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Wastewater and Transportation System Development Charge Update

Final Report

Prepared for:

Molalla Oregon

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City of Molalla
2019 Wastewater and Transportation
SDC Methodology Update

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Introduction/History of the Project

The City of Molalla conducts periodic updates to its Comprehensive Plan and its various Public Facility Plans to provide orderly and sustainable growth of municipal infrastructure. A key component to funding these public facilities is the system development charge (SDC) program. SDCs are one-time charges for new development—designed to recover the costs of infrastructure capacity needed to serve new development. This section describes the policy context and project scope upon which the body of this report is based. It concludes with a numeric overview of the calculations presented in subsequent sections of this report for wastewater and transportation SDCs.

The city's current schedule of SDCs were last reviewed in the Fall of 2016. Since that time, the City has completed new master plans for wastewater and transportation. In January of 2019, the City hired Donovan Enterprises, Inc. to review and update the wastewater and transportation SDC methodologies. With this review and update, the City has stated a number of objectives:

- Review the basis for charges to ensure a consistent methodology;
- Address specific policy, administrative, and technical issues which had arisen from application of the existing SDCs;
- Determine the most appropriate and defensible fees, ensuring that development is paying its way;
- Consider possible revisions to the structure or basis of the charges which might improve equity or proportionality to demand;
- Provide clear, orderly documentation of the assumptions, methodology, and results, so that City staff could, by reference, respond to questions or concerns from the public.

This report provides the documentation of that effort, and was done in close coordination with City staff and available facilities planning documents. The SDC updates comply with Molalla Municipal Code chapter 13.14.

Table 1 gives a component breakdown for the current and proposed residential equivalent SDCs for wastewater and transportation services.

Table 1 - Component Breakdown of the Proposed Residential Equivalent SDCs

Line Item Description	Service Unit	Proposed	Current	Difference
Wastewater:	per 3/4" water meter			
Reimbursement fee		$ 198	$ 198	$ -
Improvement fee		10,623	4,678	5,945
Administration fee @ 2%		216	98	118
Total		$ 11,037	$ 4,974	$ 6,063
Transportation:	per PM peak hour trip			
Reimbursement fee		$ 769	$ 769	$ -
Improvement fee		11,932	3,276	8,656
Administration fee @ 2%		254	81	173
Total		$ 12,955	$ 4,126	$ 8,829

Analytical Process for the Methodology Updates

The essential ingredient in the development of an SDC methodology is valid sources of data. For this project, the consultant team has relied on a number of data sources. The primary sources have been the newly formulated and adopted capital improvement plans for wastewater and transportation. We have supplemented these data sources with City utility billing records, certified census data, and other documents that we deemed helpful, accurate, and relevant to this study. Table 2 contains a bibliography of the key documents/sources that we relied upon to facilitate our analysis and hence the resulting SDCs.

Table 2 - Data Sources for the Calculation of SDCs

Service	Master Plan Document and/or Corroborating Source Documentation
Wastewater	• City of Molalla wastewater system twenty-year capital improvement plan, November, 2018; City of Molalla Public Works Department • City of Molalla Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2018 • 2018 Discharge Monitoring Reports; City of Molalla • Molalla wastewater system fixed asset schedule; June 30, 2018; City records • City of Molalla Utility Billing System – wastewater system active accounts and Equivalent Dwelling Units in service report; December, 2018 • Portland State University, College of Urban Affairs, Population Research Center; Certified census for Molalla, Oregon; June, 2018
Transportation	• City of Molalla transportation system twenty-year capital improvement plan, September, 2018; City of Molalla Public Works Department • City of Molalla transportation system fixed asset schedule; June 30, 2018; City records • U.S. Bureau of the Census; American Community Survey: ✓ City of Molalla dwelling units; 2018 estimated ✓ City of Molalla number of employees; 2018 estimated • Trip Generation Manual; Institute of Transportation Engineers; 9th Edition • City of Molalla Transportation System Plan; adopter by Ordinance 2018-14; September 26, 2018

The data sources shown in Table 2 were used to formulate the two (2) components of the SDCs. These components are the reimbursement and improvement fees. The City has been constructing the SDCs with these two components for over twenty years, and our analysis does not propose to change that methodology. A brief definition of the two components are:

- *The reimbursement fee* considers the cost of existing facilities, prior contributions by existing users of those facilities, the value of the unused/available capacity, and generally accepted ratemaking principles. The objective is future system users contribute no more than an equitable share to the cost of existing facilities. The reimbursement fee can be spent on capital costs or debt service related to the systems for which the SDC is applied.
- *The improvement fee* portion of the SDC is based on the cost of planned future facilities that expand the system's capacity to accommodate growth or increase its level of performance. In developing an analysis of the improvement portion of the fee, each project in the respective service's capital improvement plan is evaluated to exclude costs related to correcting existing system deficiencies or upgrading for historical lack of capacity. An example is a facility which improves system capacity to better serve current customers. The costs for this type of project must be eliminated from the improvement fee calculation. Only capacity increasing/level of performance costs provide the basis for the SDC calculation. The improvement SDC is calculated as a function of the estimated number of additional equivalent residential units to be served by the City's facilities over the planning period. Such a fee represents the greatest potential for future

SDC changes. The improvement fee must also provide a credit for construction of a qualified public improvement.

SDC Legal Authorization and Background

SDCs are authorized by Oregon Revised Statute (ORS) 223.297-314. The statute is specific in its definition of system development charges, their application, and their accounting. In general, an SDC is a one-time fee imposed on new development or expansion of existing development, and assessed at the time of development approval or increased usage of the system. Overall, the statute is intended to promote equity between new and existing customers by recovering a proportionate share of the cost of existing and planned/future capital facilities that serve the developing property. Statute further provides the framework for the development and imposition of SDCs and establishes that SDC receipts may only be used for capital improvements and/or related debt service.

Finally, two cost basis adjustments are potentially applicable to both reimbursement and improvement fees: fund balance and compliance costs. In this study, the project team as paid attention to this detail to align future infrastructure costs to those responsible for paying those costs. The reasons for this attention is as follows:

- *Fund Balances* - To the extent that SDC revenue is currently available in fund balance, that revenue should be deducted from its corresponding cost basis. For example, if the city has wastewater improvement fees that it has collected but not spent, then those unspent improvement fees should be deducted from the wastewater system's improvement fee cost basis to prevent charging twice for the same capacity.
- *Compliance Costs* - ORS 223.307(5) authorizes the expenditure of SDCs on "the costs of complying with the provisions of ORS 223.297 to 223.314, including the costs of developing system development charge methodologies and providing an annual accounting of system development charge expenditures." To avoid spending monies for compliance that might otherwise have been spent on growth-related projects, this report includes an estimate of compliance costs in its SDCs.

Reimbursement Fee Methodology

The reimbursement fee represents a buy-in to the cost, or value, of infrastructure capacity within the existing system. Generally, if a system were adequately sized for future growth, the reimbursement fee might be the only charge imposed, since the new customer would be buying existing capacity. However, staged system expansion is needed, and an improvement fee is imposed to allocate those growth related costs. Even in those cases, the new customer also relies on capacity within the existing system, and a reimbursement component is warranted.

In order to determine an equitable reimbursement fee to be used in conjunction with an improvement fee, two points should be highlighted. First, the cost of the system to the City's customers may be far less than the total plant-in-service value. This is due to the fact that elements of the existing system may have been contributed, whether from developers, governmental grants, and other sources. Therefore, the net investment by the customer/owners is less. Second, the value of the existing system to a new customer is less than the value to an existing customer, since the new customer must also pay, through an improvement fee, for expansion of some portions of the system.

The method used for determining the reimbursement fee accounts for both of these points. First, the charge is based on the net investment in the system, rather than the gross cost. Therefore, donated

facilities, typically including local facilities, and grant-funded facilities, would be excluded from the cost basis. Also, the charge should be based on investments clearly made by the current users of the system, and not already supported by new customers. Tax supported activities fail this test since funding sources have historically been from general revenues, or from revenues which emanate, at least in part, from the properties now developing. Second, the cost basis is allocated between used and unused capacity, and, capacity available to serve growth. In the absence of a detailed asset by asset analysis, it is appropriate to allocate the cost of existing facilities between used and available capacity proportionally based on the forecasted population growth as converted to equivalent dwelling units over the planning period. This approach reflects the philosophy, consistent with the City's Updated Master Plans, that facilities have been sized to meet the demands of the customer base within the established planning period.

Improvement Fee Methodology

There are three basic approaches used to develop improvement fee SDCs: "standards driven", "improvements-driven", and "combination/hybrid" approaches. The "standards-driven" approach is based on the application of Level of Service (LOS) standards for facilities. Facility needs are determined by applying the LOS standards to projected future demand, as applicable. SDC-eligible amounts are calculated based on the costs of facilities needed to serve growth. This approach works best where level of service standards have been adopted but no specific list of projects is available. The "improvements-driven" approach is based on a specific list of planned capacity increasing capital improvements. The portion of each project that is attributable to growth is determined, and the SDC-eligible costs are calculated by dividing the total costs of growth-required projects by the projected increase in projected future demand, as applicable. This approach works best where a detailed master plan or project list is available and the benefits of projects can be readily apportioned between growth and current users. Finally, the combination/hybrid-approach includes elements of both the "improvements driven" and "standards-driven" approaches. Level of Service standards may be used to create a list of planned capacity-increasing projects, and the growth required portions of projects are then used as the basis for determining SDC eligible costs. This approach works best where levels of service have been identified and the benefits of individual projects are not easily apportioned between growth and current users.

In the past, the City has utilized the "improvements-driven" approach for the calculation of SDCs. This study continues to use this method, and has relied on the capital improvement plans that are incorporated in the master plans, and plan updates for the wastewater and transportation systems.

For this SDC methodology update, the improvement fee represents a proportionate share of the cost to expand the systems to accommodate growth. This charge is based on the newly adopted capital improvement plans established by the City for wastewater and transportation services. The costs that can be applied to the improvement fees are those that can reasonably be allocable to growth. Statute requires that the capital improvements used as a basis for the charge be part of an adopted capital improvement schedule, whether as part of a system plan or independently developed, and that the improvements included for SDC eligibility be capacity or level of service expanding. The improvement fee is intended to protect existing customers from the cost burden and impact of expanding a system that is already adequate for their own needs in the absence of growth.

The key step in determining the improvement fee is identifying capital improvement projects that expand the system and the share of those projects attributable to growth. Some projects may be entirely attributable to growth, such as a wastewater collection line that exclusively serves a newly developing area. Other projects, however, are of mixed purpose, in that they may expand capacity, but they also improve service or correct a deficiency for existing customers. An example might be an intersection

signalization project both expands the pm peak hour vehicle trip throughput capacity and corrects a chronic capacity issue for existing users. In this case, a rational allocation basis must be defined.

The improvement portion of the SDC is based on the proportional approach toward capacity and cost allocation in that only those facilities (or portions of facilities) that either expand the respective system's capacity to accommodate growth or increase its respective level of performance have been included in the cost basis of the fee. As part of this SDC update, City Staff and their engineering consultants were asked to review the planned capital improvement lists in order to assess SDC eligibility. The criteria in Figure 1 were developed to guide the City's evaluation:

Figure 1 - SDC Eligibility Criteria

City of Molalla

Steps Toward Evaluating

Capital Improvement Lists for SDC Eligibility

ORS 223

1. Capital improvements mean the facilities or assets used for :
    a. Wastewater collection, transmission, treatment, and disposal
    b. Transportation – intersection improvements, street reconstruction and widening, roadway enhancement, and bike/ped expansion

    This definition DOES NOT ALLOW costs for operation or routine maintenance of the improvements;
2. The SDC improvement base shall consider the cost of projected capital improvements needed to increase the capacity of the systems to which the fee is related;
3. An increase in system capacity is established if a capital improvement increases the "level of performance or service" provided by existing facilities or provides new facilities.

Under the City' approach, the following rules will be followed

1. Repair costs are not to be included;
2. Replacement costs will not be included unless the replacement includes an upsizing of system capacity and/or the level of performance of the facility is increased;
3. New regulatory compliance facility requirements fall under the level of performance definition and should be proportionately included;
4. Costs will not be included which bring deficient systems up to established design levels.

In developing the improvement fee, the project team in consultation with City staff evaluated each of its CIP projects to exclude costs related to correcting existing system deficiencies or upgrading for historical lack of capacity. Only capacity increasing/level of performance costs were used as the basis for the SDC calculation, as reflected in the capital improvement schedules developed by the City. The improvement fee is calculated as a function of the estimated number of projected additional Equivalent Residential Units (expressed in ¾" water meter equivalents) for wastewater over the planning horizon. We measure demand for transportation facilities in PM peak-hour vehicle trips (PM PHVTs). One PM PHVT represents one person beginning or ending a vehicular trip at a certain property during the afternoon rush hour. Once the future costs to serve growth have been segregated (i.e., the numerator), they can be divided into the total number of new EDUs (and PM PHVT's) that will use the capacity derived from those investments (i.e., the denominator).

Methodology for the Granting of Credits, Discounts, and Exemptions

SDC Credits Policy

ORS 223.304 requires that credit be allowed for the construction of a "qualified public improvement" which is required as a condition of development approval, is identified in the Capital Improvement Plan, and either is not located on or contiguous to property that is the subject of development approval, or is located on or contiguous to such property and is required to be built larger or with greater capacity than is necessary for the particular development project. The credit for a qualified public improvement may only be applied against an SDC for the same type of improvement, and may be granted only for the cost of that portion of an improvement which exceeds the minimum standard facility size or capacity needed to serve the particular project. For multi-phase projects, any excess credit may be applied against SDCs that accrue in subsequent phases of the original development project. In addition to these required credits, the City may, if it so chooses, provide a greater credit, establish a system providing for the transferability of credits, provide a credit for a capital improvement not identified in the Capital Improvement Plan, or provide a share of the cost of an improvement by other means.

The City has adopted a policy for granting SDC credits, and has codified this policy in the Molalla Municipal Code (MMC) §13.14.110. The adopted SDC credit policy consists of five (5) items as follows:

MMC §13.14.110

A. A system development charge shall be imposed when a change of use of a parcel or structure occurs, but credit shall be given for the computed system development charge to the extent that prior structures existing and services were established on or after the effective date of the ordinance codified in this chapter. The credit so computed shall not exceed the calculated system development charge. No refund shall be made on account of such credit.

B. A credit shall be given for the cost of a qualified public improvement associated with a development. For qualified public improvements which are located in whole or in part on or contiguous to property that is the subject of development approval, and are required to be built larger or with greater capacity than is necessary for the particular development to which the improvement fee is related, credit shall be granted only for the cost of that portion of such improvement that exceeds the minimum standard facility size or capacity needed to serve the particular development project or property. The applicant shall have the burden of demonstrating that a particular improvement qualifies for credit under this section. The credit provided for by this subsection shall be only for the improvement fee charged for the type of improvement being constructed and shall not exceed the improvement fee even if the cost of the capital improvement exceeds the applicable improvement fee.

C. Credit shall not be transferable from one development to another except in compliance with standards adopted by the City Council.

D. Credit shall not be transferable from one type of capital improvement to another.

E. Credits shall be used not later than 10 years from the date the credit is given. (Ord. 1999-14 §1; Ord. 1991-6 §1)

SDC Discount Policy

The City, at its sole discretion may discount the SDC rates by choosing not to charge a reimbursement fee for excess capacity, or by reducing the portion of growth-required improvements to be funded with SDCs. A discount in the SDC rates may also be applied on a pro-rata basis to any identified deficiencies, which must to be funded from sources other than improvement fee SDCs. The portion of growth-required costs to be funded with SDCs must be identified in the CIP. Because discounts reduce SDC revenues, they increase the amounts that must come from other sources, such as user fees or general fund contributions, in order to acquire the facilities identified in the Updated Master Plan(s).

Partial and Full SDC Exemption

The City may exempt certain types of development, from the requirement to pay SDCs. Exemptions reduce SDC revenues and, therefore, increase the amounts that must come from other sources, such as user fees and property taxes. As in the case of SDC credits, the City has articulated a policy relative to partial and full SDC exemption. This SDC exemption policy is codified in MMC §13.14.100, and is as follows:

A. Structures and uses established and existing on or before the effective date of the ordinance codified in this chapter are exempt from a system development charge, to the extent that such structures and uses are not altered, added to, replaced, or changed in use so as to increase demands on any capital improvement for which systems development charges are imposed.

B. Additions to single-family dwellings that do not constitute the addition of a dwelling unit, as defined by the State Uniform Building Code, are exempt from all portions of the system development charge.

C. An alteration, addition, replacement or change in use that does not increase the parcel's or structure's use of the capital improvement facility is exempt from all portions of the system development charge.

D. A project financed by City revenues is exempt from all portions of the system development charge. (Ord. 1999-14 §1; Ord. 1991-6 §1)

Wastewater SDCs

Wastewater Capital Improvement Plan

The principal sources of data for the wastewater system CIP are the 2018 capital improvement plans for wastewater treatment, pumping stations, and collection systems. City Staff have periodically updated these plans for current development conditions. With the assistance of City Staff, the project team has summarized the 2018 wastewater system CIPs for this SDC methodology update. The 2018 wastewater system CIP is shown in Table 3.

