



Methodology Report Parks System Development Charges

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SECTION 1

1. Introduction

1.1 Authorization

In August 2018, the Bend Park & Recreation District (District or BPRD) contracted with Galardi Rothstein Group to update its System Development Charge (SDC) methodology. This report presents the updated methodology that was developed in conformance with Oregon legal requirements, standard industry practice, and the District's policy objectives and comprehensive plan.

1.2 Report Organization

This section presents information on the District's SDC project objectives, and the policy and legal framework for the methodology. Subsequent sections of this report present the SDC methodology, including:

- **Section 2 – SDC Cost Basis** – Presents the current and future levels of service used to determine growth capacity needs, and the growth-related costs in aggregate based on the updated SDC project list.
- **Section 3 – SDC Assessment** – Provides information on system-wide unit costs per person, assumptions of number of persons per dwelling unit, and the process for determining future inflationary adjustments.

Separate from the methodology, the District will adopt by resolution, the following items which are included in the appendix of this report:

- **Appendix A – SDC Project List** – Provides the list of projects needed to increase park, trails, and recreation system capacity for future growth, that are to be funded with SDC revenue. The list includes the project description, and the estimated cost, timing, and portion of cost eligible for SDC funding.
- **Appendix B – SDC Schedule** – Provides the results of the regression analysis used to estimate persons per household for different sizes of single-family residential homes, which forms the basis for a tiered SDC fee structure. Also lists SDCs by residential development type and fee structure (average and tiered), based on the methodology and project list presented in this report. Consistent with Oregon law and the District's SDC ordinance, the fees presented in Appendix B may be adjusted periodically for changes in costs or changes in the project list.

Note: The calculations contained in this report were produced by computer spreadsheets where numbers extend beyond the decimal places shown in the tables presented, so slight variations exist due to rounding. However, these variations are not material.

1.3 Background

System development charges are an important funding source for parks, trails, and recreation facility capital improvement projects. The District last updated its SDC methodology in 2009.

In July 2018, the District completed the *Bend Park & Recreation District Comprehensive Plan* (comprehensive plan) and subsequently embarked on an effort to update the parks SDC methodology.

The primary objectives of the SDC update are to (1) revise the project list and SDC calculations to reflect the new comprehensive plan project priorities and levels of service and (2) evaluate the following SDC-related policy issues:

- Consider allocating a portion of growth costs to nonresident employees
- Evaluate SDC assessment options for residential development
- Create a more equitable distribution of SDCs among varying types of residential development
- Consider inclusion of SDC waivers for deed-restricted affordable housing

1.4 Policy Framework

Oregon legislation (Oregon Revised Statutes 223.297-314) establishes guidelines for the calculation and administration of SDCs. Within these guidelines, local governments have latitude in selecting approaches that best align with local policy objectives.

The updated methodology presented in this report reflects feedback from stakeholders obtained through a combination of facilitated stakeholder group meetings, written comments, and discussions with individual stakeholders and the District Board of Directors. In addition, community feedback during the comprehensive plan shaped the SDC methodology update. Key elements of the updated methodology are summarized in Table 1-1 below.

Table 1-1
Key Elements of the Methodology

Methodology Element	Recommendations	Considerations
Growth Cost Allocation	Allocate costs to residents plus overnight visitors only.	No definitive data source on relative park use by nonresident employees currently exists. Inclusion of a commercial SDC would add administrative complexity and contribute minimal revenue.
Residential SDC Assessment	Scale SDCs based on dwelling size: <ul style="list-style-type: none"> • Single-family residential based on square feet tiers • Multifamily based on number of bedrooms 	Statistical analysis of local data shows average occupancy increases with size of home. Implementation issues differ between single-family and multifamily dwellings.

In addition, the following recommendations related to SDC implementation and administration were developed as part of the SDC update:

- Waive SDCs for the first 400 deed-restricted affordable housing units through December 31, 2022. Specific details about the implementation and requirements of this waiver will be adopted by separate District resolution.

- Defer implementation of tiered SDCs for residential development as follows:
 - Single-family tiers implemented after the City of Bend’s transportation SDC update is completed so that any adjustments to preliminary tier thresholds may be coordinated. In the meantime, the updated SDC will be implemented on July 1, 2019, on an average unit basis.
 - Multifamily tiers implemented July 1, 2020. This allows for completion of the City of Bend’s permitting software update. In the meantime, the average rate for all multifamily dwelling sizes will be implemented on July 1, 2019.

1.5 Legal Framework

Oregon Revised Statutes (ORS) 223.297 through 223.314 authorize local governments to assess SDCs for the following types of capital improvements:

- Drainage and flood control (i.e., storm water)
- Water supply, treatment, and distribution
- Wastewater collection, transmission, treatment, and disposal
- Transportation
- Parks and recreation

In addition to specifying the infrastructure systems for which SDCs may be assessed, the SDC legislation provides guidelines on the calculation and modification of SDCs, accounting requirements to track SDC revenues, and adoption of administrative review procedures. Key elements of provisions that pertain to the methodology and project list are summarized below.

1.5.1 SDC Structure

An SDC may include a reimbursement fee, an improvement fee, or a combination of the two.

1.5.1.1 Reimbursement Fee

The reimbursement fee is based on the value of available capacity associated with capital improvements already constructed or under construction. The methodology used to calculate the reimbursement fee must consider the cost of existing facilities, prior contributions by existing users, the value of unused capacity, grants, and other relevant factors. The objective of the reimbursement fee methodology is to require new users to contribute an equitable share of the capital costs of existing facilities.

