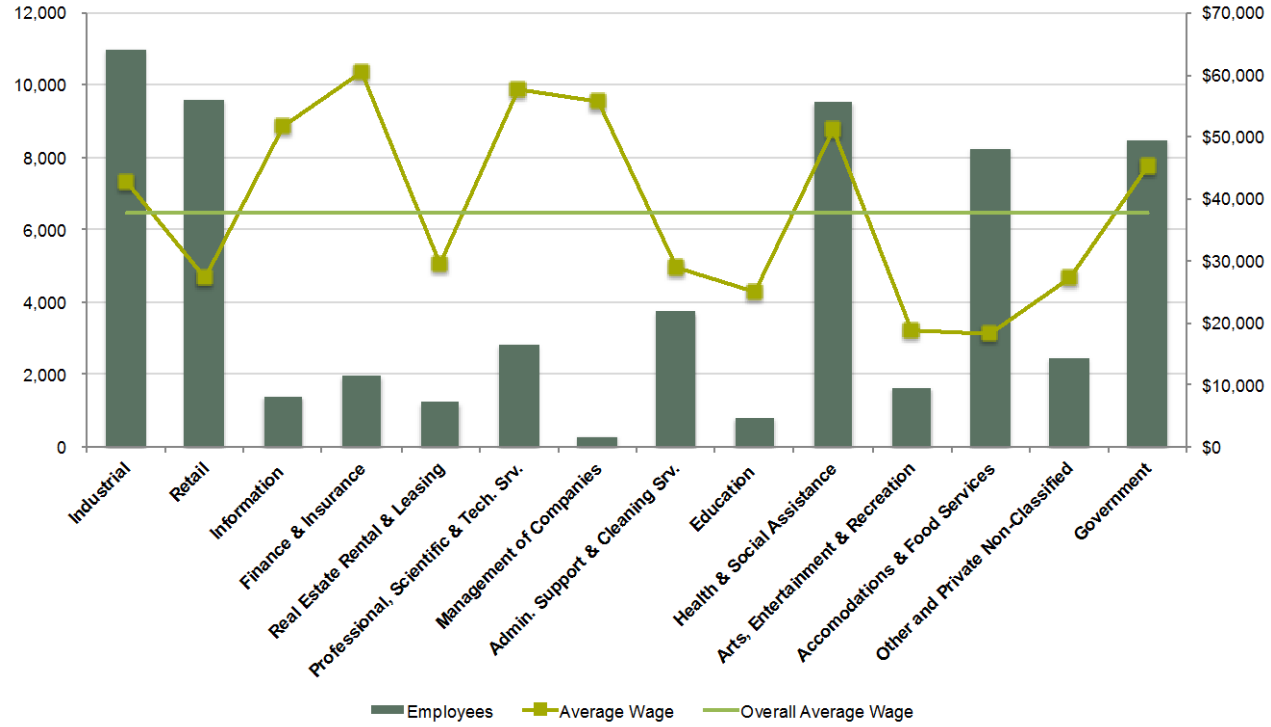


Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages.

Figure A- 7 shows wages by industry for Deschutes County from 2001 to 2013. The Private Non-Classified industries grew the fastest, increasing by about 74%. In 2013, the Natural Resources and Mining and Utilities industries were both more than double the average wage for covered employees overall. In contrast, wages for Arts Entertainment and Recreation and Accommodation and Food Services were about 50% below the average wage overall.

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Figure A- 7. Wages and number of employees by industry, Deschutes County, 2013

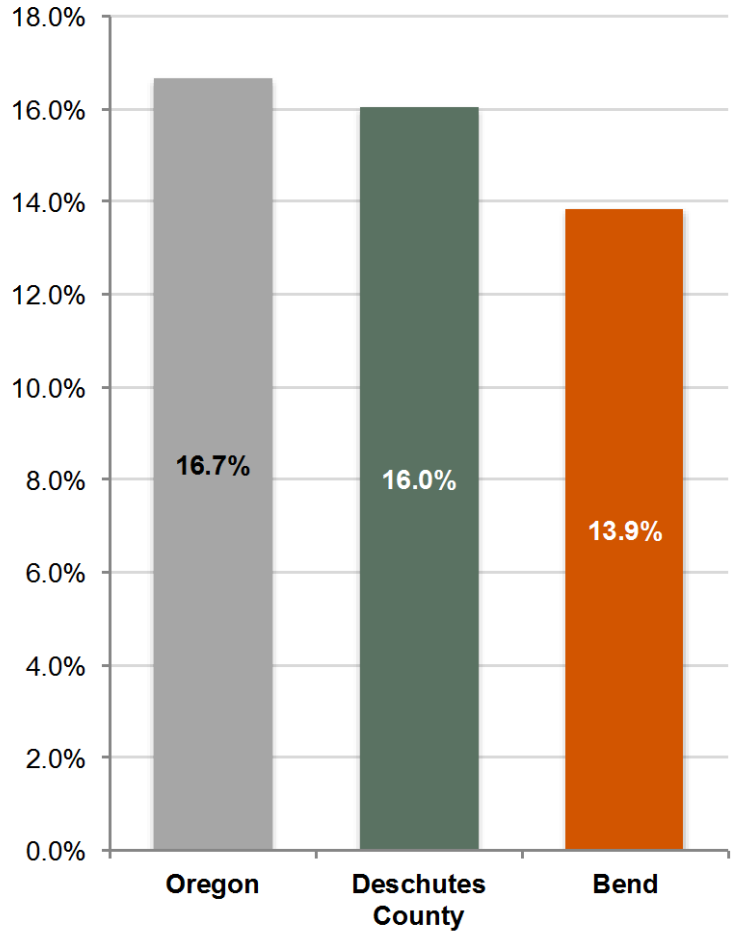


Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages.

Figure A- 8 shows the percent of residents in poverty for Oregon, Deschutes County, and Bend. Bend has the lowest share of impoverished residents (13.9%) compared to Deschutes County (16.0%), and the state as a whole (16.7%).

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Figure A- 8. Percent below poverty line, Oregon, Deschutes County, Bend, 2013



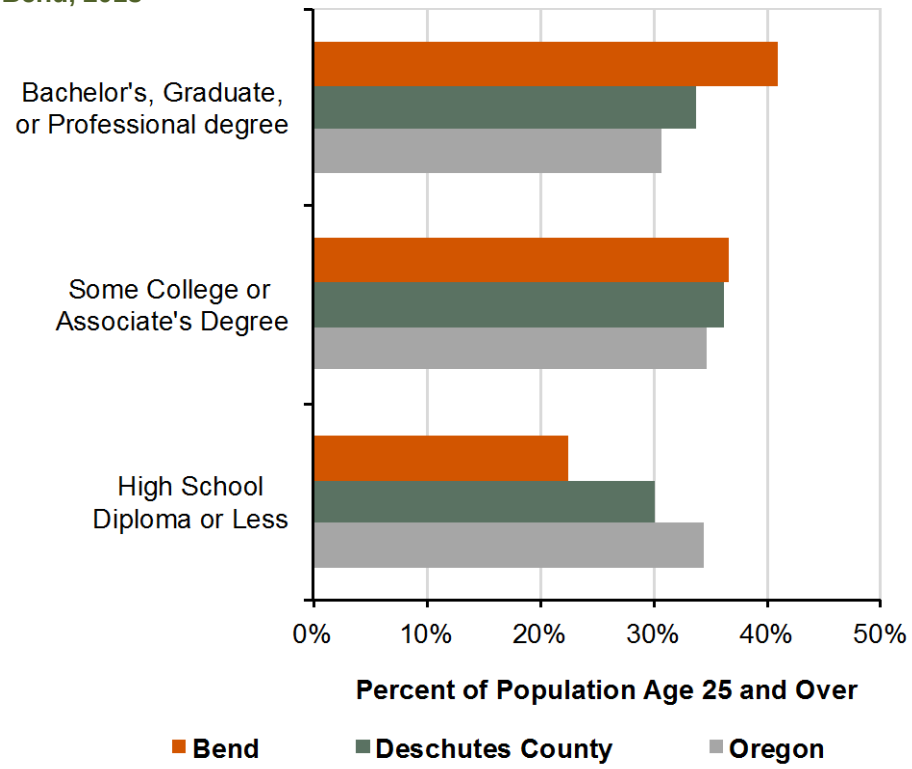
Source: Census Bureau, 2013 American Community Survey.

Educational Attainment

In 2008, the Bend EOA concluded that: "Bend's relatively high percentage of college educated workers will tend to generate high paying jobs, be more responsive to economic changes over time, increase average incomes of the entire workforce, and may generate positive social benefits like reduced crime rates and higher real estate prices." As in 2008, Bend in 2013 still has a higher share of college-educated residents than the county and the state. In 2009, Bend had more adults with a bachelor's degree or higher (about 40%) than Deschutes County (about 35%) and Oregon (about 30%). Furthermore, in line with the assessment from 2008, Bend also has a lower rate of poverty than the county and the state.

Figure A- 9 educational attainment for the population older than 25 years in Oregon, Deschutes County, and Bend in 2013. Bend has the highest share of adults with a bachelor's degree or higher (about 40%), compared to about 35% and 30% in Deschutes County and Oregon respectively.

Figure A- 9. Educational attainment, Population Age 25 and Over, Oregon, Deschutes County, Bend, 2013



Source: Census Bureau, 2013 American Community Survey.

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Unemployment and Workforce Participation

Oregon's labor force participation rate increased in 2014 after declining to record-low levels in the aftermath of the recession according to OEA. Strong job growth, especially in better-paying jobs, has lured people back into the workforce. This is welcome news since increasing participation helps reduce labor market slack and moves the economy closer towards full employment.

The 2008 EOA observed that:

- The increase in the area's labor force is expected to keep pace with the population increase….
- The in-migration of younger individuals combined with the baby boomer generation of workers will create a large potential labor force in the peak of its work and income producing years"

While our analysis has not focused on the relationship to Crook and Jefferson Counties, current data upholds some of the claims made in the 2008 EOA. Data from the Census Bureau's On the Map, shows that most people who are employed in Bend live in Deschutes County. Seventy-six percent of Bend employees come from Deschutes County. About 3% come from Crook County and about 2% from Jefferson County.

In 2013, Bend had a higher rate of labor force participation than Deschutes County and the state. Similarly, employment was forecast to grow by about 2% over the period from 2012 to 2022.

With respect to the unemployment rate, the 2008 EOA concluded that

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

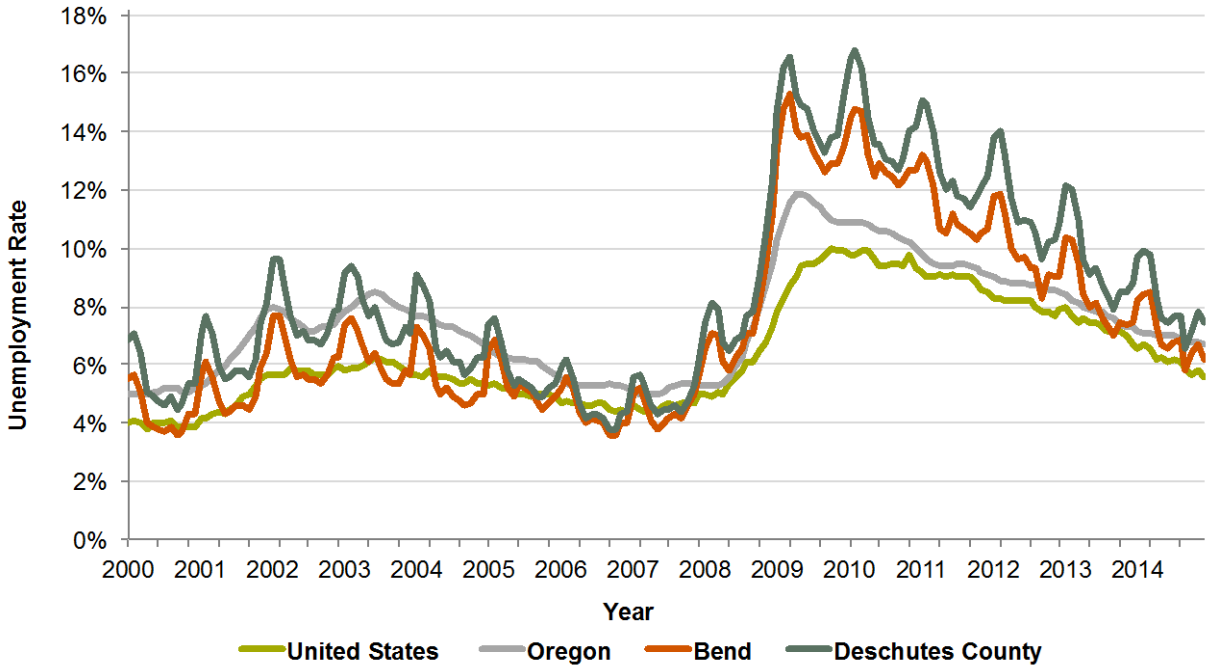
Despite a sharp uptick in unemployment rates during the recession, unemployment rates today are trending towards levels similar to those at the time of the 2008 EOA. Unemployment rates in Deschutes County have remained higher than in the nation and the state. However, the size of the gap between the two has diminished since the recession. In December 2014, the unemployment rates in Bend (6.2%), were below that of Oregon (6.7%), and Deschutes County (7.5%), but still above that of the U.S. (5.6%).

Figure A- 10 shows the unemployment rate for the U.S., Oregon, Deschutes County, and Bend, from 2000 to 2014. The unemployment rates in Bend and Deschutes County exceeded those of

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Oregon and the U.S. during the peak of the recession. The rates reached as high as about 15% in Bend and over 16% in Deschutes County. In December 2014, the unemployment rates in Bend (6.2%), were below that of Oregon (6.7%), and Deschutes County (7.5%), but above that of the U.S. (5.6%).

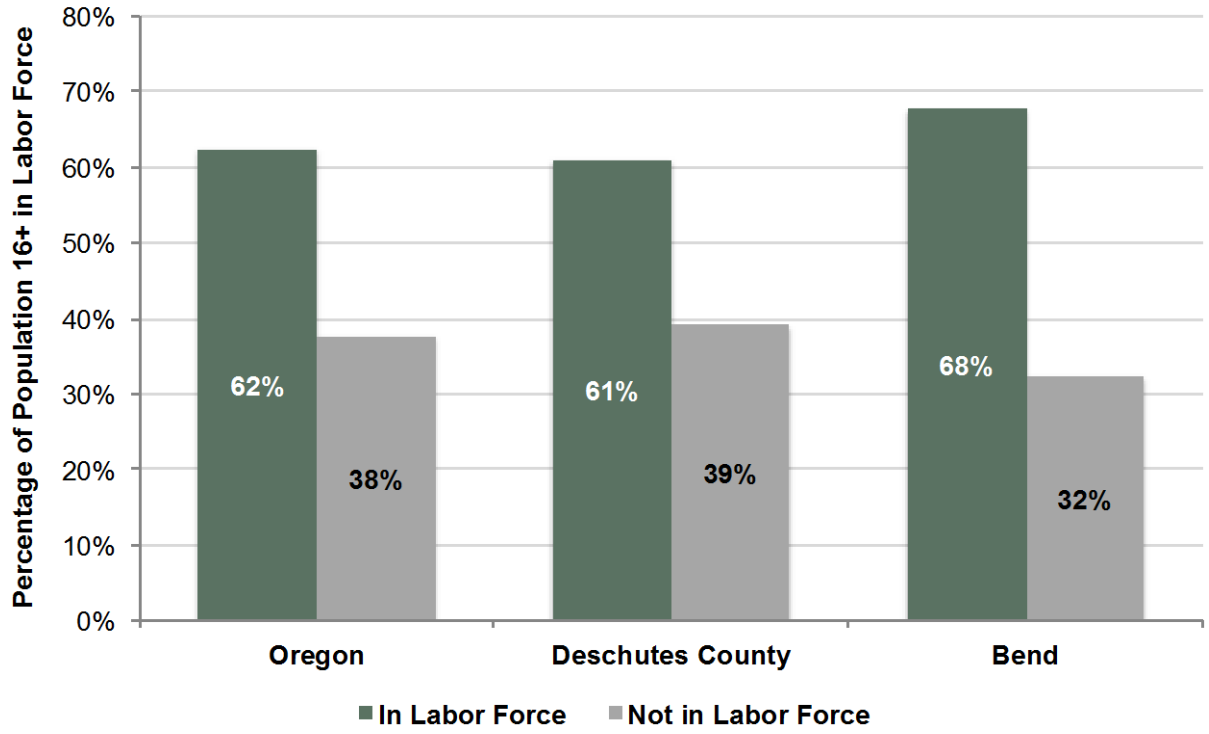
Figure A- 10. Unemployment Rate, United States, Oregon, Deschutes County, Bend, 2000-2014



Source: Bureau of Labor Statistics.

Figure A- 11 shows the rate of labor force participation for Oregon, Deschutes County, and Bend in the 2011-2013 period, for the population 16 years and older. Bend has a higher rate of participation (68%), compared to the county (61%) and state (62%) as a whole.

Figure A- 11 Labor force participation, population 16 years and older, Oreogn, Deschutes County, Bend, 2011-2013

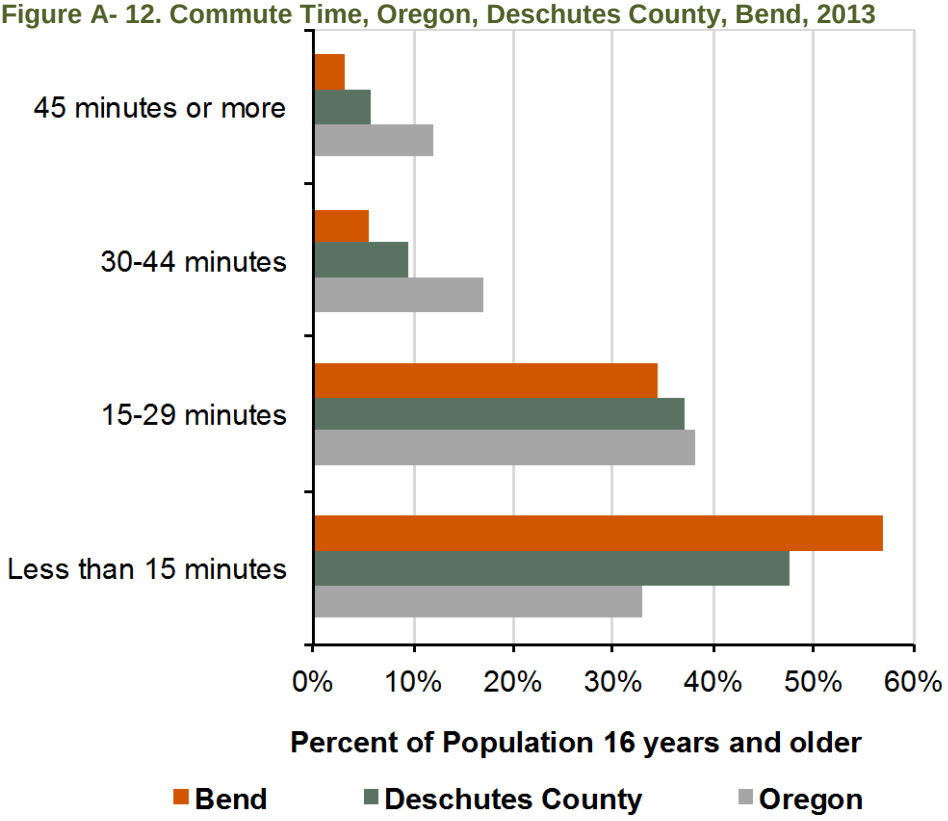


Source: Census Bureau, 2011-2013 American Community Survey, Table B23001.

Commuting Patterns

Figure A- 12 shows commute times for workers in Oregon, Deschutes County, and Bend in 2013. More than half of bend residents (about 57%) have a commute of less than 15 minutes, compared to about 47% in Deschutes County, and about 33% in the state as a whole.

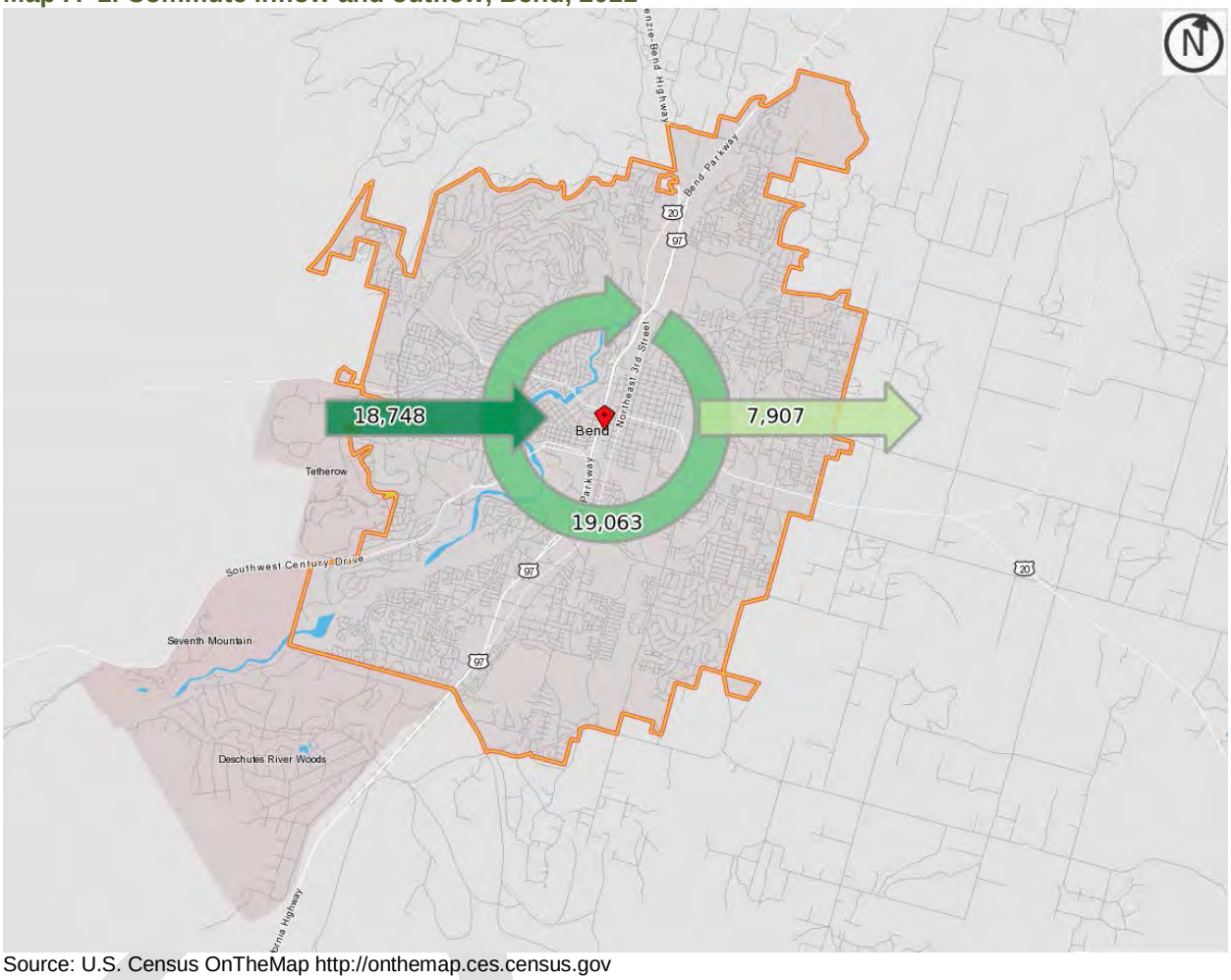
Figure A- 12. Commute Time, Oregon, Deschutes County, Bend, 2013



Source: Census Bureau, 2013 American Community Survey.

Map A- 1 shows the commute inflow and outflow for Bend in 2011. In 2011, about 18,800 people commuted from outside the city to work within it. About 7,900 resided within the city, but went outside for work, and about 19,000 both lived and worked in the city.

Map A- 1. Commute inflow and outflow, Bend, 2011



Source: U.S. Census OnTheMap http://onthemap.ces.census.gov

Table A- 3 shows where workers who have jobs in Bend live. About 76% of employees in Bend live within Deschutes County. About 50% of Bend employees also live in the city and 7% live in Redmond, the next-largest home destination.

Table A- 3. Home Destinations, Bend employees, 2011

Location	Number	Percent
Counties		
Deschutes County	28,912	76%
Crook County	989	3%
Multnomah County	852	2%
Lane County	755	2%
Klamath County	697	2%
Jefferson County	678	2%
Washington County	554	1%
Clackamas County	503	1%
Marion County	438	1%
Jackson County	348	1%
All Other Counties	3,085	8%
Cities		
Bend	19,063	50%
Redmond	2,562	7%
Deschutes River Woods	1,197	3%
Portland	770	2%
Prineville	423	1%
Eugene	380	1%
Three Rivers CDP	237	1%
Salem	201	1%
Eagle Crest CDP	194	1%
Hillsboro	190	1%
All Other Locations	12,594	33%
Total	**37,811**	**100%**

Source: U.S. Census OnTheMap http://onthemap.ces.census.gov

Draft

Table A- 4 shows where people who live in Bend go to work. About 84% of Bend residents work in Deschutes County. About 2% work in Lane County and about 2% work in Multnomah County. About 71% of Bend residents also work in the city and 6% work in Redmond.

Table A- 4. Employment destinations, Bend residents, 2011

Location	Number	Percent
Counties		
Deschutes	22,590	84%
Lane County	598	2%
Multnomah	563	2%
Crook County	359	1%
Washington	354	1%
Marion County	333	1%
Clackamas	215	1%
Jackson County	206	1%
Jefferson County	181	1%
Linn County	154	1%
All Other Counties	1,417	5%
Cities		
Bend	19,063	71%
Redmond	1,651	6%
Portland	503	2%
Eugene	371	1%
Prineville	326	1%
Salem	228	1%
Three Rivers CDP	222	1%
Sunriver CDP	180	1%
Sisters	172	1%
La Pine	170	1%
All Other	4,084	15%
Total	**26,970**	**82%**

Source: U.S. Census OnTheMap http://onthemap.ces.census.gov

Changes in employment

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

In the 1970s, Oregon started to transition away from reliance on traditional resource-extraction industries. An important indicator of this transition is the shift within Oregon's manufacturing sector, with a decline in the level of employment in the Lumber & Wood Products industry[42] and concurrent growth of employment in high-technology manufacturing industries (Industrial Machinery, Electronic Equipment, and Instruments).[43]

[42] Lumber and Wood Products manufacturing is in Standard Industrial Classification (SIC) 24

[43] SIC 35, 36, 38

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

Table A- 5 and Table A- 6 present data that show changes in covered employment for the Deschutes County between 1980 and 2013. [44] The changes in sectors and industries are shown in two tables: (1) between 1980 and 2000 and (2) between 2001 and 2013. The analysis is divided in this way because of changes in industry and sector classification that made it difficult to compare information about employment collected after 2001 with information collected prior to 2000.

Employment data in this section is summarized by *sector*, each of which includes several individual *industries*. For example, the Retail Trade sector includes General Merchandise Stores, Motor Vehicle and Parts Dealers, Food and Beverage Stores, and other retail industries.

Table A- 5 shows employment by industry, using SIC industry classifications, in Deschutes County from 1980 to 2000. Over the analysis period, the Services Division grew at the fastest annual rate (14%), the Retail Trade Division grew at 11% per year on average, the Construction Division grew at 10%, and the Wholesale Trade Division grew at 8%. The share of total jobs in the Services Division increased by 2% and the share of jobs in the Manufacturing Division fell by 6%. In 2000 Services jobs made up 27% of all covered jobs, and Retail and Trade made up 24% of all area jobs.

Table A- 5. Covered employment by SIC industry categories, Deschutes County, 2001-2013

	1980		1990		2000		Change 1980 to 2000			
Sector	Number	Percent	Number	Percent	Number	Percent	Difference	Percent	AAGR	Share
Agriculture, Forestry, and Fishing	185	1%	413	1%	727	1%	542	293%	7%	0%
Mining	100	0%	0	0%	82	0%	-18	-18%	-2%	0%
Construction	1,651	8%	2,178	7%	4,265	8%	2,614	158%	10%	1%
Manufacturing	3,340	16%	5,451	17%	5,974	12%	2,634	79%	6%	-6%
Transportation and Public Utilities	1,174	6%	1,064	3%	1,903	4%	729	62%	5%	0%
Wholesale Trade	809	4%	1,040	3%	1,691	3%	882	109%	8%	0%
Retail Trade	4,461	22%	7,512	24%	12,689	24%	8,228	184%	11%	1%
Finance, Insurance, and Real Estate	1,503	7%	1,533	5%	3,128	6%	1,625	108%	8%	1%
Services	3,668	18%	7,960	25%	14,133	27%	10,465	285%	14%	2%
Unclassified	N/A	N/A	(D)	(D)	53	0%	-	-	-	-
Government	3,826	18%	4,665	15%	7,265	14%	3,439	90%	7%	-1%
Total	**20,717**	**100%**	**31,816**	**100%**	**51,910**	**100%**	**31,193**	**151%**	**9.6%**	**0%**

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

Table A- 6 shows covered employment for NAICS industry classifications, in Deschutes County from 2001 to 2013. In 2013, 15% of all jobs were in Retail, 15% were in Health and Social Assistance, and 13% were in Accommodations and Food Services. Education and Health and Social Assistance grew at the fastest annual rates, growing at 5.3% and 4.6% respectively.

[44] Covered employment refers to jobs covered by unemployment insurance, which includes most wage and salary jobs but does not include sole proprietors, seasonal farm workers, and other classes of employees.

Table A- 6. Covered employment by NAICS industry, Deschutes County, 2001-2013

	2001		2013		Change 2001 to 2013			
Sector	Number	Percent	Number	Percent	Difference	Percent	AAGR	Share
Natural Resources and Mining	384	1%	533	1%	149	39%	2.8%	0.1%
Utilities	313	1%	261	0%	-52	-17%	-1.5%	-0.2%
Construction	4,355	8%	3,514	6%	-841	-19%	-1.8%	-2.7%
Manufacturing	5,492	10%	4,209	7%	-1,283	-23%	-2.2%	-3.8%
Wholesale	1,126	2%	1,593	3%	467	41%	2.9%	0.4%
Retail	8,393	16%	9,605	15%	1,212	14%	1.1%	-0.8%
Transportation & Warehousing	927	2%	877	1%	-50	-5%	-0.5%	-0.4%
Information	1,437	3%	1,406	2%	-31	-2%	-0.2%	-0.5%
Finance & Insurance	1,576	3%	1,978	3%	402	26%	1.9%	0.1%
Real Estate Rental & Leasing	1,456	3%	1,228	2%	-228	-16%	-1.4%	-0.8%
Professional, Scientific & Tech. Srv.	1,882	4%	2,826	4%	944	50%	3.4%	0.9%
Management of Companies	332	1%	303	0%	-29	-9%	-0.8%	-0.2%
Admin. Support & Cleaning Srv.	2,594	5%	3,750	6%	1,156	45%	3.1%	1.0%
Education	434	1%	809	1%	375	86%	5.3%	0.5%
Health & Social Assistance	5,569	11%	9,524	15%	3,955	71%	4.6%	4.4%
Arts, Entertainment & Recreation	1,428	3%	1,643	3%	215	15%	1.2%	-0.1%
Accomodations & Food Services	6,156	12%	8,262	13%	2,106	34%	2.5%	1.3%
Other Services	1,706	3%	2,450	4%	744	44%	3.1%	0.6%
Private Non-Classified	21	0%	18	0%	-3	-14%	-1.3%	0.0%
Government	6,929	13%	8,494	13%	1,565	23%	1.7%	0.2%
Total	**52,510**	**100%**	**63,283**	**100%**	**10,773**	**21%**	**1.6%**	**0%**

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

The composition of Oregon's employment has shifted from natural resource based manufacturing and other industries to service industries.

The 2008 EOA concluded that:

- "The construction industry makes up a significant portion of the county's jobs and payroll, and downturns broader housing industry will have a negative affect local construction jobs
- In the midst of the housing and construction slowdown, Deschutes County's diversified economy has continued to add jobs, albeit at a slower rate
- Continued diversification of the local economy will tend to create a more stable local economy as individual industries experience rapid gains or losses"
- The industrial sector in Bend is much more diverse than in the past
- The continued erosion of jobs in lumber and wood products will be replaced by other jobs in durable and non-durable manufacturing
- High technology manufacturing and research and development firms create a new trend for industrial space that function and look more like office development
- The growth in retail and service jobs will be driven by several factors: population increase, demographic mix, and tourism

Table A- 7 shows changes in covered employment in Deschutes County between 2007 and 2013. Deschutes County lost a total of 6,000 jobs during this period, with the largest losses in construction, manufacturing, retail, and administrative support. Jobs in Health Care and Social

assistance, Accommodations and Food Services had the largest growth over the six year period.

Table A- 7. Covered employment by industry, Deschutes County, 2007-2013

	2007		2013		Change 2007 to 2013			
Sector	Number	Percent	Number	Percent	Difference	Percent	AAGR	Share
Natural Resources and Mining	648	1%	533	1%	-115	-18%	-3.2%	-0.1%
Construction	7,713	11%	3,514	6%	-4,199	-54%	-12.3%	-5.6%
Manufacturing	5,649	8%	4,209	7%	-1,440	-25%	-4.8%	-1.5%
Wholesale	1,605	2%	1,593	3%	-12	-1%	-0.1%	0.2%
Retail	10,451	15%	9,605	15%	-846	-8%	-1.4%	0.1%
Transportation, Warehousing, and Utilities	1,304	2%	1,138	2%	-166	-13%	-2.2%	-0.1%
Information	1,709	2%	1,406	2%	-303	-18%	-3.2%	-0.2%
Finance & Insurance	2,361	3%	1,978	3%	-383	-16%	-2.9%	-0.3%
Real Estate Rental & Leasing	1,496	2%	1,228	2%	-268	-18%	-3.2%	-0.2%
Professional, Scientific & Tech. Srv.	2,736	4%	2,826	4%	90	3%	0.5%	0.5%
Management of Companies	257	0%	303	0%	46	18%	2.8%	0.1%
Admin. Support & Cleaning Srv.	4,513	7%	3,750	6%	-763	-17%	-3.0%	-0.6%
Education	698	1%	809	1%	111	16%	2.5%	0.3%
Health & Social Assistance	7,917	11%	9,524	15%	1,607	20%	3.1%	3.6%
Arts, Entertainment & Recreation	2,040	3%	1,643	3%	-397	-19%	-3.5%	-0.3%
Accomodations & Food Services	7,985	12%	8,262	13%	277	3%	0.6%	1.5%
Other Services	2,384	3%	2,450	4%	66	3%	0.5%	0.4%
Private Non-Classified	56	0%	18	0%	-38	-68%	-17.2%	-0.1%
Government	7,785	11%	8,494	13%	709	9%	1.5%	2.2%
Total	69,307	100%	63,283	100%	-6,024	-9%	-1.5%	0%

Source: Oregon Employment Department, City of Bend, in 2008 EOA; Bureau of Labor Statistics, Quarterly Census of Wages, 2013.

Regional business clusters

Bend exists within the Central Oregon regional economy. Regional business activity and trends will affect the types of businesses that are attracted to the region and choose to locate in the city. This section presents information about regional employment clusters in Central Oregon.

One way to assess the types of businesses that are likely to have future growth in an area is to examine relative concentration and employment growth of existing businesses. This method of analysis can help determine relationships and linkages within industries, also called industrial clusters. Sectors that are highly concentrated (meaning there are more than the "average" number of businesses in a sector in a given area) and have had high employment growth are likely to be successful industrial clusters. Sectors with either high concentration of businesses or high employment growth may be part of an emerging cluster, with potential for future growth.

Table A- 8 shows industries with strong employment clusters in Deschutes County in 2012—meaning that they rank in the top 25th percentile of counties with clusters of that industry. The largest cluster is that of Hospitality and Tourism, which includes accommodations and related services, tourist attractions, cultural education, and other tourist-related services. In Deschutes County, this industry accounts for more than 2,900 employees.

Other clusters with substantial employment in Deschutes County are: Communications Equipment and Services (about 830 employees), Wood Products (551 employees), Information Technology and Analytical Instruments (504 employees), Automotive (325 employees), and Lighting and Electrical Equipment (285 employees).

Another notable industry cluster in the county is that of Jewelry and Precious Metals. While this cluster only employs about 60 people, it is the 79th largest cluster of this industry for a county in

the US. This industry includes the manufacturing of jewelry and silverware, costume jewelry and novelty manufacturing.

Table A- 8. Industries with an employment cluster in Ascension Parish, 2012

Industry	Employment in 2012	Rank in the US
Hospitality and Tourism	2,911	213
Communications Equipment and Services	830	117
Wood Products	551	124
Information Technology and Analytical Instruments	504	285
Automotive	325	583
Lighting and Electrical Equipment	285	306
Downstream Metal Products	275	389
Aerospace Vehicles and Defense	239	199
Forestry	111	155
Downstream Chemical Products	90	457
Recreational and Small Electric Goods	81	376
Jewelry and Precious Metals	60	79
Environmental Services	40	503
Leather and Related Products	36	277

Source: Cluster Mapping, http://www.clustermapping.us/region/county/ascension_parish_la/cluster-portfolio
Summary by industry and percentages calculated by ECONorthwest
Note: Bold denotes an industry with a strong cluster or a cluster that has high employment specialization in Ascension Parish

Natural Resources and Manufacturing

Since 1970, Oregon started to transition away from reliance on traditional resource-extraction industries. A significant indicator of this transition is the decline in the level of employment in the Lumber & Wood Products industry and concurrent growth of employment in other manufacturing industries. At the time of the 2008 EOA, job losses were forecast in manufacturing. The 2008 EOA wrote that "[m]anufacturing will likely rebound over the forecast period, but is not expected to return to its employment level prior to the recent recession. Job losses should continue in many resource-based manufacturing sectors, though at a decreasing rate."

However in 2012, the Oregon Employment Department forecast that employment in manufacturing would increase by 21% over the period from 2010 to 2020. Employment increases would occur at that rate in both durable and nondurable goods subsectors (Employment Projections by Industry & Occupation 2010-2020). Similarly manufacturing employment statewide will grow by about 15%.

In contrast to the conclusions in 2008, Wood Product manufacturing in Central Oregon is also forecast to grow by over 22% from 2012 to 2022, while manufacturing will grow by a total of 19%.

Professional Services, Education, and Health Care

As in 2008 the Oregon Employment Department still forecasts that the bulk (63%) of growth will come from sectors such as Education and Health Services (22% of total employment growth);

Trade, Transportation, and Utilities (17%); Leisure and Hospitality (13%); and Professional and Business Services (11%). Over the period from 2012 to 2022 in the Central Oregon counties of Crook, Deschutes, and Jefferson, employment in Private Education and Health Services and Professional and Business Service are both expected to increase by about 24% and increase their share of total employment by 1.0% and 0.6% respectively.

Employment levels in several industries are at all-time highs: private education, health care, food manufacturing – all of which emerged relatively unscathed from the recession – and professional and business services. The latter, combined with heath care and leisure and hospitality, account for more than half of the state's total jobs gains over the past year.

Retail

As the 2008 EOA found, population will drive increases in retail jobs. The Oregon Employment Department forecasts that Retail sector employment in Central Oregon will grow by about 1,210 employees, or 12% over the 2012-2022 period. However, because this pace falls below that of overall employment growth, the share of total jobs in retail will actually fall by about 0.6%.

Key summary and implications for economic development within Bend

In general the outlook for Bend in 2015 is similar to that of 2008. Bend still has a relatively well-educated workforce, an expectation for growth in population and employment in the future. Some small changes however, have occurred. For example, the construction and manufacturing industries have shrunk, while employment in health and social service industries increased. Despite changes in the levels of employment since 2007, forecasts for growth by industry will follow similar trends as those expected at the time of the 2008 EOA.

Bend's Competitive Advantages

Economic development opportunities in Bend will be affected by local conditions as well as the national, state, and regional economic conditions addressed above. Economic conditions in Bend relative to these conditions in other parts of the region form the city's competitive advantage for economic development, and these competitive advantages have implications for the types of firms most likely to locate and expand in the area.

There is little that cities can do to influence national and state conditions that affect economic development, but they can have some level of influence on the local factors that affect economic development. Bend's primary competitive advantages are: location, access to transportation, quality of life, and access to educated and skilled labor from within the region. These factors make Bend attractive to residents and businesses that want a high quality of life where they live and work.

The local factors that form Bend's competitive advantage are summarized below.

Location

Bend is located in Deschutes County at the intersection of Highways 97 and 20, roughly 3.25 hours southeast of Portland, and 2.5 hours southeast of Salem. Bend lies near the center of

Oregon. Businesses in the city have access to natural resources from surrounding rural areas, including the Deschutes River, the Cascade Mountains and the Oregon High Desert.

Availability of transportation facilities

Businesses and residents in Bend have access to a variety of transportation modes and systems, but the most important are Highways 97 and 20. Highway 97 connects Bend with cities throughout Central Oregon. Highway 20 connects bend with the Willamette Valley and 1-5, which provides a route for Bend businesses to connect to markets in Portland, Seattle, San Francisco and Los Angeles. Through highway and rail routes to Portland, Bend provides access to the Port of Portland from which ships can transport cargo to international markets in Asia.

The Bend Municipal Airport is roughly 5 miles southwest, or about a 15-minute drive from downtown Bend. Less than 30 minutes north of Bend, the Redmond Municipal Airport which provides daily flights to international airports like those in Portland, Seattle, San Francisco, and Los Angeles. The nearest international airport, the Portland International Airport, is about a 3-hour drive away.

The BNSF Railway Company and Union Pacific provide freight service that connects Bend to the other cities in Central Oregon, Portland, and cities in the US interior. The Prineville Railway Freight Depot, which is about 40 miles away from Bend, provides large freight loading equipment, such as ramps and cranes and large amounts of warehouse and outdoor freight storage.

Existing Employment Base

In 2013, Deschutes County had nearly 6,600 employment establishments with a total of about 63,200 workers. The county's largest employment sectors were Retail (9,605 jobs), Health and Social Assistance (9,524), Government (8,494), Accommodations & Food Services (8,262) and Manufacturing (4,209).

The Oregon Employment Department projects that the industries that will grow the most from 2012 to 2022 in Deschutes County are: Health Care and Social Assistance, which is expected to add 2,460 jobs, Professional and Business Services (1,690), and Accommodation and Food Services (1,750).

Labor Market

The availability of labor is critical for economic development. Availability of labor depends not only on the number of workers, but their quality, skills, wages, and experience as well.

Businesses in Bend have access to highly educated skilled workers, nearby college students, and unskilled workers. About 41% of Bend residents over 25 years have a bachelor's degree or higher.

Roughly 50% of Bend's workers commute from outside the city. The commuting patterns show that businesses in Bend are able to attract skilled and unskilled workers living within the city as well as from the surrounding region.

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Outdoor Recreation

Bend provides a launching point for outdoor recreation destinations such as the Cascade Mountains and the Oregon High Desert. Bend is about a 30-minute drive from Mt. Bachelor, 2 hours from the John Day Fossil Beds National Monument, and 2 hours from Crater Lake National Park. The Deschutes River, which provides rafting and fishing opportunities, runs through the city.

Public facilities and services

The provision of public facilities and services can impact a firm's decision to locate within a region. Businesses also take into account factors such as the regional availability and cost of labor, transportation, raw materials, and capital. Once a business has chosen to locate within a region, they consider the factors that local governments can most directly affect: tax rates, the cost and quality of public services, and regulatory policies. Economists generally agree that these factors do affect economic development, but the effects on economic development have only a modest impact on the level and type of economic development in the community.

Tax Policy

The tax policy of a jurisdiction is a consideration in economic development policy. In Fiscal Year 2014 to 2015, the property tax rate in Bend for the City was $2.80 per $1,000 of assessed value. Bend's property tax rate was near the middle of the range for Deschutes County, lower than Redmond ($4.41), but above Sisters ($2.64), and La Pine ($1.98).[45]

Water

The City of Bend provides water to approximately 22,000 service connections. The City collects surface water from the Bridge Creek site, 13 miles outside of the city in the Cascade Mountains, and from 25 wells that pump water from the Deschutes Aquifer. Both these water sources provide water of excellent quality, which requires "very little" treatment before delivery.

The City's 2011 water plan update projected that the city's average daily water demand would increase by about 70% over the period from 2008 to 2018. To accommodate the increasing demand, the plan update recommended $197 million in improvements to the current water infrastructure, including the addition of more groundwater wells, more water storage capacity, pipe improvements, pumping station expansions, and increasing the surface water supply, among others.[46]

Wastewater

The City of Bend is the sole provider of wastewater services and no special districts within the city provide such services. The City's wastewater system includes nine primary sewer basins

[45] http://www.deschutes.org/sites/default/files/fileattachments/assessor039s_office/page/676/sal_report_-_sal4a_detail_of_taxing_district_levies.pdf

[46] "Water System Master Plan Update," Murray, Smith, & Associates, Inc, and Optimatics, The City of Bend, February 2011, http://www.ci.bend.or.us/Modules/ShowDocument.aspx?documentID=3201.

that cover about 35 square miles. The collection system includes a network of manholes, gravity pipes, lift stations, vacuum mains, and force mains that convey sewage to a centralized location.

The most-recent Collection System Master Plan (CSMP) projects that the average dry weather wastewater flow will nearly double over the next 20 years from 6.2 to about 11.5 million gallons per day. Wet weather flows will also increase, but by less, about 30%, from 8.9 to 12.0 million gallons per day.

Residential uses make up about 79% of the 6.2 million gallons per day average dry weather flow, while non-residential uses, including businesses and schools, make up about 21%. The Deschutes Brewery contributes a significant amount of the wastewater flow, making up about 12% of non-residential dry weather flow.

The wastewater master plan expects notable usage increases from four specific events: expansion of the Saint Charles Medical Center, the OSU-Cascades Campus, about 1,000 additional residential units in the Central Business District, and additional 1,200 residential units in the Transit Corridors.

Sewer infrastructure is expected to need expansive improvements over the 20-year period as Bend grows. In 2014, the CSMP recommended $90M investment in infrastructure improvements that will include additional lift stations, mechanical replacements, and increasing the overall hydraulic capacity, among others additions. [47]

Stormwater

Bend benefits from volcanic geography that provides absorptive ground. This porous ground has allowed Bend to rely primarily on dry wells and drill holes that drain runoff into the ground beneath the city. While a partial piped system does exist, which flows into the Deschutes River, much of the city's stormwater runoff goes into the ground, rather than entering a citywide piping system that redirects all stormwater to a central location. The city currently has about 4,600 dry wells and 1,000 drill holes in the city that receive stormwater in this way.

Bend's reliance on groundwater for drinking water means that stormwater infrastructure needs to protect the quality of residents' drinking water, as well as natural waterways. To this end, regulations prevent the injection of stormwater into the ground within 500 feet of a drinking water well.

Dispersed stormwater disposal through dry wells allows the city to avoid concentrating stormwater in one location, and provides a method of stormwater management that is less costly than a citywide piped system. However, Bend's increasing growth, and in particular its density, will place limits on the potential dispersion via dry wells and drill holes. For that reason, the 2014 Stormwater Master Plan has recommended various stormwater infrastructure upgrades including: expansion of a piped stormwater system with water-holding and treatment

[47] "Collection System Master Plan," City of Bend, December 2014, http://www.ci.bend.or.us/modules/showdocument.aspx?documentid=18059.

capacity, greater implementation of low impact development (LID), additional drainage facilities like bioswales, and more usage of GIS data to analyze stormwater conditions.[48]

Outlook for growth in Bend

Demand for commercial and industrial land will be driven by the expansion and relocation of existing businesses and new businesses locating in Bend. The level of this business expansion activity can be measured by employment growth in Bend. This section presents a projection of future employment levels in Central Oregon for the purpose of estimating demand for commercial and industrial land.

Table A- 9 shows the projected growth in employment by selected industrial sectors for the Central Oregon counties (Crook, Deschutes, and Jefferson). The Oregon Employment Department forecasts that employment in Central Oregon will increase by about 16% between 2012 and 2022, or by 12,140 employees. The construction industry will undergo the most rapid growth, increasing by 26% between 2012 and 2022, followed by Health Care and Social Assistance (25%), and Nondurable Goods manufacturing (25%).

Table A- 9. Industry Employment Forecast, Central Oregon Region (Crook, Deschutes, and Jefferson Counties), 2012-202

Industry Sector	2012	2022	Change 2012-2022		
			Number	Percent	AAGR
Natural Resources and Mining	1,330	1,590	260	20%	1.8%
Mining and Logging	270	320	50	19%	1.7%
Construction	3,250	4,100	850	26%	2.4%
Manufacturing	5,370	6,380	1,010	19%	1.7%
Durable Goods	4,320	5,080	760	18%	1.6%
Wood Product Manufacturing	1,890	2,310	420	22%	2.0%
Nondurable Goods	1,040	1,300	260	25%	2.3%
Trade, Transportation, and Utilities	14,260	15,920	1,660	12%	1.1%
Wholesale Trade	2,300	2,520	220	10%	0.9%
Retail Trade	10,300	11,510	1,210	12%	1.1%
Transporation, Warehousing and Utilities	1,660	1,890	230	14%	1.3%
Information	1,450	1,510	60	4%	0.4%
Financial Activities	4,490	5,110	620	14%	1.3%
Professional and Business Services	6,990	8,680	1,690	24%	2.2%
Private Educational and Health Services	10,780	13,400	2,620	24%	2.2%
Health Care and Social Assistance	9,990	12,450	2,460	25%	2.2%
Health Care	8,690	10,860	2,170	25%	2.3%
Leisure and Hospitality	10,660	12,810	2,150	20%	1.9%
Accomodation and Food Services	8,980	10,730	1,750	19%	1.8%
Other Services	2,600	2,930	330	13%	1.2%
Government	12,440	13,330	890	7%	0.7%
Federal Government	1,330	1,250	-80	-6%	-0.6%
State Government	1,780	1,990	210	12%	1.1%
Local Government	9,330	10,090	760	8%	0.8%
Local Education	4,170	4,560	390	9%	0.9%
Total payroll employment	**73,620**	**85,760**	**12,140**	**16%**	**2%**

Source: State of Oregon Employment Department, "Employment Projections by Industry and Occupation 2012-2022 Central Oregon (Crook, Deschutes, Jefferson)."

[48] "Stormwater Master Plan," City of Bend, July 2014, http://www.ci.bend.or.us/modules/showdocument.aspx?documentid=17875.

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APPENDIX B. EMPLOYMENT PROJECTIONS

Appendix B summarizes the methodologies used to develop the employment projections and the 2008-2028 projection.

Methods

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

1. Analyze existing policy and visions; national, state, county, and local trends; and other forces likely to have an impact on Bend's economic future
2. Forecast 20-year employment growth, 2008-2028:
    a. Begin with OED 2006 employment data for the City of Bend, disaggregated to detailed industry sectors
    b. Create 20-year projected growth rates for individual industry sectors:
        i. Begin with OED Deschutes County 2006-2016 projections
        ii. Grow 2006 industry employment to 2008 by adding Bend's slightly accelerated population growth rates (0.11 percent faster than Deschutes County) to the ten-year industry growth rates predicted by OED)
        iii. Adjust employment upward (11.5 percent) to account for self-employed, contract workers, and "non-covered" employees not included in OED employment projections
        iv. For land need estimates, decrease employment projections by estimating the percentages of non-shift workers in each industry
        v. Grow employment from 2008 to 2015 at the 10-year adjusted employment growth rate by industry
        vi. Adjust targeted industry sectors upwards by 10 percent to reflect increased growth in these sectors
        vii. Grow employment from 2015 to 2025 by the City of Bend Coordinated Population Forecast Average Annual Rate of Growth at reduced rate to account for less predicted population and employment growth in this time period
        viii. Apply a 1.7 percent AARG to grow 2025 employment to 2028 end of the planning period
3. Inventory Current Employment Land Supply:
    a. Inventory all lands with a General Plan designation for economic use and public facility use
    b. Categorize all lots according to zoning designation and development category
        i. General Plan designations: A variety of commercial, industrial, professional office, mixed employment, public facilities zones, detailed later
        ii. Development category: Developed, Vacant, Unbuildable
    c. Generate inventories of Developed, Vacant and Unbuildable land within each General Plan designation

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Employment Projections

The purpose of making employment projections is twofold: (1, to anticipate future employment patterns, and (2) to estimate future economic land needs. The following describes some of the technical approaches in making employment projections and the process of converting these into land need estimates.

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

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

The following tables show:

- Employment categories above the employment sectors in the left-most column

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

Table B- 1. Retail Employment Category, Sectors, and Industries

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

Source: City of Bend.

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

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Table B- 2. Industrial Employment Category, Sectors, and Industries

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

Source: City of Bend

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

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

Table B- 3. Office/Services Employment Category, Sectors, and Industries

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

The uses in Table B- 3 tend to be located in commercial areas, with fewer appearing in industrial and mixed use zones. Health care and social services are concentrated within the City's Medical District Overlay Zone, which is zoned Residential Urban Medium Density.

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Table B- 4. Government Employment Category, Sectors, and Industries

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

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

Table B- 5 shows the Leisure and Hospitality Category and NAICS sectors included in this group. Employment in this category is generally described as Arts, Entertainment, and Recreation, Accommodation and Food Services by NAICS. The sectors illustrate the types of economic activities included in these NAICS categories. The Other category includes those uses that fall outside the NAICS sectors in previous tables.

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Table B- 5. Leisure and Hospitality, Other Employment Category, Sectors, and Industries

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

Source: City of Bend

The employment forecasts in Table B- 6 estimate total employment for the 2008 through 2028 planning period. These estimates include non-covered employees which are typically excluded from OED projections. Total employment also includes shift workers. Employment projections contained in tables after Table B- 6 will not match employment in Table B- 8, and subsequent employment tables, because subsequent tables do not include shift workers. Shift workers are excluded from subsequent tables because land need estimates should be based on the day shift (typically the largest shift) instead of all employees working at a given business. Including all workers in land need estimates would overestimate land needs since not all workers in some businesses are present at one time. The methodology used to calculate total employment in Table B- 6 is the same as in the subsequent tables; except subsequent tables exclude shift workers.

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Table B- 6. Total Estimated 2008 and 2028 Employment: Simplified

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

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

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

Table B- 6 illustrates a few broad trends that will emerge in the following analysis. First, the highest numbers of new employees are expected to be engaged in activities that will likely require commercial space versus industrial space. Note that Office/Services, Large and General Retail, and Leisure and Hospitality are the three employment categories that add the most employees during the planning period. Over 4,500 jobs in the Industrial category are expected to be added as well; followed by the addition of 3,596 jobs in the Medical category.

The following employment projections in Table B- 8 present a refinement of the projections in Table B- 6 by considering only employees working during the largest day shift. According to Thomas M Beers, an economist in the Division of Labor Force Statistics, Bureau of Labor Statistics, “the “9-to-5” workday does not appear to be in jeopardy of fading from its prominence in U.S. workplaces; yet the data do suggest that the rigidity of those hours continues to relax”. His analysis suggests that approximately 16.8 percent of all full-time wage and salary workers worked alternative shifts; with different industries exhibiting wide variation in the levels of shift work (Beers).

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

The EOA projects Bend’s non-shift total employment using the following methodology, shown in the summary Table B- 7. Following is a summary of the process:

- Begin with OED 2006 geo-coded employment data for the City of Bend, disaggregated to employment sectors. 2006 data is the most recent year available for which OED has detailed employment data for the City of Bend. More recent data is only tracked at the three-county regional level. The accuracy of the geo-coded (which means location specific, usually in the form of an address point representing employment) data from OED in 2006 is far superior to the accuracy of the 2004 data used in the 2007 Leland EOA. The accuracy of the OED data was enhanced by matching the address points to the City's GIS address files and by placing employment data based on field checks, phone calls to businesses, and by using local knowledge of employer locations.
- Produce 20-year projected growth rates for individual employment categories:
    - The baseline employment growth projections are OED Deschutes County 2006-2016 employment growth projections by sector. Reviewed in the Section above, these projections are adjusted to account for Bend's unique employment characteristics. The approach used in this EOA relies on employment growth rates for Deschutes County rather than the Region 10 employment growth rates. This is an improvement over the Leland EOA since the influence of Jefferson and Crook Counties is not included in the Deschutes County growth data. Also, since Bend represents the majority of employment in Deschutes County, using the Deschutes County employment growth projections will result in more accurate projections.
    - Factor 1. As was done in the 2007 Leland EOA, employment projections are slightly increased to account for Bend's slightly higher rate of population growth as compared with the County's. In the period 2006-2016, the Deschutes County Coordinated Population Forecast shows Bend's population is anticipated to grow at a rate 0.11 percent times faster than Deschutes County over this decade. This 0.11 percent factor is applied over the decade, not each year. This is appropriate since employment growth tracks with population growth as show in Section 3.
    - Grow employment at the sector specific average annual growth rates plus Factor 1 for two years to determine 2008 baseline employment.
    - Factor 2. Increase 2008 baseline employment by sector by 11.5 percent to account for non-covered employees excluded from OED employment forecasts. This increase is applied to all categories except Government, since most public sector employees are covered employees. See Appendix B for a more detailed discussion of how the 11.5 percent factor was determined. This figure was accepted by the City of Bend Planning Commission and UGB TAC for purposes of this analysis.
    - Factor 3. Reduce employment estimates by applying percentages of non-shift workers to total employment. These percentages were obtained from research by Thomas M. Beers in his article "Flexible schedules and shift work: replacing the '9-to-5' workday?". Note these factors were applied to specific sub-sectors and cannot be aggregated into the broader employment categories reported in this table. Generally, employment sectors such as leisure and hospitality have the highest rates of shift workers (approximately 40-50 percent shift workers), while other sectors such as office/services have between approximately 5-20 percent of employees working shifts.
    - Grow the 2008 non-shift total employment by the adjusted by sector growth rates for seven years to arrive at year 2015 employment by sector.
    - Factor 4. As the 2007 Leland EOA suggests, targeted sectors are increased upwards to reflect increased growth in these sectors. As discussed extensively above, Bend has created a set of Targeted Sectors, in which it hopes to encourage higher-than-average growth; existing trends suggest that this is a good strategy with reasonable chances for success. Thus, employment growth within the Retail, office/Services, and Leisure and Hospitality categories are accelerated by a factor of 1.10 (or 10

percent) over this decade –long time frame. Although Government is not a targeted sector, it is also adjusted upwards to reflect continued aggregation of government jobs in Bend (Leland, 39).

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

Table B- 7. Bend Employment Projections and Methodology Overview: 2008-2028

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

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

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

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

Table B- 6 shows some of the broad conclusions that can be drawn from this analysis of Bend's 20-year employment growth. In the New Employees (2008-2028) column, note that by far the largest amount of growth comes in the Office/Services category, as suggested by the trends reviewed earlier and the Economic Sector Targeting work. Retail, Leisure and Hospitality, and Medical categories have also added considerable numbers of employees. Note that heavy industrial uses are expected to employ fewer people than the general industrial uses.

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

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Table B- 8. Employment Change & New Employees Requiring Land: 2008-2028

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

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

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

Table B- 9 illustrates jobs to population ratios for the recent past and the planning period. Comparisons between the two tables should be made with caution since Table B- 7 does not include all workers and Table B- 8 includes all workers (both covered and uncovered worker), and because Table B- 7 is a county-wide ratio while Table B- 8 is only the City of Bend. Considering that total employment is estimated to be 11.5 percent higher than covered employment, projected jobs to population ratios are similar to job to population ratios in Deschutes County in the 1990s.

Table B- 9. Jobs to Population Ratios: 2008 and 2028

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

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

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APPENDIX C. REMAND DIRECTIVES

Table 20 presents the complete list of Remand issues related to employment lands and where they are addressed in the EOA update. The numbering of directives in the second column starts with number 61 because this list is an excerpt of the larger Index of all directives to the City on Remand.

Table 20. Remand Directives Related to the Economic Opportunities Analysis and Employment Land Need

Remand Subissue	Directives to City on Remand	Sections/Pages in this EOA that address the directives
5.11 (Conclusion) Page 67	61. The submittal is remanded for the City to clarify in adequate findings that it is utilizing its 2008 EOA, scenario B, as the basis for estimating employment land needs	No longer using Scenario B methodology; Ch 5 provides revised land estimate based on changes required by the Remand, such as vacancy rate, market choice, and redevelopment rate.
5.2 (Conclusion) Page 70	62. Commission remands the UGB decision to the City to provide an adequate factual base to support use of a 10 percent redevelopment factor, including an analysis of the amount of redevelopment that has occurred in the past and a reasoned extension of that analysis over the planning period 63. Alternatively, the City may satisfy Goal 9 and division 9 by other means, for example through a site-by-site redevelopment analysis. However, a site-by-site analysis is not required; the Commission determines that using a factor is acceptable where findings explain evidentiary basis and address the Goal 14 requirement to reasonably accommodate development within the existing UGB.	Base case redev is now 6%; used the site by site approach – include info in appx
5.4 (Analysis) Page 76	64. As a result, in this case (See 1000 Friends of Oregon v. LCDC, __ Or App __, __P3d __ (A135375)) to the extent that the city continues to base some portion of its employment land need on market choice, it must explain how doing so in the factual context provided by the record for the Bend UGB expansion is consistent with the requirements of Goal 9, OAR 660-009-0025, and the "need" factors of Goal 14	No market choice factor is used in the revised land need estimates.
5.4 (Conclusion) Pages 76-77	65. On remand, the City must make findings addressing applicable law, including addressing consistency with Goals 9 and 14 as required in 1000 Friends of Oregon v. LCDC, __ Or App __, __P3d __ (A135375) (September 8, 2010)	EOA addresses the Goal 9 requirements; the Urbanization Report, Goal 14; the findings, both

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Remand Subissue	Directives to City on Remand	Sections/Pages in this EOA that address the directives
5.5 (Analysis) 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. 67. This short-term supply analysis required for jurisdictions within MPOs is in addition to the EOA inventory requirements applicable to all comprehensive plans for areas within urban growth boundaries. OAR 660-009-0015(3)(a) 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).	Short-term supply is addressed in Chapter 6
5.5 (Conclusion) Page 78	69. The Commission concludes that the Goal 9 rule requires the City to include policies for maintaining a short-term supply. 70. The City must plan for required infrastructure and have identified the funding mechanisms.	Chapter 6 2nd issue will require more info
5.6 (Analysis) 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. 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.	The revised EOA does not assume a vacancy rate for employment lands. The EOA assumes that the 2006 employment densities are reflective of the vacancy rates at that time: 9% for office space and 2.9% for industrial space.
5.6 (Conclusion) Page 80	73. The Commission concluded that under division 9, the long-term vacancy factor should be based on past and projected future trends over the planning period.	
5.8 (Analysis) Page 84	74. The City agreed that on remand it would move the analysis and calculation to the residential/other lands analysis and calculation.	See HNA
5.8 (Conclusion) Page 84	75. The Commission remands the submittal to incorporate analysis of land needs for employment uses within residential zones in the City's housing needs analysis.	See HNA

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URBAN GROWTH BOUNDARY REMAND

MAKING BEND EVEN BETTER

Bend Urbanization Report

Bend's Growth to 2028

Draft: April 14, 2016



DRAFT

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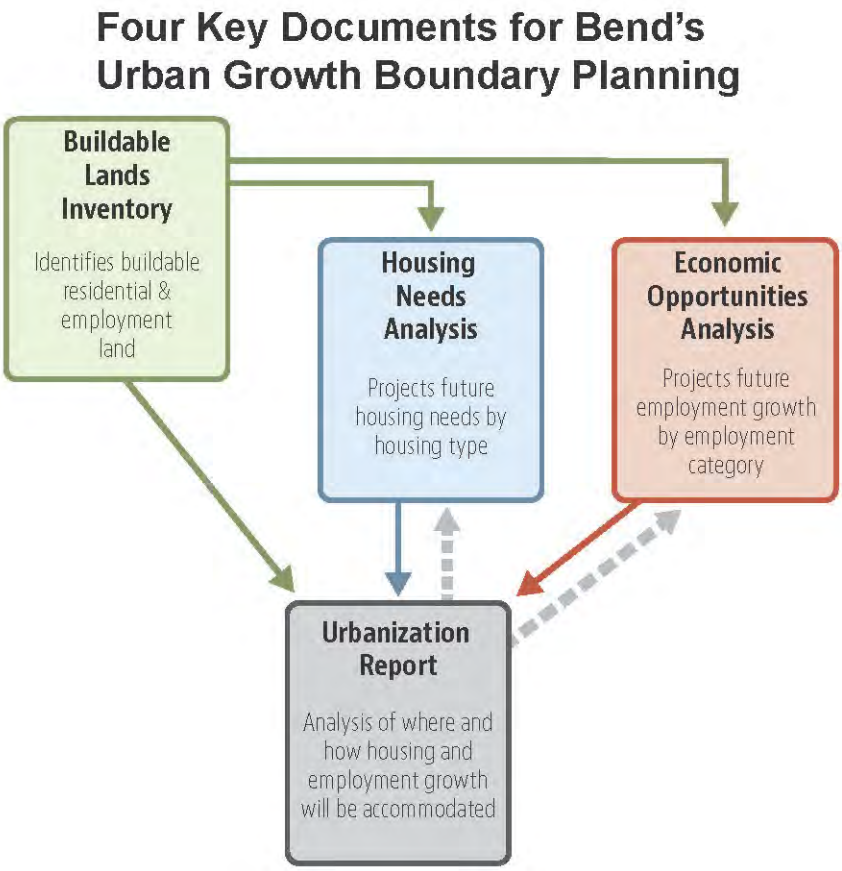
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EXECUTIVE SUMMARY

Introduction

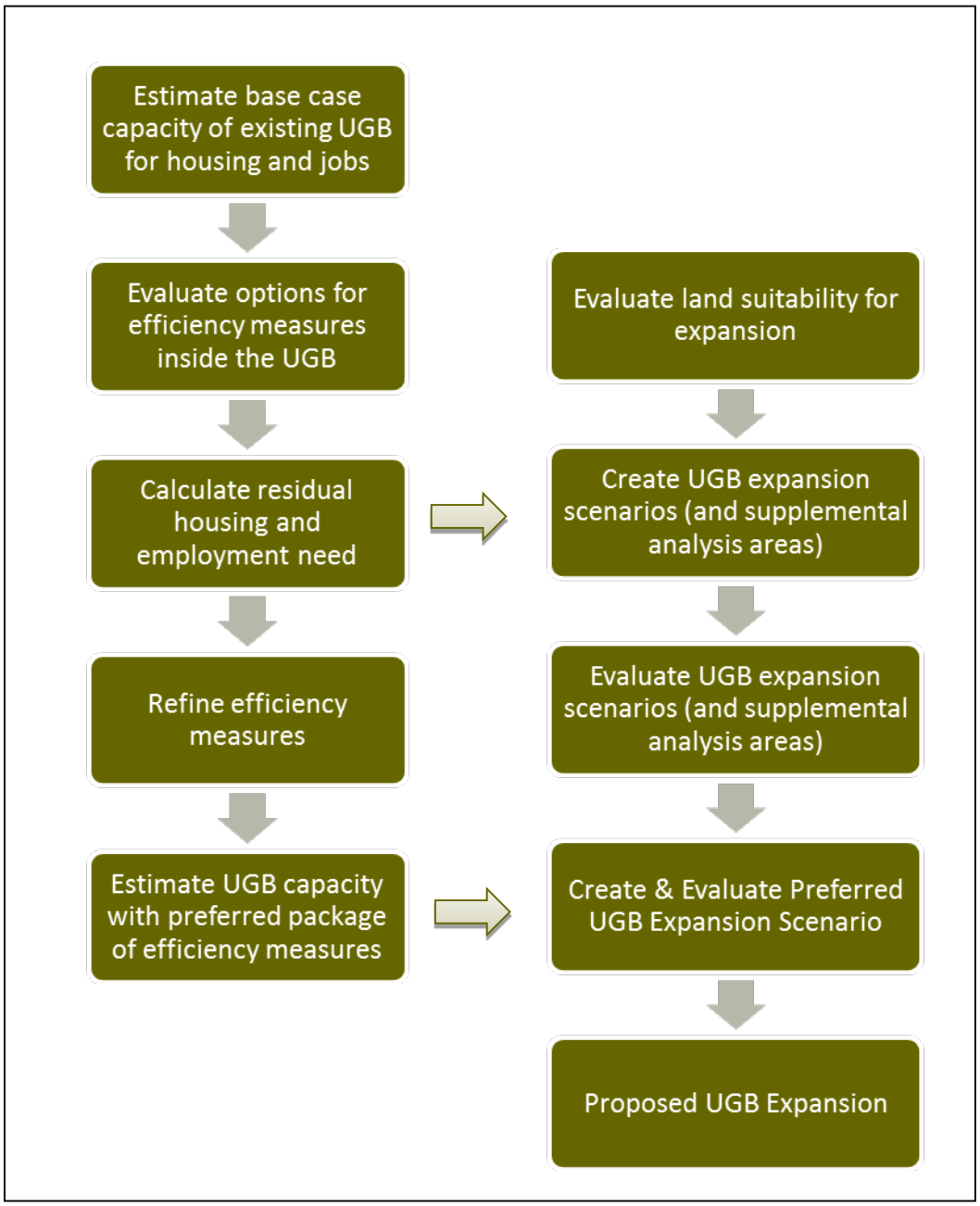
The Urbanization Report presents an analysis of where and how Bend's future growth will be accommodated, both inside the existing Urban Growth Boundary (UGB) and in expansion areas. The analysis addresses requirements pertaining to UGB expansions under Oregon state law and administrative rules. The Urbanization 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 applied; summarizes the remaining residual growth that cannot be accommodated within the existing UGB; documents the evaluation of UGB expansion alternatives; identifies proposed UGB expansion areas to meet residual land needs; and documents the factual base for the inclusion of expansion areas in the UGB.