Table 3 - 2018 Wastewater System CIP

2018 Wastewater Capital Improvement Plan													
2018 CIP Project Number	Project Source	Project Name	Project Description	New Priority Year 2019-2023	New Priority Year 2024-2028	New Priority Year 2029-2038	Master Plan Priority	Length	SDC Funding Eligible (Y/N)	SDC Share %	2018 Master Plan Cost Est.	SDC Eligible Cost
Collection System Improvement Projects												
1	WWMP	Fenton Avenue	Replace/Rehabilitate existing 8-inch sewer along Fenton Avenue from TL_B_19 to TL_B_20.	2019-2023			High	850	N	0%	$ 425,700	$ -
2	WWMP	Patrol Street	Replace/Rehabilitate existing 8-inch sewer along Patrol St. from TL_B_2 to TL_B_27.	2019-2023			High	1100	N	0%	$ 591,200	$ -
3	WWMP	Lola Avenue	Replace/Rehabilitate existing 8-inch sewer along Lola Avenue from TL_A_33 to TL_A_25.	2019-2023			High	1300	N	0%	$ 676,200	$ -
4	WWMP	Eckerd Avenue	Replace/Rehabilitate existing 8-inch sewer from TL_A_22 to TL_A_21 along East 2nd to TL_A_16 on Eckerd Avenue.	2019-2023			High	1300	N	0%	$ 613,200	$ -
5	WWMP	S. Swiegle Avenue	Replace/Rehabilitate existing 8-inch sewer along S. Swiegle from BC_A3_17 to BC_A3_7.	2019-2023			High	1300	N	0%	$ 627,200	$ -
6	WWMP	Lindsey Addition to Molalla Lift Station	Replace/Rehabilitate existing 8-inch sewer beginning at the S. Molalla Pump Station, continuing to manhole BC_A1_2, and terminating at the clean-out located east of manhole BC_A1_3. Additional smoke testing and TVing is recommended. A portion of this sewer line extends into an abandoned subdivision that presents a higher risk of infiltration and inflow.	2019-2023			High	2300	N	0%	$ 1,149,200	$ -
7	WWMP	Fenton Avenue	Replace/Rehabilitate existing 8-inch sewer along Fenton Avenue from TL_B_20 to TL_B_22.	2019-2023			High	600	N		$ 298,200	$ -
8	WWMP	E. Main Street (Hwy 211)	Replace/Rehabilitate existing 8-inch sewer along East Main Street from TL_A_48 to TL_A_28.		2024-2028		Medium	1900	N	0%	$ 1,028,200	$ -
9	WWMP	Berkley Avenue	Replace/Rehabilitate existing 8-inch sewer along Berkley Avenue from BC_A3_18 to clean-out located south of BC_A3_14 near East 5th St.		2024-2028		Medium	1350	N	0%	$ 693,700	$ -
10	WWMP	Metzler Avenue	Replace/Rehabilitate existing 8-inch sewer beginning at manhole BC_A3_21 and continuing south on Metzler to BC_A3_2, terminating at clean-out at the intersection of Metzler and West 4th Street.		2024-2028		Medium	1000	N	0%	$ 510,200	$ -
11	WWMP	Kimberly Court	Replace/Rehabilitate existing 8-inch sewer beginning at TL_B_21 and continuing east on Kimberly Ct until terminating at TL_B_24.		2024-2028		Medium	600	N	0%	$ 326,200	$ -
12	WWMP	S. Molalla Avenue	Replace/Rehabilitate existing 8-inch sewer beginning at BC_A3_16 along S. Molalla Avenue, continuing south to BC_A3_3, and continuing south until the clean-out in Fox Park (former High School site). Scope of work will include an evaluation of service laterals extending east on 2nd Street.			2029-2038	Low	700	N	0%	$ 394,200	$ -
13	WWMP	S. Cole Avenue to E. Park Avenue	Replace/Rehabilitate existing 8-inch sewer beginning at TL_A2_6, continuing south on S. Cole Avenue until TL_A2_4, and then continuing east on East 7th Street until terminating at the clean-out east of manhole TL_A2_5.			2029-2038	Low	2200	N	0%	$ 1,040,200	$ -
14	WWMP	N. Cole Avenue	Replace/Rehabilitate existing 8-inch sewer beginning at TL_B_2 along North Cole Avenue, and terminating at the clean-out south of TL_B_31.			2029-2038	Low	750	N	0%	$ 394,700	$ -

Table 3- 2018 Wastewater System CIP (Continued)

2018 Wastewater Capital Improvement Plan													
2018 CIP Project Number	Project Source	Project Name	Project Description	New Priority Year 2019-2023	New Priority Year 2024-2028	New Priority Year 2029-2038	Master Plan Priority	Length	SDC Funding Eligible (Y/N)	SDC Share %	2018 Master Plan Cost Est.	SDC Eligible Cost
Collection System Improvement Projects												
15	WWMP	Garden Court	Replace/Rehabilitate existing 8-inch sewer beginning at TL_B_29 along Garden Court until TL_B_4.			2029-2038	Low	500	N	0%	$ 309,200	$ -
16	WWMP	Oak Street	Replace/Rehabilitate existing 8-inch sewer beginning at TL_B_8 along Oak Street, and continuing to clean-out east of TL_B_12.			2029-2038	Low	800	N	0%	$ 415,200	$ -
17	WWMP	E. Heintz Street to E. Park Avenue	Replace/Rehabilitate existing 8-inch sewer beginning at TL_B_8 on East Heintz Street to TL_B_9, continuing to TL_B_10 on East Park Avenue.			2029-2038	Low	750	N	0%	$ 381,700	$ -
18	WWMP	S. Molalla Forest Road	Replace/Rehabilitate existing 8-inch sewer beginning at BC_B_1 along South Molalla Forest Road to BC_B_18. Includes 8" sewer line extending west to BC_B_10.			2029-2038	Low	1800	N	0%	$ 782,200	$ -
19	WWMP	Meadowlawn Place	Replace/Rehabilitate existing 8-inch sewer beginning at BC_C_71 along Meadowlawn Place to BC_C_59.			2029-2038	Low	600	N	0%	$ 348,200	$ -
20	WWMP	E. 8th Street to Mathias Court	Replace/Rehabilitate existing 8-inch sewer beginning at TL_A1_5, continuing to TL_A1_1 on East 8th Street, continuing east on East 8th Street until TL_A1_6, and then terminating at the clean-out at the end of Mathias Court. Additional inspections and TVing is required in subbasin TL_A1 to determine ultimate scope of repairs/replacement work.			2029-2038	Low	1150	N	0%	$ 631,700	$ -
21	WWMP	Explorer Avenue, Escort Street, Bronco Avenue, Glory Lane, and Probe Street	Replace/Rehabilitate existing 8-inch sewer beginning at TL_C2_11 along Explorer Avenue, continuing to TL_C2_6 along Escort Street, continuing to TL_C2_5 along Bronco Avenue, and continuing along Glory Ln to TL_C2_1. Scope of work shall also include replace/rehabilitate existing 8-inch sewer beginning at TL_C2_15 along Probe Street terminating at TL_C2_16. Additional inspections and TVing is required in subbasin TL_C2 to determine ultimate scope of repair/replacement work.			2029-2038	Low	2500	N	0%	$ 1,267,200	$ -
CCTV	WWMP	Annual CCTV Program	TV program for the entire collection system over a five-year period (20% per year) and continue to repeat the TVing at five-year intervals. ($65,000 per year)	2019-2023	2024-2028	2029-2038	Annual		N	0%	$ 1,300,000	$ -
											Subtotal High Priority Costs	**$ 4,705,900**
											Subtotal Medium Priority Costs	**$ 2,883,300**
											Subtotal Low Priority Costs	**$ 6,614,500**
											Subtotal Program Costs (19 Years)	**$ 14,203,700**
											Subtotal SDC Eligible Costs (19 Years)	**$ -**

Table 3- 2018 Wastewater System CIP (Continued)

2018 Wastewater Capital Improvement Plan

2018 CIP Project Number	Project Source	Project Name	Project Description	New Priority Year 2019-2023	New Priority Year 2024-2028	New Priority Year 2029-2038	Master Plan Priority	Length	SDC Funding Eligible (Y/N)	SDC Share %	2018 Master Plan Cost Est.	SDC Eligible Cost
Pump Station Improvement Projects												
22	WWMP	South Molalla Pump Station	Replace existing station with a new submersible pump station.	2019-2023			High	N/A	N	0%	$ 491,500	$ -
23	WWMP	Taurus Pump Station	Install a new submersible pump station in existing wet well to eliminate noise issues, increases operational efficiencies by integrating SCADA equipment, and provide pumps that are capable of processing wet weather flows.		2024-2028		Medium	N/A	N	0%	$ 269,000	$ -
24	WWMP	Stowers Pump Station	Replace pumps and controls, upgrade SCADA integration to improve operational efficiencies, inspected and rehabilitation wetwell as necessary.		2024-2028		Medium	N/A	N	0%	$ 150,000	$ -
25	WWMP	Steelhead & Coho Pump Station	Replace pumps and controls, upgrade SCADA integration to improve operational efficiencies, inspected and rehabilitation wetwell as necessary.		2024-2028		Medium	N/A	N	0%	$ 150,000	$ -
26	WWMP	E. 5th & South Cole Pump Station	Replace pumps and controls, upgrade SCADA integration to improve operational efficiencies, inspected and rehabilitation wetwell as necessary.		2024-2028		Medium	N/A	N	0%	$ 150,000	$ -
											Subtotal High Priority Costs	**$ 491,500**
											Subtotal Medium Priority Costs	**$ 719,000**
											Subtotal Low Priority Costs	**$ -**
											Subtotal Program Costs (19 Years)	**$ 1,210,500**
											Subtotal SDC Eligible Costs (19 Years)	**$ -**

Table 3- 2018 Wastewater System CIP (Continued)

2018 Wastewater Capital Improvement Plan													
2018 CIP Project Number	Project Source	Project Name	Project Description	New Priority Year 2019-2023	New Priority Year 2024-2028	New Priority Year 2029-2038	Master Plan Priority	Length	SDC Funding Eligible (Y/N)	SDC Share %	2018 Master Plan Cost Est.	SDC Eligible Cost
Treatment Plant Improvement Projects												
27	WWMP	WWTP Upgrade Design	Engineering, bidding and construction services, Value Analysis and Value Engineering, 15% contingency, Environmental Report, Wetland Mitigation, Land Acquisition, Review Fees, Permitting, and Administration and Legal	2019-2023			High	N/A	Y	100%	$ 19,019,000	$ 19,019,000
28	WWMP	Influent Screen	Install new fine screen, in parallel with the existing screen. Upgrade integration into the SCADA system to improve operational efficiencies.	2019-2023			High	N/A	Y	100%	$ 485,355	$ 485,355
29	WWMP	Grit Removal	Construct a new grit removal system sized at 12.5 MGD to serve projected future flows. Upgrade integration into the SCADA system to improve operational efficiencies.	2019-2023			High	N/A	Y	100%	$ 901,000	$ 901,000
30	WWMP	Flow Equalization Basin	Convert existing aerated lagoon into influent flow equalization/surge basin capable of handling 0.65 MG. Peak flows will be conveyed from the transfer pump station to the equalization basin. Basin will be dredged and a new concrete structure (due to high groundwater conditions) will be constructed.	2019-2023			High	N/A	Y	100%	$ 1,190,000	$ 1,190,000
31	WWMP	Transfer Pump Station	Construct new control panel, Variable Frequency Drives (VFDs) and new pumps in the existing Transfer Pump Station Controls Building. To process peak flows, the Transfer Pump Station will convey raw wastewater through both parallel 18-inch diameter force mains. During the summer months, only one 18-inch diameter force main will be used. Extend force mains from the existing point of entry into Lagoon #1 to the new Sequencing Batch Reactor.	2019-2023			High	N/A	Y	100%	$ 844,000	$ 844,000
32	WWMP	Sequencing Batch Reactors	Construct new four-cell SBR system. Four cells provides adequate equalization allowing uniform downstream flows. Preliminarily, the internal dimensions, for each of the four units, SBR basin are 113 feet long by 38 feet wide by 21.5 feet high. The SBR will include fine bubble diffusers, blowers, controls, and SCADA system. Designed system to produce effluent less than 10 mg/L BOD5, less than 10 mg/L TSS, and less than 2 mg/L NH3-N.	2019-2023			High	N/A	Y	100%	$ 6,707,000	$ 6,707,000
33	WWMP	Lagoon Desludging and Disposal	Remove Biosolids from the existing facultative/storage lagoons.	2019-2023			High	N/A	Y	100%	$ 3,875,000	$ 3,875,000
34	WWMP	Aerobic Digester	Construct aerobic digester sized to greater than 60 days Solids Retention Time (SRT) and include a diffused aeration grid, blowers, piping, and ancillary equipment. The aerobic digester will accept influent Waste Activated Sludge (WAS) from the SBR, and direct stabilized biosolids to the dewatering screw press via biosolids transfer pumps.	2019-2023			High	N/A	Y	100%	$ 3,332,000	$ 3,332,000
35	WWMP	Biosolids Processing Facility	Construct biosolids dewatering screw press sized to process 360 lbs/hour. The screw press will receive stabilized biosolids from the aerobic digester at roughly 2% dry solids, and dewater to approximately 14% or higher. Dewatered biosolids will be stored inside a bay immediately adjacent to the dewatering screw press. The biosolids will eventually be land applied or disposed of at a nearby landfill.	2019-2023			High	N/A	Y	100%	$ 1,867,000	$ 1,867,000

Table 3- 2018 Wastewater System CIP (Continued)

2018 Wastewater Capital Improvement Plan													
2018 CIP Project Number	Project Source	Project Name	Project Description	New Priority Year 2019-2023	New Priority Year 2024-2028	New Priority Year 2029-2038	Master Plan Priority	Length	SDC Funding Eligible (Y/N)	SDC Share %	2018 Master Plan Cost Est.	SDC Eligible Cost
Treatment Plant Improvement Projects												
36	WWMP	Disinfection (HS/UV)	Construct new sodium hypochlorite disinfection system for use during the summer months and UV disinfection system for use in winter months. During the summertime, disinfected effluent will be conveyed to recycled water storage ponds, before being conveyed to the effluent pump station. When discharging to the Molalla River, disinfected effluent would normally be conveyed from the UV system directly to the effluent pump station.	2019-2023			High	N/A	Y	100%	$ 1,460,500	$ 1,460,500
37	WWMP	Recycled Water Storage Improvements	Construction includes dike stabilization improvements to stabilize the dikes to maintain the integrity of the berms, , inspect and repair deficiencies in existing pond clay liner, line lagoons with a hypalon liner, and make improvements to the transfer piping.	2019-2023			High	N/A	Y	100%	$ 3,348,857	$ 3,348,857
38	WWMP	Recycled Water Irrigation Expansion	Expand recycled water irrigation infrastructure to high priority land application sites.	2019-2023			High	N/A	Y	100%	$ 2,010,000	$ 2,010,000
39	WWMP	Discharge Monitoring Station	The discharge monitoring station piping is capacity limited, and causes backups during peak flows. The discharge monitoring piping will require improvements to provide capacity for conveying existing and future flows.	2019-2023			High	N/A	Y	100%	$ 415,000	$ 415,000
40	WWMP	Misc. Equipment	Site wide facility equipment to support the improvements listed.	2019-2023			High	N/A	Y	100%	$ 750,000	$ 750,000
41	WWMP	Effluent Pump Station Upgrade and Expansion	Replace existing VFD driven vertical turbine pumps and install 3rd effluent pump.	2019-2023			High	N/A	Y	100%	$ 697,000	$ 697,000
42	WWMP	Site Structures	A new Controls Building will be constructed to house the blowers and controls for the new SBR, including biosolids management controls and systems. A new standby generator and automatic transfer switch will be installed to serve the SBR, tertiary system (if required), disinfection systems, and critical ancillary facilities to ensure permit compliance during a power outage.	2019-2023			High	N/A	Y	100%	$ 1,170,000	$ 1,170,000
43	WWMP	Site Improvements and Yard Piping	Civil site work, including plumbing, grading, drainage, paving, landscaping, and restoration, to support the improvements listed.	2019-2023			High	N/A	Y	100%	$ 2,519,000	$ 2,519,000
44	WWMP	Tertiary Filtration (If Needed)	if the City is unable to secure a suitable mass load increase associated with the Molalla River outfall. The tertiary filtration system will be sized to accommodate the peak decant rate from the SBR, and an average influent TSS concentration of 10 mg/L. Target effluent concentration from the tertiary filtration system is less than 4-5 mg/L TSS. The tertiary filtration system will consist of two units. The tertiary systems will be rotating disk filter packages, and installed in parallel.	2019-2023			High	N/A	Y	100%	$ 2,387,000	$ 2,387,000
45	WWMP	Recycled Water Storage Expansion (If Needed)	if the City is unable to secure a suitable mass load increase associated with the Molalla River outfall. The tertiary filtration system will be sized to accommodate the peak decant rate from the SBR, and an average influent TSS concentration of 10 mg/L. Target effluent concentration from the tertiary filtration system is less than 4-5 mg/L TSS. The tertiary filtration system will consist of two units. The tertiary systems will be rotating disk filter packages, and installed in parallel.	2019-2023			High	N/A	Y	100%	$ 13,478,000	$ 13,478,000
											Subtotal High Priority Costs	**$ 66,455,712**
											Subtotal Medium Priority Costs	**$ -**
											Subtotal Low Priority Costs	**$ -**
											Subtotal Program Costs (19 Years)	**$ 66,455,712**
											Subtotal SDC Eligible Costs (19 Years)	**$ 66,455,712**

Wastewater Customers Current and Future Demographics

Existing Wastewater Demand and Population Growth

Current Molalla wastewater demands documented in the 2018 wastewater treatment system master plan are based on Average Annual Dry Weather Flows (AADWF) to the headworks of the wastewater treatment plant. These flows are expressed in million gallons per day (MGD) figures. For the purpose of this wastewater SDC methodology update, the project team had to translate these MGD figures into standard billing units used for charging out SDCs. In this case, those standard billing figures are expressed in EDUs. In the wastewater industry, an EDU is typically defined as the amount of wastewater a single family residential customer contributes to the wastewater system during an average month in the winter, where winter is defined as November through April. Fortunately, the City's utility billing system tracks the winter average water consumption for the single family residential customer class. When a new single family residential customer connects to the wastewater system, that customer is assigned the "system average winter monthly water consumption" for the basis of the sewer usage charge. Once that customer established his/her own winter water usage history, that actual average number overwrites the system average. For the winter period November, 2015 through April, 2016, the average single family residential customer contributes 5.15 hundred cubic feet (CCF) of water to the wastewater system in the average winter month. This hundred cubic feet figure translates to 127 gallons per day.

