



MEMORANDUM

CITY OF TUALATIN

TO: Honorable Mayor and Members of the City Council

THROUGH: Sherilyn Lombos, City Manager

FROM: Richard Mueller, Parks and Recreation Manager
Ross Hoover, Parks and Recreation Director

DATE: 10/08/2018

SUBJECT: Parks System Development Charge Update

ISSUE BEFORE THE COUNCIL:

At the September 10 work session, the City Council requested additional information from staff and project consultants regarding alternate System Development Charge (SDC) Methodology.

EXECUTIVE SUMMARY:

The Parks SDC Update was initiated in July of 2017. The attached PowerPoint presentation and document provides information regarding an alternative SDC Methodology for Council to discuss and provide direction.

For summaries and posted documents, please see the project website at <https://www.tualatinoregon.gov/recreation/webforms/parks-recreation-master-plan-update>.

NEXT STEPS:

The Parks SDC Methodology is scheduled to be considered by Council in late 2018.

Attachments: PowerPoint Presentation
Alternative Park system Development Charge Methodology

[Print Agenda](#)



MEMORANDUM CITY OF TUALATIN

TO: Honorable Mayor and Members of the City Council

FROM: Sherilyn Lombos, City Manager

DATE: October 8, 2018

SUBJECT: Work Session for October 8, 2018

5:00 p.m. (30 min) – Update on the Tualatin Development Code Improvement Project. The development code improvement project is a three phase project that was approved by the City Council in 2017. Phase I (code clean-up) is currently wrapping up with Phases II & III tentatively scheduled to begin in 2019. Staff will present an update on the progress of Phase I along with the anticipated next steps.

5:30 p.m. (20 min) – Building Height in the Mixed Use Commercial Overlay District. Staff is seeking Council direction on whether to proceed with a change to the development code that would allow for a greater maximum building height than the 50 to 70 feet presently allowed in the Mixed Use Commercial Overlay District (MUCOD).

5:50 p.m. (20 min) – Update on the Council's Diversity & Inclusion Goal. The Council will hear an update on the progress towards the Council goal of increasing diversity and inclusion throughout the City of Tualatin and our community.

6:10 p.m. (40 min) – Parks System Development Charges. An updated methodology for residential and non-residential development will be presented. Staff is looking for discussion and direction regarding the methodology and rate-setting.

6:50 p.m. (10 min) – Council Meeting Agenda Review, Communications & Roundtable. Council will review the agenda for the October 8th City Council meeting and brief the Council on issues of mutual interest.



SYSTEM DEVELOPMENT CHARGES

CITY COUNCIL WORK SESSION

Monday, October 8, 2018



Purpose of Meeting

- Provide more detailed Residential and Nonresidential methodology information as follow up to 9/10 SDC discussion
- Receive policy direction on preferred alternative

Alternative Methodology

- In response to Council interest, City staff directed Consultant team to prepare an Alternative Draft Methodology
- The Alternative Draft SDC Methodology provides maximum allowable park SDC rates by detailed development type
- It provides the most defensible option for park SDCs by detailed development type

SDC Timeline/Process

SDC Process (two alternatives):

1. Continue public review with original methodology

- Public review and comments
- 11/13 Council methodology adoption
- Council rate setting

2. Restart 60-day public review with alternative methodology

- Public review and comments
- 12/10 Council methodology adoption
- Council rate setting



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METHODOLOGY ALTERNATIVES

Methodology Revisions

Maximum Allowable Park System Development Charge per Unit of Residential Development (Ex. 1, p. 2)

Type of Development	SDC per Unit of Development
Residential	
Single-Family	\$15,409 dwelling unit
Multi-Family	\$11,486 dwelling unit

Note: In the Methodology released for public review after the 9/10 meeting, the maximum allowable charge for all types of residential development was \$13,888 per dwelling unit

Methodology Revisions

Maximum Allowable Park System Development Charge per Unit of Nonresidential Development (Ex. 1, p. 2)

Type of Development	SDC per Unit of Development
Nonresidential	
Industrial/Manufacturing	\$3.88 square foot
Warehousing	\$0.98 square foot
Retail/Restaurant/Hospitality	\$3.79 square foot
Office*	\$3.13 square foot

Note: In the Methodology released for public review after then 9/10 meeting, the maximum allowable charge for all types of nonresidential development was \$2.67 per square foot.

Policy Direction Needed

Continue with the ongoing Public Review

- Provides a defensible maximum allowable rate for both residential and non-residential development
- Creates a less defensible approach for setting separate rates by detailed development types
- Allows mid-November public hearing

OR

Move forward with Alternative Methodology

- Provides a defensible methodology with maximum allowable rates by detailed development type
- Requires restarting the 60-day public review period
- Allows mid-December public hearing



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DISCUSSION & DIRECTION

Alternative Park System Development Charge Methodology

Detailed Residential and Nonresidential Maximum Rates

City of Tualatin

DISCUSSION DRAFT

September 28, 2018

Prepared by:



Prepared for:



City of Tualatin



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1. INTRODUCTION

The purpose of this methodology is to establish the maximum allowable rates for system development charges (SDCs) in the City of Tualatin, Oregon for parks, open space and recreation facilities as authorized by ORS 223.297 to 223.314.¹ Throughout this methodology the term “parks” is used as a short name referring to parks, open space and recreation facilities, including land and developments.

The Tualatin City Council discussed options for developing rates for different types of residential and nonresidential development at the September 10, 2018 work session. While the City Council decided to move forward with public review of the original methodology with rates for residential and nonresidential development that do not distinguish between more detailed development types, City staff thought it advantageous to prepare an alternative methodology with rates that differentiate between more types of both residential and nonresidential development to help inform decision-making.

This methodology provides the maximum allowable rates for two types of residential development and four types of nonresidential development. Key differences in this methodology are contained in Formula 7 and Exhibit 11 as well as Appendix A, which describe how equivalent population coefficients are developed for each development type based on the persons per dwelling unit or square feet per unit by type of development.

Summary of System Development Charges

System development charges are one-time fees charged to new development to help pay a portion of the costs required to build capital facilities needed to serve new development.

Parks SDCs are paid by all types of new development. SDC rates for new development are based on and vary according to the type of development. The following table summarizes the maximum allowable SDC rates for each type of development.

¹ Oregon Revised Statute (ORS) is the state law of the State of Oregon.

Exhibit 1. City of Tualatin Maximum Allowable System Development Charge Rates

Type of Development	SDC per Unit of Development
Residential	
Single-Family	\$15,409 dwelling unit
Multi-Family	\$11,486 dwelling unit
Nonresidential	
Industrial/Manufacturing	\$3.88 square foot
Warehousing	\$0.98 square foot
Retail/Restaurant/Hospitality	\$3.79 square foot
Office*	\$3.13 square foot

**Office includes healthcare, education, finance and professional services development.*

System Development Charges vs. Other Developer Contributions

System Development Charges are charges paid by new development to reimburse local governments for the capital cost of public facilities that are needed to serve new development and the people who occupy or use the new development. Throughout the methodology, the term “developer” is used as a shorthand expression to describe anyone who is obligated to pay SDCs, including builders, owners or developers.

Local governments charge SDCs for several reasons: 1) to obtain revenue to pay for some of the cost of new public facilities; 2) to implement a public policy that new development should pay a portion of the cost of facilities that it requires, and that existing development should not pay the entire cost of such facilities; and 3) to ensure that adequate public facilities will be constructed to serve new development.

The SDCs that are described in this study do not include any other forms of developer contributions or exactions for parks facilities to serve growth.

Organization of the Methodology

This SDC Methodology contains four chapters:

- **Introduction:** provides a summary of the maximum allowable SDC rates for development categories and other introductory materials.
- **Statutory Basis and Methodology:** summarizes the statutory requirements for development of SDCs and describes the compliance with each requirement.
- **Growth Estimates:** presents estimates of population and employment in Tualatin because SDCs are paid by growth to offset the

cost of parks, open space and recreation facilities that will be needed to serve new development.

