

Methodology Report

Wastewater, Water, Transportation, Stormwater and Park System Development Charges

Prepared for CITY OF SWEET HOME | February 18, 2021

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# Introduction

Oregon legislation establishes guidelines for the calculation of system development charges (SDCs). Within these guidelines, local governments have latitude in selecting technical approaches and establishing policies related to the development and administration of SDCs. A discussion of this legislation follows.

In conformance with state law and industry standard practices, the recommended SDC methodologies for the City of Sweet Home’s wastewater, water, transportation, stormwater, and park SDCs for are presented in subsequent sections of this report.

## SDC Legislation in Oregon

In the 1989 Oregon state legislative session, a bill was passed that created a uniform framework for the imposition of SDCs statewide. This legislation (Oregon Revised Statute [ORS] 223.297‑223.314), which became effective on July 1, 1991, (with subsequent amendments), authorizes local governments to assess SDCs for the following types of capital improvements:

* Drainage and flood control
* Water supply, treatment, and distribution
* Wastewater collection, transmission, treatment, and disposal
* Transportation
* Parks and recreation

The legislation provides guidelines on the calculation and modification of SDCs, accounting requirements to track SDC revenues and expenditures, and the adoption of administrative review procedures.

### SDC Structure

SDCs can be developed around two concepts: (1) a reimbursement fee, and (2) an improvement fee, or a combination of the two. The **reimbursement fee** is based on the costs of capital improvements *already constructed or under construction*. The legislation requires the reimbursement fee to be established or modified by an ordinance or resolution setting forth the methodology used to calculate the charge. This methodology must consider the cost of existing facilities, prior contributions by existing users, gifts or grants from federal or state government or private persons, the value of unused capacity available for future system users, rate-making principles employed to finance the capital improvements, and other relevant factors. The objective of the methodology must be that future system users contribute no more than an equitable share of the capital costs of *existing* facilities. Use of reimbursement fee revenues are restricted only to capital expenditures for the specific system which they are assessed, including debt service.

The methodology for establishing or modifying an **improvement fee** must be specified in an ordinance or resolution that demonstrates consideration of the *projected costs of capital improvements identified in an adopted plan and list*, that are needed to increase capacity in the system to meet the demands of new or expanded development. Use of revenues generated through improve­ment fees are dedicated to capacity-increasing capital improvements or the repayment of debt on such improvements. An increase in capacity is established if an improvement increases the level of service provided by existing facilities or provides new facilities.

In many systems, growth needs will be met through a combination of existing available capacity and future capacity-enhancing improvements. Therefore, the law provides for a **combined fee** (reimbursement plus improvement component).

### Credits

The legislation requires that a credit be provided against the improvement fee for the construction of “qualified public improvements” by a developer or other private party. Qualified public improvements are improvements that are 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.

### Update and Review

The methodology for establishing or modifying improvement or reimbursement fees shall be available for public inspection. 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. The legislation includes provisions regarding notification of hearings and filing for reviews. “Periodic application of an adopted specific cost index or… modification to any of the factors related to the rate that are incorporated in the established methodology” are not considered “modifications” to the SDC methodology. As such, the local government is not required to adhere to the notification provisions under these circumstances. The criteria for making adjustments to the SDC rate, which do not constitute a change in the methodology, are further defined as follows:

* “Factors related to the rate” are limited to changes to costs in materials, labor, or real property as applied to projects in the required project list.
* The cost index must consider average change in costs in materials, labor, or real property and must be an index published for purposes other than SDC rate setting.

The notification requirements for changes to the fees that *do* represent a modification to the methodology are 90-day written notice prior to first public hearing, with the SDC methodology available for review 60 days prior to public hearing.

### Other Provisions

Other provisions of the legislation require:

* Preparation of a capital improvement program or comparable plan (prior to the establishment of an SDC), that includes a list of the improvements that the jurisdiction intends to fund in whole or in part with SDC revenues and the estimated timing, cost, and eligible portion of each improvement.
* 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.
* 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.

The methodology presented in the following sections has been prepared in accordance with Oregon SDC requirements.

*Note: The calculations contained in this report were produced using numbers that extend beyond the decimal places shown in the tables presented, so slight variations exist due to rounding. These variations are not material.*

# Wastewater SDC Methodology

The general methodology used to calculate wastewater SDCs begins with an analysis of system planning and design criteria to determine growth’s capacity needs, and how those needs will be met through existing system available capacity and capacity expansion. Then, the capacity to serve growth is valued to determine the “cost basis” for the SDCs, which is then divided by the total growth capacity units to determine the system-wide unit costs of capacity. The final step is to determine the SDC schedule, which identifies how different users of the system will be charged, based on their estimated capacity requirements.

## Determine Capacity Needs

The primary relevant design criteria for the wastewater system include the following:

* **Average Annual Flow (AAF)**: the average flow at the Wastewater Treatment Plant (WWTP) during the year.
* **Peak Flow (PF)**: peak flow includes base wastewater flow, groundwater infiltration, and rainfall derived infiltration and inflow. Peak flow is used to evaluate the capacity needs of most unit processes at the WWTP.

**Table 2-1** summarizes flows under existing and future conditions. The difference between the future and existing flow is the projected growth over the planning period. Table 2-1 also shows projected growth in population and equivalent meters. Equivalent meters are the number of water meters of different sizes stated in terms of the hydraulic equivalency of a standard residential customer.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Table 2-1** | | | | | | |
| City of Sweet Home Wastewater SDC Analysis | | | | | | |
| Wastewater System Planning Assumptions | | | | | | |
|  |  | |  |  | **Growth** | |
|  |  | **Existing** | | **Future** | **Amount** | **%** |
|  |  |  | |  |  |  |
| Population1 |  | 9,340 | | 12,259 | 2,919 | 24% |
| Meter Equivalents |  | 4,268 | | 5,602 | 1,334 | 24% |
| WWTP Flow (mgd)2 |  |  | |  |  |  |
| Avg. Annual Flow (AAF) |  | 4.09 | | 4.63 | 0.54 | 12% |
| Peak Flow (PF) |  | 9.45 | | 12.4 | 2.95 | 24% |
|  |  | |  |  |  |  |
| 1Current PSU Certified estimate July 1, 2019; future based on Wastewater Facility Plan | | | | | | |
| 2Murraysmith estimates based on DMR data between 2010 and May 2018 | | | | | | |

### Capacity Analysis

The existing WWTP is generally operating at or above its current regulatory capacity; therefore, the needs of growth will be met primarily through future WWTP expansion. Expansion will come in the form of both incremental facility additions (e.g., additional clarifiers) and some full process replacement (e.g., new headworks and disinfection system).

**Table 2-2** provides a summary of the planned capacity expansion by treatment function and the portion needed to address existing capacity needs as well as future growth. Improvements that include full process replacement have a lower percent attributable to growth due to the need to replace capacity for existing development.

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| --- | --- | --- | --- | --- | --- |
| **Table 2-2** |  |  |  |  |  |
| City of Sweet Home Wastewater SDC Analysis | | |  |  |  |
| Wastewater System Capacity Expansion Analysis1 | | |  |  |  |
|  | **Design**  **Basis** | **Planned**  **Expansion** | **Existing**  **Requirements** | **Growth** | |
| **Amount** | **%** |
| Influent pump station | PF | 6.40 | 3.45 | 2.95 | 46% |
| Headworks | PF | 12.40 | 9.45 | 2.95 | 24% |
| Aeration Basin | PF | 5.40 | 2.45 | 2.95 | 55% |
| Secondary Clarifiers | PF | 5.10 | 2.15 | 2.95 | 58% |
| Tertiary | PF | 8.40 | 6.40 | 2.00 | 24% |
| Disinfection | PF | 12.40 | 9.45 | 2.95 | 24% |
| General | PF | 12.40 | 9.45 | 2.95 | 24% |
|  |  |  |  |  |  |
| 1Murraysmith based on Table 2-1 and Wastewater Facilities Plan information. | | | | | |

## Develop Cost Basis

The value of capacity needed to serve growth in aggregate within the planning period, is referred to as the “cost basis.”

### Reimbursement Fee

The reimbursement fee is based on the costs of capital improvements already constructed or under construction. In developing the cost basis, the methodology must consider the cost of existing facilities, prior contributions by existing users, gifts or grants from federal or state government or private persons, the value of unused capacity available for future system users, and other relevant factors.

***As discussed previously and shown in* Table 2-3** (next page), there is little available capacity in existing WWTP facilities. A small amount (12 percent) of capacity is available for growth in existing aerobic digestors and support facilities (generator building).

As shown in Table 2-3, the reimbursement cost basis is $144,239.

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 2-3** |  |  |  |
| City of Sweet Home Wastewater SDC Analysis | |  |  |
| Wastewater Reimbursement Fee Cost Basis |  |  |  |
| **Description** | **Cash**  **Value** | **Growth Share** | |
| **%** | **$** |
| **Treatment** |  |  |  |
| Sludge Handling Building | $366,390 | 0% | $0 |
| IPS | $422,070 | 0% | $0 |
| RAS/WAS Building and Pumps | $346,660 | 0% | $0 |
| Aerobic Digester | $927,950 | 12% | $108,227 |
| Secondary Treatment | $2,171,480 | 0% | $0 |
| Aeration | $1,099,560 | 0% | $0 |
| Tertiary Filters | $997,630 | 0% | $0 |
| Chlorine Contact Tank | $468,330 | 0% | $0 |
| Process Piping | $749,730 | 0% | $0 |
| Lime Silo | $281,000 |  |  |
| Subtotal | $7,830,800 |  | $108,227 |
| **Other** |  |  |  |
| Generator Building | $308,770 | 12% | $36,012 |
| Admin/control building | $478,380 | 0% | $0 |
| Backwash/storage | $246,290 | 0% | $0 |
| Bio Filter | $169,100 | 0% | $0 |
| Waste Backwash Storage | $145,390 | 0% | $0 |
|  |  |  |  |
| Subtotal | $1,347,930 |  | $36,012 |
| **Total** | **$9,178,730** |  | **$144,239** |
| Source: Appraisal Report November 30, 2019 | |  |  |

