



# Memorandum

**To:** John Lewis and Dayna Webb, City of Oregon City  
**From:** John Ghilarducci and Anthony Martin, FCS GROUP  
**RE:** Oregon City Transportation System Development Charge

**Date:** February 9, 2018

Oregon Revised Statutes (ORS) 223.297 to 223.314 authorize local governments to establish system development charges (SDCs), one-time fees on new development paid at the time of development. ORS 223.299 specifies that an SDC is made up of the following fees, or either fee separately:

- ◆ A reimbursement fee designed to recover “costs associated with capital improvements already constructed, or under construction when the fee is established, for which the local government determines that capacity exists”
- ◆ An improvement fee designed to recover “costs associated with capital improvements to be constructed”

The purpose of this memo is to summarize the updated transportation system development charge (SDC). We calculate a reimbursement fee and reference the improvement fee calculation performed by DKS Associates. ORS also authorizes the expenditure of SDCs for “the costs of complying with the provisions of ORS 223.297 to 223.314....” To avoid spending monies for compliance that might otherwise be spent on growth-related projects, this report includes an estimate of compliance costs in the SDC calculation.

**Exhibit 1** shows the SDC calculation in equation format.

Exhibit 1: SDC Equation					
Eligible costs of available capacity in existing facilities	+	Eligible costs of capacity-increasing capital improvements	+	Pro-rata share of costs of complying with Oregon SDC law	= SDC per unit of growth in demand (trips)
<div>Units of growth in demand</div>		<div>Units of growth in demand</div>			

## 1. GROWTH CALCULATION

Growth is the denominator in both the improvement and reimbursement fee calculations, and it is measured in units that most directly reflect the source of demand.

### 1.A Trip Types

Units that most directly reflect the source of demand for transportation, and are most defensible, are some version of the trip-end (hereafter referred to as “trip”). A trip either begins from or ends at a particular site during a specified period of time. The City explored several different trip options, explained below.

- ◆ **P.M. Peak Hour Vehicle Trips for Road Improvements, Bike/Ped Trips for Bike/Ped Improvements:** P.M. Peak Hour Vehicle Trips measure the number of vehicle trips during the

evening rush hour, generally 4 p.m. to 6 p.m. Bike/ped trips measure the trips completed by non-vehicular modes. These trip types were used in the existing methodology, with each trip basis serving as the growth for road projects and bike/ped projects, respectively.

- ◆ **Average Daily Person Trips:** Person trips are defined as the number of people that either begin or end a trip at a site, regardless of transportation mode. This includes average daily vehicle trips (multiplied by the number of people in the vehicle) as well as trips for people who utilize bicycle, pedestrian, and transit facilities. This trip type allows the road and bike/ped projects to be combined and a single SDC calculation since average daily person trips represent demand on all transportation infrastructure.
- ◆ **P.M. Peak Hour Person Trips:** This methodology includes all trips, bicycle, pedestrian, transit, and vehicle, only during the P.M. peak hour. This trip type also allows all projects to be included in one trip basis and a single SDC calculated.

After consideration of these options, the City elected to maintain its current approach – using PM peak hour vehicle trips as the basis for recovering the cost of vehicular improvements and bike/ped trips as the basis for recovering the cost of bike/ped improvements. This approach has two advantages. First, separating trip counts by mode (vehicle vs. bike/ped) recognizes that different kinds of development have different mode splits. Although data on bike/ped generation is currently scarce, the City’s approach creates a mechanism by which that data can be incorporated as it becomes available. Second, a focus on vehicle trips for vehicular improvements leverages the vast database of the Institute of Transportation Engineers.

## 1.B Chosen Trip Methodology

We forecast P.M. peak hour vehicle trip growth, shown in **Exhibit 2**, based on the Oregon City Transportation System Plan. Trips in 2016 were interpolated based on the compound annual growth rate (CAGR).

Exhibit 2: Vehicle Trip Growth							
	2010	2016	2035	Growth (2010 to 2035)	Growth (2016 to 2035)	CAGR	Trip Growth as a % of Future
<b>Peak-Hour Trips</b>	33,012	37,226	54,461	21,449	17,235	2.02%	39.38%

**Source:** Oregon City Transportation System Plan T.M. #6 - Future Traffic Performance on Major Street Network.

**Abbreviation:** CAGR = Compound Annual Growth Rate

Bike/ped trips are derived based on trip growth in **Exhibit 2**. P.M. peak hour vehicle trips are converted to average daily vehicle trips using a ratio of one peak hour vehicle trip per ten average daily vehicle trips.<sup>1</sup> Then, average daily vehicle trips are adjusted to include bike/ped trips.<sup>2</sup> Finally, residential bike/ped trips are separated out based on further analysis of trip types by DKS. **Exhibit 3** shows the conversion from P.M. peak hour trips to bike/ped trips and the residential portion of bike/ped trips.