- **Park System Development Charges:** presents the maximum allowable SDCs for parks in the City of Tualatin. The chapter includes the methodology that is used to develop the maximum allowable charges, the formulas, variables and data that are the basis for the charges, and the calculation of the maximum allowable charges. The methodology is designed to comply with the requirements of Oregon state law.

2. STATUTORY BASIS AND METHODOLOGY

The source of authority for the adoption of SDCs is found both in state statute and the City's own plenary authority to adopt this type of fee. This chapter summarizes the statutory requirements for SDCs in the State of Oregon and describes how the City of Tualatin's SDCs comply with the statutory requirements.

Statutory Requirements for System Development Charges

The Oregon Systems Development Act, passed in 1989, authorizes local governments in Oregon to charge SDCs. ORS 223.297 to 223.314 contain the provisions that authorize and describe the requirements for SDCs.

The following synopsis of the most significant requirements of the law include citations to Oregon Revised Statutes as an aid to readers who wish to review the exact language of the statutes.

Types of Capital Improvements

SDCs may only be used for capital improvements. Five types of capital improvements can be the subject of SDCs: 1) water supply, treatment and distribution; 2) waste water collection, transmission, treatment and disposal; 3) drainage and flood control; 4) transportation; and 5) parks and recreation. Capital improvements do not include the costs of the operation or routine maintenance of the improvements. Any capital improvements funded with SDCs must be included in the capital improvement plan adopted by the local government. *ORS 223.297, ORS 223.299 and ORS 223.307 (4)*

Types of System Development Charges

SDCs can include reimbursement fees, improvement fees or a combination of the two. An improvement fee may only be spent on capacity-increasing capital improvements identified in the Capital Improvement Plan. A reimbursement fee may be charged for the costs of existing capacity if there is "excess capacity" identified in the methodology. *ORS 223.299*

Improvement Fee Methodology Requirements

There are several requirements for an improvement fee methodology, as established in ORS 223.304. In order to establish or modify an improvement fee, an ordinance or resolution must be passed with a methodology that is publicly available and considers both the projected cost of capital improvements included in the plan related to the fee and the need for increased capacity to serve future users.

Reimbursement Fee Methodology Requirements

There are several requirements for a reimbursement fee methodology, also established in ORS 223.304. The methodology establishing or modifying a reimbursement fee must be passed by ordinance or resolution. The methodology must consider ratemaking principles, prior contributions by existing users, gifts or grants received and the value of unused capacity available to future users.

Prohibited Methodologies

Local governments may not base SDC charges to employers on the number of individuals hired by the employer after a specified date. In addition, the methodology cannot assume that costs for capital improvements are necessarily incurred when an employer hires an additional employee. Fee amounts cannot be determined based on the number of employees without regard to new construction, new development or new use of an existing structure by the employer. *ORS 223.301*

Authorized Expenditures

Authorized uses for SDC revenues depend on whether the revenues were collected as reimbursement fees or improvement fees. Reimbursement fees may only be used for capital improvements associated with the systems for which the fees are assessed, including repaying associated debts. Improvement fees may only be used for capacity increasing capital improvements associated with the systems for which the fees are assessed, including repaying associated debts. Regardless of the type of fee, SDC revenue may be used to cover the costs of complying with SDC regulations, including the cost of developing SDC methodologies and annual accounting of expenditures. *ORS 223.307 (1), (2), (3) and (5)*

SDCs may not be used to build administrative facilities that are “more than an incidental part” of allowed capital improvements, or for any facility operation or maintenance costs. *ORS 223.307 (2)*

Benefit to Development

The share of capital improvements funded by improvement fees must be related to the need for increased capacity to serve future users. Improvement fees must be based on the need for increased capacity to serve growth and must be calculated to collect the cost of capital improvements needed to serve growth. *ORS 223.307 (2) and ORS 223.304 (2)*.

Reductions of System Development Charge Amounts

The impact fee ordinance or resolution must allow for a credit for constructing qualified public improvements. Qualified public improvements

are capital improvements that are required as a condition of development approval and also identified in the plan, which are either “not located on or contiguous to property that is the subject of development approval” or “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 project to which the improvement fee is related.” Additionally, ORS 223.304 (5) indicates that the burden of proving that the improvement exceeds the minimum standard capacity need set by the local government and that the particular improvement qualifies for a credit is the developers responsibility. *ORS 223.304 (4)*

Local governments also have the option to provide greater credits, establish a system providing for the transferability of credits, provide a credit for a capital improvement not identified in the CIP, or provide a share of the cost of the improvement by other means. Credits provided must be used in the same time frame specified in the local government’s ordinance but may not be used later than ten years from the date the credit is provided. *ORS 223.304 (5)(c) and ORS 223.304 (5)(d)*

Developer Options

Local governments must establish procedures for any citizen or interested person to challenge an expenditure of SDC revenue. If anyone submits a written objection to an SDC calculation, the local government must advise them of the process to challenge the SDC calculation. *ORS 223.302 (2) and (3)*

Capital Improvement Plans

All projects funded with SDC revenue must be included in the local government’s capital improvement plan before any charges can be imposed. The plan may be called a capital improvement plan, public facilities plan, master plan or other comparable plan that includes a list of capital improvements that the government intends to fund in any part with SDC revenue. The plan must include the projects’ estimated costs, timing and percentage of costs to be funded with improvement fees. The plan may be modified at any time, but if an amendment to the plan will result in increased SDCs, there are additional notification and public hearing requirements. *ORS 223.309*

Accounting Requirements

All SDC revenue must be deposited in dedicated accounts. Local governments must provide annual reports on how much SDC revenue was collected and which projects received SDC funding. This must include how much was spent on each project as well as the amounts that were collected and dedicated to covering the costs of compliance with state laws. *ORS 223.311*

Annual Inflation Index

Local governments may change the amount of an improvement or reimbursement SDC without making a modification of the methodology under specific circumstances. A change in the amount of the SDC is not considered a modification of the methodology if the change is based upon a change in the cost of “materials, labor or real property” applied to the projects in the CIP list. Additionally, a change in the amount of the SDC is not considered a modification of the methodology if the change is based on a periodic “specific cost index or other periodic data source.” The periodic data sources must be:

- A relevant measure of the change in prices over a specified time period for “materials, labor, real property or a combination of the three;”
- Published by a recognized organization or agency that is independent of the system development charge methodology;
- Included in the methodology or adopted by ordinance, resolution or order. *ORS 223.304 (8)*

Compliance with Statutory Requirements for System Development Charges

Many of the statutory requirements listed above are fulfilled in the calculation of the parks system development charge in the fourth chapter of this methodology. Some of the statutory requirements are fulfilled in other ways, as described below.

Types of Capital Improvements

This methodology includes SDCs for parks capital improvements, which are one of the five types of capital improvements legally eligible for SDCs. The SDCs in this methodology are based on capital improvements that increase capacity in the parks system and the portion of capacity-increasing projects eligible for parks SDCs included and identified in the City of Tualatin’s capital improvement plan and excludes capacity increasing portions of capital improvements that City staff consider to be aspirational within the timeframe within this methodology.

Types of System Development Charges

SDCs can include reimbursement fees, improvement fees or a combination of the two. This methodology only includes improvement fees. The capital improvements identified in the City of Tualatin’s Capital Improvement Plan to be funded with improvement fees are capacity-increasing capital improvements.

The City of Tualatin’s parks SDCs are based on maintaining its existing levels of service as growth occurs. New development will receive the same

level of service or acres per equivalent person in order to maintain the same ratio as existed before the new development, and the total of those acres per person are the requirements to serve growth. By definition, the existing ratio is “used up” by the current population, so there is no unused reserve capacity that can be used to serve future population growth through reimbursement SDCs. Additionally, the City of Tualatin has determined that there is no excess capacity within the existing parks system. Therefore, the City of Tualatin has elected to only charge improvement fees, and thus this methodology will only address improvement fees.