### Improvement Fee

The cost of future capacity-increasing improvements (the improvement fee cost basis) is presented in **Table 2-4** (next page). Each improvement was reviewed to determine the portion of costs that expand capacity for growth versus remedy an existing deficiency or replacement existing capacity. The total improvement costs for growth are approximately $7.4 million.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 2-4** |  |  |  |  |
| City of Sweet Home Wastewater SDC Analysis |  |  |  |  |
| Wastewater SDC Improvement Fee Cost Basis and Project List | | | | |
| **Project Description** | **Time**  **Period** | **Total Project Cost** | **SDC-Eligible** | |
| **%** | **$** |
| **Treatment** |  |  |  |  |
| **Solids** |  |  |  |  |
| Sludge handling building | 2024 | $889,380 | 12% | $103,729 |
| RAS/WAS building | 2024 | $2,320,440 | 12% | $270,634 |
| Aerobic Digester (new secondary digester) | 2024 | $775,920 | 12% | $90,496 |
| NEW Sludge Thickening | 2024 | $808,860 | 12% | $94,338 |
| NEW Dewatering equipment | 2024 | $1,194,990 | 12% | $139,372 |
| NEW Anaerobic Digester | 2024 | $1,152,900 | 12% | $134,463 |
| NEW Dewatered Sludge Storage Building | 2024 | $4,311,480 | 12% | $502,851 |
| **Liquids** | 2024 |  |  |  |
| Influent Pump Station | 2024 | $1,866,600 | 46% | $861,137 |
| NEW Headworks | 2024 | $2,658,990 | 24% | $633,134 |
| NEW Primary Clarifier | 2024 | $1,571,970 | 46% | $725,212 |
| NEW Secondary Clarifier #4 | 2024 | $2,206,980 | 58% | $1,277,700 |
| Aeration Basin | 2024 | $3,435,585 | 55% | $1,878,485 |
| NEW Tertiary Filters | 2024 | $1,626,870 | 24% | $387,375 |
| NEW UV System (replacing chlorine disinfection) | 2024 | $1,169,370 | 24% | $278,440 |
| NEW Utility Water | 2024 | $296,460 | 24% | $70,590 |
| **Total** |  | **$26,286,795** | **28%** | **$7,447,957** |

## Develop Unit Costs

System-wide unit costs of capacity are determined by dividing the reimbursement fee and improvement fee cost bases by the aggregate growth in equivalent meters from Table 2-1, as shown in **Table 2-5**.

|  |  |  |
| --- | --- | --- |
| **Table 2-5** |  |  |
| City of Sweet Home Wastewater SDC Analysis | |  |
| Wastewater Unit Cost Calculation | |  |
| **Item** | **Improvement** | **Reimbursement** |
| Cost Basis | $7,447,957 | $144,239 |
| Growth Equivalent Meters | 1,334 | 1,334 |
| **Cost per Unit** | **$5,584** | **$108** |

### Compliance Costs

Local governments are entitled to expend SDC revenue on the costs of complying with the SDC statutes. Compliance costs generally include costs associated with developing the SDC methodology and project list (i.e., a portion of master planning costs), as well as annual accounting costs.

**Table 2-6** shows the calculation of the compliance charge per equivalent meter. SDC study and accounting costs are 100 percent related to new growth, and master planning costs are allocated in proportion to the growth share of future meter equivalents (24 percent). Growth costs are annualized by dividing the estimated cost for each item by the estimated number of years before update. (5 years for SDC study, 10 years master planning, and 1 year for auditing/accounting). The total annual costs are then divided by the estimated annual number of new equivalent meters which yields a fee of approximately $66 per equivalent meter.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table 2-6** | | | | | |
| City of Sweet Home Wastewater SDC Analysis | | | | | |
| Wastewater Compliance Charge | |  | | | |
| **Component** | **Years** | | **Total** | **Growth** | **Annualized** |
| SDC Study | 5 | | $5,000 | 100% | $1,000 |
| Master Planning | 10 | | $100,000 | 24% | $2,381 |
| Auditing/Accounting | 1 | | $1,000 | 100% | $1,000 |
| Total Annual Costs |  | | $106,000 |  | $4,381 |
| Estimated Annual EDUs |  | |  |  | 67 |
| **Compliance Charge/EDU** |  | |  |  | **$66** |

## SDC Schedule

The combined SDCs per EDU are show in **Table 2-7.** The total SDC per EDU is $5,758, including the reimbursement and improvement fees ($108 and $5,584, respectively) and the compliance charge of $66. The SDCs for larger meter sizes are scaled up based on hydraulic equivalencies relative to a 5/8-inch meter (the typical size for a single-family residential dwelling.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table 2-7** |  |  |  |  |  |
| City of Sweet Home Wastewater SDC Analysis | | | |  |  |
| Wastewater SDC Schedule | |  |  |  |  |
|  |  |  |  |  | **Meter** |
| **Meter Size** | **SDCr** | **SDCi** | **Compliance** | **Total** | **Equivalency1** |
| 5/8 X 3/4" | $108 | $5,584 | $66 | $5,758 | 1 |
| 1" | $270 | $13,959 | $164 | $14,394 | 2.5 |
| 1 1/2" | $541 | $27,919 | $328 | $28,788 | 5 |
| 2" | $865 | $44,670 | $526 | $46,061 | 8 |
| 3" | $1,730 | $89,340 | $1,051 | $92,121 | 16 |
| 4" | $2,703 | $139,594 | $1,642 | $143,939 | 25 |
| 6" | $5,407 | $279,187 | $3,285 | $287,879 | 50 |
| 8" | $8,651 | $446,700 | $5,255 | $460,606 | 80 |

1Equivalencies reflect the hydraulic capacity of each meter size relative to a 5/8” X ¾” meter (the smallest meter size used to serve residential customers). The City’s current standard meter size is ¾”; however, residential water use is not materially different between 5/8” X ¾” and ¾” meters.

### Inflationary Adjustments

In accordance with Oregon statutes, the SDCs will be adjusted annually based on a standard inflationary index. Specifically, the City plans to use the Engineering News Record (ENR) Seattle Construction Cost Index (CCI) as the basis for adjusting the SDCs annually.

# Water SDC Methodology

This section presents the updated water system development charge (SDC) methodology, and calculations. The general methodology begins with an analysis of system planning and design criteria to determine growth’s capacity needs, and how those needs will be met through existing system available capacity and capacity expansion. Then, the existing and future facilities needed to serve growth over the planning period are valued to determine the “cost basis” for the SDCs. The cost basis is then spread over the total growth capacity to determine the system wide unit costs of capacity. The final step is to determine the SDC schedule, which identifies how different developments will be charged, based on their estimated capacity requirements.

## Determine Capacity Needs

**Table 3-1** shows the relevant planning assumptions for the water system. Capacity requirements are generally evaluated based on the following system design criteria:

* **Average Day Demand (ADD)** – Total annual water volume used system-wide divided by 365 days per year.
* **Maximum Day Demand (MDD)** -- The highest daily recorded rate of water production in a year. Used for allocating source, pumping and delivery facilities.
* **Storage Requirements** – Stored water capacity used for operational (or equalization) and emergency and fire protection needs. Used for allocating storage facility costs.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 3-1** |  |  |  |  |
| City of Sweet Home Water SDC Analysis | |  |  |  |
| Water System Planning Assumptions | |  |  |  |
|  |  |  | **Growth** | |
|  | **Existing** | **Future** | **Amount** | **%** |
|  |  |  |  |  |
| Population1 | 9,340 | 12,259 | 2,919 | 24% |
| Meter Equivalents2 | 4,268 | 5,602 | 1,334 | 24% |
| Average Day Demand (mgd)3 | 1.1 | 1.5 | 0.34 | 24% |
| Max Day Demand (mgd)3 | 3.0 | 3.9 | 0.9 | 24% |
| Storage | 3.7 | 4.6 | 0.9 | 21% |
|  |  |  |  |  |
| 1Current PSU certified population estimate July 1, 2019; future based on Wastewater Facility Plan. | | | | |
| 2The number of meters of various sizes stated in terms of the relative hydraulic capacity of a 5/8” X ¾” meter (the smallest meter size used to serve residential customers). | | | | |
| 3From Water System Master Plan | |  |  |  |

As shown in Table 3-1, system ADD is currently about 1.1 million gallons per day (mgd), and MDD is about 3.0 mgd. Future ADD and MDD are projected to be about 1.5 mgd and 3.9 mgd, respectively over the 20-year period. Storage requirements are currently 3.7 million gallons (mg) and are projected to increase to 4.6 mg over the planning period.

### Available Capacity

The capacity needs of growth will be met primarily by existing system available capacity, with some limited future capacity expansion. **Table 3-2** provides a summary of the existing capacities by major function and compares the capacity to existing demands to determine the portion of available capacity by component and facility type.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table 3-2** |  |  |  |  |  |
| City of Sweet Home Water SDC Methodology | | | | | |
| Water System Capacity Analysis1 |  |  |  |  |  |
|  | **Existing** | | **Future** | **Growth** | |
|  | **Capacity** | **Requirements** | **Capacity** | **Amount** | **%** |
| Supply | 6.00 | 3.03 |  | 2.97 | 50% |
| Storage - Existing | 4.31 | 3.66 |  | 0.65 | 15% |
| Future Reservoir |  |  | 0.75 | 0.29 | 39% |
|  |  |  |  |  |  |
| 1Water System Master Plan |  |  |  |  |  |

## Develop Cost Basis

The value of capacity needed to serve growth in aggregate within the planning period is referred to as the “cost basis”.

### Reimbursement Fee

**Table 3-3** (next page) shows the reimbursement fee cost basis calculations based on the available capacity assumptions presented in Table 3-2

As show in Table 3-3, the total reimbursement fee cost basis is almost $3.9 million.

