

Darcy Todd

From: Damian Syrnyk
Sent: Friday, March 18, 2016 8:32 AM
To: Cassie Walling
Subject: FW: Crib notes you handed out to the Residential and Employment TACs today
Attachments: ajhousinghandout.doc

[For the UGB record, Thanks, Damian](#)

From: Al Johnson [mailto:alj250@gmail.com]
Sent: Thursday, March 17, 2016 7:44 PM
To: Damian Syrnyk <dsyrnyk@bendoregon.gov>
Subject: Re: Crib notes you handed out to the Residential and Employment TACs today

Here you go, Damian.

On Thu, Mar 17, 2016 at 2:30 PM, Damian Syrnyk <dsyrnyk@bendoregon.gov> wrote:

Hi Al,

Can you please send me a word or pdf version of your Goal 10 crib notes that you handed out to the TACs today?

Thanks, Damian



Damian Syrnyk, AICP | Senior Planner

O: 541-312-4919 |



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recipient (or authorized to receive for the recipient), please advise by return email and delete immediately without reading or forwarding to others. Thank you.

Oregon's Needed Housing Statutes impose strict quality control requirements on both the standards and procedures used by local governments in regulating the location and design of needed housing types.

ORS 197.307(6) provides that

“Any approval standards, special conditions and the procedures for approval adopted by a local government shall be **clear and objective** and shall not have the effect, either in themselves, or cumulatively, of discouraging needed housing through unreasonable cost or delay.”

LCDC's administrative rules interpreting the statewide Housing Goal (Goal 10) say pretty much the same thing:

“Local approval standards, special conditions, and procedures regulating the development of needed housing must be **clear and objective**, and must not have the effect, either of themselves or cumulatively, of discouraging needed housing through unreasonable cost or delay.” OAR 660-008-0015.

A slightly different statement of the requirement appears at ORS 197.307(3)(b):

“A local government shall attach only clear and objective approval standards or special conditions regulating, **in whole or in part**, appearance or aesthetics to an application for development of needed housing or to a permit, as defined in ORS 215.402 or 227. 160, for residential development. The standards shall not be attached in a manner that will deny the application or reduce the proposed housing density provided the proposed density is otherwise allowed in the zone.”

The “in whole or in part” language was added by the 1999 legislature to broaden the scope of the statute.

ORS 227.173(2), also adopted in 1999, strengthens the law by requiring cities to get it right when they adopt or amend their ordinances, and not just when someone comes along and asks for a permit:

“When an ordinance establishing approval standards is required under ORS 197.307 to provide only clear and objective standards, **the standards must be clear and objective on the face of the ordinance.**”

Finally, there is a special burden of proof that the City will have to meet to defend its decision on appeal. ORS 197.831(1) says:

197.831 Appellate review of clear and objective approval standards, conditions and procedures for needed housing. In a proceeding before the Land

Use Board of Appeals or an appellate court that involves an ordinance required to contain clear and objective approval standards, conditions and procedures for needed housing, the local government imposing the provisions of the ordinance shall demonstrate that the approval standards, conditions and procedures are capable of being imposed only in a clear and objective manner.

These statutes operate simply. If the City has not shown that a standard is clear and objective on its face, and that it can only be applied in a clear and objective manner, then the City may not apply it to make the decision. See *Parkview Terrace Dev't Inc. v. City of Grants Pass*, __ Or LUBA __ (No. 2014-024, July 23, 2014) (reversing city denial of apartments because seven standards were discretionary, thus “outside the range of discretion allowed the local government under its comprehensive plan and implementing ordinances[.]”); *Rudell v. City of Bandon*, 62 Or LUBA 279 (LUBA No. 2010-037, November 29, 2010)(city could not apply several standards for a conditional use permit for a single dwelling because they were not clear and objective).

LUBA has explained that

“‘clear and objective’ standards for purposes of the needed housing statutes include numerical and similar clear standards, but do not include standards that require subjective, value-laden analyses designed to balance or mitigate impacts of the development on the property to be developed or the adjoining properties or community.” **Multi/Tech Engineering Services, Inc. v. Josephine County**, 37 Or LUBA 314 (1999).

In its **Rogue Valley** decision, LUBA offered the following “Examples of discretionary criteria that are not to be applied to ‘needed housing’:

- "-be in harmony with the surrounding neighborhood;
- "-preserve and stabilize the value of adjacent properties;
- "-encourage the most appropriate use of the land;
- "-have a minimal adverse impact on the livability, value and appropriate development of abutting properties and the surrounding area compared with the impact of development that is permitted outright;
- "-preserve assets of particular interest to the community;
- "-not be detrimental or injurious to property and improvement in the neighborhood or to the general welfare of the community;
- "-will not unduly impair traffic flow or safety in the neighborhood." St. Helens Housing Policy 4 (Examples of Standards and Conditions).”

Here are some standards that LUBA has found to be clear and objective:

-- Requirement that manufactured home parks be equipped with fire hydrants with a minimum 500 gpm fireflow.

Darcy Todd

From: Damian Syrnyk
Sent: Tuesday, March 15, 2016 10:12 AM
To: Cassie Walling
Subject: FW: Question about density calculations
Attachments: Al Johnson Res TAC materials comments March 14, 2016.pdf

For the record! Thanks, Damian (I'm so excited we got new stuff!!)

From: Al Johnson [mailto:alj250@gmail.com]
Sent: Tuesday, March 15, 2016 9:56 AM
To: Damian Syrnyk <dsyrnyk@bendoregon.gov>; Brian Rankin <brankin@bendoregon.gov>
Cc: Mary Winters <mwinters@bendoregon.gov>; Sid Snyder <sepposid@gmail.com>; Joe Dills <jdills@angeloplanning.com>
Subject: Re: Question about density calculations

Here are my comments on the draft code language.

On Tue, Mar 15, 2016 at 8:18 AM, Al Johnson <alj250@gmail.com> wrote:

Hi, Damian,

(Here's what I tried to send you at 4:59 p.m. yesterday, when the blackout happened. Squirrel fried my homework.)

You asked for questions about the materials by end of work. I'm sorry that I can't get everything to you today. I will get you what I can as soon as I can.

My first questions have to do with the "sensitive lands" provisions of the code, that seem awfully vague and likely to cut pretty deeply into allowed densities on lands inventoried for needed housing.

--Al

Questions about density calculations:

1. Does the term "sensitive lands" at 2.1.600(C)(2) have the same meaning as "sensitive areas"

as defined at 16.05.060?

2. Is the "Site development envelope" as defined at BDC 16.05.060 the denominator for density calculations as prescribed by BDC 2.1.600(C)(2)?

3. Are sensitive areas/lands mapped/defined with sufficient specificity to qualify as "clear and objective standards" which will not, "have the effect, either of themselves or cumulatively, of discouraging needed housing through unreasonable cost or delay"? See ORS 197.307(6), and excerpts from LUBA decision on Eugene Land Use Code Update, below.

BDC 2.1.600(C)(2): "Minimum housing densities are calculated by multiplying the applicable minimum density standard by the parcel or lot area, including the area for streets being dedicated, but excluding **sensitive lands**, fire breaks and canals and their associated easements or rights-of-way. For example, if a five-acre site has a half acre of sensitive lands and a minimum of 4.0 units per acre, the minimum number of housing units is 18, regardless of the amount of land area dedicated for public right-of-way or private open space in conjunction with the project."

BDC 16.05.060: .

"Site development envelope means that area of a site that is best suited for development as determined by identifying **sensitive areas** (as defined in this title) for protection, setbacks, and other local standards and requirements."

"Sensitive areas means wetlands, areas within a site with individual trees with a specific trunk diameter for deciduous trees of six inches or greater and for coniferous trees of 10 inches or greater as measured four feet dbh, steep slopes, floodplains and other natural resource areas designated for protection or conservation by the Bend Area General Plan or the State of Oregon.

From **HOME BUILDERS ASSOCIATION OF LANE COUNTY v. REST-HAVEN MEMORIAL PARK**, LUBA No. 2001-059 (Or. LUBA 2/28/2002) (Or. LUBA, 2002)

"Petitioners . . . argue that the requirements in criteria (a)-(c) for a 100-foot "perimeter" around the "area occupied" by rare plant populations and rare animal populations, and a 50-foot buffer protecting "waterways" measured from the "top of the bank," are

not clear and objective, because the quoted terms are imprecise and not defined."

"The city responds that the terms "perimeter," "area occupied," and "top of the bank" have plain and commonly understood meanings, and the lack of a precisely defined starting point for the required buffer zones does not mean that the disputed standards are not clear and objective. The city also argues that the term "waterways" has a plain and commonly understood meaning."

"Absent delineation of habitat in an inventory or map, or some similar reasonable means of locating the described referents, we do not believe criteria (a) and (b) are clear and objective."

"Similarly, determining whether a feature is a "waterway," and what is the "bank" or "top of the bank," requires considerably more assistance than the city's ordinance provides. The LUCU does not define "waterway," "bank" or "top of the bank," or provide any means of identifying and locating those referents, which have a multiplicity of meanings, with different geographic consequences."

"* * *

Chamber argues that where the city adopts plan or zoning amendments that further restrict development of industrial and commercial lands so that the supply of such lands is effectively reduced, the city must determine that the land designated for industrial and commercial use remains consistent with Goal 9 requirements. *See Volny*, 37 Or LUBA at 510-11 (amendment that increases required right-of-way on city streets could reduce the amount of commercial or residential lands in a manner that implicates Goals 9 and 10); *Opus Development Corp. v. City of Eugene*, 28 Or LUBA 670, 691 (1995) (legislative zone changes from industrial and commercial to mixed use requires that the city demonstrate compliance with Goal 9 requirement for an adequate inventory of commercial and industrial sites).

Chamber makes a similar argument under Goal 10, which requires that "[b]uildable lands for residential use shall be inventoried and plans shall encourage the availability of adequate numbers of needed housing units." Chamber argues that where the city adopts plan or zoning amendments that reduce the supply of buildable residential lands, the city must determine that the remaining supply is consistent with Goal 10. *Volny*, 37 Or LUBA at 510-11; *Mulford v. Town of Lakeview*, 36 Or LUBA 715, 731 (1999) (rezoning residential land for industrial uses); *Gresham v. Fairview*, 3 Or LUBA 219 (same).

According to Chamber, the city's decision adopts several new requirements that individually and cumulatively function to reduce the amount of land that is available for industrial, commercial and residential uses. The chief focus of Chamber's argument is a set of new tree protection measures that require that any development activity preserve a minimum of 20 to 60 percent of "significant trees" on the site, which the LUCU defines as trees with a minimum diameter at breast height of eight inches. LUCU 9.6885(2); 9.0500.

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Moreover, development must protect at least 70 percent of the "critical root zone" of each significant tree retained. The critical root zone (CRZ) is defined to include an area with a radius of 18 times the diameter at breast height of the tree. According to Chamber, each minimum eight-inch tree thus has a CRZ with a radius of 12 feet, and an unbuildable area of 452 square feet, while the CRZ for a 20-inch tree has a radius of 30 feet and an unbuildable area of 2,826 feet. Chamber notes that according to the city's urban forest plan, the city has about 200,000 trees that meet or exceed the LUCU definition of "significant tree." Chamber argues that the number of acres potentially rendered unbuildable by these provisions could be several thousand acres.

Chamber makes similar arguments with respect to new Open Waterway Protection zones, which mandate a minimum 50-foot buffer between open waterways and development for all conditional use permits, subdivisions, PUD and site review approvals. *See e.g.* LUCU 9.8100(3)(c). Other provisions require a minimum 100-foot buffer between rare plant populations or rare animal populations. *See e.g.* LUCU 9.8100(3)(a) and (b). Chamber argues that the city has made no effort to quantify how much buildable land has been effectively rendered unbuildable under these provisions, or whether the remaining supply is sufficient to satisfy Goals 9 and 10.

The city offers a number of responses. With respect to Goal 9, the city argues first that the city need not comply with the Goal 9 rule, OAR chapter 660, division 9, until periodic review. OAR 660-009-0010(2). Therefore, the city reasons, it need not undertake any review of the adequacy of its Goal 9 inventory outside periodic review. Second, the city argues that the EC previously contained a number of preservation requirements and that the disputed tree retention, CRZ requirements and other buffers cited by petitioners do not "increase" the limitations on buildable lands compared to the EC and thus trigger evaluation of the city's land inventories. The city next argues that petitioners have not established that the tree retention, CRZ requirements and other buffers in fact reduce the city's inventories of

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industrial, commercial or residential land, much less that those reductions threaten the city's ability to comply with Goals 9 and 10.⁵² The city argues also that other LUCU provisions actually *increase* the number of industrial, commercial or residential uses that might be developed.⁵³ Finally, with respect to Goal 10, the city cites to a 1992 residential land supply study that found a surplus of 1,415 acres of residential land above that needed during the period 1992 to 2015. The city concludes that, given increased opportunity for industrial, commercial and residential uses under the LUCU, and the excess supply of residential land, the record supports a finding that the city's inventories of such lands continue to satisfy Goals 9 and 10, even assuming that the cited LUCU provisions reduce the supply of buildable industrial, commercial or residential lands, as petitioners allege.

We agree with petitioners that the cited LUCU provisions trigger an obligation on the part of the city to evaluate whether its Goal 9 and 10 inventories continue to comply with those goals. . Under such circumstances, the city has an obligation to demonstrate that despite any such reductions in development potential for industrial, commercial and residential lands the city's inventories continue to comply with Goals 9 and 10. *Volny*, 37 Or LUBA at 510-11; *Opus Development Corp.*, 28 Or LUBA at 691. The city's effort in its brief to do so fails because it makes no effort to quantify how much land, if any, may be rendered unbuildable under the disputed provisions.

Memo to Team and Res TAC
From Al Johnson
March 14, 2016
Re: Draft code changes

Density Bonus for Affordable Housing.

Table 2.1.600A – Density Bonus, seems to say that you get a 1.1 percent bump for 10% affordable housing and a 1.5 percent bump for 50% affordable housing. I think it means to say that you get bumps of 10% and 50% respectively,. If so, the numbers should be changed from 1.1, 1.2, etc., to 110%, 120%, etc.

Architectural Design Standards

I haven't looked at the design standards signified by the asterisks. They should be clear and objective and nonburdensome for an available residential c&o track for all needed housing types on all lands inventoried for those housing types. For example, all multi-family housing in MF zones and all single-family residential RS zones require a c&o track, but SFR doesn't have to have such a track on RM or mixed-use lands where sfr production is not counted towards an identified housing need for that housing type, price or rental range, or location.

Floor Area Ratios, Density, and ADUs. 2.1.400(B) and (C),

I see that ADUs are not counted towards density maximums, which is good. However, it is my understanding that, at least in NWX, the combination of high land prices, small lots, and restrictive FARs tends to squeeze out ADUs when the ADUs count towards the FAR. What is there in the record to either account for this or to demonstrate that this problem won't reduce the assumed yield of ADUs as an efficiency measure? A possible solution would be to exempt all or most of an ADU's square footage or to up the FAR ratio when an application includes or adds an ADU.

Balloon payment problems

The Housing Mix standards at 2.1.1000(C) provide that "No more than 50 percent of the total housing units shall be Single-family detached housing." The comments explain that these mix standards "are proposed 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," and that "The 50% number is suggested based upon 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."

What this says to me is that the model has been tweaked the way we used to do high school chemistry—working back from the required result to fill in the blanks for our test "results." The RM minimum density needed to get the required results has been reduced, weakening that efficiency measure, and replaced with a "suggested" 50-percent mix requirement and an

assumption that “this standard will be met.” However, there is no basis for assuming that this mix will be met at all, much less “during the planning period,” when there is no way to prevent a developer from building most of a site out with single-family first, leaving just enough room for the necessary multi-family units in a small “balloon payment” corner of the development site.

We have already heard from several developers that they would rather do more single-family and less multi-family. We also know, or should know, that the housing mix choices we have made will significantly reduce our future supply of detached single-family homesites as a share of all housing. That will increase market demand and market incentives to maximize single-family home opportunities on mixed and multi-family sites, and to do as much of it as one can as soon as one can.

This has been a problem elsewhere in Oregon, and it has been addressed in various ways. One way is to require that the mix required to justify the assumed 2028 yield be maintained at each stage of development. Another is to require that all or most of the multi-family share be built first.

I don’t think “monitoring” gets the city off the hook here.

As I’ve mentioned before, Washington County has had a sequencing requirement on the books for over 15 years, and should have some experience with how it works by now. I lost an appeal of that requirement when it was adopted in 1999. (Probably a good thing, on that issue, anyway.) Here are some relevant excerpts:

From **West Hills Dev. v Washington County**, __ Or LUBA __ (1999).

To ensure that proposed attached housing is actually built, and to prevent efforts to avoid building at the densities required by the minimum density standard, Ordinance 517 establishes a "sequencing" requirement, as follows:

"For developments with detached dwelling units, and attached dwelling units or assisted living units, where the detached dwelling units comprise sixty (60) percent or more of the total density, building permits for the final fifteen (15) percent of the proposed number of detached dwelling units shall not be issued until at least fifty (50) percent of the proposed number of attached dwelling units or assisted living units have been constructed or are under construction."

“* * * *

The county relies in part on a staff report that explains:

"The purpose of [the sequencing requirement] is to ensure that projects will actually be designed so they will meet the minimum density standard, rather than being designed to use a small portion of a site

for a number of attached units which are not intended to be built. This standard was prompted due to inquiries as to how someone could submit a development proposal, which uses some attached dwellings to meet the minimum density requirements, but where the applicant only wishes to construct the detached units, thereby leaving the portion of the site intended for attached units vacant." Record 150.

Further, the county cites to testimony from planning staff responding to the comments of petitioner **West Hills'** representative, quoted above:

"[T]he fundamental rationale for [the sequencing requirement] is that we're responding to, again, the imperatives from the [UGMFP] * * * that require us, among other things, to provide capacity for a certain number of units and to have minimum densities. * * * [Under the preexisting ordinance] there was a provision that you didn't have to build it or any minimum density and what the fundamental finding was * * * that that wasn't very efficient — that we underbuilt a lot. The new approach * * * is to become much more aggressive about not moving the [urban growth] boundary and much more aggressive about being efficient * * * [.] * * * And, the efficiencies of

having minimum densities really require that you guarantee that they get built. One of the things that can happen * * * is the project, especially one that gets larger in size, can be phased and there is the conceptual ability to escape the minimum density requirements by loading up the very last phase, which may be a very small piece of land with a very large amount of density. * * * [W]hat really counts also is to see that it actually gets built and that's what this requirement is about — is to not create a loophole for creating minimum densities by leaving a large residual or even a small residual amount of density to be built on a small piece of property that would become remnant and unbuildable through time."

Transcript of Board of Commissioners hearing, October 6, 1998, Response Brief App 3-10.

In its brief, the county describes the scenario that the sequencing requirement is designed to prevent. The county posits that:

"For instance, a developer has a 10-acre parcel zoned R-24 requiring a minimum density of 18 units per acre. For the first nine acres, the developer builds 10 units per acre. That leaves the last acre with a requirement of at least 90 units per acre. It will be difficult, if not impossible, to build to this density on one acre. The result will be a density of only nine units per acre, only half of that required minimum."

Question about density calculations:

1. Does the term “sensitive lands” at 2.1.600(C)(2) have the same meaning as “sensitive areas” as defined at 16.05.060?
2. Is the “Site development envelope” as defined at BDC 16.05.060 the denominator for density calculations as prescribed by BDC 2.1.600(C)(2)?
3. Are sensitive areas/lands mapped/defined with sufficient specificity to qualify as “clear and objective standards” which will not, “have the effect, either of themselves or cumulatively, of discouraging needed housing through unreasonable cost or delay”? See excerpts from LUBA decision on Eugene Land Use Code Update, below.

BDC 2.1.600(C)(2): "Minimum housing densities are calculated by multiplying the applicable minimum density standard by the parcel or lot area, including the area for streets being dedicated, but excluding **sensitive lands**, fire breaks and canals and their associated easements or rights-of-way. For example, if a five-acre site has a half acre of sensitive lands and a minimum of 4.0 units per acre, the minimum number of housing units is 18, regardless of the amount of land area dedicated for public right-of-way or private open space in conjunction with the project."

BDC 16.05.060: .

"Site development envelope means that area of a site that is best suited for development as determined by identifying **sensitive areas** (as defined in this title) for protection, setbacks, and other local standards and requirements."

"Sensitive areas means wetlands, areas within a site with individual trees with a specific trunk diameter for deciduous trees of six inches or greater and for coniferous trees of 10 inches or greater as measured four feet dbh, steep slopes, floodplains and other natural

resource areas designated for protection or conservation by the Bend Area General Plan or the State of Oregon.

Here are some relevant excerpts from *Home Builders/Chamber v. Eugene*, ___ Or LUBA___ (2002).

"Petitioners . . . argue that the requirements in criteria (a)-(c) for a 100-foot "perimeter" around the "area occupied" by rare plant populations and rare animal populations, and a 50-foot buffer protecting "waterways" measured from the "top of the bank," are not clear and objective, because the quoted terms are imprecise and not defined."

"The city responds that the terms "perimeter," "area occupied," and "top of the bank" have plain and commonly understood meanings, and the lack of a precisely defined starting point for the required buffer zones does not mean that the disputed standards are not clear and objective. The city also argues that the term "waterways" has a plain and commonly understood meaning."

"Absent delineation of habitat in an inventory or map, or some similar reasonable means of locating the described referents, we do not believe criteria (a) and (b) are clear and objective."

"Similarly, determining whether a feature is a "waterway," and what is the "bank" or "top of the bank," requires considerably more assistance than the city's ordinance provides. The LUCU does not define "waterway," "bank" or "top of the bank," or provide any means of identifying and locating those referents, which have a multiplicity of meanings, with different geographic consequences."

"* * * *

Chamber argues that where the city adopts plan or zoning amendments that further restrict development of industrial and commercial lands so that the supply of such lands is effectively reduced, the city must determine that the land designated for industrial and commercial use remains consistent with Goal 9 requirements. See *Volny*, 37 Or LUBA at 510-11 (amendment that increases required right-of-way on city streets could reduce the amount of commercial or residential lands in a manner that implicates Goals 9 and 10); *Opus Development Corp. v. City of Eugene*, 28 Or LUBA 670, 691 (1995) (legislative zone changes from industrial and commercial to mixed use requires that the city demonstrate compliance with Goal 9 requirement for an adequate inventory of commercial and industrial sites).

Chamber makes a similar argument under Goal 10, which requires that "[b]uildable lands for residential use shall be inventoried and plans shall encourage the availability of adequate numbers of needed housing units." Chamber argues that where the city adopts plan or zoning amendments that reduce the supply of buildable residential lands, the city must determine that the remaining supply is consistent with Goal 10. *Volny*, 37 Or LUBA at 510-11; *Mulford v. Town of Lakeview*, 36 Or LUBA 715, 731 (1999) (rezoning residential land for industrial uses); *Gresham v. Fairview*, 3 Or LUBA 219 (same).

According to Chamber, the city's decision adopts several new requirements that individually and cumulatively function to reduce the amount of land that is available for industrial, commercial and residential uses. The chief focus of Chamber's argument is a set of new tree protection measures that require that any development activity preserve a minimum of 20 to 60 percent of "significant trees" on the site, which the LUCU defines as trees with a minimum diameter at breast height of eight inches. LUCU 9.6885(2); 9.0500.

Moreover, development must protect at least 70 percent of the "critical root zone" of each significant tree retained. The critical root zone (CRZ) is defined to include an area with a radius of 18 times the diameter at breast height of the tree. According to Chamber, each minimum eight-inch tree thus has a CRZ with a radius of 12 feet, and an unbuildable area of 452 square feet, while the CRZ for a 20-inch tree has a radius of 30 feet and an unbuildable area of 2,826 feet. Chamber notes that according to the city's urban forest plan, the city has about 200,000 trees that meet or exceed the LUCU definition of "significant tree." Chamber argues that the number of acres potentially rendered unbuildable by these provisions could be several thousand acres.

Chamber makes similar arguments with respect to new Open Waterway Protection zones, which mandate a minimum 50-foot buffer between open waterways and development for all conditional use permits, subdivisions, PUD and site review approvals. See e.g. LUCU 9.8100(3)(c). Other provisions require a minimum 100-foot buffer between rare plant populations or rare animal populations. See e.g. LUCU 9.8100(3)(a) and (b). Chamber argues that the city has made no effort to quantify how much buildable land has been effectively rendered unbuildable under these provisions, or whether the remaining supply is sufficient to satisfy Goals 9 and 10.

The city offers a number of responses. With respect to Goal 9, the city argues first that the city need not comply with the Goal 9 rule, OAR chapter 660, division 9, until periodic review. OAR 660-009-0010(2). Therefore, the city reasons, it need not undertake any review of the adequacy of its Goal 9 inventory outside periodic review. Second, the city argues that the EC previously contained a number of preservation requirements and that the disputed tree retention, CRZ requirements and other buffers cited by petitioners do not "increase" the limitations on buildable lands compared to the EC and thus trigger evaluation of the city's land inventories. The city next argues that petitioners have not established that the tree retention, CRZ requirements and other buffers in fact reduce the city's inventories of industrial, commercial or residential land, much less that those reductions threaten the city's ability to comply with Goals 9 and 10.⁵² The city argues also that other LUCU provisions actually *increase* the number of industrial, commercial or residential uses that might be developed.⁵³ Finally, with respect to Goal 10, the city cites to a 1992 residential land supply study that found a surplus of 1,415 acres of residential land above that needed

during the period 1992 to 2015. The city concludes that, given increased opportunity for industrial, commercial and residential uses under the LUCU, and the excess supply of residential land, the record supports a finding that the city's inventories of such lands continue to satisfy Goals 9 and 10, even assuming that the cited LUCU provisions reduce the supply of buildable industrial, commercial or residential lands, as petitioners allege.

We agree with petitioners that the cited LUCU provisions trigger an obligation on the part of the city to evaluate whether its Goal 9 and 10 inventories continue to comply with those goals. . Under such circumstances, the city has an obligation to demonstrate that despite any such reductions in development potential for industrial, commercial and residential lands the city's inventories continue to comply with Goals 9 and 10. *Volny*, 37 Or LUBA at 510-11; *Opus Development Corp.*, 28 Or LUBA at 691. The city's effort in its brief to do so fails because it makes no effort to quantify how much land, if any, may be rendered unbuildable under the disputed provisions.

Darcy Todd

From: Chris Maciejewski <csn@dksassociates.com>
Sent: Wednesday, February 24, 2016 7:35 AM
To: Damian Syrnyk; Cassie Walling
Cc: Brian Rankin; jdills@angeloplaning.com
Subject: Fwd: UGB Expansion

Damian - another one for your court...

Chris Maciejewski, PE, PTOE
Principal
DKS Associates
O: (503)243-3500 | M: (503)916-9610
csn@dksassociates.com

~Sent from my iPhone

Begin forwarded message:

From: "annmarie@bendpatrick.com" <annmarie@bendpatrick.com>
Date: February 24, 2016 at 6:53:00 AM PST
To: "csn@dksassociates.com" <csn@dksassociates.com>
Subject: UGB Expansion

Chris,

I'd like to schedule a few minutes with you to discuss certain aspects of the proposed map, as it relates to transportation and infrastructure. Liz Dickson has already reached out to you regarding one of the matters and parcels of concern. I have however, expanded areas of concern, and am looking to get together with you in the capacity of a member of the Employment TAC, as well as a broker and member of the community.

I can get together with you at your convenience, either in Bend or Portland. Please send a note or give me a call at 541-749-8447.

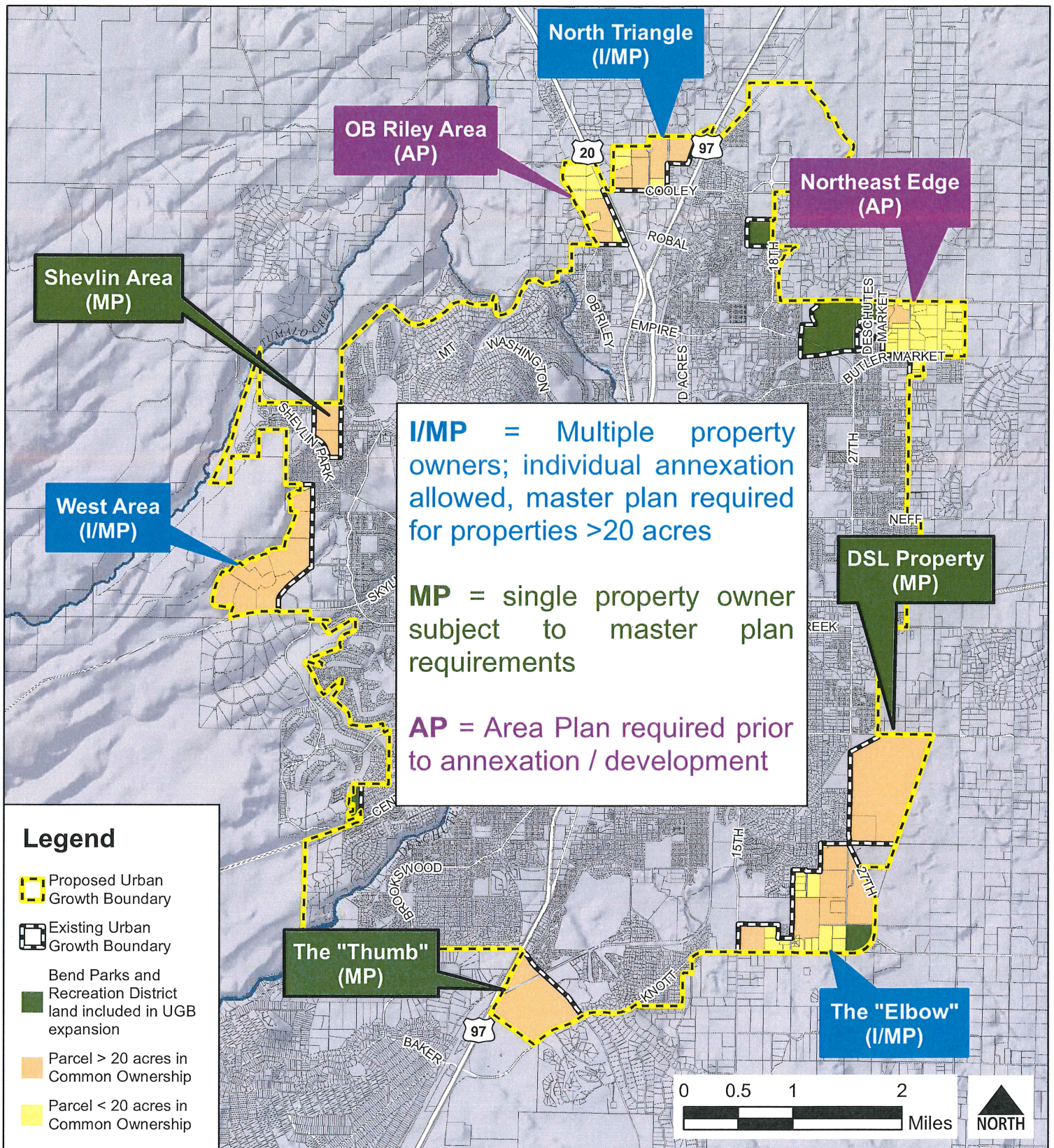
Thanks, Chris!

Ann Marie Colucci
Sent from my iPhone

Bend UGB

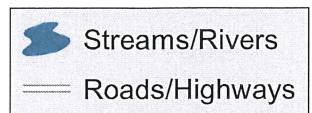
Area Planning Recommendation (Level 2)

March 15, 2016



Disclaimer: Proposed expansion areas are draft and subject to further refinement.

Service Layer Credits: Deschutes County GIS (2014)

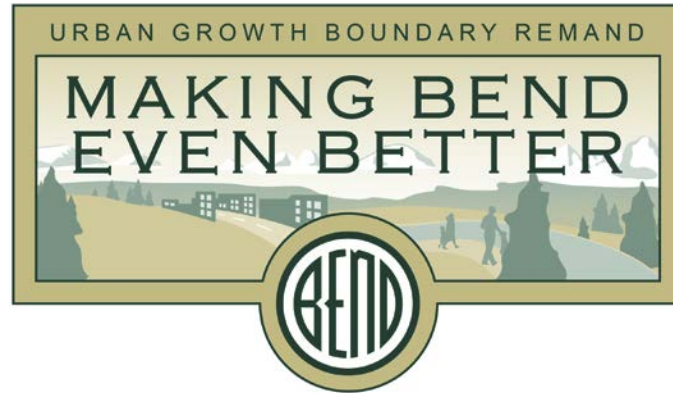


Core Area, Transit Corridors, and Opportunity Areas
March 14, 2016



Service Layer Credits: Deschutes County GIS (2014)

008381



Packet 1

Bend UGB – Boundary and Growth Scenarios Technical Advisory Committee

Wednesday, March 16, 2016

9:00 AM to 12:00 PM

Municipal Court Hearing Room, Bend Police Station

555 NE 15th Street Bend, Oregon 97701

Memorandum



February 26, 2016

To: Boundary and Growth Scenarios Technical Advisory Committee
Cc: Employment and Residential Technical Advisory Committees
From: Angelo Planning Group Team
Re: March 16th "Packet 1" Materials - Technical Documents for Review

The Boundary and Growth Scenarios Technical Advisory Committee (Boundary TAC) is asked to review a draft of the Urbanization Report. The project team proposes to rely primarily on submittal of **written comments via email** for review of this document because the Urbanization Report is primarily a technical document and a compilation and summary of memoranda and reports that have previously been shared with the TAC. However, if TAC members have substantive issues or questions that require committee discussion, the team asks that members let staff know in advance of the TAC meeting so that appropriate agenda time can be allocated.

Email comments should be sent to Damian Syrnyk at dsyrnyk@bendoregon.gov by close of business on **Monday, March 7, 2016**.

The Urbanization Report presents an analysis of where and how Bend's future growth will be accommodated to the year 2028, both inside the existing Urban Growth Boundary (UGB) and in expansion areas. The Urbanization Report is one of four related technical reports that contain the City's analysis related to growth. The other three documents are the Buildable Lands Inventory (BLI), Housing Needs Analysis (HNA), and Economic Opportunities Analysis (EOA). All four documents will be adopted as supporting documents to the Bend Comprehensive Plan, and provide the factual base to support the preferred UGB expansion.

A working draft of Chapters 1-3 of the Urbanization Report were reviewed by the Employment Lands Technical Advisory Committee (Employment TAC) and Residential Lands Advisory Committee (Residential TAC) in August 2015. However, those chapters have since been updated to capture the current recommendations on efficiency measures, the updated capacity estimate for the Urban Growth Boundary (UGB) after efficiency measures, and the process for identifying a proposed UGB expansion to meet residual land needs. The new sections of the Urbanization Report draw on and summarize documents and reports that have been reviewed by the Boundary TAC, including the Scenarios Evaluation Report and previous memoranda to the TACs and UGB Steering Committee (USC).

Remaining work includes summarizing the evaluation of the preferred UGB expansion scenario and drafting a final conclusion section for the report. These will be completed prior to hearings.

Chapter 5 of the Urbanization Report (focused on UGB expansion) is expected to be of greatest interest to the Boundary TAC; it is built on the foundation of the legal framework, methodology, capacity estimates, and efficiency measures described in Chapters 1 through 4. In addition, the Buildable Lands Inventory (BLI) and the draft code amendments related to efficiency measures are being provided to the Residential and Employment TACs for review. The Boundary TAC is invited to review these documents as interest and time allow; they are available online by accessing "Packet 1" for the Joint Residential and Employment TAC meeting on March 17th.



Bend Urbanization Report

Bend's Growth to 2028

Draft: February 26, 2016



DRAFT

ACKNOWLEDGEMENTS

City of Bend

Growth Management Department

Nick Arnis
Brian Rankin

Wendy Robinson
Damian Syrnyk

Karen Swirsky

Consultant Team

Urbanization Report

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

Supporting Technical Analyses

DKS Associates
Fregonese Associates
Murray Smith Associates

Advisory Committees

Residential Lands Technical Advisory Committee

Kristina Barragan
David Ford
Stuart Hicks
Andy High
Allen Johnson
Thomas Kemper**
Katrina Langenderfer
Lynne McConnell
Michael O'Neil

Kurt Petrich
Gary Everett
Don Senecal
Sidney Snyder
Kirk Schueler
Stacey Stemach
Mike Tiller, Bend-La Pine
Schools

Laura Fritz, Bend Planning
Commission (PC)
Steve Jorgensen, Bend Park
& Recreation District
(BPRD)*
Gordon Howard, Oregon
Department of Land
Conservation and
Development (DLCD)*

Employment Lands Technical Advisory Committee

Ken Brinich
Peter Christoff
Ann Marie Colucci
Todd Dunkelberg
Brian Fratzke
Christopher Heaps
Patrick Kesgard
William Kuhn

Robert Lebre
Dustin Locke
Wesley Price**
Damon Runberg
Cindy Tisher
Jennifer Von Rohr
Ron White
Joan Vinci, PC

Wallace Corwin, Bend
Economic Development
Advisory Board
Jade Mayer, Bend Budget
Committee
Tom Hogue, DLCD*

Boundary Technical Advisory Committee

Toby Bayard
Susan Brody
Peter Carlson
Paul Dewey
John Dotson
Ellen Grover
Steve Hultberg
Brian Meece
Charlie Miller

Mike Riley
John Russell
Ron Ross
Sharon Smith
Gary Timm
Rod Tomcho
Robin Vora
Dale Van Valkenburg
Ruth Williamson

Thomas Kemper**
Wesley Price**
Rockland Dunn, PC
Scott Edelman, DLCD*
Jim Bryant, Oregon Dept. of
Transportation*
Nick Lelack, Deschutes
County*

*Denotes Ex-Officio, non-voting members

** Member of Residential / Employment TAC in Phase 1, participating in Boundary TAC in Phase 2

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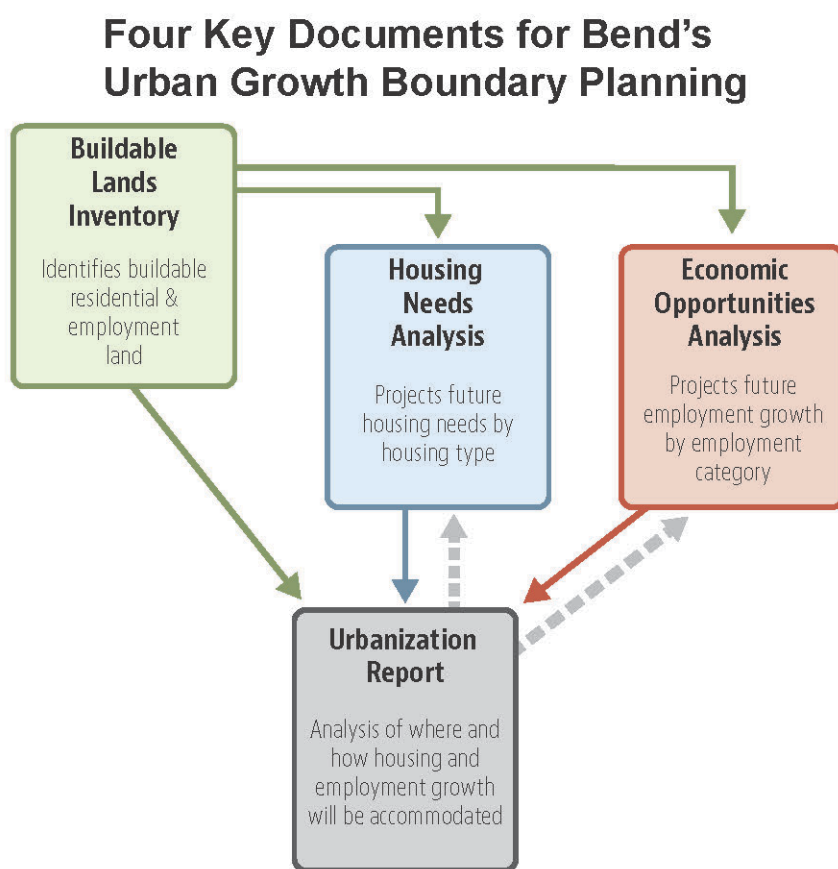
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EXECUTIVE SUMMARY

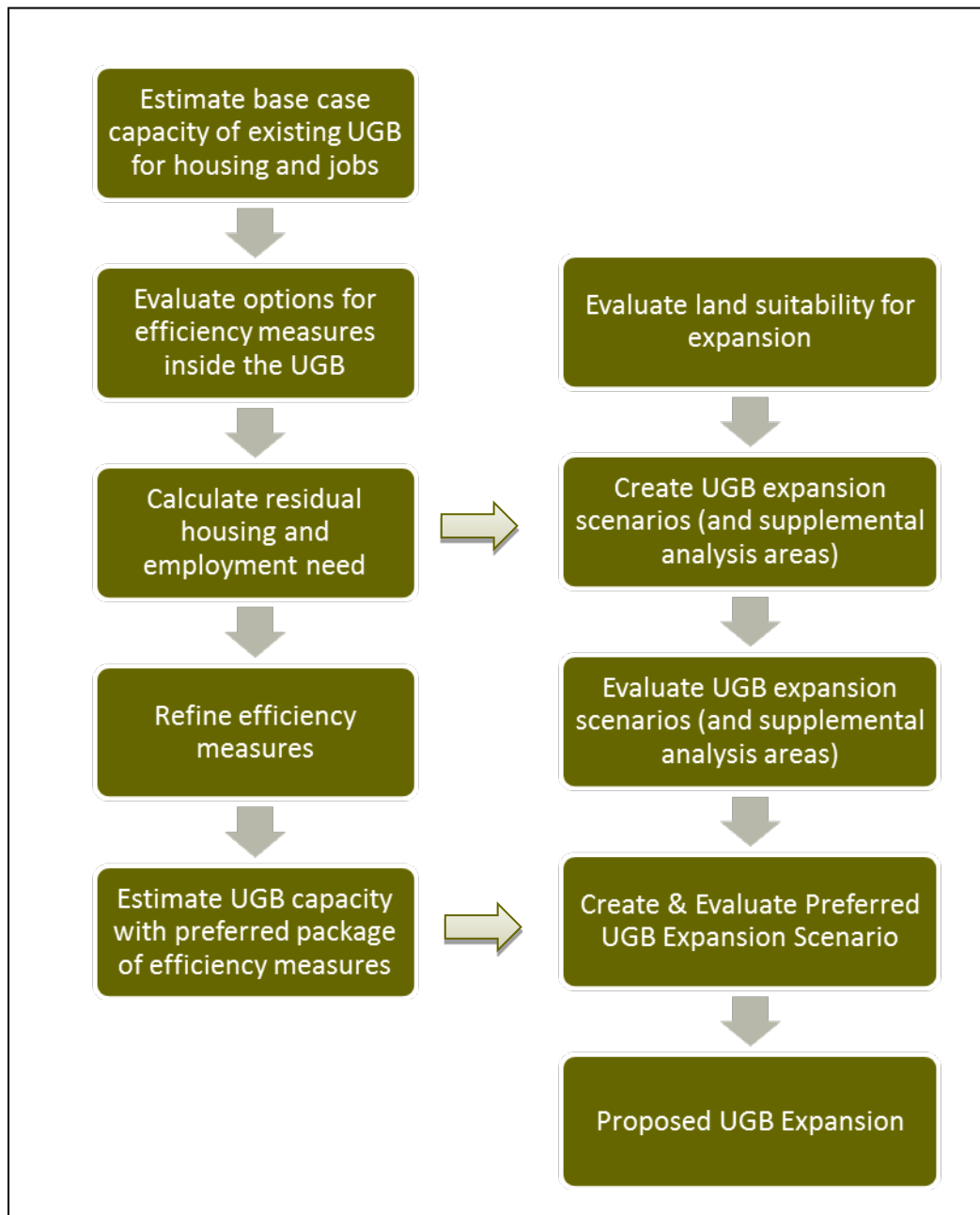
Introduction

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.

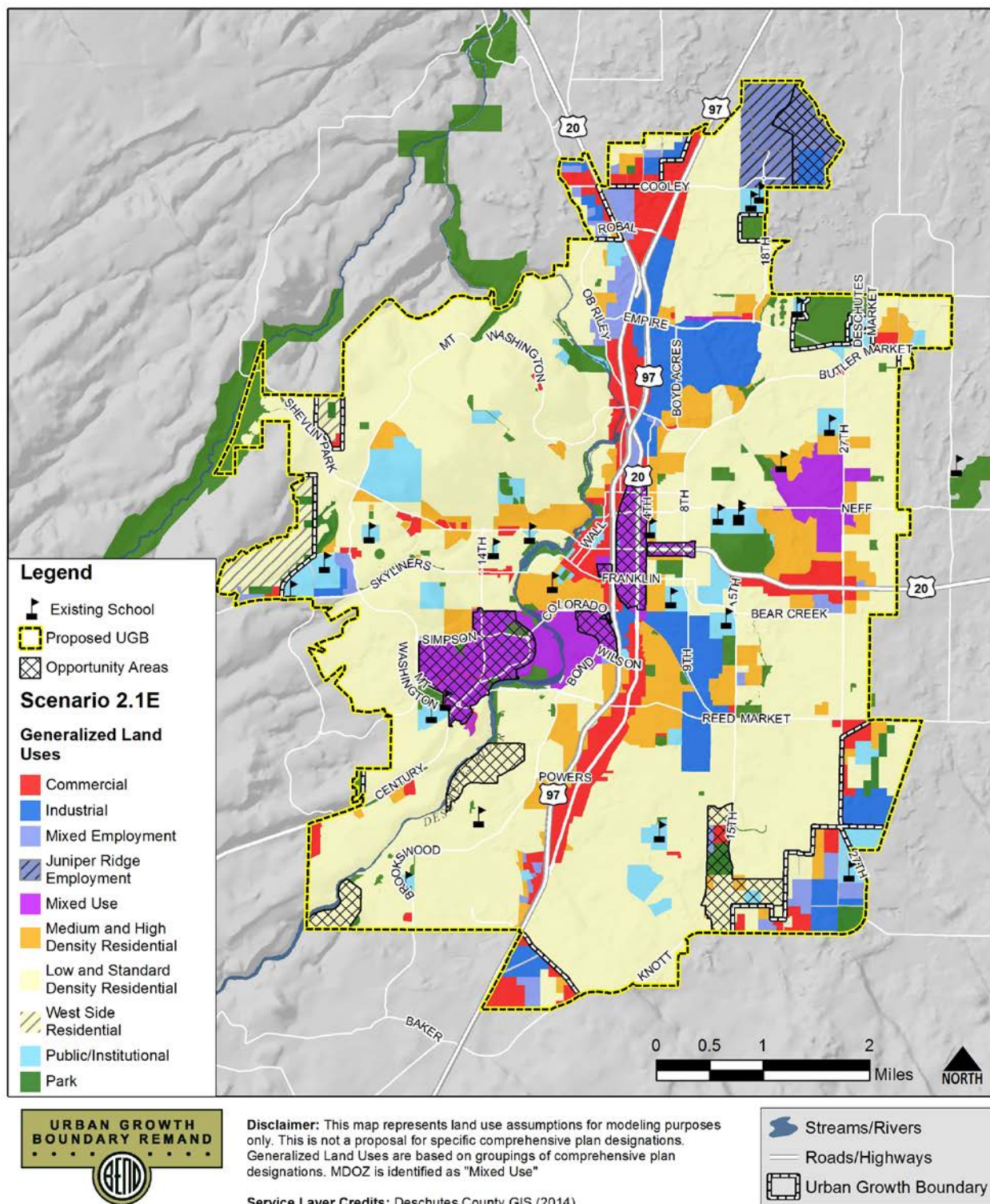
The Boundary TAC and UGB Steering Committee (USC) provided input at multiple meetings, and directed refinements based on public testimony in the context of balancing the four Goal 14 factors.

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

Bend UGB*Draft Preferred Scenario*

Prepared 2/26/2016



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 Standards³	ORS 197.296 OAR 660, Divisions 8 and 9	Statewide Planning Goal 10: Housing ORS 197.296 and 197.303 OAR 660, Division 8	Statewide Planning Goal 9: Economic Development OAR 660, Division 9	Statewide Planning Goal 14: Urbanization ORS 197.298 OAR 660, Division 24
Key Subject Matter	Development status categories and definitions Methodology for assigning categories and conducting inventory Inventory results: acres by plan designation and development status	Projection of population and total housing growth Housing market and development trends Demographic characteristics and trends Analysis of affordability Estimate of needed housing (mix and density) Comparison of housing capacity to need	Existing policy and vision National, state, local trends Employment projections Target industries Site needs and characteristics Special site needs Redevelopment analysis Comparison of employment capacity to need and characteristics	Methodology for capacity estimates Pre-policy ("base case") capacity estimate for current UGB Efficiency measures (EMs) proposed Current UGB capacity with EMs UGB alternatives evaluation methodology and results Proposed UGB expansion and summary of Goal 14 evaluation results

³ OAR = Oregon Administrative Rules; ORS = Oregon Revised Statutes

Framework for the Urbanization Report

State Statutes and Administrative Rules

Overview

Statewide Planning Goal 14 requires that cities establish and maintain UGBs to provide land for urban development needs and to identify and separate urban and urbanizable land from rural land. Goal 14 and Oregon Revised Statutes (ORS) 197.296 and 197.298 contain requirements for how local governments identify how much land is required to meet urban development needs, how they establish the capacity of the existing UGB, and how to identify and evaluate land for UGB expansion if needed. These requirements are summarized in brief below; the full text of the relevant statutes and rules is included in Appendix A.

Establishing Land Needs

Establishment and change of the UGB must be based on the demonstrated need for housing, employment opportunities, and/or other urban land uses such as public facilities, streets and roads, schools, parks or open space over a 20-year period.⁴ Housing needs must be established consistent with a coordinated 20-year population forecast, the requirements for determining housing needs in Goals 10 and 14, and related rules and statutes (see Bend Housing Needs Analysis for a summary of these requirements).⁵ Employment needs must comply with applicable requirements of Goal 9 and related administrative rules (see EOA for a summary of these requirements).⁶

Inventory and Land Sufficiency

Local governments “must inventory land inside the UGB to determine whether there is adequate development capacity to accommodate 20-year needs”. Inventories must comply with requirements in OAR 660-024 and other statutes and rules (see Bend Buildable Lands Inventory for a summary of these requirements).⁷

“If the inventory demonstrates that the development capacity of land inside the UGB is inadequate to accommodate the estimated 20-year needs ..., the local government must amend the plan to satisfy the need deficiency, either by increasing the development capacity of land already inside the city or by expanding the UGB, or both.”⁸ Local governments may adopt new measures that increase the housing capacity of the existing UGB as part of meeting demonstrated housing needs.⁹ Local governments must demonstrate that needs cannot

⁴ Goal 14: OAR 660-015-0000(14), effective April 28, 2006.

⁵ OAR 660-024-0040(4), effective March 25, 2015.

⁶ OAR 660-024-0040(5), effective March 25, 2015.

⁷ OAR 660-024-0050(1), effective March 25, 2015.

⁸ OAR 660-024-0050(4), effective March 25, 2015.

