



CITY OF BEND

CORE AREA PROJECT



EXISTING CONDITIONS & APPLICABLE PLANS, PROJECTS, PROGRAMS

Updated April 3, 2019



Accommodation Information for People with Disabilities

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April 2019

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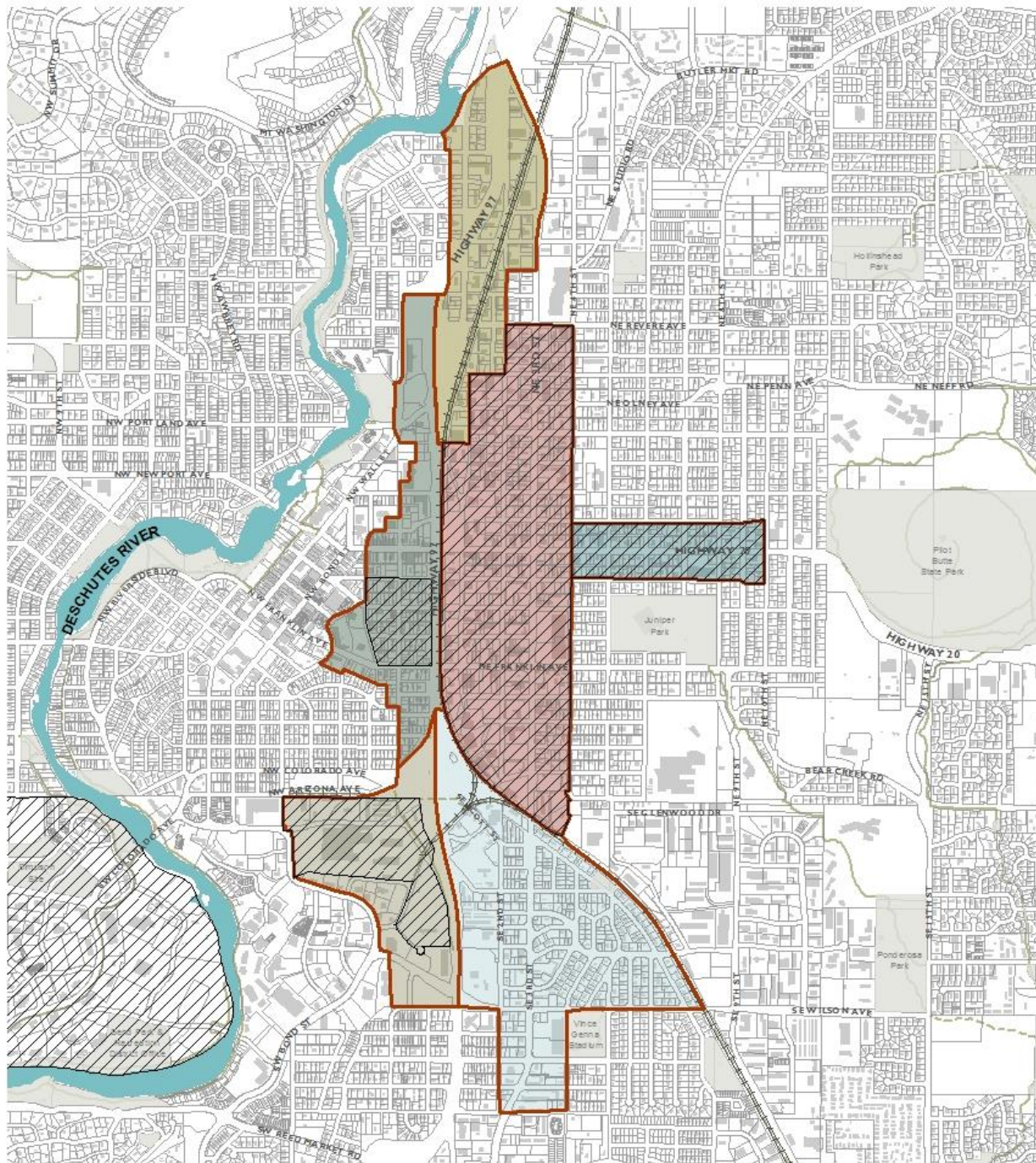
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BEND CORE AREA STUDY AREA



- Division Subarea
- Bend Central District Subarea
- Hwy 20/Greenwood Subarea
- Greater East Downtown Subarea
- Greater KorPine Subarea
- Wilson Subarea

- Core Area & Subarea Boundaries
- Opportunity Areas
- Building Footprints*
- Taxlots
- Parks

3/13/2019



*This information is not verified by the City of Bend

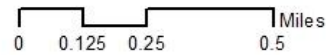


FIGURE 1. PROJECT STUDY AREA

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SUMMARY

The purpose of this report is to begin to describe the existing conditions for the project study area and present historical planning work for context. The report is formatted to fulfill the existing conditions requirements for a future Urban Renewal Plan and Report, pursuant to Oregon Regulations and Statutes (ORS) 457 and support the process of sub-area visioning, project identification, and ultimately the development of implementation strategies for the Core Area of Bend.

This report will help to illuminate existing physical, social, and economic conditions within the project study area as well as existing conditions and planned improvements for various infrastructure systems including transportation, sewer, water, and stormwater.

The Core Area Project study area is inspired by previous planning efforts, such as the 2004 Central Area Plan and the Bend Central District Multimodal Mixed-Use Area (MMA) plan. This project is an implementation of the Bend Comprehensive Plan and the 2016 Urban Growth Boundary (UGB) process; it will identify strategies to help achieve the vision for the City's growth. The project study area includes four of the nine opportunity areas that were identified in 2016 Comprehensive Plan update. These opportunity areas, locations within the City where growth would be encouraged, include the Bend Central District, KorPine, East Downtown, and Inner Highway 20/Greenwood. While the Comprehensive Plan describes the vision for each of these opportunity areas, the study area boundary also includes new sub-areas, Division and Wilson, which to date have received little planning investment.

All of these sub-areas have received various levels of planning attention; Bend Central District has had the greatest level of planning while Division and Wilson have had the least. The larger study area was first drafted in the City's Urban Growth Boundary Implementation Return on Investment Analysis to be used for a pre-feasibility assessment of creating a new Urban Renewal district for these four opportunity areas.

Urban Renewal is a tool used to encourage private investment and remove blighted conditions. Blighted areas are defined in ORS 457 as "areas that, by reason of deterioration, faulty planning, inadequate or improper facilities, deleterious land use or the existence of unsafe structures, or any combination of these factors, are detrimental to the safety, health, or welfare of the community". Therefore the study area was drawn to include the four identified opportunity areas as well as the surrounding areas, Division and Wilson, to ensure that adjacent properties to the City identified opportunity areas be connected to the benefits of a redevelopment and future growth. This report largely describes the existing social, economic, and physical conditions of the project study area in addition to providing context of historical planning efforts that can inform the project.

In summary, the area is well served by major infrastructure such as sewer and water in the near term. However, there are significant transportation and streetscape investments needed in order to encourage higher levels of private investment in the area. Affordable housing, parking, and storm water will also require strategic planning and implementation considerations.

BEND COMPREHENSIVE PLAN

The City’s Comprehensive Plan, which guides land use planning and development in Bend was updated in 2016 when the City completed the Urban Growth Boundary (UGB) process. As part of that process, some land uses within opportunity areas were re-designated. For example, the KorPine and East Downtown opportunity areas were designated to be Mixed Urban (MU) from their former designations. KorPine had formally been an industrial designation. In addition, the Inner Highway 20/Greenwood opportunity area was largely re-designated Mixed Neighborhood (MN).

Comprehensive Plan and Zoning Maps

In 2018, the City completed the Map Alignment Project which worked to match the City’s zoning map to the Comprehensive Plan map. The Zoning Map identifies districts that implement the Comprehensive Plan designations. The Development Code then details what uses are permissible in the different zoning districts. Generally, the Comprehensive Plan is the blueprint for how the community of Bend will grow and the zoning districts are the tools that ensure development is consistent with the plan. At the time of the Map Alignment project there were around 1,952 acres in the City that were not in compliance with the Comprehensive Plan map.

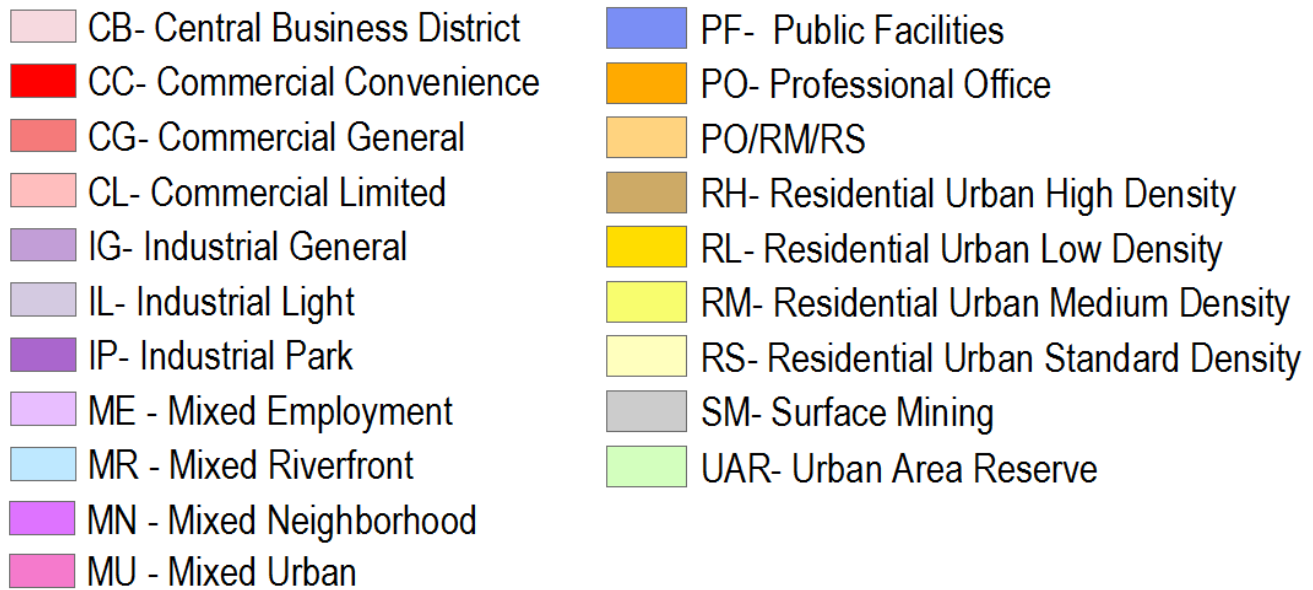
While the Map Alignment Project worked to streamline development for existing owners; property owners that would be affected by the project could “opt out” of the Map Alignment Project. Therefore, there are minor inconsistencies between the Comprehensive Plan Map (Figure 3) and the Zoning Map (Figure 4). Figure 2 details the titles of each land use designation and its associated color on the Comprehensive Plan and Zoning Maps. A more detailed description of the land uses allowed within each of these land use designations is available in the Bend Development Code.

The City created several new land use designations as part of the 2016 Urban Growth Boundary (UGB) process including:

- **Mixed Urban (MU)**
- **Mixed Neighborhood (MN)**

These new plan designations were applied to properties within the City’s opportunity areas including KorPine, East Downtown, and Inner Highway 20/Greenwood.

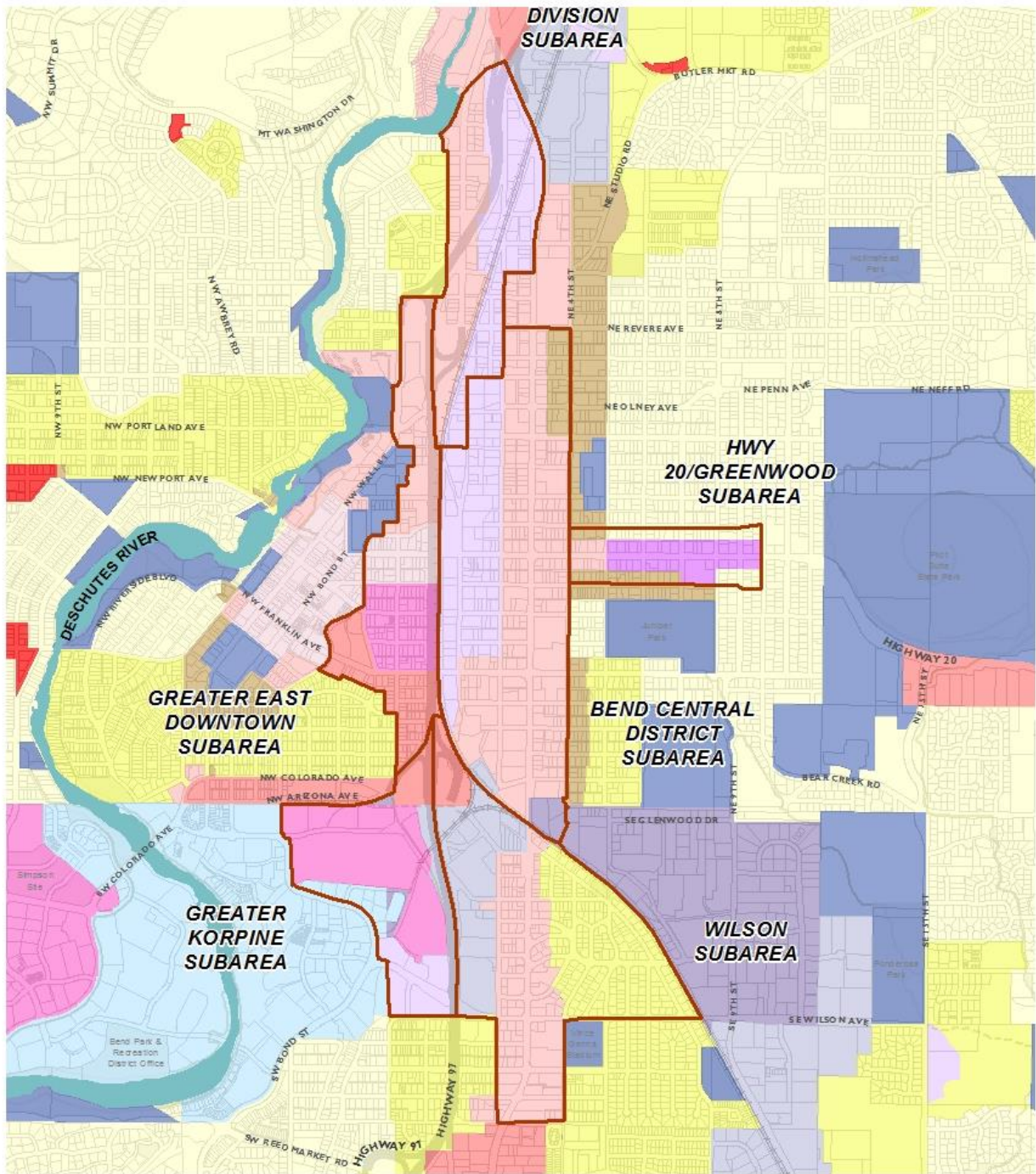
FIGURE 2. CITY OF BEND LAND USE DESIGNATION CODE & MAP COLOR



As demonstrated by the Comprehensive Plan and Zoning maps; the study area consists of a diversity of land uses; primarily Limited Commercial and Mixed Use (Mixed Urban, Mixed Neighborhood, Mixed Employment, and Mixed Riverfront) in addition to residential zones ranging from High Density to Standard Density and some Industrial Light and General Commercial. The following table lists the various land use designations within each project sub-area.