Forecasted EDUs

With this historical consumption data in hand, the project team was able to calculate the number of EDUs relative to the AADWF data from the wastewater treatment plant monitoring data that gets reported to the Oregon Department of Environmental Quality on a monthly basis. The EDU calculation methodology is shown in Table 4.

Table 4 - Forecast of Current and Future Wastewater EDUs

	2017	2043	Growth	CAGR[1]
Average Dry Weather Flow (ADWF) MGD[2]	1.1100	1.9000	0.7900	2.09%
Observed Molalla EDU (November 2015 - April, 2016)				
Ccf per month - Single Family Residential[3]	5.15	5.15		
Gallons per month - SFR	3,853	3,853		
Gallons per day - SFR	127	127		
Estimated EDUs based on ADWF and observed Molalla SFR	8,763	15,000	6,237	2.09%

1 CAGR - Compounded Annual Growth Rate

2 Source: Wastewater Facility and Collection System Master Plan; November, 2018; the Dyer Partnership Engineers & Planners, Inc.; Table ES.4.1

3 Source: City of Molalla utility billing system records

Reimbursement Fee Calculations

As discussed earlier in this report, the reimbursement fee represents a buy-in to the cost, or value, of infrastructure capacity within the existing system. In theory, this should be a simple calculation. Simply go to the Utility's balance sheet, find the book value of assets in service, and divide that cost by the number of forecasted new connections to the wastewater system. That is a simple calculation, and it is wrong. In order to determine an equitable reimbursement, we have to account for some key issues of rate equity;

- First, the cost of the system to the City's existing customers may be far less than the total plant-in-service value. This is due to the fact that elements of the existing system may have been contributed, whether from developers, governmental grants, and other sources.
- Second, the value of the existing system to a new customer is less than the value to an existing customer, since the new customer must also pay, through an improvement fee, for expansion of some portions of the system.
- Third, the accounting treatment of asset costs generally has no relationship to the capacity of an asset to serve growth. In the absence of a detailed asset by asset analysis detailed in the balance sheet (or fixed asset schedule), a method has to be used to allocate cost to existing and future users of the asset. Generally, it is industry practice to allocate the cost of existing facilities between used and available capacity proportionally based on the forecasted population growth as converted to equivalent dwelling units (i.e., equivalent ¾" meters) over the planning period.
- Fourth, the Oregon SDC statute has strict limitations on what type of assets can be included in the basis of the reimbursement fee. ORS 223.299 specifically states that a "capital improvement" does not include costs of the operation or routine maintenance of capital improvements. This means the assets on the balance sheet such as certain vehicles and equipment used for heavy repair and maintenance of infrastructure cannot be included in the basis of the reimbursement fee.

For this wastewater SDC methodology update, the following discrete calculation steps were followed to arrive at the recommended wastewater reimbursement fee.

Step 1: Calculate the original cost of wastewater fixed assets in service. From this starting point, eliminate any assets that do not conform to the ORS 223.299 definition of a capital improvement. This results in the **adjusted original cost of wastewater fixed assets**.

Step 2: Subtract from the adjusted original cost of wastewater fixed assets in service the accumulated depreciation of those fixed assets. This arrives at the **modified book value of wastewater fixed assets in service**.

Step 3: Subtract from the modified book value of wastewater assets in service any grant funding or contributed capital. This arrives at the **modified book value of wastewater fixed assets in service net of grants and contributed capital**.

Step 4: Subtract from the modified book value of wastewater fixed assets in service net of grants and contributed capital any principal outstanding on long term debt used to finance those assets. This arrives a **gross wastewater reimbursement fee basis**.

Step 5: Subtract from the gross wastewater reimbursement fee basis the fund balance held in the Wastewater Reimbursement SDC fund (if available). This arrives at the **net wastewater reimbursement fee basis**.

Step 6: Divide the net wastewater reimbursement fee basis by the sum of existing and future EDUs to arrive at the **unit net reimbursement fee**.

The actual data that was used to calculate the total wastewater reimbursement fee is shown below in Table 5.

Table 5 - Calculation of the Wastewater Reimbursement Fee

Utility Plant-in-Service (original cost):[1]		
Land, Easements & Right of Way	$	494,445
Land improvements		130,117
Construction		1,350,300
Infrastructure		9,117,644
Machinery and equipment		414,184
Licensed Vehicles		96,691
Construction Work-in-Progress		-
Total Utility Plant-in-Service		11,603,381
Accumulated depreciation[1]		
Land		-
Land improvements		126,362
Buildings		599,564
Infrastructure		3,493,128
Machinery and equipment		332,048
Vehicles		85,530
Construction Work-in-Progress		-
Total accumulated depreciation		4,636,631
Book value of water utility plant-in-service @ June 30, 2015		6,966,750
Eliminating entries:		
Principal outstanding on bonds, notes, and loans payable		
2010 Sewer Refunding Bonds		2,565,000
2005 Clean Water State Revolving Loan		1,935,111
Developer Contributions		-
Grants, net of amortization		-
		4,500,111
Net basis in utility plant-in-service available to serve future customers	$	2,466,639
Estimated existing and future wastewater treatment EDUs		15,000
Calculated reimbursement fee - $ per treatment EDU	$	198

[1] Source: Molalla Accounting Summary Report - Capitalized Assets as of June 30, 2018

Improvement Fee Calculations

The calculation of the wastewater improvement fee is more streamlined than the process used to calculate the wastewater reimbursement fee. This study continues to use the improvements-driven method, and has relied on the 2018 wastewater system capital improvement plan. Under this methodology, only three steps are required to arrive at the improvement fee. These steps are:

Step 1: Accumulate the future cost of planned improvements needed to serve growth. This arrives at **the gross improvement fee basis**.

Step 2: Subtract from the gross improvement fee basis the fund balance held in the Wastewater Improvement SDC Fund. This arrives at **the net wastewater improvement fee basis**.

Step 3: Divide the net wastewater improvement fee basis by the forecasted number of growth EDUs over the planning period. This arrives at **the total wastewater improvement fee**.

The actual data that was used to calculate the total wastewater improvement fee is shown below in Table 6.

Table 6 - Calculation of the Wastewater Improvement Fee

Project Description	Estimated Cost of Improvement in 2018 Dollars	Project Costs Cost Attributed to Existing Demands	Costs Attributed to Future Demands
Collection System Improvement Projects			
Fenton Avenue	$425,700	$425,700	$0
Patrol Street	591,200	591,200	-
Lola Avenue	676,200	676,200	-
Eckerd Avenue	613,200	613,200	-
S. Swiegle Avenue	627,200	627,200	-
Lindsey Addition to Molalla Lift Station	1,149,200	1,149,200	-
Fenton Avenue	298,200	298,200	-
E. Main Street (Hwy 211)	1,028,200	1,028,200	-
Berkley Avenue	693,700	693,700	-
Metzler Avenue	510,200	510,200	-
Kimberly Court	326,200	326,200	-
S. Molalla Avenue	394,200	394,200	-
S. Cole Avenue to E. Park Avenue	1,040,200	1,040,200	-
N. Cole Avenue	394,700	394,700	-
Garden Court	309,200	309,200	-
Oak Street	415,200	415,200	-
E. Heintz Street to E. Park Avenue	381,700	381,700	-
S. Molalla Forest Road	782,200	782,200	-
Meadowlawn Place	348,200	348,200	-
E. 8th Street to Mathias Court	631,700	631,700	-
Explorer Avenue, Escort Street, Bronco Avenue, Glory	1,267,200	1,267,200	-
Annual CCTV Program	1,300,000	1,300,000	-
Pump Station Improvement Projects			
South Molalla Pump Station	491,500	491,500	-
Taurus Pump Station	269,000	269,000	-
Stowers Pump Station	150,000	150,000	-
Steelhead & Coho Pump Station	150,000	150,000	-
E. 5th & South Cole Pump Station	150,000	150,000	-
Treatment Plant Improvement Projects			
WWTP Upgrade Design	19,019,000	-	19,019,000
Influent Screen	485,355	-	485,355
Grit Removal	901,000	-	901,000
Flow Equalization Basin	1,190,000	-	1,190,000
Transfer Pump Station	844,000	-	844,000
Sequencing Batch Reactors	6,707,000	-	6,707,000
Lagoon Desludging and Disposal	3,875,000	-	3,875,000
Aerobic Digester	3,332,000	-	3,332,000
Biosolids Processing Facility	1,867,000	-	1,867,000
Disinfection (HS/UV)	1,460,500	-	1,460,500
Recycled Water Storage Improvements	3,348,857	-	3,348,857
Recycled Water Irrigation Expansion	2,010,000	-	2,010,000
Discharge Monitoring Station	415,000	-	415,000
Misc. Equipment	750,000	-	750,000
Effluent Pump Station Upgrade and Expansion	697,000	-	697,000
Site Structures	1,170,000	-	1,170,000
Site Improvements and Yard Piping	2,519,000	-	2,519,000
Tertiary Filtration (If Needed)	2,387,000	-	2,387,000
Recycled Water Storage Expansion (If Needed)	13,478,000	-	13,478,000
Operation, Maintenance, and Master Plan Projects			
Public Works Shops Facility ($600K)	150,000	-	150,000
WWTP - Fencing Project	50,000	50,000	-
Big Gun #4	80,000	-	80,000
Update Wastewater Master Plan	250,000	-	250,000
Totals	$82,399,912	$15,464,200	$66,935,712

Total Improvement Fee Eligible Costs for Future System Improvements	$66,935,712
less: Wastewater SDC Fund balance as of June 30, 2018	681,347
Adjusted Improvement Fee Eligible Costs for Future System Improvements	$66,254,365
Total Growth in 3/4" Meter Equivalents (2017-2043)	6,237
Calculated Water Improvement Fee SDC per Meter Equivalent	$10,623

[1] Allocations from City staff

Wastewater SDC Model Summary

The 2019 wastewater SDC methodology update was done in accordance with Molalla Municipal Code Chapter 13.14, and with the benefit of adopted capital improvement plans and plan updates for wastewater services. We recommend the City update the SDC charge and methodology to reflect the current capital improvement program. Our analysis indicates the City can charge a maximum of $11,037 for the standard ¾" residential water meter. A comparison of the proposed and current wastewater SDCs for the average single-family residential customer is shown below in Table 7.

Table 7 - Proposed and Current Wastewater SDCs for a 3/4" Meter

Line Item Description		City-Wide
Proposed SDC components:		
Reimbursement fee	$	198
Improvement fee		10,623
Administration fee at 2%		216
Total proposed wastewater SDC	$	11,037
Current SDC components:		
Reimbursement fee	$	198
Improvement fee		4,678
Administration fee at 2%		98
Total current wastewater SDC	$	4,974

For water meters larger than ¾", the schedule of wastewater SDC uses the same flow factors that were developed for the water SDCs (i.e., AWWA standards for displacement and compound meters). The complete proposed schedule of wastewater SDCs by potential meter size are shown in Table 8.

Table 8 - Proposed Schedule of Wastewater SDCs by Potential Water Meter Size

Meter Size	AWWA Rated Flow (GPM)*	Flow Factor Equivalence	Proposed Schedule of Wastewater SDCs			
			Reimbursement	Improvement	Administration	Total
0.75"x 0.75" - Displacement Multi-jet	30	1.00	$ 198	$ 10,623	$ 216	$ 11,037
1.00 inch - Displacement Multi-jet	50	1.67	330	17,705	361	18,395
1.50 inch - Displacement Class I Turbine	100	3.33	660	35,409	721	36,791
2.00 inch - Displacement or Class I & II Turbine	160	5.33	1,056	56,655	1,154	58,865
3.00 inch - Displacement	300	10.00	1,980	106,228	2,164	110,372
4.00 inch - Displacement or Compound	500	16.67	3,300	177,047	3,607	183,953
6.00 inch - Displacement or Compound	1000	33.33	6,600	354,093	7,214	367,907
8.00 inch - Compound	1600	53.33	10,560	566,549	11,542	588,651

* - AWWA Manual of Practice M3; Safety Practices for Water Utilities; Table 2-2 Total Quantities Registered per Month by Meters Operating at Varying Percentages of Maximum Capacity

Transportation SDCs

Transportation Capital Improvement Plan

The principal sources of data for the transportation system CIP are the 2018 capital improvement plans for transportation. The primary categories of transportation system improvements are:

- Pedestrian projects
- Bicycle projects
- Transit projects
- Transportation system management projects
- Transportation demand management projects
- Motor vehicle projects
- Traffic safety projects
- New facilities and master plan projects

City Staff have periodically updated these plans for current development conditions. With the assistance of City Staff, the project team has summarized the 2018 transportation system CIPs for this SDC methodology update. The 2018 transportation system CIP is shown in Table 9.

Table 9 - 2018 Transportation System CIP

2018 Transportation Capital Improvement Plan

2018 CIP Project Number	Project Source	Project Name	Project Description	New Priority Year 2019-2023	New Priority Year 2024-2028	New Priority Year 2029-2038	Master Plan Priority	Length	SDC Funding Eligible (Y/N)	SDC Share %	2018 Master Plan Cost Est.	SDC Eligible Cost
Pedestrian Projects												
Arterial Street Improvements												
P1	TSP	OR 213[1]	Fill in gaps on both sides of the roadway from the north city limits to OR 211 with sidewalks of appropriate width. (East Side 1,900 LF, West Side 3,750 LF)	2019-2023			High	N/A	Y	71%	$ 1,240,000	$ -
P2	TSP	OR 213[1]	Fill in gaps on both sides of the roadway from OR 211 to the south city limits with sidewalks of appropriate width. (East Side 1,710 LF, West Side 1,800 LF)		2024-2028		Medium	N/A	Y	89%	$ 870,000	$ -
P3	TSP	OR 211[1]	Install sidewalks on both sides of the roadway from the west city limits to OR 213. (North Side 1,615 LF, South Side 920 LF)	2019-2023			High	N/A	Y	100%	$ 750,000	$ -
P4	TSP	OR 211[1]	Fill in the gaps on both sides of the roadway from OR 213 to Molalla Avenue with sidewalks of appropriate width. (North Side 5,240, South Side 4,770)	2019-2023			High	N/A	Y	66%	$ 1,710,000	$ -
P5	TSP	OR 211[1]	Install sidewalks on both sides of the roadway from Mathias Road to the east city limits. (North Side 2,035 LF, South Side 2,200 LF)	2019-2023			High	N/A	Y	100%	$ 940,000	$ -
P6	TSP	OR 211[1]	Evaluate light levels and install new street lighting as necessary.[2]			2029-2038	Low	N/A	Y	0%	$ 450,000	$ -
P7	TSP	N Molalla Avenue	Fill in gaps on both sides of the roadway from the north city limits to Heintz Street with sidewalks of appropriate width. (West Side 590 LF, East Side 970 LF)	2019-2023			High	N/A	Y	31%	$ 485,000	$ 150,119
P8	TSP	S Molalla Avenue	Fill in gaps on both sides of the roadway from 5th Street to the south city limits with sidewalks of appropriate width. (West Side 785 LF, East Side 780 LF)		2024-2028		Medium	N/A	Y	59%	$ 955,000	$ 561,870
P9	TSP	Molalla Avenue	Evaluate light levels and install new street lighting as necessary.[2]			2029-2038	Low	N/A	Y	0%	$ 450,000	$ -
Collector Street Improvements												
P10	TSP	Toliver Road	Fill in gaps on both sides of the roadway from the west city limits to OR 213 with sidewalks of appropriate width. (North Side 1,950 LF, South Side 1,145 LF)		2024-2028		Medium	N/A	Y	79%	$ 575,000	$ 456,314
P11	TSP	Toliver Road	Fill in gaps on both sides of the roadway from OR 213 to Molalla Avenue with sidewalks of appropriate width. (North Side 5,160 LF, South Side 1,660)	2019-2023			High	N/A	Y	47%	$ 1,730,000	$ 818,211
P12	TSP	Shirley Street	Fill in gaps on both sides of the roadway from N Molalla Avenue to OR 211 with sidewalks of appropriate width. (North Side 3,120 LF, South Side 1,810 LF)		2024-2028		Medium	N/A	Y	52%	$ 1,240,000	$ 646,899
P13	TSP	Ridings Avenue	Fill in gaps on both sides of the roadway from Toliver Road to OR 211 with sidewalks of appropriate width. (West Side 1,815 LF, East Side 1,625 LF)		2024-2028		Medium	N/A	Y	87%	$ 795,000	$ 690,606
P14	TSP	Leroy Avenue	Fill in gaps on the east side of the roadway from Toliver Road to West Lane with sidewalks of appropriate width. (West Side 75 LF, East Side 1,295 LF)		2024-2028		Medium	N/A	Y	35%	$ 295,000	$ 102,576
P15	TSP	E 5th Street	Install sidewalks on both sides of the roadway from Stower Road to Mathias Road. (North Side 700 LF, South Side 700 LF)		2024-2028		Medium	N/A	Y	100%	$ 330,000	$ 330,000
P16	TSP	Cole Avenue	Fill in gaps on both sides of the roadway from Frances Street to OR 211 with sidewalks of appropriate width. (West Side 0 LF, East Side 1,150 LF)		2024-2028		Medium	N/A	Y	25%	$ 270,000	$ 67,795
P17	TSP	Mathias Road	Install sidewalks on both sides of the roadway from OR 211 to the south city limits. (West Side 2,950 LF, East Side 2,785)		2024-2028		Medium	N/A	Y	100%	$ 1,405,000	$ 1,405,000
P18	TSP	Francis Street	Fill in gaps on the south side of the roadway from N Molalla Avenue to Christopher Street with sidewalks of appropriate width. (South Side 1,530 LF)		2024-2028		Medium	N/A	Y	100%	$ 350,000	$ 350,000

