

# SOUTHEAST AREA PLAN SUMMARY REPORT

DRAFT | November 2020



CITY OF BEND  
SOUTHEAST AREA PLAN

# ACKNOWLEDGEMENTS

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SOUTHEAST AREA PLAN

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# ACRONYMS AND ABBREVIATIONS

<b>ASI</b>	Area of Special Interest	<b>ODOT</b>	Oregon Department of Transportation
<b>BLSD</b>	Bend-La Pine School District	<b>PF</b>	Public Facilities
<b>BPRD</b>	Bend Park & Recreation District	<b>ROI</b>	Return on Investment
<b>CEC</b>	Central Electric Cooperative	<b>ROW</b>	Right of Way
<b>CET</b>	Cascade East Transit	<b>RH</b>	High-Density Residential
<b>CG</b>	General Commercial	<b>RL</b>	Low-Density Residential
<b>CNG</b>	Cascade Natural Gas	<b>RM</b>	Medium-Density Residential
<b>COIC</b>	Central Oregon Intergovernmental Council	<b>RS</b>	Standard-Density Residential
<b>DBH</b>	Diameter at Breast Height	<b>SEAP</b>	Southeast Area Plan
<b>DLCD</b>	Department of Land Conservation and Development	<b>SEAPAC</b>	Southeast Area Plan Advisory Committee
<b>DSL</b>	Department of State Lands	<b>SEI</b>	Southeast Interceptor
<b>IG</b>	General Industrial	<b>STIF</b>	State Transportation Improvement Fund
<b>IL</b>	Light Industrial	<b>TPR</b>	Transportation Planning Rule
<b>LSN</b>	Low Stress Network	<b>TSP</b>	Transportation System Plan
<b>ME</b>	Mixed Employment	<b>UGB</b>	Urban Growth Boundary
<b>OAR</b>	Oregon Administrative Rule		



CITY OF BEND  
*SOUTHEAST AREA PLAN*



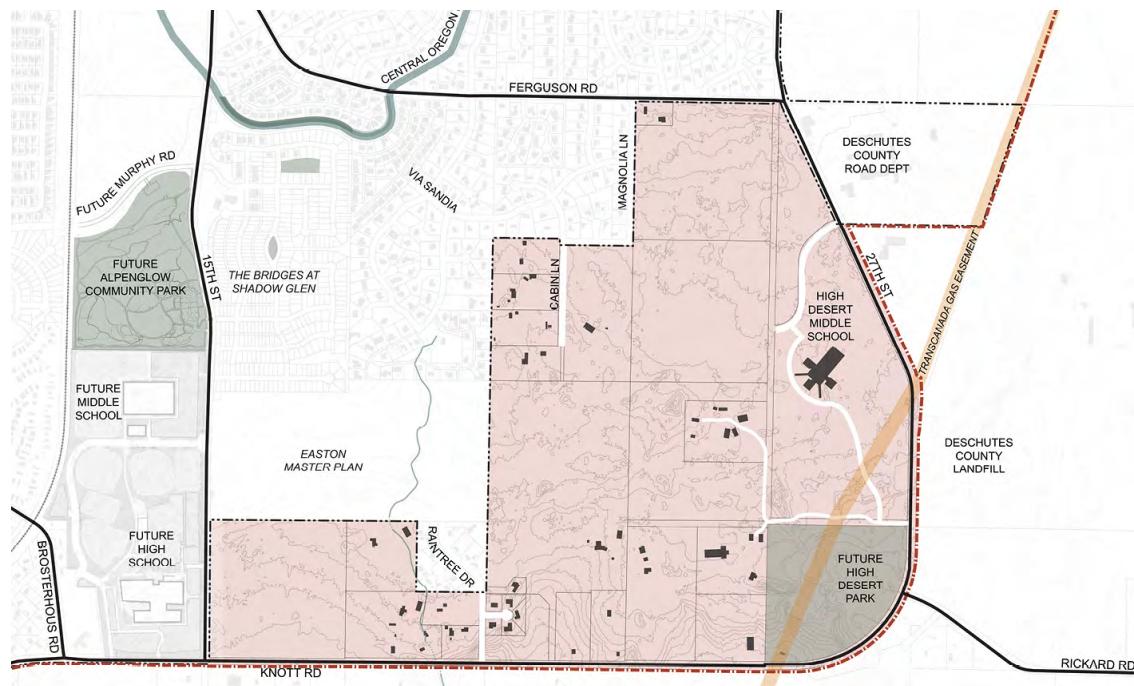
Conceptual Rendering of a Multi-Use Path Adjacent to Future SE Caldera Drive

# Executive Summary

## SOUTHEAST AREA PLAN ACCOMPLISHMENTS

Beginning in the fall of 2018, the City of Bend initiated the creation of a comprehensive area plan for Bend's 479-acre Southeast Expansion Area. The Southeast Area Plan (SEAP) process brought together property owners, area residents, and other stakeholders to create the plan, along with implementing land use regulations and funding strategies. The result is this SEAP Summary Report, which includes:

- A vision and guiding principles;
- Evaluation of the area's existing conditions and market potential for new housing, commercial and employment uses;
- Land use alternatives for refining the City's Comprehensive Plan designations;

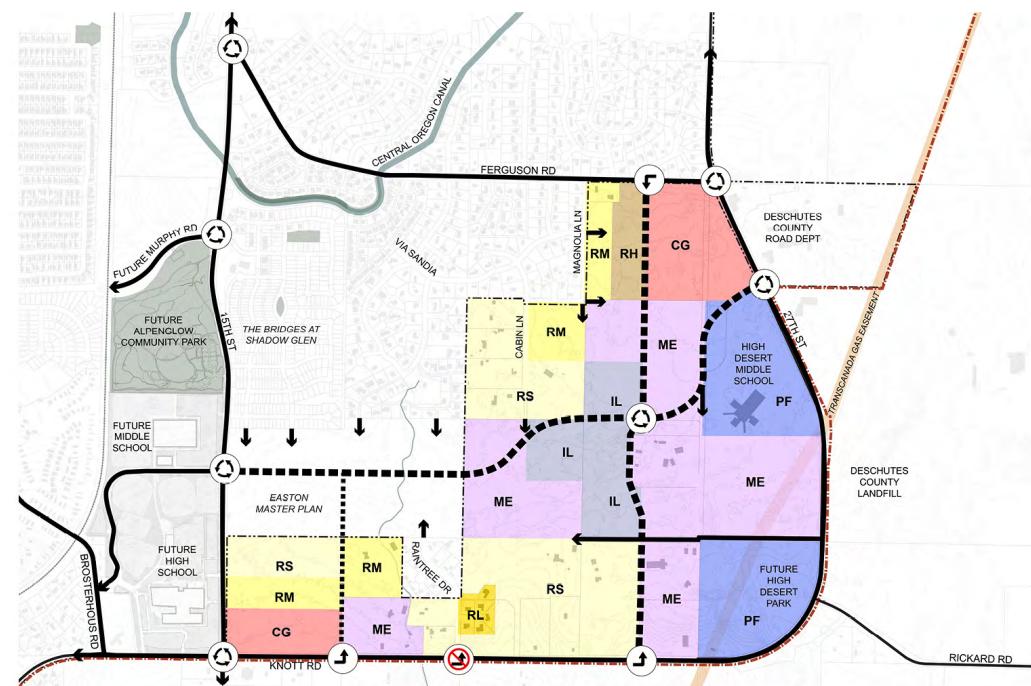


- A recommended land use plan providing: a variety of housing choices; commercial, mixed employment and light industrial land uses; and, land for open space and future parks and schools;
- A transportation plan that is integrated with the land uses, consistent with Bend's recently updated Transportation System Plan (TSP), and includes key streets, multi-use trails, and, plans for future transit;
- Recommendations for preserving significant trees and rock outcrops as part of future development of the area;
- Proposed amendments to the Comprehensive Plan and zoning code to implement the plan;
- Master planning for the area's sanitary sewer system and coordination with the Avion Water District; and
- An infrastructure funding plan.

## LAND USE AND TRANSPORTATION RECOMMENDATIONS

SEAP's land use and transportation plan recommendations were prepared together to support successful future growth of the area. The land use and transportation recommendations include:

- Land for an estimated 1,230 dwellings:
  - 10 acres of High Density Residential
  - 35 acres of Medium Density Residential
  - 105 acres of Standard Density Residential
- Land for future employment, supporting an estimated 2800 jobs:
  - 43 acres of General Commercial
  - 142 acres of Mixed Employment
  - 38 acres of Light Industrial
- Land for a future neighborhood park and future elementary school;



- An east-west collector street, coordinated with the Easton master plan, connecting SE 15th to SE 27th Streets;
- A north-south collector street serving the east subareas and connecting SE Knott Road to SE Ferguson Road;
- A local framework street that provides a parallel route to SE 15th Street and access to properties in the southwest subarea;
- Intersection types for all planned intersections in the area;
- Street cross-sections;
- Alignments for, and coordination with, Bend Park & Recreation trails (TransCanada, 15th Street, Arnold Canal, and High Desert Park); and
- Six multi-use paths along key streets and connecting to the City's bike and pedestrian network.

## IMPLEMENTATION RECOMMENDATIONS

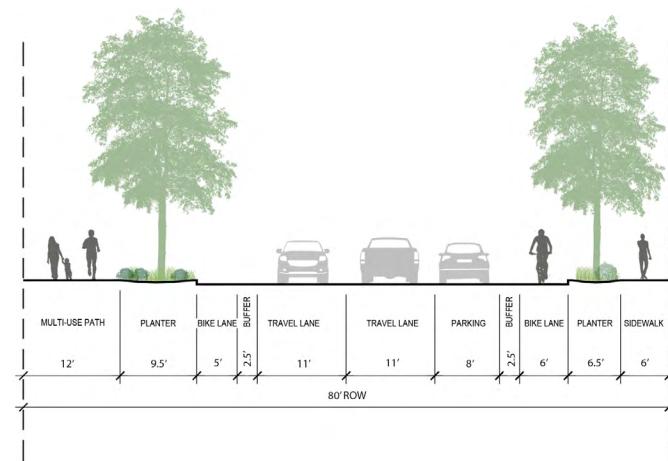
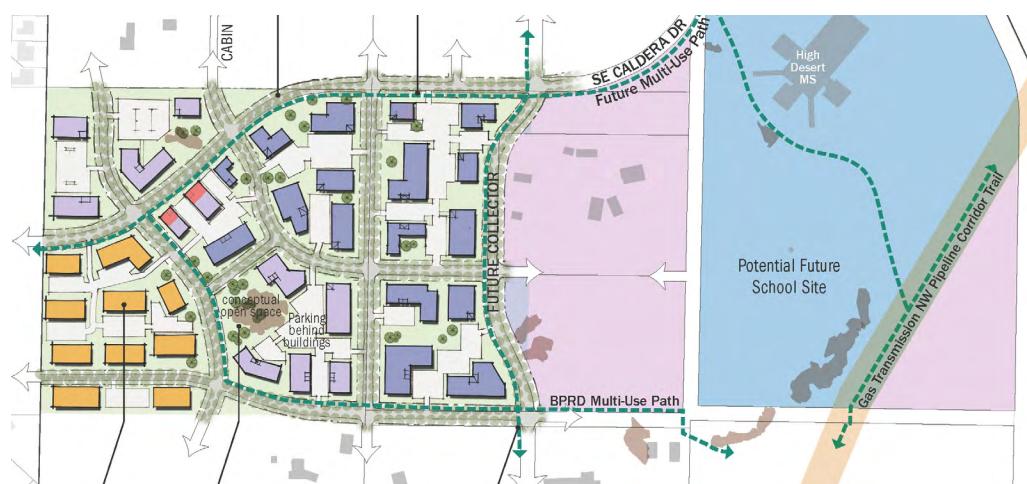
The SE Area Plan is both a long-range plan and an implementation action plan. The implementation recommendations include:

- Conceptual community design plans that illustrate ideas for a connected and walkable community, planned transitions from higher to lower land use densities, mixed use shopping streets, and other features intended to implement the vision for the area;
- The SE Area Special Planned District, a new chapter of the Bend Development Code that provides

- SEAP-specific zoning code for the area's land uses, development standards, design guidelines, and street cross-sections;
- Definitions for significant trees and rock outcrops to clarify natural features that should be preserved and integrated into future development; and
- An Infrastructure Funding Plan, drafted as a “flexible action plan” for funding of key infrastructure and coordinated with other projects and planning underway in SE

Bend. The funding plan includes:

- Infrastructure projects and costs;
- Estimates of revenue from SEAP development;
- Potential funding tools;
- Issues and challenges; and
- Strategies, recommendations, and analysis for: (1) a potential Supplemental Transportation System Development Charge; and, (2) Options for funding and implementation of SEAP's east sewer system.



01



# Chapter 1

# Introduction

## PURPOSE

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*The purpose of this Area Plan is to guide and support the annexation and future development of Bend's Southeast Expansion Area. As envisioned in Bend's Comprehensive Plan, the Southeast Area Plan (SEAP) provides a broad mix of residential, employment, and civic uses and is intended to develop into a complete community and complementary addition to southeast Bend.*

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This Summary Report is an appendix to Bend's Comprehensive Plan. Its role is to describe the vision, existing conditions, key issues, plan recommendations, and intended implementation for the

Southeast Expansion Area. It is not a regulatory document, but rather the factual base and rationale underlying the Comprehensive Plan goals and policies, development code, and other regulatory instruments that will be used to guide development in the area as it occurs over time. This report also identifies the non-regulatory action items, such as infrastructure funding tools and strategies, that will be essential to successful implementation of the plan.

The recommendations contained herein are the product of extensive input by the community. Throughout the process, the City worked with property owners, area residents, partner agencies and other stakeholders to:

- Refine land use designations and zoning;
- Map the streets, bikeways, and multi-use paths needed to create an integrated land use and transportation plan;
- Identify the location of necessary sewer, water, and transportation infrastructure to serve the area;
- Identify type and general location of parks, schools, open space, and other public amenities; and
- Create development code and Comprehensive Plan policy updates, funding strategies and other implementation measures needed for development of this new complete community.

## BEND'S SOUTHEAST EXPANSION AREA

**479** acres

**31** parcels

**27** property owners

*"The Southeast Expansion Area is not a destination now, but it could one day serve as a community hub."*

- Project Stakeholder



## WHAT IS AN AREA PLAN?

An Area Plan in Bend is a plan for a specific area, such as an expansion area, that:

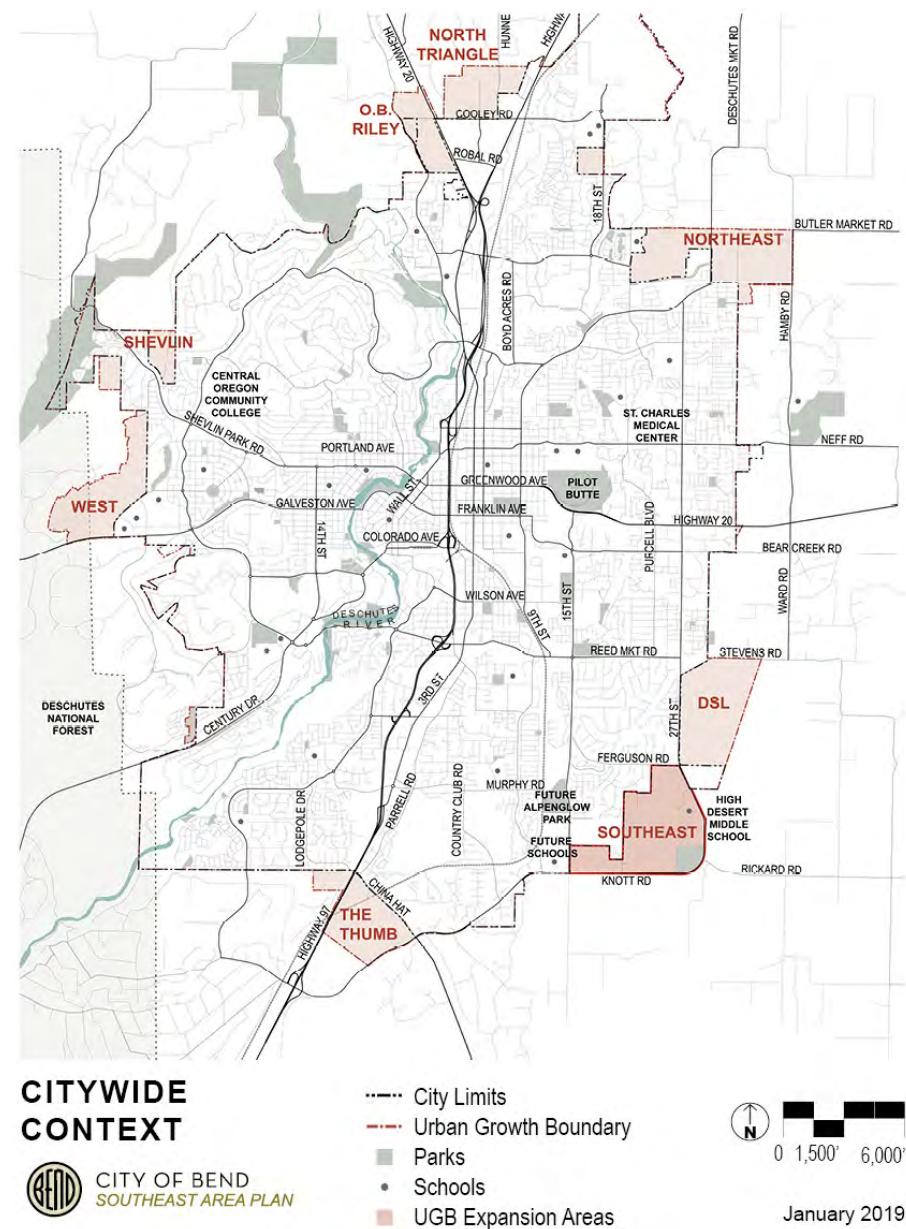
- Is developed through a community process and includes a community vision for growth in the area;
- Refines the area's plans for future land uses, infrastructure, and public facilities;
- Ensures future growth is coordinated and efficient;
- Includes specific elements for public facilities (such as schools and parks), transportation, water, and sewer infrastructure; and
- Includes tools for implementation, such as zoning map changes and infrastructure funding plans.

Area Plans may be prepared for Urban Growth Boundary (UGB) expansion areas, such as the

Southeast Expansion Area, as well as for opportunity areas as defined in the Bend Comprehensive Plan. Area Plans are ultimately adopted by the Bend City Council and are intended to implement the City's Comprehensive Plan and provide a coordinated approach to future development. They also offer flexibility to tailor land use regulations to the unique conditions of a specific area. Additionally, they provide transportation and infrastructure plans to serve the land uses within the plan area.

The City of Bend is required by state law to establish and maintain its UGB. The UGB accommodates the City's forecasted population for the next 20 years, providing the City's urban land supply. Urban lands are intended for new homes, parks, schools, employment centers, and other needs of a growing city.

Figure 1. Bend's 2016 UGB Expansion Areas



## SOME HISTORY

In 2016, the City of Bend expanded its UGB to accommodate projected population, housing, and employment growth through the year 2028. The UGB proposal included updates to the City's Comprehensive Plan and Comprehensive Plan Map, as well as a new Growth Management Chapter (Chapter 11) addressing Bend's future growth. In addition to providing needed land for future housing and employment growth, the UGB expansion process sought to create complete communities throughout the City through intentional urban form. The process also identified 10 future "expansion areas" totaling 2,380 acres. The Southeast Expansion Area, also referred to as "the Elbow," was one of those expansion areas.

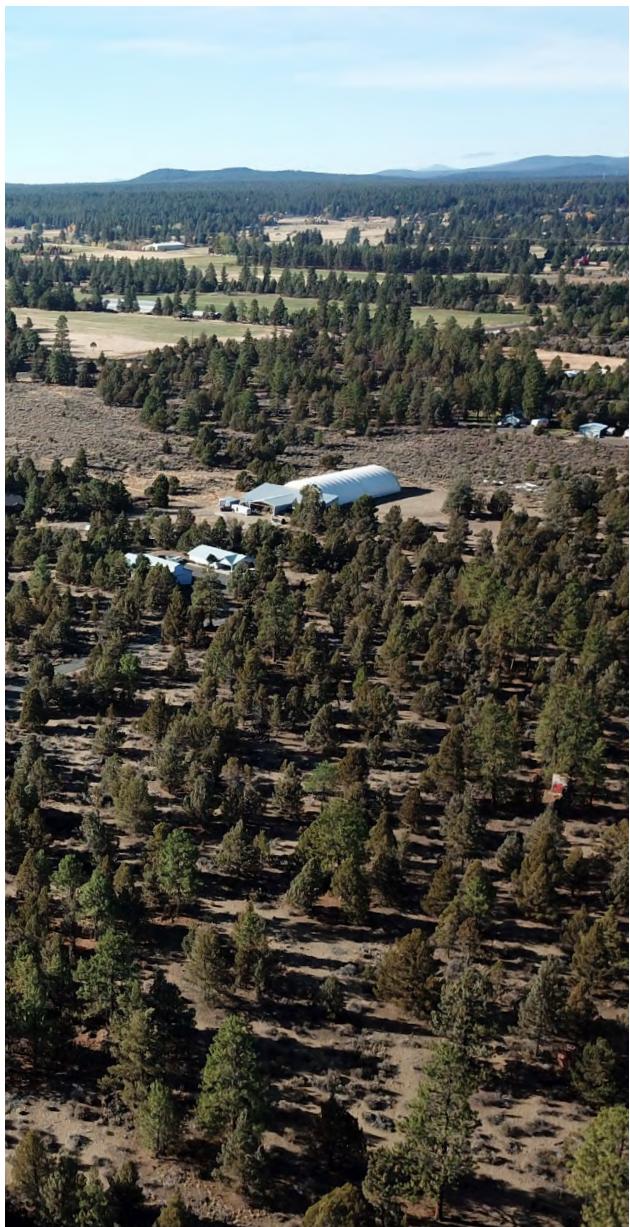


Photo credit: David Leath

## Why this plan?

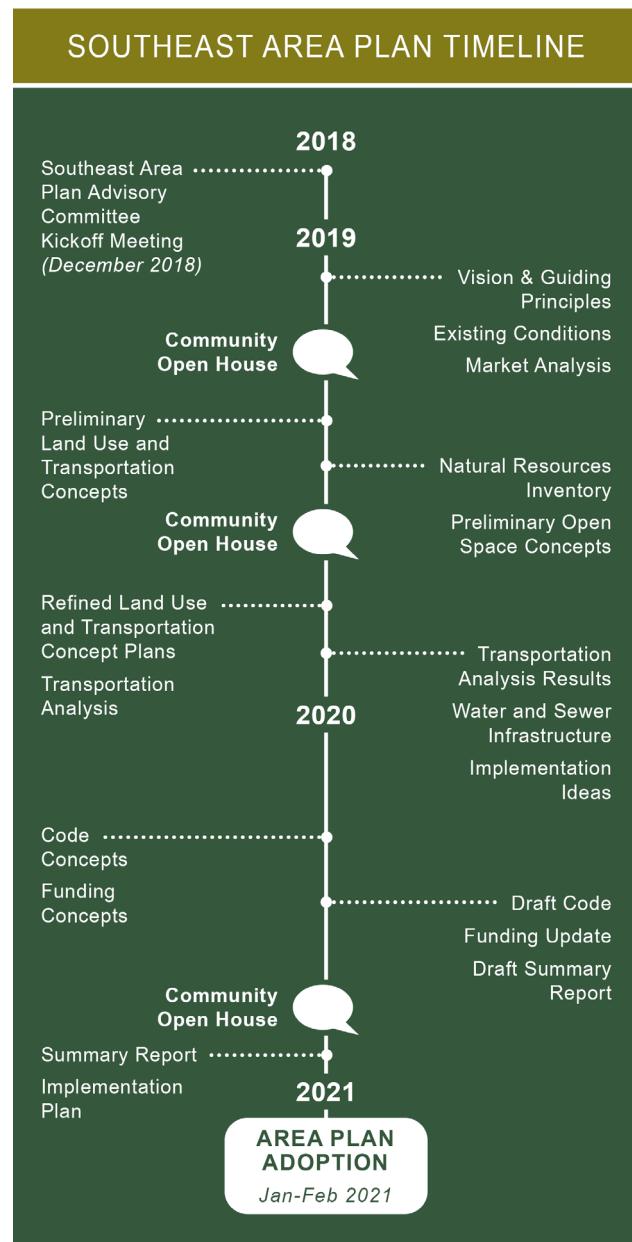
Following the Comprehensive Plan and UGB update process, the City evaluated strategies for implementing its new growth management policies. The Southeast Expansion Area was identified in the City's Return on Investment (ROI) study<sup>1</sup> as being one of the best-positioned expansion areas for near-term development based on sanitary sewer investments (primarily the Southeast Interceptor) and low estimated impacts to state transportation facilities compared to other expansion areas.

The City of Bend Comprehensive Plan provides policy direction for the future of the Southeast Expansion Area. Policy 11-76 of the Plan succinctly describes the goal for future growth for this UGB expansion area:

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*“[The Southeast Expansion Area]... 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.”<sup>2</sup>*

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## PLANNING PROCESS

The Area Plan process for the Southeast Expansion Area began in September 2018. The process was guided by the Southeast Area Plan Advisory Committee (SEAPAC), a 15-member citizen advisory committee that included representation from property owners, nearby neighborhood associations, service providers, and local area residents. SEAPAC provided a forum for hearing community input on the development of the Plan and offered feedback to the project team on the project's progress. SEAPAC met 11 times between December 2018 and December 2020.

In addition to guidance from SEAPAC, the process included a variety of outreach activities to gather feedback from the community at large. Opportunities

for community members to provide feedback included in-person and online open houses, online surveys, and public testimony at SEAPAC meetings. These opportunities were promoted through social media ads on Nextdoor and Facebook, as well as local newspaper public meeting notices, website banners, and emails to the interested parties email list. The City also met regularly with key stakeholders including property owners, developers, and local service providers, and, coordinated closely with state agencies such as the Oregon Department of Transportation (ODOT) and the Department of Land Conservation and Development (DLCD). The Planning Commission and City Council were also involved at key points in the planning process.

02



*Photo credit: David Leath*

## Chapter 2

# A Community Vision for the Southeast Expansion Area

Early in the planning process SEAPAC members met to develop a shared vision for the future of the Southeast Expansion Area. The committee brainstormed answers to the following question:

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*“Imagine you had to leave Southeast Bend to go live on a South Sea Island. You return in 20 years, and the Southeast Area Plan has been successfully implemented. You really like what you see. What do you see?”*

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Their ideas formed the basis for the SEAP Vision and Guiding Principles, which were adopted by the committee at their public meeting on February 21, 2019. The Vision and Guiding Principles summarize the desired character of the area as an integral part of Bend and articulate intended outcomes of the planning process. The following vision statement summarizes the committee's shared hopes and desires for the future of the Southeast Expansion Area:

### SOUTHEAST AREA PLAN VISION

*“Our vision is that the Southeast Expansion Area becomes a complete and walkable community and a welcome addition to Southeast Bend. Houses, businesses, parks, and schools are compatible neighbors, and have well-planned transitions between them. The mix of uses are highly connected by neighborhood streets, paths, and open spaces. The area has an active and vibrant outdoor life; it is a place where neighbors are out walking, biking, and interacting daily. The Southeast Expansion Area is a unique and successful community in Bend.”*

## GUIDING PRINCIPLES

The following guiding principles build on the vision to capture the intended outcomes of the SEAP process. These principles were used to guide the evaluation of plan options and issues throughout the planning process.



### **Create a complete community.**

Implement the Comprehensive Plan's guidance for a mix of uses and refine that direction with ideas from the area-planning process.



### **Design and build a walkable and connected transportation network.**

Create a network of connected streets and paths that serve all travel modes and are walkable and bike friendly. Build "sidewalks to somewhere." Implement the City's low stress bike network plan. Lay the groundwork for an area that is well-served by public transportation.



### **Create vibrant public spaces.**

Plan for public spaces such as streets, parks, schools, and commercial centers, so there is a vibrant outdoor life throughout the community.



### **Preserve views of the natural landscape**

Integrate views, trees, and rock outcrops into new development and public spaces.

**Create a sense of identity.**

Plan the Southeast Expansion Area so that, when built, it will be recognized as a distinctive place with a strong sense of identity. All development—public and private—will contribute to reinforcing this sense of place.

**Support a thriving employment area.**

Guide the plan so that target industries and businesses are attracted by the unique advantages of locating in this area, and so that residents of the Southeast Expansion Area have the opportunity to live and work in their community.

**Deliver needed infrastructure.**

Create funding strategies, phasing plans, and other actions to ensure that needed infrastructure is delivered in a timely and predictable manner.

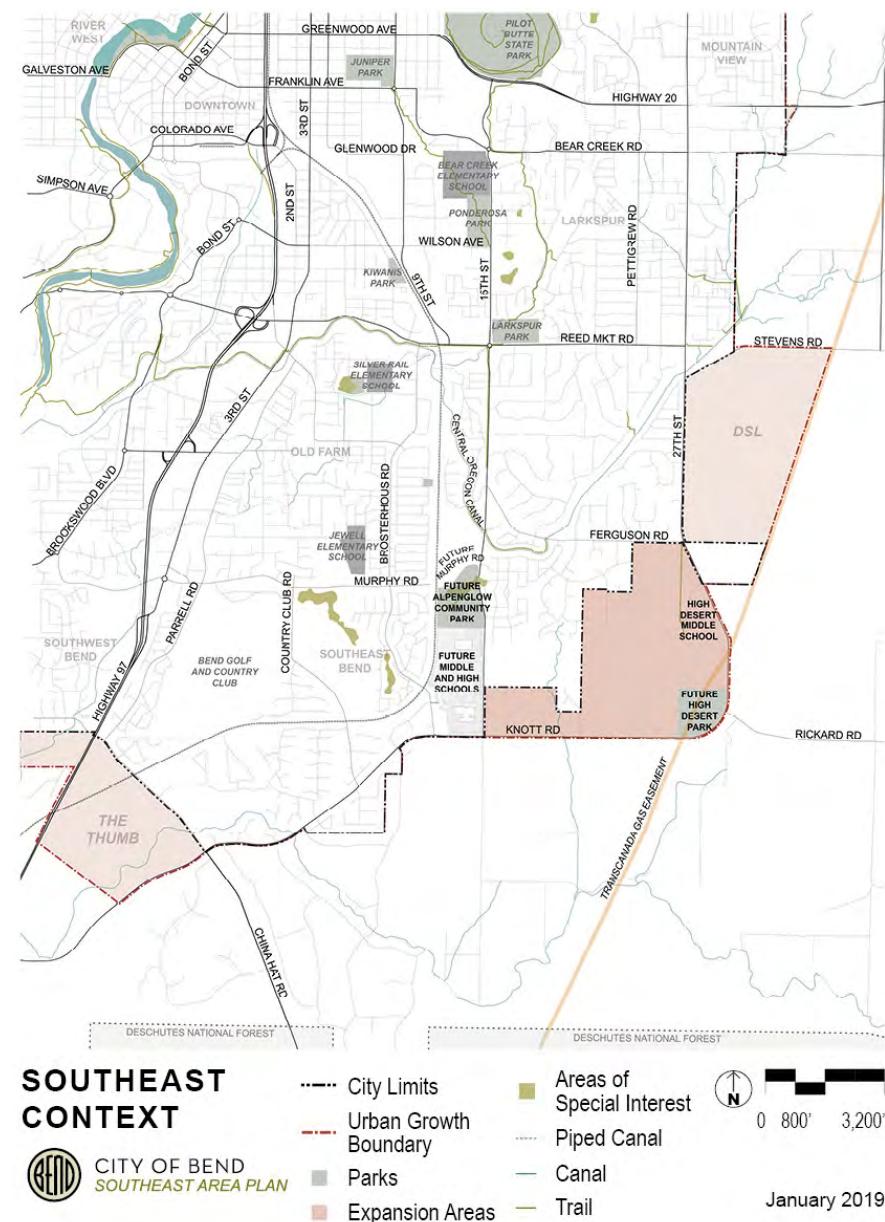
**Develop an economically viable plan.**

The plan is fully implementable because it is appealing to the market, cost-effective, and addresses fiscal realities. The infrastructure needed to support new development in the area can be built because funding mechanisms are aligned with needs and costs.