TABLE 1. LAND USE DESIGNATIONS BY SUB-AREA

Sub-area	Land Uses
Bend Central District	ME, CL, RH, IL, IG
Greater East Downtown	MU, CB, CL, CG
Inner Highway 20/Greenwood	MN, CL, RH, RS, CG
Greater KorPine	MU, MR, ME, IG
Wilson	RM, CL, IL
Division	CL, ME



**BEND CORE AREA
COMPRHENSIVE PLAN
DESIGNATIONS**



	CB		IL		PF
	CC		ME		RH
	CG		MN		RM
	CL		MR		RS
	IG		MU		

- Core Area & Subarea Boundaries
- Taxlots
- Parks

3/12/2019



* This data has not been verified by the City of Bend

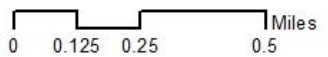
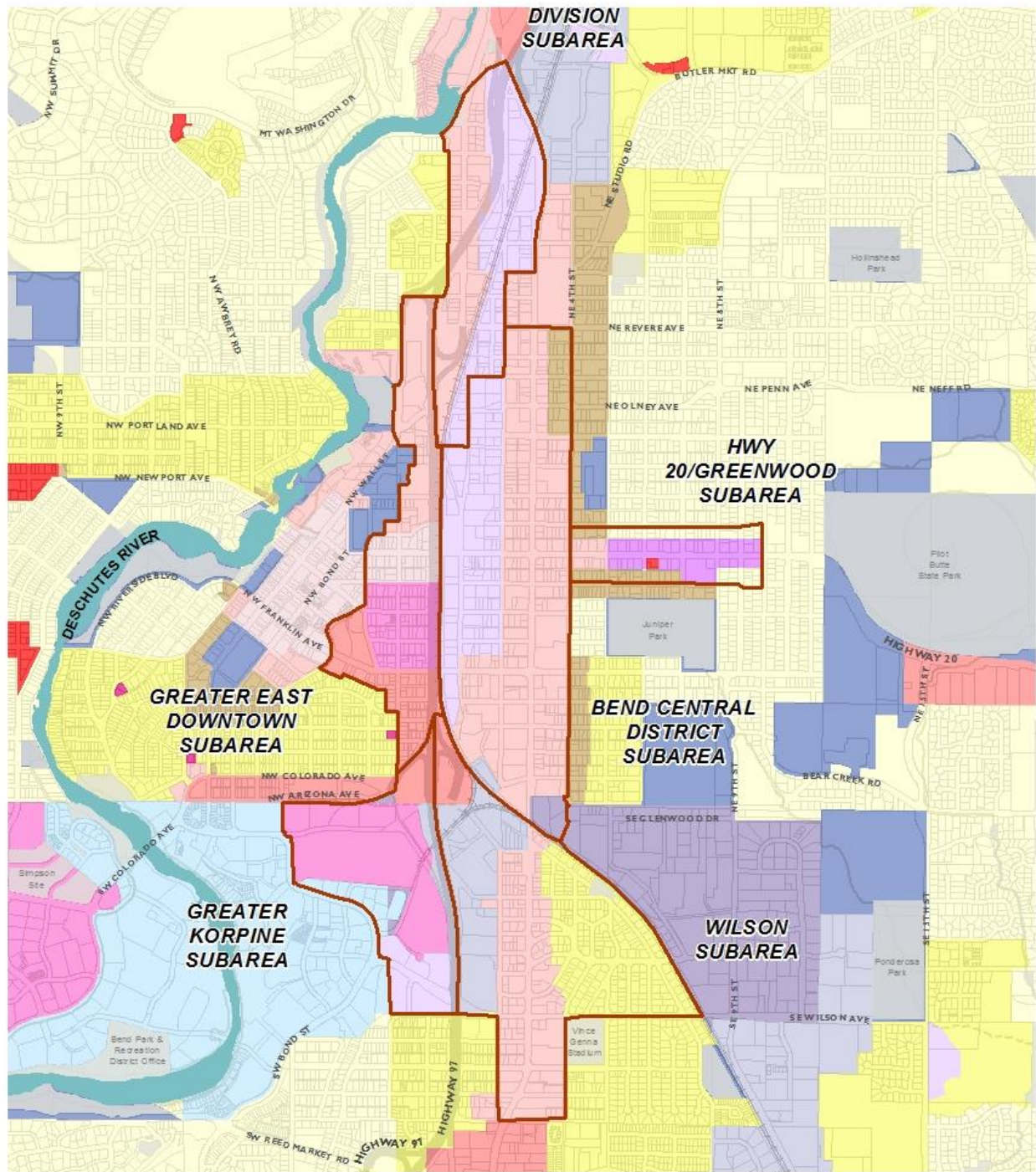


FIGURE 3. BEND COMPREHENSIVE PLAN MAP & STUDY AREA



BEND CORE AREA ZONING MAP



CB	IG	MU	Core Area & Subarea Boundaries
CC	IL	PF	Taxlots
CG	ME	RH	Parks
CL	MN	RM	
CN	MR	RS	

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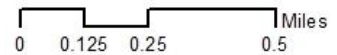


FIGURE 4. CITY OF BEND ZONING MAP & STUDY AREA

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Chapter 11

Chapter 11 of the Comprehensive Plan was adopted as part of the 2016 Urban Growth Boundary (UGB) expansion process. The project study contains four of the nine opportunity areas that were identified as appropriate to focus new growth due to their location, zoning (existing or planned), amount of vacant or undeveloped land, and/or proximity to urban services. The study area also falls entirely within what the Comprehensive Plan identifies as Bend's Central Core, shown in Figure 6.

Bend's Central Core

The Central Core is a planning concept; and is meant to be a uniquely livable part of the city that provides proximity to downtown, the Deschutes River, Juniper Park and a variety of regional destinations; a walkable street grid; neighborhoods with historic character; and successful small neighborhood centers and corridors such as 2nd and 4th Streets. The Central Core is meant to provide access to a high concentration of jobs by a variety of mode and transit service. The success of the Central Core is attributed to a blend of the “D” variables (density, diversity, design, and destinations) that are important influences on travel behavior and livability¹ as described in Bend's Integrated Land Use and Transportation Plan (ILUTP).

The project study area provides opportunities for vertical mixed use development and integration of land uses to encourage infill and appropriate redevelopment within the Central Core as well as provide enhanced connectivity between east and west Bend.

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

During the UGB Remand process (2014-2016), the City modeled vehicle miles traveled (VMT) per capita throughout the urban area under different growth scenarios as in indicator (required by the state) of reliance on the automobile. Predictably, the Central Core showed the lowest levels of VMT per capita, and the highest potential for “moving the needle” toward relatively less VMT per capita through infill



¹ See Bend Integrated Land Use and Transportation Plan, which is an appendix to the Bend Transportation System Plan.

and redevelopment to focus growth and further increase the density and diversity of uses in this area.

FIGURE 5. RENDERING OF REDEVELOPMENT OF 2ND STREET & GREENWOOD AVENUE RESULTING IN WALKABLE STREETS AND 3-5 STORY COMMERCIAL AND MIXED USE BUILDINGS



For all of the reasons described above, the Central Core is considered a particularly important part of the City’s growth management efforts. The

success of Bend’s transition to more of an urban community will follow the continued growth, in appropriate areas, of the Central Core. It is important to note that placing a priority on growth within the Central Core does not mean that all areas should redevelop. In this context, “appropriate areas” means development and redevelopment on vacant lands, underutilized lands, and where development is designed to be compatible with adjacent, stable areas.

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

Relevant Comprehensive Plan Policies

Opportunity Area Visions

The Comprehensive Plan identified visions for all of the opportunity areas identified in the 2016 URB process, those within the Core are shown below.

- **Bend Central District** – opportunity for the 3rd Street commercial strip to transition to a mixed use corridor
- **East Downtown** – long-term opportunity for an extension of the downtown
- **KorPine** – opportunity to transform an industrial area into a vibrant urban mixed use district
- **Inner Highway 20 / Greenwood Ave** – opportunity to shift to a more walkable mixed use corridor

In addition, Chapter 11 of the Comprehensive Plan describes the policies that are applicable to the City’s future growth and particularly relevant to the Core Area Project. Policies 11-1 through 11-10 describe the City’s commitment to compact development and integration of land uses to encourage infill and appropriate redevelopment, reduction of vehicle miles traveled (VMT), as well as vertical mixed use development within the Central Core, Opportunity Areas and along transit corridors.

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BEND DEVELOPMENT CODE

The Bend Development Code governs all land uses within the city limits of Bend. The titles of the code are used to review land use applications and are organized as follows: Land Use Districts, Design Standards, Applications and Review Procedures, and Exceptions to Code Standards. Title 2 of the Code, Land Use Districts, describes the uses permitted in each land use district which are divided into the following chapters: residential, commercial, employment, mixed-use, industrial, surface mining, public facilities, special planned districts, and the urbanizable area district. Special planned districts, refinement plans, area plans and master plans is a development tool used by the city to describe in more detail the type of development planned for a specific area than is typically found in the Comprehensive Plan, zone map, or public facilities plan. The Bend Central District overlay is an example of a special planned district, which is discussed in the next section.

The following table was developed to illuminate the development code’s application to the residential and mixed-use land use districts within the study area. This table is meant to be a summary and is therefore not comprehensive of the full provisions of the Bend Development Code.

TABLE 2. BEND DEVELOPMENT CODE DESIGN STANDARDS FOR MIXED USES AND MEDIUM/HIGH DENSITY HOUSING

Land Use District	Min- Max Density allowed	Max Height allowed	On-site parking min*	Min-max front set-back
Mixed Urban (MU)	7.3-21.7 units/acre	65 feet (ft)	1 space/ 500 sq. ft 1 space per dwelling unit	Min: None Max: 10 feet
Mixed Neighborhood (MN)	7.3-21.7 units/acre	45 ft	Residential: 1-2 spaces/ unit**	Min: None Max: 10 ft
Mixed Employment (ME)	6-10 units/acre; None if non-residential uses occupy the ground floor	45 ft	Refer to BDC Table 3.3.300	Min: None Max: 10 ft or 80 ft when fronting street does not allow on-street parking
Mixed Riverfront (MR)	None	45 ft; 35 ft w/i 100 ft of River high water mark)	Refer to BDC Table 3.3.300	Min: None Max: None
Medium density Residential (RM)	7.3-21.7 units/acre	35 ft	1-2 spaces/ unit**	Min: 10ft (garages must be 20 ft)
High density Residential (RH)	21.7- 43 units/acre	45 ft	1-2 spaces/unit**	Min: 10ft (garages must be 20 ft)
Bend Central District Overlay	Residential uses as part of mixed-use development only	45 ft (4 th Street) 65-85 ft (1 st -3 rd & South)	Residential: 1 space/unit Retail <5,000sq ft: None Office: 1.5/1,000sq.ft	Min: 5 feet; 10 feet (3 rd Street) Max: 10 feet; 15 feet (3 rd Street)

* For a comprehensive understanding of off-street parking requirements based on intended use, refer to BDC Table 3.3.300.

** Parking requirements for residential depend on the # of bedrooms and building form (multifamily, duplex/triplex or single family)

Bend Central District Overlay

The MMA Plan did result in the adoption of the Bend Central District (BCD) special planned district code which can be found in Section 2.7.3200 of the [Bend Development Code](#). The code identified sub-districts (1st & 2nd Street, 3rd Street, 4th Street, and South Sub district) within the Bend Central District that correlate to different conditional and allowed uses.

Table 2.7.3220 of the Bend Development Code lists the permitted uses in the Bend Central District by Sub district and is attached as Appendix A of this report.

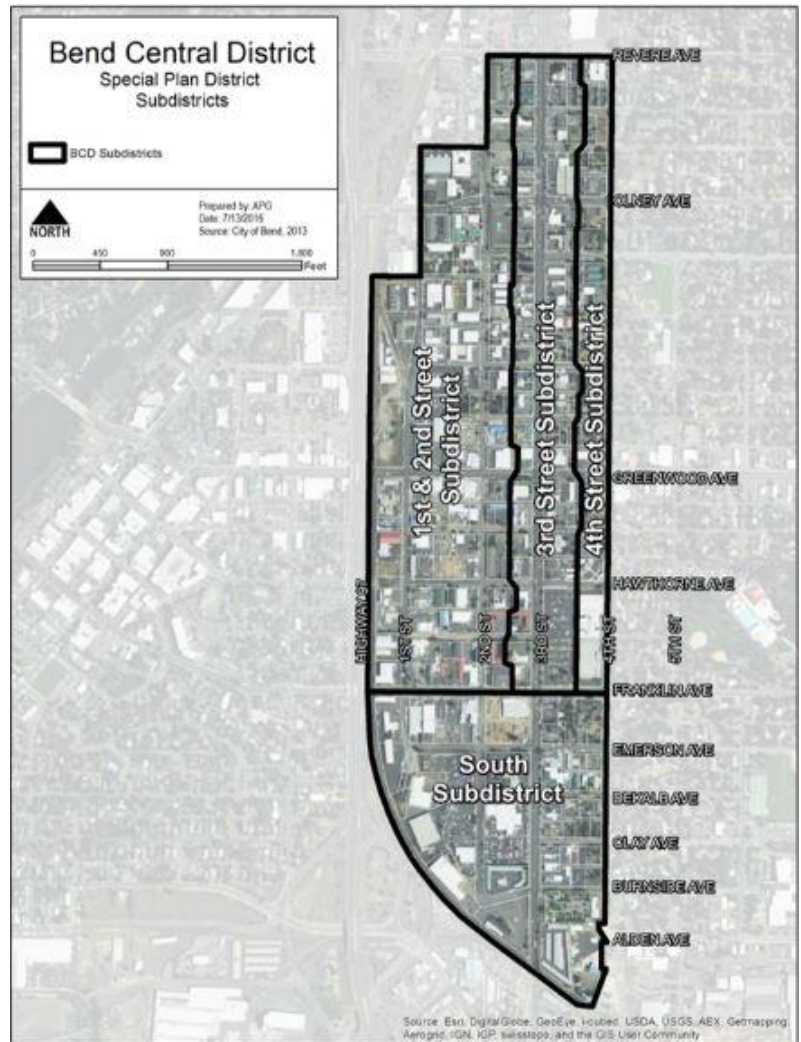


FIGURE 7. BEND CENTRAL DISTRICT SPECIAL PLANNED DISTRICT SUBDISTRICTS

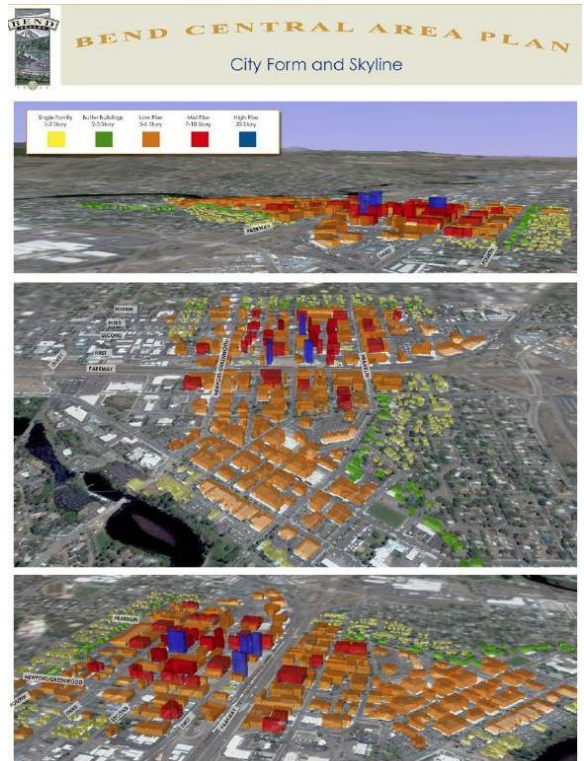
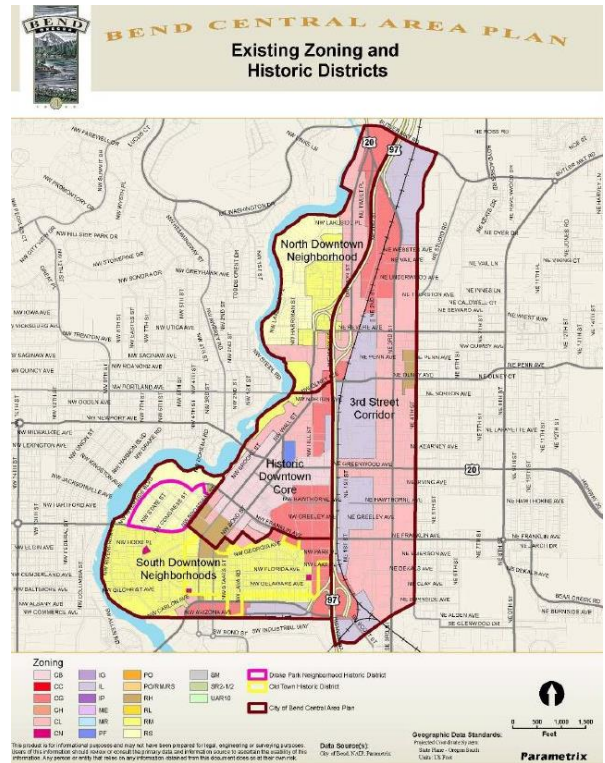
PREVIOUS CENTRAL AREA PLANNING EFFORTS

As mentioned, the project study area is largely inspired by previous planning efforts in addition to the Comprehensive Plan. The two prior planning efforts that have the most relevance to the Core Area Project include the 2004 Central Area Plan and the 2014 Bend Central District Mixed-Use Multi-Modal (MMA) Plan. The 2004 plan looked at a large portion of the project study area in conjunction with the Downtown Core whereas the MMA plan was an effort to encourage multimodal travel and redevelopment within the Bend Central District. Unfortunately, neither plans were ever formally adopted. However, the MMA plan did result in the adoption of the Bend Central District overlay code and identification of the Bend Central District opportunity area in the UGB process. Despite their lack of adoption, the planning work that went into both of these plans provide valuable insight and a foundation to build on for the Core Area Project.