Table 9- 2018 Transportation System CIP (Continued)

2018 Transportation Capital Improvement Plan

2018 CIP Project Number	Project Source	Project Name	Project Description	New Priority Year 2019-2023	New Priority Year 2024-2028	New Priority Year 2029-2038	Master Plan Priority	Length	SDC Funding Eligible (Y/N)	SDC Share %	2018 Master Plan Cost Est.	SDC Eligible Cost
Pedestrian Projects												
Neighborhood Street Improvements												
P19	TSP	Toliver Drive	Fill in gaps on both sides of the roadway from north of Berwick Court to Toliver Road with sidewalks of appropriate width. (West Side 645 LF, East Side 575 LF)			2029-2038	Low	N/A	Y	100%	$ 280,000	$ 280,000
P20	TSP	Kennel Avenue	Fill in gaps on both sides of the roadway from Ross Street to OR 211 with sidewalks of appropriate width. (West Side 310 LF, East Side 295 LF)		2024-2028		Medium	N/A	Y	87%	$ 130,000	$ 113,165
P21	TSP	E Heintz Street	Fill in gaps on both sides of the roadway from N Molalla Avenue to Fenton Avenue with sidewalks of appropriate width. (North Side 790 LF, South Side 745 LF)		2024-2028		Medium	N/A	Y	54%	$ 385,000	$ 208,090
P22	TSP	Industrial Way	Fill in gaps on the east side of the roadway from Toliver Road to the southern roadway terminus with sidewalks of appropriate width. (East Side 525 LF)		2024-2028		Medium	N/A	Y	60%	$ 110,000	$ 66,379
P23	TSP	Industrial Way	Fill in gaps on both sides of the roadway from the northern roadway terminus to OR 211 with sidewalks of appropriate width. (West Side 330 LF, East Side 490 LF)		2024-2028		Medium	N/A	Y	81%	$ 170,000	$ 137,041
P24	TSP	Stowers Road	Fill in gaps on both sides of the roadway from OR 211 to E 7th Street with sidewalks of appropriate width.		2024-2028		Medium	N/A	Y	40%	$ 470,000	$ 188,443
P25	TSP	E 7th Street	Install sidewalks on both sides of the roadway from Stowers Road to Mathias Road. (North Side 705 LF, South Side 705 LF)			2029-2038	Low	N/A	Y	100%	$ 335,000	$ 335,000
Intersection Improvements												
P26	TSP	OR 213/Meadow Drive[1]	Install an enhanced pedestrian crossing at the OR 213/Meadow Drive intersection to increase access to transit stop on west side of OR 213.[3]		2024-2028		Medium	N/A	Y	100%	$ 150,000	$ -
P27	TSP	OR 213/Toliver Road[1]	Install an enhanced pedestrian crossing at the OR 213/Toliver Road intersection.[3]		2024-2028		Medium	N/A	Y	100%	$ 150,000	$ 150,000
P28	TSP	OR 211/Hezzie Lane[1]	Install an enhanced pedestrian crossing at the OR 211/Hezzie Lane intersection.[3]	2019-2023			High	N/A	Y	100%	$ 150,000	$ -
P29	TSP	OR 211/Molalla Forest Road[1]	Install an enhanced pedestrian crossing at the OR 211/Molalla Forest Road intersection.[3]	2019-2023			High	N/A	Y	100%	$ 150,000	$ -
P30	TSP	OR 211/Grange & Berkeley Avenues[1]	Install an enhanced pedestrian crossing at the OR 211/Grange Avenue/Berkley Avenue intersection.[3]		2024-2028		Medium	N/A	Y	100%	$ 150,000	$ -
P31	TSP	OR 211/N. Cole Avenue[1]	Install an enhanced pedestrian crossing at the OR 211/Cole Avenue intersection.[3]	2019-2023			High	N/A	Y	100%	$ 150,000	$ -
P32	TSP	OR 211/Stowers Road[1]	Install an enhanced pedestrian crossing at the OR 211/Stowers Road intersection.[3]		2024-2028		Medium	N/A	Y	100%	$ 150,000	$ -
P33	TSP	OR 211/Metzler Avenue[1]	Install curb extensions with American's with Disabilities Act (ADA) accessible curb ramps with tactile warning strips on the north and south sides of the roadway.[3]		2024-2028		Medium	N/A	Y	100%	$ 150,000	$ -
P34	TSP	Toliver Road/Industrial Way[1]	Install an enhanced pedestrian crossing at the Toliver Road/Industrial Way intersection.[3]		2024-2028		Medium	N/A	Y	100%	$ 50,000	$ 50,000
P35	TSP	Toliver Road/Zimmerman Lane	Install an enhanced pedestrian crossing at the Toliver Road/Zimmerman Lane intersection.[3]			2029-2038	Low	N/A	Y	100%	$ 50,000	$ 50,000
P36	TSP	Toliver Road/Leroy Avenue	Install an enhanced pedestrian crossing at the Toliver Road/Leroy Avenue intersection.[3]		2024-2028		Medium	N/A	Y	100%	$ 50,000	$ 50,000
P37	TSP	Toliver Road/Ridings Avenue	Install an enhanced pedestrian crossing at the Toliver Road/Ridings Avenue intersection.[3]		2024-2028		Medium	N/A	Y	100%	$ 50,000	$ 50,000
P38	TSP	Toliver Road/Kennel Avenue	Install and enhanced pedestrian crossing at the Toliver Road/Kennel Avenue intersection.[3]		2024-2028		Medium	N/A	Y	100%	$ 50,000	$ 50,000
P39	TSP	Leroy Avenue/Heintz Street	Install an enhanced pedestrian crossing at the Leroy Avenue/Heintz Street intersection.[3]			2029-2038	Low	N/A	Y	100%	$ 50,000	$ 50,000
P40	TSP	E 5th Street/May Street	Install an enhanced pedestrian crossing at the E 5th Street/May Street intersection.[3]			2029-2038	Low	N/A	Y	100%	$ 50,000	$ 50,000
P41	TSP	E 5th Street/Stowers Road	Install an enhanced pedestrian crossing at the E 5th Street/Stowers Road intersection.[3]			2029-2038	Low	N/A	Y	100%	$ 50,000	$ 50,000

Table 9- 2018 Transportation System CIP (Continued)

2018 Transportation Capital Improvement Plan

2018 CIP Project Number	Project Source	Project Name	Project Description	New Priority Year 2019-2023	New Priority Year 2024-2028	New Priority Year 2029-2038	Master Plan Priority	Length	SDC Funding Eligible (Y/N)	SDC Share %	2018 Master Plan Cost Est.	SDC Eligible Cost
Pedestrian Projects												
Off-Street Improvements												
P42	TSP	Molalla Forest Road	Install a shared-use path along the former Molalla Forest Road right-of-way from Toliver Road to OR 211.		2024-2028		Medium	N/A	Y	100%	$ 720,000	$ -
P43	TSP	Molalla Forest Road	Install a shared-use path along Molalla Forest Road from OR 211 to Mathias Road.[4]			2029-2038	Low	N/A	Y	100%	$ -	$ -
P44	TSP	Molalla Western Railway Spur	Install a shared-use path along the former Molalla Western Railway Spur right-of-way from the north city limits to OR 211.			2029-2038	Low	N/A	Y	100%	$ 1,965,000	$ -
											Subtotal High Priority Costs	**$ 7,305,000**
											Subtotal Medium Priority Costs	**$ 10,020,000**
											Subtotal Low Priority Costs	**$ 3,680,000**
											Subtotal Program Costs (22 Years)	**$ 21,005,000**
											Subtotal SDC Eligible Costs (22 Years)	**$ 7,457,509**

1. Project will require coordination with ODOT and approval from the State or Regional Traffic Engineer.
2. Street lighting will require an intergovernmental agreement (IGA) with the City for maintenance.
3. The types of enhanced crossing treatments are to be determined at the design/implementation stage.
4. Project cost included in Motor Vehicle Plan.

Table 9- 2018 Transportation System CIP (Continued)

2018 Transportation Capital Improvement Plan

2018 CIP Project Number	Project Source	Project Name	Project Description	New Priority Year 2019-2023	New Priority Year 2024-2028	New Priority Year 2029-2038	Master Plan Priority	Length	SDC Funding Eligible (Y/N)	SDC Share %	2018 Master Plan Cost Est.	SDC Eligible Cost
Bicycle Projects												
Arterial Street Improvements												
B1	TSP	OR 213[1]	Install buffered bike lanes on both sides of the roadway from the north city limits to OR 211.[3] (West Side 3,485 LF, East Side 1,820 LF)		2024-2028		Medium	N/A	Y	66%	$ -	$ -
B2	TSP	OR 213[1]	Install buffered bike lanes on both sides of the roadway from OR 211 to the south city limits.[3] (West Side 1,545 LF, East Side 1,705 LF)			2029-2038	Low	N/A	Y	82%	$ -	$ -
B3	TSP	OR 211[1]	Install buffered bike lanes on both sides of the roadway from the west city limits to OR 213.[3] (North Side 1,185 LF, South Side 540 LF)			2029-2038	Low	N/A	Y	68%	$ -	$ -
B4	TSP	OR 211[1]	Install buffered bike lanes on both sides of the roadway from OR 213 to Shaver Avenue.[3] (North Side 5,095 LF, South Side 5,130 LF)		2024-2028		Medium	N/A	Y	77%	$ -	$ -
B5	TSP	OR 211[1]	Install priority shared-lane pavement markings (super sharrows) and signs on both sides of the roadway from Shaver Avenue to Fenton Avenue. (North Side 2,370 LF, South Side 2,370 LF)	2019-2023			High	N/A	Y	100%	$ 15,000	$ -
B6	TSP	OR 211[1]	Install buffered bike lanes on both sides of the roadway from Fenton Avenue to Mathias Road (Striping only). (North Side 5,600 LF, South Side 5,600 LF)	2019-2023			High	N/A	Y	100%	$ 5,000	$ -
B7	TSP	OR 211	Install buffered bike lanes on both sides of the roadway from Mathias Road to the east city limits.[3] (North Side 1,805 LF, South Side 1,805 LF)		2024-2028		High	N/A	Y	100%	$ -	$ -
B8	TSP	N Molalla Avenue	Install bike lanes on both sides of the roadway from the north city limits to Heintz Street. (West Side 2,320 LF, East Side 2,720 LF)			2029-2038	Low	N/A	Y	100%	$ 855,000	$ 855,000
B9	TSP	N Molalla Avenue	Install shared-lane pavement marking (sharrows) and signs on both sides of the roadway from Heintz Street to OR 211. (West Side 1,370 LF, East Side 1,370 LF)			2029-2038	Low	N/A	Y	100%	$ 20,000	$ 20,000
B10	TSP	S Molalla Avenue	Install shared-lane pavement marking (sharrows) and signs on both sides of the roadway from OR 211 to 5th Street. (West Side 1,340 LF, East Side 1,340 LF)			2029-2038	Low	N/A	Y	100%	$ 10,000	$ 10,000
B11	TSP	S Molalla Avenue	Install bike lanes on both sides of the roadway from the 5th Street to the south city limits. (West Side 1,370 LF, East Side 1,370 LF)		2024-2028		Medium	N/A	Y	100%	$ 520,000	$ 520,000

Table 9- 2018 Transportation System CIP (Continued)

2018 Transportation Capital Improvement Plan

2018 CIP Project Number	Project Source	Project Name	Project Description	New Priority Year 2019-2023	New Priority Year 2024-2028	New Priority Year 2029-2038	Master Plan Priority	Length	SDC Funding Eligible (Y/N)	SDC Share %	2018 Master Plan Cost Est.	SDC Eligible Cost
Collector Street Improvements												
B12	TSP	Toliver Road	Install bike lanes on both sides of the roadway from the west city limits to OR 213. (North Side 1,960 LF, South Side 1,960 LF)	2019-2023			High	N/A	Y	100%	$ 815,000	$ 815,000
B13	TSP	Toliver Road	Install bike lanes on both sides of the roadway from OR 213 to Zimmerman Lane. (North Side 2,260 LF, South Side 2,260 LF)	2019-2023			High	N/A	Y	100%	$ 930,000	$ 930,000
B14	TSP	Shirley Street	Install bike lanes on both sides of the roadway from N Molalla Avenue to OR 211.[3] (North Side 4,730 LF, South Side 4,730 LF)		2024-2028		Medium	N/A	Y	100%	$ -	$ -
B15	TSP	Mathias Road	Install bike lanes on both sides of the roadway from OR 211 to the south city limits.[3] (West Side 2,845 LF, East Side 2,830 LF)			2029-2038	Low	N/A	Y	100%	$ -	$ -
B16	TSP	Leroy Avenue	Install bike lanes on both sides of the roadway from Toliver Road to OR 211.[3] (West Side 1,980 LF, East Side 1,980 LF)		2024-2028		Medium	N/A	Y	100%	$ -	$ -
B17	TSP	E 5th Street	Install bike lanes on the south side of the roadway from May Street to Eckerd Avenue and on both sides from Stowers Road to Mathias Road (Striping only). (North Side 720 LF, South Side 1,595 LF)		2024-2028		Medium	N/A	Y	100%	$ 5,000	$ 5,000
B18	TSP	W 5th Street	Install bike lanes on both sides of the roadway from Hart Street to S Molalla Avenue (Striping only). (North Side 600 LF, South Side 600 LF)		2024-2028		Medium	N/A	Y	100%	$ 5,000	$ 5,000
B19	TSP	Ridings Avenue	Install shared-lane pavement markings sharrows) and signs on both sides of the roadway from Toliver Road to OR 211. (West Side 1,985 LF, East Side 1,985 LF)			2029-2038	Low	N/A	Y	100%	$ 15,000	$ 15,000
B20	TSP	Cole Avenue	Install shared-lane pavement markings (sharrows) and signs on both sides of the roadway from Frances Street to OR 211. (West Side 2,300 LF, East Side 2,300 LF)			2029-2038	Low	N/A	Y	100%	$ 20,000	$ 20,000
B21	TSP	Frances Street	Install shared-lane pavement markings (sharrows) and signs on both sides of the roadway from N Molalla Avenue to Cole Avenue. (North Side 2,230 LF, South Side 2,230 LF)			2029-2038	Low	N/A	Y	100%	$ 15,000	$ 15,000

Table 9- 2018 Transportation System CIP (Continued)