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 3-3** |  |  |  |
| Water System Development Charge Analysis |  |  |  |
| Water Reimbursement Fee Cost Basis |  |  |  |
|  | **Cash**  **Value1** | **Growth Share** | |
| **Description** | **%** | **$** |
| **Supply & Treatment** |  |  |  |
| Water Treatment Plant | $7,659,900 | 50% | $3,796,552 |
| Backwash Basin | $2,245,500 | 50% | $1,112,959 |
| Intake Screen | $2,102,320 | 50% | $1,041,994 |
| Influent (RW) Pump Station | $572,400 | 50% | $283,704 |
| Process Piping | $1,187,100 | 50% | $588,374 |
| Subtotal | $13,767,220 |  | $6,823,584 |
| **Storage** |  |  |  |
| Reservoir 12 | $768,900 | 0% | $0 |
| Reservoir 2 | $447,000 | 15% | $67,811 |
| Reservoir 3 | $1,253,120 | 15% | $190,102 |
| Reservoir 4: 49th Avenue Reservoir | $1,886,250 | 15% | $286,150 |
| Reservoir 5: Nandina Street Reservoir | $195,160 | 15% | $29,606 |
| Subtotal | $4,550,430 |  | $573,669 |
| **Total** | **$18,317,650** |  | **$7,397,253** |
| 1Source: Appraisal Report November 30, 2019 | | | |
| 2Will be taken out of service. |  |  |  |

### Improvement Fee

**Table 3-4** shows the improvement fee cost basis. The future capacity-increasing improvements are based on projects identified in the Master Plan and the City’s Capital Improvement Plan. Each improvement was reviewed to determine the portion of costs that expand capacity for growth, versus replacing existing capacity or providing a higher level of service for existing customers. As shown in Table 3-4, the improvement fee cost basis is almost $2.3 million.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 3-4** |  |  |  |  |
| City of Sweet Home Water SDC Analysis |  |  |  |  |
| Water SDC Improvement Fee Cost Basis (Project List) | | | | |
|  | **Time** | **Project** | **SDC-Eligible** | |
| **Project Description** | **Period** | **Cost** | **%** | **$** |
| **Storage** |  |  |  |  |
| Additional reservoir at WTP (0.75 mg)1 | 2024 & 2025 | $2,800,000 | 39% | $1,078,936 |
| **Distribution** |  |  |  |  |
| Northern Transmission Main (Phase 1) | +5 years | $780,000 | 100% | $780,000 |
| Northern Transmission Main (Phase 2) | +5 years | $1,650,000 | 24% | $391,959 |
| Total |  | **$5,230,000** | **43%** | **$2,250,895** |
| 1Project costs include distribution modeling and reservoir design | |  |  |  |

## Develop Unit Costs

The unit costs of capacity are determined by dividing the respective cost bases by the MDD growth requirements presented in Table 3-1. The system-wide unit costs are then multiplied by the capacity requirements per equivalent dwelling unit (EDU) to yield the SDCs per EDU. Based on the City’s existing MDD and number of equivalent meters shown in Table 3-1, the capacity requirements per EDU are estimated to be 709 gallons per day (0.000709 mgd).

As showing in **Table 3-5,** reimbursement and improvement costs per EDU are $5,563 and $1,693, respectively, for a total of $7,256.

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 3-5** |  |  |  |
| City of Sweet Home Water SDC Analysis | |  |  |
| Water Unit Cost Calculation |  |  |  |
| **Item** |  | **Improvement** | **Reimbursement** |
| Cost Basis |  | $2,250,895 | $7,397,253 |
| Growth (mgd) |  | 0.94 | 0.94 |
| Cost per mgd) |  | $2,387,356 | $7,845,712 |
| Capacity Requirements per Unit |  | 0.000709 | 0.000709 |
| **Cost per Unit** |  | **$1,693** | **$5,563** |

### Compliance Costs

Local governments are entitled to include in the SDCs, a charge to recover costs associated with complying with the SDC statutes. Compliance costs include costs related to developing the SDC methodology and project list (i.e., a portion of master planning costs), and annual accounting. As shown in **Table 3-6**, the estimated compliance cost per EDU is $66.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 3-6** |  |  |  |  |
| City of Sweet Home Water SDC Analysis | |  |  |  |
| Water Compliance Charge |  |  |  |  |
| **Component** | **Years** | **Total** | **Growth** | **Annualized** |
| SDC Study | 5 | $5,000 | 100% | $1,000 |
| Master Planning | 10 | $100,000 | 24% | $2,376 |
| Auditing/Accounting | 1 | $1,000 | 100 | $1,000 |
|  |  |  |  |  |
| Total Annual Costs |  | $106,000 |  | $4,376 |
| Estimated Annual EDUs |  |  |  | 66 |
| **Compliance Charge/EDU** |  |  |  | **$66** |

## SDC Schedule

The combined SDCs per EDU are show in **Table 3-7.** The total SDC per EDU is $7,321. The SDCs for larger meter sizes are scaled up based on hydraulic equivalencies relative to a 5/8-inch meter (the smallest size for a single-family residential dwelling).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Table 3-7** | | | | | | |
| City of Sweet Home Water SDC Analysis | | | | | | |
| Water SDC Schedule | | |  | | | |
|  |  |  | |  |  | **Meter**  **Equivalency1** |
| **Meter Size** | **SDCr** | **SDCi** | | **Compliance** | **Total** |
| 3/4" | $5,563 | $1,693 | | $66 | $7,321 | 1 |
| 1" | $13,907 | $4,232 | | $165 | $18,304 | 2.5 |
| 1 1/2" | $27,814 | $8,464 | | $329 | $36,607 | 5 |
| 2" | $44,503 | $13,542 | | $526 | $58,571 | 8 |
| 3" | $89,006 | $27,083 | | $1,053 | $117,143 | 16 |
| 4" | $139,072 | $42,318 | | $1,645 | $183,035 | 25 |
| 6" | $278,144 | $84,636 | | $3,290 | $366,071 | 50 |
| 8" | $445,031 | $135,417 | | $5,265 | $585,713 | 80 |
| 1Equivalencies reflect the hydraulic capacity of each meter size relative to a 5/8” X ¾” meter (the smallest meter size used to serve residential customers). The City’s current standard meter size is ¾”; however, residential water use is not materially different between 5/8” X ¾” and ¾” meters. | | | | | | |

### Inflationary Adjustments

In accordance with Oregon statutes, the SDCs will be adjusted annually based on a standard inflationary index. Specifically, the City plans to use the ENR Seattle CCI as the basis for adjusting the SDCs annually.

# Transportation SDC Methodology

The updated transportation SDC methodology is structured as an improvement SDC only. The cost per trip is calculated by dividing the future growth-related capacity costs by the growth in future trips. The transportation SDC for a particular development is then determined by multiplying the cost per trip by the number of trips associated with the development.

## Determine Capacity Needs

Capacity needs for the transportation system are stated in terms of average daily vehicle trips. Regional population and employment data were utilized in conjunction with trip rates from the Institute of Traffic Engineers (ITE) *Trip Generation Manual* to approximate the existing and future number of vehicle trips generated by households and businesses in the City. **Table 4-1** shows a summary of the estimated current and projected future year average daily trip (ADT) ends based on this analysis. The detailed trip generation assumptions are presented in Tables A-1 through A-3 in Appendix A.

As shown in Table 4-1, the growth in trip ends over the 20-year planning period is 18,909, which is 21 percent of total future trips.

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 4-1** |  |  |  |
| City of Sweet Home Transportation SDC Methodology | | | |
| Estimated Vehicle Trip Generation (Average Daily Trips)1 | | | |
|  | **Current** | **Future** | **Growth** |
|  |  |  |  |
| Residential | 33,668 | 44,190 | 10,522 |
| Nonresidential | 35,845 | 44,232 | 8,387 |
|  |  |  |  |
| **Total** | **69,513** | **88,422** | **18,909** |
| 1See Appendix A for detailed assumptions. | | | |

## Develop Cost Basis

The value of capacity needed to serve growth in aggregate within the planning period is referred to as the “cost basis”. The transportation SDC cost basis is limited to future improvement costs.

### Improvement Fee Cost Basis

The cost of future capacity-increasing improvements (the improvement fee cost basis) is based on the SDC project list presented in **Table 4-2** (next page). The improvements are based on the City’s capital improvement plan. The growth share is determined based on the type of improvement, as described in subsequent sections.

**Table 4-2**

Transportation SDC Methodology

Transportation SDC Improvement Fee Cost Basis and Project List (1000’s)

| **Street** | **Description** | **Year** | **Total Cost** | **Capacity Portion** | **Other Funding (City)1** | **Grant Funding2** | **Developer Funding3** | **Net Capacity Portion** | **Growth Share of Capacity** | **SDC Cost** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Hwy 20/54th to Riggs Hill | City matching funds for ODOT STIP project (sidewalks from 54th Avenue to Riggs Hill Rd.) | 2021 | $300 | $300 | $0 | $0 | $0 | $0 | 100% | $0 |
| Harding St | Full street overlay and half street improvement on south side of Harding Street including sidewalk, curb, gutter, and catch basins. | 2026 | $450 | $140 | $80 | $0 | $0 | $60 | 100% | $60 |
| 11th Ave & Redwood | Identify & install road drainage, connect sidewalk from Northside Park to 12th Ave, and pave street in poor condition. | 5+ Years | $300 | $160 | $40 | $0 | $0 | $120 | 100% | $120 |
| 46th Ave; Airport Lane to Main St; Airport Lane; 46th to 47th | Sidewalk both sides of local street | 5+ Years | $300 | $82 | $70 | $0 | $0 | $12 | 100% | $12 |
| Clark Mill Rd; Long St to Main St | Sidewalk and bike lane both sides of street | 5+ Years | $0 | $0 | $0 | $0 | $0 | $0 |  | $0 |
| Clark Mill Rd; Main St to Zelkova St | Sidewalk and bike lane both sides of street | 5+ Years | $2,300 | $2,300 | $32 | $1,840 | $0 | $428 | 77% | $328 |
| Mtn View Rd; Ames Creek Rd to Long St | Sidewalk both sides of street | 5+ Years | $1,800 | $1,800 | $12 | $1,440 | $0 | $348 | 100% | $348 |
| Long St; 35th Ave to 43rd Ave | Sidewalk both sides of street | 5+ Years | $500 | $500 | $50 | $0 | $0 | $450 | 100% | $450 |
| 44th Ave; Main St to Airport Rd | Sidewalk both sides of street | 5+ Years | $400 | $400 | $70 | $0 | $0 | $330 | 100% | $330 |
| Tamarack St; 12th Ave to 18th Ave | Sidewalk both sides of street | 5+ Years | $1,400 | $1,400 | $70 | $0 | $0 | $1,330 | 100% | $1,330 |
| 43rd Ave; Main St to Osage St | Sidewalk both sides of street | 5+ Years | $350 | $350 | $0 | $0 | $0 | $350 | 100% | $350 |
| 18th Ave; Mtn View Rd to bus barn | Sidewalk infill both sides of street | 5+ Years | $60 | $60 | $30 | $0 | $0 | $30 | 100% | $30 |
| 18th Ave; Main St to Tamarack, Tamarack to Yucca | Sidewalk both sides of street | 5+ Years | $320 | $320 | $25 | $0 | $0 | $295 | 100% | $295 |
| Hwy 228; Oak Terrace to Long St | Sidewalk one side of street | 5+ Years | $130 | $130 | $0 | $0 | $0 | $130 | 100% | $130 |
| 24th Ave; Main St to railroad | Widen street (add a lane) | 5+ Years | $1,100 | $1,100 | $0 | $0 | $0 | $1,100 | 100% | $1,100 |
| New street development for Mill Property | Main St to Quarry Park, 18th Ave to Clark Mill Rd; new sidewalk on Yucca, Ulex, Tamarack. New streets 24th Ave, Mill Pond Dr, etc. | 5+ Years | $7,500 | $7,500 | $863 | $0 | $3,750 | $2,888 | 100% | $2,888 |
|  |  |  | **$17,210** | **$16,542** | **$1,342** | **$3,280** | **$3,750** | **$7,871** | **$0** | **$7,770** |
| 1Includes stormwater and water and sewer infrastructure | |  |  |  |  |  |  |  |  |  |
| 2Assumes grant funding of 80% for Clark Mill and Mountain View roads | |  |  |  |  |  |  |  |  |  |
| 3Assumes developer funding 50% of total project costs: | |  |  |  |  |  |  |  |  |  |

**Roadway Improvements**

The projects shown in Table 4-2 include upgrades to existing facilities (i.e., widening and extensions). The project costs are reduced by non-capacity project elements (e.g., existing street overlays), utility improvements (e.g., water and stormwater costs), and local capacity costs estimated to be funded directly by developers.