2004 Central Area Plan

This was a planning study that consisted of parts of this project study area in combination with Downtown. With a focus on roadway and street facilities, the plan identified “major traffic streets” (Colorado, Arizona, Oregon, and Hawthorne Avenues) “great streets” (3rd Street, Portland, Olney, Greenwood and Franklin Avenues). The project was led by the City appointed Downtown Advisory Committee (DAC), a Project Advisory Committee (PAC), and the Central Area Plan Advisory Committee (CAPAC). The DAC was primarily focused on the urban renewal district in the downtown core area; CAPAC took their place after the urban renewal projects were completed to look at the broader central area. CAPAC developed vision statements for several Central Area neighborhood districts: The Historic Downtown Core, the Third Street Corridor, the Greenwood Avenue corridor, and the “Bend Central” Neighborhood.

The Central Area Plan looked at various factors in addition to transportation and neighborhood districts for the Central Area including city form/skyline,



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gateways, network and open spaces, large-scale development opportunities, and development types. In addition, the plan identified catalyst projects organized into three categories (Transportation, Development/ Redevelopment, and Design/Public Spaces). The full 2004 Central Area Plan is available for reference in Appendix B of this document.

2014 Bend Central District Mixed-Use Multi-Modal Area (MMA) Plan

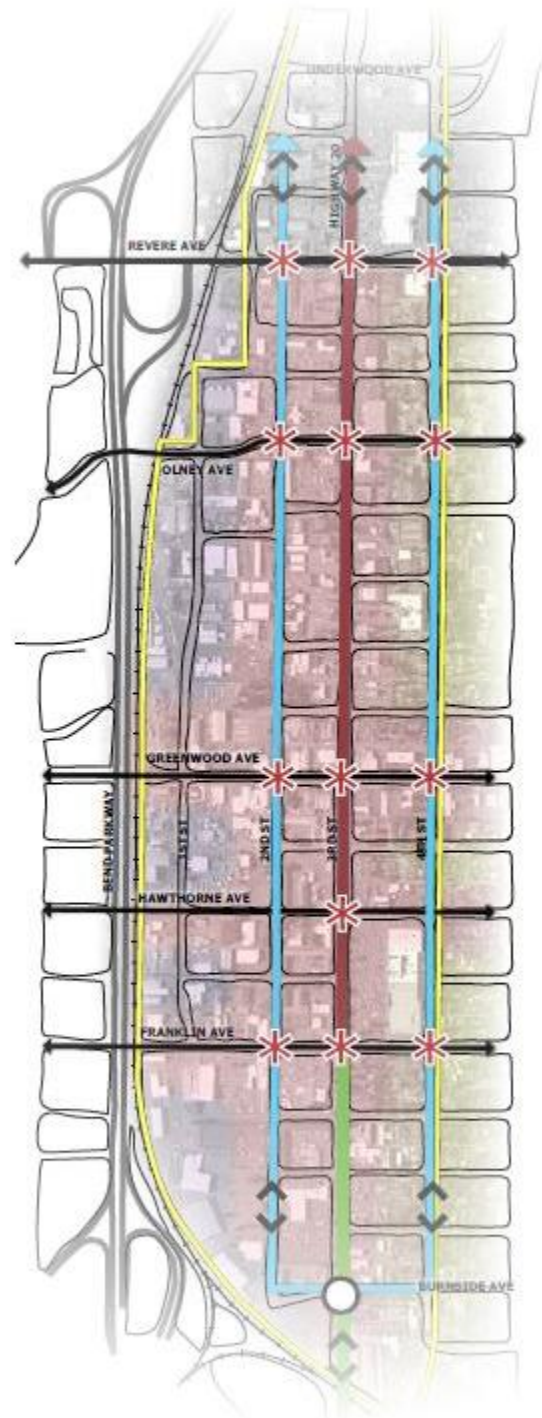
This plan was funded through a grant from the Transportation and Growth Management (TGM) Program. The plan focused on multimodal transportation needs (such as biking, walking and transit) and identified opportunities for improved connectivity, safe access and mobility within the area known as the Bend Central District (including the 3rd Street corridor).

The Multimodal Mixed-Use Area (MMA) project looked at ways to improve connections for everyone traveling in the area by foot, bike, bus, car, or freight truck. The plan examined ways to develop the area in the future to include a combination of housing, businesses and other uses to create a vibrant area.

The plan proposed enhancements to multimodal conditions in the Bend Central District including:

- Near term bicycle and pedestrian projects
- Proposed transportation network including conceptual street designs, intersection controls and pedestrian, bicycle and transit strategies
- Enhanced east-west pedestrian and bicycle connectivity
- Transportation demand management (TDM) strategies
- Policy and code amendments
- Additional implementation strategies

The ultimate goal of this plan was to adopt a Mixed Use Multi Modal Area (MMA), which is a designation that lifts certain requirements in the Transportation Planning Rules (TPR) that apply to automobile congestion standards in the review of certain land use changes. Specifically, a local jurisdiction



does not need to apply local or state congestion performance standards when evaluating proposed plan amendments against the TPR in OAR 660-012-0060. MMA designations must be formally adopted by the Department of Land Conservation and Development (DLCD) with written concurrence from the Oregon Department of Transportation (ODOT) when located near state highway interchanges.

While the City's plan defined the MMA boundary, it was not successful in receiving full MMA designation. The project did result in amendments to the Bend Area General Plan (Comprehensive Plan), Transportation System Plan (TSP) and the Bend Development Code to allow future land use changes and redevelopment in the MMA. The full 2014 MMA Plan is available for reference in Appendix C of this document.

EXISTING CONDITIONS

For the purposes of this project, the study area has been broken into the following six sub-areas, as demonstrated in Figure 1.

1. **Bend Central District:** This area is the same as that studied in the 2014 Bend Central District Multimodal Mixed Use Area (MMA) Plan that resulted in the adoption of the Bend Central District overlay code.
2. **Greater East Downtown:** This includes the East Downtown opportunity area as well as the greater area to the east of Highway 97 between the KorPine opportunity area and the Revere interchange. This area is bordered by downtown to the west.
3. **Greater KorPine:** This area includes the KorPine opportunity area, the site of the former KorPine Particle Board Plant, in addition to the properties between the Box Factory site, Arizona Avenue, and the Colorado Interchange. It also includes properties east of US 97 north of Wilson Avenue and east of the Old Mill District.
4. **Highway 20/Greenwood:** This area consists of the properties along Highway 20/Greenwood Avenue between 4th Street to 10th Street.
5. **Division:** This sub area consists of the properties along Division Street and those that fall between and adjacent to US 97 and the railroad tracks north of Portland Avenue. This sub-area is split diagonally by the railroad and is characterized by primarily industrial users and limited connectivity and transportation access.
6. **Wilson:** The Wilson sub-area consists of the area between US 97 and the railroad southeast of the Colorado interchange and primarily north of Wilson Avenue. A portion of the sub area extends south of Wilson Avenue between 2nd and 4th streets. The area is largely residential however its transitions to commercial and industrial on its western side that abuts the US 97 Parkway.

Physical Conditions

The project study area is large, consisting of 1,160 tax lots and approximately 667 acres. The study area is generally comprised between Wilson Avenue to the south and the US 97/US 20 intersection to the north. Generally, the area lies between Downtown and the Old Mill District to the West and Pilot Butte State Park to East. The study area consists of areas along and adjacent to 3rd Street, US 97, Greenwood Avenue/US 20, and the BNSF Railroad and is divided East to West by US 97 and north to south by Greenwood Avenue/US 20.

TABLE 3. STUDY AREA SIZE BY SUB-AREA

There are differences in the character of each of the study sub-areas that will be described further in the Urban Design Analysis for this project. Despite the study area's proximity to Downtown and the Old Mill District; there is a great sense of isolation between these areas and the Core Area. This is further exacerbated by limited east-west connections. Those

Sub-Area	Size
Bend Central District	195.7 acres
Greater East Downtown	89.1 acres
Inner Highway 20/Greenwood	38 acres
Greater KorPine	88.5 acres
Wilson	163.7 acres
Division	91.6 acres
Total	667 acres

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connections that do exist are narrow, deteriorating, and do not provide comfortable conditions for users.

The areas surrounding the railroad, particularly the area between 1st and 2nd/3rd Streets has been informally referred to as the “Railroad District”, historically attracting users that located near the railroad for easy freight services.

The majority of the City including the project study area sits above lava rock, making underground construction and infrastructure extremely costly. This provides limitations on development capacity to provide parking or stormwater treatments below ground.

Physical conditions for infrastructure are further described in the Transportation, Sewer, Stormwater, and Water sections of this report.

TABLE 4. POPULATION BY SUB-AREA

Sub-Area	Population %
Bend Central District	8%
Greater East Downtown	13%
Inner Highway 20/Greenwood	11%
Greater KorPine	0%
Wilson	66%
Division	2%

Taxlots, or parcels, within the study area vary in size however there are many small lots within the study area; the majority (46%) are between 5,000-10,000 square feet (sq.ft.). However larger parcels still make up most of the total parcelized land within the study area. Parcel size is further demonstrated in the following table.

TABLE 5. PARCEL SIZE DISTRIBUTION IN STUDY AREA

Parcel Size (sq. ft.)	# of Parcels	% of Total Parcels	% of Total Land
<5,000	179	15%	3%
5,000-10,000	529	46%	20%
10,000-15,000	208	18%	14%
15,000-22,000	83	7%	8%
22,000-40,000	77	7%	12%
40,000-100,000	65	6%	21%
100,000+	19	2%	21%
Total	1160	100%	100%

Social Conditions

It is estimated that there are approximately 618 households, 706 housing units, and 1,341 people that live within the study area. Population data for the area was estimated using the City’s 2014 Building Lands Inventory (BLI) Analysis and the Envision Tomorrow model. The majority of households within the study area (66%) are located in the Wilson sub-area. The next most populated sub-area is Greater East Downtown followed by Inner Highway 20/Greenwood and Bend Central District. Between the 2014 BLI analysis and July of 2017, the Study area only gained 10 residential units.

The study area falls within six census block groups (that do not match the study area boundary). Various demographic factors including households in poverty, senior population, Hispanic households, and households with no cars were analyzed and spatially mapped in

comparison the study area using 2016 American Community Survey (ACS) 5-year estimates. As shown in Figure 8, the census block group that makes up the largest portion of the study area is Census Block Group # 6002 followed by #5005. Since census block groups are large in Bend, data derived from this analysis has limitations and should therefore be supplemented with qualitative, on the ground knowledge. The following table summarizes the demographic information that was estimated through this analysis and is further demonstrated in the Population Demographic maps included in Appendix D.

TABLE 6. DEMOGRAPHIC SUMMARY OF STUDY AREA (2016 ACS POPULATION ESTIMATES)

Population Group	#
Households (HH) in Poverty	395
Hispanic Population	71
HH without a Car	51
Senior Population	243

FIGURE 8. CENSUS BLOCK GROUPS IN THE STUDY AREA

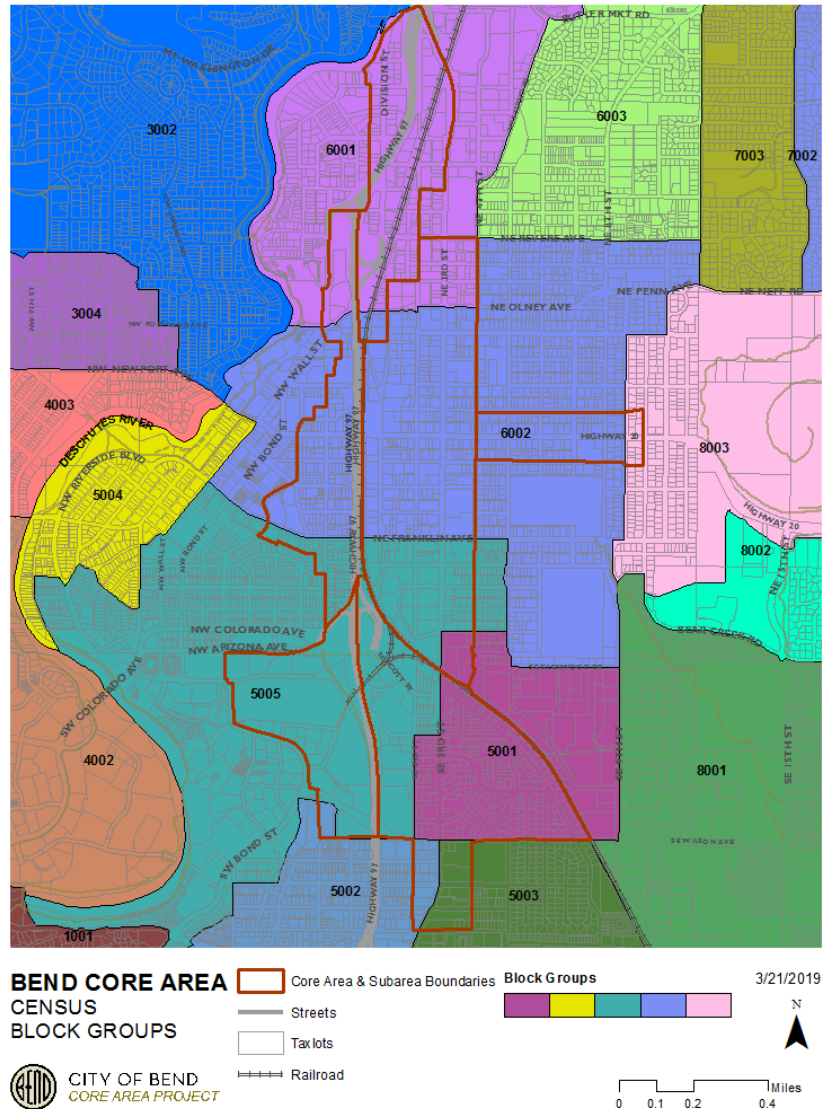
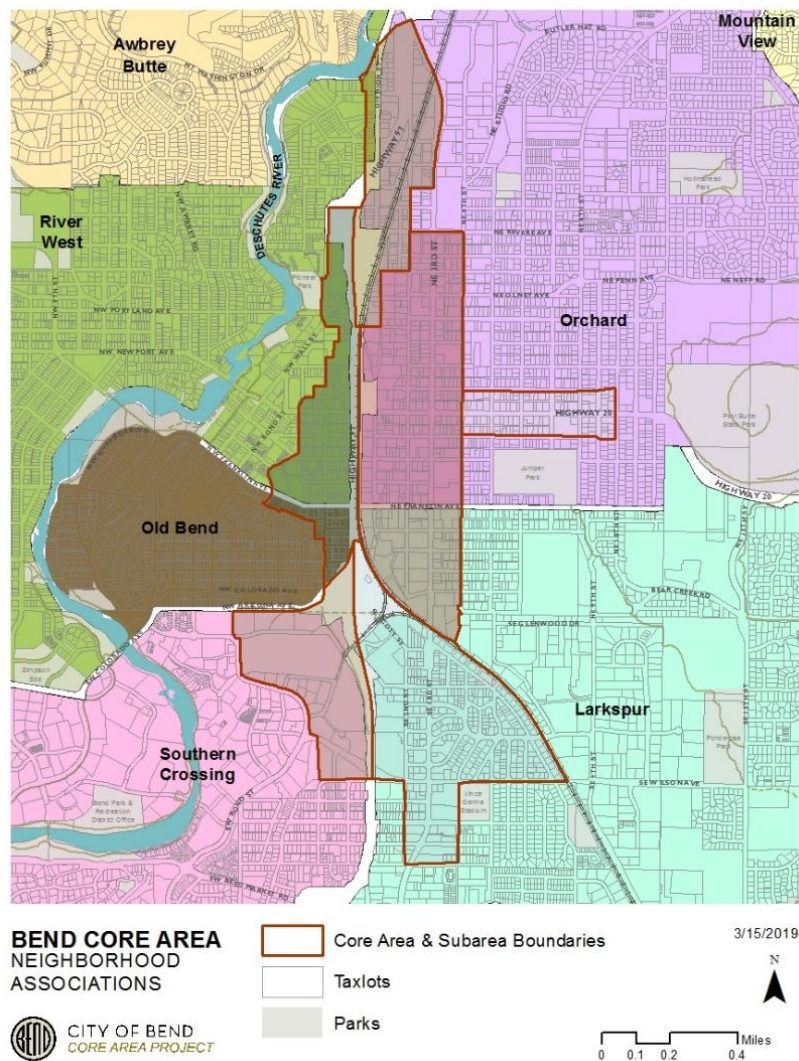


TABLE 7. DEMOGRAPHIC ANALYSIS BY CENSUS BLOCK GROUPS

Census Block Group	Intersecting Sub-areas	% block group in study area	HH in Poverty	Hispanic HH	HH with no car	Senior HH
5001	Wilson, BCD South	54.7%	22	11	0	22
5002	Wilson	5.1%	12	21	5	9
5003	Wilson	10.4%	62	9	1	6
5005	Greater KorPine, South BCD, South Greater East Downtown	39.4%	96	6	0	75
6001	Division, North Greater East Downtown	35.3%	101	17	45	51
6002	Greater East Downtown, Inner Highway20/Greenwood, Bend Central District	39.4%	96	6	0	75
8003	Inner Highway 20/Greenwood	1.2%	6	1	0	5

The study area contains properties that fall within five of the City’s thirteen neighborhood associations. The Orchard District and Larkspur neighborhood associations comprise the largest portions of the study area. While the western half of the study area is split between the River West, Old Bend and Southern Crossing neighborhood associations.