<sup>1</sup> This ratio is determined by the rounded ratio of peak hour vehicle trips to average daily vehicle trips for a single family detached home.

<sup>2</sup> Census travel data for the Portland Metro area indicate that walking, bike, and transit trips generally account for 12% of all trips. Based on the 2009 transportation SDC methodology.

Exhibit 3: Bike / Ped Trips within UGB	
	2010-2035 Growth
Peak-Hour Vehicle Trip Growth	21,449
Average Daily Vehicle Trip Growth (Estimate) <sup>1</sup>	214,490
Bike/Ped % of Total Trips <sup>2</sup>	12.0%
Total Daily Trip Growth (Vehicle & Bike/Ped)	243,739
Bike/Ped Daily Trip Growth	29,249
Residential Bike/Ped Daily Trip Growth <sup>3</sup>	16,674

<sup>1</sup>Estimate based on ratio of 10 average daily vehicle trips per 1 P.M. peak-hour trip.

<sup>2</sup>Census travel data for the Portland Metro area indicate that walking, bike, and transit trips generally account for 12% of all trips. From the 2009 transportation SDC methodology.

<sup>3</sup>DKS Estimate

## 2. REIMBURSEMENT FEE BASIS

The reimbursement fee cost basis is the cost of capacity in the existing system that is available for future users. Calculation of the reimbursement fee begins with the historical cost of assets that have unused capacity to serve future users. For each asset or project, the portion that is available to serve future users is identified for inclusion in the fee.

In this case, the estimated cost of unused capacity in the City transportation system is determined based on previous investment of SDCs in capacity expanding projects. Eligible reimbursement fee costs reflect the amount of current infrastructure capacity that will accommodate future growth. For this analysis, we assume that any capacity-increasing expenditure is reduced by the growth in trips since the expenditure, as a portion of total trip growth to the end of the planning period. This reflects the assumption, confirmed by staff, that SDCs were expended on capacity-increasing projects. **Exhibit 4** shows the reimbursement fee cost basis calculation (see **Appendix A** for full calculations).

Exhibit 4: Reimbursement Fee Cost Basis Calculation			
	Improvement Fee Expenditures	Percent Unused Capacity	Unused Capacity
FY 1993	\$ 12,444	55.6%	\$ 6,924
FY 1994	5,163	56.5%	2,917
FY 1995	507,849	57.4%	291,615
FY 1996	714,935	58.4%	417,404
FY 1997	136,330	59.4%	80,978
FY 1998	607,438	60.5%	367,325
FY 1999	349,194	61.6%	215,126
FY 2000	2,150,624	62.8%	1,350,785
FY 2001	464,918	64.1%	297,944
FY 2002	1,830,294	65.4%	1,197,786
FY 2003	1,623,524	66.9%	1,085,929
FY 2004	898,980	68.4%	615,158
FY 2005	1,433,872	70.1%	1,004,799
FY 2006	514,297	71.8%	369,474
FY 2007	2,937,689	73.7%	2,166,099
FY 2008	1,011,597	75.8%	766,519
FY 2009	816,519	78.0%	636,659
FY 2010	1,919,051	80.4%	1,541,986
FY 2011	959,333	82.9%	795,606
FY 2012	1,703,698	85.7%	1,460,818
FY 2013	553,328	88.8%	491,438
FY 2014	5,179	92.2%	4,774
FY 2015	473,661	95.9%	454,210
FY 2016	79,189	100.0%	79,189
Total	\$ 21,709,104		\$ 15,701,460

Exhibit 4: Reimbursement Fee Cost Basis Calculation			
	Improvement Fee Expenditures	Percent Unused Capacity	Unused Capacity
Source: FY1991 - FY2000 expenditures based on 2009 Transportation SDC Methodology; FY 2001-FY2016 expenditures based on City staff.			

### 3. IMPROVEMENT FEE BASIS

The improvement fee cost basis was calculated based on analysis by DKS Associates and documented the City's Transportation SDC CIP Project List. The sources of projects in this methodology include the Transportation System Plan; South End Concept Plan; Linn Avenue, Leland Road & Meyers Road Corridor Plan; Willamette Fall Legacy Project; and Meyers Road Extension Concept Plan.

The City chose to update two project lists to reflect different modes: a roadway motor vehicle project list and a bike/ped project list. The growth for the roadway project list is measured in P.M. peak hour vehicle trips and growth for the bike/ped project list is measured in bike/ped trips. Further, the City decided to divide the bike/ped project list into projects that provide general benefit to all development areas and projects that primarily benefit residential development areas. Projects are located on local roads that primarily see residential traffic. This was done to reflect the assumption that residential development receives greater benefit from several bike projects than non-residential development.