**Multimodal Facilities**

Growth capacity needs for bike and pedestrian facilities are evaluated based on a planned level of service (LOS) basis. The planned LOS is defined as the quantity of future facilities per capita served.

The following equation shows the calculation of the planned LOS:



Where:

*Q = quantity (miles of bike or pedestrian facilities), and*

*Future Population Served = 12,259*

The existing and planned future miles of bike and pedestrian facilities are shown in **Table 4-3**.

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 4-3** |  |  |  |
| City of Sweet Home Transportation SDC Methodology | | | |
| Existing and Future Bike and Pedestrian Facilities 1 | | |  |
|  | **Current** | **Planned** | **Future** |
| **Facility Type** | (Miles) | (Miles) | (Miles) |
| Bike Lanes | 1.5 | 1.2 | 2.6 |
| Sidewalks | 45.5 | 10.9 | 56.3 |
| 1 Source: City of Sweet Home. | | |  |

**Table 4-4** presents the existing and planned LOS for bike and pedestrian facilities, based on the existing and planned future facilities presented in Table 4-3 divided by the estimated existing and projected population (in 1,000s). The future LOS for bike and sidewalk facilities is lower than the existing LOS, so there are no existing deficiencies and 100 percent of the planned future bike and sidewalk improvements are SDC-eligible.

|  |  |  |
| --- | --- | --- |
| **Table 4-4** |  |  |
| City of Sweet Home Transportation SDC Methodology | | |
| Existing and Future Level of Service | | |
|  | **Miles/1,000 Pop1** | |
| **Facility Type** | Current | Future |
| Bike Lanes | 0.16 | 0.21 |
| Sidewalks | 4.87 | 4.59 |
| 1 Current population = 9,340; future population =12,259. | | |

## Develop Unit Costs

Based on the growth trips and SDC cost basis summarized previously, the total cost per growth trip is equal to $413, as shown in **Table 4-5**

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 4-5** |  |  |  |
| City of Sweet Home Transportation SDC Methodology | | |  |
| Transportation SDC Unit Cost Calculation | |  |  |
|  | **Growth $ 1** | **Growth Trips 2** | **$/Trip** |
| Improvement | $7,770,379 | 18,909 | $410.94 |
| Compliance |  |  | $2.87 |
| **Total** | **$7,770,379** |  | **$413.81** |
| 1 From Table 4-2 |  |  |  |
| 2 From Table 4-1 |  |  |  |
|  |  |  |  |

### Compliance Charge

Local governments are entitled to include in the SDCs, a charge to recover costs associated with complying with the SDC statutes. Compliance costs include costs related to developing and administering the SDC methodology and credit system, as well as annual accounting and other City administration costs. The City’s Transportation System Plan will be partially funded by a grant, so compliance costs include only the non-grant funded portion and the SDC methodology and annual administrative costs.

**Table 4-6** shows the calculation of the compliance charge per trip, which is $2.87 per trip.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table 4-6** |  |  |  |  |  |
| City of Sweet Home Transportation SDC Methodology | | |  |  |  |
| Transportation Compliance Charge | |  |  |  |  |
|  | **Total $** | **Amortize (Years)** | **Annual $** | **Growth %** | **Growth $** |
| SDC Study | $5,000 | 5 | $1,000 | 100% | $1,000 |
| TSP | $30,000 | 10 | $3,000 | 24% | $714 |
| Accounting, Legal, Planning | $1,000 | 1 | $1,000 | 100% | $1,000 |
|  |  |  | Total Cost |  | $2,714 |
|  |  |  | Annual ADT | | 945 |
|  |  |  | **Compliance $/Trip** | | **$2.87** |

## SDC Schedule

The SDC for an individual development is based on the cost per trip and the number of trips (average daily) attributable to a particular development. The number of development trips is computed as follows:

*Number of Development Trips = Trip Generation Rate X Adjustment Factors X Development Units*

**Table 4-7** (next page) includes the transportation SDC rates and traffic impact assumptions for typical land use categories.

**Table 4-7**

City of Sweet Home Transportation SDC Methodology

Transportation SDC Schedule1

| **ITE Code** | **Description** | **Unit of Measure** | **Avg. Daily Trip Rate** | **Diverted Trip Adj.** | **Pass-by Adj.** | **Total Adj. Factor 1** | **Adj. Daily Trip Rate** | **SDC per Unit2** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 110 | General Light Industrial | 1,000 Gross SF | 4.96 | 0% | 0% | 1.00 | 4.96 | $2,053 |
| 130 | Industrial Park | 1,000 Gross SF | 3.37 | 0% | 0% | 1.00 | 3.37 | $1,395 |
| 140 | Manufacturing | 1,000 Gross SF | 3.93 | 0% | 0% | 1.00 | 3.93 | $1,626 |
| 150 | Warehousing | 1,000 Gross SF | 1.74 | 0% | 0% | 1.00 | 1.74 | $720 |
| 151 | Mini Warehouse | 1,000 Gross SF | 1.51 | 0% | 0% | 1.00 | 1.51 | $625 |
| 170 | Utilities | 1,000 Gross SF | 13.24 | 0% | 0% | 1.00 | 13.24 | $5,479 |
|  |  |  |  |  |  |  |  |  |
| 210 | Single Family Dwelling/Townhome | PER DU | 9.44 | 0% | 0% | 1.00 | 9.44 | $3,906 |
| 220 | Apartments/Condos | PER DU | 7.32 | 0% | 0% | 1.00 | 7.32 | $3,029 |
| 240 | Manufactured Housing | PER DU | 5.00 | 0% | 0% | 1.00 | 5.00 | $2,069 |
| 251 | Senior Housing Detached | PER DU | 4.27 | 0% | 0% | 1.00 | 4.27 | $1,767 |
| 252 | Senior Housing Attached | PER DU | 3.70 | 0% | 0% | 1.00 | 3.70 | $1,531 |
| 253 | Congregate Care Facility | PER DU | 2.02 | 0% | 0% | 1.00 | 2.02 | $836 |
| 254 | Assisted Living | BEDS | 2.60 | 0% | 0% | 1.00 | 2.60 | $1,076 |
| 255 | Continuing Care | UNITS | 2.40 | 0% | 0% | 1.00 | 2.40 | $993 |
|  |  |  |  |  |  |  |  |  |
| 310 | Hotel/Motel | PER ROOM | 8.36 | 0% | 0% | 1.00 | 8.36 | $3,459 |
|  |  |  |  |  |  |  |  |  |
| 411 | Public Park | PER ACRE | 2.19 | 0% | 0% | 1.00 | 2.19 | $906 |
| 430 | Golf Course | HOLES | 30.38 | 0% | 0% | 1.00 | 30.38 | $12,572 |
| 491 | Tennis | PER COURT | 27.71 | 0% | 0% | 1.00 | 27.71 | $11,467 |
| 495 | Community Center | 1,000 Gross SF | 28.82 | 0% | 0% | 1.00 | 28.82 | $11,926 |
|  |  |  |  |  |  |  |  |  |
| 520 | Elementary School | PER STUDENT | 1.89 | 0% | 0% | 1.00 | 1.89 | $782 |
| 536 | Private School (K-12) | PER STUDENT | 2.48 | 0% | 0% | 1.00 | 2.48 | $1,026 |
| 522 | Middle School/Junior High School | PER STUDENT | 2.13 | 0% | 0% | 1.00 | 2.13 | $881 |
| 530 | High School | PER STUDENT | 2.03 | 0% | 0% | 1.00 | 2.03 | $840 |
| 540 | Junior/Community College | PER STUDENT | 1.15 | 0% | 0% | 1.00 | 1.15 | $476 |
| 550 | University/College | PER STUDENT | 1.56 | 0% | 0% | 1.00 | 1.56 | $646 |
| 560 | Place of Worship | 1,000 Gross SF | 6.95 | 0% | 0% | 1.00 | 6.95 | $2,876 |
| 565 | Day Care Center | PER STUDENT | 4.09 | 56% | 0% | 0.44 | 1.80 | $745 |
| 590 | Library | 1,000 Gross SF | 72.05 | 0% | 0% | 1.00 | 72.05 | $29,815 |
|  |  |  |  |  |  |  |  |  |
| 610 | Hospital | 1,000 Gross SF | 10.72 | 0% | 0% | 1.00 | 10.72 | $4,436 |
| 620 | Nursing Home | PER BED | 3.06 | 0% | 0% | 1.00 | 3.06 | $1,266 |
| 630 | Clinic | 1,000 Gross SF | 38.16 | 0% | 0% | 1.00 | 38.16 | $15,791 |
| 710 | General Office Building | 1,000 Gross SF | 9.74 | 0% | 0% | 1.00 | 9.74 | $4,031 |
| 720 | Medical-Dental Office | 1,000 Gross SF | 34.8 | 0% | 0% | 1.00 | 34.80 | $14,401 |
| 730 | Government Office | 1,000 Gross SF | 22.59 | 0% | 0% | 1.00 | 22.59 | $9,348 |
| 732 | Us Post Office | 1,000 Gross SF | 103.94 | 0% | 0% | 1.00 | 103.94 | $43,012 |
| 760 | Research & Development Center | 1,000 Gross SF | 11.26 | 0% | 0% | 1.00 | 11.26 | $4,660 |
| 770 | Business Park | 1,000 Gross SF | 12.44 | 0% | 0% | 1.00 | 12.44 | $5,148 |
| 812 | Building Materials & Lumber Store | 1,000 Gross SF | 18.05 | 0% | 0% | 1.00 | 18.05 | $7,469 |
| 813 | Free-Standing Discount Superstore | 1,000 Gross SF | 50.7 | 0% | 29% | 0.71 | 36.00 | $14,896 |
| 816 | Hardware/Paint Store | 1,000 Gross SF | 9.14 | 0% | 26% | 0.74 | 6.76 | $2,799 |
| 817 | Nursery (Garden Center) | 1,000 Gross SF | 68.1 | 0% | 0% | 1.00 | 68.10 | $28,181 |
| 820 | Shopping Center/Retail | 1,000 Gross SF Leasable Area | 37.75 | 26% | 34% | 0.40 | 15.10 | $6,249 |
|  |  |  |  |  |  |  |  |  |
| 841 | Automobile Sales | 1,000 Gross SF | 27.84 | 0% | 0% | 1.00 | 27.84 | $11,521 |
| 843 | Automobile Parts Sales | 1,000 Gross SF | 55.34 | 0% | 43% | 0.57 | 31.54 | $13,053 |
| 850 | Supermarket | 1,000 Gross SF | 106.78 | 38% | 36% | 0.26 | 27.76 | $11,489 |
| 851 | Convenience Market | 1,000 Gross SF | 762.28 | 16% | 66% | 0.18 | 137.21 | $56,779 |
| 854 | Discount Supermarket | 1,000 Gross SF | 90.87 | 28% | 21% | 0.51 | 46.34 | $19,178 |
| 857 | Discount Club | 1,000 Gross SF | 41.8 | 0% | 37% | 0.63 | 26.33 | $10,897 |
| 862 | Home Improvement Superstore | 1,000 Gross SF | 30.74 | 0% | 42% | 0.58 | 17.83 | $7,378 |
| 863 | Electronics Superstore | 1,000 Gross SF | 41.05 | 0% | 40% | 0.60 | 24.63 | $10,192 |
| 880 | Pharmacy/Drugstore W/Out Drive Thru Window | 1,000 Gross SF | 90.08 | 14% | 53% | 0.33 | 29.73 | $12,301 |
| 881 | Pharmacy/Drugstore with Drive Thru Window | 1,000 Gross SF | 109.16 | 13% | 49% | 0.38 | 41.48 | $17,165 |
| 890 | Furniture Store | 1,000 Gross SF | 6.3 | 0% | 53% | 0.47 | 2.96 | $1,225 |
|  |  |  |  |  |  |  |  |  |
| 912 | Drive-In Bank | 1,000 Gross SF | 100.03 | 22% | 35% | 0.43 | 43.01 | $17,799 |
| 931 | Quality Restaurant | 1,000 Gross SF | 83.84 | 27% | 44% | 0.29 | 24.31 | $10,061 |
| 932 | High Turnover Restaurant | 1,000 Gross SF | 112.18 | 26% | 43% | 0.31 | 34.78 | $14,391 |
| 934 | Fast Food Restaurant with Drive-Thru | 1,000 Gross SF | 470.95 | 23% | 50% | 0.27 | 127.16 | $52,619 |
| 937 | Coffee/Donut with Drive-Through | 1,000 Gross SF | 820.38 | 0% | 89% | 0.11 | 90.24 | $37,343 |
| 941 | Quick Lubrication Vehicle Shop | SERVICE STALL | 40.00 | 0% | 0% | 1.00 | 40.00 | $16,553 |
| 944 | Gasoline/Service Station | PER VEH.FUEL.POS. | 172.01 | 35% | 42% | 0.23 | 39.56 | $16,371 |
| 945 | Gas/Service Station W/Convenience Mkt | PER VEH.FUEL.POS. | 205.36 | 31% | 56% | 0.13 | 26.70 | $11,047 |
| 1 Discounted for pass-by and diverted link trips. | |  |  |  |  |  |  |  |
| 2 Based on cost per new trip: $413.81. | |  |  |  |  |  |  |  |
| Source: Trip Generation, Institute of Transportation Engineers, 10th Edition | | |  |  |  |  |  |  |
| SF = Square Feet | |  |  |  |  |  |  |  |
| DU = Dwelling Unit | |  |  |  |  |  |  |  |
| VEH. FUEL POS. = Vehicle Fueling Position | |  |  |  |  |  |  |  |