FIGURE 9. NEIGHBORHOOD ASSOCIATIONS IN STUDY AREA



Police, Fire and Safety

There have been 55,265 police calls within the study area over the last four years, averaging approximately 13,800 calls per year. The most prominent police calls within the study area include traffic stops (proactive policing). Approximately 40% of calls are traffic related. Traffic collisions are further described in the transportation section of this report. Unwanted people and suspicious circumstances calls are the highest dispatched calls in the area. However officer initiated activity is by far the highest police activity in the study area.

As population density increases in the area, fire and police personnel and resources will need to be considered further to ensure appropriate response times.

Economic Conditions

There are 796 active businesses within the project study area, which represent 11% of all Bend businesses². In 2016, there were approximately 6,725 employees in the study area³; the Bend Central District comprises the largest percentage of employees followed by the East Downtown sub-area.

The area presents itself as an area with relatively low rents compared to Downtown and the Old Mill for businesses. While a large portion of the study area was re-zoned in 2016, there has been little redevelopment to date. However, there have been 376 planning applications and 1,072 building permits filed with the City within the project study area. While there is significant development interest within the study area, there is also a sentiment that some of the existing regulations prevent significant redevelopment of the area.

The development potential and market conditions for the study area will be further explored through this project through the Development Feasibility Analysis. Recommendations to address development barriers will be discussed later in the project through the Implementation Framework.

The following list identifies some of the major development projects that have come forward since 2016 within the project study area.

TABLE 8. EMPLOYEES BY SUB-AREA

Sub-Area	Job Sites	Employees
Bend Central District	292	2,593
Division	83	893
Greater East Downtown	155	863
Highway 20/Greenwood	74	450
Greater KorPine	34	955
Wilson	85	971
Total	723	6,725

² Information found using Active Businesses license data on 2/15/2019

³ Data sourced from 2016 Quarterly Census of Employment and Wages (QCEW) data provided by the Oregon Employment Department

Land Use Applications & Developments

- **Elemental Hotel, 1236 NW Wall Street (PZ-17-0065):** Approved 3,000 SF restaurant, 3,000 SF retail space and 4-story hotel with pool.
- **Sunlight Solar, 150 NE Hawthorne Ave (PZ-16-0122):** Approved 3,072 SF two-story metal building with solar.
- **Quimby/4th Street Food Cart Lot, 373 NE Quimby Ave (PZ-18-025, BP 18-3421):** Approved two-story 3,290 square foot (SF) mixed-use building with office space, six self-contained portable walk-up food carts, 800 SF of uncovered outdoor seating, 2,600 SF of new lawn/play area and associated parking.
- **Playtpus Pub Redevelopment, 1203, 1225, 1233 NE 3rd Street (PZ-18-0235):** Proposed 2,000 SF coffee shop, 3,305 SF restaurant, and 25 stall parking lot.
- **Hill/Hawthorne, 816-828 NW Hill Street (PZ-17-0123):** Proposed 39 unit, 4 story apartment complex with live/work studios, 1 & 2-bedroom residences.
- **Brooks Resources/ Blue Dog RV Site, 181 NE Franklin Ave:** Brooks Resources bought the old Murray Holt property on Franklin Avenue with the intention to re-develop.

AFFORDABLE HOUSING

Bend home prices have risen by nearly 50% since 2015, and approximately 175% since 2011, which was the lowest point in the recession for Bend’s real estate market. Bend’s median home price rose to \$449,000 in 2018 from \$380,000 in 2016. Affordable housing continues to be a top priority for City Council and the Bend community.

Affordable housing, in Bend, is defined as housing with a sales price or rental amount that is within the means of a household that may occupy moderate- and low-income housing. Affordable housing is considered “affordable” if the interest, taxes, insurance, and condominium association fees constitute no more than 30% of the gross annual household income for a family at 80% of area median income (AMI) for units for sale and for a family at 60% AMI for units for rent. The City is interested in increasing the number of affordable units (<80% AMI) as well as middle income housing (80-150% AMI). Affordable Housing in Bend is further depicted by Figure 10.

The City has an Affordable Housing Advisory Committee (AHAC) and existing policies and programs in place that support affordable housing. These include:

1. **Affordable Housing program:** The City collects one-third of one percent of the total valuation on all building permits submitted to the City, which generates about \$1M per year to leverage state and federal funding to supply affordable housing units in Bend.
2. **Community Development Block Grant (CDBG) funding:** This funding can be used for acquisition, infrastructure, rehabilitation, and social services. The City allocates about \$300,000 per year of this funding.
3. **Density Bonus:** See Bend Development Code, Section 3.6.200
4. **Height Bonus:** See Bend Development Code, Section 3.6.200
5. **Parking reduction:** Bend Development Code, Section 3.3.300.D.1.d states that the parking requirement is one on-site space per affordable dwelling unit.

The City’s has helped to fund several affordable housing projects within the study area including two within the Wilson sub-area and two within the Inner Highway 20/Greenwood sub-area. Currently the City has no programmed affordable housing projects within the study area.

Sub-Area	House Sales (2007-2018)	“Affordable” house sales (2007-2018)
Wilson	96	53
Bend Central District	4	2
Greater Korpine	0	0
Greater East Downtown	36	8
Division	2	0
Inner Highway 20/Greenwood	23	7
Total	161	70

Since 2007, there have been 161 house sales in the project study area and approximately 43% of those house sales sold at a rate that was “affordable”, meaning it sold at a rate that was accessible to a person making 80% AMI in the year that house was sold⁴.

The sub-area with the most residential character, currently, is the Wilson sub-area followed by Greater East Downtown. The Wilson sub-area has historically served as an area with naturally occurring affordable housing that is gradually becoming less affordable, which parallels the trends of Bend’s housing market at large.

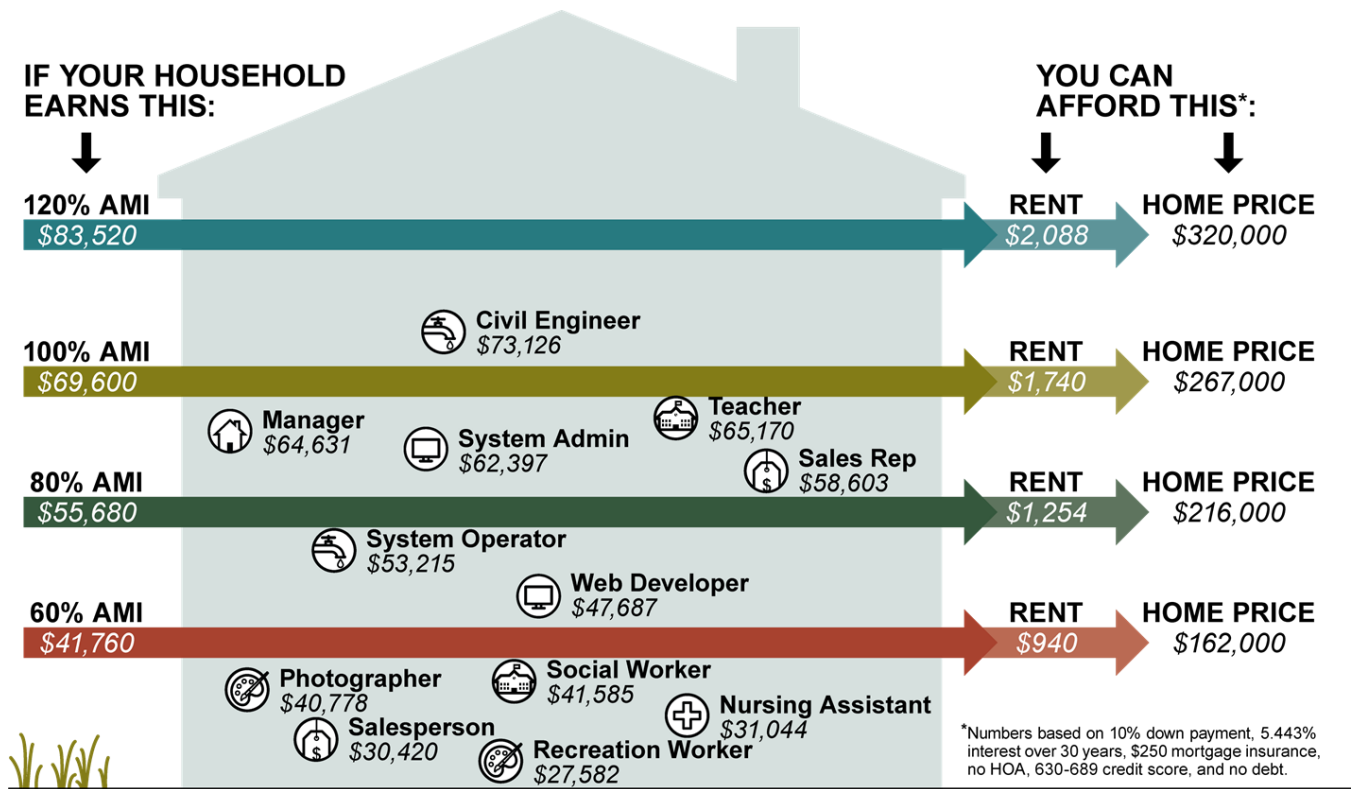


FIGURE 10. AFFORDABLE HOUSING IN BEND (2018) DIAGRAM

⁴ The calculations for this are based on a 10% down payment, 5.443% interest over 30 years, \$250 mortgage insurance, no HOA, 630-689 credit score, and no debt.

TRANSPORTATION

The project study area contains 31.6 roadway lane miles, primarily owned and maintained by the City of Bend. The Oregon Department of Transportation (ODOT) maintains two highways within the study area, the US 97 Parkway which runs north/south through the project study area as well as US 20 which runs north to south along NE 3rd Street until the 3rd/Greenwood intersection where it then transitions west towards 27th Street along Greenwood Avenue. There are several private roadway sections within the study area, all within the Greater KorPine sub-area including SE Aune Street, SW Scalehouse Loop, and SW Industrial Way.

On average the City's Pavement Condition Index (PCI) is 73. The City identifies roadways that have a PCI of less than 25 as needing complete rehabilitation necessitating a capital improvement project. NW Harriman Street between NW Lafayette Avenue to NW Kearney Avenue within the Larger East Downtown sub-area falls within that category. There are two additional road segments just outside the study area in Old Bend that also fall within this category- Lava Road and Staats Street between Florida Avenue and Georgia Avenue.

Right of way, land that is owned by the public for transportation and utility facilities, varies between 35 feet to 95 feet within the study area, apart from the larger right of way areas required for Highway 97, interchanges, and the railroad. The majority of the roadways within the study area have a 60 foot right of way such as 4th Street and Hawthorne Avenue. Greenwood/Highway 20 and 3rd Street maintain primarily an 80 foot right of way. While 1st and 2nd street primarily maintain a 60 foot right of way; there are several right of way "pinch points" along these roads where the right of way is as low as 35 feet such as areas along NE 1st Street near Norton Avenue. Figure 11 demonstrates right of way widths within the study area, the wider the right of way the greener the liner. There are section in the study area, including private roadways, in which the right of way is 0 feet which are demonstrated in red on the map. Right of way widths and acquisition is important to consider as streetscapes and street cross-sections are considered within the study area. Right of way must be distributed to balance the competing needs for parking, vehicles, sidewalks, and bicycle facilities.

The existing streetscape within the project study area consists of areas with significant missing sidewalks and sidewalk gaps. In addition, the area lacks street trees; lighting; and a safe, connected pedestrian and bicycle network. Existing pedestrian and bicycle conditions will be further discussed in the Urban Design Analysis and are also being considered as part of the City's Transportation System Plan update.

The study area is largely divided by the Burlington Northern Santa Fe (BNSF) railroad. The City, BNSF, and ODOT all own various portions of some of the key east-west connectivity bridges within the study area such as the Franklin undercrossing, Greenwood undercrossing, and the 3rd Street underpass. In addition, there are three at grade railroad crossings in the study area at Revere Avenue, Olney Avenue, and SE Scott Street. In addition, Wilson Avenue crosses over both US 97 and the railroad. BNSF owns most of the railroad bridges in the City including the Franklin and Greenwood railroad undercrossing bridges. In 2016, the City hired a consulting firm to conduct a feasibility study for improving pedestrian and bicycle safety across the railroad and parkway at three locations (Franklin, Greenwood, and Hawthorne) , included in Appendix E of this report, which found significant funding barriers to reconstructing existing underpasses - especially for the Franklin underpass which is considered a historic structure.