2018 Transportation Capital Improvement Plan													
2018 CIP Project Number	Project Source	Project Name	Project Description	New Priority Year 2019-2023	New Priority Year 2024-2028	New Priority Year 2029-2038	Master Plan Priority	Length	SDC Funding Eligible (Y/N)	SDC Share %	2018 Master Plan Cost Est.	SDC Eligible Cost
Neighborhood Street Improvements												
B22	TSP	Meadow Drive	Install shared lane pavement markings (sharrows) and signs on both sides of the roadway from OR 213 to Meadowlawn Place. (North Side 3,580 LF, South Side 3,580 LF)			2029-2038	Low	N/A	Y	100%	$ 25,000	$ 25,000
B23	TSP	Village Drive	Install shared lane pavement markings (sharrows) and signs on both sides of the roadway from Meadowlawn Place to Toliver Road. (West Side 775 LF, East Side 775 LF)			2029-2038	Low	N/A	Y	100%	$ 10,000	$ 10,000
B24	TSP	Thunderbird Street	Install shared lane pavement markings (sharrows) and signs on both sides of the roadway from N Molalla Avenue to Bronco Avenue. (North Side 505 LF, South Side 505 LF)			2029-2038	Low	N/A	Y	100%	$ 10,000	$ 10,000
B25	TSP	Bronco Avenue	Install shared lane pavement markings (sharrows) and signs on both sides of the roadway from Thunderbird Street to Toliver Drive. (West Side 330 LF, East Side 330 LF)			2029-2038	Low	N/A	Y	100%	$ 5,000	$ 5,000
B26	TSP	Toliver Drive	Install shared lane pavement markings (sharrows) and sign on both sides of the roadway from Bronco Avenue to Toliver Road. (West Side 1,070 LF, East Side 1,070 LF)			2029-2038	Low	N/A	Y	100%	$ 10,000	$ 10,000
B27	TSP	Kennel Avenue	Install shared lane pavement markings (sharrows) and signs on both sides of the roadway from Toliver Road to OR 211. (West Side 2,010 LF, East Side 2,010 LF)			2029-2038	Low	N/A	Y	100%	$ 15,000	$ 15,000
B28	TSP	Heintz Street	Install bicycle boulevard treatments, including shared lane pavement markings (sharrows) and signs on both sides of the roadway from N Molalla Avenue to Cole Avenue. (North Side 2,235 LF, South Side 2,235 LF)		2024-2028		Medium	N/A	Y	100%	$ 15,000	$ 15,000
B29	TSP	Center Avenue	Install shared lane pavement markings (sharrows) and signs on both sides of the roadway from Heintz Street to OR 211. (West Side 1,330 LF, East Side 1,330 LF)			2029-2038	Low	N/A	Y	100%	$ 10,000	$ 10,000
B30	TSP	Industrial Way	Install shared lane pavement markings (sharrows) and signs on both sides of the roadway from Toliver Road to the southern roadway terminus. (West Side 880 LF, East Side 880 LF)			2029-2038	Low	N/A	Y	100%	$ 5,000	$ 5,000
B31	TSP	Industrial Way	Install shared lane pavement markings (sharrows) and signs on both sides of the roadway from the northern roadway terminus to OR 211. (West Side 325 LF, East Side 325 LF)			2029-2038	Low	N/A	Y	100%	$ 5,000	$ 5,000
B32	TSP	Stowers Road	Install shared lane pavement markings (sharrows) and signs on both sides of the roadway from OR 211 to E 7th Street. (West Side 2,125 LF, East Side 2,125 LF)			2029-2038	Low	N/A	Y	100%	$ 15,000	$ 15,000
B33	TSP	E 7th Street	Install shared lane pavement markings (sharrows) and signs on both sides of the roadway from Stowers Road to Mathias Road. (North Side 715 LF, South Side 715 LF)			2029-2038	Low	N/A	Y	100%	$ 5,000	$ 5,000

Table 9- 2018 Transportation System CIP (Continued)

2018 Transportation Capital Improvement Plan

2018 CIP Project Number	Project Source	Project Name	Project Description	New Priority Year 2019-2023	New Priority Year 2024-2028	New Priority Year 2029-2038	Master Plan Priority	Length	SDC Funding Eligible (Y/N)	SDC Share %	2018 Master Plan Cost Est.	SDC Eligible Cost
Local Street Improvements												
B34	TSP	Heintz Street	Install bicycle boulevard treatments, including shared lane pavement markings (sharrows) and signs on both sides of the roadway from Leroy Avenue to N Molalla Avenue. (North Side 3,200 LF, South Side 3,200 LF)		2024-2028		Medium	N/A	Y	100%	$ 25,000	$ 25,000
Intersection Improvements												
B35	TSP	OR 213/Meadow Drive.[1]	Install an enhanced bicycle crossing at the OR 213/Meadow Drive Intersection.[2]	2019-2023			High	N/A	Y	100%	$ 20,000	$ -
B36	TSP	OR 213/Toliver Road.[1]	Install an enhanced bicycle crossing at the OR 213/Toliver Road intersection.[2]	2019-2023			High	N/A	Y	100%	$ 20,000	$ 20,000
B37	TSP	OR 213/OR 211.[1]	Install skip striping along OR 213 and OR 211 through the intersection.[2]	2019-2023			High	N/A	Y	100%	$ 20,000	$ -
B38	TSP	OR 211/Ona Way[1]	Install skip striping along OR 211 and consider other enhanced crossing treatments when signalized.[2]	2019-2023			High	N/A	Y	100%	$ 20,000	$ -
B39	TSP	OR 211/Leroy Avenue[1]	Install skip striping along OR 211 and consider other enhanced crossing treatments when signalized.[2]	2019-2023			High	N/A	Y	100%	$ 20,000	$ 20,000
B40	TSP	OR 211/Ridings Avenue[1]	Install skip striping along OR 211 and consider other enhanced crossing treatments when signalized.[2]		2024-2028		Medium	N/A	Y	100%	$ 20,000	$ -
B41	TSP	N Molalla Avenue/Toliver Road	Install an enhanced bicycle crossing at the N Molalla Avenue/Toliver Road intersection – coordinate with project B41.[2]		2024-2028		Medium	N/A	Y	100%	$ 15,000	$ 15,000
B42	TSP	N Molalla Avenue/Shirley Street	Install an enhanced bicycle crossing at the N Molalla Avenue/Shirley Street intersection – coordinate with project B40.[2]		2024-2028		Medium	N/A	Y	100%	$ 15,000	$ 15,000
B43	TSP	N Molalla Avenue/Heintz Street	Install an enhanced bicycle crossing at the N Molalla Avenue/Heintz Street intersection.[2]		2024-2028		Medium	N/A	Y	100%	$ 15,000	$ 15,000
B44	TSP	S Molalla Avenue/5th Street	Install an enhanced bicycle crossing at the S Molalla Avenue/5th Street intersection.[2]		2024-2028		Medium	N/A	Y	100%	$ 15,000	$ 15,000
										Subtotal High Priority Costs		**$ 1,865,000**
										Subtotal Medium Priority Costs		**$ 650,000**
										Subtotal Low Priority Costs		**$ 1,050,000**
										Subtotal Program Costs (22 Years)		**$ 3,565,000**
										Subtotal SDC Eligible Costs (22 Years)		**$ 3,465,000**

1. Project will require coordination with ODOT and approval from the State or Regional Traffic Engineer.
2. The types of enhanced crossing treatments are to be determined at the design/implementation stage.
3. Project cost included in Motor Vehicle Plan.

Table 9- 2018 Transportation System CIP (Continued)

2018 Transportation Capital Improvement Plan

2018 CIP Project Number	Project Source	Project Name	Project Description	New Priority Year 2019-2023	New Priority Year 2024-2028	New Priority Year 2029-2038	Master Plan Priority	Length	SDC Funding Eligible (Y/N)	SDC Share %	2018 Master Plan Cost Est.	SDC Eligible Cost
Transit Projects												
T1[2]	TSP	City-wide	Coordinate with SCTD to increase the frequency of morning and evening peak hour service on the Canby and CCC Buses.[1]		2024-2028		Medium	N/A	Y	0%	$ -	$ -
T2[2]	TSP	City-wide	Coordinate with SCTD to increase the hours of service on the Canby Bus.[1]		2024-2028		Medium	N/A	Y	0%	$ -	$ -
T3[2]	TSP	City-wide	Coordinate with SCTD to reconfigure the Molalla City Bus to increase service coverage in the northeast and southeast parts of the city and increase the efficiency of the route.[1]		2024-2028		Medium	N/A	Y	0%	$ -	$ -
T4	TSP	OR 213/Meadow Drive (northbound)	Relocate existing sign to south side of the intersection to increase the visibility of the stop.		2024-2028		Medium	N/A	Y	0%	$ 5,000	$ -
T5	TSP	OR 213/Toliver Road	Install bus stops at the far side of the northbound and southbound approaches to the intersection.		2024-2028		Medium	N/A	Y	0%	$ 10,000	$ -
T6	TSP	OR 211/OR 213 (eastbound)	Install a shelter within the public right of way or obtain an easement from the adjacent property owner.		2024-2028		Medium	N/A	Y	0%	$ 50,000	$ -
T7	TSP	OR 211/Leroy Avenue (eastbound)	Install a bus stop sign on the east side of the intersection to increase the visibility of the stop.		2024-2028		Medium	N/A	Y	0%	$ 5,000	$ -
T8	TSP	OR 211/Kennel Avenue (eastbound)	Install a bus stop sign on the east side of the intersection to increase the visibility of the stop.		2024-2028		Medium	N/A	Y	0%	$ 5,000	$ -
T9	TSP	Meadow Drive/Meadowlawn Place/Toliver Road	Provide designated transit stop between OR 213 and Kennel Avenue (Seven potential stop locations are shown for illustrative purposes).		2024-2028		Medium	N/A	Y	0%	$ 35,000	$ -
T10	TSP	City-wide	Identify the location for a new parkand-ride within the city (the existing parking and ride is shown for illustrative purposes).		2024-2028		Medium	N/A	Y	0%	$ 50,000	$ -
											Subtotal High Priority Costs	**$ -**
											Subtotal Medium Priority Costs	**$ 160,000**
											Subtotal Low Priority Costs	**$ -**
											Subtotal Program Costs (22 Years)	**$ 160,000**
											Subtotal SDC Eligible Costs (22 Years)	**$ -**

1. Project to be funded by others.
2. Project not shown on map.

Table 9- 2018 Transportation System CIP (Continued)

2018 Transportation Capital Improvement Plan

2018 CIP Project Number	Project Source	Project Name	Project Description	New Priority Year 2019-2023	New Priority Year 2024-2028	New Priority Year 2029-2038	Master Plan Priority	Length	SDC Funding Eligible (Y/N)	SDC Share %	2018 Master Plan Cost Est.	SDC Eligible Cost
Transportation System Management Projects												
TSM1	TSP	Signal System Improvements	Update signal timing plans and coordinate signals to better match prevailing traffic conditions; implementing adaptive or active signal control, traffic responsive control, and/or truck signal priority.	2019-2023			High	N/A	Y	100%	$ 25,000	$ -
TSM1	TSP	Signal System Improvements	Update signal timing plans and coordinate signals to better match prevailing traffic conditions; implementing adaptive or active signal control, traffic responsive control, and/or truck signal priority.		2024-2028		Medium	N/A	Y	100%	$ 25,000	$ -
TSM1	TSP	Signal System Improvements	Update signal timing plans and coordinate signals to better match prevailing traffic conditions; implementing adaptive or active signal control, traffic responsive control, and/or truck signal priority.			2029-2038	Low	N/A	Y	100%	$ 45,000	$ -
TSM2	TSP	Real-Time Traveler Information	Work with mobile and web applications to increase information on traffic and road conditions, general public transportation and parking information, interruptions due to roadway incidents, maintenance, construction, and weather conditions.		2024-2028		Medium	N/A	Y	0%	TBD	$ -
TSM3	TSP	Real-Time Traveler Information	Work with transit agencies or third-party sources to disseminate schedule and system performance information to travelers through a variety of applications, such as in-vehicle, wayside, in-terminal dynamic message signs, live schedule arrival boards, as well as the internet or wireless devices.		2024-2028		Medium	N/A	Y	0%	TBD	$ -
											Subtotal High Priority Costs	**$ 25,000**
											Subtotal Medium Priority Costs	**$ 25,000**
											Subtotal Low Priority Costs	**$ 45,000**
											Subtotal Program Costs (22 Years)	**$ 95,000**
											Subtotal SDC Eligible Costs (22 Years)	**$ -**

Table 9- 2018 Transportation System CIP (Continued)

2018 Transportation Capital Improvement Plan

2018 CIP Project Number	Project Source	Project Name	Project Description	New Priority Year 2019-2023	New Priority Year 2024-2028	New Priority Year 2029-2038	Master Plan Priority	Length	SDC Funding Eligible (Y/N)	SDC Share %	2018 Master Plan Cost Est.	SDC Eligible Cost
Transportation Demand Management Projects												
TDM1	TSP	Carpool Match Services Service	Coordinate rideshare/carpool programs to allow regional commuters to find other commuters with similar routes to work.	2019-2023			High	N/A	Y	0%	$ 25,000	$ -
TDM1	TSP	Carpool Match Services Service	Coordinate rideshare/carpool programs to allow regional commuters to find other commuters with similar routes to work.		2024-2028		Medium	N/A	Y	0%	$ 25,000	$ -
TDM1	TSP	Carpool Match Services Service	Coordinate rideshare/carpool programs to allow regional commuters to find other commuters with similar routes to work.			2029-2037	Low	N/A	Y	0%	$ 45,000	$ -
TDM2	TSP	Collaborative Marketing	Work with nearby cities, employers, transit service providers, and developers to collaborate on marketing for transportation options that provide an alternative to single-occupancy vehicles.	2019-2023			High	N/A	Y	0%	$ 25,000	$ -
TDM2	TSP	Collaborative Marketing	Work with nearby cities, employers, transit service providers, and developers to collaborate on marketing for transportation options that provide an alternative to single-occupancy vehicles.		2024-2028		Medium	N/A	Y	0%	$ 25,000	$ -
TDM2	TSP	Collaborative Marketing	Work with nearby cities, employers, transit service providers, and developers to collaborate on marketing for transportation options that provide an alternative to single-occupancy vehicles.			2029-2037	Low	N/A	Y	0%	$ 45,000	$ -
TDM3	TSP	Limited and/or Flexible Parking Requirements	Update the Molalla Municipal Code to limit and/or allow for flexible parking requirements.		2024-2028		Medium	N/A	Y	0%	$ 25,000	$ -
TDM4	TSP	Parking Management	Develop a parking management plan for downtown Molalla to impose time limits in commercial areas and allow for the potential to charge for parking.		2024-2028		Medium	N/A	Y	0%	$ 25,000	$ -
											Subtotal High Priority Costs	**$ 50,000**
											Subtotal Medium Priority Costs	**$ 100,000**
											Subtotal Low Priority Costs	**$ 90,000**
											Subtotal Program Costs (22 Years)	**$ 240,000**
											Subtotal SDC Eligible Costs (22 Years)	**$ -**

Table 9- 2018 Transportation System CIP (Continued)

2018 Transportation Capital Improvement Plan

2018 CIP Project Number	Project Source	Project Name	Project Description	New Priority Year 2019-2023	New Priority Year 2024-2028	New Priority Year 2029-2038	Master Plan Priority	Length	SDC Funding Eligible (Y/N)	SDC Share %	2018 Master Plan Cost Est.	SDC Eligible Cost
Motor Vehicle Projects												
Arterial Street Improvements												
M1	TSP	OR 213[1]	Widen OR 213 from the north city limits to OR 211 to provide a continuous 3-lane cross section. (2,140 LF)		2024-2028		Medium	N/A	Y	49%	$ 8,825,000	$ -
M2	TSP	OR 213[1]	Widen OR 213 from OR 211 to the south city limits to provide a continuous 3-lane cross section. (2,050 LF)			2029-2038	Low	N/A	Y	72%	$ 4,335,000	$ -
M3	TSP	OR 211[1]	Widen OR 211 from the west city limits to OR 213 to provide a continuous 3-lane cross section. (1,375 LF)			2029-2038	Low	N/A	Y	82%	$ 1,365,000	$ -
M4	TSP	OR 211[1]	Widen OR 211 from OR 213 to Shaver Avenue to provide a continuous 3-lane cross section. (4,000 LF)		2024-2028		Medium	N/A	Y	70%	$ 14,505,000	$ -
M5	TSP	OR 211[1]	Widen OR 211 from Mathias Road to the east city limits to provide a continuous 3-lane cross section. (2,500 LF)		2024-2028		Medium	N/A	Y	36%	$ 2,580,000	$ -
M6	TSP	N Molalla Avenue	Widen N Molalla Avenue from Toliver Road to Shirley Street to provide a continuous 3-lane cross section. (300 LF)			2029-2038	Low	N/A	Y	43%	$ 175,000	$ 74,716
Collector Street Improvements												
M7	TSP	Leroy Avenue	Widen Leroy Avenue from Toliver Road to OR 211 to provide a continuous 2-lane cross section per City standards. (1,330 LF)			2029-2038	Low	N/A	Y	100%	$ 580,000	$ 580,000
M8	TSP	Mathias Road	Widen Mathias Road from OR 211 to the south city limits to provide a continuous 3-lane cross section. (2,850 LF)			2029-2038	Low	N/A	Y	21%	$ 1,065,000	$ 220,583
M9	TSP	Shirley Street	Widen Shirley Street from N Molalla Avenue OR 211 to provide a continuous 2-lane cross section per City standards.			2029-2038	Low	N/A	Y	100%	$ 1,345,000	$ 1,345,000
M10	TSP	W 5th Street	Construct W 5th Street from Lowe Road terminus to Hart Avenue. (2,400 LF)	2019-2023			High	N/A	Y	100%	$ 2,845,000	$ 2,845,000
M11	TSP	E 5th Street	Construct E 5th Street from Mathias Road to Feyrer Park Road. (1,000 LF)			2029-2038	Low	N/A	Y	100%	$ 1,675,000	$ 1,675,000
M15	TSP	Leroy Avenue	Construct Leroy Avenue from OR 211 to Lowe Road (east). (790 LF)			2029-2038	Low	N/A	Y	100%	$ 1,170,000	$ 1,170,000
M16	TSP	Lowe Road (west)	Reconstruct and widen Lowe Road from OR 213 to Molalla Forest Road to City standards. (2,850 LF)			2029-2038	Low	N/A	Y	100%	$ 4,170,000	$ 4,170,000
M17	TSP	Lowe Road (east)	Reconstruct and widen Lowe Road from Molalla Forest Road to roadway terminus. (1,560 LF)			2029-2038	Low	N/A	Y	100%	$ 3,265,000	$ 3,265,000
M18	TSP	Molalla Forest Road	Reconstruct and widen Molalla Forest Road as a concrete street from OR 211 to Mathias Road to provide a continuous 3-lane cross section. (9,450 LF)			2029-2038	Low	N/A	Y	100%	$ 10,740,000	$ 10,740,000
Neighborhood Street Improvements												
M12	TSP	Affolter Avenue	Construct Affolter Avenue from southern terminus to Frances Street and from Miller Street to north city limits. (425 LF)			2029-2038	Low	N/A	Y	100%	$ 1,130,000	$ 1,130,000
M13	TSP	Commercial Way	Construct Commercial Way from the roadway terminus to Lowe Road (west). (680 LF)			2029-2038	Low	N/A	Y	100%	$ 365,000	$ 365,000
M14	TSP	Hezzie Lane	Construct Hezzie Lane from the southern roadway terminus to the northern roadway terminus. (1,790 LF)			2029-2038	Low	N/A	Y	100%	$ 1,180,000	$ 1,180,000