After deducting the non-City share of costs, improvement fee eligibility is calculated based on the extent to which each project is expected to serve development from 2010 to 2035. All bike/ped projects (except one for which the City shares responsibility with another agency) were eligible based on the growth in trips as a percent of total future trips, 39.4%, in **Exhibit 2**, reflecting the assumption that bike/ped projects will serve existing and future customers proportionally. In the project list, the City differentiated between general bike/ped projects and those which primarily benefit residential projects. A summary of the improvement fee cost basis by project type is shown in **Exhibit 5**.

Exhibit 5: Improvement Fee Cost Basis			
	Total Project Cost	Total SDC-Eligible Portion	Total SDC Eligible Cost
Roadway Projects	\$ 258,730,000	64.0%	\$ 165,685,778
General Bike/Ped Projects	43,250,000	36.8%	15,912,478
Residential Bike/Ped Projects	69,975,000	39.4%	27,560,497
<b>Total</b>	<b>\$ 371,955,000</b>	<b>56.23%</b>	<b>\$ 209,158,753</b>

Source: Oregon City Transportation SDC CIP Project List

### 4. COMPLIANCE COST RECOVERY

The compliance cost recovery is calculated based on staff estimates of the annual cost of administering the SDC. Transportation SDC accounting and study costs equal approximately \$6,030 per year. As shown in **Exhibit 6**, administrative costs as a percent of total annual revenue, assuming level annual revenues, are 0.06 percent.

Exhibit 6: Compliance Cost Recovery Calculation	
	Calculation
<b>Annual Transportation SDC Administrative Cost</b>	<b>\$ 6,030</b>
<i>Annual Revenues from Roadway Improvements Charge</i>	<i>\$ 7,537,371</i>
<i>Annual Revenues from General Bike/Ped Improvements Charge</i>	<i>672,943</i>
<i>Annual Revenues from Residential Bike/Ped Improvements Charge</i>	<i>2,044,529</i>
<b>Estimated Annual Proposed SDC Revenues</b>	<b>\$ 10,254,843</b>
<b>Admin. Cost as a % of Total Ann'l Revenues</b>	<b>0.06%</b>

Source: City staff.

## 5. CALCULATED FEE

The calculated SDC is the sum of the reimbursement fee, improvement fee, and compliance cost recovery factor. The reimbursement fee is derived by dividing the cost basis by the growth in vehicle trips from 2016 to 2035, based on the initial year of the analysis. All reimbursement fee eligible expenditures were for roadways and are therefore included in the roadway SDC fee calculation. The improvement fee is derived by first subtracting the SDC fund balance and then dividing the adjusted cost basis by the growth in trips from 2010 to 2035. We deduct the SDC fund balance to avoid double-charging for improvements that will be constructed using available monies. The adjusted improvement fee cost basis is divided by trip growth from 2010 to 2035 because the project improvement fee eligibility was calculated based on growth served from 2010 to 2035. Finally, the administrative cost recovery is added as 0.06 percent of the reimbursement and improvement fees.

Exhibit 7: Transportation SDC	Roadway Improvements	General Bike / Ped Improvements	Residential Bike / Ped Improvements
<b>Reimbursement Fee</b>			
Cost of Net Unused Capacity	\$ 15,701,460 (1)		
Less: Reimbursement Fee SDC Fund Balance	-		
Reimbursement Fee Cost Basis	\$ 15,701,460 (2)		
Growth to End of Planning Period	17,235 P.M. Peak-Hour Vehicle Trips		
Reimbursement Fee	\$ 911.04 per PMPHVT		
<b>Improvement Fee</b>			
Capacity Expanding Projects	\$ 165,685,778 (3)	\$ 15,912,478 (6)	\$ 27,560,497 (8)
Less: Improvement Fee SDC Fund Balance	(6,997,251) (4)	-	-
Improvement Fee Cost Basis	\$ 158,688,527	\$ 15,912,478	\$ 27,560,497
Citywide Growth to End of Planning Period	21,449 (5) P.M. Peak-Hour Vehicle Trips	29,249 (7) Bike / Ped Trips	16,674 (9) Bike / Ped Trips
Improvement Fee	\$ 7,398.41 per PMPHVT	\$ 544.04 per Bike/Ped Trip	\$ 1,652.90 per Bike/Ped Trip
<b>Total System Development Charge</b>			
Reimbursement Fee	\$ 911.04 per PMPHVT	\$ - per Bike/Ped Trip	\$ - per Bike/Ped Trip
Improvement Fee	\$ 7,398.41 per PMPHVT	\$ 544.04 per Bike/Ped Trip	\$ 1,652.90 per Bike/Ped Trip
TSDC Subtotal	\$ 8,309.45 per PMPHVT	\$ 544.04 per Bike/Ped Trip	\$ 1,652.90 per Bike/Ped Trip
plus: Administrative Cost Recovery 0.06%	\$ 4.89 per PMPHVT	\$ 0.32 per Bike/Ped Trip	\$ 0.97 per Bike/Ped Trip
<b>Total TSDC</b>	<b>\$ 8,314 per PMPHVT</b>	<b>\$ 544 per Bike/Ped Trip</b>	<b>\$ 1,654 per Bike/Ped Trip</b>