### Trip Generation Rates

Transportation SDCs are based on the number of trips a development is likely to generate, specifically the “average daily” trip generation. The City will use the ITE average daily trip generation rates to determine the SDCs for individual developments. Use of ITE trip generation data is standard in the transportation industry. ITE trip rates by land use are based on studies from around the country, and in the absence of local data, represent the best available source of trip data for specific land uses.

Table 4-7 provides trip rate assumptions for sample land uses based on the ITE Trip Generation Manual 10th Edition. In the future, the City will use the most current version of the ITE Trip Generation Manual that is available. Furthermore, for land uses that are not explicitly identified in Table 4-7, City staff will determine the appropriate SDC rate, based on the specific use.

### Trip Rate Adjustments

The SDC methodology and Table 4-7 include pass-by and diverted linked trip adjustments to trip generation rates.

**Pass-by Trips**

Pass-by trips refer to trips that occur when a motorist is already on the roadway, as in the case of a traveler stopping by a fast-food restaurant on the way home from work. In this case, the motorist making a stop while “passing by” is counted as a trip generated by the restaurant, but it does not represent a new (or primary) trip on the roadway. Pass-by trip adjustments in the updated methodology are based on published data by land use from the ITE.

**Diverted Link Trips**

Diverted link trips are another type of non-primary trip. In this case, the motorist will divert from a primary route to access a nearby use (e.g., a vehicle may turn off a major roadway onto an intersecting street to access a land use), and then return to the original route to complete the trip. As with the pass-by trip adjustments, the diverted link trip adjustments included in the SDC methodology are based on reported ITE data.

### Inflationary Adjustments

In accordance with Oregon statutes, the SDCs will be adjusted annually based on a standard inflationary index. Specifically, the City plans to use the ENR Seattle construction cost index as the basis for adjusting the SDCs annually.

# Stormwater SDC Methodology

This section presents the stormwater system development charge (SDC) methodology and calculations. The general methodology begins with an analysis of system planning and design criteria to determine growth’s capacity needs, and how they will be met through existing system available capacity and capacity expansion. Then, the existing and future facilities needed to serve growth over the planning period are valued to determine the “cost basis” for the SDCs. The cost basis is then spread over the total growth capacity to determine the system wide unit costs of capacity. The final step is to determine the SDC schedule, which identifies how different developments will be charged, based on their estimated capacity requirements.

## Determine Capacity Needs

Impervious surface area is the most common method of measuring the volume of runoff or demand placed on a stormwater system by its users. Impervious areas are hard surfaces including (but not limited to) rooftops, driveways, walkways, parking lots, and concrete surface, asphalt paving, or compacted gravel that cause more runoff from an area than existed prior to the development. The greater the amount of impervious area on a developed lot, the greater the amount of runoff generated from that development. While other factors can influence the amount of runoff, the amount of impervious surface area is generally considered the primary determinant of the volume of runoff and the primary cause of any increase in the rate of runoff.

A typical residential lot is estimated to have 3,200 square feet of impervious area and is used to determine the number of equivalent dwelling units (EDUs) for the system. The current number of EDUs is available from the City’s stormwater utility billing data. **Table 5-1** shows current and projected future EDUs.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Table 5-1** |  |  |  | |  | |
| City of Sweet Home Stormwater SDC Analysis | | |  | |  | |
| Stormwater System Planning Assumptions | | | | | | |
|  |  |  | | **Growth** | | |
|  | **Current** | **Future** | | **Amount** | | **%** |
| Population1 | 9,340 | 12,259 | | 2,919 | | 24% |
| EDUs2 | 5,066 | 6,650 | | 1,583 | | 24% |
| 1Current PSU Certified estimate July 1, 2019; future based on Wastewater Facility Plan | | | | | | |
| 2Existing from City of Sweet Home billing system; future based on population growth. | | | | | | |

## Develop Cost Basis

The stormwater SDC methodology is based on a combined reimbursement and improvement fee.

### Reimbursement Fee

The reimbursement fee is based on the costs of capital improvements already constructed, as estimated from the City’s inventory of conveyance system assets. Existing conveyance pipe value is assumed to serve existing and future development in proportion to the number of EDUs. As shown in Table 5-2, the reimbursement cost basis is $1.2 million (24 percent of the estimated value of the existing conveyance system).

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 5-2** |  |  |  |
| City of Sweet Home Stormwater SDC Analysis | | |  |
| *Stormwater Reimbursement Fee Cost Basis* | | | |
| **Description** | **Estimated**  **Value** | **Growth Share** | |
| % | $ |
|  |  |  |  |
| Conveyance | $5,181,400 | 24% | $1,233,747 |
|  |  |  | $0 |
| **Total** | **$5,181,400** |  | **$1,233,747** |
| Source: Murraysmith based on existing pipe inventory | | | |