Figure ES-2: UGB Expansion Analysis Process Summary



A scenario planning tool called "Envision Tomorrow"[1] was used to analyze capacity and options for future growth in Bend. Envision Tomorrow applies development assumptions spatially and provides a sketch-level analysis of the possible impacts of policies, development decisions and growth trajectories. Development assumptions within the model include: a mix of specific building prototypes, which are based on information including parking requirements, height limits, and lot coverage ratios; streets, open space, and other set-asides; net residential and job density; and rate of redevelopment (see Chapter 2, page 18 for more about how development

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

assumptions work together in the model). All assumptions are calibrated to Bend's development and market conditions (see Chapter 3, page 21 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 9,960 housing units and about 13,670 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 28 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 Multimodal Mixed Use Area, East Downtown, the Century Drive area, and the “Korpine” industrial area.
- Up-zone portions of the 15th 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 12,250 housing units (an increase of about 23% over the base case housing capacity) and roughly 14,880 jobs (an increase of about 9% over the base case employment capacity). The mix of housing units projected inside the current UGB with efficiency measures is roughly 54% single family detached, 37% 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.

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 for further analysis.
- 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.

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.

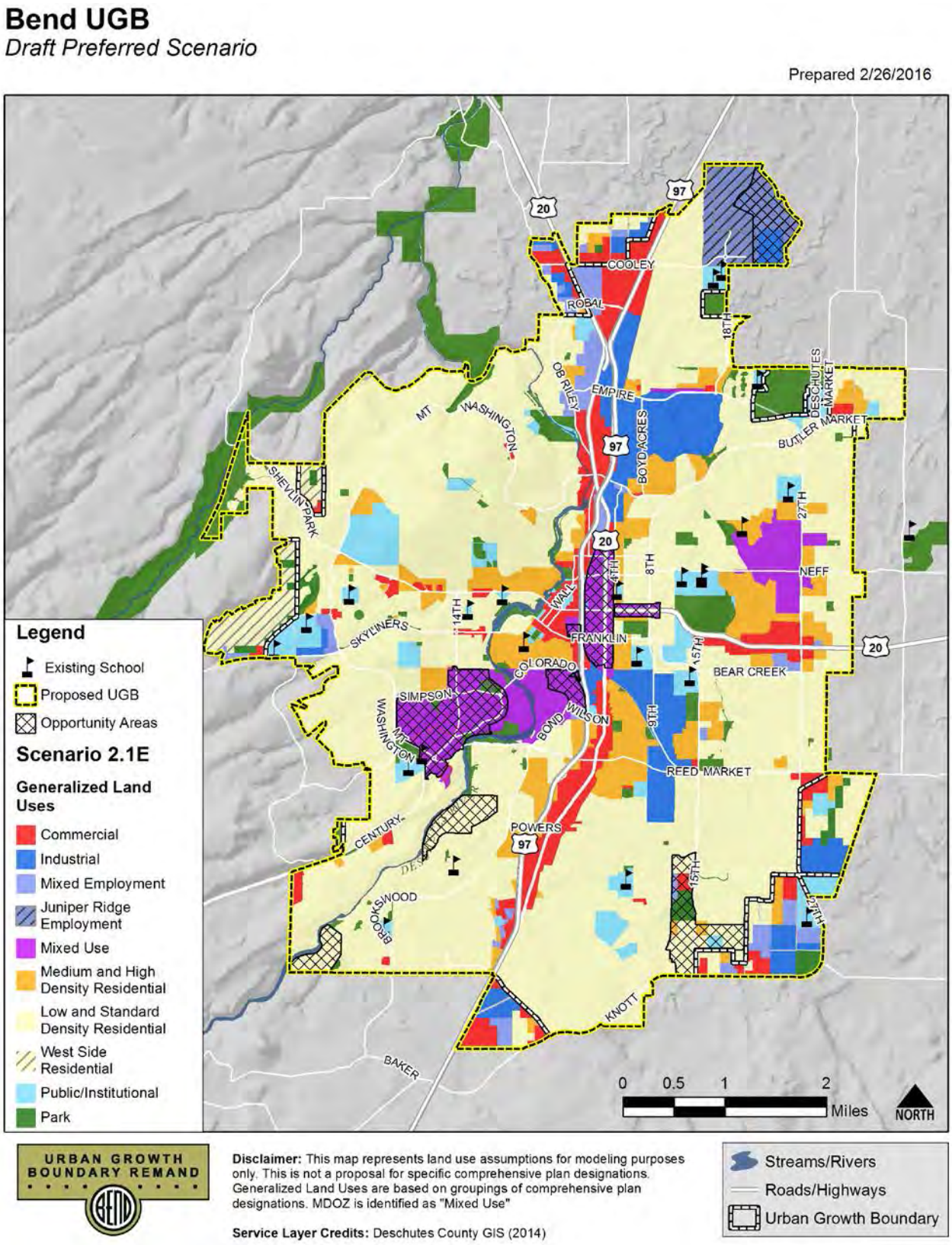
Scenario 2.1 became the basis for the preferred scenario. Subsequent refinements included:

- 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 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 2,153 acres – 940 acres of residential land, 812 acres of employment land, and 402 acres of land for schools and parks. The proposed future UGB and generalized land uses are shown on Figure ES-3, which also identifies new mixed use opportunity areas.

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



CHAPTER 1. INTRODUCTION

Role of the Urbanization Report

The Urbanization Report presents an analysis of where and how Bend's future growth will be accommodated, both inside the existing Urban Growth Boundary (UGB) and in expansion areas. The purpose of this report is to address requirements pertaining to UGB expansions under Oregon's Statewide Planning Goal 14 (Urbanization) and Oregon Administrative Rule (OAR) 660, Division 24 (these are summarized in the following section). The Urbanization Report is a supporting document of the City of Bend General Plan, referred to as the Bend Comprehensive Plan in this report.[2] The Urbanization Report:

- documents current UGB capacity under existing policies and based on historic development trends and current land supply from the Buildable Lands Inventory, including documentation of the capacity analysis methodology, assumptions and results;
- documents 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.

[2] The Bend General Plan is the official title of the city's comprehensive plan as of the writing of the first public review draft of this report. The City anticipates amending the title to be Bend Comprehensive Plan when the plan is amended in 2016.

Table 1: Four Key Documents for Bend's Urban Growth Boundary Planning

Document	Buildable Land Inventory (BLI)	Housing Needs Analysis (HNA)	Economic Opportunities Analysis (EOA)	Urbanization Report (UR)
Purpose	Identify buildable residential & employment land by category	Address the requirements for planning for needed housing, including analysis of national, state, and local demographic and economic trends, and recommendations for a mix and density of needed housing types	Document historical employment and demographic trends, the projection of employment growth, identification of target industries, and evaluation of site characteristics needed to accommodate target industries	Analysis of where and how Bend's future growth will be accommodated, both inside the existing Urban Growth Boundary (UGB) and in expansion areas
Primary Legal Standards[3]	ORS 197.296 OAR 660, Divisions 8 and 9	Statewide Planning Goal 10: Housing ORS 197.296 and 197.303 OAR 660, Division 8	Statewide Planning Goal 9: Economic Development OAR 660, Division 9	Statewide Planning Goal 14: Urbanization ORS 197.298 OAR 660, Division 24
Key Subject Matter	Development status categories and definitions Methodology for assigning categories and conducting inventory Inventory results: acres by plan designation and development status	Projection of population and total housing growth Housing market and development trends Demographic characteristics and trends Analysis of affordability Estimate of needed housing (mix and density) Comparison of housing capacity to need	Existing policy and vision National, state, local trends Employment projections Target industries Site needs and characteristics Special site needs Redevelopment analysis Comparison of employment capacity to need and characteristics	Methodology for capacity estimates Pre-policy ("base case") capacity estimate for current UGB Efficiency measures (EMs) proposed Current UGB capacity with EMs UGB alternatives evaluation methodology and results Proposed UGB expansion and summary of Goal 14 evaluation results

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

Framework for the Urbanization Report

State Statutes and Administrative Rules

Overview

Statewide Planning Goal 14 requires that cities establish and maintain UGBs to provide land for urban development needs and to identify and separate urban and urbanizable land from rural land. Goal 14 and Oregon Revised Statutes (ORS) 197.296 and 197.298 contain requirements for how local governments identify how much land is required to meet urban development needs, how they establish the capacity of the existing UGB, and how to identify and evaluate land for UGB expansion if needed. These requirements are summarized in brief below; the full text of the relevant statutes and rules is included in Appendix A.

Establishing Land Needs

Establishment and change of the UGB must be based on the demonstrated need for housing, employment opportunities, and/or other urban land uses such as public facilities, streets and roads, schools, parks or open space over a 20-year period.[4] Housing needs must be established consistent with a coordinated 20-year population forecast, the requirements for determining housing needs in Goals 10 and 14, and related rules and statutes (see Bend Housing Needs Analysis for a summary of these requirements).[5] Employment needs must comply with applicable requirements of Goal 9 and related administrative rules (see EOA for a summary of these requirements). [6]

Inventory and Land Sufficiency

Local governments "must inventory land inside the UGB to determine whether there is adequate development capacity to accommodate 20-year needs". Inventories must comply with requirements in OAR 660-024 and other statutes and rules (see Bend Buildable Lands Inventory for a summary of these requirements).[7]

"If the inventory demonstrates that the development capacity of land inside the UGB is inadequate to accommodate the estimated 20-year needs ..., the local government must amend the plan to satisfy the need deficiency, either by increasing the development capacity of land already inside the city or by expanding the UGB, or both."[8] Local governments may adopt new measures that increase the housing capacity of the existing UGB as part of meeting demonstrated housing needs.[9] Local governments must demonstrate that needs cannot

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

[5] OAR 660-024-0040(4), effective March 25, 2015.

[6] OAR 660-024-0040(5), effective March 25, 2015.

[7] OAR 660-024-0050(1), effective March 25, 2015.

[8] OAR 660-024-0050(4), effective March 25, 2015.

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

reasonably be accommodated on land already inside the urban growth boundary prior to expanding the UGB. [10]

Identifying Boundary Expansion Areas

In considering locations for UGB expansions, local governments must determine which land to add by evaluating alternative boundary locations.[11] State statute classifies rural land into priority categories for purposes of evaluating potential UGB expansions, with the intent of protecting high-value agricultural and forest land for those uses. Local governments must begin by evaluating the highest priority of land available, and determine whether land in that priority category is suitable and sufficient to meet the identified land needs before moving on to consider land in lower priority categories.[12] If there is more land in a given priority category than needed to satisfy the deficiency, local governments must consider and balance four factors in Goal 14 to choose which land from that priority category to include in the UGB:

1. Efficient accommodation of identified land needs;
2. Orderly and economic provision of public facilities and services;
3. Comparative environmental, energy, economic and social consequences; and
4. Compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB.[13]

The "relative costs, advantages and disadvantages of alternative UGB expansion areas with respect to the provision of public facilities and services" must also be evaluated and compared.[14] The local government may specify certain characteristics that are necessary for land to be suitable for specific types of identified land needs, and may consider only land that has those characteristics.[15]

Prior Work and Remand Issues

UGB Expansion History

The City's process for demonstrating a need for UGB expansion began in 2004, and included the development and adoption of a coordinated population forecast with Deschutes County, followed by three years of technical work on buildable lands inventories, housing needs analysis, economic opportunities analysis, forecasting additional residential and employment lands, and public facilities (water, sewer, transportation) planning. The City and county conducted extensive public outreach, including work sessions and hearings, on the UGB expansion in 2007 and 2008. The Bend City Council and Deschutes County Board of County

[10] Goal 14: OAR 660-015-0000(14), effective April 28, 2006; OAR 660-024-0040(1), effective March 25, 2015; and OAR 660-024-0050(4), effective April 16, 2009.

[11] Goal 14: OAR 660-015-0000(14), effective April 28, 2006; and OAR 660-024-0060(1), effective April 16, 2009.

[12] ORS 197.298, effective 1999; and OAR 660-024-0060(1), effective April 16, 2009.

[13] ORS 197.298, effective 1999; and OAR 660-024-0060, effective April 16, 2009.

[14] OAR 660-024-0060(8), effective April 16, 2009.

[15] ORS 197.298, effective 1999; and OAR 660-024-0060(5), effective April 16, 2009.

Commissioners' approved the UGB expansion proposal in 2009. These local adoptions were followed by a number of appeals to the Land Use Board of Appeals (LUBA) and Land Conservation and Development Commission (LCDC).[16] The Oregon Department of Land Conservation and Development (DLCD) Director's Report in January 2010 remanded the proposal back to the City for further work; the City of Bend and 11 other parties filed appeals 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 B 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).

Time Periods and Data used in the Urbanization Report

State statute and rule requires the use of a 20-year planning horizon for UGB expansion. OAR 660, Division 24, clarifies that the 20-year period must begin on the date initially scheduled for completion or adoption of the amendment.[17] Because this report is completing work required under the Remand of the 2009 UGB expansion proposal, the 20-year planning period begins in 2008 and runs through 2028. However, this report is being completed in 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 has already occurred, the buildable lands inventory was updated in 2014 and housing and

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

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

employment growth through 2014 has been estimated and deducted from the projected 2028 needs. This report focuses on the remaining capacity and growth needs from 2014 to 2028.

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 (2014 to 2028) by housing type and employment category for reference only. The translation of these housing and employment needs (units and jobs) to land needs in terms of acres by plan designation is presented in Chapter 5.

Table 2: Summary of New Housing Units by Type and Category, Bend UGB, 2014-2028 [18]

	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, DRAFT, August 2014.

[18] 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 [19]

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, DRAFT, November 2014.

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).

[19] 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[20]	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

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 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. 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

[20] 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

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

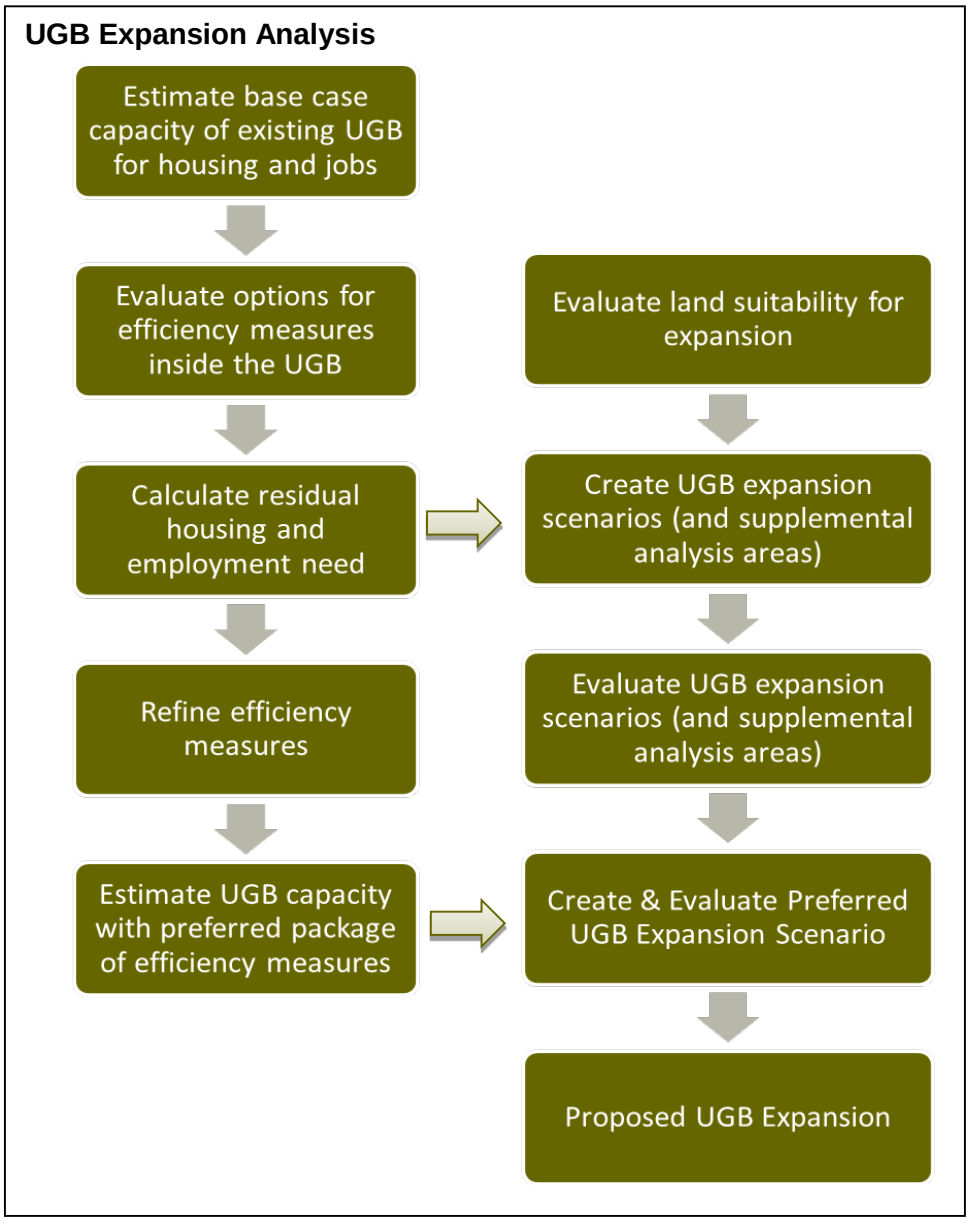
The City has identified special site needs for two large-lot industrial sites (56 acres each), as documented in the EOA. How this need is accommodated is addressed in the following chapters.

CHAPTER 2. METHODOLOGY

Analysis Steps

The process of determining land sufficiency and UGB expansion need is summarized in Figure 1. Each step of the process outlined in Figure 1 is summarized in this report. In addition to the process described in Figure 1, three different Technical Advisory Committees (TACs) and a UGB Steering Committee (USC) were used to guide the technical work and make 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



Analysis Tools

Overview

A scenario planning tool called "Envision Tomorrow"[21] was used to analyze capacity and options for future growth patterns in Bend. Envision Tomorrow applies development assumptions spatially and provides a sketch-level analysis of the possible impacts of policies, development decisions and growth trajectories. Scenario comparison measures include a comprehensive range of indicators relating to land use, housing, demographics, economic growth, environmental factors, and quality of life. (See next section for more on this model and how it works.)

To complement the indicators available in Envision Tomorrow, additional modeling and analysis tools were used to evaluate infrastructure needs and implications of UGB expansion scenarios, including a Travel Demand Model for transportation analysis (to supplement a transportation analysis tool that is part of Envision Tomorrow's suite of planning tools) and water and sewer optimization models. These tools and their role in this analysis are discussed in more detail in Chapter 5.

About the Envision Tomorrow model

Envision Tomorrow applies a set of assumptions about future development spatially to land with development or redevelopment potential. These assumptions are organized into "development types" that reflect different types of residential and employment development. The model does not predict exactly how a given parcel will develop; rather, it applies a mix of different types of development and land set-asides (using percentages of available acres) across multiple parcels. Results are calculated at the parcel level, but, because they represent blended averages for future development rather than site-specific assumptions, they are only appropriate to report at a summary level.

The development types generally represent Bend's Comprehensive Plan designations. Assumptions within the development types were calibrated to Bend by the project team with the best available information and with Technical Advisory Committee (TAC) direction at various stages. Development type assumptions include:

- A mix of specific building prototypes, which are based on information including parking requirements, height limits, and lot coverage ratios from the current Development Code (and as modified through specific Efficiency Measures);[22]
- 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 19.

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

[22] 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.[23] 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;[24] 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.

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:

[23] 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.

[24] 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;[25]
- Identified locations for future schools and parks (see page 20);
- 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).[26]

Appendix E provides additional information about each of the development types (such as residential and employment mix and density), including those used in the base case as well as those developed later to incorporate efficiency measures. [Note: Appendix E will be included with the final Urbanization Report, but is not included at this time.]

Redevelopment

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 21.

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%.[27] The "development

[25] 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.

[26] 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 set such that it generates 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.[28] 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 with their own development type. Future school locations were identified based on information provided by city staff and the Bend-La Pine School District. [29]

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[30] (schools and parks are addressed separately as discussed above). Overall, 12.8% of the city's land area was found to be dedicated to these uses. This percentage set aside is applied to development types representing all plan designations in Envision Tomorrow.

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 18 and where changes to plan designations are proposed as part of the UGB adoption package.

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

[28] 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.

[29] 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.

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

CHAPTER 3. BASE CASE UGB CAPACITY

About the Base Case

The "Base Case" is a spatial projection of housing and employment growth through 2028 within the current UGB based on past trends and current policies, using the Envision Tomorrow model. The Base Case represents the current UGB's remaining capacity **prior** to applying assumptions regarding new residential efficiency measures and measures to encourage additional redevelopment of employment areas.

The reason to create a Base Case is two-fold: first, to understand the remaining UGB capacity as of 2014 if no policy changes were made, and, second, to compare the impacts of alternatives that incorporate efficiency measures for how they change UGB capacity. 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 C.[31] The city is required to base capacity analysis on data since the last periodic review, in 1998.[32] 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.[33] 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."[34]

City staff, in 2011, performed a detailed analysis of residential development activity in the city from 1999 through 2008 by BLI status. The analysis found:

- Land classified as "partially vacant" had very low levels of building permit activity – only 80 permits over 10 years.

[31] 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.

[32] 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.

[33] 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.

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

- Under 6% of lots (and 26% of acres) classified as "developed with infill potential" in 1999 received building permits for residential infill by 2008: 4% of the lots under one acre (4.5% of the acres in this category) and 36% of the lots over one acre (51% of the acres in this category).
- There was virtually no redevelopment activity – where an existing structure was demolished and additional units were built – on fully developed land during 1999-2008.[35]

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.[36] Thus, the estimation of vacant and developed acres on lots that are "developed with infill potential" or "partially vacant" accounts for an amount of further development that is roughly consistent with, but slightly higher than, the amount that has been seen historically. There is very little evidence of redevelopment through demolition in Bend to date. Thus the redevelopment rate for the developed portion of the partially vacant and developed with infill properties (which also applies to land that is fully developed) is set at zero.

Employment Land – Base Case Assumptions and Calibration

Employment development types were calibrated to the observed employment mix and density as of 2006, documented in Appendix D.[37]

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[35] There were a total of 50 permits issued on lands classified as developed where there was an existing unit AND where the existing unit was demolished; however, only 2 of them resulted in more units than had existed prior to the demolition. In both of these cases, duplexes were built after a single family home was demolished. The rest of the 50 permits resulted in the same number of units (e.g., a single family home was demolished and replaced with another single family home). Therefore, we can assume that only 2 permits were the result of redevelopment; the other 48 were merely replacements of existing units. This is not unexpected, given that for land to be classified as developed it had to be fully developed under the existing zoning regulations.

[36] The partially vacant lands are all less than a half-acre in size. Few have the right to add more than two additional units under current zoning, and none have the right to add more than four additional units. Nearly all are developed with an existing single-family home, and nearly half of the existing homes have been built since 1990. Given that they are, by definition, too small to further divide, the only way to add units would be through conversion to a duplex or triplex or to single family attached housing.

[37] The densities and mix in Appendix C were calculated based on City of Bend GIS analysis using Oregon Employment Department (OED) 2006 geo-coded Quarterly Census of Employment and Wages (QCEW) data for City of Bend. They have been adjusted to represent covered employment without shift-workers, employees in public schools, on institutional/recreational lands, and employees working in their own homes. These densities were approved as part of the 2008 EOA by LCDC in the Remand.

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 X 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 at the end of 2013 were over 12% - much higher than usual.[38] 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.[39] 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)
- 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 applied to developed land unless the existing employment density was less than one third of the average employment density of the development type in question (except in existing industrial

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

[39] 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.

areas where all parcels with employment densities below the employment density of the development type were "painted").[40]

Base Case Capacity Estimate

This section provides an estimate of the residential and employment capacity of the current UGB stated in terms of housing units and jobs, as required by OAR 660-024-0050.

Housing Capacity

The following tables and figures describe the residential capacity estimated in the base case scenario. Note that the number of new housing units reported is net of any existing units that may be lost through redevelopment in non-residential districts, and housing unit estimates are rounded to the nearest 10 units. Loss of units through redevelopment is shown in parentheses.

In total, the base case shows that the current UGB can accommodate roughly 9,960 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 close to 40% 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	6,520	65%
Single Family Attached	470	5%
Multi-Family	2,970	30%
Total	**9,960**	**100%**

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	190	-	-	190
RS	5,530	180	250	5,960
RM*	780	160	1,500	2,440
RH*	30	80	480	590
MDOZ*	-	-	640	640
MR	10	50	60	120
Other**	(20)	-	40	20
Total	**6,520**	**470**	**2,970**	**9,960**

[40] "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.

** 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, and employment estimates are rounded to the nearest 10 jobs. In total, the base case shows that the current UGB can accommodate about 13,670 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	5,210	38%
Retail & Hospitality	2,420	18%
Office	4,350	32%
Public	1,690	12%
Total	**13,670**	**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	10	-	-	-	10
RM*	50	30	-	-	80
MDOZ*	10	740	90	-	840
CC	100	30	-	-	130
CL*	610	520	90	80	1,300
CG	1,120	220	20	-	1,360
CB	90	200	-	20	310
IL**	90	1,850	4,210	130	6,280
IG	10	130	410	-	550
MR	200	270	60	-	530
ME	110	360	330	-	800
PF***	20	-	-	590	590
Total	**2,420**	**4,350**	**5,210**	**1,690**	**13,670**

** 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.*

Land for Parks, Schools, and Other Uses

The Base Case includes 658 acres for right-of-way (19% of vacant acres developed). 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 vacant land.

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 401 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), and roughly 13% of the vacant land developed.

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[41]	Residual Housing Need	Percent of Housing Need Met
Single Family Detached	6,520	9,220	2,700	71%
Single Family Attached	470	1,680	1,210	28%
Multi-Family	2,970	6,330	3,360	47%
Total	**9,960**	**17,230**	**7,270**	**58%**

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

Employment Category	Net New Jobs	Total Employment Need[42]	Residual Employment Need	Percent of Employment Need Met
Industrial	5,210	6,520	1,310	80%
Retail & Hospitality	2,420	6,540	4,130	37%
Office	4,350	7,160	2,810	61%
Public[43]	1,690	1,720	30	98%
Total	**13,670**	**21,940**	**8,280**	**62%**

[41] 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.

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

[43] 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

Overview & Evaluation Process

The Residential and Employment TACs considered and discussed a robust package of efficiency measures 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 and other perspectives 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. However, the Residential and Employment TAC recommendations also proposed larger scale changes by focusing 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, recognize the opportunities provided by larger vacant sites to be master planned in the future, and the need to provide modest code changes to make it easier to do slightly more intensive and a greater mix of housing in existing residential areas. Together, these measures encourage the transition from a primarily suburban community to one which will become a small city over time.

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 minimum during the 2028 planning horizon.

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

- Replacement of an existing single-family home in any zone and development on a vacant platted lot consistent with an approved land division are exempt from density standards. These are tighter exceptions than in the existing language, 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) 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 ADUs, cottage homes, and duplexes on corner lots).

It is worth noting that a development site generally would need to be over 10,000 square feet 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 not

likely to be an attractive option for small infill projects, and making them permitted instead of conditional will have minimal impact on infill on small lots. It may, 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) be something other than traditional single family detached housing (e.g. ADUs, cottage homes, townhomes, duplex/triplex, multifamily). This is intended to help that zone achieve the needed mix of housing units without changing the minimum density.

Between 1998 and 2008, single family detached housing comprised only about 24% of the new housing units in the RM zone, so this provision is unlikely to significantly shift the balance of housing types in that zone. Instead, it provides an additional back-stop to housing mix to avoid relying solely on market forces to produce the mix.

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. The Residential TAC recommended the following minimum density for master planned sites in each zone:

- RL: 50% of maximum (2.0)
- RS: 80% of maximum (5.84)
- 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 maximum percentages of housing units that may be single family detached (SFD) in order to ensure that housing mix is met. Observed past development trends that without minimum mixing requirements, developments tend to come in near minimum densities with higher percentages of single-family detached dwellings than the needed mix going forward. The newly proposed mix requirements below 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.

- RL and RS: no more than 90% of units SFD
- RM: no more than 33% of units SFD

- RH: no more than 10% of units and land area SFD[44]

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 gross density range. Proposed changes to minimum lot area include:

- Single Family Detached Housing in the RM zone: from 3,000 square feet (sf) to 2,500 sf
- Townhomes in the RH zone: from 2,000 sf per unit to 1,600 sf per unit
- Multifamily housing in RM and RH zones: remove minimum lot size, and allow gross density to control the allowed number of units

Because the maximum gross density standards are not changing in the RM and RH zone, these changes will primarily affect larger developments that can take advantage of lot size averaging and those with higher right-of-way and/or open space set-asides, where the net density may be substantially higher than the gross density.

Density Bonuses

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 (as defined in the code[45]) – the greater the percentage of affordable units, the greater the density bonus. This is an important tool 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 overall.

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 32).

The mixed use zones allow residential uses outright as well as 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

[44] Because new single family detached housing is prohibited in the RH zone, this only applies if flexibility to deviate from that standard is allowed through the master plan process.

[45] “Affordable housing means housing that is affordable for households earning up to 100 percent of the area median income (gross), as defined by the Federal Department of Housing and Urban Development, so that the household spends no more than 30 percent of their gross household income on housing-related expenses (e.g., rent, mortgage, and essential utilities).” (BDC Chapter 1.2)

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.

The impact of the new mixed use zone is discussed under "Changes to Plan Designations for Opportunity Sites" on page 32.

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).
- 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 draft 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.

Combined with modest reductions to parking requirements, these adjustments will allow more intensive development for some parcels, but the impact is likely to be limited without more significant reductions to parking requirements.

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 used for housing in the commercial and mixed use zones is used efficiently, the draft package of code amendments include minimum density standards for targeted areas. The Employment TAC did not support applying minimum residential densities throughout the city in commercial and mixed use zones, but did support applying them in opportunity areas and adjacent to transit. 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. In commercial zones and in the ME and Professional Office (PO) zones (the existing mixed use zones, except for the MR zone that has its own master plan associated with it), the minimum density for sites adjacent to transit 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.

Changes to Plan Designations for Opportunity Sites

Based on discussions with the Residential and Employment TACs, the following opportunity areas are identified for comprehensive plan map amendments and/or zone changes as efficiency measures. These opportunity areas are identified on Figure 2. Note: proposed plan and zone changes are preliminary and subject to further refinements.

1. Bend Central District – apply the Bend Central District (BCD) Overlay Zone/Special Plan District *(overlay zone/special plan district only; no plan designation change)*

The Central District area is expected to generate capacity for roughly 320 housing units and greater employment density, primarily through redevelopment of the areas along 1st and 2nd streets.

2. East Downtown – Change General Commercial (CG) plan designations to MU

There is minimal redevelopment potential in this area in the 2028 planning horizon, though it presents a longer-term opportunity to extend the downtown.

3. Century Drive area – Change IL, CC, CG, and CL plan designations to MN and MU

Based on analysis done for the Central Westside Plan (CWP), this area is expected to have capacity for up to 400-500 dwelling units by 2028.

4. KorPine (plan & zone to mixed use) – IG to MU

This area could have substantial redevelopment potential within the planning horizon.

5. Juniper Ridge (eastern portion) – consider extending the Employment Sub-District overlay as a future action

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.

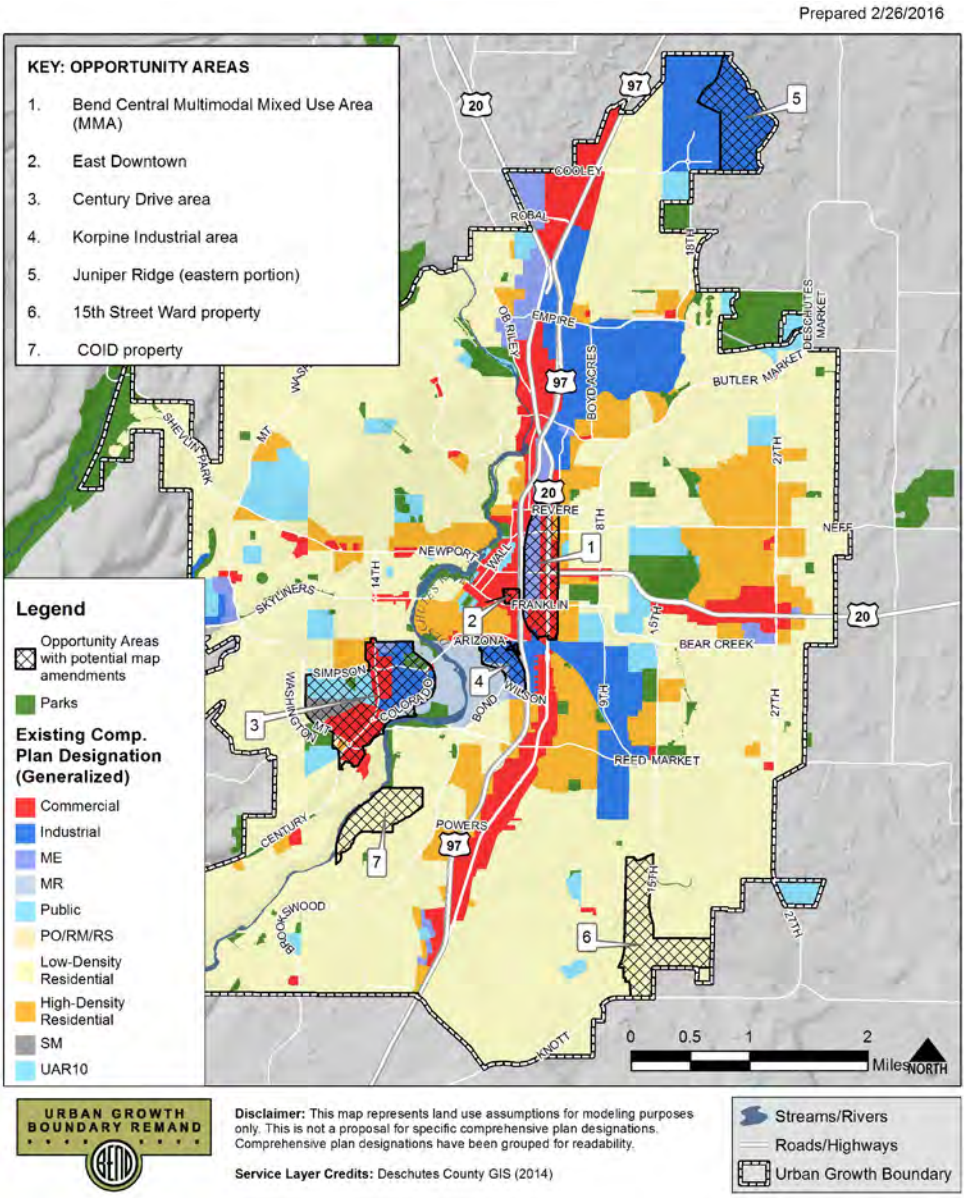
6. 15th Street Ward property - plan and zone amendments to include some RM, some RH and some Community Commercial (CC) rather than all RS

This property is over 200 acres in common ownership (excluding land recently acquired for a community park) and can accommodate substantially more housing units, including a greater mix of housing units, than allowed under current zoning. This represents a significant opportunity for increasing efficiency of land inside the existing UGB.

7. COID property – comprehensive plan only to RS from PF (RS zone already in place) on the unconstrained portion of the site

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.

Figure 2: Opportunity Areas with Potential Map Amendments



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 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.

Changes to 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. 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 heading).

- RL: increased average density of single family detached homes slightly, and added a small amount of ADU development.
- RS: 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 came out just above the new required minimum density. Increased average density and housing mix further for master plan sites to meet new minimum density and mix standards.
- RM: introduced a small amount of cottage home development.
- RH: eliminated single family detached homes from the mix and increased density of single family attached housing (townhomes),
- ME: shifted to slightly more urban building types and incorporated a small amount of live/work use and multifamily housing.

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.

As stated previously, details of the development types before and after accounting for efficiency measures can be found in Appendix E. [Note: Appendix E will be included with the final Urbanization Report, but is not included at this time.]

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. 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 assessors 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 10-20% 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.

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, and housing unit estimates are rounded to the nearest 10 units.

In total, the current UGB can accommodate roughly 12,250 housing units after accounting for the projected impact of efficiency measures. The mix of units projected with efficiency measures is roughly 54% single family detached, 37% multifamily, and 9% single family attached.

Table 12: Housing Capacity with Efficiency Measures

Housing Type	Net New Housing Units	Percent of new housing units
Single Family Detached	6,690	54%
Single Family Attached	1,060	9%
Multi-Family	4,500	37%
Total	**12,250**	**100%**

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	170	-	-	170
RS	5,740	240	590	6,570
RM*	760	450	1,570	2,780
RH*	-	200	770	970
MDOZ*	-	-	640	640
ME	-	20	10	30
MR	10	40	40	90
MN	10	100	320	430
MU	-	10	180	190
BCD*	-	-	320	320
Other**	-	-	60	60
Total	**6,690**	**1,060**	**4,500**	**12,250**

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

*** Other zones include commercial zones (with trace amounts of housing lost through redevelopment) and the PF zone, where some student housing associated with COCC is projected.*

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, and employment estimates are rounded to the nearest 10 jobs. In total, the current UGB can accommodate close to 15,000 jobs after accounting for the projected impact of efficiency measures for employment lands described on pages 31-32.

Table 14: Employment Capacity by Category with Efficiency Measures

Employment Category	Net New Jobs	Percent of new jobs
Retail & Hospitality	3,270	22%
Office	5,390	37%
Industrial	4,490	30%
Public	1,730	12%
Total	**14,880**	**100%**

Table 15: 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	30	20	-	-	50
RM*	50	30	-	-	80
RH*	10	-	-	-	10
MDOZ*	10	740	90	-	840
CC	210	140	10	-	360
CL*	450	380	70	60	960
CG	1,070	210	20	-	1,300
CB	90	200	-	20	310
IL**	-	300	1,730	-	2,030
IG	-	90	290	-	380
MR	140	190	40	-	370
ME	480	400	370	10	1,260
MN	370	490	(30)	(10)	820
MU	200	70	(20)	-	250
BCD*	90	270	(10)	10	360
PF***	20	-	-	1,460	1,480
Juniper Ridge**	50	1,860	1,930	180	4,020
Total	**3,270**	**5,390**	**4,490**	**1,730**	**14,880**

** 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.*

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:

- 649 acres of land for right-of-way (18.8% of vacant acres developed, but 21.5% of vacant land 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 70 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 65 acres of land for schools; and
- 388 acres of land for other uses (10.5% of total acres developed or redeveloped, but 12.8% of vacant land after excluding vacant platted lots), such as churches, benevolent/fraternal organizations, utilities, canals, cemeteries, golf courses, properties owned by irrigation districts, and RV parks.

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 16 and Table 17, 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 16: Housing Capacity with Efficiency Measures Compared to Housing Needs by Housing Type

Housing Type	Net New Housing Units	Total Housing Need[46]	Residual Housing Need	Percent of Housing Need Met
Single Family Detached	6,690	9,220	2,540	72%
Single Family Attached	1,060	1,680	620	63%
Multi-Family	4,500	6,330	1,810	71%
Total	**12,250**	**17,230**	**4,970**	**71%**

Table 17: Employment Capacity with Efficiency Measures Compared to Employment Needs by Employment Category

Employment Category	Net New Jobs	Total Employment Need[47]	Residual Employment Need	Percent of Employment Need Met
Industrial	4,490	6,520	2,030	69%
Retail & Hospitality	3,270	6,540	3,280	50%
Office	5,390	7,160	1,770	75%
Public[48]	1,730	1,720	-	100%
Total	**14,880**	**21,940**	**7,080**	**68%**

[46] 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.

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

[48] 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. UGB EXPANSION

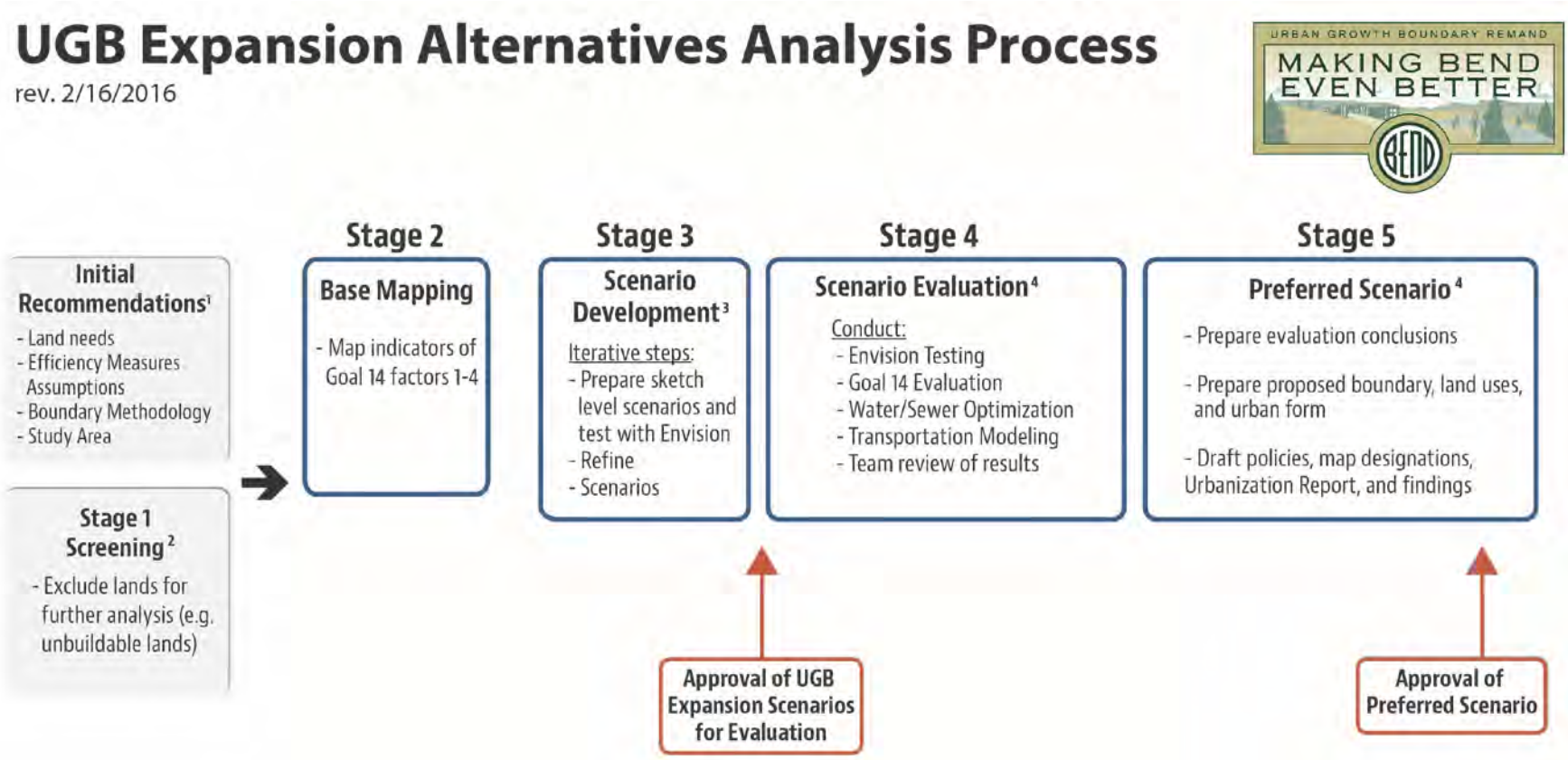
Overview & Evaluation Process

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 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

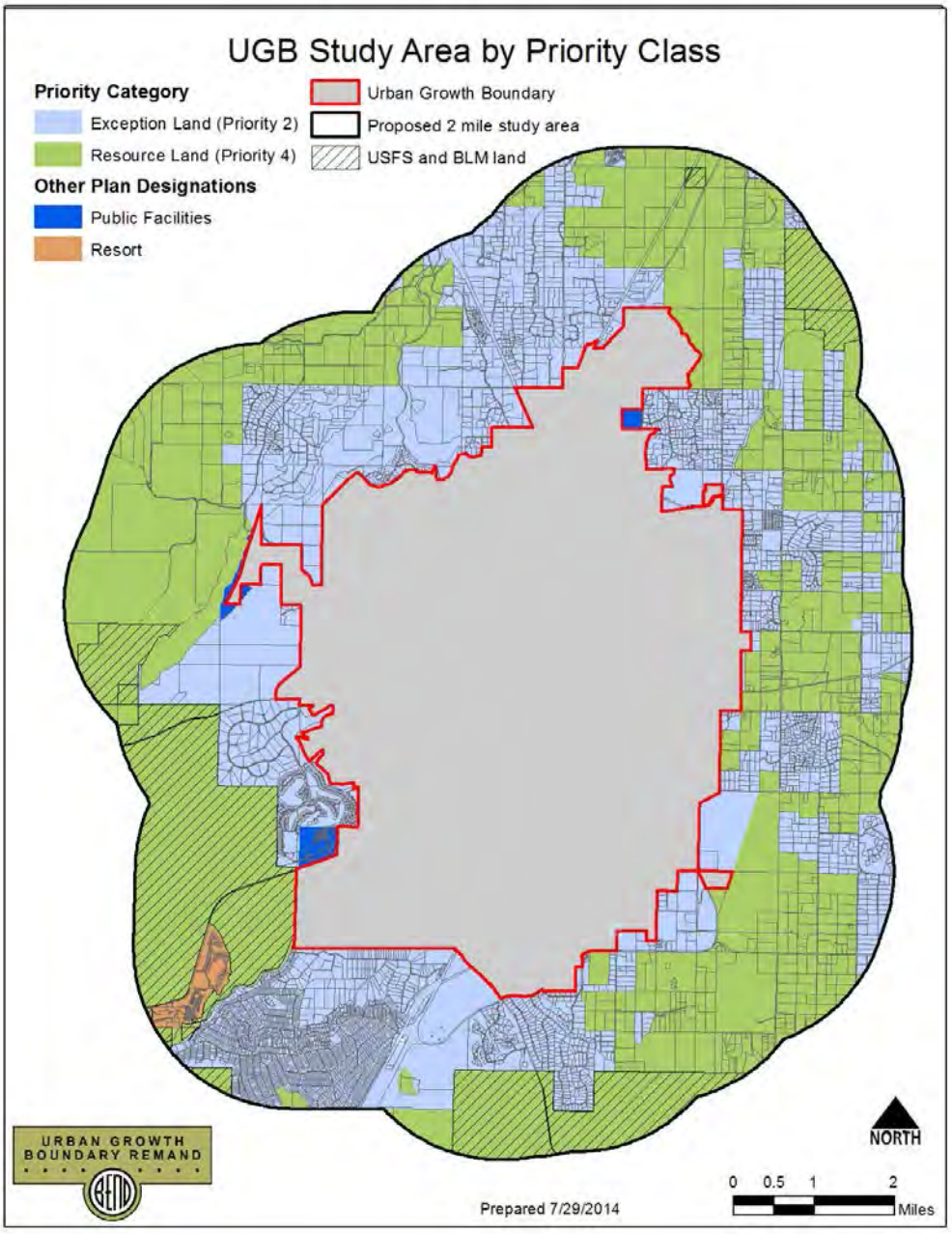


Stage 1: Screening of lands for further analysis

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



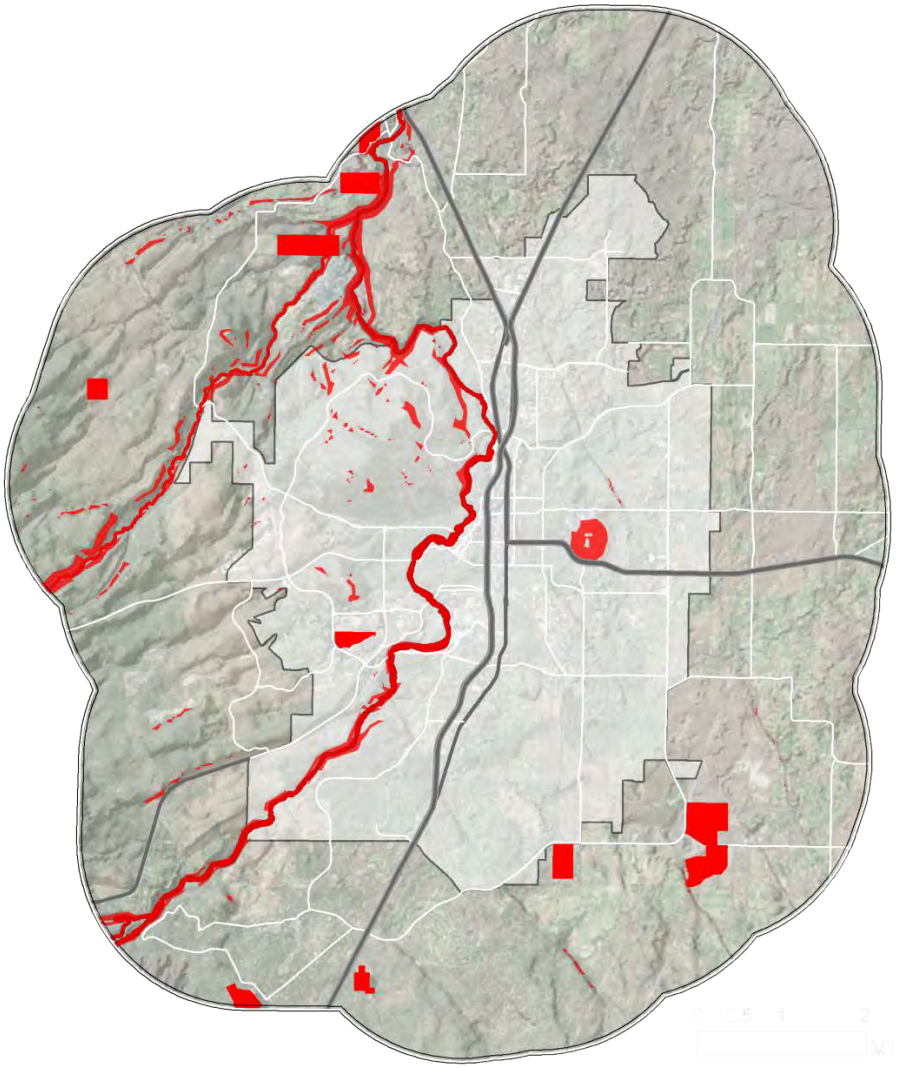
The City's approach to screening land from further consideration prior to applying the Goal 14 evaluation is summarized below.

Exclude lands that are not buildable[49]

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 part of 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

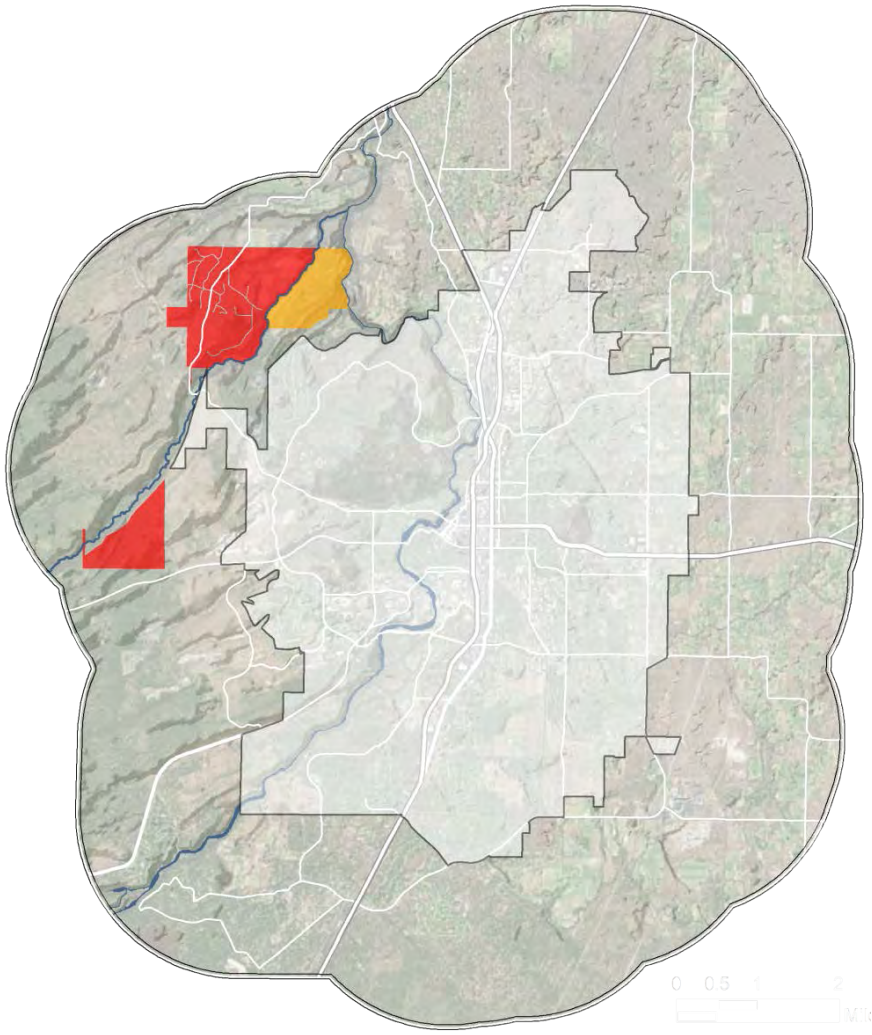
Exception lands within the acknowledged Deschutes County Wildlife Overlay (deer winter range) were screened from further analysis. These areas are considered significant habitat by

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

Figure 6: Land screened from consideration for UGB expansion

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.



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.

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

- **Gravity system (City of Bend)**: Consideration of exception areas that could be served by gravity 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)

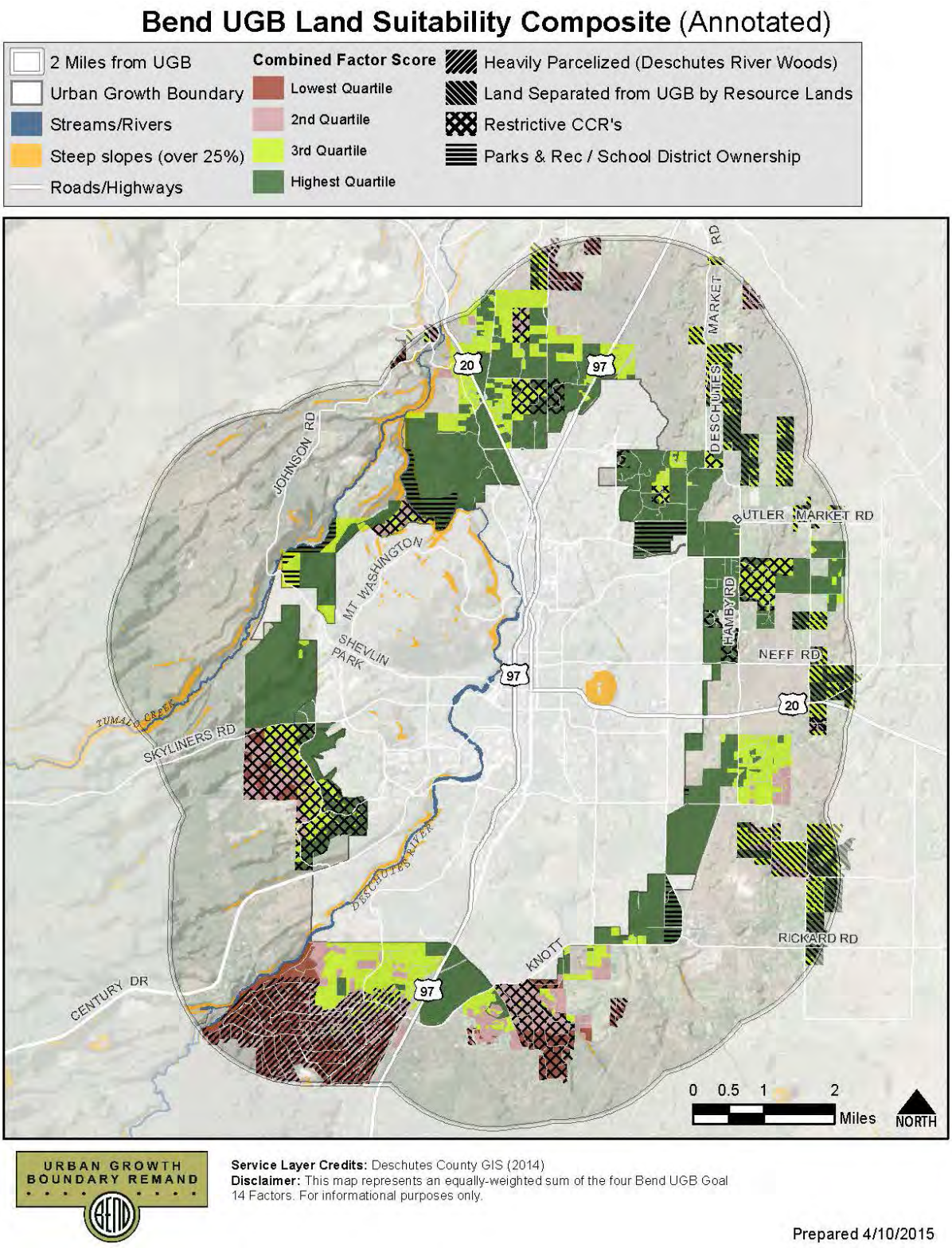
Results

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

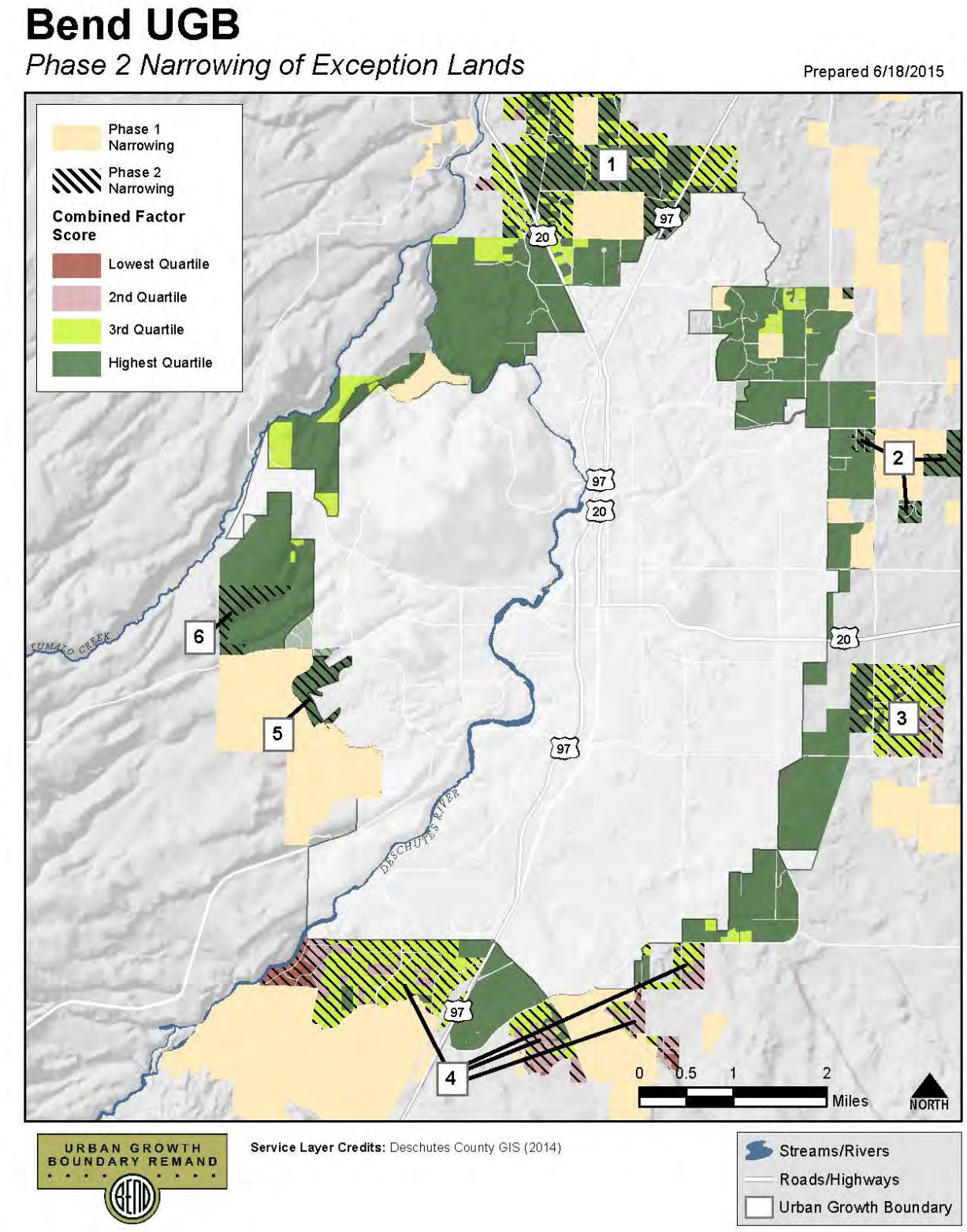


Further consideration of the Stage 2 Base Mapping results in Phase 2 of the project highlighted additional areas that were, on balance, less appropriate to bring forward for further evaluation. The brief summaries below are keyed to specific locations on the map on Figure 8: Further Narrowing of Exception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



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".

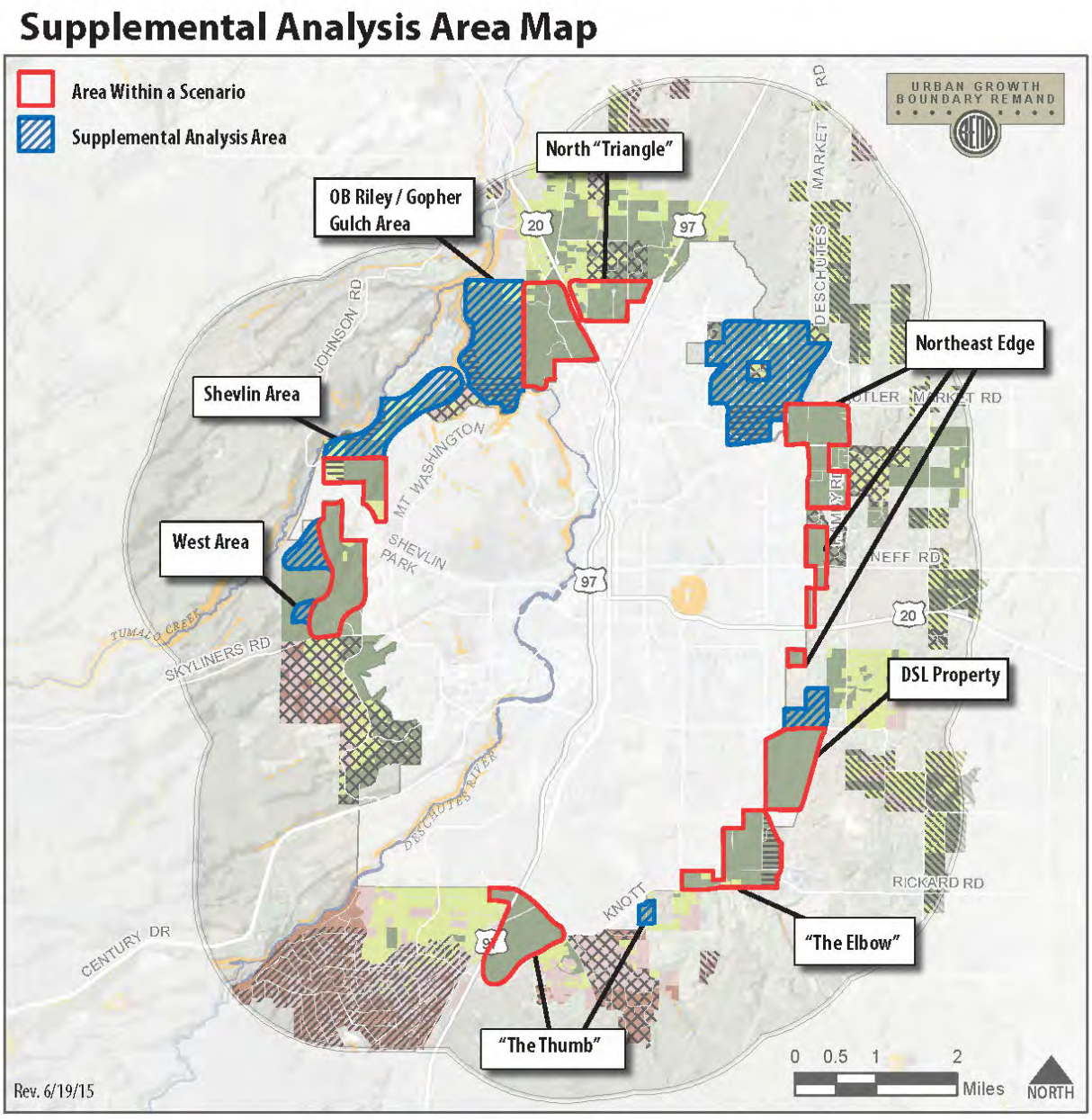
Some of the models used for scenario evaluation (such as the transportation model) require "budgeted" land use assumptions in order to do a full evaluation and an "apples to apples" comparison against land included in the three UGB Expansion Scenarios. In order to respond to the direction for equal evaluation, 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 18 summarizes the land use concept in each subarea for each of the three scenarios and three SAAMs.

Figure 10: UGB Expansion Scenarios and SAAMs

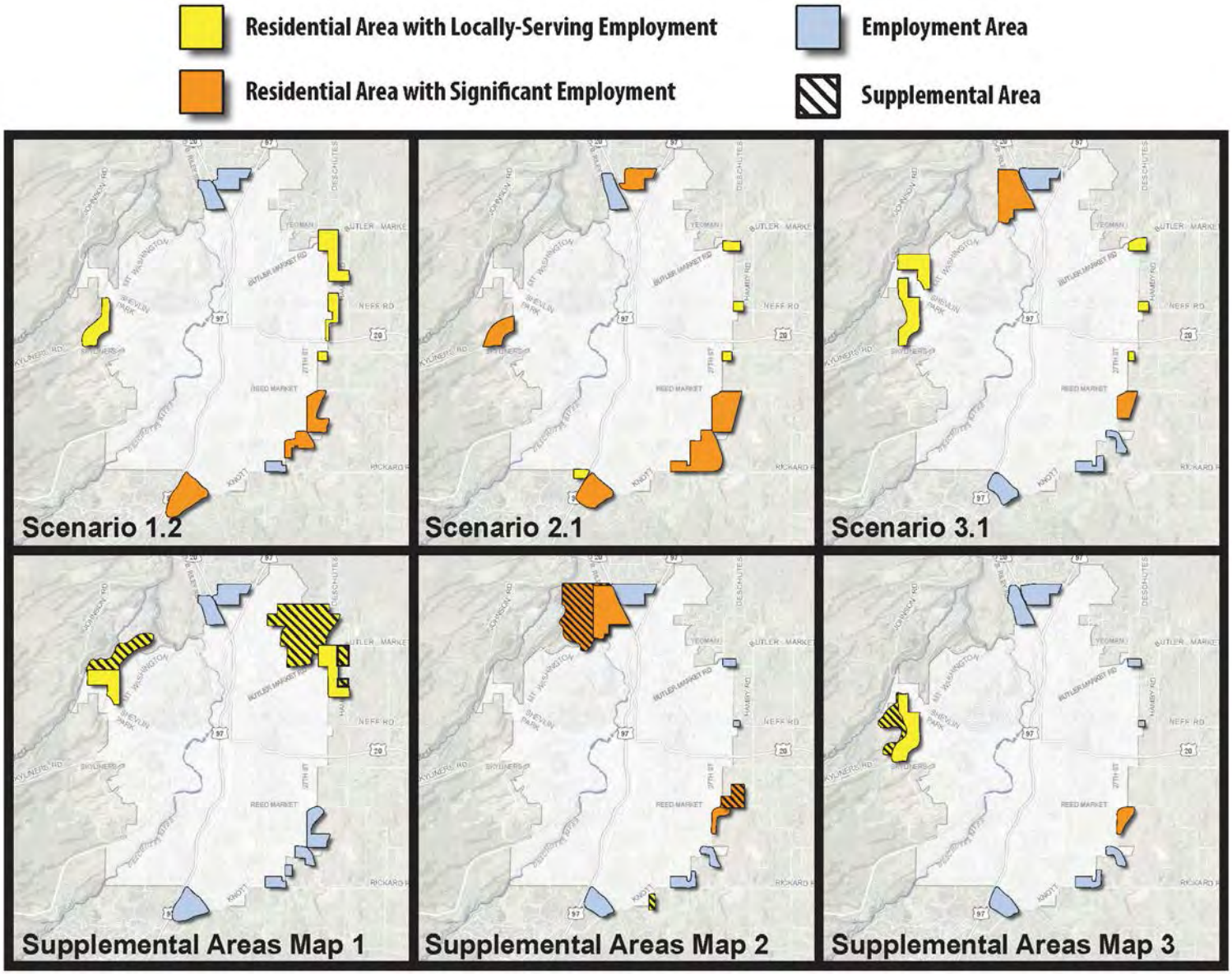


Table 18: Land Use Concepts by Subarea for UGB Expansion Scenarios and SAAMs

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

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 19, 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 19: Goal 14 Factors, Community Outcomes, and Performance Measures

Goal 14 Factor	Community Outcome	Performance Measures	Relative Importance[50]	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.