Sources:

- (1) Exhibit 4 - Total unused capacity
- (2) Exhibit 2 - Growth (2016 to 2035)
- (3) Exhibit 5 - Total SDC eligible cost for roadway projects
- (4) City staff
- (5) Exhibit 2 - Growth (2010 to 2035)
- (6) Exhibit 5 - Total SDC eligible cost for general bike/ped projects
- (7) Exhibit 3 - Bike/ped daily trip growth
- (8) Exhibit 5 - Total SDC eligible cost for residential bike/ped projects
- (9) Exhibit 3 - Residential bike/ped daily trip growth

The following table, **Exhibit 8**, shows the calculated fees for a variety of land uses. A given land use's impact on the transportation system is based on the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 9<sup>th</sup> Edition. The previous methodology used the 7<sup>th</sup> Edition of the ITE Manual, which is updated due to available resources.

Exhibit 8: Transportation SDC by Land Use			Vehicle Fee Portion						
ITE Code	Land Use	Unit	P.M. Peak Hour Vehicle Trips <sup>1</sup>	Primary Trip Adjustments as a Percent of Total <sup>2</sup>	Adjusted P.M. Peak Hour Vehicle Trips	Reimbursement Fee	Improvement Fee	Compliance Fee	Total
110	General Light Industrial	1,000 SFGFA	0.97	100%	0.97	\$884	\$7,176	\$5	\$8,065
130	Industrial Park	1,000 SFGFA	0.85	100%	0.85	\$774	\$6,289	\$4	\$7,067
140	Manufacturing	1,000 SFGFA	0.73	100%	0.73	\$665	\$5,401	\$4	\$6,069
151	Mini-Warehouse	1,000 SFGFA	0.26	100%	0.26	\$237	\$1,924	\$1	\$2,162
160	Data Center	1,000 SFGFA	0.09	100%	0.09	\$82	\$666	\$0	\$748
210	Single-Family Detached Housing	Dwelling unit	1.00	100%	1.00	\$911	\$7,398	\$5	\$8,314
220	Apartment	Dwelling unit	0.62	100%	0.62	\$565	\$4,587	\$3	\$5,155
230	Residential Condominium/Townhouse	Dwelling unit	0.52	100%	0.52	\$474	\$3,847	\$3	\$4,323
240	Mobile Home Park	ODU	0.59	100%	0.59	\$538	\$4,365	\$3	\$4,905
254	Assisted Living	Bed	0.22	100%	0.22	\$200	\$1,628	\$1	\$1,829
310	Hotel	Room	0.60	100%	0.60	\$547	\$4,439	\$3	\$4,989
320	Motel	Room	0.47	100%	0.47	\$428	\$3,477	\$2	\$3,908
417	Regional Park	Acre	0.20	100%	0.20	\$182	\$1,480	\$1	\$1,663
430	Golf Course	Acre	0.30	100%	0.30	\$273	\$2,220	\$1	\$2,494
492	Health/Fitness Club	1,000 SFGFA	3.53	100%	3.53	\$3,216	\$26,116	\$17	\$29,350
495	Recreational Community Center	1,000 SFGFA	2.74	100%	2.74	\$2,496	\$20,272	\$13	\$22,781
520	Elementary School	Student	0.15	59%	0.09	\$81	\$655	\$0	\$736
522	Middle School/Junior High School	Student	0.16	59%	0.09	\$86	\$698	\$0	\$785
530	High School	Student	0.13	59%	0.08	\$70	\$567	\$0	\$638
540	Junior/Community College	Student	0.12	100%	0.12	\$109	\$888	\$1	\$998
560	Church	1,000 SFGFA	0.55	100%	0.55	\$501	\$4,069	\$3	\$4,573
565	Day Care Center	1,000 SFGFA	12.34	33%	4.07	\$3,710	\$30,128	\$20	\$33,858
590	Library	1,000 SFGFA	7.30	100%	7.30	\$6,651	\$54,008	\$36	\$60,695
610	Hospital	1,000 SFGFA	0.93	100%	0.93	\$847	\$6,881	\$5	\$7,732
620	Nursing Home	1,000 SFGFA	0.74	100%	0.74	\$674	\$5,475	\$4	\$6,153
710	General Office Building	1,000 SFGFA	1.49	100%	1.49	\$1,357	\$11,024	\$7	\$12,388
720	Medical-Dental Office Building	1,000 SFGFA	3.57	100%	3.57	\$3,252	\$26,412	\$17	\$29,682
731	State Motor Vehicles Department	1,000 SFGFA	17.09	100%	17.09	\$15,570	\$126,439	\$84	\$142,092
732	United States Post Office	1,000 SFGFA	11.22	100%	11.22	\$10,222	\$83,010	\$55	\$93,287
750	Office Park	1,000 SFGFA	1.48	100%	1.48	\$1,348	\$10,950	\$7	\$12,305
760	Research and Development Center	1,000 SFGFA	1.07	100%	1.07	\$975	\$7,916	\$5	\$8,896
770	Business Park	1,000 SFGFA	1.26	100%	1.26	\$1,148	\$9,322	\$6	\$10,476
812	Building Materials and Lumber Store	1,000 SFGFA	4.49	100%	4.49	\$4,091	\$33,219	\$22	\$37,331
813	Free-Standing Discount Superstore	1,000 SFGFA	4.35	72%	3.13	\$2,853	\$23,172	\$15	\$26,041
814	Variety Store	1,000 SFGFA	6.82	48%	3.26	\$2,967	\$24,093	\$16	\$27,076
815	Free-Standing Discount Store	1,000 SFGFA	4.98	48%	2.38	\$2,166	\$17,593	\$12	\$19,771
816	Hardware/Paint Store	1,000 SFGFA	4.84	45%	2.15	\$1,962	\$15,935	\$11	\$17,907