Improvement Fee Methodology Requirements

The fees calculated with this methodology consider both the projected cost of planned capital improvements and the need for increased capacity to serve future users. To address future users, a calculation was made to determine the facilities required per new residential unit and per new nonresidential square foot to maintain the current level of service. The City of Tualatin will pass an ordinance or resolution to adopt this parks improvement fee methodology.

Prohibited Methodologies

SDC charges cannot be based on the number of employees without regard to new development. The City of Tualatin’s nonresidential SDC calculation is based on new nonresidential square footage rather than number of employees.

Authorized Expenditures

SDC revenue can only be used for the capital cost of public facilities. SDCs cannot be used for operation or routine maintenance expenses. Improvement SDCs may only be used for capacity increasing capital improvements. They may not be used to build administrative facilities that are more than “an incidental part” of allowed capital improvements and they may not be used for any operations or maintenance costs. *ORS 223.307 (1), (2), (3) and (5)*

This methodology is based upon projects identified in the Capital Improvements Plan that increase capacity of the parks system, as identified in the fourth chapter of this methodology. The methodology does not include any administrative facilities or operations or maintenance costs.

Benefit to Development

The share of capital improvements funded by improvement fees must be related to the need for increased capacity to serve future users. *ORS 223.307 (2)*. Improvement fees must be based on the need for increased capacity to serve growth and must be calculated to collect the cost of capital improvements needed to serve growth. *ORS 223.304 (2)*

The City of Tualatin's SDCs are based on the additional improvements required to serve future growth and maintain the current level of service for parks, as demonstrated in the fourth chapter of this methodology and identified in the parks CIP analysis in Appendix C.

Reductions of System Development Charge Amounts

The City of Tualatin's municipal code provides for a credit for the cost of qualified public improvements associated with new development as required in ORS 223.304, as well as the provision for other credits as allowed by ORS 223.304.

Developer Options

The City's municipal code establishes a process for individuals to appeal either SDC decisions or expenditures to the City Council by filing a written request with the City Manager's office.

Capital Improvement Plans

The City's capital improvement plan required by State law is incorporated into this parks SDC methodology, as shown in the fourth chapter of this methodology.

Accounting Requirements

The City's code stipulates that SDC revenues must be budgeted and expended in consistency with state law. Accounting requirements are met with the City's Comprehensive Annual Financial Report.

Annual Inflation Index

ORS 223.304 (8) allows local governments to adjust the SDC rate without modifying the methodology under specified circumstances. The City of Tualatin adopted an annual inflation index in their municipal code in 2004 and will continue to use this inflation index.

The inflation index used by the City of Tualatin for parks SDCs is calculated by combining the "change in average market value of undeveloped residential land in the City's planning area according to the records of the Washington County Tax Assessor and the Clackamas County Tax Assessor for the prior tax year, and the change in the construction costs according to the Engineering News Record Construction Cost Index for Seattle, Washington for the prior calendar year."

Data Sources

The data in this SDC methodology was provided by the City of Tualatin, unless a different source is specifically cited.

3. GROWTH ESTIMATES

System Development Charges are meant to have “growth pay for growth,” the first step in developing an SDC is to quantify future growth in the City of Tualatin. Growth estimates for the City of Tualatin’s population and employment for the planning period of 2016 to 2035 have been developed.

Exhibit 2 lists Tualatin’s residential population and growth rates from 2000 to 2016 and projections to the year 2035.

Exhibit 2. Population			
Year	Population	CAGR ⁽¹⁾	CAGR Years
2000	22,791		
2010	26,054	1.3%	2000-2010
2016	26,840	0.5%	2010-2016
2035	29,950	0.6%	2016-2035

(1) CAGR: Compound Annual Growth Rate

(2) Population Sources:

- 2000 - 2016: City of Tualatin from Portland State University College of Urban and Public Affairs, Population Research Center, 2016.
- 2035: 2035 Forecast of Population by City and County provided by the City of Tualatin. Population forecasts include population for the Basalt Creek and Southwest Tualatin Plan Areas provided by the City of Tualatin.

In addition to residential population growth, Tualatin expects businesses to grow. Business development is included in this methodology because Tualatin’s parks and recreation system serves both its residential population and employees. City parks provide places for employees to take breaks from work, including restful breaks and/or active exercise to promote healthy living.

Exhibit 3 shows employment in Tualatin for 2010 and 2016, and projected growth for the year 2035.

Exhibit 3. Employment	
Year	Employment
2010	22,972
2016	29,506
2035	40,668

(1) Employment Sources:

- 2010 and 2035 Employment data provided by City of Tualatin, 2035 TAZ Forecast Distribution by Jurisdiction MetroScope "Gamma" Employment Forecast.
- 2016 Employment data provided by City of Tualatin staff from the State of Oregon Employment Department.
- 2035 Employment data provided by City of Tualatin staff. Estimates include employment for the Basalt Creek and Southwest Tualatin Plan Areas.

Population is expected to increase from 26,840 in 2016 to 29,950 in 2035. Employment is expected to increase from 29,506 in 2016 to 40,668 in 2035. It is clear from Exhibits 2 and 3 that Tualatin expects growth of both population and employment in the future, so there is a rational basis for park SDCs that would have future growth pay for the parks, open space and recreation facilities needed to maintain appropriate levels of service for new development.

Population and employment are both expected to grow, but they should not be counted equally because employees spend less time in Tualatin than residents, therefore they have less benefit from Tualatin's parks. As Tualatin's nonresidential population is assumed to have a lower demand for parks than its residential population, growth in employment is adjusted with an equivalent population coefficient. Appendix A to this study describes equivalency and explains how the "equivalent population coefficients" were developed for this methodology. The result allows nonresidential development to pay its proportionate share of parks for growth based on the "equivalent population" that nonresidential development generates.

Exhibit 4 multiplies the equivalent population coefficients (from Appendix A) by the actual population and employment data from Exhibits 2 and 3 to calculate the "equivalent" population for the base year (2016) and the horizon year (2035) and the growth between 2016 and 2035. Based on the calculations provided in Appendix A, one employee or one member of the nonresidential population is equivalent to 0.34 members of the residential population in terms of demand for parks facilities.

Exhibit 4. Growth of Equivalent Population and Employment

	Equivalent Population Coefficient (1)	2016 Base Year Full Population (2)	2016 Base Year Equivalent Population (3)	2035 Horizon Year Full Population (2)	2035 Horizon Year Equivalent Population (3)	2016-2035 Growth Full Population (4)	2016-2035 Growth Equivalent Population (5)
Residential Population	1.00	26,840	26,840	29,950	29,950	3,110	3,110
Nonresidential Population	0.34	29,506	10,130	40,668	13,962	11,162	3,832
Total	N/A	N/A	36,970	N/A	43,912	N/A	6,942

(1) From Appendix A Equivalent Population Coefficients.

(2) Sources: Exhibits 2 and 3.

(3) Equivalent Population = Equivalent Population Coefficient x Full Population.

(4) 2016-2035 Growth Full Population = 2035 Full Population – 2016 Full Population.

(5) 2016-2035 Growth Equivalent Population = 2035 Equivalent Population – 2016 Equivalent Population.

The totals in Exhibit 4 provide the equivalent population for the purpose of development of park SDCs for Tualatin. The total equivalent population for the base year (2016) is 36,970 and the horizon year (2035) is 43,912, therefore equivalent population growth between 2016 and 2035 is 6,942.

4. PARK SYSTEM DEVELOPMENT CHARGES

Overview

System development charges for Tualatin’s parks, recreation facilities and open space use an inventory of the City’s existing parks acreage and current equivalent population to determine the current level of service ratio for parks. The current level of service ratio is multiplied by the projected equivalent population growth to estimate the acres of parks needed to serve growth at the current level of service and is compared to the number of acres to be acquired in the Capital Improvements Plan (CIP) to ensure sufficient projects are planned to serve growth. The cost of park acquisition and development is divided by the number of acres to be acquired or improved to establish the cost per acre for parks. Multiplying the park cost per equivalent population by the current level of service ratio results in the cost per equivalent population that can be charged as SDCs. The amount of the cost per equivalent population is adjusted by the value of the remaining park SDC fund balance, estimated compliance costs and any other sources of available funding to arrive at the net cost per equivalent population. The amount of the maximum allowable SDC is determined by multiplying the net cost per equivalent population by the equivalent population per unit for each type of development.