03



Figure 2. Southeast Bend Context



# Chapter 3

# Existing and Planned Conditions

## LAND USE

The Southeast Area Plan addresses the future land use, transportation, natural features, and infrastructure needs within the Southeast Expansion Area's boundary. The plan addresses these topics in the context of the southeast Bend vicinity, the City, and the broader regional landscape of Central Oregon. Consideration of this broader context is important to ensuring that the Southeast Expansion Area becomes a complementary and connected extension of Bend.

## LOCAL CONTEXT

The 479-acre Southeast Expansion Area is located in the southeast corner of the City, bordered by Knott Road to the south, SE 15th Street to the west, SE 27th Street to the east, and the existing city limits and Ferguson Road to the north.

Southeast Bend is a mix of established low-density neighborhoods and emerging new developments. The established character of the adjacent Southeast Bend and Old Farm District neighborhood areas grew largely from the platting and development that occurred prior to their annexation into the city limits of Bend. These neighborhoods are comprised of primarily large (one-half acre or greater) lots with single family detached homes. The local street network is developed in a discontinuous pattern, with many cul-de-sacs and the majority of streets without sidewalks.

An Arnold Irrigation District lateral runs north through the area. Non-residential land uses in southeast Bend are located closer to Reed Market Road and the 3rd Street corridor, with light industrial and mixed employment uses clustered south of Reed Market Road along American Lane. Infrastructure corridors and public land uses in the vicinity include the BNSF railroad line west of SE 15th Street, the Deschutes County Landfill and Road Department facilities east of SE 27th Street, and the TransCanada Natural Gas Pipeline that runs east and south through the eastern edge of the Southeast Expansion Area through the High Desert Park site.





Photo credit: David Leath

Under the guidance of Bend's Comprehensive Plan, Southeast Bend is undergoing significant growth—and more is on the horizon. Recent land use developments and catalyst infrastructure and public facilities include:

- New housing developments such as The Bridges at Shadow Glen, Hidden Hills, Foxborough, Larkspur Village, and Woodside Ranch (located outside the City's UGB);
- Caldera High School and associated street improvements, located adjacent to the SEAP area west of SE 15th Street;
- The Murphy Road Extension, a much-needed east-west corridor serving Southeast Bend; and
- The Southeast Interceptor sewer line, a trunk facility that will enable sewer service for existing and future development throughout southeast Bend.

Pending and future projects include:

- The Easton Master Plan, a 75-acre residential community adjacent to the SEAP area;
- Alpenglow Community Park adjacent to the Southeast Expansion Area;
- Master planning for the 368-acre Department of State Lands (DSL) Expansion Area, located northeast of the Southeast Expansion Area; and
- Future development of a new Middle School adjacent to Caldera High School.

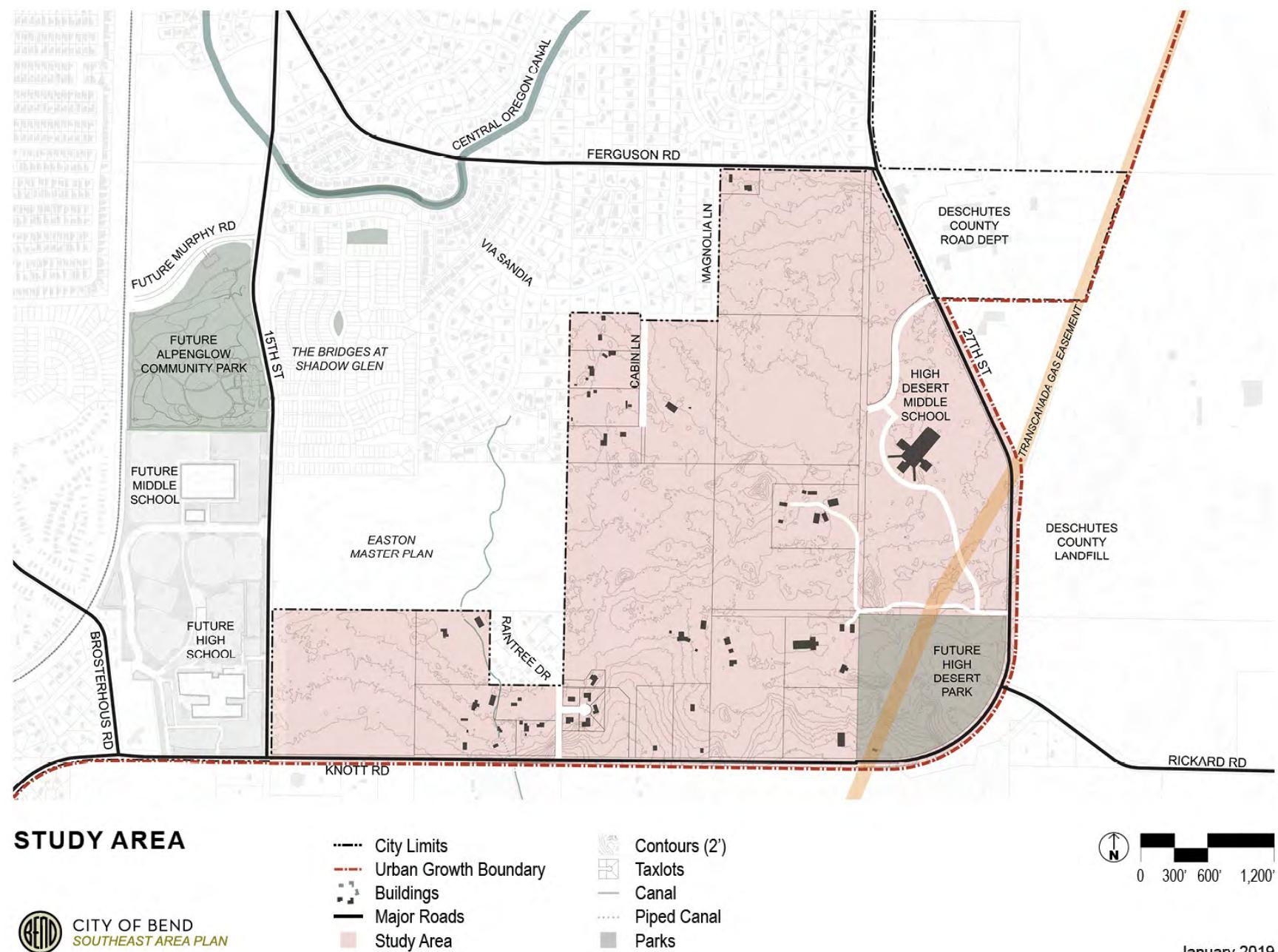


## LAND USE IN THE SOUTHEAST EXPANSION AREA

The Southeast Expansion Area consists of approximately 479 total acres divided into 30 parcels that are owned by 27 different property owners. The largest parcel is the 74.5-acre lot owned by the Bend-La Pine School District (BLSD), currently occupied by High Desert Middle School. The smallest parcels in the study area are the half-acre lots that make up the Knott's Landing subdivision on Keller Court. Although the average lot size in the Southeast Expansion Area is roughly 14 acres, only 10 of the 30 properties that make up the area are over 10 acres. The Bend Park & Recreation District (BPRD) owns the 32-acre future High Desert Community Park site, currently undeveloped.

Having only recently been brought into the City's UGB in 2016, the area is still largely undeveloped. Where development does exist, it is rural in nature. There are 22 single family residences in the study area; most are dispersed on large lots, but some are smaller rural residential properties along Raintree Drive, Keller Court, and Cabin Lane. Existing businesses and institutional uses include High Desert Middle School, Bend Bowmen Club, High Desert Veterinary, Bend Pet Resort, and Farmer Brown's Produce Stand.

Figure 3. Existing Conditions in the Southeast Expansion Area



## BEND COMPREHENSIVE PLAN

As part of the array of expansion areas adopted in the 2016 Comprehensive Plan update, Bend's Southeast Expansion Area (referred to throughout the UGB process as "the Elbow") is envisioned as a complete community with a diverse mix of land uses. Per Policy 11-76:

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*"This area...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."*

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Recognizing that the Area Plan would refine the land use pattern, the Plan describes land use amounts that reflected the area's portion of citywide land use needs evaluated at part of the UGB expansion. They are summarized in Policy 11-77:

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*"This area shall provide for a mix of residential, commercial and industrial uses, including 122 gross acres of residential plan designations, 67 gross acres of commercial plan designations, 76 gross acres of industrial designations, 103 gross acres of mixed employment plan designations, and 75 gross acres of public facilities (excluding existing right of way)."*

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The plan also identifies targets for housing mix and residential capacity, with flexibility to refine those during the area planning process. Per Policy 11-78:

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*"In order to provide sufficient housing capacity and mix, the residential plan designations shall include 77 acres of RS, 36 acres of RM, and 9 acres of RH (excluding existing right of way). Alternatively, the Area Plan may demonstrate that this area will provide capacity for a minimum of 820 housing units, including at least 17% single family attached housing and at least 47% multifamily and duplex/triplex housing types. The Area Plan may include and rely on plan designations, zones, special plan districts, and/or other binding development regulations to demonstrate compliance with the specified mix and capacity."*

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The 2016 adopted plan designations are shown in Figure 4. Please see Chapter 5 of this Area Plan for how the land use designations and resultant capacity metrics have been refined.

Figure 4. Southeast Expansion Area Land Use Designations Adopted in 2016

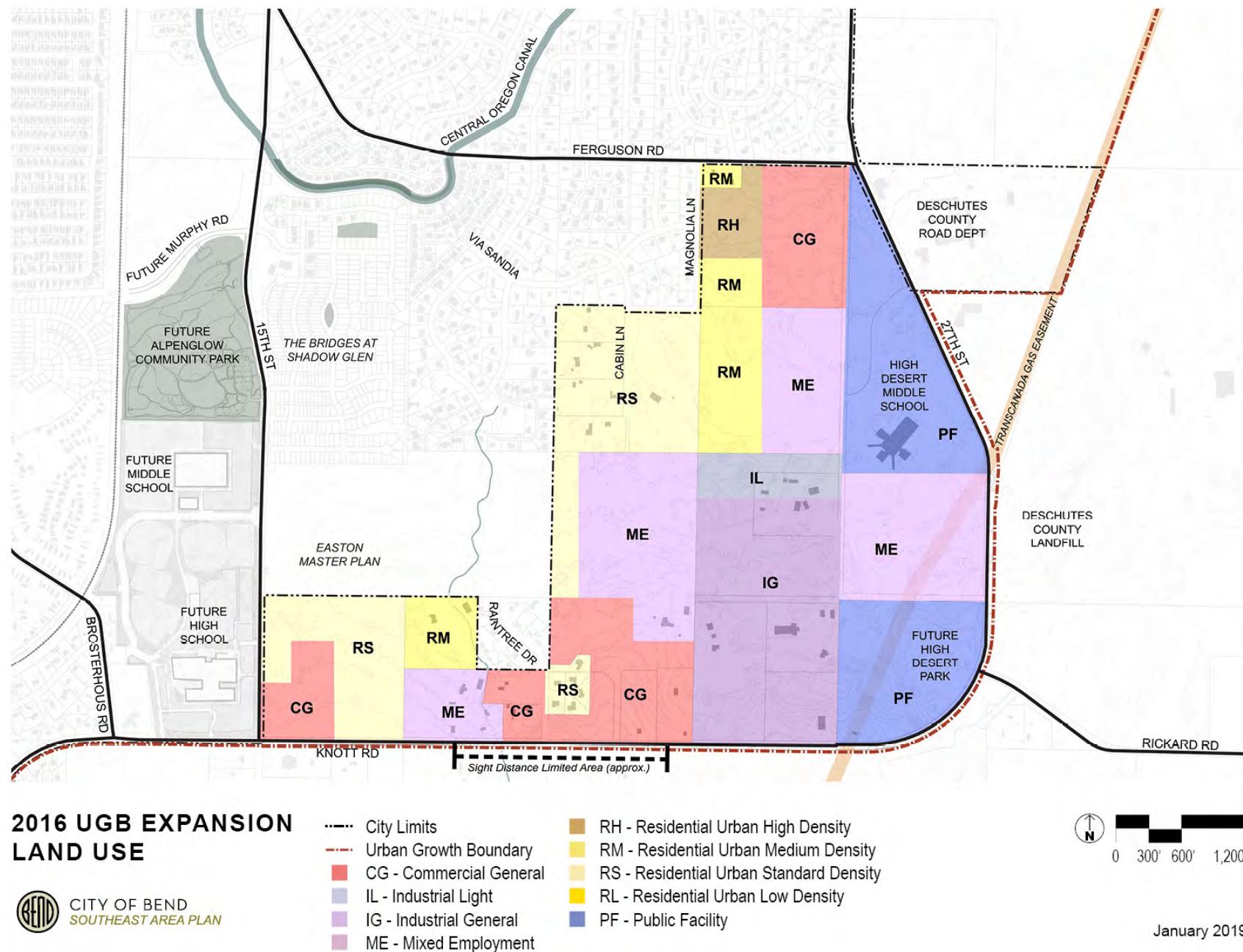
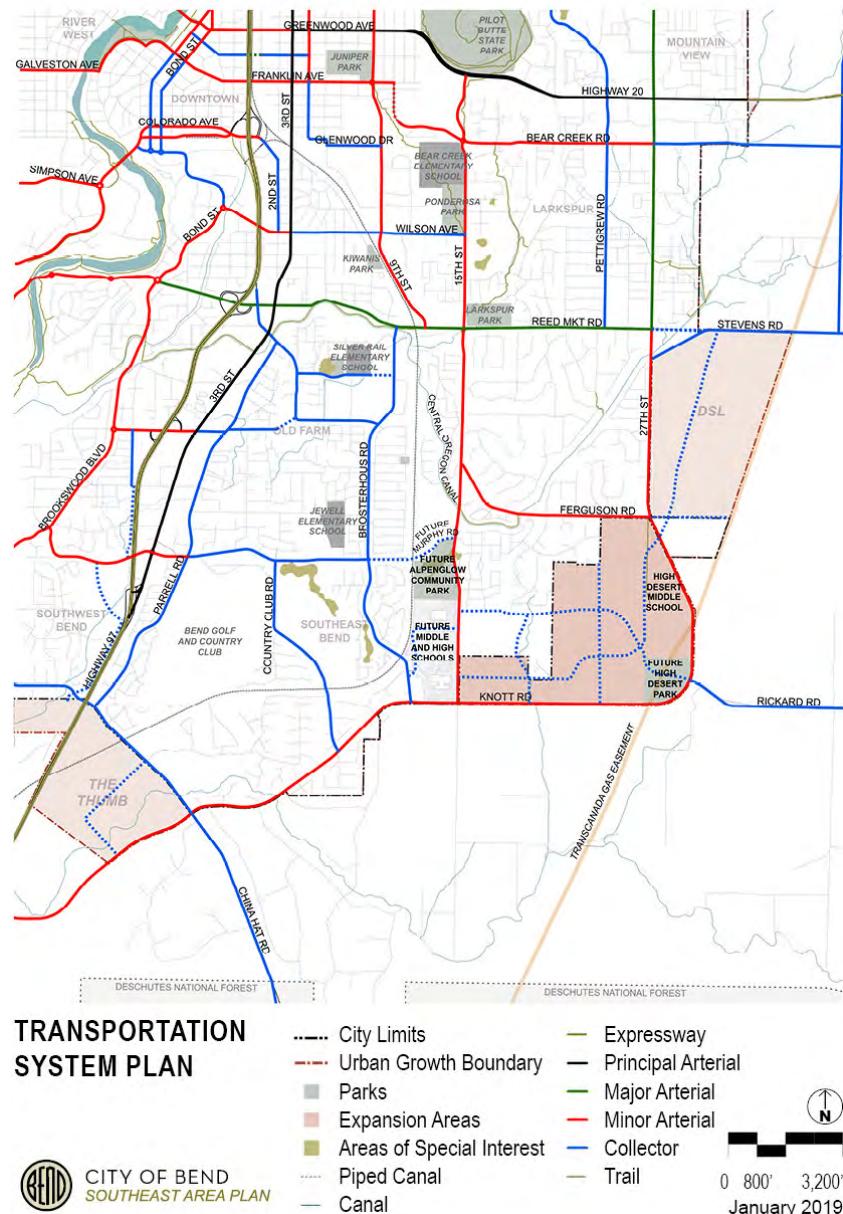


Figure 5. Existing and Planned Transportation in Southeast Bend



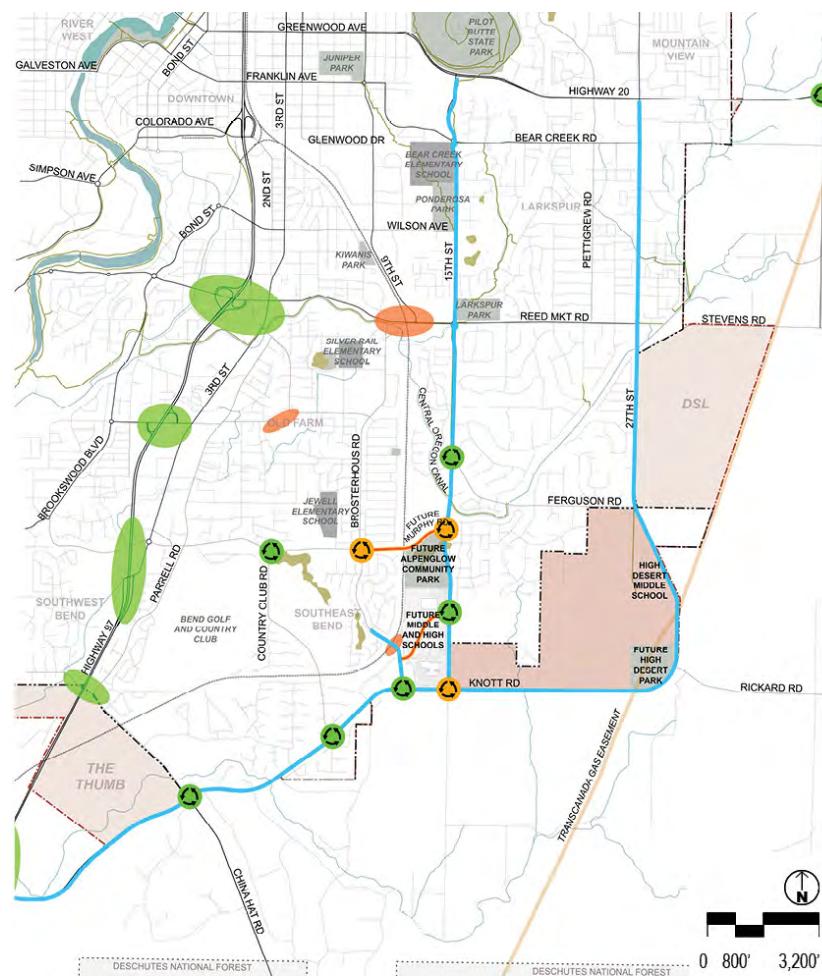
## TRANSPORTATION

### EXISTING TRANSPORTATION NETWORK

The transportation system that serves the Southeast Expansion Area and surrounding areas reflects the existing rural character of southeast Bend. Arterials and collectors that currently serve the area include Knott Road to the south, SE 27th Street to the east, SE 15th Street to the west, and Ferguson Road to the north. Rickard Road connects to SE 27th Street/Knott Road at the southeast corner of the High Desert Community Park site and continues southeast outside the UGB. Seven local roads—Raintree Court, Keller Court, Diamondback Lane, Magnolia Lane, Hearthstone Lane, Cabin Lane, and an unnamed local road that runs east-west between High Desert Middle School and the High Desert Park property—currently serve the SEAP area, which otherwise lacks an internal street network.

Many of the existing transportation facilities were constructed to rural Deschutes County standards with limited facilities available for active transportation modes. Over time, some portions of the street network have been upgraded to urban standards to reflect a shift in the development pattern, such as SE 15th Street along The Bridges at Shadow Glen development and adjacent to the future Caldera High School and Alpenglow Park. Nearly all of the local, collector, and arterial intersections in the SEAP area are controlled by stop signs, reflective of the lower traffic volumes associated with the area's rural character.

Figure 6. Planned Transportation Improvements in Southeast Bend



### PLANNED TRANSPORTATION IMPROVEMENTS



January 2019

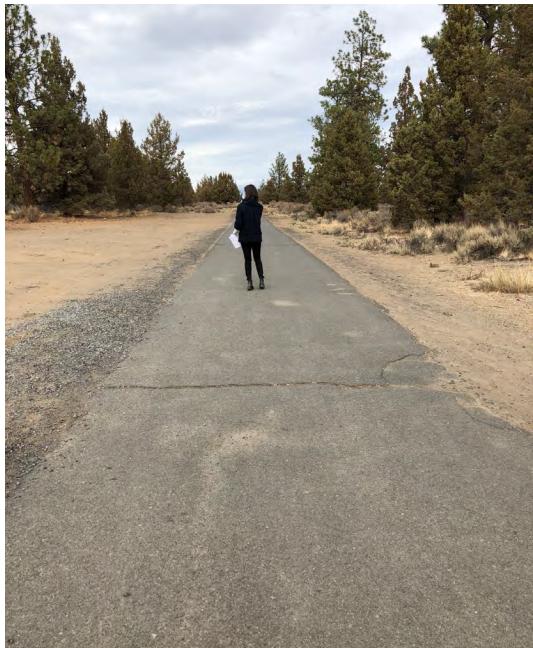
## PLANNED TRANSPORTATION IMPROVEMENTS

Concurrent with the SEAP process, the City of Bend has updated its Transportation System Plan (TSP), providing the vision and implementation plan for transportation in Bend for the next 20 years. The TSP, adopted in the fall of 2020, identifies the planned projects and programs needed to serve existing and future residents in all the ways people get around. Figure 6 shows the planned transportation improvements for the southeast area of Bend. Four roundabouts are currently planned along SE 15th Street adjacent to the SEAP area: at the intersection of Ferguson Road, at the intersection of the Murphy Road extension north of Alpenglow Park, adjacent to the future Caldera High School, and at the existing intersection with Knott Road. Programmed roadway extensions include the Murphy Road extension over the BNSF Railroad to SE 15th Street, as well as the extension of Brosterhous Road south of the future Caldera High School. Urban upgrades are planned for SE 15th Street, SE 27th Street, and Knott Road.

The SEAP process explored alternatives for an internal street network to accommodate urban buildup of the area. The preferred street alignments, traffic control methods, and multimodal infrastructure improvements both within and connecting to the Southeast Expansion Area are described in Chapter 5 of this report. One key aspect for consideration for the development of transportation facilities is how this infrastructure is phased as lands develop to ensure the safety of all modes of travel within and adjacent to the Southeast Expansion Area.



*A cyclist rides in the shoulder on Knott Road*



*A pedestrian walks on the multi-use path between Ferguson Raod and High Desert Middle School*

## EXISTING AND PLANNED ACTIVE TRANSPORTATION FACILITIES

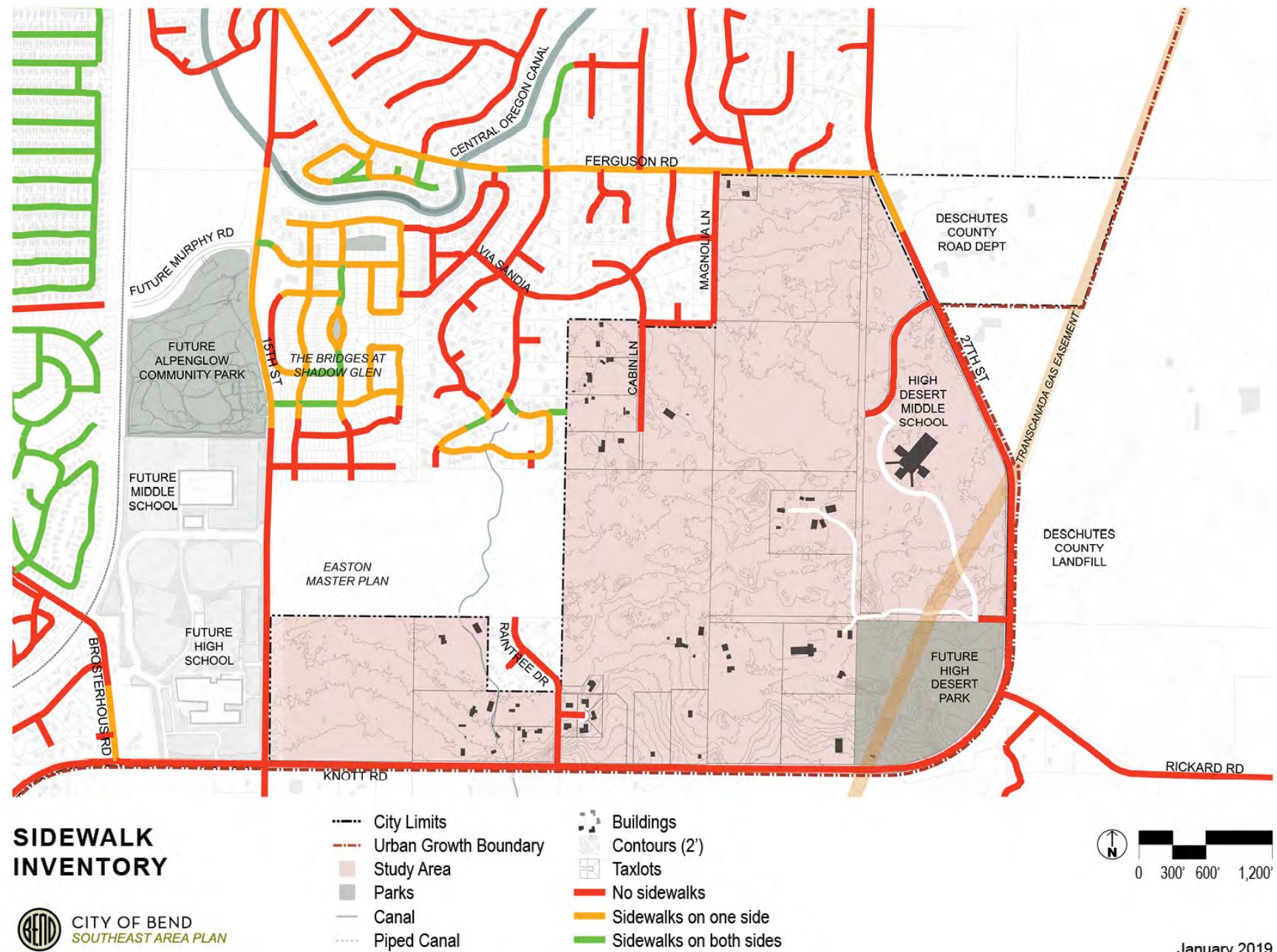
Given its rural, largely undeveloped character—and its location outside existing City Limits—the Southeast Expansion Area does not currently include many facilities for pedestrian or bicycle travel. There is one existing paved multiuse path serving the area, which runs south from Ferguson Road to the High Desert Middle School. This path dates back to the 1980's; however, it has remained isolated and is not adequately connected to existing

nearby neighborhoods. The presence of sidewalks on streets in the vicinity of the SEAP area are shown in Figure 7. Existing facilities for cycling are primarily shoulder lanes, as shown in the following image of Knott Road. The TSP update noted above has also identified planned improvements to the City's key pedestrian and bicycle facilities. Please see Chapter 5 for how those recommendations have been integrated into the Southeast Expansion Area.



*High speeds and narrow shoulders on Knott Road create a high-stress environment for cycling; no sidewalks currently existing on this facility*

Figure 7. Existing Sidewalk Facilities in Southeast Bend

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SOUTHEAST AREA PLAN



## NATURAL FEATURES

### REGIONAL LANDSCAPE CONTEXT

Southeast Bend and the SEAP area are part of the dramatic regional landscape setting between the coniferous forest and volcanoes of the high Cascades and the arid high desert of Central Oregon. The Three Sisters are regional landmarks and views of these and other volcanoes, including Mount Bachelor, on the western horizon are highly valued. Public lands are intrinsic elements of the region's character and active recreational access to these are a key part of Bend's (and southeast Bend's) livability. The Southeast Expansion Area is close to the Deschutes National Forest boundary, located about one mile south, with opportunities for recreation and exploration of unique geological landmarks like buttes, basalt outcrops and ice caves. Bend is characterized by an arid climate, with the southeastern portion of the City trending slightly colder than neighborhoods to the north and west. The area's natural vegetation consists primarily of juniper trees, ponderosa pines, and native grasses and small shrubs including sagebrush and bitterbrush.

Figure 8. Regional Landscape Context



## REGIONAL LANDSCAPE CONTEXT



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SOUTHEAST AREA PLAN



Bend UGB Expansion Areas



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January 2019

## TOPOGRAPHY

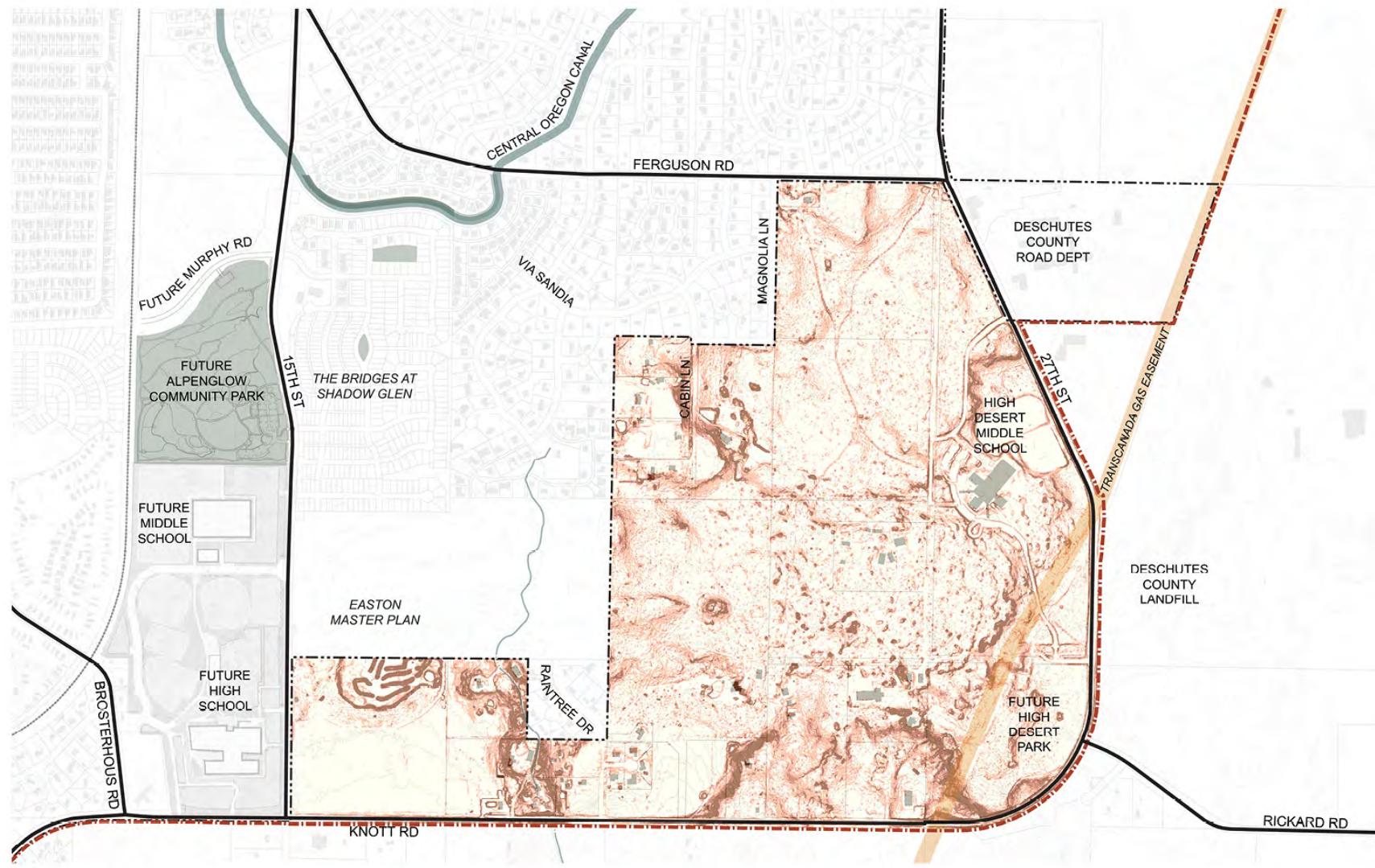
The Southeast Expansion Area is shaped by a unique and complex topography. The area generally slopes from a high point in the north near Cabin Lane to a low point at the High Desert Community Park site in the southeast corner, with an elevation drop of approximately 70 feet. Several significant basalt rock ridges run north-south through the southern portion of the area, crossing Knott Road and creating sight distance

limitations for vehicles at Raintree Court, and a fourth runs roughly parallel to Cabin Lane to the north. Figure 9 shows the slope analysis that was prepared as part of the evaluation of existing conditions. This level of evaluation was more site-specific than was conducted in the 2016 Comprehensive Plan update and was part of the reconsideration of several of the land use designations in steeper areas. As shown in Figure 9,

there is a concentration of steeper lands located in the southeast portion of the study area. The steep and varied topography in this area is not conducive to commercial and industrial development. The topography is less steep and varied to the north of that area and was determined to be feasible for light industrial and mixed employment uses.