[50] 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[50]	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).[51] 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.

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

Goal 14 Factor	Community Outcome	Performance Measures	Relative Importance[50]	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[50]	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[50]	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[50]	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[50]	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 Evaluation Results

Best-Performing Alternative(s)

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 27th / 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 avoids riparian areas, limits expansion in wildlife areas, does not have any features that prevent mitigation of wildfire risk in any expansion areas, and has fairly low energy and water consumption and greenhouse gas emissions); and
(6) Housing Options and Affordability (because it has good housing mix in nearly all subareas and good housing affordability with significant housing growth in the southeast[52]).

The two Community Outcomes where Scenario 2.1 was not in the Top Tier were Strong Diverse Economy (because it places 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 has 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.

[52] 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.

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

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

Key Advantages

Key Disadvantages

- Outer portions may be difficult to reduce fire hazard
- Proximity to forest land in western corner

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. Several rounds of refinements were completed that 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, which also facilitates creating a new north/south transportation connection (Skyline Ranch Road); and
- consolidating growth in the northeast to a single larger block of land where a new complete community is possible rather than multiple small expansion areas.

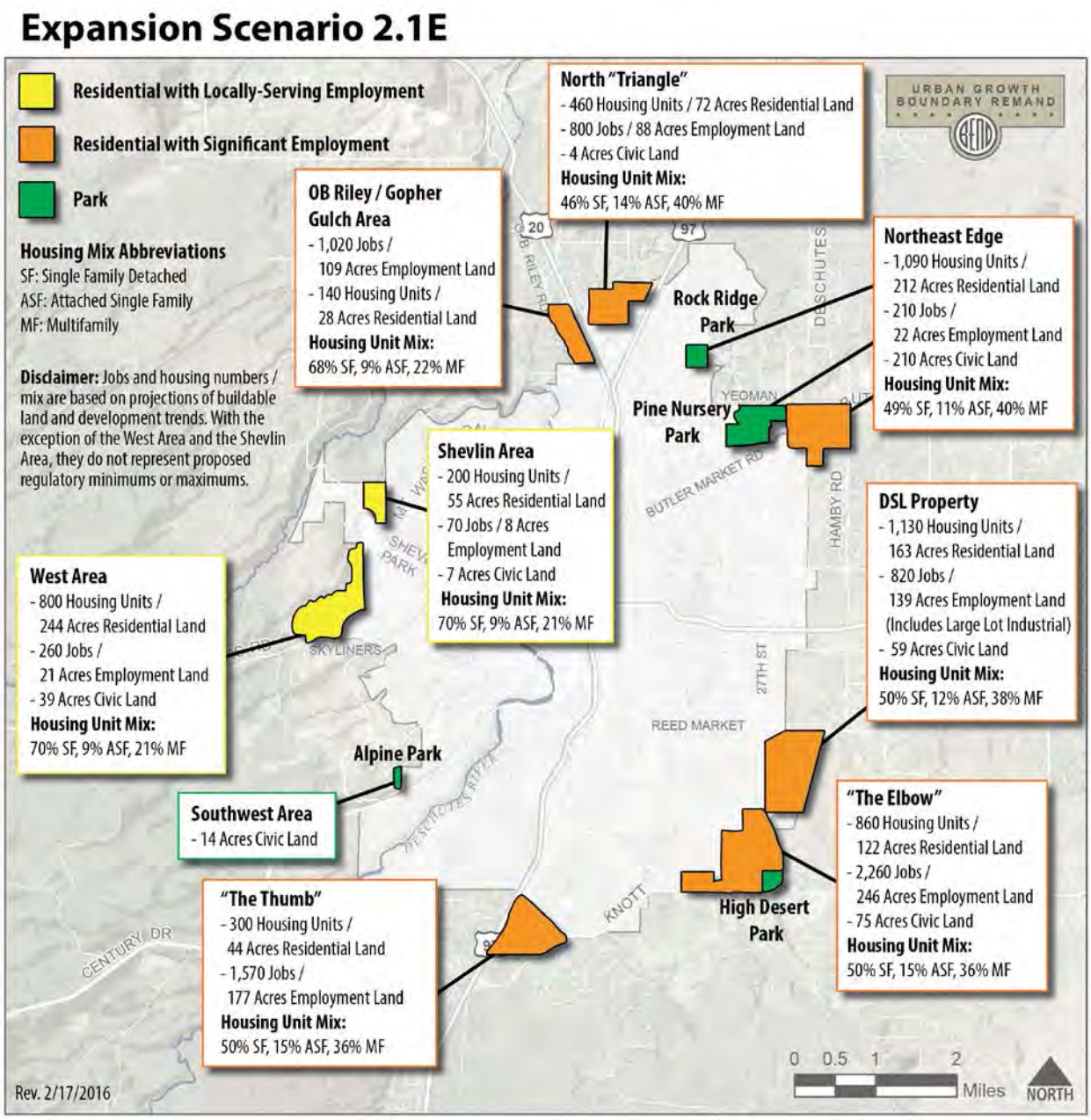
The Boundary TAC and USC provided input at multiple meetings, and directed refinements based on public testimony in the context of balancing the four Goal 14 factors.

Proposed UGB Expansion

Summary of Proposal

The proposed UGB expansion is for a total of 2,153 acres – 940 acres of residential land, 812 acres of employment land, and 402 acres of land for schools and parks. The land use concept proposed in each expansion area is shown on Figure 11 and described on the following page.

Figure 11: Preferred UGB Expansion Scenario - Expansion Concepts Map



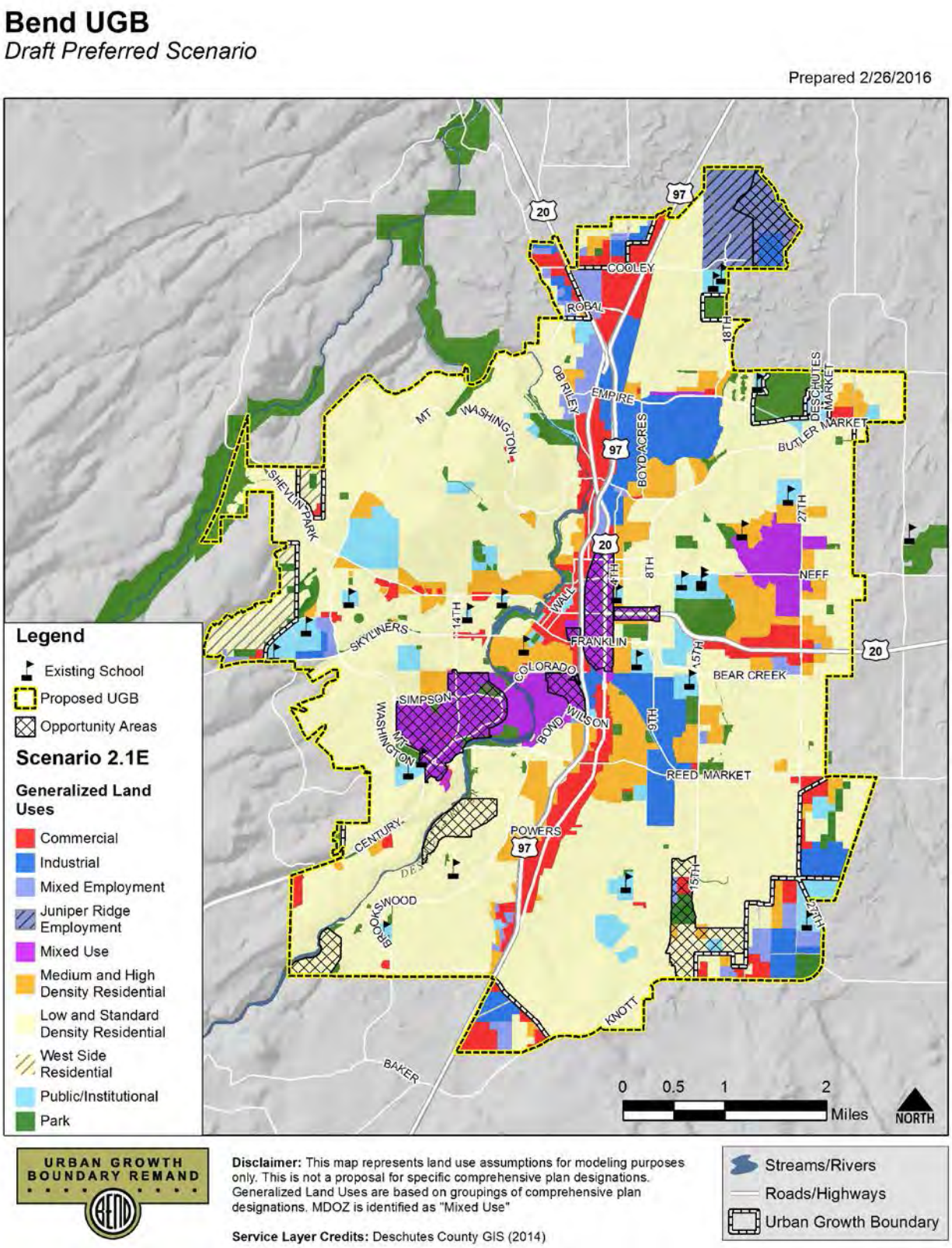
OB Riley / Gopher Gulch: Limited to area east of OB Riley; employment-focused, but with a residential component in the east and south part of the subarea.

- **North Triangle:** Excludes parcelized area on the western edge adjacent to Hwy 20 and a few roughly 10-acre parcels at the northern edge of the subarea; mix of housing & employment.
- **Northeast Edge:** Full "Butler Market Village" area included, plus a few adjacent parcels south of Butler Market Road; housing with a commercial node.

- **DSL Property:** Full area included; mix of housing and employment uses.
- **“The Elbow”:** Full area included; mix of housing and employment uses.
- **“The Thumb”:** Roughly half of area included; primarily employment uses but with a housing component.
- **West Area:** Full extent of Miller property plus a strip extending north to allow for the extension of Skyline Ranch Road; residential focus with a small commercial / mixed employment area.
- **Shevlin Area:** Roughly 70 acres of the “notch” included; residential focus with a small commercial node.

Figure 12 illustrates the generalized land uses proposed for the future UGB, including the concept for each expansion area as well as showing new mixed use opportunity areas inside the existing UGB.

Figure 12: Generalized Land Uses for Proposed Future UGB



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 is provided below.

Housing Capacity

The following tables and figures describe where 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, and housing unit estimates are rounded to the nearest 10 units.

Table 20: Full Proposed UGB Housing Capacity by Type

Housing Type	Total Housing Need[53]	Net New Housing Units Inside Current UGB	New Housing Units in UGB Expansion Areas	Total New Housing Units
Single Family Detached	9,220	6,690	2,560	9,250
Single Family Attached	1,680	1,060	630	1,690
Multi-Family	6,330	4,500	1,820	6,320
Total	**17,230**	**12,250**	**5,010**	**17,260**

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.

Employment Capacity

The following tables and figures describe where 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, and employment estimates are rounded to the nearest 10 jobs.

[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.

Table 21: Full Proposed UGB Employment Capacity by Category

Employment Category	Total Employment Need[54]	Net New Jobs Inside Current UGB	New Jobs in UGB Expansion Areas	Total New Jobs
Industrial	6,520	4,490	2,040	6,530
Retail & Hospitality	6,540	3,270	3,220	6,490
Office	7,160	5,390	1,740	7,130
Public	1,720	1,730	40	1,770
Total	**21,940**	**14,880**	**7,040**	**21,920**

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, Schools, and Other Uses

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);
- 102 acres of open space set-asides that may be dedicated for public parks where appropriate; and
- 147 acres of developed park land in UGB expansion areas (Pine Nursery Park).[55]

In total, the 227 acres of park land need identified in Chapter 1 (see page 13) is met by the proposed future UGB, as shown in Table 22. Since only about 68 acres of the 102 provided for by all open space set-asides in the future UGB are expected to be needed for public parks, the remainder (about 34 acres) is assumed to be private open space.

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

[55] 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.

Table 22: How Park Land Needs are Met

	Neighborhood Parks	Community Parks	Total
Acres to be developed 2014 to 2028 [56]	65.6	161.8	227.3
Available undeveloped BPRD land inside existing UGB	29.1	43.8	72.9
Minimum Acres Needed in UGB expansion	36.5	117.9	154.4
Undeveloped BPRD land outside current UGB and proposed for inclusion in future UGB	16.8	69.7	86.5
Additional acres provided through master plans or other dedication / acquisition in UGB expansion areas	19.7	48.3	67.9

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 14). 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.

The proposed future UGB provides 1,043 acres of land for right-of-way (19.5% of vacant acres developed, but 21.2% of vacant land after excluding vacant platted lots). This meets the total need for new right of way.

The proposed future UGB provides a total of 568 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 34 acres of private open space (the open space set-asides above and beyond the need for public parks) are included, the total is 602 acres. This represents 10.7% of total acres of development / redevelopment, but 12.2% of vacant acres after excluding vacant platted lots. This meets the total need for new other land uses.

Evaluation Results

[This section will provide highlights of key Goal 14 evaluation updates for the preferred UGB expansion scenario. It will be filled in in April, following transportation and sewer analysis updates.]

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

CHAPTER 6. CONCLUSION

APPENDICES & RELATED DOCUMENTS

[Note: The appendices intended to be included with the Urbanization Report are listed for reference below. However, the appendices themselves are not included with the partial draft report at this time.]

Appendices

Appendix A State law cited in this report
Appendix B Index of relevant Remand directives
Appendix C Observed mix and density of housing by residential plan designation *(from 2011 BLI memo)*
Appendix D Observed mix and density of employment by employment plan designation *(from 2008 EOA)*
Appendix E Development type details
Appendix F Proposed efficiency measures code changes details *(development code amendment descriptions & details of what changed in Envision Tomorrow)*
Appendix G Stage 2 maps (all)
Appendix H Final scenario evaluation memo, with attached technical memos
Appendix I Detailed evaluation documentation for proposed UGB / hybrid scenario

Related Documents

Housing Needs Analysis

Economic Opportunities Analysis

Buildable Lands Inventory

Findings Report

Comprehensive Plan

Bend Development Code

City of Bend Urban Growth Boundary Remand

URBAN FORM BACKGROUND REPORT

Draft

March 2016

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1. PURPOSE

The Urban Form Background Report describes Bend's present urban form as a supplement to and in support for the Bend Urban Growth Boundary (UGB) Remand Project (the Project). This report summarizes work completed during Phase 1 of the Project. It outlines important causes and relationships to help inform how the city will grow and change in the coming years based on the desires of the community. The Urban Form Background Report is intended to:

- Document the urban form analysis that was completed as part of the initial phase of the project;
- Help understand how factors influencing past development have shaped Bend;
- Characterize the city's urban form today; and
- Provide a reference document to inform aspirational discussions of Bend's future urban form through the comprehensive planning process that is currently underway.

Document Organization

This document is organized in the following four sections, beginning with an overview of Bend's urban form context, followed by a summary of the existing urban form typologies, concluding with ideas for future growth and integration with further planning.

- **Section 2:** Urban Form and Complete Neighborhoods, provides a definition of the important concepts used to define and apply the urban form typologies.
- **Section 3:** Community Identity and Urban Form Context, provides a physical description of Bend today, focusing on the elements that influence its urban form, including natural features, public spaces, the transportation network, and existing neighborhoods.
- **Section 4:** Development Typologies, defines each typology, consisting of neighborhoods, centers and corridors, employment districts and public facilities.
- **Section 5:** Future Growth Considerations, presents implications of Bend's existing urban form on future development as it relates to the project.

TERMS USED IN THIS DOCUMENT

- ***UGB Remand Project (the Project):*** The City of Bend's Urban Growth Boundary (UGB) Remand Project.
- ***The Project Team:*** The consultant team response ble for carrying out the project. This includes individual consultant firms led by Angelo Planning Group (APG), and City staff involved in managing the project.
- ***Urban Form:*** The study of the city's physical design, use of spac e and arrangement of land uses.
- ***Typologies:*** A classification system used to describe and organize commonalities among a larger and more complex system.

Project Goals

The UGB Steering Committee approved Project Goals to provide comprehensive direction for the overall planning effort and its desired outcomes, and to address the overarching question: “How should the city grow?” Each goal informs a range of concepts that will shape Bend’s future urban form.

Project Goals*	Urban Form Concepts
A quality natural environment	• Nature frames and weaves through the city
Balanced transportation system	• Streets, paths, bikeways and places for people • The city’s street system is connected and legible
Great neighborhoods	• Walkable neighborhoods define residential areas of the city • Small mixed-use neighborhood centers and activity centers are integral to every neighborhood
Strong active downtown	• Downtown is Bend’s best mixed-use center–the heart of the city
Strong diverse economy	• Employment areas are identifiable districts within the city
Connections to recreation and nature	• Connections to recreation and nature weave throughout, and outside of, the city
Housing options and affordability	• Many housing types are integrated into neighborhoods throughout the city • High density housing is focused in areas with transportation options and access to services
Cost effective infrastructure	• Growth is focused in areas where it can be efficiently served with infrastructure, including areas with existing services and capacity

** Approved by Urban Growth Boundary Steering Committee in September 2014*

Approach

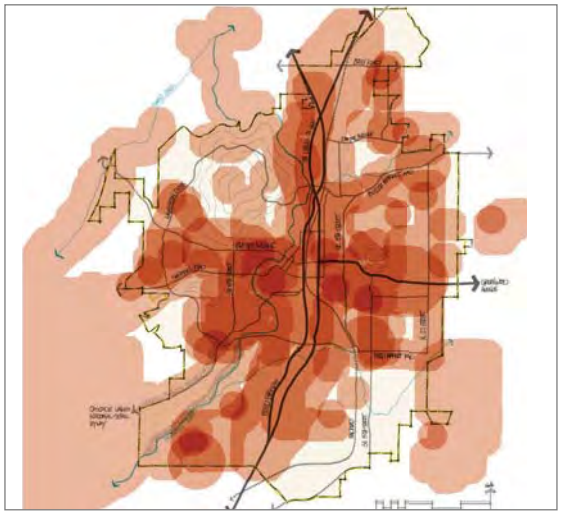
The approach to characterizing Bend's existing urban form consisted of three general steps. During each step, the planning team worked collaboratively with the City to verify on-the-ground conditions and fact check locations and descriptions as typologies emerged.

1. **Project Goals and Data Gathering:** The Project Goals served as an initial guiding framework toward developing both the urban form study and the criteria used in the urban form analysis. Using recent GIS data, the planning team then generated layers of city-wide information, including land use and zoning, employment type and property ownership. The larger project team helped to identify data related to the existing transportation network, development opportunities (Buildable Land Inventory), future growth (Housing Needs Analysis), and review of existing plans, policies and systems (parks and schools, public facilities, etc.).

2. **Analysis and Preliminary Typologies:** The urban form analysis was built on an iterative discussion with the project team, City staff, and project committees. A closer look at Bend's existing neighborhoods reveals unique patterns and characteristics across the City. The project team studied Bend's existing urban form through a range of conditions depicted in these map examples. This analysis formed the basis of the typologies described in Chapter 4.

   MIG provided frequent updates to inform the team, then incorporated feedback and additional research to refine and improve the analysis. During this step, the preliminary urban form typologies were used to identify opportunity areas for redevelopment within the UGB, and to inform the development of the Efficiency Measures; two tasks that occurred later in the process.

AMENITIES AND WALKING/BIKING DISTANCES



CONNECTIVITY BARRIERS



CONNECTED AND COMPLETE NEIGHBORHOOD TYPOLOGIES



3. **Review and Refinement:** The project team presented preliminary urban form factors and typologies to the technical advisory committees for review and refinement, followed by additional discussion at the Current UGB Workshop in December 2014. The workshop served to test and confirm final changes to the urban form typologies within the existing UGB.



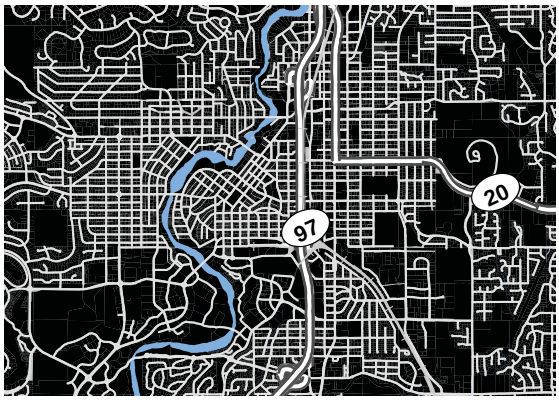


The Current UGB Workshop event held in December 2014

2. URBAN FORM AND COMPLETE NEIGHBORHODS

What is Urban Form?

The process for examining Bend's existing land uses and neighborhoods included a study of its existing urban form. Urban form encompasses the physical shape and design of a city, comprising both natural and built environments. The layout of Bend's streets, location and design of homes and businesses, and distances between destinations all inform the city's urban form and directly affect the quality of life for residents. Urban form influences land values; where residents live, work, shop and relax; everyday travel choices; and whether commute trips can be made by walking or biking, using transit, or driving.





Top: Central Bend's street network and connectivity
Bottom: Downtown Bend and Mirror Pond

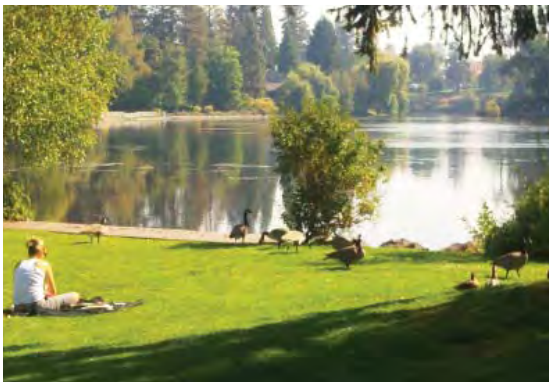
Everyone experiences urban form of a city in different ways. A small group of shops and cafes centered on a street intersection or along a street corridor can define an entire street or business district. The sidewalk cafe provides a convenient place to eat. Outdoor seating becomes an opportunity to meet and talk with friends or conduct business. Storefronts and sidewalk displays provide advertising and also serve as landmarks for orientation. All of these characteristics combine to create a place that is active, welcoming, and memorable.

Bend's urban form also directly affects natural systems such as air and water quality, health, and diversity of plants and wildlife. Street trees, landscaped medians and round-abouts provide a green and living contrast to the street and building facades. Impervious surfaces such and streets, parking lots, and rooftops require design solutions and space that store and treat water run-off before it is conveyed to streams and rivers. While an integrated natural and built urban form can create sustainable, memorable, and lasting places, development choices that result in greater distances between homes, jobs, and services can increase travel distances, increase traffic congestion, and negatively affect air and water quality.

Complete Neighborhoods by Design

The planning process also included an assessment of efficiency measures for maximizing the use of land with an emphasis on creating complete neighborhoods. Complete neighborhoods are a characteristic of good urban form. They have many of the essential services and amenities needed for daily living, all within a convenient walking or biking distance (generally defined as a ¼- to ½-mile distance). Complete neighborhoods include quality public schools and varied housing options. Existing complete neighborhoods in Bend include the tight-knit collections of homes, shops, parks, and schools that form the Old Bend or River West neighborhoods. These neighborhoods are highly regarded by residents and visitors alike for their compact, walkable nature and their easy access to parks, trails, natural areas, neighborhood-oriented shops, and restaurants.

Convenient access to public transportation is another key ingredient of a complete neighborhood. Transit oriented development featuring a mixture of housing and retail near public transit corridors, or development areas with shorter distances to nearby services and amenities can result in entire neighborhoods that are transit supportive. For example, locating a major new employment center within a ¼ to ½-mile from parks, trails, and services would encourage active transportation for workers to make quick trips by walking, biking, or transit.







Top: Mirror Pond provides nature within proximity to Downtown
Middle: Attached townhomes allow for moderate density housing
Bottom: Dining options create a complete neighborhood

3. COMMUNITY IDENTITY AND URBAN FORM CONTEXT

Bend's identity and unique urban form context stem from the city's evolution of natural and constructed forces. Natural features such as the Deschutes River and Pilot Butte create inherent boundaries for growth, limiting where and how development can occur while creating opportunities for scenic and recreational resources. Natural features can also provide opportunities to define a positive urban form as Bend has done by integrating residential areas within and near parks, open spaces and trails. While a river is still a barrier for travel, its positive impact and potential as a defining resource within a community provide a strong identity and potentially beneficial constraint within Bend's urban form.

Constructed features, including busy arterials such as Highway 97 or the city's many irrigation canals strongly influence the pattern and design of city streets, allowing new growth to occur in areas that were previously inaccessible. These same elements can also create barriers in and through the city that limit transportation access and connectivity, generate noise or visual blight, or cause fragmented or isolated development patterns. The composition of Bend's neighborhoods are also central to the city's identify, livability, and quality of life. Each neighborhood has a unique story based on a combination of natural and built forces, leading to a patchwork of places with different architectural styles and shapes, street designs, and densities.

The following provides a more detailed overview and discussion of how topography and natural form, public realm, transportation and connectivity, and existing neighborhoods and density influence Bend's urban form and community identity.





Top: Mixed-use development with office, retail and residential
Bottom: Attached townhomes oriented towards street front

Topography and Natural Features

Bend's changing topography and abundant natural features are major influences in its existing urban form and identity as a city. In many ways, the city's rapid growth is a direct result of its natural and scenic beauty and proximity to the outdoors. Bend is uniquely situated between the Cascade Mountain Range and Deschutes National Forest to the west, and high desert plains to the east. The area of the city that falls on the eastern side of the Deschutes River is generally level, while land west of the Deschutes has more varied topography.

Mt. Bachelor and the Three Sisters create a scenic backdrop of snowcapped peaks, separated from the city by only about 20 miles and a relatively gradual change in elevation from 3,600 feet to 10,000+ feet. When entering Bend from the north, Aubrey Butte can be seen rising above the surrounding landscape, serving as a focal point and organizing feature: its presence serves as a visual gateway to Bend and a wayfinding landmark to navigate around the city. The gradual slope of the butte has allowed for surrounding housing development. As a contrast, Pilot Butte—an extinct volcano east of Bend—is protected as state park land, limiting development potential along its base.

The Deschutes River meanders its way north through the center of the city, eventually forming a wide and slow moving water body (known as Mirror Pond) due to a hydropower dam to the west of Downtown. At its southern extent within the city limits, the river canyon is steep, with dramatic, terraced rock outcroppings along its western edge. Along its eastern edge, the river bank is more gradual and has allowed for lower density residential development in the southern portion of the city. To the northwest of Bend, Tumalo Creek runs just outside of the city limits before its confluence with the Deschutes River to the north of Bend. The City of Bend preserved a section of the creek within the 652-acre Shevlin Park.

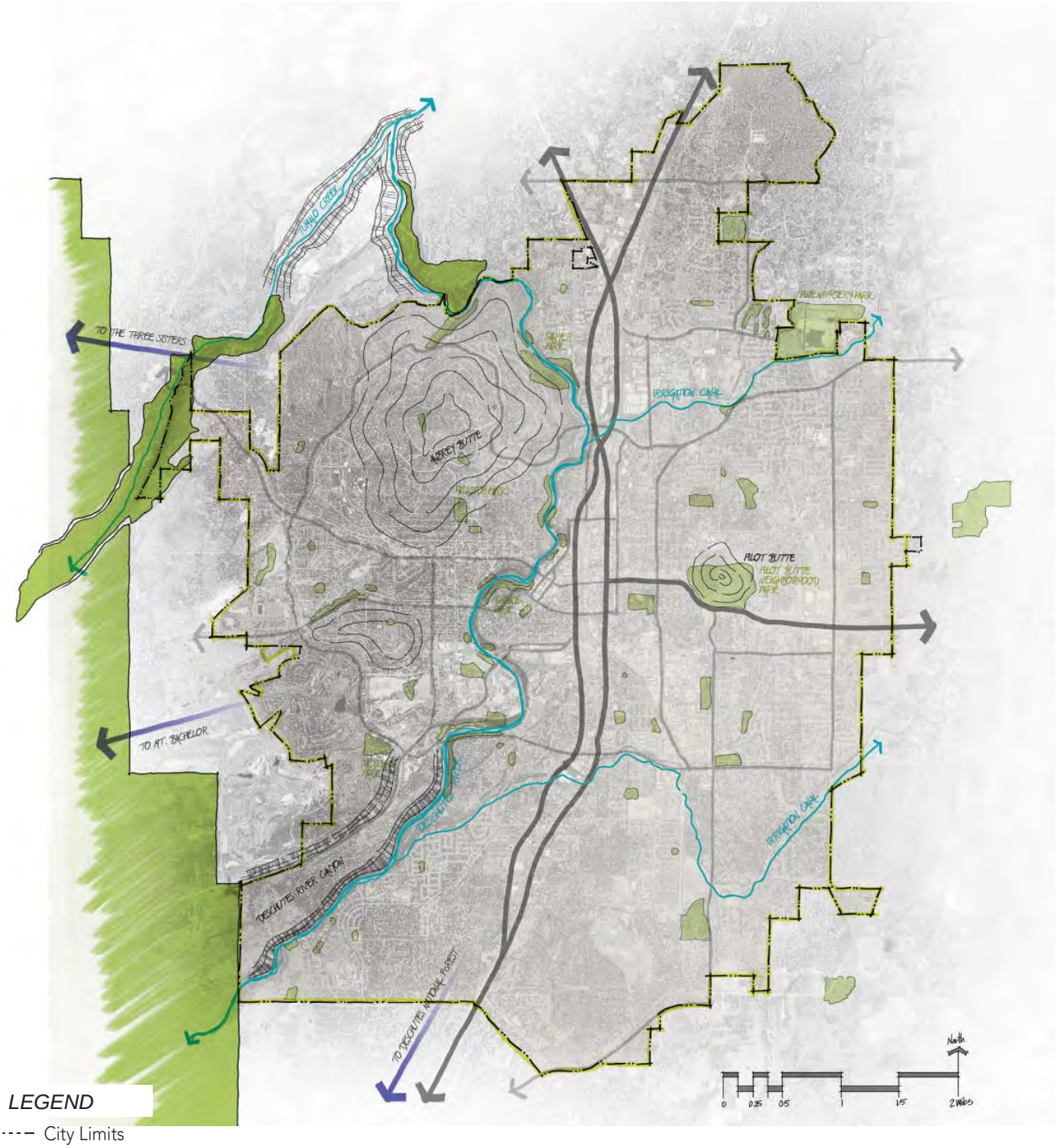






Top: View of Sisters Mountains from Bend
Middle: View of Pilot Butte in eastern Bend
Bottom: Rafters on the Deschutes River

TOPOGRAPHY AND NATURAL FEATURES



LEGEND

- City Limits
- Urban Growth Boundary
- River/Stream
- Rail Road
- Major Arterial/Highway
- Minor Arterial
- Major Topographical Features
- Viewshed Lines
- Park/Open Space
- Deschutes National Forest

Bend's natural waterways are complemented by the irrigation canals, diverted from the Deschutes River and running north and east of the city. The system consists of two main canals: the Pilot Butte Canal (running north) and the Central Oregon Canal (running east). The canal system was designed to convey water to municipal and industrial users throughout the region and is managed by the Central Oregon Irrigation District. Dating back to the early 20th Century, the canals are an intact part of Bend's early history and continue to operate today.







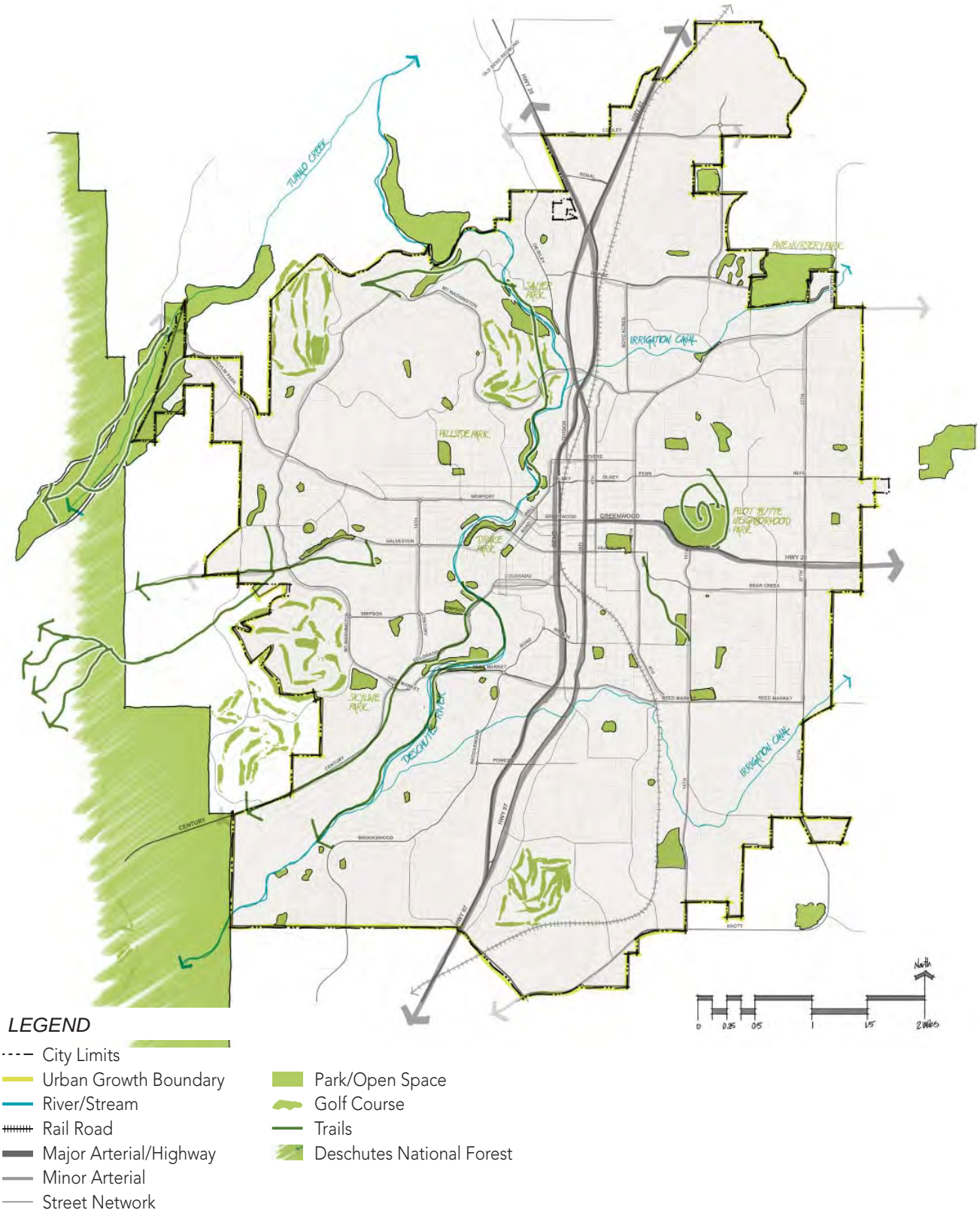
Top: Event at Drake Park
Middle and Bottom: Using streets as places for public gathering

Public Realm

Spaces that fall within the public realm provide defining attributes of Bend's urban form and key ingredients of complete neighborhoods. Parks, trails, open spaces, public streets, and sidewalks shape the physical environment and provide places to play, recreate, connect, learn, and socialize. Parks and open spaces bring nature into the city by providing green areas for public enjoyment, protecting valuable wildlife habitats, and strengthening natural system functions that improve air and water quality. Public streets, sidewalks, and trails provide corridors for transportation, as well as areas for celebrations and gatherings such as parades and demonstrations, community events, temporary markets, and neighborhood block parties.

Bend's unique setting and topography have shaped many of its most important and iconic public spaces, including Riverbend Park along the Deschutes River and Pilot Butte State Park, a highly visible landmark that adds to a sense of place throughout the city. The size and scale of Bend's public places vary widely, from the sprawling Pine Nursery Park in northeastern Bend, to the public art installations in many of the city's round-abouts. Larger community spaces like Pine Nursery Park draw a wider range of users, creating traffic, noise, and crowds during peak use times. Smaller neighborhood spaces like Bend's neighborhood parks attract nearby residents and create informal places to play and gather in small groups.

PUBLIC REALM



One of Bend's most popular and iconic parks, Drake Park, is a major focal point of the city and central to community life. The park's proximity to Downtown provides a unique backdrop and asset, creating a unique sense of place while adding to the range of amenities and attractions all within a short walk from the city's core. Sites with private or semi-public uses can complement the the public realm, drawing visitors and attracting new residents while providing outdoor activities and contributing to the local economy. Local examples include Bend's many golf courses, as well as the Les Schwab Amphitheater, which is built along the Deschutes River Trail and attracts thousands of visitors through music and art, providing a nexus of public activity during many events throughout the year.

While Bend's streets move thousands of people through the city each day, their interface with the private realm—the street front—can advance or hinder the creation of welcoming and walkable places. Busy arterials such as NE 3rd St., with set-back buildings and narrow, curb-tight sidewalks can create noisy and unwelcoming environments for pedestrians and cyclists. In Downtown, streets such as Wall and Bond, where buildings are closer to the street, offer a more pleasant environment for pedestrians, with tree lined sidewalks, slower vehicle speeds, and a concentration of retail, shopping, and nightlife. In many of Bend's neighborhoods, local streets are quieter than main streets, and are more often used for walking, biking, and playing. Bend's alleys are also part of the public realm, and are often underutilized spaces, mainly relegated for trash collection and garage or service and delivery access.

Bend's interconnected system of trails provides a convenient and safe way to walk or bike across the city. Trails take two general forms in Bend: natural surface trails that exist in many of Bend's parks and extend along the Deschutes River, leading into the surrounding forests; and paved pathways found along side streets or that depart from the street grid to create pedestrian and bike friendly connections between neighborhoods and destinations.





Top: Small and large private plazas and facilities add to offerings of the public realm
Bottom: Miles of trails extend into surrounding forests in and around Bend

TRANSPORTATION NETWORK & CONNECTIVITY

Key transportation thoroughfares designed to carry large vehicle volumes connect Bend with other major regional destinations. They also have a major influence on Bend's identity, as they offer views of the surrounding peaks along the Cascade Range as one travels through the city. Highway 97 is a major north-south highway that carries thousands of people in and around Bend every day. Highway 20 is another major highway that generally runs east and west. Within Bend, it digresses from its usual east-west course to travel alongside US 97 for several miles before heading west again. Within Bend, Highway 97 and Highway 20 have lower posted speed limits than outside the city limits. Rail lines carrying freight trains also run parallel to Highway 97.





Top: Public art at the Butler Market Road and 8th Street round-about
Bottom: View of Mount Bachelor from the Cascade Lakes Highway

As physical elements in the urban landscape, highways consume large amounts of space—with their combined right-of-way, access ramps, and landscaped buffers, they reduce pedestrian and habitat connectivity across east and west Bend. This barrier is more pronounced in places where Highway 97, Highway 20 and the rail line run parallel for at least three miles before reaching Downtown. While the highways have played a major role in urban form by attracting concentrations of commercial development, as seen with retail and employment uses all along Highway 97 within the city limits of Bend, many of those uses are auto-dependent.

Arterials

Arterial roads such as Reed Market Road, 27th Street, Newport Avenue and Butler Market Road collect traffic from highways and funnel them to other smaller streets. Several arterial corridors in Bend are distinctive due to the access they provide to surrounding recreational destinations and the signature views they offer of the surrounding Cascades. Century Drive (Cascade Lakes National Scenic Byway) provides views of Mount Bachelor, with access to the many lakes along the Cascades and also to reservoirs along the upper Deschutes River. Several smaller and local streets create a unique and memorable sense of place.

The city's round-abouts are a very distinctive feature that create identity in the landscape and help shape the urban form of Bend. Round-abouts like those along Newport Avenue and Reed Market Road calm traffic while also serving as neighborhood gateways and community focal points with public art installations. Green street designs like 27th Street have medians that provide additional landscape and stormwater mitigation benefits. Mount Washington Drive in west Bend and Butler Market Road in east Bend are distinctive due to their "off the grid" alignment or meandering configurations. These streets, with their substantial traffic volumes, varied configurations, and unique designs offer wayfinding functions in addition to their transportation service.





Top: Cascade East Transit provides convenient public transportation service in Bend
Bottom: The Deschutes River Trail is a popular destination for residents and visitors

Public Transit

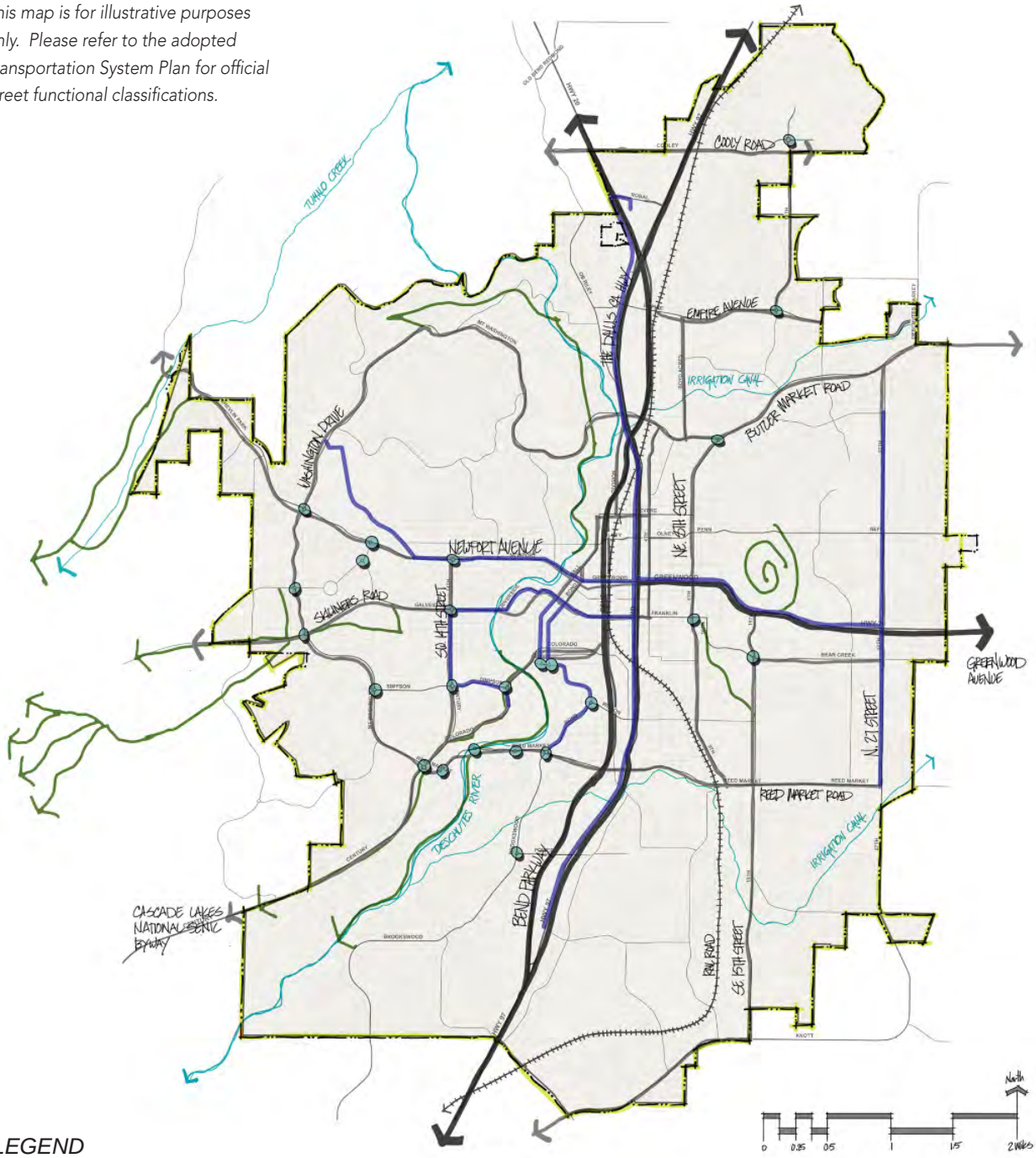
Bend's bus routes and future transit development will play an important role in enhancing connectivity and providing additional organizing elements for the city's evolving urban form. At present, Cascade East Transit routes radiate from Downtown Bend along north-south and east-west directions along 3rd Street, 27th Ave, Newport Avenue, Franklin Avenue and Reed Market Road. The public transportation system also enhances community livability and supports neighborhood centers. Complete neighborhoods and future commercial centers and corridors should be linked to public transit routes to support desired urban form typologies.

Non-Motorized Trails

Bend's trail system is essential to creating complete and connected neighborhoods because it provides recreation opportunities and non-auto transportation options, and contributes to the economical vitality of a community. Bend has over 65 miles of trails that consist of bike routes, on- and off-street paths, and wide sidewalks. Together, these different types of trail facilities create a network that makes neighborhoods walkable and bikeable and ultimately reduces reliance on driving, in addition to providing a recreational amenity. Bend's trails guide both visitors and residents through different neighborhoods, to employment districts and commercial areas, and towards the surrounding parks and natural areas.

TRANSPORTATION NETWORK & CONNECTIVITY

This map is for illustrative purposes only. Please refer to the adopted Transportation System Plan for official street functional classifications.


COOLY ROAD
EMPIRE AVENUE
IRRIGATION CANAL
BUTLER MARKET ROAD
NEWPORT AVENUE
SKILLINGS ROAD
GREENWOOD AVENUE
REED MARKET ROAD
DESCHUTES RIVER
CASCADE LAKES NATIONAL SCENIC BYWAY
BEND PARKWAY
NE 27TH STREET
NE 15TH STREET
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Rail

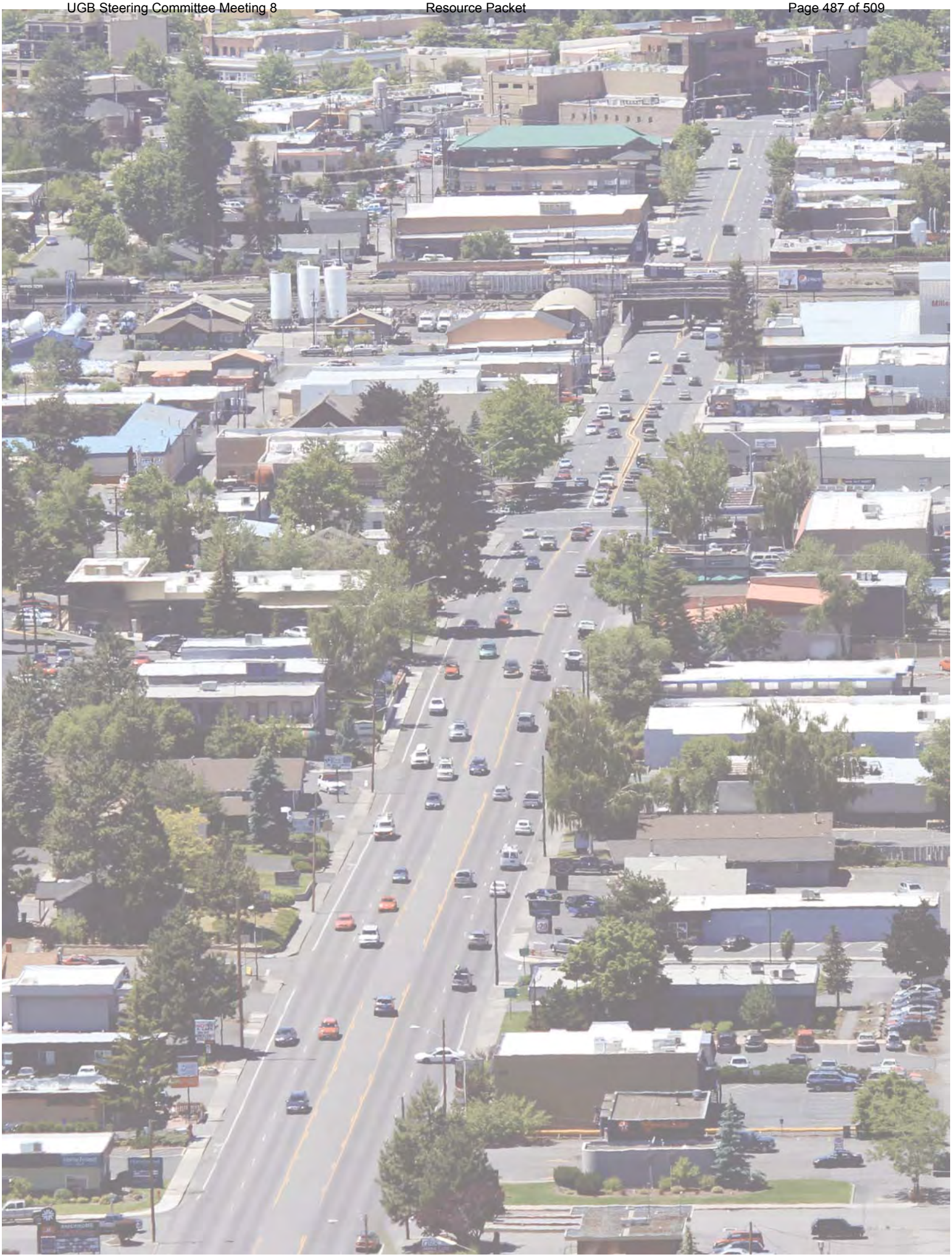
The BNSF rail line is the primary rail line in Bend, paralleling Highway 97. There are rail spurs serving local industries and businesses west of NE 1st Street and along SW Industrial Way before turning east towards the industrial zone. Additional spurs serve industries and businesses along SE 9th and also south of Reed Market Drive. There are also several at grade crossings and a few grade separated crossings where the rail line intersects with the roadways.

Safety issues, walkability issues, and traffic delays are generally associated with intersections of rail lines and roadways. For the most part, grade separated crossings are preferred so as to provide sufficient safety and eliminate large traffic delays. Some of the major at-grade crossings in Bend occur on Reed Market Road, Revere Avenue, and Butler Market Road. As traffic volumes increase, train crossings may contribute to increased traffic interruptions, specifically on arterial roads. Potential solutions include coordination with railroad authorities to minimize crossings during peak driving periods or grade separation.





Top: Railroad spurs near SW Industrial Way
Bottom: A rail crossing can lead to traffic congestion during train crossings
Right: View of Greenwood Avenue from Pilot Butte



EXISTING NEIGHBORHOODS, DENSITY & STREET ORIENTATION

Bend has thirteen recognized neighborhoods that each have a unique geographic setting with a mixture of old and new building types and mixture of uses. Together, Bend's neighborhoods form the foundation of its urban form, influencing future development patterns, land uses, and potential growth opportunities. Different neighborhoods in Bend offer different housing options, from larger lots and suburban living with detached single family homes, to smaller and more compact development patterns with attached or multi-family homes. Development densities, street designs, and proximity to amenities such as parks and schools determine how complete and livable each neighborhood can be. The Existing Neighborhood Densities and Amenities Map on the following page shows Bend's existing neighborhoods, their permitted range of residential density (zoning), and locations of parks, open spaces, and schools.

Bend's earliest neighborhoods evolved from the area's prominence as a logging town and related mill operations. Today, the Southern Crossing neighborhood showcases the former mill. The site has been repurposed as an iconic symbol of the city's past, into a retail development and mixed-use neighborhood. The Old Bend neighborhood's gridded street system and short block lengths provide a pedestrian oriented setting, with detached single family homes, parks, and schools. Several homes have rear accessed alleys that reduce the number of driveways at the front of homes while bringing homes closer to the street. West of Old Bend and Downtown, the connected street grid continues in the Riverwest neighborhood until meeting one of the city's newest neighborhoods, Summit West. Here, newer housing radiates from a central park (Compass Park), situated near schools, restaurants and services. Many Riverwest homes also take access from a rear alley.

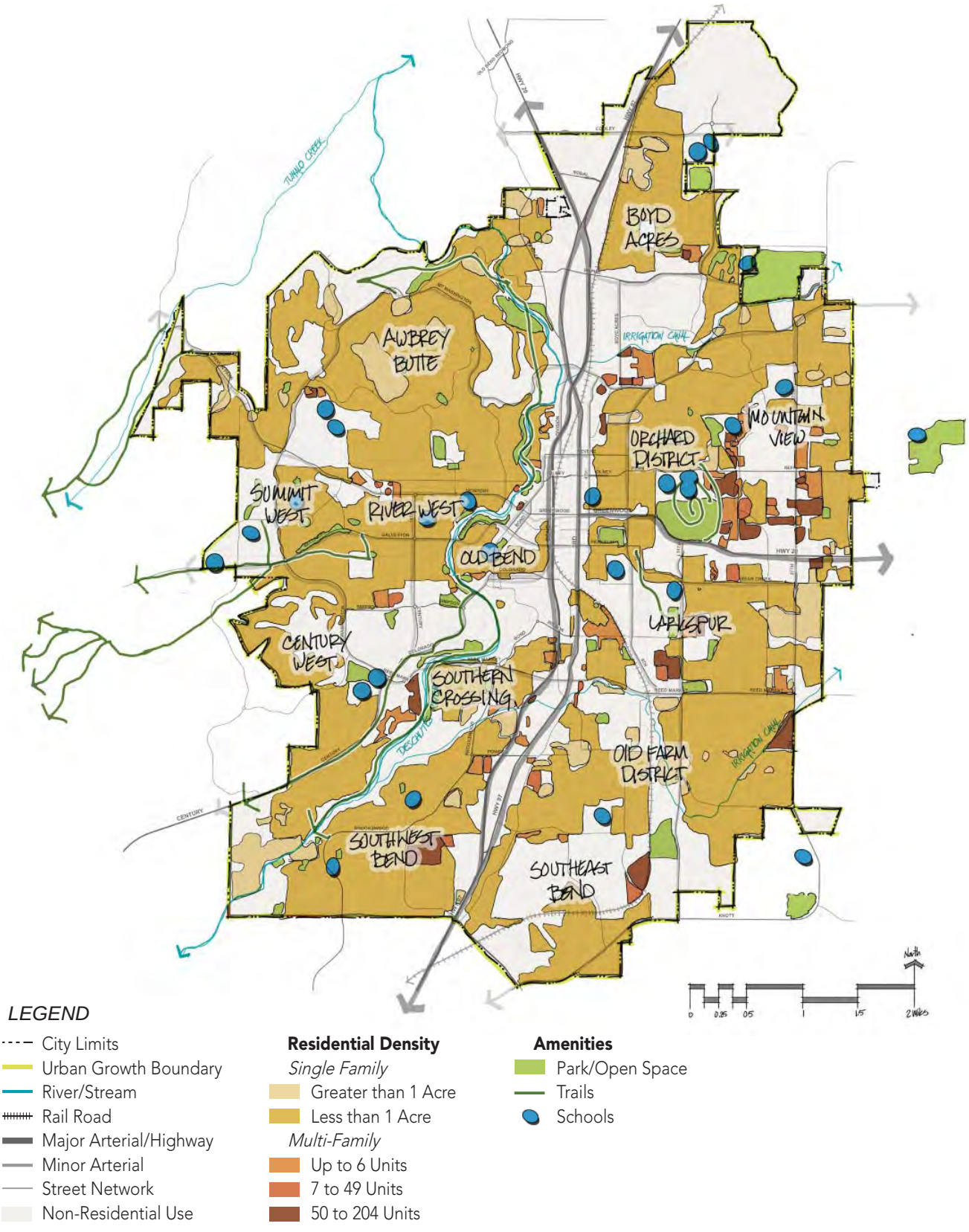






Top, Middle and Bottom: Different housing options in different neighborhoods across Bend

EXISTING NEIGHBORHOODS AND DENSITY



To the north, the Aubrey Butte neighborhood has a contrasting layout and street pattern due to the hilly terrain. The neighborhood is characterized by lower density housing served by curvilinear streets, with many ending in cul-de-sac or forming loops. To the east, the Mountain View neighborhood has a greater amount of multi-family housing, and attached single family homes. The development pattern is more segmented, with several housing developments served by a single street access, or homes that front along a dead-end street. Along the periphery of the city, in several different neighborhoods, the city's lowest density development is formed with larger, one-acre and greater lot sizes.

4. DEVELOPMENT TYPOLOGIES

Development typologies provide a standardized system for organizing and classifying different development patterns around the city. These typologies help the City understand the current mixture of land uses and to create a palette to describe the desired future urban form of Bend. Typologies provide a general definition based on common attributes and a common language to help further analysis and discussion with public officials and staff, planners and designers, members of the public, and the development community.

The process for defining the typologies began early in the Bend UGB Remand planning process, starting with a preliminary assessment of major existing land use categories within the city. These consist of residential neighborhoods, commercial and employment areas, and public/semi-public lands including parks and open spaces, schools, and civic uses. From these initial categories, the project team identified general land use patterns where development typologies with common characteristics began to emerge.

OVERVIEW OF TYPOLOGY INDICATORS

The planning process involved several different sources of information to identify the typologies.

- ***Primary land use:*** predominant land use based on zoning and available parcel data
- ***Employment type:*** major employment types based on parcel data
- ***Residential density:*** range of permitted dwelling units per acre based on zoning
- ***School access:*** proximity to schools based on a ¼- ½-mile walking/biking distance
- ***Park, open space and trails access:*** proximity to parks, open space and trails based on a ¼-½-mile walking/biking distance.

NEIGHBORHOODS

The neighborhood typologies describe the residential urban form that exists today. These typologies transcend the city-identified neighborhoods described previously, with several different types of residential development that exist within any one particular neighborhood. Typologies are based on a range of factors discussed in Chapter 3, including age and location, permitted zoning density (dwelling units per acre), block layout, connectivity and proximity to amenities such as parks and schools. Pedestrian and transit connectivity also inform the different neighborhood typologies.

The predominant housing type in Bend's neighborhoods is single family detached homes with some variations in density and functionality. For instance, neighborhoods such as Mountain View, Southeast Bend and Larkspur feature moderate residential densities and offer a mix of housing types ranging from single family homes to townhomes to apartment complexes. Other neighborhoods, such as Century West and Awbrey Butte consist of larger-lots with single family homes.

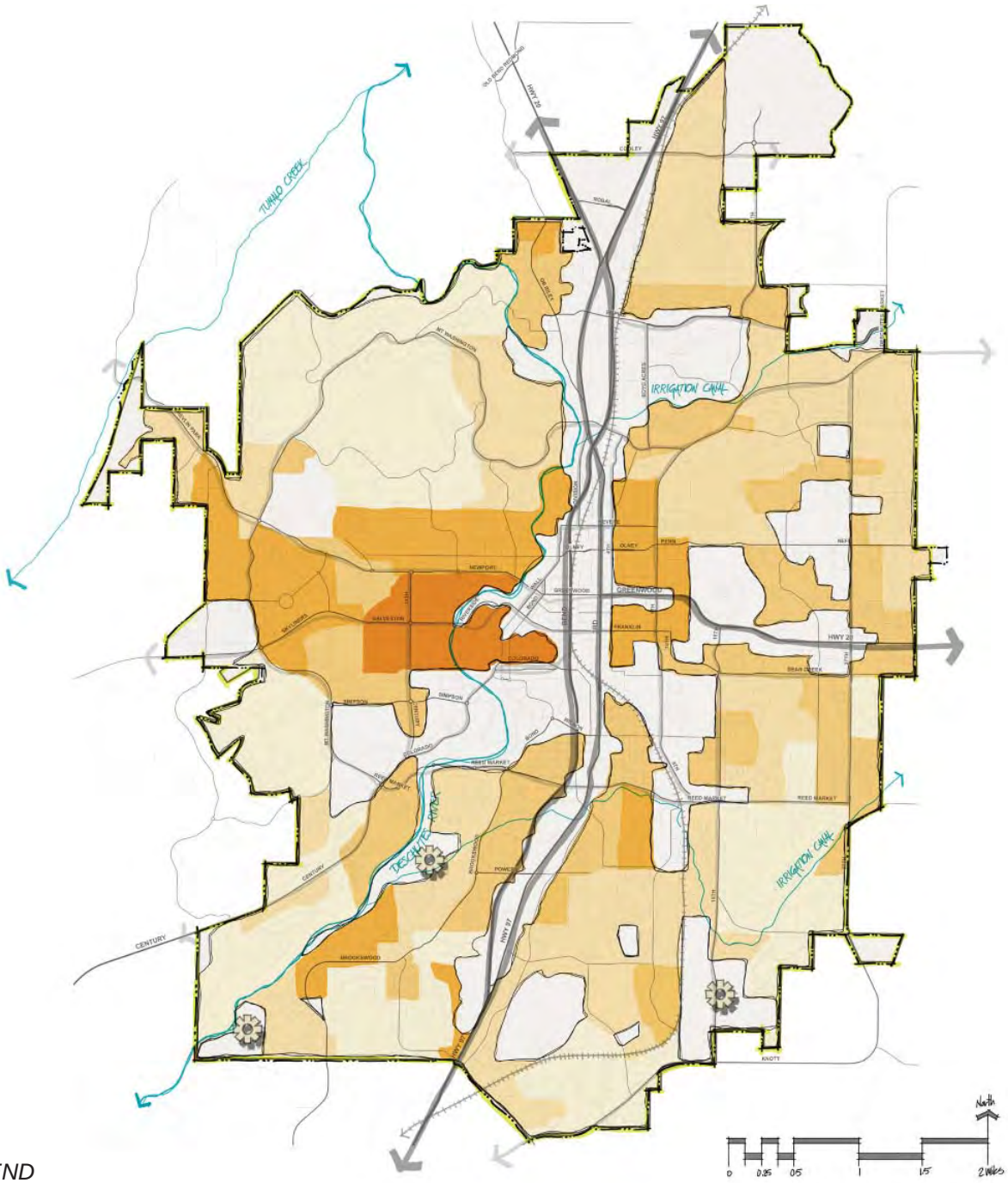
Based on the existing urban form, the following pages describe the five neighborhood typologies and include: Historic, Traditional, Mixed Suburban, Single Family Suburban and Large Lot.





Top: The Old Bend Neighborhood is a mixture of shopping, dining, entertainment and historic homes
Bottom: Northwest Crossing in the Summit West Neighborhood has a unique radial street pattern and is close to parks and schools

EXISTING NEIGHBORHOOD TYPOLOGIES



LEGEND

- City Limits
- Urban Growth Boundary
- River/Stream
- Rail Road
- Major Arterial/Highway
- Minor Arterial
- Street Network
- Non-NBHD Typology

Neighborhoods

- Historic
- Traditional
- Mixed Suburban
- Single Family Suburban
- Large Lot
- Vacant Residential

*NBHD: Neighborhood

HISTORIC

This typology includes neighborhoods that have a close association with the early development of Bend such as the Drake Park Historic District. In general, these neighborhoods have some of the city's earliest buildings and are characterized by architecture with unique cultural or historic value. Local streets in a typical grid pattern provide good connectivity in these areas. This neighborhood typology is fairly transit-supportive.



Residential development generally consists of detached single family homes, some small apartments and townhomes, ranging in scale from one to two stories and moderate density. Employment uses consist of limited small-scale service or offices within the neighborhood. Many of the properties in these neighborhoods have the Standard Density Residential and the Medium Density Residential zoning designations.



TRADITIONAL

This typology includes detached single family homes in small to medium size lots, some duplexes or triplexes and a few apartment complexes. Residential development is characterized by low to moderate densities. Traditional neighborhoods often have commercial nodes or corridors within walking or biking distance, and may be located closer to other employment areas. A portion of Riverwest Neighborhood north of Newport Avenue is an example of this neighborhood typology.



A large portion of central Summit Neighborhood also features traditional residential neighborhood typology. Local streets in a typical grid pattern provide good connectivity in these areas. This neighborhood typology is fairly transit-supportive. Many of the properties in these neighborhoods are one to two stories tall and have the Standard Density Residential and the Medium Density Residential zoning designations.



MIXED SUBURBAN

This typology has varying intensities of suburban development patterns. In general, these neighborhoods portray development ranging in scale from one to two stories and moderate residential densities. Residential development usually includes detached single family homes with medium to large lot sizes, some apartment complexes and townhomes. Employment uses are generally limited and include small-scale service or offices.



Mountain View and Orchard Districts are examples of existing Bend neighborhoods that exhibit some of the typical mixed suburban neighborhood typology's characteristics. Local street patterns are often meandering rather than a grid layout, which can reduce connectivity if pedestrian and bicycle connections are not provided. This neighborhood typology may be transit-supportive when development intensification occurs at the higher end of the density range. This neighborhood typology may include a mix of zoning designations, including Standard Density Residential, Medium Density Residential, and/or High Density Residential zoning designations.



SINGLE FAMILY SUBURBAN

This neighborhood typology consists of largerly low to moderate-density single-family residential development. Buildings are one or two story single-family homes on medium to large lots. Local streets patterns are often meandering rather than a grid layout, which can reduce connectivity if pedestrian and bicycle connections are not provided. This neighborhood typology is not transit-supportive.



A large section in the Boyd Acres Neighborhood falling east of the railroad tracks and bound by NE 18th on the east and Yeoman Road on the south would exemplify this typology. Another example would include a portion of Orchard Neighborhood that falls within north of Penn Avenue and south of Butler Market Road. Many of the properties have the Standard Density Residential zoning designation.



LARGE LOT

This neighborhood typology is characterized by one or two story single-family home, acreages or ranchettes on large lots. In general, these neighborhoods represent largely very low density residential development. Winding local streets with private drives or secluded, winding driveways are typical in these areas. The nature of development makes these neighborhoods generally more auto-oriented and not very transit-supportive.

A large portion of the Awbrey Butte Neighborhood west of NW Mount Washington Drive would exemplify this typology. Other examples would include portions of Old Farm Neighborhood east of 15th Avenue. A large portion in western Century West Neighborhood also falls under this typology. Many of the properties fall under the Standard Density Residential or Low Density Residential zoning designations.







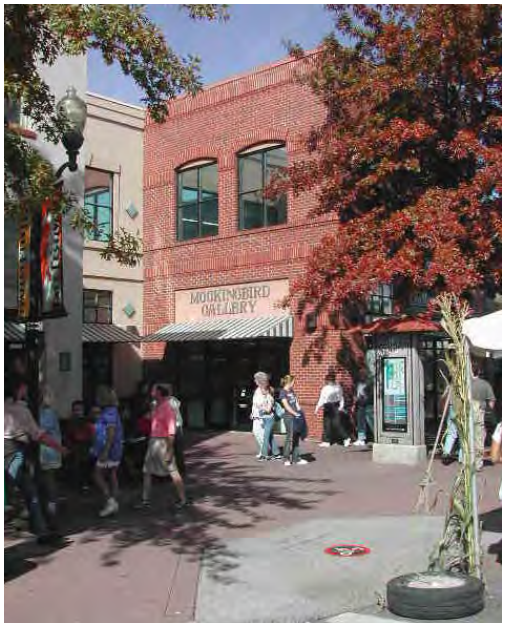
CENTERS & CORRIDORS

Bend's commercial areas tend to take one of two general shapes: centers, or concentrations of commercial uses at an intersection, or contained within one or more blocks; or corridors, following a linear shape of commercial uses typically along a busy street. Both shapes can be activity hubs with concentrations of neighborhood businesses or community services. Concentrations of commercial uses within compact, walkable centers or along major transportation corridors makes access by transit, walking, and bicycle more practical and reduces the amount of driving needed to access services.

Not all of Bend has convenient access to local services such as a neighborhood grocery store. Fostering a network of mixed-use centers across Bend includes focusing activity, services, housing, and employment growth around walkable commercial centers and corridors. When services and other destinations are clustered in these compact centers, economic viability is strengthened and walking, biking, or transit use becomes much easier.