These steps are described below in the formulas, descriptions of variables, exhibits and explanation of calculations of parks system development charges. Throughout the chapter the term “person” is used as the short name that means equivalent population or equivalent person.

Formula 1: Parks Level of Service Ratio

The current level of service ratio is calculated by dividing Tualatin’s existing parks acreage by its total current equivalent population.

$$(1) \frac{\text{Existing Acres of Parks}}{\text{Current Equivalent Population}} = \text{Current Level of Service Ratio}$$

Equivalent population was described in the third chapter of this methodology and explained in the Appendix. There is one new variable that requires explanation: (A) Existing Acres of Parks.

Variable (A): Existing Acres of Parks

The acreage of each of Tualatin’s parks is listed in Appendix B. The total existing parks acreage includes all existing facilities in the following categories: Parks, Greenways, Natural Parks & Areas, School Joint-Use Facilities and Shared Use Paths. Appendix B additionally includes a total of the acreage for each park and the subtotal by category.

The total existing inventory of parks in the City of Tualatin is 316.14 acres of parks and recreation facilities (from Exhibit B1). Exhibit 5 lists the total existing inventory of parks and divides it by the current equivalent population of 36,970 (from Exhibit 4, divided by 1,000) to calculate the current level of service ratio of 8.55 acres of parks per 1,000 equivalent population.

Exhibit 5. Level of Service Ratio

Inventory	Current Equivalent Pop	Level of Service Ratio
316.14 acres ÷	36,970	= 8.55 acres per 1,000 pop

Formula 2: Park Needs for Growth

The park needs for growth is calculated to ensure that Tualatin plans to acquire enough land to provide new growth with the same level of service ratio that benefits the current population. The acres of parks needed for growth are calculated by multiplying the level of service ratio by the equivalent population growth from 2016 to 2035 (divided by 1,000).

$$(2) \text{ Current Level of Service Ratio} \times \text{Equivalent Population Growth} = \text{Park Acres Needed for Growth}$$

There are no new variables used in Formula 2. Both variables were developed in previous formulas and exhibits.

Exhibit 6 shows the calculation of the acres of parks needed for growth. The current level of service ratio is calculated in Exhibit 5. The growth in equivalent population is calculated in Exhibit 4. The result is that Tualatin needs to add 59.36 acres of parks in order to serve the growth of 6,942 additional people who are expected to be added to the City's existing equivalent population.

The number of acres in the Capital Improvements Plan must equal or exceed the number of acres needed for growth in order to provide at least the amount for which growth is being asked to pay SDCs. If the CIP amounts are greater than the amount needed for growth, the City pays for the additional amounts, and growth pays only for the amount that it needs.

Exhibit 6. Park Land Needs for Growth

Level of Service Ratio	2016-2035 Growth	Additional Acres Needed for Growth	Additional Acres in CIP
8.55 acres per 1,000 pop x	6,942	= 59.36	64.73

Formula 3: SDC Eligible Park Cost per Acre

The SDC eligible cost per acre of park land and improvements is the cost basis for the SDC. The cost per acre of park land and development is calculated by dividing the cost of eligible proposed park acquisitions and improvements by the number of acres to be acquired and developed in the Capital Improvements Plan.

$$(3) \frac{\text{Cost of Park Acquisition and Development}}{\text{Acres to be Acquired and Improved}} = \frac{\text{Park Cost}}{\text{per Acre}}$$

There are two new variables used in Formula 3 that require explanation: (B) Cost of Park Acquisition and Development and (C) Acres to be Acquired and Improved.

Variable B: Cost of Park Acquisition and Development

The park SDCs are based on the costs from the City's plans for future parks listed in Appendix C. Exhibit 7 details the total SDC eligible planned cost of park acquisition in the Parks Capital Improvement Plan, as well as the total SDC eligible cost of planned park improvements.

Variable C: Acres to be Acquired and Improved

The SDC eligible acres to be acquired and improved are from the same SDC eligible projects listed in Appendix C. Exhibit 7 details the total SDC eligible planned park acres to be acquired and the total SDC eligible planned park acres to be improved.

Exhibit 7 shows the calculation for the SDC eligible cost per acre of park land and improvements. The total SDC eligible cost of land acquisition and improvements (from Exhibit C1) is divided by the number of SDC eligible acres to be acquired or improved (from Exhibit C1) resulting in the park cost per acre. The result is that the City plans to invest a weighted average of \$649,003 per acre in SDC eligible parks acquisition and development.

Exhibit 7. Park SDC Eligible Cost per Acre

Type	Eligible Cost	Acres		Cost per Acre
Land Acquisition	\$16,012,500 ÷	64.73	=	\$247,374
Improvements	\$58,029,748 ÷	144.49	=	\$401,629
Total	\$74,042,248			\$649,003

Formula 4: SDC Eligible Park Cost per Person

The SDC eligible cost of parks per person is needed for calculating the SDC rate. The cost per person of future park acquisition and development is calculated by multiplying the park cost per acre by the current level of service ratio.

$$(4) \frac{\text{Park Cost per Acre}}{\text{Service Ratio}} \times \text{Current Level of} = \frac{\text{Park Cost per Person}}{\text{Person}}$$

There are no new variables in Formula 4.

Exhibit 8 shows the calculation of the park cost per person. The park cost per acre (from Exhibit 7) is multiplied by the current level of service ratio (from Exhibit 5). The result is the cost per 1,000 population, which is divided by 1,000 to establish the cost per person. With growth maintaining the current level of service ratio of 8.55 acres per 1,000 equivalent population, multiplied by the SDC eligible cost per acre of \$649,003, the cost basis for the park SDC is \$5,550 per equivalent person.

Exhibit 8. Park Cost per Equivalent Person

Cost per Acre	Level of Service	Cost per 1,000 Population	Cost per Equivalent Population
\$649,003	x 8.55	= \$5,549,855	\$5,550

Formula 5: Adjustment per Person

The adjustment per person is needed to calculate the net cost per person in Formula 6, and is required to account for compliance costs, the current SDC fund balance and other sources of funding. The adjustment per equivalent population is calculated by adding the compliance costs, fund balance and adjustment for other revenue together to arrive at a total adjustment divided by equivalent population growth.

$$(5) \left(\frac{\text{Compliance Costs} + \text{Fund Balance} + \text{Other Revenue}}{\text{Equivalent Population Growth}} \right) = \frac{\text{Adjustment per Person}}{\text{Person}}$$

There are three new variables in Formula 5 that require explanation: (D) Compliance Cost, (E) Fund Balance, (F) Other Revenue.

Variable D: Compliance Cost

The City of Tualatin is authorized under ORS 223.307 (5) to recoup a portion of the costs incurred for the development and administration of the SDCs. The SDC methodology developed by the City of Tualatin in 1991 estimated compliance costs at 1.2% of total SDC eligible costs. Using this same 1.2% for compliance costs, compliance costs for the 2035 time horizon are estimated at \$462,322. Compliance costs are estimated by multiplying the cost per person from Exhibit 8 by the equivalent population growth from Exhibit 4 and by the 1.2% estimated for compliance costs.

Variable E: Fund Balance

Additionally, the City of Tualatin has a remaining fund balance in the existing SDC account which will be used to pay for the park capital facilities needed to serve new development. This fund balance as reported by the City of Tualatin is \$270,000.

Variable F: Other Revenue

The adjustment per person also must include any other sources of revenue that will be used for parks capital facilities needed to serve new growth. The City of Tualatin has no identified sources of secured funding for parks capital facilities projects to serve growth in the Capital Improvement Plan.