Figure 9. Slopes in the Southeast Expansion Area



## SLOPE ANALYSIS



CITY OF BEND  
SOUTHEAST AREA PLAN

- City Limits
- Urban Growth Boundary
- Canal
- .... Piped Canal

0 - 5 % Slope
5 - 10 % Slope
10 - 15 % Slope
15+ % Slope



May 2019

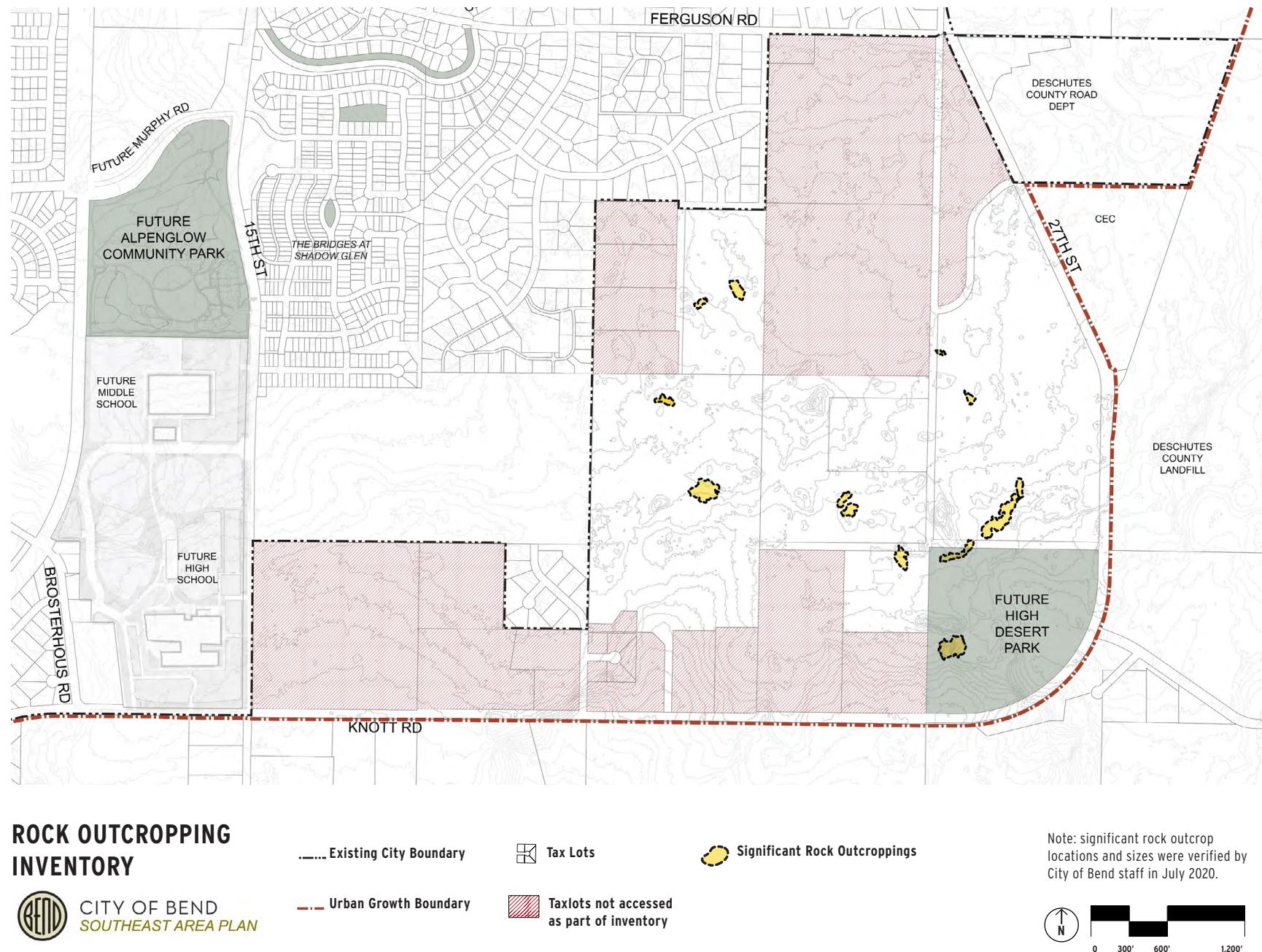


## ROCK OUTCROPS

The area's topography is further defined by the presence of significant basalt rock outcrops scattered throughout many of the more level areas. These rock outcrops may pose challenges to the provision of infrastructure and utilities such as roads, but they also provide a distinct character to the area, special habitat conditions for native wildlife, and a reminder of the region's volcanic underpinnings. Integrating significant rock outcrops into future development will help achieve SEAPAC's goal to create a sense of identity and to preserve the area's natural landscape.

For the purposes of this Area Plan, significant rock outcrops are defined as clusters of naturally occurring basalt lava rocks that have at least one point with a height of eight feet or higher and that are greater than 3,000 square feet in area. This definition was developed after field verification and mapping on a portion of Southeast Expansion Area properties by City staff in the summer of 2020 as part of the area plan process. Not all properties were accessed during the field verification process.

Figure 10. Significant Rock Outcrops in the Southeast Expansion Area



CITY OF BEND  
SOUTHEAST AREA PLAN



## TREES

The Southeast Expansion Area is home to many mature and healthy native Ponderosa Pine and Juniper trees. These trees provide habitat to local wildlife, offer shade, and help shape the natural character of the area. Ponderosa pines in particular are relatively hardy and can survive with redevelopment if roots are protected and adequate water continues to be available.

A certified arborist inventoried and assessed the health of trees on seven properties in the Southeast Expansion Area in April 2019. The health assessment concluded that, overall, Ponderosa Pine trees in the area appeared to be in mostly stable health, with some stress indicators such as minor drought stress or presence of sequoia pitch moth (*Synanthedon sequoiae*). There were no signs of beetle infestation at the time of the assessment. There are also a significant number of Juniper trees within the SEAP area ranging from overcrowded dense stands to single mature trees surrounded by

bitterbrush and sagebrush. At the time of the health assessment, some Juniper stands exhibited signs of dwarf mistletoe. While the overcrowding of Junipers may contribute to wildfire risk and compete for nutrients with Ponderosa Pines, they are still an essential part of the area's species biodiversity.

The inventory identified 300 trees (140 Junipers and 160 Ponderosa Pines) that were significant in size (defined as having a diameter of 24 inches or greater at breast height). Trees with a 24" diameter at breast height (DBH) or greater present significant value for to the environment by providing greater canopy volume, faster CO<sub>2</sub> absorption than newly planted trees, and age diversity in the urban forest. Following the initial inventory in 2019, City staff field verified and mapped significant trees for several additional properties during the summer of 2020.<sup>1</sup> However, not all properties were able to be accessed for the purpose of field verification.

<sup>1</sup> The full April 2019 Tree Health Assessment is included as Appendix X

Figure 11. Significant Trees in the Southeast Expansion Area

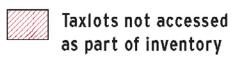
**TREE INVENTORY**CITY OF BEND  
SOUTHEAST AREA PLAN

Existing City Boundary



Tax Lots

Urban Growth Boundary

Tax lots not accessed  
as part of inventory

- Juniper Trees  
(greater than 24" DBH)

- Ponderosa Pine Trees  
(greater than 24" DBH)

Note: significant tree locations were verified during a survey conducted by a certified arborist in April 2019.

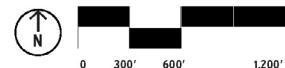
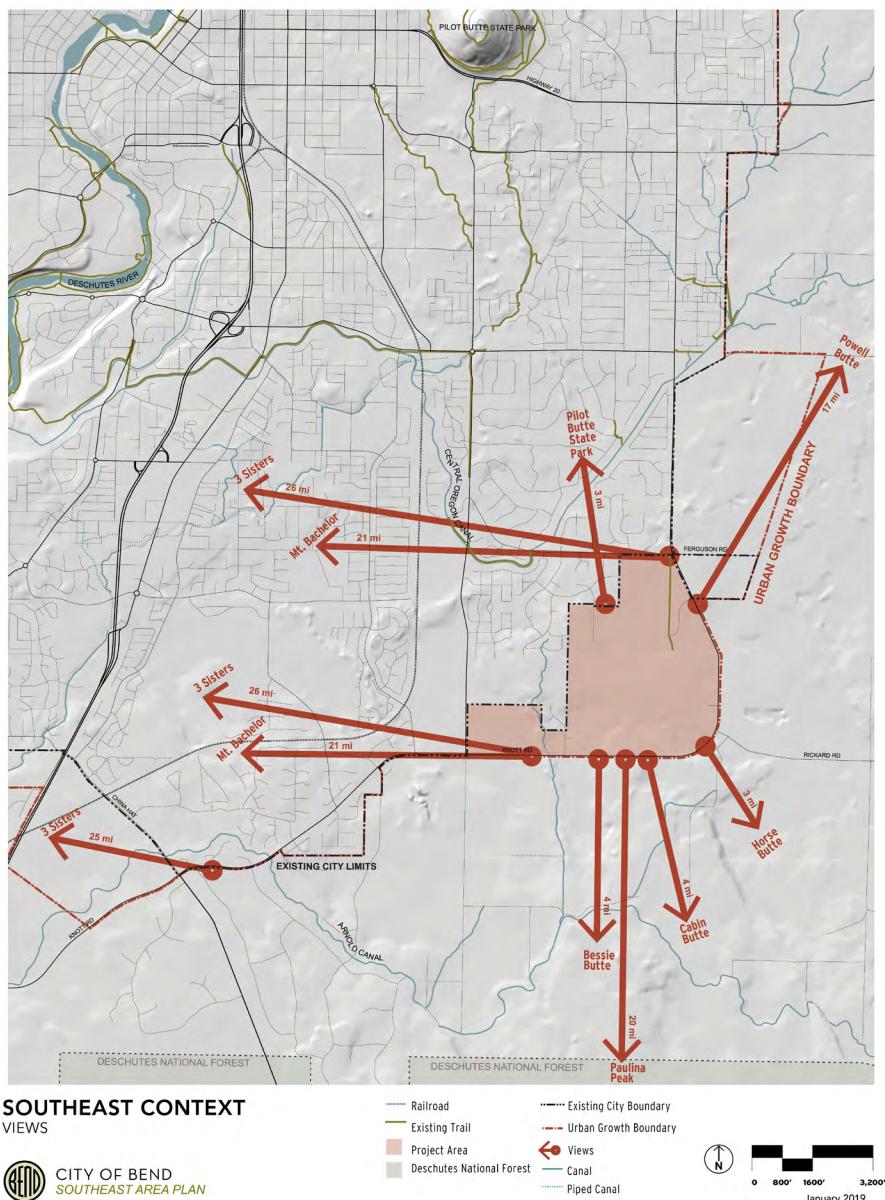


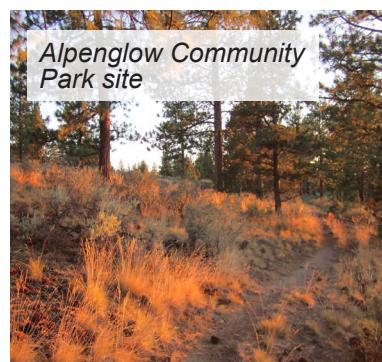
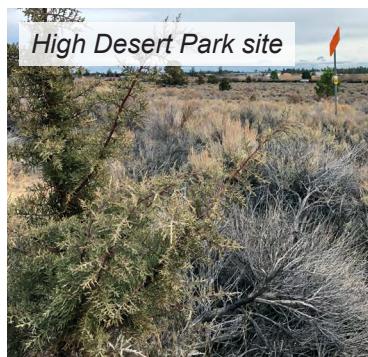
Figure 12. Views from the Southeast Expansion Area



## VIEWS

The Southeast Expansion Area hosts a number of the spectacular mountain views that make Bend such a desirable place to live. Looking south, Horse Butte, Cabin Butte, Bessie Butte, and Paulina Peak can all be seen from Knott Road. Mt. Bachelor and the Three Sisters peaks are visible looking west from various high points throughout the study area.





## PUBLIC FACILITIES

### PARKS

BPRD currently owns the 32-acre future High Desert Community Park site in the southeast corner of the SEAP area. BPRD acquired the site in 1992 as part of a land swap, which included a deed restriction with Deschutes County stating that the land should be used for public purposes. The currently undeveloped park site is located outside BPRD's boundary across from the Deschutes County landfill site and has native tree and shrub cover and several notable basalt rock outcrops. A TransCanada natural gas pipeline easement crosses the property. Although the park is not planned to be developed in the near term, it is intended to meet future demand for park and recreation opportunities for future residents of southeast Bend.

Adjacent to the SEAP area, on the east side of SE 15th Street, BPRD is currently developing the 37-acre Alpenglow Community Park. The Alpenglow Park site is characterized by semi-arid high desert vegetation with mature stands of Ponderosa Pine, Junipers and a basalt ridge designated as an Area of Special Interest (ASI) by the City of Bend. This new community park will provide opportunities for a wide array of recreation activities.



Photo credit: David Leath



Photo credit: David Leath

## SCHOOLS

The Bend-LaPine School District (BLSD) owns a 74.5-acre property in the SEAP area. The central portion of this site is occupied by High Desert Middle School, which is served by Diamondback Lane for transportation access. The southern portion of the site—approximately 30 acres bordering the High Desert Community Park site—is currently vacant and designated as Mixed Employment. The TransCanada Natural Gas Pipeline crosses this portion of the property. The triangle of land north of High Desert Middle School and Diamondback Lane, between SE 27th Street and the existing multiuse path, is also currently vacant.

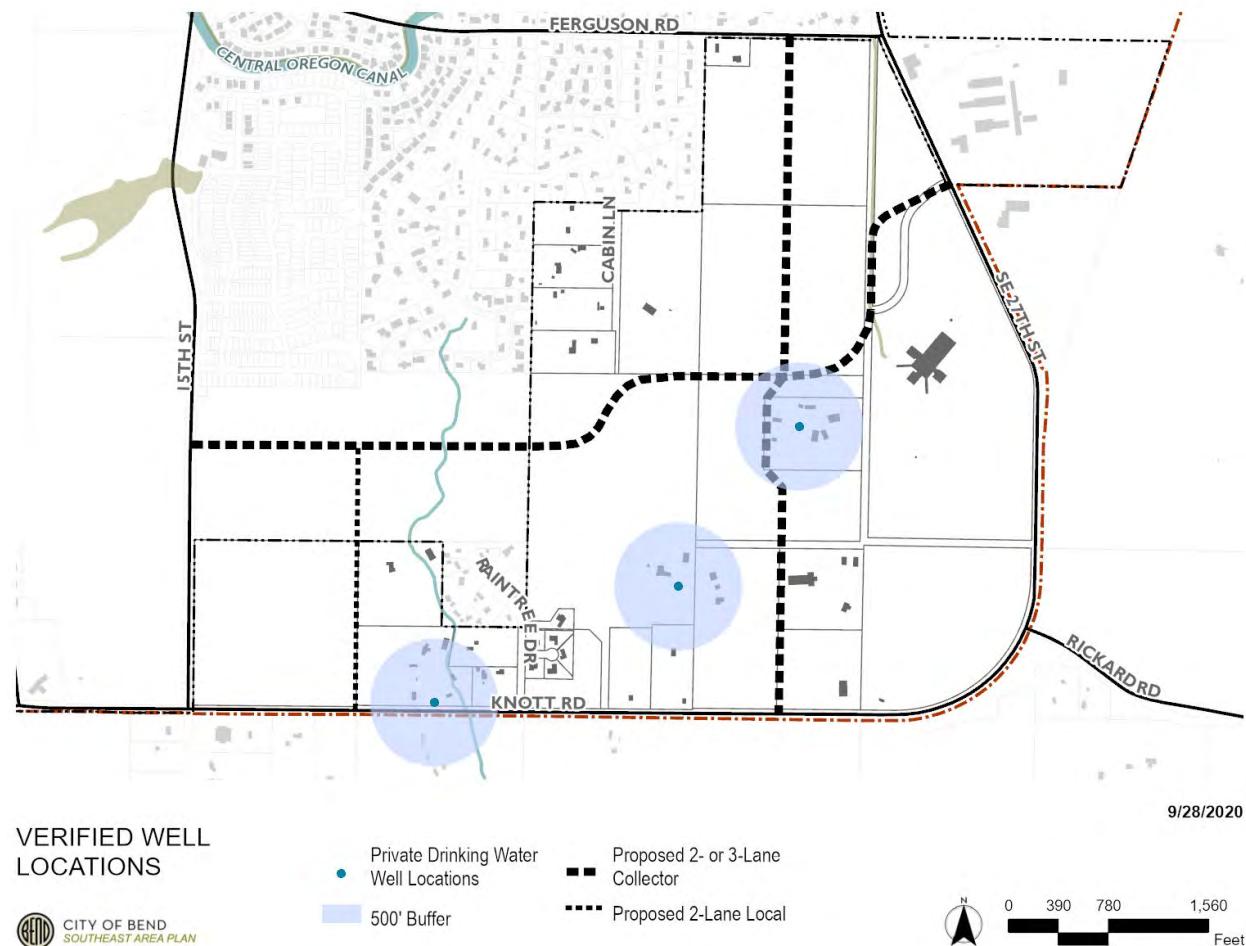
BLSD is currently constructing Caldera High School, which is slated to open in the fall of 2021. This new high school is located adjacent to the SEAP area west of SE 15th Street. BLSD also plans to construct a new middle school north of Caldera High School. As part of the development of these two new school facilities, BPRD is improving SE 15th Street and will build a roundabout at the intersection of SE 15th Street and Knott Road—a project identified in the City's TSP.

In addition to the new middle and high schools adjacent to the SEAP area, the Bend Comprehensive Plan (Policy 11-68) identifies 21 acres for a future elementary school in the DSL expansion area located northeast of the SEAP area. BLSD also intends to develop one additional elementary school in the Southeast Expansion Area to serve future residents.

## DRINKING WELL LOCATIONS

The Southeast Expansion Area contains three private drinking water/irrigation wells, shown in Figure 13. The locations of these wells were field-verified by City staff in 2019. These well locations and associated 500-foot wellhead protection buffers are important to consider as road alignments and stormwater facilities (specifically Underground Injection Controls) are located in the area. New UICs will not be allowed within the 500-foot protection buffer of these verified well locations, shown in Figure 13. When properties are annexed into the City, the Development Code allows existing wells to remain until development occurs on the respective site. When the properties are developed, the City will require they be connected to the applicable City or franchised water system and the well systems be disconnected and abandoned.

Figure 13. Drinking Well Locations





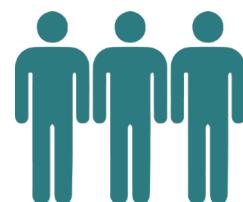
*Photo credit: David Leath*

## Chapter 4

# Market and Land Use Analysis

A Market and Land Use Analysis was conducted in January 2019 to support decision-making regarding land use refinements and future development opportunities in the Southeast Expansion Area.<sup>1</sup> Overall, citywide and local market trends suggest that the Southeast Expansion Area is well-positioned to develop into a complete community, provided that planning for the area can address and overcome infrastructure and other barriers to development.

## Bend is growing and changing



**67,000**  
New residents  
forecasted to move  
to Bend between 2020  
and 2040



**58%**  
Increase in the  
number of jobs  
in Bend between  
2000 and 2019

*"Bend is on the map!  
People want to live in  
Bend, but it is increasingly  
becoming less affordable."*  
- Project stakeholder

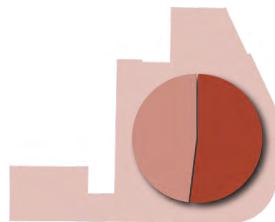


**2,300**  
New households  
formed in Bend  
between 2010  
and 2019

<sup>1</sup> The full Market and Land Use Analysis is included as Appendix X

## The Southeast Expansion Area provides opportunities for...

### ...new businesses

**52%**

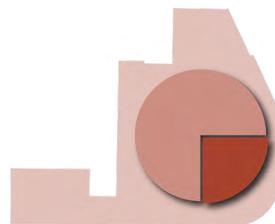
Land designated for commercial, industrial, and mixed employment uses

**1-2**

The majority of businesses in Bend are small businesses, with just 1-2 employees on average

*Small businesses present opportunities for economic growth in Bend. Mixed employment zones and commercial and industrial areas will provide opportunities for the flexible space demands of these small, but important, businesses.*

### ...new homes

**25%**

Land designated exclusively for residential uses, with capacity for about 820 housing units

### ...housing choices

**16%**

Increase in the median sale price of homes in Bend between 2017 and 2019

## ...new parks and schools



New schools and parks in and adjacent to the Southeast Expansion Area will create momentum for new development and will serve as community activity centers

## Market Implications



**Industrial** development such as small warehouses, manufacturing, and 'flex' development (a flexible blend of office and industrial uses) is seeing increased demand in Bend, and the Elbow could be an option for accomodating that demand



**Office** uses such as neighborhood services (accountants, dental offices, etc.) will rely upon surrounding residential uses and have limited market potential in the near-term until housing and transportation infrastructure has been built



**Retail** development is heavily reliant upon future residential development and infrastructure; once housing and transportation infrastrucutre has been built, there is market potential for neighborhood-scale and destination retail in the mid- to long-term

## DRIVERS OF SUCCESS

Realizing the development of any land uses in the Southeast Expansion Area will require substantial infrastructure investment, and decisions regarding where and when that infrastructure investment is made.



Photo credit: David Leath

The results of the analysis concluded that Bend continues to be well-positioned for economic growth, given its growth rates to date and forecast of 154,000 people by 2040, quality of life, transportation access within Central Oregon, active real estate market, and strong job growth. Similarly, the Southeast Expansion Area is well-positioned to become a community hub given the following factors:

- **The Southeast Expansion Area is one of Bend's "release valve" expansion areas that has good development potential.** Given development pressures affecting the entire Bend community, the Southeast Expansion Area is primed for new development of all kinds, but—due primarily to its geographic location, topography, and planned infrastructure and community amenities—the area is especially ready for future residential development.
- **Employment land is scarce in Bend.** Bend's tight supply of easily developable industrial land

means that there are currently few locations for business expansions or relocations. The Southeast Expansion Area provides an opportunity to capture future business growth; especially for mid-sized industrial users, e.g. breweries, small manufacturers, "makers" or craft industrial users, artisans, small inventory warehouses, etc.

- **Potential for a vibrant new "Complete Community" hub.** The lack of community and commercial services in southeast Bend creates an opportunity for a "complete community" hub to serve new and adjacent existing neighborhoods. As envisioned by Bend's Comprehensive Plan<sup>2</sup>, complete communities provide a range of housing types, and many essential services and amenities needed for daily living, all connected by walking/biking paths and circulator streets. This concept for the area will also help achieve other City goals related to climate change and transportation options.

2 City of Bend Comprehensive Plan, Chapter 11: Growth Management, Page 4

## A NOTE ABOUT THE ECONOMIC CONDITIONS IN 2020

The outbreak of the novel coronavirus (COVID-19), declared a global pandemic by the World Health Organization on March 11, 2020, has caused heightened uncertainty in local, regional, national, and global market conditions. Oregon Governor Kate Brown declared a state of emergency in Oregon on March 8, 2020 and President Donald Trump declared a national state of emergency on March 13, 2020. The Oregon emergency declaration and subsequent orders shut down and significantly altered substantial portions of the state economy in an attempt to slow the spread of COVID-19 in Oregon, protect the health and lives of Oregonians, and avoid overwhelming local and regional healthcare capacity. The resulting economic impact has been unprecedented, with uncertain and fluid short term and long term consequences.

- **The foundation of Bend's economy is in small businesses.** Independent contractors, telecommuters, and small niche companies make up a sizeable portion of Bend's economy and many of these small companies are currently expanding. Planned mixed employment zones and commercial and industrial areas will provide opportunities for the flexible space demands of these small, but important, businesses.
- **Planned community anchors create opportunities.** Planned and funded new schools and parks in and adjacent to the Southeast Expansion Area will create momentum for new development and eventually provide community activity centers. These "anchor" locations provide opportunities and focus for capital investments and future area linkages.

However, there are some constraints—both specific to the Southeast Expansion Area and in

Bend generally—that could limit future development and redevelopment. In summary, the constraints include:

- The tight housing market constrains economic development and decreases affordability;
- Infrastructure funding is always complicated, but further complicated by the SEAP area's infrastructure needs;
- Many relatively small parcels, and varying readiness for development by the area's property owners;
- Providing a range of housing types, including affordable choices, will be challenged by high infrastructure costs; and
- Potential negative perceptions about the distant location of the area; in the current cycle, businesses are generally more attracted to the core and west side areas of Bend.

# IMPLICATIONS FOR THE SOUTHEAST AREA PLAN

Overall, the market analysis concluded that trends are headed in a positive direction for the planned land uses in the Southeast Expansion Area, and that the overall mix of uses is responsive to market conditions. That said, intentional phasing, investment in infrastructure, and planning for mixes of uses will be critical to successful implementation of the SEAP vision.

## ***1. There is market support for the land use designations proposed for the Southeast Expansion Area.***

Our research indicates that there is market support for the land use designations identified by the City for the Southeast Expansion Area. The market potential for each of these land uses varies from use to use and over the 20-year development timeframe.

**Implications:** The City's vision for a complete community, as implemented through the land use designations, is possible to achieve over the development timeframe,

but will require focused attention and investment for successful implementation. Some development types (lower density residential, for example) will require little public subsidy or targeted policy. Others, such as affordable multifamily housing, will require focused action and targeted incentive packages. General commercial uses have the most competition from other areas in Bend and will lag behind residential and light industrial uses.

## ***2. Housing development will lead.***

Given population growth and demand for housing, residential development is likely to be the leading development type in the first phase of development. Commercial and employment uses will be important to creating a complete community and neighborhood amenities that drive housing sales and rents.

**Implications:** The City should seek to phase infrastructure in a way that provides key connections in the area

to support housing, which will likely be developed first, while providing connections to employment sites and mixed-use sites. Residential development in the SE 15th Opportunity Area, adjacent to the Southeast Expansion Area, will go a long way towards "jump-starting" other development by adding roads, water, and sewer infrastructure that can serve adjacent residentially designated land in the Southeast Expansion Area. Crucial to the success of housing development are new parallel public and private investments in retail, schools, parks, and multi-use paths. Housing by itself does not create a sense of place; it needs supportive uses and amenities to attract residents and become a complete community.

## ***3. Achieving diverse housing types will require intentional action.***

Without policy and financial support and incentives, multifamily rental or ownership housing, and cottage

or missing middle housing types may be limited and/or may not be part of early development phases. While some of these housing types are in high demand across the City, without targeted planning and policy support, developers may trend toward largely single-family development patterns first.

**Implications:** The City will need to actively plan for select portions of the Southeast Expansion Area to accommodate focused multifamily and/or missing-middle housing types, including accommodations for parking and nearby retail and civic amenities (e.g. parks, multi-use paths, etc.). Moreover, the City must continue its efforts to align housing policies with development incentives. Guidelines and regulations can regulate housing sizes, types, and densities; but more focused partnerships and targeted incentives are also necessary to achieve new housing development at affordable levels.

**4. *The City will need to take the lead in a proactive infrastructure funding and phasing plan.***

Some land uses in the Southeast Expansion Area are likely to develop before others but may not always be aligned with the most cost-effective infrastructure investments. Further, some property owners may be more prepared to develop their properties than others. Therefore, infrastructure must be sequenced in a way that successfully supports upcoming development but leverages existing or previous infrastructure investments.

**Implications:** The City is well-positioned to organize and lead Southeast Expansion Area stakeholders to an achievable and balanced infrastructure development plan. The City should take the lead to develop an infrastructure funding plan that has buy-in from a broad range of stakeholders including property owners and representatives from adjacent neighborhoods, community institutions, and prospective employers.

**5. *Small businesses present opportunities for future economic growth in Bend.***

The foundation of Bend's economy is in many small businesses. Independent contractors, telecommuters, and small niche firms are common Bend business types. Many of these companies have been quite successful, and in recent years business expansions have been accelerating. The path to success for the Southeast Expansion Area will, in part, rely on supporting these small but crucially important businesses.

**Implications:** The City should seek policies and plan designations that support development types that allow for flexible spaces and varied uses. Mixed use zones are a start, but ultimately, it will take ongoing engagement and coordination with the local business community to ensure that the Southeast Expansion Area provides the sites and spaces demanded by future businesses.

05



*Photo credit: David Leath*

## Chapter 5

# Southeast Area Plan

The Southeast Area Plan is a cohesive plan and roadmap for the growth and development of Bend's Southeast Expansion Area. The plan concepts and recommendations described in this chapter capture the community input received during the area planning process in 2019-2020, and implement and refine the goals and policies of the Bend Comprehensive Plan that were adopted during the City's 2016 Comprehensive Plan and UGB update.

The plan addresses, in a single integrated plan, all of the necessary elements for a complete community: housing, jobs, streets,

multi-use paths, schools, parks, utilities, open spaces, natural features, and more. Addressing these elements through this plan will help ensure that the area develops as a unified and interconnected community over the long term, and that utilities and infrastructure are provided in a coordinated, cost-effective, and efficient manner.