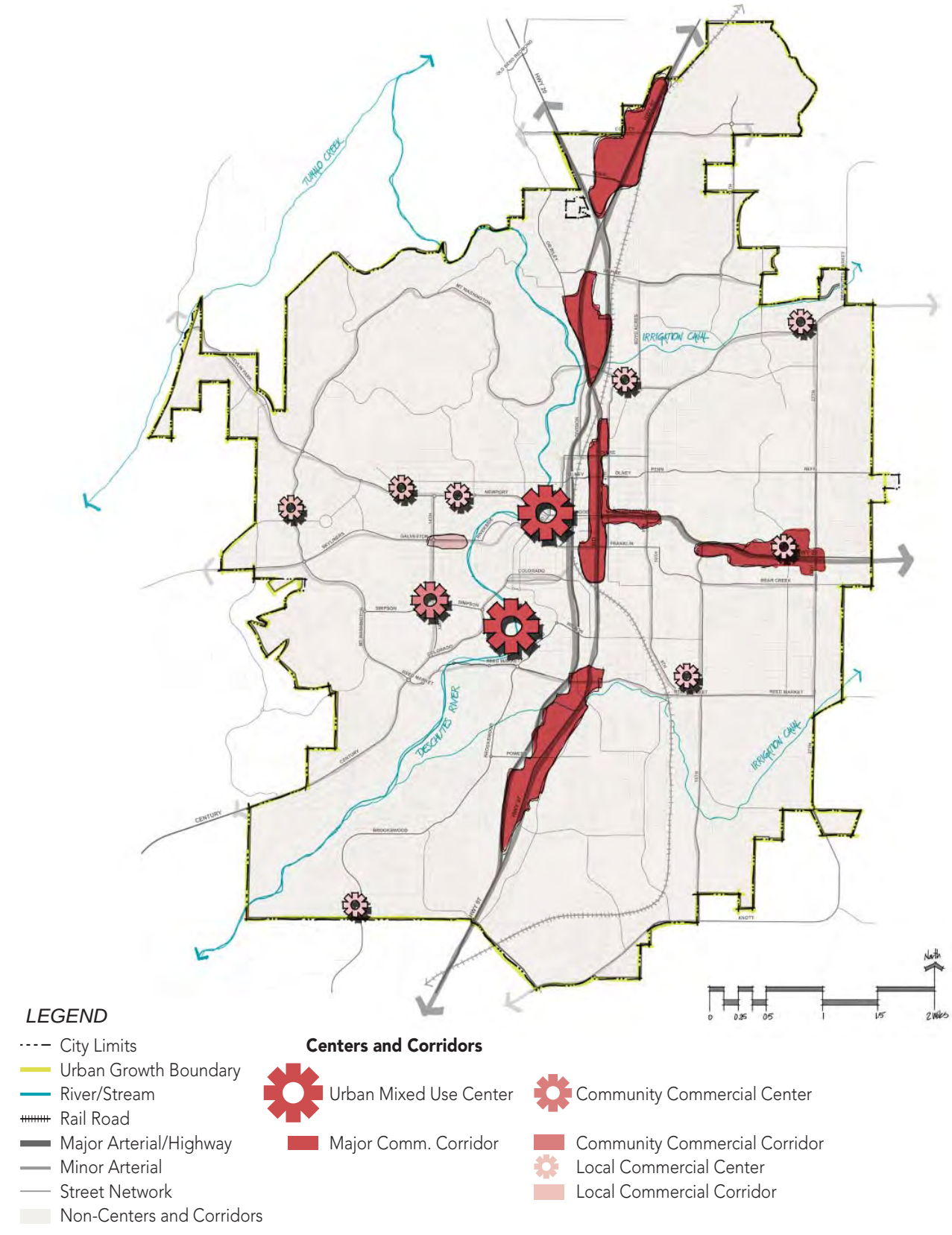
There are four different commercial center and corridor typologies in Bend today: Urban Mixed Use Center, Major Commercial Corridor, Community Commercial Center or Corridor, and Local Community Center or Corridor. The centers and corridor typologies vary in the intensity of commercial development and also the scale of area they serve. For example, the Urban Mixed Use Center typology consists of a wide mix of commercial uses and attracts users from the entire city and region. The Local Commercial Center typology serves residents of the surrounding neighborhood and correspondingly features small-scale retail uses or services such as pet grooming or daycare.





Top: A neighborhood-scale market on Newport Avenue in the Riverwest Neighborhood
Bottom: A mixed-use building in Downtown Bend

EXISTING CENTERS AND CORRIDORSTYPOLOGIES



URBAN MIXED USE CENTER

Urban Mixed Use Centers are the largest scale of commercial typology, serving the entire city and region. They provide hubs of commercial, employment, and community services. Relatively high job and housing densities can be found within this typology with a mix of uses such as retail, offices uses, hospitality, and services. Development densities are relatively high and buildings range from one to five stories or greater. Residential use is usually in the form of attached single family development or multi-family development, ranging in scale from apartments or condos over retail to townhomes.

Downtown Bend serves as the region's primary Urban Mixed Use Center. Another example of an Urban Mixed Use Center is the Old Mill District in the South Crossing Neighborhood. Urban Mixed Use Centers are pedestrian-oriented and transit-supportive and are generally making them well-connected with rest of the city. Urban Mixed Use Centers generally have mixed use or Central Business District zoning designations.





MAJOR COMMERCIAL CORRIDOR

Major Commercial Corridors are located along some of Bend's busy transportation routes and feature some of the most active commercial and business activities. Commercial uses are typically large retail, shopping malls, hotels, offices, and businesses that thrive on high-visibility.

Places with some characteristics of a Major Commercial Corridor include NE 3rd Street, the Bend River Promenade, and Cascade Village near Highways 97 and 20. Residential uses are limited in these areas. Development within this commercial typology is primarily auto-oriented with convenient access to major arterials and highways. Transit access is generally good. Most buildings are one or two stories and have General Commercial or Limited Commercial zoning designations.





COMMUNITY COMMERCIAL CENTER/ CORRIDOR

Community Commercial Centers/Corridors serve surrounding neighborhoods. These areas have a range of commercial and community services, and/or office uses, and limited residential development. When these activity hubs are more compact, they are termed Community Commercial Centers. On the other hand, if these activity hubs occur along a neighborhood main street or along a transportation corridor, they are identified as Community Commercial Corridors.



Places with some characteristics of Community Commercial Centers and Corridors include SW 14th Street within the Southern Crossing Neighborhood and at the intersection of Highway 20 and SE 27th Street. Development within this commercial typology can be auto-oriented or pedestrian-oriented and varies depending on the context. Transit access is desirable to effectively serve surrounding neighborhoods. Many of the properties within this commercial typology have General Commercial, Limited Commercial and Convenience Commercial zoning designations.



LOCAL COMMUNITY CENTER/ CORRIDOR

Local Commercial Centers/Corridors are smaller centers or corridors that serve as anchors to complete neighborhoods. They provide concentrations of small-scale retail including grocery stores, markets and local services such as daycare. Employment uses occur in moderate densities as small-scale offices or shops and are generally surrounded by neighborhoods. Residential uses are generally limited within the center or corridor, though they may be adjacent, and range from some single family homes to two-story residential properties. When these activity hubs are more compact, they have a local commercial centers typology designation. If they occur along a neighborhood main street, they are termed local commercial corridors. Places with some characteristics of local commercial centers and corridors include NW Crossing within Summit Neighborhood and along Galveston Street (NW 15th to NW Federal St). Development within this commercial typology is primarily pedestrian-oriented and has easy access to collector streets. This typology is transit-supportive. Many of the properties within this commercial typology have Limited Commercial and Convenience Commercial zoning designations.



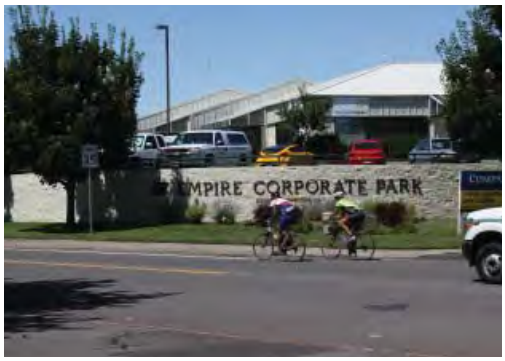


EMPLOYMENT DISTRICTS

As Bend grows over the next 20 years, the city will have to support a range of diverse jobs and industries. Employment areas, large and small, must be sited in areas that can provide convenient access to a well-connected transportation system. Bend's Employment District typologies allow a wide range of employment opportunities and typically limit potential conflicts from interspersed residential uses. The emphasis is on concentrating uses generating moderate to high job densities including industrial uses, manufacturing uses, offices, institutional uses and other related uses.

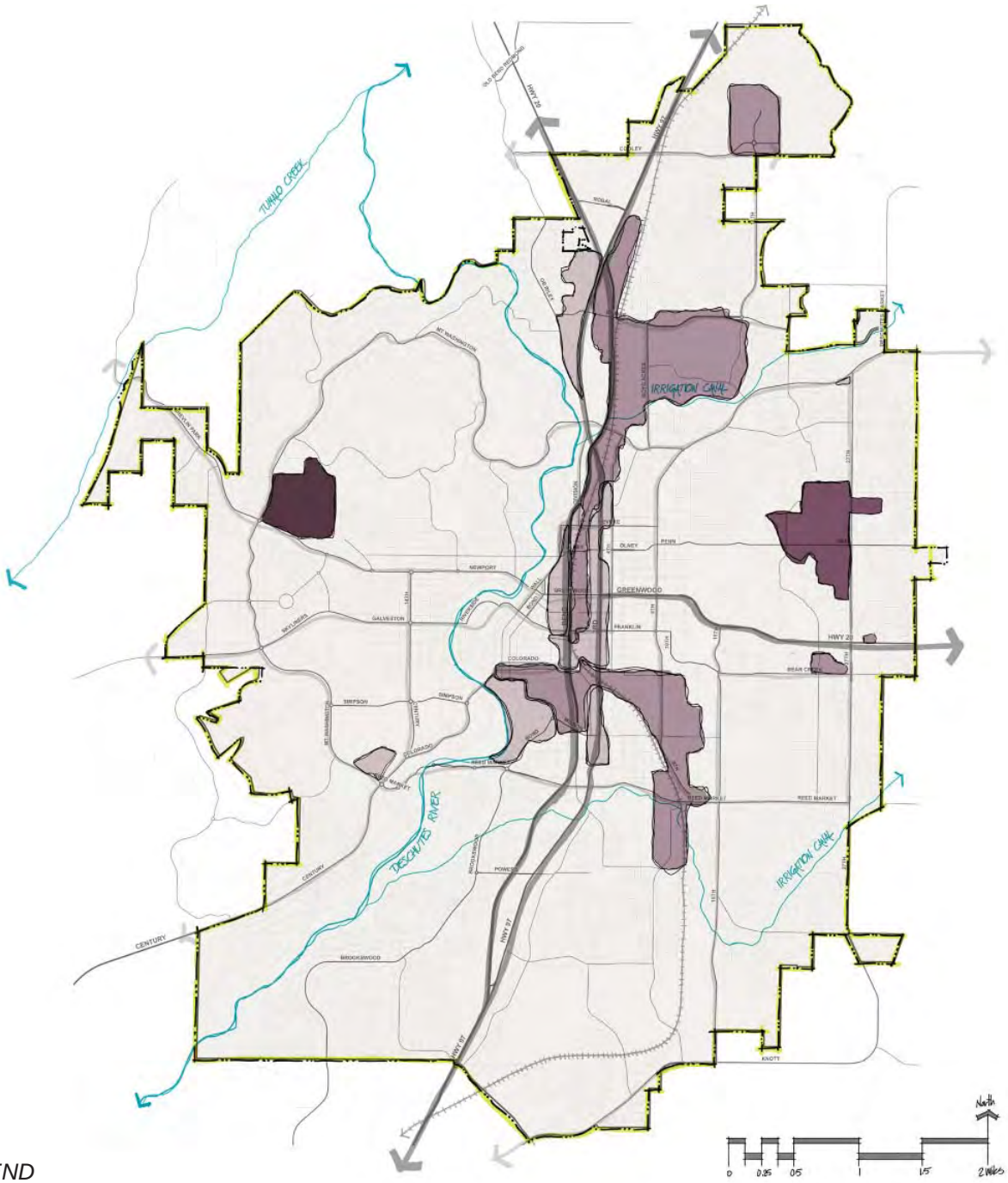
There are four different typologies of Employment Districts in Bend—Institutional, Medical Center, Industrial or Professional Office and Mixed Employment. These typologies vary mainly in their functionality or the mix of employment uses. For example, Institutional Districts offer campus or educational services with limited student housing. The Industrial or Professional Office typology emphasizes manufacturing, industrial, and professional office uses. The street networks and connectivity patterns vary according to the different uses within these districts and their development densities.





Top: The Old Mill District is surrounded by a Mixed Employment District
Bottom: The Empire Corporate Park is located in an Industrial/ Professional Office District

EXISTING EMPLOYMENT DISTRICTS



LEGEND

- City Limits
- Urban Growth Boundary
- River/Stream
- Rail Road
- Major Arterial/Highway
- Minor Arterial
- Street Network
- Non-Employment

Employment Districts

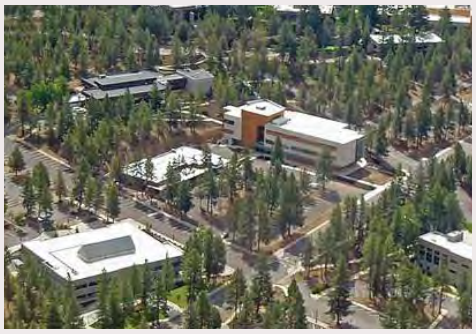
- Institutional
- Medical Center
- Industrial/Professional Office
- Mixed Employment

INSTITUTIONAL

Institutional District typologies typically consist of educational institutions and campuses and offer low to medium job densities. Limited residential uses in the form of student housing can be found in these areas. Building scales vary from two to eight story properties that generally have Public Facilities zoning designation. Development patterns within the Institutional Districts are typically pedestrian-oriented with few concentrations of off-street parking areas. This development typology is transit-supportive and transit access becomes important due to transit-dependent populations using these facilities.

The Central Oregon Community College campus features typical characteristics of an Institutional Employment District.





MEDICAL CENTER

Areas within the Medical Center typology generally feature high density employment uses in the form of hospitals, medical offices, and other related facilities. Residential uses are generally limited to group homes with some multi-family development. Building scales vary from one to six stories and fall within the Medical District Overlay Zone. Development within this district is typically pedestrian-oriented in the core with large parking areas in the periphery. Transit access is important in these districts and development densities are fairly transit-supportive.

Places with typical characteristics of a Medical Center Employment District include the St. Charles Health System campus located within the Mountain View Neighborhood and medical offices located along SW Chandler Avenue within Century West Neighborhood.





INDUSTRIAL/ PROFESSIONAL OFFICE

Industrial/ Professional Office typology includes manufacturing, industrial and office uses. Typically these developments feature low job densities with few pockets of higher densities. Residential uses are limited. Building scales vary from one to three story properties that have General Industrial, Light Industrial and Mixed Employment zoning designations. Development patterns within the Industrial/Professional Office Districts are typically auto-oriented with large parking areas and transit access is not a priority. Streets are oriented for freight and truck circulation.

A large area bound by Highway 97 in the west, railroad tracks in the south and SE 9th Street in the east within the Larkspur Neighborhood that includes a variety of building and construction manufacturers is an example of this typology. Similar, manufacturing and industrial uses in North Bend near Boyd Acres Road would be another example of this typology.





MIXED EMPLOYMENT

Mixed Employment typology includes a mix of retail and community services, office uses, manufacturing and light industrial uses such as creative and flexible work spaces. Typically these developments feature varying job densities depending on the mix of uses. Residential uses are minimal and generally multi-family if developed at all. Building scales vary from one to three story properties and have Light Industrial, Mixed-use Riverfront District and Mixed Employment zoning designations. Development patterns within the Mixed Employment Districts vary from pedestrian to auto-oriented depending on their location and context. Transit access is not a priority, although areas with higher development densities are fairly transit-supportive.

The Century Drive area between Simpson and Colorado is an example of a mixed employment district today.



PUBLIC FACILITIES

The provision of public services and facilities in the urban environment is an essential function of the city, and a primary requirement that determines where and how the city will grow. Services must be available to serve new growth as a condition of development. There is one public facilities typology used to describe the range of civic, educational, and public infrastructure facility or use that exists in Bend.

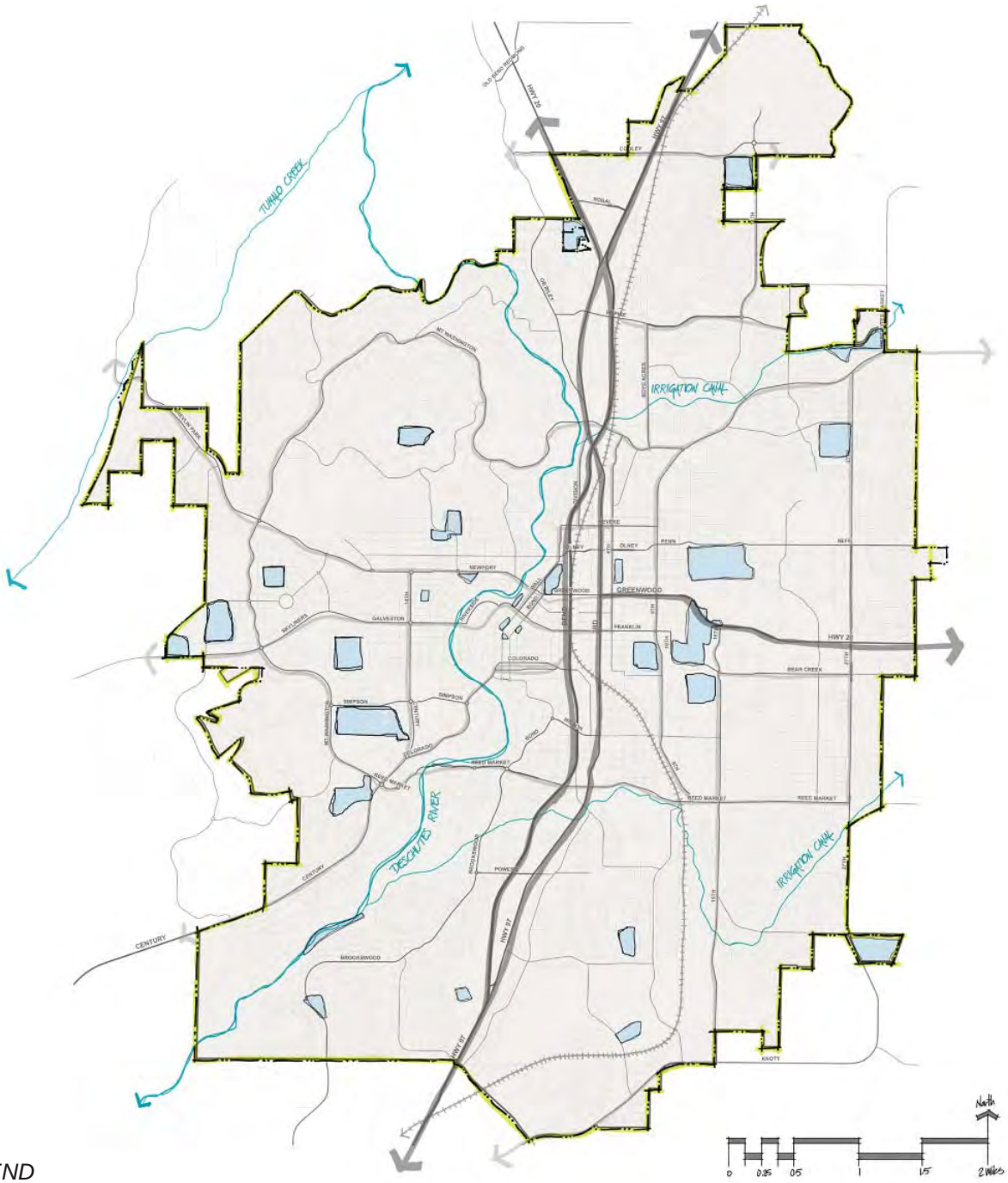
The Public Facilities typology includes sanitary and sewer management/ treatment facilities, surface water plants, wastewater recycling plants, stormwater infrastructure, and schools and educational institutions. The typology does not include linear infrastructure such as water, sewer, or power utility lines. As Bend grows over the next 20 years, its urban form has to support a range of public facilities being extended to newer neighborhoods and addressing deficiencies in existing neighborhoods.





Top and Bottom: Public Facilities typologies include schools and civic uses such as the Bend Senior High School and the Deschutes County Offices

EXISTING PUBLIC FACILITIES



LEGEND

- City Limits
- Urban Growth Boundary
- River/Stream
- Rail Road
- Major Arterial/Highway
- Minor Arterial
- Street Network

Public Facilities

- Public Facilities

5. FUTURE GROWTH CONSIDERATIONS

Overview

The primary goal of the Bend UGB Remand project is to identify how and where the city will grow over the next 20 years. Over the past several years, Bend has undergone one of the highest growth rates in the state. Future growth will require more housing options, jobs, parks, services, and streets and infrastructure. To accommodate these needs, Bend will have to maximize use of land within its current boundary, as well as grow in targeted and efficient ways outside of the current UGB. The urban form typologies presented in this document should serve as guide to inform these future decisions.

Opportunity Sites

Through discussions with the advisory committees for the Bend UGB Remand project, the City identified several areas within the current UGB where there is potential for future development at a higher intensity or with a broader mix of uses than the existing plans and regulations would allow. Enabling these areas to reach their full potential maximizes use of land while complimenting adjacent land uses.

Near Downtown, there are several opportunity sites that will strengthen the existing economic center of the city, with new and expanded uses adjacent to existing commercial services, housing options, parks and schools. These core opportunity areas offer a way to increase the availability of housing in an area with excellent access to all modes of transportation as well as excellent access to services. Bringing housing into largely commercial / employment areas will also reinforce pedestrian-oriented development by providing more potential customers who can reach existing businesses on foot. Along SW Century Drive, the planned siting of Oregon State University's new four-year campus offers an opportunity to create a new mixed use center anchored and supported by the new institutional employment district.

Vacant opportunity sites in outlying areas of the city offer potential for new development to be designed with efficient land use and good urban form in mind.

Expansion Areas

Phase II of the project focused on suitable areas for expansion outside of the current urban growth boundary. The planning team conducted a rigorous and detailed analysis to determine suitability for new growth areas, including street capacity and connectivity, existing public infrastructure and utility needs and other factors that relate to the community outcome goals.

The city's existing urban form and its setting and context help inform both the locations and uses that are most suitable for expansion areas. Urban form considerations for expansion areas include:

- Growth potential on the west side of the city is limited in the long term by the Deschutes National Forest and Tumalo Creek, which serve as natural barriers to growth and are also sensitive natural areas that require thoughtful buffering and transitions.
- Growth on the northern end of the city may be limited by transportation capacity until major highway improvements can be built.
- Long-term growth potential in the northeast is high, in part due to the fact that is efficient to serve with infrastructure.
- The central west part of the city is an existing complete community that can be extended in ways that will support the existing neighborhood.
- There is a need for a greater diversity of uses, including more services and employment opportunities in the southern and eastern part of Bend.

Damian Syrnyk

From: Karen Swirsky
Sent: Monday, April 18, 2016 7:53 AM
To: GmdAll
Subject: FW: Bend's Future: a UGB Proposal we can get Behind

Nice.

Those of us who call Bend home take pride in our outdoor culture, our vibrant neighborhoods and the natural beauty that surrounds us.
unsubscribe from this list

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View it in your browser.

CENTRAL OREGON LANDWATCH

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Planning the Urban Growth Boundary (UGB) is a public process that will determine what kind of city Bend will become. In 2009, **Central Oregon LandWatch and a host of other groups and individuals challenged the City's first UGB proposal**, which would have expanded the boundary by 40%, sprawling the city out into our peaceful rural surroundings.



This time, LandWatch has been at the table **advocating for a limited expansion to prevent urban sprawl, protect wildlife habitat, encourage cost-effective growth, and foster affordable housing.**

On **Thursday, April 21st at 1pm**, the UGB Steering Committee will meet to review the *almost final* UGB plan (view the map here).

Attend the meeting to **support adopting the proposal as is** because it:

- **Reduces urban sprawl by 75%** compared with the city's original UGB proposal.
- Utilizes a transect approach, which **addresses wildlife, wildfire, and transportation concerns**, where the city abuts permanent natural areas (read more here).
- Diversifies the housing mix so that residents will have a **variety of housing options** beyond simply single-family homes on large lots.

- **Uses Bend's existing urban land wisely**, with infill and redevelopment focused in key opportunity areas. This reduces the need for large infrastructure costs to serve new developments.
- Creates new **walkable, mixed use and complete communities** while also complementing existing communities in Bend.
- **Meets state requirements** so that our city can move forward with a clear plan for well-designed growth.

UGB Steering Committee Meeting

Thursday, April 21st

1:00pm to 4:30pm

Barnes and Sawyer Room, Deschutes County Services Building

1300 NW Wall St.

Bend, OR 97701

Can't make the meeting? Email the Steering Committee:

Nathan Boddie nboddie@bendoregon.gov
Barb Campbell bcampbell@bendoregon.gov
Victor Chudowsky vchudowsky@bendoregon.gov
Jim Clinton jclinton@bendoregon.gov
Doug Knight dknight@bendoregon.gov
Casey Roats croats@bendoregon.gov
Sally Russell srussell@bendoregon.gov
Tony DeBone tony.debone@deschutes.org

Bill Wagner bwagner@bendoregon.gov

Rex Wolf rwolf@bendoregon.gov

Watch and share our video **Saving the Deschutes River**



www.centraloregonlandwatch.org/deschutes

Cheers!

Moey.

Our mission is to protect the things that make Central Oregon's quality of life better: clean water, abundant wildlife and well-designed communities.

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You are receiving this email because you indicated an interest in Central Oregon LandWatch.

Our mailing address is:
Central Oregon LandWatch

Darcy Todd

From: Damian Syrnyk
Sent: Monday, April 18, 2016 2:02 PM
To: Darcy Todd
Cc: Cassie Walling
Subject: FW: UGB Steering Committee Testimony for 4-21-16 mtg
Attachments: Steering Cmte 4-18-16 ltr.pdf

For the UGB Record. Thanks, Damian

From: Laurie E Craghead [mailto:laurie.craghead@outlook.com]
Sent: Monday, April 18, 2016 1:47 PM
To: Damian Syrnyk <dsyrnyk@bendoregon.gov>
Subject: UGB Steering Committee Testimony for 4-21-16 mtg

Good afternoon, Damian.

Please include the attached for the Bend UGB Steering Committee meeting this Thursday afternoon.

Thank you for your assistance in this matter.

LAURIE E. CRAGHEAD
Attorney at Law
PO Box 5833
Bend, OR 97708-5833
(458) 206-6884

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LAURIE E. CRAGHEAD

Attorney at Law

PO Box 5833, Bend, OR 97708

Ph. 458.206.6884

laurie.craghead@outlook.com

April 18, 2016

C/o Damian Syrnyk
City of Bend
UGB Steering Committee

VIA E-MAIL: dsyrnyk@bendoregon.gov

RE: Another "Perfect Rectangle"

Dear Committee Members:

As you know, I represent Rodney Pack whose mother's property, Akemi Wheeler, is located at 62590 Eagle Rd, Bend, OR 97701. I am writing to request that the UGB Steering Committee add to the preferred scenario a second "Perfect Rectangle" in addition to the one proposed by Lori Murphy in her December 14, 2015 letter to the committee. This proposed rectangle is different from the ones proposed by Mr. Pack on January 18, 2016.

Mr. Pack understands that the Boundary Scenarios Technical Advisory Committee rejected his previous proposals based on the difficulty of providing public facilities to that area. That was largely based on the build out of the large lot subdivisions north of Ms. Wheeler's property.

Therefore, Mr. Pack proposes a new rectangle, the northern boundary of which would run along the northern section line of Tax Map 171226D0 from Eagle Road to the eastern line of the Urban Reserve Boundary. The western boundary would run south from the corner of Eagle Road and Tax lot 3000, down Eagle Road to Neff. The eastern boundary would run south from corner of tax lot 2000, along the Urban Reserve Boundary, to Neff Road. This new area makes an complete and straight rectable. Please see attached Exhibit A, which is a map depicting the proposed rectangle.

This area would then capture the area at the corner of Eagle Road and Neff that was previously included in Scenario 2.1B and avoid the development neighborhoods to the north of the new proposed rectangle. This area has all the same benefits and positive factors as expressed in our letter of January 18, 2016.

Thank you for this opportunity to participate in this public process. If you have any questions or comments, please do not hesitate to contact me by phone or e-mail.

Sincerely,

Laurie E. Craghead

Enclosure

Deschutes County Property Information

Zoning Map for account 149266

Basemap Layer Transparency: (70%) Print



Exhibit A to Rodney Pack Letter 4-18-16

Proposed 2nd "Perfect Rectangle:

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60860

URBAN GROWTH BOUNDARY REMAND

Sign in Sheet

(1)

Meeting: BOUNDARY & GROWTH SCENARIOS TAC
Date: MARCH 30, 2016
Location: COUNCIL CHAMBERS

Name	Organization	Email Address
Robert Lamb		RobertLamb1@yahoo.com
Tommy Lamb		
Dezn Wise	JLWARDCO	
Scott Edelman	DLCD	
Tia Lewis	SWW / Coats	tlewis@schwabe.com
RENDO		
WAYNE PURCELL	self	waynePriversedgegolf.com
Rod Tomcho	UGB TAC	
Ruth Williamson	BZ83U	rwillbend@gmail
Mike Riley		
ANN MARIE CAUCCI		ANNMARIE@BENDPATROL.COM
Tim Elliott	EKW / Anderson	tim@eaattorneys.com

Sun Country Engineering & Surveying, Inc.

920 SE Armour Drive Bend, Or 97702 (541)382-8882

February 8, 2016

Ms. Deborah McMahon, representing
Curt Baney, Baney Corp. (owners of the Sunriver Prep School Site, now vacant)
Bend, OR 97702

RE: Sunriver Prep School Site T/L 18-12-1900-00100, Deschutes County, Oregon

Dear Ms McMahon:

I have reviewed the recently adopted 2014 City of Bend Collection System Master Plan (CSMP) as the contents may pertain to sewer service to the subject property, and provide the following assessment.

SERVICE:

The subject property is adjacent to both Highway 97S and Ponderosa Street, extending approximately 200 feet west, and could be served with an extension of gravity main northward, connected at a point on Granite Road, and flowing into the Mahogany/Amethyst main. Alternatively, Exhibit 'F' of the Murphy Crossing Refinement Plan contemplates service lines extended to the property along the frontage of Hwy. 97, crossing Ponderosa Street only a few hundred feet west of the intersection with the highway, and stubbed to the north line.

With either option, as indicated in the attached data from the CSMP, flows would continue across the parkway and down Murphy Road and into the Southeast Interceptor (SEI). According to the SEI webpage, recent flow analyses, and discussions with staff, the SEI east of Third Street will be accepting flows at the end of 2017.

According to the CSMP, the sections of the system downstream of the connection point of the subject property to the SEI are identified as Project #22 C ,D, and E, and Phase II-South of the SEI is Project #60C. Project #22 is scheduled to be improved in year 1-5, and project #60 is slated for years 6-10. These sections are comprised of 12" and 18" transmission mains that will serve the far southwest portion of the City east of the Deschutes River. This includes the River Rim, Homestead, Romaine Village, and Goldenrian subdivision vicinity, including the subject property, being adjacent and south. The majority of the service area is currently developed with single family homes. Very little residential land in the basin has the potential to develop or re-develop, with the exception of those lands in the Murphy Crossing Refinement Plan, near and adjacent to Highway 97.

FLOW

As background data for the subject properties potential flows, I will include an update of the previous analysis we provided in 2008.

{{...The Prep School site is approximately 40 acres in size. Of those 40 acres, it is assumed that 40% will be devoted to roads, open spaces, parks, common areas, utility infrastructure, and other areas that will not directly generate sanitary sewer flow. The remaining 60% of the site, or approximately 24 acres, will be developed into residential uses, at an assumed density of 5 units per acre, or approximately 120 units.

The City of Bend design standards assume that each dwelling will be occupied by 2.3 persons, and that each person will generate 85 gallons of sanitary sewage per day. Given these numbers, it is estimated that the Prep School site will generate 24,460 gallons of sanitary sewage per day.

Peak flows are estimated using a peaking factor of 2.5 (for total flows under 1.0 MGD) and a 20-hour day, per City guidelines. Using these design standards results in an estimated peak flow of **51** gallons per minute. An 8" diameter sanitary sewer pipe flowing half-full at a 0.40% minimum grade has a capacity of 171.5 gpm; therefore, a standard 8" sewer is adequate to service the Prep School site...}}

A flow analysis of the collection system was not readily available or published for this basin, those lands served upstream of the Highway 97 crossing, and contemplated in the Master Plan and System plan as flowing into this section of pipe. However, the proposed pipe diameter is indicated in the CSMP. Considering that the proposed line size changes from a 12" main to an 18" main at section #22D, and the capacity of a 12" gravity sewer pipe flowing 75% full at minimum grade is 1330 gallons per minute (gpm), and a 12" pipe can carry 3900 gpm, the estimated 51 gpm peak flow from the subject property would affect a 1% increase in capacity in an 18" pipe. In other words, if the CSMP assumes pipe flowing "full" at 75% depth for design capacity, and the flow in this section is designed to be flowing "full" in the pipe size indicated, that pipe would flow 76% full, rather than 75% full.

I conclusion, with the review of the CSMP and other readily available data, there should be adequate capacity within the CSMP to serve the subject parcel. In any event, the addition of the flows from this site are fairly insignificant in relation to the flow from this entire basin, so any incremental impact should be a relatively small contribution to construct or offset. If you have any questions or need additional information, please don't hesitate to call.

Sincerely,

Tim Weishaupt, P.E.

OR 58927PE

URBAN GROWTH BOUNDARY REMAND

MAKING BEND EVEN BETTER

Memorandum

April 7, 2016

To:	Bend UGB Remand Record
Cc:	Deborah McMahon (via electronic mail), Brian Rankin, Tom Hickman, Jeff England
From:	Damian Syrnyk, Senior Planner
Re:	Response for the Record – February 12, 2016 email and letter from McMahon and Weishaupt.

This memorandum responds to the February 8, 2016 letter from Tim Weishaupt of Sun Country Engineering regarding the Baney/Sunriver Prep School property, which Deborah McMahon provided by electronic mail on February 12, 2016.

City staff have reviewed the information in Mr. Weishaupt's letter and agree that his conclusions are correct that he has identified capacity in the City's sewer collection system for potential development of the Baney property. We noted that Mr. Weishaupt's letter did not address the analysis Murray Smith, and Associates (MSA) performed in October of 2015 that evaluated the six (6) UGB expansion scenarios considered by the Boundary and Growth Scenarios TAC and the UGB Steering Committee. To summarize, we did not identify any factual errors in the work performed by the UGB remand project team that led the Boundary TAC and the USC to conclude the property should not be included in the UGB expansion. This letter summarizes this work, including the work performed by MSA.

The Boundary TAC considered and recommended a series of performance measures for evaluation scenarios to the USC last year. The USC reviewed and approved these measures at their March 19, 2015 meeting. The project consultant team used these performance measures, including several related to the impact of the expansion scenarios on the sewer collection system, to evaluate the six UGB expansion scenarios in October of 2015.

The project team conducted an analysis of the UGB expansion scenarios, based on these performance measures, and published the results in an Evaluation Report on October 1, 2015, that was released through the City's website. A component of this Evaluation Report was an October 1, 2015 technical memorandum from MSA that presented the results of their evaluation of the UGB expansion scenarios. You will find a copy of this technical memorandum in the meeting materials for the Boundary TAC's October 8, 2015 meeting, starting on page 47, using the following link - http://bendoregon.gov/Modules/ShowDocument.aspx?documentid=24598.

The Boundary TAC held a public meeting on October 8, 2015 to receive a presentation from the project team on the results of this analysis. On October 22, 2015 the Boundary TAC held a separate meeting to develop a recommendation for a boundary expansion scenario to the USC, and recommended a version of Scenario 2.1 that was identified as Scenario 2.3. On that same day, the USC met, considered the recommendation from the Boundary TAC, and decided to direct the project team to use Scenario 2.1, with some changes, for final analysis.

The USC considered sewer service and transportation when deciding to not include the Baney/Sunriver Prep property in subsequent UGB scenario evaluations. First, the work performed by MSA identified the following with respect to the "Thumb" evaluation subarea, which included the Baney property:

> Scenario 2.1 is less cost effective to serve as it requires contributions to additional upsizing of the Southeast Interceptor and other existing pipeline upsizing west of Parrell Road to serve the Bany property. Scenario 1.2 is most cost effective on a per acre basis because of development of a larger portion of the sub-area without development of the Bany property.

To summarize, we concur with the Sun Country letter that the sewer collection system, per the adopted Collection System Master Plan, does include capacity for potential development of the Baney Property. That said, we need to point out that the Boundary TAC and the USC relied on the work prepared by MSA to evaluate expansion scenarios based on a number of performance measures, including several focused on sanitary sewer. The USC ultimately decided to move forward with Scenario 2.1, and chose to not include the Baney property. You will also find enclosed a copy of the approved meeting minutes from the October 22, 2015 UGB Steering Committee for your consideration of the committee's discussion from this meeting.

City of Bend
Urban Growth Boundary Steering Committee
Meeting Minutes
Date: October 22, 2015

The Urban Growth Boundary Steering Committee (USC) held its October 2015 meeting at 2:30 pm on Thursday, October 22, 2015 in the Council Chambers of Bend City Hall (710 NW Wall Street).

Members present: Jim Clinton, Victory Chudowsky (Chair), Doug Knight, Sally Russell (by conference phone), Casey Roats, Nathan Boddie, Barb Campbell, Bill Wagner (Vice Chair), Rex Wolf, and Tony DeBone.

1. Welcome

Chair Victor Chudowsky called the meeting to order at 2:35 pm. He thanked the Boundary TAC for all of their work this morning, and outlined the meeting agenda for the audience. The agenda includes public comment at about 3:20 p.m.

Chair Chudowsky then asked for a motion to approve the minutes from June 25, 2015 USC Meeting. Doug made the motion to approve the minutes, with Casey Roats providing a 2nd to the motion. All members approved the minutes and the motion passed unanimously.

After the approval of the minutes, Chair Chudowsky, turned the meeting over to Joe Dills of the Angelo Planning Group (APG) to facilitate the rest of the meeting.

2. Scenario Evaluation and TAC Recommendations

Joe began this presentation by outlining the goals for this meeting. The main goal is to take a range of alternatives forward to a preferred alternative. Then the team would conduct modeling and evaluation, followed by bringing the results back to the Boundary TAC in December.

Joe then turned the committee's attention to where they left off in June of 2015. He referred to a power point presentation that displayed the "Supplemental Area Analysis Map" recommended by the Boundary TAC and approved by the USC in June 2015. The areas identified in red on the map were already included on one of the three expansion areas. The

areas in blue were approved as "supplemental analysis areas." This concept was recommended by Boundary TAC. The presentation displayed three (3) expansion scenarios and three (3) scenarios that were formed with the supplemental analysis areas or SAAMs. He briefly described the narrowing process through which the project team reduced the size and scope of the amount of land under consideration from 18,000 acres down to about 5,000 acres that included both the land in scenarios and the land in SAAMs. These scenarios included Scenarios 1.2, 2.1, and 3.1 and SAAMs 1, 2, and 3. Each scenario and SAAM has between 1,800 and 2,000 acres each, with one of the goals to make an analysis consistent or "apples to apples" and a comparison consistent between the scenarios and SAAMs. The SAAMs included some of the ideas that came out of the spring workshop.

Joe then turned the TAC's attention to the Scenario Evaluation Criteria. The following summarizes the evaluation criteria as presented to the USC:

- Goal 14 Factors. Four legal factors of statewide planning Goal 14 (Urbanization), including: 1) efficient accommodation of identified land needs; 2) orderly and economic provision of public services; 3) comparative economic, social, environmental, and energy consequences, and; 4) compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB.
- Community Outcomes. Eight intended outcomes that state what Bend is trying to achieve with the UGB update.
- Performance Measures. Detailed quantitative and qualitative measures of performance relative to the Community Outcomes.

A total of eight (8) community outcomes were identified, with 1 to three outcomes tied to one of the Goal 14 factors. The community outcomes were presented with their Goal 14 factor as follows:

- Factor 1
  - Complete Communities and Great Neighborhoods
  - Efficient, Timely Growth
- Factor 2
  - Balanced Transportation System
  - Cost Effective Infrastructure
- Factor 3
  - Quality Natural Environment (Environmental and Energy Consequences)
  - Housing Options and Affordability (Social Consequences)
  - Strong Diverse Economy (Economic Consequences)
- Factor 4
  - Compatibility with Farms and Forests

BTAC developed 46 performance measures for each of the community outcomes and were based in part on the Project Goals approved by the USC about a year ago. There was a very strong theme about creating complete communities around the edge of the UGB.

Joe then gave an overview of the Scenario Evaluation Goals. These included determining: 1. Which alternative best meets those criteria, and; 2. How might we refine that scenario to make it even better? He turned the presentation over to several team members, identified below, who provided an overview of the modeling results for each Factor and its corresponding community outcome and performance measures. The following summarizes the presentation of the results for each factor, and identified the Community Outcome related to each factor along with the presentation's overview of the performance measures.

Alex Joyce of Fregonese and Associates started the presentation with the results for the analysis using Factor 1: Efficient Accommodation of Land Need. The team used five (5) performance measures for Complete Communities and Great Neighborhoods and five (5) performance measures for Efficient, Timely Growth. His presentation highlighted how the scenarios and SAAMs performed with respect to proximity to schools, commercial areas, and parks.

Chris Maciejewski of DKS and Associates led the presentation on Factor 2: Orderly and economic provision of public facilities and services. The team evaluated the scenarios and SAAMs against 11 measures focused on a Balanced Transportation System. His presentation touched on vehicle miles traveled (VMT) and Transportation Planning Rule (TPR) directing reduction of reliance on automobile. The results showed the city is moving in right direction; Scenario 2.1 showed the least amount of increase in VMT. His presentation of the transportation related measures also addressed average trip length and congestion. The presentation of these results showed which areas were contributing to VMT increase. With respect to Congestion, the results showed that if an area that is more remote or is less dense, growth can be added and have little impact on congestion.

After the presentation on the Balanced Transportation System community outcome, Chris turned to the Cost-Effective Infrastructure community outcome. There were seven (7) performance measures used to evaluate the scenarios and the SAAMs with respect to water, wastewater, storm water, transportation, and green infrastructure. Three of the performance measures focused on transportation infrastructure, with SAAM-3 performing the best of the scenarios. The evaluation of scenarios and SAAMs against the transportation infrastructure performance measures was significant because these measures addressed the total cost of required transportation improvements, cost per acre of transportation improvements, and new

linear miles of roadway. Regarding the Cost of New Transportation Improvements, the range of costs over the six scenarios started at roughly $150 million and went as high as $200 million.

Following Chris' presentation, Joe asked for any questions from the USC. The committee's questions included whether Scenarios 2.2 and 2.3 had been evaluated yet. The answer was not yet – whatever scenario and recommended changes approved by the USC will be taken forward for the next round of modeling. Regarding vehicle miles traveled or VMT, the measurement of VMT applies to trips to and from destinations in Bend. The team looked at trips to Bend for work because trips are generated from areas from Redmond and LaPine. This data was presented so the USC could consider the regional effects of the decision on the UGB. There was some discussion that the Oregon Department of Transportation (ODOT) needs to do more planning on their state transportation system. The following discussion of the USC on this topic also addressed whether the work we're doing will address people that choose to live in other communities, but work in Bend, and those trips along regional transportation corridors to regional destinations, such as an airport.

The next presenter was Shad Roundy of Murray, Smith, and Associates (MSA), with a focus on the water and sewer infrastructure portion of this analysis. Shad presented the results of the analysis of the three scenarios and three SAAMs against three (3) performance measures based on sanitary sewer infrastructure and one that was developed for drinking water infrastructure.

Scenarios that played out the best; took advantage of infrastructure that would be needed to serve land already in the UGB. Using these four performance measures, Scenario 1.2 did the best, with Scenarios 2.1 and 3.1 also performing well. SAAM 1 and SAAM 3 performed the worst against these criteria. The presentation on the water and wastewater measures results included a brief presentation on the improvements considered in the Collection System Master Plan. These improvements included three key project in the existing CSMP: 1). The first phase of the Southeast Interceptor (SEI); 2) the Colorado Lift Station, and; 3) localized North area Improvements. Shad also presented the sanitary sewer improvements to serve lands in the respective scenarios. The improvements needed to serve land in the SAAMs include a new lift station and force main across the Deschutes River and extension of the Hamby alignment of the Southeast interceptor. Shad concluded this presentation with a comparison of the capital costs of each expansion subarea in each scenario and each SAAM.

Following Shad's presentation, Joe asked if there were any questions from the USC. Casey asked if there were any questions from the TAC. Which interceptors were needed to service which UGB scenarios and subareas? Jim asked about the location of sewer line in Hamby Road.

The CSMP currently identified the alignment of the SEI along 27th Street. He thought it made sense to put the alignment further east to accommodate growth to the east.

Karen Swirsky followed Shad and began the team presentation on Factor 3: Comparative environmental, social, economic, and energy consequences (ESEE). Karen presented the results of the analysis of the three scenarios and three SAAMs against six performance measures addressing a Quality Natural Environment. She focused in particular on development in wildlife areas and wildfire hazard. With respect to wildlife, she presented a map to the USC titled "Wildlife: Big Habitat Winter Range." The map showed habitat mapped in blue (elk), yellow (deer) and green (elk and deer). The map also identified those areas protected by Deschutes County's wildlife area overlay zone. She pointed out that the only scenarios that performed poorly were those that included the Shevlin subarea.

Karen then turned to present the wildfire results. She began with a map titled "Wildfire Hazard" that identified five (5) different categories of wildfire hazard areas around the current UGB. These hazard categories included: Extreme, Mosaic High, Managed High, Managed and Well Managed High, and Well Managed High. She reminded the USC that the team is using the Community Wildfire Protection Plan (CWPP) and a map, and doing field work to assess rick and hazard. The analysis showed that wildfire was not much of a differentiating factor; the results do show we need to do some mitigation, and she referred to the use of new development code language to address wildfire. Nathan Boddie asked about the modality on how hazard was determined. Karen responded that the team is using SB 360 methodology that includes both vegetation and topography.

Once Karen concluded her presentation, Andrew Parrish of APG gave the remaining presentation on Factor 3. He began with a presentation on the Community Outcome of Housing Options and Affordability. His presentation highlighted the results of the analysis that used two performance measures: average cost of new single family housing, and housing mix of new housing (by subarea). The analysis considered the average cost of new single family housing; grouped by neighborhood association, and found that there was a premium on land in the west. After the housing presentation, Andrew concluded his part of the team presentation by presenting the results of the analysis on the Community Outcome of a Strong Diverse Economy. The team used three performance measures to evaluate the scenarios and the SAAMs. All the scenarios were rated as "Good" using the three performance measures.

Andrew continued the team presentation and concluded the presentation of the scenario evaluation with Factor 4: Compatibility with Farm and Forest Lands. The team used three measures to evaluate the scenarios and the SAAMs, and included in the evaluation testimony

from the Swalley and the Arnold Irrigation Districts. Scenario 1.2 performed the best against these measures, and Scenario 3.1 performed the worst.

Following the presentation of the evaluation results, Andrew provided a brief summary of the results of the Metroquest survey. A total of 1,700 people participated, 82% lived in Bend, 72% worked in Bend, a Quality Natural Environment was the most preferred outcome, with a Strong Diverse Economy the second. Scenario 2.1 scored highest among respondents.

Becky Hewitt of APG then presented a high level review of the Scenario Evaluation results. Scenario 2.1 performed the best overall. The scenario was in the top tier on all of the Community Outcomes, and each of the other alternatives and SAAMs evaluated had at least one important weakness.
Becky – Scenario Evaluation (High Level).

3. Public Comment

After the team finished the presentation of the scenario evaluations and Metroquest survey, Chair Chudowsky opened the meeting for public comment. The following lists the parties who testified and summarizes their testimony before the USC.

1. Lori Murphy, an attorney with Miller Nash Graham Dunn. She is representing Sage Wind Farms, group of landowners referring to their property collectively as the Perfect Rectangle. She referred to her testimony, which is the thicker packet handed to the USC. Part of the Rectangle is included in Scenario 2.3; a few parcels were inadvertently left off that abut Butler Market Road including two church properties. She testified that she expects more participants to join in, and asked to have the full Perfect Rectangle in the preferred scenario.

2. Tim Elliottt, an attorney representing Anderson Ranch Holding Company LLC. He referred the USC to a map and testified in support of Scenario 2.3. He noted the support for Map 2.3 at the Boundary TAC meeting. With 14 voting members present; 10 supported Map 2.3. He also supports map 2.3, based on connectivity, and complete communities. He also testified that Skyline Ranch Road runs along his client's property, which provides another north-south route.

3. Myles Conway, an attorney representing Rio Lobo Investments. Submitted comments for the record and testified as to why his client's property should be included. He expressed concern over the remand process, and supported the Boundary TAC's decision. He testified in opposition to the development of expansion scenarios before the Goal 14 process was completed and argued his client was prejudiced by being included in Scenario 3.1.

4. Wayne Purcell. He testified on affordable housing, recommended the USC look to the northeast for expansion. Mixed use can take years to build out and on the developer's schedule. He testified that there is a need for lots of little developers developing housing now. He also described benefits of the northeast, including the (Pine Nursery) Park, Yeoman Road, and Juniper Ridge. He referred to the Perfect Rectangle in his testimony, and mentioned the city's sewer plant is in the northeast.

5. Tia Lewis, attorney representing land owners Eric and Robin Coats. She testified that some of their property is shown on Scenario 3.1 in the Shevlin Area. She concurred with Myles Conway's comments on how her client's property was scored due to it being included in Scenario 3.1. She testified that properties should be studied individually, and cited to testimony already in the record. She recommend the USC look at Expansion Scenario 2.3 and compare it to the Shevlin property. The property itself has eight urban public roadways stubbed to it. She referred to the summary of the 10/8/2015 Boundary TAC minutes and testified that Don Horton of the Bend Metro Parks and Recreation district supported this area coming in the UGB.

6. Dean Wise, of the JL Ward. He recognized the amount of work that went into the scenarios maps, and how the component of complete communities plays in this work. He mentioned Northwest Crossing, and summarized the proportions of different land uses in the development. He testified in favor of including the entire Thumb, and summarized the potential proportions of land uses for the development of this property. He testified on how getting the proportions right was critical to the success of a development.

7. Paul Dewey, Central Oregon Landwatch and on the Boundary TAC. He testified that he appreciated the work of the team, and got detailed information on Scenarios 1.2, 2.1, and 3.1. He testified on his understanding that he was expecting refinements to 2.1. The Boundary TAC did not get refinements, but got something fundamentally different. The TAC was presented with 2.1, 2.2, and 2.3. We have analyses for 2.1, but not for the other new scenarios. He testified that the problem with 2.3 is that includes housing that should be located in east and southside neighborhoods. He testified that residential was taken away on the east and the southeast and moved to the westside. He saw three problems with this scenario. One was wildfire risk issue. The second was transportation and he stated the potential for 1,400 vehicle trips on Galveston and Newport. None of these analyses were completed for 2.2 and 2.3. He recommended that the USC consider 2.1 and variations to it. Third component or problem with 2.3 is affordable housing. He testified that it's more expensive to put housing on the westside. He argued that there are a lot of other east side properties to consider. The Perfect Rectangle

owners got together, but a lot of smaller developers and landowners were left out due to a bias toward large planning units. He concluded by asking the USC look to the northeast.

8. Robin Vora, member of the Boundary TAC. He testified that he agreed with Paul Dewey's testimony. He did not support the recommendation from Boundary TAC. He thought it adds more single family dwellings on the west side that's not affordable; this does not benefit present citizens of Bend. He still struggles with Goal 14 factors and why we would expand to the west due to affordability, wildfire, and wildlife habitat. There are properties on the eastside that don't have these conflicts. He questioned how the city would defend that decision. He supports a mixed development center in the northeast, and thought the Boundary TAC's recommendation a step backward.

9. Deborah McMahon testified on behalf of Curt Baney, Maverick Properties. She showed her client's property on a map; it is located on the west side of Highway 97 and more than 30 acres in size. Her prior testimony showed a master plan for this property that included a school site to donate. The plan further proposed mixed use with affordable housing; city streets abut property to the north, and Rocking Horse Road to the south. She testified that a complete community includes complete neighborhoods. She testified that she learned this morning that the property was not included in Scenario 2.3 due to challenges with sewer and transportation. She recommend the USC look at the record; it includes an analysis from an engineer that shows sewer can be provided to the property and to people inside the city. She urged them to take another look at the Baney property.

Post public comments USC questions and discussion

Chair Chudowsky asked the team to review criteria/performance measures used in the scenario evaluations. Joe started by addressing the issue of availability of sewer service. He then turned the presentation over to Becky and Shad. Shad referred to areas on a map that could be served through the City's gravity sewer collection system.

After the conclusion of public comment, the consultant team responded to several questions raised in public testimony. One question was how sewer service was evaluated. Shad of MSA started with the Westside; this area is served by gravity through a main trunk sewer. He explained the sewer analysis for the northwest area. Bill Wagner asked about whether his (Shad's) comments also applied to Anderson Ranch, Rio Lobo, and Shevlin Sand and Gravel. Becky replied that each area is a little different.

Becky explained what would be needed to provide sewer to the subareas in the north and the west. Shad discussed capacity of Awbrey Glen pump station.

Chair Chudowsky also asked about the Baney and the Purcell properties. Tony DeBone asked about whether issues were topography or capacity. Shad replied that they were mostly topography. With respect to the Baney property, its challenges include both sewer and transportation. One challenge is routing to the Southeast Interceptor (SEI). Large pipe segment for the SEI would be needed. East of 97 is routed to the existing system.

Chris of DKS addressed transportation access limitations; Highway 97 now medianed-off. Baney and Thumb were the worst performing on vehicle miles traveled (VMT). Team was trying to reduce magnitude of increase in VMT.

Joe then addressed Scenario 2.3 – the Northeast. There is land next to existing churches for the perfect rectangle. This area includes a "checkerboard" of properties. The churches are located in the southeast corner of the rectangle. The team's Idea was to leave the churches out due to limited development potential and not an efficient use of land.

Doug asked about whether individual property owners should know why they were not included in a UGB expansion scenario. He referred to Myles Conway's testimony on how Rio Lobo property not properly considered by being grouped together. He asked Mary or Brian to address. Brian responded by stating state law does not require a property by property examination, and does not require a property by property set of findings. State laws in Division 24 directs us to look at lands and expansion areas and we can group parcels. The analysis compares scenarios and subareas within scenarios. He recommended the USC look at part 2 of packet, starting at page 56.

Doug also asked about an alleged large lot bias; is this purposeful for the type of development. Brian responded to how the team looked at potential for master planning. Larger parcels are easier to master plan with one owner. There were two competing concerns: ease of implementation and master planning (schools and parks) versus diversity in ownership in land supply and different development concepts. Scenarios hit one target or another. Team tried to balance consideration of both larger parcels and smaller parcels. Certain scenarios hit one target better than another.

Doug then asked whether larger parcels lend themselves toward more impactful development. Brian responded that the team is learning the scenarios analysis thus far; moving toward larger groupings and moving them to the right location is the right approach.

Casey asked why the entire Thumb was not included. Chris Maciejewski of DKS responded by stating that subarea (including both Baney and Thumb) scored the worst on trip length (VMT). Casey noted the location of Knott Road, China Hat Road and Highway 97. Chris responded that in looking at nearby facilities, the team needs to see where the roads are going. – facilities are nearby – Knott and China Hat. This leads to questions such as where are the roads going, their destinations, and what kinds of improvements are needed. Certain improvements and widening required with full development of the Thumb. Casey responded that the Thumb is closer to Bend than Redmond and LaPine.

Casey then commented that the plan does not go far enough and is not aggressive enough. He wants to consider bringing in the entire Thumb. Doug followed by asking Mary a question he had asked earlier. Mary addressed what the law requires with respect to individual properties. The rules talk about alternative boundary locations. One section talks about the groups and requires extensive findings. The city will have extensive findings on grouped land in scenarios. She cited case law that addresses cities bringing in resource land; city not doing that in this process. We need justification on how the city council is applying the factors. Cases that are helpful talk about weighing and balancing of the (Goal 14) factors.

Barb noted that someone this morning (at the Boundary TAC Meeting) spoke to the lack of services in the south. Do we credit for those people already in the UGB if we put more commercial services in the Thumb? Chris responded by stating that in terms of VMT, with respect to the area in the boundary, the model is affected by those uses you include in the existing boundary. Bringing in all of the Thumb triggers the need for congestion related improvements in the $20 million range. Becky also added that regarding Thumb, the total mitigation costs for bringing in the Thumb totals $20 million; these improvements include both corridor and capacity projects. Chris noted that this is similar to the sewer discussion on the westside.

Jim asked about whether an ad hoc rezoning of Juniper Ridge occurred. It still zoned light industrial. Brian responded that Juniper Ridge is still zoned light industrial. The east side of Juniper Ridge is mixed employment in Scenario 2.1. The accepted master plan for Juniper Ridge and its mix of uses have been points of discussion in UGB process. Jim expressed the desire to have industrial land balanced around UGB, and not all of it located in Juniper Ridge. Brian referred to EDCO (Economic Development for Central Oregon) strongly recommending Juniper Ridge stay an employment area. Brian added that the team is now fine-tuning assumptions inside and outside the boundary. Regarding Juniper Ridge and its mix of employment types, Mary added and clarified that eastern 300 acres is light industrial. She advised the committee

to be aware that we have adopted Employment Subdistrict Overlay based on the master plan and recommendations of Juniper Ridge Management Board.

Victor asked about the Employment TAC recommendation for Juniper Ridge? Mary clarified it's the western 300 acres is Light Industrial and in Employment Subdistrict. In Scenario 2.1 the area in blue is in Employment Subdistrict. The eastern 200 acres is light purple (Light Industrial). Barb asked for clarification that one of the goals was to not have all of the needed industrial land in Juniper Ridge. She was concerned about the lack of industrial land outside of Juniper Ridge. The USC discussed how industrial lands were considered in several subareas. Victor clarified that we didn't want all of the large lot industrial to be in Juniper Ridge, and Becky clarified that a second large lot industrial site is located on the Department of State Lands (DSL) property.

4. Draft Preferred UGB Scenario

Victor started this discussion by asking for an explanation on how we got to 2.3, with Doug asking for clarification on how we got to 2.1, 2.2, and 2.3 down to 2.3. For the remainder of these minutes, the Scenarios 2.1, 2.3 and 2.3 will be referred to by number.

Joe asked Becky to recap process so far. The team presented the scenario evaluations results to the Boundary TAC at their October 8 meeting. This presentation highlighted Scenario 2.1 as the highest performing of the three scenarios and three SAAM's evaluated. In addition, the team recommended a set of refinements to Scenario 2.1, that they then incorporated to develop Scenario 2.2. Scenario 2.2 is 2.1 with the team recommendations from 10/8. The team had presented these refinements as a written list, which the TAC then asked to see on a map. Scenario 2.3 was created based on things the team heard from the Boundary TAC at their October 8, 2015 meeting. Scenario 2.3 started as 2.1, and was then modified with the refinements recommended by the Boundary TAC at their October 8 meeting. Becky further summarized the differences between 2.1, 2.2, and 2.3. In 2.1, a lot of employment outside UGB was industrial jobs. Assuming a light industrial emphasis in Juniper Ridge allows more mixed employment in other areas outside UGB.

Becky then turned the presentation back to Joe to summarize the Boundary TAC recommendation from their meeting in the morning of October 22, 2015. Joe described the TAC's and how they came to recommend 2.3 with their refinements. Scenario 2.1 was one of the alternatives that performed best; the team learned some things from that evaluation. The team also learned some things from the TAC's discussion on 10/8/2015 that led to 2.2. The Boundary TAC's morning meeting included a straw poll and discussion of likes and dislikes with

2.1, 2.2, and 2.3. This discussion led to the starting point being 2.3. Then the TAC went through a next level discussion – issues people had – on how to make 2.3 even better. The Boundary TAC's recommendation is 2.3 plus two refinements. These refinements are: 1) retain same footprint of west area while reducing med/high density units and moving them to the Northeast, DSL, and Elbow, and; 2) put more employment and more medium and high density in the northeast (similar to the first refinement). There were two main thoughts on this – concern over the mix; and need to better balance the mix between west and east.

Doug asked for clarification – we're still retaining the area, but assuming less density (number of housing units). Victor also asked that we're talking roughly the same mix in the west and the northeast, and the 1,450 units originally contemplated will come down to a lower number and move units to the northeast, DSL, and Elbow. Looking at fewer units, but same mix. Brian clarified that this is the direction we're looking for – we don't have a number now.

Nathan asked about the decrease in density on west and moving it to the east. Was there any TAC discussion about east-west gentrification? Don't we want more mixed use? Joe replied that this was not a concern of the TAC. We're still looking at more diversification of housing in the west. Doug asked if the mix still remains the same on westside.

Brian added that there is another concept in play. He described a general perception that this might be the last UGB expansion in this area on the West side due to large lot development under review by the County. There is public land beyond so we could be close to build out on the west. The thinking is different in the northeast. A couple of TAC members thought the city would continue to growth in the direction of the northeast, with a larger employment and housing node in the Northeast. It could become a new anchor for the next expansion.

Victor inquired on the evaluation of how we got here. Was the objection to 2.1 too much on the south and the southeast? Was this corrected in 2.2 by more housing added to the west side? Third iteration – leave footprint on west and balance the mix of housing on both sides. Was 2.3 a compromise?

Barb asked about whether we have created a scenario that includes weaknesses of 3.1. She cited wildfire hazard, transportation connectivity, and affordable housing and asked for clarification that these were weaknesses that led to a new scenario. Why 3.1 did poorly. The closest scenario is really 1.2 – see page 13 of the packet. Brian referred to packet – 2.3 is a hybrid of 1.2 and less than 3.1. Scenario 3.1 had more westside development. We're staying out of riparian areas. Becky added that the most problematic pieces of 3.1 are not included in 2.3.

End of Team Presentation – USC Discussion and Direction

Joe informed the USC that there was no more staff presentation. He added that the team is now looking to USC for direction on 2.3 and the refinements from the Boundary TAC. The second point/refinement was to add more employment and more med/high density to the northeast. This was a generalized recommendation – no direction on where it would come from. A new area of the city is forming in the northeast. The TAC thought it should have some employment and variety of housing. The team will need to take a look at appropriate employment for the northeast; need to study for specific location.

USC discussion on Preferred Scenario

Victor started the USC's discussion. Scenario 2.3 scores well. Balance towards west side and east. Agrees with criticism of too much growth directed toward west. There will be benefits and burdens as the area urbanizes. Need to balance benefits and burdens of urbanization. There would a negative perception if this process was viewed as a process that favored west side land owners who don't want to see more development. Scenario 2.3 has best balance, and was okay with TAC's recommendations. He also recommended we investigate issue Jim Clinton raised regarding Juniper Ridge and what course to take.

Doug referred to Nathan's comments about creating more large lot residential on the west side – leaving west area the same but changing housing - have you contributed to gentrification. Have we asked the southeast to shoulder too much of the burden? If Boundary TAC has not considered the issue is there a further refinement that the USC should consider? Becky clarified that the Boundary TAC did discuss whether to add more multi-family to the west. The motion did not pass, but the conversation did occur.

Nathan acknowledged the work that we've done. Acknowledged Brian, and the advisory committee. Pleased to see choice of 2.1 from an empirical standpoint. The people (through the Metroquest Survey) also supported 2.1. Cited preference of the community for 2.1, though with a non-scientific framework. This scenario also had less wildfire risk. Expressed concern over crown fire risks, risks to put homes, people and send firefighters there. A little bit concerned over refinements – looks to northeast and the south. He recommends staying with 2.1 scenario.

Jim commented that we're heading towards a specific boundary. A particular line on the map. It's a fun exercise to consider the boundary and what could be included, but cautioned that we keep our eye on the ball, which is the urban growth boundary. What is the logical way to draw

the boundary as opposed to what land uses would be nice in certain area? Lauded effort to look at Shevlin canyon and consider its problems. A second important question is what is the infrastructure telling us? We're being asked to go with 2.3 without similar analysis like that behind 2.1. He cited that as a deficiency. He was ready to embrace 2.1, saw advantages to 2.3; can't jump on 2.3 without comparative analysis of these two questions: 1) what is land telling us, and 2) what is infrastructure telling us. He recommended we stick with 2.1.

Doug appreciated the work of the committee. He expressed concern over what he described as such a dramatic shift in housing units from 2.1 to 2.3 without comparative analysis. For reasons Nathan mentioned, wildfire interface, potential perceived gentrification. More inclined to stick with 2.1. Brian recognized that same level of analysis not done; Scenario 2.3 is what we would test to understand the implications. Boundary TAC recommended 2.3 with their refinements for further testing to see what it looks like.

Nathan likes the Northeast – the area identified as the Perfect Rectangle. Doesn't want to change horse mid-stream. Refine 2.1 without changing horse mid-stream.

Doug – suggested refinements to 2.3 in his mind are not really refinements.

Rex commented on and favored 2.1; he thought it was a radical shift to go to 2.3. Elements of 2.3 that we like; elements that we don't like such as Juniper Ridge and the Thumb. How can we take combination of the scenarios to evaluate?

Brian responded - we're asking for more direction on a scenario that becomes a basis for a UGB expansion subject to more refinements.

Doug responded by stating what you're seeing Brian is a further iteration of what the Boundary TAC did. We need to be clear about our direction.

Rex added that we avoid analysis paralysis. He suggested we take best ideas you heard today. Consensus ideas you heard today.

Joe then asked a process suggestion. He asked that the USC set the base scenario for the starting point; then identify specific refinements to it. Essentially what the Boundary TAC did.

Casey asked a question on the lands in the west that are in 2.1 - is there enough land to make the Skyline Ranch Road connection or do you need to get to 2.3. Joe replied that you need 2.3

to make connection of Skyline Ranch Road. Nathan questioned whether we're setting ourselves up for the next UGB expansion. Casey questioned whether we're looking at enough land. Becky and Chris then identified location and the alignment of Skyline Ranch Road.

Casey questioned the perception of traffic congestion on the west side, and asked whether the UGB should include enough land for a westside connection in Skyline Ranch Road. He questioned whether this would take pressure off of Mount Washington Drive and commented that we're not considering a significant UGB expansion.

Jim asked what does Skyline Ranch Road do to resolve traffic problems. Chris responded that from congestion standpoint, Skyline Ranch Road is not required to resolve any congestion issues. The road does help with connectivity and provides a secondary connection, which is a good thing. By itself, is not a major capacity corridor to help the westside.

Bill added that he does not see the Skyline Rand Road link as essential now. There is a real opportunity now to create new emerging nodes of centers. He suggested we look at existing development that will be close to emerging nodes and community centers. These are his preferences and looking beyond this process. He's thinking beyond this process.

Barb thanked committee again. She commented that she likes Scenario 2.1. She added that trying to solve affordability in housing on the westside creates traffic problem on the westside. Likes the little bit of housing in the triangle for Scenario 2.1, and also likes the Rectangle.

Sally (commenting by phone) – said she heard the meeting and conversations. She feels comfortable with work by TACs, consultants, and staff. Will rest on decision you make.

Tony had one question - what were the original acre goals. Joe replied roughly 1,800 to 2,000 acres. Becky added that we have target of numbers of housing units and jobs in UGB and in expansion. There is some flexibility, but not much.

Bill added that he was concerned about one part of 2.1 – it currently leaves out the rectangle. Jim added that there seems to be a majority that supports 2.1; maybe we should recommend the changes we want to see in 2.1. Nathan added that Skyline Ranch Road has one benefit, that of being a fire break.

Victor summarized the choices before the USC. One is 2.3 plus the refinements recommend b the TAC as recommended or 2.1.

Doug recommended the USC take 2.1 as a base and then vote first on scenario then refinements.

Victor asked for a vote on Doug's recommendation of Scenario 2.1. The show of hands was six (6) for Scenario 2.1 and three (3) for Scenario 2.3.

On the topic of adjustments to 2.1, Bill recommended including the entire Perfect Rectangle. He recommended the team figure that out and also a change in Juniper Ridge.

Jim commented that 2.3 had a full sized rectangle with bigger west; with smaller west, you should be able to take in entire Perfect Rectangle. He recommended taking the northeast of 2.3 and including it in 2.1.

Victor confirmed that the USC's direction is 2.1, with Perfect Rectangle. Brian confirmed that we have a balloon of a certain shape. We need direction to work it out.

Jim asked about the section of the Thumb on west side of Highway 97. Becky suggested that the team could drop the Baney property and drop the Bear Creek Road square. Questions on the land and its use. The USC confirmed direction of taking Baney and Bear Creek Road square and adding this to the northeast.

Mary Winters added that we need to consider whether a property has redevelopment potential. Joe clarified we clear direction on the "to" and the "from" moves on where property is moved one location to another. Jim added that's the point with the church property.