Exhibit 9 shows the calculation for the adjustment per person. Compliance costs, the existing SDC fund balance and other sources of revenue are summed together to arrive at a total adjustment of \$192,322. This total adjustment is divided by the equivalent population growth (from Exhibit 4) of 6,942. The resulting adjustment per person is \$28.

Exhibit 9. Adjustment per Equivalent Person				
	Adjustment	2016-2035 Growth		Adjustment per Equivalent Population
Compliance costs (1)	\$462,322			
Fund Balance (2)	(\$270,000)			
Other Revenue (3)	\$0			
Total	\$192,322 ÷	6,942	=	\$28

- (1) Compliance costs are calculated using a 1.2% compliance costs to total eligible cost to serve growth (cost per person x 2016-2035 growth).
- (2) Fund balance for the fiscal year 2018/19 provided by the City of Tualatin.
- (3) Other revenue is secured funding from the 2018-2035 CIP, for which \$0 has been identified.

Formula 6: Net Park Cost per Person

The net cost per equivalent person is calculated by adding the adjustment per equivalent person to the cost per equivalent person.

$$(6) \frac{\text{Park Cost per Person}}{\text{Person}} + \frac{\text{Adjustment per Person}}{\text{per Person}} = \frac{\text{Net Park Cost}}{\text{per Person}}$$

There are no new variables in Formula 6.

Exhibit 10 shows the calculation of the net park cost per person to be paid by growth. The park cost per person (from Exhibit 8) is added to the adjustment per person (from Exhibit 9), and the result shows the cost for parks to be paid by growth is \$5,578 per person.

Exhibit 10. Net Cost per Equivalent Person

	Cost per Equivalent Population
Total Cost per Person	\$5,550
Total Adjustment	\$28
Net Cost per Person	\$5,578

Formula 7: Maximum Allowable System Development Charge per Unit of Development

The amount to be paid by each new development unit depends on the equivalent population per unit of development. The park system development charge per unit of development is calculated by multiplying the net park cost per person by the equivalent population per unit for each type of development.

$$(7) \frac{\text{Net Park Cost per Person}}{\text{per Person}} \times \frac{\text{Equivalent Population per Unit}}{\text{per Unit}} = \frac{\text{SDC per Unit of Development}}{\text{of Development}}$$

There is one new variable that requires explanation: (G) Equivalent Population per Unit.

Variable G: Equivalent Population per Unit

The equivalent population per unit is calculated by multiplying the equivalent population coefficient by the number of persons per unit of development, as shown in Appendix A. For residential development this is the number of persons per dwelling unit estimated from the U.S. Census American Community Survey 5-Year Estimates for the City of Tualatin. For nonresidential development, a weighted average number of employees per square foot for each type of development was calculated from the Observed Building Densities from Table 4 in the Metro 1999 Employment Density Study, as shown in Appendix D.

Exhibit 11 shows the calculation of the maximum allowable parks SDC per unit of development. The net cost per equivalent person of \$5,578 from Exhibit 10 is multiplied by the equivalent population per unit (from Exhibit A6) to calculate the SDC per unit of development for parks.

**Exhibit 11. Maximum Allowable Park System Development Charge per Unit
of Development**

Type	Net Cost per Equivalent Person		Equivalent Population per Unit	Unit of Development	SDC Per Unit of Development
Residential					
Single-Family	\$5,578	x	2.76	dwelling unit =	\$15,409
Multi-Family	\$5,578	x	2.06	dwelling unit =	\$11,486
Nonresidential					
Industrial/Manufacturing	\$5,578	x	0.0007	square foot =	\$3.88
Warehousing	\$5,578	x	0.0002	square foot =	\$0.98
Retail/Restaurant/Hospitality	\$5,578	x	0.0007	square foot =	\$3.79
Office*	\$5,578	x	0.0006	square foot =	\$3.13

**Office includes healthcare, education, finance and professional services development.*

APPENDIX A. EQUIVALENT POPULATION COEFFICIENTS

What is “Equivalency”

When governments analyze things that are different from each other, but which have something in common, they sometimes use “equivalency” as the basis for their analysis.

For example, many water and sewer utilities calculate fees based on an average residential unit, then they calculated fees for business users on the basis of how many residential units would be equivalent to the water or sewer service used by the business. This well-established and widely practiced method uses “equivalent residential unit” (ERUs) as the multiplier that uses the rate for one residence to calculate rates for businesses. If a business needs a water connection that is double the size of an average house, that business is 2.0 ERUs, and would pay fees that are 2.0 times the fee for an average residential unit.

Another use of “equivalency” that is used in public sector organizations is “full time equivalent” (FTE) employees. One employee who works full-time is 1.0 FTE. A half-time employee is 0.5 FTE. By adding up the FTE coefficients of all part-time employees, the total is the FTE (full-time equivalent) of all the full and part-time employees.

Equivalency and Park System Development Charges

The use of equivalency can be used to develop park SDCs that apply to new nonresidential development as well as residential development. When charging SDCs to new nonresidential development as well as new residential development the proportionate benefits parks provide for each type of development must be considered. Different types of development and the population using that development receive different benefits from Tualatin’s parks system, based on the amount of time the parks system is available during their use of each type of development.

Equivalent population coefficients use the same principles as ERUs or FTEs to measure differences among residential population and nonresidential businesses in their availability to benefit from Tualatin’s parks. This method documents the nexus between parks and development by quantifying the differences among different categories of park users.

Parks are not available for the same amount of time for occupants of nonresidential development as for occupants of residential development. In order to equitably apportion the need for parks between the residential and nonresidential development an equivalent population coefficient was

developed based on the potential time parks facilities are available for use and the distribution of Tualatin's residential and nonresidential population.

The equivalent population coefficient is used in two ways. First, the residential equivalent from Exhibit A5 is multiplied by the number of employees in Tualatin to count employees as "equivalent population" in Tualatin. This provides a total population of residents and employees that will be used to calculate the parks cost per equivalent person. Second, the population coefficient is multiplied by a measure of population per unit to arrive at an equivalent population per unit, which is multiplied by the net park cost per equivalent person to determine the maximum allowable park SDC per unit of development.

Calculation of Equivalent Population Coefficient for Park System Development Charges

Exhibit A1 shows the current population and employment within the City of Tualatin by place of work and place of residence. Each segment of Tualatin's population and employment have differences in the availability of parks.

Exhibit A1. City of Tualatin Current Population and Employment by Place of Residence and Place of Work

	Live in Tualatin	Live Elsewhere	Total
Work in Tualatin	1,973	27,533	29,506
Work Elsewhere	11,796		
All Others	13,071		
Total	26,840		

- (1) *Estimates of Population Living and Working in Tualatin, Living Elsewhere and Working in Tualatin, and Living in Tualatin and Working Elsewhere based on percentages from 2015 data from U.S. Census OnTheMap and 2015 total resident population from the Portland State University, College of Urban and Public Affairs, Population Research Center, controlled to population and employment totals for 2016 from Exhibits 2 and 3.*
- (2) *Estimates of All Others is the difference of the working population living in the City of Tualatin and the total resident population in the City of Tualatin*

Exhibit A2 details the weighted average hours per day of park facility availability for each population segment. The number of hours per day differs depending on weekday vs weekend and depending on the season. Additionally, the hours differ depending on the segment of the population.