### Improvement Fee

**Table 5-3** (next page) shows the improvement fee cost basis which is limited to stormwater facilities to be constructed as part of road improvements identified in the Transportation SDC project list (Table 4-2). As shown in Table 5-3, the improvement fee cost basis is about $741,500.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 5-3** |  |  |  |  |  |  |  |  |
| *City of Sweet Home Stormwater SDC Analysis* |  |  |  |  |  |  |  |  |
| *Stormwater SDC Improvement Fee Cost Basis (Project List)* | | | | | | | | |
|  |  |  |  |  |  |  | **Growth Capacity Share** | |
| **Project Description** | **Year** | **Total Stormwater Cost1** | **Capacity Portion** | **Grant Funding2** | **Developer Funding3** | **Net Capacity Portion** | **%** | **$** |
| Road Related Infrastructure |  |  |  |  |  |  |  |  |
| Harding St | 2026 | $80,000 | $80,000 |  |  | $80,000 | 100% | $80,000 |
| 11th Ave & Redwood | +5 Yrs | $40,000 | $40,000 |  |  | $40,000 | 100% | $40,000 |
| 46th Ave from Airport Lane to Main St, and Airport Lane from 46th to 47th | +5 Yrs | $70,000 | $70,000 |  |  | $70,000 | 100% | $70,000 |
| Clark Mill Rd from Main St to Zelkova St | +5 Yrs | $160,000 | $160,000 | $128,000 |  | $32,000 | 100% | $32,000 |
| Mountain View Rd from Ames Creek Rd to Long St | +5 Yrs | $60,000 | $60,000 | $48,000 |  | $12,000 | 100% | $12,000 |
| Long St from 35th Ave to 43rd Ave | +5 Yrs | $50,000 | $50,000 |  |  | $50,000 | 100% | $50,000 |
| 44th Ave from Main St to Airport Rd | +5 Yrs | $70,000 | $70,000 |  |  | $70,000 | 100% | $70,000 |
| Tamarack St from 12th Ave to 18th Ave | +5 Yrs | $70,000 | $70,000 |  |  | $70,000 | 100% | $70,000 |
| 43rd Ave from Main St to Osage St | +5 Yrs |  | $0 |  |  | $0 | 100% | $0 |
| 18th Ave from Mountain View Rd to bus barn | +5 Yrs | $30,000 | $30,000 |  |  | $30,000 | 100% | $30,000 |
| 18th Ave from Main St to Tamarack (one side) and from Tamarack to Yucca (both sides) | +5 Yrs | $25,000 | $25,000 |  |  | $25,000 | 100% | $25,000 |
| Hwy 228 from Oak Terrace to Long St | +5 Yrs |  | $0 |  |  | $0 | 100% | $0 |
| 24th Ave from Main St to railroad | +5 Yrs |  | $0 |  |  | $0 | 100% | $0 |
| Main St to Quarry Park, and 18th Ave to Clark Mill Rd; includes new sidewalk on Yucca, Ulex, Tamarack. New streets 24th Ave, Mill Pond Dr, etc. | +5 Yrs | $525,000 | $525,000 |  | $262,500 | $262,500 | 100% | $262,500 |
|  |  |  |  |  |  |  |  | $0 |
| **Total** |  | **$1,180,000** | **$1,180,000** | **$176,000** | **$262,500** | **$741,500** | **63%** | **$741,500** |
| 1Includes stormwater improvement costs only |  |  |  |  |  |  |  |  |
| 2Assumes grant funding of 80% for Clark Mill and Mountain View roads | | |  |  |  |  |  |  |
| 3Assumes developer funding 50% of total project costs: |  |  |  |  |  |  |  |  |

## Develop Unit Costs

The unit cost of capacity is determined by dividing the cost basis by the growth in EDUs presented in Table 5-1. **Table 5-4** shows this calculation.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 5-4** |  |  |  |  |
| City of Sweet Home Stormwater SDC Analysis | | | |  |
| Stormwater Unit Cost Calculation | |  |  |  |
| **Item** |  |  | **Improvement** | **Reimbursement** |
| Cost Basis |  |  | $741,500 | $1,233,747 |
| Growth (EDUs) |  |  | 1,583 | 1,583 |
| Cost per EDU |  |  | $468 | $779 |
| Capacity Requirements per Unit | |  | 1.00 | 1.00 |
| **Cost per Unit** |  |  | **$468** | **$779** |

### Compliance Costs

Compliance costs include costs related to developing the SDC methodology and project list (i.e., a portion of master planning costs), and annual accounting and budgeting. The estimated compliance cost per EDU is $55, as shown in **Table 5-5.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table 5-5** |  |  | |  |  |
| City of Sweet Home Stormwater SDC Analysis | | | |  |  |
| Stormwater Compliance Charge | |  | |  |  |
| **Component** | **Years** | | **Total** | **Growth %** | **Annualized $** |
| SDC Study | 5 | | $5,000 | 100% | $1,000 |
| Master Planning | 10 | | $100,000 | 24% | $2,381 |
| Auditing/Accounting | 1 | | $1,000 | 100 | $1,000 |
| Total Annual Costs |  | | $106,000 |  | $4,381 |
| Estimated Annual EDUs |  | |  |  | 79 |
| **Compliance Charge/EDU** |  | |  |  | **$55** |

## SDC Schedule

As shown in **Table 5-6**, the total cost per EDU is equal to $1,303. As discussed previously, an EDU is equal to 3,200 square feet of impervious area. Single family residential dwellings will be charged uniformly based on the number of dwelling units and the cost per EDU ($1,303). Other development will be assessed SDCs based on the calculated number of EDUs (total measured impervious area for the development divided by 3,200 square feet.)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table 5-6** |  |  |  |  |  |
| City of Sweet Home Stormwater SDC Analysis | | |  |  |  |
| Stormwater SDC Schedule |  |  |  |  |  |
| **Meter Size** |  | **SDCr** | **SDCi** | **Compliance** | **Total** |
| Single Family Residential ($/Dwelling Unit) | | $779 | $468 | $55 | $1,303 |
| Nonresidential ($/EDU)1 | | $779 | $468 | $55 | $1,303 |
| 1Equivalent Dwelling Unit = 3,200 SQ FT impervious area | | |  |  |  |

### Inflationary Adjustments

In accordance with Oregon statutes, the SDCs will be adjusted annually based on a standard inflationary index. Specifically, the City plans to use the ENR Seattle construction cost index as the basis for adjusting the SDCs annually.

# Park SDC Methodology

The methodology used to calculate parks SDCs begins with determination of the “cost basis” (the costs in aggregate associated with meeting the capacity needs of growth). Then, growth costs are divided by the projected growth units (population and employees) to determine the system-wide unit costs of capacity. Finally, the SDC schedule is developed which identifies how the system-wide costs will be assessed to individual development types.

## Determine Capacity Needs

Park capacity is measured in terms of people served – resident population and nonresident employees. **Table 6-1** provides population and employment data derived from the United States census and other sources.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 6-1** |  |  |  | |
| City of Sweet Home Parks SDC Analysis | |  |  | |
| Park SDC Population and Employment Data | |  |  | |
|  |  |  | **Equivalent** |
| **Year** | **Population** | **Employment** | **Population** |
| Current1 | 9,340 | 2,355 | 9,763 | |
| 20402 | 12,259 | 2,939 | 12,787 | |
|  |  |  |  | |
| **Future Growth** | **2,919** | **584** | **3,024** | |
| *% of 2040* |  |  | *23.6%* | |
| 1PSU Certified estimate July 1, 2019 | |  |  | |
| 2 Wastewater Facilities Plan |  |  |  | |
|  |  |  |  | |

The concept of *equivalent population* is used to recognize different utilization levels of parks by the general population (to estimate residential development needs) and employees (to estimate nonresidential development needs). Employees are assumed to have an equivalency factor significantly less than residents, owing to the limited number of hours available outside of work for park use. Equivalent population assumptions are shown in **Table 6-2** (next page) based on more detailed calculation shown in Appendix B.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 6-2** |  |  |  |  |
| City of Sweet Home Parks SDC Analysis | |  |  |  |
| Park SDC Equivalent Population Allocation | |  |  |  |
|  | **Growth** | **Equivalency** | **Residential** | **%** |
|  | **Units** | **Factors1** | **Equivalents2** | **Total** |
|  |  |  |  |  |
| Population | 2,919 | 1.00 | 2,919 | 96.5% |
| Employment | 584 | 0.18 | 105 | 3.5% |
| **Total** | **3,503** |  | **3,024** | **100%** |
| 1 Based on hours available for park use and portion of workers from outside City | | | |  |
| (See analysis in Appendix B) |  |  |  |  |
| 2 Growth units X equivalency factor | |  |  |  |

## Develop Cost Basis

The parks SDC methodology is based on a combined reimbursement and improvement fee.

### Reimbursement Fee

The reimbursement fee is based on the costs of park facilities included in the City’s 2019 Appraisal Report. Existing facility value is assumed to serve future development in proportion to growth’s share of the projected future equivalent population (23.6 percent). As shown in **Table 6-3**, the reimbursement cost basis is $1.2 million.

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 6-3** | | | |
| City of Sweet Home Parks SDC Analysis | | | |
| Park Reimbursement Fee Cost Basis | | | |
|  | **Cash  Value** | **Reimbursement** | |
| % | $ |
|  |  |  |  |
| **Community Center** | $4,676,130 | 23.6% | $1,105,835 |
|  |  |  |  |
| **Sankey Park** | $505,500 | 23.6% | $119,543 |
|  |  |  |  |
|  | $5,181,630 |  | $1,225,378 |
| 1Source: Appraisal Report November 30, 2019 | | | |

### Improvement Fee

**Table 6-4** (next page) provides the parks SDC project list based on the City’s Capital Improvement Plan. Improvements to existing parks will benefit both existing and future development through enhanced levels of performance of park and recreation facilities. Therefore, the costs for these improvements (net of grant funding) are all allocated between existing and future development in proportion to each group’s share of the total future equivalent population (23.6 percent for growth, as shown in Table 6-4). Similarly, new special facilities provide new types of recreation opportunities for both existing and future development and are therefore allocated proportionately. As shown in Table 6-4, the total improvement fee cost basis is $602,362.