1.5.1.2 Improvement Fee

The improvement fee is designed to recover the costs of planned capital improvements that add system capacity to serve future users. An increase in system capacity may be established if a capital improvement increases the level of performance or service provided by existing facilities or provides new facilities. The portion of the improvements funded by improvement fees must be related to the need for increased capacity to provide service for future users.

1.5.2 Project List

Local governments are required to prepare a capital improvement program or comparable plan, prior to establishment of an SDC, that includes a list of the improvements that the jurisdiction intends to fund with improvement fee revenues and the estimated timing, cost, and eligible

portion of each improvement. The project list may be updated at any time. If an SDC is to be increased by a proposed modification to the list then required action includes: (1) written notice provided to interested parties at least 30 days prior to adoption of the proposed modification and (2) hold a public hearing on the proposed modification if a request is received in writing up to seven days before the date of the planned adoption.

1.5.3 Credits

A credit must be provided against the improvement fee for the construction of “qualified public improvements.” Qualified public improvements are improvements required as a condition of development approval, identified in the system’s capital improvement program, and either (1) not located on or contiguous to the property being developed or (2) located in whole or in part, on or contiguous to, property that is the subject of development approval and required to be built larger or with greater capacity than is necessary for the particular development project to which the improvement fee is related.

1.5.4 Methodology Review and Notification Requirements

The methodology for establishing or modifying improvement or reimbursement fees must be available for public review prior to adoption. The local government must maintain a list of persons who have made a written request for notification prior to the adoption or amendment of such fees that are resultant of a methodology amendment. The requirements for any changes to the fees that represent a modification to the methodology are: (1) 90-day written notice prior to first public hearing, and (2) SDC methodology made available for review 60 days prior to the public hearing.

Application of one or more cost indices periodically is allowable and is not considered a change in the methodology, and is therefore not subject to the above review and notification procedures, provided that the index is published by a recognized agency, independent from the methodology, and incorporated into the methodology or adopted separately by ordinance or resolution. Furthermore, “a change in the costs of materials, labor, or real property as applied to projects or project capacity”¹ in the adopted project list are not considered modifications to the SDC methodology. As such, the local government is not required to adhere to the methodology notification provisions.

1.5.5 Other Provisions

Other provisions of the legislation include:

- Deposit of SDC revenues into dedicated accounts and annual accounting of revenues and expenditures, including a list of the amount spent on each project funded, in whole or in part, by SDC revenues.
- Expenditure of SDCs may include costs of complying with the provisions of the law, including costs of developing SDC methodologies and providing an annual accounting of SDC expenditures.
- Creation of an administrative appeals procedure, in accordance with the legislation, whereby a citizen or other interested party may challenge an expenditure of SDC revenues. Furthermore, in the event a written objection to the calculation of an SDC is received, the

¹ 2017 Oregon Revised Statutes 223.304 (8)(b)(A)

local government must provide information on the right to petition for review pursuant to ORS 34.010, and about any locally adopted administrative review procedures.

SECTION 2

2. SDC Cost Basis

2.1 Introduction

The methodology used to calculate parks SDCs begins with the determination of growth costs (the costs in aggregate associated with meeting the capacity needs of future growth).

This section presents the projected future growth needs and the basis for determining the costs that will be recovered from growth through the SDCs (growth share).

2.2 Level of Service

The District – through adoption of the comprehensive plan – is planning for acquisition and development of the park system consistent with the community’s desired level of service (LOS).

As identified in the comprehensive plan, LOS targets include both access goals (neighborhood/community parks within ½ mile walking distance of all residences) and park quantity goals (e.g., acres per thousand population). Both goals are considered in development of the specific projects included on the SDC project list. However, for purposes of determining growth’s share of project list costs, the SDC methodology focuses on the planned LOS for a particular park or facility as defined by the equation below:

$$\frac{\text{Existing } Q + \text{Planned } Q}{\text{Future Population Served}} = \text{Planned LOS}$$

Where:

Q = quantity (acres of parks, miles of trails, or area of facilities) and
Future Population Served = projected 2028 resident population + overnight visitors

2.2.1 Population

Park capacity is measured in terms of people served; in the case of the SDC methodology this includes service area resident population and nonresident overnight visitors.

Table 2-1 provides resident and overnight visitor population data derived from recent planning documents and other data sources.

Table 2-1
Service Area Population Estimates

Item	2018	2028	Growth
Population ¹	90,137	113,004	22,867
Overnight Visitors ²	5,189	6,158	969
Total Population	95,326	119,162	23,836

¹ From BPRD Comprehensive Plan

² 2018 number of rooms (3,007) from Visit Bend x average occupants per room (1.73) where occupants per room based on 2.5 persons (RRC Associates) and occupancy rate of 69% (Smith Travel Research Data); growth over the planning period based on 2040 Bend area employment forecast (Bend Metropolitan Planning Organization).

For purposes of the SDC analysis, overnight visitor population is the number of traveler accommodation rooms multiplied by 1.73 occupants per room (2.5 people adjusted for an average occupancy rate of 69.0 percent). Consistent with the current methodology and other Oregon communities, overnight visitors, while visiting the District, are assumed to equal residents in terms of potential for park use.