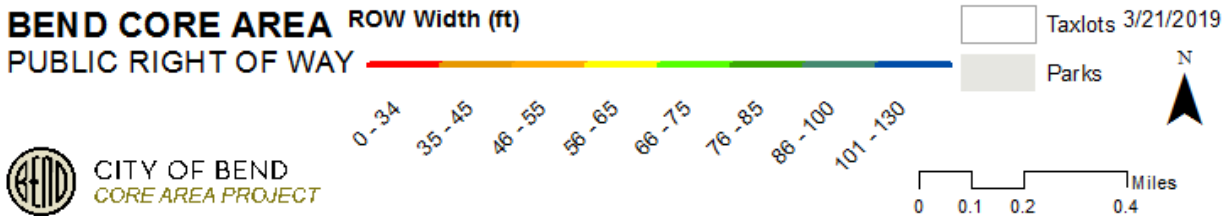
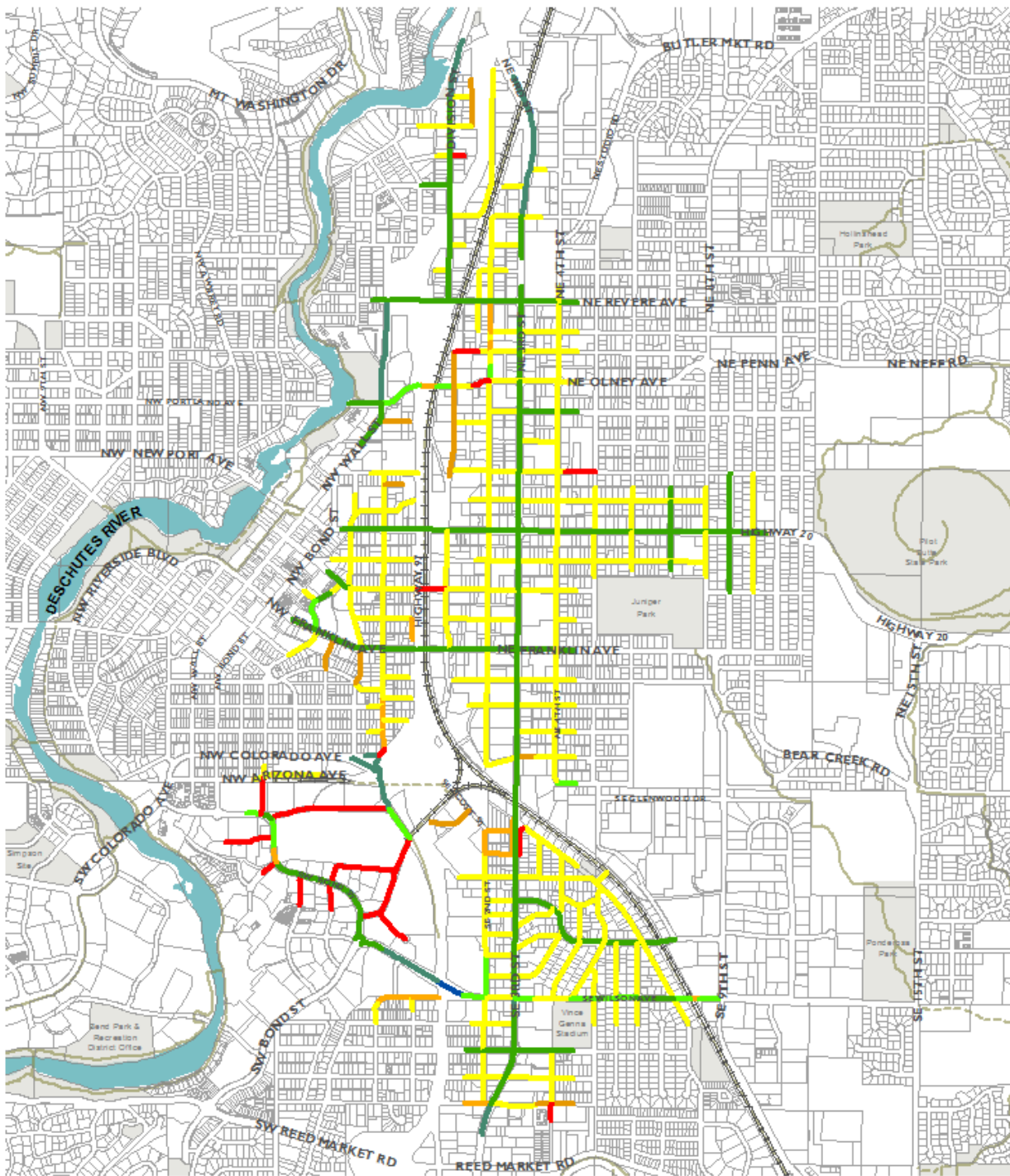
Some of the BNSF rail right of way in the KorPine sub-area was recently vacated; however, BNSF still uses rail right of way east of US97 including an at grade rail crossing at SE Scott Street and a railroad storage yard in the Wilson sub-area. This is an active rail yard with multiple tracks. BNSF does not allow new at grade railroad crossings unless additional at grade crossings are closed. New railroad crossings and designs must be reviewed and approved by BNSF and ODOT rail authorities with a strong preference for overcrossings.

Parking

Staff conducted an informal inventory of existing parking in an area of the Bend Central District between 1st and 4th Streets and Olney Avenue to the north and Franklin Avenue to the south recent using aerial photography. Existing parking within the study area includes on street parking in public rights of way and off-street parking in parking lots. Off-street parking is primarily associated with existing businesses although several undeveloped lots appear to serve as informal off-street parking areas.

Block lengths in this area vary; however, the average block length is approximately 415 feet by 330 feet. Existing on street parking is limited on arterials and collectors such as Greenwood/US20, 3rd Street, Franklin Avenue, and Revere Avenue. The majority of available parking in the study area is off-street parking with most blocks averaging approximately 85 off-street parking spaces.

As this area densifies, there will be a need to move from private parking for single-users to a parking district with shared surface parking. Eventually, a parking structure may be needed. A parking plan, including management and triggered actions, should be considered for the district.



CITY OF BEND
 CORE AREA PROJECT

FIGURE 11. RIGHT OF WAY WIDTHS IN STUDY AREA

Growth Management Department

Core Area Project
 April 2019

TRANSPORTATION PLANNING EFFORTS

The following transportation planning and development efforts are being integrated into the work of the Core Area Project.

1. **City of Bend's Transportation System Plan (TSP) update**
2. **2016 Transportation System Plan and Integrated Transportation and Land Use Plan (ILUTP)**
3. **2012-2014 Multimodal Traffic Safety Study**
4. **Oregon Department of Transportation US 97 Parkway Plan**
5. **Cascade East Transit 2040 Transit Master Plan**

City of Bend Transportation System Plan Update

The City is currently in the process of updating the Transportation System Plan in coordination with the Bend Metropolitan Planning Organization (MPO). A part of this update will also include a Transportation Safety Action Plan (TSAP). The City recently launched Phase 3 of the TSP and intends to adopt the plan by the Spring of 2020.

Citywide Transportation Framework Projects

These are projects that were recently approved by the City's Transportation Steering Committee as the foundational, framework level projects to be included in the TSP.

- **A-17:** Aune Road Extension (Bond to 3rd St)
- **B-29:** Widen 3rd St to 4 lanes under the railroad, including complete street design
- **C-24:** Study of cost and feasibility of relocating BNSF switchyard (@ Revere)
- **C-9:** US 97 northbound/Colorado Avenue traffic signal
- **C-2:** High capacity transit on Newport-Greenwood Corridor with mobility hubs @ COCC, downtown, St. Charles, Hawthorne Station
- **C-3:** 3rd Street high-capacity transit with mobility hubs near Robal, downtown, and Murphy Road
- **N-3:** Colorado Avenue/Industrial Way intersection capacity improvements
- **LSN:** Complete the bicycle low stress network (LSN)
 - The LSN includes the Hawthorne overcrossing/extension
- **C-16:** TDM program for major employers and institutions

The location of these projects are demonstrated in Figure 12.

Neighborhood Level Projects

The City is in the process of identifying neighborhood level projects based on input that was received through community outreach and in particular the neighborhood workshops. This project list will be drafted for the City's Citizen Transportation Advisory Committee (CTAC)'s next meeting in April of 2019. In addition, the Transportation System Plan will identify transportation policies and programs such as sidewalk infill and winter maintenance programs.

Transportation Safety Action Plan (TSAP)

The City, in coordination with the Bend Metropolitan Planning Organization (MPO), is in the process of identifying safety priority locations as part of the Transportation System Plan update. There have been 1,585 crashes within the project study area between 2007-2016. Of those, approximately 35 involved a pedestrian or bicyclist. The majority of pedestrian and bicycle collisions in the study area are clustered along US20 between NE 6th Street and NE 10th Street.

In that time, there were two fatal crashes. The first, in 2008, occurred at Miller Avenue and Railroad Street in the Wilson sub-area which involved a bicyclist and was caused by a turning movement in the late afternoon. Recently in 2016, a pedestrian was killed at night near the east bound ramp to US 97 from US20.

The City has identified 25 priority safety intersections to consider further for safety improvements within the project study area. The majority of crashes in the study area are intersection crashes concentrated along 3rd Street and Greenwood/US20 as well as Franklin Avenue.

KEY TRANSPORTATION TAKEAWAYS

1. The City of Bend, Cascade East Transit (CET), and Oregon Department of Transportation (ODOT) are all in the process of significant transportation planning studies which will identify projects and future funding priorities. These ongoing planning efforts include:
 - City of Bend Transportation System Plan (TSP) update
 - ODOT US97 Parkway Plan
 - CET 2040 Transit Master Plan
2. The Project Study area requires significant transportation connectivity, safety, capacity, modernization, and streetscape investments to enhance the area and encourage development.
3. The City and ODOT already have existing projects such as signal modernization and pedestrian crossings that are scheduled for construction over the next 2-3 years.
4. This project will require significant coordination with the City's ongoing TSP effort.

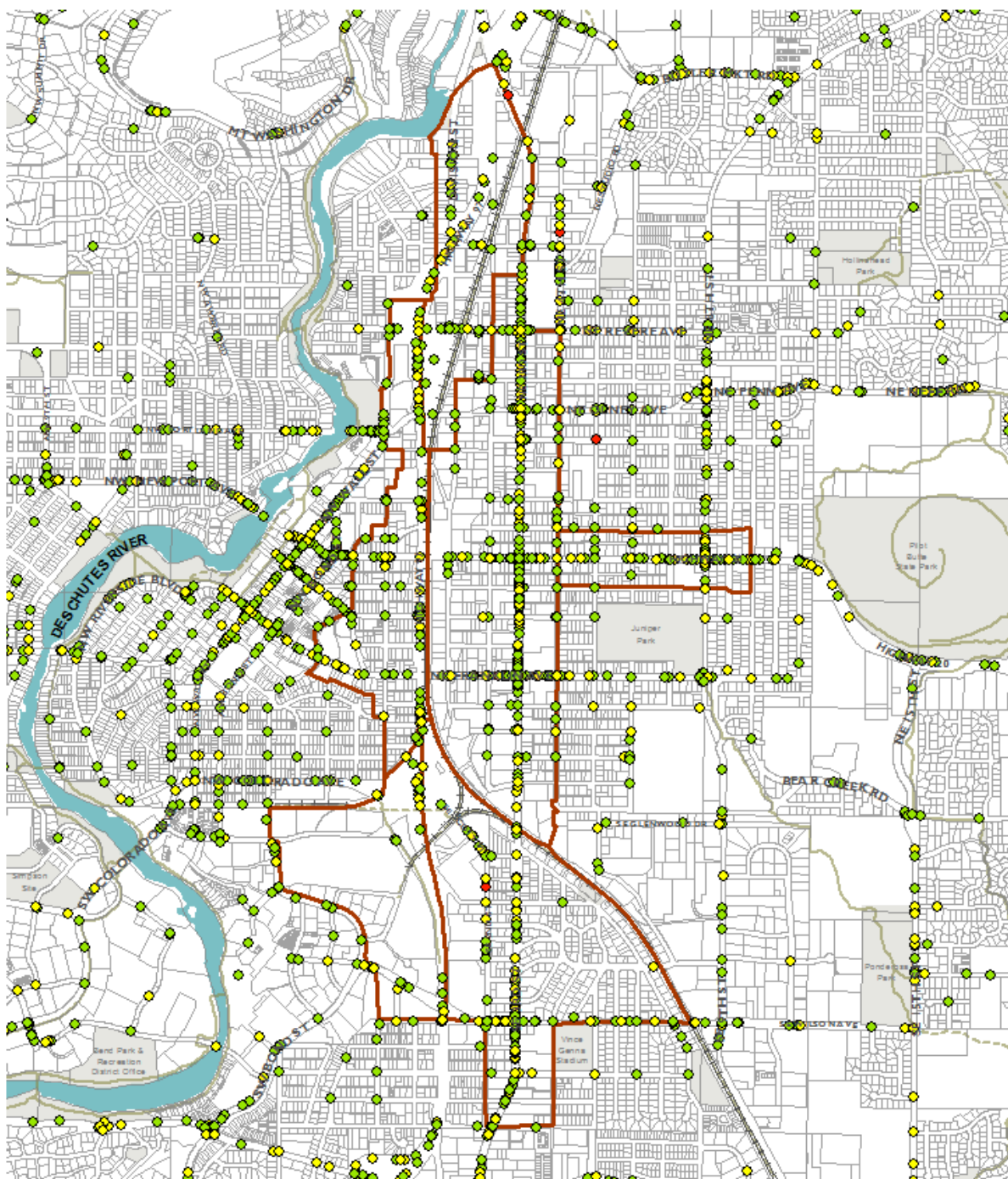
CTAC Citywide Transportation Framework

1/21/2019

CTAC Recommendation: Central Bend



FIGURE 12. BEND TSP CITYWIDE TRANSPORTATION FRAMEWORK



BEND CORE AREA
COLLISIONS
2007-2016

- Core Area & Subarea Boundaries
- Taxlots
- Parks

- Fatal crash
- Non-fatal injury crash
- Property damage only crash (PDO)

3/20/2019

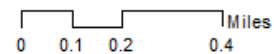
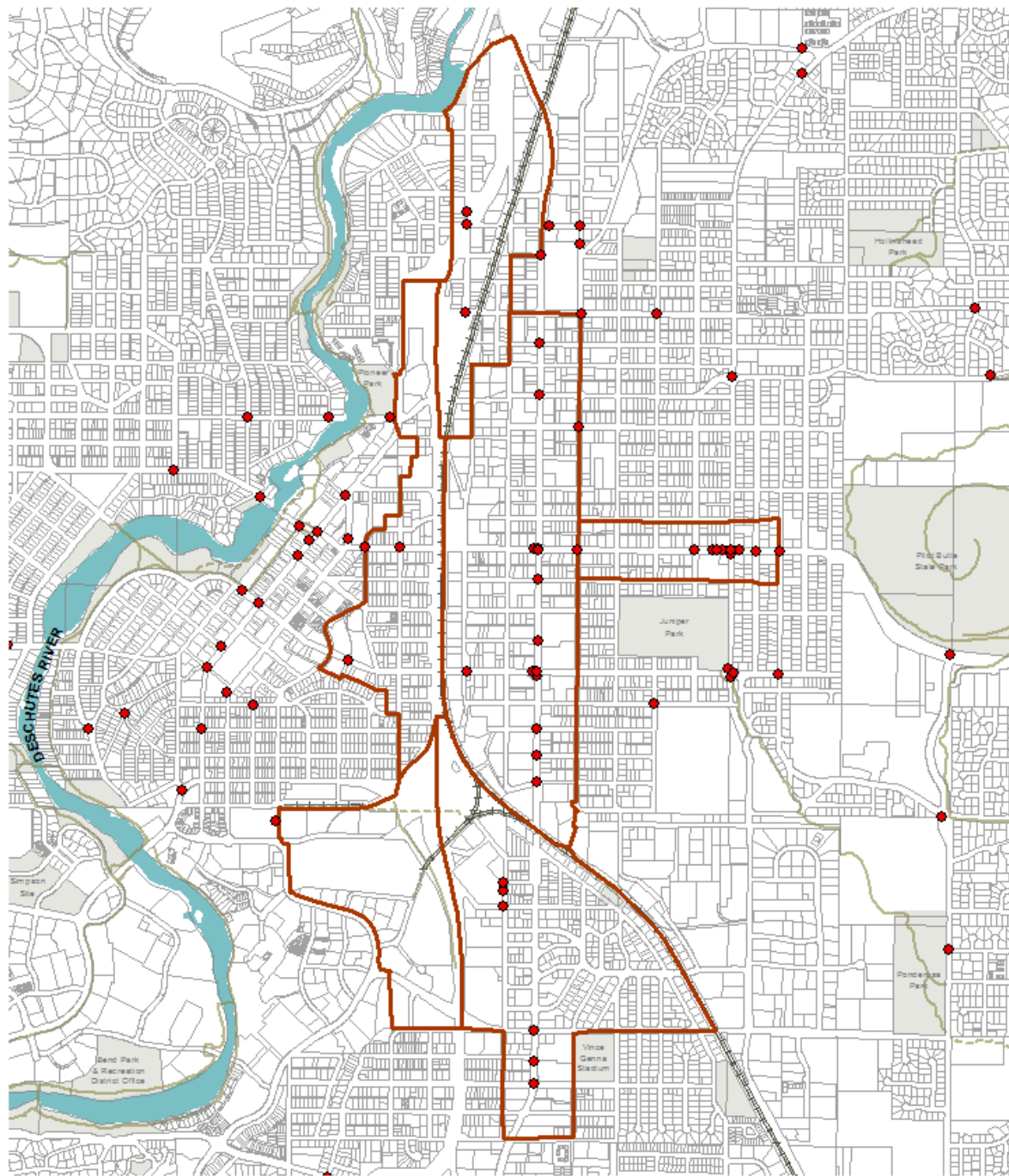


FIGURE 13. TRAFFIC COLLISIONS 2007-2016





Growth Management Department

Core Area Project

April 2019



**BEND CORE AREA
PED/BIKE
COLLISIONS**

-  Core Area & Subarea Boundaries
-  Taxlots
-  Parks
-  Pedestrian/Bicycle Collisions

3/20/2019

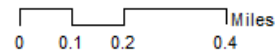


FIGURE 14. 2017-2016 BICYCLE AND PEDESTRIAN COLLISIONS

Growth Management Department

Core Area Project
April 2019

2016 Bend Transportation System Plan & Integrated Land Use and Transportation Plan (ILUTP)

The 2016 TSP projects are being considered in the current transportation system plan so they are not listed in this document. The Integrated Land Use and Transportation Plan (ILUTP) did identify strategies and projects that are relevant to the Core Area including:

- Land Use Strategies
- Transportation Demand Management (TDM) and Parking Management
- Transit
- Roadway Improvement Management and Policies (including road diets on streets experiencing safety concerns)
- Complete Streets and Connectivity Investments

2012-2014 Multimodal Traffic Safety Study

This project identified problem areas for safety as well as countermeasure solutions. Those identified within the Core Area project study area are listed in the table below. These identified projects will be incorporated into the draft project list as a part of this project.