This chapter is organized into the following four sections:

- Land Use
- Community Design
- Transportation
- Open Spaces and Public Facilities



*Photo credit: David Leath*

# LAND USE

## RECOMMENDED LAND USE PLAN

The recommended land use plan presented in this chapter was developed following the review and analysis of multiple plan alternatives, which are described in more detail beginning on page 45 of this report. The plan includes land area and land use designations for:

- A varied mix of housing types and densities that reflects the City's commitment to providing a variety of housing choices;
- Employment and light industrial uses such as in-demand flex space;
- Neighborhood commercial development that will serve both future new residents and residents in existing, adjacent neighborhoods;
- Compatible transitions between existing and future development; and
- Public facilities and amenities such as neighborhood parks, community parks, and schools.

The land use plan includes:

- 154 acres for **residential** uses (RL, RS, RM, RH)
- 43 acres for **commercial** uses (CG)

- 38 acres for **industrial** uses (IL)
- 142 acres for **mixed employment** uses (ME)
- 66 acres for **public facilities**, including parks and schools (PF)

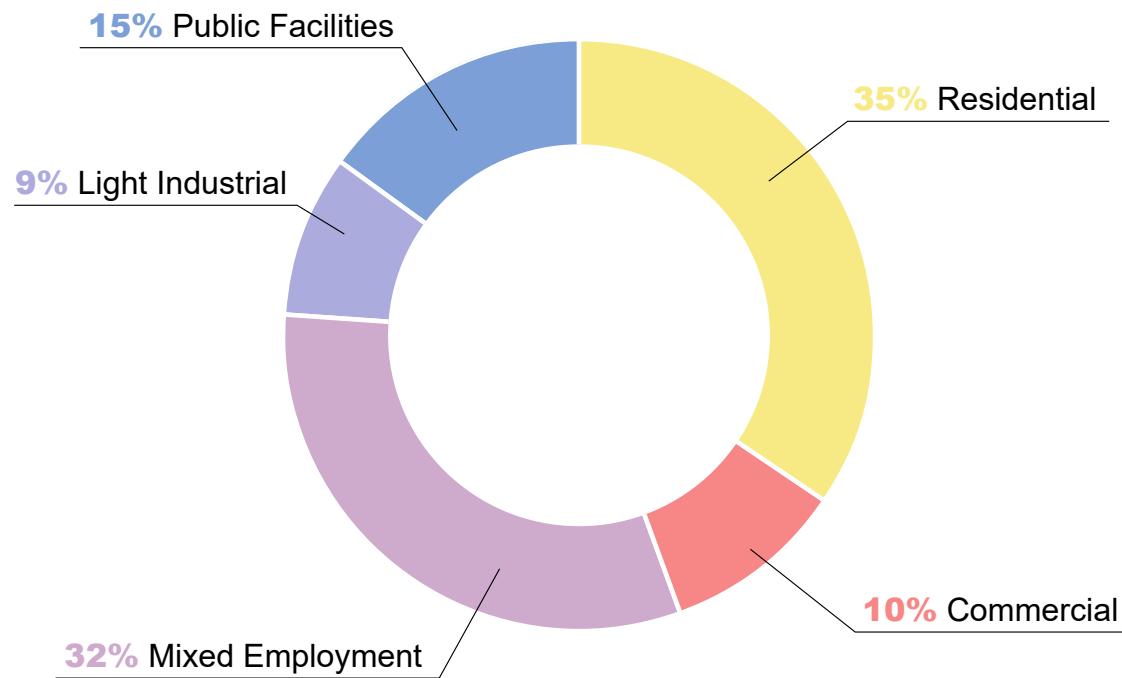
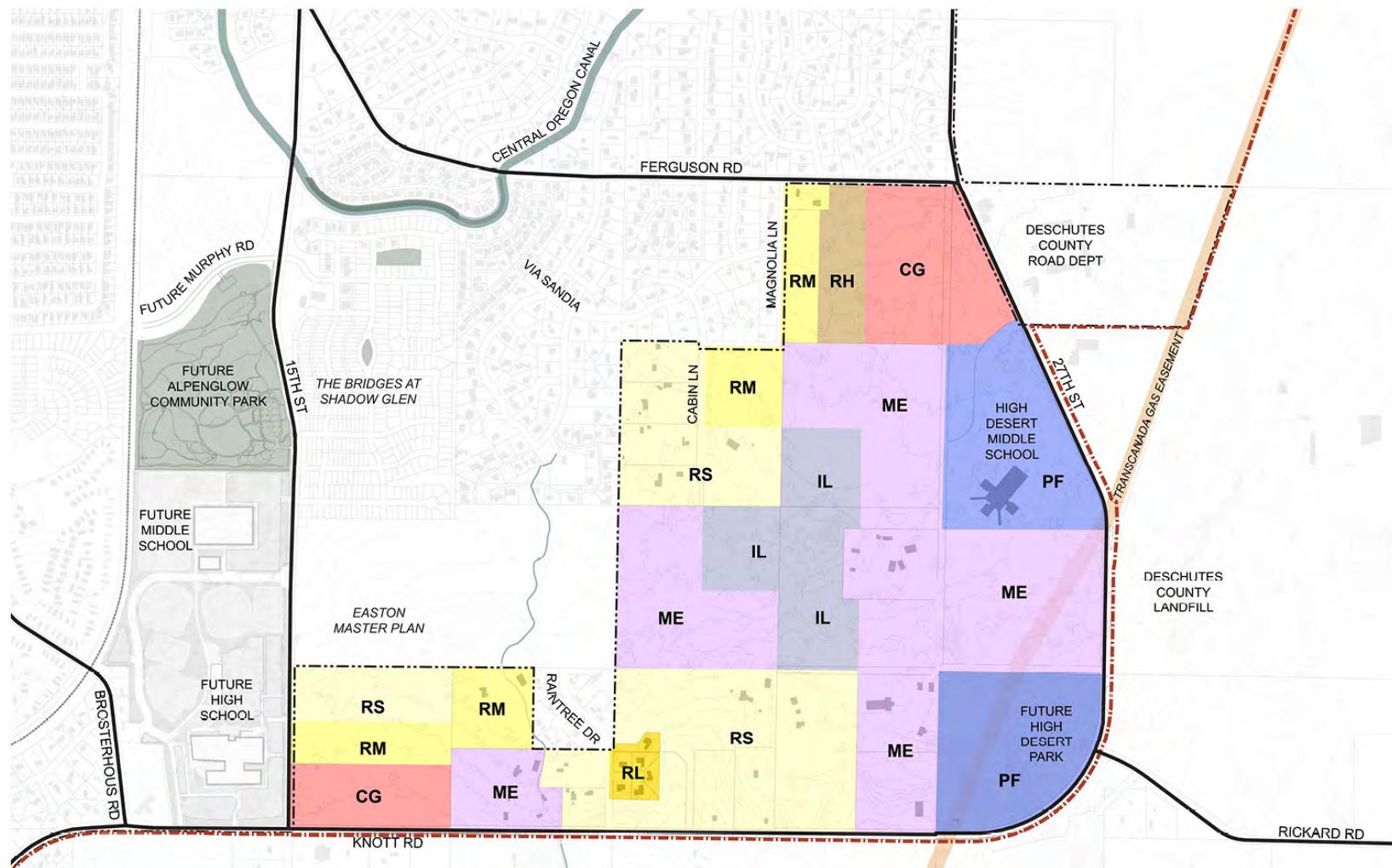


Figure 14. Recommended Land Use Plan





## LAND USE METRICS: HOUSING AND EMPLOYMENT CAPACITY

The following land use metrics are derived from the Envision Tomorrow tool that was used to model housing and employment capacity during the City's UGB expansion process in 2016, and subsequently used during the City's Transportation System Plan (TSP) update in 2019. The capacity estimates presented below are based on a “full build out” scenario and are driven by assumptions for land utilization that reflect common development patterns and are consistent with the Bend’s land use regulations.

Table 1. Preferred Land Use Plan Housing and Employment Capacity

LAND USE	TOTAL ACRES*	TOTAL HOUSING UNITS	TOTAL JOBS
High-Density Residential (RH)	10	253	3
Medium-Density Residential (RM)	35	371	12
Standard-Density Residential (RS)	105	534	1
Low-Density Residential (RL)	4	4	0
Mixed Employment (ME)	142	68	2,069
General Commercial (CG)	43	0	469
Light Industrial (IL)	38	0	247
Public Facilities (PF)	66	0	0
<b>TOTAL</b>	<b>443</b>	<b>1,231</b>	<b>2,802</b>

\* Total acres excluding existing right-of-way

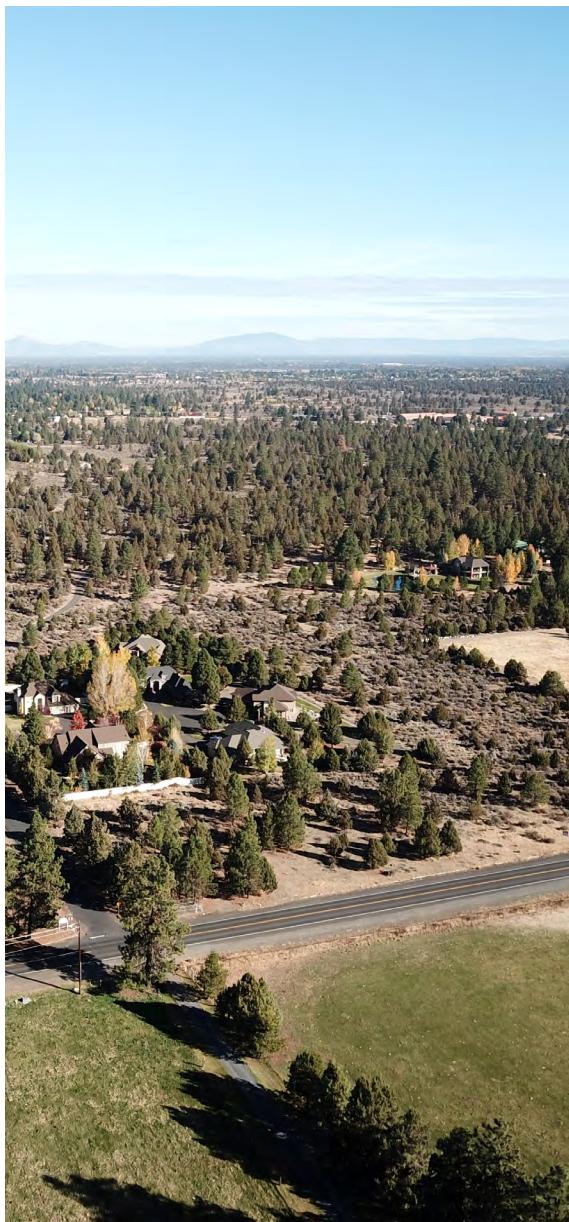


Photo credit: David Leath

## ALTERNATIVES CONSIDERED: TAILORING THE PLAN

The Comprehensive Plan designations adopted with the City's UGB expansion in 2016 were established in the context of the citywide evaluation of land needs. They were the starting point for SEAP, with the City Council's acknowledgement that there would be refinement during the course of the area planning process. The land use designations adopted for the Southeast Expansion Area in 2016 were intended to provide capacity for development of 820 housing units and 2,274 jobs through a mix of residential and employment uses.

Although the area planning process offered flexibility for refining the land uses, the ability to change the mix of uses was also limited by both State requirements and policy direction from the City's Comprehensive Plan regarding the provision of a mix of housing types and employment opportunities.<sup>1</sup>

As adopted in 2016, the Southeast Expansion Area included the following land uses:

- 122 acres for **residential** uses (RS, RM, RH)
- 67 acres for **commercial** uses (CG)
- 76 acres for **industrial** uses (IL, IG)
- 103 acres for **mixed employment** uses (ME)
- 75 acres for **public facilities**, including parks and schools (PF)

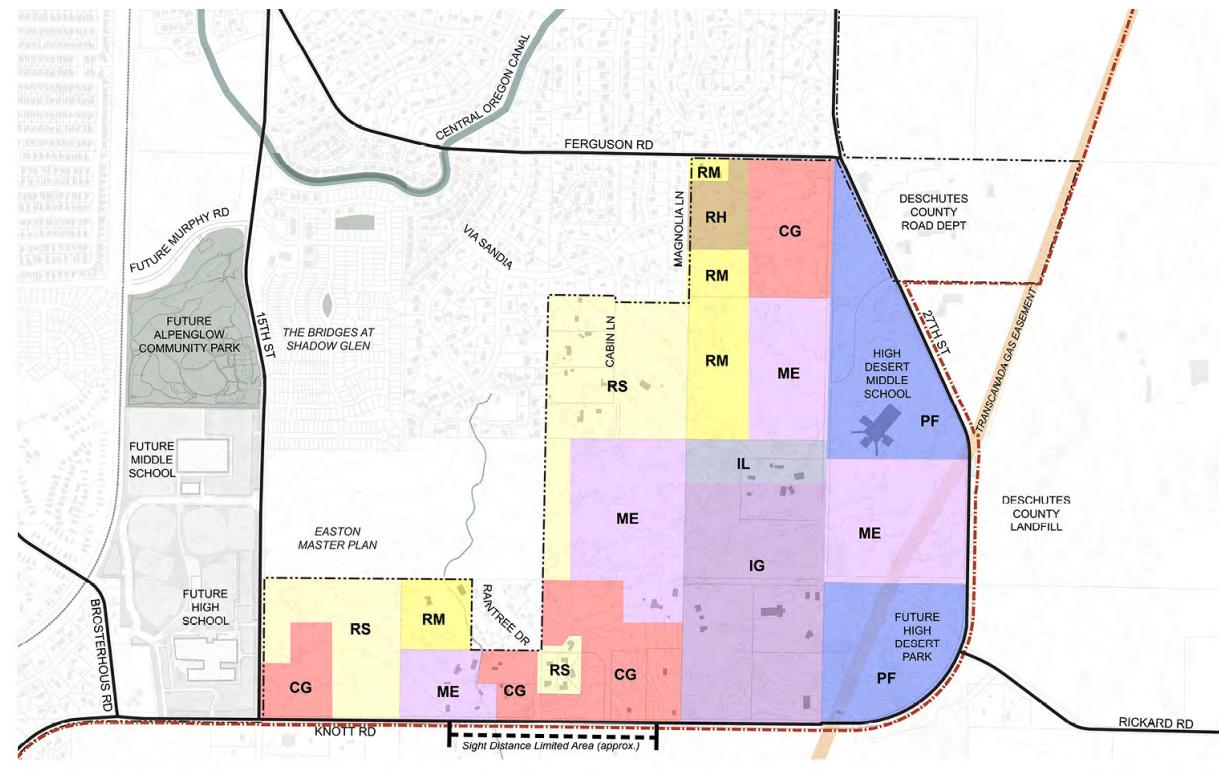
<sup>1</sup> A memo describing the direction received from DLCD regarding employment land is included as Appendix X

## REFINING THE ALTERNATIVES

The SEAPAC-led process of refining the land uses in the Southeast Expansion Area was an iterative review of successive alternatives. Following the initial visioning and existing conditions analyses, the alternatives emerged through study, discussion and consideration of multiple factors, including: a detailed understanding of the area's physical conditions and constraints, (particularly the area's challenging topography); input from SEAPAC members, property owners, and the broader community of southeast Bend; site studies by the project team; and coordination with, and direction from, the Oregon Department of Land Conservation and Development (DLCD) regarding the need to preserve industrial and employment land in the area. SEAPAC considered four iterations of the land use plan.

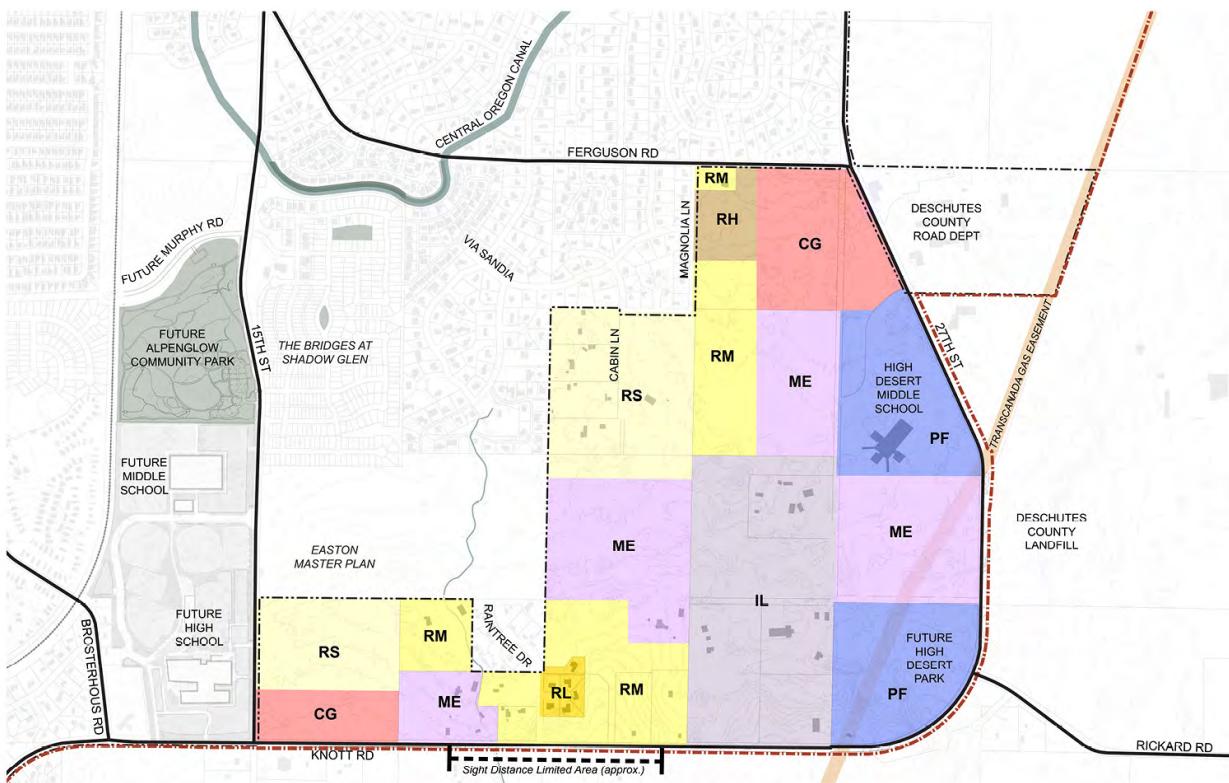
## Alternative A

This alternative was the starting point for future refinement: the current plan designations as adopted during the 2016 UGB expansion process.



## Alternative B

This option retained the total acres dedicated to industrial uses but reduced the intensity of those uses by changing General Industrial (IG) to Light Industrial (IL) in response to resident concerns about compatibility and feasibility of those uses. It also converted the area along central Knott Road previously intended for General Commercial (CG) uses to residential. This change was a response to detailed mapping of the two ridgelines that cross Knott Road west and east of Raintree Court, and the associated limited sight distance for vehicles and concerns about transportation access and safety.



### ALTERNATIVE B

- City Limits
- Urban Growth Boundary
- CG - Commercial General
- IL - Industrial Light
- ME - Mixed Employment
- RH - Residential Urban High Density
- RM - Residential Urban Medium Density
- RS - Residential Urban Standard Density
- RL - Residential Urban Low Density
- PF - Public Facility

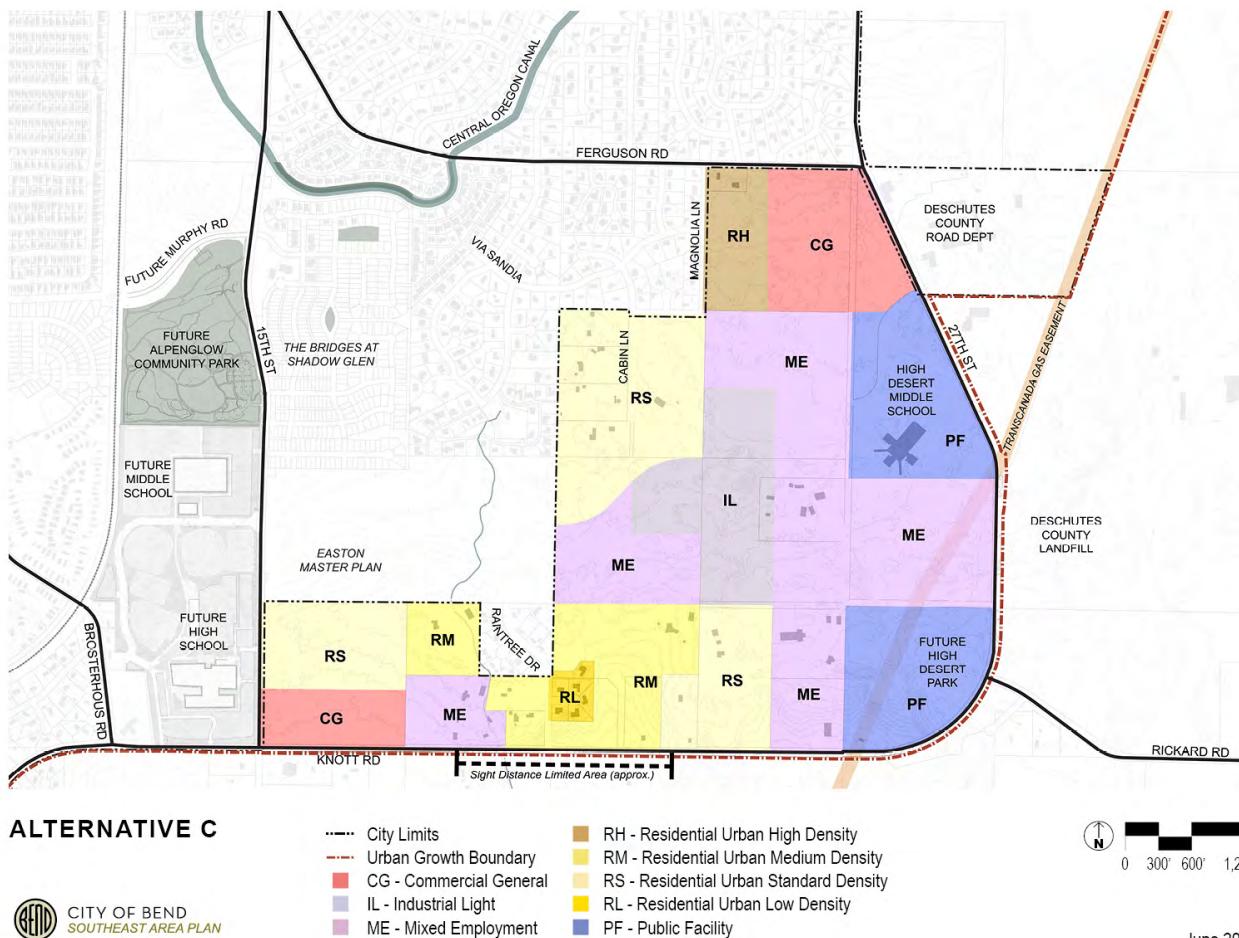


March 2019

CITY OF BEND  
SOUTHEAST AREA PLAN

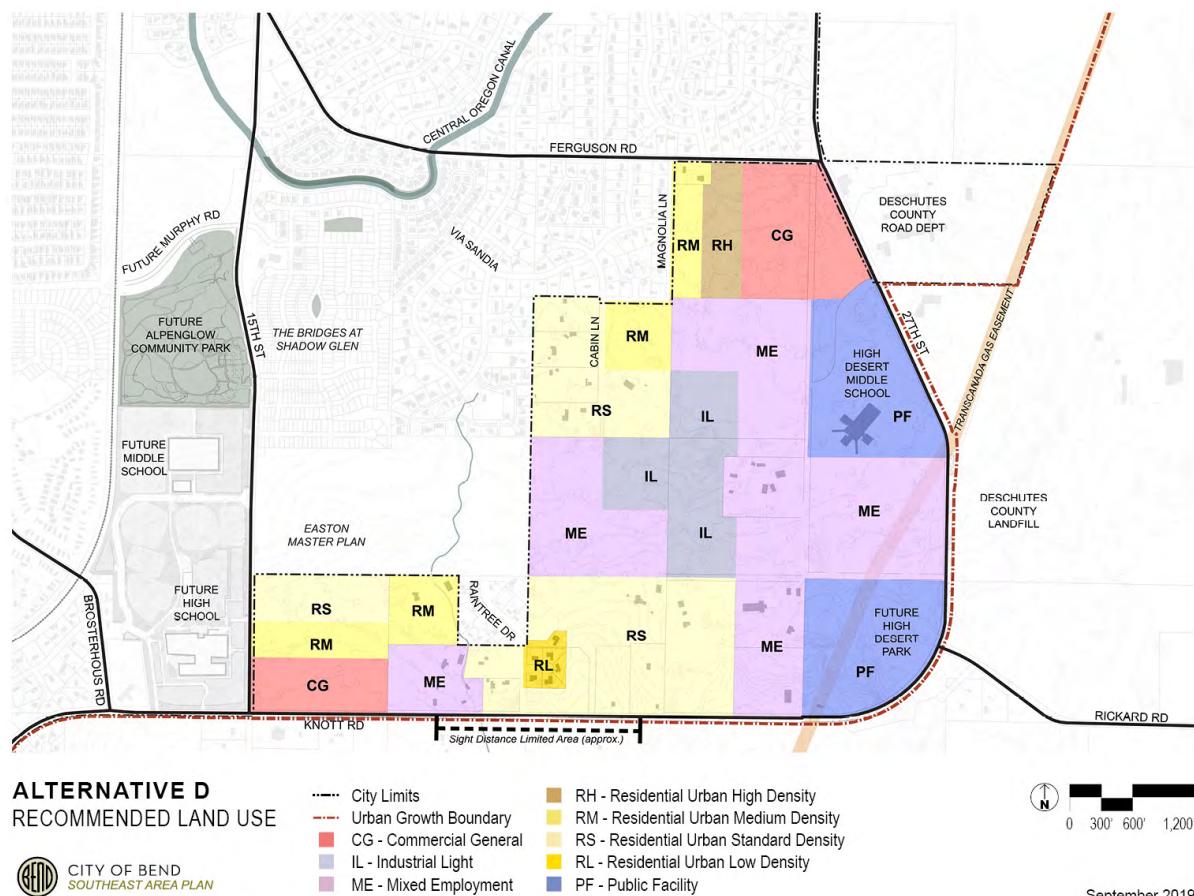
## Alternative C

This option was developed as a compromise between resident concerns and aspirations and state and local requirements. It re-designated half of the Light Industrial (LI) acreage shown in Option B to other designations, including Mixed Employment (ME) and Standard and Medium Density Residential (RM and RS).



### **Alternative D**

This option is a refinement of Option C based on feedback received from residents and community members. This option also maintains capacity for employment uses, particularly light industrial uses, as directed by the State and required by the Comprehensive Plan. Key changes included lowering the density of residential designations adjacent to existing neighborhoods and adjusting the densities of residential areas adjacent to commercial designations to increase compatibility and provide for smooth transitions between land uses and residential densities.



## SOUTHEAST AREA PLAN VISION

*"Our vision is that the Southeast Expansion Area becomes a complete and walkable community and a welcome addition to Southeast Bend. Houses, businesses, parks, and schools are compatible neighbors, and have well-planned transitions between them. The mix of uses are highly connected by neighborhood streets, paths, and open spaces. The area has an active and vibrant outdoor life; it is a place where neighbors are out walking, biking, and interacting daily. The Southeast Expansion Area is a unique and successful community in Bend."*

## COMMUNITY DESIGN

The vision for the Southeast Expansion Area is to create "...a complete and walkable community and a welcome addition to Southeast Bend." How might the area's land uses and new development be designed to achieve this vision? What are the opportunities for "well-planned transitions" and a complementary relationship to adjacent neighborhoods? What will the Southeast Area look like in the future?

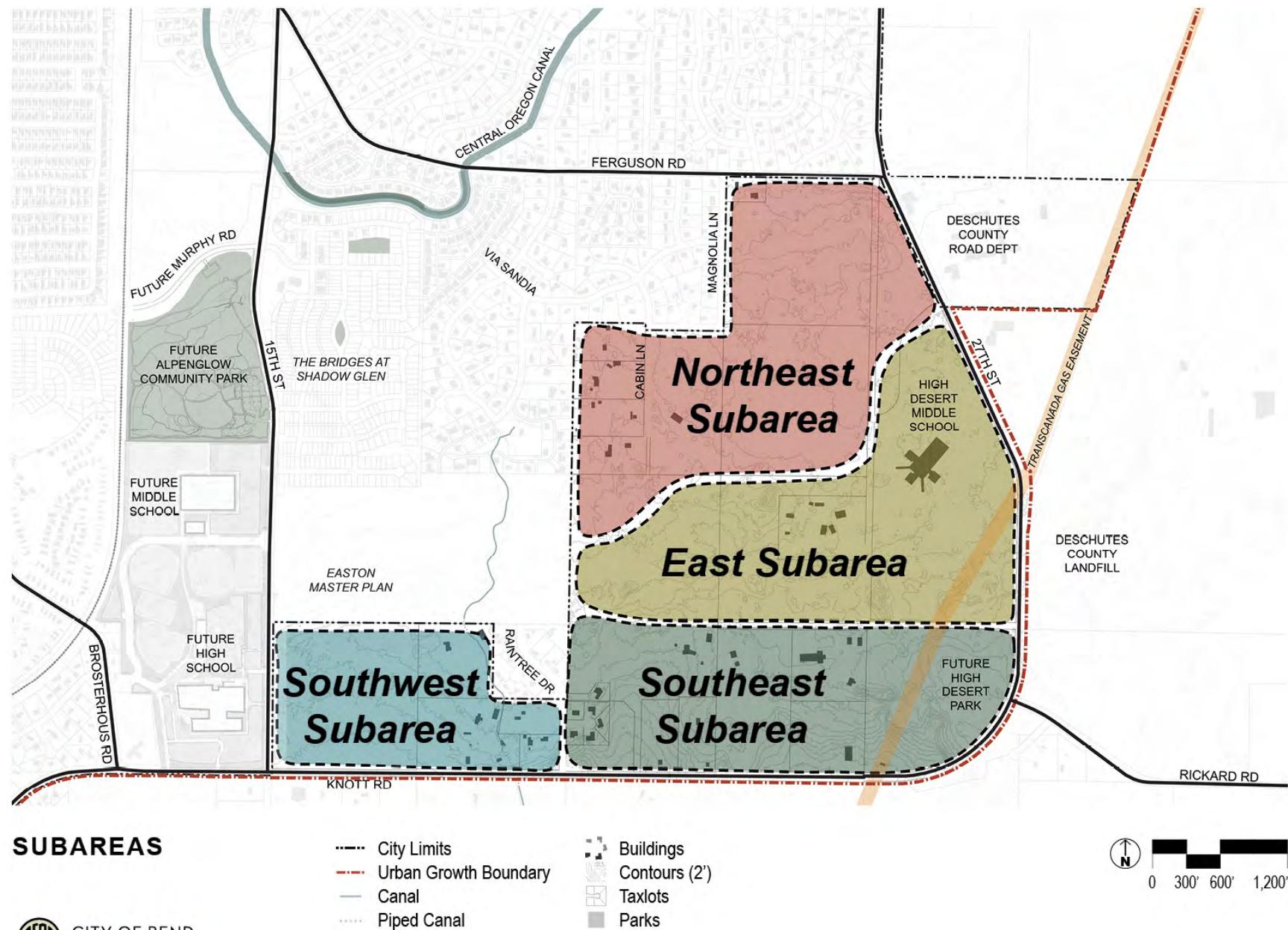
This section describes community design opportunities and includes imagery intended to paint a picture of the plan's implementation. Three subareas are described, as shown in Figure 14 below. The three subareas are:

- **Northeast:** a mix of residential, commercial and employment uses north of the future SE Caldera Drive; intended as a walkable, mixed use area serving both new residents and adjacent neighborhoods.