2.2.2 Current and Future LOS

The comprehensive plan identifies the following park classifications that are included in the SDC analysis:

- Neighborhood & Community Parks
- Regional Parks
- Trails
- Indoor Recreation Facilities

Table 2-2 summarizes existing and planned future park quantities for each classification in order to calculate the existing and future LOS and SDCs.

The comprehensive plan identifies planned projects designed to maintain (in the case of neighborhood and community parks) or enhance (in the case of trails and recreation facilities) the future LOS for all existing and future park users. Only a portion of the comprehensive plan projects are included in the SDC project list shown in Appendix A. Table 2-2 shows the planned additional quantities resulting from the SDC project list.

Table 2-2

Summary of Existing and Planned Parks, Trails, and Facilities¹

Type	Unit Type	Existing Developed Units	Planned Additional Units ¹	Total Future Units
Parks				
Neighborhood & Community	Acres	716.7	116.9	833.6
Regional	Acres	1,144.3	0.0	1,144.3
Trails	Miles	69.8	22.5	92.3
Indoor Recreation Facilities ²	SQ FT	130,901	37,603	168,504

¹ Based on new parks from SDC project list (Table A-1); planned indoor recreation facility expansion funded partially from other non-SDC sources

² Includes Juniper Swim and Fitness Center, Larkspur Community Center, and The Pavilion

Table 2-3 shows the existing and future LOS by park type. The future LOS for neighborhood and community parks and regional parks is lower than the existing LOS. The future LOS for both trails and recreation facilities increases slightly as a result of the community’s desire for enhanced LOS, as determined through the comprehensive plan process. The District will acquire and develop additional parks and trails beyond those included in the SDC project list with other non-SDC funding sources, in order to achieve the LOS targets established in the comprehensive plan.

Table 2-3

Existing and Planned Levels of Service (Units per 1,000)

Type	Unit	Units/1,000 Population ¹	
	Type	Existing	Future ²
Parks			
Neighborhood & Community	Acres	7.5	7.0
Regional	Acres	12.0	9.6
Trails	Miles	0.73	0.77
Indoor Recreation Facilities	SQ FT	1,373	1,414

¹ Existing and total future park quantities (Table 2-2) divided by 2018 and 2028 total population per 1,000 (from Table 2-1)

²Based on new parks from SDC project list only (Table A-1)

2.2.3 Implications for SDC Cost Basis

The LOS analysis provides a basis for determining the capacity needs of growth by park type in order to determine an equitable share of project list costs (for purposes of development of the improvement fee cost basis) and capacity available in the existing system to meet growth's needs (for purposes of the reimbursement fee cost basis).

Table 2-4 provides a summary of the capacity analysis. It begins with determination of park units needed by 2028 based on the planned LOS (Table 2-3) and the 2028 population (Table 2-1). Then, the source of the units – existing system inventory and planned improvements from the project list – is identified for each park classification. Existing development needs are assumed to be met first from the existing inventory of parks and facilities; any additional need resulting from a planned increase in the LOS is met through a portion of the project list improvements.

Table 2-4

Capacity Needs – Developed Acreage, Trails and Recreation Facilities

Type	Unit Type	Total Units Needed ¹	Units From Existing Inventory ²	Units From Project List ³	Project List Allocation (%) ⁴
Future Growth Units					
Parks					
Neighborhood & Community	Acres	166.7	49.9	116.9	100.0%
Regional	Acres	228.9	228.9	0.0	0.0%
Trails	Miles	18.5	0.0	18.5	82.0%
Indoor Recreation Facilities	SQ FT	33,706	0	33,706	89.6%
Existing Development Units					
Parks					
Neighborhood & Community	Acres	666.8	666.8	0.0	0.0%
Regional	Acres	915.4	915.4	0.0	0.0%
Trails	Miles	73.8	69.8	4.0	18.0%
Indoor Recreation Facilities	SQ FT	134,798	130,901	3,897	10.4%
Total Units					
Parks					
Neighborhood & Community	Acres	833.6	716.7	116.9	100.0%
Regional	Acres	1,144.3	1,144.3	0.0	0.0%
Trails	Miles	92.3	69.8	22.5	100.0%
Indoor Recreation Facilities	SQ FT	168,504	130,901	37,603	100.0%

¹ Future LOS (Table 2-3) x Population/1,000 (Table 2-1)

² Existing inventory (from Table 2-2) first meets needs of existing development; any excess capacity available to meet growth needs

³ Total need, less units from existing inventory

⁴Equal to number of units needed from project list divided by total project list additional units (Table 2-2)

In cases where the future LOS is *lower* than the existing LOS, a portion of growth’s capacity needs will be met through excess capacity in existing developed park acreage. This is most significantly the case for regional parks.

In cases where the future LOS is *higher* than the existing LOS, there is no excess capacity and a portion of the project list units are needed to serve existing development. This is the case for trails and indoor recreation facilities. The project list allocation percentage is the capacity need met by the project list, divided by the total additional units from the project list (from Table 2-2).

2.3 Improvement Fee Cost Basis

The project list allocation percentages by park type shown in Table 2-4 are applied to the planned project improvement costs from the project list (shown in Table A-1) in order to determine the total costs to be recovered from growth through the improvement SDC.

The improvement fee cost basis is limited to the costs of new parks, trails and facilities that are needed to meet the needs of future development (Table A-1). Existing available SDC funds (collected from what is now existing development) will be used to fund capacity improvements at existing parks; these improvements are shown in Appendix A, Table A-2, and are excluded from improvement fee costs shown in Table 2-5. The improvement fee cost basis also excludes the portion of indoor recreation facility expansion that will be funded through other (general fund) sources.