⁹ ORS 197.296(6) through (9), effective 2003.

reasonably be accommodated on land already inside the urban growth boundary prior to expanding the UGB.¹⁰

Identifying Boundary Expansion Areas

In considering locations for UGB expansions, local governments must determine which land to add by evaluating alternative boundary locations.¹¹ State statute classifies rural land into priority categories for purposes of evaluating potential UGB expansions, with the intent of protecting high-value agricultural and forest land for those uses. Local governments must begin by evaluating the highest priority of land available, and determine whether land in that priority category is suitable and sufficient to meet the identified land needs before moving on to consider land in lower priority categories.¹² If there is more land in a given priority category than needed to satisfy the deficiency, local governments must consider and balance four factors in Goal 14 to choose which land from that priority category to include in the UGB:

1. Efficient accommodation of identified land needs;
2. Orderly and economic provision of public facilities and services;
3. Comparative environmental, energy, economic and social consequences; and
4. Compatibility of the proposed urban uses with nearby agricultural and forest activities occurring on farm and forest land outside the UGB.¹³

The “relative costs, advantages and disadvantages of alternative UGB expansion areas with respect to the provision of public facilities and services” must also be evaluated and compared.¹⁴ The local government may specify certain characteristics that are necessary for land to be suitable for specific types of identified land needs, and may consider only land that has those characteristics.¹⁵

Prior Work and Remand Issues

UGB Expansion History

The City’s process for demonstrating a need for UGB expansion began in 2004, and included the development and adoption of a coordinated population forecast with Deschutes County, followed by three years of technical work on buildable lands inventories, housing needs analysis, economic opportunities analysis, forecasting additional residential and employment lands, and public facilities (water, sewer, transportation) planning. The City and county 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

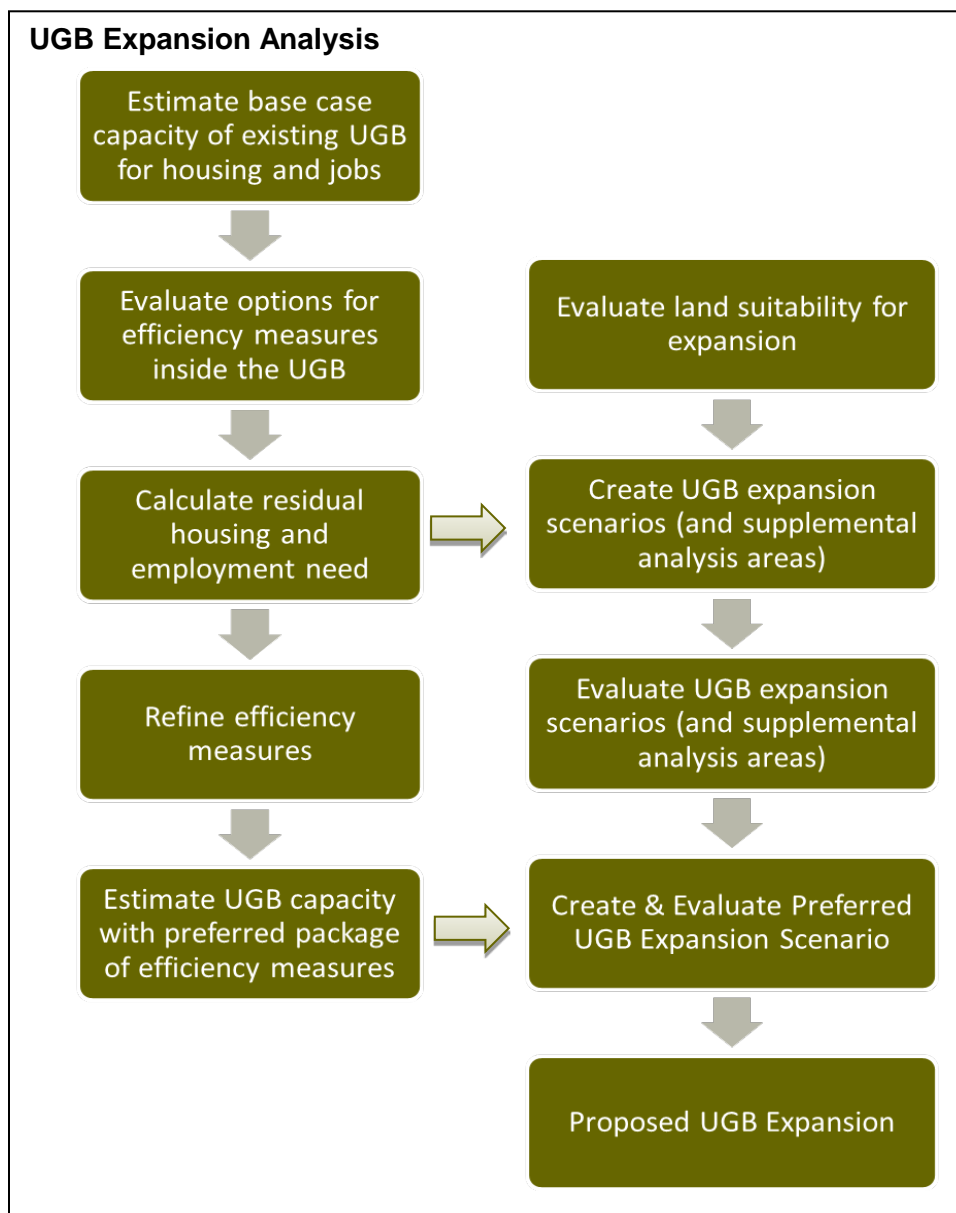
The City has identified special site needs for two large-lot industrial sites (56 acres each), as documented in the EOA. How this need is accommodated is addressed in the following chapters.

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 aside that comprise the development type. The identification of buildable land is described in detail in the BLI. That report should be consulted for details, but, in brief:

- Development constraints, such as floodplains and steep slopes, are identified as “constrained” in the model, and no development or redevelopment is assigned to them.
- Existing development is identified as “developed” in the model;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 employment³⁰ (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.

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

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 SFD⁴⁴

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 code⁴⁵) – 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 Multimodal Mixed Use Area (MMA) – apply the Bend Central Multi-modal Mixed Use (BC-MMA) Overlay Zone/Special Plan District (*overlay zone/special plan district only; no plan designation change*)

The MMA 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.

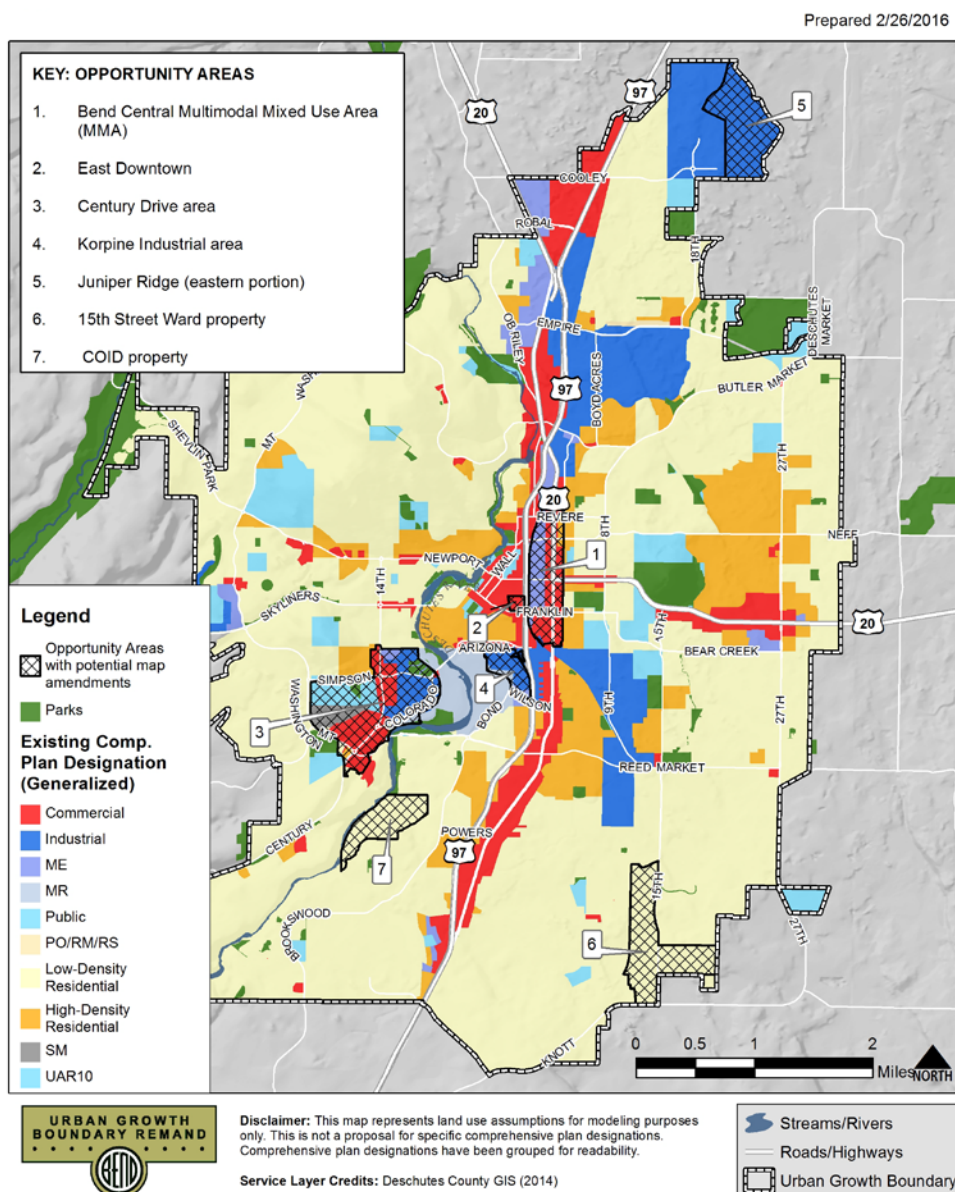
6. 15th Street Ward property - plan and zone amendments to include some RM, some RH and some Community Commercial (CC) rather than all RS

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
BC-MMA*	-	-	320	320
Other**	-	-	60	60
Total	6,690	1,060	4,500	12,250

* Development capacity in the MDOZ and the Bend Central MMA 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
BC-MMA*	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 MMA 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%
Public⁴⁸	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.

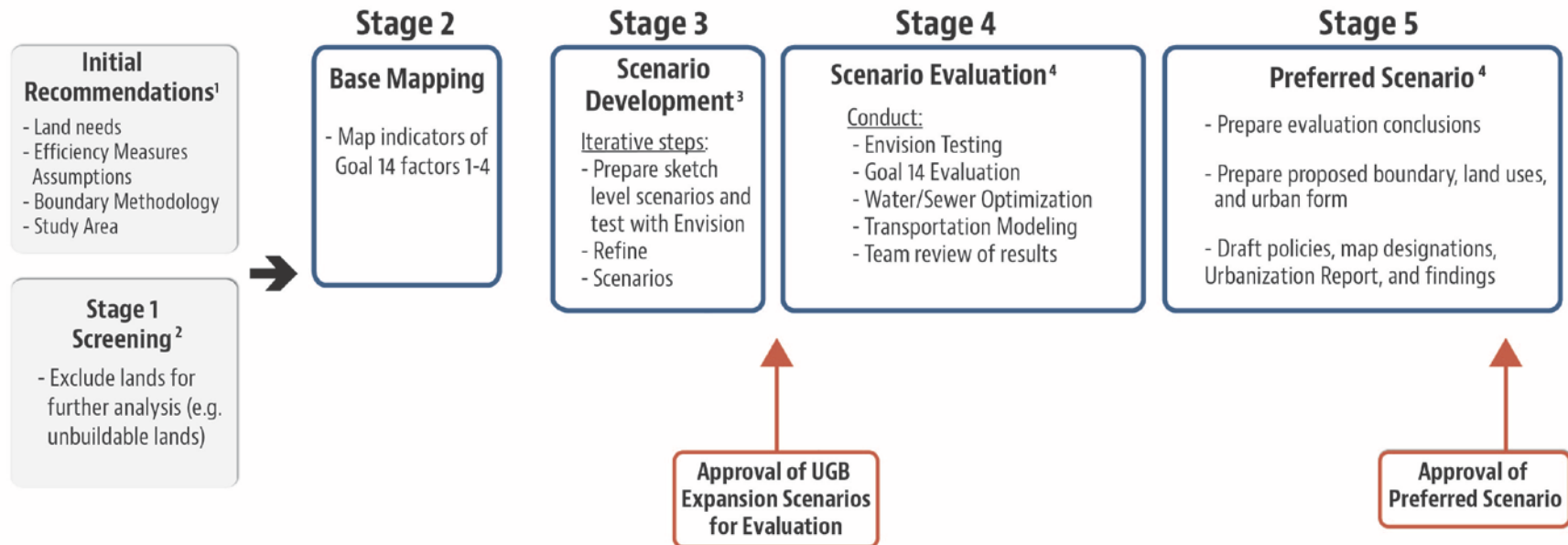
The evaluation process was divided into the following stages, described in detail in the following sections and illustrated on Figure 3:

- 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

UGB Expansion Alternatives Analysis Process

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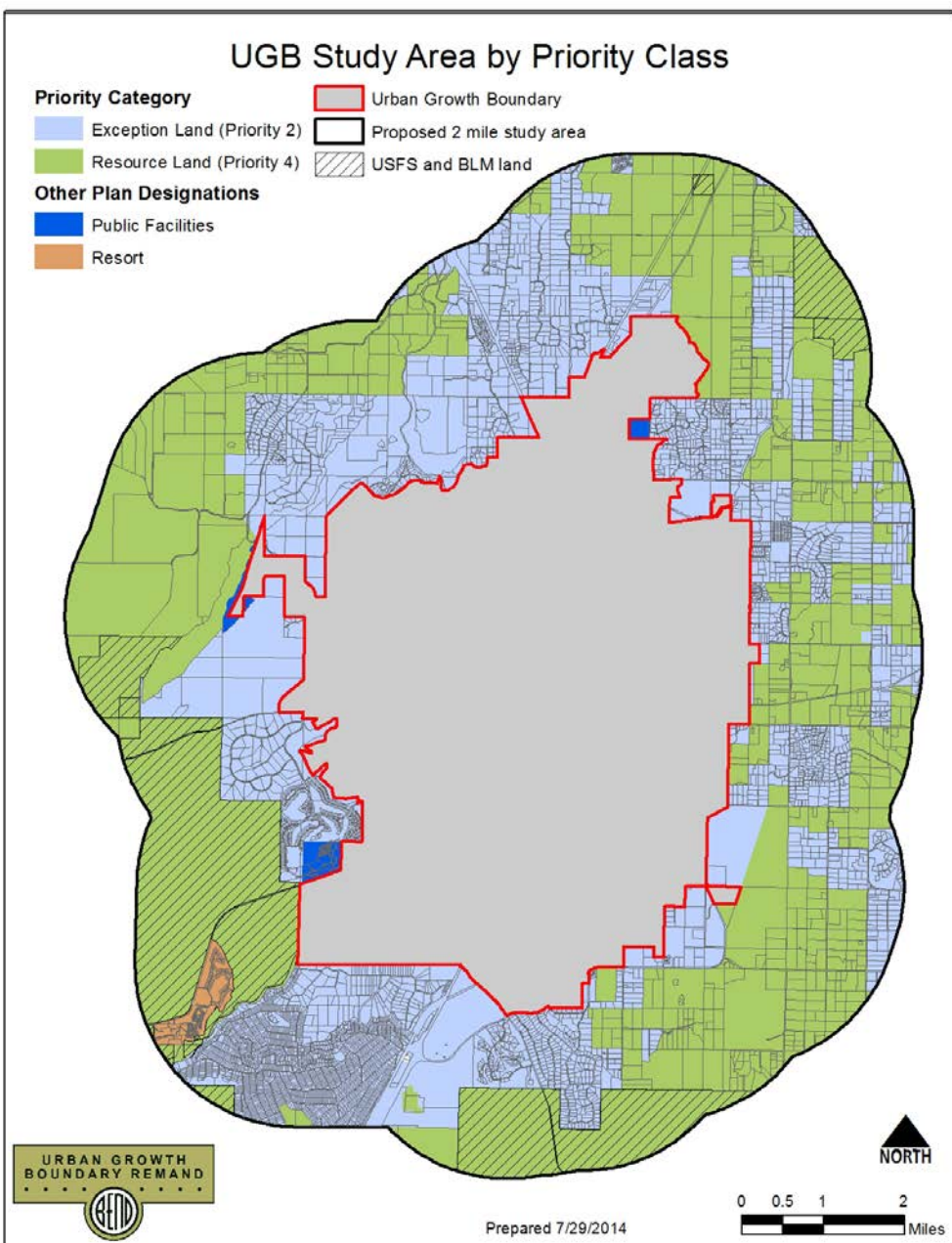


Stage 1: Screening of lands for further analysis

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



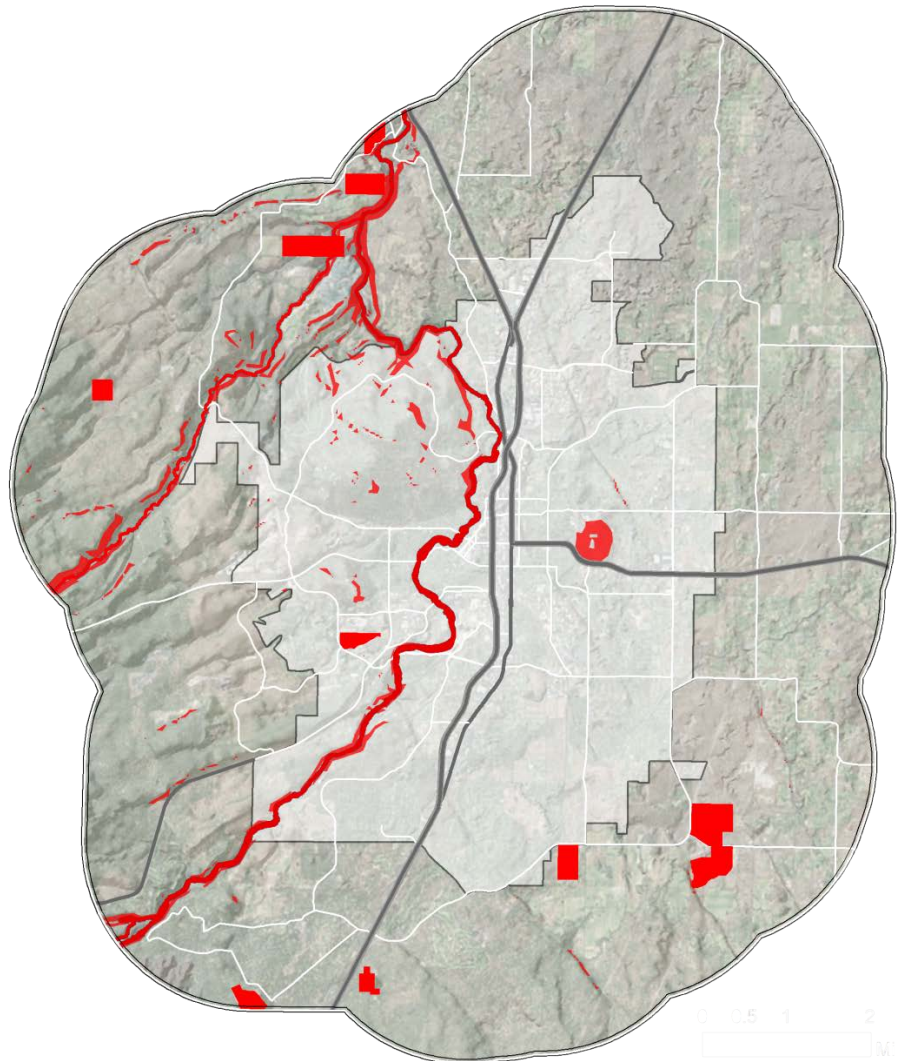
The City's approach to screening land from further consideration prior to applying the Goal 14 evaluation is summarized below.

Exclude lands that are not buildable⁴⁹

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

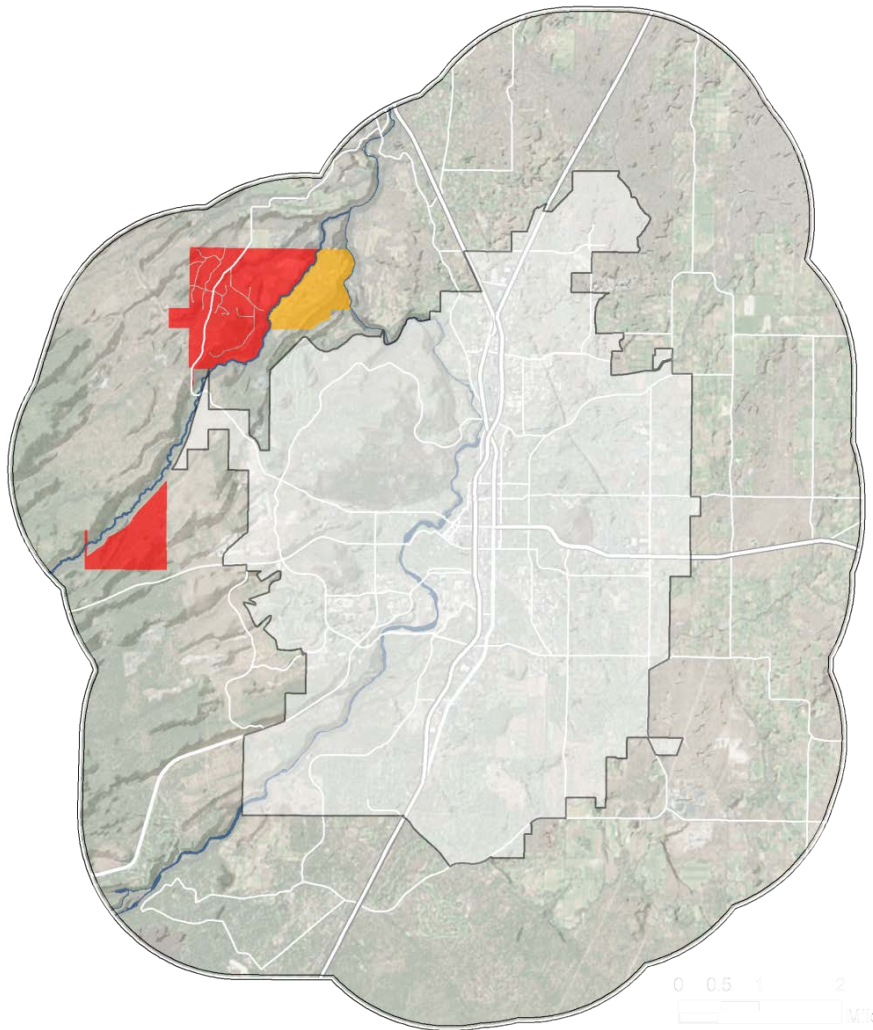
Exception lands within the acknowledged Deschutes County Wildlife Overlay (deer winter range) were screened from further analysis. These areas are considered significant habitat by

⁴⁹ OAR 660, Division 8 defines buildable land. See Bend's BLI for more information.

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)

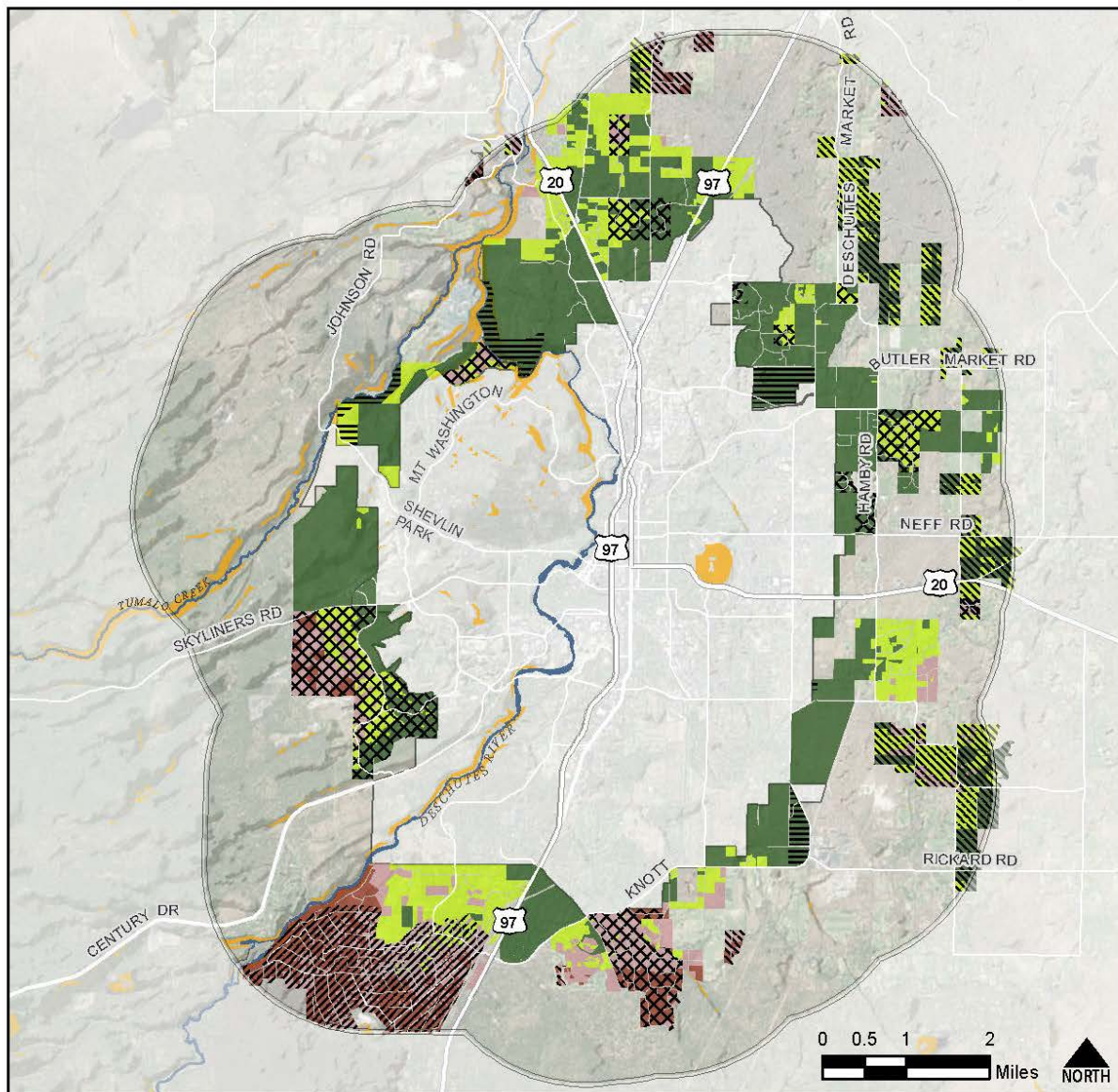
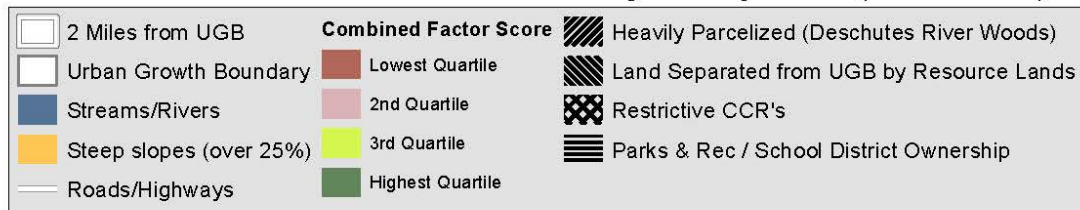
Results

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

Bend UGB Land Suitability Composite (Annotated)

Service Layer Credits: Deschutes County GIS (2014)

Disclaimer: This map represents an equally-weighted sum of the four Bend UGB Goal 14 Factors. For informational purposes only.

Prepared 4/10/2015

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.

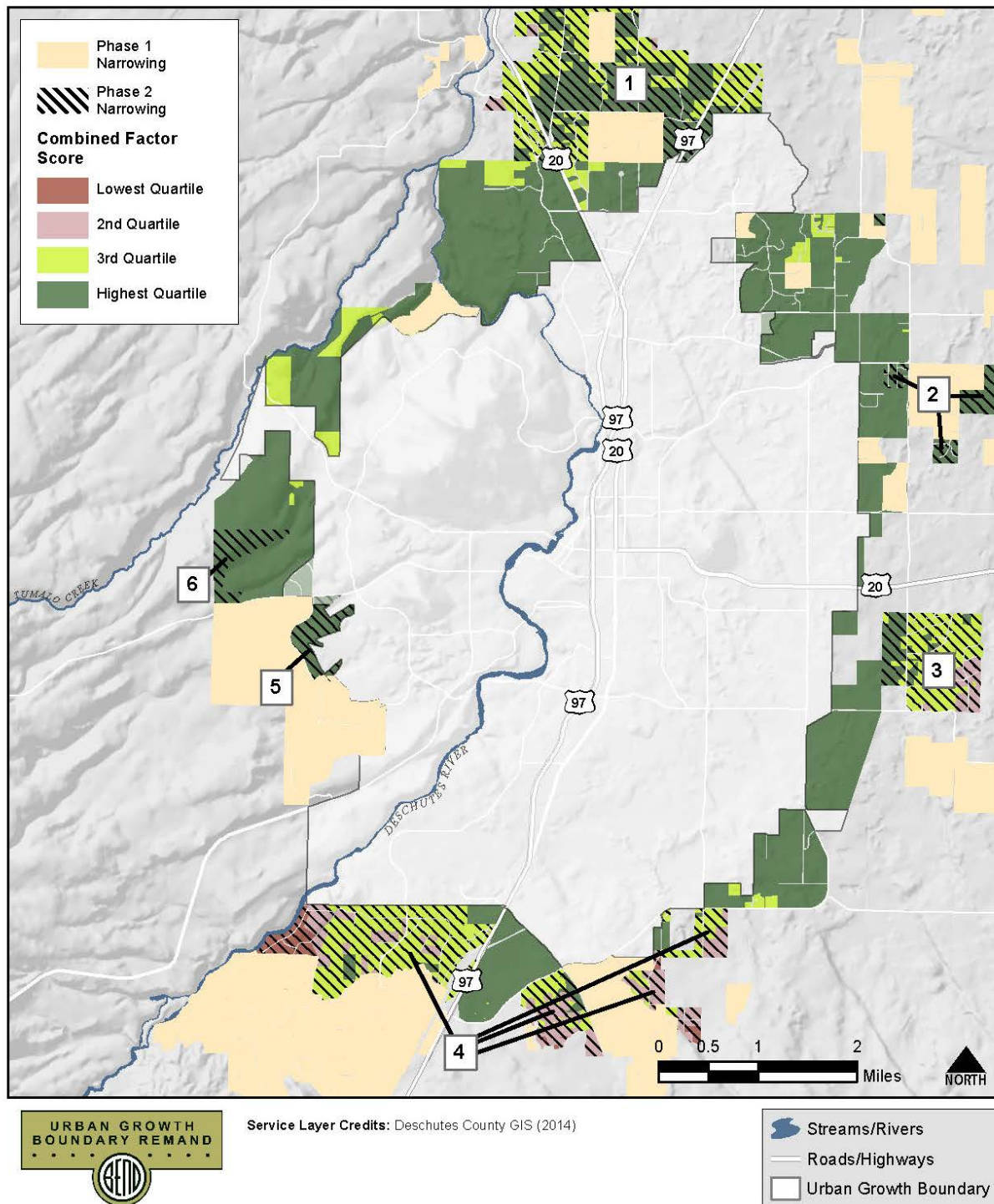
1. A large rural residential exception area (just under 1,600 acres) located north of Cooley Road generally between Hwy 97 and Hwy 20A relatively large rural residential subdivision (about 220 acres) with restrictive CC&R's is located at the southerly boundary that represent a barrier to efficient expansion 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

Bend UGB*Phase 2 Narrowing of Exception Lands*

Prepared 6/18/2015



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.

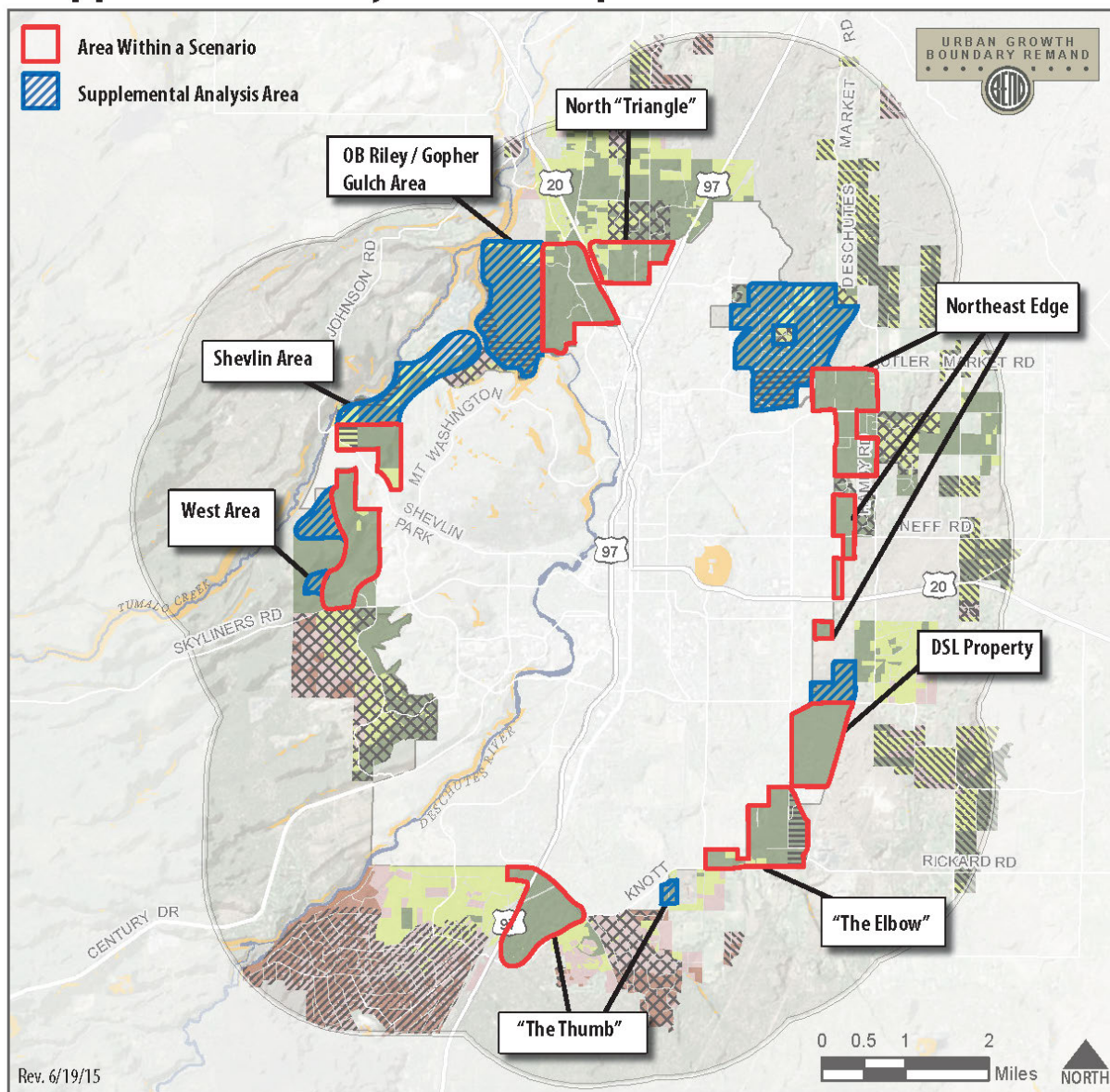
The Scenarios and SAAMs are organized around eight general geographic areas that were identified as the most suitable to meet the identified land needs:

- 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

Supplemental Analysis Area Map



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

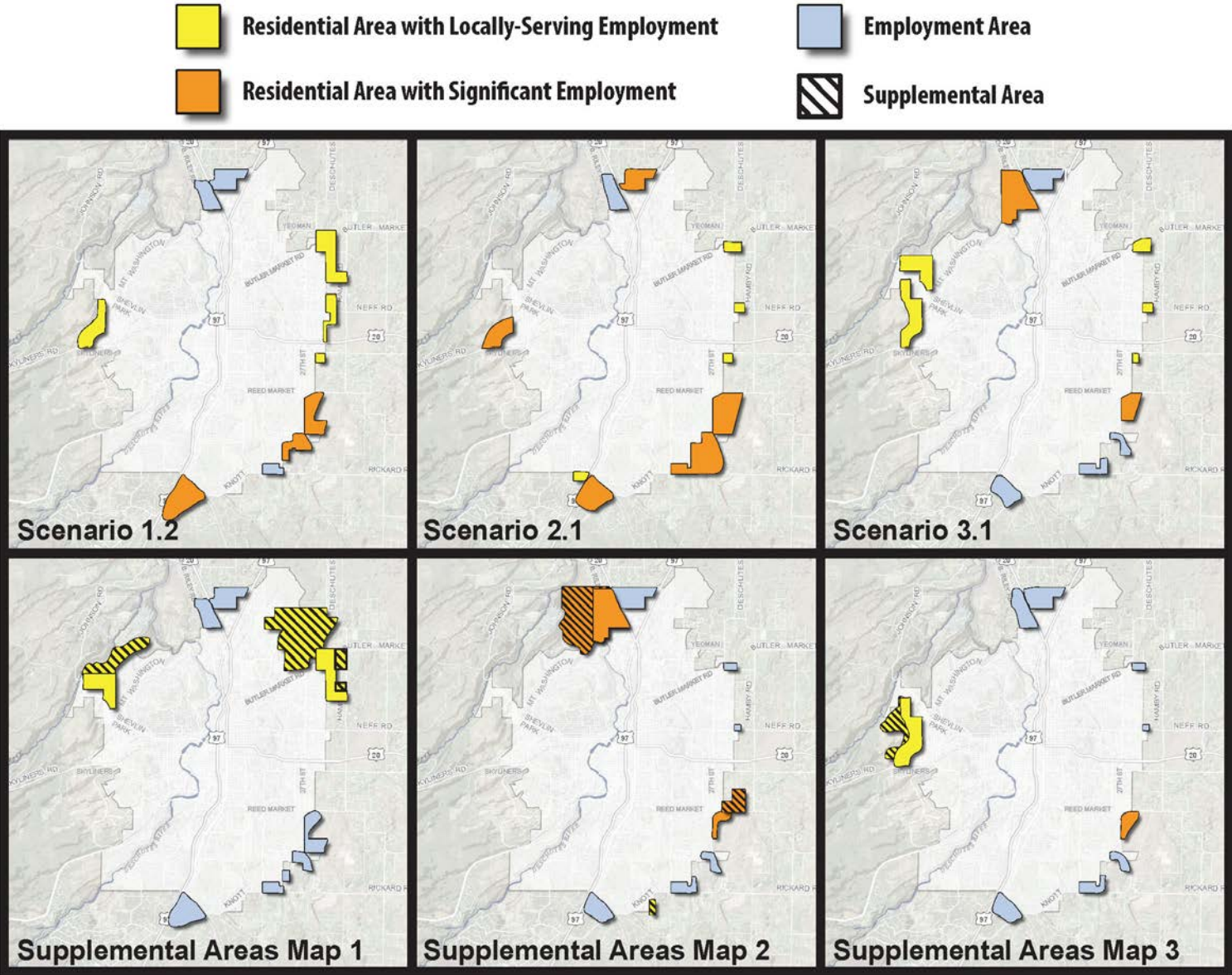


Table 18: Land Use Concepts by Subarea for UGB Expansion Scenarios and SAAMs

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
	Housing Options and Affordability (Social Consequences)	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.
		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 between 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 between urbanizing landuses and forest operations helps reduce concerns about compatibility and associated legal risk. 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 southeast⁵²).

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.

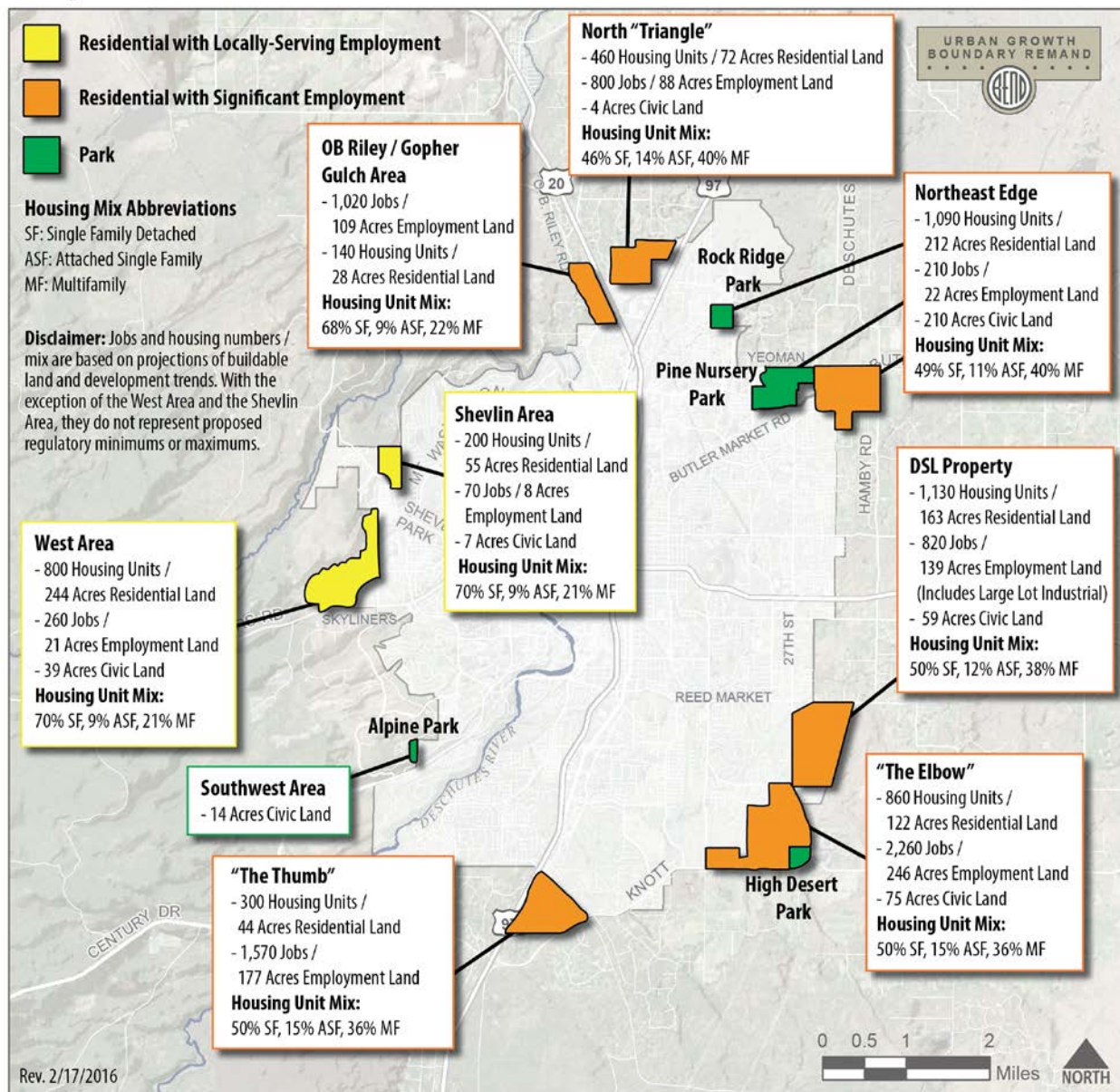
Proposed UGB Expansion

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

Expansion Scenario 2.1E



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.

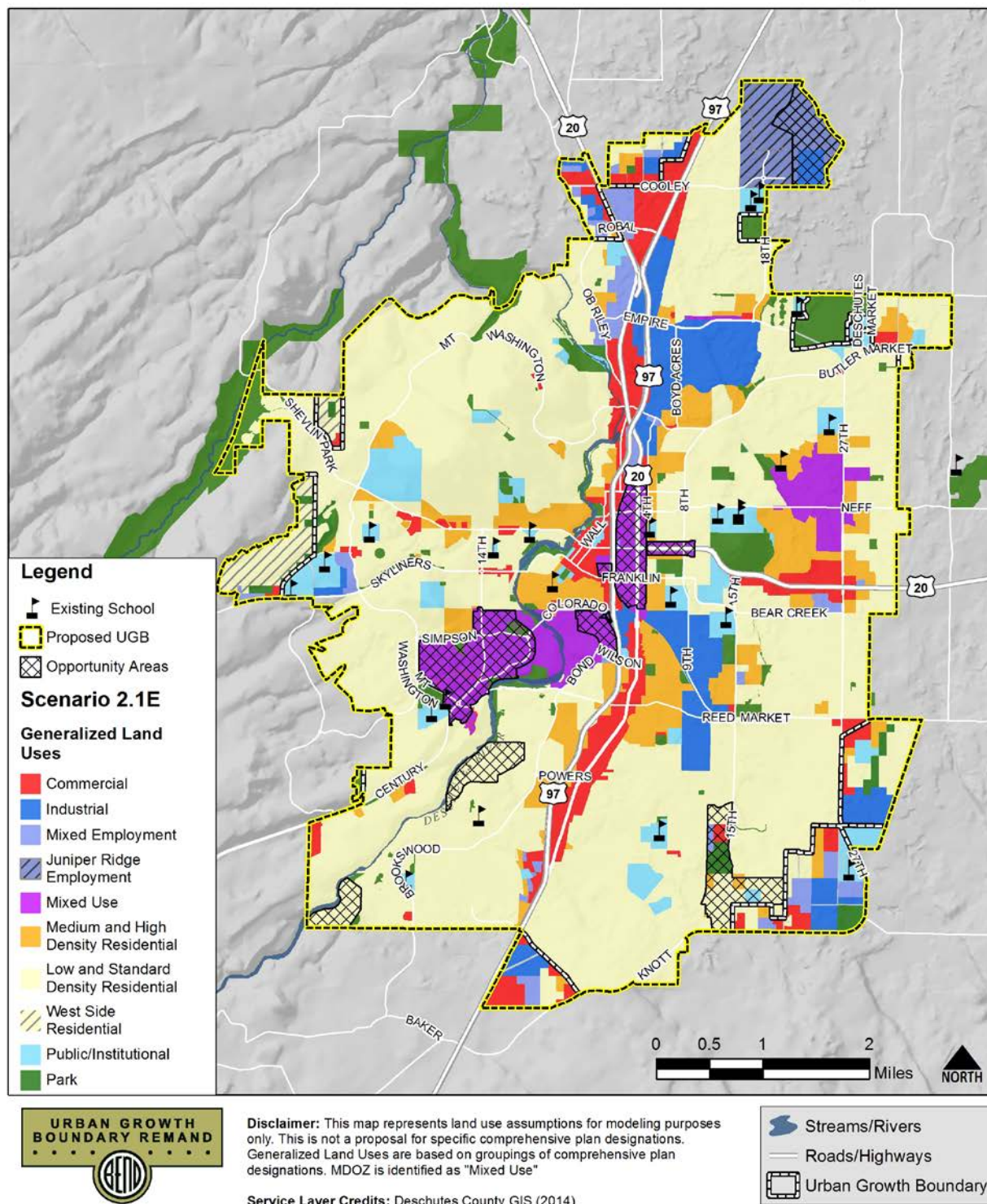
- **DSL Property:** Full area included; mix of housing and employment uses.
- **“The Elbow”:** Full area included; mix of housing and employment uses.
- **“The Thumb”:** Roughly half of area included; primarily employment uses but with a housing component.
- **West Area:** Full extent of Miller property 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

Bend UGB*Draft Preferred Scenario*

Prepared 2/26/2016



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



Packet 2

Bend UGB – Boundary and Growth Scenarios Technical Advisory Committee

Wednesday, March 16, 2016

9:00 AM to 12:00 PM

Municipal Court Hearing Room, Bend Police Station

555 NE 15th Street Bend, Oregon 97701



Meeting Agenda

Boundary and Growth Scenarios Technical Advisory Committee – Meeting 14
 Wednesday, March 16, 2016 9:00 AM – 12:00 PM
Municipal Court Room – Bend Police Department
555 NE 15th Street

Meeting Purpose and What is Needed from the TAC

The purpose of this meeting is to discuss and recommend adoption documents to the UGB Steering Committee that support the Preferred UGB Scenario. There is a relatively large amount of material for this meeting. In the interest of a productive meeting, and getting through all the topics, the agenda below identifies specific pages of the packet that will be the focus of discussion and recommendations.

Policy-related items (action items for the TAC)

- Growth Management chapter of the Comprehensive Plan
- Approach to implementation for expansion areas

Informational items (for brief discussion as needed, and email review for TAC comments)

- Integrated Land Use and Transportation Plan
- Urbanization Report
- Urban Form Report (preliminary draft)
- Implementation strategy and Plan Map designations for opportunity areas inside the existing UGB
- Transportation System Plan amendments

1. Welcome and Introductory Items

- a. Convene and welcome
- b. Approval of minutes (Packet 2, page 5 of 179)
- c. Where we are in the process – a brief look back and look forward

9:00 AM

Co-chairs

Joe Dills, Brian Rankin, Co-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.

2. Policy-Related Items

9:10 AM

TAC Discussion, Action

- a. **Growth Management chapter of the Comprehensive Plan**
-See draft chapter on beginning on page 26 of 179 in the packet. The TAC's discussion will focus on the policies on pages 37 through 52 of 179. A brief presentation will be given followed by discussion and action by the TAC.
- b. **Approach to implementation for expansion areas** - See
memo on page 53 of 179 in the packet. A brief presentation will be given followed by discussion and action by the TAC.

Project Team

3. Public Comment

10:45 AM

Co-chairs

4. Informational Items

11:15 AM

TAC Discussion, Follow-up Opportunity for Email Comment

"What's new?" is noted below in parentheses.

Project Team

- Integrated Land Use and Transportation Plan (This topic is an agenda item for the Joint Residential-Employment TAC. It is the City's draft analysis and strategies for reducing the growth of vehicle miles traveled per capita through integrated land use and transportation planning.) - Packet 2, page 67 of 179
- Urbanization Report (finalization of capacity estimates; draft now includes Chapters 4 and 5 – write up on efficiency measures and description of alternative scenarios and preferred scenario) - Packet 1, page 4 of 83
- Urban Form Report (A new background report. It documents in report form the presentations given to the TACs, and describes the urban form aspects of Opportunity Areas and expansion areas.) - Packet 2, page 111 of 179
- Implementation strategy and Plan Map designations for opportunity areas inside the existing UGB (This memo describes a strategy for adoption of Plan Map amendments and zone map amendments to implement the recommendations for the Opportunity Areas.) - Packet 2, page 154 of 179
- Summary of Transportation System Plan (brief summary of how UGB recommendations will be reflected in amendments to the TSP and in Chapter 7 of the General Plan) - Packet 2, page 177 of 179

5. Next Steps

- a. Thank you to the TAC and next steps

6. Adjourn

11:55 PM

Brian Rankin,
Joe Dills

12:00 PM

City of Bend
Boundary & Growth Scenarios Technical Advisory Committee
Meeting Notes
Date: January 20, 2016

The Boundary & Growth Scenarios TAC held its regular meeting at 9:00 am on Wednesday, January 20, 2016 in the Municipal Court Hearing Room of the Bend Police Department (555 NE 15th Street). The meeting was called to order at 9:01 am by Sharon Smith.

Roll Call

- | | | |
|--|---|--|
| <input type="checkbox"/> Toby Bayard | <input type="checkbox"/> Steve Hultberg | <input type="checkbox"/> John Russell |
| <input type="checkbox"/> Susan Brody | <input type="checkbox"/> Tom Kemper | <input type="checkbox"/> Sharon Smith |
| <input type="checkbox"/> Jim Bryant | <input type="checkbox"/> Nick Lelack | <input type="checkbox"/> Gary Timm |
| <input type="checkbox"/> Paul Dewey | <input type="checkbox"/> Brian Meece | <input type="checkbox"/> Rod Tomcho |
| <input type="checkbox"/> John Dotson | <input type="checkbox"/> Charlie Miller | <input type="checkbox"/> Dale Van Valkenburg |
| <input type="checkbox"/> Scott Edelman | <input type="checkbox"/> Wes Price | <input type="checkbox"/> Ruth Williamson |
| <input type="checkbox"/> Ellen Grover | <input type="checkbox"/> Mike Riley | |

1. Welcome and Introductory items

Co-Chair Sharon Smith called the meeting to order at 9:01 am. Mr. Joe Dills of the Angelo Planning Group welcomed everyone. He thanked visitors for coming, and asked those that wanted to provide comments to compete and submit a comment card.

Mr. Dills introduced himself as the facilitator for today's meeting. He then asked for committee action on the minutes from their October 22, 2015 meeting. Mr. Tomcho noted one correction to the minutes on page 4 of 12. He noted testimony listed at item #12 and that the cost of homes in Northwest Crossing should be stated as \$300 to \$400 a square foot. Ms. Brody moved approval of the minutes as corrected, with Mr. Dotson providing a second to this motion. The committee approved the October 22, 2015 minutes with the correction noted.

Ms. Smith then made some introductory comments. She acknowledged the committee's last meeting was held on October 22, 2015 and explained why the committee was meeting today. Back in October, the Committee (Boundary TAC) made a recommendation to the Steering Committee after lots of discussion and not complete consensus. That same afternoon the USC met and did not follow the TAC recommendation and made their own changes to it. A number of people felt that things were not processed the way they should have been processed. She indicated that she spoke with USC Chair Victor Chudowsky, who then convened a meeting of the USC. The TAC got direction from the USC to reconvene, and she noted their (USC) meeting summary in the packet. Mayor Clinton asked if we could work together to reach consensus.

Co-Chair Mike Riley then added his introductory comments. He summarized the committee's tasks for this meeting, as directed by the USC. In the context of UGB Expansion Scenario 2.1, the committee needs to look strongly at the northeast part of town, around the area identified as the perfect rectangle. On the west side; change geography but stay with same number of housing units. Finally, he added the direction to staff to bring in a few more acres than those shown in Scenario 2.1B; and try to get to consensus. He expressed that he felt very dissatisfied after the October meeting, and referred to the summary in the meeting packet. With respect to proposed Scenario 2.1C, he noted several big differences between this scenario and Scenario 2.1B. Scenario 2.1C includes the land identified as the Perfect Rectangle; includes complete neighborhoods and does not include a node that was previously located off of Neff Road and Eagle Road. With respect to the DSL property, this subarea area is the same in size, but includes a decrease in the natural area, and more residential. With respect to the Elbow, Scenario 2.1C includes the full extent of the Elbow, but with more residential and less commercial. The West Area saw the biggest change. Scenario 2.1C increases the number of acres and keeps the housing units about the same as 2.1B for the purpose of employing a transition from urban to rural and uses the transect idea on the western edge. Skyline Ranch Road is also included in this scenario. He referred to testimony from westside land owners and Central Oregon Landwatch (COLW). He noted a new area is the "notch" north of Shevlin Park Road has been added and that the North Triangle was largely the same in acres, but with a change in the mix of uses.