TABLE 9. 2014 MULTI MODAL SAFETY PLAN IDENTIFIED SAFETY CONCERNS & PROJECT IMPROVEMENTS

Location	Crash Trend	Countermeasure	Cost	Impact via Crash Reduction
1 st Street/Greenwood Avenue	NB EB angle crashes	Curb extensions south side	\$44, 376	\$22,000
2 nd Street at Wilson Avenue	Sidestreet crossing (poor visibility)	Improve visibility, do not block intersection	\$18,480	\$150,000
3 rd Street at Franklin Avenue	Right turn hook with Bike, red light running	Dutch bike crossings, signal timing & phasing	\$259,256	\$998,000
Division Street at Revere Avenue	Permitted lefts, rear end in shared left-through, red light running	Protected only phasing, road diet, signal timing and phasing	\$144,259	\$1,393,000
Greenwood Avenue at Hill Street	Pedestrian/Bicycle crossing safety	Add curb extensions, advance stop bars, illumination	\$167,655	\$70,000

Oregon Department of Transportation (ODOT) US 97 Parkway Plan

Draft Recommendations

The following projects are being considered as part of the US 97 Parkway Plan and are draft in nature. The draft projects discussed below were identified in ODOT's US 97 Parkway Plan Phase 2 Technical Memorandum #5 – Preliminary Alternatives. The Parkway Plan and final project list is expected to be completed by Summer of 2019.

Hawthorne & Lafayette On/Off Ramps

All the US 97 Right in/Right out (RIRO) approaches are expected to queue significantly due to increased northbound and southbound traffic on US 97 in the future, causing the intersections to fail to meet mobility targets. Furthermore, increased congestion at these intersections has already resulted in drivers selecting shorter gaps to enter US 97. This may lead to increased crashes.

While closing the RIROs will improve the operations and safety on US 97, the access provided by each intersection must also be addressed. Closing all RIRO intersections without mitigation would likely be detrimental to local business and downtown access.

Therefore, a number of modifications and configurations were explored and particular attention was given to access to key destinations, such as downtown. ODOT is therefore currently looking at two alternatives for the Hawthorne and Lafayette On/Off Ramps.

1. Closing them entirely
2. Converting them from right-in/right-out to right-in only



The second alternative means that drivers would be able to make a right-turn from US 97 onto Lafayette/Hawthorne Avenue but the right-turn onto US 97 would be restricted. This conversion would require the deceleration lanes to be reconstructed to meet ODOT standards where feasible.

Restricting only the right-turn onto US 97 would eliminate the queueing issues projected at Lafayette/Hawthorne Avenue and US 97 in the future but would still allow drivers to exit US 97.

Diamond Interchange or Signal at Colorado Avenue

Under future conditions, the US 97 NB and SB ramps at Colorado Avenue will not provide enough capacity to serve the forecasted demand at this interchange. In addition, the US 97 southbound ramp intersection at Colorado Avenue was flagged for safety issues under existing conditions. Reconstructing the interchange as a complete diamond configuration may address some of the operational and safety issues. If sight distance requirements can be met, signaling the intersection of the US 97 NB ramps at Colorado Avenue would also increase the operational and safety benefits of this alternative.

Growth Management Department

Core Area Project
April 2019

Widen 3rd Street at Colorado Avenue Rail Crossing

As traffic increases on US 97 in the future, so will the need for a reliable alternate route. 3rd Street may provide an alternate route as it runs parallel to US 97 with four lanes for most of its length. However, at the rail crossing near the US 97 Colorado Avenue interchange 3rd Street narrows down to two lanes. This reduction in capacity significantly impacts 3rd Street's ability to carry shorter distance trips in Bend that may otherwise be routed on US 97, or trips diverted to 3rd Street due to an incident.

A possible solution would be to widen 3rd Street from two to four lanes at the Colorado Avenue rail crossing. This would improve operations on US 97 by allowing 3rd Street to provide more effective incident alternate routing and also serve some short distance local trips that might otherwise try to use US 97.

Pedestrian and Bicycle Local System: Parkway crossings and parallel routes

ODOT is coordinating with the City of Bend to identify parallel routes and crossings needed to ensure a safe pedestrian and bicycle system. This is being integrated into the development of the City's Low Stress Network (LSN) concept.

Cascade East Transit 2040 Transit Master Plan

Cascade East Transit (CET), operated by the Central Oregon Intergovernmental Council (COIC), is the public transportation system providing fixed-route bus service in the City of Bend for the general public, and ADA-compliant Dial-A-Ride services for qualifying including persons with disabilities and seniors who qualify as low-income in the Bend area. CET's Dial-A-Ride provides service beyond the minimum $\frac{3}{4}$ mile of fixed route service to include all of Bend City Limits. In addition, CET provides Dial-A-Ride services on Sunday.

Additionally, the CET Community Connector bus service provides regularly scheduled bus service and is available between Bend and other communities such as Redmond, Terrebonne, Prineville, Madras, Culver, Metolius, Warm Springs, La Pine and Sisters.

CET is in the process of developing their 2040 Transit Master Plan to identify conceptual transit service over the next 20-plus years which will identify near, mid, and long-term transit service needs.

All of CET's nine transit routes in Bend begin and end service within the project study area at the Hawthorne Transit Station. CET's transit routes with the highest volume of rides include: those that serve 3rd Street: Route 4 (North 3rd Street) and Route 1 (South 3rd Street). In addition, Route 7 (Greenwood) that serves St. Charles Medical Center is a highly used route, as well as Route 3, which helps provide east-west connectivity. Routes 1, 4, and 7 are being recommended for high-capacity transit through the City's Transportation System Plan (TSP) update. In addition, there are currently pedestrian, bicycle, vehicle, and transit conflicts that currently exist around the Hawthorne Transit Station area that are recommended to be addressed through CET's planning efforts and the Core Area Project.

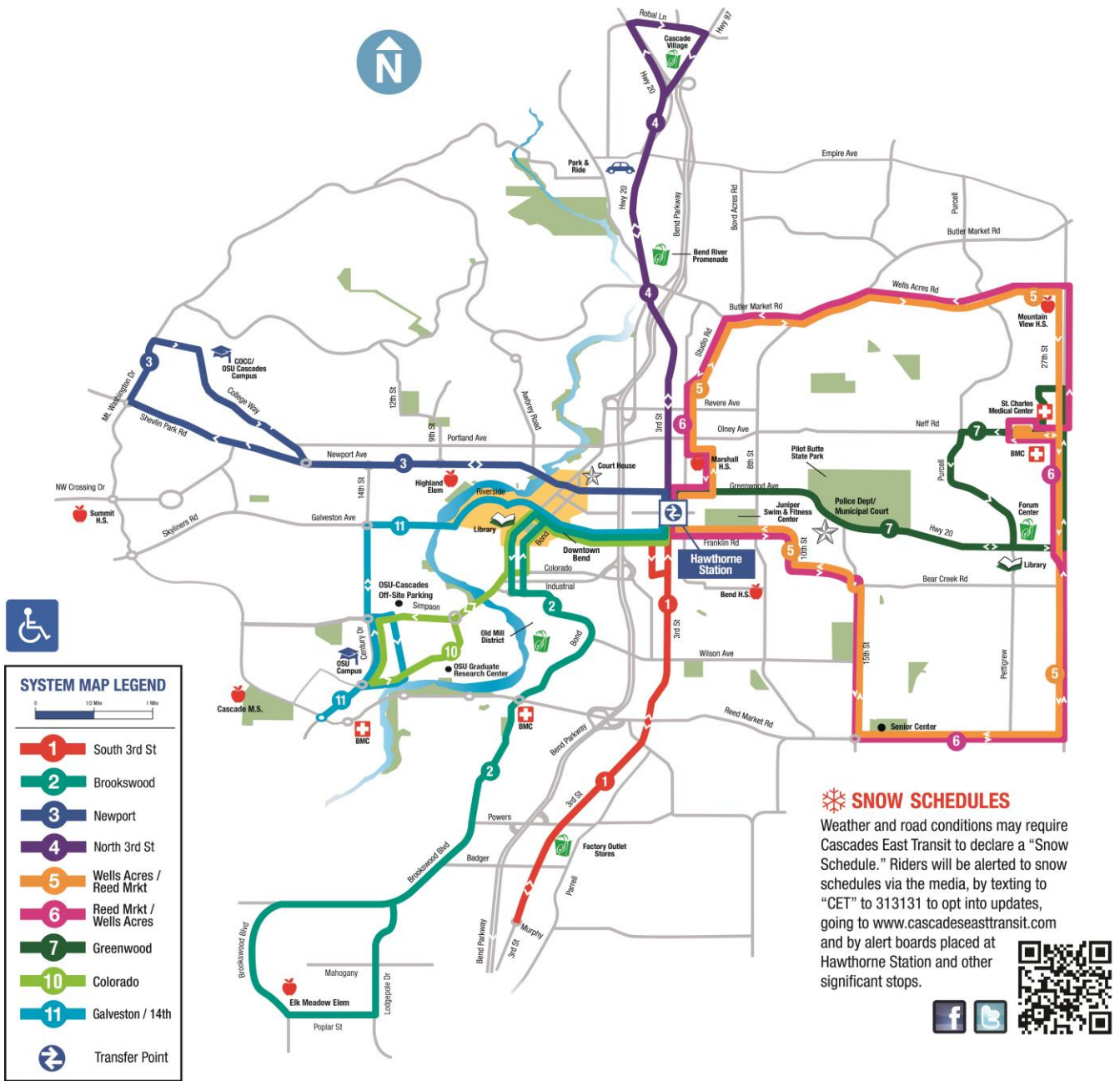


FIGURE 15. CASCADE EAST TRANSIT ROUTES IN BEND

TRANSPORTATION PROJECTS

There are several planned and programmed projects that the City and local agencies currently have programmed for design and construction. A map of all planned and programmed projects within the study area will be available at the May URAB meeting.

City of Bend

Neighborhood Greenways

The City of Bend is in the process of designing and constructing a series of neighborhood greenways broken into four phases. Neighborhood greenway is a term used by many cities across the country to describe a local street that serves as a more comfortable and safe route for walking and biking than nearby busier streets. Several of these phases contain greenway routes that pass through the Project Study Area. The first phase of the Greenways, NE 6th Street and SW 15th Street, will be constructed in Summer of 2019 and subsequent phases will be designed and partially constructed between now and 2019-2023.

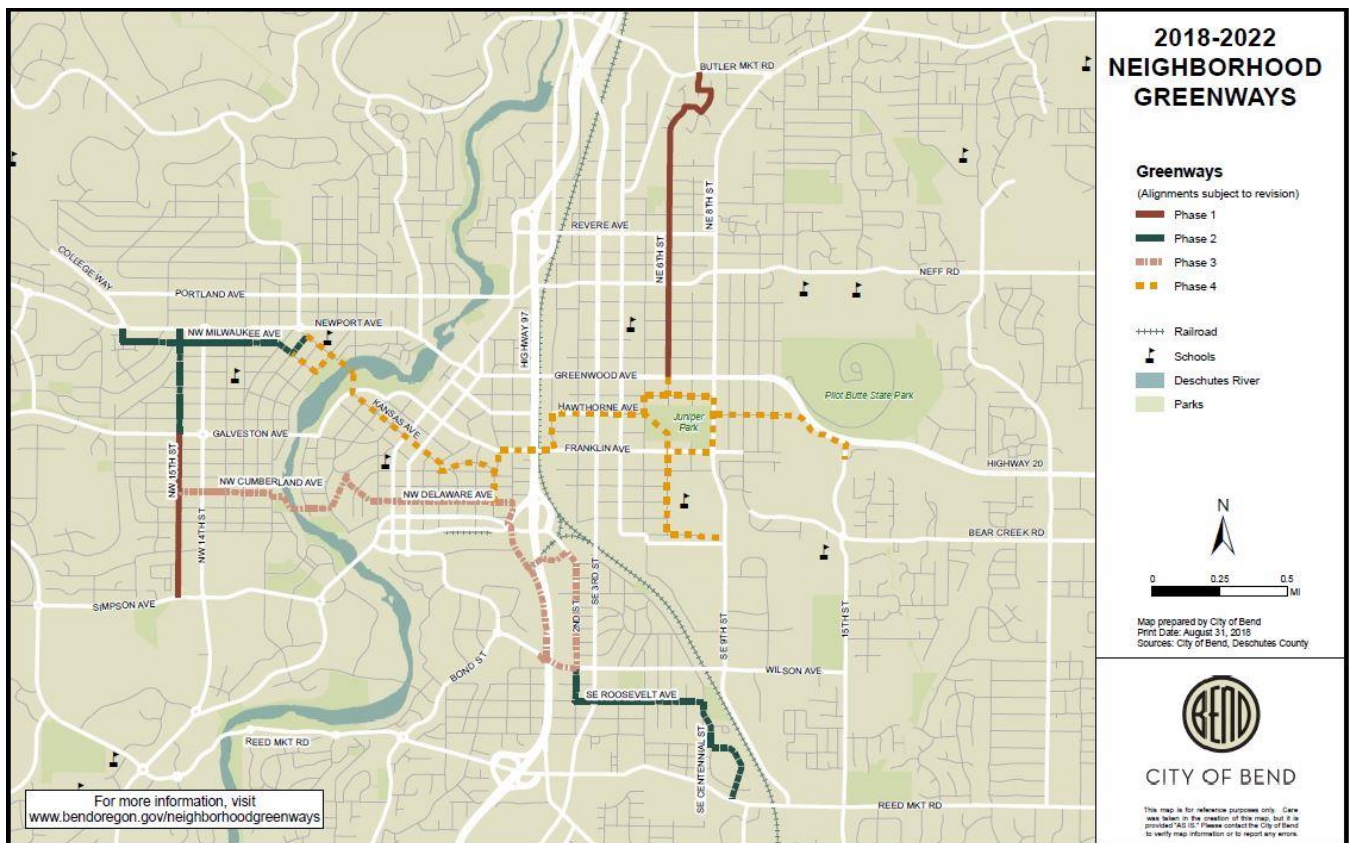


FIGURE 16. CITY 2018-2022 PROPOSED NEIGHBORHOOD GREENWAY LOCATIONS

Citywide Safety Improvements

The following safety projects within and adjacent to the study area are in design and planned for construction by 2021, include:

- 3rd Street/Hawthorne Avenue: Safety island, crosswalk, flashing beacon, street lighting
- 3rd Street/Franklin Avenue: Curb ramp and sidewalk improvements
- Colorado Avenue/US 97 Parkway Ramp: reconstruct corner radii, curb ramps, pedestrian crossings, signal phasing for walking and biking through intersection, improved connections from intersection to NW Harriman Street cul-de-sac and pathway to KorPine site by Crux
- 6th Street/Revere: enhanced pedestrian crossing

ODOT

US20 Empire-Greenwood

Pavement preservation, ADA upgrades, sidewalks, bike lanes, pedestrian crossing, sign and signal upgrades. Consists of many project components within study area including:

1. Greenwood/6th Street crossing, RRFB/median
2. Greenwood/4th Street enhanced crossing/median
3. Potential RRFB @ 3rd Street/Lafayette
4. RRFB at 3rd between Webster and Underwood Avenues
5. Enhanced Crossing at 3rd & Seward
6. Signal reconstruction at 3rd & Greenwood
7. Sidewalk infill, ADA ramps, and push buttons on 3rd
8. ADA ramps and push buttons on Greenwood
9. Task amendment to analyze possible future lane channelization of Greenwood west of 3rd (City of Bend and ODOT coordinating on this task)

Project Cost: \$13,731,739

Goes to Bid: Phase I- July 2020

SEWER

The City recently adopted the 2018 Collection System Public Facility Plan (PFP) which identifies the types and levels of urban sewer facilities and services appropriate for the needs and requirements to ensure future development within the City of Bend's UGB.