Table 2-5 shows the development of the improvement fee cost basis for new parks and facilities based on the total costs by park type from the project list (Table A-1). The SDC share by park type is based on the project cost allocations shown in Table 2-4. The total improvement fee cost basis is about \$72.5 million.

Table 2-5
Improvement Fee Cost Basis

Type	New Parks/ Facilities \$¹
Neighborhood & Community Parks	\$56,884,087
SDC Share %	100%
SDC \$	\$56,884,087
Regional Parks	\$0.00
Trails	\$4,756,652
SDC Share %	82.0%
SDC \$	\$3,901,724
Indoor Recreation Facilities	\$13,114,467
SDC Share %	89.6%
SDC \$	\$11,755,342
All Parks	
Total	\$74,755,205
SDC \$	\$72,541,152

¹ Costs from project list (Appendix Table A-1); SDC Share % from Table 2-4

2.4 Reimbursement Fee Cost Basis

While growth capacity needs will primarily be met through future acquisition and development, there are a couple of notable exceptions: (1) prior acquisition of parkland that will be developed by the District during the 10-year planning period in order to meet part of growth's capacity needs for neighborhood and community parks, and (2) prior investment in regional parks that will meet capacity need for growth through existing available capacity. The reimbursement fee cost basis for these two components is shown in Table 2-6.

Table 2-6
Reimbursement Fee Cost Basis

Type	Existing Acreage For Growth ¹	Acquisition Cost	Less Outstanding Bond Principal	SDC Cost Basis
Neighborhood and Community ²	47	\$4,978,535	\$3,019,996	\$1,958,538
Regional ³	224	\$6,484,904	\$2,583,745	\$3,901,159
Total		\$11,463,439	\$5,603,742	\$5,859,697

¹ Prior acquisition of park acreage that will be developed for growth during the 10-year period

² Includes purchase cost of Alpenglow Park (36.7 acres), Goodrich Pasture Park (2.5 acres), Northpointe Park (2.7 acres) and Pine Nursery Park (5 acres)

³ Includes purchase cost of Riley Ranch Nature Reserve (181 acres) and a portion of Shevlin Park (43 acres)

The District previously acquired acreage at Alpenglow Park (36.7 acres), Pine Nursery Park (5 acres), Goodrich Pasture Park (2.5 acres) and Northpointe Park (2.7 acres), all of which will be used to meet capacity needs of future growth. For purposes of the reimbursement fee cost basis, the prior acquisition costs are included in Table 2-6 for neighborhood and community parks.

Because the acquisition of Alpenglow Park was funded through a District bond, the portion of the outstanding bond principal associated with the purchase is deducted from the total acquisition cost, as the remaining bond costs will be paid through taxes.

For regional parks, the cost basis includes acquisition costs for Riley Ranch Nature Reserve and a portion of Shevlin Park, which total 224 acres. Much of other existing regional parkland was donated. A portion of Riley Ranch Nature Reserve was bond funded, so an adjustment is made to deduct outstanding bond principal from the cost basis. As shown in Table 2-6, the total reimbursement cost basis is about \$5.9 million.

2.5 SDC Compliance Costs

Local governments may spend SDCs on the costs of complying with the SDC statutes. Compliance costs include costs related to developing the SDC methodology and project list, as well as annual accounting, budgeting, and legal costs.

Table 2-7 shows the calculation of the estimated compliance costs based on a 10-year planning period. As shown in Table 2-7, the estimated compliance costs include 50 percent of the comprehensive plan costs (associated with development of the project list and other information needed for the SDC methodology).

Table 2-7
SDC Compliance Costs

Component	Total Costs¹	Growth	
		%	\$
Comprehensive Plan	\$195,000	50%	\$97,500
Accounting, Budgeting, Legal	342,000	100%	342,000
SDC Methodology Update	129,500	100%	129,500
Total	\$666,500		\$569,000

¹10-year planning period

Other compliance costs include District administration costs associated with accounting, budgeting, legal, external costs for SDC consulting, and auditing. Total compliance costs over the 10-year planning period are estimated to be \$569,000.

SECTION 3

3. SDC Assessment

3.1 Introduction

Once the aggregate growth costs have been determined, the next step in the methodology is to determine how the SDCs will be assessed to individual developments.

The SDC for an individual development is based on the system-wide unit cost per person and the number of people attributable to a particular development. This section presents the system-wide unit costs and the assumptions related to estimated people per dwelling unit for different residential development types.

3.2 System-wide Unit Costs (\$/Person)

The growth in total population (23,836) is divided into the growth costs described in Section 2 to determine the costs per unit, as shown in Table 3-1.

Table 3-1
System-wide Unit Costs/Person

Component	Cost Basis ¹	\$/Person	% of Total
Improvement SDC Cost Basis	\$72,541,152	\$3,043	93%
Reimbursement SDC Cost Basis	5,859,697	246	8%
SDC Compliance Costs	569,000	24	1%
Bond Credit ²		-54	-2%
Total	\$78,969,849	\$3,259	100%

¹From Tables 2-5, 2-6, and 2-7

²Present value of future annual debt payments per person associated with recreation facilities

3.2.1 Bond Credit

As discussed previously, the District issued a general obligation bond in 2012 to pay for a limited number of park improvements. The portion of outstanding bond funds associated with community and regional parks was deducted directly from the reimbursement fee cost basis.