2. Background and Draft Scenarios 2.1C

Mr. Dills then directed the committee's attention to the next item on the agenda. He referred to the Background and Draft Scenario 2.1C, with a memorandum found at page 15 of 60 in the packet. He then turned the presentation over to Mary Dorman of the Angelo Planning Group.

a. Presentation and discussion of public comments and background

Ms. Dorman summarized a compilation of public testimony that was presented in a memorandum in the meeting materials. She referred the TAC to page 37 of the packet that included maps that identified properties referenced in testimony. Starting with testimony focusing on properties in the northeast, she proceeded to summarize the testimony specific to properties outside the UGB, working in a clockwise direction. This presentation addressed the testimony on properties in the southeast in the Elbow, the south and the southwest, the neighborhood association chair testimony regarding future development of the Thumb, and the Central Oregon Irrigation District property referenced in testimony from Mr. Van Valkenburg. She then referenced the testimony of land owners and interested citizens regarding the West and the Northwest. At the conclusion of Ms. Dorman's presentation, Mr. Dills asked for questions regarding the materials at pages 15 through 44 of the meeting packet.

Mr. Van Valkenburg first asked about whether parks are being included in the scenario, citing the testimony from the parks district. Mr. Dills responded that the rationale for including parks shifts from land need to their role in the citywide parks system. Parks serve the urban area already. He directed the committee to look at the statewide recreational goal. Mr. Van Valkenburg inquired whether the parks properties would be included on top of the 1,800 acres in this scenario. Joe confirmed that they would be an addition to the 1,800 acres.

Mr. Rankin responded and referred to the park land need from the Parks District. He noted that rural parks are already providing for some of the district's recreational needs; bringing the requested parks into the UGB allows them to be connected to sewer.

Ms. Grover commented that the parks levels of service standards are based on an urban model and an urban level of service.

Mr. Van Valkenburg noted that he did not have an objection to having them included, and recommended a motion to include the parks in the UGB expansion.

Mr. Dills recommended that we address this during the list of refinements to 2.1C, and asked if there any other comments. Hearing none, he moved the committee on to the next agenda item.

b. Presentation and discussion of Draft Scenarios 2.1C

Mr. Dills referred the committee to page 45 of the meeting materials, which included a memorandum that described Scenario 2.1C. In their opening remarks, Ms. Smith and Mr. Riley outlined the mission for today's meeting. Mr. Dills began by summarizing the key differences between the 2008 UGB expansion proposal and Scenario 2.1C. He referred to the adjustments incorporated into Scenario 2.1C discussed on pages 46 and 47 and also addressed the question of whether additional acres could be identified for inclusion in 2.1C. He referenced the recent testimony regarding the Central Oregon Irrigation District property and the related view easement, and the revised project assumption regarding assumed minimum densities discussed under item 5 on page 47. The BLI adjustments in total add up to another 230 acres in 2.1C that were not included in 2.1B.

After his presentation, he asked the committee for any questions. Mr. Dewey asked whether the densities adjustment had been reviewed by the Residential TAC. Mr. Dills noted that there had been no intervening meeting of the Residential TAC between the last USC meeting and this meeting. Mr. Dewey cited the Central Area Plan and this new consideration that staff has brought forward. He further noted that minimum densities, both historical and new, have been discussed. He concluded by stating that the numerical change of 230 acres had not been brought back to the Residential TAC.

Mr. Rankin interjected that this was a question of time because another meeting of the Residential TAC could not be organized before this meeting. To address this question, he offered to meet with the leadership of the Residential TAC before the next USC meeting to brief them on the adjustments to the BLI and capacity assumptions.

Mr. Dills concluded his presentation by summarizing text on pages 48 and 49 of the meeting packet. He cited the strategies on pages 48 and 49 and how they have influenced work on this scenario. Ms. Grover asked for clarification on strategies, and whether these were culled out from the workshop? Mr. Dills noted that the workshop was the starting point for many of these strategies.

Ms. Smith specifically recommended adding the transect concept to the list of strategies. She reflected that these strategies are a compilation of all of our work. Ms. Grover agreed and acknowledged that we affirm these. Mr. Riley concurred that we also affirm these and with the addition of the transect concept and this needs to be articulated as part of the policy framework. Ms. Brody further supported incorporating the strategies in our motions at the end and having the committee formally adopt them.

Mr. Rankin also recommended that we add policies to the Urbanization Chapter so that the strategies are incorporated as policies going forward after this project. He mentioned that the next meeting of the Boundary TAC will include review of the Urbanization chapter and policies.

Mr. Dills acknowledged the nodding of committee members that affirmed the policy framework and strategies to help craft policies for the comprehensive plan. He acknowledged this as direction to move forward, and then turned over the agenda to Andrew Parish and Chris Maciejewski.

Scenario 2.1C – what's changed

Mr. Parish began a presentation with a series of power point slides and reviewed the changes in the UGB expansion scenario reflected in Scenario 2.1C. These changes included more of the area along Butler Market Road referred to in testimony as the Perfect Rectangle. This change increased the amount of land included in the subarea identified as the Northeast Edge. In addition, the change included the removal of the expansion node on Neff Road and the addition of a notch of land in the Shevlin Area.

He noted that the Northeast Edge now includes 238 acres of land in the Perfect Rectangle. The arrangement of land uses in this subarea includes commercial land and land for medium and high density housing. Mr. Maciejewski added that the memorandum included in the meeting packet further discussed the transportation analysis. One key change is an extension of

Yeoman Road between Deschutes Market Road and Butler Market Road. He also identified a connection in the Bear Creek Road area.

Mr. Parish then addressed the areas in the southeast. With respect to the Department of State Lands (DSL) property, this area is largely the same. The land uses in this subarea included the addition of more multi-family housing, and the recognition of natural areas assumptions regarding the bat caves. With respect to the area identified as the Elbow, Scenario 2.1C includes the full extent of this area with the addition of more residential land and a reduced amount of commercial land. He referred to Ms. Dorman's presentation and testimony regarding the Schumacher property

Ms. Brody asked about mixed employment zoning and what land uses are allowed with this designation. Mr. Parish replied that it is primarily an employment designation that allows some residential development. Ms. Robinson of the City of Bend responded by describing the uses allowed in the mixed employment zone.

Mr. Parish then addressed the area identified as the Thumb. This area now includes more land for multi-family housing. Mr. Maciejewski made some additional comments regarding the transportation facilities necessary to serve the Thumb. With Scenario 2.1C, there are no modified transportation recommendations. He discussed a complete transportation system with the neighborhood association chair. This discussion addressed Parrell Road and increases in traffic volume on this road, turning restrictions on China Hat Road, and the examined Parrell Road volumes in traffic modeling.

Ms. Smith asked whether the neighborhood association chair requested that the UGB expansion include the entire Thumb. Mr. Maciejewski responded by referring to Scenario 1.2 in which all of the Thumb was included. He noted that if the full Thumb is included in the UGB expansion, Knott Road will need to be widened and that the analysis showed the same amount of traffic on Parrell Road. The inclusion of the full extent of the Thumb did not increase traffic on Parrell Road.

Mr. Van Valkenburg asked about the property referred to as the Baney piece. Mr. Maciejewski pointed out that access to Highway 97 is limited in this area to right in and right out. He added that to the south, the area includes rural roads to provide access to this property, but this access is very limited. To the north, he noted potential access through Brookwood Boulevard, which is not convenient or direct for the Baney property to use to reach the Murphy Road interchange.

Mr. Parish then turned to the West Area. This subarea now includes land for a proposed extension of Skyline Ranch Road. One of the elements of this proposal is to keep development in the West Area to the east side of the Skyline Ranch Road extension and west of the current

UGB. This current proposal adds greenspace to extend Discovery Park to the south, and he further cited residential land in the changes to West area. Mr. Maciejewski added that while Skyline Ranch Road is not needed to reduce congestion, it is good for connectivity and the Shevlin portion allows Skyline Ranch Road to continue to the north.

Mr. Hultberg asked what the basis was for including land in the Shevlin Area but not any of the Day property. Mr. Parish replied that this decision largely had to do with need and the distribution of need on the west side. Mr. Dills added that there were only so many acres of land to work with.

Ms. Bayard commented that if one looks at the comments submitted into the record since October 23rd; a lot of people who had no skin in the game advocated against expanding to the west.

Mr. Meece asked whether the Coats property (Shevlin Area) was serviceable with sewer. Mr. Rankin responded by pointing out that gravity service to the Awbrey Pump Station is available for the notch in the Coats property.

Mr. Timm raised a concern about the Notch and the proposed density in this area. He commented that the density proposed of 360 units on 70 acres seemed awfully dense. He further inquired as to how the team arrived at putting that many homes in that area, and the potential impacts on transportation and affordable housing.

Mr. Parish responded by pointing out it's the number of units needed to be accommodated outside the UGB and a function of meeting master planning requirements. The RS master plan requirement is 80% of maximum, including some higher density residential can meet some of this need at this property.

Ms. Smith asked if we have a sense of the density of existing residential development around the Notch. Mr. Parish answered that we have no density data, but noted the surrounding area is developed with large residential lots.

Mr. Van Valkenburg noted that the committee had not discussed the Notch to a great extent, and asked the open question of whether we are missing an opportunity to support the development of a complete community in this area. Ms. Brody agreed and recommended that we include some neighborhood commercial if we bring in the Notch.

Mr. Parish then turned to the North Area and OB Riley Area on the map for Scenario 2.1C. He noted that some residential land was added to the OB Riley Area, and that the residential in the North Triangle was reduced. With respect to transportation, Mr. Maciejewski noted that a

collector corridor cost was included in the prior scenario, and not including certain parcels reduced the transportation costs.

Mr. Dewey commented on the concern over industrial uses in this area and referred to a potential residential buffer for existing neighborhoods to the north. Mr. Rankin asked for clarification, and Mr. Dewey clarified that he was suggesting a residential buffer at the northern end of the subarea.

Mr. Hultberg then inquired about the range of transportation projects and funding. Mr. Maciejewski referred to the City's transportation system plan (TSP) and the Regional Metropolitan Planning Organization (MPO) Metropolitan Transportation Plan (MTP). These projects include a grade separation at Cooley and 97; on OB Riley Road, widening to a three lane corridor to Empire Boulevard; additional turn lanes at Robal Road and Highway 20; a traffic signal at Cooley and Highway 20, and; an additional travel lane along Highway 20. He noted that connectivity to the area is a priority, and adding more to the collector grid with the series of improvements to Empire Boulevard including widening through interchange, signalizing, and turn lanes for capacity improvements.

Ms. Bayard asked about when transportation improvements are going to be programmed and when will they be required for development. She questioned the timing of improvements and whether and when they may be funded. Mr. Bryant of the Oregon Department of Transportation noted the North Corridor Project and two additional points. One, is that the MPO plan is considered financially constrained and considered fundable. The second is that we have a North Corridor project. No funding has been identified, but the project is in plans and that it's a safe assumption that the North Corridor will not be available in this time period.

Mr. Dills asked the committee for final comments on the North area; hearing none he asked about testimony and comment cards.

Mr. Kemper asked a final question about the Perfect Rectangle, and whether there would be an island to the west of this area if included in the UGB. City staff thought this area to the west was already included in the UGB and would check the maps. Mr. Dills then budgeted approximately ten (10) minutes for the TAC to discuss refinements to Scenario 2.1C. Ms. Smith stated that the TAC would take each area one at a time.

Ms. Brody began by starting with the West. She asked if the committee would have a presentation about the negotiation and discussion, and expressed that she wanted to hear about the agreement. She also commented about the notch on the West side; she said she likes what she sees on the West side and was thinking more about medium density and neighborhood commercial in the Notch. She thought some additional commercial in this area would reduce trips. She agreed with what she described as feathering out density as

development gets closer to the edge, but thought we should be accommodating some medium density residential. She concluded by stating that there is a demand for a range of prices of rental housing.

Mr. Dills asked if one of the testifiers was a signer to the west side proposal. Ms. Smith indicated that one of the people signed up to testify is and asked the committee if they wanted to hear about the proposal before further discussing the West Side. The Committee agreed to hear this testimony out of order and asked Kirk Schueler to go first.

Mr. Schueler began by distributing 20 copies of a map that outlined what he described as the West side proposal. He also noted that he submitted a letter earlier that included this map. He briefly described a planning tool that came out of the New Urbanist movement and referred to as the "transect." He described it as densities feathering or becoming less as development moves away from a city toward a permanent, natural edge. In Bend's case, this natural edge includes public forest lands managed by the Forest Service and Shevlin Park. He noted that Paul Dewey of Central Oregon Landwatch (COLW) submitted a letter into testimony that gave him the idea that they had ideas in common. He mentioned that he and Mr. Dewey had met and the presentation map is what came of these discussions. The proposal includes land owned by Anderson Ranch, Rio Lobo, and Miller, with the goal of including these land owners to develop a more comprehensive transect. He mentioned the role of topography and density of development in the process used to come to consensus, which represents a proposal from two groups – landowners and Central Oregon Landwatch.

Mr. Dewey of COLW followed and provided his testimony. He mentioned that he took to heart what the USC had directed. He stated that he really wanted the group to find consensus, and that they put a lot of effort into that. He stated that he thought Mr. Schueler summarized the process well. Mr. Schueler had introduced a planning tool (transect) that would help meet common interests, particularly his interests and concerns about wildfire, wildlife, and the potential for 400 housing units to be developed east of Miller School and 400 units to the West of Miller School. He added that what sealed the vision/deal is the transect within the proposed UGB, lower densities on the Miller Tree Farm development further to the west, and this combined with development on County lands. A combination of county land and city land incorporating the transect is incorporated in the proposal. He concluded by stating he was also looking for certainty, and thanked the other parties.

Mr. Dills opened up the discussion on this topic for committee comments. Ms. Williamson expressed a very positive reaction and said she found the proposed Westside transect inspiring, especially the collaborative aspect of it. She commented on what was happening around this particular area, including the broader mix of uses and the concerns expressed over medium density housing, topography, and landscaping. She concluded by recognizing the involvement

of Brooks Resources and a commitment to a complete community in this area, and expressed her thanks to all those involved.

Mr. Schueler added that a total of 238 multi-family and attached single family units are included in their proposal. Ms. Grover offered her reflections on this proposal, and commented that the transect provides an opportunity for leadership by the City of Bend in being responsive to urban growth policies and the larger region in which Bend is located. She concluded by noting that the city has a western edge, which involves greater wildfire risks and wildlife issues.

Mr. Tomcho commented that this is unique to the west as opposed to other parts of the City. He also noted that this is not a 20 year plan, and that this is now a hard edge going forward.

Mr. Lelack echoed the prior comments, and noted that county lands are incorporated in the transect and this needs to be recognized in county land use policies. This action creates a natural permanent edge, and he further noted that to attempt to do this in other areas around the city could make future expansion very difficult. He recommend the committee be mindful about this through future expansions.

Mr. Price commented that he wants to find out if DLCD will buy off on this concept. Mr. Edelman of the department (DLCD) mentioned that city staff had informed him of this concept. He mentioned that he also spoke with other DLCD staff, and added that this is another great aspect of a truly exceptional process. He added that DLCD staff would most likely not have an issue with this concept but clarified that this will need to get through the commission (LCDC). He added that the Commission likes consensus, and echoed Mr. Lelack's warning about not making future expansions difficult by doing this in other areas around the city. The City has already employed efficiency measures inside the current boundary, and DLCD will look at the whole package.

Mr. Riley cited the workshops held at Deschutes County. He noted that for this part of town a lot of the participants identified future land use to include lower density and cluster housing. He noted that we're now seeing it folded into this area for expansion.

Mr. Hultberg commented and referred to the prior consensus and noted that not all property owners in this area have signed off on this concept. He asked about the hard edge and what that means.

Mr. Dills directed this question to Mr. Schueler to explain what was meant by a hard edge. Mr. Schueler explained that this concept refers to a hard natural edge, and address the transition from urbanization to land that will not be urbanized.

Ms. Bayard expressed interest in this concept and noted she lives in the north. The area to the north of her includes properties covered with CCRs (covenants, conditions, and restrictions). She commented that it was not a good transition to have industrial transition to MUA10. Mr. Lelack added that the county will have to adopt a policy framework to support the transect.

Following the TAC's discussion, Mr. Dills then transitioned to the agenda item for public comments

3. Public Comment

1. Myles Conway, representing Rio Lobo investments. Mr. Conway noted that the new Scenario 2.1C included 30 acres of Rio Lobo Property. He expressed their support for the extension of Skyline Ranch Road. He noted that the UGB process provides an opportunity to include this segment, and summarized the benefits for it. He noted contributions of developers, and cited a traffic report submitted by Swisher. He commented on the transect proposal, and commended the process using consensus as the best way to proceed. He stated that Rio Lobo supports the concept of reducing densities, but does not support only 30 acres of their property being included in the UGB. He stated that it's difficult to factually distinguish Rio Lobo from other properties, and cited prior testimony. He commented that there needs to be a more equitable sharing of development opportunities on the west side, and that what is currently proposed is not an adequate incentive for Rio Lobo to participate. He pointed out that Rio Lobo has a 40 acre parcel on the northern end of this property that currently abuts the UGB on three sides, and recommended that this parcel be included in the UGB. He asked that he and his client be allowed to discuss this with the other west side land owners and the city.

At the conclusion of Mr. Conway's testimony, Ms. Smith asked him about the topography in the 40 acre parcel to which he referred. Mr. Conway replied that the topography is flat and well-suited for development. Ms. Williamson asked him to describe Rio Lobo's vision and their intention for this property. Mr. Conway added that they (Rio Lobo) own a large piece of property, and that it represents a significant master planning opportunity. He noted that after the chip exercise (at the April 30, 2015 workshop), his client's property was left out of subsequent UGB scenarios. He added that his client is well-funded to develop a plan for a well-developed community, and added that the transect proposal make some sense. Mr. Riley asked Mr. Conway about what level of development they are contemplating, with Mr. Conway commenting that they would propose RS (Standard Residential) development, at about four (4) units to the acre.

2. Tia Lewis, representing the Coats family. Ms. Lewis echoed some comments she heard today, and expressed her gratitude that her client's property was on the map. She testified that the Coats property is the quintessential property for a transect. She added that all of the Coats

property was on the 2008 map. She testified that she and her client began discussions with the county and the city on how to best develop their after the remand. These discussions included the park district and the school district, and potential development similar to the transect concept. She expressed her gratitude for the process to develop the transect, and agreed with some of the comments that the Coats property has an opportunity for a mix of uses beyond just single family residential. She testified that her client wants to see an additional 80 acres on top of the 70 acres included in the UGB proposal, with no increase in density, and an opportunity for mixed use. She commented that there is a collector corridor development opportunity with this additional land, for a total of 150 acres, with some mixed use, some medium density residential, and some civic land. She testified that she believes they can write findings that the state would support, and provided the map to the committee. She concluded by testifying that she and her client want to work with Landwatch and the parks district.

At the conclusion of her testimony, Mr. Timm asked about the neighborhood commercial proposed on the property? Ms. Lewis replied that 400 units are proposed, but her client can stay with 360 units of housing. She added that her proposal includes 12.5 acres planned on their property for mixed use and commercial and collector roadways.

3. Jacqueline Newbold. Ms. Newbold testified that she has lived in the Tumalo area for over 30 years. She expressed concerns about the traffic increase on the north side of Bend, and the potential for added traffic on Highway 20 with the widening of OB Riley Road. She testified that with the increase in traffic on Highway 20 that there has been an increase in deer deaths, and that it's becoming dangerous getting to Tumalo from OB Riley Road. She testified that ODOT needs to address this problem, and cited several benefits for living in area. She commented that elk are being squeezed from where they are living, and as a result are now coming into the Tumalo Area. She concluded by testifying she loves open space, and cited the benefits of living in the area and her concern over the potential impacts of development.

4. Chris Brown. Mr. Brown testified that he previously submitted a letter, and lives on Knott Road. He testified that the proposed Mixed Employment (ME) zoning doesn't interface with the proposed residential. He asked for ME zoning because we (the city) need to soften blow on Knott Road. He cited previous testimony from the Schumacher family, and added that he does not want multi-family zoning; wants mixed employment, not commercial. He noted that the amount of commercial land in the Elbow is larger than the amount that covers the Forum, implying that it may be excessive. He cited a site plan for a farm stand in the county, and that the proposed ME is intended to support the farm stand. He concluded that ME is a better neighbor than all of the commercial proposed, and asked the committee to consider the request for ME.

5. John Short. Mr. Short testified that he is a retired teacher, and thanked everyone involved for putting the perfect rectangle back on the table along with the Butler Market Village proposal. He concluded that it's a good thing.

6. Tim Elliott, represents Anderson Ranch holding company. Mr. Elliott testified that his client was a signatory to the transect proposal. He thanked Mr. Schueler and Central Oregon Landwatch, and stated he would make two comments. He testified that he was concerned about the fact that the Rio Lobo property is not included, he expressed concern about the limitations on their (Rio Lobo) land. He testified that he submitted a traffic assessment in November 2015 that addressed vehicle miles traveled (VMT) and why the Anderson Ranch connection of Skyline Ranch Road is important. He concluded by testifying that the study concluded that this road would reduce trips by several thousand trips per year. Ms. Brody asked if the road connection would reduce or redirect trips.

7. Greg Blackmore, representing the Brownrigg family. Mr. Blackmore testified about prior testimony that he submitted, and referred to the areas of special interest on the property. He testified in support of Scenario 2.1C. He asked the committee to please consider that the properties to the west are developed rural residential properties, and consider how to reduce impacts on these properties. He testified that this area is a gateway to the City of Bend, and asked the committee to consider this when considering commercial and mixed use development. Ms. Smith asked if he or his client has a specific request. Mr. Blackmore replied that he submitted a proposal in previous submittal of testimony.

8. Kevin Spencer, representing the Day property. Mr. Spencer expressed his appreciation for the Skyline Ranch Road proposal and the land for it. He testified that he and his partners proposed 85 units under the plan proposed by the westside land owners and Central Oregon Landwatch. He testified that the 40 acres referred to earlier in testimony should come into the boundary, and noted that density and green spaces were not well defined on Rio Lobo property. He also brought up the inclusion of the Coats property in Scenario 2.1C and testified in support of this. He further testified that this property is what he described as a fill in piece of property, and that Mr. Day has 120 acres of fill in property. He testified to his willingness to participate in developing a sewer line in Shevlin Park Road by having his property included. He concluded by testifying that he had seen the transect plan that was delivered to him 10 days ago and noted that he had not had enough time to review and to negotiate and come to an agreement that includes Matt Day.

9. Jeff Reed. Mr. Reed testified in support of Scenario 2.1C in the Elbow. He referred the TAC to property he and partners represent, which totals 75 acres on 27th Street and Ferguson Road. He testified that the property is adjacent to High Desert Middle School, and advocated for

including some commercial in this area. He emphasized the need for affordable housing and recommended less mixed use and more high and medium density housing.

At this time, the Committee agreed to take a break at 11:04 am, and reconvened at 11:11 am

4. Working Towards Consensus – Scenario 2.1C

Mr. Dills then introduced the next item on the agenda. The agenda includes one hour and 20 minutes for working toward consensus on Scenario 2.1C, and consider proposals in written and oral testimony on changes and refinements to this scenario. Mr. Dills started with proposing a first refinement to Scenario 2.1C; adding the four (4) parks proposed by the Bend Metro Parks and Recreation District in their testimony. These parks included the Pine Nursery Park, Rock Ridge, Alpine, and High Desert Park. Mr. Van Valkenburg moved approval of this refinement, with Mr. Meece providing a second to this motion. The motion passed unanimously.

Ms. Smith raised the question about moving or shuffling zoning around with a given area. Mr. Dills noted that the team is not finished with the exact locations of zoning, and this task cannot be completed today as a group. He added that as things progress, there can be some shifting, and confirmed with the committee that this was acceptable. Ms. Grover asked if this referred to meeting the overall land need. Mr. Van Valkenburg commented on proposed plans and master plans, such as one owner versus several property owners.

Mr. Dills clarified that today, the team is asking for the TAC to try to suggest refinements; if there is a need to balance one area from somewhere else, please state that. The team needs this feedback to go back and prepare a map.

Mr. Price inquired about potential changes inside the UGB affecting areas outside the UGB, and whether there was the potential for changes inside the UGB.

Mr. Rankin responded that the team has addressed these comments, and that there will be future opportunities to fine tune this work with master planning and multiple owners. He asked that the TAC to consider the land uses inside the UGB as set for the purposes of today's discussion.

Mr. Dills suggested that the TAC consider refinements on an area by area basis, with Mr. Parish using maps in a power point presentation to display an area for the TAC. Mr. Miller asked whether the TAC would be addressing questions from either Mr. Reed or Mr. Brown now.

Ms. Smith responded that those things will continue to be refined as we go forward. Mr. Dills added that Mr. Brown's request can be considered a potential refinement. Mr. Miller clarified that this could include the location of commercial zoning.

Mr. Dills started this discussion by referred in the TAC to the West Area.

West Area

Mr. Timm raised the Coats property on Shevlin Park Road. He recommended the addition of some neighborhood commercial to the Notch on Shevlin Park Road, and made a motion that the TAC add neighborhood commercial. Ms. Brody provided the second to this motion. Ms. Smith asked if Mr. Timm was proposing a specific amount. She mentioned that Ms. Lewis has requested a specific amount. Mr. Timm replied no; he was not recommending a specific amount. Mr. Russell asked about the trade-off question, with Mr. Rankin responding that this involves taking land from area to give to another area, and that this is an option. Mr. Rankin then asked the TAC for direction to the team.

Mr. Dewey raised the Notch in the Shevlin Area. He noted that this area was included in Scenario 2.3, that the 370 units in this area are added on top of another 800 nearby. He mentioned that he discussed the notch with Ms. Lewis and that 150 units be the limit in this Notch and that other units be available for someone else. He commented that he was supportive of the Notch, but not at a level of development of 370 units. Mr. Dills commented that the housing assumed in the Notch would be reduced down by 150 units from 360. Mr. Dotson provided a second to this refinement.

Mr. Miller asked a question about sewer capacity for the Notch and the Day properties. Mr. Rankin responded to this question, and noted that he would need to follow up with the engineering team. Mr. Dills asked Tom Hickman, the city's Engineering and Infrastructure Planning Department Director, whether the sewer line had capacity to serve 360 Units? He also asked if the sewage would flow through the Awbrey Glenn Pump Station. Mr. Hickman confirmed this was correct.

Mr. Meece raised a question about the 40 acres of Rio Lobo mentioned in earlier testimony. He asked Mr. Dewey if it made sense to bring this property in the UGB, with Mr. Parish identifying the 40-acre parcel on the map. Mr. Dewey responded that his idea was not to give those units from Notch to someone else. He also expressed a concern about too much development loaded on the West side

Mr. Hultberg recommended that the TAC add density to the northern 40-acre parcel owned by Day. He indicated he was unconcerned as to where the density came from. Mr. Russell provided a second to this refinement.

Ms. Grover offered a friendly amendment this motion, in reference to Mr. Dewey's earlier comment. She recommended that the density for the 40-acre Day parcel come from

somewhere on the west side. Ms. Williamson asked for clarification on the Notch (Shevlin) and the 40-acre Day parcel.

Mr. Dills noted that the committee had received a friendly amendment clarification. Ms. Bayard seconded Ms. Grover's friendly amendment.

Mr. Van Valkenburg proposed what he referred to as the Schueler/Dewey amendment as a refinement, with Mr. Meece providing a second to this amendment. Mr. Riley commented that the number of housing units needed to be recognized as a maximum. Mr. Van Valkenburg confirmed that the 800 units would be a maximum allowed number of units, and further cited the goals and the transect idea. Mr. Dills recommended operationalizing these caps.

Mr. Kemper asked Mr. Dewey if the discussion was focusing on dropping the total number of housing units on the West side from 850 units to 800 units, which would include 50 units on the Coats' property/Notch. Mr. Dewey answered no. Ms. Brody clarified that 200 units from the Coats notch would need to be moved somewhere else. Mr. Dills asked about whether that would include a proportion of multi-family units being reduced and moved. Mr. Dewey answered that he did not consider that.

Ms. Smith commented that the committee was looking at about 1,000 housing units on the West side, which included 800 units in the Schueler/Dewey proposal, and 150 units for the Coats/Notch property. She then asked the TAC where the other 50 units would go. She offered for consideration of an increase in the number of units on the Coats property by allowing 200 units with some mixed use. Ms. Grover commented that from a general density standpoint, she was okay with 1,000 units on the West side, and would leave to staff to allocate. Ms. Smith then asked if the committee should allocate some commercial services to the Coats' notch, and/or in the 40-acre parcel owned by the Days. Mr. Riley asked if some of these 1,000 units will be allocated to the Day's north 40-acre parcel. Mr. Dills repeated the question for the TAC's consideration. Mr. Dewey responded first and commented that the additional units should be allocated to the Coats' property.

Mr. Timm raised a question regarding the number of units. He asked if the proposal is to allocate 800 units on the west side, with total of 1,000 units on west side. He asked if we (the TAC) will be allocating the other 200 units in the expansion. Mr. Hultberg commented that the Day's 40 acres would not be hard to master plan with residential, and that the Coats provided a simple plan. He offered that from a balancing and equity perspective, that the Day's 40-acre parcel should be included in the UGB.

Mr. Riley commented that the Coats' property is surrounded on all three sides by development. He further offered that the Day property has more conflicts, and that including the Coats' property made most sense right now.

Mr. Tomcho asked the question to clarify what he understood as the consensus package. This package would include all four (4) parks previously discussed, a total of 1,000 housing units on the west side, the Schueler/Dewey proposal (transect), and the Coats' property without the additional 80 acres they requested. In addition, he asked for clarification on whether 200 units would be allocated to the Coats property with some commercial.

Ms. Smith responded that the consensus package to which Mr. Tomcho was referring did include 1,000 housing units on West side; the Coats "notch" comes in with 200 units of some mix of housing units and with additional acreage for mixed use; the proposal outlined in the Schuler/Dewey letter, but does not include the Day's north 40-acre parcel.

Mr. Dills asked the committee if there was consensus support for what Ms. Smith just described. A total of 16 voting members supported this consensus point. Mr. Hultberg was the only member who did not support this consensus.

Ms. Smith then asked if there was consensus to support including the Day 40-acre parcel. Four (4) TAC members raised their hands; the rest did not.

Mr. Dills recommended that we close here. He noted that the TAC is only one vote short of consensus, and that this could be the TAC recommendation on the West. Mr. Rankin asked Mr. Hultberg to please explain his reasoning for not supporting the consensus so the team could convey this to the UGB Steering Committee. Mr. Hultberg offered that the Day property was included in areas identified as local urban reserves. These areas are cited in the comprehensive plan as first local priorities for UGB expansion. He further commented that this was not an equitable distribution of all the units on the West side.

Mr. Dills suggested closure on the West side. Ms. Smith followed this comment by stating that the USC needs to understand the policy considerations of why the Day property should not come in. Ms. Williamson responded first by stating she had no personal ax to grind on the Day property. She added that we're looking for near term solutions, which includes determining which lands we can develop meaningfully and move the remand forward to develop our developable land. She added that adding this property would not be a meaningful response to affordability, and suggested that it be incorporated in next UGB expansion.

Mr. Kemper then commented that if the TAC limits residential units to 1,000 we need to make choices, and this means the Coats property is better to bring in now. Ms. Grover added that this decision is largely a consensus recommendation driven by policy and strategies.

Mr. Tomcho commented that the proposal from Schueler/Dewey involves land located around schools and a future transportation link. Ms. Bayard added that exception land is exception land, and that we're playing by state laws now. Mr. Van Valkenburg commented that the current map doesn't reflect that there is another middle school. He noted that a gray area should be blue between Miller Elementary and Summit High School.

North Triangle/OB Riley

Mr. Dills then turned the committee's attention to the North Triangle/OB Riley Road Area. Ms. Grover suggested some residential on the north end, some residential on OB Riley, and some commercial/mixed use on Highway 20. Mr. Dills clarified that the North end of the blue on the map and asked whether residential would be more compatible? Ms. Bayard offered the suggestion that the residential should be located more to the west.

Ms. Bayard moved and Mr. Dewey seconded a motion to add more residential on the North for a buffer. Several members discussed light industrial land located in the North Triangle, and commented that the development expected would be similar to what is seen in new industrial parks. Ms. Bayard raised a concern over the potential impacts on Cooley Road, and that the surrounding area is transportation constrained.

Mr. Dills asked for clarification that light industrial makes a difference. Ms. Bayard recommended the committee move on from this point of discussion. Mr. Dewey indicated he did not agree with locating industrial development in this area, and asked if it could be moved. Mr. Dills recommended the team get this on the list and work through this.

Mr. Russell added the comment that with respect to this area, adding low density residential next to people raising sheep would not be harmless either.

Mr. Tomcho raised the question of how do we continue to grow in this area. He asked a second open question of whether the committee was creating an edge and if so would we need to jump over it? Ms. Bayard cited areas to the north with CCRs that would act as an impediment to urbanization. Ms. Smith suggested that we ask the consultant team to look at a mix of zones and see if there's a better arrangement, perhaps mixed use; but keep a usable block of industrial.

Several members then had a brief discussion about a potential mix of uses in the North Triangle, use of a buffer, and a practical edge. They further considered other transitional uses such as civic lands.

Following this discussion, Ms. Williamson cited back to the Blackmore testimony. She raised the buffer idea that was expressed by Mr. Blackmore and the Brownriggs. Mr. Meece stated his

agreement with Ms. Williamson and recommended that the team put some more residential around OB Riley Road. Mr. Dills noted this proposal and second and that it is now on the list.

Mr. Van Valkenburg suggested more mixed use along OB Riley. Mr. Dills asked if the team could roll this into the idea the team works with for the North; this includes more mixed use along Highway 20/OB Riley for a gateway into Bend.

Mr. Dills then summarized the three ideas as a consensus package for North and asked if there was consensus on this package. The committee agreed to this package through consensus, with no member indicating they opposed or would abstain.

Northeast Edge

Mr. Dills then turned the committee's attention to the Northeast Edge. Mr. Dewey observed that there was very little in between the Northeast and the Southeast. He noted that small landowners were not being included, and cited back to testimony from Laurie Craghead and Bill Hopp on this point. He recommended that the committee consider smaller pieces when shifting areas back in forth, and that this was a proposal. Mr. Dewey clarified his proposal by stating if there was extra acreage that needed to be allocated, that these acres be allowed on the eastern edge. Ms. Williamson then provided a second to this proposal.

Mr. Van Valkenburg asked if this area includes land owned by the Forest Service, and asked that the team check and confirm that the map is correct. Mr. Meece noted that the location of the city limits around property that is outside the UGB, zoned UAR10, and just south of Neff Road.

Mr. Dills clarified that Mr. Dewey's proposal was if the team finds that there is additional acreage to work with to allocate along the east as recommend by Mr. Dewey. He then asked the committee if there was consensus on this recommendation and the committee agreed to this by consensus with no members opposing or abstaining.

Department of State Lands (DSL)

Mr. Dills noted that the team had no refinements to the DSL property. None were raised by the committee.

Elbow

Mr. Van Valkenburg recommended several changes to this area. He recommended taking the commercial designation off of the Brown property and moving it to the Coats property; moving the mixed employment designation from the Reed property to the Brown property, and then allocating the extra residential designation to the Reed property.

Ms. Williamson commented that this area feels “clunky,” and that she wants to ensure that urbanization creates safe communities in this area. Mr. Dills offered that the team could look at compatible transitions with adjacent neighborhoods.

Mr. Dills summarized the generalized outcomes the Elbow. These outcomes included trying to accommodate the Brown proposal for less commercial and more mixed employment; use Brown and Reed designations and try to achieve what they are asking for, and; consider transitions with the existing neighborhoods.

After summarizing these outcomes, Mr. Dills asked the committee if there was consensus for these proposals for the Elbow. The committee came to consensus on these proposals, with no members opposing or abstaining.

The Thumb

Mr. Dills then turned the committee’s attention to the Thumb. Ms. Williamson began by offering that the committee consider the gateway idea here, and consider what people see as they come into Bend. Mr. Dills commented the team can plan for a gateway along Highway 97 and be thoughtful and recognize the trees on this property as a refinement.

Ms. Dills asked if there was consensus on this refinement. The committee agreed to this refinement through consensus, with no members opposing or abstaining.

Ms. Smith recommended one last motion, which was to add to the implementation strategies a description of the transect concept for those situations when growth comes up against a hard edge. She recommended the team work with the county to implement the codes, and also identified the need to work with the Day and the Coats families for transects for their properties in the future. She concluded by recommending the team develop policies to implement these strategies. Following this proposal, Mr. Dills asked if there was consensus to support this motion, with all members supporting, and none opposing or abstaining.

Mr. Dills then asked for TAC affirmation of the strategies on pages 48 to 49 of the meeting packet, and adding to these a transect strategy along with a comment to continue to work with Day and Coats properties for transect planning.

Ms. Brody clarified that this transect would come into situations where a hard natural edge exists, and to ensure doing so would not preclude appropriate urbanization.

Ms. Bayard clarified that the strategies to which Ms. Smith was referring were those on pages 48 and 49 of the meeting packet. Ms. Smith clarified that was what she was proposing to include in her motion. These strategies are reproduced below as they were presented in the January 20, 2016 meeting packet:

- **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 be 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 the 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 future growth of the 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.

Mr. Dills clarified that this is the committee's final recommendation on the package, and there were no comments or motions to the contrary.

5. Project Information, Next Steps

Mr. Dills then outlined the project's next steps. He noted that the committee's recommendation will be written up and taken to the USC for their February 10 meeting.

Mr. Dills then mentioned that in March all three TAC's will convene for concluding meetings. Each committee will review the pieces appropriate to their committee. For the Boundary TAC, he noted that these final products will include the Urbanization policies and the adoption products. Mr. Dills added that these meetings would be the conclusion of the TAC's slate of meetings.

Mr. Dills informed the committee that the Steering Committee would meet in April with the goal of approving the total Phase 2 recommendations, then the process would move to public

hearings in Phase 3. He added that there would be one more round of transportation modeling on this next version of Scenario 2.1C, and that this would form the basis for conclusions on VMT and final TSP amendments. He concluded by pointing out that the modeling would take place once the Steering Committee approves this work at their February 10 meeting.

6. Adjourn

Ms. Smith and Mr. Riley each thanked the Steering Committee for providing the Boundary TAC this last meeting. Mr. Rankin then thanked Mr. Riley and Ms. Smith for their leadership.

With no further business, Mr. Dills adjourned the meeting at 12:29 pm.

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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, 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)



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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.

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 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;



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- 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 (generally defined as a ¼- to ½-mile 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 support enhanced 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



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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



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

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	<p>Close association with the early development of Bend, such as Drake Park Historic District</p> <p>Historic buildings and architecture with unique cultural or historic value</p> <p>Neighborhood streets in a grid pattern</p>
Traditional	<p>Typically developed with a grid street pattern</p> <p>Some mix of housing types, but moderate overall densities</p> <p>Often have commercial nodes or corridors within walking distance</p> <p>May be older neighborhoods such as Bend's inner east and west neighborhoods or new development such as Northwest Crossing</p>
Mixed Suburban	<p>Moderate residential densities with a mix of housing types, including some multifamily, duplex/triplex and/or single family attached housing</p> <p>Local street patterns may be meandering rather than a grid layout</p>
Single Family Suburban	<p>Largely single family detached homes at low to moderate densities</p> <p>Local street patterns may be meandering rather than a grid layout</p>



Neighborhood Type	Characteristics
Large Lot	Primarily single family detached homes on large lots Local streets often winding to follow natural features with long driveways or private drives

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 Multimodal Mixed Use Area – 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

The Opportunity Areas are shown on Figure 11-1.

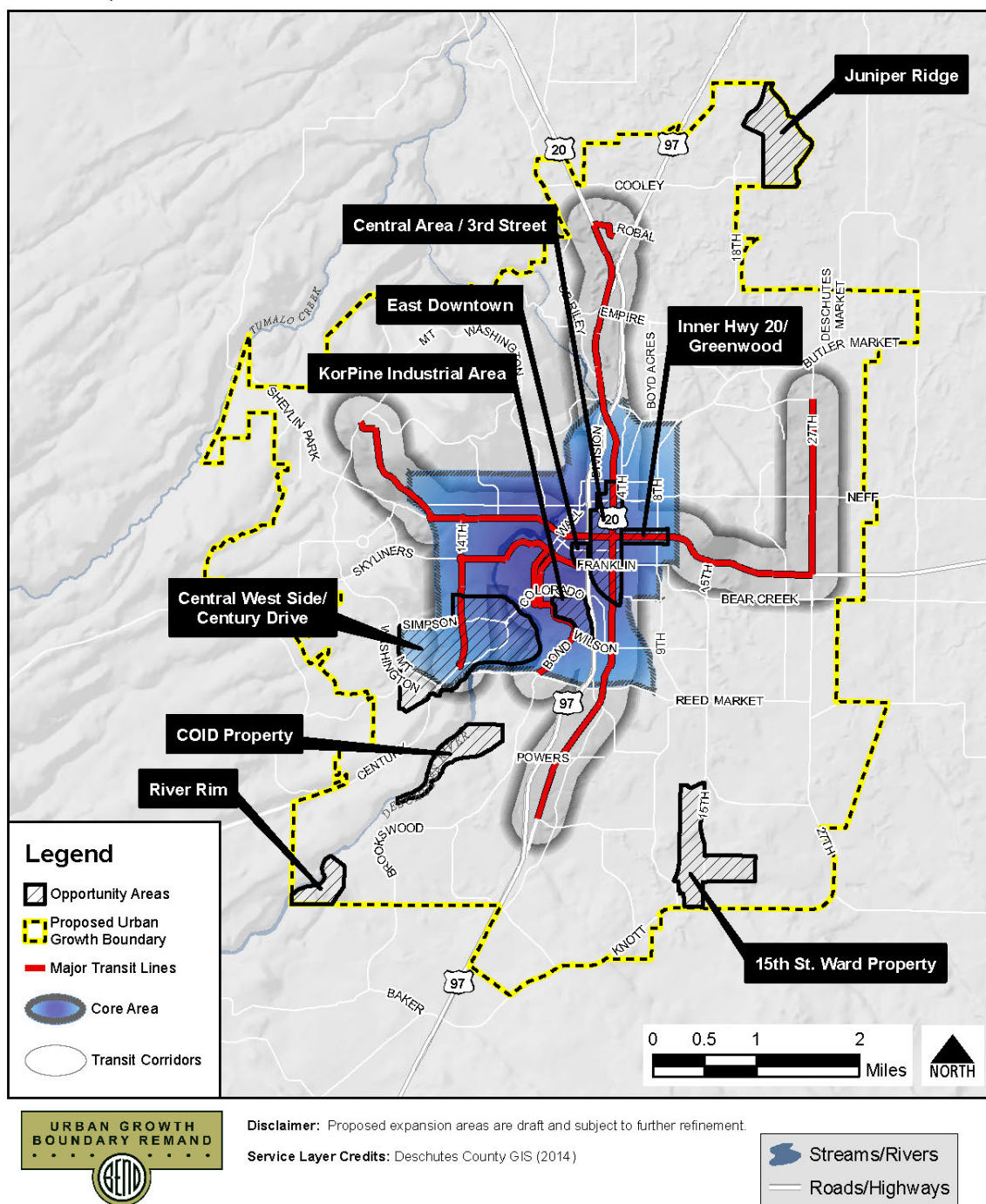


Figure 11-1: Core Area, Transit Corridors, and Opportunity Areas

Bend UGB

Core Area, Transit Corridors, and Opportunity Areas

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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 modelled 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 – it’s 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. A draft will be provided at the TAC meetings.] 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. The diagram also provides a general geographic depiction of terms used in the goals and policies, such as Opportunity Areas and the Central Core.

Area Planning Tools

The City has a number of tools and processes available to refine planning for specific areas. These are summarized below. Policies guiding each type of plan are provided in the policy section.

Master Plans

Master plans are a development review tool used to guide the development of larger properties, as specified by the Development Code. The Development Code may specify types of Master Plan codes depending on the size and underlying land uses under similar ownership. They may involve one or more specific properties and are development applications initiated by property owners.

Special Planned Districts

Special Planned Districts describe in more detail the type of development planned for a specific area than is typically found in a Comprehensive Plan, zone map, or public facilities plan. They are not required to be initiated by the City, and are adopted in the Development Code.

Refinement Plans

Refinement plans are a planning and regulatory tool for subareas within the city limits, in order to guide and coordinate incremental development over time. They are initiated by the City and adopted as part of the Comprehensive Plan and the Development Code.

Pre-Annexation Concept Plans

Pre-Annexation Concept Plans are a planning and regulatory tool for UGB expansion areas. They are initiated by the City Council, with the scope and study area established as part of the initiation, but are generally intended to cover an entire expansion subarea. Property owners may request the initiation of a Pre-Annexation Concept Plan, and planning work may be carried out by coalitions of property owners in accordance with requirements established by the City. When complete, the Concept Plans are submitted to the City for approval under a legislative process and adopted as part of the Comprehensive Plan.

Goals

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:



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- 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 existing land use patterns inside the existing boundary and using expansion to create more complete communities, both inside and outside the UGB;
- 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*.)

- 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.



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Policies for Centers and Corridors

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

- 11-5** 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.
- 11-6** 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 developed residential areas unless approved through an Area Plan.
- 11-7** New commercially designated areas are encouraged to develop with mixed-use centers to include housing, open space, commercial development, and other employment uses.
- 11-8** 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.
- 11-9** The City will encourage the development of Neighborhood Commercial centers. Such centers should be scaled to serve the frequent needs of the people primarily within a one-mile radius of the site.
- 11-10** 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*.)

- 11-11** 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.
- 11-12** 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 Neighborhoods

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

- 11-13** The City will support re-designation of suitable areas that are within a 1/4 mile walk to transit corridors from low density to medium density development.



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- 11-14** Neighborhood Commercial shopping areas may be located within residential districts and have development standards that appropriately limit their scale and recognize their residential setting.
- 11-15** Medium-and high-density residential developments should have good access to transit (preferably within ¼ mile of transit corridors), K-12 public schools where possible, commercial services, employment, and public open space to provide the maximum access to the highest concentrations of population.
- 11-16** 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.

Policies for Special Site Needs

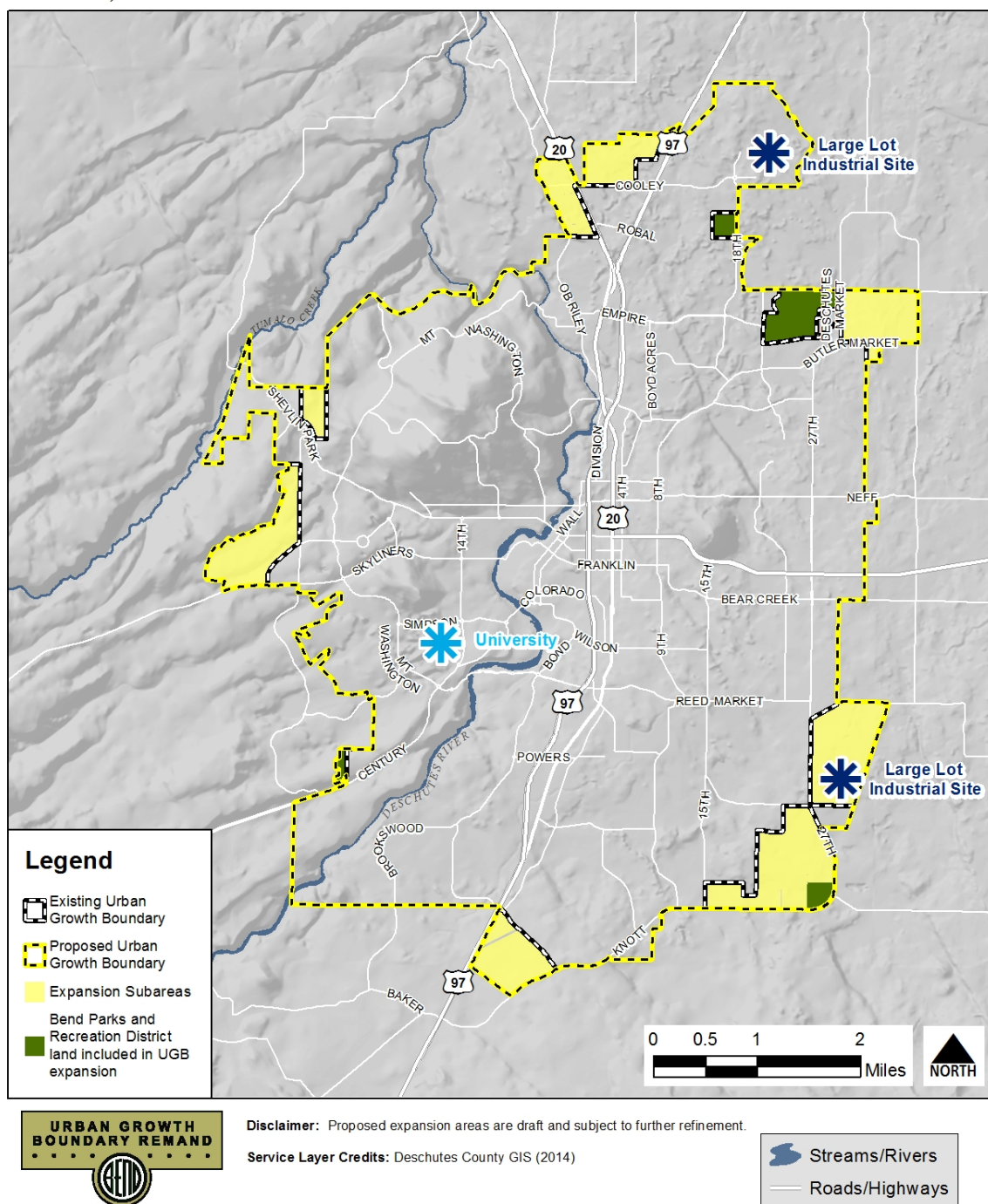
- 11-17** The City has identified a need for a special site for a university. This need will be met on the land currently owned by Oregon State University at Century Drive and Mt. Washington Drive (see Figure 11-3). Further expansions of the university within this general area are consistent with meeting the special site need.
- 11-18** 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).
- 11-19** 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.



Figure 11-3: Special Sites

Bend UGB*Special Sites*

March 10, 2016





General Area Planning Policies

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

- 11-20** 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. (See related policies in this Chapter for the specific purposes of master plans, refinement plans, special planned districts, and pre-annexation concept plans).
- 11-21** Where area plans propose land uses that vary from the adopted plan designation(s), a plan amendment must be approved prior to or concurrent with adoption of the area plan.
- 11-22** Area plans must be consistent with the Comprehensive Plan, unless a Plan Map amendment is approved. 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 pre-existing comprehensive plan map designations and applicable policies in this chapter, 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 regarding residential densities.
- 11-23** Area plans for land within UGB expansion areas shall comply with the policies of this chapter. There is flexibility to refine the spatial arrangement plan map designations provided that identified land and housing needs are 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. Greater degrees of variation require a plan amendment and demonstration of compliance with all other applicable Comprehensive Plan policies as well as the Statewide Planning Goals. 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%).
- 11-24** Where changes are proposed to the arrangement of plan designations, the proposed arrangement must meet the goals and policy objectives of the comprehensive plan as well as, or better than, the adopted arrangement of plan designations.



Master Planning Policies

- 11-25** The purposes of master plans are to:
- o Encourage innovative planning that results in complete neighborhoods, more mixed-use development, improved protection of open spaces, transportation options, and site phasing of development;
 - o Encourage developments that recognize the relationship between buildings, their use, open space, and transportation options, providing varied opportunities for innovative and diversified employment environments;
 - o Facilitate the efficient use of land;
 - o Promote an economic arrangement of land use, buildings, circulation systems, open space, and utilities;
 - o Preserve to the greatest extent possible the existing natural landscape features and amenities that may not otherwise be protected through conventional development;
 - o Encourage energy conservation and improved air and water quality; and
 - o Assist the City in planning infrastructure improvements.
- 11-26** 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.
- 11-27** 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.
- 11-28** Master plans are required for developments over 20 acres unless otherwise specified in the Development Code.

Refinement Plan Policies

- 11-29** The city may prepare refinement plans for neighborhoods or other discrete geographic areas.
- 11-30** The area to be included in a refinement plan shall be approved by the City Council.
- 11-31** A refinement plan, including detailed maps, policies, and text, when adopted by the city, will become part of the Comprehensive Plan and Development Code.