Joe added that if we add to the rectangle we need to take it from somewhere. Bill recommended eliminating the Baney Property and the Bear Creek Square. Jim then made a general point about 2.1; there's a lot of orange colored property with an aggressive housing mix with a lot of multi-family. So much emphasis on multi-family. It's worth of re-examining in the expanded Bend. It differs substantially from our history. Victor tried to summarize TAC's discussion of 2.1 and 2.3 and the concerns that TAC considered in selecting 2.3. Victor summarized the Boundary TAC's discussion that led to 2.3.

Doug then asked to call the question: address Bill's idea for 2.1, Support 2.1 with the following refinements - eliminate Baney, and eliminate Bear Creek square, to increase area in Perfect Rectangle. Doug moved approval of this with Bill providing a second. The motion passed with no "no" votes.

Joe then asked if there were any further refinements. Jim commented that if we're finding it difficult to making this work to look at the assigned percentages of different housing types within different areas and see if they can be brought into alignment with the recommendations made by the Boundary TAC. Becky asked clarifying point – there's a housing mix for the future UGB we need to hit. Scenario 2.1 uses the old UGB assumptions. Bill asked if this meant it would work. Becky responded that she thought the team could find a way to make it work. Jim added that we ease up on the housing mix in expansions areas; this will put more pressure on housing mix in the existing UGB. Poor city planning to put high density along the edge of the city.

Joe then summarized the direction - some of the multifamily in the expansion areas should be moved into the UGB. Then we should vote on that as direction.

Victor responded that he was concerned about that direction. We've already done the BLI, housing mix, and what's possible inside the boundary before considering land outside the boundary. It's problematic and too late to do what Jim's proposing. Nathan added that the USC has given a fair amount of guidance. Jim recommended that the team compare 2.1 and 2.3 – compare percentages of multifamily housing in expansion areas.

Joe added that 2.1 includes land uses in OB Riley, North Triangle, DSL, and the Elbow. He asked the USC whether the team understands your (USC) direction is that the land uses in these areas stay as drawn. Brian mentioned that the large lot industrial site (LLI) is located in the OB Riley area in 2.1; moved to DSL in 2.2 and 2.3. Joe also noted the Employment TAC looked to move LLI to DSL.

Jim and then Doug recommended the team locate the LLI on the DSL property. Brian noted this direction, and added that other employment would be displaced and put into the OB Riley Road area.

Doug asked if there was any sentiment to move the LLI to DSL. He then made a motion to approve moving the LLI in the OB Riley area to DSL. Bill seconded this motion and called the question. Before the vote, Casey asked about what's wrong with 2.3? Barb replied that putting too much housing on Westside to address affordability creates new problems, such as traffic. Nathan – asked team if we have enough to go on?

Doug formally moved the approval of moving the LLI from the OB Riley/Gopher Gulch area to the DSL property. Bill seconded this motion. The motion passed on a vote of 8 to 1.

Following this discussion and series of votes, Joe summarized the direction from the USC. The team will use Scenario 2.1 with two specific refinements. One refinement is the land area and uses on the Bany property and in the Bear Creek Road square will be relocated to the northeast. The second refinement is the team will move the LLI from OB Riley/Gopher Gulch to the DSL property. He commented that there is a lot of differences between 2.3 and what's proposed for amended 2.1. Joe checked in and made sure the USC was good with that. He then summarized the roll up package is 2.1, with these two changes (1) Baney and Bear Creek move to northeast; (2) LLI moved to DSL. The final package is Scenario 2.1 with 1) expand perfect rectangle-eliminate Baney property and Bear Creek Road square, and; 2) Move large lot industrial site from OB Riley Road to DSL property. The team will go back to create a Scenario 2.4 or Scenario 2.1A and go through the analysis to verify traffic, water, and evaluations. The results will be brought back in December.

Bill asked for clarification that the purpose for the evaluation is that the scenario works? Brian confirmed this direction and the effect on timeline. This decision becomes a cut off point for the team to start writing findings. This is the start of that point and the team needs time to write findings. We're tying together housing and employment needs with other work. He summarized effect on schedule and work load if committee provides further direction and changes. He asked if there's a need for more iterative steps.

Jim responded that if we find a flaw with what we've directed – then get the committee back together. The rectangle in the northwest – are we clear about how much is included yet? Brian summarized about 70 to 100 acres. Becky advised that we need to verify this. Jim expressed desire of having a complete neighborhood up there.

Joe commented that it was his sense these changes will add some but not all of the perfect rectangle. Brian confirmed direction of don't do 2.3. He stated the importance of checking in was to confirm direction. We heard today that we don't use 2.3 and the team will head into a different direction.

5. Adjourn

Victor adjourned the meeting at 5:34 pm

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DRAFT TECHNICAL MEMORANDUM

DATE: October 1, 2015

PROJECT: Bend UGB Expansion

TO: City of Bend, Oregon

FROM: Murray, Smith & Associates, Inc.

RE: UGB Expansion – Sanitary Sewer Analysis

Background

The City of Bend (City) is studying the potential expansion of their existing Urban Growth Boundary (UGB) to facilitate future growth. As a follow on to collection system planning work that was completed in 2014, Murray, Smith & Associates, Inc. (MSA) was contracted to evaluate the potential sanitary sewer infrastructure impacts associated with long-term and incremental UGB expansion. In this UGB analysis, the initial analysis was performed to identify a long-term infrastructure plan within a two-mile buffer around the City's existing UGB. This allows the City to develop a much longer term view for infrastructure that has 100 year plus expected lifespan of modern pipe materials. This longer term view allows for better infrastructure planning to ensure that whatever is ultimately installed ends up being consistent with the long-term infrastructure needs and avoids the issues the City faces today of a sewer collection system that is piecemealed without a larger long-term vision. After understanding the infrastructure needs for the two mile buffer, the analysis then looked at the various incremental expansions that focused on solutions consistent with the longer term needs. Requirements were determined for two (2) generalized UGB expansion scenario packages. The generalized UGB expansion scenario packages were analyzed to select the least cost improvements consistent with the long-term infrastructure plan and a select set of short-term improvement alternatives. Finally, six (6) distinct UGB expansion scenarios were rated for relative cost that were consistent with the long-term infrastructure analysis. In most cases, portions of the long-term sewer infrastructure solutions were selected to serve the UGB expansion scenarios. This memorandum summarizes the results of the UGB expansion analysis for the sanitary sewer infrastructure.

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Improvement Analysis

The primary objective of the improvement analysis is to determine the combination of system improvements that satisfy the specified hydraulic performance criteria while minimizing overall life-cycle costs for the potential UGB expansion scenarios. Optimization technology was used to identify the least cost improvement strategies. Additionally, the UGB expansion analysis builds on the optimization analysis performed for the City of Bend Collection System Master Plan (CSMP) completed in 2014.

To enable an exhaustive and objective evaluation of all feasible improvement alternatives, the optimization analysis was undertaken using Optimizer WCS™ and the EPASWMM 5 hydraulic engine. Optimizer WCS is a decision-support software program that integrates improvement alternatives, comprehensive life-cycle costs, design criteria and the calibrated hydraulic model of the collection system. In a single optimization analysis, the software evaluates over 100,000 possible solution configurations and assesses life-cycle cost and hydraulic performance simultaneously while sizing system improvements. EPASWMM 5 is an industry standard dynamic simulation software developed by the United States Environmental Protection Agency for evaluating sanitary and stormwater system capacity.

The UGB expansion analysis focuses on assessing additional improvement alternatives not considered in the CSMP that are required to serve growth outside of the existing UGB and re-evaluating alternatives that were considered in the CSMP that are likely to be affected by expanding the UGB. Many of the detailed alternatives considered in the CSMP were not re-evaluated in the UGB expansion analysis if the outcome of the analysis of those alternatives was considered to not be affected significantly by the UGB expansion. Furthermore, improvements selected in the CSMP optimization that are committed for near-term construction (North Area Improvements, Colorado Diversion and Southeast Interceptor Phase 1) were locked in as committed projects in the UGB expansion analysis.

The optimization analysis for the UGB Expansion was completed in two key stages:

1. Long-term Infrastructure Analysis (Task 3): Comprehensive evaluation of sewer service alternatives that encompasses an area out to a 2 mile buffer from the current UGB. This evaluation encompasses an area that is anticipated to be significantly larger than what will be included in the next UGB expansion. This evaluation allows the City to identify long term infrastructure solutions consistent with the goal of having all new infrastructure provide effective capacity and function for 75 to 100 years and not require upsizing or paralleling in the near term.

2. UGB Expansion Infrastructure Analysis (Task 4): Determine the cost-effective capital improvement strategy to service population growth through the 2028 planning horizon within the existing UGB and through expansion of the existing UGB. The analysis included improvement options from the long-term infrastructure analysis (Task 3) and from a subset of short-term improvement alternatives that were focused on service to the UGB expansion areas. Two generalized UGB expansion growth

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scenario packages (referred to as Task 4a and Task 4b) were evaluated in the optimization analysis.

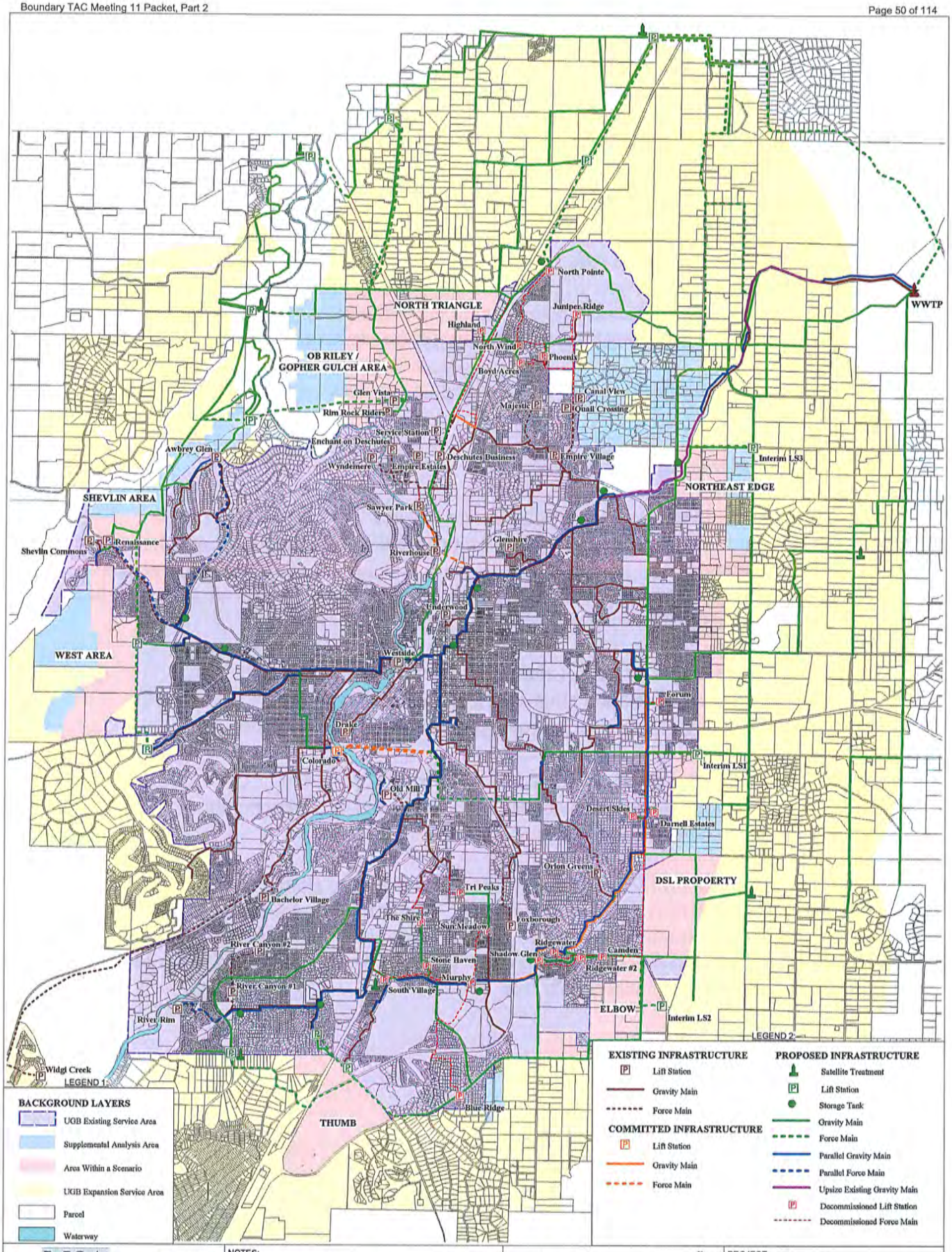
The Initial Capital Cost and Equivalent Uniform Annual Cost (EUAC) methods were used for comparing various alternatives in the optimization analysis. The Initial Capital Cost method estimates capital investment, but excludes operation and maintenance costs. The EUAC calculates the cost per year of constructing, operating and maintaining an asset over its entire lifespan. As noted previously the goal of the optimization is to minimize the overall life cycle costs while identifying a solution that meets the identified hydraulic criteria. The EUAC approach allows for the comparison of different types of assets (eg lift stations, gravity mains, satellite treatment, etc) with varying design lives on an equivalent yearly basis.

Collection System Improvement Alternatives

Improvement alternatives include new alternatives to serve UGB expansion, CSMP improvements, and CSMP alternatives that were not previously selected, but may be appropriate considering the potential expansion area. The full set of system improvement alternatives that were considered in the Long-term Infrastructure Analysis are presented in Figure 1 and include the following categories:

- Gravity and force main improvements along existing alignments
- New gravity and force main alignment alternatives
- New lift stations, existing lift station upgrades, and existing lift station decommissioning alternatives
- Storage tank alternatives (restricted to wet-weather operation)
- Linear transport/storage alternatives (restricted to wet-weather operation)
- Satellite treatment alternatives

Planning level pipeline profiles were developed for new gravity alternatives from available United States Geologic Survey (USGS) contours. The profile development included a high level evaluation of minimum pipe cover (3 feet), extent of service area boundary by gravity, minimum pipe slope, and average pipeline depth (10 to 15 feet). In some critical locations, the gravity pipeline depths exceeded 20 feet.



MSA Murray, Smith & Associates, Inc. Engineers/Planners

WCS ENGINEERING

NOTES:

1. THIS DRAWING IS CONCEPTUAL AND HAS BEEN PREPARED FOR DISCUSSION PURPOSES ONLY.

2. PROPOSED INFRASTRUCTURE IS CONCEPTUAL AND REMAIN SUBJECT TO DETAILED ENGINEERING DESIGN.

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DRAWING NO: TASK3-GIS01

ISSUE: C

ISS	BY	CHK	DATE	DETAILS
A	AF	JW	06.23.15	DRAFT FIGURE
B	AF	JW	06.30.15	ISSUED FOR APPROVAL
C	AF	JW	09.14.15	FINAL DRAFT

PROJECT: UGB EXPANSION SEWER SYSTEM ANALYSIS - OVERALL STUDY AREA

CLIENT: CITY OF BEND

DRAWING TITLE: FIGURE 1 IMPROVEMENT ALTERNATIVES CONSIDERED

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Design and Performance Criteria

The relevant design and performance criteria applied in the UGB expansion analysis are consistent with the criteria applied in the CSMP. These include; system surcharge, freeboard and overflow constraints, maximum and minimum velocity constraints, lift station firm capacity, and backup power. The criteria are summarized in Table 1 below and specific details are summarized in the CSMP Report Section 4 – "System Analysis."

Table 1| Summary of Design Criteria

Category	CSMP Standard
During peak dry weather flows, depth/Diameter (d/D)	≤ 0.8
During peak wet weather flows, d/D	Existing Pipe: Covered under freeboard requirements New Pipe: < 1.0
During peak wet weather flows, maximum surcharge (freeboard from water surface to manhole rim)	Existing Pipe: Minimum 2.0 feet of freeboard system wide for unsealed gravity pipes. Manholes with < 2.0 feet from crown to rim will be identified and evaluated individually as exceptions or required improvements. New Pipe: No manhole surcharging, piping will be sized to convey peak wet weather flows under full pipe conditions.
Shallow manhole (crown of pipe to rim < 2.5 ft), during peak wet weather flows, maximum surcharge (freeboard from water surface to manhole rim)	Existing Pipe: Covered under peak wet weather requirement New Pipe: No manhole surcharging, piping will be sized to convey peak wet weather flows under full pipe conditions.
Lift station firm capacity	Lift capacity to discharge the peak flow associated with the design wet weather event with largest unit out of service.
Maximum force main velocity	6 ft/s max under peak dry weather flows, 10 ft/s max under peak wet weather conditions with all pumps operating
Maximum gravity pipe velocity	10 ft/s to identify pipelines that may require anchoring and regular inspection
Minimum cleansing/scouring velocity, gravity pipe and force main	2 ft/s flow rate attained during peak dry weather flow to maintain cleansing or identify pipelines in need of flushing.
Minimum cleansing/scouring velocity, siphon	Existing: 3 ft/s (2 barrels required) New: No new siphons permitted

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Category	CSMP Standard
Backup power (response time)	Onsite backup power or backup diesel pumps should be provided for any large or regional lift stations. On case-by-case basis, other lift stations (excluding private pumps) should comply with ODEQ guidelines for onsite storage, auxiliary power, etc. Standby power required for new lift stations or existing lift stations that go through a "material modification."

General note: ft/s = feet per second. ODEQ – Oregon Department of Environmental Quality.

Table 2 presents the design standards that were followed to determine slope of new pipelines. These criteria are based on:

- *City of Bend Standards and Specifications*, 2011 for pipes less than or equal to 24 inches in diameter.
- *Recommended Standards for Wastewater Facilities (10 States Standards, www.10statesstandards.com)*, 2004 edition, for pipes greater than 24 inches in diameter.

For pipe diameters greater than or equal to 48 inches, slopes should be designed to produce mean velocities, when flowing full, of not less than 3.0 feet per second (ft/s) based on Manning's formula using an "n" value of 0.013.

Table 2| Pipe Design Standards: Grade and Slope

Recommended Minimum Slopes							
Nominal Pipe Size (inch)	**8**[1]	**12**[1]	**18**[1]	**24**[1]	**30**[2]	**36**[2]	**42**[2]
Minimum Slope (ft per 100 ft)	**0.4**	**0.19**	**0.11**	**0.08**	**0.058**	**0.046**	**0.037**

[1] *Minimum Grade (City of Bend Standards and Specifications, 2011).*
[2] *Recommended minimum slopes (Recommended Standards for Wastewater Facilities [10 States Standards, 2004]).*

Unit Cost Rates

Unit cost rates used in the optimization analysis are planning-level estimates and are consistent with the approach used in the CSMP and have been updated to reflect 2015 conditions. The unit cost rates are summarized in the CSMP Report Section 5 – "Project Unit Costs and Cost Analysis" and Appendix 5A – "Supplemental Material for Unit Costs." The Engineering News Record Construction Cost Index (ENR CCI) basis is 9430 (Seattle, April 2013) for the CSMP and 10,386 (Seattle, February 2015) for the UGB expansion study. All CSMP unit costs were multiplied by a factor of 1.10138 for the UGB Expansion study based on the ENR CCI ratio (10,386/9430).

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The EUAC approach utilized in the optimization includes capital costs, end-of-life replacement costs, applicable operations and maintenance costs, and electrical costs to evaluate improvement alternatives. Unit cost rates include markups for design and administration costs, mobilization, traffic control, erosion control, and contractor's overhead. Additionally, project costs include surface restoration for arterial, local, and dirt roadways; and trenchless or crossing construction costs associated with canal, railroad and highway crossings. Lower surface restoration costs were applied to those alignments outside of the current UGB due to their more rural nature and lack of curb and gutter or sidewalk.

Project unit cost estimates were prepared in accordance with the guidelines of American Association of Cost Engineers (AACE) International, the Association for the Advancement of Cost Engineering. (*AACE International Recommended Practice No. 56R-08 Cost Estimate Classification System - As Applied for the Building and General Construction Industries - TCM Framework: 7.3 - Cost Estimating and Budgeting Rev. December 31, 2011*). AACE International's description of a Class 5 Estimate is quoted as follows:

> *Typical accuracy ranges for Class 5 estimates are -20% to -30% on the low side, and +30% to +50% on the high side, depending on the construction complexity of the project, appropriate reference information and other risks (after inclusion of an appropriate contingency determination). Ranges could exceed those shown if there are unusual risks.*

The project cost estimates have been prepared for the purpose of evaluating project alternatives and budgeting for master plan implementation. Project cost estimates were prepared from information available at the time of the estimate, and are based on a low level of project definition. Project costs developed herein produce "rough cost estimates" consistent with the definition of Oregon Administrative Rules 660-011-0005(2) and 660-011-035. The true cost and resulting feasibility of a planned project will depend on the actual labor and material costs, competitive market conditions, site conditions, final project scope, implementation schedule, continuity of personnel, and other variable factors. Therefore, the actual project costs will vary from the estimates presented here. Because of these factors, project feasibility, benefit-to-cost ratios, risks and funding must be carefully reviewed prior to making specific financial decisions or establishing project-specific budgets.

UGB Expansion Scenarios

For all land use alternatives in the UGB expansion analysis, the existing UGB was assumed to be built-out based on model calibration and wastewater flow projections identified in the CSMP Report Section 3, "Wastewater Flow Projections" and Section 4, "System Analysis." The additional wastewater flow projections for the UGB expansion analysis applied specifically to potential UGB expansion areas and scenarios as outlined below and shown in Figure 2.

- Task 3 (Long-term Infrastructure Analysis) – Two-mile buffer around the existing UGB used to identify long-term improvement strategy. Includes all land within 2

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miles of the existing UGB, excluding land identified as unbuildable.[1] Additionally, a net acreage factor of 79% was applied to the buildable lands to account for future right-of-way (ROW) requirements.[2]

- Task 4a (generalized UGB Expansion Scenarios) – Composite of UGB expansion scenarios approved by the UGB Steering Committee (USC), including all land included in scenarios. (Scenario Areas)

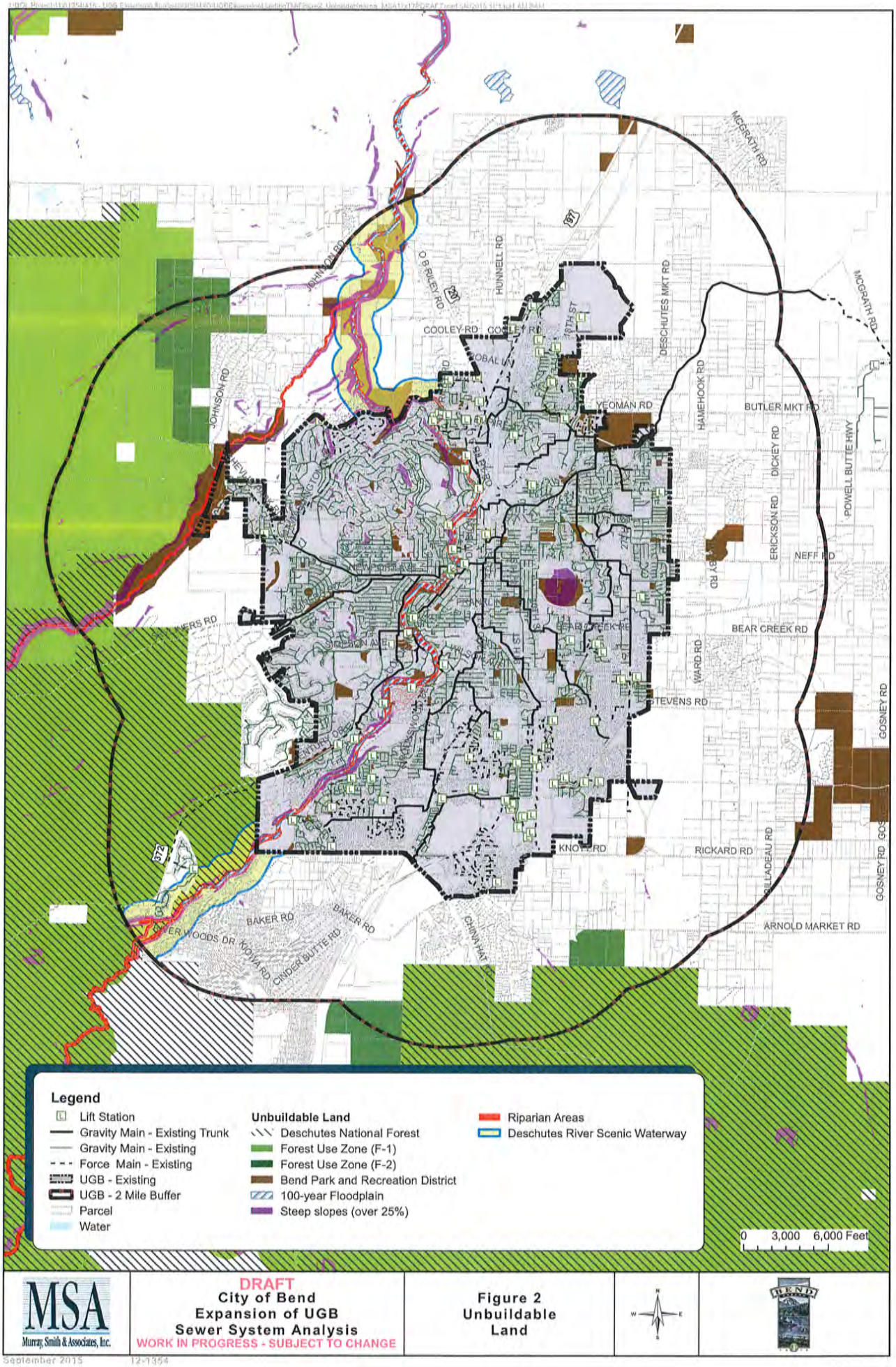
- Task 4b (generalized Supplemental Analysis Areas) – Composite of all supplemental analysis areas approved by the USC. (Supplemental Analysis Areas)

The scenario and supplemental expansion areas were grouped into eight (8) geographic sub-areas as shown in Figure 3. These areas became the basis for comparative ratings of potential expansion areas. A summary of area for the sanitary sewer study is provided in Table 3.

Table 3| UGB Expansion Study Area Buildable Acres

Category[1, 2]	Buildable Area (net acres)[1, 2, 3]
Existing UGB[4]	16,155
Tetherow and Widgi Creek[4]	860
UGB Expansion Scenario Areas	
DSL Property	285
Elbow	337
Thumb	316
West	314
Shevlin	143
OB Riley/Gopher Gulch	387
North Triangle	195
Northeast Edge	368
Supplemental Analysis Areas	
DSL Property	92
Elbow	0
Thumb	34
West	208
Shevlin	200
OB Riley/Gopher Gulch	283
North Triangle	0
Northeast Edge	665
2 Mile Buffer	14,193
Total	40,555

Note 1. Within the study area, the following list of unbuildable land was excluded from the sewer analysis: State and Federal lands; Bend Parks and Recreation District ownership; 100 year FEMA Floodplain; Steep Slopes (greater than 25%); Riparian Areas; Federal and Scenic Rivers; Oregon Scenic Waterways. Note 2. Net acres based on 21% future ROW consistent with City planning criteria. Note 3. Incremental values, except for total.
Note 4. Obtained from the CSMP Buildable Land Inventory database.

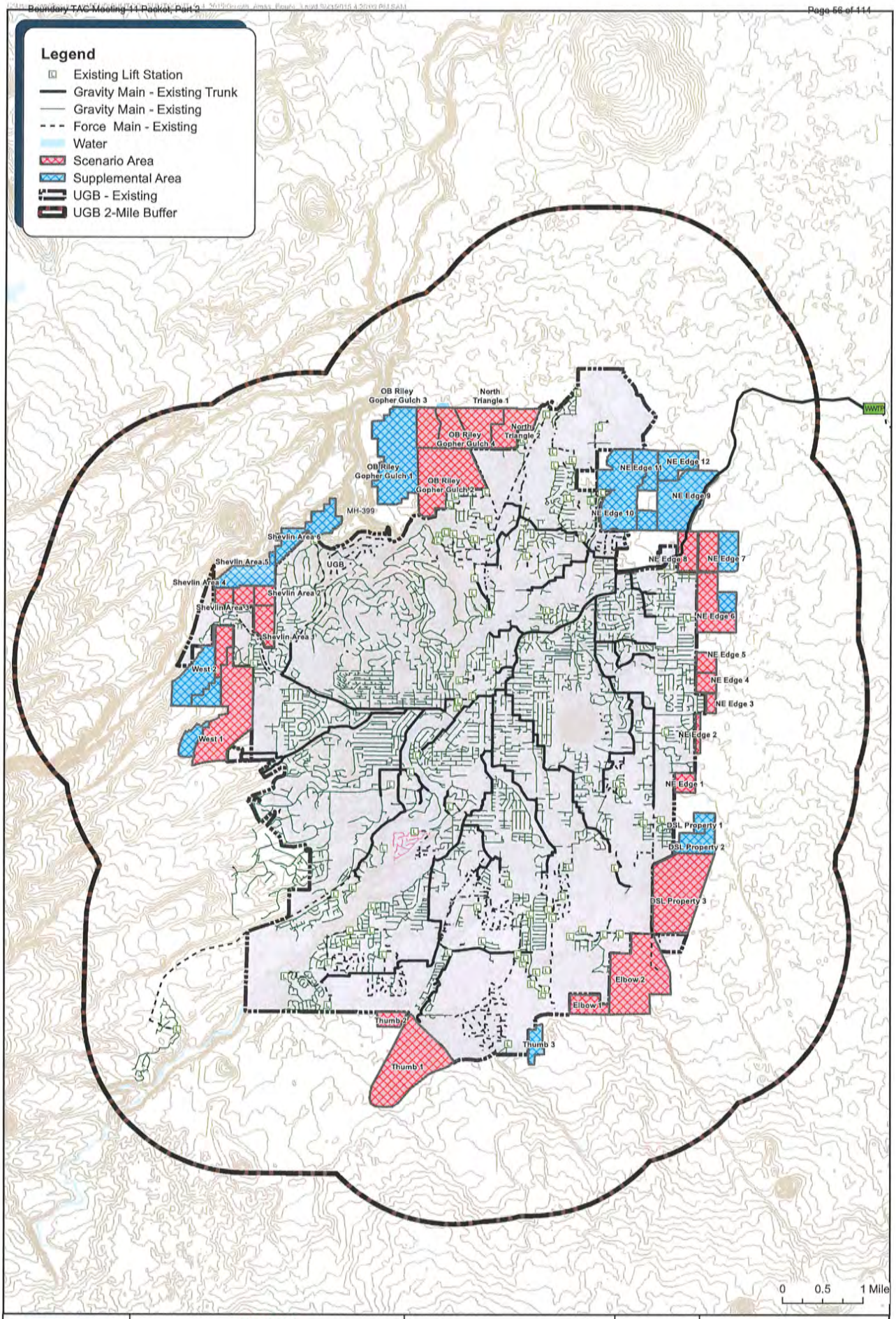


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Figure 2
Unbuildable Land

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Figure 3
Growth Areas

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Flow Development

The sanitary sewer system was analyzed for capacity based on peak dry weather and wet weather flow estimates as defined below:

- Peak dry weather flow: highest flow during dry weather conditions (sanitary flows), corresponding to the day of maximum sewer use (no rainfall is contributing).
- Peak wet weather flow: peak flow during wet weather conditions, corresponding to the rainfall contribution from the design storm (rainfall derived infiltration and inflow, RDII) and dry weather flow conditions of the day of maximum sewer use. Dry and wet flow peaks are aligned to ensure that the peak dry weather flow and the peak RDII contribution occur at the same time.

Dry Weather Loading

As part of the recently completed CSMP, land use and loading rates (average dry weather flow) were attributed to all tax lots within the existing UGB based on available flow monitoring. Future loading within the existing UGB was extrapolated based on unit flow factors as presented in Table 4.

Table 4| Unit Loading Rates for Dry Weather Flow

Land Use Category	Units per Acre	Loading (gpad)[1, 2]
Very Low Density Residential	2	370
Low Density Residential	4	740
Medium Density Residential	6	1,110
High Density Residential	10	1,850
Non-Residential	-	490
Schools	-	347

Note 1. Gallons-per-acre-per-day (gpad)
Note 2. Residential loading based on 185 gallons-per-unit-per-day x number of units.

Dry weather loading was developed for the potential UGB expansion areas using the unit loading rates from the CSMP and assumptions shown in Table 4. Numbers of estimated units were applied to Scenario Areas and Supplemental Analysis Areas where unit projections were available. Based on the statistical analysis and input from City staff, a density of 4 units per acre was applied where unit projections or other land use data was unavailable (i.e. in the remainder of the 2-mile buffer area, outside the Scenario Areas and Supplemental Analysis Areas). The justification for the 4 units per acre assumption is further documented in the technical memorandum entitled, "UGB Expansion – Sewer Loading Assumptions [July 2015]." The total and existing loading estimates are summarized in Table 5.

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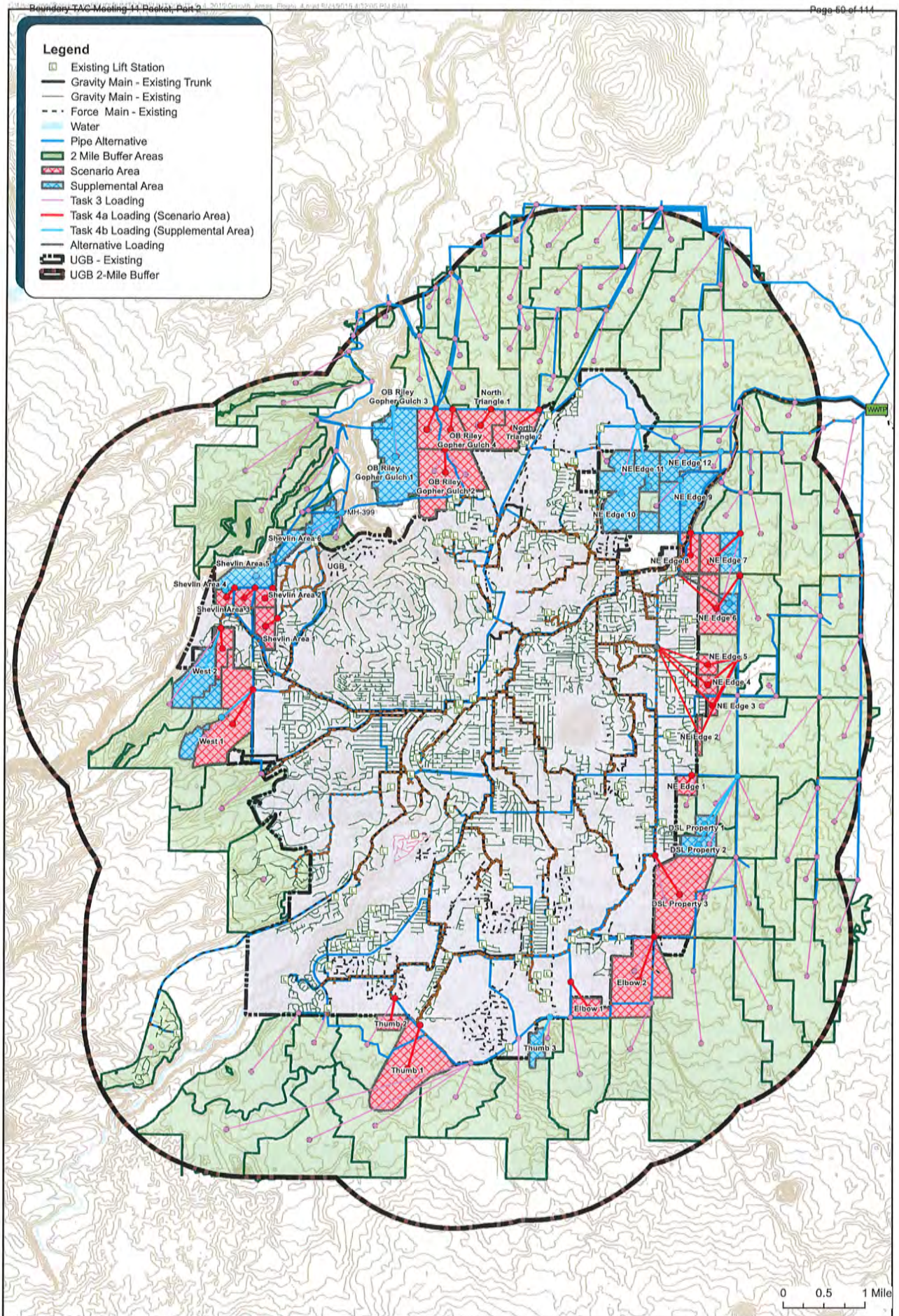
Table 5| Dry Weather Loading

Category	Loading (gpm)[1, 2]
Existing, Tetherow, Widgi Creek	4,430
Future Growth within Existing UGB	3,490
UGB Expansion Scenario Areas[3]	
DSL Property	154
Elbow	186
Thumb	142
West	242
Shevlin	70
OB Riley/Gopher Gulch	216
North Triangle	132
Northeast Edge	259
Supplemental Analysis Areas (minus scenario areas)[3]	
DSL Property	63
Elbow	0
Thumb	31
West	185
Shevlin	131
OB Riley/Gopher Gulch	244
North Triangle	0
Northeast Edge	253
2 Mile Buffer (minus scenario and supplemental analysis areas)[4]	7,294
Total	17,522

Note 1. Gallons-per-minute (gpm)
Note 2. Incremental values, except for total.
Note 3. Based on specific land use, loading factors, and projected units x 185 gallons-per-unit-per-day where projected unit data is available. Based on 4 units/acre x 185 gallons-per-unit-per-day where projected unit data is unavailable.
Note 4. Based on 4 units/acre x 185 gallons-per-unit-per-day.

The selected loading rates do not imply that all residential development outside the existing UGB will be 4 units per acre. The assumption of 4 units per acre was selected because it approximates urban development observed in the existing UGB, but also accounts for the fact that build-out of all exception lands in the study area is unlikely, even in the very long-term future. The selected loading rate attempts to balance observed urban densities with the large study area.

Loading was distributed to manholes within the hydraulic model based on USGS contours, sub-basin delineation and pipeline profile review. The loading location map is presented in Figure 4.



MSA Murray, Smith & Associates, Inc.	DRAFT City of Bend Expansion of UGB Sewer System Analysis WORK IN PROGRESS - SUBJECT TO CHANGE	Figure 4 Growth Areas Full 2 Mile UGB Buffer Study Area	N W E S	BEND

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Peak Flow Estimates

The flow values presented in Table 5 represent an average dry weather flow condition. Approximately 50 different diurnal patterns with peaking factors were developed for the existing collection system during the CSMP. These patterns are based on flow monitoring data and reflect the differences in development and land use within the UGB. In order to estimate a peak dry weather flow for the UGB expansion area, the 75th percentile peaking factor of 1.8 was applied to the average dry weather loading.

The design storm used to estimate existing peak wet weather flow within the collection system has a total rainfall volume of 1.3 inches and follows a National Resources Conservation Service (NRCS) Type II theoretical distribution (spring/summer thunderstorm). Based on the statistical analyses presented in the CSMP Report Appendix 4A-"Technical Memorandum - Design Storm Considerations for the City of Bend Sewer Collection System", the recommended annual storm depth and distribution historically has a 20% chance of occurring during the winter and a 10% chance of occurring during the summer. Peak wet weather flow estimates for future development potential inside and outside of the existing UGB were based on City development standards. These standards apply a dry average to peak wet peaking factor of three (3) to estimate peak wet weather flow during the design storm event.

Peak flow rate estimates for dry and wet weather conditions are presented in Table 6.

Table 6| Peak Flow Estimates

Category	Peak Dry Weather Flow (mgd)[1, 2, 3]	Peak Dry + Wet Weather Flow (mgd)[4]
Existing	11.5	19.1
Build-out Development, Existing UGB	9.0	15.1
Subtotal Existing UGB	20.5	34.2
UGB Expansion Scenario Areas	3.5	5.9
Supplemental Analysis Areas	2.4	4.1
Subtotal Existing UGB + Priority and Supplemental UGB Expansion	26.4	44.2
2 Mile Buffer	18.9	31.5
Total Existing UGB + Priority and Supplemental UGB Expansion + 2 Mile Buffer	45.3	75.7

Note 1. Incremental values, except for total.
Note 2. Million-gallons-per-day (mgd)
Note 3. Peak dry weather flow = average dry weather loading x peaking factor of 1.8.
Note 4. Peak dry + wet weather flow = average dry weather loading x peaking factor of 3.

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Optimization Results

Optimization results showing the identified improvements are summarized in Figures 5 thru 8 and Tables 7 thru 8 for the CSMP (build-out of existing UGB), Task 3 (build-out of existing UGB + full 2 mile study area), Task 4a (build-out of existing UGB + Scenario Areas), and Task 4b (build-out of existing UGB + Scenario Areas + Supplemental Analysis Areas). The results are followed by a discussion of key improvement differences between tasks and more detailed review of the infrastructure associated with Tasks 4a and 4b for UGB expansion. Table 7 includes a summary of Initial Capital Costs and Table 8 includes a summary of EUAC.

Table 7| Initial Capital Costs, Optimization Solution

Cost Item	Task[1]			
	CSMP	Task 3	Task 4a	Task 4b
Gravity Sewer	77.40	257.42	122.64	138.12
Force Main	7.10	31.81	6.33	12.04
Linear Storage	0.00	0.00	0.00	0.00
Storage Tank	0.00	1.10	0.00	0.00
Lift Station	4.48	41.96	6.68	9.73
Plant Interceptor Upsize	1.13	0.00	0.00	0.00
Exist Lift Station	7.58	8.25	10.85	8.25
TOTAL ($M)[2]	**97.70**	**340.55**	**146.49**	**168.15**

Table 8| EUAC, Optimization Solution

Cost Item	Task[1]			
	CSMP	Task 3	Task 4a	Task 4b
Gravity Sewer	2.11	8.11	3.85	4.31
Force Main	0.28	1.30	0.23	0.47
Linear Storage	0.00	0.00	0.00	0.00
Storage Tank	0.00	0.07	0.00	0.00
Lift Station	0.41	6.14	0.64	0.98
Plant Interceptor Upsize	0.05	0.00	0.00	0.00
Exist Lift Station	0.27	0.29	0.39	0.29
TOTAL ($M/year)[2]	**3.12**	**15.91**	**5.11**	**6.05**

Note 1. CSMP = build-out of existing UGB; Task 3 = build-out of existing UGB + full 2-mile study area; Task 4a = build-out of existing UGB + Scenario Areas; Task 4b = build-out of existing UGB + Scenario Areas + Supplemental Analysis Areas.
Note 2. Initial Capital Cost estimates in millions of dollars. EUAC estimates in millions of dollars per year. Cost estimates based on 2015, AACE Class 5 unit costs and exclude present value credits. Treatment plant costs excluded.

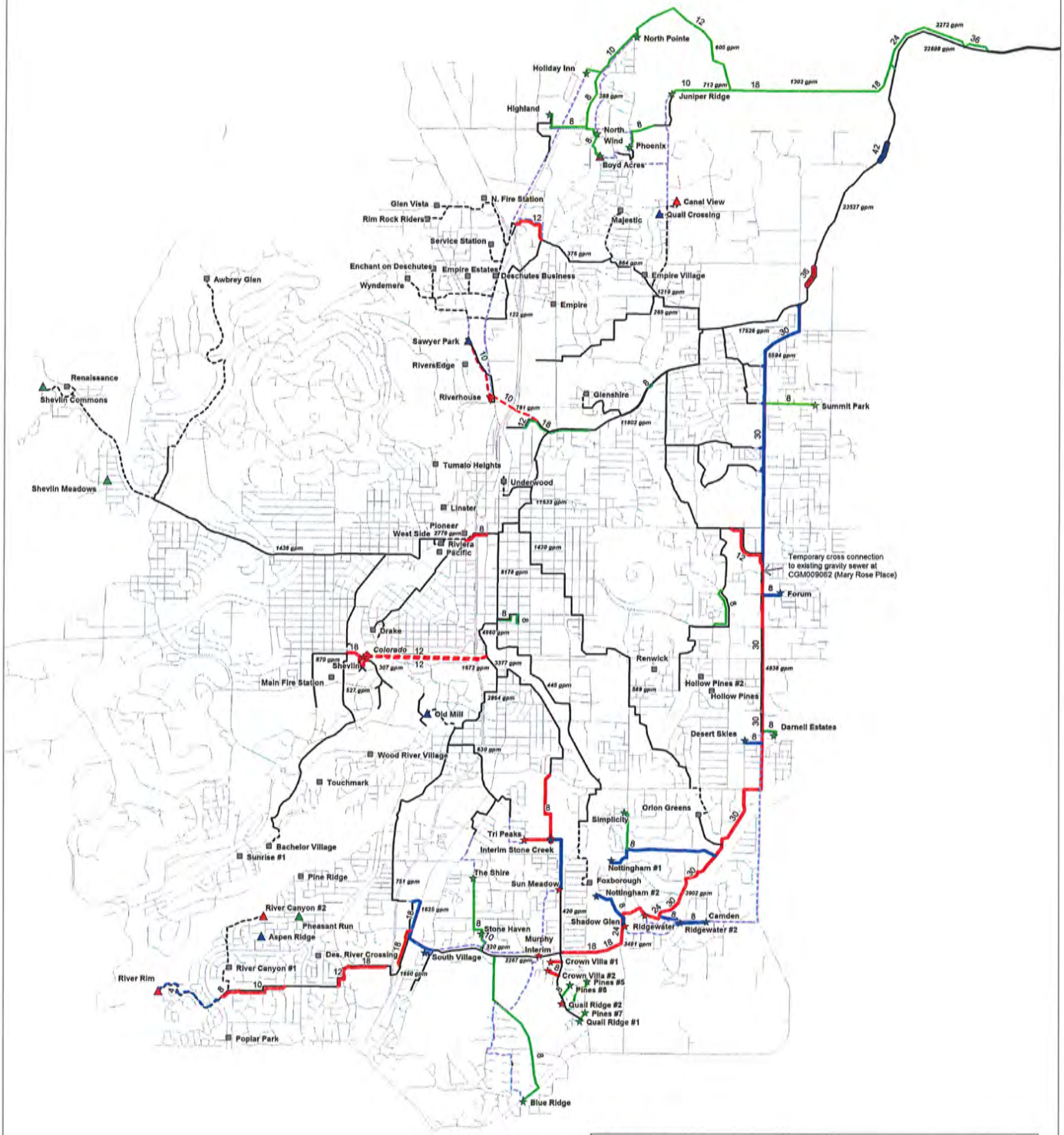
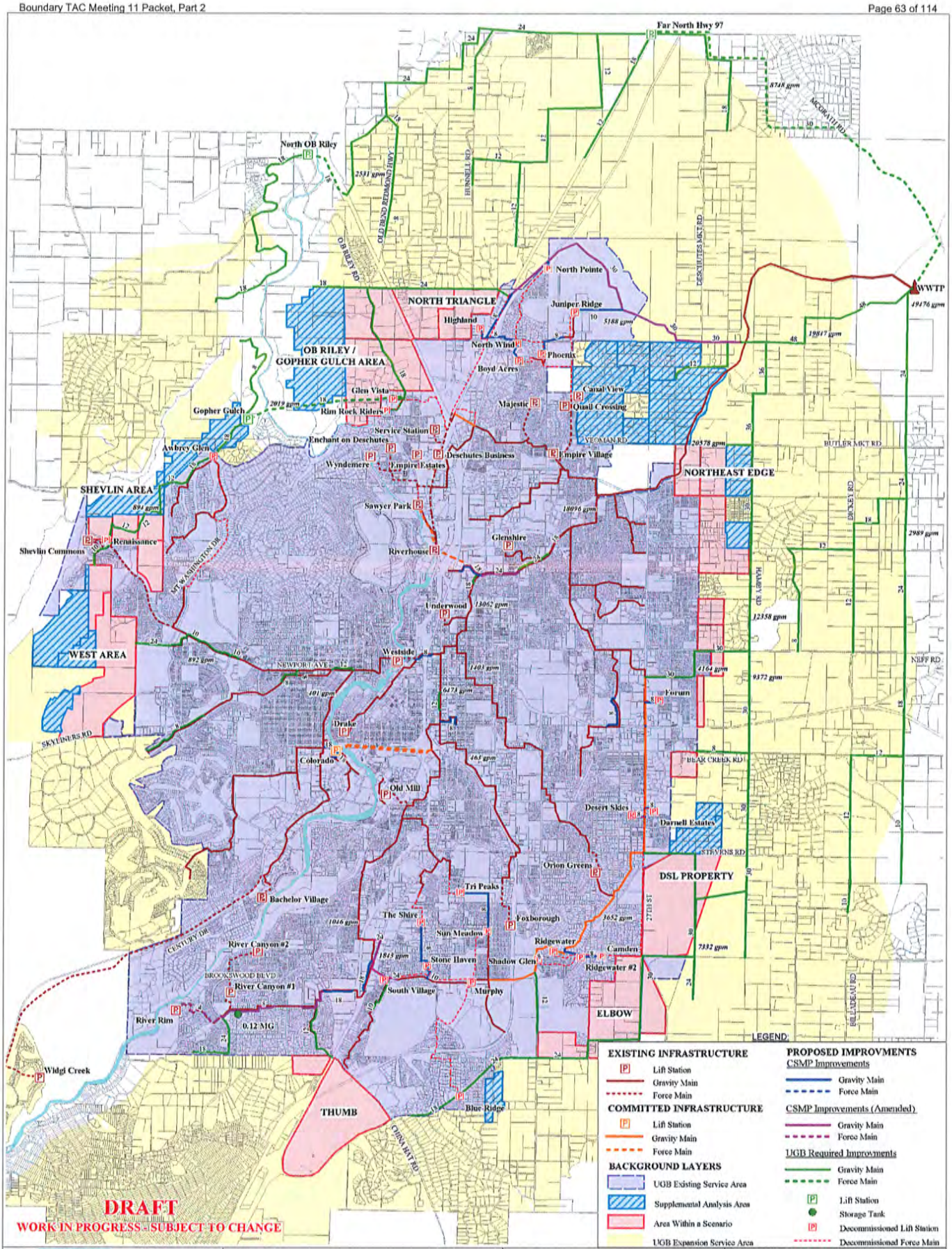


FIGURE 5

Bend CSMP Optimization - 20-Year Mid R Project Phasing

(Flow Rates Represent 20-Y Mid R Peak Wet Weather Flow)

July 30, 2014



MSA Murray, Smith & Associates, Inc. Engineers/Planners

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NOTES:

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2. PROPOSED INFRASTRUCTURE DIAMETERS AND ALIGNMENTS ARE CONCEPTUAL AND REMAIN SUBJECT TO DETAILED ENGINEERING DESIGN.
3. ALL FLOW RATES SHOWN ARE PEAK WET WEATHER FLOW.

0 0.5 1 miles

N

DRAWING NO: TASK3-GIS02B-A3

ISSUE: B

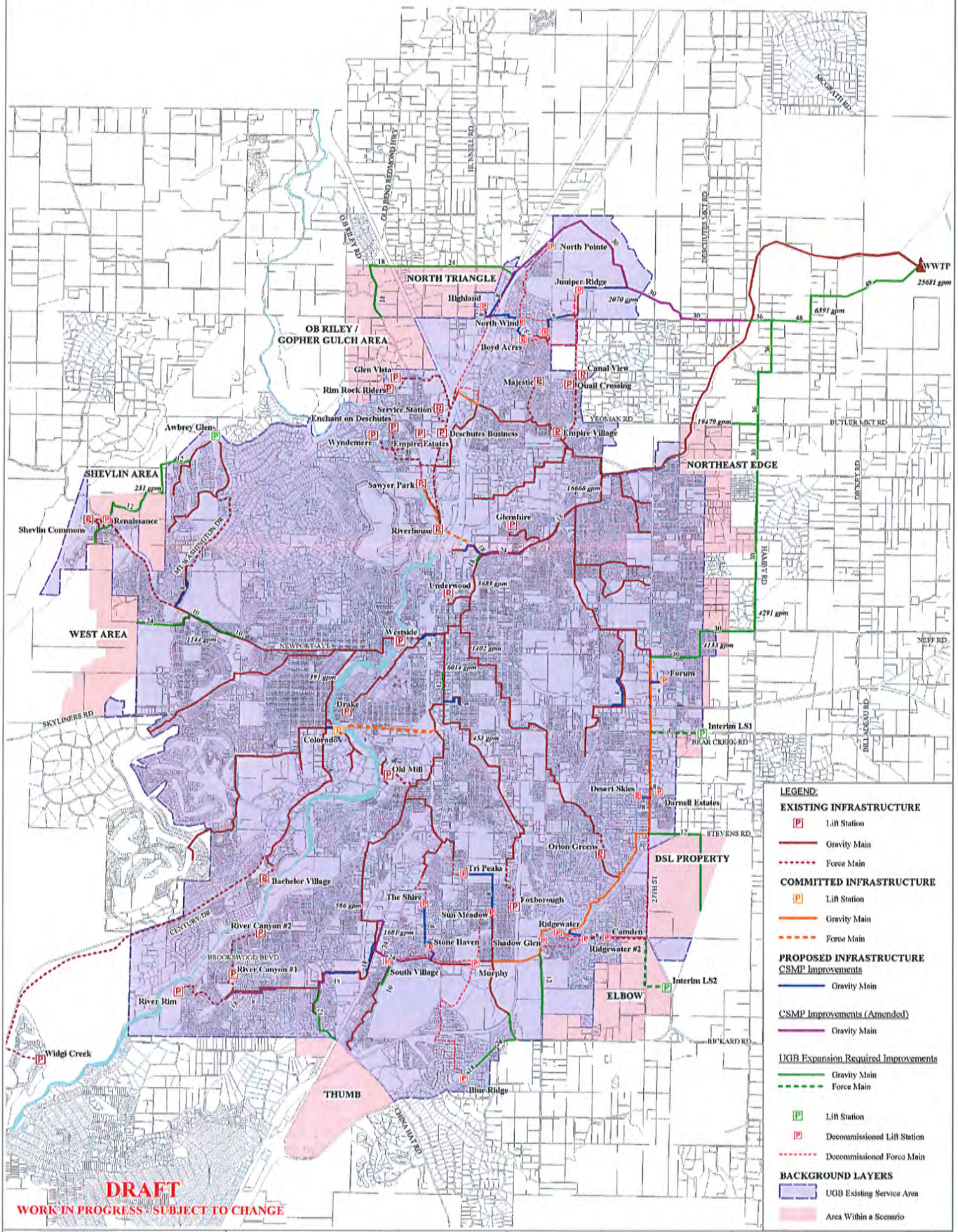
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B	AF	JW	09.04.15	FINAL DRAFT

PROJECT: UGB EXPANSION SEWER SYSTEM ANALYSIS - OVERALL STUDY AREA

CLIENT: CITY OF BEND

DRAWING TITLE: FIGURE 6

TASK 3 OPTIMIZED SOLUTION UGB OVERALL STUDY AREA ANALYSIS



LEGEND:

EXISTING INFRASTRUCTURE
- Lift Station
- Gravity Main
- Force Main

COMMITTED INFRASTRUCTURE
- Lift Station
- Gravity Main
- Force Main

PROPOSED INFRASTRUCTURE

CSMP Improvements
- Gravity Main

CSMP Improvements (Amended)
- Gravity Main

UGB Expansion Required Improvements
- Gravity Main
- Force Main
- Lift Station
- Decommissioned Lift Station
- Decommissioned Force Main

BACKGROUND LAYERS
- UGB Existing Service Area
- Area Within a Scenario

NOTES:

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3. ALL FLOW RATES SHOWN ARE PEAK WET WEATHER FLOW.

0 0.5 1 miles

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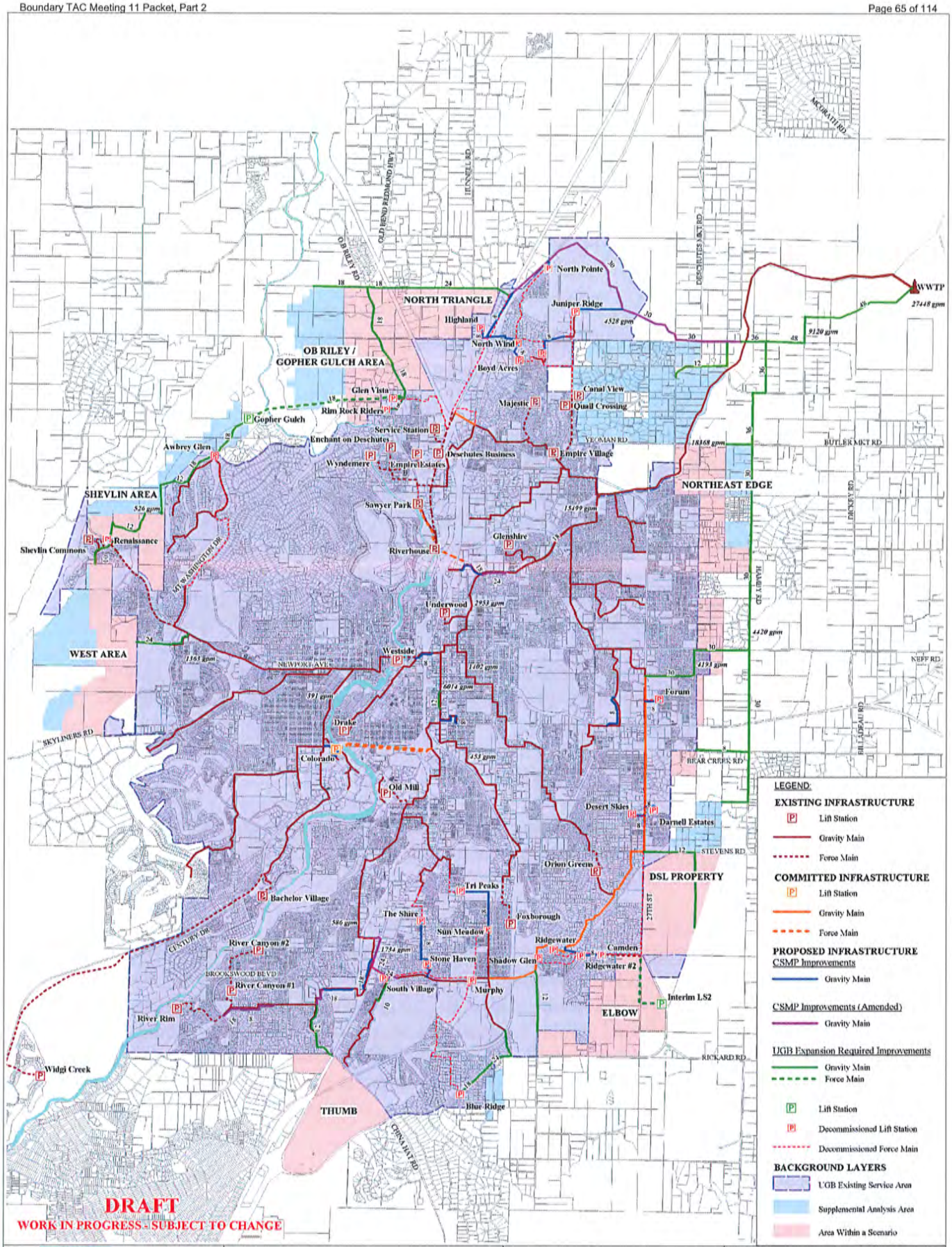
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B	AF	JW	09.24.15	FINAL DRAFT

PROJECT: UGB EXPANSION SEWER SYSTEM ANALYSIS - OVERALL STUDY AREA

CLIENT: CITY OF BEND

DRAWING TITLE: FIGURE 7
TASK 4A OPTIMIZED SOLUTION
UGB COMBINED BASE SCENARIO ANALYSIS



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3. ALL FLOW RATES SHOWN ARE PEAK WET WEATHER FLOW.

0 0.5 1 miles

N

DRAWING NO: TASK4B-GIS02B-A3 ISSUE: B

ISS	BY	CHK	DATE	DETAILS
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B	AF	JW	09.14.15	FINAL DRAFT

PROJECT: UGB EXPANSION SEWER SYSTEM ANALYSIS - OVERALL STUDY AREA

CLIENT: CITY OF BEND

DRAWING TITLE: FIGURE 8

TASK 4B OPTIMIZED SOLUTION UGB SUPPLEMENTAL AREA ANALYSIS

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Solution Discussion – CSMP Projects Affected by UGB Expansion

Major projects from the CSMP that are impacted by the UGB expansion include the Southeast Interceptor Phase 2 (north of Neff Road), the Northeast Interceptor, and the Plant Interceptor. The drivers for the changes to each of these projects are discussed below.

Southeast Interceptor

The optimal alignment of the Southeast Interceptor north of Neff Road changes from 27th Street in the CSMP to Hamby Road in the UGB expansion analysis. The primary drivers contributing to this change include the following.

1. The Hamby alignment allows for gravity service to be provided to properties east of 27th street. If the Southeast alignment was to be constructed along 27th Street, a second eastern gravity pipeline along an alignment such as Hamby would be required in the future. Alternately if the pipeline was constructed along 27th Street, lift stations would be required to serve any growth east of that alignment including the Northeast Edge.
2. The Hamby alignment parallels sections of the existing plant interceptor that would otherwise require significant capacity improvements to serve long-term growth.

West of South Village the proposed size of the Southeast Interceptor is amended to provide sufficient capacity for additional growth in the southern expansion area including a small portion of "The Thumb" (Bany property).

Northeast Interceptor and Plant Interceptor

The size of the Northeast Interceptor is amended to provide sufficient capacity for additional growth in the north and west expansion areas including the North Triangle, OB Riley/Gopher Gulch, Shevlin, and West areas.

The alignment of the Northeast Interceptor is also amended to connect directly to the Wastewater Treatment Facility (WWTF). The amended alignment bypasses the existing Plant Interceptor and connects with the Hamby alignment of the Southeast Interceptor. The proposed Northeast Interceptor extension eliminates the need for capacity improvements to the existing Plant Interceptor and siphon structure upstream of the WWTF that would otherwise be required to serve future growth. The Northeast Interceptor extension is also proposed to include a diversion structure where flows from the existing Plant Interceptor can be diverted and conveyed directly to the WWTF providing valuable redundancy for existing poor condition and near capacity interceptor piping.

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Solution Discussion –Projects Affected by Phasing

The generalized UGB expansion scenarios selected the least cost improvements from the long-term infrastructure plan and a select set of short-term improvement alternatives. The short-term improvements that were selected and that are different from the long-term infrastructure plan are discussed below.

Regional Gopher Gulch Lift Station vs Existing Awbery Glen Lift Station

In Task 3 and Task 4b (Supplemental Areas), the full extents of the Shevlin area, the northern portion of the West area, and the Awbrey Glen lift station service area are pumped to the Northeast Interceptor through a new regional lift station and force main (Gopher Gulch lift station). These areas are identified in Figure 3 as West 2 and Shevlin 1 thru 6. The Gopher Gulch lift station is more cost effective than upsizing the Awbrey Glen lift station, associated force main, and downstream gravity trunk sewer. The Awbrey Glen force main is approximately 1.7 miles long and represents the most significant alternate cost.

In Task 4a (Scenario Areas), the more limited Shevlin area and the northern portion of the West area are served through the Awbrey Glen lift station.. The Awbrey Glen pumps require upsizing for limited UGB expansion; however, the existing force main upsizing is not required. Pumps are assumed to be replaced on a 20-year schedule to account for mechanical lifespan and therefore the cost of pump replacement and incremental upsizing is relatively cost effective. The peak flow excess capacity (beyond build-out of the existing UGB) of the Awbrey Glen pumps and the downstream force main for UGB expansion are approximately 60 gpm (15 gpm average flow) and 300 gpm (75 gpm average flow) respectively. This equates to approximately 120 additional equivalent dwelling units (EDUs) for the pumps and 580 additional EDUs for the force main. Peak and average flow estimates at the Awbrey Glen lift station should be confirmed with flow metering and pump testing prior to serving future UGB customers.

When compared to gravity trunk sewer solutions serving other expansion areas, both the Awbrey Glen and Gopher Gulch lift stations present greater operational complexity and costs for the City.

Interim Lift Stations

In Task 4a (Scenario Areas) and Task 4b (Supplemental Areas), an interim lift station was selected in the optimization to serve a major portion of "The Elbow." The interim lift station delays the extension of major trunk lines along Hamby Road to this area, which was the alternative selected to serve the large 2 mile buffer in Task 3.

In Task 4a, an interim lift station was selected to serve a small portion of the Northeast Edge adjacent to Bear Creek Road. In Task 4b, the Hamby alignment was extended south to serve this same parcel of land by gravity plus additional northern areas of the DSL Property sub-area (near Darnell Estates).

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Relative Capital Cost Summary by Sub-Area

The relative sewer infrastructure costs for the eight (8) sub-areas were compared for Tasks 4a (Scenario Areas) and 4b (Supplemental Areas) to identify the most cost effective areas for UGB expansion. The comparative cost analysis assumes the following:

1. All sewer improvements associated with 4a and 4b UGB expansion are sized to serve the full 2-mile study area identified in Task 3 (long-term growth). Alternate Task 4 solutions were developed with improvements sized only for the short-term growth; however, in most cases the infrastructure size differential was minimal.

2. The costs associated with the CSMP improvements were assumed to be contributed by the current and future customers within the existing UGB. All other costs were assumed to be contributed by future development in UGB expansion areas. The incremental cost to upsize the Northeast Interceptor, for example, was assumed to be contributed by UGB expansion areas served by the Northeast Interceptor. Additionally, Hamby alignment costs from future development within the existing UGB was limited to the cost of the Southeast Interceptor Phase 2 (27th Street alignment north of Neff Road). All other Hamby alignment costs were assumed to be contributed by UGB expansion areas within the Hamby alignment service area.

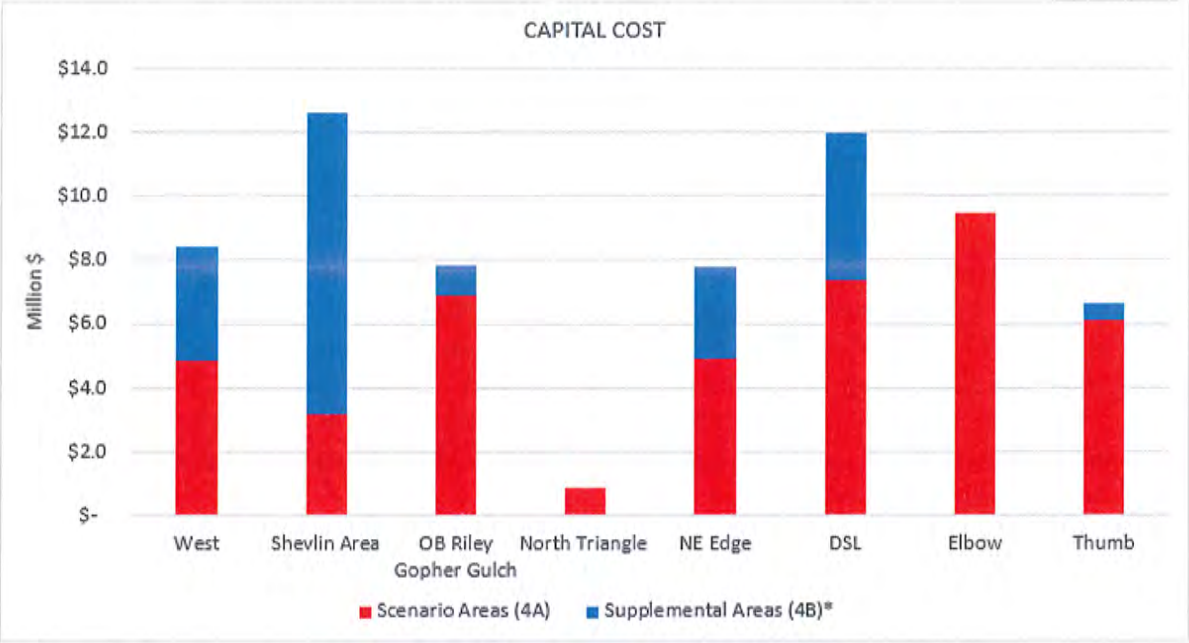
3. Improvements were implemented incrementally in UGB expansion areas, such that all costs associated with build-out size improvements to serve the Scenario areas in Task 4a were funded by Scenario areas associated with Task 4a. Incremental UGB expansion in Task 4b (Supplemental Areas) benefited from pre-existing infrastructure constructed in Task 4a. Likewise, supplemental area expansion in Task 4b funded additional pipeline extensions and lift stations as required to serve incremental UGB expansion areas associated with Task 4b. Areas served in the Task 3 UGB expansion benefited from pre-existing infrastructure from both Tasks 4a and Tasks 4b. UGB expansion for Tasks 4a and 4b was incremental in terms of area served, but both expansions were assumed to occur during the 2028 planning timeframe.