Weighted average hours per day are calculated with the following formula.

$$\left(\text{Summer Hrs per Day} \times 25\% \right) + \left(\text{Spring \& Fall Hrs per Day} \times 50\% \right) + \left(\text{Winter Hrs per Day} \times 25\% \right) = \frac{\text{Wtd Avg Hrs per Day}}{\text{Hrs per Day}}$$

Exhibit A2. Weighted Hours per Day of Park Availability by Population Segment

	All others	Live and Work in Tualatin (home hrs)	Live and Work in Tualatin (work hrs)	Live in Tualatin Work Elsewhere	Live Elsewhere Work in Tualatin
Summer (June-Sept)					
Weekday	10.55	2.00	4.00	2.00	4.00
Weekend	10.55	12.00	0.00	12.00	0.00
Hours per Day	10.55	4.86	2.86	4.86	2.86
Spring/Fall (April-May, Oct-Nov)					
Weekday	6.24	2.00	2.50	2.00	2.50
Weekend	8.79	10.00	0.00	10.00	0.00
Hours per Day	6.97	4.29	1.79	4.29	1.79
Winter (Dec-March)					
Weekday	4.48	1.00	2.00	1.00	2.00
Weekend	7.03	8.00	0.00	8.00	0.00
Hours per Day	5.21	3.00	1.43	3.00	1.43
Wtd Avg. Hours per Day	7.42	4.11	1.96	4.11	1.96

(1) Average daily hours sourced from prior park system development charge methodologies by Don Ganer & Associates for Oregon cities.

Annual weighted hours per day by segment from Exhibit A2 were multiplied by seven days per week to arrive at the hours of park availability per week by population and employment segment, as outlined in Exhibit A3. For example, individuals that live in Tualatin and work in Tualatin have 28.75 average hours of park availability during the time where they are occupying residential development and 13.75 average hours of park availability while they are occupying nonresidential development. Individuals that work in Tualatin but live elsewhere only have 13.75 hours of park availability while they are occupying nonresidential development in the City of Tualatin and residents that are not employed (all others) have 51.96 average hours of park availability per week while they are occupying residential development.

Exhibit A3. Park Availability in Hours per Week by Place of Residence and Place of Work

	Residential Hours		Work Hours	
	Live in Tualatin	Live Elsewhere	Live in Tualatin	Live Elsewhere
Work in Tualatin	28.75	0.00	13.75	13.75
Work Elsewhere	28.75		0.00	
All Others	51.96		0.00	

The annual weighted hours of park availability per week are applied to current population and employment by segment to determine the total

annual weighted average hours per week of park availability for each category. In total there are nearly 1.5 million hours of park availability per week for the City of Tualatin.

Exhibit A4. Total Hours per Week of Park Demand

	Resident Hours (1)	Employee Hours (2)	Total
Work in Tualatin	56,714	405,708	462,421
Work Elsewhere	339,131		339,131
All Others	679,147		679,147
Total	1,074,992	405,708	1,480,700

- (1) Resident hours are equal to the population living in Tualatin by place of work from Exhibit A1 multiplied by hours per week of park availability by place of residence and location of work.
- (2) Employee hours are equal to the employee population in Tualatin by place of work from Exhibit A1 multiplied by hours per week of park availability by place of residence and location of work.

Exhibit A5 calculates the average hours per resident by dividing total resident hours from Exhibit A4 by total residential population of 26,840 from Exhibit A1. Hours per employee are calculated by dividing total employee hours from Exhibit A4 by the total number of employees in Tualatin from Exhibit A1. The residential equivalent is calculated by dividing hours per employee by hours per resident. The result of the calculation in Exhibit A5 is that one employee is equal to 0.34 residents. The resulting coefficient for residential development is 1.0.

Exhibit A5. Residential Equivalent Coefficient

	Hours
Hours per Resident	40.05
Hours per Employee	13.75
Residential Equivalent	0.34

Calculation of Equivalent Population per Unit

In order to convert the net cost per equivalent person to the maximum allowable SDC rate per unit of development, it is necessary to calculate a measure of equivalent population per unit of development. Exhibit A6 shows the calculation of the equivalent population per unit. The equivalent population coefficient from Exhibit A5 is multiplied by a measure of population per unit. The measure of population per unit is the number of persons per dwelling unit for residential development, calculated for single-family and multi-family dwelling units using the number of occupied dwelling units by unit type and estimated population by unit type from the 2012-2016 American Community Survey 5-Year Estimates for Tualatin, Oregon. Tables from the American Community Survey used in the analysis

include Selected Housing Characteristics and Tenure by Household Size by Units in Structure. The measure of population per unit for nonresidential development is the weighted average square feet per employee for each type of development based on the Observed Building Density table from Metro's 1999 Employment Density Study, in Appendix D, weighted by current employment by industry provided by the City of Tualatin.

Exhibit A6. Equivalent Population per Unit

Type of Development	Equivalent Population Coefficient	Population per Unit	Unit	Equivalent Population per Unit
Residential				
Single-Family	1.00	2.76	dwelling unit	2.76
Multi-Family	1.00	2.06	dwelling unit	2.06
Nonresidential				
Industrial/Manufacturing	0.34	0.0020	square foot	0.0007
Warehousing	0.34	0.0005	square foot	0.0002
Retail/Restaurant/Hospitality	0.34	0.0020	square foot	0.0007
Office*	0.34	0.0016	square foot	0.0006

**Office includes healthcare, education, finance and professional services development.*

As noted previously, the equivalent population coefficient is multiplied by the number of employees in Tualatin and the residential population to calculate the total equivalent population in Tualatin. The equivalent population per unit is multiplied by the net park cost per equivalent population to calculate the SDC rate for residential and nonresidential development.

APPENDIX B. INVENTORY OF EXISTING PARKS

Tualatin's updated Parks and Recreation Master Plan provides a detailed inventory of existing facilities and acres within the Tualatin parks system as of 2018. The parks system in Tualatin currently consists of 316.14 acres of parks in total. Tualatin has 83.75 acres of parks, 125.32 acres of greenways and shared use paths, 107.07 acres of natural areas and parks, and 0 acres of school joint-use facilities.

Exhibit B1. Tualatin Parks Inventory, 2018

Park/Facility Type	Inventory	Unit
Parks		
Affalati Park	13.27	acres
Ibach Park	20.08	acres
Jurgens Park	15.59	acres
Lafky Park	2	acres
Stoneridge Park	0.23	acres
Tualatin Commons	4.83	acres
Tualatin Commons Park	0.64	acres
Tualatin Community Park	27.11	acres
Total Parks	83.75	acres
Greenways & Shared Use Paths		
Chieftain/Dakota Greenway	6.14	acres
Hedges Creek Greenway	11.66	acres
Helenius Greenway	0.43	acres
Hi-West Estates Greenway	1.59	acres
Indian Meadows Greenway	3.82	acres
Nyberg Creek Greenway	5.78	acres
Nyberg Creek (South) Greenway	2.3	acres
Saum Creek Greenway	54.22	acres
Shaniko Greenway	3.3	acres
Tualatin River Greenway	30.39	acres
65th Avenue Shared Use Path	0.47	acres
Boones Ferry Road Shared Use Path (Byrom Elementary to Arapaho Road)	0.41	acres
Byrom Elementary Shared Use Path (Martinazzi Ave. to Boones Ferry Rd.)	0.8	acres
Cherokee Street Shared Use Path (108th Ave to Rail Road ROW)	0.09	acres
I-5 Shared Use Path (Warm Springs St. to Sagert St.)	1.54	acres
Ice Age Tonquin Trail	2.38	acres
Total Greenways & Shared Use Paths	125.32	acres
Natural Parks & Areas		
Brown's Ferry Park	43.21	acres
Hedges Creek Wetlands Protection District	29.06	acres
Hervin Grove Natural Area	0.29	acres
Johnnie and William Koller Wetland Park	15.32	acres
Little Woodrose Nature Park	6.55	acres
Saarinen Wayside Park	0.06	acres
Sequoia Ridge Natural Area	0.65	acres
Sweek Ponds Natural Area	4.68	acres
Sweek Woods Natural Area	5.03	acres
Victoria Woods Natural Area	2.22	acres
Total Natural Parks & Areas	107.07	acres
School Joint-Use Facilities		
TuHS Leonard Pohl Field	0	acres
TuHS-Byrom Elementary Cross Country Running Trail	0	acres
Total School Joint-Use Facilities	0	acres
Total Park Inventory	316.14	acres

APPENDIX C. CAPITAL IMPROVEMENTS PLAN AND PROJECTS THAT ADD CAPACITY, 2018-2035

The Capital Improvements Plan (CIP) for 2018-2035 contains 53 projects, among these 21 are prioritized SDC eligible projects included in the SDC methodology, which include improvements to existing parks as well as acquisition and development of new parks. Project numbers and names are listed in column one of Exhibit C1. The total capital cost of each project is listed in column two, totaling \$215.9 million. The third column lists the total acres by project, totaling 409.6 acres. The fourth column lists the SDC eligible acres to be acquired totaling 64.73 acres. The fifth column lists the percentage of acres to be improved for each CIP project. The sixth column calculates the SDC eligible acres to be improved, equal to acres multiplied by the percent to be improved, totaling 144.5 acres to be improved. The seventh column lists the cost of SDC eligible park land acquisition, totaling \$16 million. The eighth column lists the total cost of improvements, equal to \$178.4 million. The ninth column lists the percentage of improvements that are SDC eligible for each project. The tenth column lists eligible improvement costs, totaling \$58 million. The final column lists the total SDC eligible project costs, equal to \$74 million.