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- 11-32** Refinement plans must, at a minimum, provide plans for the development of sanitary sewer, water and transportation systems and contain criteria by which to evaluate proposed amendments to an adopted plan.
- 11-33** Refinement plans may evaluate the need for, and designate the location of, schools and park facilities, public and private open space, future neighborhood commercial or convenience commercial uses, residential, and mixed use areas.
- 11-34** Refinement plans may include alternative site and building design regulations and street standards.

Special Planned District Policies

- 11-35** The purposes of Special Planned Districts are to:
 - o Recognize and address unique features of the area, such as natural resources, economic activity, or desired neighborhood character;
 - o Designate site-specific land uses (e.g., for individual parcels);
 - o Establish design standards specific to a geographic area;
 - o Identify specific public facilities needed to serve development;
 - o Create a plan through a consensus-based process involving the property owners;
 - o Provide streamlined development review for projects that are part of the plan; and
 - o Address intergovernmental agreements and complementary zoning for sites that cross jurisdictional boundaries (e.g., between City and County) where applicable.
- 11-36** The area covered by a Special Planned District may include multiple parcels and land owners, or a single large parcel.
- 11-37** There is no required phasing or time frame for development of a Special Planned District, and an application for future development need not accompany the application for Special Planned District approval.
- 11-38** All land use applications for property within a Special Planned District are required to comply with the Special Planned District policies and regulations as well as the development standards for the underlying zone.
- 11-39** Residentially designated properties over 20 acres within a Special Planned District are subject to master plan housing density and mix standards.



Pre-Annexation Concept Plan Policies

- 11-40** The City should consider Pre-Annexation Concept Plans as one of the available tools to guide annexations.
- 11-41** The purposes of the Pre-Annexation Concept Plan are to:
- Implement the specific expansion area policies of the Comprehensive Plan, particularly in areas with a variety of land owners.
 - Guide the design and development of expansion areas to create complete and livable communities.
 - Coordinate the arrangement of streets and land uses across multiple ownerships in order to ensure integrated and connected development over time.
 - Provide a tool for review and refinement of Comprehensive Plan map designations, and establishment of City zoning map designations.
 - Ensure adequate infrastructure is planned and an infrastructure funding strategy is in place.
 - Determine how parks and schools will be provided to serve the area and address infrastructure systems of private utilities and special districts.
- 11-42** Pre-Annexation Concept 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 the plan.
- 11-43** The area to be included in a Pre-Annexation Concept Plan, and the scope, shall be approved by the City Council. The area should generally include all contiguous land within a given UGB expansion area, unless the City Council determines that the purpose of the Pre-Annexation Concept Plan would be better served by a larger or a more focused plan area.
- 11-44** Pre-Annexation Concept Plans shall, at a minimum, provide plans for the development of sanitary sewer, water, and transportation systems that include financing strategies; and demonstrate consistency with the specific UGB expansion area policies of the Comprehensive Plan.
- 11-45** Pre-Annexation Concept Plans shall be prepared in accordance with procedural requirements established by the City, including adequate notice to all affected property owners, and shall be adopted as legislative actions.



Annexation Policies

- 11-46** Annexations will follow the procedural requirements of state law.
- 11-47** The City will apply the following land use standards in reviewing annexations:
 - o Annexations will be consistent with the Comprehensive Plan.
 - o Annexations will be consistent with an approved master plan, refinement plan, or pre-annexation concept plan where applicable. The master plan, refinement plan or pre-annexation plan may be reviewed and approved concurrent with an annexation application.
- 11-48** Compliance with specific expansion area policies and/or Pre-Annexation Concept Plans will be implemented through master plan approval or binding annexation agreement that will control subsequent development approvals.
- 11-49** The City may consider a wide variety of funding mechanisms and agreements in conjunction with urbanization and development of areas added to the City to address on- and off-site improvements, modernization of existing infrastructure to the City's standards, and impacts to infrastructure inside the current City limits.
- 11-50** The City may, where appropriate in a specific area, allow annexation and require area planning prior to development approval.
- 11-51** Properties over 20 acres 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.

- 11-52** 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.
- 11-53** 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.
- 11-54** 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.



- 11-55** 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.

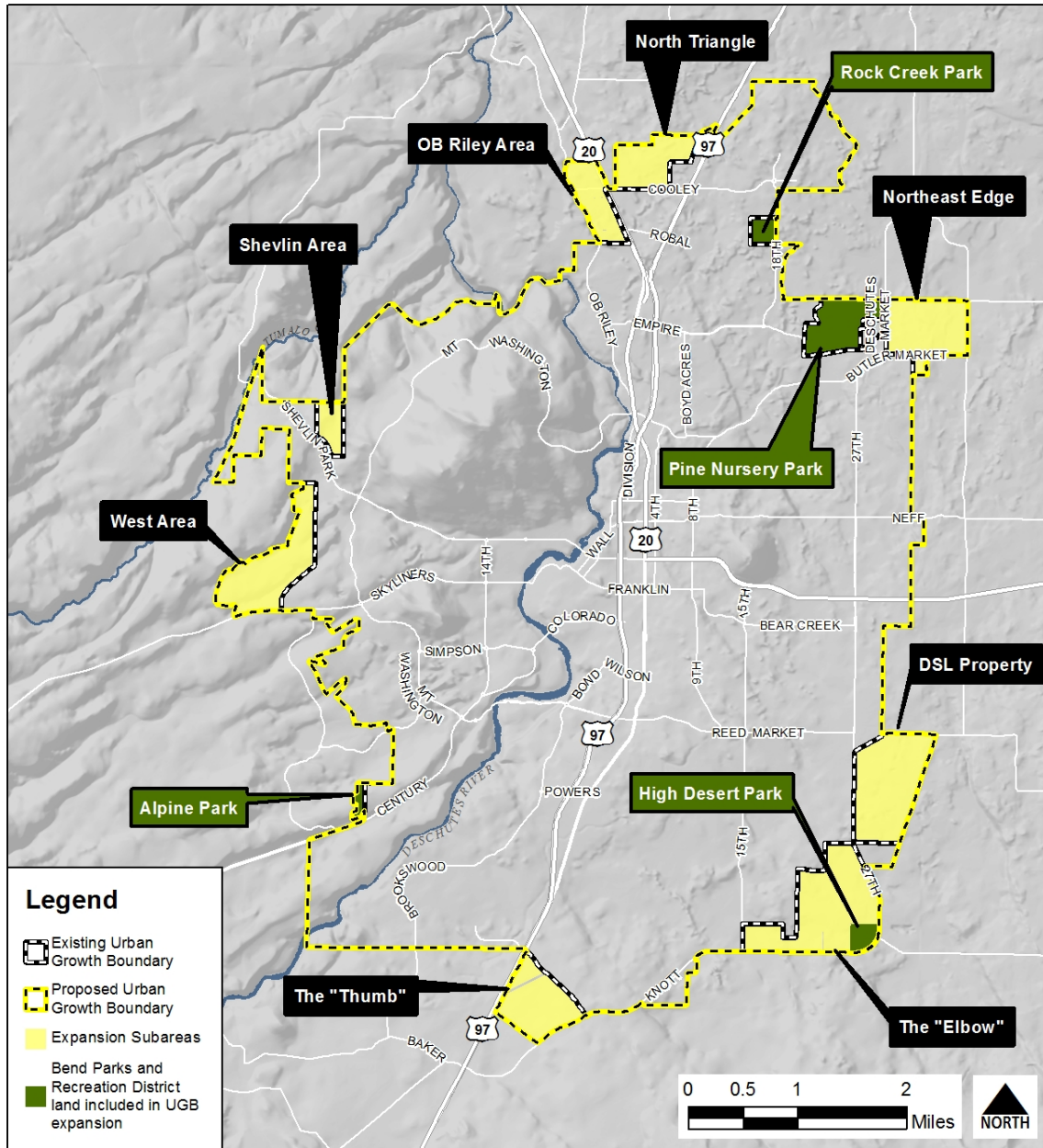
Specific Expansion Area Policies

Area-specific policies for land added to the UGB established in 2016 are intended to guide the development of Area Plans for expansion areas (see Figure 11-4). These areas are also subject to policies in this Chapter regarding urbanization and annexation. For specific areas that have had an Area Plan completed, the following policies are intended to be struck at the next update of the Comprehensive Plan.

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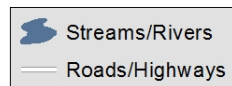


Figure 11-4: UGB Expansion Subareas Reference Map

Bend UGB*Proposed Expansion Areas**March 10, 2016*

Disclaimer: Proposed expansion areas are draft and subject to further refinement.

Service Layer Credits: Deschutes County GIS (2014)





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Northeast – Butler Market Village:

- 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 223 acres of residential plan designations and 23 acres of commercial plan designations.
- 11-58** This area shall provide capacity for a minimum of 1080 housing units, including at least 11% single family attached housing and at least 40% multifamily housing types (including duplex and triplex).
- 11-59** Coordination with the Bend-LaPine School District is required in order to identify a suitable site for an elementary school within this area.
- 11-60** Coordination with Bend Parks and Recreation District is required in order to address provision of parks and/or trails within this area.
- 11-61** 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:

- 11-62** 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.
- 11-63** This area shall provide for a mix of residential and commercial uses, including 122 acres of residential plan designations, 41 acres of commercial plan designations, and 98 acres of industrial plan designations, including one large-lot industrial site.
- 11-64** This area shall provide capacity for a minimum of 1130 housing units, including at least 12% single family attached housing and at least 38% multifamily housing types (including duplex and triplex).
- 11-65** Subsequent planning for this area shall address preservation of at least 56 acres for a large lot industrial site in compliance with the policies in Chapter 6.
- 11-66** Coordination with the Bend-LaPine School District is required in order to identify a suitable site for an elementary school within this area.
- 11-67** Coordination with Bend Parks and Recreation district is required in order to address provision of parks and/or trails within this area.



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- 11-68** Coordination with other special districts and utility providers is required within this area.
- 11-69** 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.
- 11-70** Trail connections should be provided along canal easements and through other open space wherever feasible.

The Elbow:

- 11-71** 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.
- 11-72** This area shall provide for a mix of residential, commercial and industrial uses, including 122 acres of residential plan designations, 67 acres of commercial plan designations, 179 acres of industrial/mixed employment plan designations, and 75 acres of public utility.
- 11-73** This area shall provide capacity for a minimum of 860 housing units, including at least 18% single family attached housing and at least 46% multifamily housing types (including duplex and triplex).
- 11-74** 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.
- 11-75** Subsequent planning for this subarea shall address funding for the Murphy Road extension from Brosterhous to 15th Avenue.
- 11-76** Coordination with Bend Parks and Recreation district is required in order to address provision of parks and/or trails within this area.
- 11-77** Coordination with other special districts and utility providers is required within this area.

The Thumb:

- 11-78** 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.



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- 11-79** This area shall provide for a mix of residential and commercial uses, including 44 acres of residential plan designations, 86 acres of commercial plan designations, and 91 acres of industrial/mixed employment plan designations.
- 11-80** This area shall provide capacity for a minimum of 300 housing units, including at least 15% single family attached housing and at least 36% multifamily housing types (including duplex and triplex).
- 11-81** Coordination with Bend Parks and Recreation district is required in order to address provision of parks and/or trails within this area.
- 11-82** Coordination with other special districts and utility providers is required within this area.

West Area:

- 11-83** 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 of the new UGB which approaches National Forest land and park open spaces.
- 11-84** This area shall provide for a mix of residential and commercial uses, including 283 acres of residential plan designations, 8 acres of commercial plan designations, and 14 acres of industrial/mixed employment plan designations.
- 11-85** This area shall provide capacity for 800 housing units, including at least 9% single family attached housing and at least 21% multifamily housing types (including duplex and triplex).
- 11-86** 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.
- 11-87** Coordination with Bend Parks and Recreation district is required in order to address provision of parks and trails within this area.

Shevlin Area:

- 11-88** 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.



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- 11-89** This area shall provide for a mix of residential and commercial uses, including 55 acres of RL and 15 acres of commercial plan designations.
- 11-90** This area shall provide capacity for 200 housing units, including at least 10% single family attached housing and at least 21% multifamily housing types (including duplex and triplex).
- 11-91** Coordination with Bend Parks and Recreation district is required in order to address provision of parks and/or trails within this area.

OB Riley area:

- 11-92** 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.
- 11-93** This area shall provide for a mix of residential and commercial uses, including 28 acres of residential plan designations, 48 acres of commercial plan designations, and 62 acres of industrial/mixed employment plan designations.
- 11-94** This area shall provide capacity for a minimum of 140 housing units, including at least 9% single family attached housing and at least 22% multifamily housing types (including duplex and triplex).
- 11-95** Coordination with Bend Parks and Recreation district is required in order to address provision of parks and/or trails within this area.

North Triangle:

- 11-96** 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.
- 11-97** This area shall provide for a mix of residential and commercial uses, including 76 acres of residential plan designations, 39 acres of commercial plan designations, and 48 acres of industrial/mixed employment plan designations.
- 11-98** This area shall provide capacity for a minimum of 460 housing units, including at least 14% single family attached housing and at least 40% multifamily housing types (including duplex and triplex).
- 11-99** Buffering measures are required between industrial uses and abutting residential within and adjacent to this area.
- 11-100** Coordination with the Bend Park and Recreation District is required to identify a suitable site for a neighborhood park within this area.



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- 11-101** Coordination with other special districts and utility providers is required within this area.

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Memorandum



March 10, 2016

To: Boundary and Growth Scenarios Technical Advisory Committee
Cc: Residential Lands Technical Advisory Committee
Employment Lands Technical Advisory Committee
From: Project Team
Re: Approach to Comprehensive Plan Designations and Planning for Expansion Areas

OVERVIEW

The purpose of this memorandum is to describe and recommend:

- The approach to Comprehensive Plan designations to be applied in expansion areas
- Policy options for additional area planning in expansion subareas
- Draft Comprehensive Plan maps for each expansion area

The plan map designations and policy options for area planning are connected by the following objectives: (a) to ensure that adequate capacity is provided for needed land uses, consistent with the analysis and committee recommendations for the Urban Growth Boundary (UGB) planning process to date; (b) to guide future annexations and development so they fulfill the vision for each subarea; and (c) to provide flexibility in how land uses are arranged spatially within a given subarea.

This memorandum also describes the draft preferred scenario approved by the UGB Steering Committee (USC) at their February 10, 2016 meeting, which serves as the basis for draft comprehensive plan maps.

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 Technical Advisory Committee (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 team recommends that specific plan designations be adopted for expansion areas. However, it is important that flexibility be coupled with the more specific maps. Also, even though a lot has been discussed and captured in the expansion area recommendations, there is still much to do to achieve the vision for the subareas.

POLICY OPTIONS FOR ADDITIONAL AREA PLANNING

What is Area Planning?

Area planning is a term coined by the project team to capture a variety of tools to refine land use, transportation, and/or infrastructure plans for a specific geographic area (either inside or outside the current city limits, but inside the future UGB). There are existing area planning tools established in City regulations. The existing tools are somewhat duplicative but it is beyond the scope of the UGB process to streamline them (however, this is being considered as part of the update to the Master Plan regulations, which is currently underway). The project team is proposing to add one new option specific to UGB expansion areas. Each type of area plan is summarized in brief below.

Master plans, Refinement plans, and Pre-Annexation Concept Plans could be applied prior to or concurrent with annexation, which is a process to expand the City limits into the newly expanded UGB areas. (UGB expansion areas are in Deschutes County's territory until annexation.) All but the Pre-Annexation Concept Plan could be applied following annexation but prior to development approval.

- **Master plans** (an existing tool): Master plans are initiated and prepared by individuals (mandatory for properties over 20 acres), or a group of property owners, and are approved in a quasi-judicial land use process. This process will allow the Master Plan to implement the Comprehensive Plan uses and address infrastructure systems, and either use existing zoning codes to guide subsequent development (clear and objective path), or adjust zoning codes and development standards (discretionary path). Master plans require a phasing plan which details the sequencing of development over large areas within the area. All property owners must sign the master plan application.
- **Refinement plans** (an existing tool): Refinement Plans are led by the City and are approved in a legislative land use process. They include public outreach, like other city-led planning projects, but do not require all property owners to formally support the final plan. Refinement plans do not require a phasing plan, as required by the Master Planning process.
- **Special Planned Districts or Areas** (an existing tool): Special Planned Districts describe in more detail the type of development planned for a specific area than is

Approach to Comprehensive Plan Designations and Planning for Expansion Areas

typically found in a Comprehensive Plan, zone map, or public facilities plan. They are not required to be initiated by the City, and are adopted in the Development Code, but not necessarily the Comprehensive Plan.

- **Pre-annexation concept plans** (a proposed new tool): This new hybrid approach would be initiated and scoped by the City at the request of property owners, but could be carried out by the City or by the property owners in accordance with new rules established by the City. The City could also initiate the concept plan. Concept plans would include notice and outreach requirements, and would be submitted to the City Council for approval in a legislative land use process.

All types of area plans can:

- Ensure the intent and policies of the Comprehensive Plan are implemented.
- Provide flexibility to adjust the plan designations spatially, if needed.
- Ensure housing mix and numbers are met.
- Identify conceptual plans for key streets, trails, and other transportation facilities.
- Identify how needed parks and schools will be provided and conceptually where they will be located.
- Describe how infrastructure funding will be accomplished.

The project team recommends setting a policy that all area plans must show that they meet the goals and policy objectives of the comprehensive plan as well as, or better than the adopted arrangement of UGB plan designations. This is intended to prevent the re-arrangement of plan designations in ways that undermine the UGB goals such as creating complete communities and complementing land uses inside the current UGB. This is established through the new Comprehensive Plan requirements for subsequent planning in new UGB expansion areas to demonstrate how minimum numbers and types of housing and employment will be provided.

Area Planning Givens and Policy Options

Based on the discussion above, there are four “givens” for the city’s approach to annexation and area planning:

- Specific plan designations will be applied to expansion areas.
- Flexibility to re-arrange land uses will be available to all subareas.
- 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.

Beyond these “givens”, there are a number of ways that the City could approach annexation policy and area planning for expansion areas, ranging from strict policies requiring further planning and cooperation among property owners to very flexible policies that allow individual

property owners to annex with little or no further planning work. The project team has identified three policy options representing different levels of requirements, which are summarized below.

- **Level 1 – Individual Approach:**

- Properties are allowed to annex individually with no minimum acreage for annexation (the city could still prohibit or discourage “cherry-stem” annexations).
- Property owners would have to be willing to accept City zoning consistent with their adopted Comprehensive Plan designation(s), or use the Master Plan process to re-configure land uses on their own development site.
- Properties that are 20 acres or larger as of 2014 (which would be identified on a map) would be required to create a master plan, consistent with land already inside the city limits and code requirements for master planning.
- The City would be allowed and encouraged (but not required) to initiate pre-annexation concept plans or special planned district plans for certain areas.

- **Level 2 – Hybrid Approach:**

- In certain subareas where there is potential for significant additional growth in adjacent areas over the longer-range future, an area plan would be required prior to annexation in order to ensure that opportunities for future transportation connections and land use relationships are not missed. There would need to be an option for City Council to allow incremental annexation prior to completion of an area plan if the Council determined that it would serve a compelling public interest (in which case area planning could still be required prior to development approval). Examples: Northeast Edge and OB Riley.
- In other all areas, property owners could annex individually with no minimum acreage requirement.
- Properties that are 20 acres or larger as of 2014 (which would be identified on a map) would be required to create a master plan, consistent with land already inside the city limits.
- The City would be allowed and encouraged (but not required) to initiate area plans for certain areas, especially for The Elbow (to address infrastructure considerations).

- **Level 3 – Require Area Planning:**

- The city would adopt a policy that additional area planning must occur prior to, or concurrent with, the annexation process, unless the City Council determined that annexing prior to the completion of an area plan would serve a compelling public interest (in which case area planning could still be required prior to development approval). Three options would be available to complete the area plans: master plans, refinement plans, and pre-annexation concept plans.
- For subareas with more than one property owner (e.g. the Northeast Edge/Butler Market Village, The Elbow, OB Riley, and North Triangle areas of the UGB expansion), no annexation could occur until an area plan is adopted prior to or concurrent with annexation. Master Planning should be used, but only if all property owners within the subarea were to sign on to a single master plan application.

- If a Special Plan District, Refinement plan or Pre-Annexation Concept Plan were adopted for a given subarea, then property owners could annex and develop individually in compliance with that plan.

The project team is asking for TAC feedback on these policy choices. As a starting point, the project team recommends Level 2 as the best balance of ensuring desirable outcomes and not standing in the way of needed development. The draft Growth Management chapter would need further refinement to reflect the TAC's recommended approach in the proposed policies (for example, if the TAC recommends Level 3 – requiring area planning – that would mean adding a new annexation policy stating that requirement). The draft chapter does contain policies pertaining to the different planning processes as a starting point for discussion.

DRAFT COMPREHENSIVE PLAN MAPS

Draft Preferred UGB Expansion Scenario: 2.1E

At their 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. The modification was to swap 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 (contiguous with the Ward's 15th Street property inside the UGB, which was identified as an opportunity area). The swap does not change the total expansion acreage in either subarea, but does change the mix of uses. Maps of Scenario 2.1E are included as an attachment to this memo. The generalized land use map of Scenario 2.1E provides the basis for draft Comprehensive Plan designation maps (see next section).

Overview of the Draft Comprehensive Plan Designation Maps

Draft Comprehensive Plan maps are attached for review. The maps were created by translating Scenario 2.1E using the following principles and assumptions:

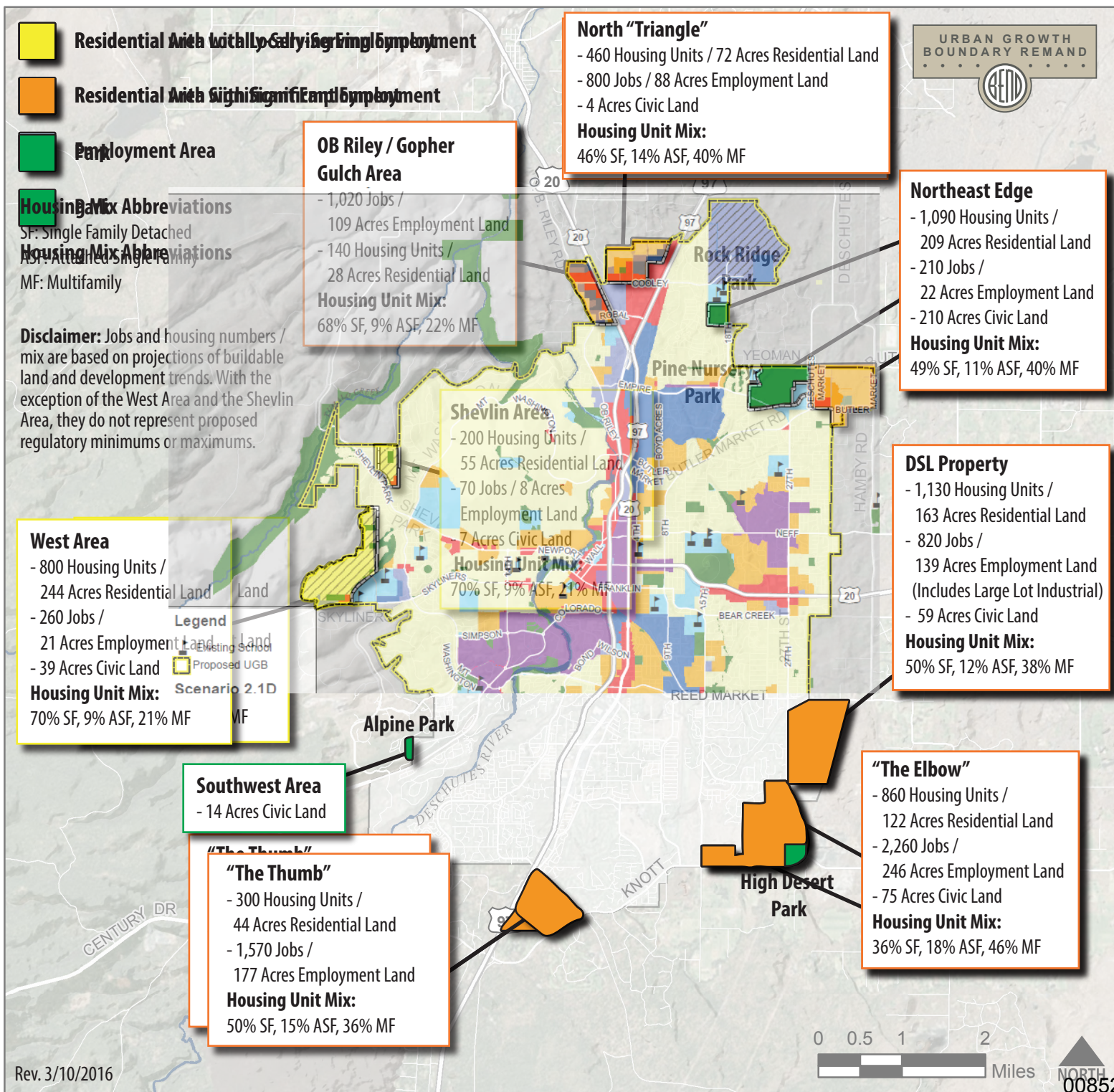
- The “development types” comprising Scenario 2.1E, as approved by the UGB Steering Committee, were used as the starting point.
- Total acres of each comprehensive plan designation match those of Scenario 2.1E.
- Land use designations were adjusted to follow property lines and centerlines of rights-of-way wherever possible.
- Housing units, housing mix, and employment were calculated and balanced to add up to the metrics in Scenario 2.1E
- 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.

There is one known issue with comprehensive plan designations in the Elbow that will require further discussion and interagency coordination. As approved, Scenario 2.1E assumed employment capacity on property owned by the School District south of High Desert Middle

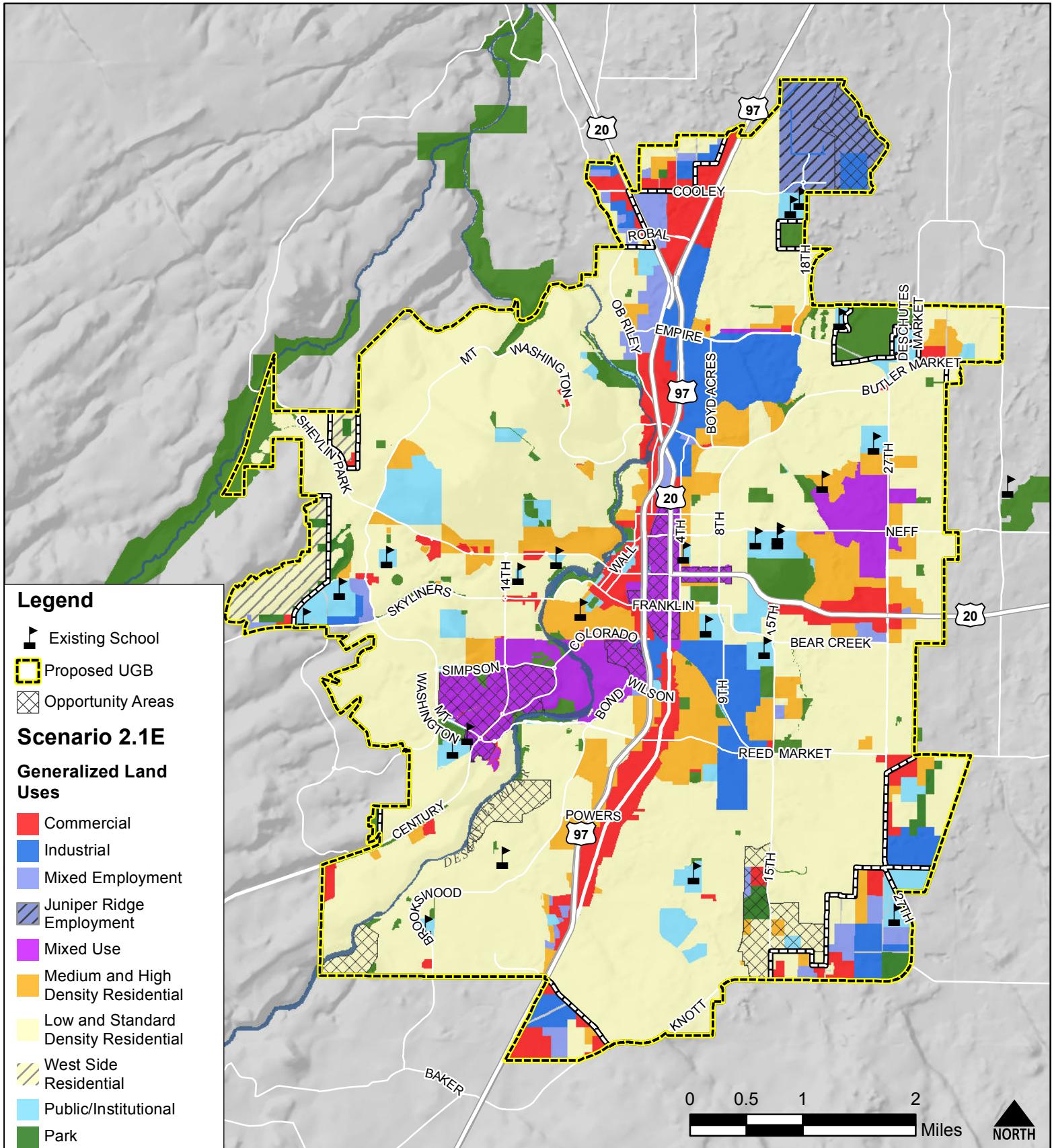
Approach to Comprehensive Plan Designations and Planning for Expansion Areas

School consistent with ME/IG designations, but the IG designation precludes construction of additional school uses.

Expansion Scenario 2.1E

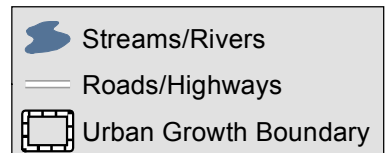


Prepared 2/17/2016



Disclaimer: This map represents land use assumptions for modeling purposes only. This is not a proposal for specific comprehensive plan designations. Generalized Land Uses are based on groupings of comprehensive plan designations. MDOZ is identified as "Mixed Use"

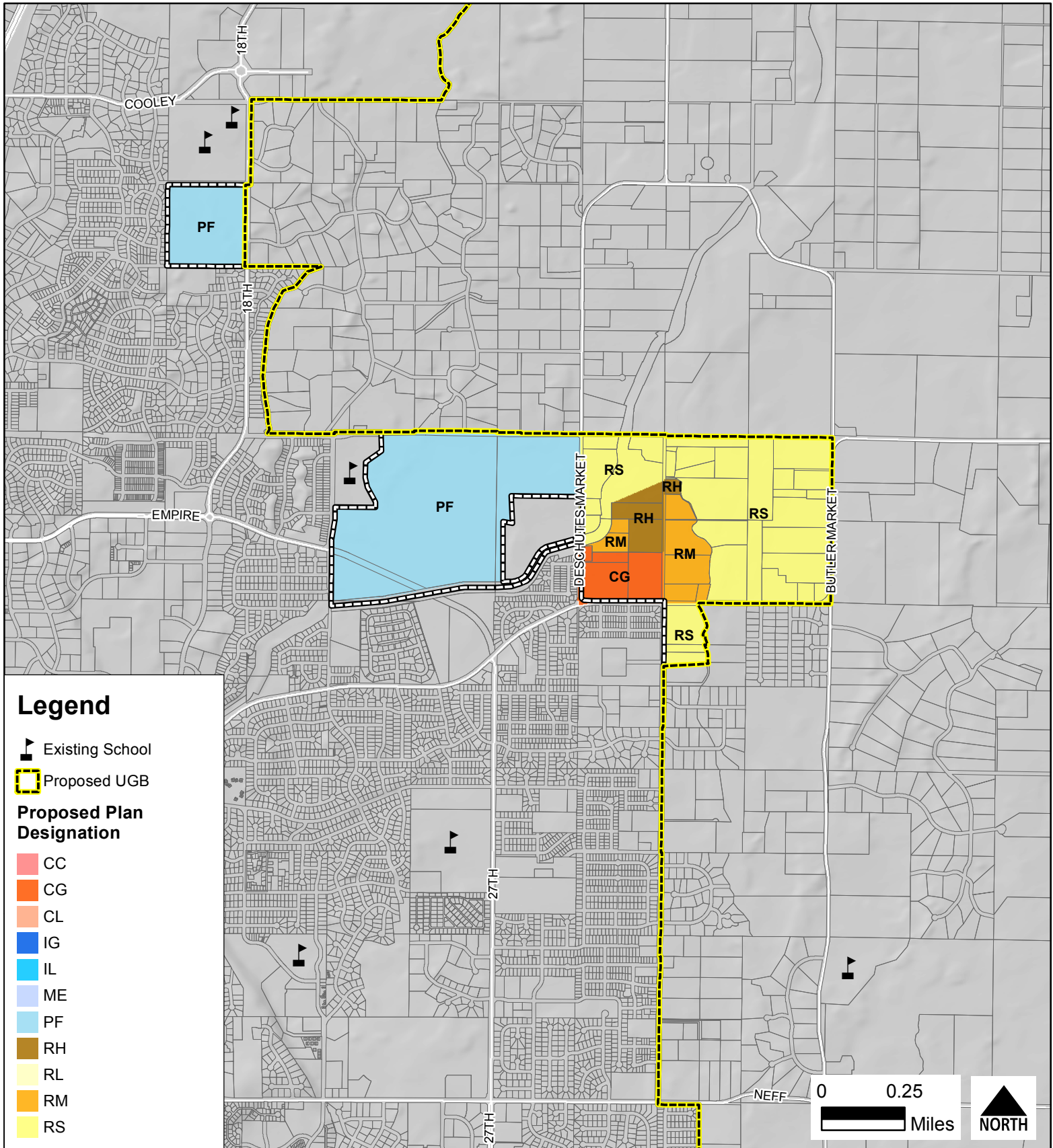
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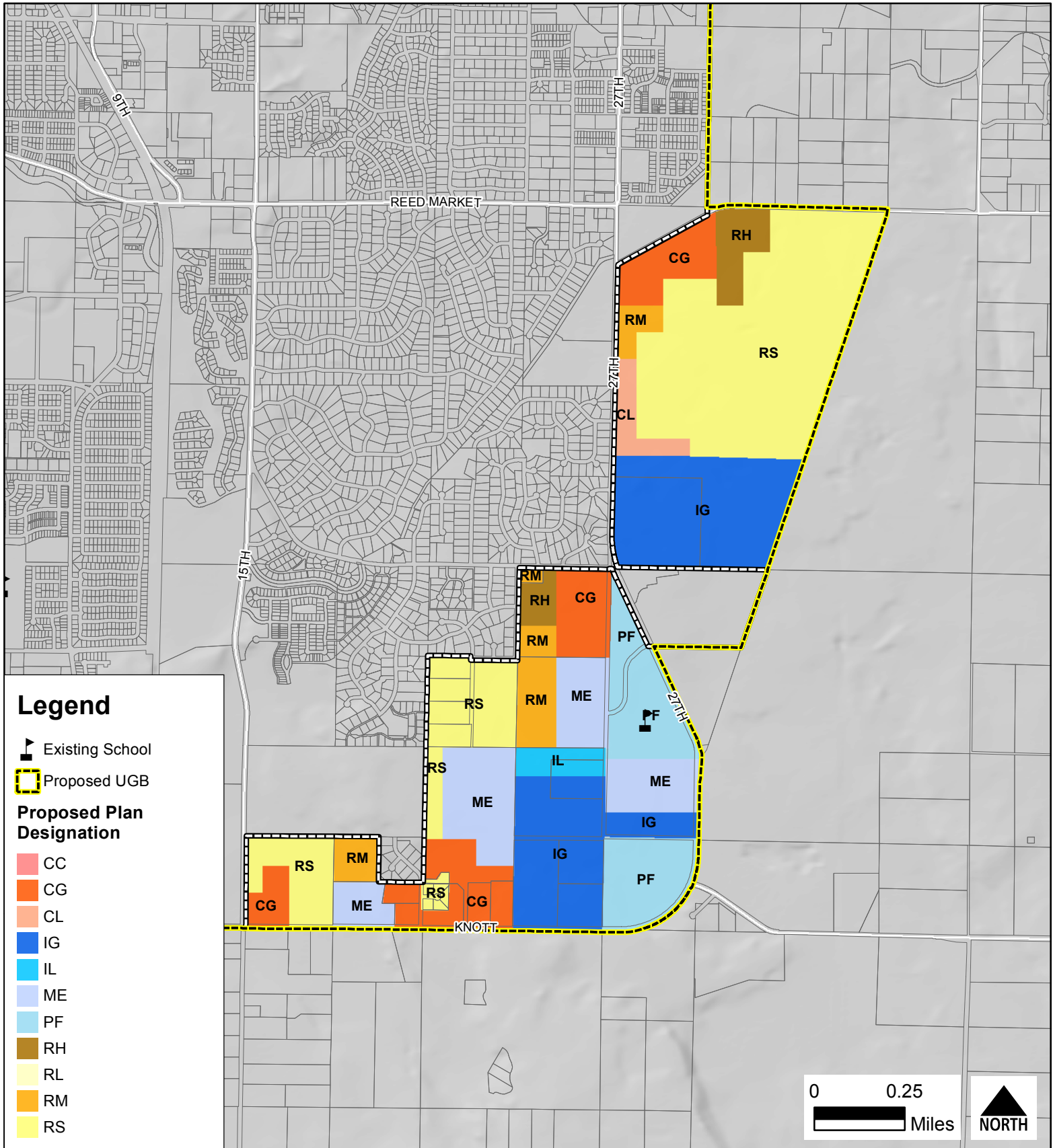
Draft Proposed Plan Designations in Expansion Areas

March 7, 2016



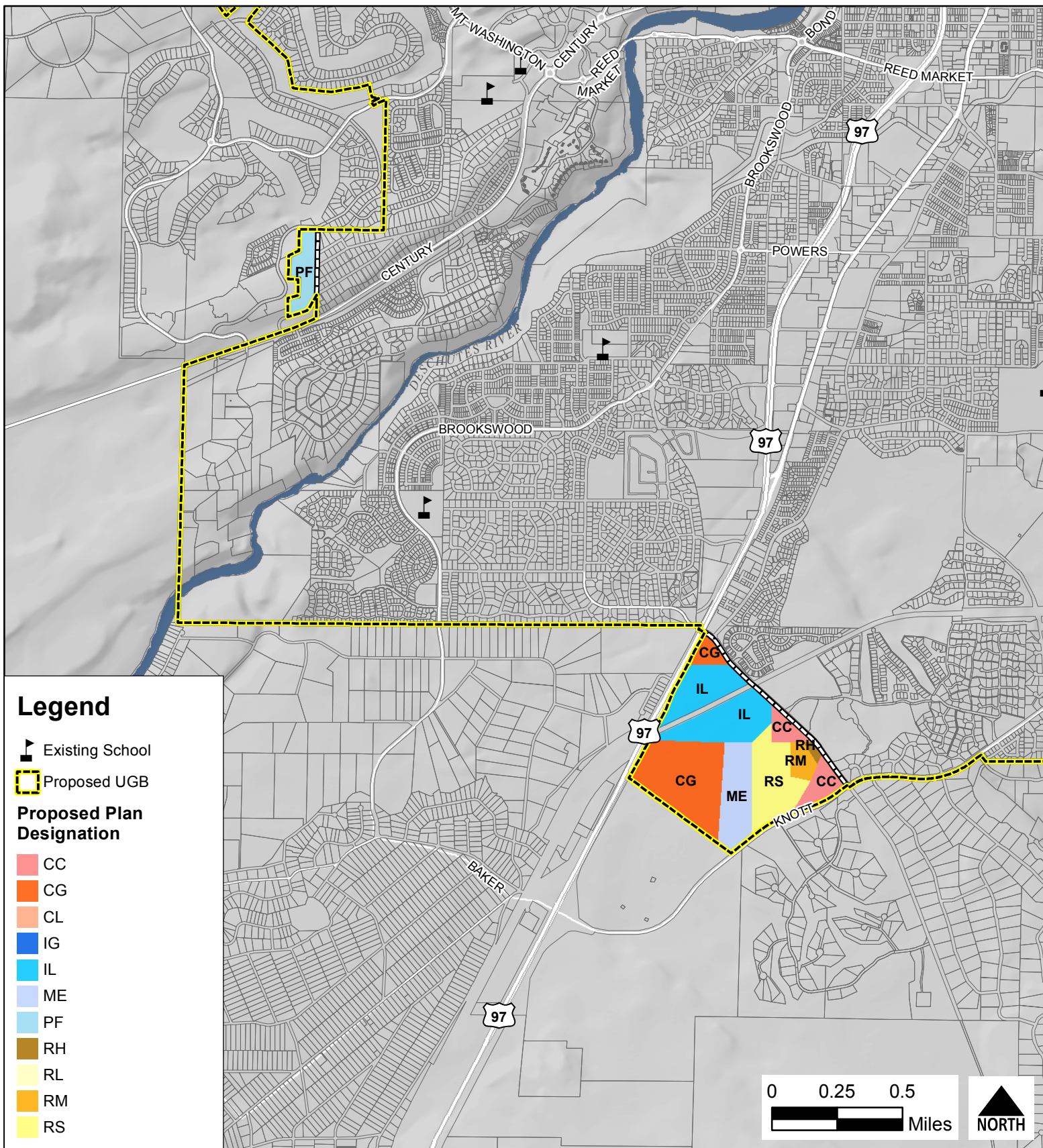
Draft Proposed Plan Designations in Expansion Areas

March 7, 2016



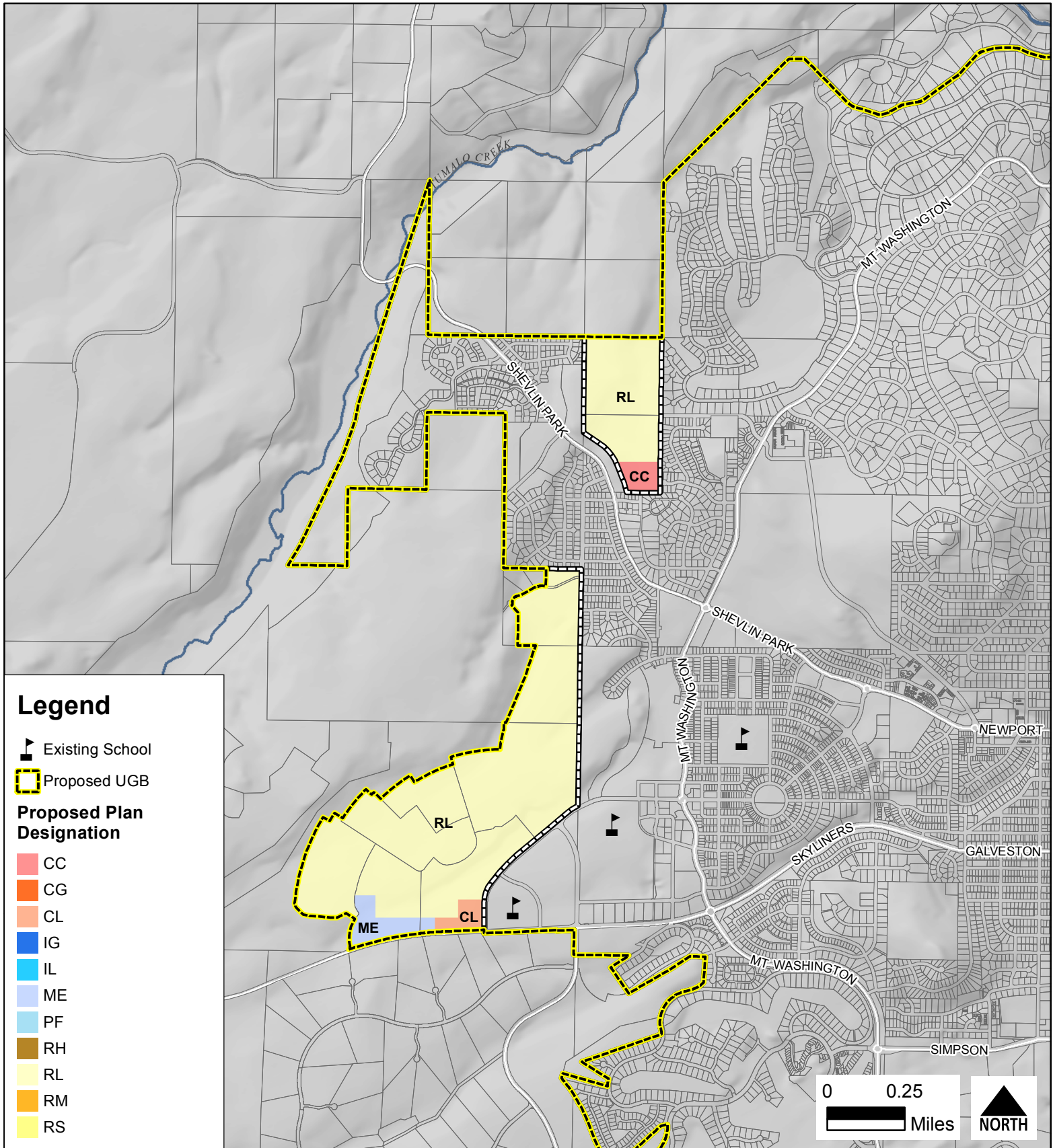
Draft Proposed Plan Designations in Expansion Areas

March 7, 2016



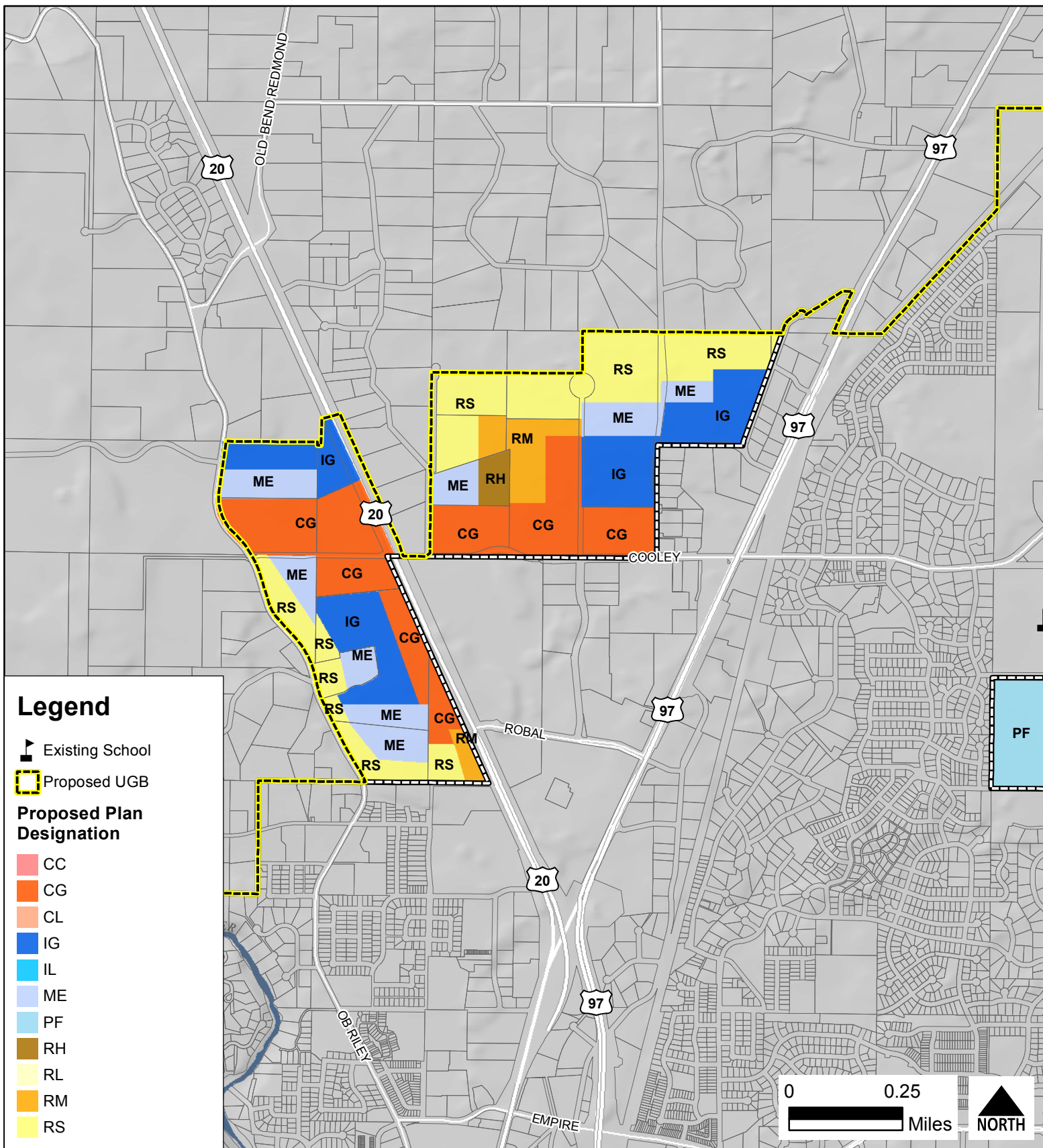
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March 7, 2016



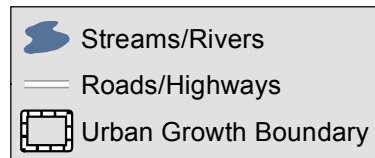
Draft Proposed Plan Designations in Expansion Areas

March 7, 2016



Disclaimer: Proposed plan designations are draft and subject to further refinement.

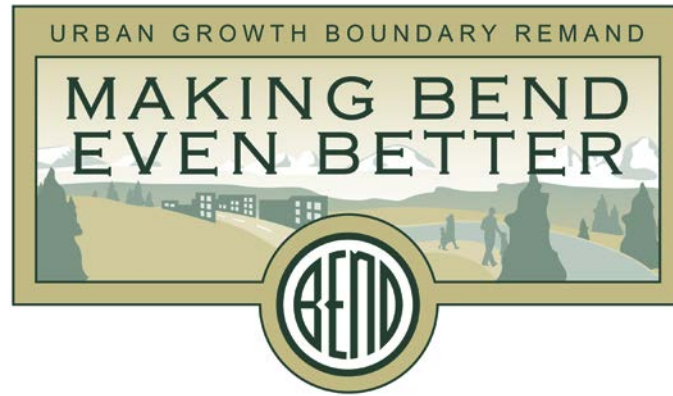
Service Layer Credits: Deschutes County GIS (2014)





Informational Items

**Bend UGB – Boundary and Growth Scenarios Technical
Advisory Committee**



Bend Integrated Land Use and Transportation Plan

WORKING DRAFT

March 10, 2016

DRAFT

ACKNOWLEDGEMENTS

City of Bend

Growth Management Department

Nick Arnis
Brian Rankin
Karen Swirsky

Bend Metropolitan Planning Organization

Tyler Deke
Jovi Anderson

Consultant Team

Angelo Planning Group

DKS Associates

Fregonese Associates

Advisory Committees

Residential Lands Technical Advisory Committee

Kristina Barragan
David Ford
Stuart Hicks
Andy High
Allen Johnson
Thomas Kemper**
Katrina Langenderfer
Lynne McConnell
Michael O'Neil

Kurt Petrich
Gary Everett
Don Senecal
Sidney Snyder
Kirk Schueler
Stacey Stemach
Mike Tiller, Bend-La Pine
Schools

Laura Fritz, Bend Planning
Commission (PC)
Steve Jorgensen, Bend Park
& Recreation District
(BPRD)*
Gordon Howard, Oregon
Department of Land
Conservation and
Development (DLCD)*

Employment Lands Technical Advisory Committee

Ken Brinich
Peter Christoff
Ann Marie Colucci
Todd Dunkelberg
Brian Fratzke
Christopher Heaps
Patrick Kesgard
William Kuhn

Robert Lebre
Dustin Locke
Wesley Price**
Damon Runberg
Cindy Tisher
Jennifer Von Rohr
Ron White
Joan Vinci, PC

Wallace Corwin, Bend
Economic Development
Advisory Board
Jade Mayer, Bend Budget
Committee
Tom Hogue, DLCD*

Boundary Technical Advisory Committee

Toby Bayard
Susan Brody
Peter Carlson
Paul Dewey
John Dotson
Ellen Grover
Steve Hultberg
Brian Meece
Charlie Miller

Mike Riley
John Russell
Ron Ross
Sharon Smith
Gary Timm
Rod Tomcho
Robin Vora
Dale Van Valkenburg
Ruth Williamson

Thomas Kemper**
Wesley Price**
Rockland Dunn, PC
Scott Edelman, DLCD*
Jim Bryant, Oregon Dept. of
Transportation*
Nick Lelack, Deschutes
County*

*Denotes Ex-Officio, non-voting members

** Member of Residential / Employment TAC in Phase 1, participating in Boundary TAC in Phase 2

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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 Rule¹ and Urban Growth Boundary Remand² 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

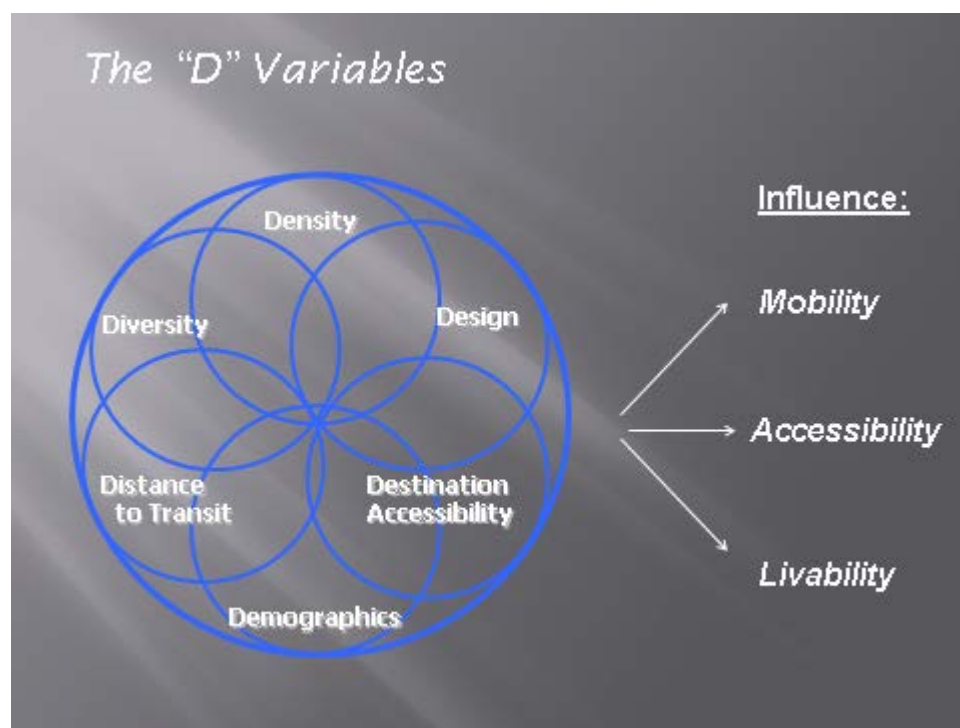
CHAPTER 2. BEST PRACTICES

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 behavior²⁰, 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 needs²¹.