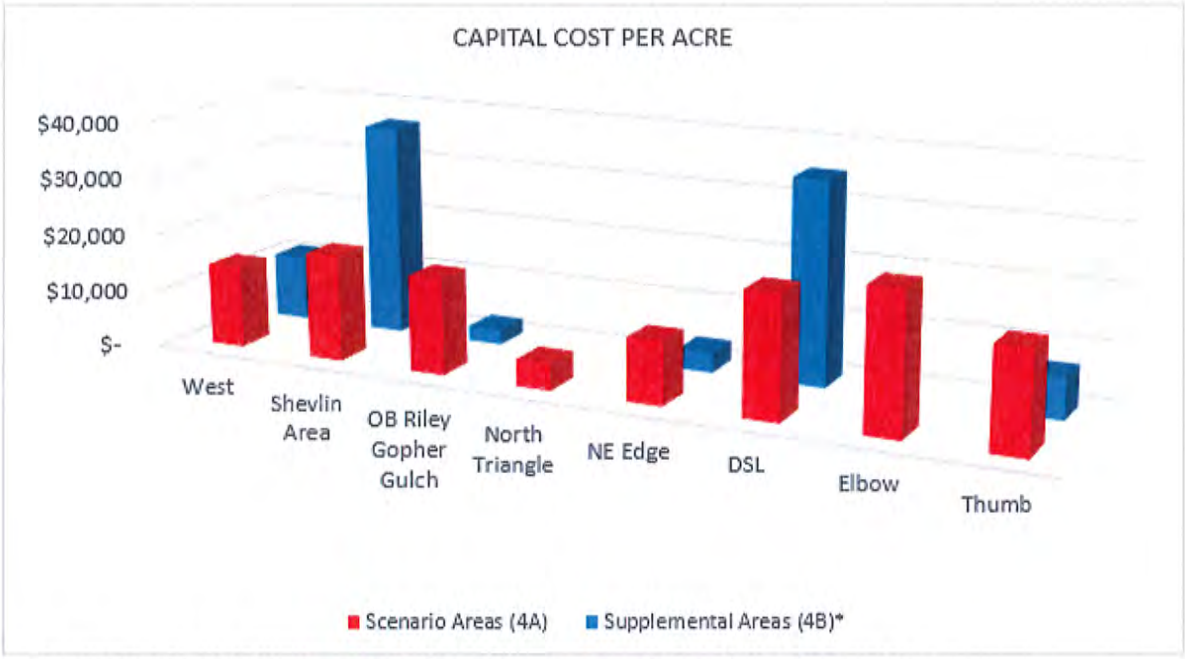
4. All UGB expansion areas associated with the same task were assumed to develop simultaneously such that all areas within the task contributing to an improvement received the same cost share on a per acre basis. For example, where two sub-areas such as North Triangle and OB Riley/Gopher Gulch are within the same task, the two areas are assumed to equally contribute to the Northeast Interceptor upsizing on a per acre basis.

The relative cost comparison for the eight (8) sub-areas is presented for Initial Capital and Initial Capital per acre in Figure 9 for Tasks 4a and 4b. EUAC and EUAC per acre costs establish similar trends.

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Figure 9| Capital Cost and Capital Cost per Acre for Sub-areas





*Note. Incremental infrastructure cost to serve additional areas in Supplemental Area Analysis.

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Key findings from the relative cost comparison include:

1. Service to the Shevlin area and the West area is relatively cost effective for Scenario areas associated with Task 4a. The conveyance elements associated with the priority areas are limited to new trunk gravity piping, existing pipeline upsizing, and Awbrey Glen lift station pump upsizing. The supplemental analysis areas associated with Task 4b are significantly less cost effective because of the regional Gopher Gulch lift station, force main, and additional contributions to the Northeast Interceptor.

2. Service to sub-areas adjacent to the Hamby Alignment and the Northeast Interceptor (Northeast Edge, North Triangle) are relatively cost effective for both Scenario Areas and Supplemental Analysis Areas because the proposed infrastructure is required to serve future development within the existing UGB. Sub-areas furthest from the new trunk mains become less cost-effective because of trunk main extensions and additional localized improvements to convey wastewater to the new trunk mains. Specific sub-area notes include:

    a. North Triangle – Highly cost effective because of proximity to the Northeast Interceptor. Benefits from assumed simultaneous development of OB Riley/Gopher Gulch.

    b. OB Riley/Gopher Gulch – Cost effectiveness limited in Task 4a by required extension of the Northeast Interceptor. Highly cost effective for supplemental expansion in Task 4b because of pre-existing infrastructure.

    c. Northeast Edge – Cost effectiveness limited by small localized interim lift station to serve area adjacent to Bear Creek Road for Task 4a. Cost effectiveness impacted by contribution to the Hamby alignment and Northeast Interceptor. Cost effectiveness increases when considering that the associated trunk mains are required independent of development in the Northeast Edge. Cost effectiveness also improves when maximum acreage is developed for Task 4b.

    d. DSL Property – Cost effectiveness limited in Task 4a by localized sewer mains required to connect to the Southeast Interceptor. Cost effectiveness limited in Task 4b by extension of the Hamby alignment to serve the northern portion of the sub-area.

    e. Elbow – Cost effectiveness limited by localized interim lift station and localized gravity piping to convey wastewater to the Southeast Interceptor for both Tasks 4a and 4b.

    f. Thumb – Cost effectiveness limited by contribution to Southeast Interceptor improvements west of Parrell Road and localized pipeline improvements along Parrell Road adjacent to the Southeast Interceptor.

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Another method for summarizing the findings of the relative cost comparison is to identify the primary improvements serving each sub-area and listing the other areas that also share the applicable infrastructure as shown in Table 9. The table also includes a rating for cost effectiveness with the following guidelines.

- "Good" – Relatively low capital cost and capital cost per acre. Infrastructure contributes to long-term infrastructure required to serve areas within the existing UGB. Sub-area is immediately adjacent to an existing trunk main, Northeast Interceptor, Southeast Interceptor, or Hamby alignment.
- "Fair" – Relatively moderate capital cost and capital cost per acre. Sub-area may require localized infrastructure or interim lift station to convey wastewater to existing trunk main, Northeast Interceptor, Southeast Interceptor, or Hamby alignment.
- "Poor" – Relatively high capital cost and capital cost per acre. Sub-area may require localized infrastructure or interim lift station to convey wastewater to existing trunk main, Northeast Interceptor, Southeast Interceptor, or Hamby alignment. Sub-area also requires regional lift station to convey wastewater to an existing or future trunk main.

Table 9| Summary of Relative Cost Comparison

Sub-area	Task 4a (Scenario Areas)		Task 4b (Scenario + Supplemental Areas)		Other Critical Dependent Areas[1]
	Critical Infrastructure	Cost Effective-ness	Critical Infrastructure	Cost Effective-ness	
North Triangle	NEI, NEI extension to WWTF	Good	NEI, NEI extension to WWTF	Good	OB Riley/Gopher Gulch Area is also served by the NEI
NE Edge	Hamby, NEI extension to WWTF, Interim lift station	Good	Hamby, Hamby extension, NEI extension to WWTF	Good	DSL Property, The "Elbow", The "Thumb" are also served by Hamby
DSL Property	Local pipe extensions, Hamby, NEI extension to WWTF	Fair	Local pipe extensions, Hamby, Hamby extension, NEI extension to WWTF	Fair-Poor	NE Edge, The "Elbow", The "Thumb" are also served by Hamby
The "Elbow"	Interim lift station, local pipe extensions	Fair-Poor	Interim lift station, local pipe extensions	Fair-Poor	NE Edge, DSL Property, The "Thumb" are also served by Hamby
The "Thumb"	Local pipe extensions, Hamby, NEI extension to WWTF	Fair	Local pipe extensions, Hamby, NEI extension to WWTF	Fair	NE Edge, DSL Property, The "Elbow" are also served by Hamby

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Sub-area	Task 4a (Scenario Areas)		Task 4b (Scenario + Supplemental Areas)		Other Critical Dependent Areas[1]
	Critical Infrastructure	Cost Effective-ness	Critical Infrastructure	Cost Effective-ness	
West Area	Local pipe extensions, incremental existing pipe upsizing or parallel piping	Good-Fair	Local pipe extensions, Gopher Gulch lift station, NEI, NEI extension to WWTF	Poor	Shevlin Area is also served by Gopher Gulch lift station and some common piping extensions
Shevlin Area	Local pipe extensions, incremental existing pipe upsizing or parallel piping	Good-Fair	Local pipe extensions, Gopher Gulch lift station, NEI, NEI extension to WWTF	Poor	West Area is also served by Gopher Gulch lift station and some common piping extensions
OB Riley / Gopher Gulch Area	NEI extension west and south, NEI, NEI extension to WWTF	Fair	NEI extension west and south, NEI, NEI extension to WWTF	Good	North Triangle is also served by the NEI

Note 1. All sub-areas are served by the Northeast Interceptor (NEI) extension to the WWTF for Task 4b. All areas except for the West and Shevlin areas are served by the NEI extension to the WWTF for Task 4a.

Unique Scenario Analysis

The City and TAC refined the scenario and supplemental analysis areas into six (6) distinct scenarios. The portion of the scenario evaluation process associated with analyzing individual scenarios was conducted on a compressed schedule. The time required to develop an infrastructure optimization analysis for each distinct scenario was not available within the project schedule. Additionally, the land use assumptions associated with the six (6) scenarios were in a state of flux during the critical time to complete the optimization analysis. Finally and most importantly, the approach to identify the optimum long term sewer solutions initially requires evaluating the entire potential future service area (Task 3) and then subsequently refining that solution to serve the individual expansion areas. As such, the City elected to move forward with the generalized analysis previously described for Tasks 4a and 4b.

Subsequent to the completion of the generalized analysis, the finalized six (6) scenarios were summarized by contributing area based on applicable infrastructure and costs identified in Tasks 4a and 4b. Three UGB Expansion scenarios (1.2, 2.1, and 3.1) were summarized based on the applicable infrastructure and costs identified in Task 4a; while three supplemental analysis area maps (SAAM-1, SAAM-2, and SAAM-3) were summarized based on the applicable infrastructure and costs identified in Task 4b.

Scenario Areas and Loading

Dry and wet weather flow generation for the individual scenarios followed the assumptions previously presented for Tasks 3, 4a, and 4b. Acreage and loading by sub-area are summarized in Table 10 for the six (6) scenarios.

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Table 10| Scenario Area and Loading by Sub-area

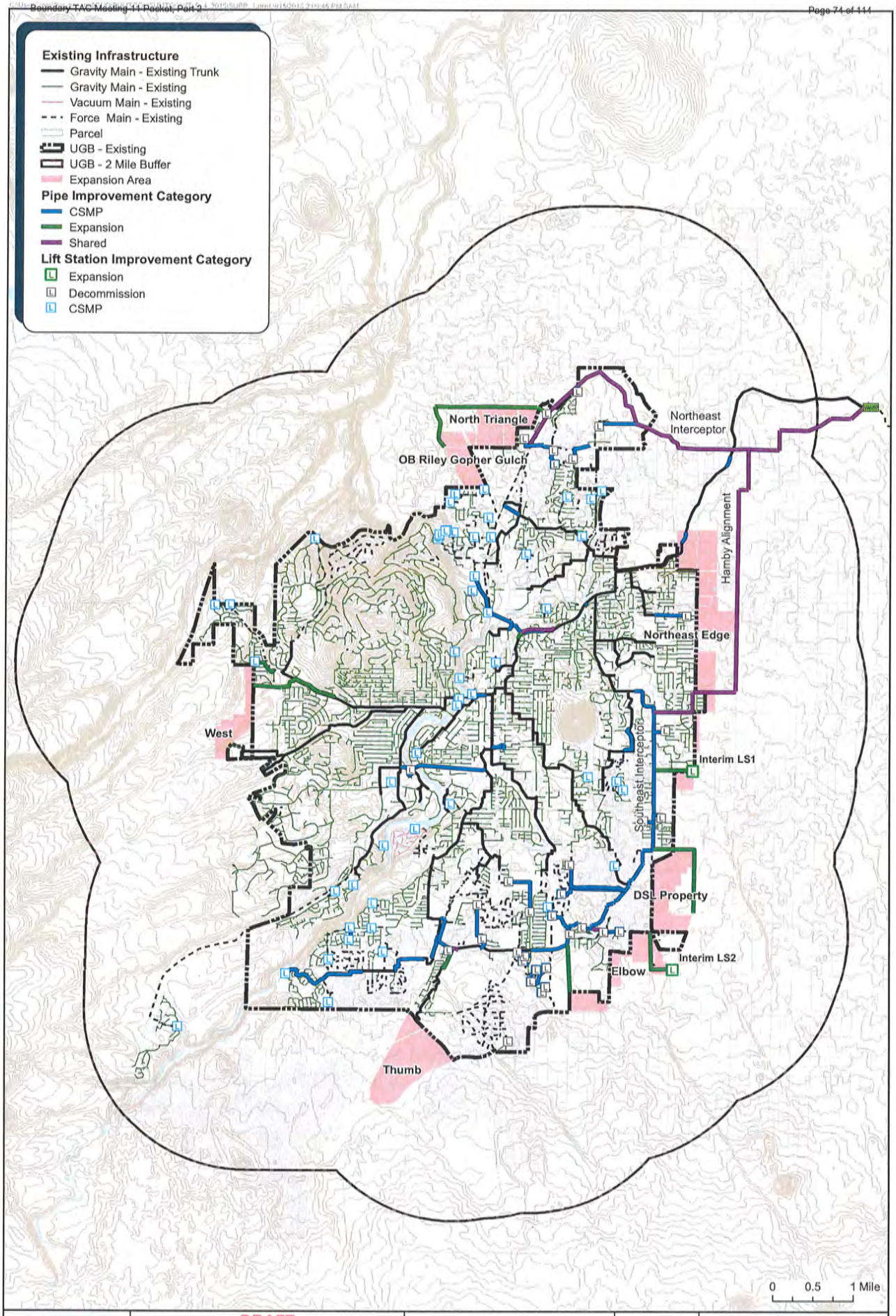
Sub-area	Buildable Area (acre)[1]					
	Scenario 1.2	Scenario 2.1	Scenario 3.1	SAAM-1	SAAM-2	SAAM-3
DSL Property	173	284	151	99	149	101
Elbow	161	318	140	121	140	140
Thumb	277	246	139	184	170	166
West	105	137	260	0	0	521
Shevlin	0	0	139	338	0	0
OB Riley/Gopher Gulch	100	107	356	100	636	136
North Triangle	152	147	183	152	183	183
Northeast Edge	359	104	127	881	32	32
Total	1,327	1,343	1,495	1,874	1,309	1,279

Sub-area	Average Dry Weather Loading (gpm)[2]					
	Scenario 1.2	Scenario 2.1	Scenario 3.1	SAAM-1	SAAM-2	SAAM-3
DSL Property	93	154	73	34	83	118
Elbow	102	182	47	40	47	47
Thumb	124	139	47	82	63	57
West	126	119	242	0	0	427
Shevlin	0	0	63	163	0	0
OB Riley/Gopher Gulch	34	31	216	34	356	65
North Triangle	52	103	62	52	62	62
Northeast Edge	259	61	76	475	17	17
Total	789	790	825	879	628	792

Note 1. Excludes unbuildable lands and 21% of gross area for ROW.
Note 2. Gallons-per-minute (gpm)

Scenario Results

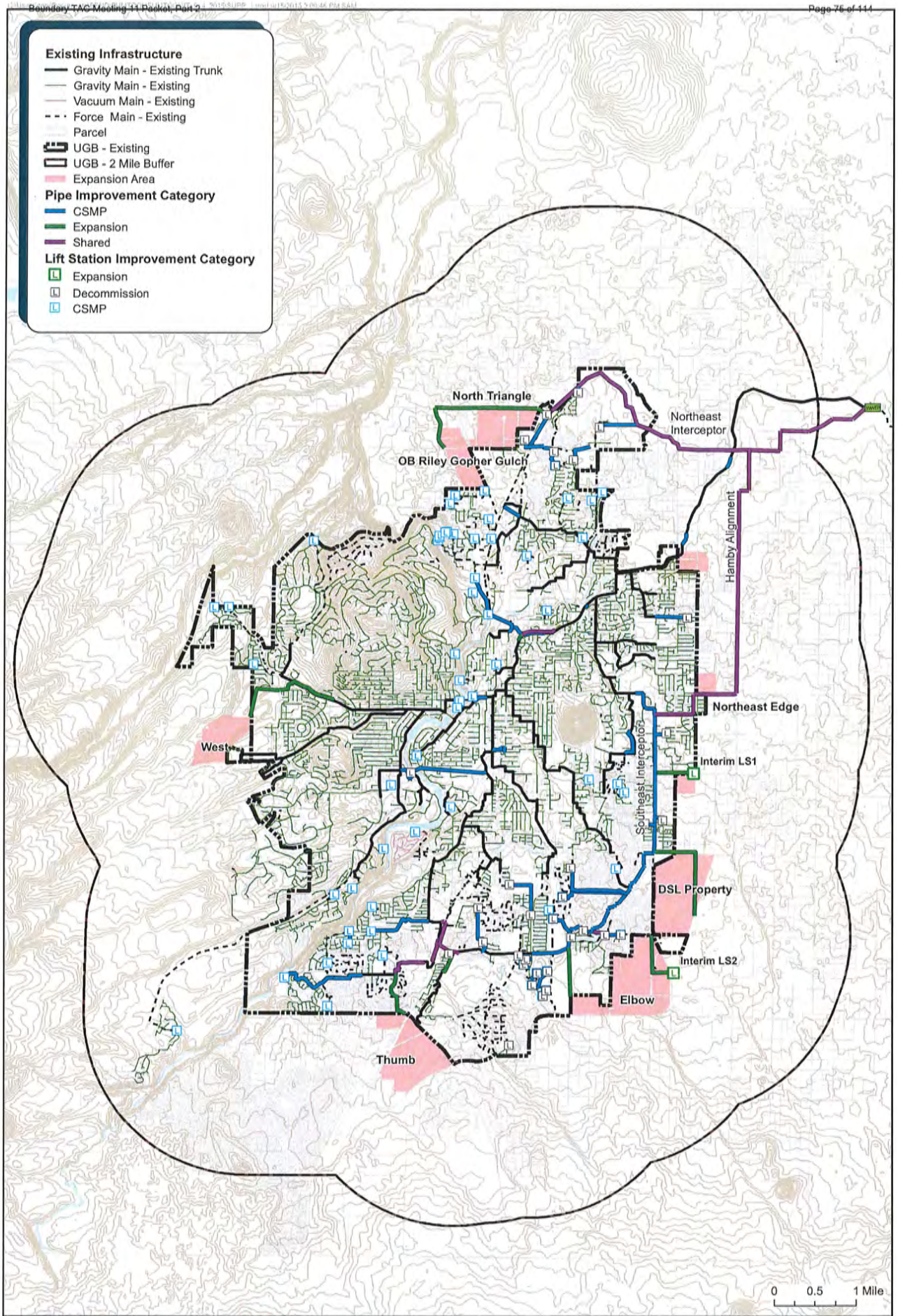
The specific lands served for each of the six (6) scenarios and the applicable collection system improvements associated with each scenario from Tasks 4a and 4b are presented in Figures 9 thru 14. The improvements are identified by categories associated with cost: CSMP (funded by development within the existing UGB), UGB expansion (funded by development outside of the existing UGB), or shared (partially funded by development inside and partially funded by development outside of the existing UGB). Relative cost summaries by sub-area and scenario are presented for Initial Capital and Initial Capital per acre in Figure 15.



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Figure 9
Scenario 1.2



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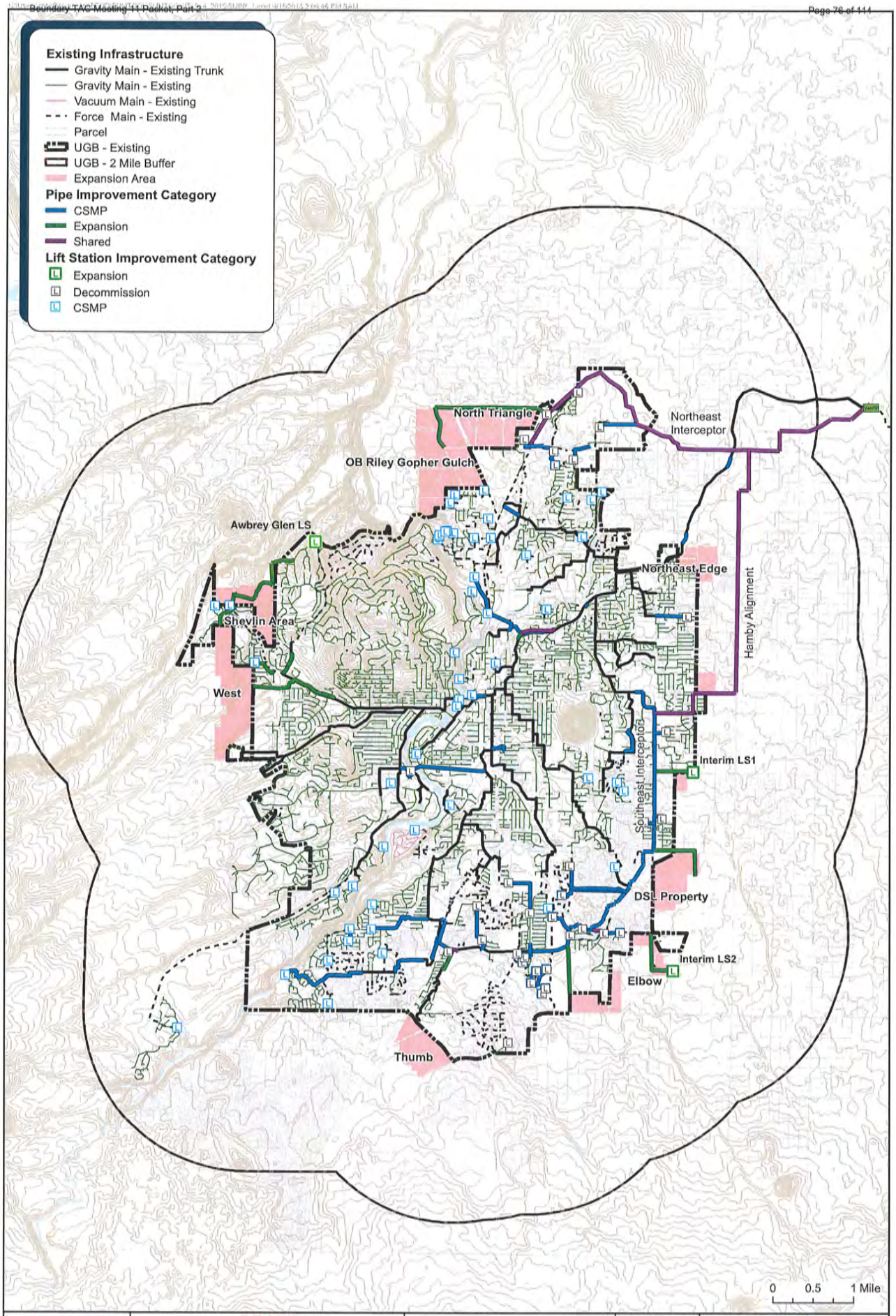
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Employment Analysis

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Figure 10
Scenario 2.1

September 2015 12-1354

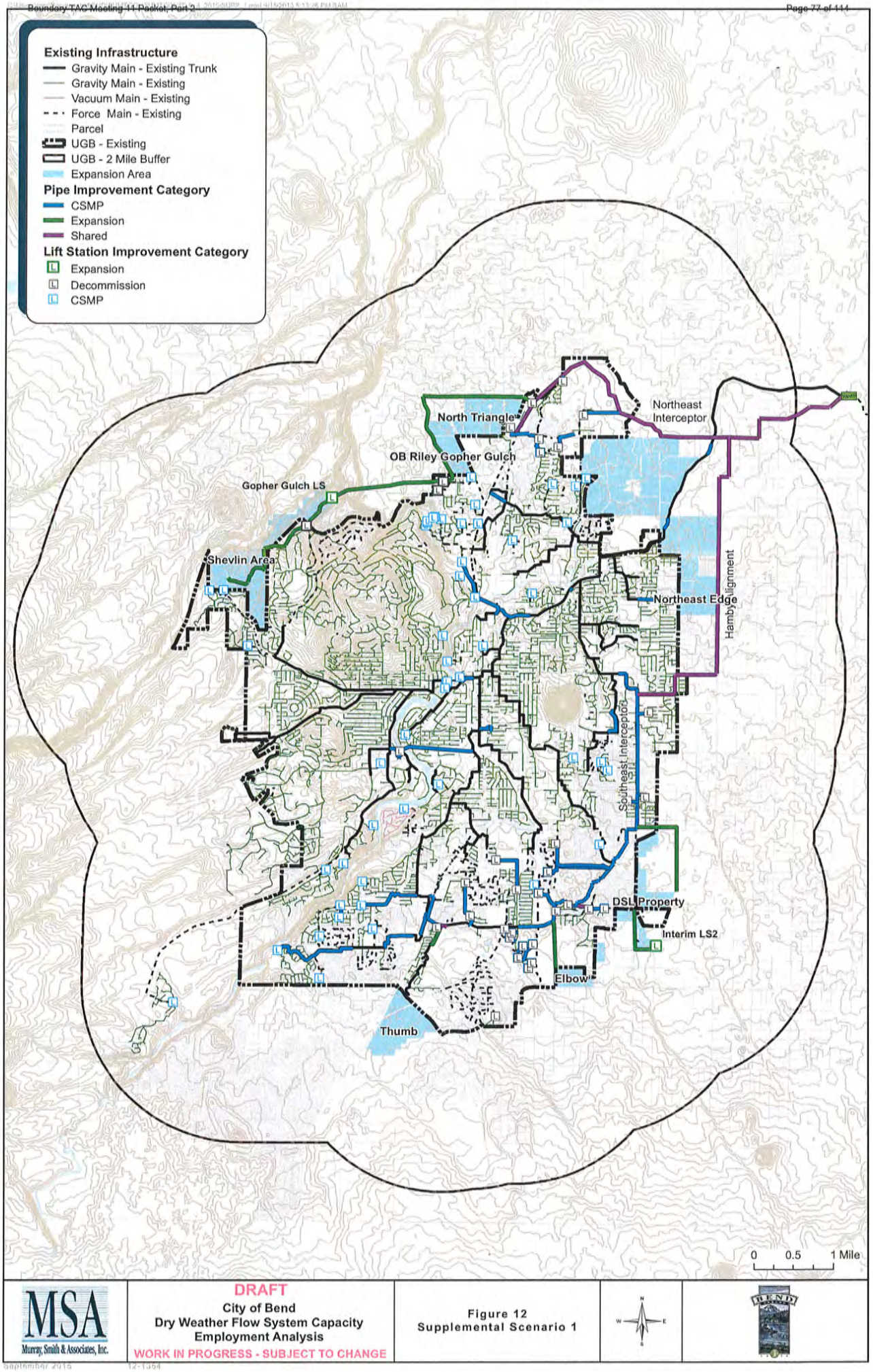


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Figure 11
Scenario 3.1

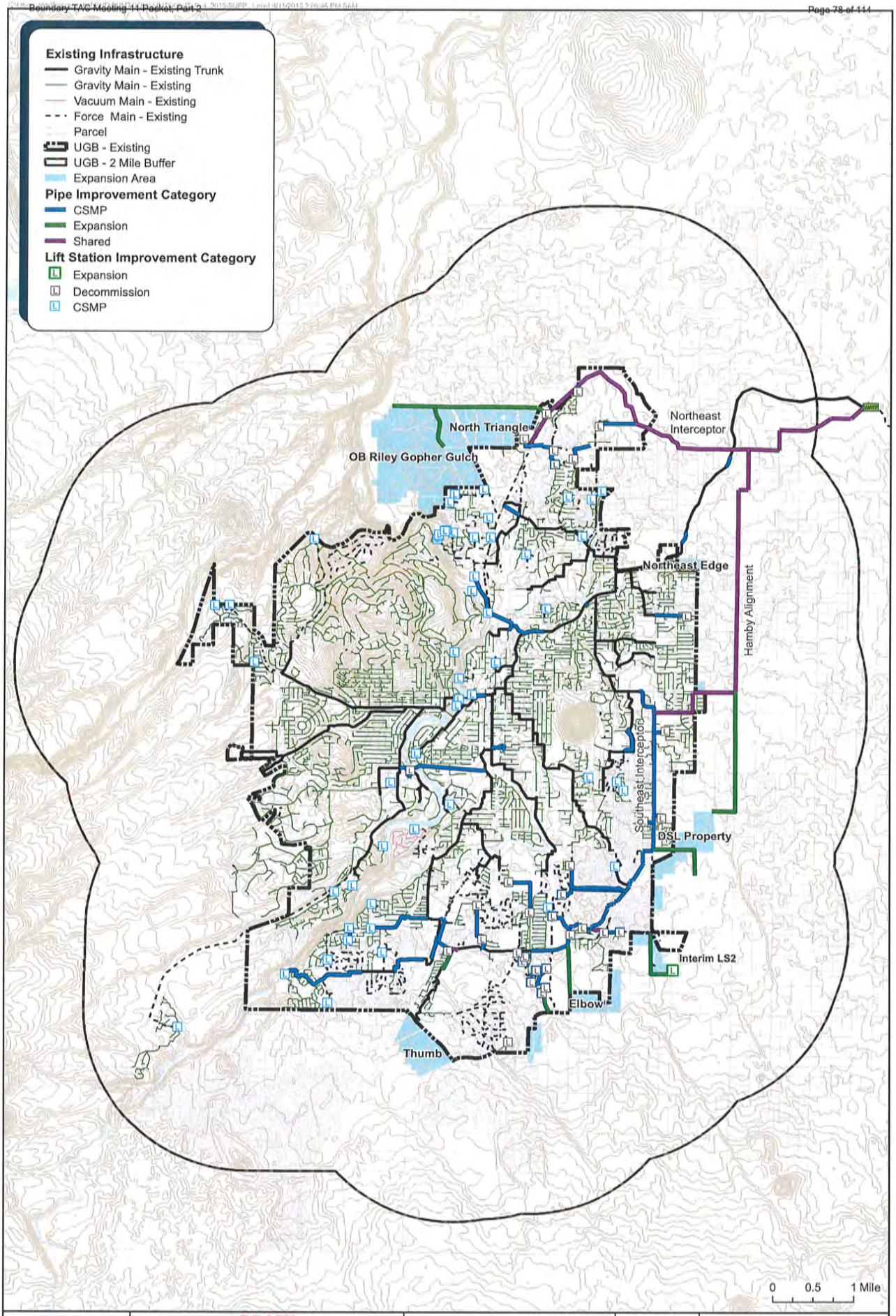
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Figure 12
Supplemental Scenario 1

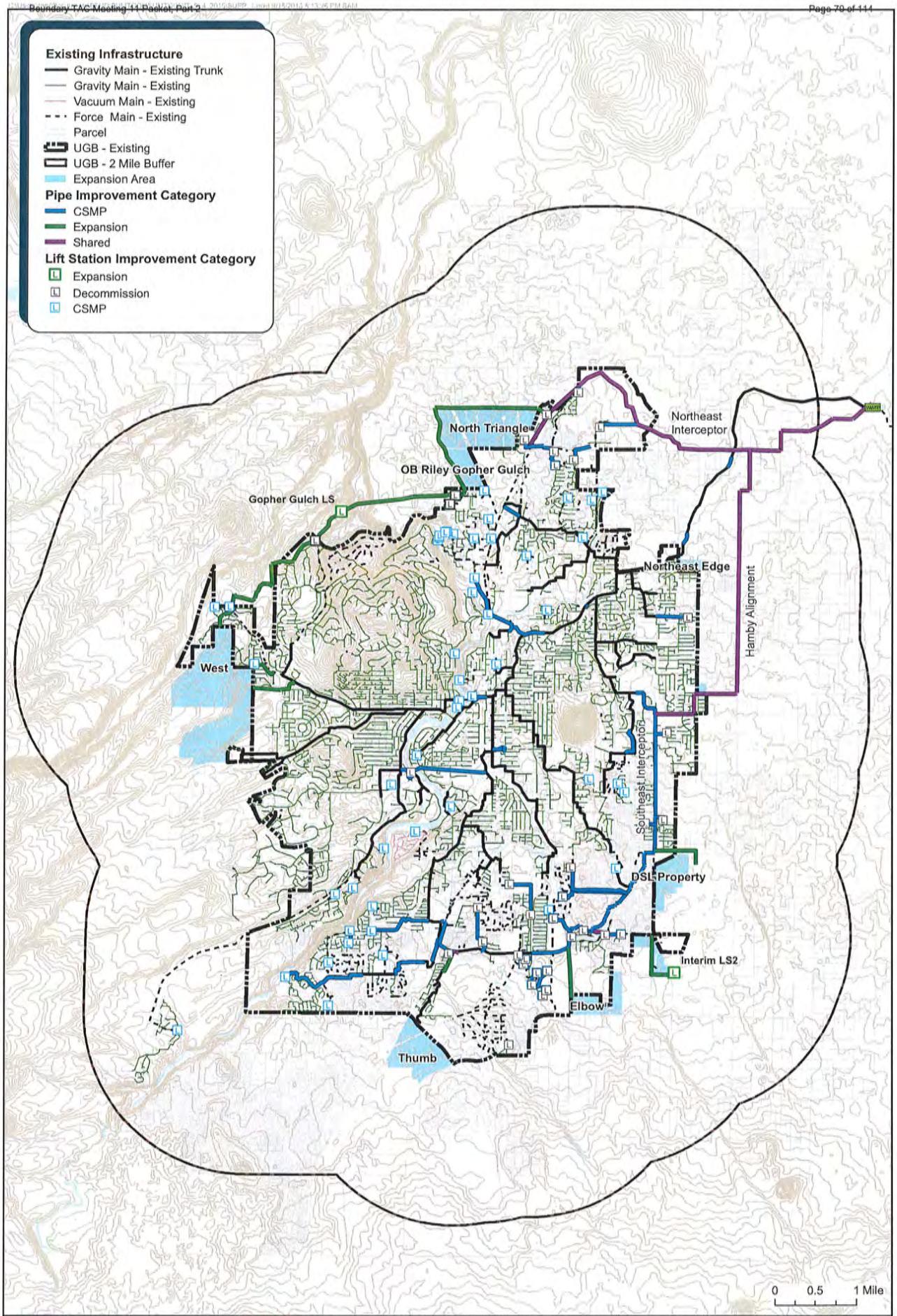


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Figure 13
Supplemental Scenario 2

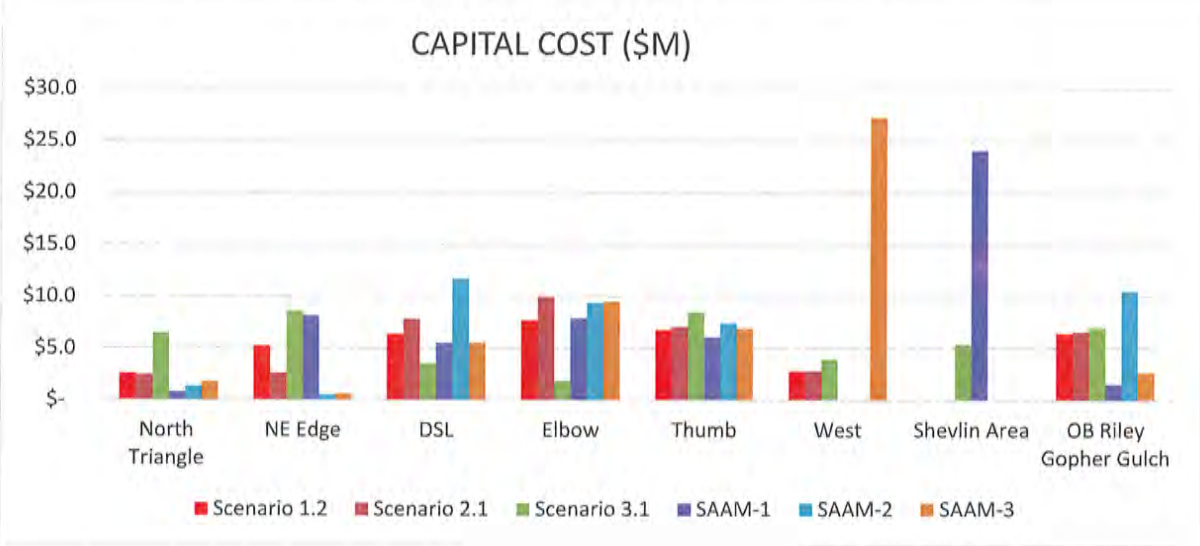
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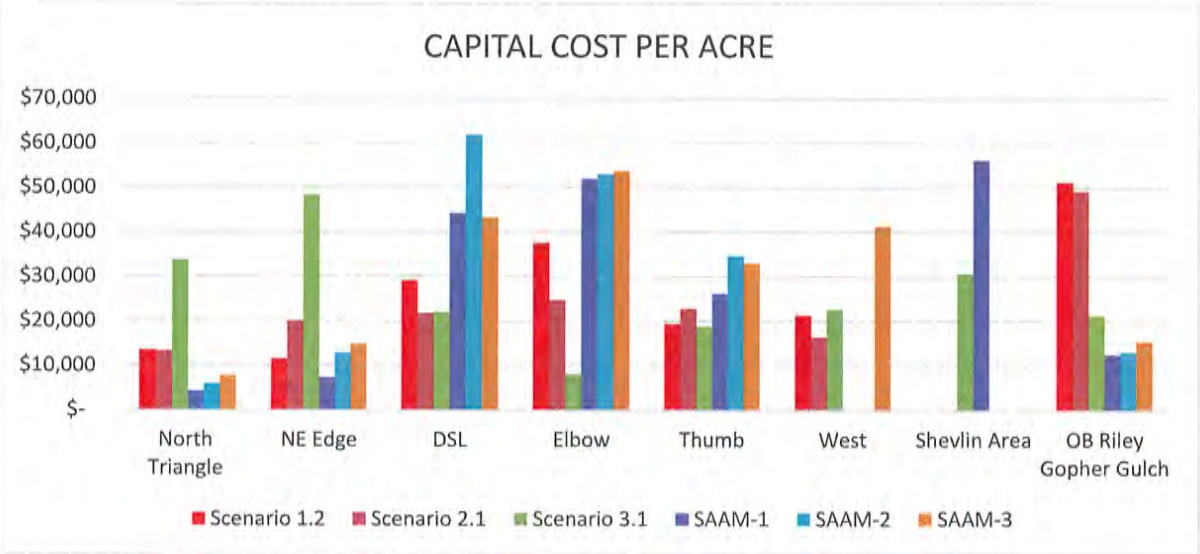


MSA Murray, Smith & Associates, Inc.	DRAFT City of Bend Dry Weather Flow System Capacity Employment Analysis WORK IN PROGRESS - SUBJECT TO CHANGE	Figure 14 Supplemental Scenario 3	N W E S	

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Figure 15| Capital Cost and Capital Cost per Acre for Sub-areas





Key findings from the relative cost comparison by scenario are similar to the relative cost comparison for Tasks 4a and 4b with refinement for distinct areas of development within each sub-area. The key findings are summarized by sub-area below.

1. Shevlin Area – Most cost effective for scenario 3.1 where development is limited to the capacity of the existing Awbrey Glen force main and improvements are limited to

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localized pipeline extensions to convey wastewater to the lift station and pump upsizing. Least cost effective for SAAM-1 where the additional development triggers high cost improvements including the regional Gopher Gulch lift station.

2. West Area – Most cost effective for scenarios 1.2 and 2.1 where development is limited to the southerly portion of the sub-area and improvements are limited to localized pipeline extensions to convey wastewater to the existing trunk main and upsizing of the existing trunk main. Scenario 3.1 is moderately cost effective; however, in addition to the localized pipeline extensions and existing trunk main upsizing, the northerly portion of the sub-area contributes to localized pipeline extensions to convey wastewater to the Awbery Glen lift station and pump upsizing. Least cost effective for SAAM-3 where the additional development triggers high cost improvements including the regional Gopher Gulch lift station.

3. North Triangle – Cost effective for all scenarios because of proximity to the Northeast Interceptor. Requires incremental extension of the interceptor west of US Highway 97.

4. OB Riley/Gopher Gulch - Moderately cost effective for all scenarios. Most cost effective on a per acre basis for scenarios where greater area is considered and contributing to infrastructure. All scenarios require incremental extension of the Northeast Interceptor west and south. SAAM-1 and SAAM-3 include shared infrastructure with the Shevlin or West areas to fund the Northeast Interceptor extension. Scenarios 3.1 and SAAM-2 most fully utilize the Northeast Interceptor extension by developing a larger portion of the sub-area without a reliance on the Shevlin and West areas and the regional Gopher Gulch lift station

5. Northeast Edge – Relatively cost effective for all scenarios because of proximity to the Hamby alignment and Northeast Interceptor extension to the WWTF. Scenario 1.2 and SAAM-1 include larger development of the sub-area and more fully take advantage of future trunk main infrastructure. Scenarios 1.2 and 2.1 are less cost effective than the other scenarios where development adjacent to Bear Creek Road requires and interim lift station to delay future extension of the Hamby alignment.

6. DSL Property - Moderately cost effective for all scenarios because of proximity to Southeast Interceptor and reliance on the Hamby alignment and Northeast Interceptor extension to the WWTF. All scenarios require existing pipeline upsizing to connect to the Southeast Interceptor. Additionally, SAAM-2 requires extension of the Hamby alignment to serve the northerly portion of the sub-area (near Darnell Estates). Scenarios 1.2 and 2.1 are most cost effective on a per acre basis because of development of a larger portion of the sub-area.

7. Elbow – Moderately cost effective for all scenarios because of proximity to Southeast Interceptor and reliance on the Hamby alignment and Northeast Interceptor extension to the WWTF. All scenarios require an interim lift station and localized pipeline

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extensions to convey wastewater to the Southeast Interceptor delaying an extension of the Hamby trunk main. Scenario 2.1 is most cost effective on a per acre basis because of development of a larger portion of the sub-area.

8. Thumb - Moderately cost effective for all scenarios because of proximity to Southeast Interceptor and reliance on the Hamby alignment and Northeast Interceptor extension to the WWTF. All scenarios require existing pipeline upsizing on Parrell Road adjacent to the Southeast Interceptor and upsizing of the existing design, but unconstructed portion of the Southeast Interceptor immediately east of Parrell Road. Scenario 2.1 is less cost effective to serve as it requires contributions to additional upsizing of the Southeast Interceptor and other existing pipeline upsizing west of Parrell Road to serve the Bany property. Scenario 1.2 is most cost effective on a per acre basis because of development of a larger portion of the sub-area without development of the Bany property.

Scenario Ratings

Consistent with the approach for analyzing other infrastructure and land use data for the UGB Remand, the six (6) scenarios were rated as "Good", "Fair" or "Poor" by sub-area. These ratings were developed qualitatively for overall cost effectiveness based on Initial Capital Cost and Initial Capital Cost per acre. The qualitative ratings were combined with the key findings from the task and scenario summaries to provide an overall quantitative rating. Additionally, each scenario was given an overall rating on a scale of one (1) to five (5) to indicate overall cost effectiveness with five (5) being the most cost effective. The qualitative and quantitative ratings are shown in Tables 11 thru 13. For visual review a "Good," "Fair," and "Poor" rating are highlighted in green, yellow, and red respectively.

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Factor 2: Orderly and Economic Provision of Public Facilities and Services		Author:	Murray, Smith & Associates
Community Outcome B.	Cost Effective Infrastructure	Date:	10/01/2015

Performance Measure S2	Table 11. Initial Capital Cost of Sanitary Sewer Infrastructure Improvements
Brief Description of Evaluation:	Initial Capital Cost (millions of dollars) of sanitary sewer infrastructure improvements required to serve new growth, beyond what is included in the existing CSMP. Operation and maintenance costs are not included.

Interpretation and Key	"Good"	"Fair"	"Poor"	No Data	Not appropriate to rank	Better ranking fields have lower total cost of improvements needed. At the sub-area level, costs under $6 million are rated "Good", $6-12 million are rated "Fair", and over $12 million are rated "Poor". For Scenario / SAAM totals, under $46 million are rated "Good", $46-50 million are rated "Fair" and over $50 million are rated "Poor".

Evaluation Geography	Scenario 1.2		Scenario 2.1		Scenario 3.1		SAAM-1		SAAM-2		SAAM-3	
	Value	*Units*	*Value*	*Units*	*Value*	*Units*	*Value*	*Units*	*Value*	*Units*	*Value*	*Units*
Initial Capital Cost (excluding current UGB)	38.0	$M	39.5	$M	45.4	$M	54.3	$M	41.0	$M	54.3	$M
Subareas												
North Triangle	2.6	$M	2.5	$M	1.9	$M	0.8	$M	1.4	$M	1.8	$M
NE Edge	5.2	$M	2.6	$M	3.5	$M	8.2	$M	0.5	$M	0.6	$M
DSL Property	6.4	$M	7.8	$M	6.5	$M	5.5	$M	11.7	$M	5.5	$M
The "Elbow"	7.7	$M	10.0	$M	8.6	$M	7.9	$M	9.4	$M	9.5	$M
The "Thumb"	6.8	$M	7.1	$M	5.4	$M	6.1	$M	7.4	$M	6.9	$M
West Area	2.8	$M	2.8	$M	7.0	$M	N/A		N/A		27.2	$M
Shevlin Area	N/A		N/A		4.0	$M	24.1	$M	N/A		N/A	
OB Riley / Gopher Gulch Area	6.5	$M	6.6	$M	8.5	$M	1.6	$M	10.5	$M	2.7	$M
Overall Score	4		3		3		1		3		1	

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Factor 2: Orderly and Economic Provision of Public Facilities and Services												Author:	Murray, Smith & Associates
Community Outcome B.	Cost Effective Infrastructure											Date:	10/01/2015
Performance Measure S3	Table 12. Initial Capital Cost of Sanitary Sewer Infrastructure Improvements per developed acre												
Brief Description of Evaluation:	Initial Capital Cost of infrastructure improvements required to serve new growth, beyond what is included in the existing CSMP, divided by the developed acres.												
Interpretation and Key	"Good"	"Fair"	"Poor"	No Data	Not appropriate to rank	Ratings are assigned based primarily on the performance of the sub-areas and less on the overall average cost per acre at the Scenario / SAAM level; under $25,000 per acre are rated as "Good", $25,000-40,000 are rated as Fair; over $40,000 are rated as "Poor."							
Evaluation Geography	**Scenario 1.2**		**Scenario 2.1**		**Scenario 3.1**		**SAAM-1**		**SAAM-2**		**SAAM-3**		
	Value	*Units*	*Value*	*Units*	*Value*	*Units*	*Value*	*Units*	*Value*	*Units*	*Value*	*Units*	
Initial Capital Cost per Acre (excluding current UGB)	22,646	$/Acre	23,253	$/Acre	23,966	$/Acre	22,864	$/Acre	24,731	$/Acre	33,520	$/Acre	
Subareas													
North Triangle	13,473	$/Acre	13,258	$/Acre	8,116	$/Acre	4,268	$/Acre	5,853	$/Acre	7,742	$/Acre	
NE Edge	11,534	$/Acre	20,000	$/Acre	22,062	$/Acre	7,338	$/Acre	12,944	$/Acre	14,831	$/Acre	
DSL Property	29,140	$/Acre	21,846	$/Acre	33,816	$/Acre	44,343	$/Acre	61,882	$/Acre	43,233	$/Acre	
The "Elbow"	37,671	$/Acre	24,779	$/Acre	48,338	$/Acre	52,029	$/Acre	53,094	$/Acre	53,692	$/Acre	
The "Thumb"	19,432	$/Acre	22,834	$/Acre	30,655	$/Acre	26,217	$/Acre	34,714	$/Acre	32,918	$/Acre	
West Area	21,361	$/Acre	16,422	$/Acre	21,332	$/Acre	N/A		N/A		41,327	$/Acre	
Shevlin Area	N/A		N/A		22,636	$/Acre	56,235	$/Acre	N/A		N/A		
OB Riley / Gopher Gulch Area	51,293	$/Acre	49,176	$/Acre	18,840	$/Acre	12,501	$/Acre	13,102	$/Acre	15,448	$/Acre	
Overall Score	3		4		3		2		2		1		

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Factor 2: Orderly and Economic Provision of Public Facilities and Services						Author:	Murray, Smith & Associates	
Community Outcome B.	Cost Effective Infrastructure					Date:	10/01/2015	
Performance Measure S1	Table 13. Sanitary Sewer Infrastructure Improvements							
Brief Description	Efficiency of sanitary sewer infrastructure improvements required to serve new growth, beyond what is included in the existing CSMP							
Interpretation and Key	"Good"	"Fair"	"Poor"	No Data	Not appropriate to rank	Ratings for sub-areas are assigned based on the following considerations: "Good" means the sub-area takes advantage of improvements needed to serve the existing UGB (e.g. Northeast Interceptor and Hamby alignment); "Fair" means there is somewhat costly localized infrastructure needed and/or that the amount of growth in the sub-area does not take advantage of the improvements needed to serve the existing UGB; "Poor" means that costly new regional infrastructure (not a gravity system) is required.		

Evaluation Geography	Scenario 1.2 *Qualitative Evaluation*	Scenario 2.1 *Qualitative Evaluation*	Scenario 3.1 *Qualitative Evaluation*	SAAM-1 *Qualitative Evaluation*	SAAM-2 *Qualitative Evaluation*	SAAM-3 *Qualitative Evaluation*
Subareas						
North Triangle	Incremental extension of NEI west of US 97	Incremental extension of NEI west of US 97	Incremental extension of NEI west of US 97	Incremental extension of NEI west of US 97	Incremental extension of NEI west of US 97	Incremental extension of NEI west of US 97
NE Edge	Relies primarily on Hamby alignment & NEI (very efficient), but Bear Creek Road area requires interim lift station	Relies primarily on Hamby alignment & NEI (very efficient), but Bear Creek Road area requires interim lift station; limited development does not take full advantage of Hamby alignment and NEI	Relies primarily on Hamby alignment & NEI (very efficient), but Bear Creek Road area requires interim lift station; limited development does not take full advantage of Hamby alignment and NEI	Relies entirely on Hamby alignment & NEI	Relies primarily on Hamby alignment & NEI (very efficient); limited development does not take full advantage of Hamby alignment and NEI	Relies primarily on Hamby alignment & NEI (very efficient); limited development does not take full advantage of Hamby alignment and NEI
DSL Property	Relies entirely on Hamby alignment & NEI, localized pipeline required to connect to SEI	Relies entirely on Hamby alignment & NEI, localized pipeline required to connect to SEI	Relies entirely on Hamby alignment & NEI, localized pipeline required to connect to SEI	Relies entirely on Hamby alignment & NEI, localized pipeline required to connect to SEI	Relies primarily on Hamby alignment & NEI, localized pipeline required to connect to SEI; also requires additional extension of Hamby alignment to serve Darnell Estates area	Relies entirely on Hamby alignment & NEI, localized pipeline required to connect to SEI
The "Elbow"	Relies on SEI, Hamby, and NEI. Requires interim lift station that does not contribute to long-term gravity improvements. Localized pipeline required to connect to SEI	Relies on SEI, Hamby, and NEI. Requires interim lift station that does not contribute to long-term gravity improvements. Localized pipeline required to connect to SEI	Relies on SEI, Hamby, and NEI. Requires interim lift station that does not contribute to long-term gravity improvements. Localized pipeline required to connect to SEI	Relies on SEI, Hamby, and NEI. Requires interim lift station that does not contribute to long-term gravity improvements. Localized pipeline required to connect to SEI	Relies on SEI, Hamby, and NEI. Requires interim lift station that does not contribute to long-term gravity improvements. Localized pipeline required to connect to SEI	Relies on SEI, Hamby, and NEI. Requires interim lift station that does not contribute to long-term gravity improvements. Localized pipeline required to connect to SEI
The "Thumb"	Relies on SEI, Hamby, and NEI. Pipe improvement on Parrell Road adjacent to SEI	Relies on SEI, Hamby, and NEI. Pipe improvement on Parrell Road adjacent to SEI, Additional gravity main required to serve Bany property	Relies on SEI, Hamby, and NEI. Pipe improvement on Parrell Road adjacent to SEI	Relies on SEI, Hamby, and NEI. Pipe improvement on Parrell Road adjacent to SEI	Relies on SEI, Hamby, and NEI. Pipe improvement on Parrell Road adjacent to SEI	Relies on SEI, Hamby, and NEI. Pipe improvement on Parrell Road adjacent to SEI
West Area	Requires incremental expansion & extension of existing pipelines	Requires incremental expansion & extension of existing pipelines	Requires expansion & extension of existing pipelines, connection to existing lift station, and pump upsizing at Awbrey Glen	N/A	N/A	Exceeds capacity at Awbrey Glen lift station/force main & requires new regional lift station
Shevlin Area	N/A	N/A	Requires expansion & extension of existing pipelines,connection to existing lift station, and pump upsizing at Awbrey Glen	Exceeds capacity at Awbrey Glen lift station/force main & requires new regional lift station	N/A	N/A
OB Riley / Gopher Gulch Area	Requires extension of NEI west of US 20	Requires extension of NEI west of US 20	Requires extension of NEI west of US 20 plus pipeline extension to south	Requires extension of NEI west of US 20; shares infrastructure with new regional lift station triggered by Shevlin Area	Requires extension of NEI west of US 20 plus pipeline extension to south	Requires extension of NEI west of US 20; shares infrastructure with new regional lift station triggered by West Area
Overall Score	4	3	3	2	2	1

Note 1. NEI = Northeast Interceptor, including extension to WWTF. SEI = Southeast Interceptor. Hamby = Hamby alignment of Southeast Interceptor.

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Key rating considerations related to each scenario are described below. Positives (+) and negatives (-) are highlighted. Overall ratings are highest for scenarios that take advantage of gravity sewer improvements needed to serve the existing UGB (Northeast Interceptor and Hamby alignment).

1. Scenario 1.2 – Rated high (4) because the scenario takes advantage of the Hamby alignment and Northeast Interceptor by maximizing development in the Northeast Edge and North Triangle (+). The scenario minimizes development impacts in the West and avoids a regional lift station (+).

2. Scenario 2.1 – Rated medium (3) because the scenario takes advantage of the Northeast Interceptor by maximizing development in the North Triangle (+). The scenario does not take full advantage of the Hamby alignment by minimizing development in the Northeast Edge (-). The scenario minimizes development impacts in the West and avoids a regional lift station (+).

3. Scenario 3.1 – Rated medium (3) because the scenario takes advantage of the Northeast Interceptor by maximizing development in the North Triangle and OB Riley/Gopher Gulch (+). The scenario does not take full advantage of the Hamby alignment by minimizing development in the Northeast Edge (-). The scenario maximizes potential development in the West and Shevlin areas, while avoiding a new regional lift station (+).

4. SAAM-1 – Rated low (2) because the scenario requires a new regional lift station and force main to serve an expanded area of Shevlin (-). The scenario does takes advantage of the Hamby alignment and Northeast Interceptor by maximizing development in the Northeast Edge and North Triangle (+).

5. SAAM-2 – Rated low (2) because the scenario does not take full advantage of the Hamby alignment by minimizing development in the Northeast Edge (-). The scenario does take advantage of the Northeast Interceptor by maximizing development in the North Triangle and OB Riley/Gopher Gulch (+). The scenario requires a high cost extension of the Hamby alignment to serve the northern portion of the DSL Property (-).

6. SAAM-3 – Rated very low (1) because the scenario requires a new regional lift station and force main to serve an expanded area of the West (-). The scenario does take advantage of the Northeast Interceptor by maximizing development in the North Triangle (+). The scenario does not take full advantage of the Hamby alignment by minimizing development in the Northeast Edge (-).

From a sewer infrastructure planning perspective the City would prefer to leverage existing or planned infrastructure investments to their full potential where possible. The City is committed to constructing both the Northeast Interceptor and the Hamby alignment in the near future to serve customers within the existing UGB. These projects will require large

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capital investments and should be leveraged where possible to serve areas outside the existing UGB as identified in this remand process. As noted above, Scenario 1.2 appears to be the best combination of areas relative to leveraging existing or planned infrastructure and minimizing new sewer investments. From a sewer infrastructure perspective a hybrid scenario would be recommended that prioritizes UGB expansion in the North Triangle and Northeast Edge.

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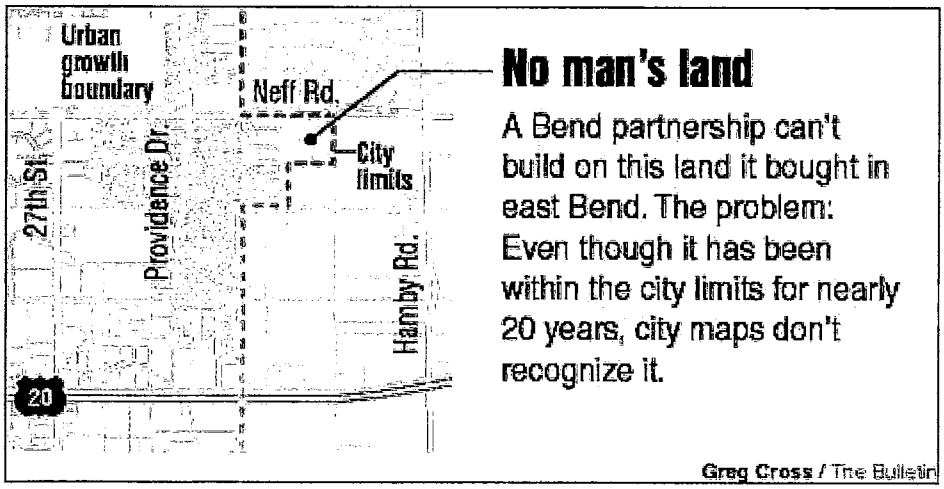
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Mapping mess puts Deschutes developers in limbo

By David Fisher / *The Bulletin*

Published: March 22. 2007 5:00AM PST

Mike Irwin and his partners figured they'd build some houses on the 9.5 acres of rocky east Bend scrubland they bought in July.

The land wasn't cheap.

One of the two investment groups involved borrowed around $2.68 million to get its hands on it, according to papers on file at City Hall.

Still, they figured they could build some homes on the cheaper side of the city's spendy housing market. Maybe even the kind that could be called affordable.

Except for one little problem: Apparently due to a long-ago mistake, the city's maps don't line up. And that could cost everybody, from the developers on down to the people who might have bought their houses.

As it is, instead of scraping sagebrush to make way for new houses this year, the would-be developers have spent months schlepping from meeting to meeting with planners, lawyers, engineers and more planners, and they are likely to have to do more of the same before the year is out.

So, what's the problem?

It seems that the land, on the far eastern edge of the city just off Neff Road, was annexed into the city limits back in 1989, when Larry Patterson was the city manager, George Bush the elder was president of the United States, and Bend still held fewer than 30,000 people, according to records Irwin and his group dug up to support their case.

Normally, if land sits inside the city's borders, the path is cleared for urban-style subdivisions.

Not in this case, though. Because somewhere in the mists of time, city maps started showing that the land sat outside of another line - the urban growth boundary - that is supposed to surround the city, marking the furthest reaches of its possible expansion.

In other words, the land sits inside the city. But it's beyond where the city can be.

And that, in the land of city planning-speak, simply can't be. So it will stay in sagebrush until the problem gets fixed.

Finding a way to fix the rare conundrum hasn't been easy, but Irwin said he and his investors have at least figured out how to look for one.

They've filed a request with the city planning division to make an "administrative declaratory ruling" that a map error occurred and should be fixed. In addition, they want the planners to rule that their land should be sitting inside an urban zone that allows single-family houses - like the kinds of neighborhoods that border the land along its western flank.

Meanwhile, the expenses are mounting.

There are payments to make on the loan, Irwin noted. There's the time and expense of paying lawyers and land use engineers just to help steer the case to this point, and keeping a cap on the costs of the

future housing is growing more difficult as the expenses rise.

"We just hope that the project can come out of this without being drastically impaired, as far as the costs are concerned," Irwin said. "It hasn't been a low-cost procedure, let me say, just from the standpoint of the time, as well as the other expenses."

It likely won't be over any time soon.

Greg Blackmore, the associate planner who's working the case, has sent notices to neighboring land owners, asking for comments.

If there's no public controversy and no snarled legal issues arise, the planners may be able to resolve the map issue without further proceedings, Blackmore said. He hasn't had the case file long enough, though, to know what issues might arise.

Meanwhile, Colin Stephens, the manager of the city's current planning division, said the land owners might not be out of the woods even if the map issue is straightened out.

The land is labeled on the city's zoning and general plan maps as an "Urban Area Reserve" zone - a designation normally reserved for rural lands outside the city - that restricts construction to one house for every 10 acres.

So the landowners may have to ask for a rezone if they want to build urban housing, Stephens said - a process that can take several months.

So how did the map snafu develop in the first place?

According to papers filed with the city to buttress the development group's case, the Bend City Council voted 6-0 to annex the land in April 1989.

The annexation apparently came at the city's request, for reasons that are no longer clear.

Whatever the case, former owners Terry and Darla Fournier continued to live on the land, with no intention of developing it, until they sold it in July 2006 to Irwin's investors. So they may not have noticed when city maps started showing it inside the city, but outside the UGB.

As near as anyone can tell, it looks like the city's mapmakers inadvertently scooched the UGB line to the west of the Neff Road property in the mid-1990s when they drew boundary maps from excruciatingly detailed "metes and bounds" property descriptions to prepare for the city's last major annexation in 1999, Irwin said.

That annexation, passed by the voters, was intended to push the city's boundaries all the way out to its UGB, making the two one and the same. The expansion added more than 11 square miles to the city's 21-square-mile girth and swelled its population by a third.

Ironically, even the next big expansion of city land won't bail out the Neff Road landowners. Planners are studying lands in a huge ring around the city to decide where to draw a new UGB to handle future expansion - but, since the Neff Road property is already inside the city limits, it's not included in the study.

"Everybody involved in this has just said, 'Wow. I have never seen anything like this,'" Irwin said. "This is very unusual. We just need to figure out a way we can deal with it."