Table 9- 2018 Transportation System CIP (Continued)

2018 Transportation Capital Improvement Plan

2018 CIP Project Number	Project Source	Project Name	Project Description	New Priority Year 2019-2023	New Priority Year 2024-2028	New Priority Year 2029-2038	Master Plan Priority	Length	SDC Funding Eligible (Y/N)	SDC Share %	2018 Master Plan Cost Est.	SDC Eligible Cost
Intersection Improvements												
M19	TSP	OR 213/Meadow Road[1]	Reconfigure the intersection to provide a center two-way left-turn lane along OR 213 – coordinate with Project M1[1]		2024-2028		Medium	N/A	Y	36%	$ -	$ -
M20-1	TSP	OR 213/Toliver Road[1]	Widen OR 213 to provide a separate left-turn lane at the northbound and southbound approaches and install a traffic signal with protected or protected-permitted phasing when warranted – Coordinate with Project M1, the signal should be designed to accommodate potential for separate left-turn lanes along Toliver Road.[2]	2019-2023			High	N/A	Y	46%	$ 3,500,000	$ 1,597,934
M20-2	TSP	OR 213/Toliver Road[1]	Widen Toliver Road to provide separate left-turn lanes at the eastbound and westbound approaches and modify the traffic signal to provide permitted phasing.[2]			2029-2038	Low	N/A	Y	46%	$ 850,000	$ 388,070
M21	TSP	OR 213/OR 211[1]	Install a separate right-turn lane at the southbound approach if/when adjacent property redevelops.[2]			2029-2038	Low	N/A	Y	67%	$ 150,000	$ -
M22	TSP	OR 211/Ona Way[1]	Widen OR 211 to provide a westbound left-turn lane and install a traffic signal when warranted – Coordinate with Project M4.[2]			2029-2038	Low	N/A	Y	58%	$ 1,000,000	$ -
M23	TSP	OR 211/Leroy Avenue[1]	Widen OR 211 to provide an eastbound left-turn lane and install a traffic signal when warranted – Coordinate with Project M4.[2]			2029-2038	Low	N/A	Y	54%	$ 1,000,000	$ 542,422
M24	TSP	OR 211/Ridings Avenue[1]	Widen OR 211 to provide an eastbound left-turn lane – Coordinate with Project M4.[3]			2029-2038	Low	N/A	Y	46%	$ -	$ -
M25	TSP	OR 211/Molalla Avenue[1]	Install separate left-turn lanes at the eastbound and westbound approaches and a traffic signal with protected or protected-permitted phasing when warranted.[2]	2019-2023			High	N/A	Y	57%	$ 750,000	$ 427,266
M26	TSP	OR 211/Mathias Road[1]	Install a roundabout when warranted.[2]			2029-2038	Low	N/A	Y	33%	$ 2,500,000	$ -
M27	TSP	N Molalla Avenue/Toliver Road	Widen N Molalla Avenue to provide a center two-way left-turn lane along N Molalla Avenue and install an eastbound right-turn lane when warranted – coordinate with Project M5.			2029-2038	Low	N/A	Y	38%	$ 150,000	$ 56,402
M28	TSP	N Molalla Avenue/Shirley Street	Widen N Molalla Avenue to provide a center two-way left-turn lane along N Molalla Avenue and install a westbound right-turn lane when warranted – coordinate with Project M5.			2029-2038	Low	N/A	Y	57%	$ 150,000	$ 85,381
M29	TSP	N Molalla Avenue/Heintz Street	Widen N Molalla Avenue to provide a center two-way left-turn lane along N Molalla Avenue and reconfigure the intersection as an all-way stop.	2019-2023			High	N/A	Y	49%	$ 40,000	$ 19,751
M30	TSP	S Molalla Avenue/E 5th Street	Widen S Molalla Avenue to provide a center two-way left-turn lane along S Molalla Avenue and reconfigure the intersection as an all-way stop.	2019-2023			High	N/A	Y	100%	$ 40,000	$ 40,000
M31	TSP	S Molalla Avenue/Molalla Forest Road	Install a roundabout when warranted.			2029-2038	Low	N/A	Y	100%	$ 2,500,000	$ 2,500,000
M32	TSP	Feyrer Park Road/Mathias Road	Install a roundabout when warranted.			2029-2038	Low	N/A	Y	100%	$ 2,500,000	$ 2,500,000
											Subtotal High Priority Costs	**$ 7,175,000**
											Subtotal Medium Priority Costs	**$ 25,910,000**
											Subtotal Low Priority Costs	**$ 43,360,000**
											Subtotal Program Costs (22 Years)	**$ 76,445,000**
											Subtotal SDC Eligible Costs (22 Years)	**$ 36,917,524**

1. Project will require coordination with ODOT and approval from the State or Regional Traffic Engineer.
2. Future evaluation may be required to determine the appropriate form of traffic control at this location.
3. Project cost included in Motor Vehicle Plan.

Table 9- 2018 Transportation System CIP (Continued)

2018 Transportation Capital Improvement Plan

2018 CIP Project Number	Project Source	Project Name	Project Description	New Priority Year 2019-2023	New Priority Year 2024-2028	New Priority Year 2029-2038	Master Plan Priority	Length	SDC Funding Eligible (Y/N)	SDC Share %	2018 Master Plan Cost Est.	SDC Eligible Cost
Traffic Safety Projects												
S1	TSP	OR 213[1]	Widen OR 213 from north city limits to OR 211 to include a center turn-lane, bike lanes, and sidewalks – Coordinate with Project M1.[3]		2024-2028		Medium	N/A	Y	0%	$ -	$ -
S2	TSP	OR 211[1]	Widen OR 211 from OR 213 to Shaver Avenue to include a center turn-lane, bike lanes, and sidewalks – Coordinate with Project M4.[3]		2024-2028		Medium	N/A	Y	0%	$ -	$ -
S3	TSP	OR 213/Toliver Road[1]	Widen OR 213 to provide separate left-turn lanes at the north and southbound approaches and install a traffic signal with protected or protected-permitted phasing at the northbound and southbound approaches when warranted – Coordinate with Project M20.[2,3]	2019-2023			High	N/A	Y	0%	$ -	$ -
S4	TSP	OR 213/OR 211[1]	Install flashing beacons on the advanced warning signs at all approaches and improve the signal hardware (i.e. lenses, reflective back plates, size, and number) to improve the visibility of the signal heads.	2019-2023			High	N/A	Y	0%	$ 25,000	$ -
S5	TSP	OR 211/Molalla Avenue[1]	Install separate left-turn lanes at the eastbound and westbound approaches and a traffic signal with protected or protected/permitted phasing when warranted – Coordinate with Project M25.[2,3]	2019-2023			High	N/A	Y	0%	$ -	$ -
S6	TSP	OR 211/Leroy Avenue[1]	Widen OR 211 to provide a separate left-turn lane at the eastbound approach and install a traffic signal with protected or protected-permitted phasing at the eastbound approach when warranted – Coordinate with Project M23.[2,3]			2029-2038	Low	N/A	Y	0%	$ -	$ -
S7	TSP	OR 211/Mathias Road[1]	Install a single lane roundabout.[2,3]			2029-2038	Low	N/A	Y	0%	$ -	$ -
S8	TSP	City-wide[1]	Evaluate bicycle and pedestrian safety along OR 213, OR 211, Toliver Road, Molalla Avenue, and other key corridors to identify appropriate counter measures.			2029-2038	Low	N/A	Y	0%	$ 50,000	$ -
											Subtotal High Priority Costs	**$ 25,000**
											Subtotal Medium Priority Costs	**$ -**
											Subtotal Low Priority Costs	**$ 50,000**
											Subtotal Program Costs (22 Years)	**$ 75,000**
											Subtotal SDC Eligible Costs (22 Years)	**$ -**

1. Project will require coordination with ODOT and approval from the State or Regional Traffic Engineer.
2. Future evaluation may be required to determine the appropriate form of traffic control at this location.
3. Project cost included in Motor Vehicle Plan.

Table 9- 2018 Transportation System CIP (Continued)

2018 Transportation Capital Improvement Plan

2018 CIP Project Number	Project Source	Project Name	Project Description	New Priority Year 2019-2023	New Priority Year 2024-2028	New Priority Year 2029-2038	Master Plan Priority	Length	SDC Funding Eligible (Y/N)	SDC Share %	2018 Master Plan Cost Est.	SDC Eligible Cost
New Facilities and Master Plan Projects												
F1	Staff	Public Works Shops Facility ($600K)	Construct new building to house vactor truck, street sweeper, crew shower/locker, crew and supervisor office.	2019-2023			High	N/A	Y	100%	$ 150,000	$ 150,000
F2	Staff	Public Works Decant Facility ($60K)	Construct new building to decant street sweeping and other debris prior to disposal.	2019-2023			High	N/A	Y	100%	$ 30,000	$ 30,000
MP1	Staff	Update Transportation System Master Plan	Provide update to existing transportation system master plan		2024-2028		Medium	N/A	Y	100%	$ 200,000	$ 200,000
											Subtotal High Priority Costs	**$ 180,000**
											Subtotal Medium Priority Costs	**$ 200,000**
											Subtotal Low Priority Costs	**$ -**
											Subtotal Program Costs (22 Years)	**$ 380,000**
											Subtotal SDC Eligible Costs (22 Years)	**$ 380,000**

TOTAL High Priority Costs	**$ 16,625,000**
TOTAL Medium Priority Costs	**$ 37,065,000**
TOTAL Low Priority Costs	**$ 48,275,000**
TOTAL Program Costs (22 Years)	**$ 101,965,000**
TOTAL SDC Eligible Costs (22 Years)	**$ 48,220,033**

Transportation System Current and Future Demand

Existing Transportation Demand

Demand for transportation facilities is measured in PM peak-hour vehicle trips (PM PHVTs). One PM PHVT represents one person beginning or ending a vehicular trip at a certain property during the afternoon rush hour. Based on data from both the U. S. Census Bureau and the Molalla Transportation System Plan Update (2018), we estimate that the transportation system is currently serving 9,315 PM PHVTs. The statistical process that was used to arrive at the current demand value is shown in Table 10.

Table 10 - Existing Transportation System Demand

	Dwelling Units	Employees	ITE Code[3]	PM peak hour vehicle trips per unit	Total PM peak hour vehicle trips
Number of dwelling units:[1]					
Single Family Dethatched	2,519		210	1.00	2,519
Single Family Attached	443		230	0.52	230
Multifamily Dwelling Units	587		220	0.62	364
Subtotal dwelling units	3,549				3,113
Number of employees:[2]					
Agriculture, forestry		802	150	0.32	257
Construction		70	120	0.68	48
Manufacturing		378	140	0.73	276
Wholesale trade		98	110	0.97	95
Retail trade		493	826	2.71	1,336
Transportation and Warehousing		152	150	0.32	49
Information		43	160	0.09	4
Financial activities		137	750	1.48	203
Professional & business services		57	770	1.26	72
Education & health services		658	720	3.57	2,349
Leisure & hospitality		400	495	2.74	1,096
Other services		206	710	1.49	307
Government		92	730	1.21	111
Subtotal employees		3,586			6,202
Total PM peak hour vehicle trips					9,315

[1] Source: Angelo Planning; Population and Employment Forecast Methodology; March 21, 2018; Figure 7

[2] Source: Angelo Planning; Population and Employment Forecast Methodology; March 21, 2018; Figure 8

[3] Trip Generation Manual; Institute of Transportation Engineers; 9th Edition

Forecasted EDUs

We are estimating the City's transportation system will serve 13,288 PM PHVTs in 2040. These estimates imply growth of 3,973 PM PHVTs over the planning period, as shown in Table 11. The 2040 end date is

consistent with the planning period that was used for the 2018 Molalla Transportation System Plan. The principal sources for the forecast are:

- Angelo Planning; Population and Employment Forecast Methodology; March 21, 2018; Figures 7 and 8
- Trip Generation Manual; Institute of Transpiration Engineers; 9th Edition
- Kittelson & Associates Final Tech Memo 5; "Future Needs Analysis"; Table D-2; "Trip Generation Estimate, Weekday PM Peak Hour (Scenario 2)"

The growth forecast in PM PHVTs is shown in Table 11.

Table 11 - Forecast of Future Transportation PM PHVTs

	Housing			Employment			PM Peak Hour Totals Scenario 2		
TAZ	In	Out	Total	In	Out	Total	In	Out	Total
1	214	124	338	-	-	-	214	124	338
2	167	98	265	-	-	-	167	98	265
3	11	7	18	24	50	74	35	57	92
4	-	-	-	58	121	179	58	121	179
5	421	248	669	-	-	-	421	248	669
6	48	27	75	51	107	158	99	134	233
7	-	-	-	8	16	24	8	16	24
8	200	116	316	-	-	-	200	116	316
9	-	-	-	-	-	-	-	-	-
10	21	13	34	-	-	-	21	13	34
11	-	-	-	2	5	7	2	5	7
12	-	-	-	115	242	357	115	242	357
13	-	-	-	119	250	369	119	250	369
14	59	32	91	117	245	362	176	277	453
15	-	-	-	25	53	78	25	53	78
16	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-
18	67	37	104	122	256	378	189	293	482
19	22	13	35	14	28	42	36	41	77
	1,230	715	1,945	655	1,373	2,028	1,885	2,088	3,973

Source: Kittelson & Associates Final Tech Memo 5; "Future Needs Analysis"; Table D-2; "Trip Generation Estimate, Weekday PM Peak Hour (Scenario 2)"

Reimbursement Fee Calculations

The transportation reimbursement fee methodology mirrors that used for the wastewater reimbursement fee. The methodological steps in its construction are restated here.

Step 1: Calculate the original cost of transportation fixed assets in service. From this starting point, eliminate any assets that do not conform to the ORS 223.299 definition of a capital improvement. This results in the **adjusted original cost of transportation fixed assets**.

Step 2: Subtract from the adjusted original cost of transportation fixed assets in service the accumulated depreciation of those fixed assets. This arrives at the **modified book value of transportation fixed assets in service**.

Step 3: Subtract from the modified book value of transportation assets in service any grant funding or contributed capital. This arrives at the **modified book value of transportation fixed assets in service net of grants and contributed capital**.

Step 4: Subtract from the modified book value of transportation fixed assets in service net of grants and contributed capital any principal outstanding on long term debt used to finance those assets. This arrives a **gross transportation reimbursement fee basis**.

Step 5: Subtract from the gross transportation reimbursement fee basis the fund balance held in the Transportation Reimbursement SDC fund (if available). This arrives at the **net transportation reimbursement fee basis**.

Step 6: Divide the net transportation reimbursement fee basis by the sum of existing and future PM PHVTs to arrive at the **unit net reimbursement fee**.

The actual data that was used to calculate the total transportation reimbursement fee is shown below in Table 12.

Table 12 - Calculation of the Transportation Reimbursement Fee

Utility Plant-in-Service (original cost):[1]		
Land, Easements & Right of Way	$	68,228
Land improvements		-
Construction		-
Infrastructure		20,744,076
Machinery and equipment		226,447
Licensed Vehicles		442,236
Construction Work-in-Progress		-
Total Utility Plant-in-Service		21,480,987
Accumulated depreciation[1]		
Land, Easements & Right of Way		-
Land improvements		-
Construction		-
Infrastructure		12,851,843
Machinery and equipment		163,658
Vehicles		439,088
Construction Work-in-Progress		-
Total accumulated depreciation		13,454,589
Book value of water utility plant-in-service @ June 30, 2015		8,026,398
Eliminating entries:		
Principal outstanding on bonds, notes, and loans payable		-
Developer Contributions		-
Grants, net of amortization		-
		-
Net basis in utility plant-in-service available to serve future customers	$	8,026,398
Estimated existing and future pm peak hour vehicle trips		13,288
Transportation reimbursement fee per PM peak hour vehicle trip		$769

[1] Source: Molalla Accounting Summary Report - Capitalized Assets as of June 30, 2018

Improvement Fee Calculations

The calculation of the transportation improvement fee also follows the logic that was used to calculate the wastewater improvement fee. As in the case of wastewater, this study continues to use the improvements-driven method, and has relied on the capital improvement plans, and plan updates for the transportation infrastructure. Under this methodology, only three steps are required to arrive at the improvement fee. These steps are:

Step 1: Accumulate the future cost of planned improvements needed to serve growth. This arrives at **the gross improvement fee basis**.