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 demand²². 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 facilities²³.

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 2015²⁶, 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 parkers²⁹.

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 occur 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 as installing bus-only lanes at intersections and improving pedestrian access increases transit use. Focusing these efforts along transit corridors and between identified destinations such as large employment centers and commercial districts is also effective.

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 crossings³¹. 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.

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 study³⁶ 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 projects³⁷. 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.

VTM 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 policies and strategies for the area. TransPlan centered on a set of land use, transit, demand management, and bicycle strategies and transportation system performance measures.

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

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

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

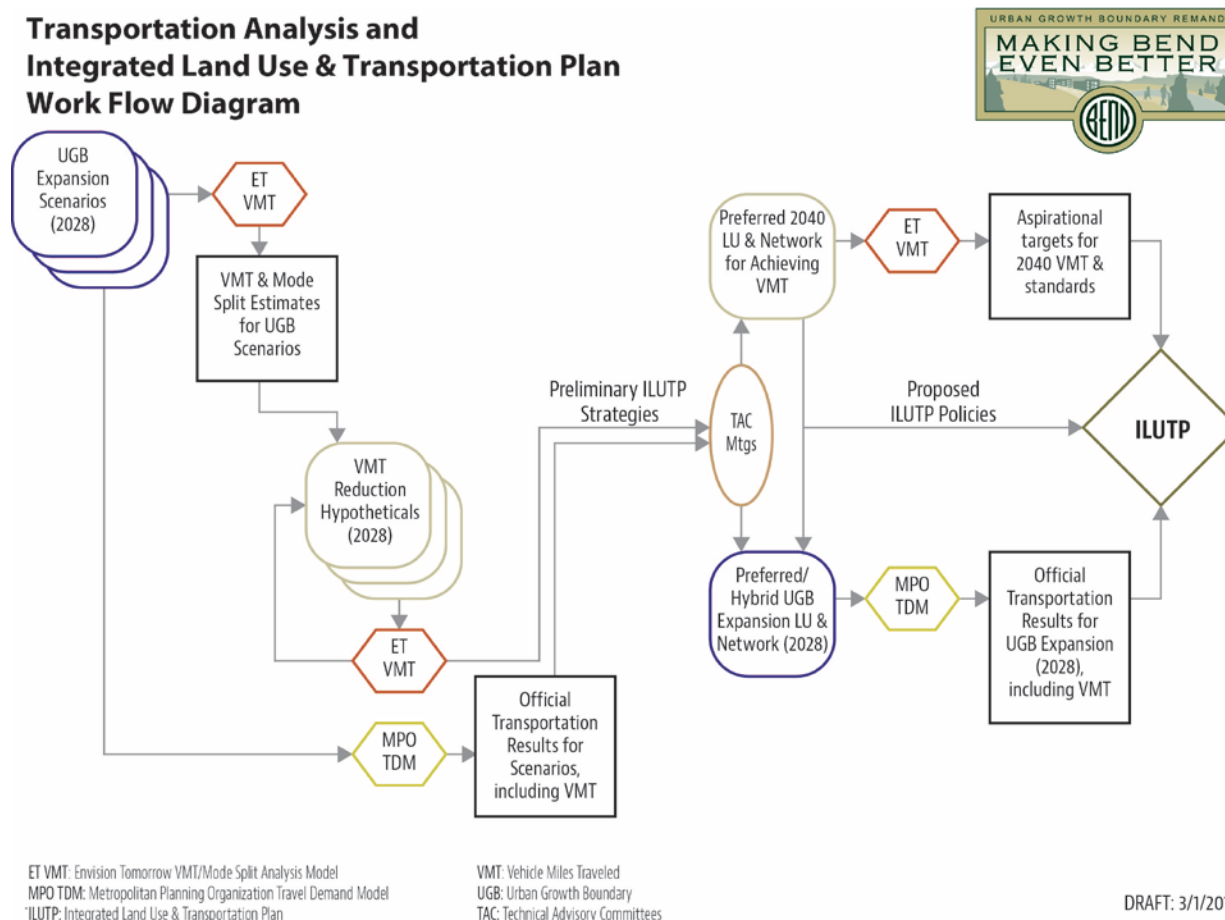
This chapter summarizes the analysis that underlies the strategies and standards proposed in Chapter 4 of this ILUTP.

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 Model³⁸ is sensitive to changes previously described in the "D" variables, including Density, Design, Destinations, Demographics³⁹ 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 staff⁴⁰ 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
- A transit model component to reflect the transit system that now exists in Bend but was not present in 2003.

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.

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 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 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***

* 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).

⁴¹ OAR 660-012-0005(22)

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.]

VTM 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

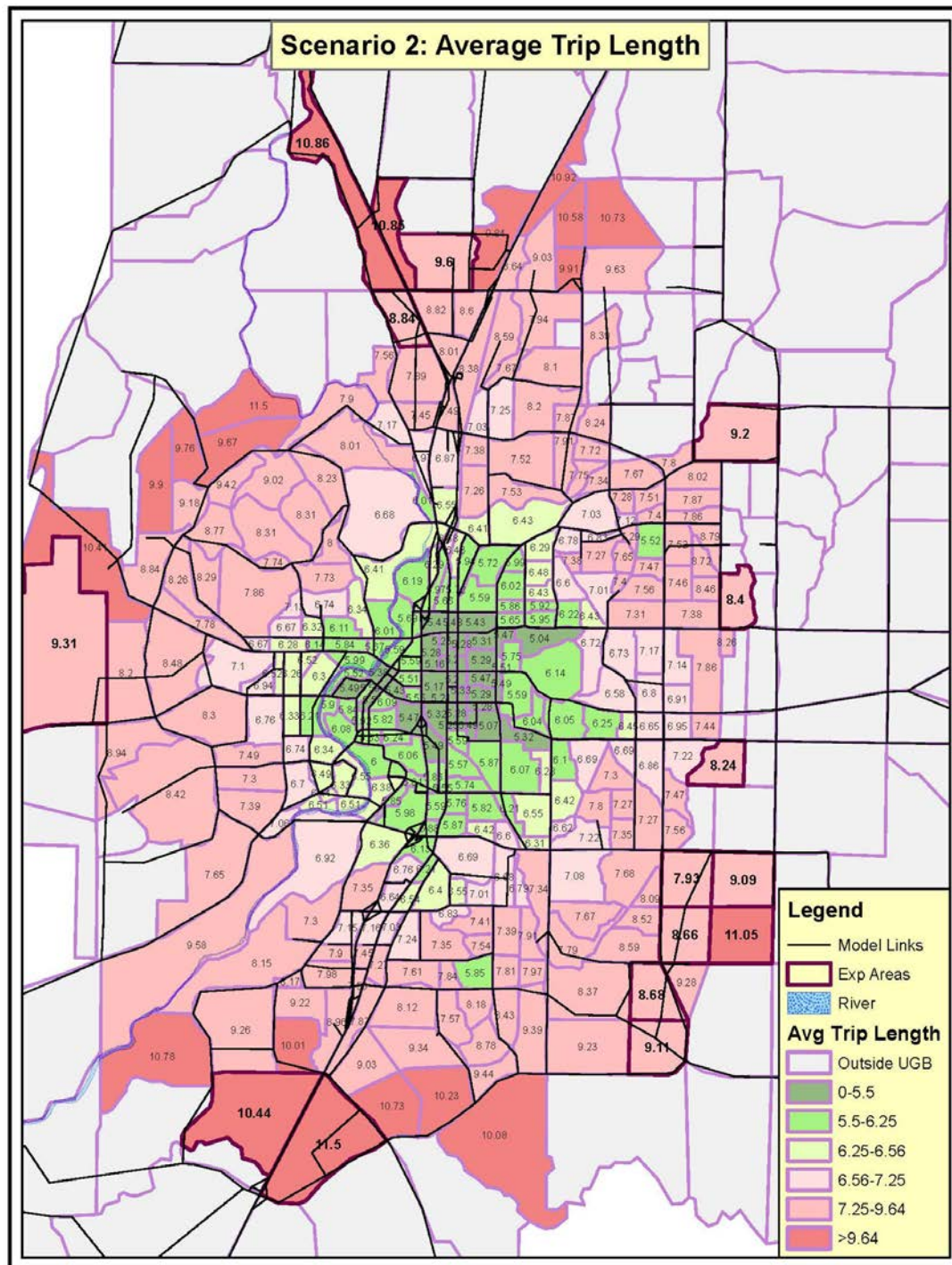
- capita relative to 2014 when combined with transit service improvements and reduced block size in new master planned neighborhoods, but that amount of redevelopment is not reasonably likely within the time horizon of 2028.
- Even a relatively modest shift in multifamily housing development to opportunity 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:
 - Preliminary work on the 2040 scenario indicates that 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.
 - [Note: the project team will present preliminary results from the 2040 scenario in the TAC meeting and will summarize additional findings here in the final ILUTP.]

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.]

Bend UGB Remand Project

VMT/Capita

Legend

Subareas

Scenario 2 VMT/Capita

0.1 - 5.0
5.1 - 7.5
7.6 - 10.0
10.1 - 12.5
12.6 - 15.0
15.1 - 20.0
20.1 - 25.0

North Triangle

OB Riley Gopher Gulch Area

Shevlin Area

West Area

Northeast Edge

Northeast Edge

Northeast Edge

Northeast Edge

DSL Property

Elbow

Thumb

0 0.5 1 2 Miles

NORTH

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 strategies⁴³
- 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 the present time 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 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 Central Area MMA 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” 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. 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. 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 1/8 mile 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 as well.

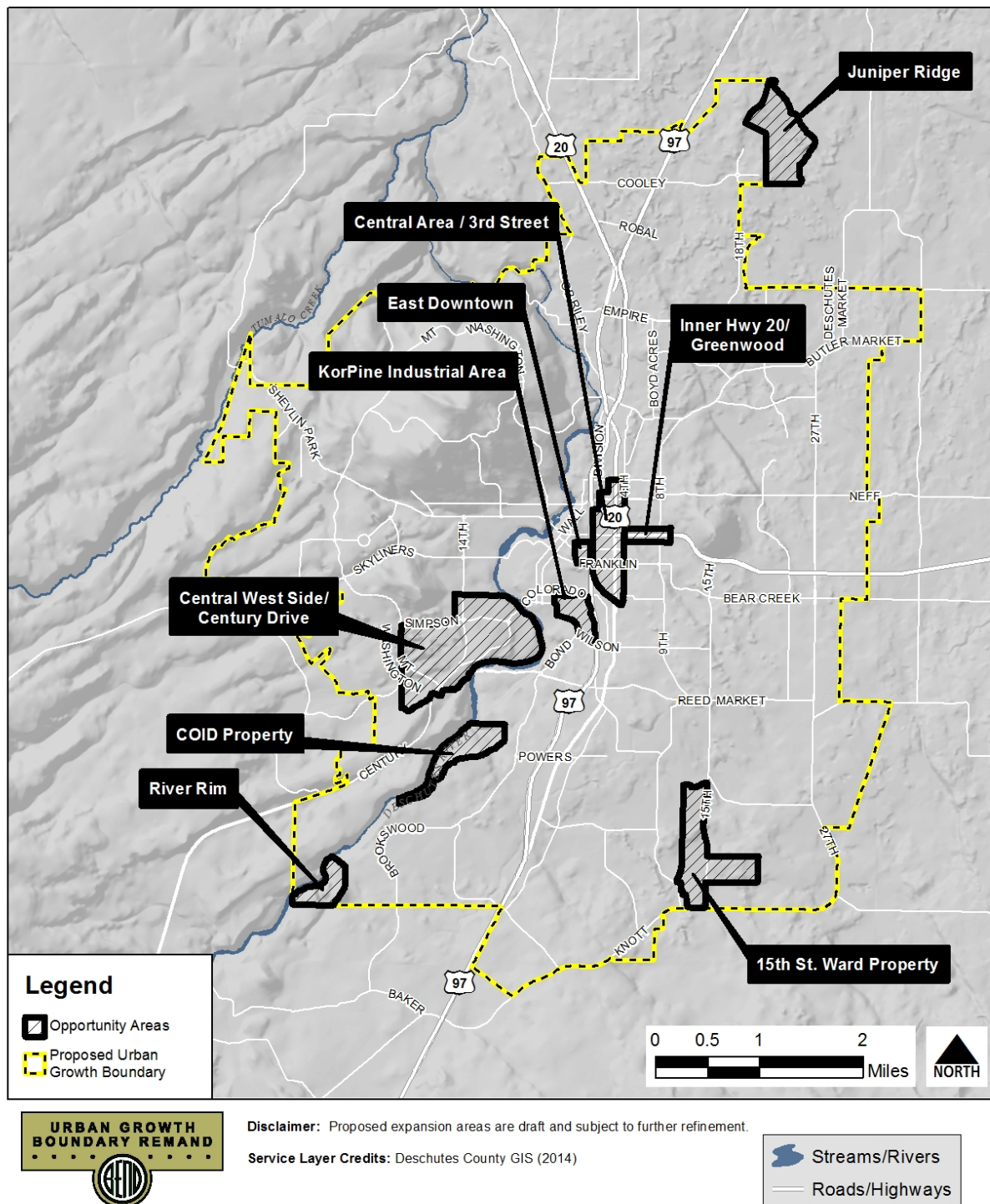
New mixed use designations and/or zones are proposed for:

- The 3rd Street MMA / Central Area Plan area, 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 3rd Street MMA project);
- CWP Century Drive opportunity site (the City is currently proposing land use designations and projects in the Central Westside Plan that have been predicted through both Envision Tomorrow and transportation demand modeling 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.

Figure 5: Opportunity Areas

Bend UGB
Opportunity Areas
 March 10, 2016



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 1/8 mile 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 areas in 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.

Proposed Strategies

A new policy is proposed that will address the direction and intent for creating TMAs. The intent is to support an incentives approach to TDM and to focus on businesses/institutions with 50+

employees and/or students and TMAs in geographic areas such as downtown, Central Area, portions of the Medical District Overlay Zone around St Charles, Juniper Ridge (existing) and COCC.

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

An expanded TDM program, such as the Commute Trip Reduction Program directed by the Washington Department of Transportation⁴⁴, 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 businesses/institutions with 50+ employees and/or students.
- Requiring 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, NW 14th, 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 some geographic area specific parking studies to determine the feasibility and appropriate tools for establishing parking management districts and/or transportation management areas in specific geographic areas such as the Galveston and 14th Corridors or in the OSU area. The City's only existing parking district is in downtown.

The City will also conduct a review of the potential for TMAs and 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 thereby 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

⁴⁴ <http://www.wsdot.wa.gov/transit/ctr>

opportunities and demographics. Cascades East Transit has recently implemented transit service improvements that were identified in the long-range plan as “mid-term” improvements (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 and transportation enhancements that support increased transit use.

Include transit policies and enhancements when conducting transportation and land use planning studies that implement the boundary and 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, Greenwood, Brookwood, Galveston, 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 measures⁴⁵. 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.⁴⁶ 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)*

⁴⁵ Bend Area General Plan, Chapter 7, policy 6.9.6.21.

⁴⁶ 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.

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. Reducing existing lanes and widths at key intersections and corridors in opportunity and core areas will be considered.

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 priorities⁴⁷. 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.

⁴⁷ See "Safety Implementation Plan" 2014; "2014 Strategic Implementation Plan for Walking and Biking"

[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 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 Strategies⁴⁸

ILUTP Element	Proposed Strategies	Additional Strategies for Further Consideration	
		Medium-Term	Long-Term
Land Use Strategies	<p>Designate and ultimately rezone mixed use opportunity areas identified in UGB project.⁴⁹</p> <p>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.</p>	<p>Designate additional mixed use areas along transit corridors where there is redevelopment potential</p> <p>Adopt design and development standards for key pedestrian areas and transit corridors</p> <p>Strengthen connectivity standards for new master-planned neighborhoods</p>	<p>Consider up-zoning selected residential neighborhoods in the city where there is potential for infill development based on additional analysis and community support</p>
Transportation Demand Management and Parking Management	<p>Incentives approach to TDM</p> <p>City conducts analysis and feasibility for parking management and pricing</p>	<p>Regulatory plus incentives approach to TDM</p> <p>City implements parking management programs in key areas based on outcomes of parking study.</p> <p>Consider implementing TMAs in key areas of the City.</p>	<p>Parking pricing implemented in key areas, based on outcomes of the parking pricing study (e.g. downtown and Central Area MMA).</p>
Transit⁵⁰	<p>Existing service as of 2016</p> <p>Enhancement of transit centers and corridors in opportunity and core areas.</p>	<p>Implement most components of Bend Transit Plan, including additional hours of service, more frequent peak headways, and two new routes.</p>	<p>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</p>

⁴⁸ This table is a summary. Please see the text in Chapter 4 for the full description of all strategies.

⁴⁹ Zoning may be deferred in some opportunity areas until requested by the property owner.

⁵⁰ 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 ⁵¹	<p>Implementation of planned and funded projects in or adjacent to opportunity areas.</p> <p>Conduct planning and prioritization of streetscape corridors in opportunity and core areas and transit priority corridors and centers.</p>	<p>Evaluate funding mechanisms such as Urban Renewal for areas including Opportunity Areas</p> <p>Implementation of planned but not-yet-funded projects, focusing improvements in opportunity areas and adjoining corridors.</p>	Refinement and potential implementation of aspirational projects, such as major roadway connections, US 97/Parkway bike/pedestrian crossings, and additional streetscape corridors.

⁵¹ 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.

- 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.

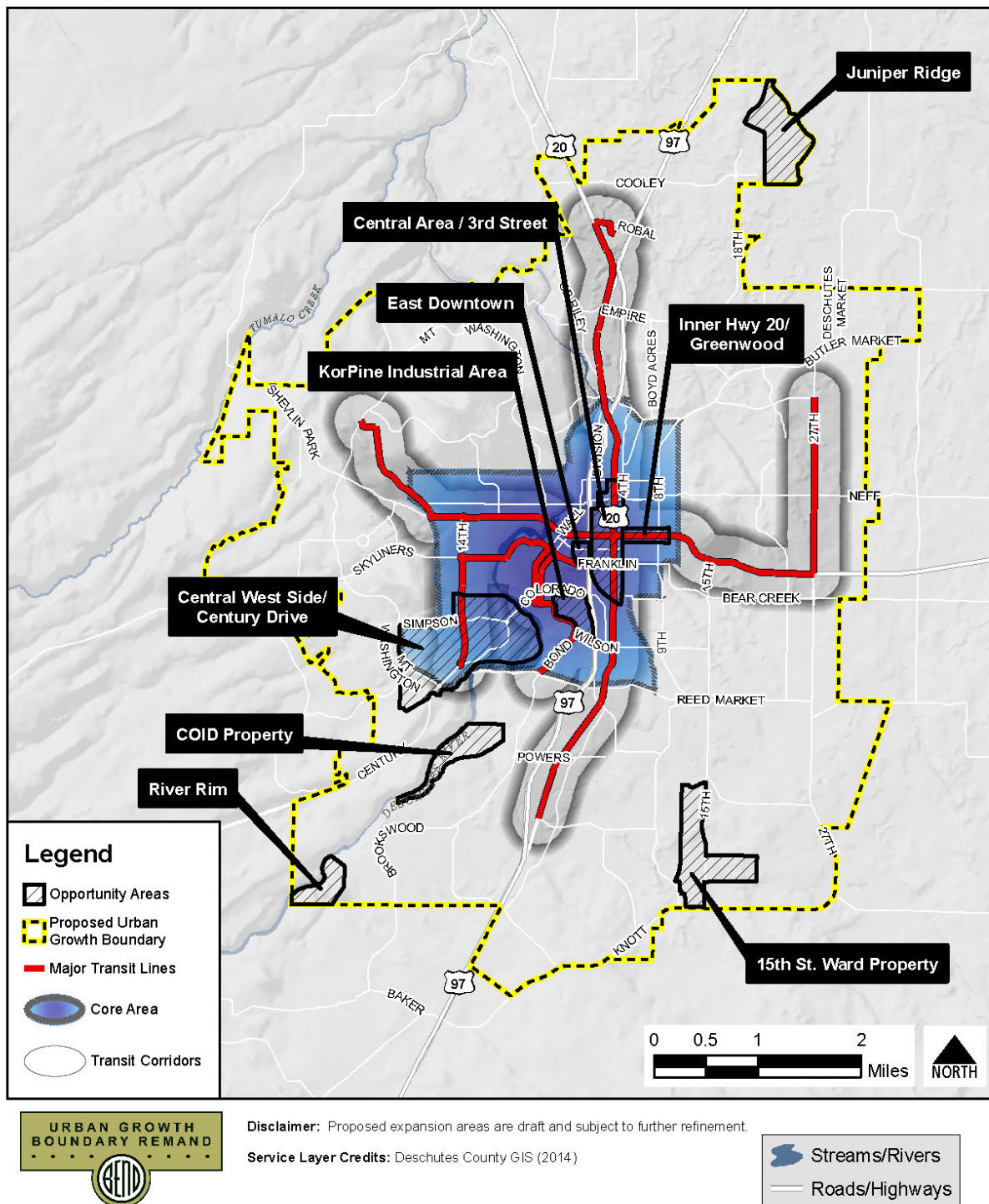
The proposed standards emphasize evaluating performance in certain key areas of the City, including opportunity areas, transit corridors, and the Central Core. This reflects the City's overall approach of focusing the available resources on areas that will have the highest likelihood to reduce VMT. These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

Bend UGB

Core Area, Transit Corridors, and Opportunity Areas

March 10, 2016



Note: Table 3 below is a first framework and will be revised when modelling results are available.

Table 3: Standards for Reducing Reliance on the Automobile

Topic	Measure	Geographic Area ⁵²	Current (2014)	2028 – preferred UGB	2040 ⁵³
Density	Activity density ⁵⁴	Core			
		Opportunity Areas			
		Transit Corridors			
Design	Neighborhood Connectivity ⁵⁵	Core			
		Opportunity Areas			
		Transit Corridors			
	Streetscape Project Implementation ⁵⁶	Core			
		Opportunity areas			
		Transit Corridors			
Destinations	Transit access ⁵⁷	City/UGB-wide			
	Transit service density ⁵⁸	Core			
		Opportunity Areas			
		Transit Corridors			
	Employment access ⁵⁹	City/UGB-wide			

⁵² See Figure 6 for a map of the areas in question.

⁵³ The standards for 2040 are based on an assumption of continuing the 2028 proposed strategies and allowing a longer time horizon for private development to respond to the proposed strategies. They do not assume implementation of the additional strategies for further consideration.

⁵⁴ Activity density is measured as population plus employment over area. It represents an average over the geographic area specified.

⁵⁵ Neighborhood Connectivity is measured as a weighted average (weighted by TAZ population) of intersection density (number of intersections divided by TAZ area).

⁵⁶ Streetscape project implementation is measured as the number of streetscape and bicycle/pedestrian safety improvement projects completed in each area.

⁵⁷ Transit access is measured as the percent of residents and employees within a quarter mile of a transit stop.

⁵⁸ 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.

⁵⁹ Employment access is measured as a weighted average share of regional employment located within 3 miles travel distance. To perform this calculation, first, the share of regional employment is calculated for each TAZ; second, other TAZs within a 3 mile travel distance are identified for each TAZ; third, the share

Topic	Measure	Geographic Area ⁵²	Current (2014)	2028 – preferred UGB	2040 ⁵³
	Proximity to activity centers ⁶⁰	Half-mile travel distance from Core Opportunity Areas			
		2-mile travel distance from Core Opportunity Areas			
		1-mile transit trip from Core Opportunity Areas			
Diversity	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

of regional employment located within a 3 mile travel distance is summed for each TAZ; and fourth, a city-wide average is calculated as a weighted average by TAZ population.

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).

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

[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.

[response]

City of Bend Urban Growth Boundary Remand



URBAN FORM BACKGROUND REPORT

Draft

March 2016



815 SW 2nd Avenue, Suite 200 | Portland, OR 97204

503-297-1005 | www.migcom.com



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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 responsible 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 space 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	<ul style="list-style-type: none"> Nature frames and weaves through the city
Balanced transportation system	<ul style="list-style-type: none"> Streets, paths, bikeways and places for people The city’s street system is connected and legible
Great neighborhoods	<ul style="list-style-type: none"> Walkable neighborhoods define residential areas of the city Small mixed-use neighborhood centers and activity centers are integral to every neighborhood
Strong active downtown	<ul style="list-style-type: none"> Downtown is Bend’s best mixed-use center—the heart of the city
Strong diverse economy	<ul style="list-style-type: none"> Employment areas are identifiable districts within the city
Connections to recreation and nature	<ul style="list-style-type: none"> Connections to recreation and nature weave throughout, and outside of, the city
Housing options and affordability	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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

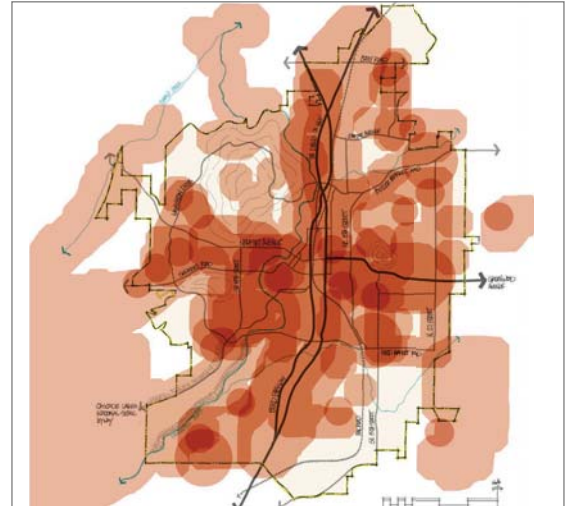
Approach

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.

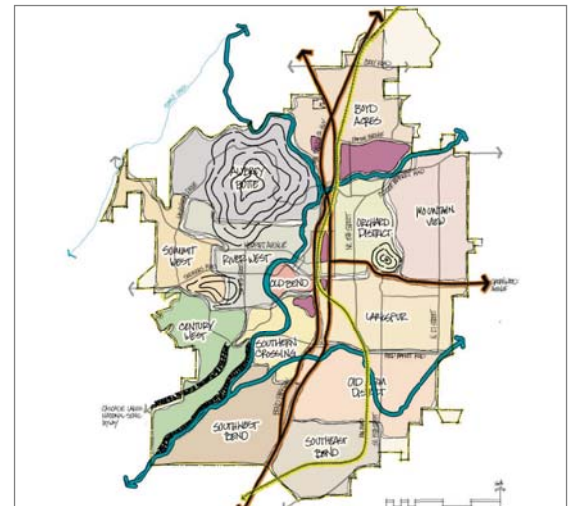
1. **Project Goals and Data Gathering:** The Project Goals served as an initial guiding framework toward developing both the urban form study and the criteria used in the urban form analysis. Using recent GIS data, the planning team then generated layers of city-wide information, including land use and 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.

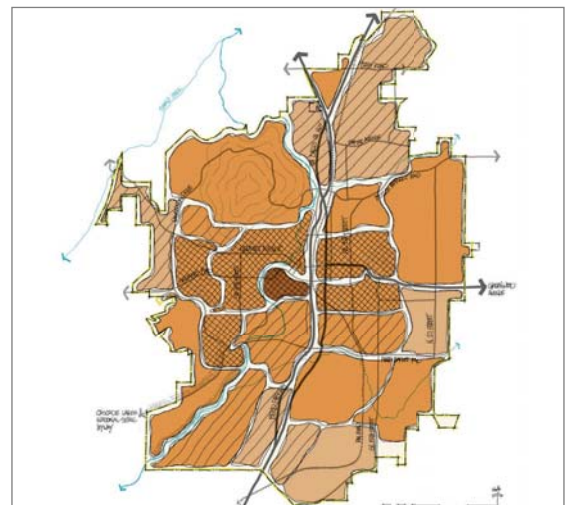
AMENITIES AND WALKING/BIKING DISTANCES



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 NEIGHBORHOODS

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.

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 roundabouts provide a green and living contrast to the street and building facades. Impervious surfaces such as 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.



Top: Central Bend's street network and connectivity
Bottom: Downtown Bend and Mirror Pond

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 identity, 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.

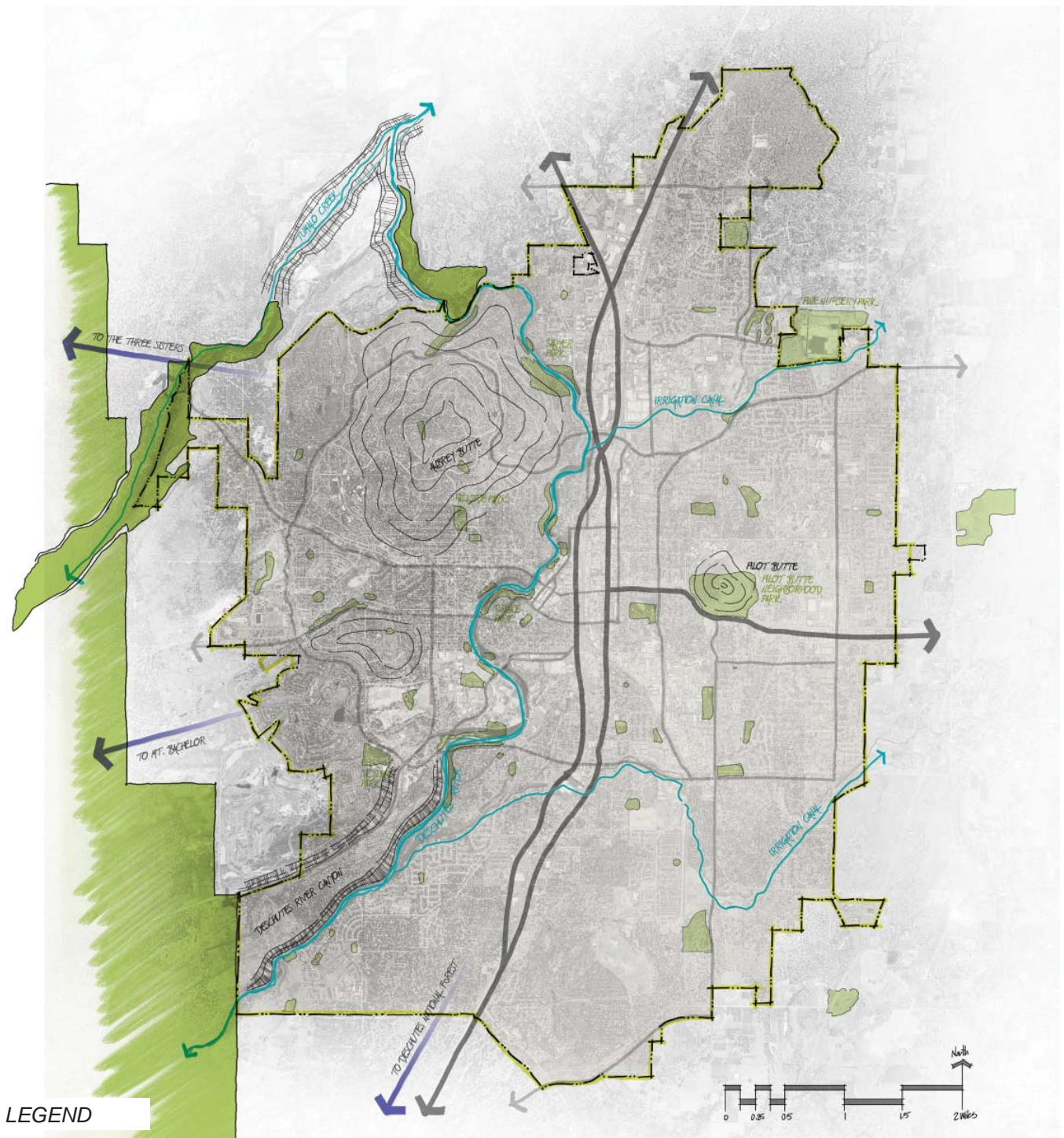


The Deschutes River meanders its way north through the center of the city, eventually forming a wide and slow moving water body (known as Mirror Pond) due to a hydropower dam to the west of Downtown. At its southern extent within the city limits, the river canyon is steep, with dramatic, terraced rock 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



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.

Public Realm

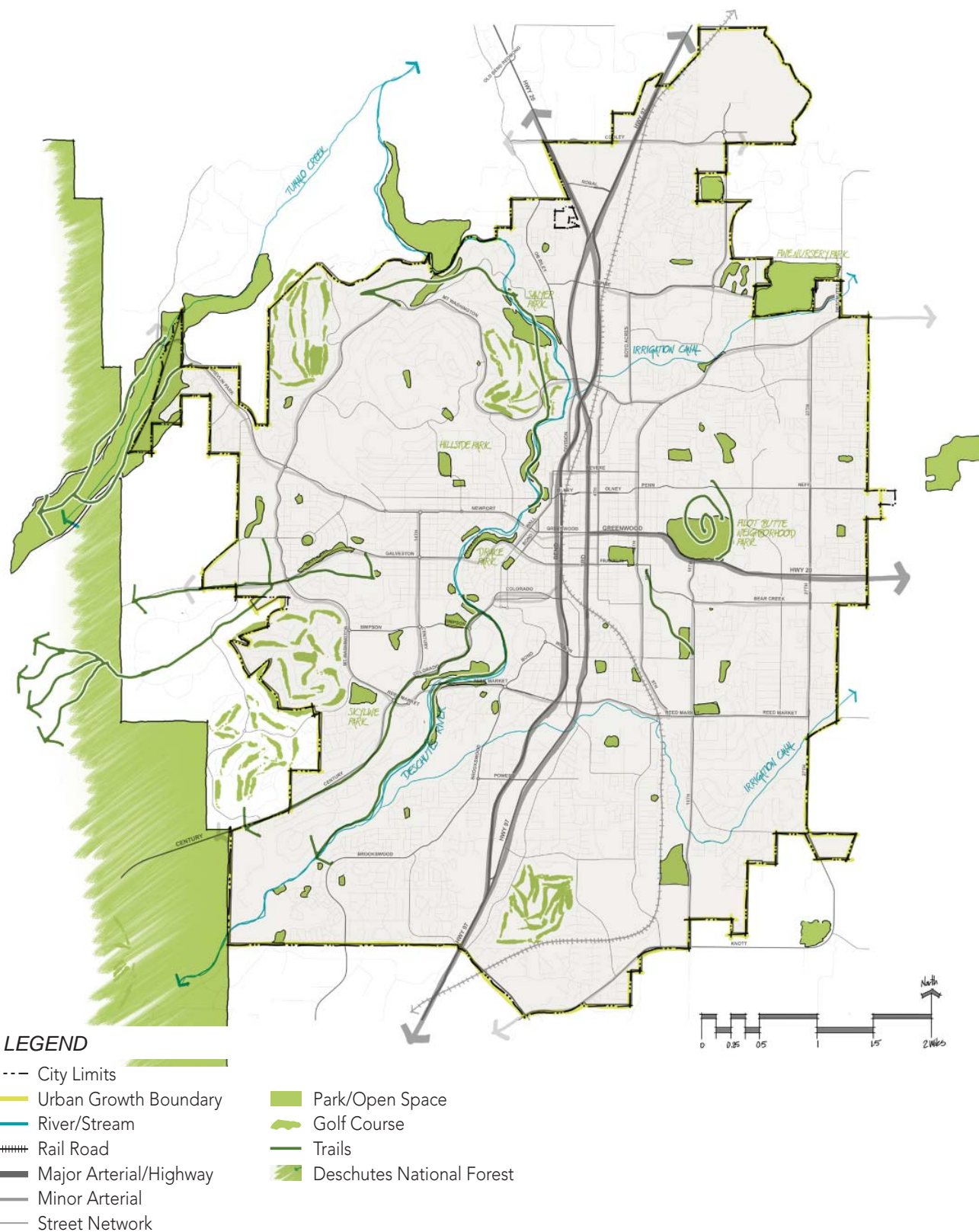
Spaces that fall within the public realm provide defining attributes of Bend's urban form and key ingredients of complete neighborhoods. Parks, trails, open spaces, public streets, and sidewalks shape the physical environment and provide places to play, recreate, connect, learn, and socialize. Parks 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.



Top: Event at Drake Park
Middle and Bottom: Using streets as places for public gathering

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.



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

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.

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.

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.



Top: Public art at the Butler Market Road and 8th Street round-about
Bottom: View of Mount Bachelor from the Cascade Lakes Highway

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.

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.



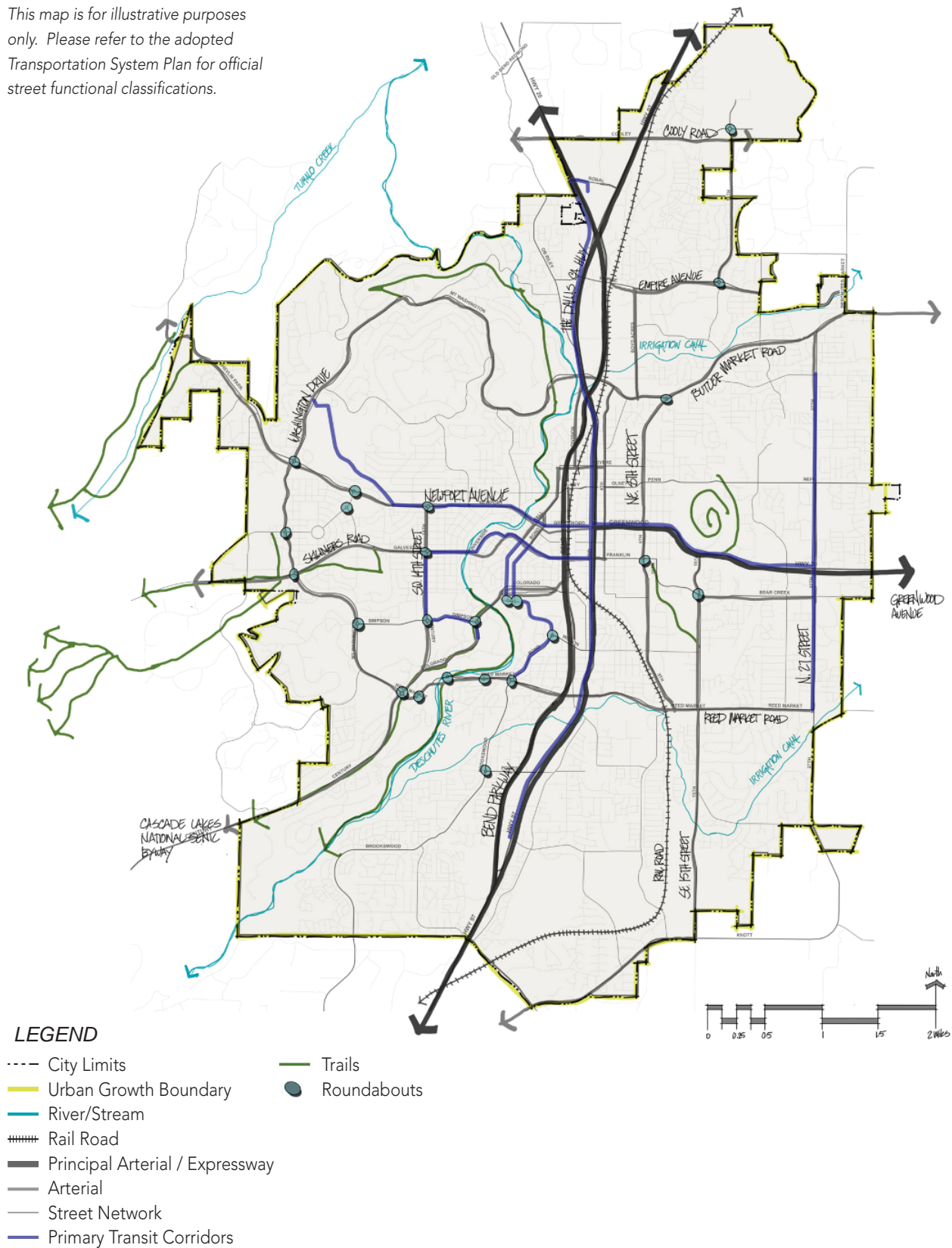
Top: Cascade East Transit provides convenient public transportation service in Bend
Bottom: The Deschutes River Trail is a popular destination for residents and visitors

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.



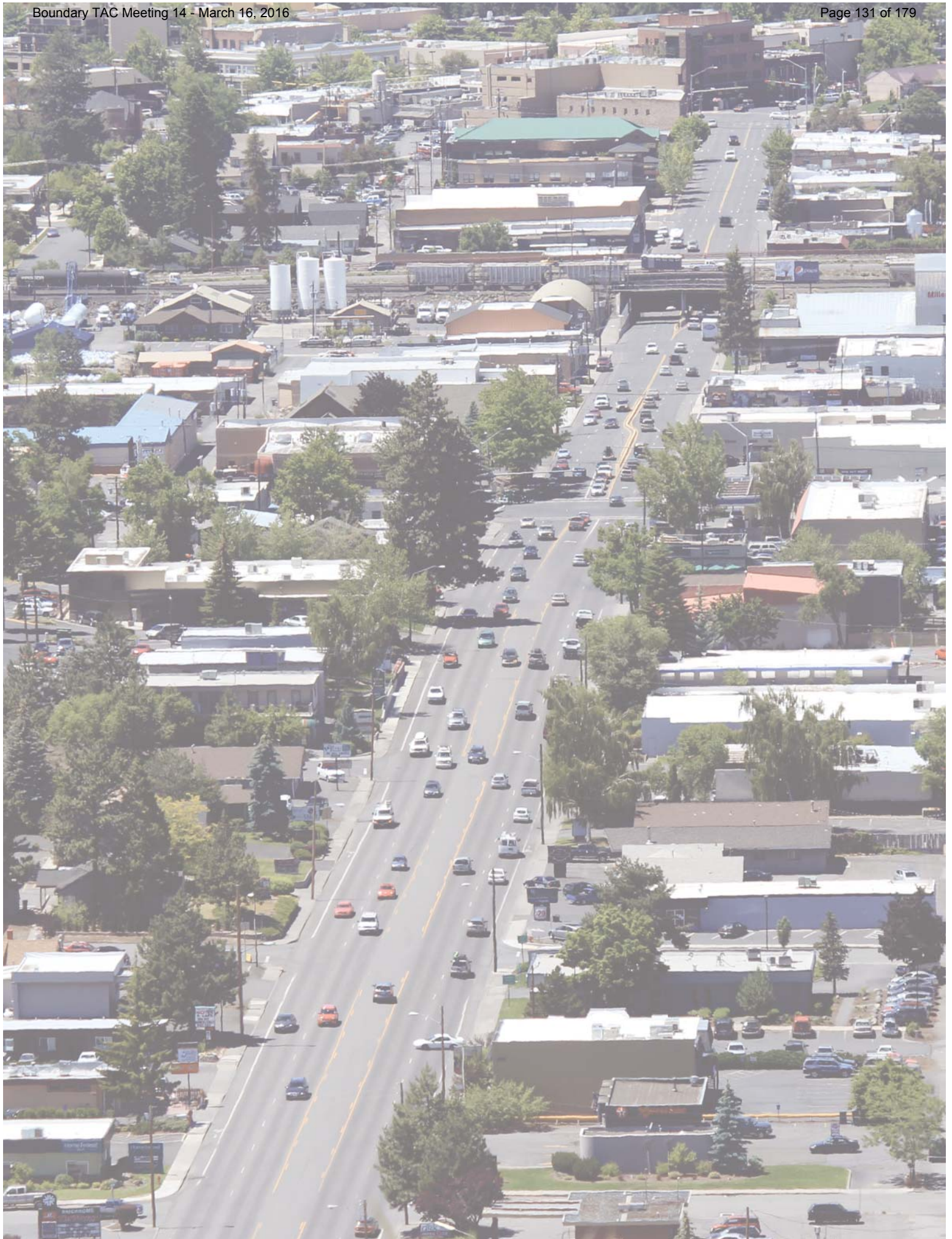
Rail

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

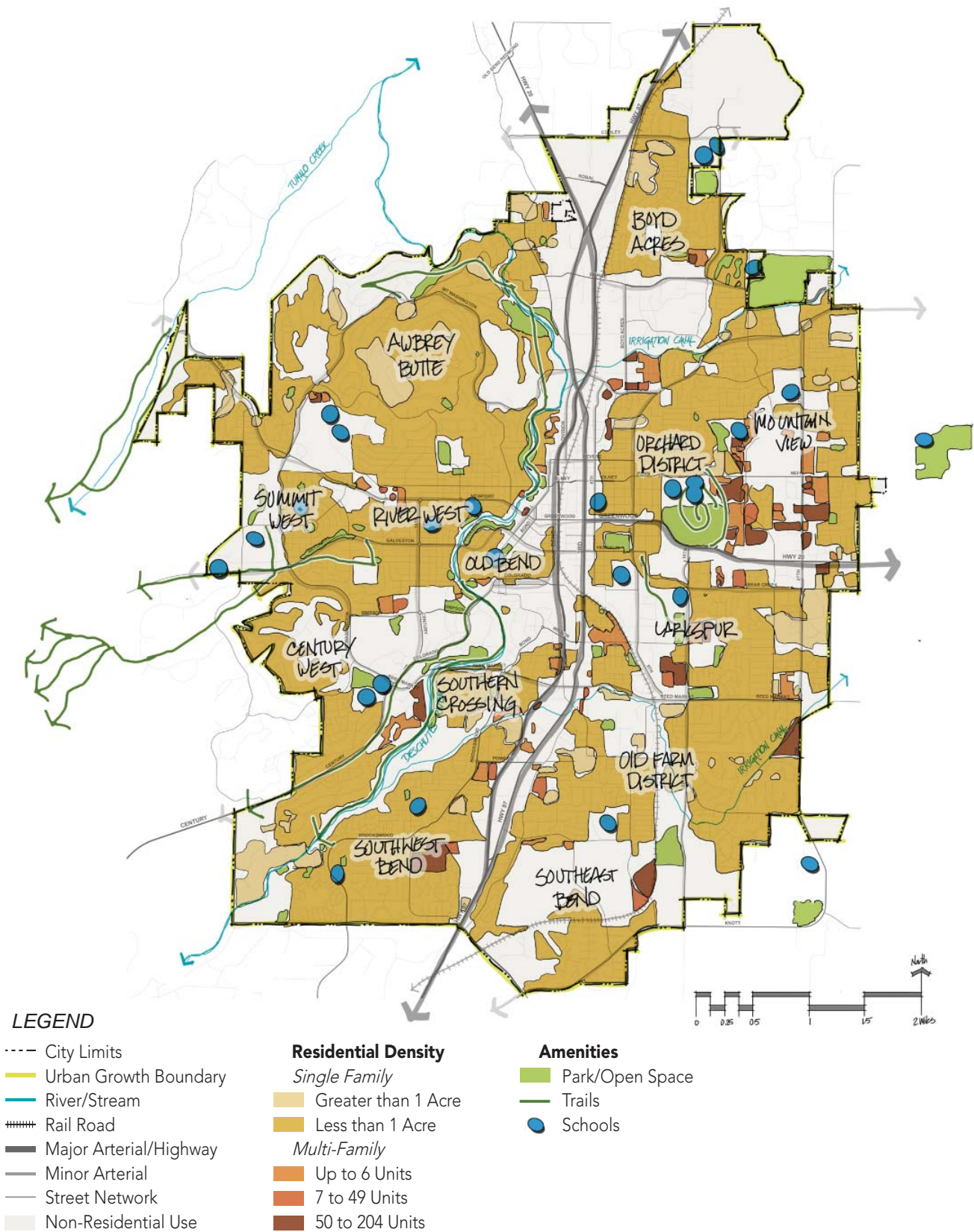
Bend has thirteen recognized neighborhoods that each have a unique geographic setting with a mixture of old and new building types and mixture of uses. Together, Bend's neighborhoods form the foundation of its urban form, influencing future development patterns, land uses, and potential growth opportunities. 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.

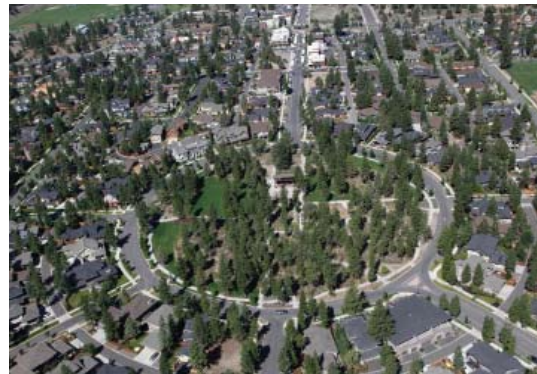
- **Primary land use:** predominant land use based on zoning and available parcel data
- **Employment type:** major employment types based on parcel data
- **Residential density:** range of permitted dwelling units per acre based on zoning
- **School access:** proximity to schools based on a ¼- ½-mile 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.

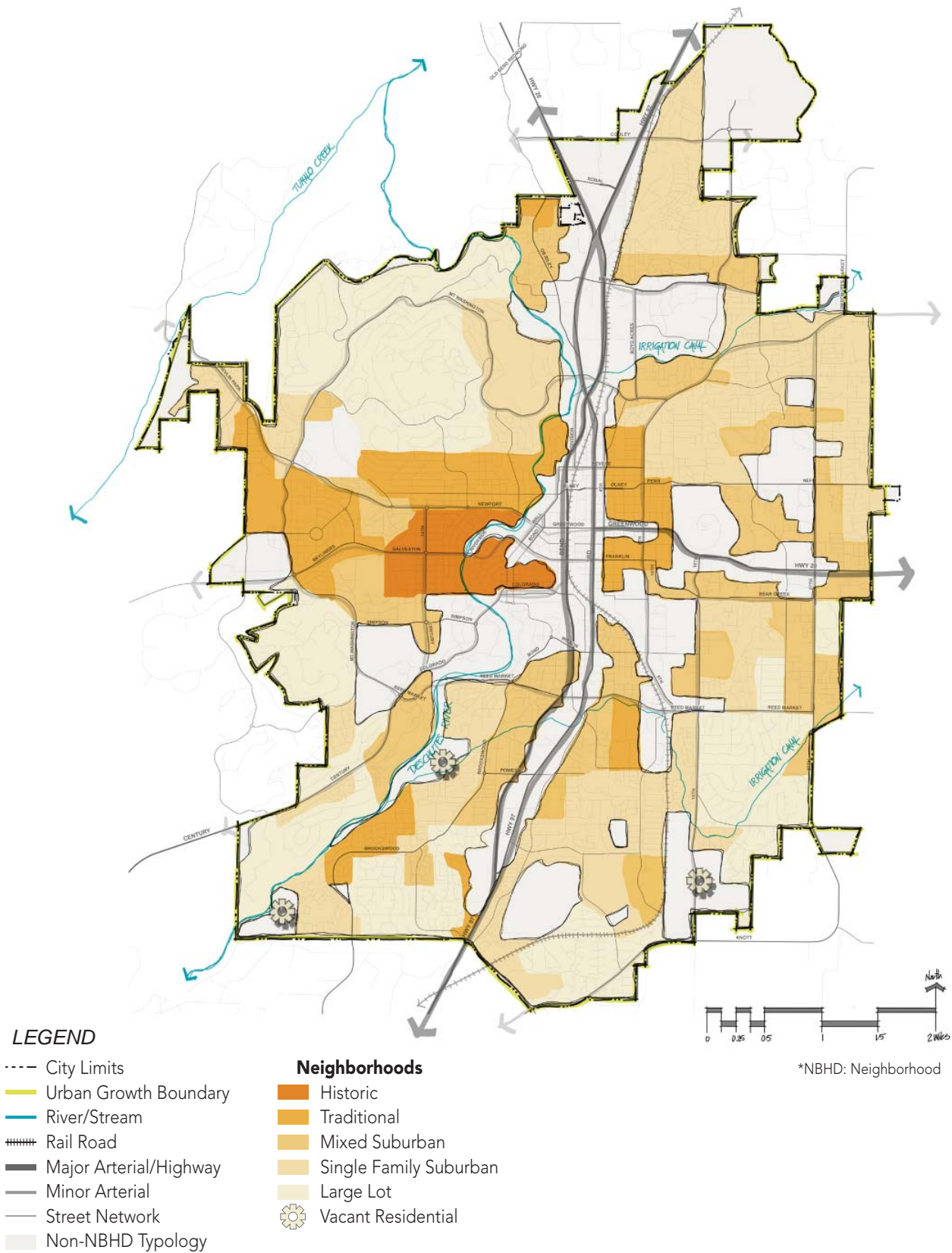
Based on the existing urban form, the following pages describe the five neighborhood typologies and include: Historic, Traditional, Mixed Suburban, Single Family Suburban and Large Lot.