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Exhibit 8: Transportation SDC by Land Use			Vehicle Fee Portion						
ITE Code	Land Use	Unit	P.M. Peak Hour Vehicle Trips <sup>1</sup>	Primary Trip Adjustments as a Percent of Total <sup>2</sup>	Adjusted P.M. Peak Hour Vehicle Trips	Reimbursement Fee	Improvement Fee	Compliance Fee	Total
817	Nursery (Garden Center)	1,000 SFGFA	6.94	100%	6.94	\$6,323	\$51,345	\$34	\$57,702
820	Shopping Center	1,000 SFGLA	3.71	50%	1.86	\$1,695	\$13,762	\$9	\$15,466
826	Specialty Retail Center	1,000 SFGLA	2.71	100%	2.71	\$2,469	\$20,050	\$13	\$22,532
841	Automobile Sales	1,000 SFGFA	2.62	100%	2.62	\$2,387	\$19,384	\$13	\$21,784
843	Automobile Parts Sales	1,000 SFGFA	5.98	44%	2.63	\$2,397	\$19,467	\$13	\$21,877
848	Tire Store	1,000 SFGFA	4.15	69%	2.85	\$2,596	\$21,083	\$14	\$23,693
850	Supermarket	1,000 SFGFA	9.48	39%	3.67	\$3,347	\$27,178	\$18	\$30,543
851	Convenience Market (Open 24 Hours)	1,000 SFGFA	52.41	33%	17.05	\$15,531	\$126,121	\$83	\$141,735
857	Discount Club	1,000 SFGFA	4.18	100%	4.18	\$3,808	\$30,925	\$20	\$34,754
862	Home Improvement Superstore	1,000 SFGFA	2.33	44%	1.03	\$934	\$7,585	\$5	\$8,524
880	Pharmacy/Drugstore without Drive-Through	1,000 SFGFA	8.40	42%	3.56	\$3,240	\$26,309	\$17	\$29,566
881	Pharmacy/Drugstore with Drive-Through	1,000 SFGFA	9.91	38%	3.77	\$3,431	\$27,861	\$18	\$31,310
890	Furniture Store	1,000 SFGFA	0.45	37%	0.17	\$150	\$1,221	\$1	\$1,372
912	Drive-in Bank	1,000 SFGFA	24.30	27%	6.64	\$6,051	\$49,140	\$32	\$55,224
931	Quality Restaurant	1,000 SFGFA	7.49	43%	3.18	\$2,900	\$23,551	\$16	\$26,467
932	High-Turnover (Sit-Down) Restaurant	1,000 SFGFA	9.85	40%	3.92	\$3,567	\$28,968	\$19	\$32,554
934	Fast-Food Restaurant with Drive-Through	1,000 SFGFA	32.65	41%	13.37	\$12,179	\$98,905	\$65	\$111,149
937	Coffee/Donut Shop with Drive-Through	1,000 SFGFA	42.80	41%	17.52	\$15,965	\$129,651	\$86	\$145,702
938	Coffee/Donut Kiosk	1,000 SFGFA	75.00	17%	12.75	\$11,616	\$94,330	\$62	\$106,008
944	Gasoline/Service Station	VFP	13.87	35%	4.85	\$4,423	\$35,916	\$24	\$40,362
945	Gasoline/Service Station with Convenience Market	VFP	13.51	13%	1.73	\$1,573	\$12,772	\$8	\$14,353
946	Gasoline/Service Station with Car Wash	VFP	13.86	24%	3.31	\$3,016	\$24,496	\$16	\$27,529