Step 2: Subtract from the gross improvement fee basis the fund balance held in the Transportation Improvement SDC Fund. This arrives at **the net transportation improvement fee basis**.

Step 3: Divide the net transportation improvement fee basis by the forecasted number of growth PM PHVTs over the planning period. This arrives at **the total transportation improvement fee**.

The actual data that was used to calculate the total transportation improvement fee is shown below in Table 13.

Table 13 - Calculation of the Transportation Improvement Fee

Project Description	Total Cost in 2018 Dollars	Funding Source: General Fund & Gas Tax	Future Development	State/Federal Grants	SDCs
Pedestrian Projects					
Arterial Street Improvements	7,850,000	1,178,011	5,960,000	-	711,989
Collector Street Improvements	6,990,000	2,122,599	-	-	4,867,401
Neighborhood Street Improvements	1,880,000	551,881	-		1,328,119
Intersection Improvements	1,600,000	-	-	1,050,000	550,000
Off-Street Improvements	2,685,000	-	720,000	1,965,000	-
Bicycle Projects					
Arterial Street Improvements	1,425,000	-	-	20,000	1,405,000
Collector Street Improvements	1,805,000	-	-	-	1,805,000
Neighborhood Street Improvements	130,000	-	-	-	130,000
Local Street Improvements	25,000	-	-	-	25,000
Intersection Improvements	180,000	-	40,000	40,000	100,000
Transit Projects	160,000	-	-	160,000	-
Transportation System Management Projects	95,000	-	-	95,000	-
Transportation Demand Management Projects	240,000	-	-	240,000	-
Motor Vehicle Projects					
Arterial Street Improvements	31,785,000	100,284	31,610,000	-	74,716
Collector Street Improvements	26,855,000	844,417	-	-	26,010,583
Neighborhood Street Improvements	2,675,000	-	-	-	2,675,000
Intersection Improvements	15,130,000	3,322,774	1,150,000	2,500,000	8,157,226
Traffic Safety Projects	75,000	50,000	25,000	-	-
New Facilities and Master Plan Projects	380,000	-	-	-	380,000
Total	$ 101,965,000	$ 8,169,967	$ 39,505,000	$ 6,070,000	$ 48,220,033

Total Improvement Fee Eligible Costs for Future System Improvements	$ 48,220,033
less: Transportation SDC Fund balance as of June 30, 2018	813,582
Adjusted Improvement Fee Eligible Costs for Future System Improvements	$ 47,406,451
Future PM peak hour vehicle trips created by growth	3,973
Transportation improvement fee per PM peak hour vehicle trip	$ 11,932

Transportation SDC Model Summary

The 2019 transportation SDC methodology update was done in accordance with Molalla Municipal Code Chapter 13.14, and with the benefit of adopted capital improvement plans and plan updates for transportation services. We recommend the City update the SDC charge and methodology to reflect the current capital improvement program. Our analysis indicates the City can charge the following per PM PHVT:

Transportation SDC Components	Proposed	Current	Difference
Reimbursement fee	$ 769	$ 769	-
Improvement fee	11,932	3,276	8,656
Administration fee @ 2%	254	81	173
Total transportation SDC	$ 12,955	$ 4,126	$ 8,829

To charge the appropriate SDC, the City must estimate how many PM PHVTs will be generated by the development in question. That number can then be multiplied by $12,955 to determine the amount of SDC owed by new development projects.

The number of PM PHVTs that a property will generate is a function of the increase in scope and scale of activities that will occur on that property. By "scope of activities," we mean land use. For example, a new single-family residence will generate trip-ends differently from a new retail store of the same size. By "scale of activities," we mean some measure of quantity. For residential land uses, the number of dwelling units is an appropriate measure of scale. For many commercial and industrial land uses, building floor area is the best measure. For example, a 20,000-square-foot store is likely to generate twice the number of trip-ends as a 10,000-square-foot store of the same type. Table 14 presents proposed transportation SDCs per unit of scale for several land uses in the 9th edition of Trip Generation Manual, published by the Institute of Transportation Engineers (ITE):

Table 14 - Proposed Transportation SDCs by ITE Code

ITE Code	Land Use	Total Trip Ends	Diverted/Linked Trips	Pass-by Trips	Diverted/Linked and pass-by Trip Adjustment	Primary Trip Ends	Improve.	Reimb.	Compliance	Total SDC	Basis for Calculating a Customer's SDC
Port and Terminal (Land Uses 000-099)											
010	Waterport/Marine Terminal*	17.15	0.00%	0.00%	-	17.15	204,658	13,190	4,357	222,205	Berth
021	Commercial Airport	5.75	0.00%	0.00%	-	5.75	68,609	4,422	1,461	74,491	Average flights per day
022	General Aviation Airport	1.46	0.00%	0.00%	-	1.46	17,421	1,123	371	18,914	Employee
030	Intermodal Truck Terminal	6.55	0.00%	0.00%	-	6.55	78,155	5,037	1,664	84,855	Acre
090	Park-an-Ride Lot with Bus Service	0.62	0.00%	0.00%	-	0.62	7,398	477	157	8,032	Parking space
093	Light Rail Transit Station with Parking	1.24	0.00%	0.00%	-	1.24	14,796	954	315	16,064	Parking space
Industrial (Land Uses 100-199)											
110	General light industrial	0.97	0.00%	0.00%	-	0.97	11,574	746	246	12,566	1,000 square feet of gross floor area
120	General heavy industrial	0.68	0.00%	0.00%	-	0.68	8,114	523	173	8,809	1,000 square feet of gross floor area
130	Industrial park	0.85	0.00%	0.00%	-	0.85	10,142	654	216	11,012	1,000 square feet of gross floor area
140	Manufacturing	0.73	0.00%	0.00%	-	0.73	8,710	561	185	9,457	1,000 square feet of gross floor area
150	Warehousing	0.32	0.00%	0.00%	-	0.32	3,818	246	81	4,146	1,000 square feet of gross floor area
151	Mini-warehouse	0.26	0.00%	0.00%	-	0.26	3,102	200	66	3,368	1,000 square feet of gross floor area
152	High-Cube Warehouse/Distribution Center	0.12	0.00%	0.00%	-	0.12	1,432	92	30	1,555	1,000 square feet of gross floor area
160	Data center	0.09	0.00%	0.00%	-	0.09	1,074	69	23	1,166	1,000 square feet of gross floor area
170	Utilities	0.76	0.00%	0.00%	-	0.76	9,068	584	193	9,846	1,000 square feet of gross floor area
Residential (Land Uses 200-299)											
210	Single family detached housing	1.00	0.00%	0.00%	-	1.00	11,932	769	254	12,955	Dwelling unit
220	Apartment	0.62	0.00%	0.00%	-	0.62	7,398	477	157	8,032	Dwelling unit
221	Low-Rise Apartment	0.58	0.00%	0.00%	-	0.58	6,921	446	147	7,514	Occupied dwelling unit
222	High-Rise Apartment	0.35	0.00%	0.00%	-	0.35	4,176	269	89	4,534	Dwelling unit
223	Mid-Rise Apartment	0.39	0.00%	0.00%	-	0.39	4,653	300	99	5,052	Dwelling unit
224	Rental Townhouse	0.72	0.00%	0.00%	-	0.72	8,591	554	183	9,328	Dwelling unit
230	Residential condominium/townhouse	0.52	0.00%	0.00%	-	0.52	6,205	400	132	6,737	Dwelling unit
231	Low-Rise Residential Condominium/Townhouse	0.78	0.00%	0.00%	-	0.78	9,307	600	198	10,105	Dwelling unit
232	High-Rise Residential Condominium/Townhouse	0.38	0.00%	0.00%	-	0.38	4,534	292	97	4,923	Dwelling unit
233	Luxury Condominium/Townhouse	0.55	0.00%	0.00%	-	0.55	6,563	423	140	7,125	Occupied dwelling unit
240	Mobile home park	0.59	0.00%	0.00%	-	0.59	7,040	454	150	7,643	Occupied dwelling unit
251	Senior Adult Housing - Detatched	0.27	0.00%	0.00%	-	0.27	3,222	208	69	3,498	Dwelling unit
252	Senior Adult Housing - Attached	0.25	0.00%	0.00%	-	0.25	2,983	192	64	3,239	Dwelling unit
253	Congregate Care Facility	0.17	0.00%	0.00%	-	0.17	2,028	131	43	2,202	Dwelling unit
254	Assisted living	0.22	0.00%	0.00%	-	0.22	2,625	169	56	2,850	Bed
255	Continuing Care Retirement Community	0.16	0.00%	0.00%	-	0.16	1,909	123	41	2,073	Unit
260	Recreational Homes	0.26	0.00%	0.00%	-	0.26	3,102	200	66	3,368	Dwelling unit
265	Timeshare	0.75	0.00%	0.00%	-	0.75	8,949	577	191	9,716	Dwelling unit
270	Residential Planned Unit Development	0.62	0.00%	0.00%	-	0.62	7,398	477	157	8,032	Dwelling unit
Lodging (Land Uses 300-399)											
310	Hotel	0.60	0.00%	0.00%	-	0.60	7,159	461	152	7,773	Room
311	All Suites Hotel	0.40	0.00%	0.00%	-	0.40	4,773	308	102	5,182	Room
312	Business Hotel	0.62	0.00%	0.00%	-	0.62	7,398	477	157	8,032	Occupied Room
320	Motel	0.47	0.00%	0.00%	-	0.47	5,608	361	119	6,089	Room
330	Resort Hotel	0.42	0.00%	0.00%	-	0.42	5,011	323	107	5,441	Room

Table 14 – Proposed Transportation SDCs by ITE Code (Continued)

ITE Code	Land Use	Total Trip Ends	Diverted/Linked Trips	Pass-by Trips	Diverted/Linked and pass-by Trip Adjustment	Primary Trip Ends	Improve.	Reimb.	Compliance	Total SDC	Basis for Calculating a Customer's SDC
Recreational (Land Uses 400-499)											
411	City Park*	0.19	0.00%	0.00%	-	0.19	2,255	145	48	2,448	Acre
412	County Park	0.09	0.00%	0.00%	-	0.09	1,074	69	23	1,166	Acre
413	State Park*	0.07	0.00%	0.00%	-	0.07	776	50	17	842	Acre
414	Water Slide Park	1.92	0.00%	0.00%	-	1.92	22,909	1,476	488	24,874	1,000 square feet of gross floor area
415	Beach Park	1.30	0.00%	0.00%	-	1.30	15,512	1,000	330	16,842	Acre
416	Campground/Recreational Vehicle Park	0.27	0.00%	0.00%	-	0.27	3,222	208	69	3,498	Occupied camp site
417	Regional park	0.20	0.00%	0.00%	-	0.20	2,386	154	51	2,591	Acre
418	National Monument	0.42	0.00%	0.00%	-	0.42	5,011	323	107	5,441	Acre
420	Marina	0.19	0.00%	0.00%	-	0.19	2,267	146	48	2,461	Berth
430	Golf course	0.30	0.00%	0.00%	-	0.30	3,580	231	76	3,887	Acre
431	Miniature Golf Course	0.33	0.00%	0.00%	-	0.33	3,938	254	84	4,275	Hole
432	Golf Driving Range	1.25	0.00%	0.00%	-	1.25	14,915	961	318	16,194	Tees/Driving Position
433	Batting Cages	2.22	0.00%	0.00%	-	2.22	26,489	1,707	564	28,760	Cage
435	Multipurpose Recreational Facility	3.58	0.00%	0.00%	-	3.58	42,717	2,753	909	46,379	1,000 square feet of gross floor area
437	Bowling Alley	1.71	0.00%	0.00%	-	1.71	20,404	1,315	434	22,153	1,000 square feet of gross floor area
440	Adult Cabaret	38.67	0.00%	0.00%	-	38.67	461,410	29,737	9,823	500,971	1,000 square feet of gross floor area
441	Live Theater	0.02	0.00%	0.00%	-	0.02	239	15	5	259	Seat
443	Movie Theater without Matinee	24.00	0.00%	0.00%	-	24.00	286,368	18,456	6,096	310,920	Movie Screen
444	Movie Theater with Matinee - Friday pm peak hour	45.91	0.00%	0.00%	-	45.91	547,798	35,305	11,662	594,765	Movie screen
445	Multiplex Movie Theater - Friday pm peak hour	22.76	0.00%	0.00%	-	22.76	271,572	17,502	5,781	294,856	Movie screen
452	Horse Racetrack	0.06	0.00%	0.00%	-	0.06	716	46	15	777	Seat
453	Automobile Racetrack - Saturday peak hour	0.28	0.00%	0.00%	-	0.28	3,341	215	71	3,627	Attendee
454	Dog Racetrack	0.15	0.00%	0.00%	-	0.15	1,790	115	38	1,943	Attendee
460	Arena*	3.33	0.00%	0.00%	-	3.33	39,769	2,563	847	43,179	Acre
465	Ice Skating Rink	2.36	0.00%	0.00%	-	2.36	28,160	1,815	599	30,574	1,000 square feet of gross floor area
466	Snow Ski Area	26.00	0.00%	0.00%	-	26.00	310,232	19,994	6,605	336,831	Lift
473	Casino/Video Lottery Establishment	13.43	0.00%	0.00%	-	13.43	160,247	10,328	3,411	173,986	1,000 square feet of gross floor area
480	Amusement Park	3.95	0.00%	0.00%	-	3.95	47,131	3,038	1,003	51,172	Acre
481	Zoo*	11.49	0.00%	0.00%	-	11.49	137,075	8,834	2,918	148,827	Acre
488	Soccer Complex	17.17	0.00%	0.00%	-	17.17	204,872	13,204	4,362	222,438	Field
490	Tennis Courts	3.88	0.00%	0.00%	-	3.88	46,296	2,984	986	50,265	Court
491	Racquet/Tennis Club	3.35	0.00%	0.00%	-	3.35	39,972	2,576	851	43,399	Court
492	Health/Fitness Club	3.53	0.00%	0.00%	-	3.53	42,120	2,715	897	45,731	1,000 square feet of gross floor area
493	Athletic Club	5.96	0.00%	0.00%	-	5.96	71,115	4,583	1,514	77,212	1,000 square feet of gross floor area
495	Recreational Community Center	2.74	0.00%	0.00%	-	2.74	32,694	2,107	696	35,497	1,000 square feet of gross floor area

Table 14 – Proposed Transportation SDCs by ITE Code (Continued)

ITE Code	Land Use	Total Trip Ends	Diverted/Linked Trips	Pass-by Trips	Diverted/Linked and pass-by Trip Adjustment	Primary Trip Ends	Improve.	Reimb.	Compliance	Total SDC	Basis for Calculating a Customer's SDC
Institutional (Land Uses 500-599)											
501	Military Base	0.39	0.00%	0.00%	-	0.39	4,653	300	99	5,052	Employee
520	Elementary School	1.21	0.00%	0.00%	-	1.21	14,438	930	307	15,676	1,000 square feet of gross floor area
522	Middle School/Junior High School	1.19	0.00%	0.00%	-	1.19	14,199	915	302	15,416	1,000 square feet of gross floor area
530	High School	0.97	0.00%	0.00%	-	0.97	11,574	746	246	12,566	1,000 square feet of gross floor area
534	Private School (K-8) - pm peak hour generator	6.53	0.00%	0.00%	-	6.53	77,916	5,022	1,659	84,596	1,000 square feet of gross floor area
536	Private School (K-12) - pm peak hour generator	5.50	0.00%	0.00%	-	5.50	65,626	4,230	1,397	71,253	1,000 square feet of gross floor area
540	Junior/Community College	2.54	0.00%	0.00%	-	2.54	30,307	1,953	645	32,906	1,000 square feet of gross floor area
550	University/College	0.79	0.00%	0.00%	-	0.79	9,426	608	201	10,234	Employee
560	Church	0.55	0.00%	0.00%	-	0.55	6,563	423	140	7,125	1,000 square feet of gross floor area
561	Synagogue	1.69	0.00%	0.00%	-	1.69	20,165	1,300	429	21,894	1,000 square feet of gross floor area
562	Mosque - pm peak hour generator	11.02	0.00%	0.00%	-	11.02	131,491	8,474	2,799	142,764	1,000 square feet of gross floor area
565	Day Care Center	12.34	0.00%	0.00%	-	12.34	147,241	9,489	3,135	159,865	1,000 square feet of gross floor area
566	Cemetary	0.84	0.00%	0.00%	-	0.84	10,023	646	213	10,882	Acre
571	Prison	2.91	0.00%	0.00%	-	2.91	34,722	2,238	739	37,699	1,000 square feet of gross floor area
580	Museum	0.18	0.00%	0.00%	-	0.18	2,148	138	46	2,332	1,000 square feet of gross floor area
590	Library	7.30	0.00%	0.00%	-	7.30	87,104	5,614	1,854	94,572	1,000 square feet of gross floor area
591	Lodge/Fraternal Organization	0.03	0.00%	0.00%	-	0.03	358	23	8	389	Member
Medical (Land Uses 600-699)											
610	Hospital	0.93	0.00%	0.00%	-	0.93	11,097	715	236	12,048	1,000 square feet of gross floor area
620	Nursing Home	0.74	0.00%	0.00%	-	0.74	8,830	569	188	9,587	1,000 square feet of gross floor area
630	Clinic	5.18	0.00%	0.00%	-	5.18	61,808	3,983	1,316	67,107	1,000 square feet of gross floor area
640	Animal Hospital/Veterinary Clinic	4.72	0.00%	0.00%	-	4.72	56,319	3,630	1,199	61,148	1,000 square feet of gross floor area
Office (Land Uses 700-799)											
710	General office building	1.49	0.00%	0.00%	-	1.49	17,779	1,146	378	19,303	1,000 square feet of gross floor area
714	Corporate Headquarters Building	1.41	0.00%	0.00%	-	1.41	16,824	1,084	358	18,267	1,000 square feet of gross floor area
715	Single Tenant Office Building	1.74	0.00%	0.00%	-	1.74	20,762	1,338	442	22,542	1,000 square feet of gross floor area
720	Medical-dental office building	3.57	0.00%	0.00%	-	3.57	42,597	2,745	907	46,249	1,000 square feet of gross floor area
730	Government Office Building	1.21	0.00%	0.00%	-	1.21	14,438	930	307	15,676	1,000 square feet of gross floor area
731	State Motor Vehicles Department	17.09	0.00%	0.00%	-	17.09	203,918	13,142	4,341	221,401	1,000 square feet of gross floor area
732	United States Post Office	11.22	0.00%	0.00%	-	11.22	133,877	8,628	2,850	145,355	1,000 square feet of gross floor area
733	Government Office Complex	2.85	0.00%	0.00%	-	2.85	34,006	2,192	724	36,922	1,000 square feet of gross floor area
750	Office park - pm peak hour	1.48	0.00%	0.00%	-	1.48	17,659	1,138	376	19,173	1,000 square feet of gross floor area
760	Research and development center - pm peak hour	1.07	0.00%	0.00%	-	1.07	12,767	823	272	13,862	1,000 square feet of gross floor area
770	Business park - pm peak hour	1.26	0.00%	0.00%	-	1.26	15,034	969	320	16,323	1,000 square feet of gross floor area