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



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 largely 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.



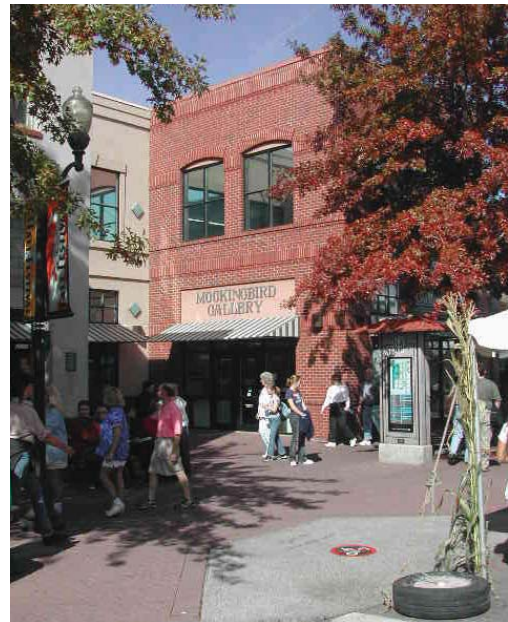


CENTERS & CORRIDORS

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.

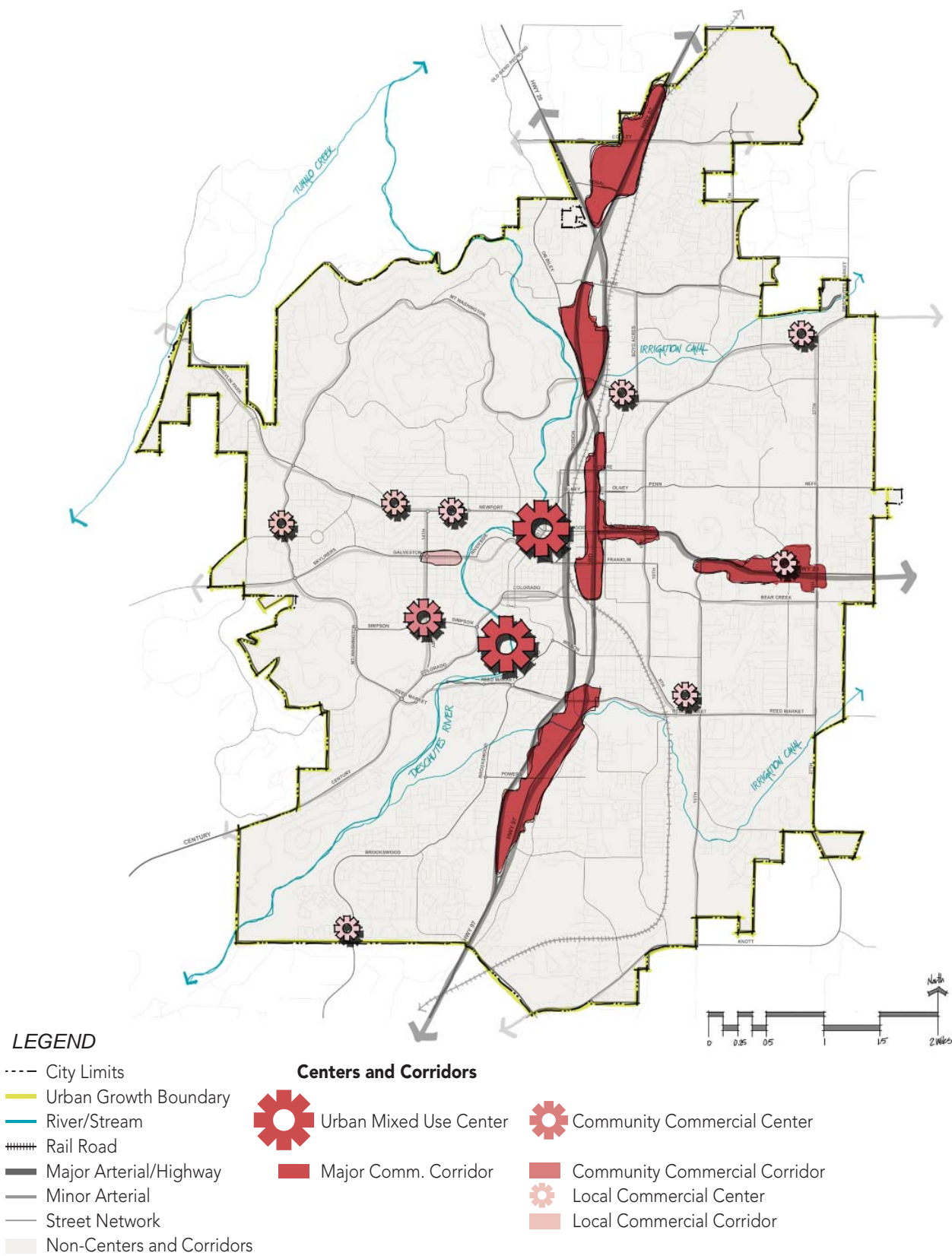
Not all of Bend has convenient access to local services such as a neighborhood grocery store. Fostering a network of mixed-use centers across Bend includes focusing activity, services, housing, and employment growth around walkable commercial centers and corridors. When services and other destinations 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

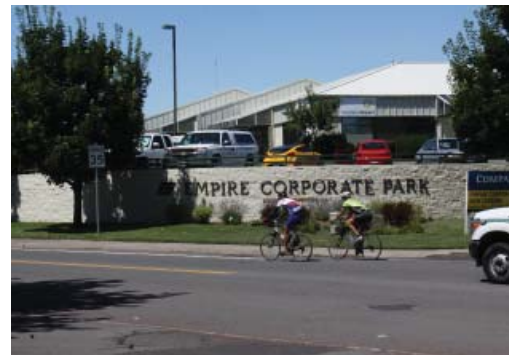
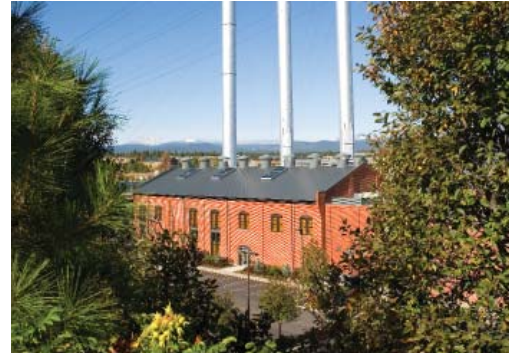
Local Commercial Centers/Corridors are smaller centers or corridors that serve as anchors to complete neighborhoods. They provide concentrations of small-scale retail including grocery stores, markets and local services such as daycare. Employment uses occur in moderate densities as small-scale offices 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

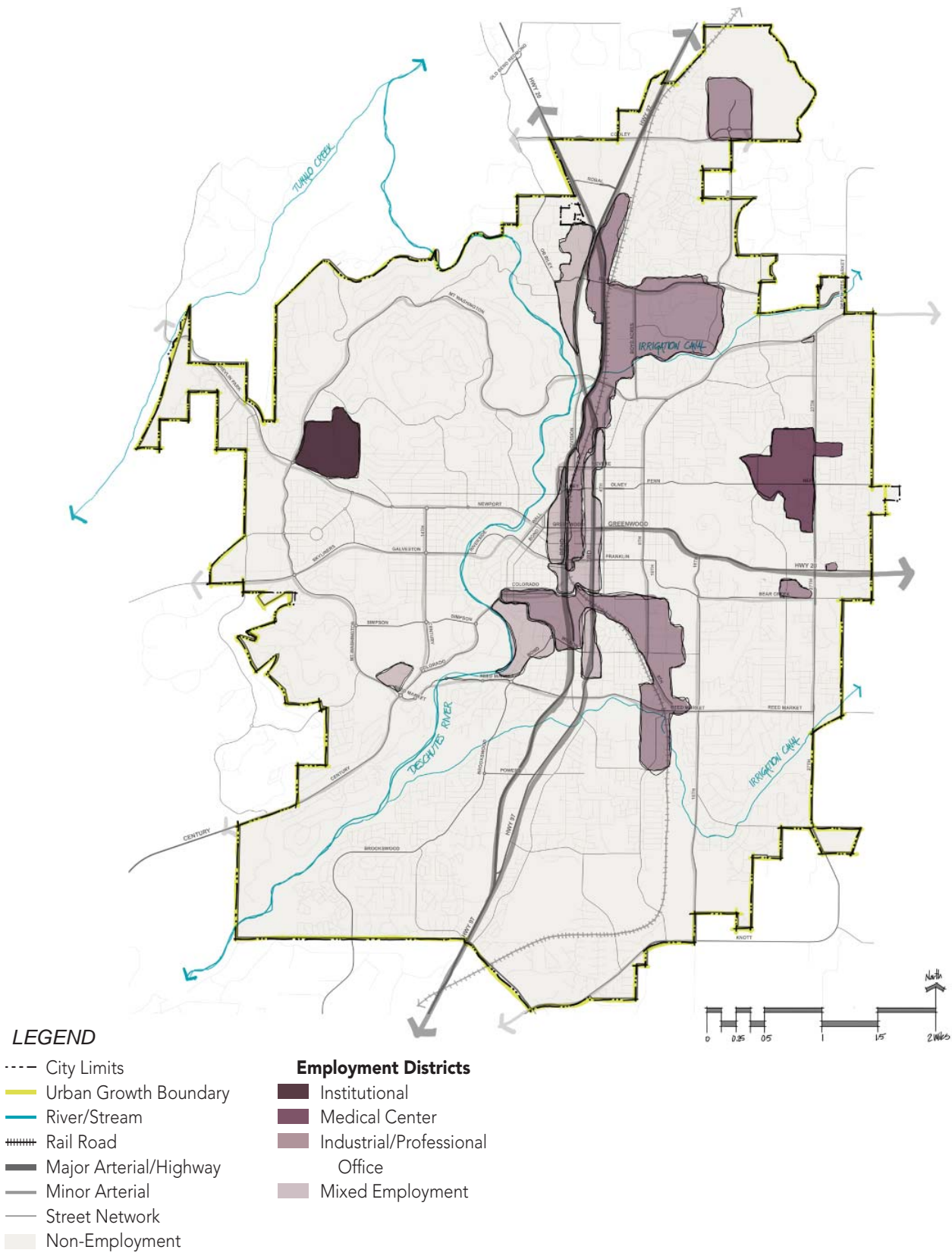
As Bend grows over the next 20 years, the city will have to support a range of diverse jobs and industries. Employment areas, large and small, must be sited in areas that can provide convenient access to a well-connected transportation system. Bend's Employment District typologies allow a wide range 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



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

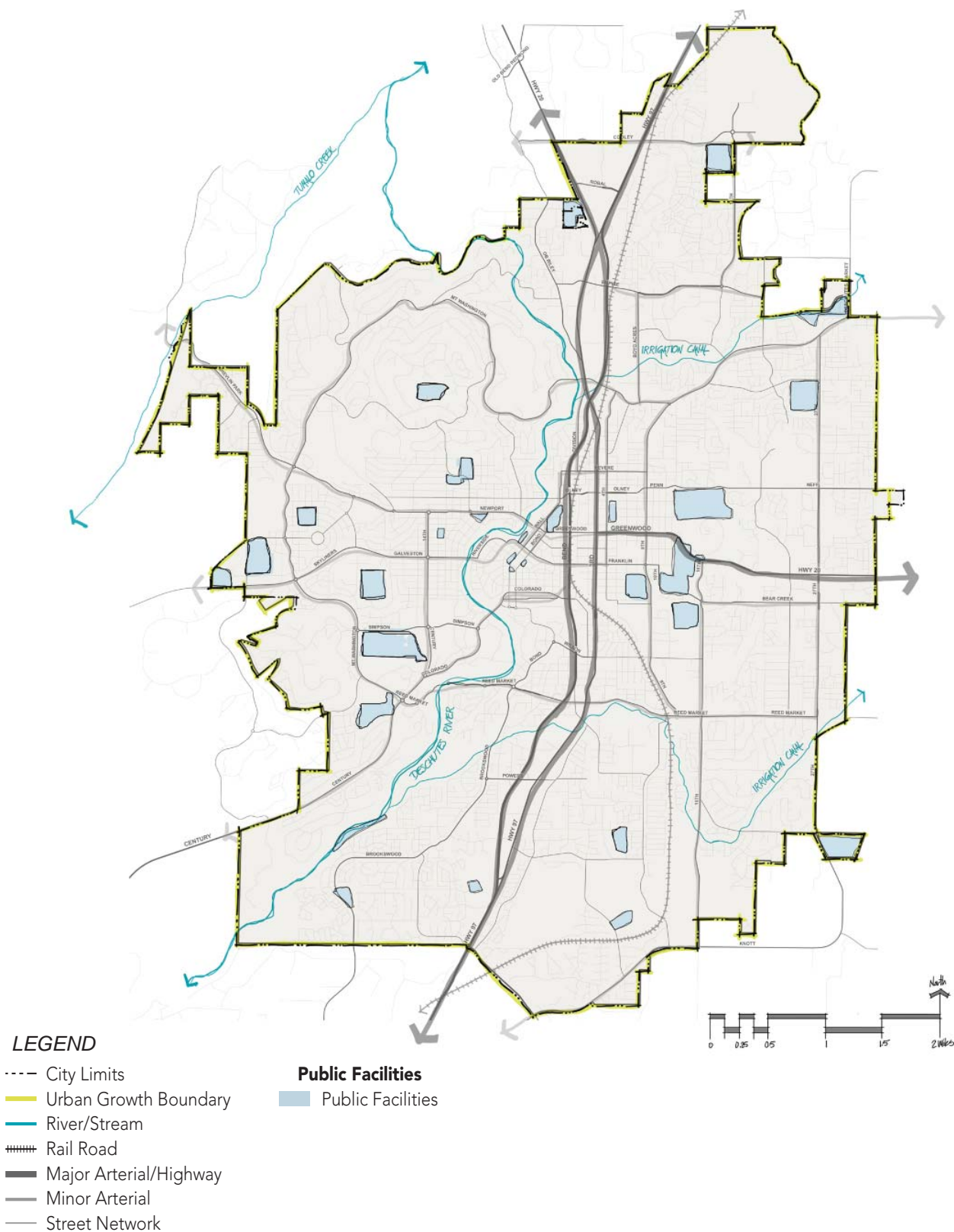
The provision of public services and facilities in the urban environment is an essential function of the city, and a primary requirement that determines where and how the city will grow. Services must be available to serve new growth as a condition of development. There is one public facilities typology 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



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.

Memorandum



March 10, 2016

To: Residential Lands Technical Advisory Committee
Employment Lands Technical Advisory Committee

Cc: Boundary and Growth Scenarios Technical Advisory Committee

From: Project Team

Re: Potential “Blended” zoning strategy

INTRODUCTION AND BACKGROUND

This memorandum summarizes the initial project team recommendation for plan map amendments and zone changes to implement the assumptions that underlie the Urban Growth Boundary (UGB) capacity analysis in identified opportunity areas and to address existing plan/zone conflicts. The team believes this approach meets the requirements of the Remand Order and state law. The project team discussed the options with the UGB Steering Committee (USC) and agreed to offer a recommendation for a “blended approach” to zone changes.

PROCESS AND PROCEDURES

Currently, the city’s zone change process for properties that have a plan/zone conflict and are seeking to re-zoning consistent with the General Plan are a quasi-judicial zone change, which is a Type III procedure, subject to Hearing’s Officer decision. There is no distinction between zone changes that are consistent with the plan designation and those that are combined with a plan amendment. The criteria from the Bend Development Code are as follows:

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 the provisions of BDC 4.6.600, Transportation Planning Rule Compliance.*

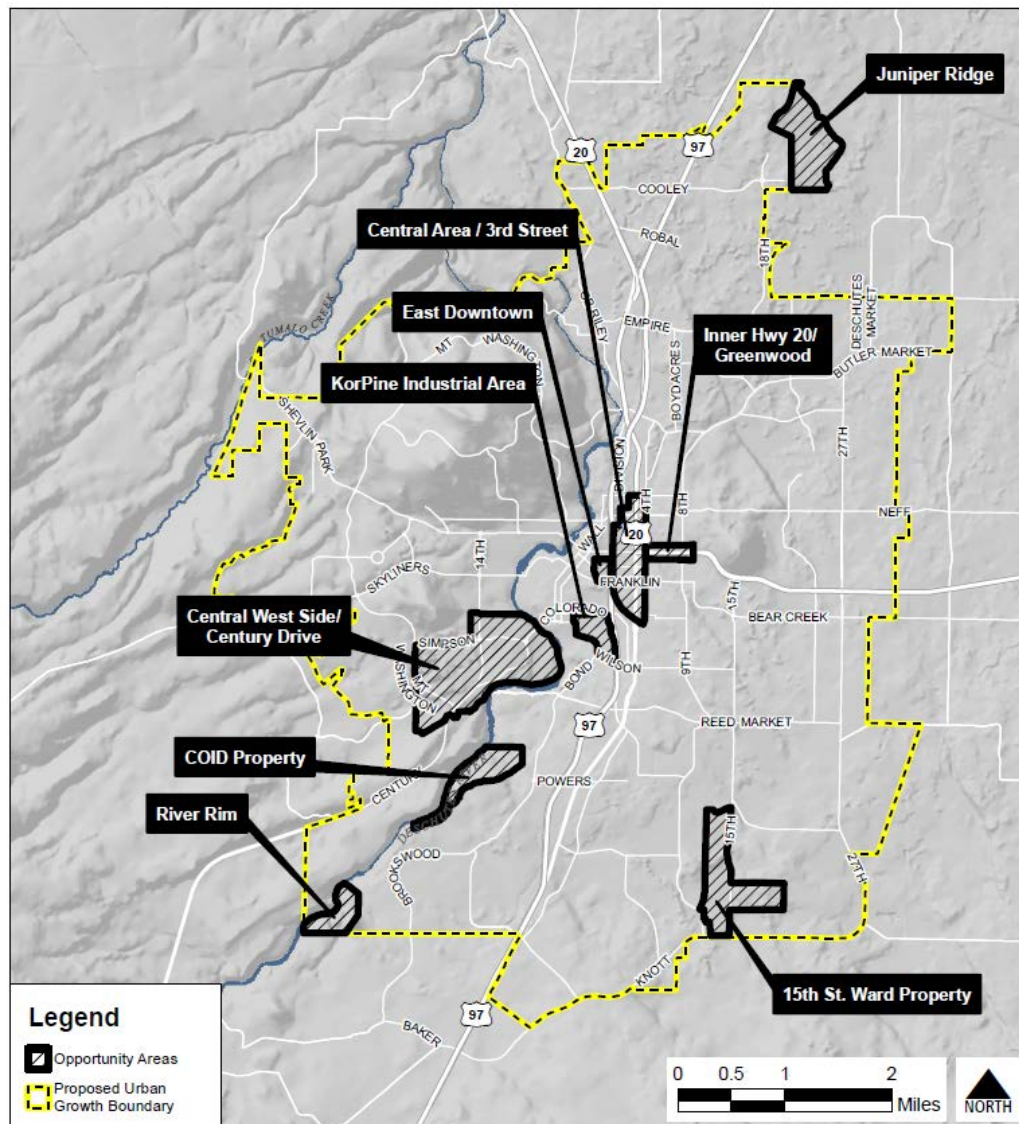
The application fee is currently a little over \$4,500, and an analysis of TPR compliance is required.

In order to reduce uncertainty and streamline the process for applicants, the project team recommends that the City adopt amendments to Chapter 4.6 to make zone changes that are consistent with the comprehensive plan designation subject only to the third criterion (adequate public facilities), and not require analysis of compliance with the statewide planning goals or the Comprehensive Plan policies. This would limit the potential for appeal to issues of infrastructure adequacy.

OPPORTUNITY AREAS

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.

Figure 1: Opportunity Area Reference Map



1. Central Area / 3rd Street

Impact / Scale & Scenario Modeling Assumptions

- About 330 properties total
- Development types were created to reflect the draft code language for the MMA Special Plan District
- About 310 housing units assumed to 2028 (nearly all through redevelopment)
- Industrial-zoned properties assumed to generate about 270 retail & office jobs rather than industrial; commercial & Mixed Employment (ME) zoned properties assumed to generate about 200 jobs – right types, but could be more intensity than possible under existing zoning.

Starting Recommendation

- ***Leave Plan designations as is; rezone the IL to ME plan designation; adopt Special Plan District with UGB adoption*** – using the recommended draft Special Plan District codes from the MMA project, adopt the Special Plan District as drafted, leaving the existing plan designations in place.

Rationale

- The MMA project had significant public outreach that developed support for implementing the special plan district. Property owners were generally on-board with that recommendation and support its adoption.
- The draft mixed use zones are similar in many ways to the regulations of the special plan district; however, because they are designed to be available to multiple areas within the city, the site-specific issues addressed in the draft Special Plan District are not necessarily included in the draft mixed use zones.
- The Special Plan District supersedes the regulations of the base zones, so the new mixed use zones are not needed to implement the vision for the area. However, making the zoning match the plan designation will minimize confusion.
- A plan amendment to one of the new mixed use zones might better convey the intent of the special plan district, but is not necessary (as noted above) and may confuse those who participated in the MMA process.

Follow up items

- There are a few minor details in the draft plan and code amendments that need to be settled prior to adoption.
- The City will need to do further work to identify financing for needed street improvements, but this can be done following adoption of the land use regulations.
- TSP amendments recognizing and incorporating recommendations from the MMA project will be included with the set of TSP amendments adopted with the UGB as needed.
- The City will need to send formal notice to all property owners about the adoption of the special plan district prior to hearings.

Rationale

- The MMA project had significant public outreach that developed support for implementing the special plan district. Property owners were generally on-board with that recommendation and support its adoption.
- The draft mixed use zones are similar in many ways to the regulations of the special plan district; however, because they are designed to be available to multiple areas within the city, the site-specific issues addressed in the draft Special Plan District are not necessarily included in the draft mixed use zones.
- The Special Plan District supersedes the regulations of the base zones, so the new mixed use zones are not needed to implement the vision for the area. However, making the zoning match the plan designation will minimize confusion.
- A plan amendment to one of the new mixed use zones might better convey the intent of the special plan district, but is not necessary (as noted above) and may confuse those who participated in the MMA process.

Follow up items

- There are a few minor details in the draft plan and code amendments that need to be settled prior to adoption.
- The City will need to do further work to identify financing for needed street improvements, but this can be done following adoption of the land use regulations.
- TSP amendments recognizing and incorporating recommendations from the MMA project will be included with the set of TSP amendments adopted with the UGB as needed.
- The City will need to send formal notice to all property owners about the adoption of the special plan district prior to hearings.

2. East Downtown*Impact / Scale & Scenario Modeling Assumptions*

- About 80 properties
- Little redevelopment potential identified; Mixed Use Urban development type used for those parcels that may have redevelopment potential
- Virtually no housing assumed – only about 5 units of yield to 2028
- Minimal employment growth to 2028, and types consistent with existing commercial zoning

Starting Recommendation

- Plan amendment: General Commercial (CG) to Mixed Use Urban (MU)
- Defer zone change to when initiated by property owners

Rationale

- With very minimal impact to projected housing or employment capacity, there is no urgency to get new zoning in place.

- The Central Area Plan identified the recommendation of extending downtown zoning into this area (among others) – the idea has been discussed in the community in general terms in the past, and specifically by the UGB TACs.
- Adopting the plan designations expresses the intent for the area and facilitates property owner initiated rezones when they are ready to redevelop.

Follow up items

- The City will need to send notice to property owners about the plan map amendment prior to hearings.

3. Inner Highway 20 / Greenwood

Impact / Scale & Scenario Modeling Assumptions

- About 65 properties total
- Little redevelopment potential identified; neighborhood-scale mixed use was identified as the most appropriate development type for the commercial corridor, but there were no parcels identified as having redevelopment potential to 2028, so this development type was not applied.
- Model assumes RH on the half-block north of the commercial area but with miniscule amounts of redevelopment
- Virtually no housing assumed – under 1 unit of yield to 2028
- Virtually no jobs growth assumed

Starting Recommendation

- Plan amendment: Convenience Commercial (CC) to Mixed Use Neighborhood (MN); no change to residential designations abutting the commercial area
- Defer zone change to MN to when initiated by property owners

Rationale

- With very minimal impact to projected housing or employment capacity, there is no urgency to get new zoning in place.
- The area is small and surrounded by established neighborhoods.
- The area is a transit corridor and part of a broader strategy about encouraging development along transit corridors over the long-range future.

Follow up items

- The City will need to send notice to property owners about the plan map amendment prior to hearings.

4. Central West Side / Century Drive

Impact / Scale & Scenario Modeling Assumptions

- About 200 properties total (Note: the Central Westside Plan (CWP) area extends beyond the UGB Opportunity Area. The CWP planning area includes Newport Avenue,

Galveston Avenue, Portland Avenue, and 14th Street north of Commerce Avenue, but the UGB Opportunity Site does not include these areas.)

- Substantial redevelopment potential identified through Central Westside Plan (CWP) process
- Mixed Use Neighborhood development type used for those parcels that may have redevelopment potential – development type assumptions calibrated to reflect input from CWP process on type and mix of uses envisioned for this area.
- About 410 housing units assumed to 2028 (about 275 on vacant land)
- Industrial portion assumed to generate about 275 new retail & office jobs rather than industrial jobs
- Commercial & mixed employment portions assumed to generate about 800 new retail & office jobs – right employment types for current plan designations but intensity probably not possible under existing rules
- OSU Cascades assumed to locate on the land currently owned by the university

Starting Recommendation

- Amend plan designations to mixed use designation(s) with UGB adoption, defer all zoning amendments.
- Specific plan amendments and locations appropriate for each mixed use designation will be recommended by the CWP process.
- Include policy language in the Growth Management chapter regarding the university special site need

Rationale

- The Central Westside Plan (CWP) had significant public outreach that developed support for the preferred scenario.
- The UGB TACs and CWP Community Advisory Committee have directed the UGB project to integrate the two planning studies for consistency, and that the UGB project will be treating the area like other UGB Opportunity Sites.
- The area is projected to provide significant housing and employment capacity over the planning horizon.
- The CWP project is still underway, so zoning at this time is premature. The city is in the process of amending the Master Planning codes which may have an effect on the planning processes likely to take place in the future in this area. Phase 2 of the CWP process (focused on implementation of the Phase 1 CWP) could include additional review of the text of the new mixed use zones to ensure they meet the needs of the area. There may be a need for some specific refinements to compatibility measures to implement the CWP recommendations.

Follow up items

- CWP committee needs to provide a recommendation regarding where to apply the MU plan designation vs. the MN plan designation. This is expected to occur in early April 2016.

5. KorPine Industrial Area

Impact / Scale & Scenario Modeling Assumptions

- About 14 properties
- Substantial redevelopment potential identified; Mixed Use Urban development type used for those parcels that may have redevelopment potential
- About 170 units of housing yield assumed to 2028
- Assumed to generate about 290 new retail & office jobs rather than industrial jobs

Starting Recommendation

- Amend plan designations to mixed use with UGB adoption. Plan amendments:
 - General Industrial (IG) to Mixed Use Urban (MU)
 - Mixed Employment (ME) to Mixed Use Urban (MU)
- Amend zoning to mixed use with UGB adoption. Zone changes:
 - General Industrial (IG) to Mixed Use Urban (MU)
 - Mixed Employment (ME) to Mixed Use Urban (MU)

Rationale

- The area is projected to provide significant housing and employment capacity over the planning horizon.
- The mixed use zones can be flexible regarding continuation of existing uses, which will limit concerns about non-conforming uses.

Follow up items

- The City will send notice to property owners about the plan and zone map amendments prior to hearings.
- The project team will need to amend the new mixed use zones to make existing uses permitted.

6. Juniper Ridge (East)

Impact / Scale & Scenario Modeling Assumptions

- 1 property, about 160 acres
- Special development type used for this area, calibrated to the type and amount of employment growth assumed as background growth for the Employment Sub-district zone change transportation analysis that established the trip cap for the western portion of Juniper Ridge
- about 1,430 jobs assumed
- Currently IL plan designation, UAR10 zone

Starting Recommendation

- No change to plan designation or zoning

Rationale

- With significant vacant acreage in the employment sub-district on the western side of Juniper Ridge, there is not an immediate need to bring the eastern portion online.
- The City will 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.

Follow up items

- The City should continue coordinating with ODOT regarding the IGA in conjunction with land use designations at Juniper Ridge.

7. 15th Street Ward Property*Impact / Scale & Scenario Modeling Assumptions*

- 4 properties (204 acres total)¹, all vacant
- Scenario modeling based on the following assumptions²:
 - 13.2 acre school site
 - 6.4 acres RH
 - 8.3 acres RM at master plan densities
 - 153.9 acres RS at master plan densities
 - 10.4 acres ME
 - 16.4 acres commercial
- About 215 units (total) on land proposed to be upzoned to RM and RH (roughly double the maximum possible under existing zoning)
- About 350 jobs on land proposed to be rezoned to commercial & mixed employment

Starting Recommendation

- Plan amendments & zone change with UGB adoption:
 - 6.3 acres RS to RH
 - 8.3 acres RS to RM
 - 16.1 ac RS to CC
 - 10.2 ac RS to ME

Rationale

- Important impact on housing capacity and mix as well as employment capacity and creating a complete community in the southeast.

¹ Note that the Ward family also owns an additional adjacent parcel that is currently outside the UGB. This parcel may be master planned with the site inside the UGB; however, urban zoning will not be applied to that parcel until annexation, which will follow the UGB adoption process.

² A recent lot line adjustment related to the Murphy Road extension and park site acquisition by Bend Parks and Recreation District has reduced the size of the property in Ward family ownership. Scenario modeling approximated this adjustment but slightly underestimated the size of the park and Murphy Road right-of-way.

- This is an important efficiency measure since it is the largest piece of vacant residential land inside the city today.

Follow up items

- Continuing discussion and coordination needed with the property owners.

8. River Rim

Impact / Scale & Scenario Modeling Assumptions

- 2 properties (81 acres total), all vacant
- Already RS plan designation (RL zone)
- Scenario modeling uses RS at master plan densities on the 30-acre buildable portion of the site, with no development assumed on the remainder
- About 150 units assumed in total on buildable portion – more than would be possible with RL zoning on the buildable portion, but if they transferred development potential from the full site as allowed under the code they could build over 160 units with the existing RL zoning

Starting Recommendation

- Leave existing plan/zone conflict in place; defer rezoning to property owner initiative.

Rationale

- The development code requires subdivisions to comply with both the standards of the zoning district in which the project is located and the standards of the zoning district that implements the General Plan designation of the subject property.
- It is possible to achieve the projected capacity under existing zoning (see above). There is only a moderate difference in projected housing mix between RS and RL, and the master plan standards set the same minimum for housing types other than single family detached.
- In 2003 the city initiated a zone change for all RL property to RS. This property was singled out in that effort and rejected by city council.
- New master plan process will offer a 2-track system, including a clear and objective path for applications that are not seeking to deviate from the current standards. This, combined with a streamlined process for a zone change in compliance with the comprehensive plan, will result in a fairly clear and objective path to implementation of the plan designation.

9. Central Oregon Irrigation District

Impact / Scale

- Total property is about 160 acres; about 80 acres may be buildable
- Removed from scenario modeling based on testimony demonstrating that it is encumbered by a view easement through 2032
- No housing or employment yield assumed to 2028
- Currently RS zone, PF plan designation

Starting Recommendation

- Change plan designation on buildable parcel from PF to RS with UGB adoption

Rationale

- Will not impact capacity, but would make it easier for COID to develop the property if/when they can resolve the easement issue.

Follow up items

- Confirm that current irrigation facilities would not become non-conforming uses.

OTHER EXISTING PLAN / ZONE CONFLICTS

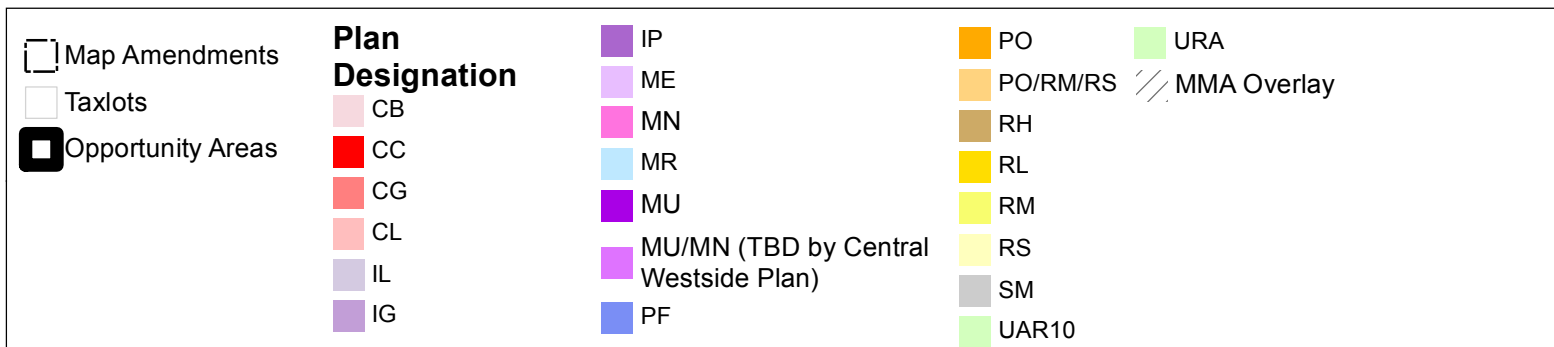
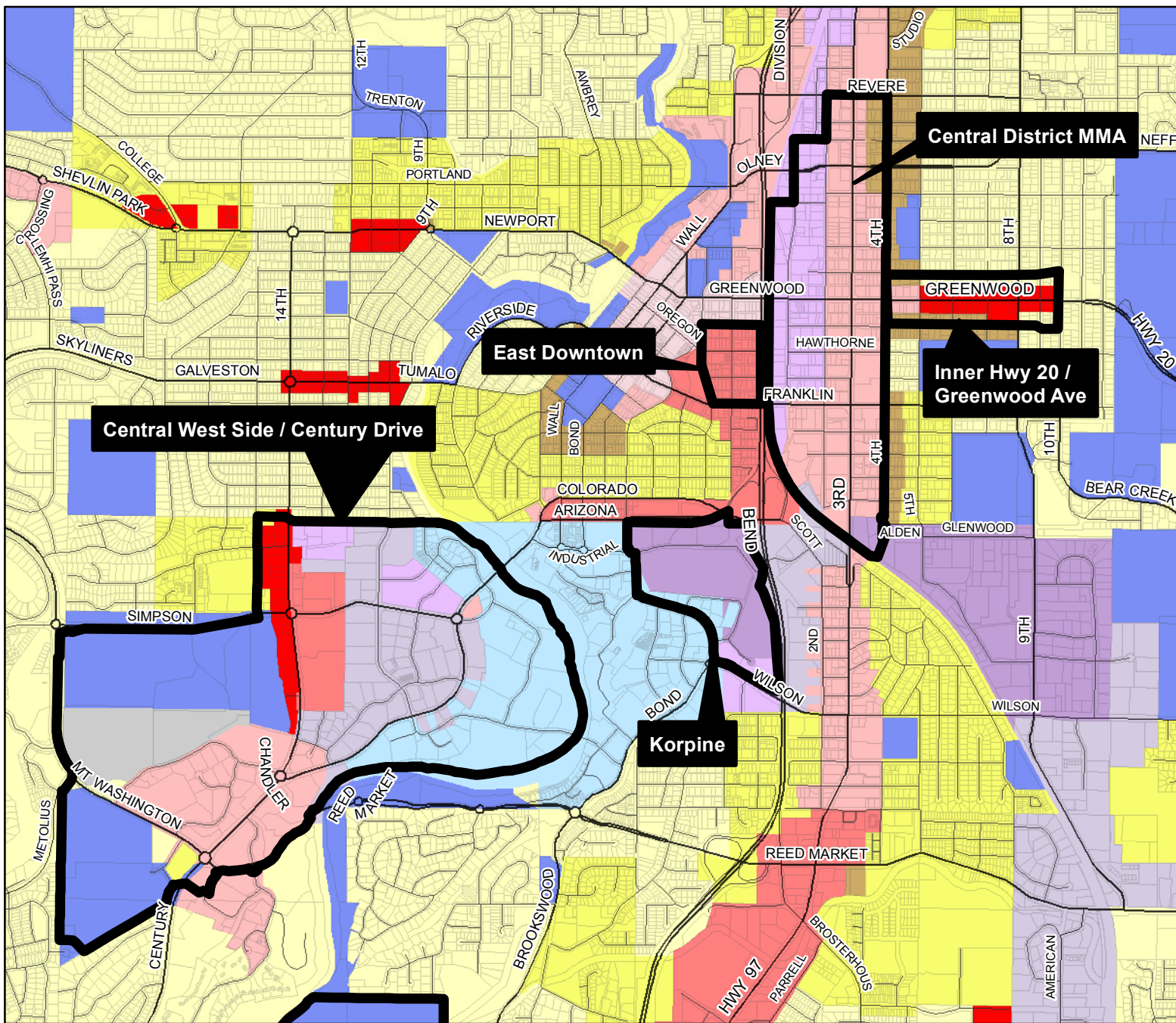
In total, there are at least 650 housing units assumed on land where the existing zoning is less dense than the plan designation (on which the housing projections are based) outside of the opportunity areas. While this is a significant number, rezoning is not recommended as part of the UGB adoption package for the following reasons:

- there has been little or no outreach to these property owners to date;
- existing regulations require development to be consistent with the zone that implements the plan designation; and
- a streamlined process for zone changes in compliance with the comprehensive plan will make it easier for property owners to get a zone change when they are ready to develop.
- Development codes pertaining to Master Plans now explicitly state the intent of the process is to implement the underlying General Plan designations.

There are other plan/zone conflicts on non-residential land where employment capacity is assumed; however, only production of needed housing is subject to the requirements related to clear and objective standards and adopting zone changes. Zone changes are not recommended for these properties at this time.

Opportunity Areas

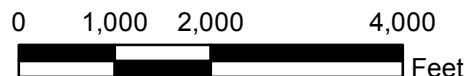
Existing Comprehensive Plan Designations



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

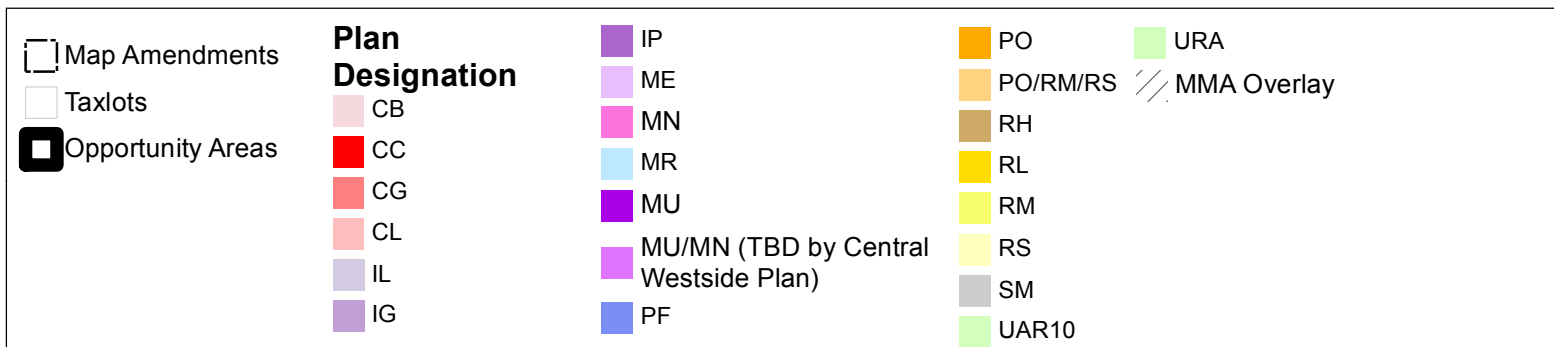
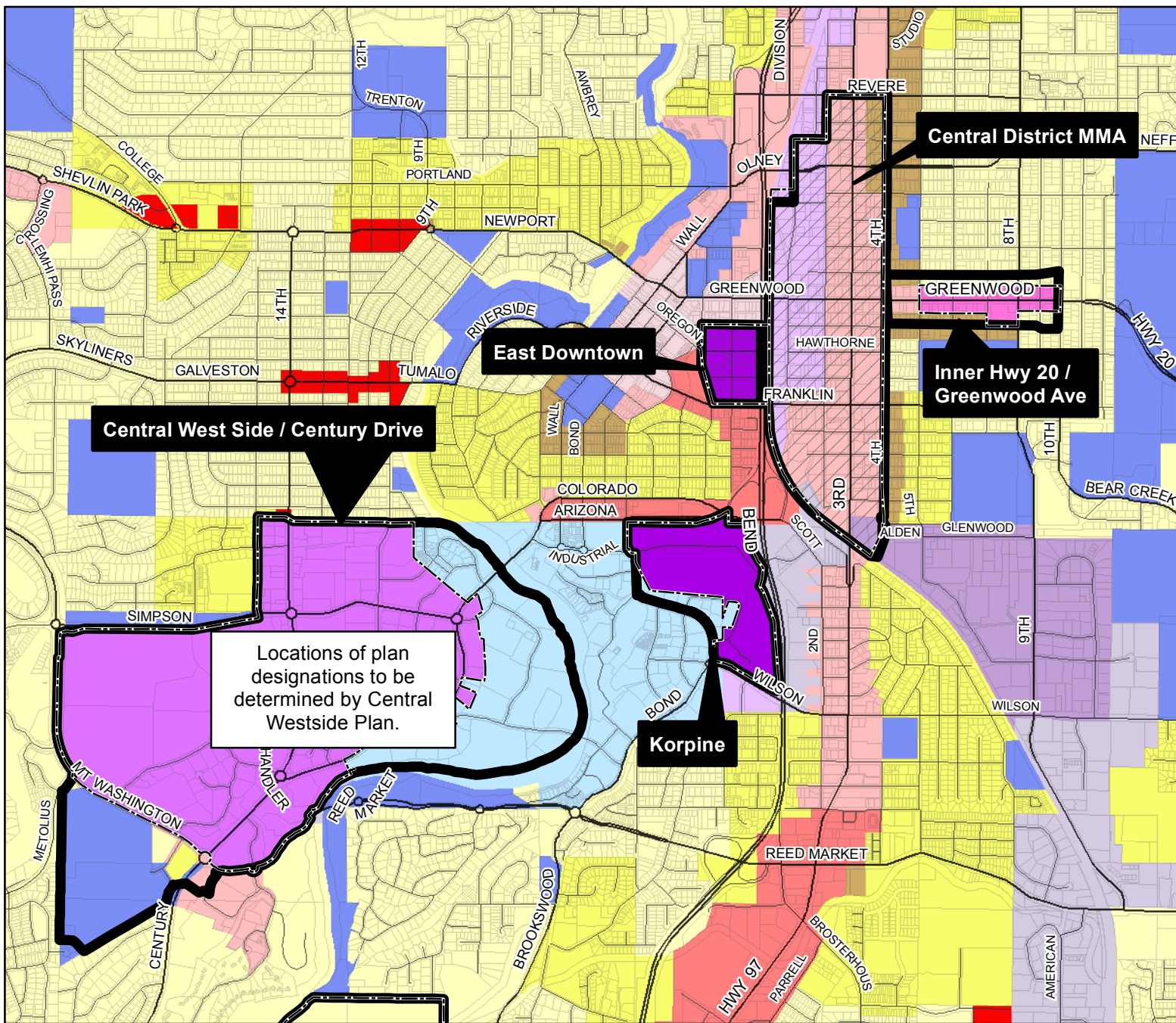
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Last Updated: 3/8/2016



Opportunity Areas

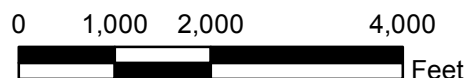
Proposed Comprehensive Plan Designations



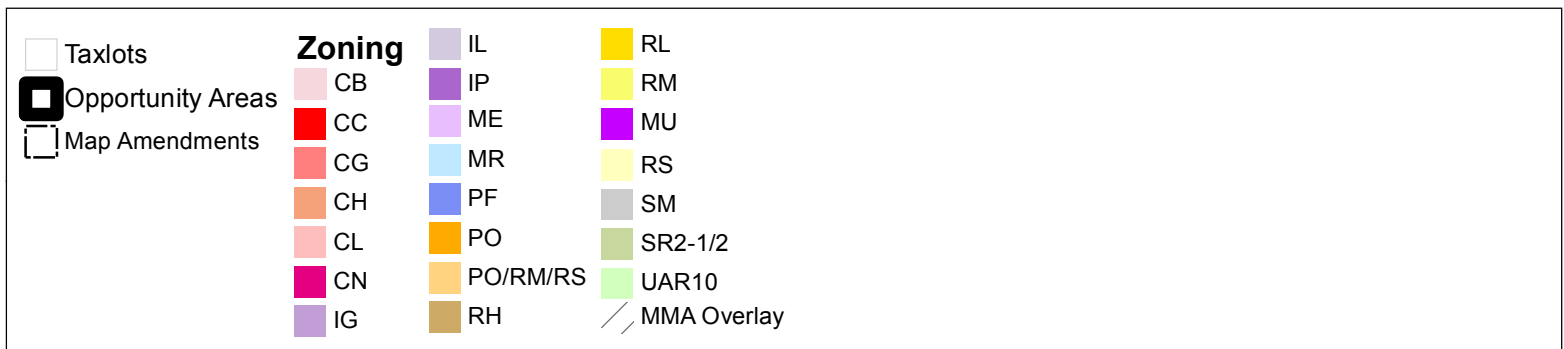
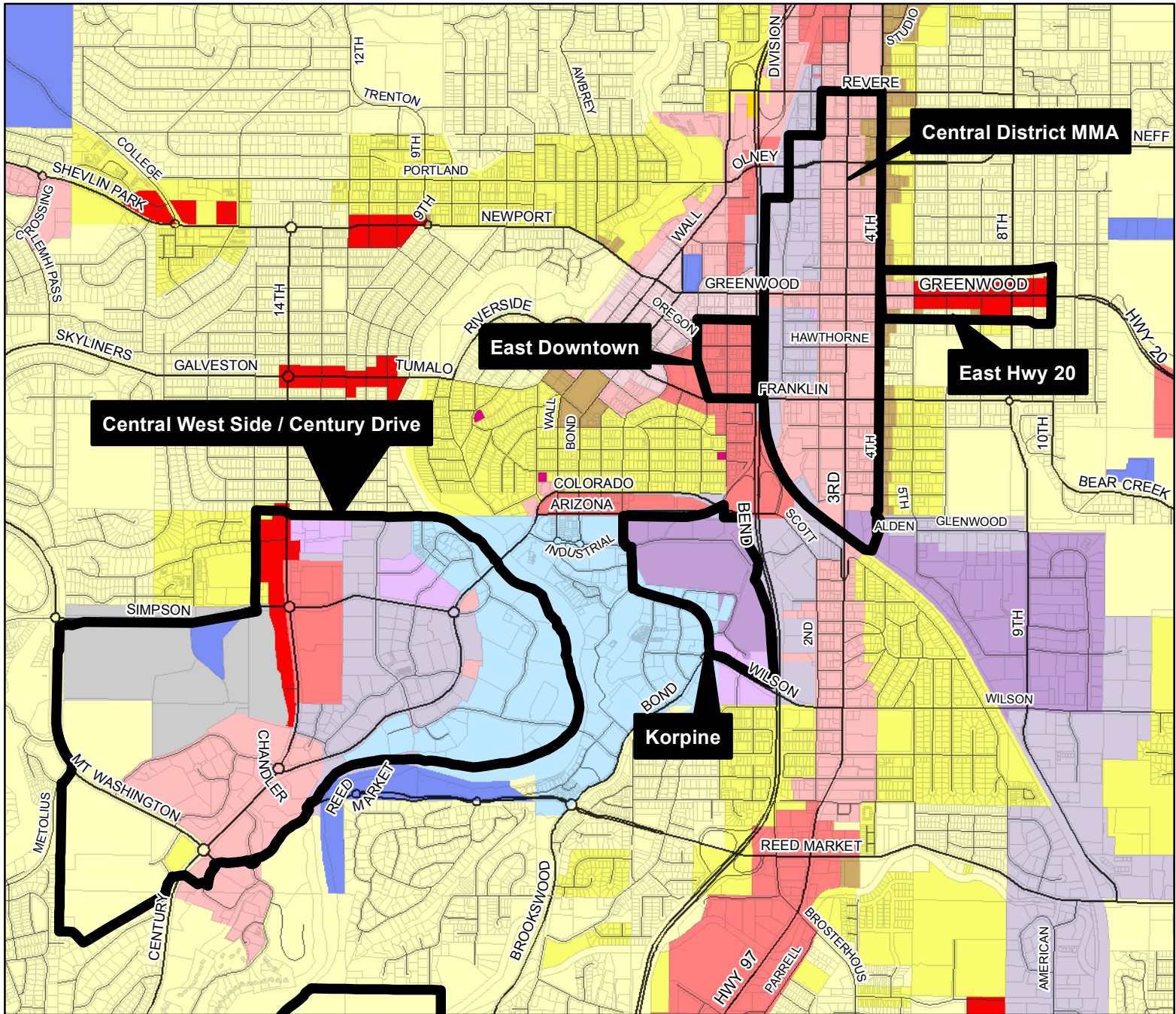
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Last Updated: 3/8/2016