Exhibit 8: Transportation SDC by Land Use			General Bike/Ped Fee Portion				
ITE Code	Land Use	Unit	Bike/Ped Group	Bike/Ped Trips	Improvement Fee	Compliance Fee	Total
110	General Light Industrial	1,000 SFGFA	1	0.10	\$54	\$0	\$54
130	Industrial Park	1,000 SFGFA	1	0.10	\$54	\$0	\$54
140	Manufacturing	1,000 SFGFA	2	0.20	\$109	\$0	\$109
151	Mini-Warehouse	1,000 SFGFA	1	0.10	\$54	\$0	\$54
160	Data Center	1,000 SFGFA	1	0.10	\$54	\$0	\$54

Exhibit 8: Transportation SDC by Land Use			General Bike/Ped Fee Portion				
ITE Code	Land Use	Unit	Bike/Ped Group	Bike/Ped Trips	Improvement Fee	Compliance Fee	Total
210	Single-Family Detached Housing	Dwelling unit	5	1.00	\$544	\$0	\$544
220	Apartment	Dwelling unit	4	0.60	\$326	\$0	\$327
230	Residential Condominium/Townhouse	Dwelling unit	4	0.60	\$326	\$0	\$327
240	Mobile Home Park	ODU	3	0.40	\$218	\$0	\$218
254	Assisted Living	Bed	3	0.40	\$218	\$0	\$218
310	Hotel	Room	3	0.40	\$218	\$0	\$218
320	Motel	Room	2	0.20	\$109	\$0	\$109
417	Regional Park	Acre	6	2.00	\$1,088	\$1	\$1,089
430	Golf Course	Acre	1	0.10	\$54	\$0	\$54
492	Health/Fitness Club	1,000 SFGFA	5	1.00	\$544	\$0	\$544
495	Recreational Community Center	1,000 SFGFA	6	2.00	\$1,088	\$1	\$1,089
520	Elementary School	Student	3	0.40	\$218	\$0	\$218
522	Middle School/Junior High School	Student	2	0.20	\$109	\$0	\$109
530	High School	Student	1	0.10	\$54	\$0	\$54
540	Junior/Community College	Student	1	0.10	\$54	\$0	\$54
560	Church	1,000 SFGFA	3	0.40	\$218	\$0	\$218
565	Day Care Center	1,000 SFGFA	1	0.10	\$54	\$0	\$54
590	Library	1,000 SFGFA	6	2.00	\$1,088	\$1	\$1,089
610	Hospital	1,000 SFGFA	1	0.10	\$54	\$0	\$54
620	Nursing Home	1,000 SFGFA	1	0.10	\$54	\$0	\$54
710	General Office Building	1,000 SFGFA	6	2.00	\$1,088	\$1	\$1,089
720	Medical-Dental Office Building	1,000 SFGFA	1	0.10	\$54	\$0	\$54
731	State Motor Vehicles Department	1,000 SFGFA	4	0.60	\$326	\$0	\$327
732	United States Post Office	1,000 SFGFA	4	0.60	\$326	\$0	\$327
750	Office Park	1,000 SFGFA	4	0.60	\$326	\$0	\$327
760	Research and Development Center	1,000 SFGFA	2	0.20	\$109	\$0	\$109
770	Business Park	1,000 SFGFA	1	0.10	\$54	\$0	\$54
812	Building Materials and Lumber Store	1,000 SFGFA	1	0.10	\$54	\$0	\$54
813	Free-Standing Discount Superstore	1,000 SFGFA	1	0.10	\$54	\$0	\$54
814	Variety Store	1,000 SFGFA	6	2.00	\$1,088	\$1	\$1,089
815	Free-Standing Discount Store	1,000 SFGFA	1	0.10	\$54	\$0	\$54
816	Hardware/Paint Store	1,000 SFGFA	1	0.10	\$54	\$0	\$54
817	Nursery (Garden Center)	1,000 SFGFA	1	0.10	\$54	\$0	\$54
820	Shopping Center	1,000 SFGFA	2	0.20	\$109	\$0	\$109
826	Specialty Retail Center	1,000 SFGFA	6	2.00	\$1,088	\$1	\$1,089
841	Automobile Sales	1,000 SFGFA	1	0.10	\$54	\$0	\$54
843	Automobile Parts Sales	1,000 SFGFA	1	0.10	\$54	\$0	\$54
848	Tire Store	1,000 SFGFA	1	0.10	\$54	\$0	\$54
850	Supermarket	1,000 SFGFA	1	0.10	\$54	\$0	\$54
851	Convenience Market (Open 24 Hours)	1,000 SFGFA	6	2.00	\$1,088	\$1	\$1,089