- **East:** an employment area that has excellent transportation access from the two planned collector streets and is the home to High Desert Middle School and the future High Desert Community Park.
- **Southeast:** a mix of single-family land in steeper areas, mixed employment along the new collector road, and the future High Desert Community Park.
- **Southwest:** a variety of residential designations adjacent to existing homes near Raintree Drive, the approved new Easton neighborhood to the north, and the new schools along SE 15th Street.

The Community Design graphics in this chapter are illustrative and conceptual, intended to illustrate the plan's intent. Actual development will be subject to land use review by the City and compliance with the Bend Development Code.

Figure 15. Southeast Area Plan Subareas



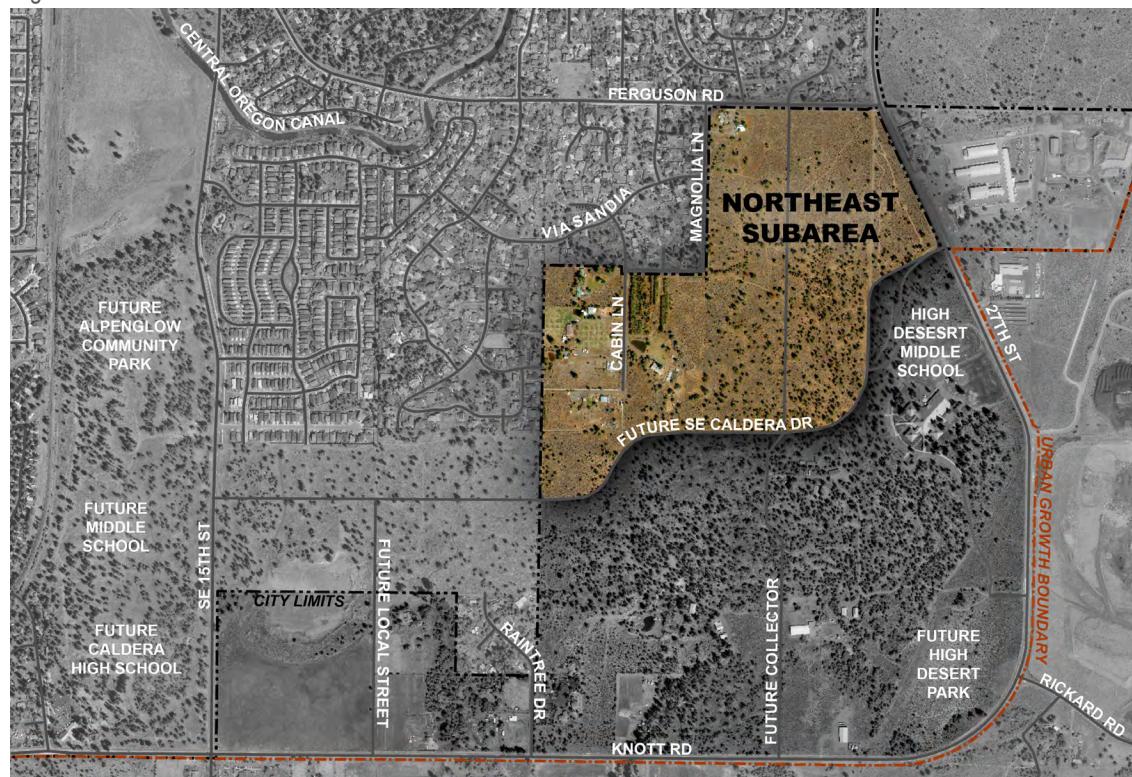
November 2020

## NORTHEAST SUBAREA

The Northeast Subarea is planned as a walkable mixed-use community and a complementary neighbor to the existing neighborhoods to the north and west. Figure 16 shows the subarea in context, and Figure 17 illustrates community design opportunities for the area.

Residential uses are planned to transition from low-density development west of Magnolia Lane to medium and higher densities in the three-block area east of Magnolia Lane. A Main Street (aka “Shopping Street”) anchors the commercial area in the northeast—the heart of the area’s smaller shops, restaurants, and services—along the extension of Via Sandia. This location is recommended, but flexible during development review. A conceptual neighborhood park is shown at the key intersection of Via Sandia Street and the future north-south collector. South of the extension of Hearthstone Lane, the area transitions to Mixed Employment and Light Industrial uses. Examples of “Shopping Streets”, the residential transect, and types of transitions between land uses are shown on the pages following Figure 17.

Figure 16. Northeast Subarea Context

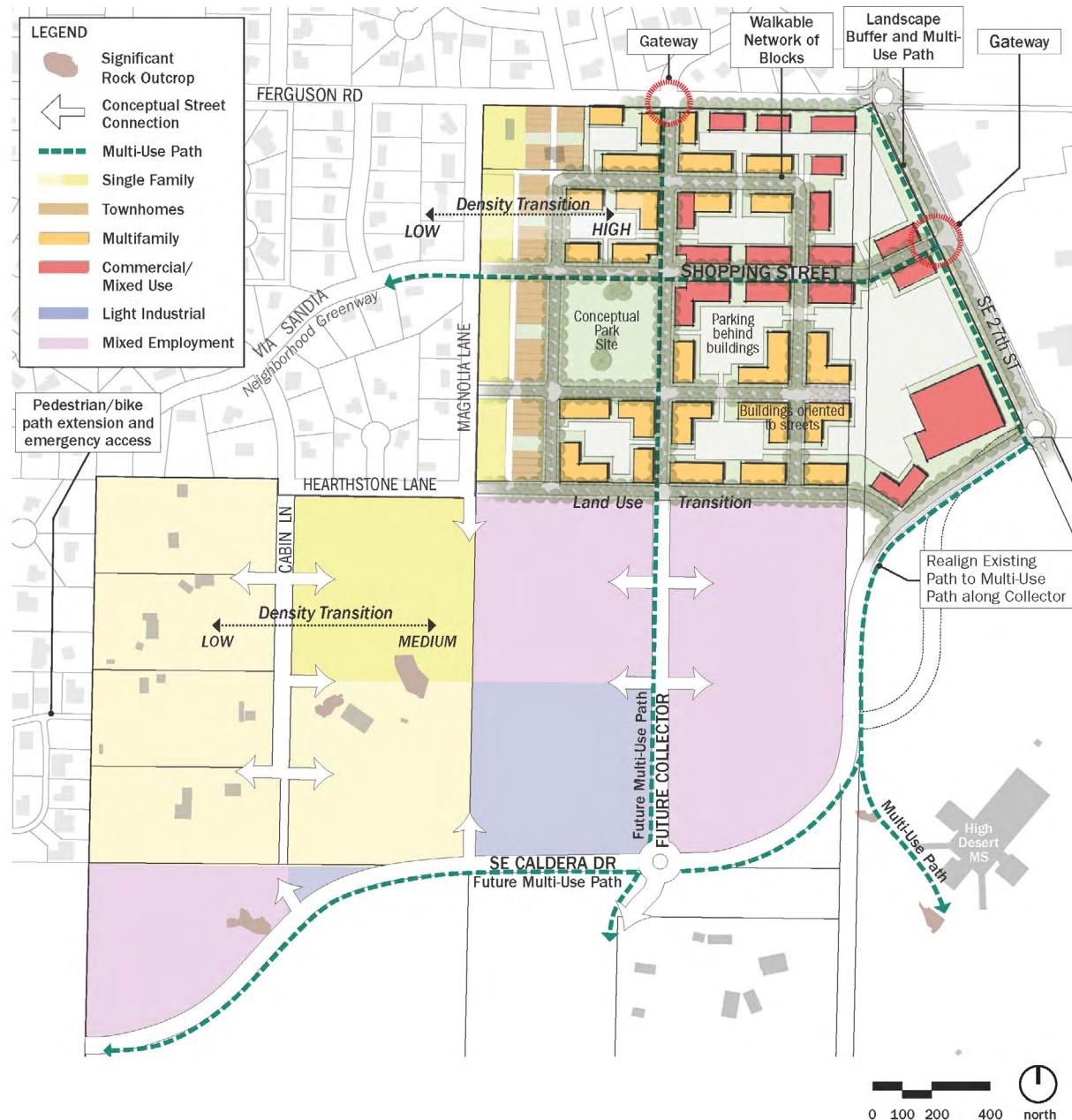


Existing streets, including Via Sandia Street, Magnolia Lane, Hearthstone Lane, and Cabin Lane, will be extended to provide a continuous framework of walkable local streets. Two new multi-use paths are planned along the collector roads and along Via Sandia Street. The existing multi-use path between the middle school and Ferguson Road is shown realigned to

follow the multi-use paths—safely away from the commercial traffic to the north.

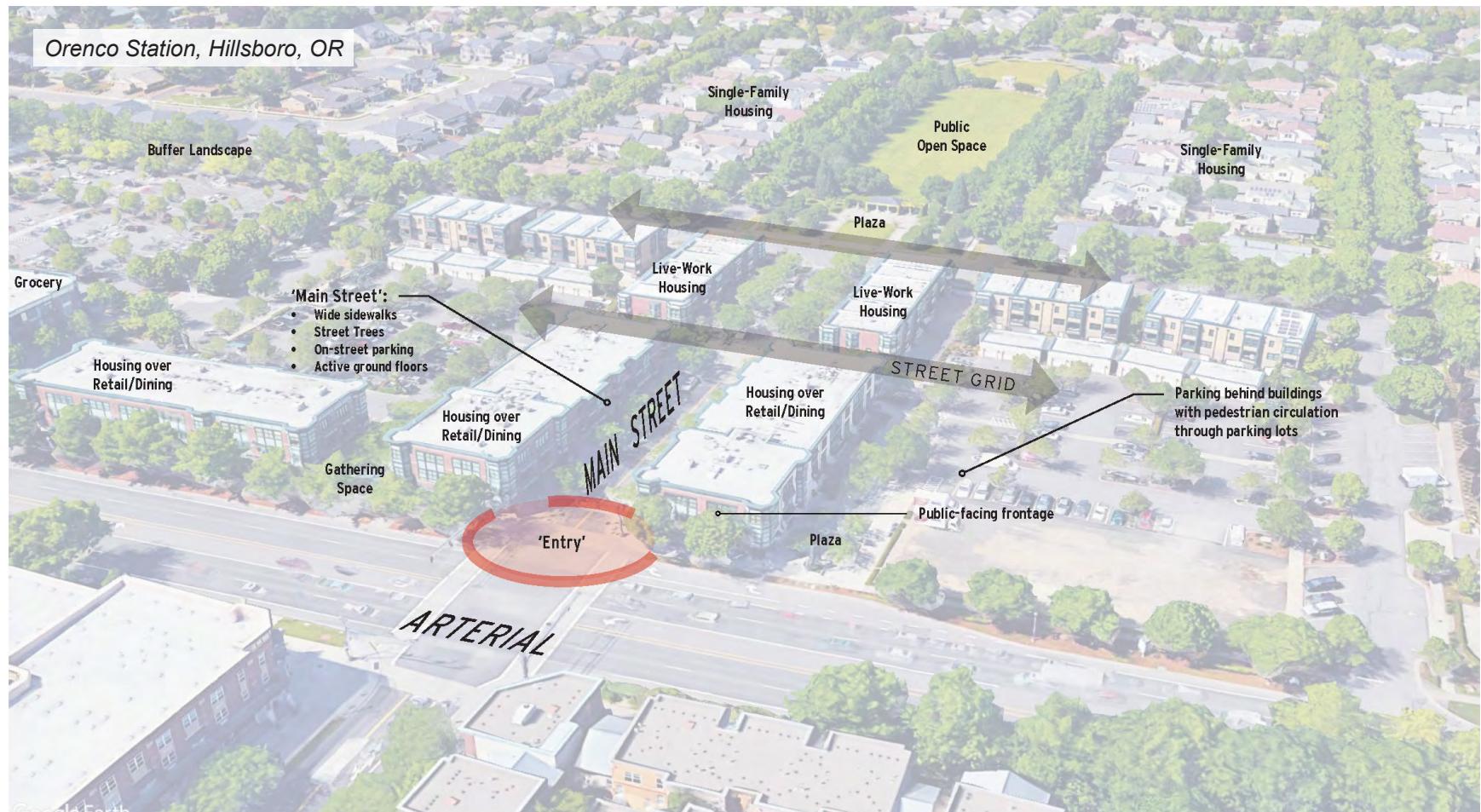
The area hosts mature ponderosa pine and juniper trees that can be integrated into new development to preserve the natural character of this area. There are also several significant rock outcrops that can be retained as small natural features within the community.

Figure 17. Northeast Subarea Community Design Opportunities



## SHOPPING STREETS





## RESIDENTIAL DESIGN



.....  
LOW

*Density Transition*

.....  
HIGH

## TRANSITIONS



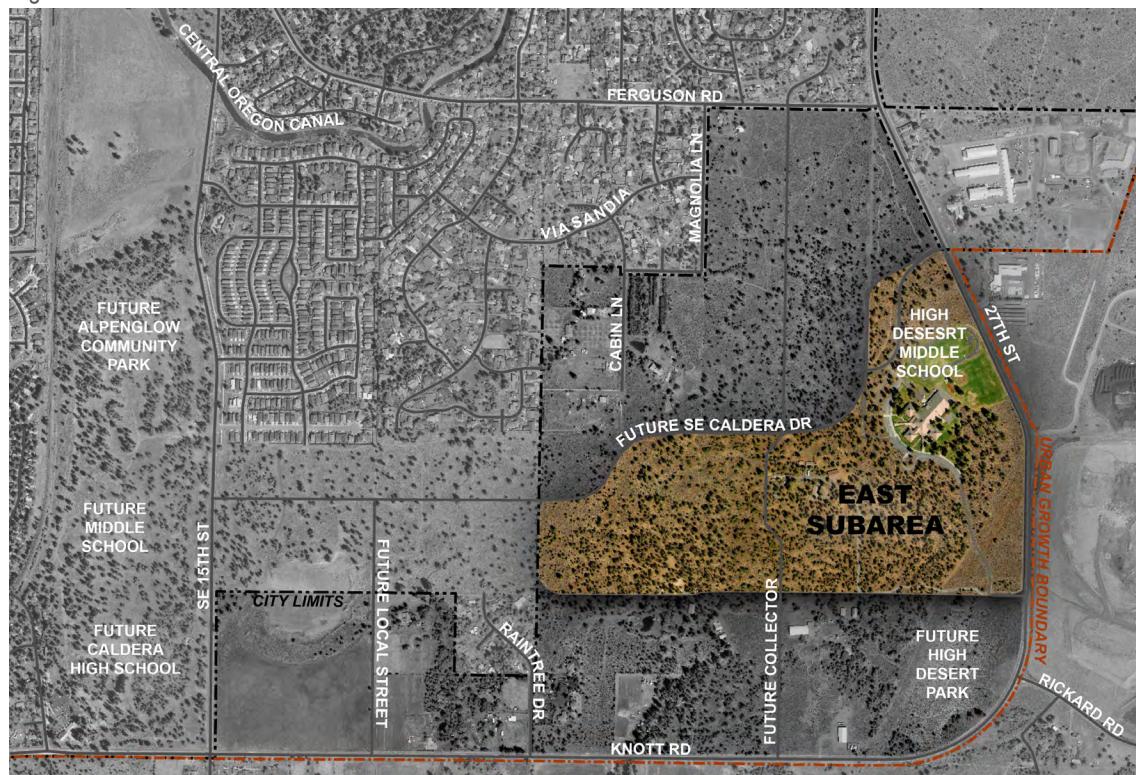
## EAST SUBAREA

The Southeast Subarea is planned as a walkable, well-connected area with land use focused on employment, public facilities, and opportunities for mixed use. Figure 18 shows the area in context, and Figure 19 illustrates community design opportunities.

The central portion of the subarea is designated Mixed Employment and Light Industrial on the Land Use Plan. These planned land uses fulfill part of the SE Expansion Area's role as one of Bend's employment centers, accommodating job growth for the City as was forecast in the 2016 Comprehensive Plan update and UGB expansion.

The Community Design Plan in Figure 19 illustrates conceptual flex space, light industrial, and office buildings in the 10-20,000 square foot range, modeled after similar development patterns along SE American Lane in Bend. This type of development is also consistent with the small business attraction expected for the SE Expansion Area as described in the market analysis. The Plan shows the potential for multi-family

Figure 18. East Subarea Context



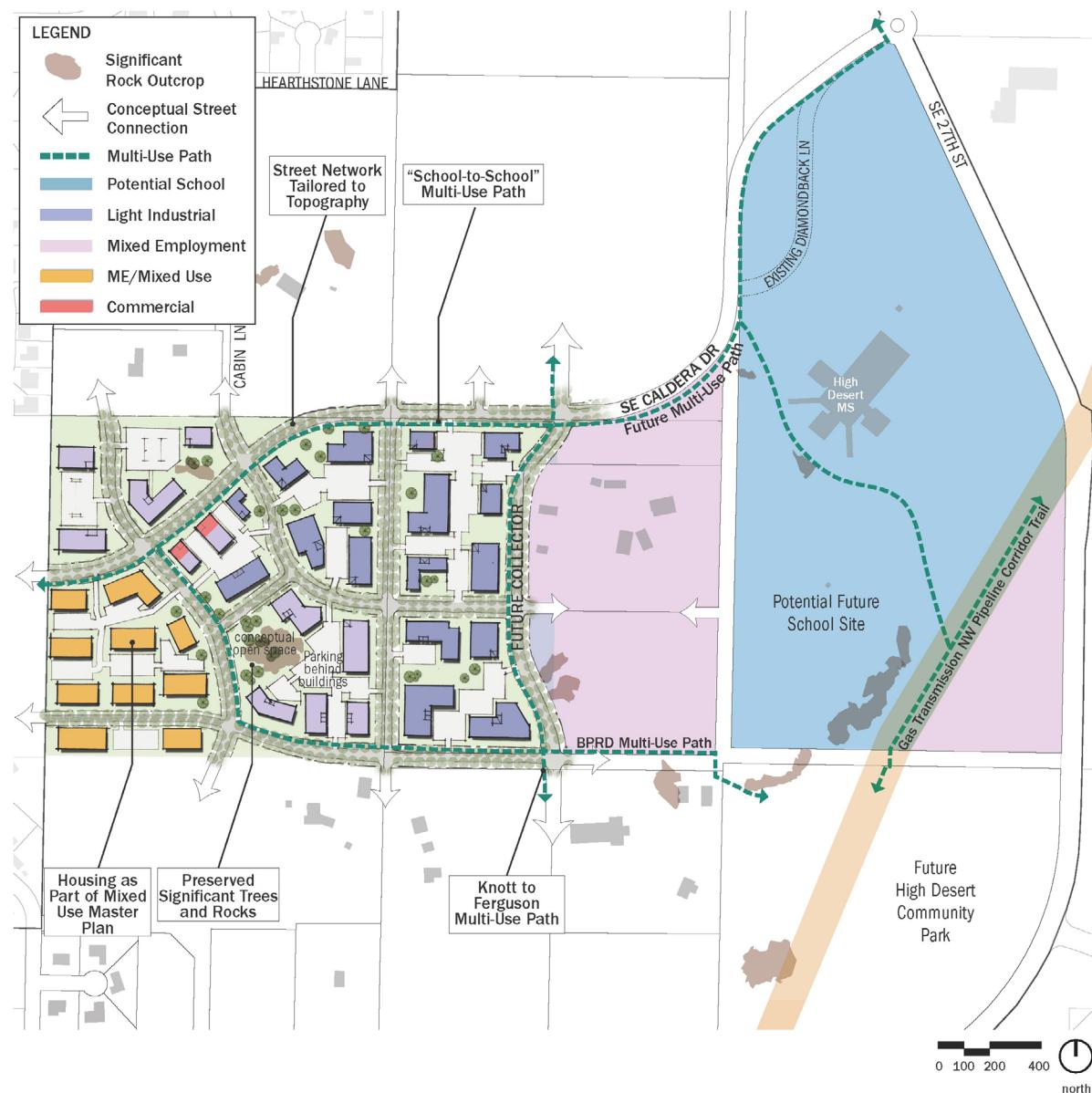
and neighborhood-serving commercial uses, as is allowed within the Mixed Employment Zone (when part of a master plan that includes employment uses). The eastern properties along SE 27th are the existing High Desert Middle

School and the future High Desert Community Park. The School District's property has undeveloped land that can be used for additional school facilities, or other future uses allowed within the Mixed Employment designation.

This subarea is planned with excellent future transportation access, due to its location at the cross-roads of SE Caldera Drive (the east-west collector) and the future north-south collector. The Community Design Plan illustrates conceptual local streets for a portion of the area, showing how a connected and walkable street network can fit the area's topography. It will be important for the streets in this subarea to extend into adjacent areas to the north, west and south; potential extensions are indicated on the Community Design Plan.

As with the NE Subarea, the East Subarea has mature ponderosa pine and juniper trees that can be integrated into new development to preserve some of the natural character of the area. There are also several significant rock outcrops that can be retained as small natural features within the community. Figure 19 illustrates full retention of the significant rock outcrops, and approximately 50% retention of the significant trees (those over 24" DBH) in the central portion of the plan.

Figure 19. East Subarea Community Design Opportunities



## **MIXED EMPLOYMENT: LOCAL EXAMPLES**



## ***LIGHT INDUSTRIAL: LOCAL EXAMPLES***



*NW Lolo Drive*



*NW York Drive*



*Carmen Loop*



*NW Lolo Drive*

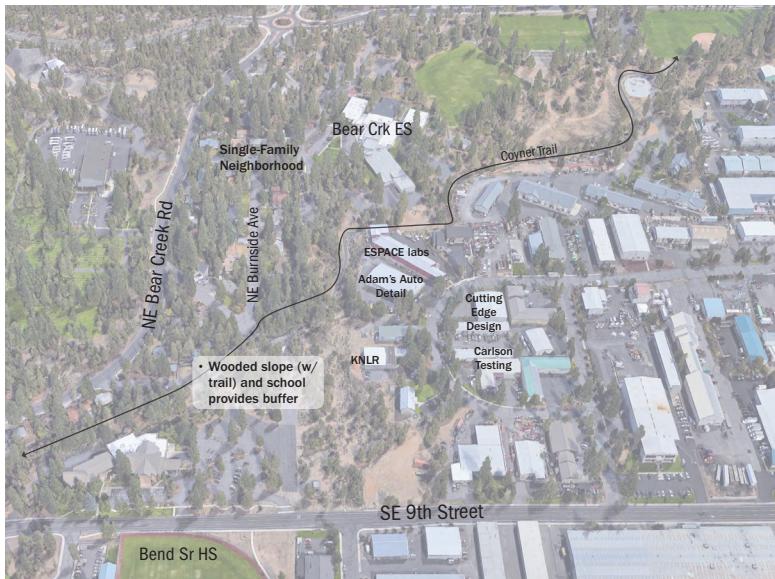
## TRANSITIONS BETWEEN LAND USES: LOCAL EXAMPLES



Reed Market Road Area



Boyd Acres Area



Bear Creek Road Area



Century Drive Area

## SOUTHEAST SUBAREA

The Southeast Subarea's land uses are responsive to the steeper topography of the area, opportunities for mixed employment adjacent to the new north-south collector, and the High Desert Community Park property. Figure 20 shows the subarea in context and Figure 21 illustrates community design opportunities for the area.

Residential uses are planned at Bend's Standard Residential densities (4-6 dwelling/acre) for the steeper portions of the subarea. The slopes range from 5% to over 15%, with rocky outcrops, so the land is not conducive to employment uses. For new development, larger lots should be located near Keller Court and Raintree Court, and then transition to smaller lots elsewhere. The Mixed Employment designation is located on the flatter land near the Bend Archery Club and the existing veterinary hospital. The future High Desert Community Park site is a 32-acre property owned by BPRD. The planning process, which is a long-term action and may be 10 or more years in the future, will be coordinated with SEAP. SEAPAC discussed the need for ensuring future community events, traffic, and other

Figure 20. Southeast Subarea Context

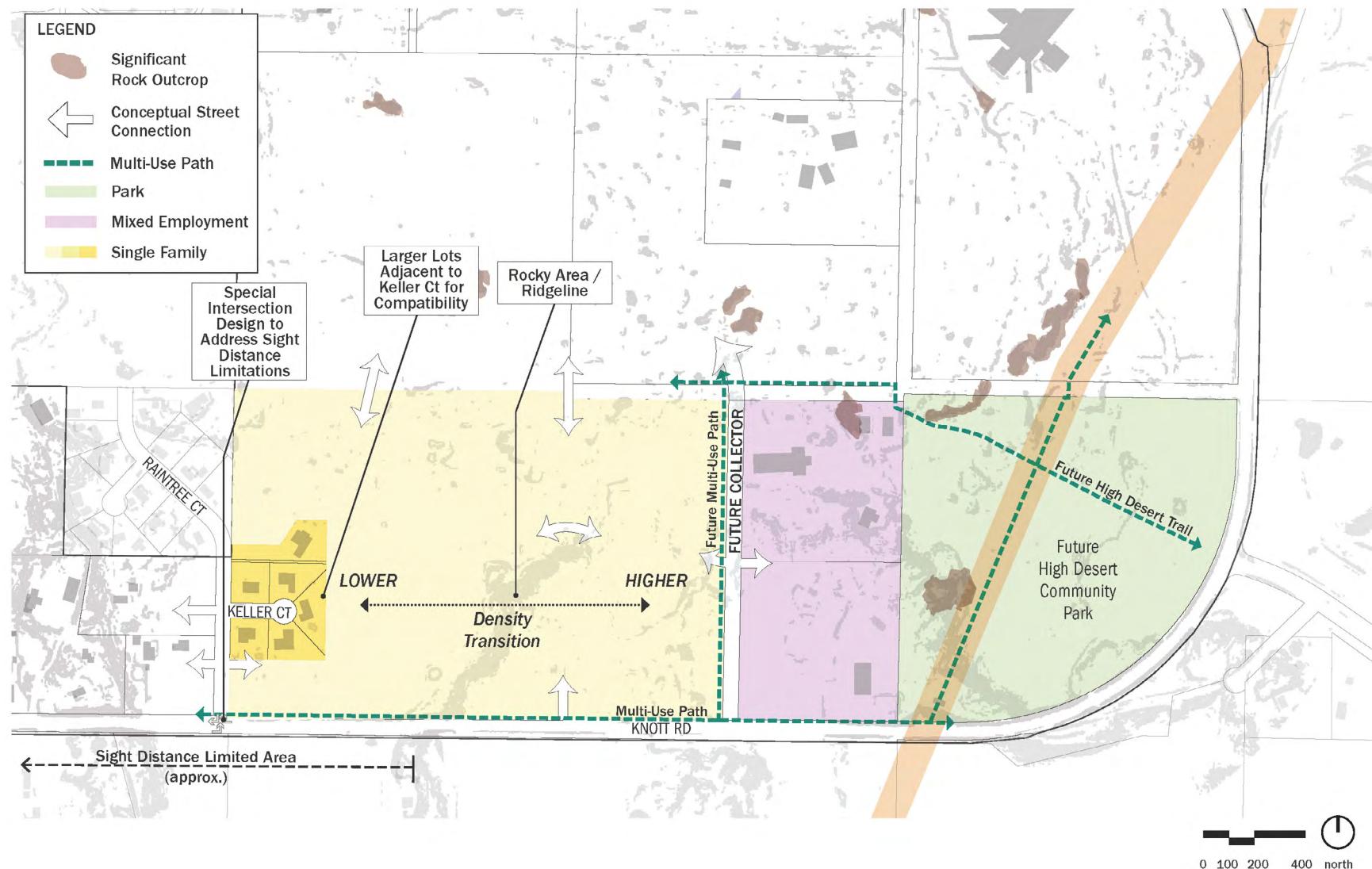


aspects of the park's plan and use will be compatible with adjacent land uses.

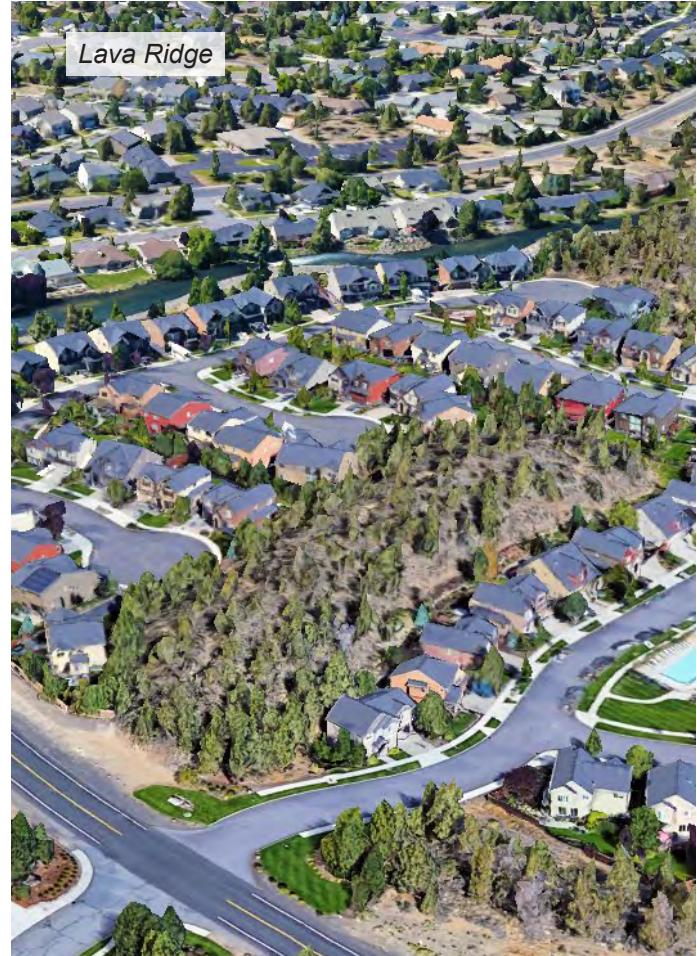
Transportation access from Knott Road will need to be managed due to the limited sight distance resulting from the rocky outcrops and topography. A special intersection design is recommended at Raintree Drive, limited to right turns and an east-to-northbound "left-in" from Knott Road. East of that point, Figure

21 illustrates one potential access from Knott Road, which will require detailed sight-distance review. The north-south collector is located to provide adequate sight distance and good access to adjacent properties. Multi-use paths are located along Knott Road and the future collector connecting to the future TransCanada Trail and High Desert Trail.