**Table 6-4**

City of Sweet Home Park SDC Analysis

Park SDC Improvement Fee Cost Basis (Project List)

|  | | **Fiscal**  **Year** | **Total**  **Cost** | **Other**  **Funding** | **Net**  **Cost** | **Future Growth** | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **%** | **$** |
| Name | |  |  |  |  |  |  |
| *Ashbrook* | |  |  |  |  |  |  |
|  | Design and construct curb & sidewalk and pave parking lane on Juniper St | 2022-23 | $20,000 |  | $20,000 | 23.6% | $4,730 |
|  | Subtotal |  | $20,000 | $0 | $20,000 |  | $4,730 |
| *Clover Memorial* | |  |  |  |  |  |  |
|  | Design & construct play structure, gardens, trees and creek plants, drainage, trash cans, pet stations, BBQ, picnic tables and benches. Remove portion of Fountain Hill to improve visibility | 5+ Years | $50,000 |  | $50,000 | 23.6% | $11,824 |
|  | Subtotal |  | $50,000 | $0 | $50,000 |  | $11,824 |
| *Hobart Natural Area* | |  |  |  |  |  |  |
|  | Design & construct parking area primary loop. Add signage, trash cans, pet stations, BBQ, picnic tables and benches | 5+ Years | $60,000 |  | $60,000 | 23.6% | $14,189 |
|  | Design & construct approach roadway from 35th Ave. Add gardens, trees and creek plants | 5+ Years | $20,000 |  | $20,000 | 23.6% | $4,730 |
|  | Design & construct parking area secondary loop and parking area off Foothills Dr | 2023-24 | $25,000 |  | $25,000 | 23.6% | $5,912 |
|  | Subtotal |  | $105,000 | $0 | $105,000 |  | $24,831 |
| *Northside* | |  |  |  |  |  |  |
|  | Design & construct playground and river access trail. Install ramp/stairs/railing, signage, tables, benches, pet stations, trash cans, BBQ, gardens, trees and creek plants | 2023-2025 | $55,000 |  | $55,000 | 23.6% | $13,007 |
|  | Subtotal |  | $55,000 | $0 | $55,000 |  | $13,007 |
| *Sankey* | |  |  |  |  |  |  |
|  | Construct plaza, paths, lighting, playground improvements, bike racks, tables, benches | 2020-21 | $440,000 | $278,200 | $161,800 | 23.6% | $104,053 |
|  | Construct bathroom, tables & benches | 2021-2023 | $40,000 |  | $40,000 | 23.6% | $9,459 |
|  | Design & construct path connection to 16th Ave & Fir St. | 2022-23 | $60,000 |  | $60,000 | 23.6% | $14,189 |
|  | Design & construct pedestrian bridge or route from Sankey Park to the Jim Riggs Community Center | 2023-24 | $200,000 |  | $200,000 | 23.6% | $47,297 |
|  | Subtotal |  | $740,000 | $278,200 | $461,800 |  | $174,999 |
| *Strawberry Hills* | |  |  |  |  |  |  |
|  | Design & construct loop trail Phase 2 and either pavilion or second play structure | 2022-23 | $65,000 |  | $65,000 | 23.6% | $15,372 |
|  | Design & construct parking lot, loop trail and restroom; upgrade irrigation system; add garden space, trees and creek plants | 2020-21 | $159,000 |  | $159,000 | 23.6% | $37,601 |
|  | Subtotal |  | $224,000 | $0 | $224,000 |  | $52,973 |
| *Quarry Park* | |  |  |  |  |  |  |
|  | Trails |  | $332,111 |  | $332,111 | 23.6% | $78,539 |
|  | Pavilions/Structures |  | $560,000 |  | $560,000 | 23.6% | $132,432 |
|  | Activity Fields |  | $241,037 |  | $241,037 | 23.6% | $57,002 |
|  | Environmental & Design |  | $220,000 |  | $220,000 | 23.6% | $52,027 |
|  | Subtotal |  | $1,353,148 | $0 | $1,353,148 |  | $319,999 |
| **Total** | |  | **$2,547,148** | **$278,200** | **$2,268,948** |  | **$602,362** |

## Develop Unit Costs

To determine the SDC schedule, the system-wide unit costs of capacity are first determined, as shown in **Table 6-5**.

The unit cost calculations begin with allocation of the cost basis between residential and nonresidential development based on each group’s share of future equivalent population. As shown in Tables 6-1 and 6-2, total growth in equivalent population is estimated to be 3,024, including 2,919 new residents (96.5 percent) and 105 nonresidential equivalents (3.5 percent). Based on these allocations, residential development is allocated almost $1.8 million in project costs, and nonresidential is allocated $63,364.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 6-5** |  | |  |  |
| City of Sweet Home Parks SDC Analysis | |
| Park SDC Unit Cost Calculation | | |  |  |
|  | Growth $ | | **Units** | **$/Unit** |
| **Improvement Fee** |  | |  |  |
| Growth Costs |  | |  |  |
| Residential | $581,480 | | 2,919 | $199 |
| Nonresidential | $20,883 | | 584 | $36 |
| Total | $602,362 | |  |  |
| **Reimbursement Fee** |  | |  |  |
| Growth Costs |  | |  |  |
| Residential | $1,182,897 | | 2,919 | $405 |
| Nonresidential | $42,481 | | 584 | $73 |
| Total | $1,225,378 | |  |  |
| **Total** |  | |  |  |
| Growth Costs |  | |  |  |
| Residential | $1,764,377 | | 2,919 | $604 |
| Nonresidential | $63,364 | | 584 | $108 |
| Total | $1,827,740 | |  |  |

The growth capacity units for both residential and nonresidential developments are people; in the case of residential it is total population, and in the case of nonresidential the unit of measure is employment. The growth in population and employment during the 20-year planning period is estimated to be 2,919 and 584, respectively. Dividing the residential cost by the total growth in population yields a unit cost per person of $604. Similarly, the unit cost for nonresidential is determined to be $108 per employee.

### Compliance Costs

Compliance costs generally include costs associated with developing the SDC methodology and project list (i.e., a portion of parks planning costs). **Table 6-6** shows the calculation of the compliance charge per EDU. SDC methodology updates and annual accounting costs are 100 percent related to new growth, while the parks planning costs are allocated in proportion to equivalent population. Total compliance costs are estimated to be $63,649 during the planning period. Compliance costs are allocated to residential and nonresidential in proportion to the project costs.

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 6-6** |  |  |  |
| City of Sweet Home Parks SDC Analysis | | |  |
| Park Compliance Charge |  |  |  |
|  | **Growth %** | **Number** | **Total** |
| Parks Plan Update | 24% | 1 | $23,649 |
| SDC Methodology Updates | 100% | 4 | $20,000 |
| Annual Accounting, Reporting | 100% | 20 | $20,000 |
| Total |  |  | $63,649 |
| Residential Share |  |  | $61,442 |
| Nonresidential Share |  |  | $2,207 |
| Growth Units |  |  |  |
| Residential |  |  | 2,919 |
| Nonresidential |  |  | 584 |
| Compliance Cost per Unit |  |  |  |
| Residential |  |  | $21.05 |
| Nonresidential |  |  | $3.78 |

## SDC Schedule

SDCs are assessed to different development types based on average dwelling occupancy and employee density (employees per thousand square feet), as estimated by local or regional data. Data for the City from the American Community Survey were used to determine the average occupants per household. As shown in **Table 6-7**, single family dwellings are estimated to average 2.54 persons per household, compared to an average of 1.41 for multifamily and 2.34 for mobile homes. Based on these occupancy levels and the combined park unit cost and compliance charge of about $625 per person, the SDCs for residential dwellings range from $882 (for multifamily) to $1,591 for single family.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table 6-7** |  |  |  |  |  |
| City of Sweet Home Parks SDC Analysis | |  |  |  |  |
| Parks SDC Schedule |  |  |  |  |  |
| **Development Type** | **Units** | **SDCr** | **SDCi** | **Compliance** | **Total** |
| **Residential ($/dwell unit)** | **pphh1** |  |  |  |  |
| Single-Family | 2.54 | $1,031 | $507 | $54 | $1,591 |
| Multifamily | 1.41 | $571 | $281 | $30 | $882 |
| Mobile Home | 2.34 | $948 | $466 | $49 | $1,463 |
| **Nonresidential ($/1,000 sf)** | **emp/1000 sf2** |  |  |  |  |
| Office | 2.9 | $208 | $102 | $11 | $321 |
| Retail | 2.0 | $145 | $72 | $8 | $225 |
| Industrial & Institutional | 1.7 | $121 | $60 | $6 | $187 |
| Warehousing | 0.5 | $39 | $19 | $2 | $61 |
| 1 PPHH = Persons per household; Source: 2017 American Community Survey 5-Year Estimates | | | | | |
| *2 Metro Urban Growth Report Appendix 6 (Rev. 10/2015); based on outer ring (lowest) densities* | | | | | |

For nonresidential development, the SDC is assessed based on estimated employment density and building size (measured in 1,000 gross square feet). Estimated employment per 1,000 square feet is based on Oregon data for low density communities. The SDC per 1,000 square feet for each nonresidential type is computed by multiplying the cost per employee ($112 including compliance charge) by the estimated employees per 1,000 square feet (ranging from 0.5 to 2.9). The SDC per 1,000 square feet of building area ranges from $61 for warehouse to $321 for office developments.

### Inflationary Adjustments

In accordance with Oregon statutes, it is recommended that the SDCs be adjusted annually based on a standard inflationary index. Specifically, the City uses the ENR Seattle Construction Cost index as the basis for adjusting the SDCs annually.