City of Tualatin staff have identified no secured funding for the park projects listed in the 2018-2035 Capital Improvements Plan. Specific totals derived from the analysis of CIP projects are used in Formulas 2 and 5 in the Park System Development Charge chapter of this methodology. Projects highlighted grey in Exhibit C1 are those projects that are not priority SDC projects and are not included in the SDC methodology.

City of Tualatin staff and the 2018 Tualatin Parks and Recreation Master Plan have identified aspirational projects included in the CIP that are SDC eligible, but at this time are not considered likely to be developed within the time horizon of this methodology and so are excluded from the analysis.

- CIP # E28: Shaniko Greenway

Exhibit C1. Capital Improvements Plan for Parks, 2018 – 2035

CIP #	Project	CIP Budget	Total Acres	SDC Eligible Acquired Acres	% Acres to be Improved	SDC Eligible Improved Acres	SDC Land Cost	Improvement Cost	% Improvement SDC Eligible	Eligible Improvement Cost	Total Eligible Cost
Parks (Existing)											
E1	Affalati Park	\$6,181,432	13.27	0.00	25%	3.32	\$0	\$6,181,432	25%	\$1,545,358	\$1,545,358
E2	Ibach Park	\$9,041,788	20.08	0.00	25%	5.02	\$0	\$9,041,788	25%	\$2,260,447	\$2,260,447
E3	Jurgens Park	\$7,328,675	15.59	0.00	40%	6.24	\$0	\$7,328,675	40%	\$2,931,470	\$2,931,470
E4	Lafky Park	\$277,818	2.00	0.00	0%	0.00	\$0	\$277,818	0%	\$0	\$0
E5	Stoneridge Park	\$113,870	0.23	0.00	0%	0.00	\$0	\$113,870	0%	\$0	\$0
E6	Tualatin Commons	\$1,088,198	4.83	0.00	0%	0.00	\$0	\$1,088,198	0%	\$0	\$0
E7	Tualatin Commons Park	\$61,187	0.64	0.00	0%	0.00	\$0	\$61,187	0%	\$0	\$0
E8	Tualatin Community Park	\$19,529,596	27.11	0.00	0%	0.00	\$0	\$19,529,596	0%	\$0	\$0
E9	Tualatin Library	\$6,107,222	0.00	0.00	0%	0.00	\$0	\$6,107,222	0%	\$0	\$0
	<i>Subtotal</i>	<i>\$49,729,787</i>	<i>83.75</i>	<i>0.00</i>	<i>17%</i>	<i>14.57</i>	<i>\$0</i>	<i>\$49,729,787</i>	<i>14%</i>	<i>\$6,737,275</i>	<i>\$6,737,275</i>
Natural Parks & Areas (Existing)											
E10	Brown's Ferry Park	\$28,539,479	43.21	0.00	25%	10.80	\$0	\$13,539,479	25%	\$3,384,870	\$3,384,870
E11	Hedges Creek Wetlands Protection District	\$1,213,220	29.06	0.00	0%	0.00	\$0	\$1,213,220	0%	\$0	\$0
E12	Hervin Grove Natural Area	\$20,000	0.29	0.00	0%	0.00	\$0	\$20,000	0%	\$0	\$0
E13	Johnnie and William Koller Wetland Park	\$2,506,200	15.32	0.00	40%	6.13	\$0	\$2,506,200	50%	\$1,253,100	\$1,253,100
E14	Little Woodrose Nature Park	\$1,375,619	6.55	0.00	0%	0.00	\$0	\$1,375,619	0%	\$0	\$0
E15	Saarinen Wayside Park	\$20,000	0.06	0.00	0%	0.00	\$0	\$20,000	0%	\$0	\$0
E16	Sequoia Ridge Natural Area	\$46,000	0.65	0.00	0%	0.00	\$0	\$46,000	0%	\$0	\$0
E17	Sweek Ponds Natural Area	\$1,261,784	4.68	0.00	0%	0.00	\$0	\$1,261,784	0%	\$0	\$0
E18	Sweek Woods Natural Area	\$20,000	5.03	0.00	0%	0.00	\$0	\$20,000	0%	\$0	\$0
E19	Victoria Woods Natural Area	\$228,550	2.22	0.00	0%	0.00	\$0	\$228,550	0%	\$0	\$0
	<i>Subtotal</i>	<i>\$35,230,852</i>	<i>107.07</i>	<i>0.00</i>	<i>16%</i>	<i>16.93</i>	<i>\$0</i>	<i>\$20,230,852</i>	<i>23%</i>	<i>\$4,637,970</i>	<i>\$4,637,970</i>

Exhibit C1 cont. Capital Improvements Plan for Parks, 2018 – 2035

CIP #	Project	CIP Budget	Total Acres	SDC Eligible Acquired Acres	% Acres to be Improved	SDC Eligible Improved Acres	SDC Land Cost	Improvement Cost	% Improvement SDC Eligible	Eligible Improvement Cost	Total Eligible Cost
Greenways (Existing)											
E20	Chieftain/Dakota Greenway	\$1,520,978	6.14	0.00	50%	3.07	\$0	\$1,520,978	50%	\$760,489	\$760,489
E21	Hedges Creek Greenway	\$1,798,218	11.66	0.00	50%	5.83	\$0	\$1,798,218	75%	\$1,348,664	\$1,348,664
E22	Helenius Greenway	\$149,000	0.43	0.00	100%	0.43	\$0	\$149,000	100%	\$149,000	\$149,000
E23	Hi-West Estates Greenway	\$190,338	1.59	0.00	0%	0.00	\$0	\$190,338	0%	\$0	\$0
E24	Indian Meadows Greenway	\$545,049	3.82	0.00	10%	0.38	\$0	\$545,049	10%	\$54,505	\$54,505
E25	Nyberg Creek Greenway	\$1,381,656	5.78	0.00	75%	4.34	\$0	\$1,381,656	75%	\$1,036,242	\$1,036,242
E26	Nyberg Creek (South) Greenway	\$710,000	2.30	0.00	100%	2.30	\$0	\$710,000	100%	\$710,000	\$710,000
E27	Saum Creek Greenway	\$4,376,436	54.22	0.00	25%	13.56	\$0	\$4,376,436	50%	\$2,188,218	\$2,188,218
E28	Shaniko Greenway	\$48,732	3.30	0.00	0%	0.00	\$0	\$48,732	0%	\$0	\$0
E29	Tualatin River Greenway	\$5,483,771	30.39	0.00	50%	15.20	\$0	\$5,483,771	50%	\$2,741,885	\$2,741,885
	<i>Subtotal</i>	<i>\$16,204,180</i>	<i>119.63</i>	<i>0.00</i>	<i>38%</i>	<i>45.10</i>	<i>\$0</i>	<i>\$16,204,180</i>	<i>55%</i>	<i>\$8,989,004</i>	<i>\$8,989,004</i>
School Joint-Use Facilities (Existing)											
E30	TuHS Leonard Pohl Field 2	\$563,024	0.00	0.00	0%	0.00	\$0	\$563,024	0%	\$0	\$0
E31	TuHS-Byrom Elementary Cross Country Running Trail	\$42,865	0.00	0.00	0%	0.00	\$0	\$42,865	0%	\$0	\$0
	<i>Subtotal</i>	<i>\$605,889</i>	<i>0.00</i>	<i>0.00</i>	<i>0%</i>	<i>0.00</i>	<i>\$0</i>	<i>\$605,889</i>	<i>0%</i>	<i>\$0</i>	<i>\$0</i>
Shared Use Paths (Existing)											
E32	65th Avenue Shared Use Path	\$0	0.47	0.00	0%	0.00	\$0	\$0	0%	\$0	\$0
E33	Boones Ferry Road Shared Use	\$0	0.41	0.00	0%	0.00	\$0	\$0	0%	\$0	\$0
E34	Byrom Elementary Shared Use Path (Martinazzi Ave. to Boones Ferry Rd.)	\$0	0.80	0.00	0%	0.00	\$0	\$0	0%	\$0	\$0
E35	Cherokee Street Shared Use Path (108th Ave to Rail Road ROW)	\$0	0.09	0.00	0%	0.00	\$0	\$0	0%	\$0	\$0
E36	I-5 Shared Use Path (Warm Springs St. to Sagert St.)	\$462,000	1.54	0.00	100%	1.54	\$0	\$462,000	100%	\$462,000	\$462,000
E37	Ice Age Tonquin Trail	\$723,500	3.06	0.68	75%	2.30	\$0	\$723,500	100%	\$723,500	\$723,500
	<i>Subtotal</i>	<i>\$1,185,500</i>	<i>6.37</i>	<i>0.68</i>	<i>60%</i>	<i>3.84</i>	<i>\$0</i>	<i>\$1,185,500</i>	<i>100%</i>	<i>\$1,185,500</i>	<i>\$1,185,500</i>