Figure 21. Southeast Subarea Community Design Opportunities



## INTEGRATING ROCK OUTCROPS AND RIDGES



## RESIDENTIAL DESIGN & TRANSITIONS

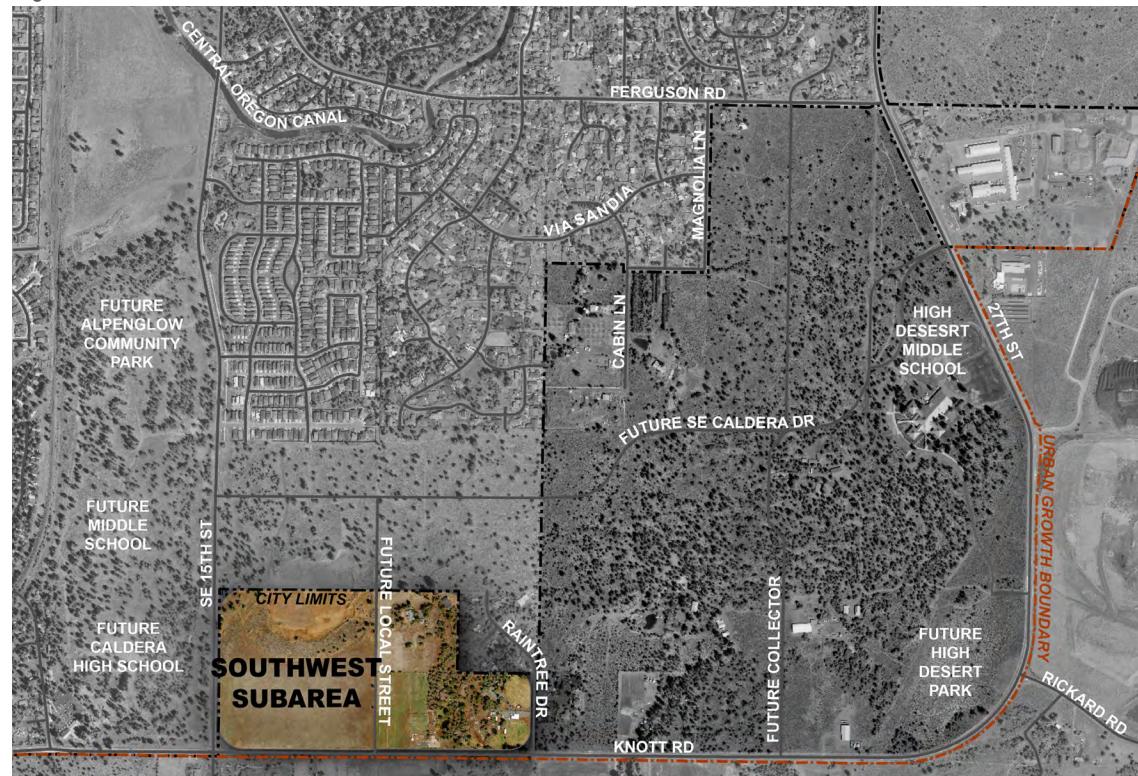
See examples on pages 59-60.

## SOUTHWEST SUBAREA

The Southwest Subarea is planned for a variety of residential uses and densities, together with a neighborhood commercial center and Mixed Employment property along Knott Road. Figure 22 shows the area in context, and Figure 23 illustrates community design opportunities.

The corner property at SE 15th Street and SE Knott Road is designated General Commercial and intended as a neighborhood commercial center serving the subarea and adjacent neighborhoods. It was originally identified as part of the 2016 Comprehensive Plan update. The center includes a main street ("Shopping Street") as the central, walkable focal point, where restaurants, small retail and similar uses would be located along an attractive, pedestrian-oriented street. Other buildings in the center would be oriented to adjacent streets, with parking in interior areas. Per the updated code, multi-family residential uses are allowed in this zone (limited to upper floors along the Shopping Street). The multi-family area illustrated on the plan will help diversify the housing choices, provide a customer

Figure 22. Southwest Subarea Context



base to support the commercial uses, and potentially help justify extension of transit service in the future. Adjacent to the commercial center is a Mixed Employment designation to the east (the current home of Farmer Brown's Produce

Stand) and Medium-Density Residential to the immediate north and northeast. A potential elementary school site is shown; it would serve as a key community destination and neighborhood amenity.

The approved Easton Master Plan is shown just north of the study area boundary, with a possible future extension of the Easton Master Plan reaching south to complete the area. The area encompassing Raintree Drive and Keller Court have been designated as Low Density Residential to align with the existing residential uses in that area.

East of Keller Court, the land use is Residential Standard. This low-density zone is an appropriate choice given the varied and locally steep topography in the area. This part of the subarea has spectacular views to the west

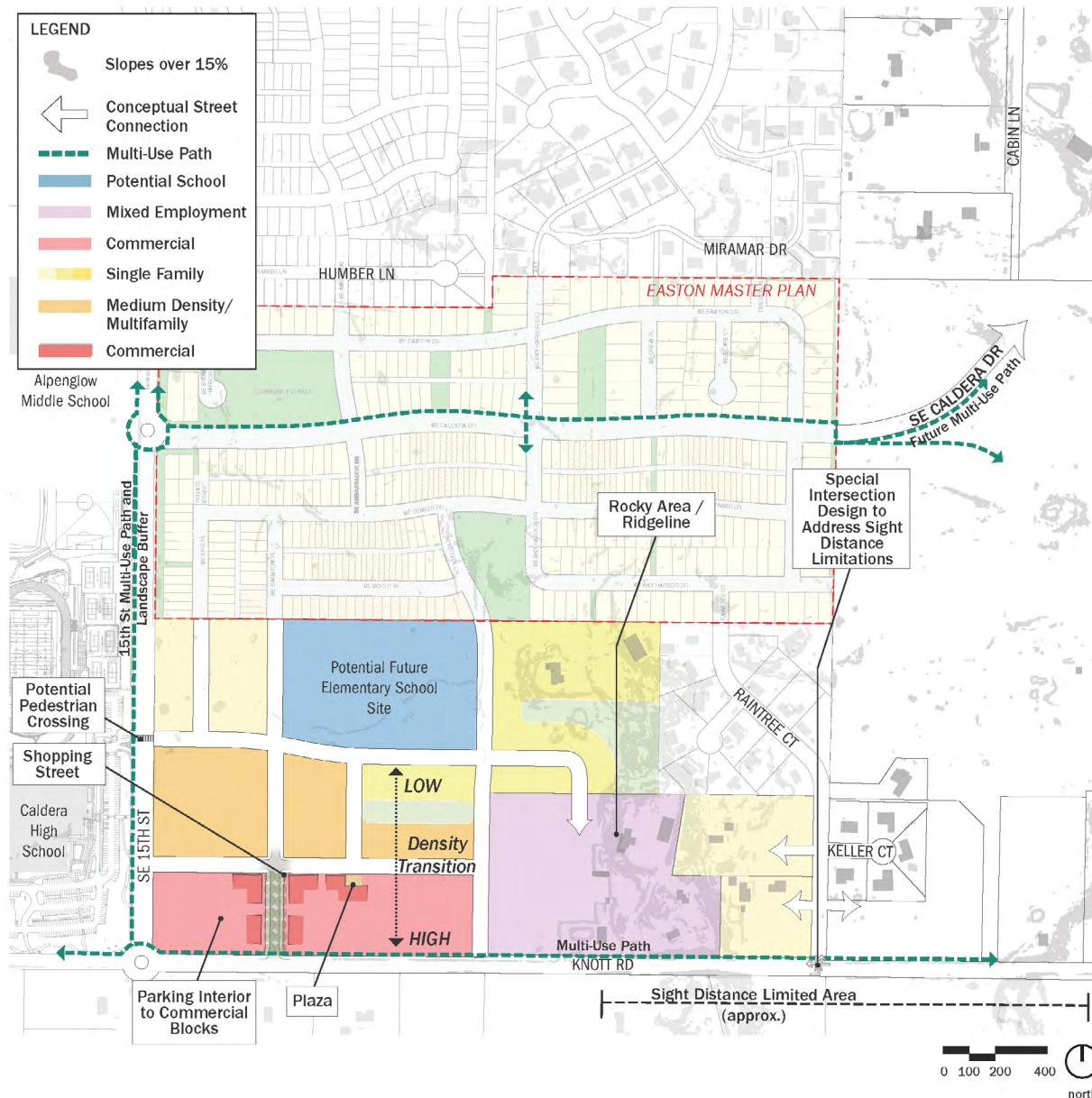
and south. There is an opportunity to create publicly accessible views along streets and open spaces in the design of future developments.

The western part of the SW Subarea will have a connected network of walkable blocks serving the many destinations in the area: the schools, the commercial center, and local parks. An important new street is the “framework local” that connects between the Easton neighborhood and Knott Road. This connection is an essential parallel route to SE 15th Street. Very limited sight distance exists along the central portion

of Knott Road due to the two ridge lines west and east of Raintree Drive.

The plan proposes a solution: a “T” intersection that will allow all turn movements except the eastbound left “out” from Raintree Drive. Additionally, new accesses to Knott Road will be prohibited or limited to right-in-right-out configuration, where sight distance standards cannot be met. Such access management is necessary to ensure safety along this higher speed (45 MPH) corridor. Rock outcrops are defining natural features in several areas and are shown on the Community Design Plan.

Figure 23. Southwest Subarea Community Design Opportunities



## Community Design Elements





Photo credit: David Leath

# TRANSPORTATION

## SUPPORTING THE BEND TRANSPORTATION SYSTEM PLAN

A major update to Bend's Transportation System Plan occurred concurrent to the SEAP process and was formally adopted in September 2020. As the transportation element of Bend's Comprehensive Plan, the TSP sets investment priorities to address needs and fulfill the vision set forth by the goals and policies of the TSP. In general, the TSP supports how people and goods move within and through the City and complements Bend's land use and growth management strategies by establishing a system of transportation facilities, programs, and policies that will guide transportation infrastructure development over the next 20 years. The transportation needs and supporting infrastructure associated with the land use plan for

the Southeast Area were evaluated as part of the development of the TSP and the SEAP-specific analysis. As a result of that work and close coordination between the TSP and SEAP, the adopted TSP update identifies infrastructure that supports the preferred land use plan for the Southeast Area, including new collector streets, upgrades to existing roadways, intersection improvements, facilities for walking and biking, and future transit service corridors. This planned infrastructure, as documented in supporting analysis, is sufficient to accommodate growth over the next 20 years in Southeast Bend considering development of SEAP lands as well as other developable lands within the UGB.

## RECOMMENDED STREET PLAN

The SEAP process identified a recommended street plan that supports the preferred land use plan and provides for adequate infrastructure to accommodate future travel to, through, and within the Southeast Area. This street plan, shown in Figure 24, includes a network of collector roads, a local framework road, walking and biking infrastructure, and intersection improvements that are consistent with and expand upon planned infrastructure within the Bend TSP.

Specific elements of this street plan are discussed in the following sections.

### Roadway Network

The existing roadway network within the Southeast Area is comprised mostly of arterial, collector, and local roads built to County improvement standards. Planned projects within the TSP and Recommended Street Plan will expand and urbanize this roadway network to serve existing and future developments, including within SEAP.

Key elements specifically supportive of SEAP include:

- **Extension of SE Caldera Drive as an east-west collector road between the existing SE 15th Street/SE Caldera Drive and SE 27th Street/Diamondback Street intersections.** This road serves as the key east-west connection for SEAP lands and provides a parallel route to Ferguson Road and Knott Road.
- **New north-south collector road between Ferguson Road and Knott Road.** This road provides north-south connectivity for lands within the Southeast Area and connections to the east-west Minor Arterials of Ferguson Road and Knott Road.
- **Local framework road.** This road would be constructed to local road standards and would provide north-south connectivity between SE Caldera Drive and Knott Road. Network analysis showed this connection provides increased route choice for trips to or from the Southeast Area and helps to reduce reliance on SE 15th Street and SE Caldera Drive.
- **Future local roadway network.** The SEAP area will also be supported by a network of local streets that will be planned as individual properties are developed within the new neighborhood, including the extension of existing and creation of new local streets. This connected network is critical to providing local connectivity and route choice, especially for those walking and biking.
- **Urban upgrade to SE 27th Street/ Knott Road.** Improvements to the existing roadway would add urban facilities such as a center turn-lane, where appropriate, and walking and biking infrastructure. This improvement is a long-term priority for the City of Bend but may be incrementally constructed by properties within SEAP through applicable frontage improvements as development occurs.

## ***Intersection Improvements***

Most intersections in the Southeast Area of Bend are stop-controlled today, reflective of the rural environment that existed when the roadways were constructed. Recent public improvement projects, such as the Murphy Corridor Project and construction of Caldera High School, have included new, urban roadway facilities and the construction of roundabouts at key intersections, including Murphy Road/Country Club Road, Murphy Road/Brosterhous Road, Murphy Road/SE 15th Street, and SE 15th Street/Knott Road.

The TSP identifies several additional intersections where modifications to traffic control is necessary to support future development of lands in Southeast Bend, including within

SEAP. These include the following locations where roundabouts will be constructed or expanded:

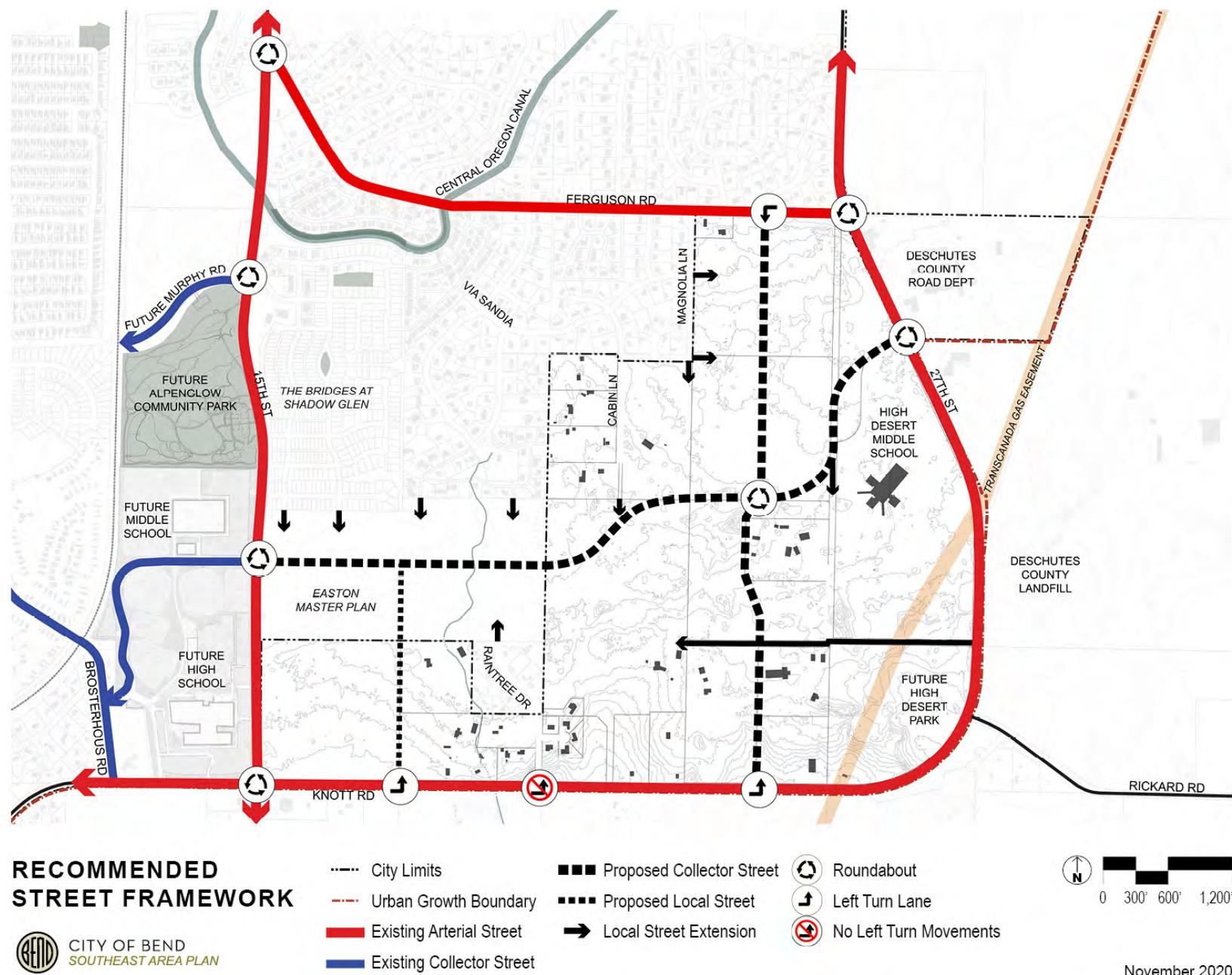
- Planned expansion of the existing roundabout at the SE 15th Street/Reed Market Road intersection.
- New Roundabouts at SE 27th Street/Reed Market Road, SE 15th Street/Ferguson Road, SE 27th Street/Ferguson Road, China Hat Road/Knott Road, Country Club/Knott Road, Brosterhous Road/Knott Road, and SE 15th Street/SE Caldera Drive.

In addition to the citywide needs addressed through the TSP, the SEAP transportation analysis also identified more localized needs within the SEAP area including the following projects needed to support multimodal

circulation within and access to the future SEAP neighborhoods.

- A single lane roundabout at the SE 27th Street/Diamondback Lane intersection;
- A single lane roundabout at the north-south collector/SE Caldera Drive intersection;
- A westbound left-turn lane on Ferguson Road at the new north-south collector intersection;
- Elimination of southbound left-turn movements at the Raintree Court/Knott Road intersection due to sight distance constraints; and
- An eastbound left-turn lane on Knott Road at the new local framework and at the new north-south collector road intersections.

Figure 24. Southeast Area Plan Street Framework



November 2020

CITY OF BEND  
SOUTHEAST AREA PLAN

## ACTIVE TRANSPORTATION NETWORK

In conjunction with the SEAP process, the project team and advisory committee have prepared a bicycle and pedestrian plan that supports the land use and roadway network planning. This system includes a robust multi-use path network that will be supported by walking and bicycle facilities along new local and collector roads within SEAP. These

facilities have been planned in close coordination with existing and planned regional BPRD routes, which connect to local and citywide recreational destinations and employment centers. BPRD has several existing and planned multi-use paths<sup>2</sup> near and within southeast Bend, including in the SEAP area. These facilities provide connections

to Alpenglow Community Park and the future High Desert Park site, as well as connections between existing and future schools, neighborhoods, and commercial and employment centers. In addition to these planned BPRD multi-use paths, SEAP includes over three miles of recommended multi-use paths as part of the active transportation network.



<sup>2</sup> Trails identified in the BPRD Comprehensive Plan are referred to as multi-use paths in the Bend Development Code and throughout this report.

## PLANNED BPRD MULTI-USE PATHS

- 1.** TransCanada Trail, a regional multi-use path along the pipeline easement that crosses 27th Street and Knott Road through the High Desert Park site;
- 2.** 15th Street Trail, which runs along the west side of SE 15th Street and continues west along the north side of Knott Road;
- 3.** Arnold Canal Trail, which would be constructed to run parallel to the Arnold Irrigation District lateral that runs north from Knott Road; and
- 4.** High Desert Park Trails, which connect the High Desert Park site to the SEAP area and connect the existing High Desert Middle School to the future middle and high schools west of SE 15th Street.

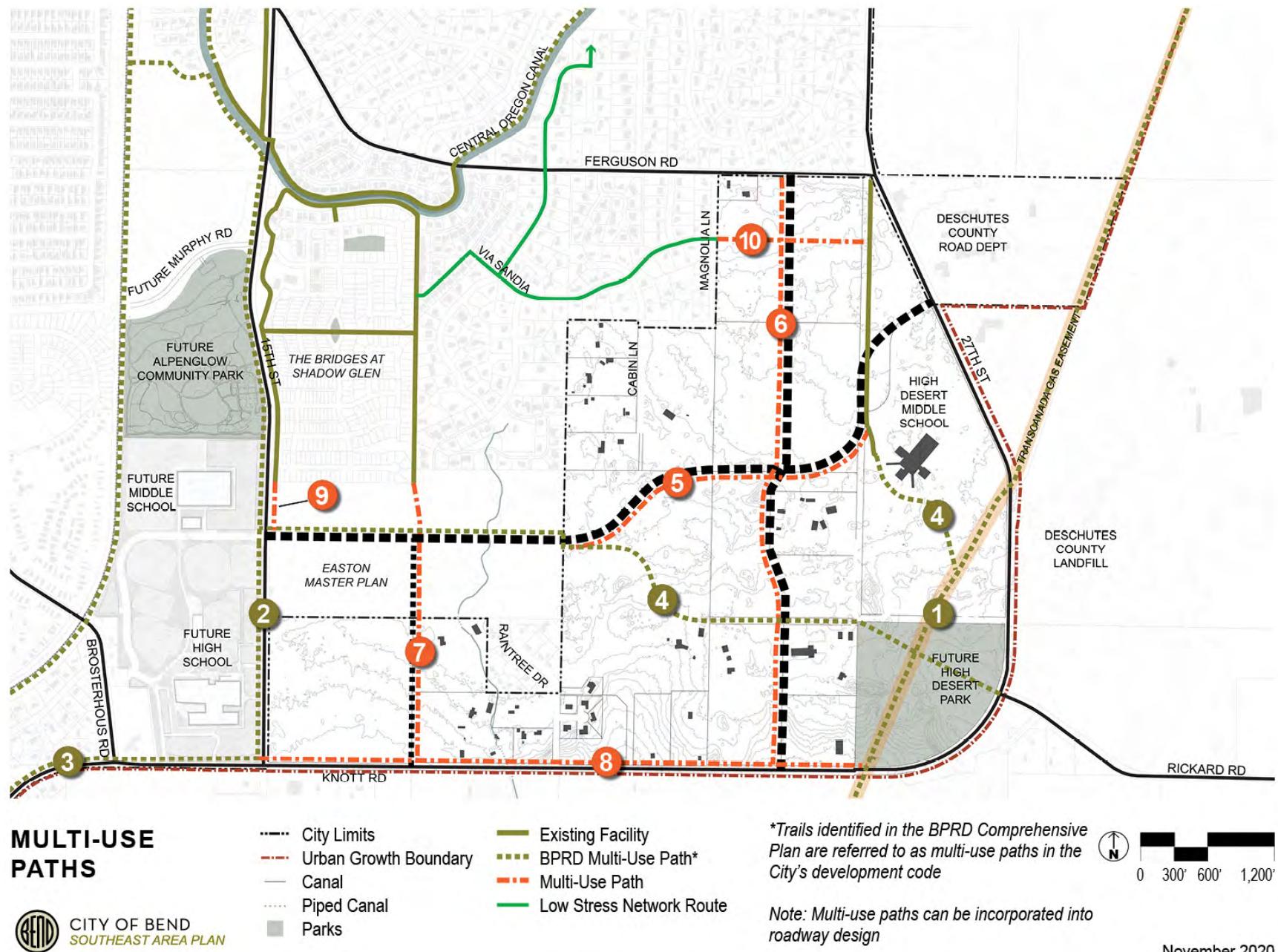
## RECOMMENDED SEAP MULTI-USE PATHS

- 5.** Multi-use path along SE Caldera Drive (note: this route is partially provided by a planned BPRD multi-use path);
- 6.** Multi-use path along the future north-south collector;
- 7.** Multi-use path along the local framework road connecting Knott Road to an existing multi-use path within the Bridges subdivision to the north;
- 8.** Multi-use path along Knott Road east of SE 15th Street to the planned TransCanada Trail;
- 9.** Multi-use path along SE 15th Street north of SE Caldera Drive connecting the Bridges subdivision to the SEAP area; and
- 10.** Multi-use path running east-west south of Ferguson Road connecting the Low Stress Network route on Via Sandia to High Desert Middle School.

Planned and recommended multi-use paths are shown on Figure 25. Planned multi-use paths within the SEAP area are supportive of the planned BPRD routes by providing local connections to these more regional routes. In addition, development of the planned SEAP multi-use path alignments considered and are consistent with the City's Low Stress Network (LSN) and Key Walking and Biking Routes identified with the Bend TSP.

The multi-use path alignments shown in Figure 25 are conceptual. Final multi-use path alignments will be subject to development review. Any changes to path alignments will be made in consultation with BPRD.

Figure 25. Southeast Area Plan Active Transportation Framework



## RECOMMENDED STREET STANDARDS

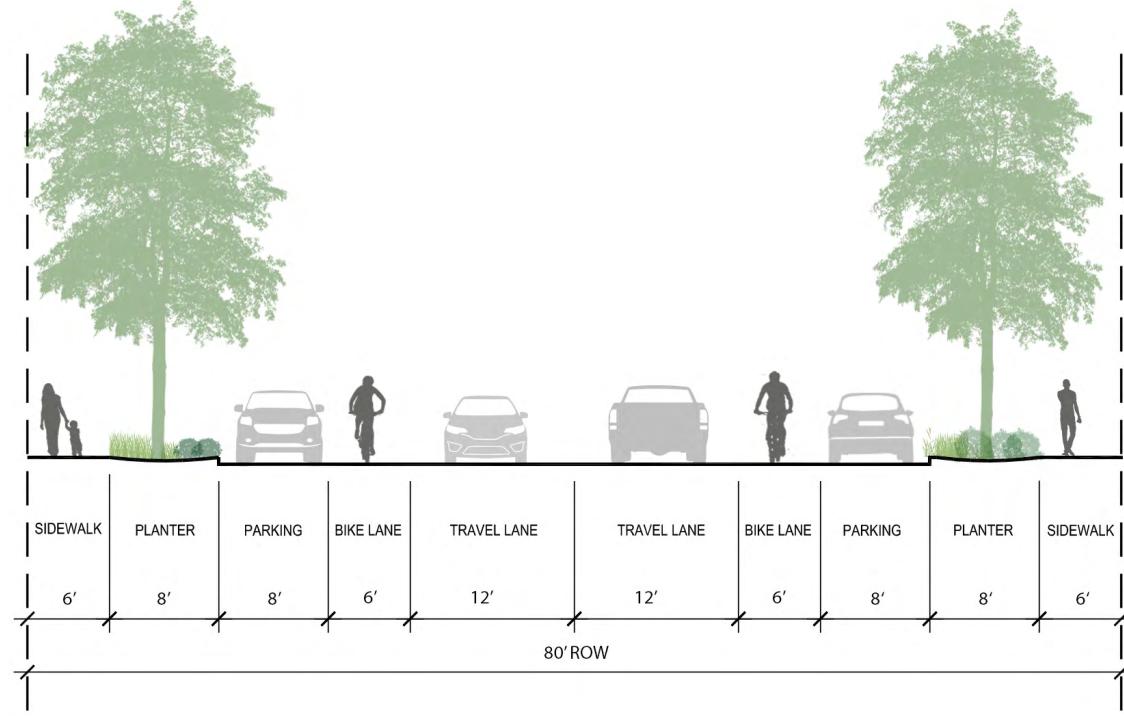
The following describes current City of Bend roadway standards and how those are proposed to be updated and applied within the SEAP area to support the community vision and land use context.

### Collectors

The main interior east-west (SE Caldera Drive) and north-south roads for the Southeast Expansion are proposed as Collectors. Collectors provide a connection between local streets and higher capacity streets such as arterials. These streets are designed to serve the context of their land use, which may be commercial, residential, mixed use or more employment focused. These facilities should be complete streets that serve all modes and all abilities along and across the street.

Most collectors in Bend will have two travel lanes and may have a center turn lane or median, depending on land use context and access needs. This configuration for new collectors within SEAP is adequate to support future growth in Southeast

Figure 26. Example Street Cross Section with Existing Collector Standard



Bend. The City's existing collector standards are addressed in both the City's Development Code and in the Standards and Specifications. Specific design elements of the roadway, such as access, posted speed, inclusion of on-street parking, sidewalk width,

and bikeway design treatment, vary based on the abutting land use designation. A typical Collector Street based on current City of Bend standards is shown in Figure 26.

## Alternative Collector Standard

During the SEAP process, the City considered specific variations to City roadway standards to plan for and allow roads that are consistent with the specific vision for the Southeast Expansion Area. The update is intended to provide flexible standards that are applied depending on land use context. This included consideration of the following key roadway elements:

- **Narrower travel lanes.** Encourages slower speeds for traffic flows and provides additional room for sidewalks and bicycle facilities.
- **Traffic calming.** Narrower travel lanes, along with other traffic calming techniques such as roundabouts, buffered bike lanes, curb extensions,

and special crosswalk treatments, can help to keep motor vehicle speeds within the desired limits.

- **Separated Multi-Use Path.** Several multi-use paths are planned near and within the Southeast Area. Providing for a separated multi-use path (i.e., a 10-foot path next to the roadways and within the right-of-way) allows for a connection to existing and planned multi-use paths and a low stress environment for those walking and biking.
- **On street parking.** Provides for access to land use and can support slower vehicle speeds.
- **Land use compatibility.** Current City of Bend standards allow for

varying design elements based on adjacent land use designations. A similar approach was considered and recommended within SEAP to consider and support varying context within the community.

- **Stormwater considerations.** Best practices for enhancing stormwater retention are to encourage narrower roadways with less impermeable surfaces and/or to include bioswales and other low impact development features within the right of way to capture and treat stormwater runoff.

Based on these considerations, the following updated standards are recommended for Collector streets within the SEAP area.

## REQUIRED ELEMENTS

These standards are minimums that must be met with development of a collector street under this standard.

- **Right of Way (ROW)** – 80 feet.
- **Travel Lane Width** – 11 feet (when separated by left-turn lane, pedestrian safety island, etc.); 11.5 feet when opposing lanes are immediately adjacent (head-on).
- **Bike Lane** – 6 feet plus a buffer of 2 ½ for car door opening buffer (or buffer to moving traffic).
- **Driveway Access** – Access will be allowed per BDC 3.1400 Vehicular Access Management. There is no change proposed for this alternative standard.
- **On Street Parking** – If on-street parking is provided, it shall be designed and constructed according to BDC 3.3.500, On-Street Parking Design Standards. On-street parking may require an additional easement to ensure the other elements of the collector road right of way satisfy those above. Curb extensions are required around on-street parking at intersections to ensure everyone can see each other at crosswalks.

## FLEXIBLE ELEMENTS

The following elements may flex depending within the proposed ranges.

- **Sidewalk** – From 6 feet to up to 8 feet.
- **Multi-Use Path** – 10 to 12 feet if located on the side of a street, separated from travel lanes and for two-way pedestrian and bicycle travel.
- **Planting Strip** – 4 to 6 feet on each side to include street trees, bioswales, and/or landscaping; street trees could be planted in tree wells in areas with narrower sidewalk widths or in areas where sidewalk space wants to be maximized.
- **Median/Turn Lane** – Consider including for intersections that warrant a left-turn lane (e.g. the intersection of the east-west collector with north-south collector) or when additional enhancement is warranted for a pedestrian crosswalk (safety island).

The following cross sections provide three different examples of using the alternative collector standard in various land use contexts, including examples with and without on-street parking, and one including a left-turn lane. These examples are intended to be illustrative.