The PFP looked at three project implementation timeframes based on the system's capacity constraint: Short-term (1-5 years), Mid-term (6-10 years), and Long-term (11-20 years). The Core Area Project, while not directly affected by any single improvement, is dependent on several improvement projects being completed in order to encourage and support a higher intensity of development and capacity requirements.

The Sewer PFP identified the following projects to serve the Core Area and increased infill and density within the Core of the City. A discussion of the project, timeline it was expected to be necessary and planning level cost estimates are provided below.

1. **Southeast Interceptor Extension and Diversion – Short-term - \$4,000,000**: The project extends the Southeast Interceptor west from Parrell Road and across Highway 97. The improvement will divert wastewater from the Mahogany/Amethyst trunk sewer and the Central Interceptor System into the Southeast Interceptor allowing for continued development in the City central core. The diversion structure will allow split flow between the Central Interceptor and the Southeast Interceptor.
 - The City is close to completing this project.
2. **Drake Lift Station and Force Main – Short-term - \$347,000** : Expansion of the Drake Lift Station and force main capacity will accommodate growth in the KorPine service area. The City is pursuing a project right now that combines elements of this project and Drake Downstream Trunk project to ensure sewer capacity needed to serve the KorPine opportunity area.
3. **Drake Downstream Trunk – Mid to Long-term - \$3,200,000** –The gravity sewer between Drake Lift Station and the Central Interceptor requires upsizing to serve buildout densities for the KorPine development site. The project is recommended between the mid- and long-term timeframes to accommodate phased development of the site in a 5-15 year period. To minimize traffic disruptions through busy commercial areas, the City is pursuing an alternate improvement route from the Drake Lift Station to an improved 2nd Street Trunk which is being developed through the Drake Lift Station and Force Main project.
 - Due to the City's investment in the Drake Lift Station and force main, this trunk line will only need to be replaced for rehabilitation and operations/maintenance purposes in the future.
4. **Central Interceptor – Mid to Long-term - \$11,680,000**: The Central Interceptor requires upsizing to accommodate buildout densities in a combination of the West UGB expansion area, Shevlin UGB expansion area, Central Business District, KorPine site, OSU Cascades, and Century Drive area. Similar to the Drake Trunk the interceptor improvement is recommended between the mid- and long-term timeframes to

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accommodate phased development in a 5-15 year period. This project could be phased incrementally over time most likely starting from the northeast portion.

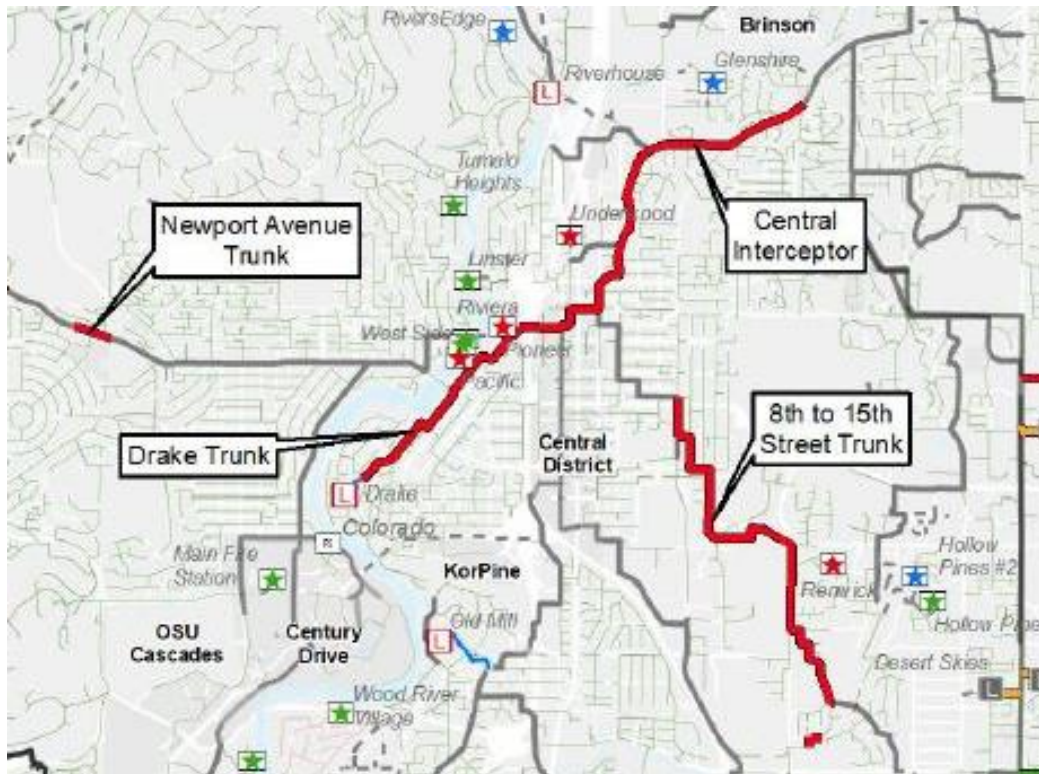


FIGURE 17. 2018 SEWER PFP CORE AREA CAPITAL IMPROVEMENT PROGRAM OVERVIEW

The majority of the project area does not require any near term sewer improvements to support development apart from the KorPine site. Therefore the City initiated a project in early 2019 that combines elements of the Drake Lift Station and Force Main projects, while deferring the Drake Downstream Trunk project, as identified in the PFP, by rerouting the flow to a different discharge location. The Drake Lift Station, upstream gravity main, and downstream forcemain require capacity improvements to meet build-out flows; in addition the lift station is in need of condition improvements. The following components are included in the Drake Lift Station project and shown in Figure 18:

1. The Drake Lift station, forcemain, and gravity main up to the Arizona and Colorado intersection will be designed and constructed by the City, with a goal to be completed by Fall/Winter 2020.
2. The City also plans to complete design work for the gravity main up to the Bond and Industrial intersection that would serve the KorPine site. Construction of this portion of the sewer line is not programmed at this time.
 - The estimated cost to construct the entire upstream gravity main from the existing station location to the Bond and Industrial intersection is \$1,500,000.
 - This portion of the gravity main alignment is currently being evaluated as part of an alternatives analysis.

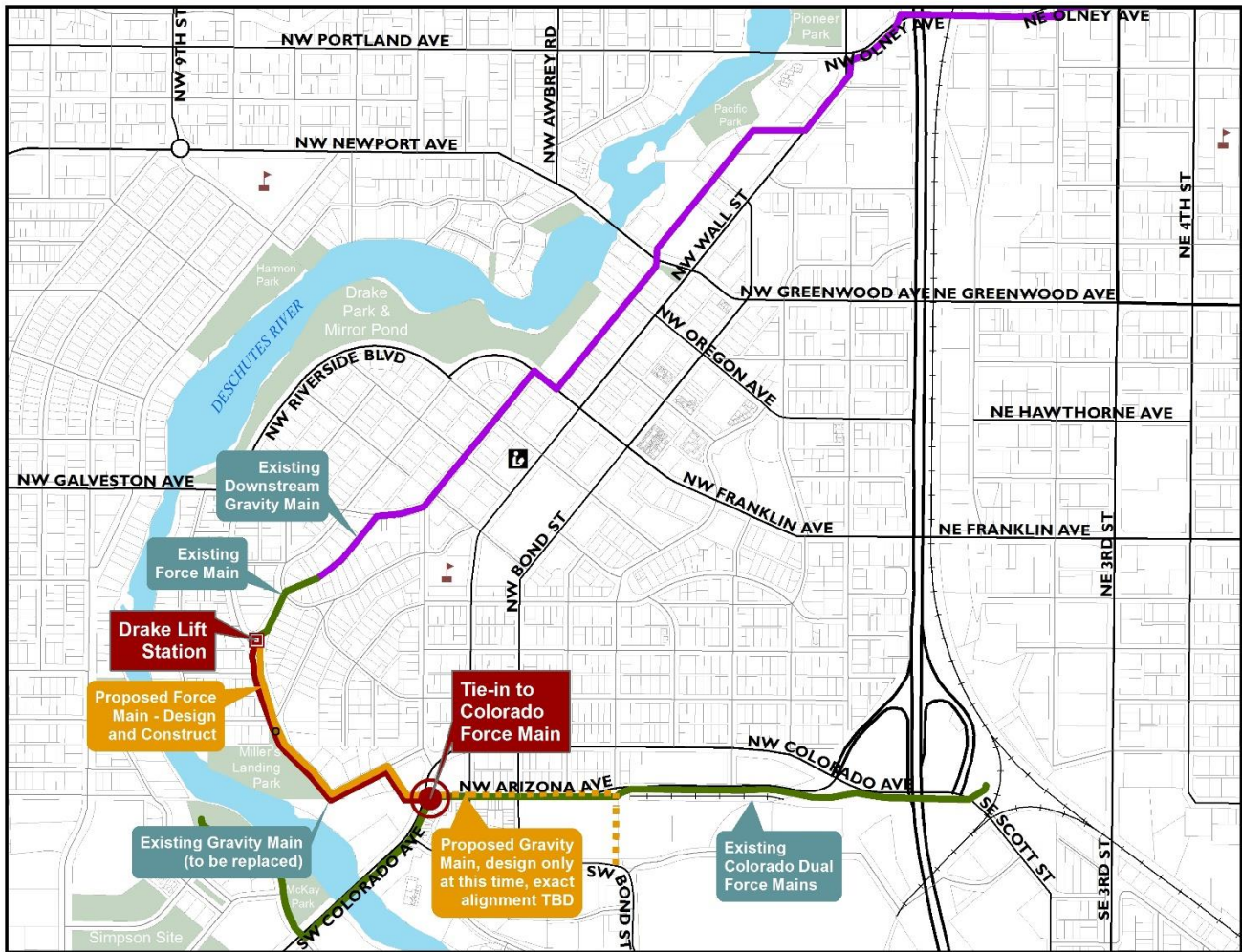


FIGURE 18. OVERVIEW OF CITY DRAKE LIFT STATION AND SEWER IMPROVEMENTS PROJECT

SEWER KEY TAKEAWAY

The project study area is well served with sewer apart from the KorPine site. The City recently initiated the Drake Lift Station Project which will enhance sewer capacity for KorPine. As density increases in the mid to long term, the City will need to invest in the Central Interceptor and the Drake Downstream Trunk.

STORMWATER

The City has a 2014 Stormwater Master Plan that identifies stormwater problem areas and potential solutions. However the City intends to update this plan in 2020. Currently the City has a dispersed system of handling stormwater and primarily uses Underground Injection Control (UIC) stormwater treatments. The City works to minimize the discharge of stormwater run-off into the Deschutes River and Tumalo Creek and towards treating the remainder. The City does have a piped system to the river. The drainage basins within this area have been designated as a Municipal Separate Storm Sewer System (MS4) zone. The majority of the project study area does not fall within the MS4 zone or river drainage basins except for the northwest portion of the Division and Greater East Downtown sub-areas. The project study area does intersect eight stormwater major basins (MB17, 18A, 18B, 37, 8C, 18C, 20, 14B) as shown in Figure 19 below. The Department of Environmental Quality (DEQ) issues the City a permit for stormwater piped to the river, and places limitations on stormwater treatments within Drinking Water Protection Areas (DWPA) and environmental clean-up sites. (DWPA). The southeast portion of the project study area, the Wilson sub-area, falls within two of the City's Drinking Water Protection Well areas as demonstrated in Figure 20. Areas near Hwy 20 and Juniper Park are within the more restrictive two year time of travel or 500-foot buffer area. The State of Oregon identifies drinking water protection areas by modelling larger wells for their time of travel (TOT) zones.

Within Bend, they model the time of travel out to 10 years and restrictions are placed on one to two year TOT zones. For smaller wells, DEQ places a 500 foot protection buffer. This limits the use of UIC treatments in these areas. There are also approximately thirty-five (35) DEQ environmental clean-up sites such as former gas stations or dry cleaning locations within the project study area. A large portion of these sites are clustered along the 1st Street corridor. Around 40% of these sites do not require any further action by DEQ; for others, the majority of the other sites DEQ recommends conducting site screenings. There is only one Resource Conservation and Recovery Act (RCRA) designated environmental clean-up site in the area. There are 237 public underground injection control (UIC) treatments within the project study area. In addition, the City measures the amount of impervious surface in commercial, mixed use, and high density residential zones within the City in order to develop a monthly stormwater service charge based on impervious surface coverage. This data set, demonstrated in Figure 21, was used to determine that the project study area currently contains 649.7 acres of impervious surface, making it 97.4 % impervious. The City of Bend defines impervious surface as a *hard surface area that either prevents or retards the entry of water into the soil mantle*. Common impervious surfaces include: building roofs, walkways, patios, driveways, parking lots, concrete or asphalt paving, gravel roads, and packed earthen materials.

The City's current design standards requires that stormwater infrastructure be sized to address a 25- year storm event with safe passage for a 100-year 24-hour storm, and water quality for a 6 month 24-hour storm.

The following City of Bend Comprehensive Plan identifies numerous policies related to Storm Drainage Facilities and Systems in Chapter 8. Three of these policies are listed below for reference.

- 8-22** Due to the lack of a defined drainage pattern for most of the urban area, development shall, to the extent practicable, contain and treat storm drainage on- site. In instances where containing storm drainage on-site

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would not be safe or practicable, the developer shall enter into a formal and recorded arrangement with the City or a private party to adequately address the storm drainage off site such as a regional control.

8-23 The use of stormwater disposal systems shall be coordinated with the Oregon Department of Environmental Quality and Water Resources Department to protect ground water and surface water.

8-24 The City shall work to minimize the discharge of untreated stormwater run-off from streets directly into the Deschutes River and Tumalo Creek.

The City's Stormwater Public Advisory Group has focused the last eighteen months on how to best handle stormwater with increasing density. They have identified a need to look at regional treatment facilities for infill/opportunity areas in combination with other treatment methods including low impact development techniques onsite and streetside improvements. Through the Core Area project, the number of acres needed for a regional stormwater management facility to handle a 25-year stormwater event and safe passage for a 100-year event will be calculated and potential funding strategies will be considered. Regional facility locations and stormwater solutions are likely be identified and refined through a future update of the City's Stormwater Master Plan.

There are multiple known flooding locations within the study area as demonstrated in Figure 19, the Franklin undercrossing is the highest priority flooding location followed by the Greenwood undercrossing. The City recently completed a project to address flooding concerns in the 3rd Street undercrossing area by adding drainage swales in the 55-acre drainage basin to improve filtration, replacing drill holes in the spill risk area, and constructing a vault pump station and pipe to a regional retention basin at the Colorado interchange. A similar project is imagined to address stormwater concerns for both the Franklin and Greenwood undercrossings. Currently, there are no programmed stormwater improvements within the study area.

STORMWATER KEY TAKEAWAYS

1. The City does not have a traditional stormwater system and instead relies on a dispersed system primarily using Underground Injection Controls (UICs).
2. There are typical flooding locations within the study area. The Franklin undercrossing is the number one priority location to address followed by the Greenwood undercrossing.
3. Infiltrating stormwater on site will be challenging for small parcel owners that are looking to redevelop and efforts to incentivize low impact development should be considered.
4. The City has identified various stormwater solutions that include the likely need for a future regional stormwater facility within the study area that will need to be further specified through a future Stormwater Master Plan update.