The District also funded a portion of existing indoor recreation facilities (The Pavilion) with bond funds. Since the SDC project list includes indoor facility costs associated with future growth, a credit is provided against the total SDCs for the portion of outstanding bond principal associated with existing indoor recreation facility investments². The credit is calculated as the present value of future bond principal costs per person and equals \$54, as shown in Table 3-1.

3.2.2 Total Costs per Person

The total growth cost to be recovered through SDCs is about \$79.0 million as shown in Table 3-1. Each component of the growth cost is divided by the total growth in population during the

² As of the end of fiscal year 2019, the District will have paid \$5.2 million (17%) of the total \$30.6 million in bond principal owed. Recreation facility costs represent about 38% (\$11.6 million) of total bond costs; therefore, the credit is based on a present value of 38% of future bond principal payments (about \$9.0 million to be paid over 14 years).

planning period (23,836 as shown in Table 2-1) to determine the SDC cost per person. The combined cost per person, net of the bond credit, is \$3,259, shown in Table 3-1.

3.2.3 Administrative Costs

Separate from the compliance and infrastructure costs discussed in Section 2, the District incurs other costs associated with administration of the SDC program. These costs include both internal administration as well as payments to the City of Bend and Deschutes County for assessment and collection of the SDCs. The administrative costs are established by each entity and are in addition to the costs per person shown in Table 3-1. Administrative costs are reviewed periodically by each entity separate from the SDC methodology update process, and as such are adopted and modified by resolution.

3.3 Development Occupancy Assumptions

SDCs are assessed to different development types based on average dwelling and visitor room occupancy. Local, regional, and national data were analyzed, and the results show that the typical household size (i.e., people per dwelling unit) varies by the size of the housing unit (as measured by number of bedrooms and quantity of living space) and the type of unit (single family, multifamily, and mobile or manufactured homes).

For this analysis, “local” data refers to information for the City of Bend, Oregon, and/or Deschutes County, depending on the data set. The “single family” analysis was conducted specifically on data for single-family detached units, while multifamily reflects analysis for structures with two or more attached units.

3.3.1 Single-Family Residential

U.S. Census data, specifically, from the American Community Survey (ACS) Public Use Microdata Sample (PUMS) for Deschutes County were used to estimate occupancy for all single-family residential dwelling units, which as shown in Table 3-2, averages 2.5 persons per dwelling unit.

Table 3-2
Single-Family Dwelling Unit Occupancy

Category	Avg. People per Dwelling Unit
All Single-Family Dwelling Sizes¹	2.50
4-Tier Structure²	
<1,000 SQFT	1.86
1000-1600 SQFT	2.16
1601-3000 SQFT	2.45
>3,000 SQFT	2.74

¹2017 ACS PUMS for Deschutes County, weighted average for all single-family households in Deschutes County (Public Use Microdata Area 00400)

² Based on 2011 Oregon Housing Activity Survey & 2012 tax lot SQFT estimates for BPRD tax boundary from Deschutes County Assessor’s Office

In addition, Oregon Household Activity Survey (OHAS) data collected within the BPRD Tax District in 2011, the most recent survey available, were used to develop a tiered SDC structure, based on dwelling unit size, as measured by square footage. The OHAS data were spatially linked to tax lot and improvement information for a similar year (2012) from the Regional Land

Information System (RLIS), allowing for locally derived estimates of people per dwelling unit to be calculated for different square footage categories³.

Initially, a three-tier structure was developed from the data, through an iterative process, beginning with more disaggregate square footage categories and then aggregating based on sample size and similarities in average persons per dwelling.

However, following feedback from stakeholders, an additional tier was added on the lower end of the range, based on a linear-logarithmic regression analysis⁴. Table B-1 in Appendix B shows the detailed occupants per household estimated by the regression model, and the averages within each tier that were used to develop the occupancy estimates by tier shown in Table 3-2. Based on the regression analysis, the persons per household range from 1.86 for tier 1 (less than 1,000 SQ FT) to 2.74 for tier 4 (over 3,000 SQ FT). The regression analysis shown in Appendix B may be used by the District in the future to modify the tier thresholds shown in Table 3-2, in order to coordinate a scaled single-family residential fee structure with the City of Bend's transportation SDC update.

3.3.2 Multifamily Residential

As with single-family residential, U.S. Census data were used to estimate occupancy for all multifamily residential dwelling units, which as shown in Table 3-3, averages 1.70 persons per dwelling unit.

Furthermore, a dwelling size option was also developed, but in the case of multifamily, each tier is based on the number of bedrooms, as opposed to dwelling area. Limitations on data and concerns over administration requirements of a dwelling area basis resulted in the recommendation to use number of bedrooms.

Table 3-3 provides the average people per dwelling unit for each bedroom category. The bedroom data were calculated from the ACS PUMS 2017 aggregated Deschutes & Lane counties sample to provide a sufficiently robust sample size, as compared to Deschutes County alone.

Table 3-3
Multifamily Dwelling Unit Occupancy

Category	Avg. People per Dwelling Unit
All Multifamily Dwelling Sizes¹	1.70
Number of Bedrooms Category²	
0 Bedrooms	1.08
1 Bedrooms	1.19
2 Bedrooms	1.93
3+ Bedrooms	2.50

¹ 2017 ACS PUMS for Deschutes County, weighted average for all multifamily households

² 2017 ACS PUMS for Deschutes & Lane counties

³ Based on square footage of the home (excluding garages or structures outside the living area of the home). As defined by the Deschutes County Assessor's Office, household living area also includes basement and attic area.