Opportunity Areas Existing Zoning



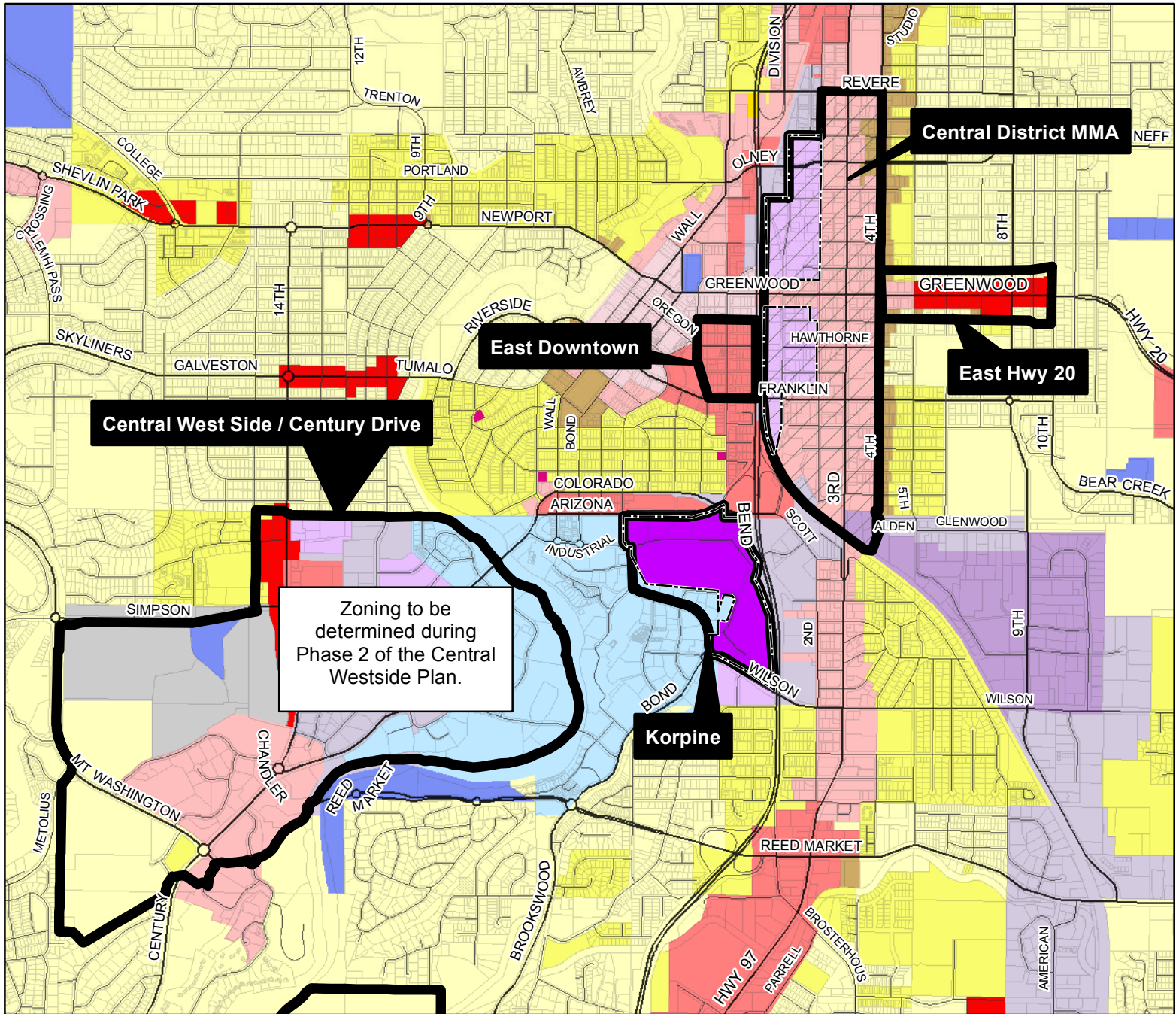
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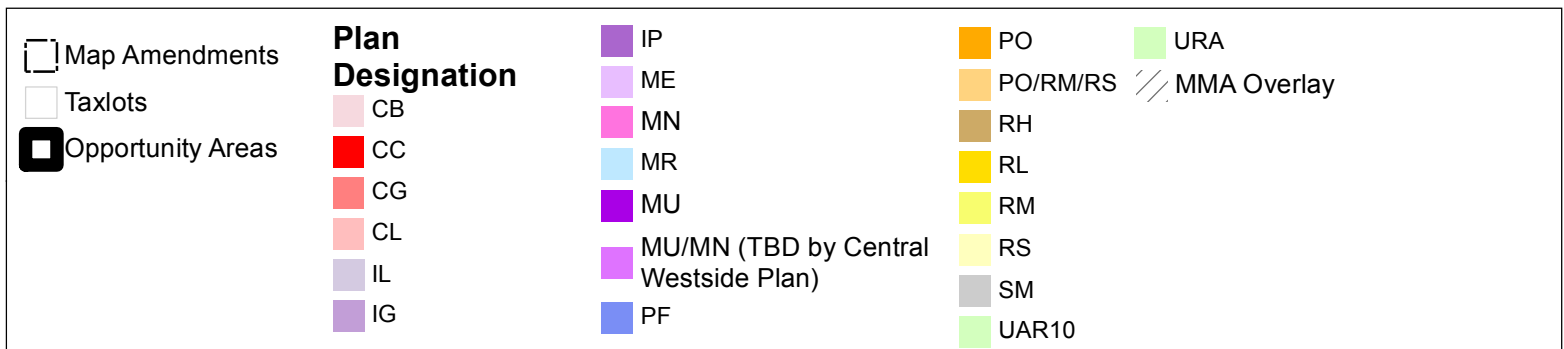
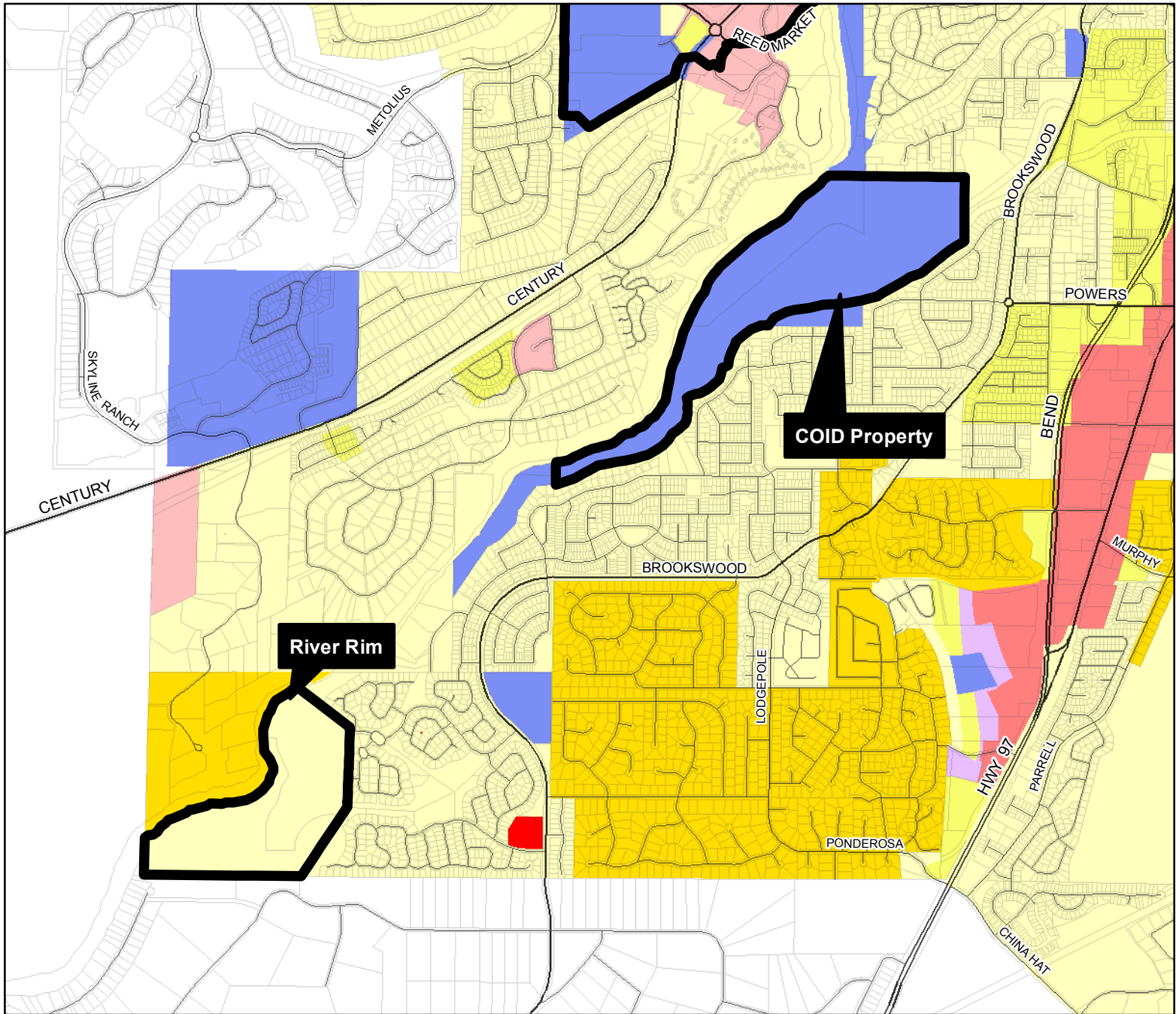


Opportunity Areas Proposed Zoning



Opportunity Areas

Existing Comprehensive Plan Designations



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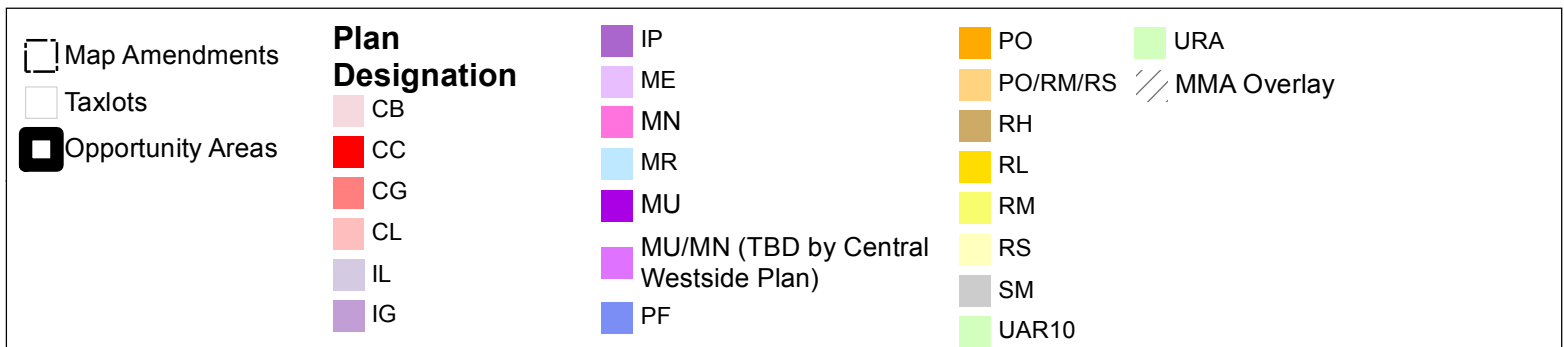
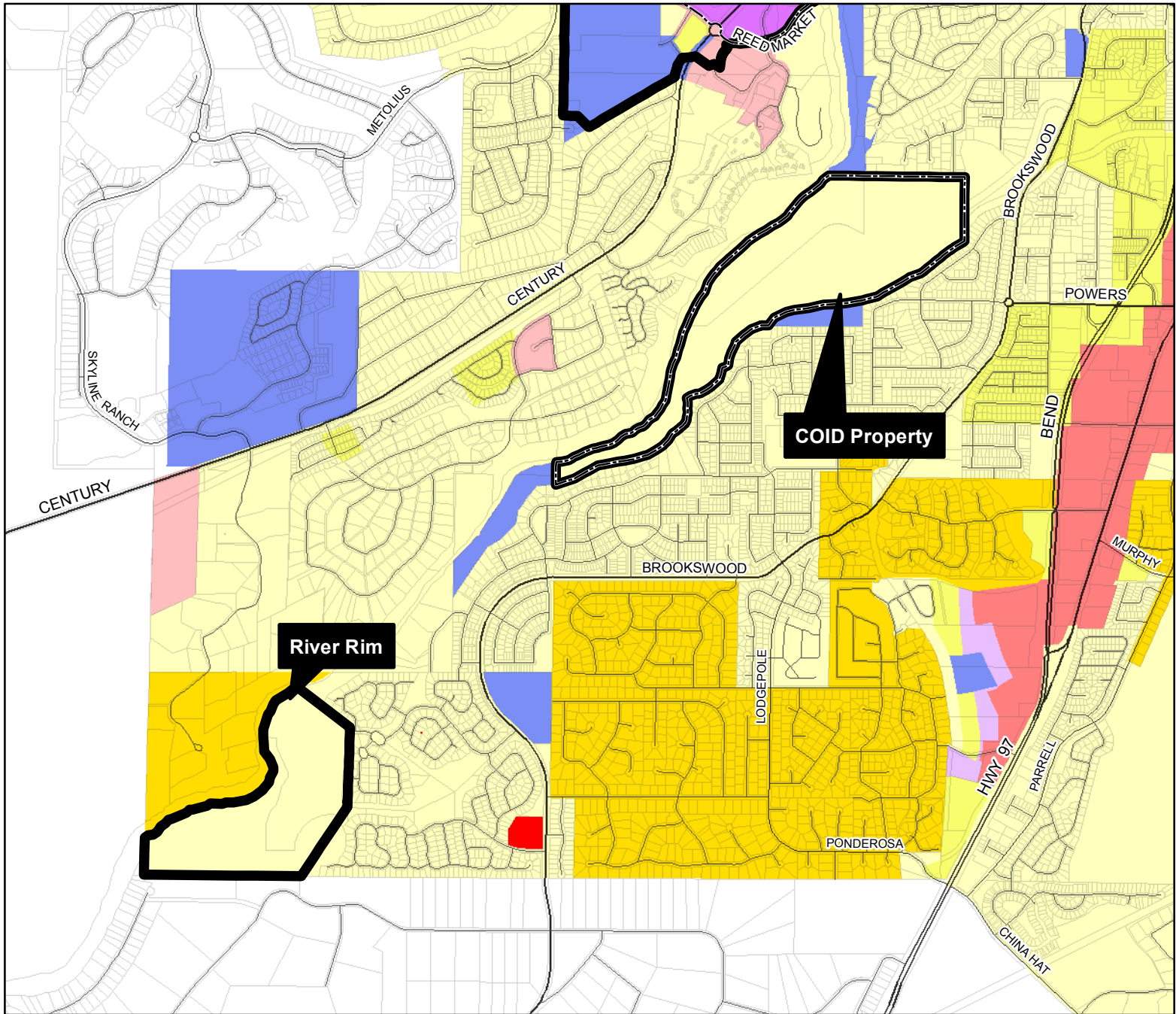
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Last Updated: 3/8/2016



Opportunity Areas

Proposed Comprehensive Plan Designations



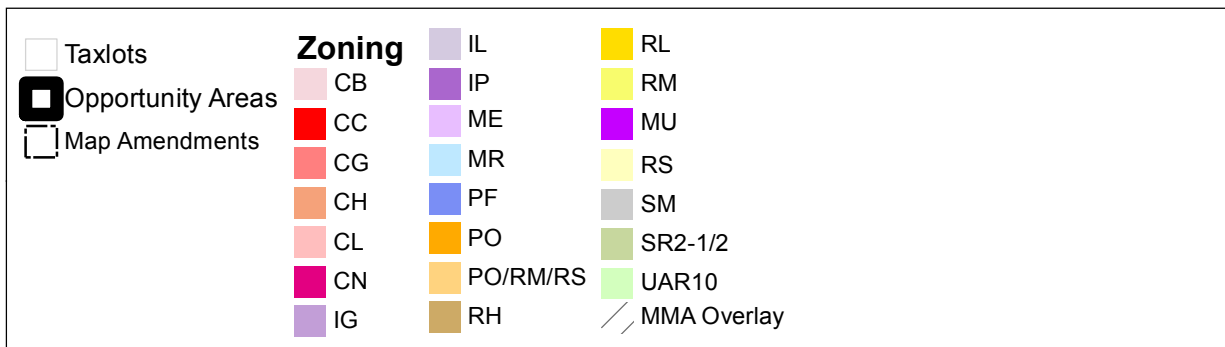
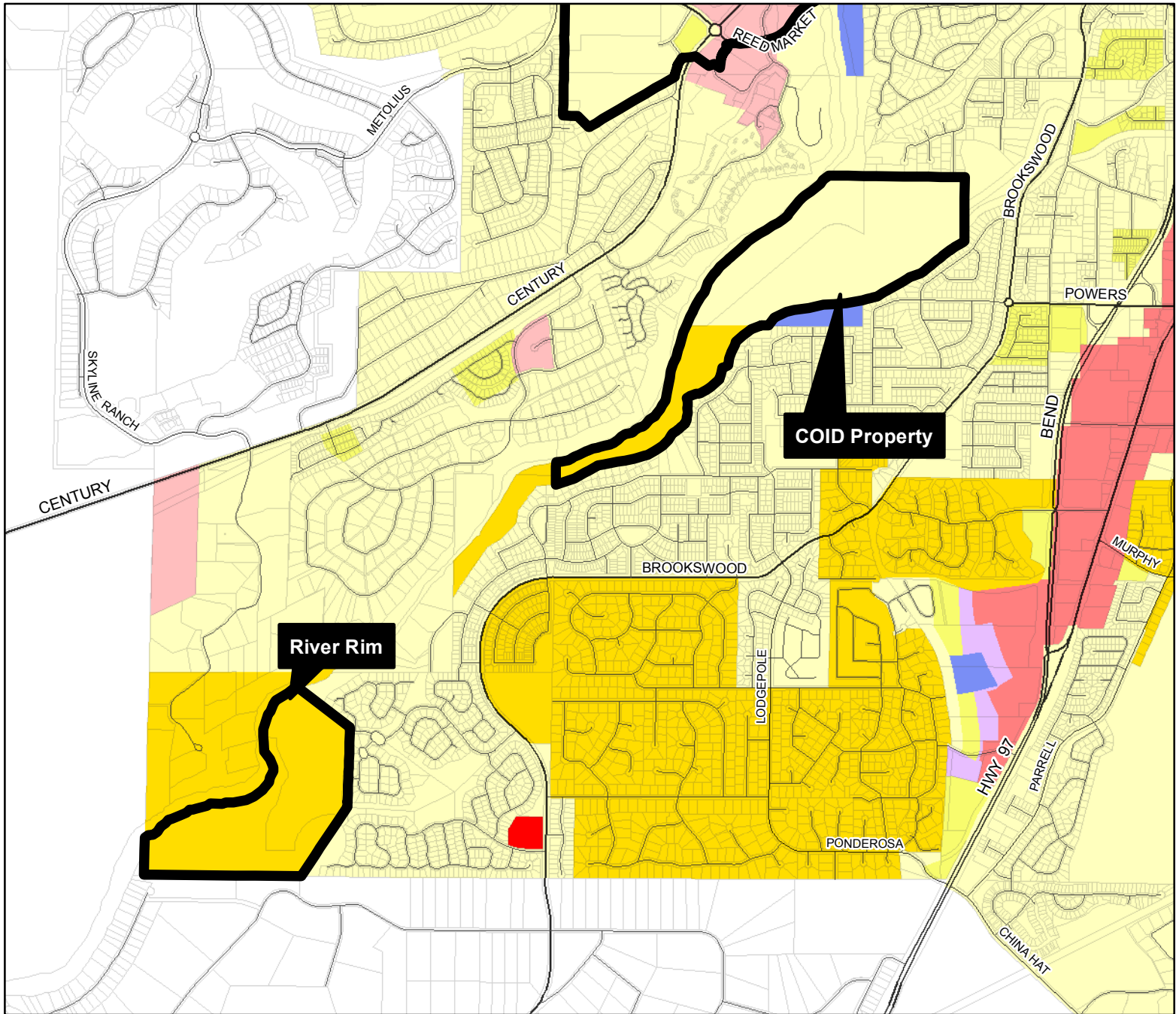
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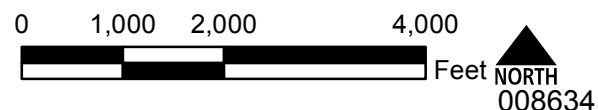
Opportunity Areas Existing Zoning



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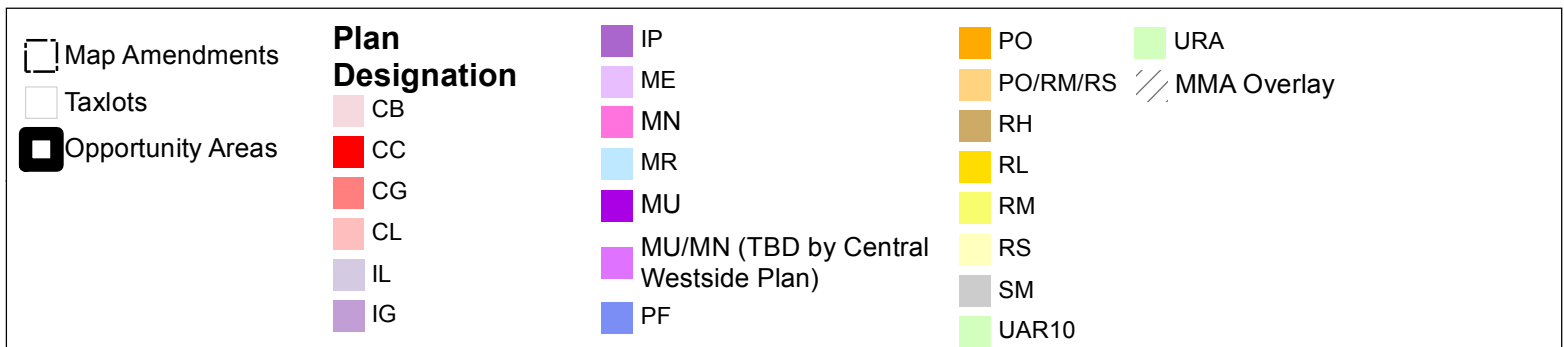
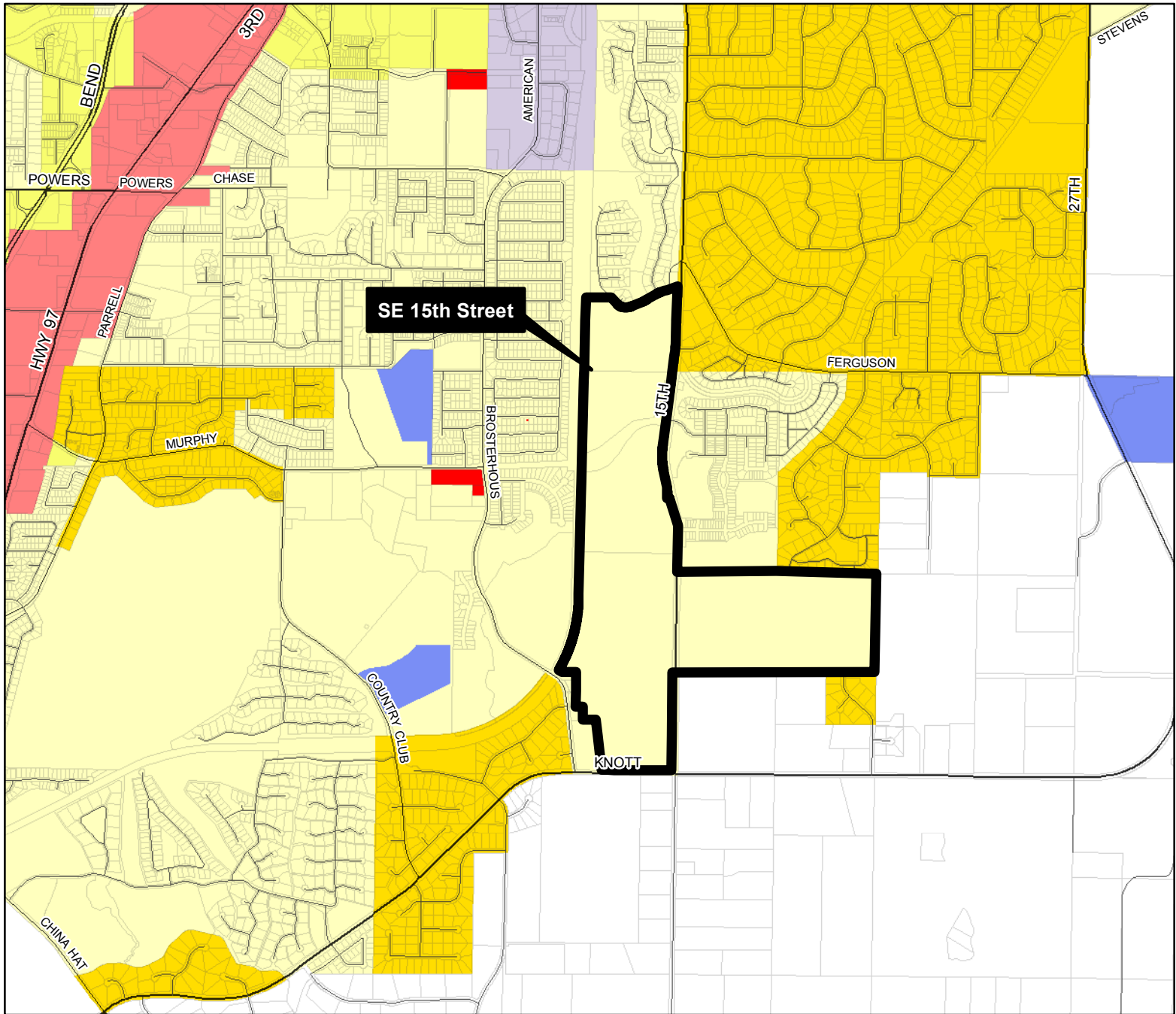
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Opportunity Areas

Existing Comprehensive Plan Designations



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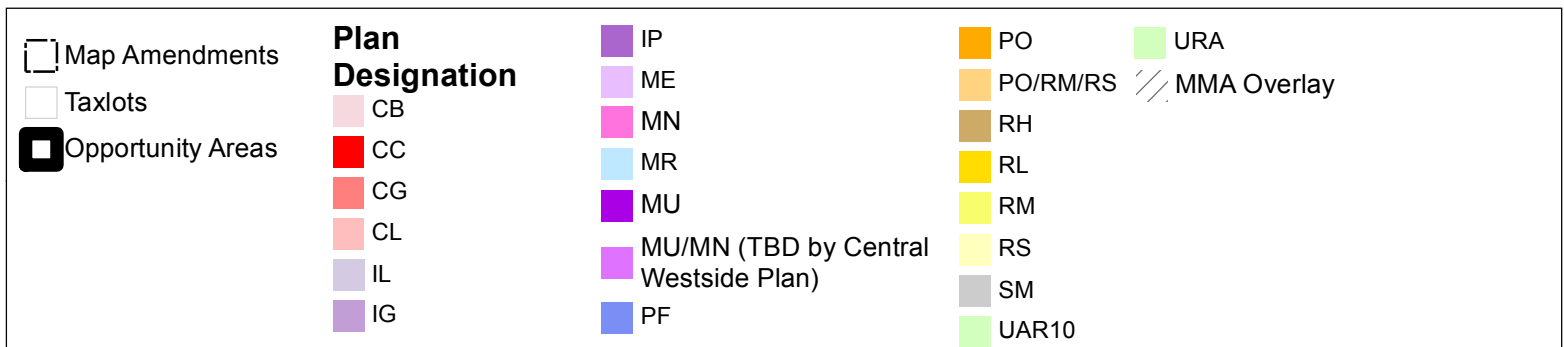
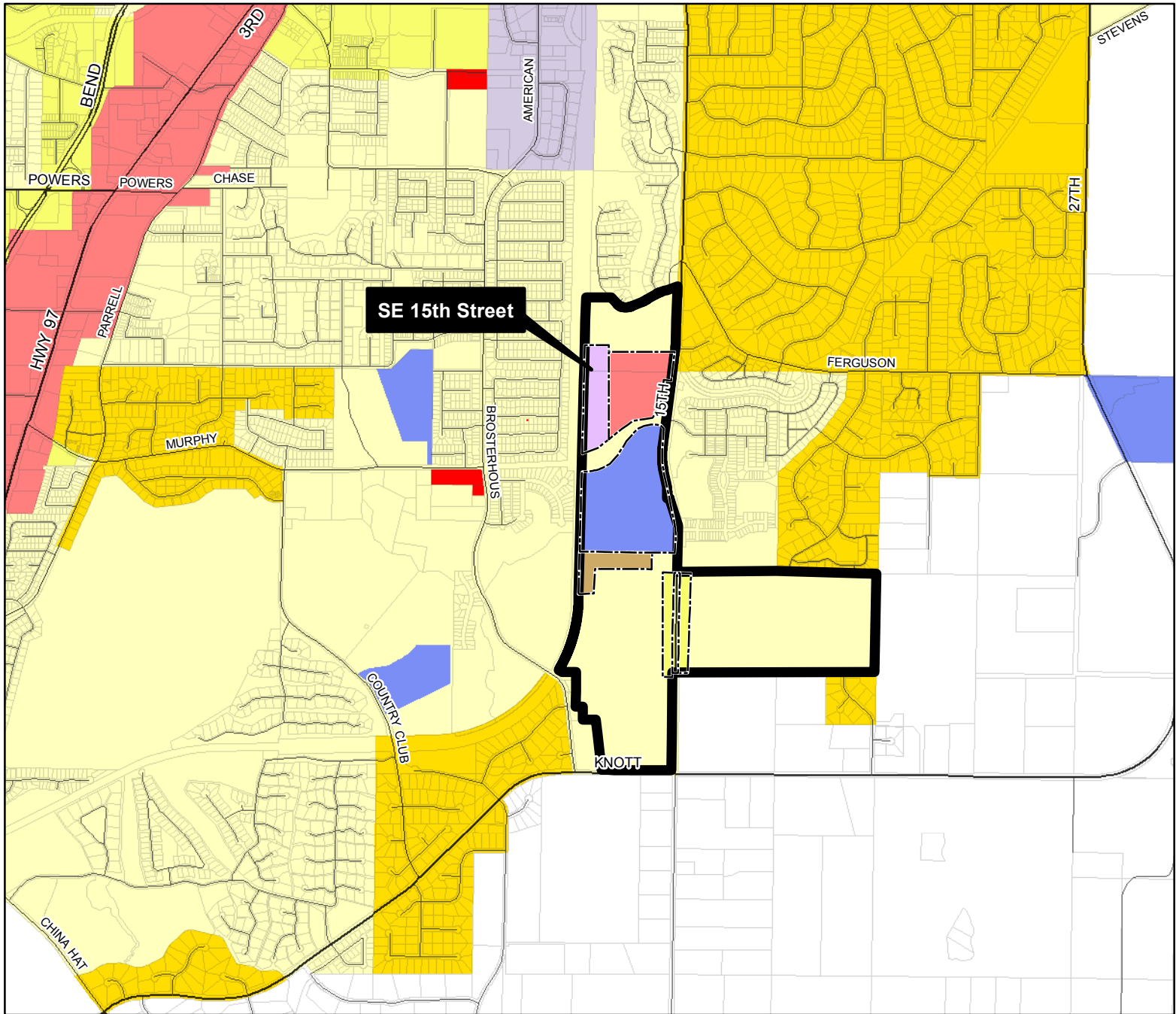
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Last Updated: 3/8/2016



Opportunity Areas

Proposed Comprehensive Plan Designations



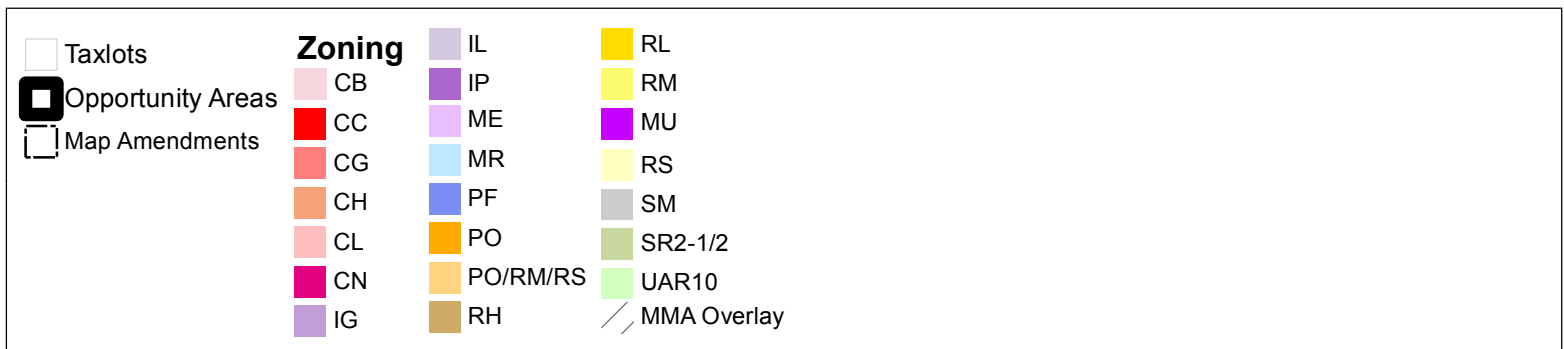
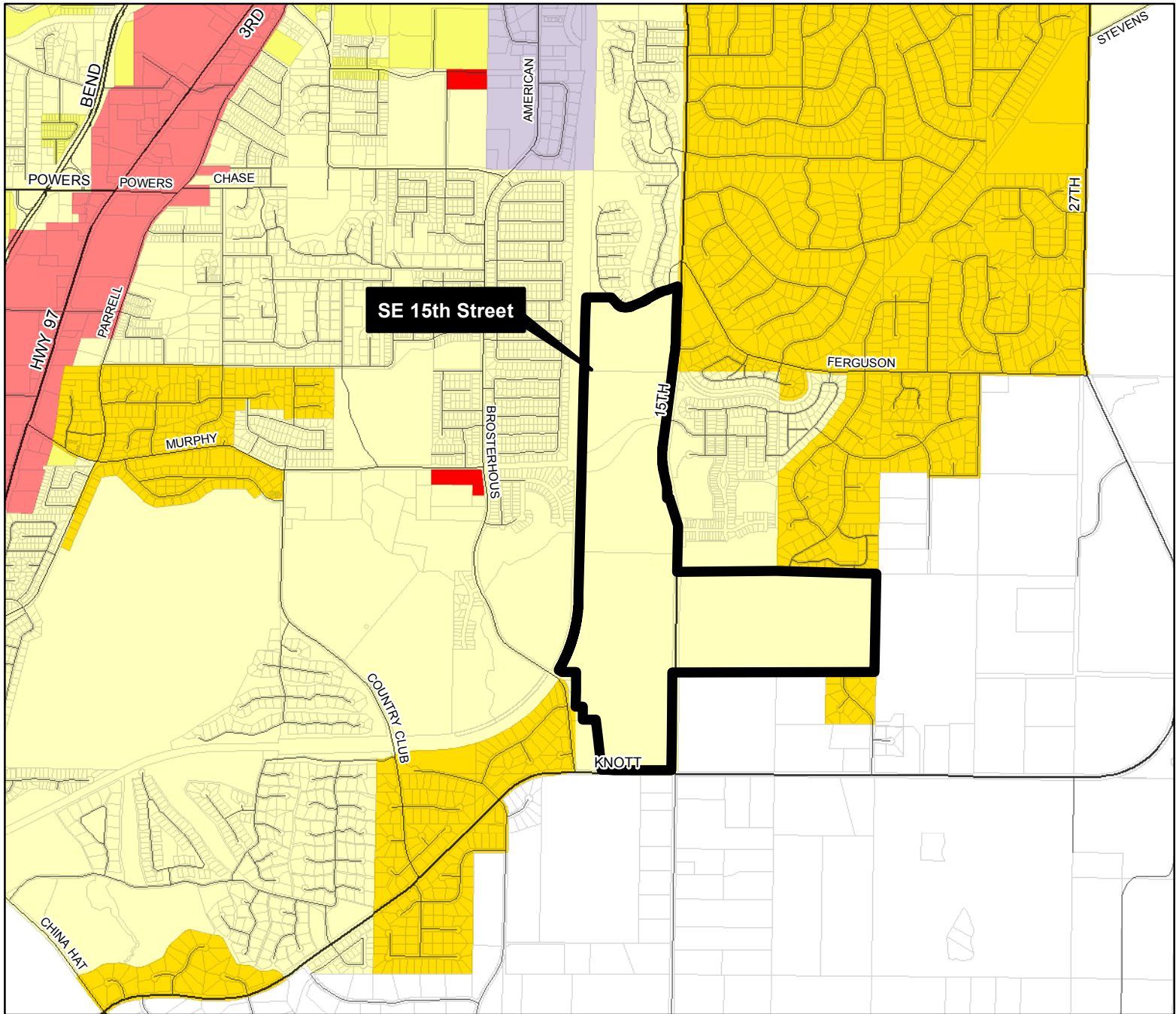
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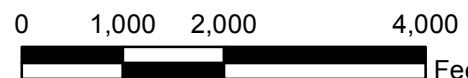
Opportunity Areas Existing Zoning



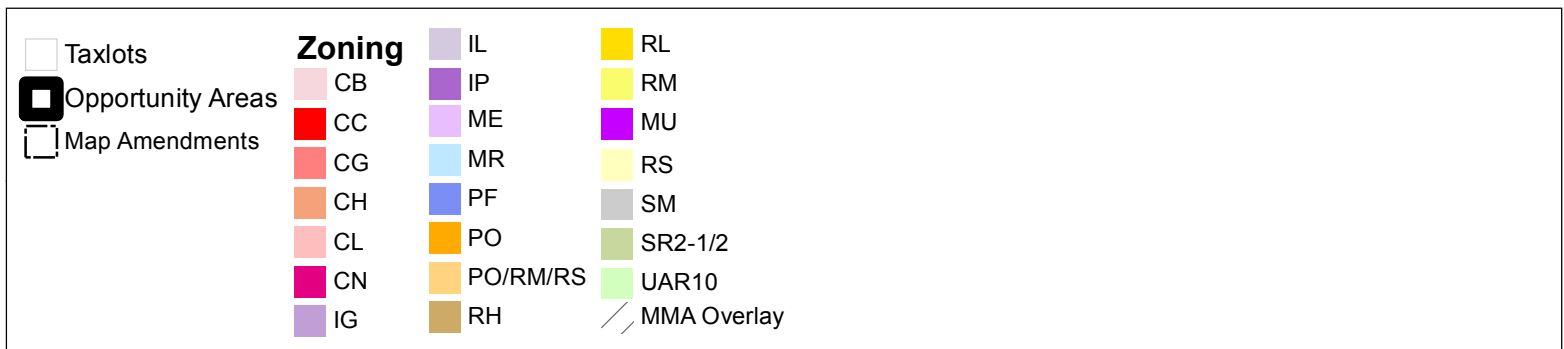
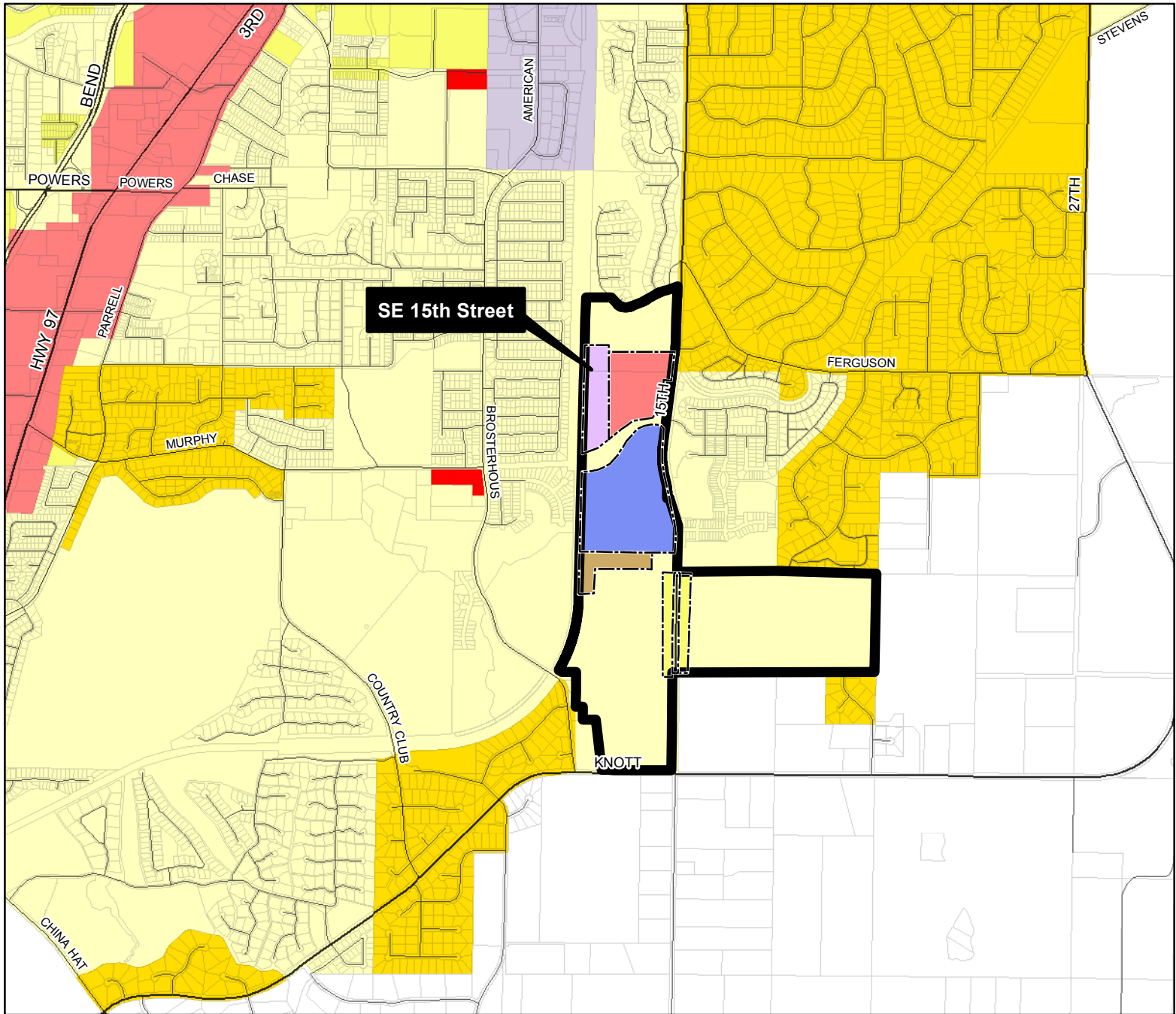
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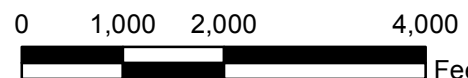
Opportunity Areas Proposed Zoning



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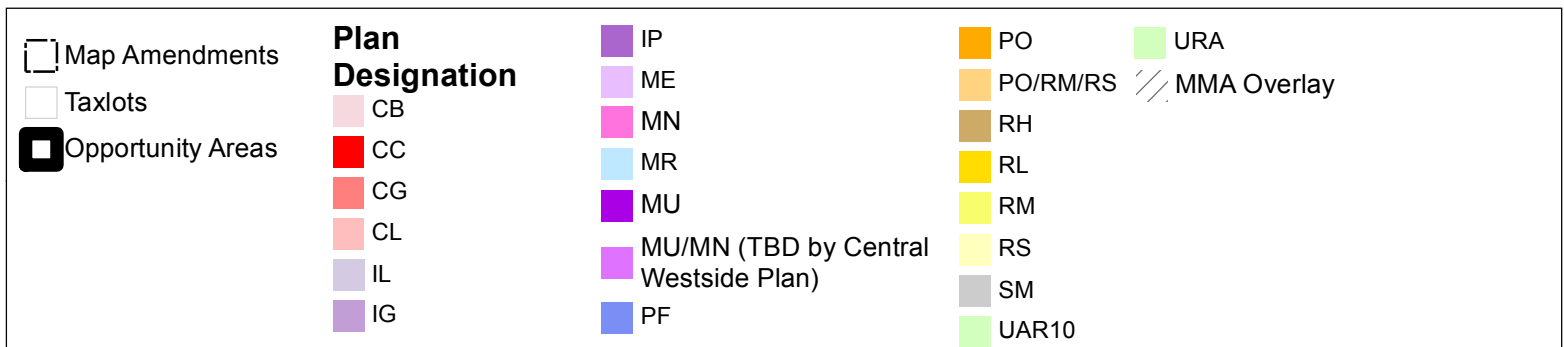
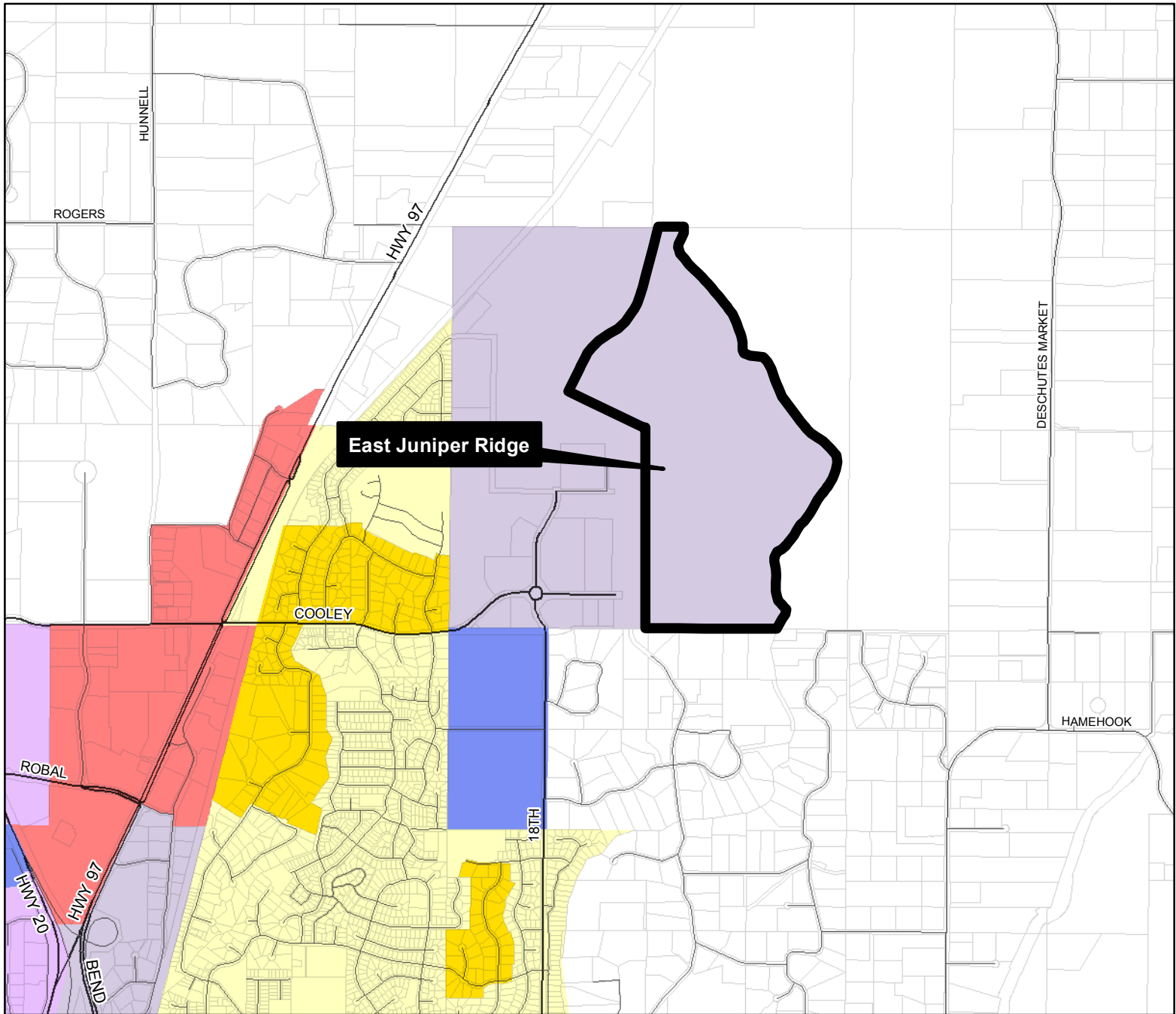
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Opportunity Areas

Existing Comprehensive Plan Designations



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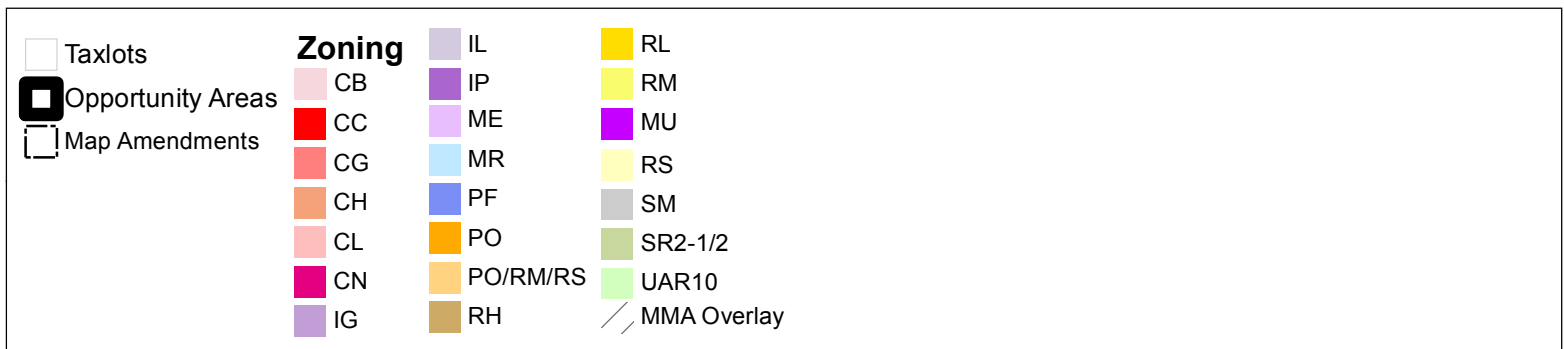
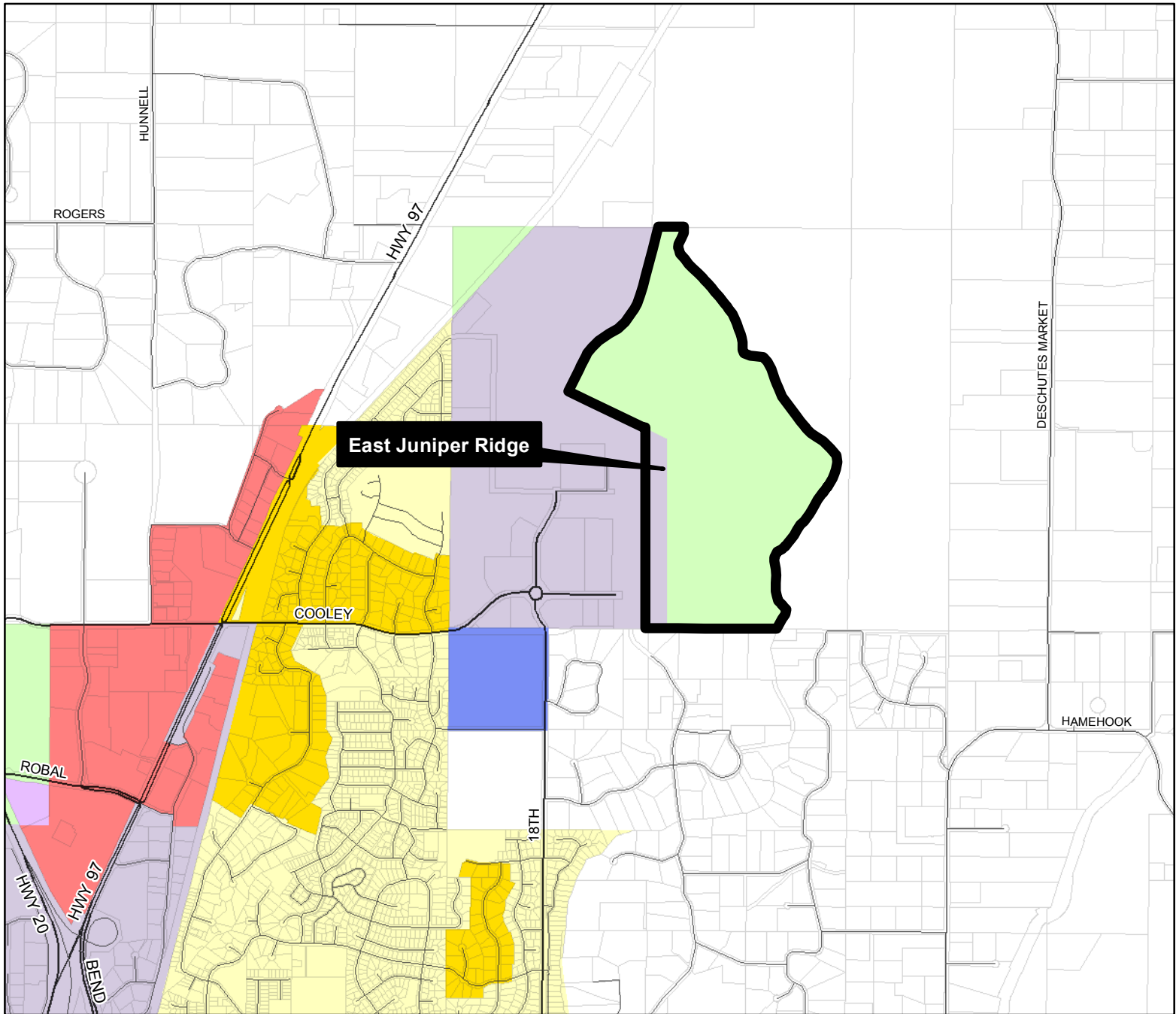
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Last Updated: 3/8/2016



Opportunity Areas

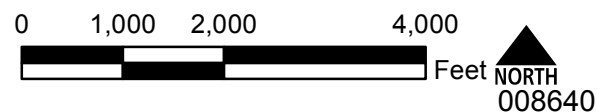
Existing Zoning



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Service Layer Credits: Deschutes County GIS (2014)

Last Updated: 3/8/2016



Memorandum



March 9, 2016

To: Residential Lands Technical Advisory Committee
Employment Lands Technical Advisory Committee
Boundary and Growth Scenarios Technical Advisory Committee

From: Project Team

Re: Transportation System Plan Amendments

INTRODUCTION

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 since¹, most recently in 2014. The TSP was acknowledged by the state 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. This memorandum outlines the general approach to TSP amendments and highlights the key chapters of the TSP that are targeted for revisions.