Appendix A – Trip Generation Analysis

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table A-1** |  |  | |  |  | |  |  | | | | |  | | |
| City of Sweet Home Transportation SDC | |  | |  |  | |  |  | | | | |  | | |
| *Projected Average Daily Trip (ADT) Ends (Residential)* | | | |  |  | |  |  | | | | |  | | |
|  | **ITE Information1** | | | **Number of Dwelling Units** | | | **ADT Trip Ends** | | | | | | | | |
|  | Land Use Code | ADTs per unit | | Current2 | 2040 | | Current | Future | | | | | Growth | | |
| Total housing units |  |  | |  |  | |  |  | | | | |  | | |
| 1-unit, detached | 210 | 9.44 | | 2,836 | 3,722 | | 26,770 | 35,136 | | | | | 8,366 | | |
| 1-unit, attached | 220 | 7.32 | | 75 | 99 | | 549 | 721 | | | | | 172 | | |
| 2 units | 220 | 7.32 | | 35 | 47 | | 260 | 341 | | | | | 81 | | |
| 3 or 4 units | 220 | 7.32 | | 41 | 53 | | 297 | 390 | | | | | 93 | | |
| 5 to 9 units | 220 | 7.32 | | 219 | 288 | | 1,604 | 2,105 | | | | | 501 | | |
| 10 to 19 units | 220 | 7.32 | | 121 | 158 | | 883 | 1,160 | | | | | 276 | | |
| 20 or more units | 220 | 7.32 | | 52 | 68 | | 379 | 497 | | | | | 118 | | |
| Mobile home | 240 | 5.00 | | 585 | 768 | | 2,926 | 3,841 | | | | | 914 | | |
| Boat, RV, van, etc. | 240 | 5.00 | | - |  | | - | - | | | | | - | | |
|  |  |  | | 3,964 | 5,202 | | 33,668 | 44,190 | | | | | 10,522 | | |
| 1Institute of Transportation Engineers Trip Generation Manual, 10th Edition | | | | | | | | |  | | |  | |  | | |
| 2Source: 2017 American Community Survey 5-Year Estimates (DP04), City of Sweet Home | | | | | | | | | | | | | |  | | | |  |
| **Table A-2** | | |  | | |  | | | |  |  | | | |  | | | | | |
| City of Sweet Home Transportation SDC | | |  | | |  | | | |  |  | | | |  | | | | | |
| *Sweet Home Jobs by Industry Sector* | | | | | | | | | |  |  | | | |  | | | | | |
|  | | |  | | | **Current** | | | | **ITE Information2** | | | | | **ADT** | | | | | |
| Sector | | | Category | | | **Employment1** | | | | Code | ADT/ Emp | | | | Trip  Ends | | | | | |
| Agriculture, Forestry, Fishing and Hunting | | | Industrial | | | 112 | | | | 110 | 3.05 | | | | 342 | | | | | |
| Construction | | | Industrial | | | 22 | | | | 110 | 3.05 | | | | 67 | | | | | |
| Manufacturing | | | Industrial | | | 253 | | | | 140 | 2.47 | | | | 625 | | | | | |
| Wholesale Trade | | | Industrial | | | 25 | | | | 130 | 2.91 | | | | 73 | | | | | |
| Retail Trade | | | Retail | | | 376 | | | | 815 | 30.69 | | | | 11,539 | | | | | |
| Transportation and Warehousing | | | Industrial | | | 28 | | | | 150 | 5.05 | | | | 141 | | | | | |
| Information | | | Office & Services | | | 25 | | | | 710 | 3.28 | | | | 82 | | | | | |
| Finance and Insurance | | | Office & Services | | | 49 | | | | 912 | 25.63 | | | | 1,256 | | | | | |
| Real Estate and Rental and Leasing | | | Office & Services | | | 100 | | | | 710 | 3.28 | | | | 328 | | | | | |
| Professional, Scientific, and Technical Services | | | Office & Services | | | 19 | | | | 710 | 3.28 | | | | 62 | | | | | |
| Administration & Support, Waste Management | | | Office & Services | | | 44 | | | | 710 | 16.11 | | | | 709 | | | | | |
| Educational Services | | | Institutional | | | 372 | | | | 530 | 22.25 | | | | 8,277 | | | | | |
| Health Care and Social Assistance | | | Office & Services | | | 262 | | | | 720 | 8.70 | | | | 2,279 | | | | | |
| Accommodation and Food Services | | | Office & Services | | | 277 | | | | 320 | 25.17 | | | | 6,972 | | | | | |
| Other Services (excluding Public Administration) | | | Office & Services | | | 160 | | | | 820 | 16.11 | | | | 2,578 | | | | | |
| Public Administration | | | Institutional | | | 157 | | | | 710 | 3.28 | | | | 515 | | | | | |
| Total | | |  | | | 2,281 | | | |  |  | | | | 35,845 | | | | | |
| 1 Economic Opportunities Analysis (Eco Northwest, 2014, Ex 40) | | | | | | | | | | | | | | | | | | | |
| 2Institute of Transportation Engineers Trip Generation Manual, 10th Edition | | | | | | | | | | | | | | | | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table A-3** |  |  |  |  |
| City of Sweet Home Transportation SDC |  |  |  |  |
| *Current and Forecast New Nonresidential Trips* | | |  |  |
|  | **New Trip** | **ADT Trip Ends** | |  |
| **Current and Forecast Employment** | **Adjustment1** | Current | Future | **Growth** |
| Industrial | 100.0% | 1,248 | 1,687 | 440 |
| Commercial (Retail) | 66.0% | 7,616 | 9,461 | 1,845 |
| Office & Commercial Services | 100.0% | 18,190 | 23,663 | 5,474 |
| Institutional | 100.0% | 8,792 | 9,420 | 628 |
| **Total** |  | 35,845 | 44,232 | 8,387 |
| 1Based on Institute of Transportation Engineers Trip Generation Manual, 10th Edition information | | |  |  |

Appendix B – Parks Residential Equivalency

**Introduction**

Nonresidential development creates demand for parks through employees (living inside or outside the City) that use parks in conjunction with commuting, lunch or other breaks during the workday, company picnics, or other activities, and through overnight visitors that come to the area to recreate or otherwise participate in park-related activities in conjunction with their visit.

While the notion of a nexus between nonresidential development and park system capacity needs is broadly accepted, specific assumptions of how much park usage may be attributable to nonresidential development relative to residential development vary across jurisdictions and often reflect local policy considerations. The impact on parks from employees and visitors relative to residents is referred to as the “residential equivalency.”

**Hours of Opportunity Model**

The SDC methodology determines the residential equivalency for employees based on an “hours of opportunity” model. This approach establishes estimated park usage based on the number of hours different types of users have available during the day to visit parks. It assumes that employees – both resident and nonresident – have opportunities to use parks during the weekdays for a limited time (generally right before or after work, and during breaks). In comparison, residents are assumed to have potential use of parks during non-work or school hours (for employed adults or school age children), or throughout the day (in the case of residents who are unemployed or otherwise not in the work force). Nonresident employees are generally assumed to have the lowest potential park use opportunity due to the need to travel from outside the service area.

Table B-1 provides the detailed assumptions related to hours of park use available to resident and nonresident groups. The assumptions shown in the table are identical to those used by many other agencies in Oregon. The calculated residential equivalency factors from an hours of opportunity approach vary based on the demographics of the specific service area, and whether the nonresidential development impact is assumed to include park usage from both workers living inside the service area and outside, or just outside the area (as in the case of the City’s SDC methodology).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table B-1** |  |  |  |  |  |
| Sweet Home Parks SDC Analysis | |  |  |  |  |
| *Weighted Average Park Availability Hours by Class* | | | |  |  |
|  | **Residents** | | | |  |
| **Season/Period** | Not-Employed Adult | Kids (5-17) | Employed Inside | Employed Outside | Non-Resident Employee |
| **Summer (Jun-Sep)** |  |  |  |  |  |
| **Weekday** |  |  |  |  |  |
| Before Work |  |  | 1 |  | 1 |
| Breaks |  |  | 1 |  | 1 |
| After Work |  |  | 2 |  | 2 |
| Other Leisure | 12 | 12 | 2 | 2 | 0 |
| Subtotal | 12 | 12 | 6 | 2 | 4 |
| **Weekend** |  |  |  |  |  |
| Leisure | 12 | 12 | 12 | 12 | 0 |
| Subtotal | 12 | 12 | 12 | 12 | 0 |
| ***Hours/Day*** | ***12.00*** | ***12.00*** | ***7.71*** | ***4.86*** | ***2.86*** |
|  |  |  |  |  |  |
| **Spring/Fall (Apr/May, Oct/Nov)** | |  |  |  |  |
| **Weekday** |  |  |  |  |  |
| Before Work |  |  | 0.5 |  | 0.5 |
| Breaks |  |  | 1 |  | 1 |
| After Work |  |  | 1 |  | 1 |
| Other Leisure | 10 | 4 | 2 | 2 | 0 |
| Subtotal | 10 | 4 | 4.5 | 2 | 2.5 |
| **Weekend** |  |  |  |  |  |
| Leisure | 10 | 10 | 10 | 10 | 0 |
| Subtotal | 10 | 10 | 10 | 10 | 0 |
| ***Hours/Day*** | ***10.00*** | ***5.71*** | ***6.07*** | ***4.29*** | ***1.79*** |
|  |  |  |  |  |  |
| **Winter (Dec-Mar)** |  |  |  |  |  |
| **Weekday** |  |  |  |  |  |
| Before Work |  |  | 0.5 |  | 0.5 |
| Breaks |  |  | 1 |  | 1 |
| After Work |  |  | 0.5 |  | 0.5 |
| Other Leisure | 8 | 2 | 1 | 1 | 0 |
| Subtotal | 8 | 2 | 3 | 1 | 2 |
| **Weekend** |  |  |  |  |  |
| Leisure | 8 | 8 | 8 | 8 | 0 |
| Subtotal | 8 | 8 | 8 | 8 | 0 |
| ***Hours/Day*** | ***8.00*** | ***3.71*** | ***4.43*** | ***3.00*** | ***1.43*** |
| ***Annual Average*** |  |  |  |  |  |
| ***Weighted Hours*** | ***10.00*** | ***7.14*** | ***6.07*** | ***4.05*** | ***2.02*** |

**Application of Model to Sweet Home Demographic Data**

Table B-2 provides the demographic data used to determine the seasonally weighted average number of hours available for park use per person per day for residents (7.35) and nonresident employees (2.02).

|  |  |  |  |
| --- | --- | --- | --- |
| **Table B-2** |  |  |  |
| City of Sweet Home Parks SDC Analysis | | | |
| Estimation of Potential Park Use | | | |
|  |  | **Avg. Hours** | **Person** |
| **Category** | **Persons** | **Per person/day** | **Hours/Day** |
|  |  |  |  |
| **Residents** |  |  |  |
| Kids (5-17) 2 | 2,009 | 7.14 | 14,345 |
| Non-Employed Adults 3 | 3,853 | 10.00 | 38,526 |
| Employed Adults 1 | |  |  |
| Work in City | 657 | 6.07 | 3,988 |
| Work out of City | 2,715 | 4.05 | 10,988 |
| Subtotal | 9,234 | 7.35 | 67,847 |
| **Nonresidents** |  |  |  |
| Employed Adults | 1,230 | 2.02 | 2,489 |
| Total in Jobs City | 1,887 |  | 70,336 |
| *1U.S. Census 2017 On the Map Inflow Outflow analysis* | | | |
| *2U.S. Census 2018 ACS 5-Year Estimates Table S0101* | | | |
| *3U.S. Census 2018 ACS 5-Year Estimates Table S2301* | | | |

Table B-3 shows the calculation of the residential equivalency per employee based on the assumptions in Table B-1 and B-2. The residential equivalency of 0.18 is the product of the nonresident employee usage factor (7.35/2.02 = 0.28) and the portion of employees that work in the area but live outside (65 percent).

|  |  |  |
| --- | --- | --- |
| **Table B-3** |  |  |
| City of Sweet Home Parks SDC Analysis | | |
| Residential Equivalency per Employee | | |
|  |  |  |
| **Category** | **Value** | **Factor** |
| **Average Hours/person/day** | | |
| Resident weighted average | 7.35 |  |
| Nonresident employee | 2.02 | 0.28 |
| **Employees working in District 1** | | |
| Living in District | 657 |  |
| Living outside District | 1,230 | 0.65 |
| Total | 1,887 |  |
| ***Residential Equivalency per Employee*** | | **0.18** |
|  |  |  |
| *1U.S. Census 2017 On the Map Inflow Outflow analysis* | | |