⁴ A linear-logarithmic relationship assumes that the rate of change (or number of people) increases initially, but then levels off once the dwelling reaches a certain size.

3.3.3 Other Housing

Table 3-4 presents occupancy assumptions for other types of housing. Occupancy for mobile homes is based on 2017 ACS data for Deschutes County. Accessory Dwelling Units (ADUs) will be assessed based on the same occupancy as the smallest multifamily residential category (0 bedrooms).

Table 3-4
Occupancy Assumptions - Other Housing

Category	Avg. People per Unit
Mobile homes (per home) ¹	2.26
Accessory Dwelling Units (per unit) ²	1.08

¹ 2017 ACS for Deschutes County

² Based on Multifamily 0 bedrooms (Table 3-3)

Residential occupancy for dormitories will be estimated on the per person cost basis for each individual development at the time of permitting. Developments that provide housing for those wholly dependent upon care by others, such as memory care facilities, will be exempt from paying an SDC.

3.3.4 Overnight Visitors

Occupancy assumptions for overnight visitor accommodations are based on estimated persons per room of 2.5⁵, adjusted down for an average annual room occupancy rate of 69 percent, based on the historical average from 2014 to 2018 from Visit Bend Hotel Occupancy Report. The resulting persons per room is 1.73.

3.4 SDC Schedule

The SDC for each development type is determined by multiplying the net cost per person from Table 3-1 by the average number of people per unit for each residential development type.

Table B-2 in Appendix B includes the updated SDCs and occupancy assumptions for each residential category. As discussed previously, administration charges adopted by Board resolution are added to the SDCs; Table B-2 also shows the SDCs inclusive of the District and other agency (City of Bend and Deschutes County) administration costs of about 1.9 percent, combined.

3.4.1 Inflationary Adjustments

As allowed by Oregon law, the District will annually update the SDCs by resolution based on application of cost indices. The SDC project list includes a combination of land acquisition and development costs; therefore, the District will use information published by the Deschutes County Assessor's Office and the Engineering News Record (ENR) U.S. 20-City Average Construction Cost index to determine the annual inflationary adjustment.

⁵ Source: Estimation of Bend, Oregon, Visitor-Trips and Visitor-Days, prepared by RRC Associates, February 16, 2015.

The inflationary adjustment will be based on the following formula:

*Annual percent change in ENR Construction Cost index x percent of project list costs for development +
Annual percent change in land value within the District x percent of project list costs for land acquisition*

The specific percentages attributable to land and development will change as the SDC project list changes; therefore, the District may implement modifications to the inflationary adjustment formula through adoption of separate future resolution(s). The cost components of the current project list are: development (77%) and land acquisition (23%).

The District intends to base the adjustment on the ENR index published for December of each year. Land costs will be based on the market value of all real property, adjusted for the estimated value of improvements added, as reported by the Assessor's Office annually in the fall.

The District may make future changes to the inflationary adjustment process, assumptions and cost indices through adoption of a separate Board resolution.

APPENDIX A

SDC Project List

Table A-1

SDC Project List - New Parks, Facilities and Trails (2019-2028)¹

Project Name	Project Description	Timeline	Quantity	Unit	Improvement SDC	
		(Years)			Cost (\$)	%
NEIGHBORHOOD PARKS						
Goodrich Site	New park development	1-5	2.5	acres	\$823,222	100%
Park for Current UGB Expansion area (Park Search Area 24)	New park land acquisition & development	6-10	4	acres	2,254,972	100%
Park for Current UGB Expansion Area (Park Search Area 4)	New park land acquisition & development	1-5	4	acres	2,254,972	100%
Park for Future UGB Expansion (Park Search Area 5)	New park land acquisition & development	6-10	4	acres	2,254,972	100%
Park to Serve New Density (Park Search Area 15)	New park land acquisition & development	6-10	4	acres	2,254,972	100%
Park to Serve New Density (Park Search Area 17)	New park land acquisition	1-5	N/A	acres	1,005,938	100%
Park to Serve New Density (Park Search Area 17)	New park development	6-10	4	acres	1,249,034	100%
Park to Serve New Density (Park Search Area 19)	New park land acquisition & development	6-10	4	acres	2,254,972	100%
Park to Serve New Density (Park Search Area 20)	New park land acquisition & development	6-10	4	acres	2,254,972	100%
Park to Serve New Density (Park Search Area 21)	New park land acquisition & development	6-10	4	acres	2,254,972	100%
Park to Serve New Density (Park Search Area 23)	New park land acquisition & development	6-10	4	acres	2,254,972	100%
Park to Serve New Density (Park Search Area 26)	New park land acquisition	6-10	N/A	acres	1,005,938	100%
Park to Serve New Density (Park Search Area 26)	New park development	6-10	4	acres	1,249,034	100%
Park to Serve New Density (Park Search Area 27)	New park land acquisition & development	1-5	4	acres	2,254,972	100%