Figure 27. Example Street Cross Section with Proposed Alternative Collector Standard

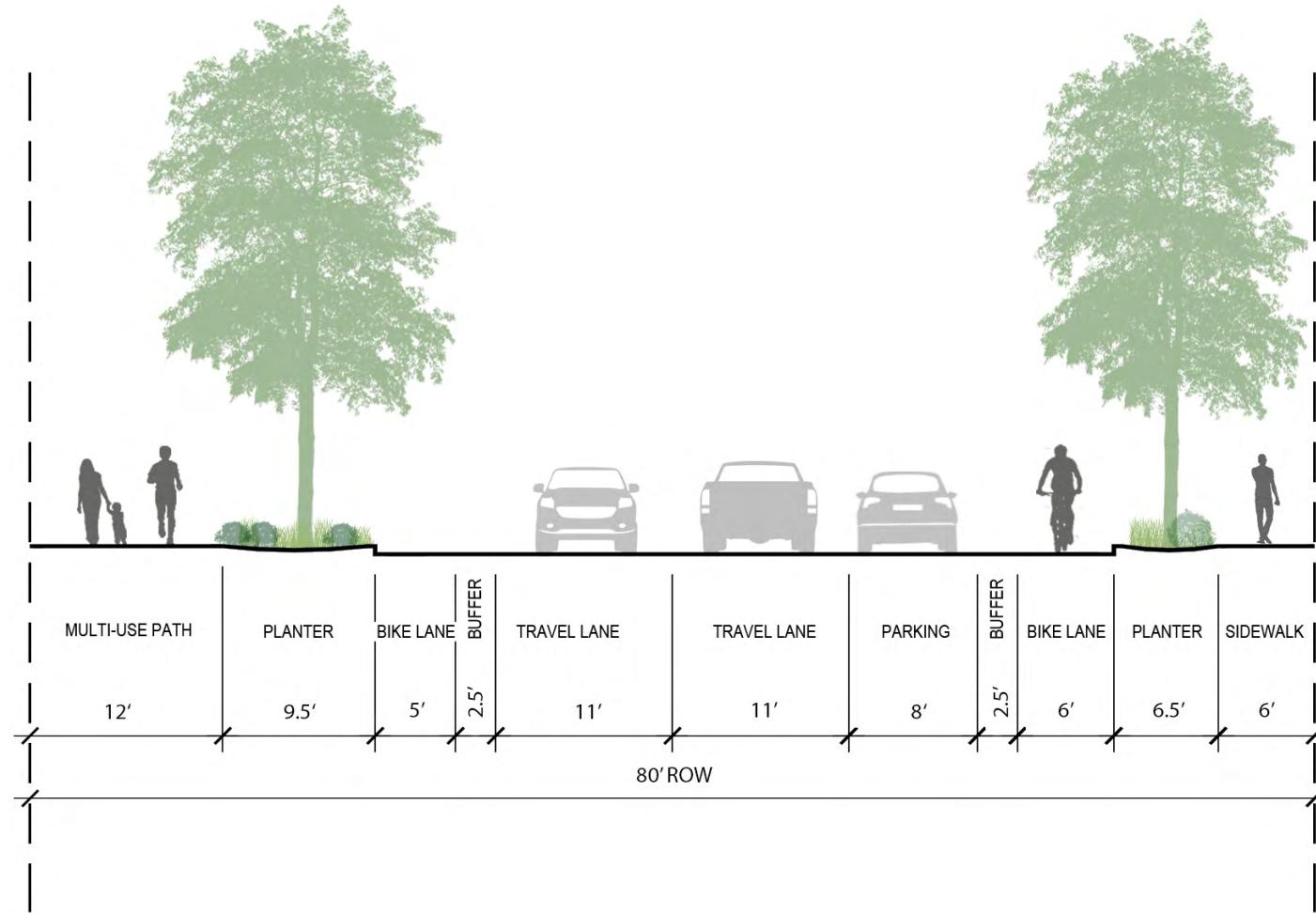
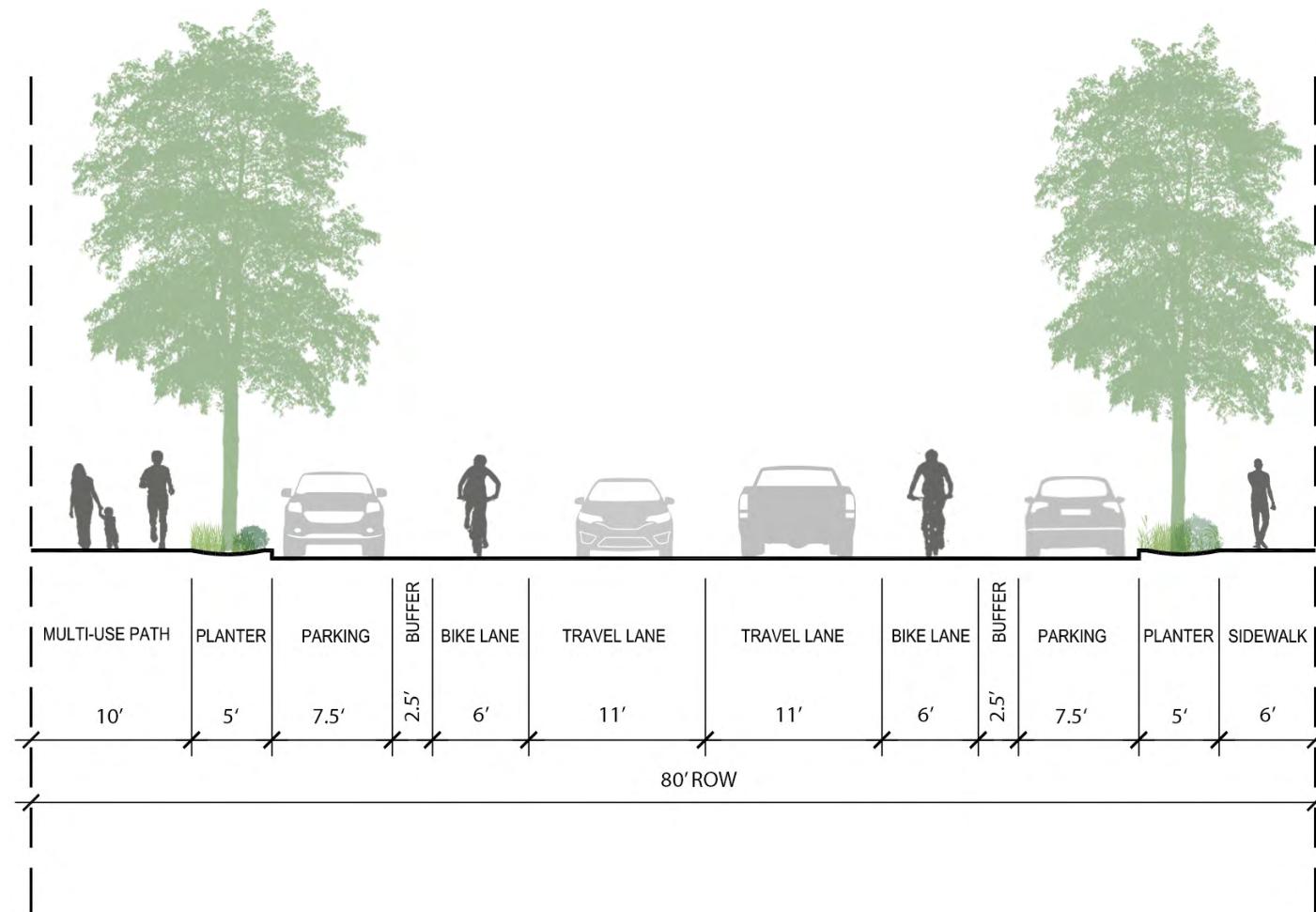
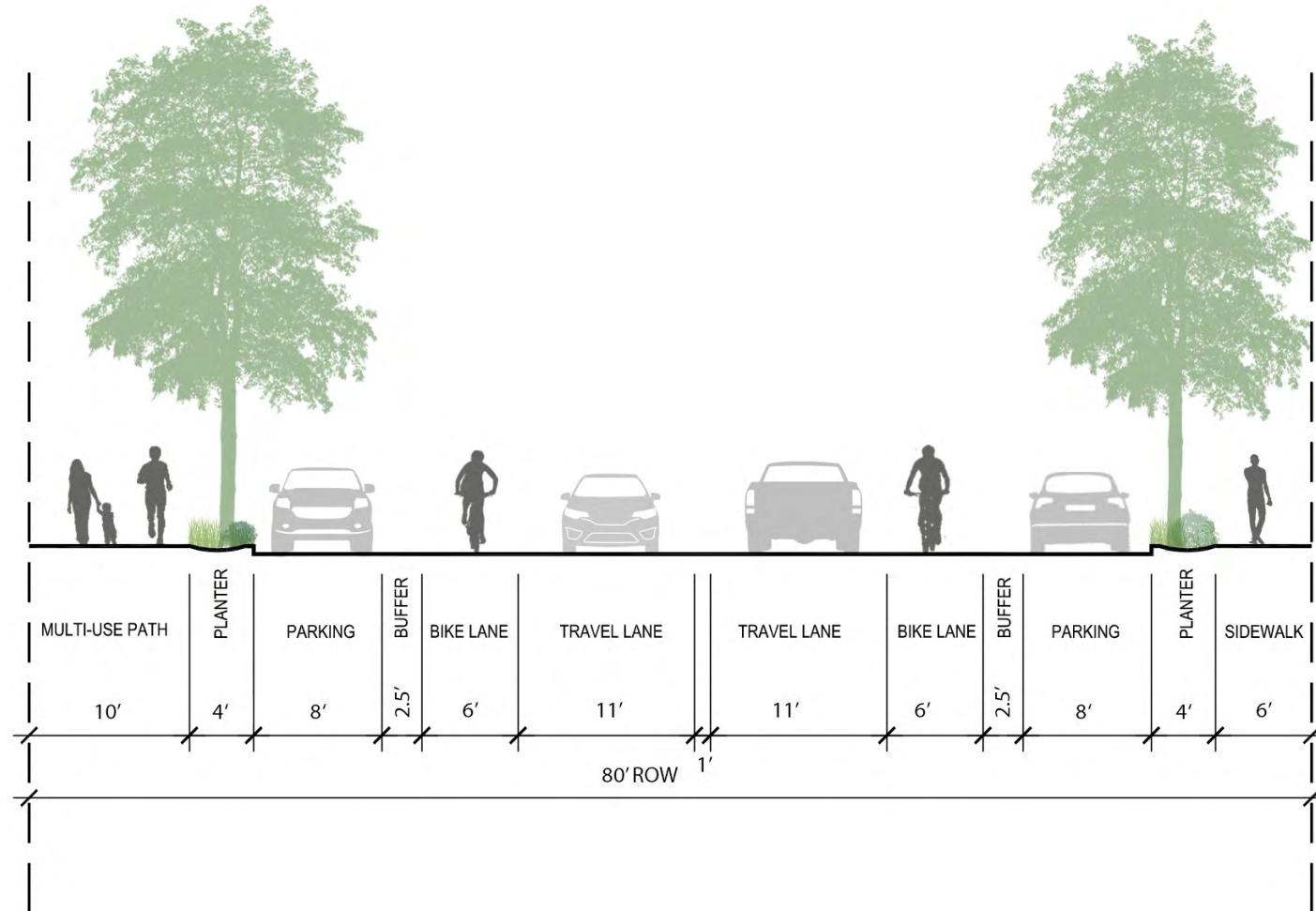


Figure 28. Example Alternative Collector Cross Section - Residential Context

**Notes:**

- 10' sidewalk on the left (north side or east side) of street represents a multi-use path.
- Park/Landscape strip of five (5) includes six inches on each side for concrete curbs abutting sidewalk and the parking lane. The strip for landscaping would be four (4) feet in width.
- Drive lanes are shown in this example at 11'-6" to reflect the 1' narrow double yellow centerline stripe between the lanes.
- Buffers of 2.5' provided between bicycle lanes and on-street parking for car door opening. Buffers can be placed between bike lane and moving traffic lane instead.

Figure 29. Example Alternative Collector Cross Section - Mixed Use Context

**Notes:**

- 10' sidewalk on the left (north side or east side) represents a multi-use path.
- On-street parking slightly wider.
- Bike lanes both 6 feet with 2.5' buffers.
- Both cross sections for a more residential context and a mixed-use context are similar.

Figure 30. Example Alternative Collector Cross Section - Employment Context

**Notes:**

- 10' sidewalk on left (north or east side) side represents multi-use path.
- On-street parking replaced with a left-turn lane (assuming approach to intersection).
- Room left over to expand planting strips, sidewalk, and/or bike lanes.

## Framework Local Road

A single framework local road has been identified within the SEAP area to connect SE Caldera Drive with Knott Road. This facility would be designated as and operate like a typical local road with the following considerations:

- A continuous connection between SE Caldera Drive and Knott road east of SE 15th Street is important to support local connectivity, business access, and reduced reliance on SE 15th Street, SE Caldera Drive, and Knott Road;
- The roadway would be co-located with a multi-use path and provide an important north-south connection for those walking and biking; and
- Transportation demand modeling indicated the facility would operate near but below typical collector road characteristics.

Recommended design standards for this facility considering the inclusion of a multi-use path is shown in Figure 31.

Figure 31. Example Cross Section for North-South Framework Local Road

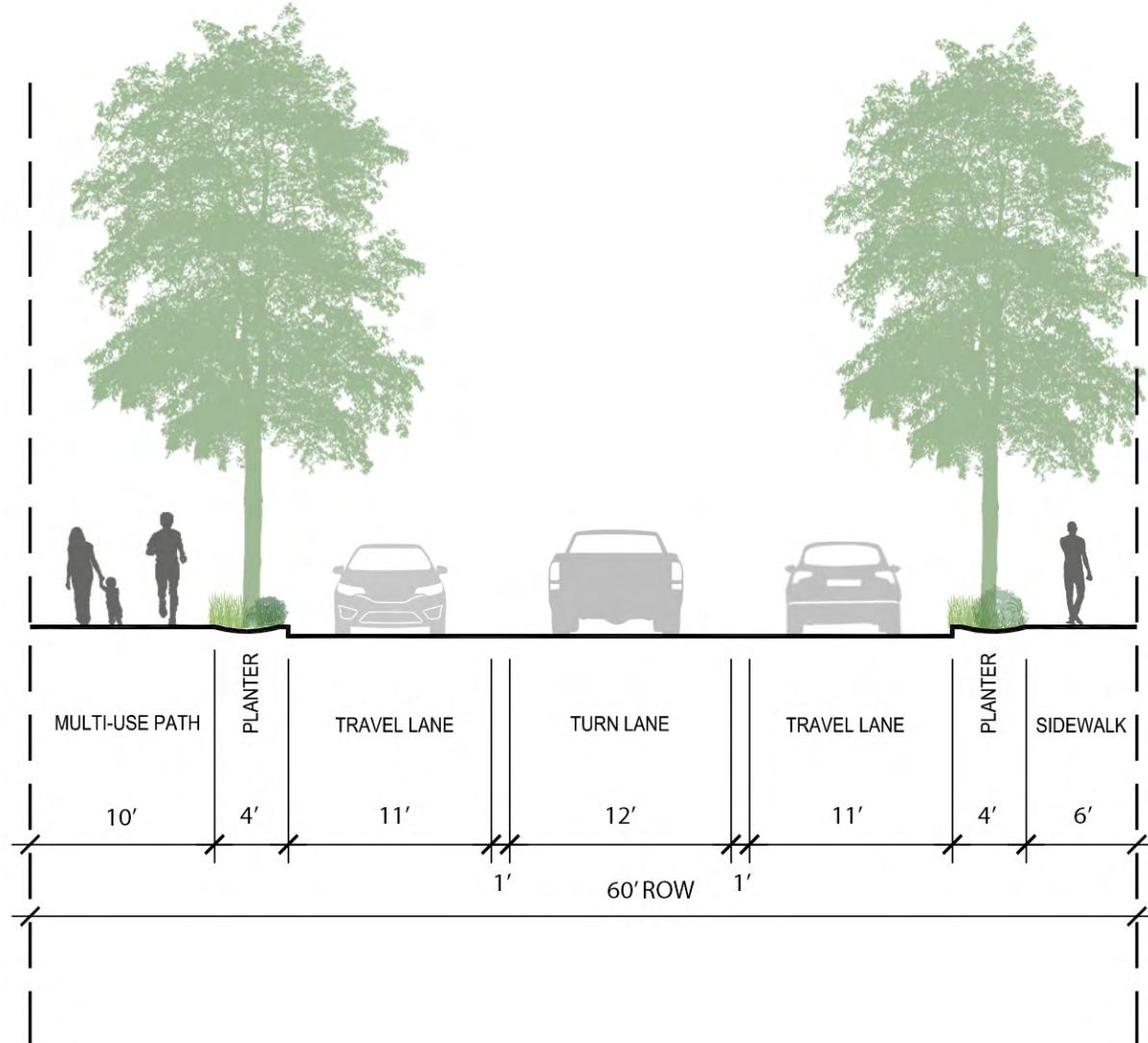
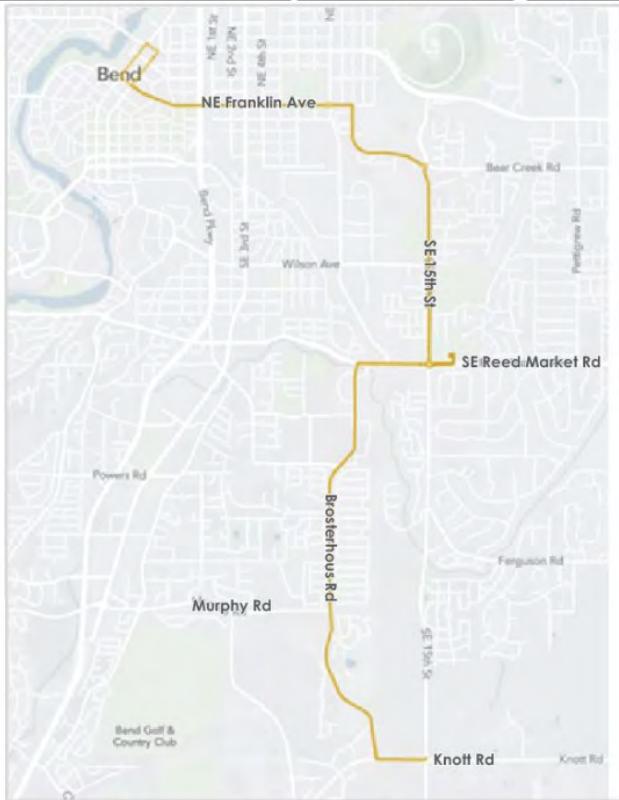


Figure 32. Mid- to Long-Term SE Bend Transit Service Concept from Cascades East Transit 2040 Master Plan

### SE Bend Route 9 (Mid- to Long-Term)



## TRANSIT

Cascade East Transit (CET), operated by Central Oregon Intergovernmental Council (COIC) is the provider of transit service in Central Oregon's Public Transit Service Provider with fixed-route transit service and demand-response service in the City of Bend, as well as Community Connector bus service to the other cities in the region. Demand responsive service in Bend is available to people with disabilities, as well as lower-income individuals and older adults who do not live near CET fixed-route bus service. CET is funded through a variety of federal, state, and local funds.

The Southeast Area is not currently served with fixed-route transit service. The two closest existing CET routes are Routes 5 and 6. Both routes provide service on 27th Street between Reed Market Road and St. Charles Hospital. Both routes also provide east-west service between 15th Street and 27th Street.

CET's recently adopted 2040 Transit Master Plan identifies the need to provide new fixed-route transit service to Southeast Bend. This new service will connect southeast Bend to the primary transit network and utilize existing routes in the near- to mid-term along Murphy and/or Brosterhous Road. It initiates a microtransit pilot to test demand and build understanding of desired travel patterns for a potential new fixed route. In the mid- to long-term this route will connect the developing population and employment in Southeast Bend, including the new high school, to the transit network.

In the near-term, CET has plans for transit stops to be located on SE 15th Street including one at the new Alpenglow Park, and another to be placed near Caldera High School and the planned middle school. CET is currently pursuing State Transportation Improvement Fund (STIF) funds to support the planning for a new transit route to the southeast.

## FIRE EVACUATION ROUTES

Fire evacuation planning for the Southeast Area will be incorporated into the next regional update to the Natural Hazard Mitigation Plan and Bend Community Wildfire Plan, both expected to begin in 2021.

Evacuation routes will take into consideration of adjacent neighborhoods including Woodside Ranch and Deschutes River Woods and will likely include Knott Road, Rickard Road, SE 27th Street, and US 97. Specific roadway design considerations should be considered in SEAP implementation such as upsizing transportation infrastructure to ensure capacity for emergency service vehicles to navigate around disabled vehicles and space to park fire apparatus. Other design considerations include rolled curbs, especially within roundabouts, and streetscape and landscape elements that reduce fuel sources.

## TRANSPORTATION PLANNING RULE COMPLIANCE

As part of the SEAP process, the City is also pursuing a legislative action to address compliance of the Area Plan for the Southeast UGB expansion area with the Oregon Administrative Rule (OAR) 660-012-0060 (“the Transportation Planning Rule (TPR)). The TPR requires local governments to maintain consistency between the Comprehensive Plan and other land use regulations and the TSP. As part of evaluating compliance with the TPR, local jurisdictions must demonstrate that planned transportation facilities will be adequate to serve planned land uses. A technical analysis was prepared to address the transportation effects of the SEAP land uses with the “reasonably likely to be funded” list from the TSP.<sup>3</sup>

As presented in the supporting analysis:

- The reasonably likely to be funded list within the TSP is appropriate to accommodate future land use growth within the Bend UGB, including SEAP. As such, the SEAP Urbanization does not result in a significant effect on City facilities, as defined by the TPR.
- Funding at two ODOT intersections on the reasonably likely to be funded list will rely partially on monies generated by future development within SEAP. Additional details are provided in a supporting TPR evaluation of ODOT facilities.
- Funding of the multimodal network of streets and intersections within the SEAP area will be provided through a combination of City and private development funds. Additional details on the funding plan framework is provided later in this report.



## OPEN SPACES & PUBLIC FACILITIES

### ROCK OUTCROP AND TREE PRESERVATION

At the outset of the planning process, SEAPAC identified the preservation of natural features as a critical component of a successful Area Plan through the following guiding principle:

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***Preserve views and the natural landscape. Integrate views, trees, and rock outcrops into new development and public spaces.***

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The Southeast Expansion Area is home to a unique and complex landscape. Large outcrops of basalt lava rock, stands of mature ponderosa pine and juniper trees, densely vegetated high desert plateaus, and striking ridgelines with mountain views are the defining characteristics that create a unique sense of place for the southeast area of Bend. During the SEAP process, multiple reasons

were identified for preservation of the area's significant rock outcrops and trees. As part of the SEAP recommendations, integration of significant rock outcrops and trees into new development is intended to:

- Preserve parts of the area's natural landscape and character;
- Provide a visual and physical buffer between adjacent land uses;
- Provide open space within and between new development;
- Preserve habitat for native plant and animal species; and
- Preserve mature trees because they present significant value for to the environment by providing greater canopy volume, faster CO<sub>2</sub> absorption than newly planted trees, and age diversity in the urban forest.<sup>4</sup>

4 April 2019 Tree Health Assessment, Appendix X

SEAPAC was initially cautious about preserving rock outcrops and trees, expressing the need for balance between the need for adequate development capabilities and preservation of natural features. In response, the project team inventoried existing conditions, prepared site studies, and developed definitions and code standards to support a balanced approach. Based on the above, it was concluded that:

- Significant trees are those that are 24" DBH and larger
- Significant rock outcrops are those that are a minimum of 3,000 square feet and eight feet in height
- A general preservation standard of 50% of significant trees is reasonable because it

allows for substantial development and can potentially be fit into the code's requirement for 10% open space

- Flexibility is needed for larger footprint uses such as schools and anchor retail stores
- Tree and rock preservation should be coupled with flexibility in setbacks, parking and other development standards.

In an effort to preserve the Southeast Expansion Area's many significant natural features, the Southeast Area Plan recommends the above-listed concepts. These concepts will be implemented through regulations and incentives in the City's development code and are discussed in more detail in Chapter 7 of this report.



Photo credit: David Leath



Renderings of future Alpenglow Park

## FUTURE PARKS, OPEN SPACE, AND MULTI-USE PATHS

Bend is a community that places a high value on its parks and open spaces. The SEAP vision statement calls for an area with an “active and vibrant outdoor life; it is a place where neighbors are out walking, biking, and interacting daily.” Access to outdoor recreation opportunities will be provided through connected network of parks, open spaces, and multi-use paths. The overall park and open space concept for the Southeast Expansion Area includes the following elements:

- Two large community parks (Alpenglow Park, which is located adjacent to the SEAP area, and the future High Desert Park);
- At least one smaller-scale neighborhood park (location to be determined); and
- Multi-use paths connecting existing and future neighborhoods, schools, and parks.

BPRD updated their Comprehensive Plan—the guiding document for the next ten years of parks and recreation—in

2018 to address the rapid growth Bend has experienced in the past decade and accommodate another decade of growth planned for future new neighborhoods including the Southeast Expansion Area. The update included important parameters to address level of service for existing and future neighborhoods, with the goal of providing access to parks within a  $\frac{1}{2}$  mile walk of most homes. As noted in the Existing Conditions chapter of this report, BPRD is currently in the process of developing Alpenglow Park, a new 37-acre park on the west side of SE 15th Street. This community park, which is slated to open in the spring of 2022, will provide opportunities for a wide array of recreation activities, and includes plans for paths, trails, playground, sprayground, dog park, open lawn space, bouldering, event space, and demonstration garden. Alpenglow Park is located within one mile of every residential parcel in the Southeast Expansion Area and will serve as a desirable amenity for both existing residents and future neighborhoods.



In addition to Alpenglow Park, BPRD also owns the 32-acre future High Desert Community Park site located in the southeast corner of the SEAP area. BPRD expects to wait to develop the park until 2030 or later, as the community grows. In addition to the two community parks, BPRD's Comprehensive Plan includes plans to identify land for and develop a new smaller-scale neighborhood park within the SEAP area to allow future residents to have access to close-to-home opportunities to recreate and gather. Neighborhood parks average about four acres in size and typically include amenities such as playgrounds, open lawn areas, and picnic shelters. The location of a future neighborhood park will likely be determined closer to the time of development as part of a master plan or subdivision process. The Community Design Plan for the NE Subarea suggests a potential neighborhood park location in the Northeast Subarea. That subarea will have the highest density of residential and commercial uses, which will benefit from a centrally located public amenity such as a neighborhood park.

Additionally, that location would serve the adjacent low-density neighborhoods, which are park deficient areas. It is also at the crossroads of two planned multi-use paths. HOAs often also build and manage parks, and could satisfy additional community desire for parks. Access to park and recreation facilities in the Southeast Expansion Area will be provided through a robust network of multi-use paths. As described in the Active Transportation section of this report, the Southeast Area Plan is served by four planned multi-use paths identified in the BPRD Comprehensive Plan, as well as over three additional miles of recommended multi-use paths connecting parks, open spaces, and other amenities within the SEAP area. Multi-use paths are not only critical components of a well-connected active transportation network, but also serve as an important recreational amenity. When coordinated with open spaces and natural areas, multi-use paths offer the opportunity for healthy exercise and a welcome respite from the built environment while providing access to natural areas.

## SCHOOLS

As noted in the Existing Conditions chapter of this report, BLSD is currently constructing two new schools adjacent to the Southeast Expansion Area on the west side of SE 15th Street: Caldera High School, which is slated to open in the fall of 2021, and a new middle

school to the north. BLSD also intends to develop an elementary school within or adjacent to the Southeast Expansion Area in order to serve existing and future residents. A conceptual location for an elementary school is shown on the Southwest Community Design Plan.

School recreational facilities such as ball fields and playgrounds can also provide safe and affordable recreation opportunities for nearby neighbors.



*Rendering of Caldera High School  
Image credit: BBT Architects*

06



*Photo credit: David Leath*

# Chapter 6

# Infrastructure

This chapter provides a high-level overview of the infrastructure required to support development of the land uses in the Southeast Area Plan: sanitary sewer, water, storm water, and other utilities (natural gas, electric power, and fiber optic communications). Please see Chapter 5 for transportation infrastructure. Long range planning for the various utilities is dynamic and subject to change; this chapter addresses information as available during the SEAP process.



*Construction of Southeast Interceptor sewer project*

## SANITARY SEWER

Future development in the Southeast Expansion Area will be served by the recently-constructed Southeast Interceptor (SEI). The SEI is a multi-purpose infrastructure addition to the City's sewer collection system that provides capacity needs for the southwest, southeast, northeast, and central areas in Bend. Additional sewer infrastructure needed to serve the Southeast Expansion Area includes six gravity collector sewer lines ranging in size from 8 to 18-inches, one regional pump station, and one 12-inch force main. A ridge splits the southeast corner of Bend approximately in half from the southwest corner to the northeast corner.

Due to this topography, a small portion of the western SEAP area will be served via gravity while the majority of properties—referred to as the “East Catchment Area”—will be served by a regional pump station on SE 27th Street. Figure 33 illustrates the general ground surface topography and approximate boundary between gravity and pump station service areas. The City is actively coordinating sewer planning efforts for the Southeast Expansion Area with the master plan for the DSL Expansion Area, which is located to the northeast of the SEAP area.

## SEWER INFRASTRUCTURE ALIGNMENTS

Sewer infrastructure will utilize the alignments of the proposed north-south collector, existing rights of way, and existing local roads in adjacent neighborhoods. The proposed trunk sewer alignments are shown in Figure 34. Alignment 1 will serve the area via gravity and currently connects to the Southeast Interceptor. An extension of the existing gravity pipeline will serve the future middle and high schools as well as any other development along SE 15th Street. Alignment 2 will be a gravity sewer that extends from the high elevation point on Ferguson Road to King Solomon Lane where it will connect to the SEI. This sewer will convey flow from sewer alignment 2 as well as flow from the South East Area Pump Station.

The Ferguson Road sewer will also be used to decommission the existing Camden and Ridgewater Pump Stations. Alignment 3 will serve future SEAP development southwest of Cabin Lane—as well as existing neighborhoods to the north—via gravity. The sewer improvement will connect to existing 8-inch piping in Sky Harbor Drive

extending the pipeline further south by approximately 500 feet. The sewer improvement also includes new piping on Via Sandia Street and Cottonwood Drive connecting the existing Sky Harbor Drive pipeline to the new collector sewer on Ferguson Road. A pump station is required to serve the southeastern portions of the area. Two gravity sewers will contribute flow to the Southeast Pump

Station, alignment 6 and alignment 4. The pump station will be located just east of the High Desert Middle School on SE 27th Street. The force main will continue north on SE 27th and turn west on Ferguson Road before connecting to the gravity sewer (alignment 2) on Ferguson Road. This pump station location may also serve portions of the DSL property, another UGB expansion area.