Exhibit C1 cont. Capital Improvements Plan for Parks, 2018 – 2035

CIP #	Project	CIP Budget	Total Acres	SDC Eligible Acquired Acres	% Acres to be Improved	SDC Eligible Improved Acres	SDC Land Cost	Improvement Cost	% Improvement SDC Eligible	Eligible Improvement Cost	Total Eligible Cost
Parks (Proposed)											
P1	Jurgens Park addition	\$3,947,500	5.15	5.15	100%	5.15	\$1,287,500	\$2,660,000	100%	\$2,660,000	\$3,947,500
P2	Tualatin Community Park addition	\$2,335,000	3.00	3.00	100%	3.00	\$750,000	\$1,585,000	100%	\$1,585,000	\$2,335,000
P3	Basalt Creek park	\$17,110,000	20.00	20.00	100%	20.00	\$5,000,000	\$12,110,000	100%	\$12,110,000	\$17,110,000
P4	East Tualatin / Bridgeport Elementary partnership	\$200,000	0.00	0.00	0%	0.00	\$0	\$200,000	0%	\$0	\$0
P5	Pony Ridge/ Heritage Pines partnership	\$210,000	0.00	0.00	0%	0.00	\$0	\$210,000	0%	\$0	\$0
P6	Central Tualatin sports park	\$6,835,000	9.00	9.00	100%	9.00	\$2,250,000	\$4,585,000	100%	\$4,585,000	\$6,835,000
P7	Community recreation center	\$33,835,000	5.00	0.00	0%	0.00	\$0	\$32,585,000	0%	\$0	\$0
P8	Additional park opportunities	\$8,925,000	11.80	11.80	100%	11.80	\$2,950,000	\$5,975,000	100%	\$5,975,000	\$8,925,000
P9	Tournament sports complex	\$12,585,000	10.00	0.00	0%	0.00	\$0	\$10,085,000	0%	\$0	\$0
	<i>Subtotal</i>	<i>\$85,982,500</i>	<i>63.95</i>	<i>48.95</i>	<i>77%</i>	<i>48.95</i>	<i>\$12,237,500</i>	<i>\$69,995,000</i>	<i>38%</i>	<i>\$26,915,000</i>	<i>\$39,152,500</i>
Natural Parks & Areas (Proposed)											
P10	New natural park and areas	\$7,655,000	12.70	0.00	0%	0.00	\$0	\$5,115,000	0%	\$0	\$0
	<i>Subtotal</i>	<i>\$7,655,000</i>	<i>12.70</i>	<i>0.00</i>	<i>0%</i>	<i>0.00</i>	<i>\$0</i>	<i>\$5,115,000</i>	<i>0%</i>	<i>\$0</i>	<i>\$0</i>
Greenways & Shared Use Paths (Proposed)											
P11	New greenways and shared use paths	\$13,340,000	15.10	15.10	100%	15.10	\$3,775,000	\$9,565,000	100%	\$9,565,000	\$13,340,000
P12	Westside Trail bridge	\$5,575,000	1.00	0.00	0%	0.00	\$0	\$5,325,000	0%	\$0	\$0
	<i>Subtotal</i>	<i>\$18,915,000</i>	<i>16.10</i>	<i>15.10</i>	<i>94%</i>	<i>15.10</i>	<i>\$3,775,000</i>	<i>\$14,890,000</i>	<i>64%</i>	<i>\$9,565,000</i>	<i>\$13,340,000</i>
Additionally Planning (Proposed)											
P13	Community (Urban) Forestry Plan	\$100,000	0.00	0.00	0%	0.00	\$0	\$100,000	0%	\$0	\$0
P14	Comprehensive Fee Analysis and Plan	\$100,000	0.00	0.00	0%	0.00	\$0	\$100,000	0%	\$0	\$0
P15	Resource Management Plan	\$100,000	0.00	0.00	0%	0.00	\$0	\$100,000	0%	\$0	\$0
P16	Marketing and Outreach Plan	\$100,000	0.00	0.00	0%	0.00	\$0	\$100,000	0%	\$0	\$0
	<i>Subtotal</i>	<i>\$400,000</i>	<i>0.00</i>	<i>0.00</i>	<i>0%</i>	<i>0.00</i>	<i>\$0</i>	<i>\$400,000</i>	<i>0%</i>	<i>\$0</i>	<i>\$0</i>
Total		\$215,908,708	409.57	64.73	35%	144.49	\$16,012,500	\$178,356,208	33%	\$58,029,748	\$74,042,248

APPENDIX D. OBSERVED BUILDING DENSITIES

ORS 223.301 prohibits local governments from determining the SDC for a specific development based on the number of employees hired, and fee amounts cannot be determined based on the number of employees without regard to new construction or new development. In order to ensure that the park SDCs are not charged based on the number of employees it is necessary to develop a ratio between the number of employees and the square feet of new development required to accommodate employees. Metro's 1999 Employment Density Study has a detailed list of square feet per employee by industry, which was used to calculate a weighted average number of square feet per employee by type of development.

Exhibit D1. Observed Building Densities

Industry Grouping (SIC)	Description	Weighted Square Feet per Employee
1-19	Ag., Fish & Forest Services; Constr; Mining	590
20	Food & Kindred Products	630
21	Tobacco (industry does not exist in Oregon)	0
22, 23	Textile & Apparel	930
24	Lumber & Wood	640
25, 32, 39	Furniture; Clay, Stone & Glass; Misc.	760
26	Paper & Allied	1,600
27	Printing, Publishing & Allied	450
28-31	Chemicals, Petroleum, Rubber, Leather	720
33, 34	Primary & Fabricated Metals	420
35	Machinery Equipment	300
36, 38	Electrical Machinery, Equipment	400
37	Transportation Equipment	700
40-42, 44, 45, 47	TCPU - Transportation and Warehousing	3,290
43, 46, 48, 49	TCPU - Communications and Public Utilities	460
50, 51	Wholesale Trade	1,390
52-59	Retail Trade	470
60-68	Finance, Insurance & Real Estate	370
70-79	Non-Health Services	770
80	Health Services	350
81-89	Educational, Social, Membership Services	740
90-99	Government	530