Project Name	Project Description	Timeline			Improvement SDC	
		(Years)	Quantity	Unit	Cost (\$)	%
Park to Serve New Density (Park Search Area 28)	New park land acquisition & development	6-10	4	acres	2,254,972	100%
Park to Serve New Density (Park Search Area 6)	New park land acquisition	1-5	N/A	acres	1,005,938	100%
Park to Serve New Density (Park Search Area 6)	New park development	6-10	4	acres	1,249,034	100%
Park to Serve New Density (Park Search Area 9)	New park development	1-5	4	acres	1,249,034	100%
Park to Serve New Density with Field Space (Park Search Area 18)	New park land acquisition	1-5	N/A	acres	1,508,906	100%
Park to Serve New Density with Field Space (Park Search Area 18)	New park development	6-10	6	acres	1,560,578	100%
Park to Serve New Development (Discovery West)	New park land acquisition & development	6-10	3	acres	2,374,848	100%
Park in Central District	New park/urban plaza development	6-10	1	acres	1,249,034	100%
Park Search Area--Northpointe Site	New park development	1-5	2.7	acres	1,755,030	100%
Park Search Area--Search area 14 (Litchfield Site)	New park development	1-5	4	acres	2,254,972	100%
Subtotal			75.2		\$42,090,257	
COMMUNITY PARKS						
Park Search Area--Alpenglow Park	New park development	1-5	36.7	acres	\$9,601,433	100%
Pine Nursery Park Phase 5	Development of additional acreage	1-5	5	acres	5,192,397	100%
Subtotal			41.7		\$14,793,830	
RECREATION FACILITIES						
Art Station	Acquisition of leased space and land	6-10	2,292	SQ FT	\$930,856	89.6%
Larkspur Community Center	Expansion of recreation facility	1-5	35,311	SQ FT	10,824,486	89.6%
Subtotal			37,603		\$11,755,342	

Project Name	Project Description	Timeline			Improvement SDC	
		(Years)	Quantity	Unit	Cost (\$)	%
TRAILS						
Arnold Canal Trail and Trailhead	New trailhead and trail development	6-10	1.5	miles	\$452,549	82.0%
COHCT from Blakely Road to DRT (incl. Brookwood undercrossing)	New trail development	1-5	0.5	miles	15,382	82.0%
COHCT from Blakely Road to Hansen Park	New trail development	1-5	2.6	miles	560,078	82.0%
COHCT from Hansen Park to Eastgate Park	New trail development	6-10	3.6	miles	147,667	82.0%
DRT Putnam to Riley Ranch Nature Reserve Bike/Pedestrian Bridge	New trail development	6-10	1.2	miles	131,659	82.0%
Discovery West Trail Undercrossing	New trail development	1-5	1.5	miles	553,690	82.0%
DRT Connector to Shevlin Park	New trail development	6-10	0.5	miles	67,870	82.0%
DRT Galveston to Miller's Landing	New trail development	1-5	0.3	miles	590,832	82.0%
DRT Kirkaldy to Putnam	New trail development	1-5	0.1	miles	50,604	82.0%
High Desert Park Trails	New trail development	6-10	1	miles	180,986	82.0%
Manzanita Trail	New trail development	6-10	0.25	miles	33,935	82.0%
North Unit Canal Trail	New trail development	6-10	4	miles	164,075	82.0%
Park Search Area--Riley Ranch Nature Reserve Neighborhood Access	New trail development	6-10	0.8	miles	17,271	82.0%
Pilot Butte Canal Trail	New trail development	6-10	4	miles	164,075	82.0%
Quail Trail	New trail development	6-10	0.66	miles	89,588	82.0%
Riley Ranch Nature Reserve Bike/Pedestrian Bridge	New bridge development	6-10	0.02	miles	681,464	82.0%
Subtotal			22.5		\$3,901,724	
GRAND TOTAL					\$72,541,152	

Central Oregon Historic Canal Trail (COHCT)
Deschutes River Trail (DRT)

¹ Includes the SDC portion of projects (as of July 1, 2019). Some projects will be partially funded by other sources. Furthermore, cost estimates do not include funding investments made by BPRD prior to July 1, 2019. Total costs include: park development costs = 77% and land acquisition costs = 23%.

Table A-2

SDC Project List - Capacity Improvements to Existing Parks; New Recreation Facilities and Trails (2019-2028)

Project Name	Project Description	Timeline (Years)	SDC Eligible ¹ \$
IMPROVED LEVEL OF PERFORMANCE / DEVELOPMENT			
Big Sky Park Expansion	Bike park and amenities	1-5	\$3,415,748
Discovery West (Shevlin Park South Trailhead Parking)	New trailhead development	6-10	145,387
Hansen Park Trailhead	New trailhead development	6-10	80,067
Haul Road Trail	Completion and paving of the trail	1-5	468,547
Park Search Area--DRT North Trailhead	New trailhead development	1-5	332,313
Pine Nursery Park Phase 4 (Pending Partnership)	New fields	1-5	207,696
Stone Creek (Acquisition and Development Reimbursement)	Reimbursement to park developer	1-5	534,765
Westside Recreation Center Planning and Infrastructure	Infrastructure contribution & preliminary planning	1-5	726,936
NEW OR EXPANDED AMENITIES OR ACCESS			
Discovery Park Phase 2	New park amenities	1-5	643,857
Drake Park DRT and Bank Improvements	New park amenities	1-5	3,931,649
Empire Crossing Park	New park development	1-5	129,810
Hollinshead Park Master Plan and Renovation	Renovation	1-5	259,620
Juniper Park	Park redevelopment	1-5	1,259,337
Pacific Crest Athletic Field Development	New fields	1-5	1,401,947
Park Search Area--8th St. Crossing	New pedestrian street crossing	6-10	18,693
Park Search Area--Brookwood Blvd Crossing	New pedestrian street crossing	6-10	15,577
Park Search Area--Neff and Hamby Rd. Crossings	New pedestrian street crossing	6-10	10,385
Park Search Area--Reed Market Road Trail Crossing to Larkspur Park	New pedestrian street crossing	6-10	15,577
Ponderosa Master Plan and Renovation	Park redevelopment	1-5	363,468
Rockridge Park Phase 2	New restroom	1-5	347,891