Exhibit 8: Transportation SDC by Land Use			General Bike/Ped Fee Portion				
ITE Code	Land Use	Unit	Bike/Ped Group	Bike/Ped Trips	Improvement Fee	Compliance Fee	Total
857	Discount Club	1,000 SFGFA	1	0.10	\$54	\$0	\$54
862	Home Improvement Superstore	1,000 SFGFA	1	0.10	\$54	\$0	\$54
880	Pharmacy/Drugstore without Drive-Through	1,000 SFGFA	3	0.40	\$218	\$0	\$218
881	Pharmacy/Drugstore with Drive-Through	1,000 SFGFA	3	0.40	\$218	\$0	\$218
890	Furniture Store	1,000 SFGFA	1	0.10	\$54	\$0	\$54
912	Drive-in Bank	1,000 SFGFA	1	0.10	\$54	\$0	\$54
931	Quality Restaurant	1,000 SFGFA	1	0.10	\$54	\$0	\$54
932	High-Turnover (Sit-Down) Restaurant	1,000 SFGFA	3	0.40	\$218	\$0	\$218
934	Fast-Food Restaurant with Drive-Through	1,000 SFGFA	6	2.00	\$1,088	\$1	\$1,089
937	Coffee/Donut Shop with Drive-Through	1,000 SFGFA	6	2.00	\$1,088	\$1	\$1,089
938	Coffee/Donut Kiosk	1,000 SFGFA	6	2.00	\$1,088	\$1	\$1,089
944	Gasoline/Service Station	VFP	1	0.10	\$54	\$0	\$54
945	Gasoline/Service Station with Convenience Market	VFP	1	0.10	\$54	\$0	\$54
946	Gasoline/Service Station with Car Wash	VFP	1	0.10	\$54	\$0	\$54

Exhibit 8: Transportation SDC by Land Use			Residential Bike/Ped Fee Portion				
ITE Code	Land Use	Unit	Bike/Ped Group	Bike/Ped Trips	Improvement Fee	Compliance Fee	Total
210	Single-Family Detached Housing	Dwelling unit	5	1.00	\$1,653	\$1	\$1,654
220	Apartment	Dwelling unit	4	0.60	\$992	\$1	\$992
230	Residential Condominium/Townhouse	Dwelling unit	4	0.60	\$992	\$1	\$992
240	Mobile Home Park	ODU	3	0.40	\$661	\$0	\$662
254	Assisted Living	Bed	3	0.40	\$661	\$0	\$662

Exhibit 8: Transportation SDC by Land Use			Total			
ITE Code	Land Use	Unit	Reimbursement Fee	Improvement Fee	Compliance Fee	Total
110	General Light Industrial	1,000 SFGFA	\$884	\$7,231	\$5	\$8,119
130	Industrial Park	1,000 SFGFA	\$774	\$6,343	\$4	\$7,122
140	Manufacturing	1,000 SFGFA	\$665	\$5,510	\$4	\$6,178
151	Mini-Warehouse	1,000 SFGFA	\$237	\$1,978	\$1	\$2,216
160	Data Center	1,000 SFGFA	\$82	\$720	\$0	\$803
210	Single-Family Detached Housing	Dwelling unit	\$911	\$9,595	\$6	\$10,513
220	Apartment	Dwelling unit	\$565	\$5,905	\$4	\$6,474
230	Residential Condominium/Townhouse	Dwelling unit	\$474	\$5,165	\$3	\$5,642
240	Mobile Home Park	ODU	\$538	\$5,244	\$3	\$5,785
254	Assisted Living	Bed	\$200	\$2,506	\$2	\$2,708
310	Hotel	Room	\$547	\$4,657	\$3	\$5,206
320	Motel	Room	\$428	\$3,586	\$2	\$4,017
417	Regional Park	Acre	\$182	\$2,568	\$2	\$2,752