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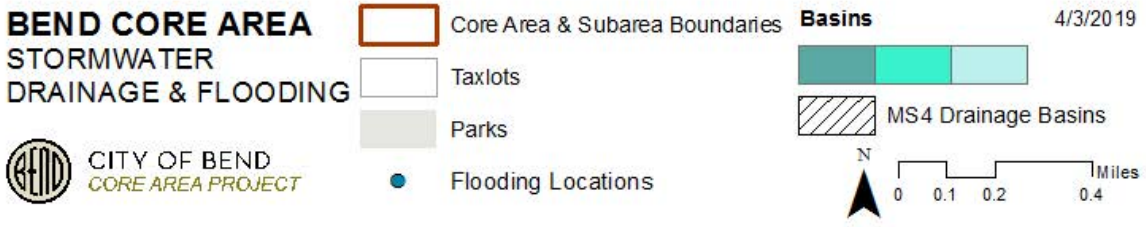
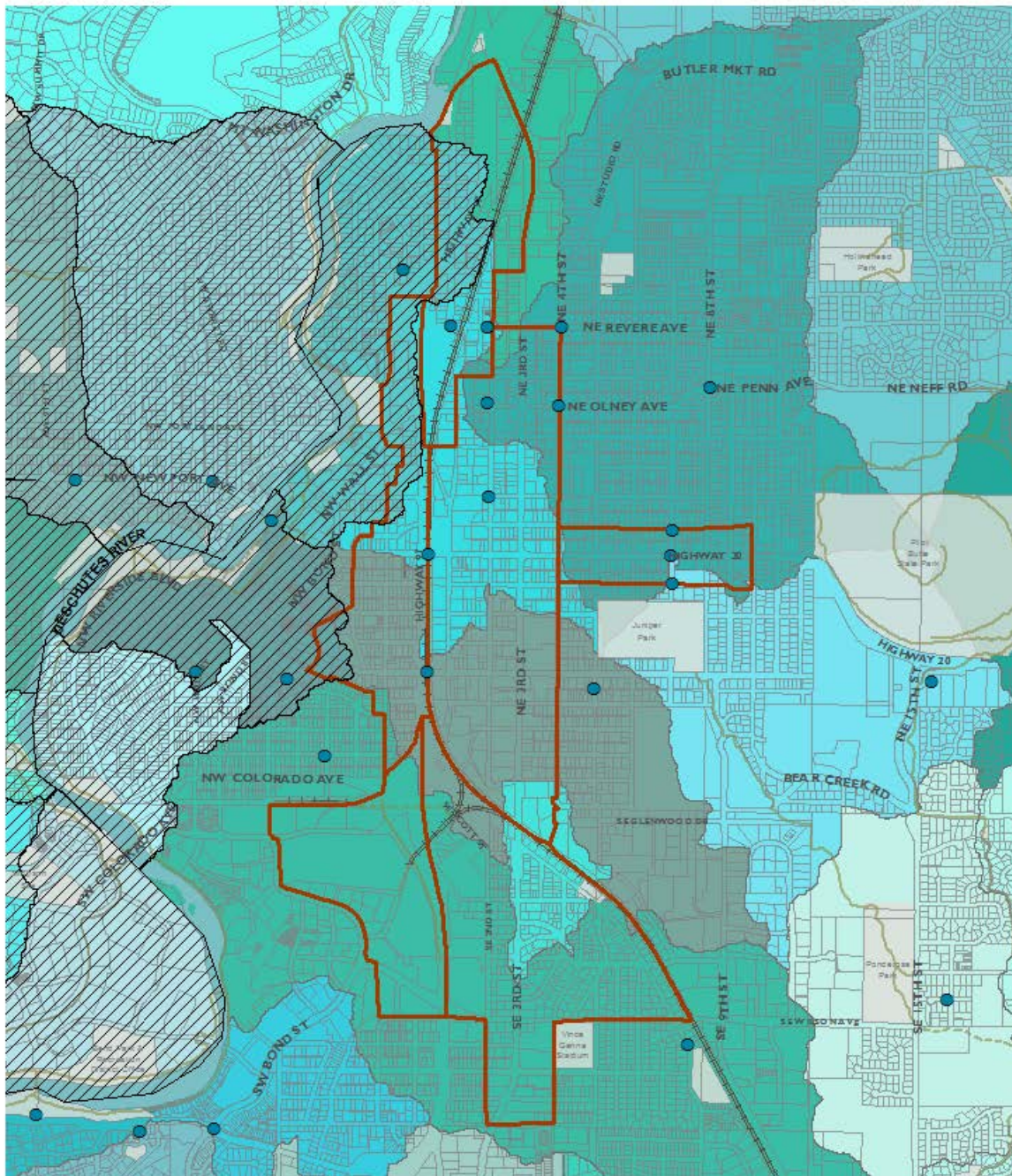
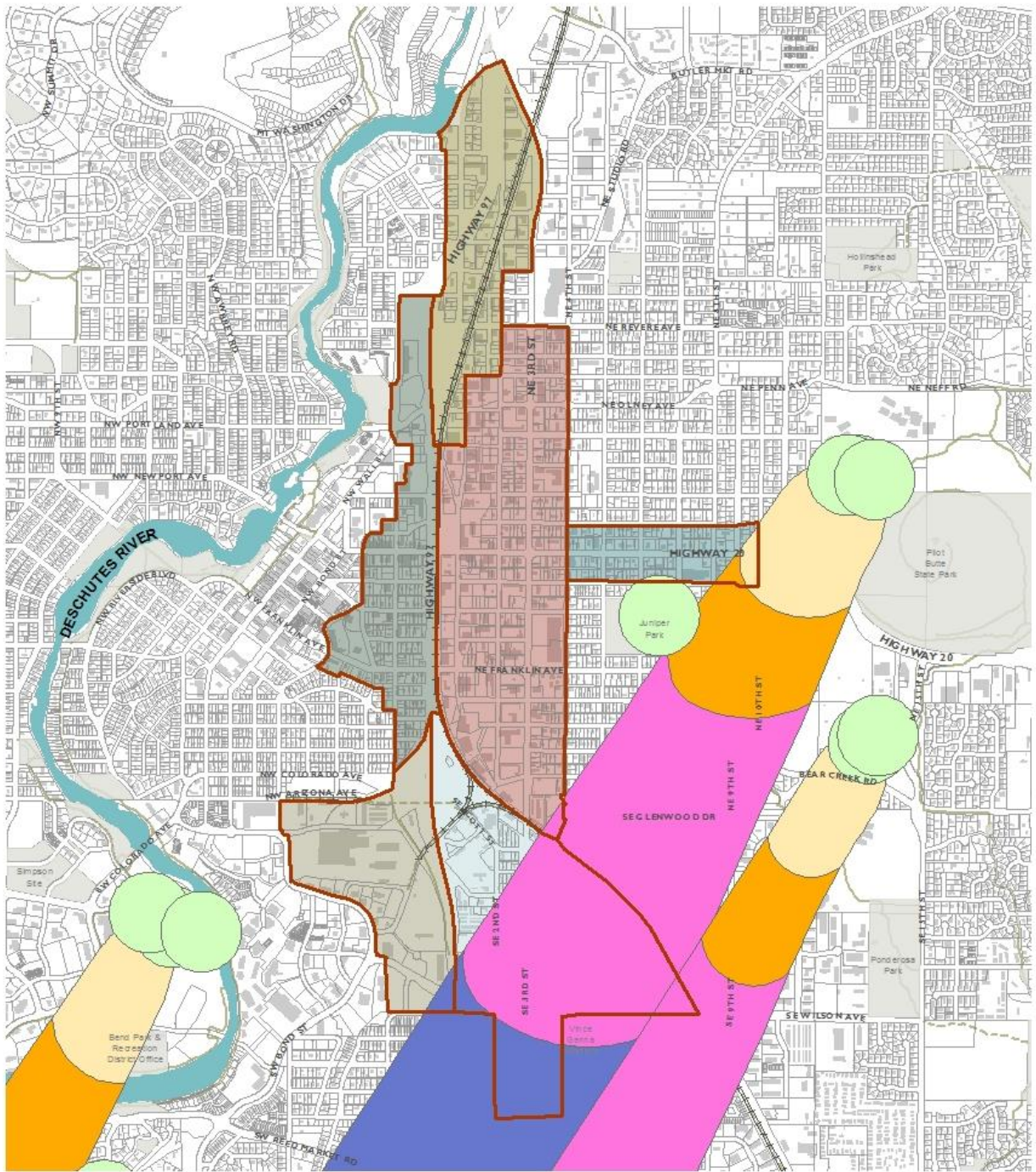


FIGURE 19. TYPICAL FLOODING LOCATIONS & STORMWATER DRAINAGE BASINS



**BEND CORE AREA
DRINKING WATER
PROTECTION AREAS**



Time of Travel

- 1 Year
- 2 Year
- 5 Year
- 10 Year
- 500' Buffer

- Core Area & Subarea Boundaries
- Building Footprints*
- Taxlots
- Parks

*This information is not verified by the City of Bend

3/13/2019

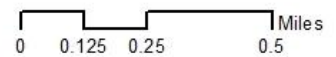
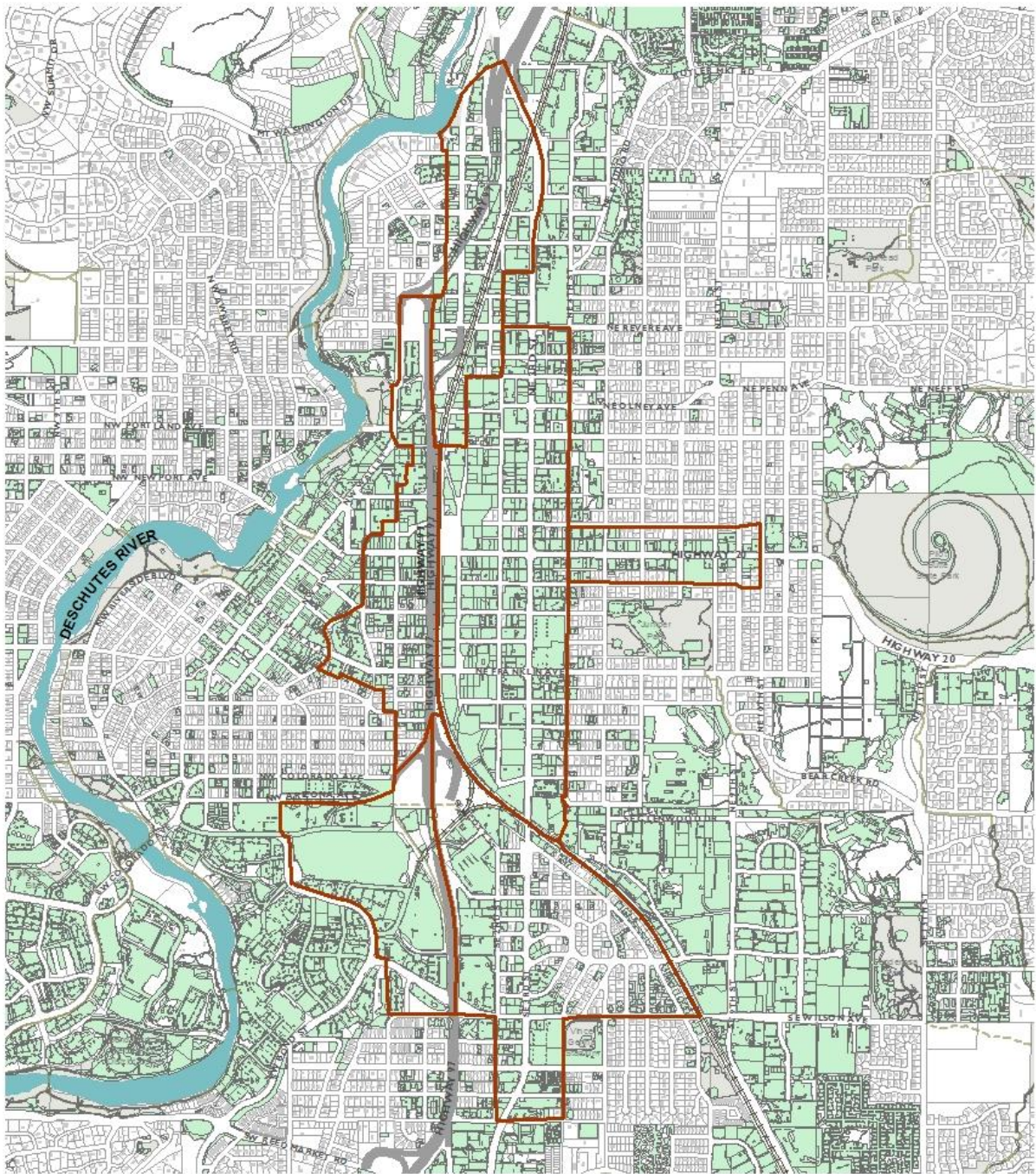


FIGURE 20. DRINKING WATER PROTECTION AREAS

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



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**BEND CORE AREA
IMPERVIOUS SURFACE**



-  Core Area and Subarea Boundaries
-  Impervious Surface
-  Building Footprints*
-  Taxlots
-  Parks

3/12/2019



* This data has not been verified by the City of Bend

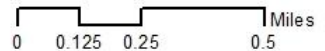


FIGURE 21. IMPERVIOUS SURFACE WITHIN AND ADJACENT TO PROJECT STUDY AREA ON NON SINGLE FAMILY LOTS

WATER

The entire project study area falls within the City of Bend's service territory. The City is in the process of updating the City's Water Master Plan. This effort is expected to be complete by Spring of 2020. The primary concern for the area is the need to replace outdated, galvanized and cast-iron piping. Exact projects have not yet been identified. The City strives to incorporate water line improvements as streets are improved.

PARTNER AGENCY PLANS

BEND PARK AND RECREATION DISTRICT

Bend Park and Recreation District (BPRD) is the urban service provider of parks within the Bend City limits. In the southern section of the project area, Jaycee Park is a neighborhood park with a playground, grassy field, and basketball hoops. Other parks are located just outside the project study area, including Juniper Swim & Fitness Center and Juniper Park, Kiwanis Park, and Pioneer Park. The 2018 BPRD Comprehensive Plan includes a low priority project to secure park land in the central district to develop an urban plaza or parklet to support redevelopment of the area. BPRD has two existing urban plazas totaling .35 acres including Hixon Square located near the Whitewater Park and Brandis Square in Downtown Bend.

The only trail plan for the district in the study area is a Rails to Trails project which is not a project that is foreseeable in the near future since the rail line is still quite active.

In addition, BPRD has identified the need for a neighborhood park just south of the KorPine opportunity area to serve the neighborhoods to the south of that site.

BPRD plans to improve the Deschutes River Trail (Trail Project 13D) between Drake Park and First Street Rapids Park as well as make improvements to the Juniper Swim and Fitness Center and playground that could provide indirect enhancements to the project study area.

BEND LAPINE SCHOOL DISTRICT

There are no current or planned schools within the project study area, according to Bend-La Pine Schools' 2016 Sites and Facilities Plan. However both Bend Senior High School and Marshall High School are located adjacent to the project study area.

Bend Senior High School is located a little further from the study area on Clay Avenue and NE 6th Street, while Marshall High School is located just east of the Bend Central District on 4th Street and Marshall Avenue. Bend-La Pine Schools is in the process of developing a Master Plan for Bend Senior High. Bend-La Pine Schools is engaged in a curriculum redesign that includes adding Career and Technical (CTE) programming, and aligning core courses to those

PARKS

Bend Park and Recreation District has identified the need for an urban park within the study area.

In addition, master plan developments (those over 20 acres) must meet a 10% open space requirement.

pathways at Marshall High School. However, Marshall High School will continue to be an alternative high school that students from any boundary may choose to attend.

DESCHUTES COUNTY LIBRARY

The Deschutes County Library is looking for a location to house a new regional library facility. They are looking to construct a 100,000 sq. ft. building. There is a desire for this library to serve as a community center with an open space component. The Library district does not have a site within the city identified for this new regional library facility yet.

UTILITY PROVIDERS

The following utility providers have services within the City of Bend: Bend Broadband, Cascade Natural Gas Corporation, Central Electric Cooperative, Fatbeam LLC, Lightspeed Networks, TDS Telecom, as well as Pacific Power.

APPENDIX A: BEND CENTRAL DISTRICT OVERLAY CODE

APPENDIX B: 2004 CENTRAL AREA PLAN

APPENDIX C: 2014 BEND CENTRAL DISTRICT MULTI-MODAL MIXED-USE AREA (MMA) PLAN

APPENDIX D: 2016 ACS POPULATION DEMOGRAPHIC MAPS

APPENDIX E: BRIDGE FEASIBILITY STUDY BY CH2M



CITY OF BEND

CORE AREA PROJECT



Accommodation Information for People with Disabilities

To obtain this information in an alternate format such as Braille, large print, electronic formats, etc. please contact Allison Platt at aplatt@bendoregon.gov or 541-322-6394.

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