Project Name	Project Description	Timeline (Years)	SDC Eligible ¹ \$
Bend Golf and Country Club - Parrell Road Neighborhood Park	New park development	1-5	1,264,141
Lot 70 Acquisition and Bridge	New bridge to Alpenglow Park	1-5	1,112,487
RECREATION FACILITIES			
Art Station	Acquisition of leased space and land	6-10	107,623
Larkspur Community Center	Expansion of recreation facility	1-5	1,251,501
TRAILS			
Arnold Canal Trail and Trailhead	New trailhead and trail development	6-10	99,160
COHCT from Blakely Road to DRT (incl. Brookwood undercrossing)	New trail development	1-5	3,370
COHCT from Blakely Road to Hansen Park	New trail development	1-5	122,722
COHCT from Hansen Park to Eastgate Park	New trail development	6-10	32,356
DRT Putnam to Riley Ranch Nature Reserve Bike/Pedestrian Bridge	New trail development	6-10	28,849
Discovery West Trail Undercrossing	New trail development	1-5	121,322
DRT Connector to Shevlin Park	New trail development	6-10	14,871
DRT Galveston to Miller's Landing	New trail development	1-5	129,460
DRT Kirkaldy to Putnam	New trail development	1-5	11,088
High Desert Park Trails	New trail development	6-10	39,657
Manzanita Trail	New trail development	6-10	7,436
North Unit Canal Trail	New trail development	6-10	35,951
Park Search Area--Riley Ranch Nature Reserve Neighborhood Access	New trailhead and trail development	6-10	3,784
Pilot Butte Canal Trail	New trail development	6-10	35,951
Quail Trail	New trail development	6-10	19,630
Riley Ranch Nature Reserve Bike/Pedestrian Bridge	New bridge development	6-10	149,319
GRAND TOTAL			\$18,899,949

¹ From existing SDC fund balance.

APPENDIX B

SDC Schedule

Table B-1		
<i>Estimated People Per Household - Single Family Residential</i>		
Square Feet	Estimated People per Household	
	LIN-LOG Regression ¹	4-Tier Structure
500	1.71	1.86
600	1.79	
700	1.87	
800	1.93	
900	1.99	
1000	2.04	2.16
1100	2.09	
1200	2.13	
1300	2.17	
1400	2.21	
1500	2.24	
1600	2.27	2.45
1700	2.30	
1800	2.33	
1900	2.35	
2000	2.38	
2100	2.40	
2200	2.43	
2300	2.45	
2400	2.47	
2500	2.49	
2600	2.51	2.74
2700	2.52	
2800	2.54	
2900	2.56	
3000	2.58	
3100	2.59	
3200	2.61	
3300	2.62	
3400	2.64	
3500	2.65	
3600	2.66	
3700	2.68	
3800	2.69	
3900	2.70	
4000	2.72	
4100	2.73	
4200	2.74	
4300	2.75	
4400	2.76	
4500	2.77	
4600	2.78	
4700	2.79	
4800	2.80	
4900	2.81	
5000	2.82	
5100	2.83	
5200	2.84	
5300	2.85	
5400	2.86	
5500	2.87	

¹ Based on LIN-LOG regression analysis of 2011 OHAS and 2012 Taxlot data: PPHH = 2.042 +0.486 * LN(SQFT in 1000s)

Table B-2
SDC Schedule

Development Type	Avg. People per Unit	SDC¹	SDC w/Admin Charges²
Single Family ³ Avg. (\$/dwelling unit)	2.50	\$8,148	\$8,300
SQ FT Tiers (\$/dwelling unit)			
<1,000 SQ FT	1.86	\$6,062	\$6,175
1000-1600 SQ FT	2.16	\$7,040	\$7,171
1601-3000 SQ FT	2.45	\$7,985	\$8,134
>3,000 SQ FT	2.74	\$8,930	\$9,097
Multifamily ⁴ Avg. (\$/dwelling unit)	1.70	\$5,540	\$5,644
Bedroom Tiers (\$/dwelling unit)			
0 Bedrooms	1.08	\$3,520	\$3,586
1 Bedroom	1.19	\$3,878	\$3,951
2 Bedrooms	1.93	\$6,290	\$6,407
3+ Bedrooms	2.50	\$8,148	\$8,300
Other Housing			
Mobile Homes (\$/unit)	2.26	\$7,366	\$7,503
Accessory Dwelling Units (\$/unit)	1.08	\$3,520	\$3,586
Dormitories (\$/person)	1.00	\$3,259	\$3,320
Overnight Visitor Accommodation (\$/room)	1.73	\$5,624	\$5,729

¹ Cost per person (\$3,259) X people per unit

²Includes Deschutes County and City of Bend Administration Charges (1.9% combined)

³Single family includes tiny homes

⁴Multifamily includes housing with 2 or more units; including senior housing (independent living) and assisted living