Figure 33. Topography and Sewer Service Overview

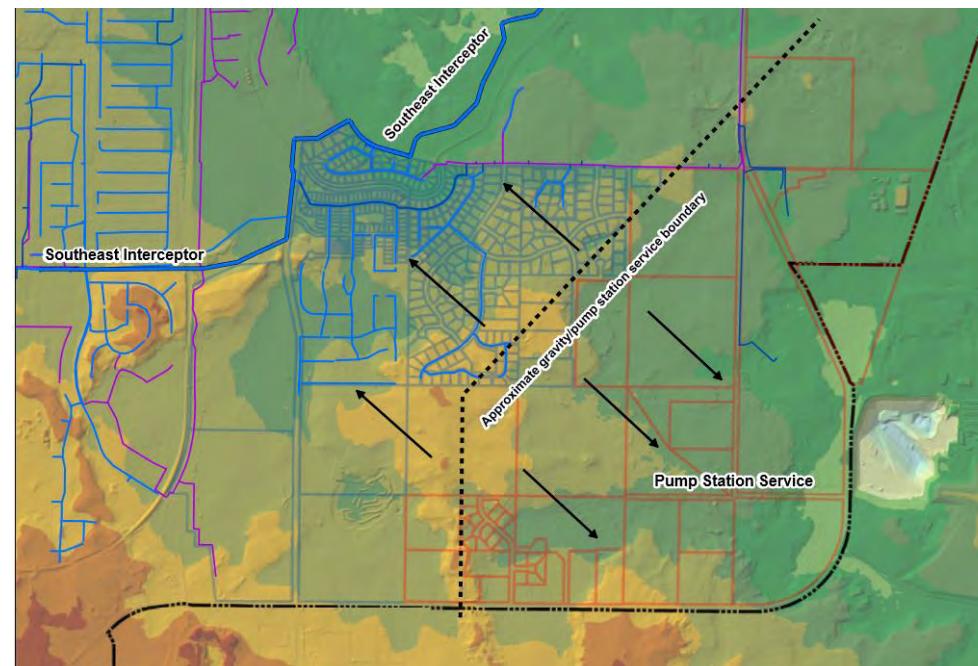
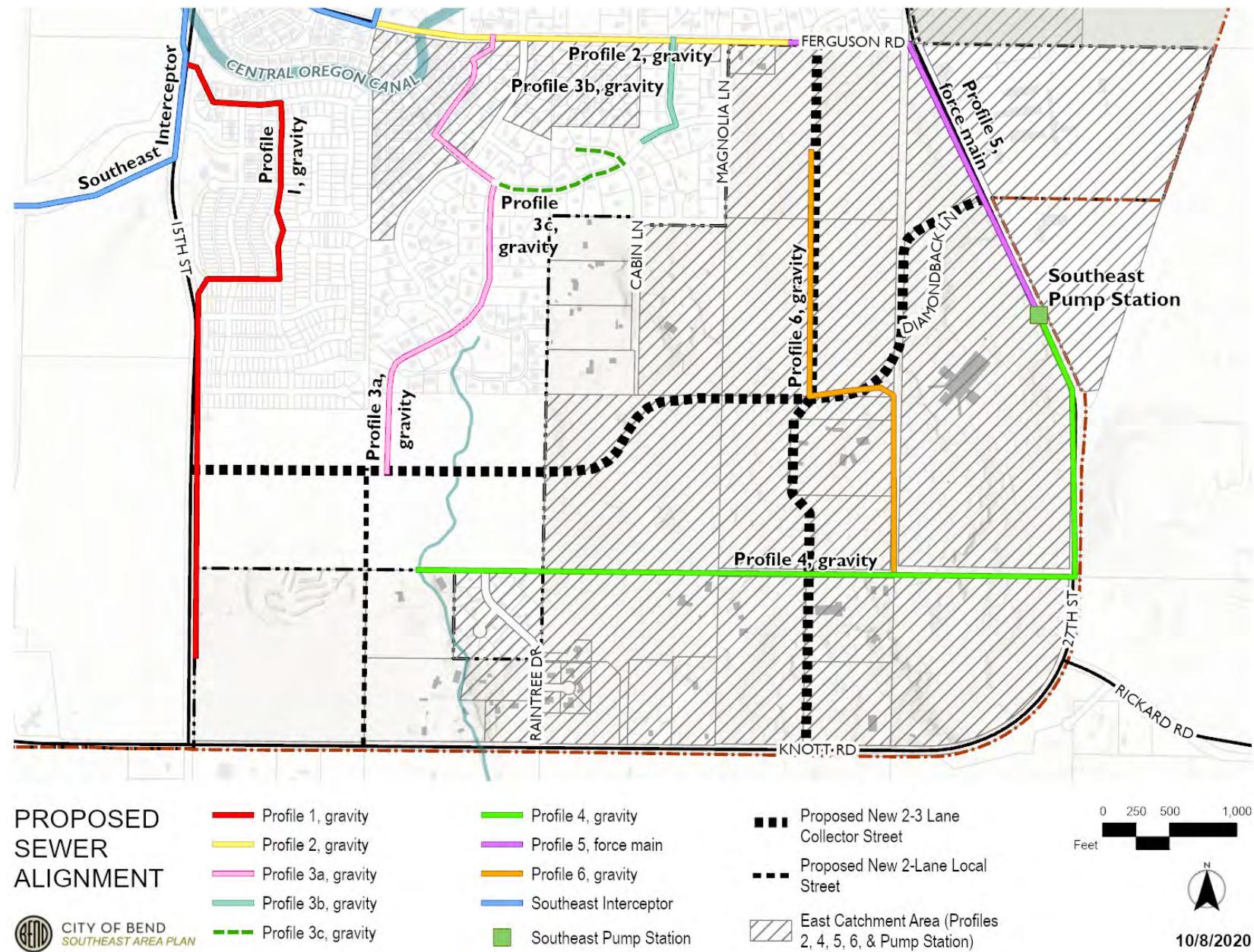


Figure 34. Proposed Sewer Alignment





Eight-inch sewer and service lateral



Manhole and pipe install

## WATER

Water service for the entire Southeast Expansion Area—as well as some of the surrounding adjacent development—is provided by Avion Water Company, a private fully-regulated Class A Water Utility Company. Avion operates a number of water service lines within the SEAP area; however, their capacity for future water provision is limited to the existing low intensity development. It is anticipated that a new water main or network of mains will be needed to provide a well-connected water system in order to serve the future development planned for the Southeast Expansion Area.

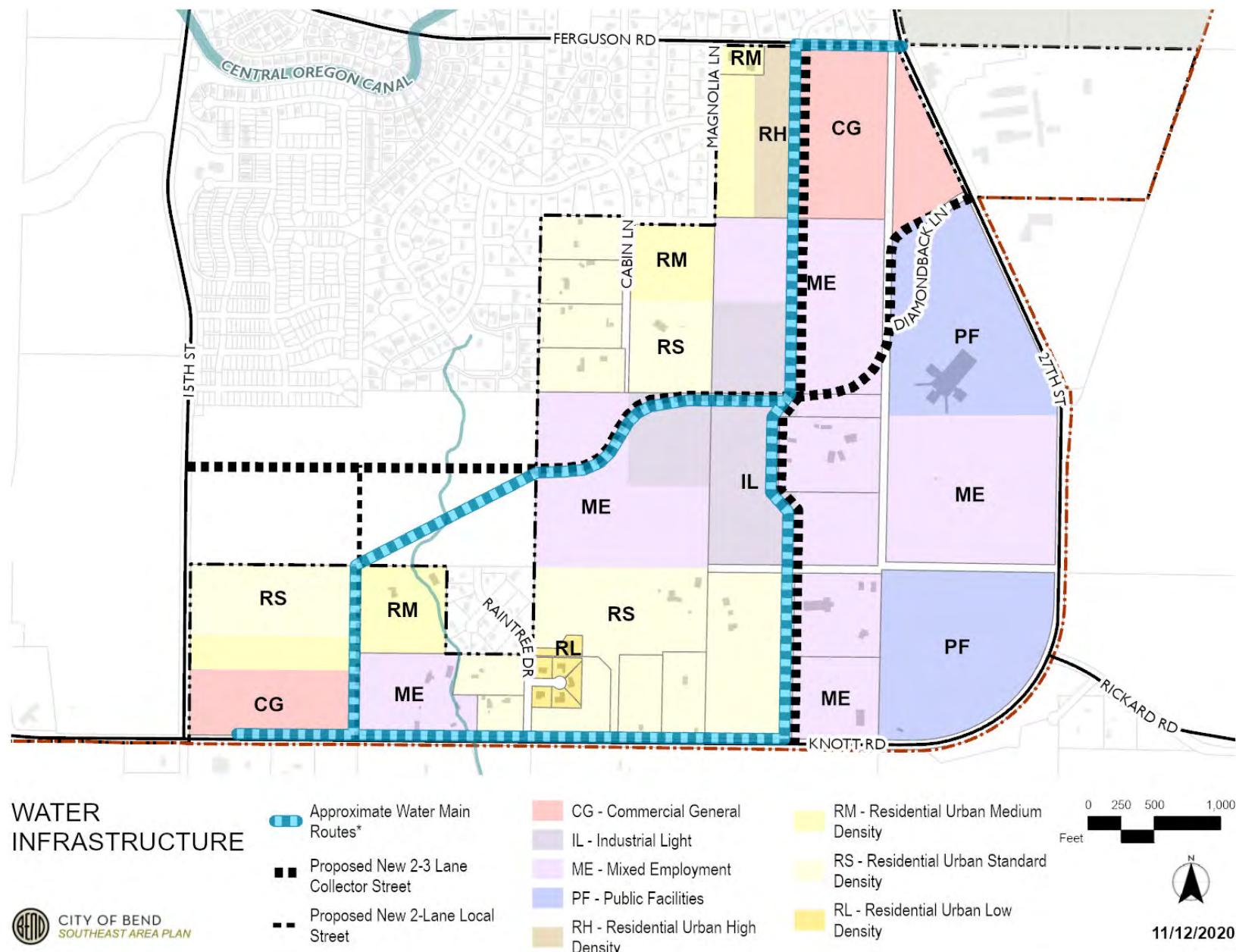
## PLANNED WATER INFRASTRUCTURE

Water service in the area will be provided via gravity transmission, generally flowing from the southwest to the northeast. The primary starting point and source for water service needed to

serve the Southeast Expansion Area is a 24" water main stub (currently under construction) located in Knott Rd and extending approximately 150 feet east of the planned roundabout at Knott Road and SE 15th Street. In order to serve the entire SEAP area, a centralized main or network of mains will need to be extended northeast through the Southeast Expansion Area to the NE corner of the area.

The size, alignment, and timing for the future water main network will be determined by Avion. While there are a number of possible options, alignment within a street right-of-way is typically the preferred and most cost-efficient option, limiting utility easements that would otherwise inhibit development potential. Funding for the water main will be paid for by developers as new development occurs and as water infrastructure is needed to serve proposed future development.

Figure 35. Planned Water Infrastructure





Sedimentation manhole and drywell installation in nearby Desert Woods neighborhood

## STORMWATER

The City does not have a traditional (e.g. underground piped) stormwater system and instead relies on a dispersed system primarily using UICs and surface landscape controls. The City's existing 2014 Stormwater Master Plan did not consider project needs for the Southeast Expansion Area since the area was not included in the City's UGB at the time.

The City is considering using regional treatment facilities for expansion and opportunity areas in combination with other treatment methods including low impact development techniques and onsite and street-side improvements to address future stormwater management needs.<sup>1</sup> For the Southeast Expansion Area, it is recommended that the City: pursue a subsequent project to evaluate the number of acres needed for a regional

stormwater management facility to handle a 25-year stormwater event; identify a low point in the area's topography for a potential regional facility; and identify potential funding strategies through a future update of the City's Stormwater Master Plan. Other low impact development practices that could be considered for the Southeast Expansion Area include: reduced impervious surface (e.g. reduced building and parking footprints); reduced directly connected impervious areas; improved mobility for alternative transportation; and land uses in time of travel areas that don't heavily generate pollutants. In addition, stormwater management should take into consideration the location of drinking wells in order to mitigate pollutants that could impact water quality.

<sup>1</sup> Examples of low impact development techniques are included in the Central Oregon Stormwater Manual, Chapter 11 and Appendix 11B

# OTHER UTILITIES

## ***TransCanada Natural Gas Pipeline***

The TransCanada Natural Gas Pipeline corridor includes high-pressure natural gas pipelines that extend between Kingsgate, British Columbia and Malin, Oregon, traversing a distance of 612 miles. A portion of the corridor extends through the Southeast Expansion Area along an 100-foot wide land easement bisecting the High Desert Park Site. The pipelines that pass through the southeast corner of the Study Area consist of a 36-inch and a 42-inch diameter pipeline. TransCanada has specific design standards for roadways that cross the easement and TransCanada staff regularly work with engineers and developers on pipeline corridor and crossing agreements to ensure no adverse effects on the pipelines. The easement is approximate but not exact, so surveying prior to development will be required. TransCanada will cover the cost of surveying, with the exception of the cost of acquiring a Hydrovac

excavation vehicle, which will be borne by a developer. The existing right of way that connects SE 27th Street to Diamondback Lane, and Diamondback Lane itself (which is the south access to High Desert Middle School) both cross the TransCanada easement. The Southeast Area Plan street network does not include any additional streets that will transverse the pipeline; however, it is likely that the existing local street connections will be needed to serve the BLSD and High Desert Park site.

## ***Cascade Natural Gas***

Cascade Natural Gas (CNG) is responsible for distributing natural gas to the City of Bend. CNG has a regulator, odorizing, and gate station located on the Bend Bowmen Club property on Knott Road. Their land easement consists of a gated area surrounding these facilities. The CNG easement connects to the TransCanada pipeline and to Knott Road. Existing CNG easements should be protected through the Southeast Area Plan process.

## ***Central Electric Cooperative***

Central Electric Cooperative (CEC) provides electricity to the Southeast Expansion Area. CEC is a transmission and distribution cooperative and one of Oregon's 18 member-owned cooperative electric utilities. Its source of wholesale electricity is the federal power marketing agency, the Bonneville Power Administration. CEC obtains its electricity supply through Portland-based PNGC Power, a generation and transmission cooperative owned by 14 Northwest electric distribution cooperative utilities, including CEC.

## ***Communications***

Bend Broadband is a private provider of internet service, Wi-Fi service, television, and landline phone service. The company provides service to the Bend area, including the Southeast Expansion Area. Both Fatbeam and LS Networks provide fiber optic and fiber internet service to the Bend area.

07



## Chapter 7

# Implementation Plan Summary

## OVERVIEW

As intended by Bend's Area Planning policies, the Southeast Area Plan is a long-range planning document intended to coordinate development and tailor land use regulations and transportation and infrastructure plans to respond to area- or site-specific conditions. Further, this Area Plan implements, and updates, the Comprehensive Plan's specific policies for "The Elbow".<sup>1</sup> In this role, the Southeast Area Plan serves to:

- Guide and support long range planning for land use, transportation, public facilities (e.g. parks and schools), and infrastructure in the project area and vicinity;
- Provide the document to be used when "consistency with the Area Plan" determinations are to be made by the City (e.g. at annexation);

- Establish the rationale and direction for specific amendments to the Comprehensive Plan and Development Code; and
- Provide guiding implementation actions for the funding of infrastructure needed for successful implementation of the plan.<sup>2</sup>

This chapter describes, at a summary level, the following amendments that will be the primary implementing instruments for the Area Plan:

- **Comprehensive Plan Map.** Changes in the Bend Comprehensive Plan land use map are proposed to reflect changes in land use designations recommended in the SEAP land use concept.
- **Comprehensive Plan Policy Updates.** Updates to policies

related to land need and master plan requirements are proposed to provide consistency between those policies and the Area Plan.

- **Development Code.** Amendments to the Bend Development Code are proposed to create a new section in Chapter 2.7 titled the Southeast Area Plan, and modify existing chapters with conforming amendments.
- **Funding Plan.** The SEAP Funding Plan is a guiding Action Plan that describes funding needs, a flexible "toolbox" of funding options, and recommendations for follow-up actions by the City.

This chapter is a summary of recommended implementation strategies. Please see Appendix A, Implementation Plan, for the full text of the amendments.

<sup>1</sup> See Comprehensive Plan policies 11-21 to 11-28 for Area Planning Policies, and policies 11-75 to 11-84 for policies specific to "The Elbow".

<sup>2</sup> See Chapter 6 of this Area Plan for descriptions of infrastructure needed for SEAP



## COMPREHENSIVE PLAN AMENDMENTS

The Southeast Area Plan proposes a number of changes to both the text and the adopted map of the Bend Comprehensive Plan. The proposed changes to the Comprehensive Plan Map, described in Chapter 5, reflect the detailed alternatives review, extensive public input process, and conclusions reached about the recommended land uses for the area. The proposed text changes to the Bend Comprehensive Plan for SEAP include new and amended policies to:

- Ensure the adequacy of Industrial lands needed for industrial jobs (related to re-designated Industrial lands);
- Ensure the adequacy of Commercial lands needed for jobs in commercial areas (related to re-designated Commercial lands);
- Remove the requirement for a master plan application at time of annexation if the annexed property is less than 20 acres and part of an adopted area plan;
- Update Policy 11-77, regarding the minimum acreages required for residential, commercial, industrial, and public facilities, consistent with the SEAP land use plan; and
- Update Policy 11-78, regarding the intended housing capacity and mix, consistent with the SEAP land use plan.



## DEVELOPMENT CODE AMENDMENTS

The proposed amendments to the Bend Development Code for the SEAP include the addition of a new section to Chapter 2.7, “Special Planned Districts, Refinement Plans, Area Plans, and Master Plans.” These areas are used by the City of Bend to provide more detail about the type of development intended for a specific area than is typically identified by the City’s zoning code or Comprehensive Plan. Once adopted, such areas create standards for the development of land within the plan boundaries that may supersede those of the underlying zone. The proposed Southeast Area Plan code consists of the following components:

- Proposed changes to the allowed uses in the zones of SEAP—some new uses are allowed, several are prohibited;
- Development and design standards in the Commercial and Light Industrial zones;
- Standards for development of multi-use paths;

- Specific standards for preservation of natural features; and
- Alternative collector design standards for the east-west (SE Caldera Drive) and north-south collectors.

The zoning districts referred to on the following pages implement a designation on the Comprehensive Plan Map (e.g. RS, Standard Density Residential). The purpose for these amendments is to ensure the development of the Southeast Expansion Area is consistent with the Vision and Guiding Principles for the Southeast Area Plan. One of the reasons for the underlying prohibition of certain uses was the goal of limiting uses that had incompatible “industrial” characteristics – for example, uses that would generate, noise, dust, odors, vibrations, and truck traffic. This was based in part on the SEAP Market and Land Use Analysis, as well as the goal to allow the types of uses more compatible in a neighborhood setting (e.g. research and development, flex space).<sup>3</sup>

<sup>3</sup> See Technical Appendix for the SEAP Market and Land Use Analysis



## SUMMARY OF DEVELOPMENT CODE AMENDMENTS

### ***General Commercial Districts (CG)***

- Establish a minimum and maximum 10' setback with allowed increases when a usable public space is provided.
- Establish the requirement for main streets (“Shopping Streets”) in the two Commercial districts and provide design and use standards including specific design elements for street length, vehicular access and parking location, and prohibition of certain uses along Shopping Streets that would otherwise be allowed in the CG Zone.
- Allow standalone residential uses on sites not fronting Shopping Streets or Arterials and establish special standards for standalone residential uses in the CG zone, including building orientation to the street, transparency requirements, and minimum densities.
- Allow live-work townhomes as a permitted use in the CG zone.

- Limit large-scale, non-commercial institutional users such as government facilities, schools, parks, and other public/institutional uses to preserve CG zones for their primary commercial function.
- Prohibit parking from being located between the building and the primary street frontage.
- Allow certain auto-oriented/auto-dependent uses (e.g. drive-throughs) to be permitted uses subject to specific site and design criteria in the Southeast Area Plan to encourage the pedestrian character.
- Prohibit wholesale sales of marijuana.

### ***Residential Districts (RS, RM, and RH)***

- No changes to the allowed uses or standards are proposed through SEAP.

## ***Mixed Employment District (ME)***

- Allow live-work townhomes as a permitted use.
- Allow for a limited percentage of residential use on the ground floor to accommodate entries, residential-related parking, etc.
- Allow for existing uses (such as veterinary clinics and kennels) that are not allowed in the ME zone, to be treated as permitted uses. Expansions of such uses greater than 25%, would be subject to conditional use criteria.
- Allow auto-dependent/auto-oriented

- uses such as drive-throughs as permitted uses and subject to the same siting and design criteria as those permitted in the CG zone.
- Prohibit wholesale sales of marijuana.

## ***Light Industrial District (IL)***

- Prohibit the following uses otherwise permitted in the IL zone: Heavy Manufacturing, assembly, and processing of raw materials and recycling; and Marijuana grow sites and marijuana producing.
- Require design standards for building entrances and exterior facades.

- Require parking behind a primary structure when abutting an arterial street.

## ***Public Facilities District (PF)***

- Allow certain uses, such as ball fields, outdoor performance areas with amplified sounds, to be permitted outright instead of conditionally, provided certain siting standards are met.
- The option for a conditional use permit is still available if these standards can't be met.





### ***Significant Trees and Rock Outcrops***

- Provide additional standards for preserving a percentage of trees that are greater than or equal to 24" in diameter at breast height (DBH).
- Require certain rock outcrops over 3,000 square feet in area and at least eight feet in height to be preserved and integrated into proposed development.
- Provide incentives such as reduced setbacks, reduced off-street parking, to support the integration of significant trees and rock outcrops.
- Allow some exceptions, such as large buildings over 40,000 square feet.

### ***Multi-Use Paths***

- Require construction of multi-use paths consistent with the proposed map of planned routes in SEAP. Final multi-use path alignments will be determined during the site design and development review process.

### ***Alternative Collector Standards***

- Provide minimum right-of-way, travel lane widths along with flexible elements that can be tailored to the land use context such as sidewalk width, on-street parking, and landscape strips.
- These alternative standards would apply to both the East-West (SE Caldera Drive) and North-South Collectors in the SEAP.

# FUNDING PLAN SUMMARY

## OVERVIEW

The SEAP guiding principles aspire to “deliver needed infrastructure” and “develop an economically viable plan”. The Southeast Area Funding Plan was prepared to inform and advance these outcomes, and guide SEAP implementation. The Funding Plan’s purposes are to:

1. Identify funding strategies and recommendations needed to fund infrastructure for the Southeast Area Plan (SEAP).
2. Describe key issues, opportunities, and challenges for infrastructure funding.
3. Summarize the major transportation and sanitary sewer infrastructure, and their costs, needed to support development of the plan.
4. Estimate development-related revenue potentially generated by the plan.
5. Describe potential funding tools.

The following sections summarize elements of the Funding Plan. Please see the Technical Appendix for the full text of the Funding Plan.

## ROLE OF THE FUNDING PLAN: AN ACTION PLAN APPROACH

The SEAP Funding Plan is an “Action Plan” intended as part of the adoption package for the SEAP. In Bend’s Comprehensive Plan, “Action Items” are advisory recommendations that set a direction for plan and policy implementation (in this case, the direction for SEAP infrastructure funding) while retaining flexibility for the specifics of that implementation.

The Funding Plan provides guidance for funding needs, tools, and strategies while recognizing the potential for unique solutions to be identified and implemented in the future. This approach is particularly suited to the funding of SEAP infrastructure

because of: (1) the dynamic nature of development in Southeast Bend, and; (2) the unknowns regarding the timing of annexation and development of properties within the SEAP boundary.

The funding plan is needed because the City, on its own, does not have the capability, nor is it required, to fully fund all of the infrastructure needed for development within the SEAP area. Funding for infrastructure to serve areas of new development is typically funded through a mix of private development sources and government sources.

The Funding Plan describes how infrastructure needed for the SEAP Area can be funded. The approach will require a combination of existing sources from the City, new funding tools, and private property owner/developer contributions. Funding decisions will be made by the City Council in the future. The plan recognizes that further study of, and options for, specific funding methods may be required.

## SUMMARY OF TOTAL INFRASTRUCTURE COSTS

Combined, the SEAP sewer and transportation infrastructure costs without presently identified funding sources are estimated to be \$57.2 million. This is the amount, as of November 2020, that is in addition to projects identified as being funded by others, SDCs, sewer rates, or the City's 2020 Transportation General Obligation Bond. Any solution to the infrastructure challenges will involve substantial private investment, which includes investment from property owners and/or developers in the Southeast Area. Funding for water infrastructure will be determined by the Avion Water Company.

Table 2. Summary of Estimated Infrastructure Costs (Planning Level 5), SEAP Area

ESTIMATED INFRASTRUCTURE COSTS	
Sewer	\$15,600,000
Transportation	\$41,600,000
<b>TOTAL COSTS</b>	<b>\$57,200,000</b>

Source: Jacobs, MurraySmith, and Kittelson Associations.

Note: Estimated water infrastructure costs are unknown as of this date.

Please see the full Funding Plan in the Technical Appendix for more detailed information on infrastructure projects and costs. Within this Summary Report, transportation improvements are described in Chapter 6 and sewer improvements are described in Chapter 7.

## REVENUES

Development of the SE Expansion Area will add hundreds of new homes and space for dozens of businesses to the City of Bend. Once complete, the area is projected to house over 3,000 residents in an estimated 1,200 housing units and support about 2,800 jobs. In this way, the new community will add to the vitality of Bend by providing homes, jobs, and community destinations for the City's growing population and economy, consistent with Bend's Comprehensive Plan. The development of the SEAP project area will also provide the City with additional sources of revenue to fund services and capital projects. The table below summarizes the Funding Plan's analysis of SEAP's revenue potential for:

- Transportation System Development Charges<sup>4</sup>

<sup>4</sup> Based on findings from Bend's Transportation System Plan: all existing, city-wide transportation SDC revenues generated in Bend, including revenue produced from SE Expansion Area development, is assumed to be committed to paying debt obligations on transportation projects that have already been built or to projects in the City's existing Capital Improvement Program. This pre-allocation of revenue is anticipated through 2030. In 2031 through 2040, it is also likely that existing city-wide transportation SDC revenue will be pre-committed to on-going debt payments.

Non-committed transportation SDC revenue at the City's existing rate and/or additional city-wide transportation SDC revenue generated through a rate increase is assumed to go toward prioritized transportation projects identified in Bend's Transportation System Plan. Some of these transportation projects are located in the SE Expansion Area and are currently eligible to receive these funds.

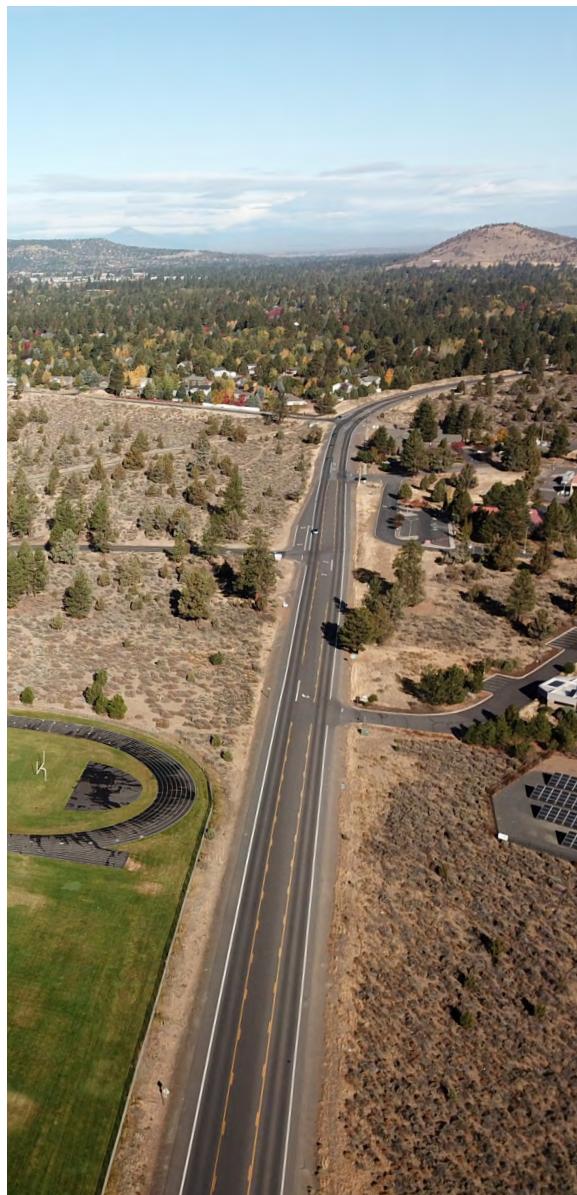


Photo credit: David Leath

- Sewer System Development Charges
- Sewer Utility Fee

Table 3. Summary of Estimated Revenue Potential from Existing, City-wide Revenue Sources, SE Expansion Area (at full build-out)

	TRANSPORTATION SDC REVENUE ESTIMATE (TOTAL)	SEWER SDC REVENUE ESTIMATE (TOTAL)	SEWER UTILITY FEE REVENUE ESTIMATE (ANNUAL)
Residential Development	\$7,745,000	\$5,572,000	\$641,000
Commercial Development	\$19,951,000	\$3,532,000	\$303,000
<b>TOTAL</b>	<b>\$27,696,000</b>	<b>\$9,104,000</b>	<b>\$944,000</b>

*Source: Calculations by ECONorthwest using Envision development assumptions and the City of Bend's 2020-2021 Fee Schedule.*

For more detailed tables and assumptions, please see the full Funding Plan in Appendix X.

## ISSUES, CHALLENGES AND OPPORTUNITIES

The following is a summary of issues and challenges that must be addressed to arrive at a viable infrastructure funding strategy for the SE Expansion Area.

- **The SE Expansion Area has many properties and development is likely to occur incrementally.** There are 27 individual ownerships within the SE Expansion Area. In 2020, there are only a few properties in SEAP known that intend to develop in the near term. While property consolidation in expansion areas may occur, the funding plan should be crafted to also work if the area develops in a series of relatively small, individual projects.

- **Sewer in the “East Catchment Area” is a significant capital investment and will span many properties.** City leadership will be needed to coordinate and build the east sewer system. The SE Expansion Area contains two drainage basins that dictate how and where new sewer infrastructure can be developed. The “East Catchment Area” drains east and requires new gravity lines, a pump station, and force mains. At an estimated cost of \$15.6 million for east basin-related improvements, it is assumed that no single development could afford to build the needed improvements. Therefore, an area-wide approach is needed.
- **Roundabouts are needed but are costly and will require an area-wide funding tool.** The three roundabouts in the eastern part of the plan area are the appropriate intersection treatments at 27th/Ferguson, 27th/Diamondback, and the internal intersection of the two new collectors. Each roundabout serves multiple properties and the network as a whole, so an area-wide funding tool is appropriate. The

roundabouts may not be needed on “day one”, so there is an opportunity to collect funds over time and build them at a targeted point in the future.

- **Alignment is needed between the timing of development and the timing of infrastructure – phased infrastructure can help.** If a funding tool is chosen that relies on new development but development cannot happen without new infrastructure, how can development move forward? The implication of this issue is that timing and phasing considerations must be brought to the forefront when selecting an infrastructure funding option.
- **There is an opportunity to streamline transportation reviews and the allocation of cost responsibilities to proposed development.** Incremental transportation analyses typically occur project by project and are time consuming and duplicative for all parties. For SEAP, there is an opportunity to identify, in advance of development, which transportation improvements are required and

how they should be funded.

- **There is a significant opportunity for cost sharing and infrastructure coordination between major developments in Southeast Bend.** There are opportunities for infrastructure cost sharing—specifically between SEAP, and the Easton and DSL properties. Determining specific cost allocations will require time, negotiation, and City Council review.

## SEAP FUNDING STRATEGIES AND RECOMMENDATIONS

The funding strategies described below are high-level approaches intended to support the successful funding of infrastructure for the SE Expansion Area. The recommendations to the City Council are recommended actions—a set of steps for evaluating and making decisions about specific funding solutions. Together, the strategies and recommendations comprise the SEAP “flexible action plan” referenced at the beginning of this section.

## ***Funding Strategy***

The overall strategies for funding SEAP infrastructure are to:

1. Use a variety of funding tools that can be flexibly applied as Council decisions are made and conditions change over time.
2. Proactively coordinate cost-sharing between the SEAP project area and other areas of development in Southeast Bend (e.g. DSL and Easton).
3. Evaluate and implement areawide funding tools (e.g. supplemental system development charges) needed to catalyze infrastructure development.
4. Provide flexibility for interim infrastructure solutions (e.g. sewer connection) that allow initial SEAP development to proceed prior to long term solutions being implemented.

## ***Recommendations to the City Council***

The project team recommends that the Council undertake the following actions:

1. Adopt the SEAP Funding Plan as part of the SE Area Plan package. The Funding Plan will be a guiding “Action Plan” that provides direction but also flexibility for future Council decisions.
2. Following adoption of SEAP, evaluate a package of transportation improvements to be funded by a new, Supplemental Transportation SDC (TSDC). An initial project list is included in the Funding Plan. The final list should be coordinated with updated information on how other projects will be potentially funded in SE Bend.
3. Direct staff to scope the upcoming Sewer Master Plan Update to ensure that plan evaluates how the

SEAP east sewer system could be implemented, including: evaluation of the east sewer system as a City-led project; inclusion of east SEAP as part of the City’s CIP program for trunk sewer improvements; and, how the City could be reimbursed for its up-front investments. In the interim, this recommendation would not preclude negotiation of interim sewer implementation strategies for individual properties or developments.



Photo credit: David Leath