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URBAN GROWTH BOUNDARY REMAND

MAKING BEND EVEN BETTER

UGB Steering Committee

Bend UGB Remand Project

April 21, 2016

UGB Adoption Package Overview

URBAN GROWTH BOUNDARY REMAND

BEND

Policy & Regulatory Documents

- Comprehensive Plan text
  - New Growth Management Chapter
  - Updated Housing Chapter
  - Updated Economy Chapter
  - Re-format & policy-neutral clean up of other Chapters
- Comprehensive Plan map amendments
- Zoning map amendments
- Development Code Updates

Supporting Documents

- Integrated Land Use & Transportation Plan (ILUTP)
- Transportation System Plan (TSP) Updates
- Buildable Lands Inventory (BLI)
- Housing Needs Assessment (HNA)
- Economic Opportunities Analysis (EOA)
- Urbanization Report
- Urban Form Report

UGB Adoption Package: Prior USC Review

URBAN GROWTH BOUNDARY REMAND

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UGB Adoption Package: Today's Focus

URBAN GROWTH BOUNDARY REMAND

BEND

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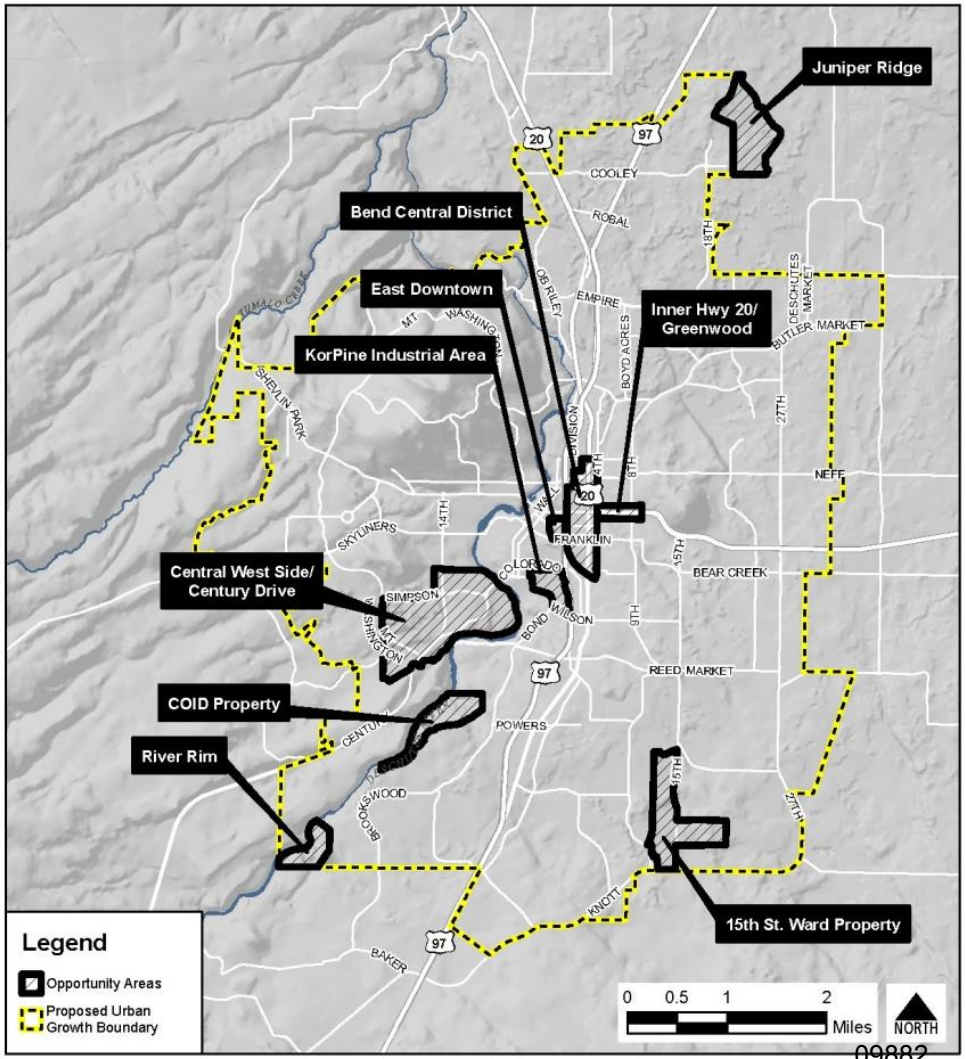
Supporting Documents

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"Blended" Zoning Approach for Opportunity Areas

URBAN GROWTH BOUNDARY REMAND

- **Map amendments:**
  - Enabling Comprehensive Plan amendments
  - Selected zone changes
- **Procedures:** Streamline zone change consistent with Comprehensive Plan

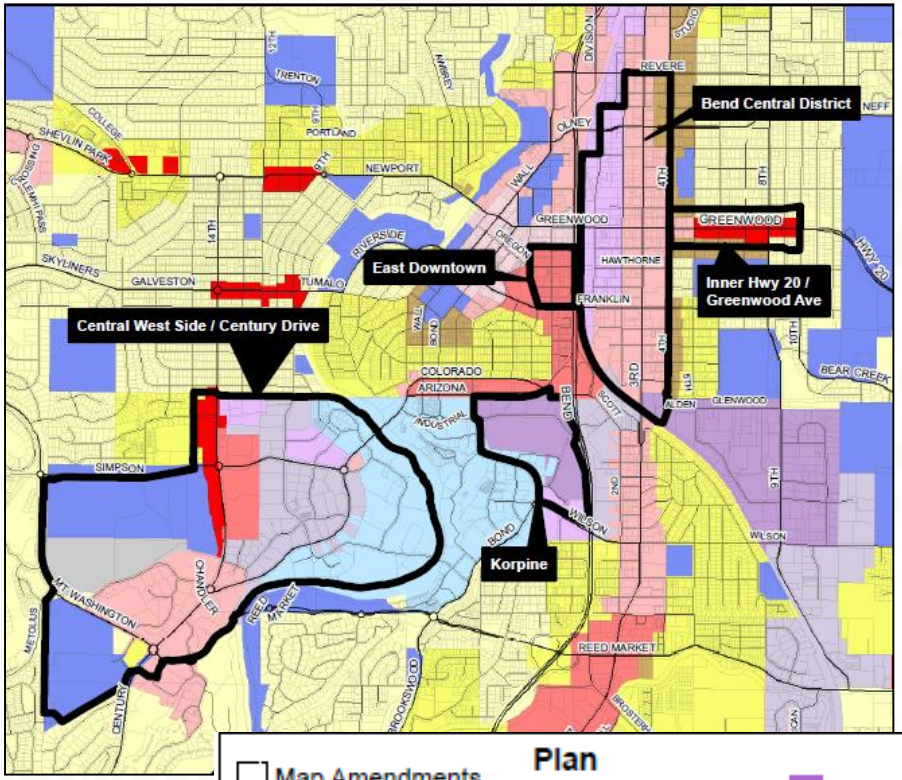


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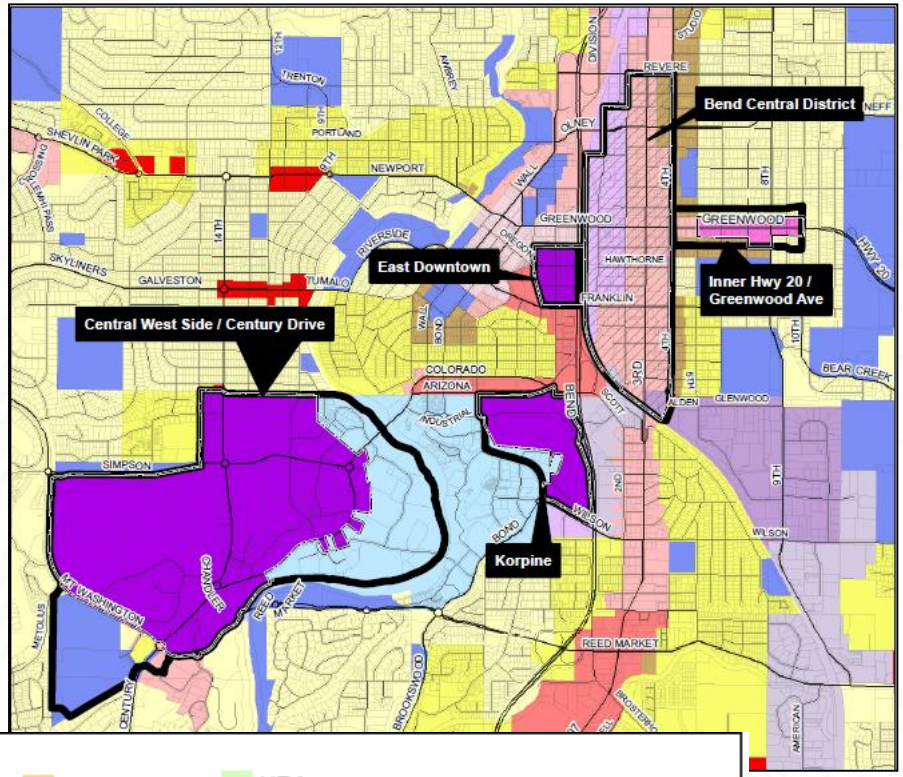
Proposed Comprehensive Plan Map Amendments Inside UGB: Core

URBAN GROWTH BOUNDARY REMAND

Existing Plan Designations



Proposed Plan Designations



Map Amendments
Taxlots
Opportunity Areas

Plan Designation

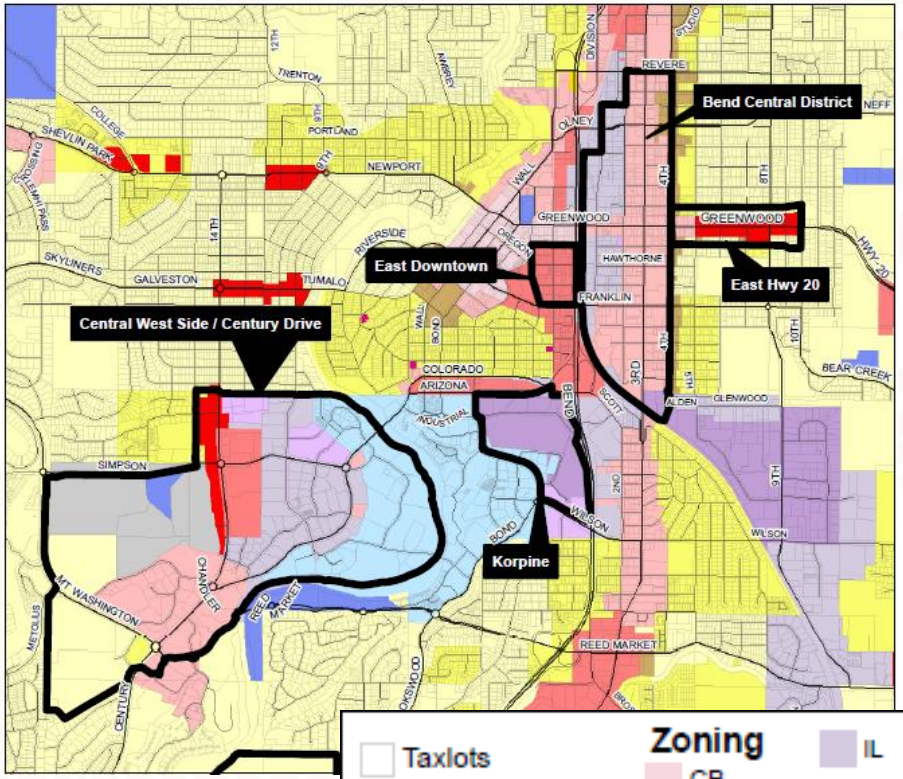
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UAR10
URA
Bend Central District Overlay

09883

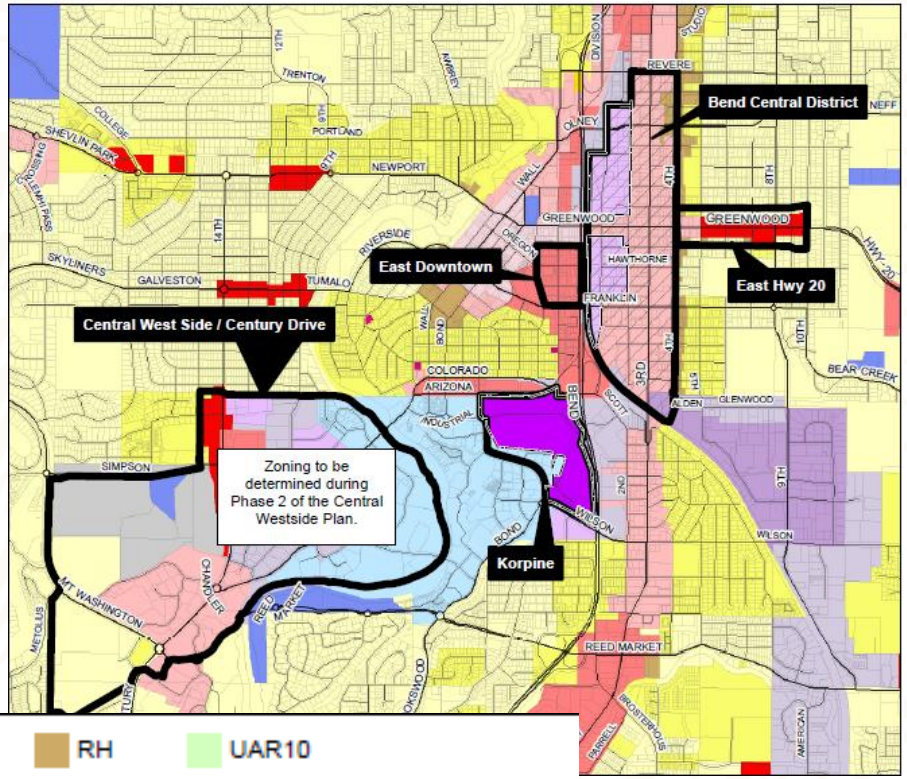
Proposed Zone Map Amendments Inside UGB: Core

URBAN GROWTH BOUNDARY REMAND

Existing Zoning



Proposed Zoning



Taxlots
Opportunity Areas
Map Amendments

Zoning

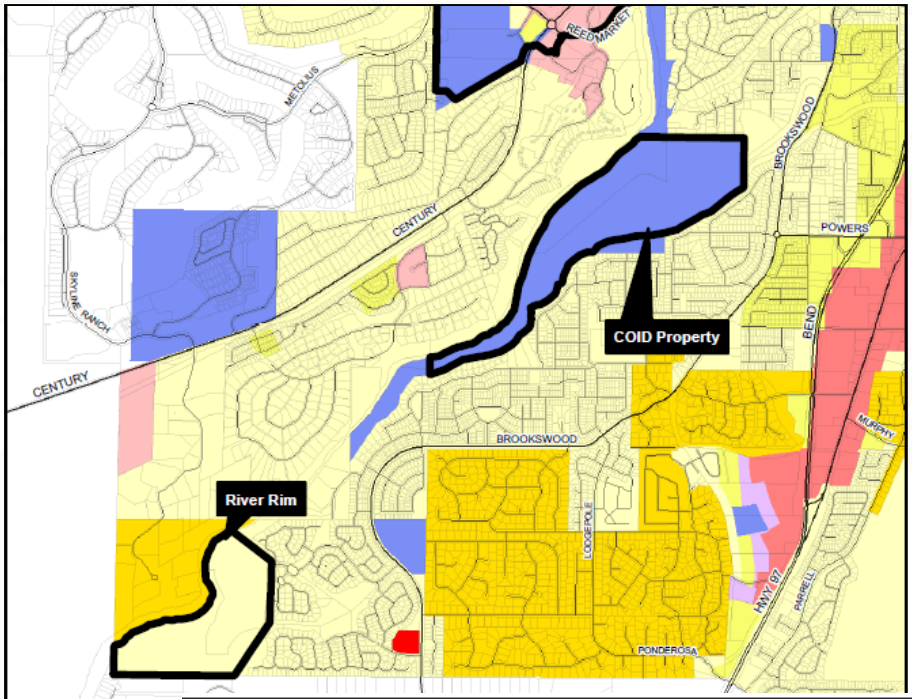
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UAR10
Bend Central District Overlay

Proposed Comprehensive Plan Map Amendments Inside UGB: SW

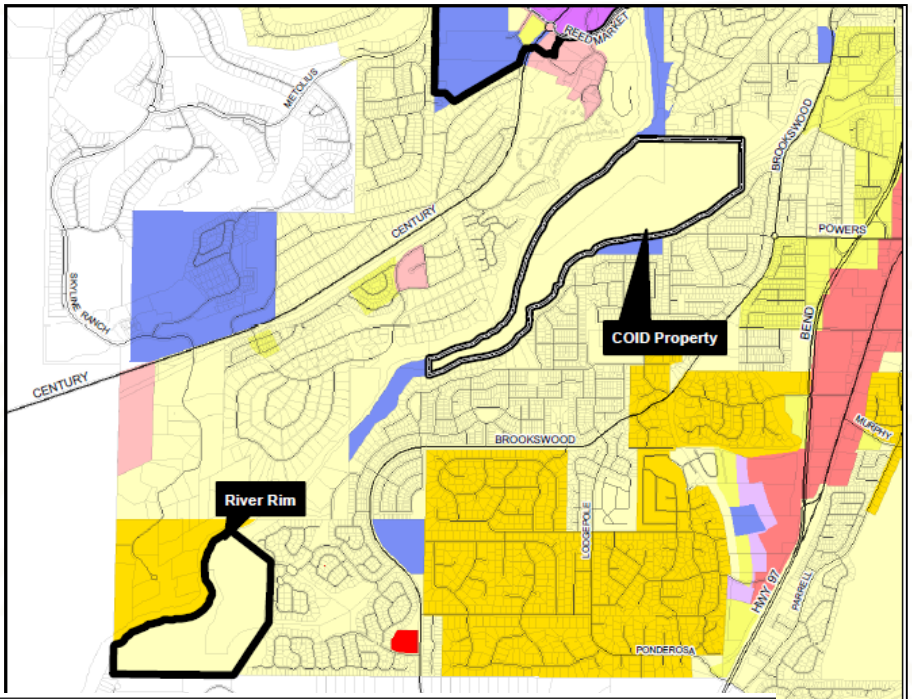
URBAN GROWTH BOUNDARY REMAND

BEND

Existing Plan Designations



Proposed Plan Designations



Map Amendments
Taxlots
Opportunity Areas

Plan Designation

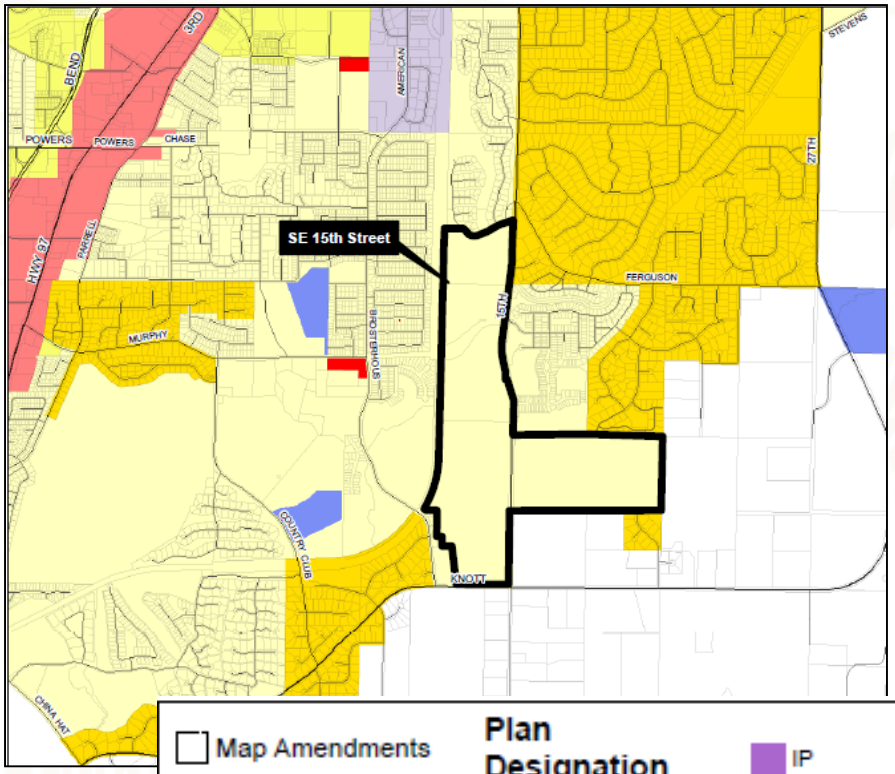
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UAR10
URA
Bend Central District Overlay

Proposed Comprehensive Plan Map Amendments Inside UGB: SE

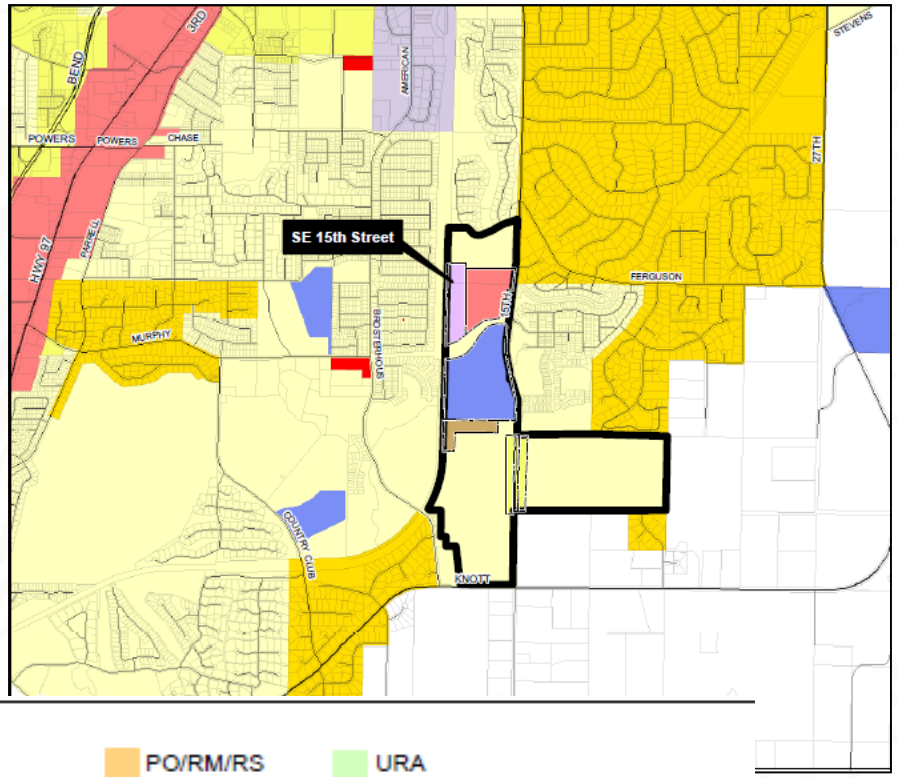
URBAN GROWTH BOUNDARY REMAND

BEND

Existing Plan Designations



Proposed Plan Designations



Map Amendments
Taxlots
Opportunity Areas

Plan Designation

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PO/RM/RS
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RS
SM
UAR10
URA
Bend Central District Overlay

09886

Proposed Map Amendments: Summary

URBAN GROWTH BOUNDARY REMAND

Opportunity Area		Recommend Plan Amendment?	Recommend Zone Change?
#	Name		
1	**Bend Central District**	No	**Yes***
2	**East Downtown**	**Yes**	No
3	**Inner Hwy 20**	**Yes**	No
4	**Century Drive**	**Yes**	TBD**
5	**KorPine**	**Yes**	**Yes**
6	**Juniper Ridge East**	No	No
7	**15th Street / Ward**	**Yes**	**Yes**
8	**River Rim**	No	No
9	**COID**	**Yes**	No

***** Including Special Plan District

****** Zoning for Century Drive area to be determined during Phase 2 of Central Westside Plan

Draft Growth Management Chapter Overview

URBAN GROWTH BOUNDARY REMAND

- Background (for context)
- Goals (setting broad direction and intent)
- Policies (regulatory)



Draft Growth Management Chapter: Today's Focus

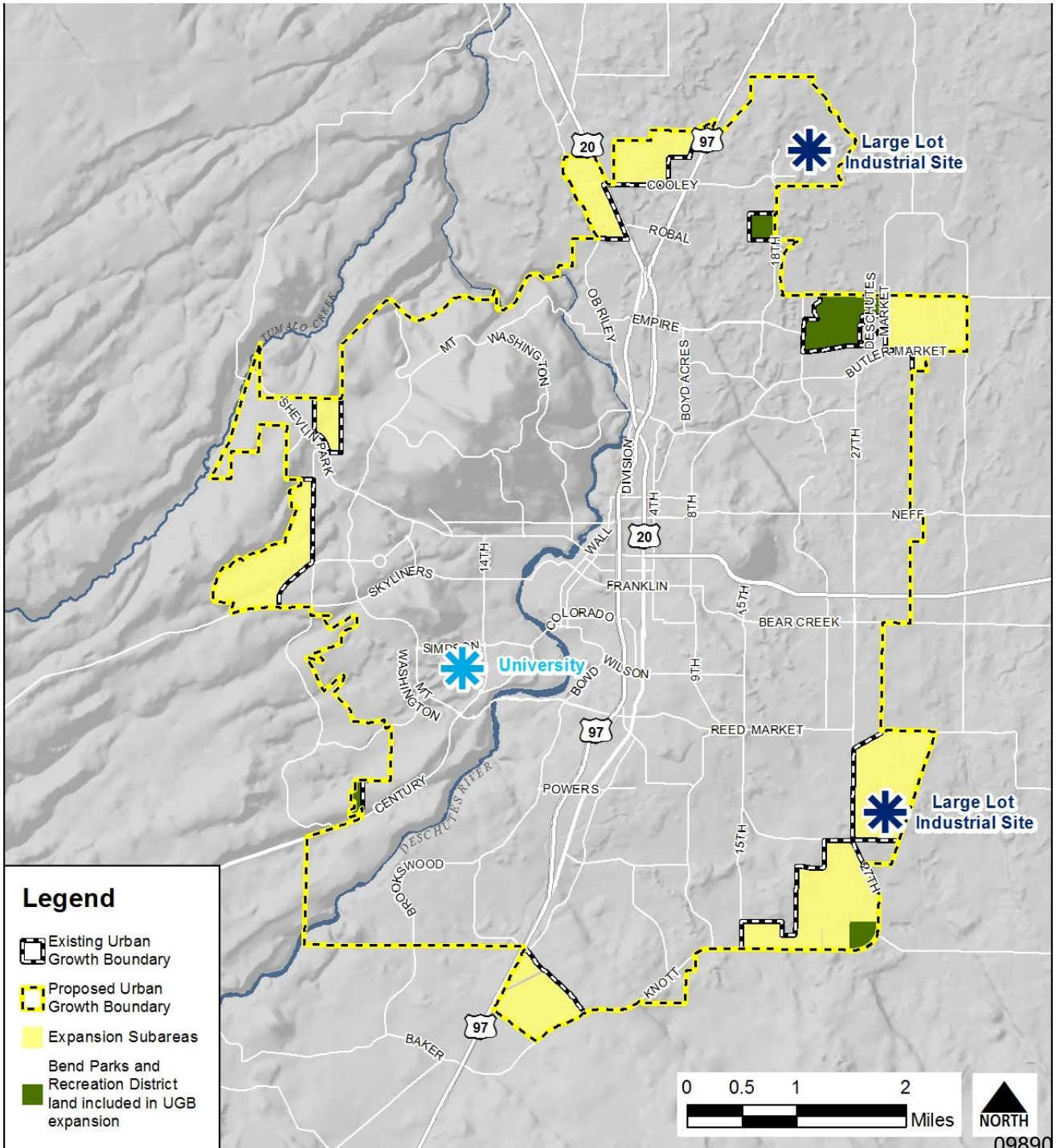
URBAN GROWTH BOUNDARY REMAND

- Background (for context)
- Goals (setting broad direction and intent)
- Policies (regulatory)
  - general growth management policies
  - policies for centers and corridors, employment districts, and neighborhoods
  - policies for special site needs
  - **area planning policies**
  - annexation policies
  - general UGB expansion policies
  - **specific expansion area policies**

Special Sites

Large lot to be protected through regulations & area planning

OSU-owned property committed to University site need



Affordable Housing Policy

- **Option 1**: new policy under *General UGB Expansion Policies*

- **Option 2**: incorporate relevant policies from Housing chapter into *Policies for Residential Areas and Neighborhoods*

Proposed policy language for each option on packet pages 4-5

Area Planning for UGB Expansion Areas – Overall Objectives

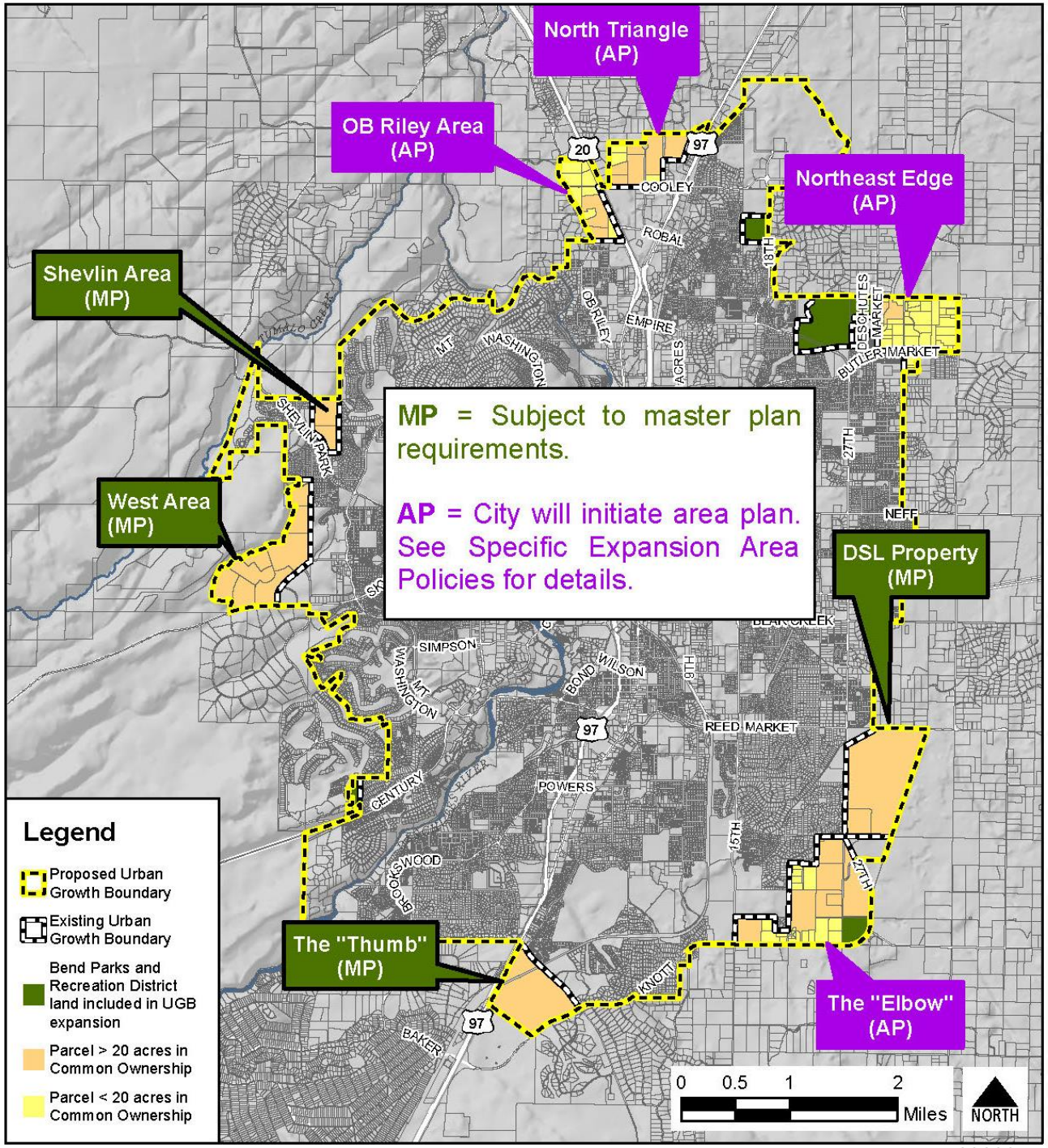
URBAN GROWTH BOUNDARY REMAND

BEND

- Guide future annexations and development to fulfill the vision for each subarea
- Ensure adequate capacity for needed land uses, consistent with UGB planning
- Flexibility on arrangement of land uses
- Framework for circulation & infrastructure
- Ensure school & park needs are addressed

Area Planning by Subarea

- Northeast Edge, Elbow, North Triangle, OB Riley – City to initiate Area Plan
- West, Shevlin, Thumb, DSL – master plan required



Specific Expansion Area Policies: Must be addressed by Area Plan

URBAN GROWTH BOUNDARY REMAND

- Constants:
  - Street connectivity
  - Coordination with special districts & utility providers
- Tailored to each area:
  - Type of area plan
  - Planning concepts
  - Acres by plan designation
  - Housing capacity & mix
  - Special considerations

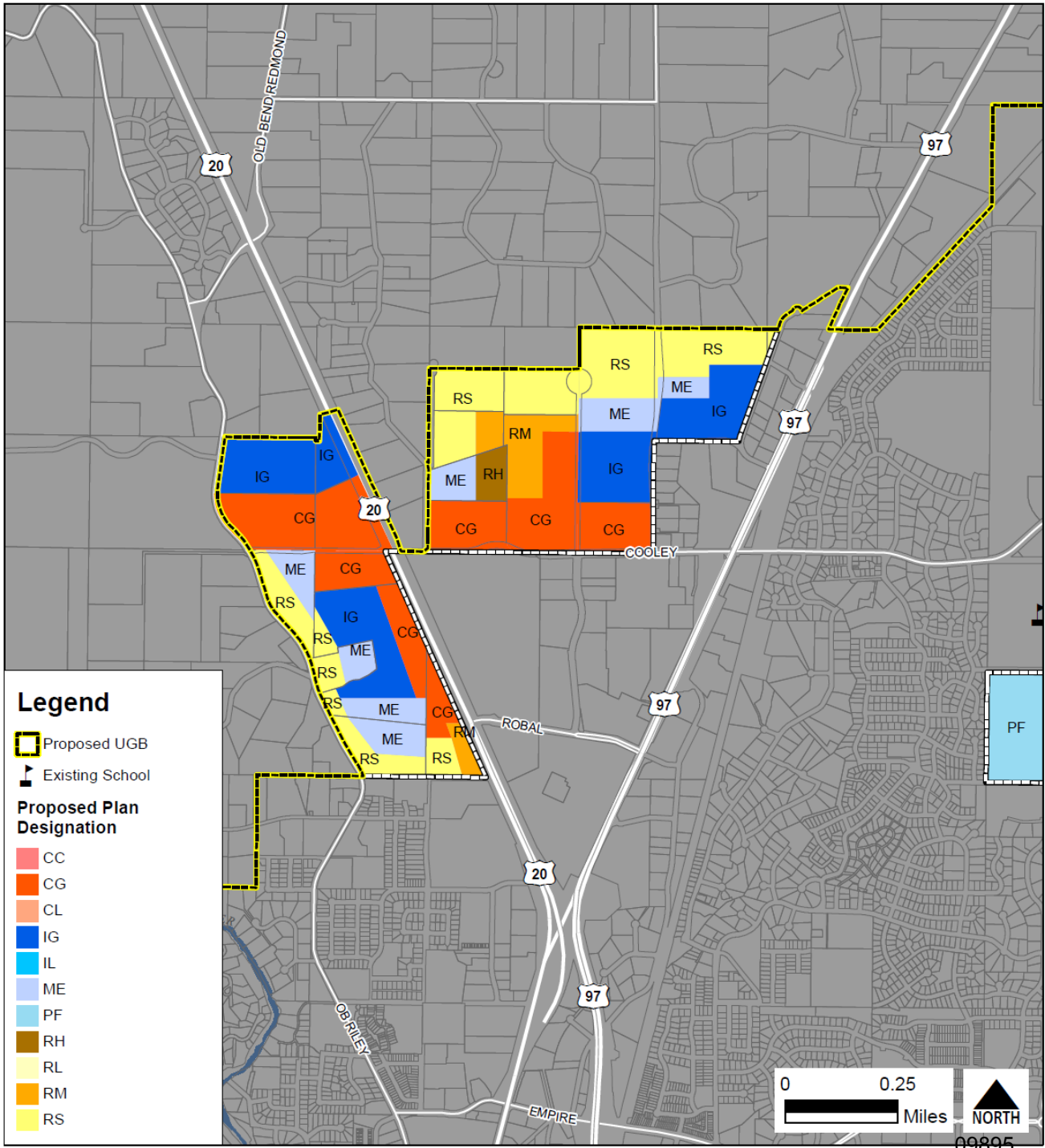
Draft Plan Designations & Specific Area Policies: North Area

OB Riley

- Northern gateway
- ≥ 140 housing units

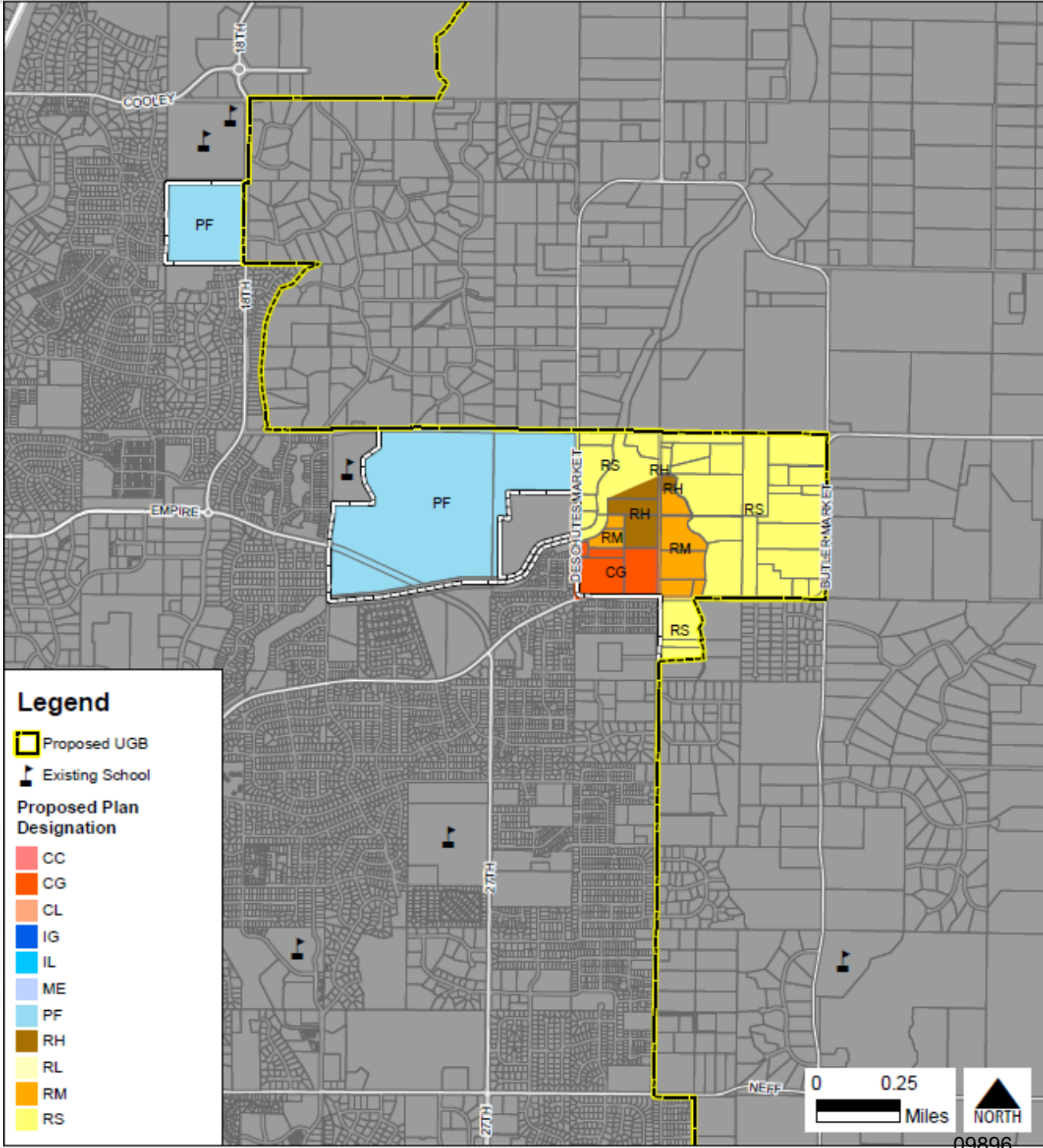
North Triangle

- Transition to north
- ≥ 460 housing units



Draft Plan Designations & Specific Area Policies: Northeast Edge

- Help complete existing neighborhoods
- Identify site for elementary school
- ≥ 1,080 housing units



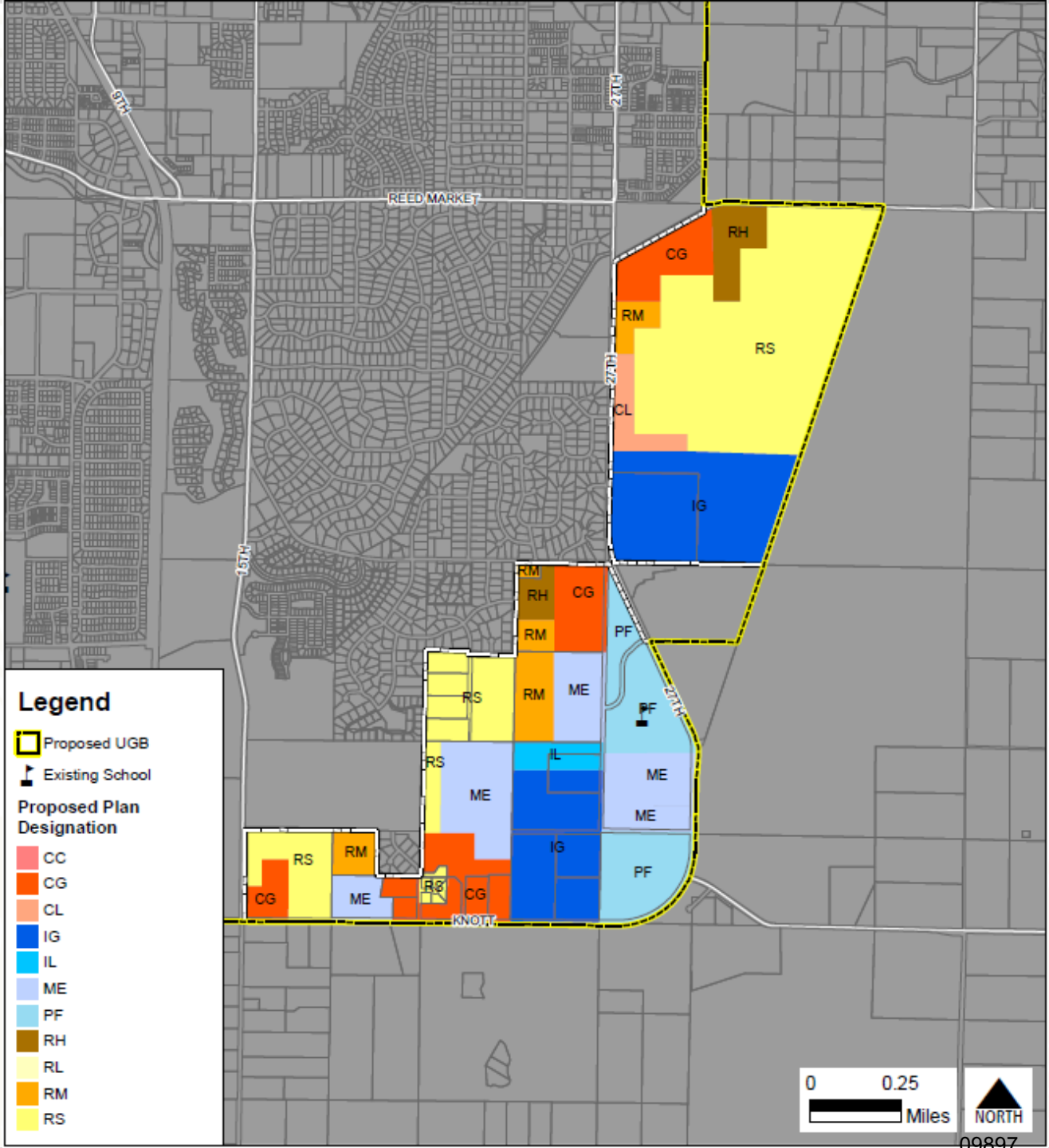
Draft Plan Designations & Specific Area Policies: Southeast

DSL Property

- New complete community
- Identify site for elementary school
- Large-lot industrial site
- ≥ 1,130 housing units

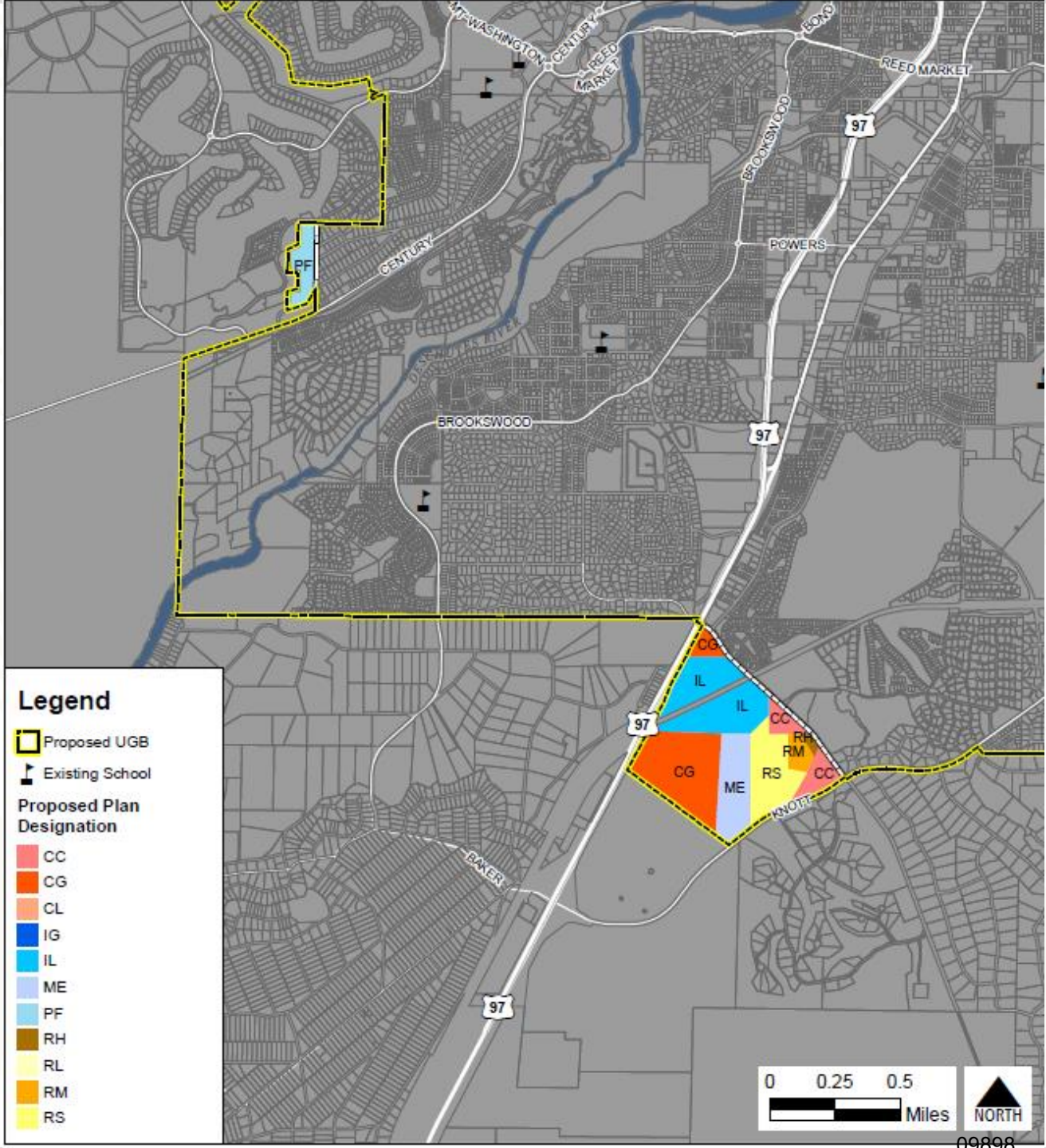
Elbow

- Transition to employment uses
- ≥ 860 housing units
- New collector road



Draft Plan Designations & Specific Area Policies: Thumb

- Help complete existing neighborhoods
- Employment near railroad & Hwy 97
- Southern gateway to Bend
- ≥ 300 housing units



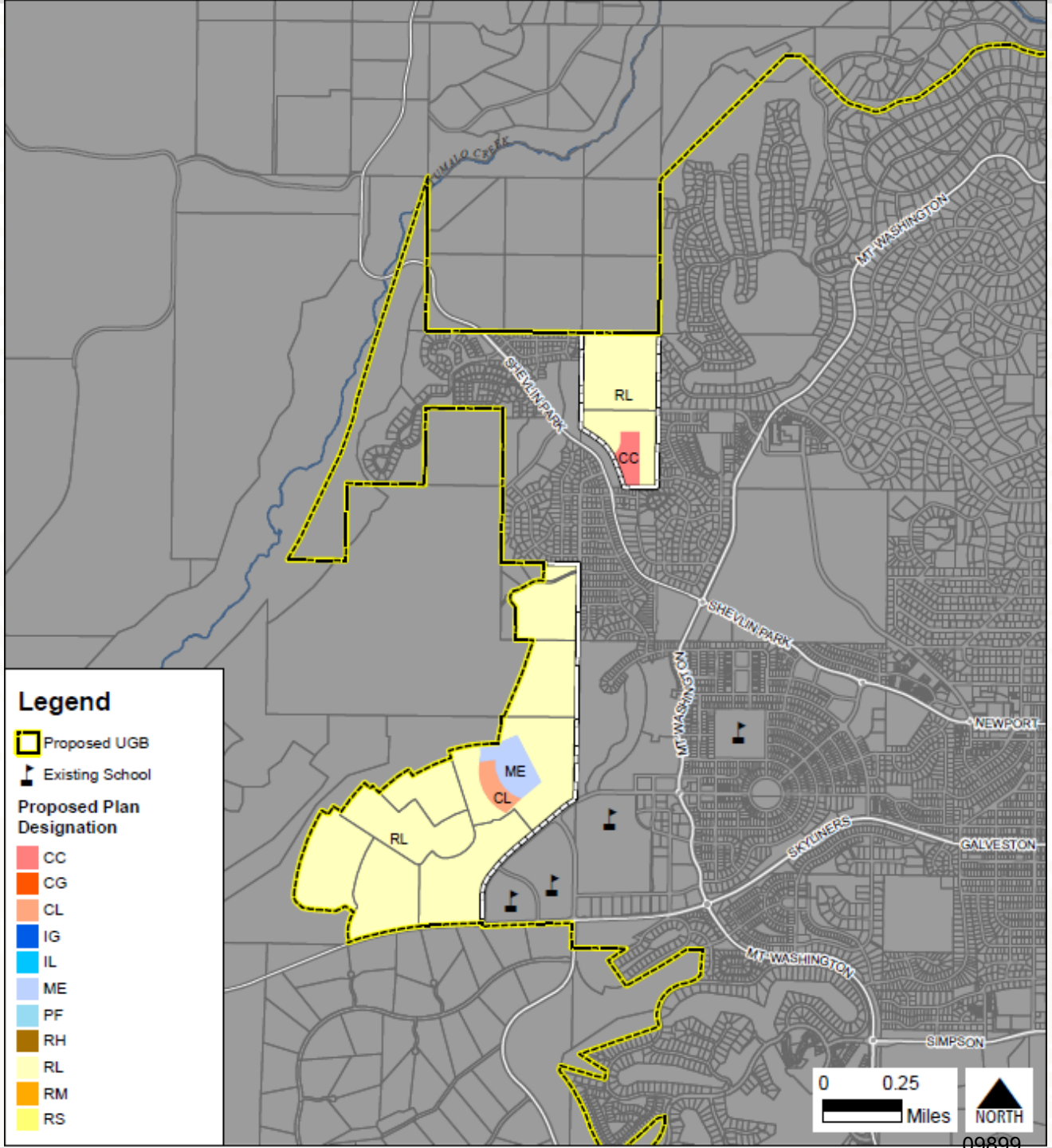
Draft Plan Designations & Specific Area Policies: West/Northwest

West Area

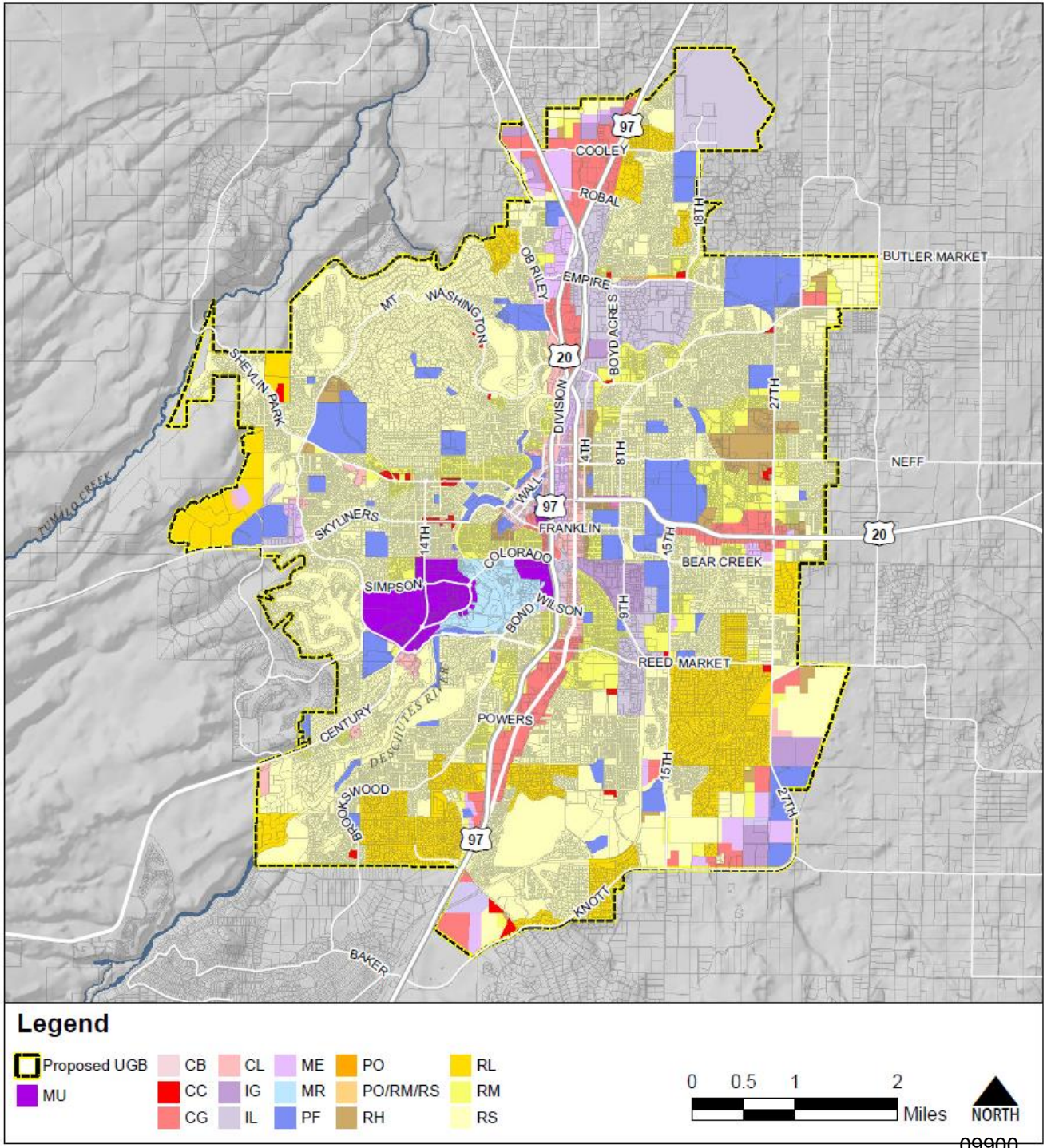
- Implement transect concept
- 720-800 housing units

Shevlin

- Help complete existing neighborhoods
- 162-200 housing units



Big Picture: "Scenario 2.1F"



Project Goals

URBAN GROWTH BOUNDARY REMAND

- A Quality Natural Environment
- Balanced Transportation System
- Great Neighborhoods
- Strong Active Downtown
- Strong Diverse Economy
- Connections to Recreation and Nature
- Housing Options and Affordability
- Cost-Effective Infrastructure

URBAN GROWTH BOUNDARY REMAND

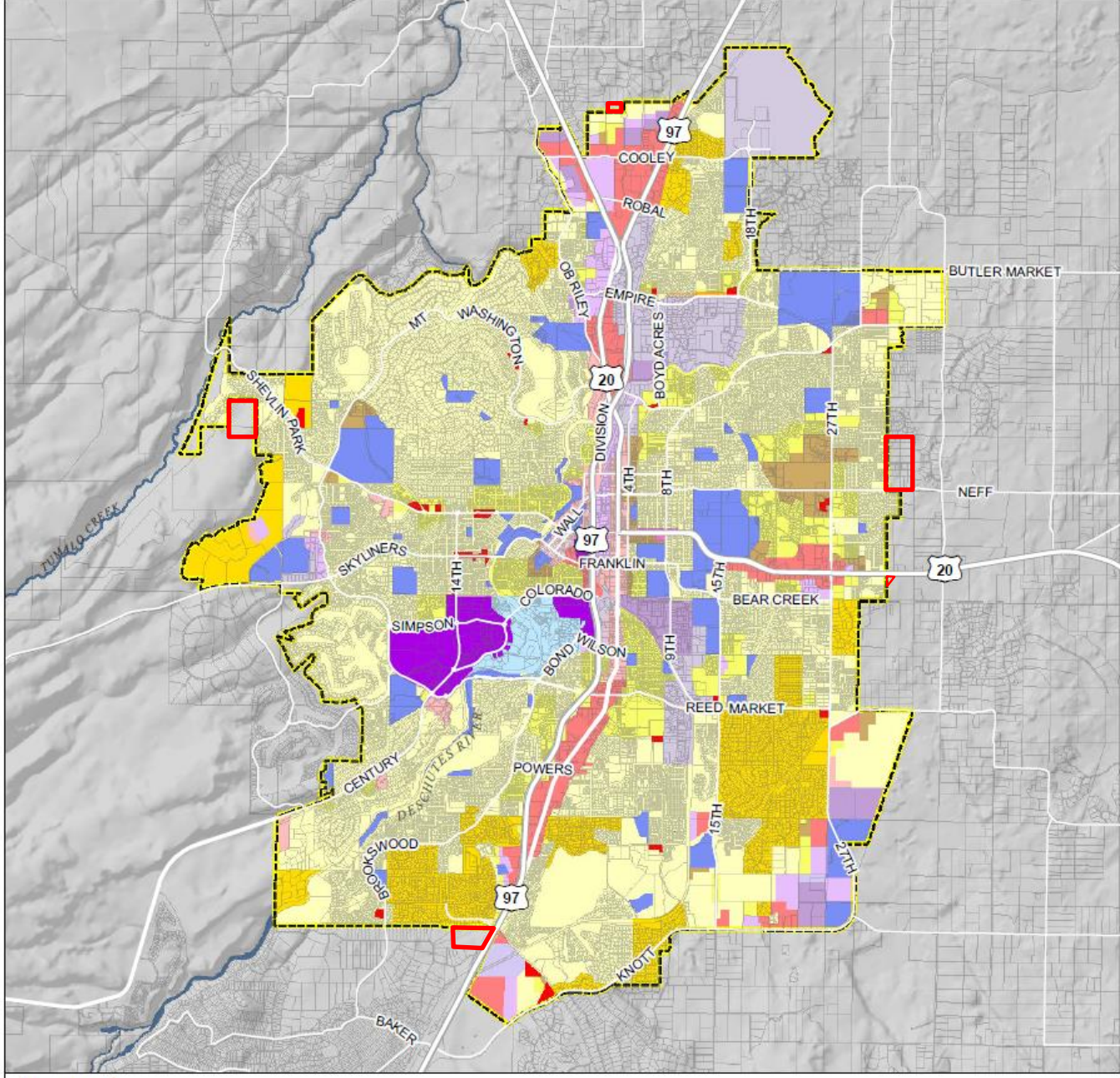
MAKING BEND EVEN BETTER

UGB Inclusion Requests

Staff Response

4/20/16

Summary of Requests for Inclusion in UGB



Tools to add more acres

URBAN GROWTH BOUNDARY REMAND

BEND

Step 1:

- Smaller increase in minimum density for RS Master Plan sites:
  - New option: 70% of max (5.11 DU/gross ac)
  - Current draft: 80% of max (5.84 DU/gross ac)
  - Current development code: 60% of max (4.38 DU/gross ac)
- Use current draft of density calculation
  - ADUs don't count, parks/open space excluded

Tools to add more acres

URBAN GROWTH BOUNDARY REMAND

BEND

Step 2 changes :

- Step 1 plus…
- Reduce assumed redevelopment for Core Opportunity Areas (except Central Westside)

Tools to add more acres

URBAN GROWTH BOUNDARY REMAND

Step 1 results:

Housing Type	Additional Units Needed
SFD	210
SFA	20
MF	220
Total	**450**

- 450 units from:
  - Master plan expansion areas
  - 15th Street Opportunity Area
  - Other large vacant sites
- Reduces minimums, not maximums

Tools to add more acres

URBAN GROWTH BOUNDARY REMAND

Combined Results:

Housing Type	Additional Units Needed
SFD	210
SFA	30
MF	480
Total	**720**

Employment Type	Additional Jobs Needed
Retail/ Hospitality	205
Office	135
Total	**340**

- 270 additional units & 340 jobs from Opportunity Areas in core
- Reduces assumed yield, not entitlements

Allocation Choices – Option A

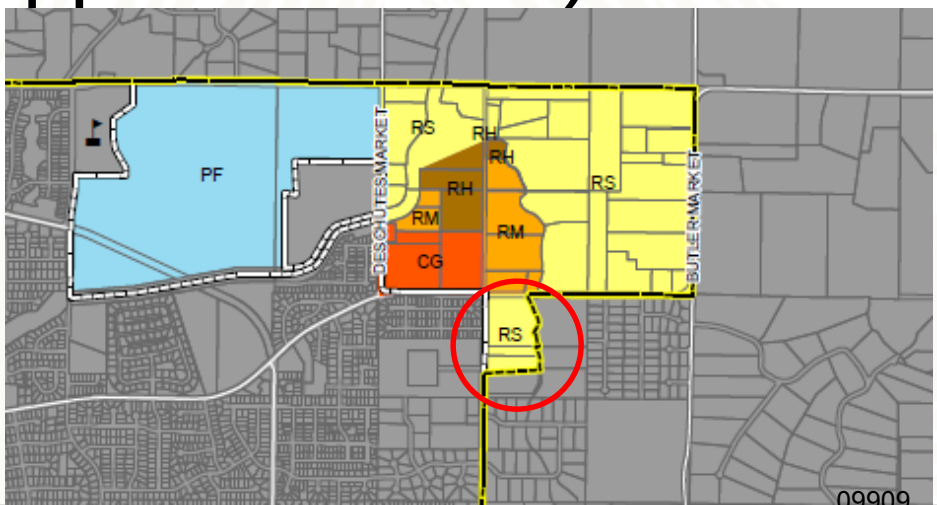
URBAN GROWTH BOUNDARY REMAND

- Day + Baney + Bell
- Add 5 acres of commercial and 5 acres of residential to the North Triangle
  - Keep buffer on north edge
- Re-arrange land uses in the North Triangle
- Carpenter – Change from IG to IL/ME
- Similar job mix, transportation impact, more compatible employment uses

Allocation Choices – Option B

URBAN GROWTH BOUNDARY REMAND

- Option A + Hopp
- Move acres from the “tab” on the south side of Butler Market Road
- Minor adjustments in North Triangle to re-balance land needs (approx. 5 acres)

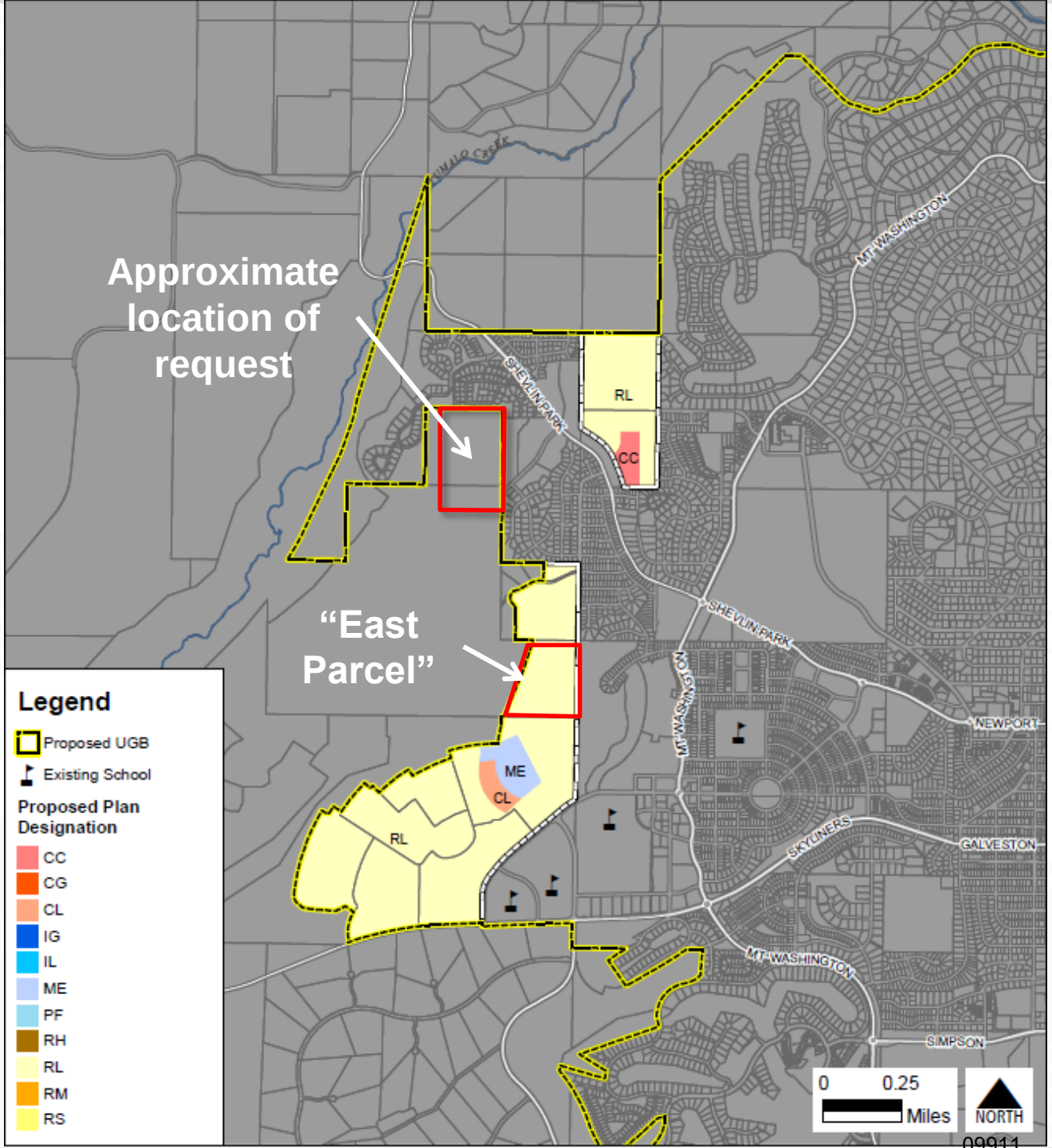


Allocation Choices – Option C

- Neff/Eagle Rectangle
  - mix of plan designations
- Uses all of the need from elsewhere
- This option does not include land in Options A or B

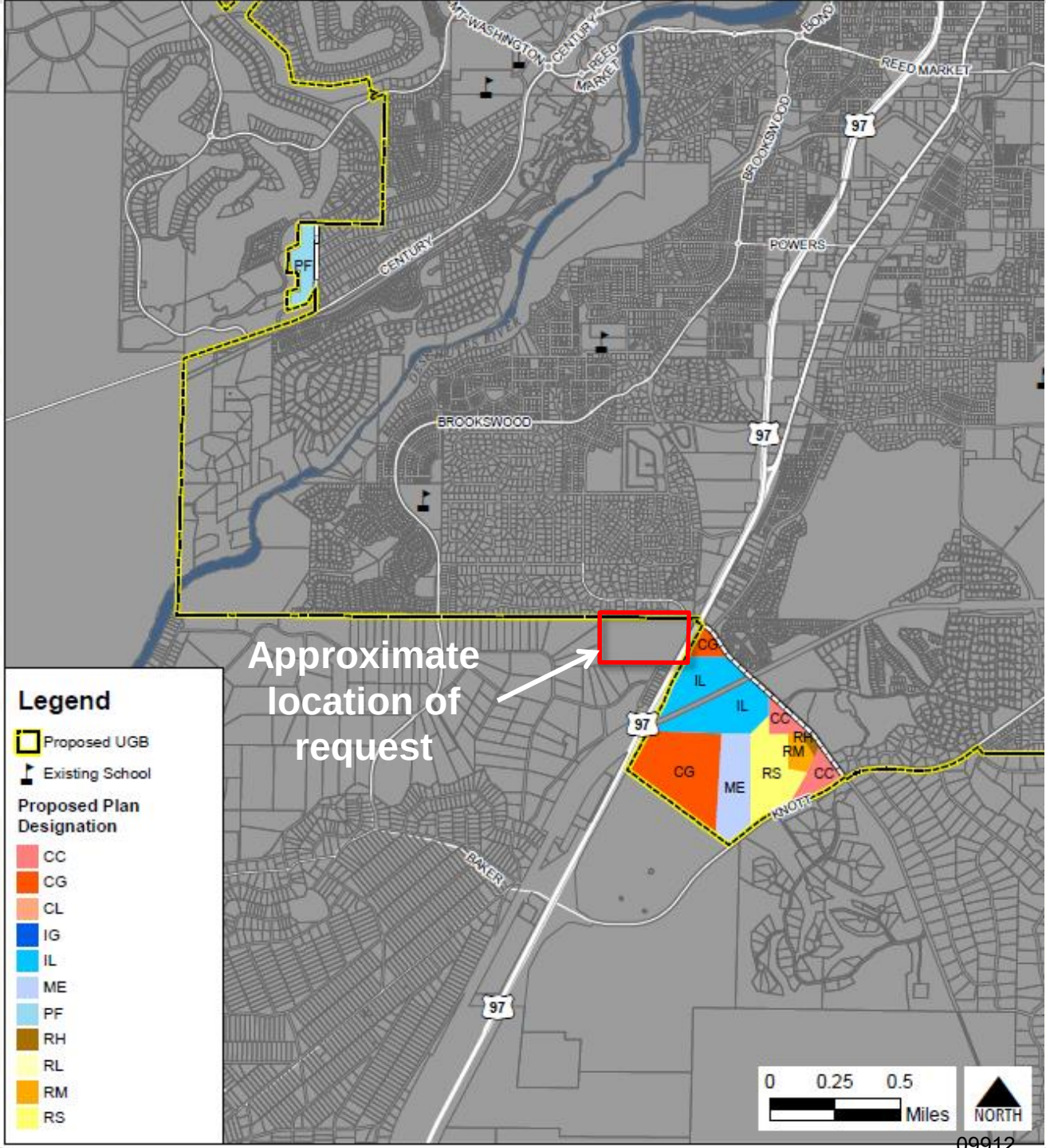
Day Property

- West area
- 40 acres
- 116 SF units desired
- Additional MF could be shifted to east parcel
- Proposing 20% of MF units on east parcel as affordable housing
- Previously evaluated as part of Scenario 3.1



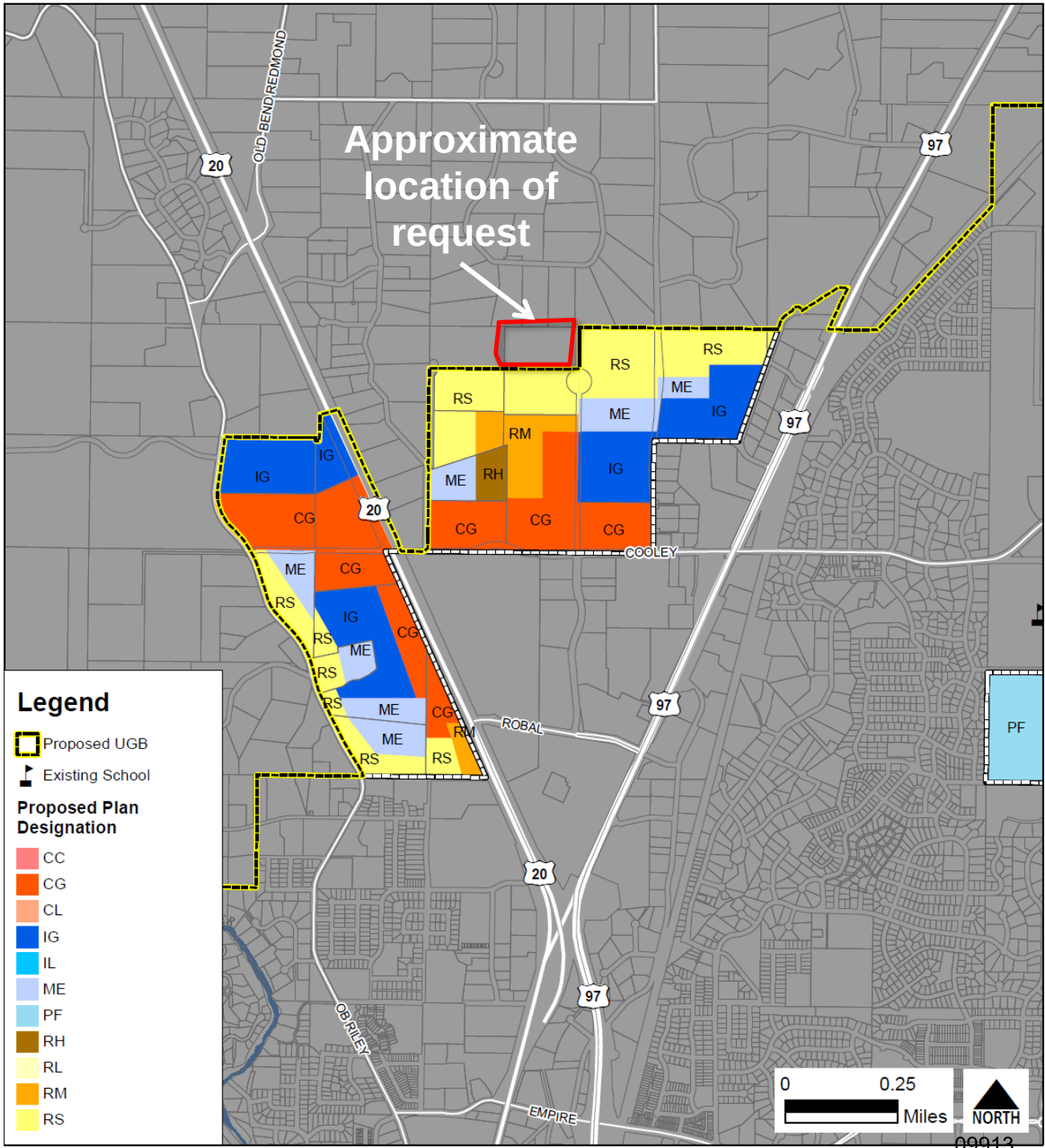
Maverick / Baney Property

- Near Thumb
- 38.7 Acres
- ~8 acres for elementary school site
- ~100 SFD, ~500 MF / SFA
- Offering 25% of MF (125 units) as affordable housing
- Commercial / mixed use area along Hwy 97
- Previously evaluated as part of 2.1