Table 14 – Proposed Transportation SDCs by ITE Code (Continued)

ITE Code	Land Use	Total Trip Ends	Diverted/Linked Trips	Pass-by Trips	Diverted/Linked and pass-by Trip Adjustment	Primary Trip Ends	Improve.	Reimb.	Compliance	Total SDC	Basis for Calculating a Customer's SDC
Retail (Land Uses 800-899)											
810	Tractor Supply Store	1.40	0.00%	0.00%	-	1.40	16,705	1,077	356	18,137	1,000 square feet of gross floor area
811	Construction Equipment Rental Store	0.99	0.00%	0.00%	-	0.99	11,813	761	251	12,825	1,000 square feet of gross floor area
812	Building Materials and Lumber Store	4.49	0.00%	0.00%	-	4.49	53,575	3,453	1,141	58,168	1,000 square feet of gross floor area
813	Free Standing Discount Super Store	4.35	0.00%	28.00%	1.22	3.13	37,371	2,409	796	40,575	1,000 square feet of gross floor area
814		6.82	0.00%	0.00%	-	6.82	81,376	5,245	1,732	88,353	1,000 square feet of gross floor area
815	Free Standing Discount Store	4.98	35.25%	17.00%	2.60	2.38	28,374	1,829	604	30,806	1,000 square feet of gross floor area
816	Hardware/Paint Store	4.84	29.50%	26.00%	2.69	2.15	25,699	1,656	547	27,903	1,000 square feet of gross floor area
817	Nursery (Garden Center)	6.94	0.00%	0.00%	-	6.94	82,808	5,337	1,763	89,908	1,000 square feet of gross floor area
818	Nursery (Wholesale)	5.17	0.00%	0.00%	-	5.17	61,688	3,976	1,313	66,977	1,000 square feet of gross floor area
820	Shopping Center	3.71	15.86%	34.00%	1.85	1.86	22,196	1,430	473	24,099	1,000 square feet of gross leasable area
823	Factory Outlet Center	2.29	0.00%	0.00%	-	2.29	27,324	1,761	582	29,667	1,000 square feet of gross floor area
826	Specialty Retail Center	2.71	0.00%	0.00%	-	2.71	32,336	2,084	688	35,108	1,000 square feet of gross leasable area
841	Automobile Sales	2.62	0.00%	0.00%	-	2.62	31,262	2,015	666	33,942	1,000 square feet of gross floor area
842	Recreational Vehicle Sales	2.54	0.00%	0.00%	-	2.54	30,307	1,953	645	32,906	1,000 square feet of gross floor area
843	Automobile Parts Sales	5.98	13.00%	43.00%	3.35	2.63	31,395	2,023	668	34,087	1,000 square feet of gross floor area
848	Tire Store	4.15	3.33%	28.00%	1.30	2.85	34,002	2,191	724	36,917	1,000 square feet of gross floor area
849	Tire Superstore	2.11	0.00%	0.00%	-	2.11	25,177	1,623	536	27,335	1,000 square feet of gross floor area
850	Supermarket	9.48	25.25%	36.00%	5.81	3.67	43,832	2,825	933	47,590	1,000 square feet of gross floor area
851	Convenience Market (Open 24 Hours)	52.41	6.47%	61.00%	35.36	17.05	203,405	13,109	4,330	220,845	1,000 square feet of gross floor area
852	Convenience Market (Open 15-16 Hours)	34.57	12.14%	63.50%	26.15	8.42	100,503	6,477	2,140	109,120	1,000 square feet of gross floor area
853	Convenience Market with Gasoline Pumps	50.92	17.80%	66.00%	42.67	8.25	98,428	6,344	2,095	106,866	1,000 square feet of gross floor area
854	Discount Supermarket	8.34	23.20%	23.00%	3.85	4.49	53,538	3,450	1,140	58,128	1,000 square feet of gross floor area
857	Discount Club	4.18	0.00%	0.00%	-	4.18	49,876	3,214	1,062	54,152	1,000 square feet of gross floor area
860	Wholesale Market	0.88	0.00%	0.00%	-	0.88	10,500	677	224	11,400	1,000 square feet of gross floor area
861	Sporting Goods Superstore	1.84	0.00%	0.00%	-	1.84	21,955	1,415	467	23,837	1,000 square feet of gross floor area
862	Home Improvement Superstore	2.33	8.00%	48.00%	1.30	1.03	12,233	788	260	13,281	1,000 square feet of gross floor area
863	Electronics Superstore	4.50	33.00%	40.00%	3.29	1.22	14,497	934	309	15,740	1,000 square feet of gross floor area
864	Toy/Children's Superstore	4.99	0.00%	0.00%	-	4.99	59,541	3,837	1,268	64,646	1,000 square feet of gross floor area
865	Baby Superstore	1.82	0.00%	0.00%	-	1.82	21,716	1,400	462	23,578	1,000 square feet of gross floor area
866	Pet Supply Superstore	3.38	0.00%	0.00%	-	3.38	40,330	2,599	859	43,788	1,000 square feet of gross floor area
867	Office Supply Superstore	3.40	0.00%	0.00%	-	3.40	40,569	2,615	864	44,047	1,000 square feet of gross floor area
868	Book Superstore	15.82	0.00%	0.00%	-	15.82	188,764	12,166	4,019	204,948	1,000 square feet of gross floor area
869	Discount Home Furnishing Superstore	1.57	0.00%	0.00%	-	1.57	18,733	1,207	399	20,339	1,000 square feet of gross floor area
872	Bed and Linen Superstore	2.22	0.00%	0.00%	-	2.22	26,489	1,707	564	28,760	1,000 square feet of gross floor area
875	Department Store	1.87	0.00%	0.00%	-	1.87	22,313	1,438	475	24,226	1,000 square feet of gross floor area
876	Apparel Store	3.83	0.00%	0.00%	-	3.83	45,700	2,945	973	49,618	1,000 square feet of gross floor area
879	Arts and Crafts Store	6.21	0.00%	0.00%	-	6.21	74,098	4,775	1,577	80,451	1,000 square feet of gross floor area
880	Pharmacy/Drugstore without Drive-Through	8.40	4.67%	53.00%	4.84	3.56	42,430	2,735	903	46,068	1,000 square feet of gross floor area
881	Pharmacy/Drugstore with Drive-Through	9.91	13.00%	49.00%	6.14	3.77	44,934	2,896	957	48,786	1,000 square feet of gross floor area
890	Furniture Store	0.45	10.33%	53.00%	0.29	0.17	1,969	127	42	2,138	1,000 square feet of gross floor area
896	DVD/Video Store	13.60	0.00%	0.00%	-	13.60	162,275	10,458	3,455	176,188	1,000 square feet of gross floor area
897	Medical Equipment Store	1.24	0.00%	0.00%	-	1.24	14,796	954	315	16,064	1,000 square feet of gross floor area

Table 14 – Proposed Transportation SDCs by ITE Code (Continued)

ITE Code	Land Use	Total Trip Ends	Diverted/Linked Trips	Pass-by Trips	Diverted/Linked and pass-by Trip Adjustment	Primary Trip Ends	Improve.	Reimb.	Compliance	Total SDC	Basis for Calculating a Customer's SDC
Services (Land Uses 900-999)											
911	Walk-in Bank	12.13	0.00%	0.00%	-	12.13	144,735	9,328	3,081	157,144	1,000 square feet of gross floor area
912	Drive-in Bank	24.30	25.67%	47.00%	17.66	6.64	79,252	5,108	1,687	86,047	1,000 square feet of gross floor area
918	Hair Salon	1.45	0.00%	0.00%	-	1.45	17,301	1,115	368	18,785	1,000 square feet of gross floor area
920	Copy, Print and Express Ship Store	7.41	0.00%	0.00%	-	7.41	88,416	5,698	1,882	95,997	1,000 square feet of gross floor area
925	Drinking Place	11.34	0.00%	0.00%	-	11.34	135,309	8,720	2,881	146,910	1,000 square feet of gross floor area
931	Quality Restaurant	7.49	13.50%	44.00%	4.31	3.18	37,983	2,448	809	41,239	1,000 square feet of gross floor area
932	High-Turnover (Sit Down) Restaurant	9.85	17.25%	43.00%	5.93	3.92	46,718	3,011	995	50,724	1,000 square feet of gross floor area
933	Fast-food restaurant without drive-through	26.15	17.25%	43.00%	15.76	10.39	124,029	7,993	2,640	134,663	1,000 square feet of gross floor area
934	Fast-food restaurant with drive-through	32.65	9.06%	50.00%	19.28	13.37	159,511	10,280	3,396	173,187	1,000 square feet of gross floor area
935	Fast-food restaurant with drive-through and no indoor seating	44.99	0.00%	89.00%	40.04	4.95	59,050	3,806	1,257	64,113	1,000 square feet of gross floor area
936	Coffee/donut shop without drive-through	40.75	17.25%	43.00%	24.55	16.20	193,276	12,456	4,115	209,847	1,000 square feet of gross floor area
937	Coffee/donut shop with drive-through	42.80	9.06%	50.00%	25.28	17.52	209,099	13,476	4,452	227,027	1,000 square feet of gross floor area
938	Coffee/donut kiosk	75.00	9.06%	50.00%	44.29	30.71	366,412	23,615	7,801	397,827	1,000 square feet of gross floor area
939	Bread/Donut/Bagel Shop without Drive-Through Window	28.00	0.00%	0.00%	-	28.00	334,096	21,532	7,113	362,741	1,000 square feet of gross floor area
940	Bread/Donut/Bagel Shop with Drive-Through Window	18.99	0.00%	0.00%	-	18.99	226,589	14,603	4,824	246,016	1,000 square feet of gross floor area
941	Quick Lubrication Vehicle Shop	5.19	0.00%	0.00%	-	5.19	61,927	3,991	1,318	67,237	Servicing Position
942	Automobile Care Center	3.11	0.00%	0.00%	-	3.11	37,109	2,392	790	40,290	1,000 sq. ft. of occupied gross leasable area
943	Automobile Parts and Service Center	4.46	0.00%	0.00%	-	4.46	53,217	3,430	1,133	57,779	1,000 square feet of gross floor area
944	Gasoline/service station	13.87	23.00%	42.00%	9.02	4.85	57,924	3,733	1,233	62,890	Vehicle fueling position
945	Gasoline/service station with convenience market	13.51	31.22%	56.00%	11.78	1.73	20,598	1,328	439	22,364	Vehicle fueling position
946	Gasoline/service station with convenience market and car wash	13.86	27.11%	49.00%	10.55	3.31	39,507	2,546	841	42,894	Vehicle fueling position
947	Self-Service Car Wash	5.54	0.00%	0.00%	-	5.54	66,103	4,260	1,407	71,771	Wash stall
948	Automated Car Wash	14.12	0.00%	0.00%	-	14.12	168,480	10,858	3,587	182,925	1,000 square feet of gross floor area
950	Truck Stop	13.63	0.00%	0.00%	-	13.63	162,633	10,481	3,462	176,577	1,000 square feet of gross floor area

* No ITE PM peak hour trip generation for this code/category, the trip generation shown is ITE weekday average divided by ten.

Source: ITE, Trip Generation Manual, 9th edition

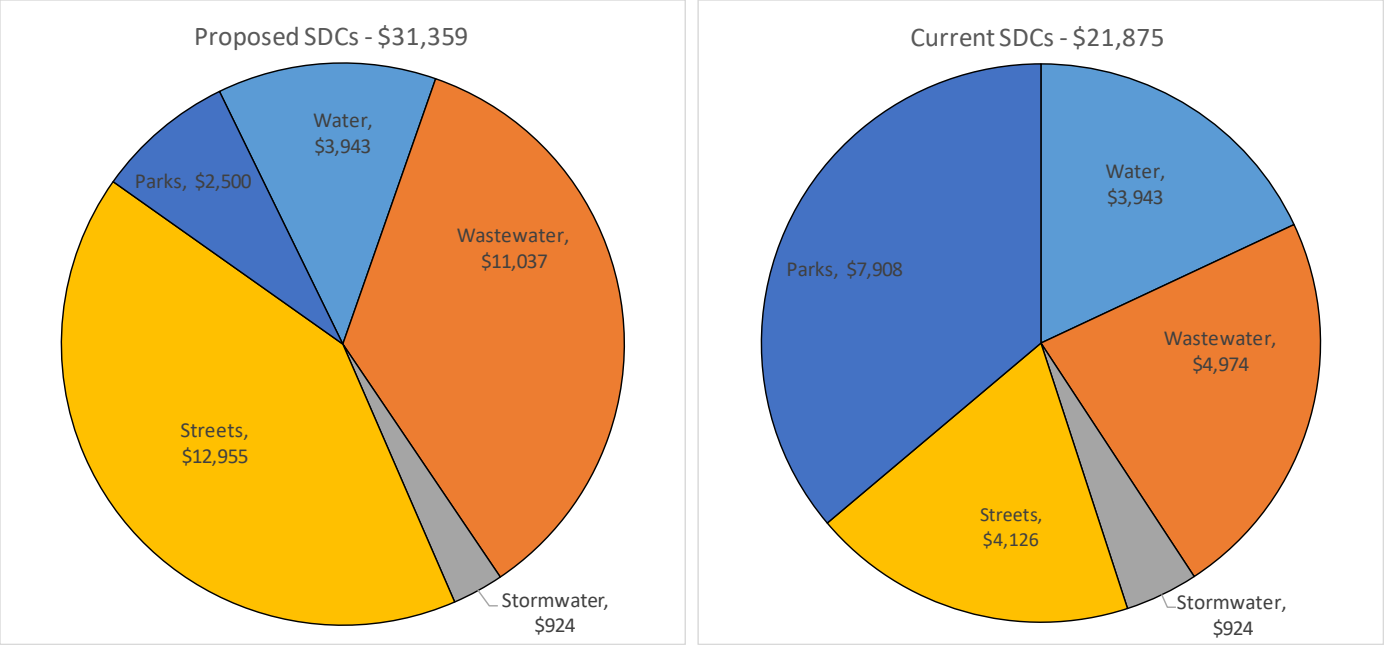
PM peak vehicle trips expressed in trip ends on a weekday, peak hour of adjacent street traffic, one hour, between 4:00 pm and 6:00 pm unless otherwise noted

Conclusions and Recommendations

The 2019 SDC methodology update was done in accordance with MMC Chapter 13.14, and with the benefit of adopted plans and plan updates for municipal services. Our analysis indicates the City can charge a maximum of $11,037 for wastewater, and $12,955 for transportation. These figures are on a per equivalent single-family residential unit basis.

A graphic side by side comparison of the proposed and current schedule of SDCs is shown blow in figure 2.

Figure 2 - Proposed and Current Schedule of SDCs



Finally, we recommend the City adopt a policy of reviewing its suite of SDCs every five years. Between the review dates, the city should apply a cost adjustment index to the SDC rates annually to reflect changes in costs for land and construction. This policy should be codified in the Molalla Municipal Code (MMC §13.14). We suggest the City consider the following language for that section of the MMC:

1. Notwithstanding any other provision, the dollar amounts of the SDC set forth in the SDC methodology report shall on January 1st of each year be adjusted to account for changes in the costs of acquiring and constructing facilities. The adjustment factor shall be based on:
    a. The change in construction costs according to the Engineering News Record (ENR) Northwest (Seattle, Washington) Construction Cost Index (CCI).
    b. The system development charges adjustment factor shall be used to adjust the system development charges, unless they are otherwise adjusted by the city based on a change in the costs of materials, labor, or real property; or adoption of an updated methodology.