Amendments are also needed to the Transportation chapter of the General Plan (Chapter 7), which is currently a direct excerpt of the TSP. Those amendments are related to the TSP amendments, but the two are separate documents and both need to be updated.

Amendments to the TSP and Transportation Chapter will include creating policies, maps, and text that support the Integrated Land Use and Transportation Plan (ILUTP), Opportunity Areas, and the new UGB boundary areas.

SUMMARY OF PROPOSED TSP AMENDMENTS

Current TSP Preface

In this section, the project team proposes to leave all existing information, but to add explanation of the recent work done for the UGB expansion analysis.

¹ Bend Transportation Systems Plan, page vii.

Chapter 1

As in the preface, context about the UGB expansion analysis will be added. In addition, 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.

Chapters 2 through 4

These chapters include Existing Transportation Plans Policies and Standards; Current Transportation Conditions; and Transportation Needs Analysis. They describe the work done for the original TSP and will be left as is, except for possibly providing introductory UGB context discussion similar to that proposed for Chapter 1.

Chapter 5

This chapter documents the Transportation Alternatives Analysis for the original TSP. It will be left in place, but references to new relevant information in the Integrated Land Use and Transportation Plan (ILUTP) document will be added as applicable. For example, there is new information about volume to capacity ratios and Vehicle miles traveled (VMT) in the ILUTP.

Chapter 6

This chapter describes desired outcomes for each component of the transportation system. All existing information will be left in place, but where there is important new information available, some introductory text will be added along with references to the ILUTP, the Bend Central Multimodal Mixed Use Area (Bend Central MMA) Plan, or other planning documents, as applicable.

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.

Chapter 7

This chapter addresses implementation of the transportation system plan, including funding. The project team proposes updating 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.

Appendix A

Appendix A contains planned street cross-sections, lists of intersection improvements and new roadways, and roadway and bicycle and pedestrian system maps. These maps and tables 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 MMA plan.

PROPOSED AMENDMENTS TO BEND GENERAL PLAN CHAPTER 7 (TRANSPORTATION)

Chapter 7 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 General Plan. Chapter 7 will also be amended to include policy language to implement the ILUTP.



UGB Boundary TAC

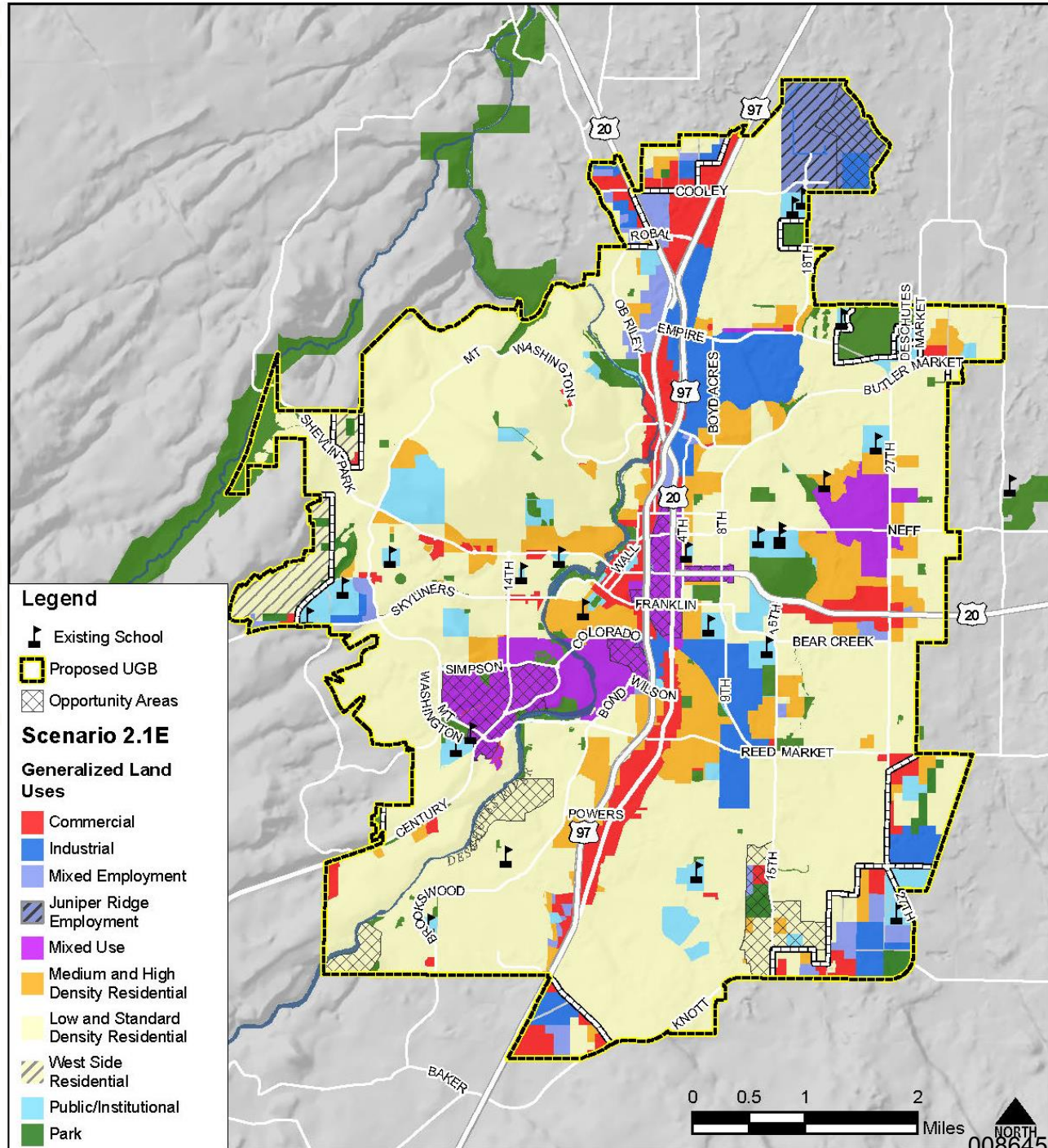
Bend UGB Remand Project

March 16, 2016

Scenario 2.1E

Generalized Land Use Map*

Refinement to Scenario 2.1D that incorporates 12.8 ac “swap” between Ward property in Thumb & Elbow



*This map represents land use assumptions for modeling purposes only. This is not a proposal for specific comprehensive plan designations.

Scenario 2.1E

Scenario 2.1E – Acres in Expansion Areas

Land Use	Acres
Residential	940
Employment	812
Parks & Schools	402
TOTAL	2,153

Converting the Envision Model to Comprehensive Plan Designations

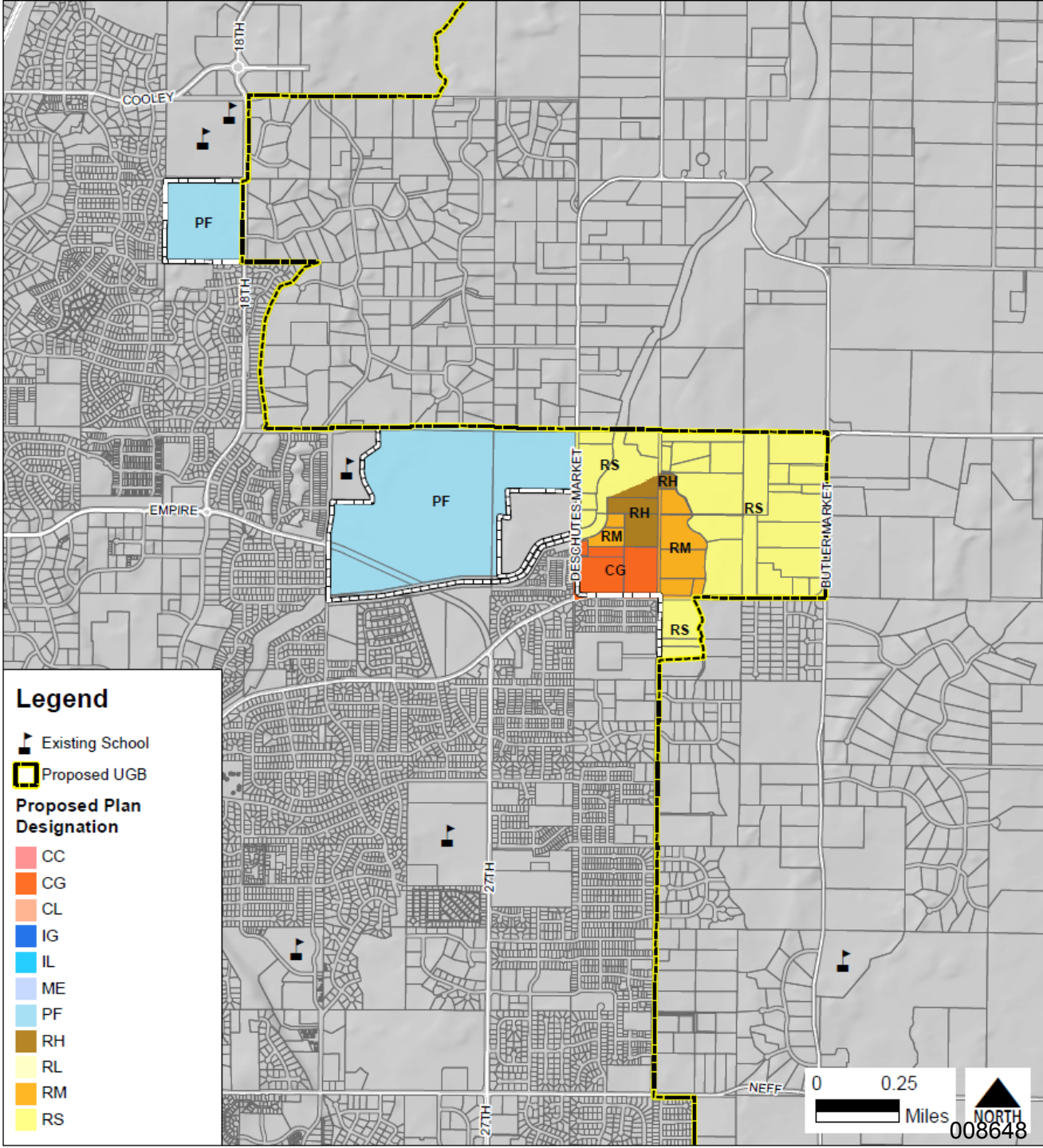
- Keep acreages the same to the greatest extent possible
- Match property lines, ROW, other natural boundaries where possible
- Parks/Schools Ownership = PF designation
- Other proposed parks schools = residential designation

Scenario modeling used a 3.5-acre grid to evaluate capacity and impacts.

Refinement is required to establish plan designations.

Draft Plan Designations

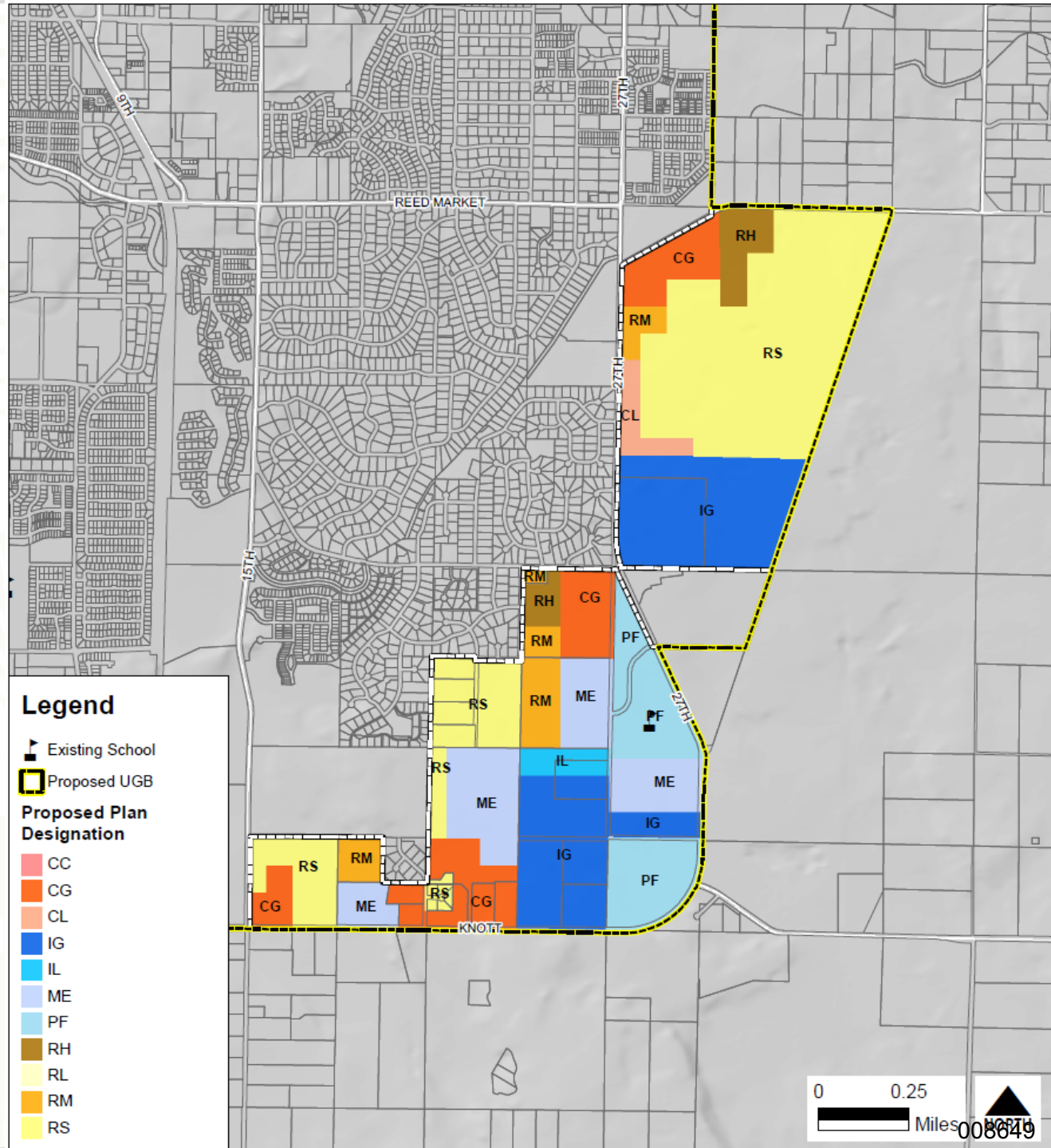
Northeast Edge



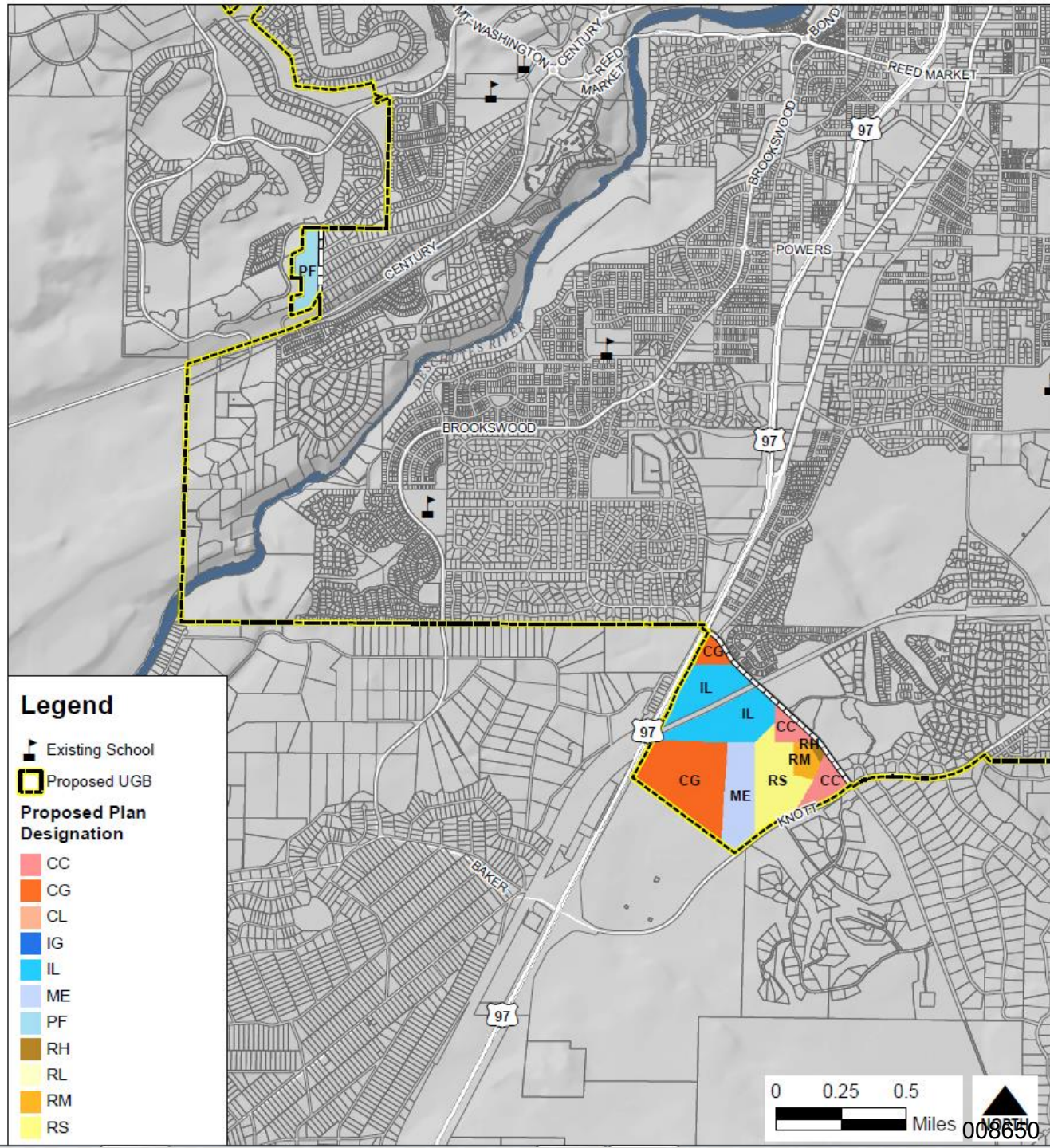
Draft Plan Designations

Southeast

- DSL
- Elbow

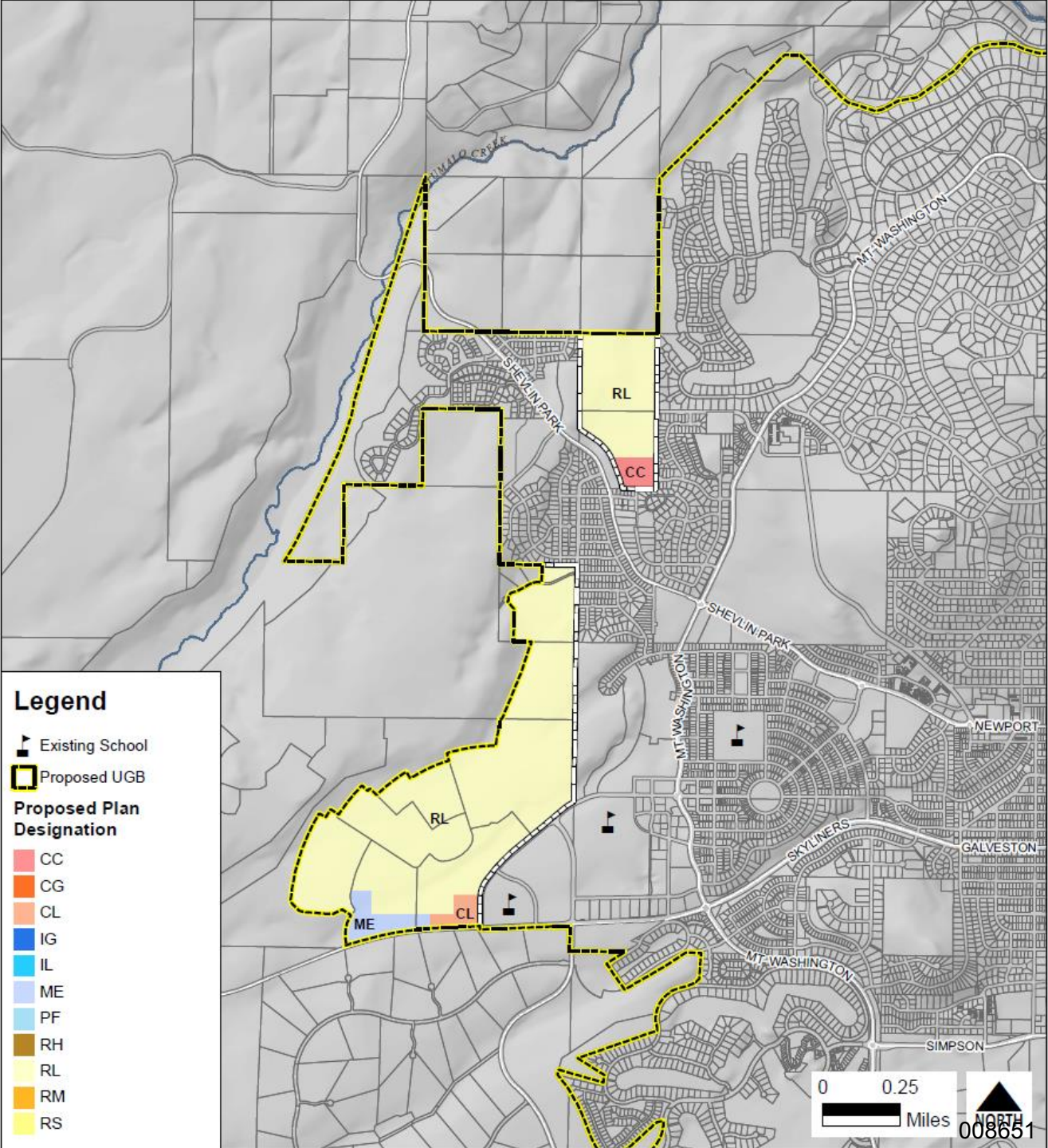


Thumb Area



Draft Plan Designations

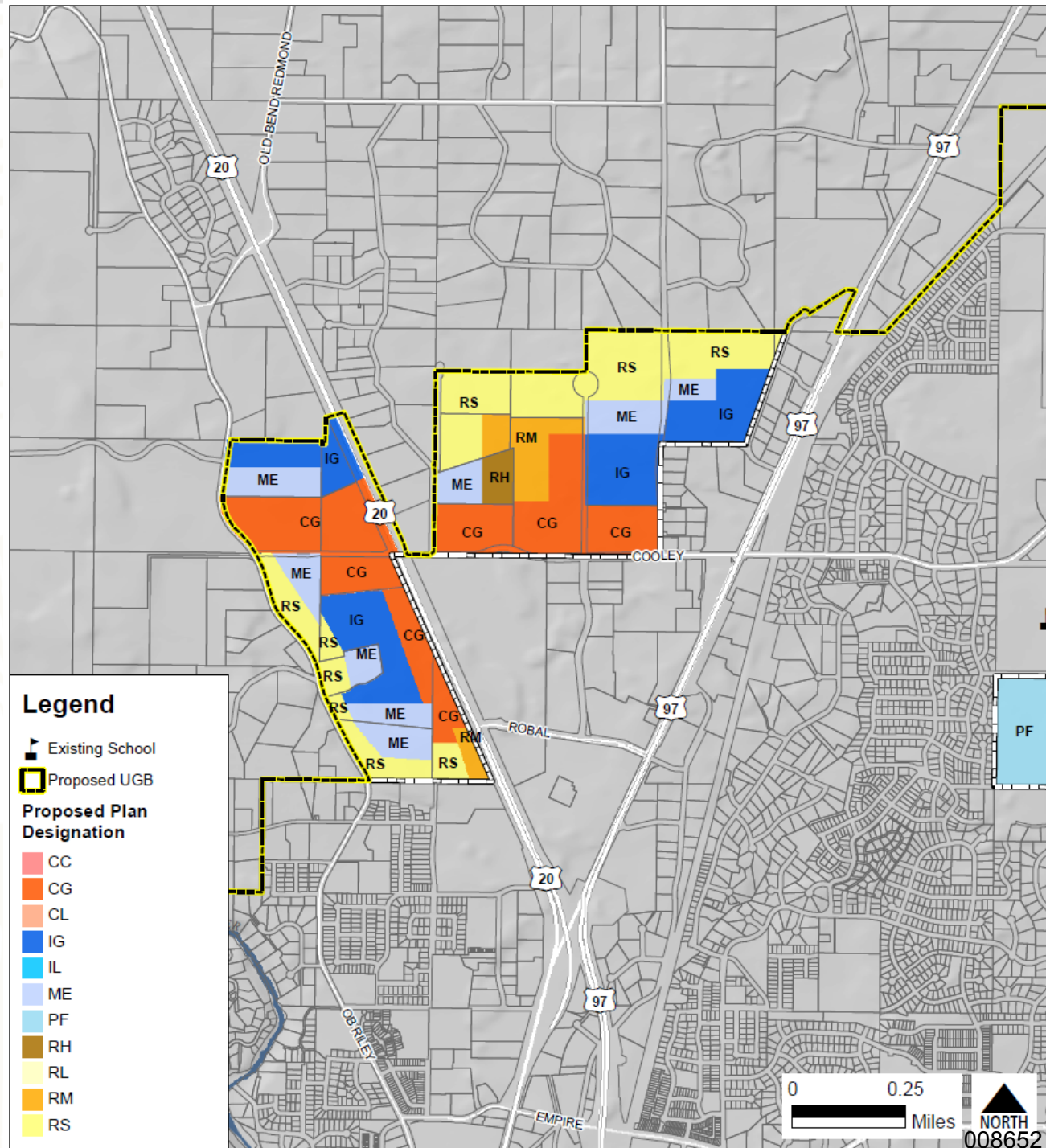
West Area



Draft Plan Designations

North Area

- OB Riley
- North Triangle



Area Planning Objectives



- Ensure adequate capacity for needed land uses, consistent with UGB planning
- Guide future annexations and development to fulfill the vision for each subarea
- Provide flexibility on arrangement of land uses

Packet 2 – page 53

Area Planning Tools



Area Planning Tool	Property Owner Role	City Staff Role	City Council Role	Decision Type	Example(s)
Master Plans	Prepare plan, sign application	Review & input	Final decision if PA/ZC	Quasi-Judicial	Northwest Crossing, Stone Creek
Refinement Plan	Input into public process	Prepare plan, conduct outreach	Set study area & scope; final decision	Legislative	Murphy Crossing, Lava Ridge
Special Planned District	Varies	Varies	Final decision	Varies	Bend Central MMA
Pre-Annexation Concept Plan	Prepare plan / provide input	Oversight and/or assistance	Set study area & scope; final decision	Legislative	New idea – no examples yet

Area Planning: “Givens”



- Specific plan designations for expansion areas adopted with UGB
- Flexibility to re-arrange plan designations available to all subareas
- Minimum # housing units and mix & acres by plan designation (residential, commercial, industrial) set in policy for each subarea

Area Planning: Policy Choices

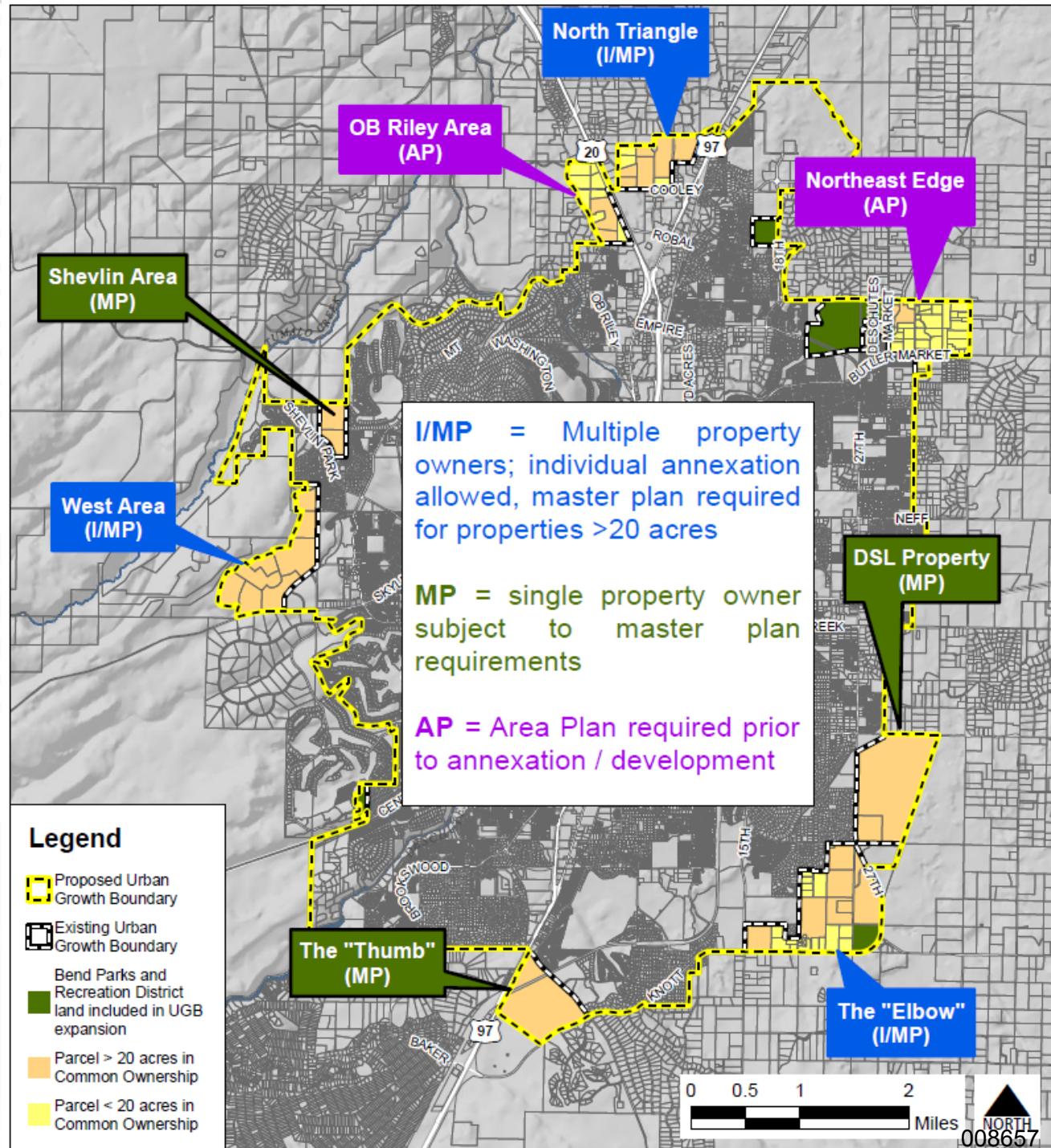


- Should area planning be required, or optional?
- Three policy options:
 - **Level 1 – Individual Approach:** not required
 - **Level 2 – Hybrid Approach:** required in subareas where adjacent land has potential for long-range growth
 - **Level 3 – Require Area Planning:** required for all subareas

Area Planning Recommendation

Level 2:

- Northeast Edge & OB Riley – area planning required
- West, Shevlin, Thumb, DSL – existing master plan requirements
- Elbow, North Triangle – are planning not required; city encouraged to initiate

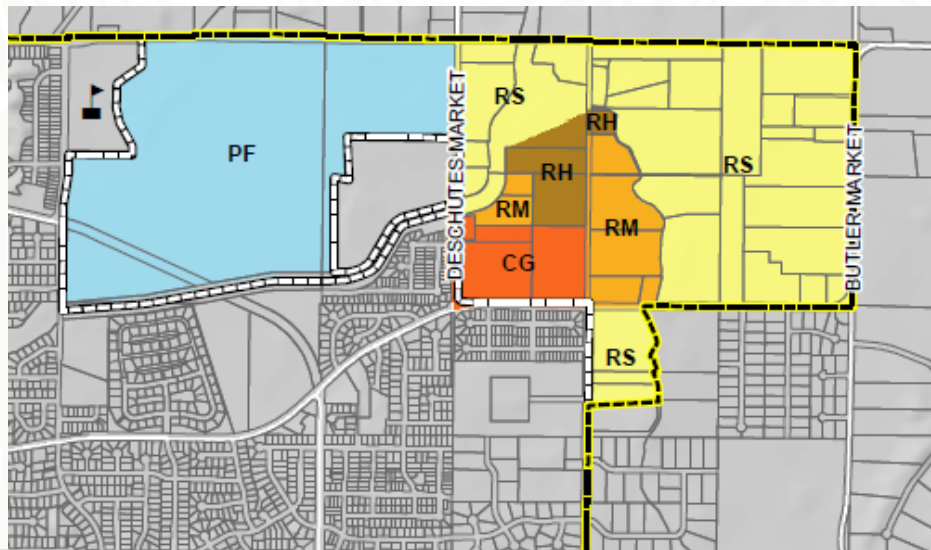


NE Edge – Example of Subarea Policies



See Packet 2, page 48

- Complete community – future growth
- Residential – 223 acres; Commercial – 23 acres
- Housing units – 1,080 minimum
- Housing mix – at least 11% SFA, 40% MF
- Coordination – Parks, Schools, Irrigation District



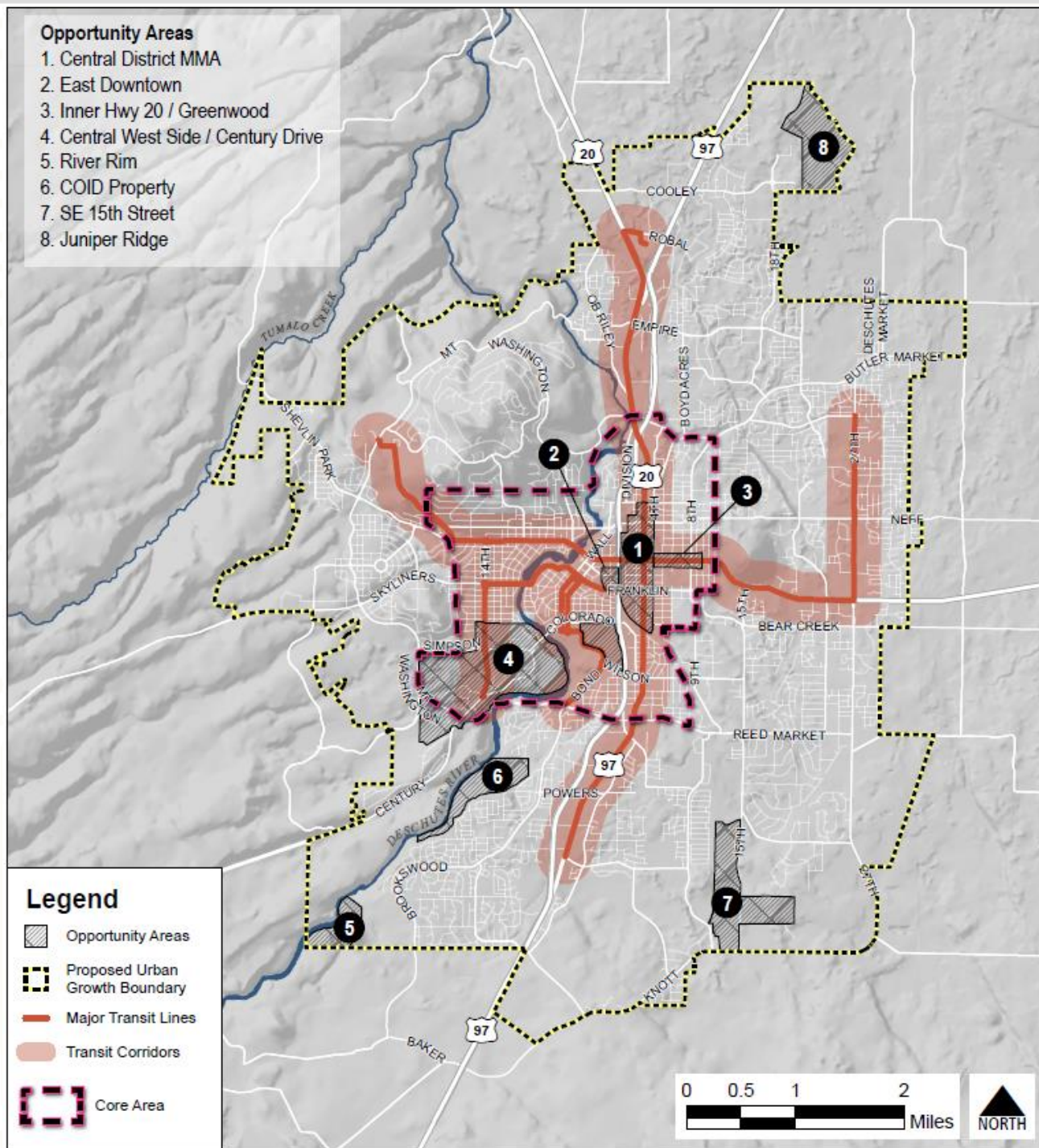
Growth Management Policies: Long-Range Vision



- Grow wisely up and out
- Focus infill & redevelopment in appropriate areas within the Central Core, Opportunity Areas and transit corridors
- General (future) UGB expansion policies:
 - Balancing/distributing growth
 - Complete existing areas inside UGB
 - Consider context beyond single expansion
 - Transect concept where appropriate

Opportunity Areas

1. Central District MMA
2. East Downtown
3. Inner Hwy 20 / Greenwood
4. Central West Side / Century Drive
5. River Rim
6. COID Property
7. SE 15th Street
8. Juniper Ridge

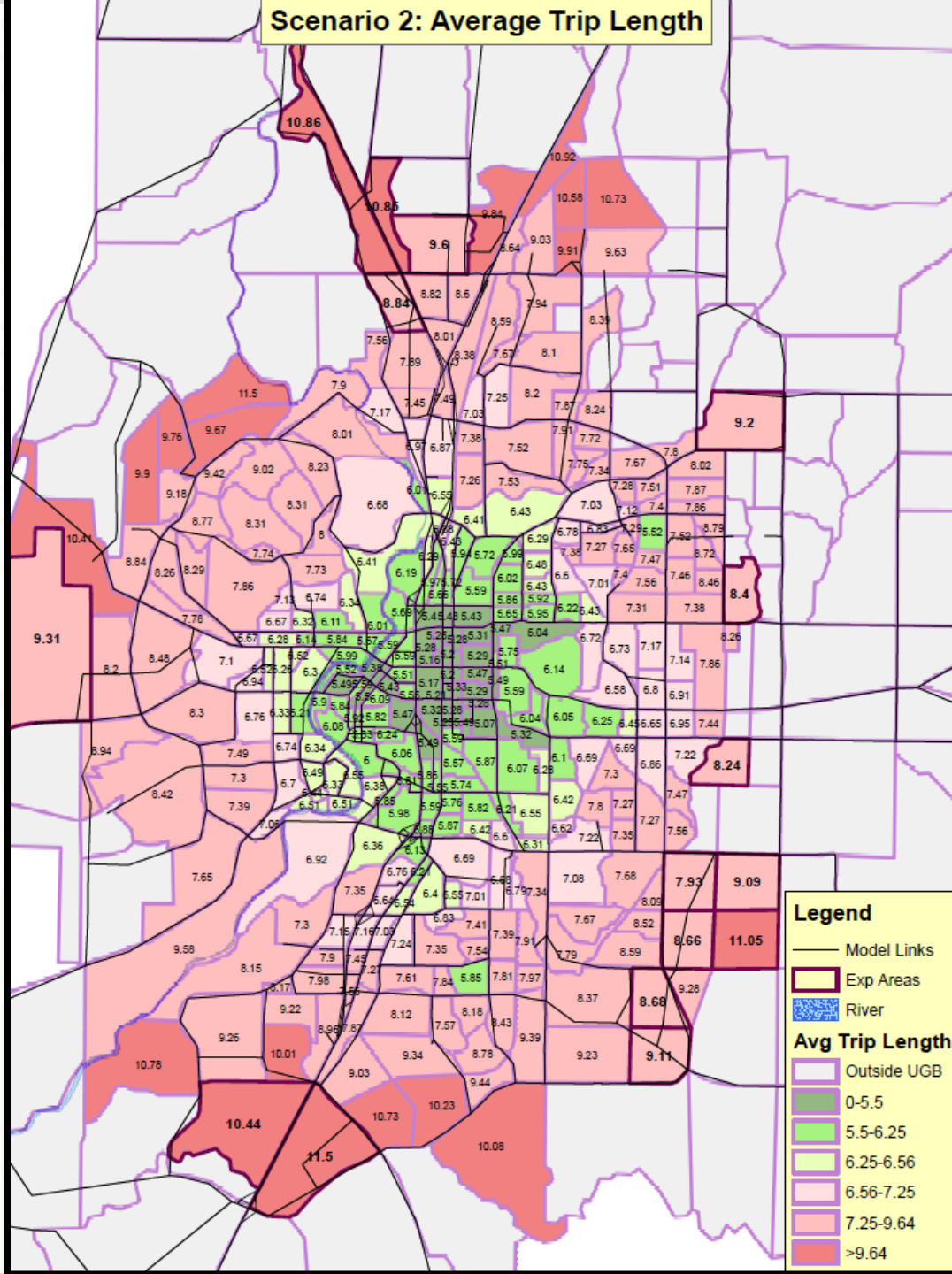


Informational Item: Integrated Land Use & Transportation Plan (ILUTP)



- Strategies to reduce reliance on the automobile & reduce growth in vehicle miles traveled
 - Land use (UGB efficiency measures)
 - Transit, transportation demand management & parking management
 - Complete streets & connectivity
- Standards measure progress based on:
 - success focusing growth in the core, opportunity areas, and transit corridors
 - Improving connectivity & complete streets
 - Improving transit service & access

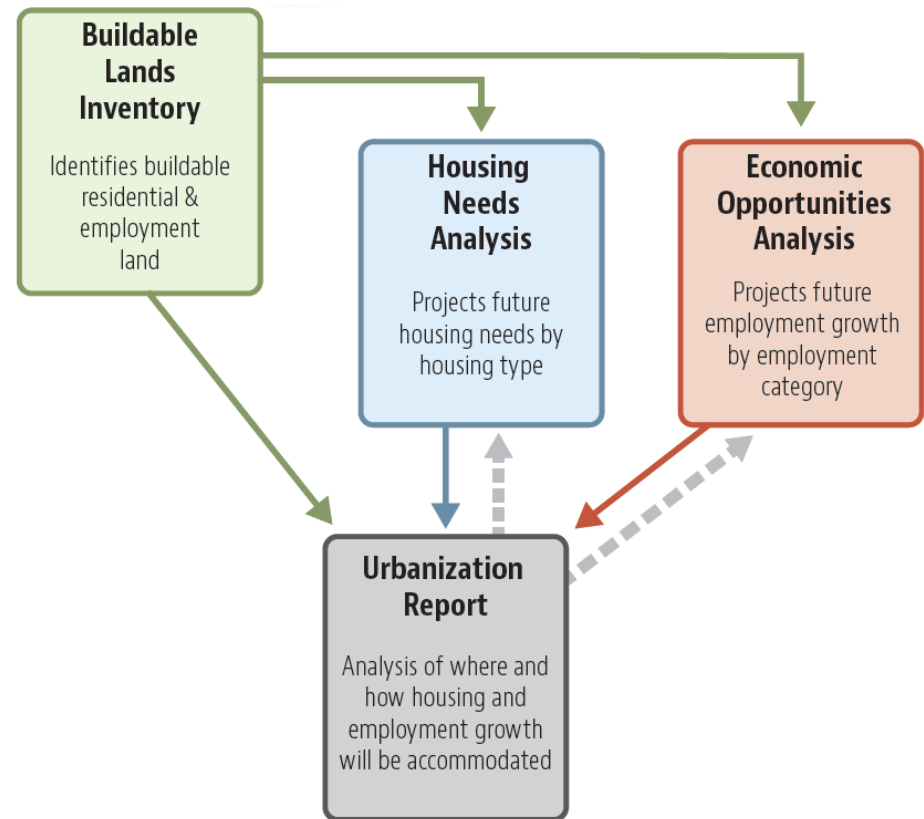
Scenario 2: Average Trip Length



Informational Item: Urbanization Report



- Updated capacity estimate for current UGB
- Summary of proposed efficiency measures
- Addresses park & school land needs
- Summarizes UGB expansion evaluation process
- Summarizes proposed UGB expansion (Scenario 2.1E)



Informational Item: Urbanization Report

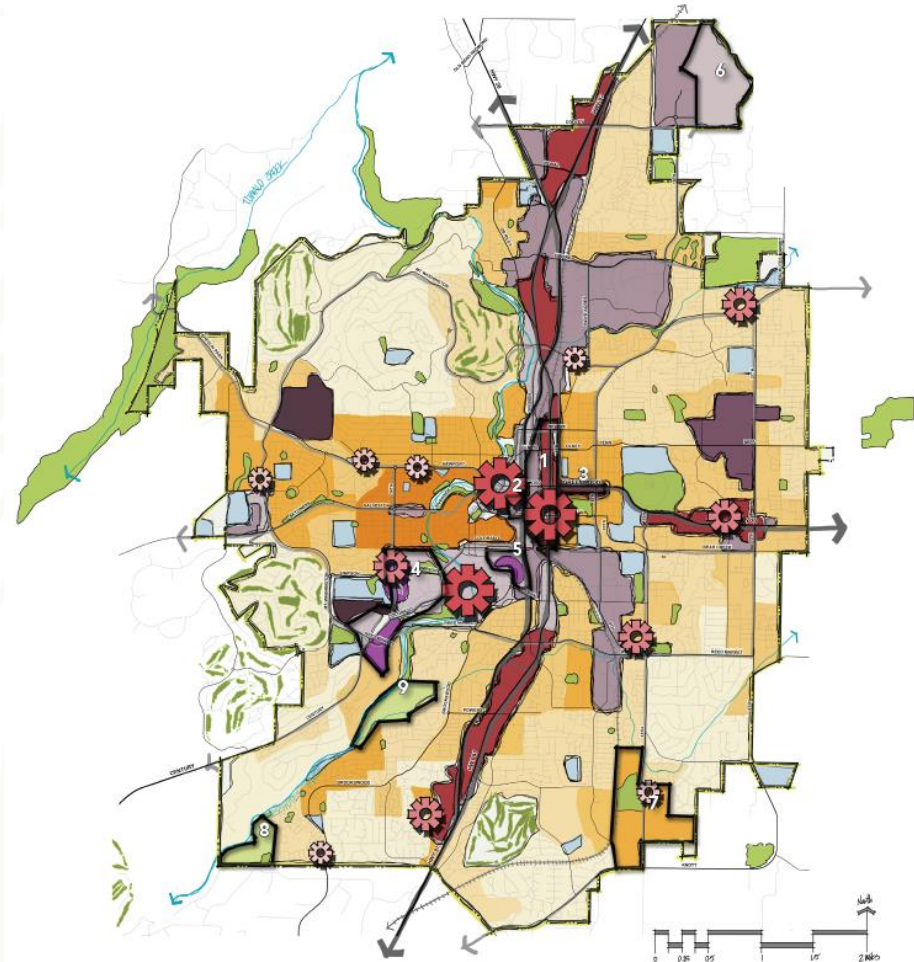


Growth Category	Total 2028 Need	Capacity Inside Existing UGB (with efficiency measures)	Residual (accomodated in expansion areas)
Housing Units	17,230	12,250 (71%)	4,970 (29%)
Jobs	21,940	14,880 (68%)	7,080 (32%)

Informational Item: Urban Form Report



- Existing urban form and typologies
- Community identity & urban form context (e.g. natural features & open space)
- High-level future growth considerations

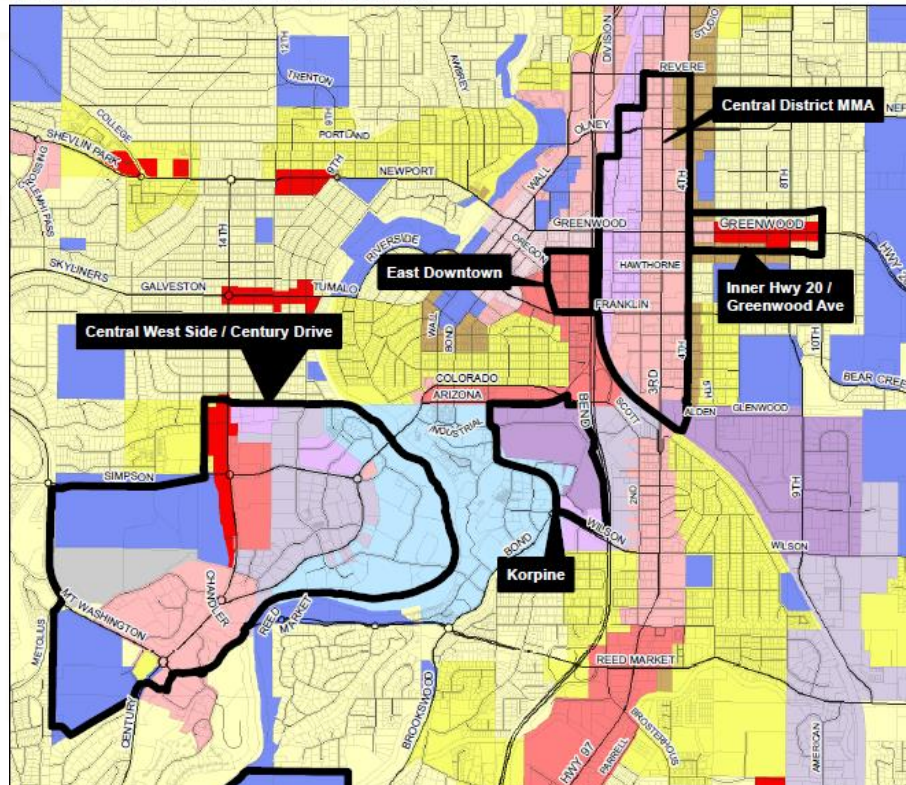


Informational Item: Plan & Zone Changes Inside the UGB

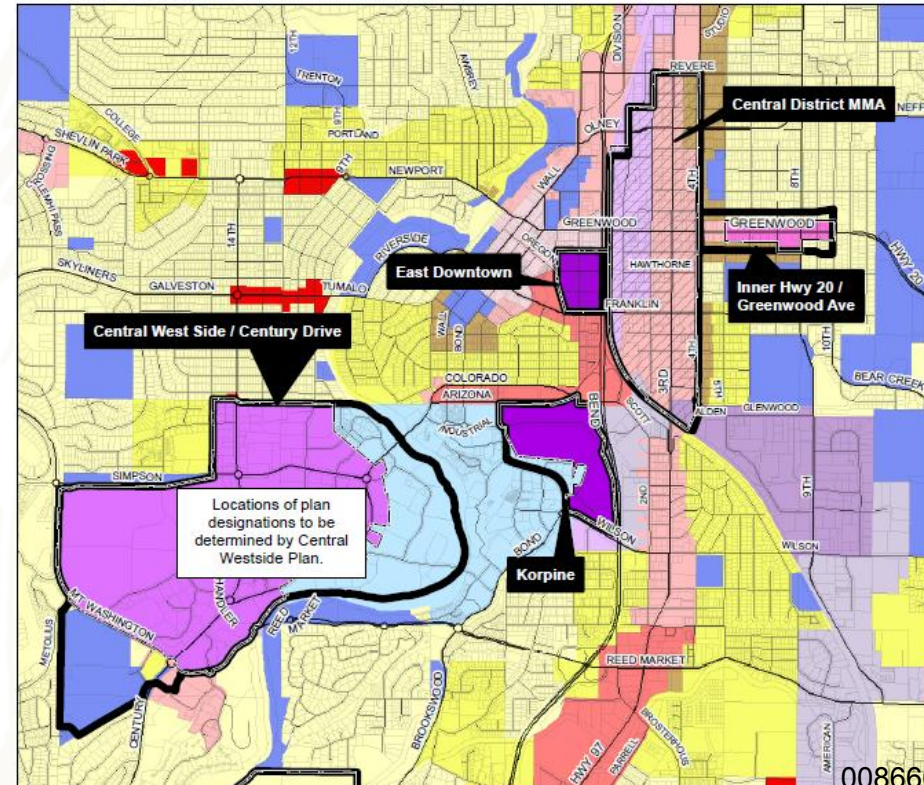


- Overall strategy:
 - Plan map amendments in opportunity areas
 - Zoning where advisable & important to capacity

*Opportunity Areas
Existing Comprehensive Plan Designations*



*Opportunity Areas
Proposed Comprehensive Plan Designations*



Informational Item: TSP & Transportation Chapter Amendments



- TSP amendments:
 - Retain existing content, even where outdated
 - Acknowledge new work for UGB & ILUTP analysis
 - Update maps & project lists as needed
 - Update funding section
- Transportation Chapter amendments:
 - Definitive location for transportation goals & policies
 - Policies to implement ILUTP
 - Clean up & remove outdated benchmarks & implementation notes