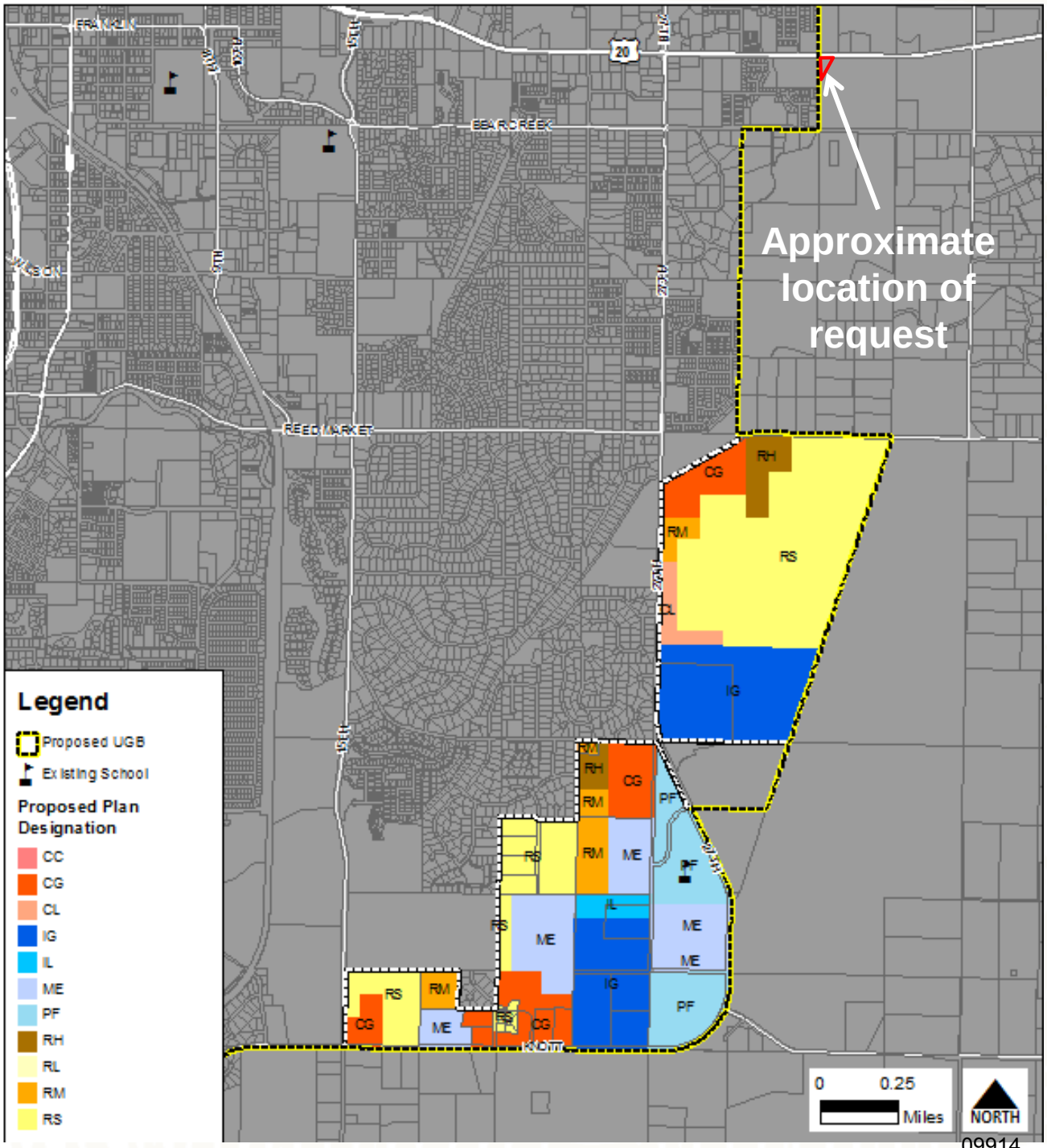
Bell Property

- North Triangle
- 10 Acres
- Requesting RS
- Would result in ~35 additional housing units
- Previously evaluated as part of multiple scenarios



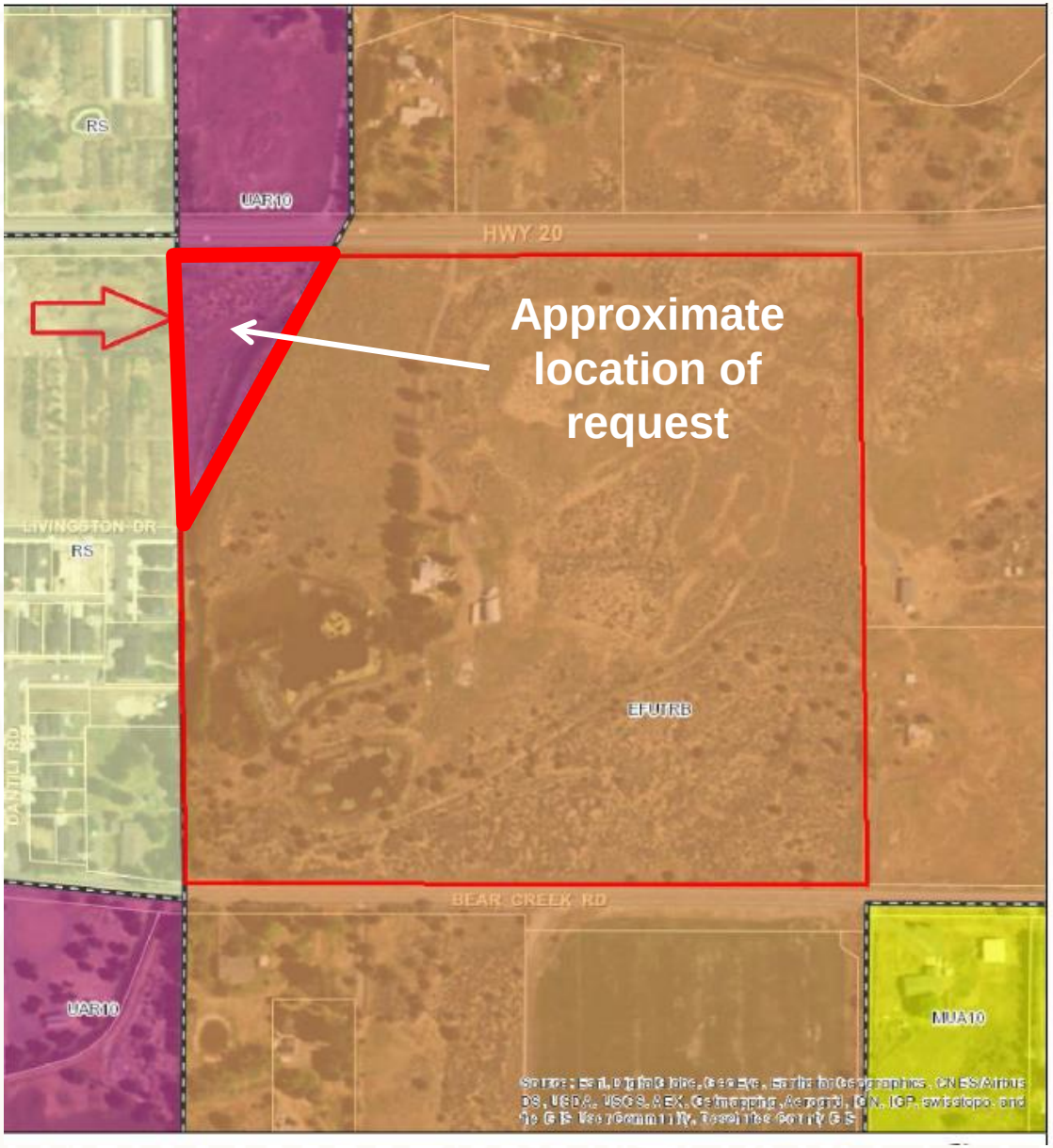
Porter Kelley Burns Property

- Represented by Carl Hopp
- South of Hwy 20 on eastern edge
- 2.5 ac UAR10
- Proposing MF affordable housing
- Not included in Scenario / SAAM analysis



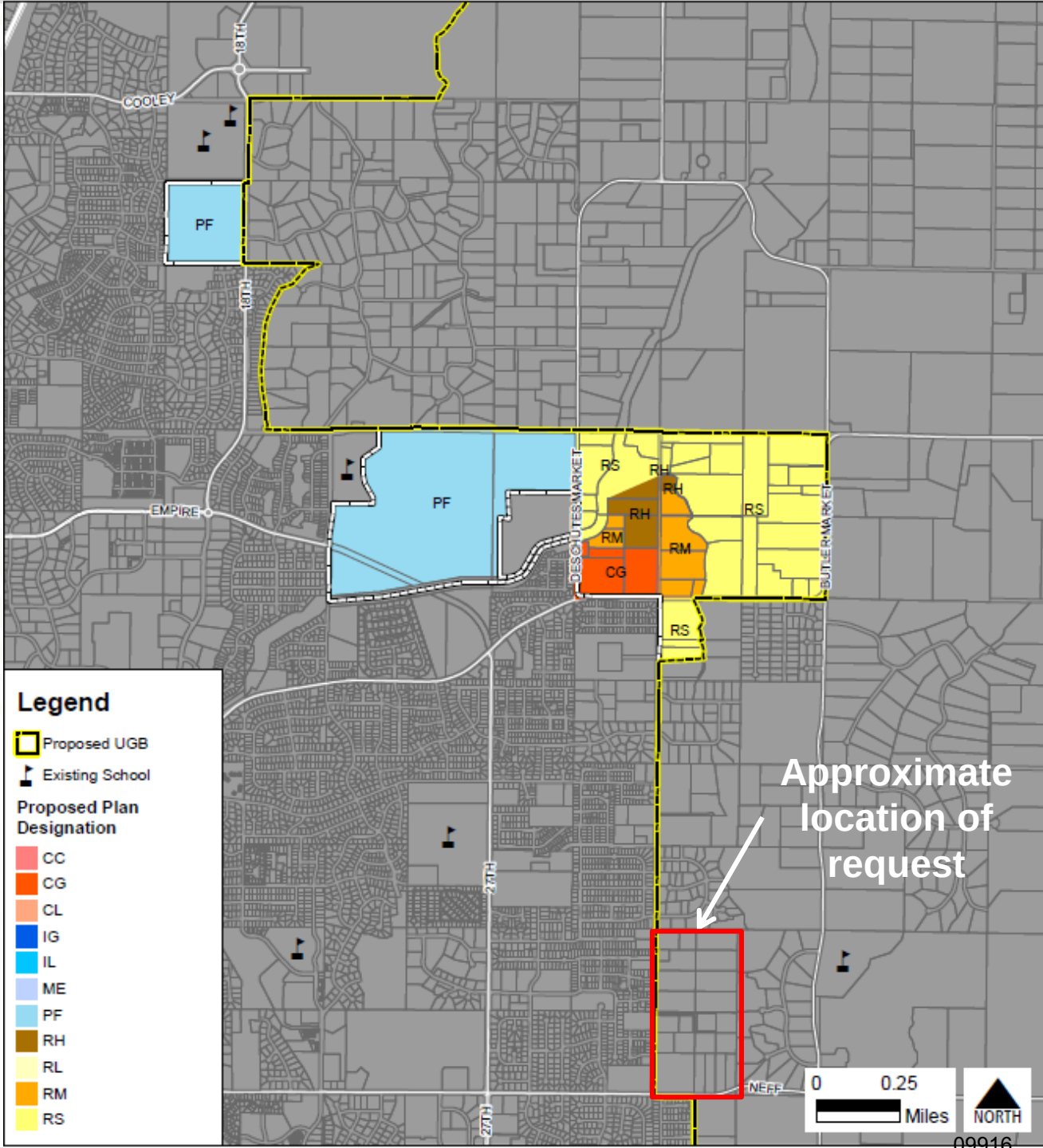
Porter Kelley Burns Property

- Represented by Carl Hopp
- South of Hwy 20 on eastern edge
- 2.5 ac UAR10
- Proposing MF affordable housing
- Not included in Scenario / SAAM analysis



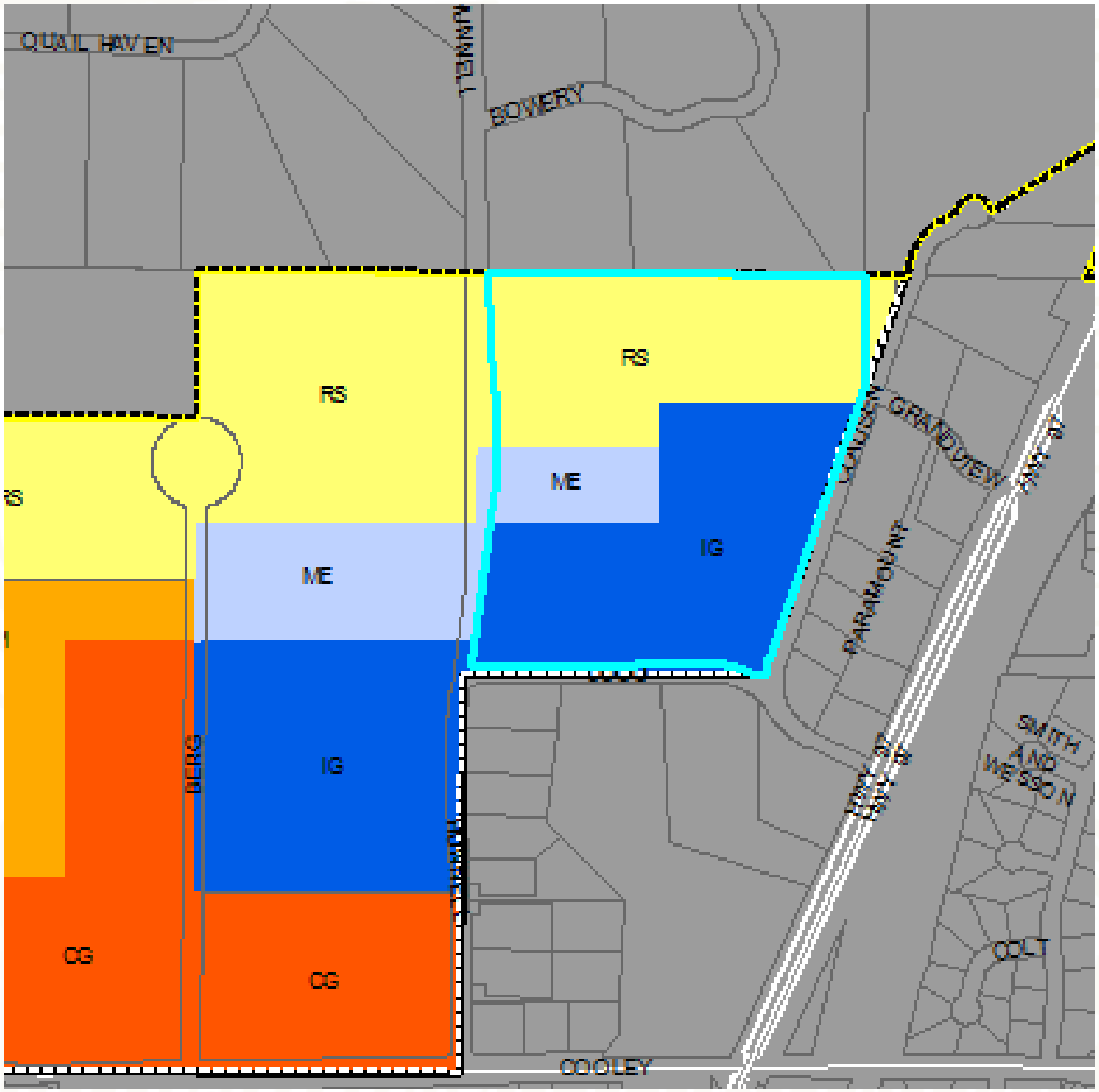
Neff / Eagle Road Rectangle

- Eastern edge – north of Neff Road, east of Eagle Road
- ~78 acres total, ~69 acres buildable
- At RS densities, ~240 units
- Tested in Scenario 1.2 with ~550 units & ~7 ac commercial



Carpenter Property

- North Triangle
- Settlement agreement re: industrial uses on property
- Currently ~16.3 acres IG & 3.3 acres ME
- Requesting swap with CG in OB Riley



Suggested Motions

URBAN GROWTH BOUNDARY REMAND

1. Direct staff to utilize changes in assumptions to Masterplan Requirements and Redevelopment as presented.

Suggested Motions

URBAN GROWTH BOUNDARY REMAND

2. Approve, for purposes of the public hearing proposal, the plan and zone map amendments on packet pages 61 to 73.

Suggested Motions

URBAN GROWTH BOUNDARY REMAND

3. Approve, for purposes of the public hearing proposal, the UGB and plan maps on packet pages 56 to 60, (with the following modifications…)

Suggested Motions

URBAN GROWTH BOUNDARY REMAND

4. Direct staff to obtain voluntary agreements regarding affordable housing prior to UGB adoption hearings, and create enabling policies.

Suggested Motions

URBAN GROWTH BOUNDARY REMAND

5. Approve and direct staff to finalize the draft growth management chapter, inclusive of the amended special site policy and policies regarding affordable housing.

Suggested Motions

URBAN GROWTH BOUNDARY REMAND

6. Approve, and direct staff to finalize, documents listed on page 2 of the agenda and updates to the remaining chapters of the comprehensive plan.

Damian Syrnyk

From: Bill Bernardy <bbernardy@bendbroadband.com>
Sent: Wednesday, April 20, 2016 8:14 PM
To: Victor Chudowsky
Cc: Jim Clinton; Sally Russell; Doug Knight; Barbara Campbell; Nathan Boddie; Casey Roats; CityPlanningCommissionAll; Brian Rankin; Damian Syrnyk
Subject: UGB Public Comments for 4/21/16 USC meeting
Attachments: BNC - USC public comments 042016.pdf; ATT00001.htm; BNC logo contact info.png; ATT00002.htm

Please add the attached comments to the public record on behalf of the Bend Neighborhood Coalition.

We are asking that policies in the housing chapter of the Comprehensive Plan include the idea of minimizing conflicts from "offsite impacts and nuisances" (including noise, vibration, odor, and parking and traffic problems) spilling over from non-residential zones into residential areas. Edits to two specific policy statements are proposed.

The current references to neighborhood livability and residential compatibility are too narrowly defined and should include this concept, which is common in other, more urbanized cities. Such policies aim to avoid conflicts that would otherwise require expensive city resources to manage on an ongoing basis, and that have a negative effect on our quality of life.

Thank you for your attention to this matter,
Bill Bernardy

BendNeighborhoodCoalition@gmail.com | 740 NE 3rd St., Ste 3-210, Bend, OR 97701 | 458-206-6777

UGB Remand Project - Public Comments

April 20, 2016

Victor Chudowsky, Chair
City of Bend UGB Steering Committee

Mr. Chairman:

I am writing on behalf of the Bend Neighborhood Coalition, Inc., an independent non-profit organized by community volunteers concerned with maintaining the quality of life in our residential neighborhoods.

Our research on best practices in more urbanized cities, suggests that Bend can grow and accommodate increased density while remaining livable. Other cities have done this through policies that minimize conflicts that would otherwise require expensive city resources, including police and code enforcement staff, to manage on an ongoing basis.

The policies proposed in the April 2016 (meeting 8) draft of the Comprehensive Plan that you will be discussing at tomorrow's meeting inadvertently build in opportunities for conflicts that would make residential life more stressful and unpleasant. This happens in two ways:

1. Neighborhood Livability is narrowly defined as being able to walk and bike to shops and services (see the figure on page 110, "Vision for Neighborhood Livability in Bend");
2. Residential Compatibility is achieved in areas where non-residential zones abut residential areas only by adjusting the physical attributes of buildings (setbacks, height, etc.) and landscaping (see policy statement 5-21 on page 115).

The Policies in Chapter 5 on Housing are an opportunity to acknowledge that livability and compatibility are also about being able to peaceably enjoy one's home with minimal intrusions and disruptions from adjacent higher-intensity zones. Commercial and mixed use zones not only have buildings in them, they have activities ("uses") that can be incompatible with residential life by creating what planners generally call "offsite impacts and nuisances" — in other words, effects that spill over the border of the residential zone.

Cities that have managed increased urbanization well have done so by establishing buffer or compatibility zones that create a transition from more-intensive to less-intensive uses. In order for Bend to do this, enabling language should be added to the policy statements, so that livability and compatibility are defined more broadly.

In particular, the following policy statements under Residential Compatibility would benefit from adding a reference to the potential for incompatible uses (suggested edits are underlined):

> **5-21** Of necessity, nonresidential uses may abut residentially planned and zoned areas in different parts of the community. In these instances, nonresidential uses will be subjected to special development standards such as setbacks, landscaping, sign regulations, and building design that harmonize and provide transitions consistent with the primary purposes of the adjacent zones*;* additionally, nonresidential uses will be limited where necessary to buffer residential areas from offsite impacts and nuisances, including noise, vibration, odor, and parking and traffic problems.
>
> **5-26** Neighborhood commercial shopping areas may be located within residential districts and have development standards and restrictions on uses that appropriately limit their scale and function and recognize their residential setting.

The Bend Neighborhood Coalition respectfully requests that staff be directed to add language like the suggestions above to allow for the creation of neighborhood compatibility zones and other methods in the code to minimize conflicts from "offsite impacts and nuisances" spilling over from non-residential zones into residential areas, often as a result of incompatible uses.

Having these policies available will allow Bend to successfully manage increased density and large developments, like the new four-year university campus, without the constant expense of enforcement that results when conflicts are allowed to be built in to the fabric of the community.

Sincerely,

Bill Bernardy
Chair, BNC Steering Committee

About the Bend Neighborhood Coalition:

Our members have been active in Bend's civic life, participating in advisory groups, task forces, neighborhood associations, HOAs, and ad hoc committees. We have joined together because we believe that healthy, cohesive, vibrant residential neighborhoods form the backbone of a strong city, and that public policies should preserve and improve upon this great asset.

We also believe that livable residential neighborhoods encourage small businesses to locate here, creating a more diverse and sustainable economy. People are happier, more productive, and more civil when they are able to enjoy peace and quiet at home, safe streets, and the residential character of their neighborhoods. So, we embrace both smart growth and policies that protect and improve the quality of life for residents.

Received
4/21/16
UGB Remand
Record,

Planning Commissioner Bill Wagner's proposed text changes

Growth Management Draft of April 13, 2016, page 41: Policies for Special Site Needs: 11-18

My concern is that the proposed language can be read to indicate the City has formally endorsed the site picked by Oregon State University for its campus. My proposed language simply says that the City wants a site and OSU, at its on initiative, is developing a campus that may meet the City's intent. This language would also satisfy the County's concern with the proposed language.

Current language with proposed new language in RED and proposed language to delete in ~~strikeout~~.

11-18 The City has identified a need for a special site for a university as part of the Urban Growth Boundary Process. At this time, Oregon State University is finalizing plans for a Bend campus. If OSU's plans are accepted by the City, their campus will meet this identified need. The campus site current being developed is ~~This need will be met~~ on the land ~~currently owned by Oregon State University~~ between Century Drive, Mt. Washington Drive and Simpson Avenue (see Figure 11-3). Further expansions of the university on the adjacent ~~County-owned~~ property ~~and property~~ is also being considered. ~~However, property not currently owned by Oregon State University is not subject to restrictions on future uses.~~

My proposed new language:

11-18 The City has identified a need for a special site for a university as part of the Urban Growth Boundary Process. At this time, Oregon State University is finalizing plans for a Bend campus. If OSU's plans are accepted by the City, their campus will meet this identified need. The campus site current being developed is between Century Drive, Mt. Washington Drive and Simpson Avenue (see Figure 11-3). Further expansions of the university on the adjacent property is also being considered.

Received
4/21/16
UGB Remand
Record

Growth Management Draft of April 13, 2016, page 80: Development Code Proposed changes

My concern is that it is proposed to have parking standards reduced as a part of this UGB process (see below). This proposal was presented by the Residential TAC and certainly would further some of that TACs objectives. However, the changes have impacts beyond those considered by the TAC and would be better addressed in the City's current Comprehensive Parking Study.

Revisions to Parking Standards

Current Growth Management text wording:

Targeted revisions to parking standards are proposed as part of the UGB adoption package, including:

- Reductions to parking requirements for residential and commercial uses in the MU zone, similar to those in the CBD (1 space per housing unit; 1 space per 500 square feet of commercial);
- Automatic 5% reduction to minimum parking requirements for mixed use development;
- 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; and

- 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.

Proposed wording:

Comprehensive revisions to parking standards will be considered through the Parking Study currently being conducted by the City. The following recommendations have been made by the UGB Residential TAC and should be considered as part of the Parking Study effort:

(list the recommendations made by the TAC, listed above)

OXFORD
Hotel Group

April 20, 2016

Dear Urban Growth Boundary Steering Committee Members and Staff:

Both Robin and I plan to attend your meeting tomorrow and wish to review the advantages of adding back our property to the current UGB expansion map.

Key Facts: Our site is 38.73 acres, contains a **donated school site, gravity sewer, and a commitment to develop 25% of the residential units as affordable workforce housing** – all within a new neighborhood that **meets the "growth strategies" advocated by the City.**

We commit to provide 25% of the residential units for affordable workforce housing for those citizens making $15.00 per hour or more, with incomes in the range of $16,000-$22,000 per year. This is close to 30% Area Median Income – *a significant need in Bend.* The mix of housing proposed for the site fully addresses Goal 10 by providing a range of needed housing choices. The mixed-use area will also provide commercial services and opportunities for live-work areas. The affordable housing units will be designed into the neighborhood to provide a seamless and quality living environment with open space, trails, and parks. The school and a residential buffer area will blend the new uses with the existing neighborhood to the north while the open space/park will help buffer to the south.

We propose the following policy to solidify our commitment to affordable workforce housing.

*" The master plan for the Baney property described as T18R12S19A, TL 100 19888 Rocking Horse Road, shall incorporate 25% of the residential units as **affordable housing** serving citizens earning 30% of the Area Median Income or AMI."*

Our master plan tested well in Version 2.1. We also provided data from our engineer showing there was sewer capacity, and similar to other UGB candidate properties if upsizing is needed it will be provided by us as part of our development. Transportation connection points abut the site and connect to a grid street system that allows flow in multiple directions. Our VMT is similar to the "Thumb" and other candidate properties. The irrigation lateral that flows through the site will be piped by us, like other developable properties.

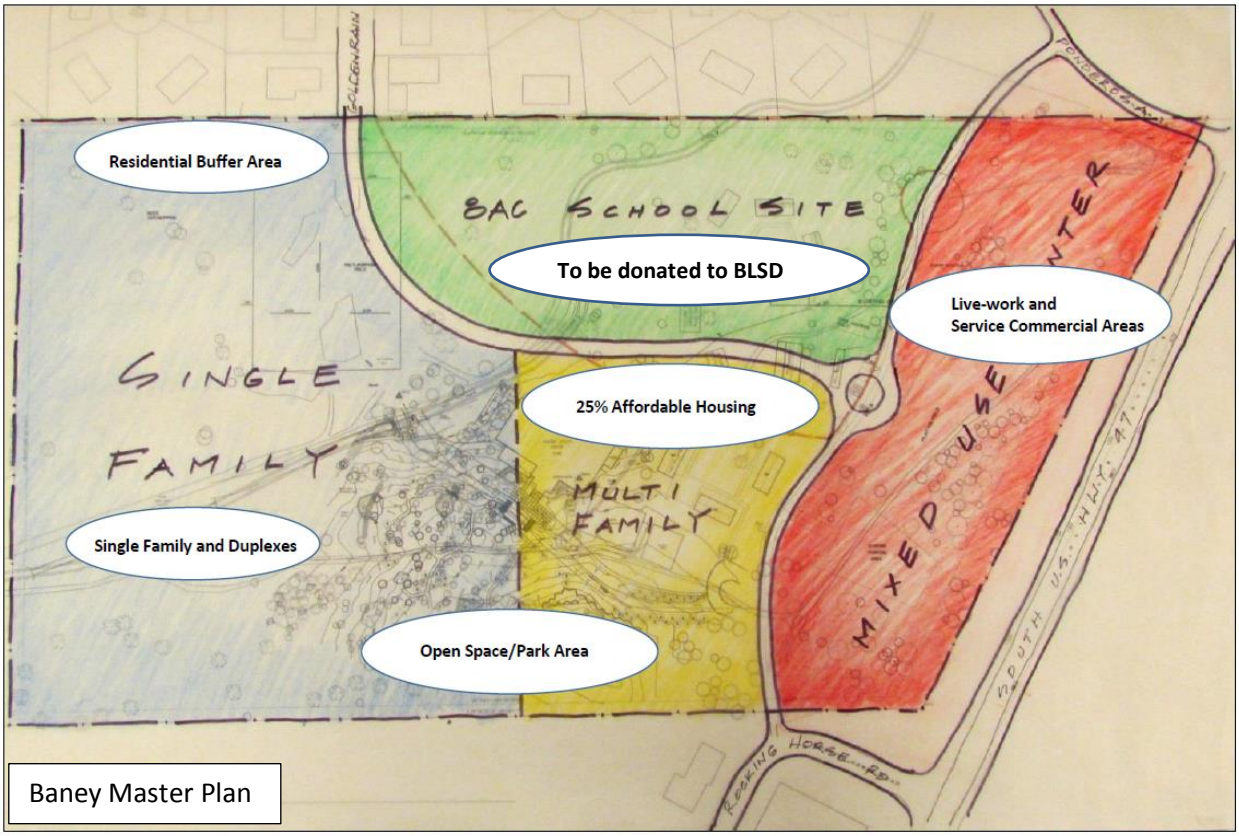
We respectfully ask that you reconsider our site given that:

1. The proposed removal of the property removes **the only parcel south of the UGB and west of Highway 97 even though the property tested well in version 2.1**

2. **Needed affordable workforce housing can be supplied on our property. This will be designed into the new neighborhood and will blend and mix throughout the site. This is a key attribute.**

3. **A new 8-acre school site** is proposed to be dedicated – a key feature for a new neighborhood. BLSD staff toured the site and found it desirable.

4. Our property, when developed, will extend **needed gravity sewer improvements to the existing City residents that have access to only septic.** With development of the site, sewer main improvements will occur and provide the backbone of needed system improvements. This data is in the record as submitted by our engineer, Tim Weishaupt, PE. Keep in mind that the "Thumb" and many other candidate properties will need some sort of extension to sewer – the Baney property is no different.

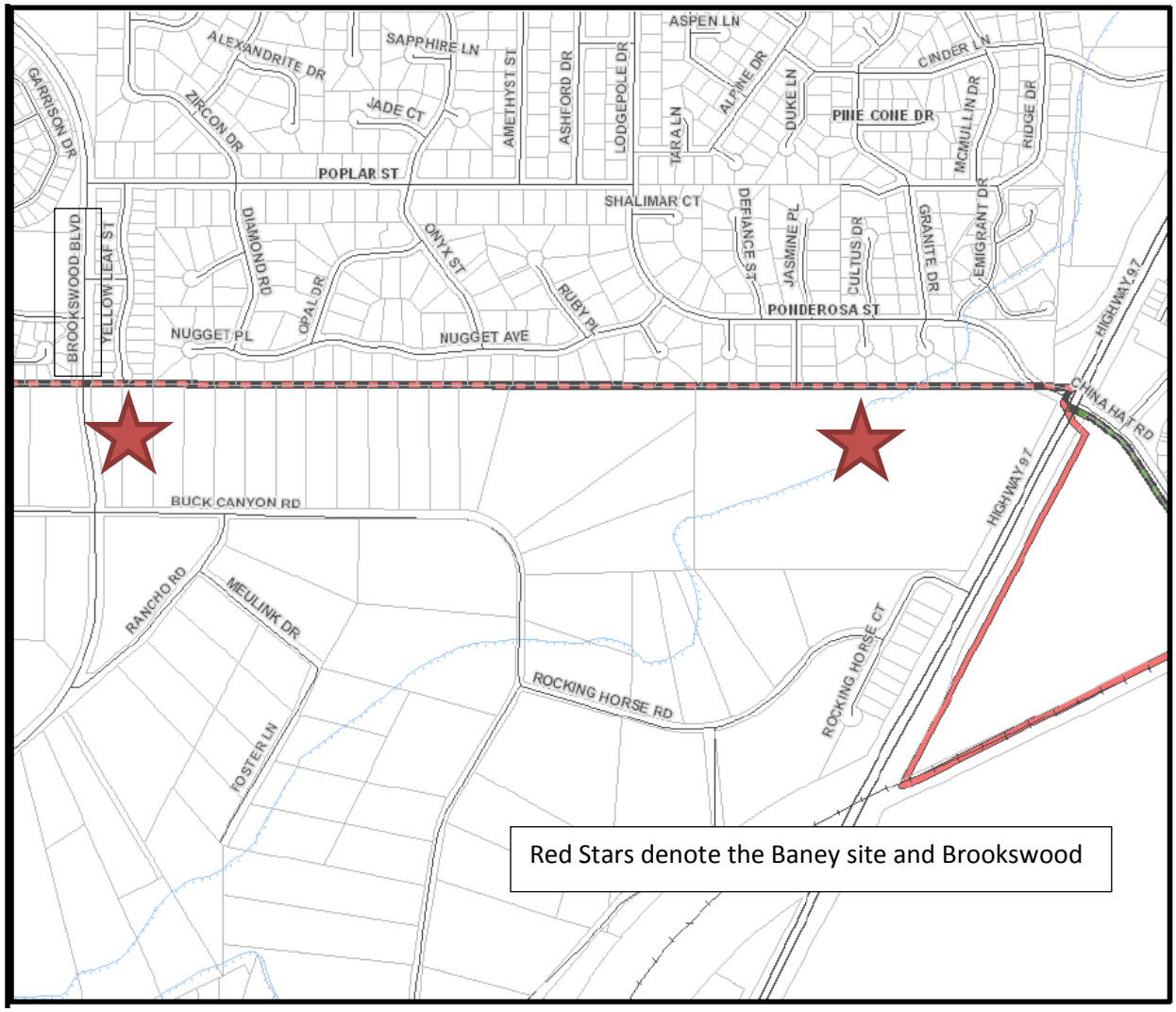


The above base map is what we submitted early and throughout in the UGB process. Notes have been added to address density blending areas, open space, and 25 % affordable workforce housing.

5. **The UGB sub-committee <u>did not</u> recommend removal** of our property and so we ask that that this is taken into consideration given that our site is so similar to the "Thumb" and other candidate areas.

6. Inclusion will help establish a neighborhood with services, schools, mix of housing and, most importantly affordable workforce housing.

The property should be included in the UGB expansion because the site can easily contribute to the community. **<u>We are longtime residents and familiar with all aspects of development.</u>** The history of the site as a former school, proximity to services, stubbed streets and access, in addition to the master plan, including a variety of housing types and services proposed, make our parcel a suitable candidate for inclusion.



The transportation system will connect to local streets as shown above. The street map shows how easy it is to get to Brookswood. This site does not soley rely on HWY 97, which is right in - right out today. This new master planned neighborhood will connect with existing local streets as shown.

Our family has been invested in the community for many years, has extensive development experience, and involved in the UGB expansion process since its inception. We look forward to speaking with you.

Sincerely,

Curt Baney, President
Baney Corporation
Tel.: 541-382-2188 Email: curtb@oxfordsuites.com

James Lewis, Deschutes Co.
4/21/16

Received
4/21/16

Suggested Policy 11-18:

11-18 The City has identified a need for a special site for a university. This need will be met on land currently owned by Oregon State University between Century Drive and Mt. Washington Drive (see Figure 11-3). Further expansion of the university to the north, on the adjacent Deschutes County- owned property lying south of Simpson Avenue, and other property within this general area, are consistent with meeting this need, but it is not the intent of this policy that such lands be reserved solely for university uses.

Bend UGB Steering Committee
C/O City of Bend Growth Management Department
710 NW Wall Street
Bend, Oregon 97703

April 20, 2016

Dear Steering Committee Members

The River West Neighborhood Association (RWNA) has become acutely aware of the concerns and needs of the owners and residents of our over 570 members representing over 4000 tax lots within our association boundary. Our board and other association members participate and regularly engage in citizen task forces, such as the STR task force, the OSU-C LRDP advisory group, and now the parking study. In February our board member Terry Reynolds, gave an "annual report" update to City council and in it, she reiterated the RWNA mission as stated in the bylaws: ***To maintain, protect and enhance the livability and sense of community of the neighborhood***.

With that in mind, please accept the following comments and place them in the public record. These comments are specifically aimed at the areas within Opportunity Area 4 / Central Westside Plan study area that are being considered for rezoning as part of the related UGB and CWP processes.

Due to our location of RWNA, in the heart of the central core of the City, we are finding our neighborhoods in the middle of change – much of it welcomed, but some of it becoming increasingly frustrating to many. As the City urbanizes and state rules require looking at areas and tools to increase density, a new set of impacts are being created that the neighborhoods and city are just beginning to understand.

Through past and recent work on the noise ordinance and special events permitting processes, and the lessons learned on relatively recent rezones of Industrial lands to Mixed Uses in our area, we have learned that it is the actual permitted uses within the Bend Code, the lack of consistent enforcement and the permitting of impactful exceptions, together, which can often undermine the very livability concepts folks talk about.

When planning tools are not well defined, or the policies or codes are vague, we have also found the cost of ongoing enforcement to try and regain balance, can be high -- especially when using expensive police resources to enforce various livability related ordinances in a city with limited general funds. RWNA suggests that good planning – and the goals, policies and codes working together, can be the preventive medicine we need to protect the neighborhoods we live in and love, from ongoing conflict.

We do not believe the UGB effort to date has given these concepts around livability and neighborhood protection the prominence they deserve – and frankly they are necessary to balance the pressure from development.

One of the details on livability is to encourage less intense/more compatible patterns of development as buffers between the more intense uses, and the established residential neighborhoods. These "modified use buffer zones" can serve to protect the peace and quiet our homes and neighborhoods provide to our members. As one citizen put it, we should be able to *choose* to travel to the noise and vitality, not the other way around! This is much more than regulation of building height and landscape requirements.

We respectfully ask the steering committee direct the project team to include *clear and objective standards* that will promote pro-active compatibility and encourage the right businesses and their and their associated uses, to be located in areas that reduce or prevent ongoing conflict. We should be able to encourage and promote built in compatibility!

Thank you for the opportunity to comment and for all the incredible work and public engagement to date. Our board members stand ready to participate in any special task forces, area planning teams or even better, to be a part of a newly created livability oversight review team whose job it could be, to ensure we build in true compatibility planning tools, as we continue to grow and thrive.

Sincerely

River West Neighborhood Association Board

Below are some specific comments, edits and suggestions around livability and compatibility to consider as staff finalizes the work represented in its current draft form. The RWNA board would be willing to meet with the team to discuss these in more detail.

Opportunity Area Recommendations (page 26 of 87 in main packet)
The Central Westside plan and UGB processing of opportunity area 4, appear to be a bit out of sync – but as we understand transportation planning was the key driver of the CWP, we understand the nuance, but attempting to track and participate effectively has been challenging. It seems to us that we need to be able to connect this work and recommendations within the CWP, before approving goals, policies and changes to the Bend Code as they are interdependent.

That said, the footnote #5 from the table on page 26, appears to be recommending the new mixed use zones of MU and MN within opportunity area #4. We would suggest taking a closer look at possibly using the less intense uses found within the *MN zone*, as it is perhaps the new zone designation most suitable for becoming a buffer area between the new zones and existing residential neighborhoods – as best represented by the red dotted "neighborhood compatibility lines" in the CWP preferred scenario map.

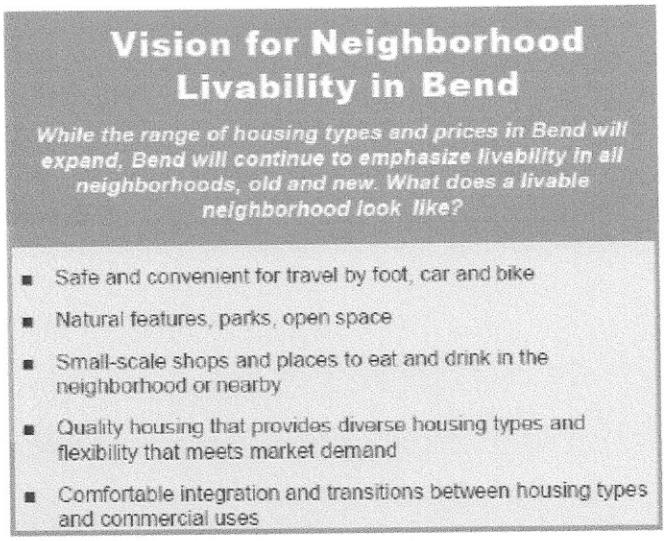
Use of Area Plans

The RWNA would like to support this concept (as explained on page 19-of 87 in the main meeting packet) and might support the use of an area plan be developed for all or parts of Opportunity Area 4 / Central Westside plan areas, especially as they become more refined for the needs around Newport, Galveston and Commerce areas as rezoning proposals move forward. Clearly OSU will need to use the master-planning concept.

Framework Level Planning

This too appears to be a good tool, when done well, which can help balance the competing interests and needs between zones. It would be great to add some reference to compatibility to this concept around the need for buffering between zones as discussed throughout this letter.

Chapter 5 – Housing (Starting on page 110 of 509 in Meeting 8 Packet)



Please consider adding a bullet to this "Vision Box" table that includes a statement about encouraging business uses that would develop minimal impacts or conflict with existing neighborhoods. The last bullet in the box using the term "comfortable integration" needs some substance and definition.

We like the word "buffers", and we mean buffer beyond landscape and height transition buffers.

- Allowed "use" buffers – encourage less intense uses between zones to minimize conflicts and manage expectation from the start!
- Acoustic buffers (shielding from noise from "incidental" uses that currently are poorly defined in code and provide poor guidance to business and less certainty for neighbors, and in practice these currently considered "incidental uses" are not well suited to be adjacent to homes and neighborhoods, examples being loud outdoor decks, beer gardens and other uses that use amplified music as part of regular business practices, and are hard to regulate, enforce or mitigate – these uses should be encouraged to be further away from homes and acoustically shielded whenever possible). Also recall there is no enforceable standard in place for bass – the noise ordinance does NOT currently provide a practical, or consistent solution for this problem. In addition, shielding and better buffering from the impacts of

related support services to businesses (trash, recycling and deliveries) should be more fully considered within the planning codes too.

- Parking buffers - Transitional parking or creation of parking districts
- Traffic buffers – designed traffic patterns that reduce or eliminate cut through traffic out of neighborhoods.

GOALS (Page 112 of 509 in current packet)

Please consider adding a neighborhood preservation, livability and protection goal statement such as:

- Promote more flexibility in development standards that buffer and protect homes and established residential zones from impacts, such as noise, traffic and parking from adjacent businesses and use patterns, and provide transition zones between the less intense use of residential neighborhoods, and more intense business uses.

POLICIES (starting on page 113 of 509 in current packet)

5-5 Rework this policy to include some compatibility language, buffers or the like, or add a new bullet that better represents some direction and encouragement for transition / buffer areas with less intense uses between zones

5-13 This should be refined. It needs to be very clear where this policy is aimed at. This appears to provide more protection of the commercial or mixed use area, than to the established neighborhoods. These established neighborhoods have been no secret, and incrementally grandfathering in glaringly incompatible uses in commercial or mixed use zones is and will continue to be a problem – only solved by costly ongoing enforcement challenges and lots of wasted time and money.

5-20, 5-21 Please rework these or add new ones that consider noise, traffic and parking impacts beyond landscape buffers or building height step backs... Transitions must also include less intense uses (perhaps less intense Mixed use categories within the buffer zones and deal with the ***location, design AND the operation*** of the business uses in these transition areas to better protect the residential livability factors.

5-34 – be sure that "flexibility" does not become a code word for future loopholes for eliminating good design, proper setbacks and features which protects neighborhoods over the long term from poorly or under-capitalized development projects that have often eliminated the proper buffering in areas where neighbors have been underrepresented or not fully engaged in the development process.

5-38 Consider adding a new bullet that includes protection of neighborhood livability. Perhaps adding some language around the reduction or elimination of cut through traffic. There may be benefit to encouraging increased walking and biking at the expense of auto connectivity when some streets can be blocked from cars to prevent cut through traffic, but allow a bicycle or pedestrian boulevard to be established, as one example.

Chapter 11 – Growth Management (Starting on Page 28 of 87 in the Main Packet – April 13 Draft)

GOALS (page 38 of 87)

Consider adding a new livability / compatibility bullet

- Encourage the city's evolution from small town to livable city, with urban scale development, amenities and services in appropriate locations and encourage the creation of buffers that transition and preserve the peace and quiet of the existing neighborhood zones, with more intense uses in other more commercial zones using a variety of flexible methods.

There may be a need for multiple goals around these important concepts.

POLICIES

11-2 / 11-3 Clearly a need to add protection for existing neighborhoods.

Example... Encourage development patterns that prevent long term conflicts over uses

11-6 Corridors that abut residential areas should encourage development that is compatible and through the use of flexible code provisions, promote the protection of neighborhoods from impacts of noise, traffic and parking

11-7 Include neighborhood protections here as well – and within the area plan descriptions

11-10 This would be a wonderful policy to enhance with livability / compatibility statements

General Area Planning Policies (Page 43 of 87)
This section may also be a great place to add livability policies that give clear direction

Master Planning Policies

11-31? Again, a good place to add language that protects and preserves neighborhoods and promotes buffering.

Darcy Todd

From: Damian Syrnyk
Sent: Monday, April 25, 2016 8:49 AM
To: Darcy Todd
Cc: Cassie Walling
Subject: FW: Riverwest neighborhood association comments on UGB

Please include Councilor Russell's email in the UGB remand record. Thanks, Damian

---

From: Sally Russell
Sent: Thursday, April 21, 2016 10:13 PM
To: Cassie Giddings <cassieg@bendtel.net>; Brian Rankin <brankin@bendoregon.gov>; Damian Syrnyk <dsyrnyk@bendoregon.gov>; Anne Aurand <aaurand@bendoregon.gov>; Jim Clinton <jclinton@bendoregon.gov>; Victor Chudowsky <vchudowsky@bendoregon.gov>; Doug Knight <dknight@bendoregon.gov>; Nathan Boddie <nboddie@bendoregon.gov>; Casey Roats <croats@bendoregon.gov>; bcambell@bendoregon.gov; Bill Wagner <bwagner@bendoregon.gov>; Rex Wolf <rwolf@bendoregon.gov>; tony.debone@deschutes.org
Cc: Eric King <eking@bendoregon.gov>
Subject: Re: Riverwest neighborhood association comments on UGB

Cassie,
Thanks so much for your thoughtful and careful comments.

I wish I had had time to study this before the meeting started! This level of work is sensitive and complicated. Also, it's important to be sure whatever we do at the Comprehensive Plan level is appropriate for the entire City, and in many different types of neighborhoods and applications.

Including language in the Comprehensive Plan that sets the stage for the "livability" you asked for is absolutely a goal of mine. Some of this will also fit perfectly into the rest of the work the City and Community are doing on other work being done on the designated Opportunity Areas. Everything we do at the Comprehensive Plan level must take into consideration all the other new, existing and changing areas in Bend. Unless we specify a certain area.

At the meeting today we were also asked by the the Bend Livability Coalition to consider language for the Comprehensive Plan. I asked that we as a Council consider it carefully in the near future. We agreed with one vote shy of unanimous.

There were too many possibilities to have bad, unintended consequences obliterating the positive effects as was intended. Even as we as a Council worked on the Troy Field issue, I realized how a poorly written phrase in the Comprehensive Plan can create a very different and most likely unintended outcome. Don't want that for sure!

As is clear in your letter, you are very concerned with the impact on existing neighborhoods. The language as suggested would have effected all kinds of neighborhoods. It could also have created longer distances to small commercial centers (bakers, coffee shops, restaurants, small stores) that serve people living immediately in the area. For many people, they want to be closer to services, not further away.

Bottom line: Let's be thoughtful and get it right.

Hopefully we can all work together to be clear what we are trying to accomplish, exactly where we want it accomplished, before moving forward.

Respectfully,
Sally

From: Cassie Giddings <cassieg@bendtel.net>
Date: Thursday, April 21, 2016 at 1:00 PM
To: Brian Rankin <brankin@bendoregon.gov>, Damian Syrnyk <dsyrnyk@bendoregon.gov>, Anne Aurand <aaurand@bendoregon.gov>, Jim Clinton <jclinton@bendoregon.gov>, Victor Chudowsky <vchudowsky@bendoregon.gov>, Doug Knight <dknight@bendoregon.gov>, Sally Russell <srussell@bendoregon.gov>, Nathan Boddie <nboddie@bendoregon.gov>, Casey Roats <croats@bendoregon.gov>, "bcambell@bendoregon.gov" <bcambell@bendoregon.gov>, Bill Wagner <bwagner@bendoregon.gov>, Rex Wolf <rwolf@bendoregon.gov>, "tony.debone@deschutes.org" <tony.debone@deschutes.org>
Subject: Riverwest neighborhood association comments on UGB

Sending on behalf of Riverwest. Neighborhood association board!

URBAN GROWTH BOUNDARY REMAND

BEND

Sign in Sheet

Meeting: ~~UEB~~ UGB Boundary Steering Committee

Date: April 21, 2016

Location:

Name	Organization	Email Address
Ken Schofield	Bend Neighborhood Coalition	
Curt + Robin Baney	Baney —	
Mc Mahon	Baney —	dltss55@yahoo
Tammy Lamb	GTAC	
ROBERT LAMB	GTAC	
Ethan Caulk	OSU	
Gaelen Deleone	OSU	
JAMES DOROFI	OFDNA	
Christen Brown	Knott RD	
Carl W. Hoff, Jr.	PacWest	bill@cwhoff.com
JAMES LEWIS	DES. Co	
Myles Conway	Martenlaw	mconway@martenlaw.com
Kendall Bramrige	owner	
Katelyn Pay	COBA	
PAUL DEWEY	COL	
Dale VanValkenburg	Brooks/BoundaryTAC	
John Russell	State Lands	

URBAN GROWTH BOUNDARY REMAND

Sign in Sheet

Meeting: _____

Date: _____

Location: _____

Name	Organization	Email Address
JOHN SWANSON	STATE LANDS	
Tami MacLeod	Coats Family	tmacleod@schwabe.com
ANN MARIE COLUCCI	COLM COMMERCIAL	ANNMARIE@BENDPATRICK.COM
Gary Vodden		randall.ann@gmail.com
Seth Edelman	DLCD	
Jill CARPENTER		
Steve Hultberg	RWPA	shultberg@radwhite.com
Ron Booze		ron.boozell@gmail.com
W Peterson	citizen	wendy.66@icloud.com
Liz Dickson	Hurley RE PC	eadickson@hurley-re.pc
Tim Elliott	Elliott Rigelsky, et al	tim@eaattorney.com
Jacqueline Newbold		
Wayne Purcell		wayne@riveredgegolf.com
Holly Wenzel	Crook County Health Dept	hwenzel@h.co.crook.or.us
Lan Brinck		
Sandy & Jacob Schumacher	Schumacher Const.	jacobgschumacher@gmail
Dana Bunkofe	RORHOA	dana@barkergroup.com

09941

Received
4/21/16

SCHWABE, WILLIAMSON & WYATT®
ATTORNEYS AT LAW

360 SW Bond Street, Suite 500, Bend, OR 97702 | Phone 541.749.4044 | Fax 541.330.1153 | www.schwabe.com

TIA M. LEWIS
Direct Line: 541-749-4048
E-Mail: tlewis@schwabe.com

April 21, 2016

BY HAND DELIVERY

Urban Growth Boundary Steering Committee
Deschutes Services Building
1300 NW Wall Street
Bend, OR 97701

Re: Coats Properties / Shevlin Area
Our File No.: 125457-188345

Dear Steering Committee:

Enclosed herewith for submission are the following:

1. Map of Shevlin Area with requested northern "flag pole" area containing 18 acres to utilize sewer easement. The request for this acreage does not include any additional units and will result in more efficient, economical sewer service for the urbanizing area.

2. Proposed Comprehensive Plan Goals and Policies with additional language shown in red. The proposed Goals and proposed Policies 11-6, and 11-53 through 11-56 address the transect concept for Urban Reserve Areas. The Coats family proposes the additional 80-acre area just north of the "Shevlin Area" and identified as Tax Lots 17-11-23-503 and 17-11-24-700 for future urbanization and is working with the jurisdictional bodies, the community and other westside property owners for the remaining area shown as Transect to be planned in accordance with the Transect policies submitted herewith.

3. Proposed revisions to Policy 11-95 authorizing areas less than 20 acres to be developed without a master plan under certain circumstances and Policy 11-98 requesting a revision to the housing mix are specific to the Shevlin Area. Both requests relate to affordability and unnecessary development costs or results. The master plan requirement for development of any acreage in the Shevlin Area precludes the ability to do small, affordable, low acreage projects which can be readily developed and served within the next few years. Master planning drives up these costs and is not necessary so long as the project is developed within the density parameters for the Shevlin Area. Submission of a concept plan for areas under 20 acres will ensure compliance with the planning objectives and allow the smaller, leaner projects to be built within a shorter time frame.

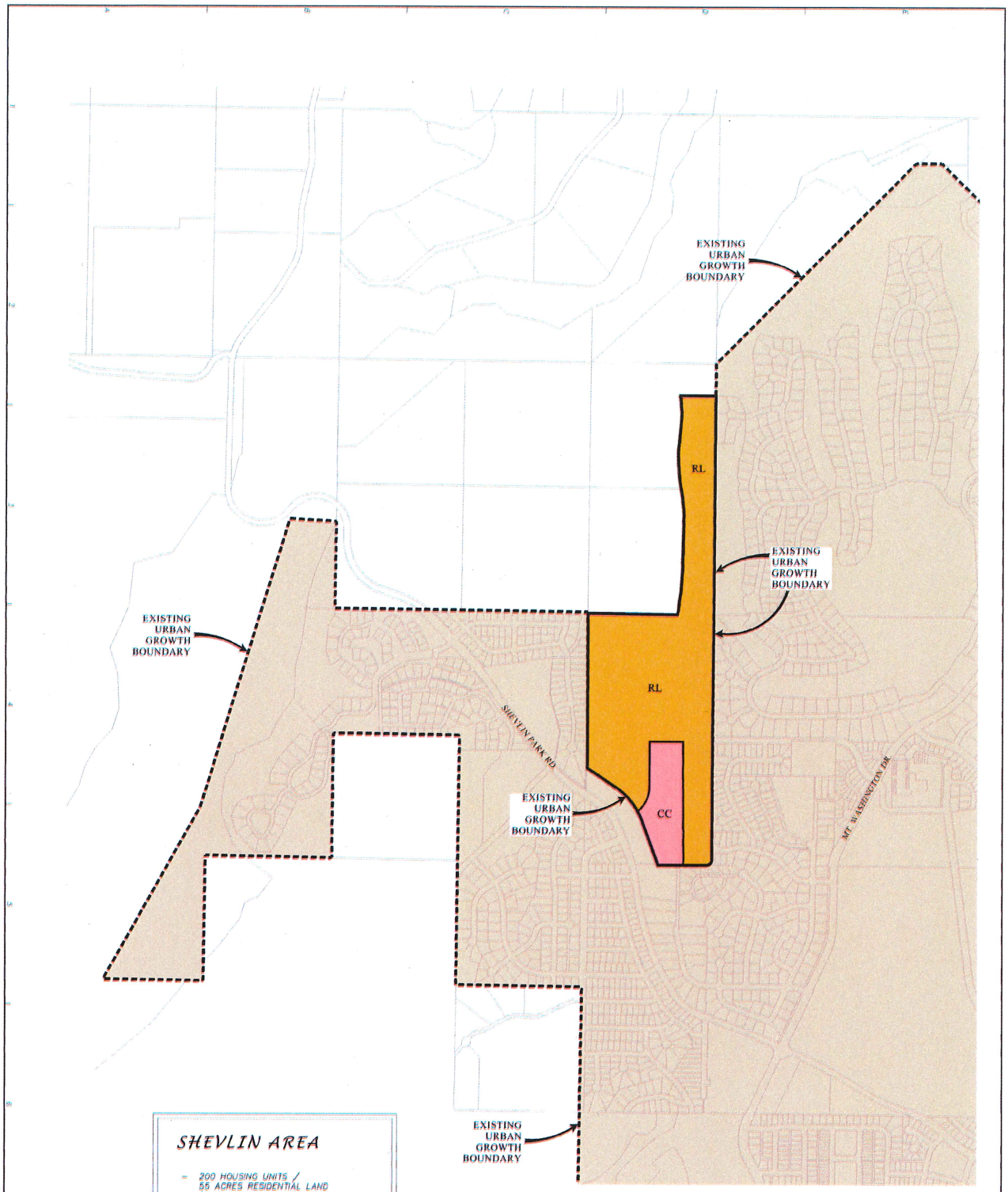
The requested changes to combine the percentage of attached single family, duplex and triplex units to 31% rather than breaking out the 10% as also addresses an affordable housing, financing component. Duplex and triplex units result in rental housing because they cannot be sold as separate units without a condominium form of ownership which is typically cost prohibitive with small unit numbers. Attached single family units serve the same market and housing need but can be individually owned and therefore separately financed to provide affordable housing to first time homebuyers. The flexibility to finance and build attached single family units, including duplex, triplex style, allows the developer to serve the same market with homeownership rather than just rental opportunities. Lastly, the proposed revision to policy 11-96 is to remove the reference to development near Tumalo Creek. The Shevlin Area is a significant distance from the creek and the owner is working on the Transect concepts discussed herein to protect that area. Policies for its protection are more appropriately developed and included with the Transect.

Please consider these requested changes to the UGB map for the Shevlin Area and the Comprehensive Plan goals and policies. Thank you for your consideration.

Sincerely,

Tia M. Lewis

TML:ls
Enclosures



SHEET EX-F

DESIGNED BY: KSD CHECKED BY: KSD
DRAWN BY: CAB APPROVED BY: KSD
LAST EDIT: 4/8/2016 PLOT DATE: 4/6/2016

DATE	BY	REV	REVISION	CK'D	APPR

REGISTERED PROFESSIONAL ENGINEER 6,559 OREGON JULY 30, 1999 KEITH S. DAGOSTINO EXPIRES: 6/30/17

COATS PROPERTIES
SHEVLIN AREA
UGB EXPANSION AREA
DRAFT PLAN DESIGNATIONS

BEND/DESCHUTES OREGON

SCALE: 1" = 500' PROJECT NO. COAT001 DRAWING FILE NAME: COATS BASE

D'Agostino Parker, LLC
CIVIL ENGINEERING / PLANNING / LAND SURVEYING / CONSTRUCTION MANAGEMENT
61275 KING JEROBOAM DRIVE
BEND, OR 97702
P: (541) 693-4184

09944

CITY OF BEND

Chapter 11, Growth Management Goals City Draft, March 25, 2016

Goals: p.11

The following goal statements describe the future urban form and growth aspirations of the community and serve as the foundation for policy statements in this chapter. The citizens and elected officials of Bend wish to:

■ Encourage the city's evolution from small town to livable city, with urban scale development, amenities, and services in appropriate locations, while preserving and enhancing the natural environment and history of the community;

■ Use Bend's existing urban land wisely, making efficient use of land inside the boundary, with infill and redevelopment focused in appropriate areas within the Central Core, along transit corridors, and in key opportunity areas (see Figure 11- 1);

■ Create new walkable, mixed use and complete communities by leveraging and complementing land use patterns inside the existing boundary and using expansion to create more complete communities;

■ Locate jobs in suitable locations, where there is access to transportation corridors, larger parcels, and good visibility for commercial uses;

■ Plan Bend's infrastructure investments for the long term;

■ Meet state requirements for growth management and the UGB while achieving local goals;

■ Lay the groundwork for the future growth of Bend by taking into consideration the context of lands beyond the UGB;

- **Add the following Goals**
  - **Coordinate with Deschutes County on regulating the Urban Reserve Areas located outside the urban growth expansion areas.**
  - **Plan for the future consideration of inclusion in the UGB for lands in the Urban Reserve Area, located outside the urban growth expansion areas.**

■ Utilize best practices (e.g. cluster development, transect planning) in appropriate locations to reinforce the City's urban form, reduce risk of wildfire, and recognize natural features that present "hard edges" for urbanization; and

■ Implement an overall strategy to *"Wisely grow up and out".*

Policies: p. 12

Policies

General Growth Management Policies

(See related policies in Chapter 1, *Plan Management and Citizen Involvement* and Chapter 10, *Natural Forces.*)

11-1 The City will encourage compact development and the integration of land uses within the Urban Growth Boundary to reduce trips, vehicle miles traveled, and facilitate non-automobile travel.

11-2 The City will encourage infill and redevelopment of appropriate areas within Bend's Central Core, Opportunity Areas and transit corridors (shown on Figure 11-1).

11-3 The City will ensure that development of large blocks of vacant land makes efficient use of land, meets the city's housing and employment needs, and enhances the community.

11-4 Streets in the Centers and Corridors, Employment Districts, Neighborhoods, and Opportunity Sites will have the appropriate types of pedestrian, biking, and transit scale amenities to ensure safety, access, and mobility.

11-5 The City will adopt strategies to reduce wildfire hazard on lands 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, to the land included in the UGB and annexed to the City of Bend.

- **Add an additional policy to address lands in the URA**

Proposed Policy 11-6: Review and revise the Joint Management Agreement between the City and Deschutes County regarding those lands in the Urban Reserve Areas and outside the urban growth boundary expansion areas.

General UGB Expansion Policies

The following policies are intended as local policy guidance to evaluating alternative future UGB expansions in the context of meeting state laws and administrative rulesand balancing the factors established in state regulations.

11-50 The City will consider the value of balancing and distributing UGB expansions geographically around the city consistent with State of Oregon laws and rules to distribute the benefits (and impacts) of growth and to provide more options for new neighborhoods.

11-51 The City will utilize new growth in expansion areas as a strategy to help make existing neighborhoods, centers, corridors, and employment districts inside the boundary more "complete" by: diversifying the housing mix; providing local commercial services and jobs; increasing transportation connectivity; and providing needed public facilities such as parks and schools.

11-52 The City will take into consideration the context of land beyond a single UGB expansion to inform the type and intensity of uses that are appropriate in each potential expansion area.

~~**11-53** The City will apply the concept of a "transect" - a series of zones that transition from urban to rural - to reduce the risk of wildfire and provide an appropriate transition from urban uses to national forest lands and other resource areas that will not be urbanized within the long-range future.~~

~~**11-54** The city will consider the relative ability of proposed expansion areas to address the city's affordable housing needs in balancing the social and economic consequences of bringing alternative expansion areas into its urban growth boundary.~~

Revise policies 11-53 and 11-54 and add a new 11-56

11-53 For Urban Reserve Areas located outside and to the west of the urban growth expansion areas and bordering the national forest, the City will coordinate with Deschutes County and apply the following principal concepts:

11-54 Apply the concept of a "transect" - a series of zones that transition from urban to rural - to reduce the risk of wildfire and provide an appropriate transition from urban uses to national forest lands and other resource areas. Transect lands will have housing clustered to the east and contain areas of permanently dedicated open space along the western edge. The open space will be jointly managed to minimize wildfire risk and protect wildlife.

11-55 – Except for the specific areas identified for consideration for future UGB inclusion, maximum density in the area shall be no greater than one unit per 2.5 acres.

11-56 – The provision of City water will be considered where appropriate to protect groundwater resources and promote wildfire risk management.

Specific Expansion Area Policies: p. 22

Shevlin Area:

11-95 Master planning is required for this area unless otherwise noted. The master plan must be consistent with both master plan standards in the development code and policies 11-96 through 11-99 below.

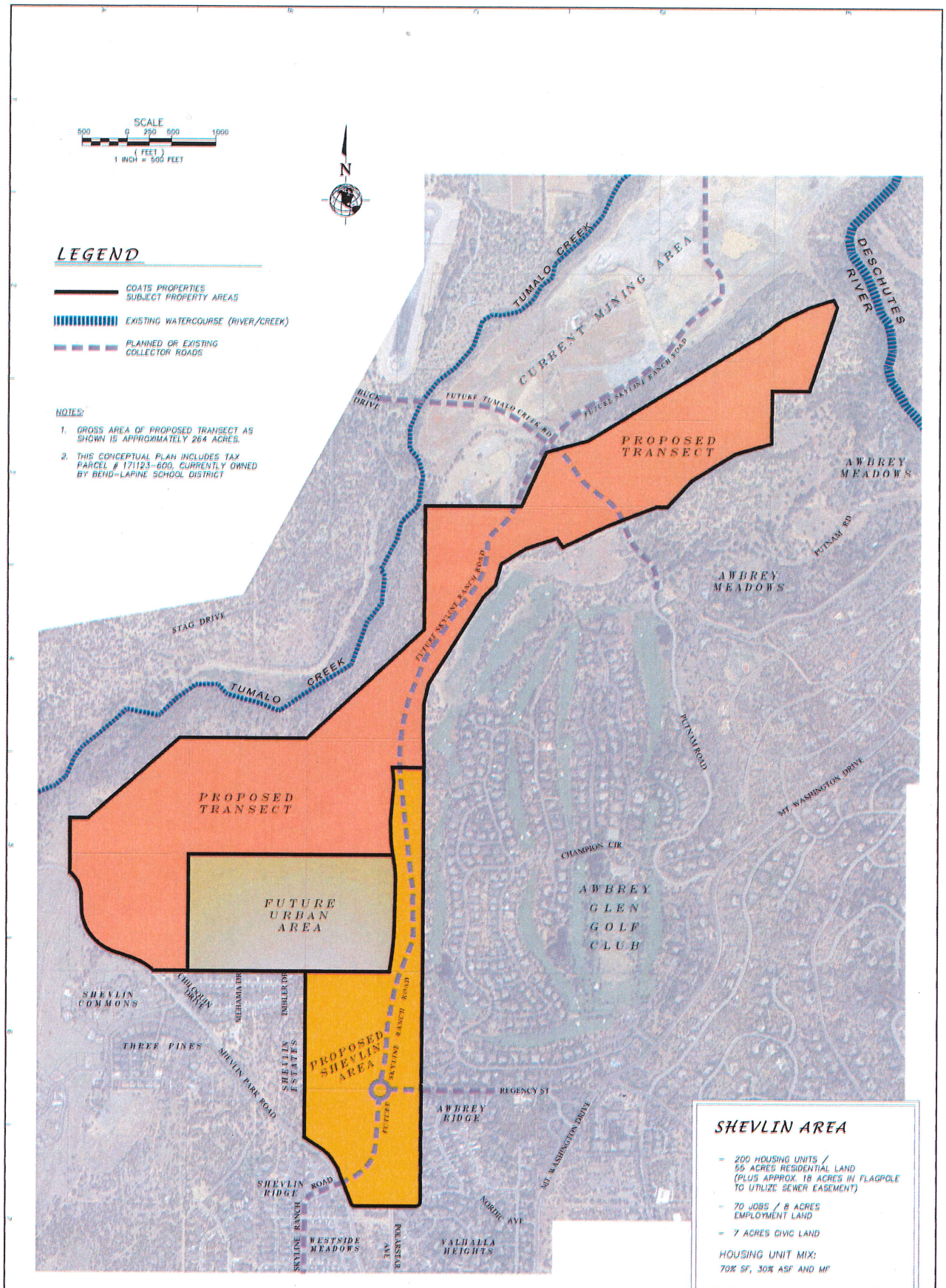
Add Language:
The City will allow areas less than 20 acres to be developed without a master plan subject to the submission of a concept plan or shadow planning demonstrating how the remaining acreage in the Shevlin Area can be developed consistent with policies 11-96 through 11-99 below.

11-96 The concepts for the Shevlin area, shown on Figure 11-4, are to promote efficient land use and neighborhood connectivity by filling in a "notch" in the prior UGB with compatible residential development; and help complete adjacent neighborhoods with small, neighborhood-scale commercial services.~~; and avoid development in sensitive areas nearer to Tumalo Creek.~~

11-97 This area shall provide for a mix of residential and commercial uses, including 60 gross acres of residential plan designations and 8 gross acres of commercial plan designations.

11-98 This area shall provide capacity for 200 housing units, including a 31% mix of ~~at least 10%~~ single family attached housing and ~~at least 21%~~ multifamily and duplex/triplex housing types.

11-99 Coordination with Bend Parks and Recreation district is required in order to address provision of parks and/or trails within this area.



SHEET EX-G

DESIGNED BY: KSD	CHECKED BY: KSD		
DRAWN BY: CAB	APPROVED BY: KSD		
LAST EDIT: 04/19/16	PLOT DATE: 04/19/2016		

DATE	BY	REV#	REVISION	EX. DA APPR

REGISTERED PROFESSIONAL ENGINEER 19558 OREGON JULY 30, 1993 KEVIN B. DAGOSTINO EXPIRES 6/30/17

COATS PROPERTIES

CONCEPTUAL DEVELOPMENT PLAN

SCENARIO 'G'

BEND/DESCHUTES OREGON

SCALE:	PROJECT NO.	DRAWING FILE NAME:
1" = 500'	COAT001	COATS BASE

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