Exhibit 8: Transportation SDC by Land Use			Total			
ITE Code	Land Use	Unit	Reimbursement Fee	Improvement Fee	Compliance Fee	Total
430	Golf Course	Acre	\$273	\$2,274	\$1	\$2,549
492	Health/Fitness Club	1,000 SFGFA	\$3,216	\$26,660	\$18	\$29,894
495	Recreational Community Center	1,000 SFGFA	\$2,496	\$21,360	\$14	\$23,870
520	Elementary School	Student	\$81	\$872	\$1	\$954
522	Middle School/Junior High School	Student	\$86	\$807	\$1	\$894
530	High School	Student	\$70	\$622	\$0	\$692
540	Junior/Community College	Student	\$109	\$942	\$1	\$1,052
560	Church	1,000 SFGFA	\$501	\$4,287	\$3	\$4,791
565	Day Care Center	1,000 SFGFA	\$3,710	\$30,182	\$20	\$33,912
590	Library	1,000 SFGFA	\$6,651	\$55,096	\$36	\$61,783
610	Hospital	1,000 SFGFA	\$847	\$6,935	\$5	\$7,787
620	Nursing Home	1,000 SFGFA	\$674	\$5,529	\$4	\$6,207
710	General Office Building	1,000 SFGFA	\$1,357	\$12,112	\$8	\$13,477
720	Medical-Dental Office Building	1,000 SFGFA	\$3,252	\$26,467	\$17	\$29,737
731	State Motor Vehicles Department	1,000 SFGFA	\$15,570	\$126,765	\$84	\$142,419
732	United States Post Office	1,000 SFGFA	\$10,222	\$83,337	\$55	\$93,614
750	Office Park	1,000 SFGFA	\$1,348	\$11,276	\$7	\$12,632
760	Research and Development Center	1,000 SFGFA	\$975	\$8,025	\$5	\$9,005
770	Business Park	1,000 SFGFA	\$1,148	\$9,376	\$6	\$10,531
812	Building Materials and Lumber Store	1,000 SFGFA	\$4,091	\$33,273	\$22	\$37,386
813	Free-Standing Discount Superstore	1,000 SFGFA	\$2,853	\$23,226	\$15	\$26,095
814	Variety Store	1,000 SFGFA	\$2,967	\$25,181	\$17	\$28,165
815	Free-Standing Discount Store	1,000 SFGFA	\$2,166	\$17,647	\$12	\$19,826
816	Hardware/Paint Store	1,000 SFGFA	\$1,962	\$15,989	\$11	\$17,962
817	Nursery (Garden Center)	1,000 SFGFA	\$6,323	\$51,399	\$34	\$57,756
820	Shopping Center	1,000 SFGLA	\$1,695	\$13,871	\$9	\$15,575
826	Specialty Retail Center	1,000 SFGLA	\$2,469	\$21,138	\$14	\$23,621
841	Automobile Sales	1,000 SFGFA	\$2,387	\$19,438	\$13	\$21,838
843	Automobile Parts Sales	1,000 SFGFA	\$2,397	\$19,521	\$13	\$21,931
848	Tire Store	1,000 SFGFA	\$2,596	\$21,137	\$14	\$23,748
850	Supermarket	1,000 SFGFA	\$3,347	\$27,232	\$18	\$30,597
851	Convenience Market (Open 24 Hours)	1,000 SFGFA	\$15,531	\$127,209	\$84	\$142,824
857	Discount Club	1,000 SFGFA	\$3,808	\$30,980	\$20	\$34,808
862	Home Improvement Superstore	1,000 SFGFA	\$934	\$7,639	\$5	\$8,578
880	Pharmacy/Drugstore without Drive-Through	1,000 SFGFA	\$3,240	\$26,526	\$18	\$29,784
881	Pharmacy/Drugstore with Drive-Through	1,000 SFGFA	\$3,431	\$28,079	\$19	\$31,528
890	Furniture Store	1,000 SFGFA	\$150	\$1,275	\$1	\$1,426
912	Drive-in Bank	1,000 SFGFA	\$6,051	\$49,195	\$32	\$55,278
931	Quality Restaurant	1,000 SFGFA	\$2,900	\$23,605	\$16	\$26,521
932	High-Turnover (Sit-Down) Restaurant	1,000 SFGFA	\$3,567	\$29,185	\$19	\$32,772
934	Fast-Food Restaurant with Drive-Through	1,000 SFGFA	\$12,179	\$99,993	\$66	\$112,238

Exhibit 8: Transportation SDC by Land Use			Total			
ITE Code	Land Use	Unit	Reimbursement Fee	Improvement Fee	Compliance Fee	Total
937	Coffee/Donut Shop with Drive-Through	1,000 SFGFA	\$15,965	\$130,739	\$86	\$146,791
938	Coffee/Donut Kiosk	1,000 SFGFA	\$11,616	\$95,418	\$63	\$107,097
944	Gasoline/Service Station	VFP	\$4,423	\$35,970	\$24	\$40,416
945	Gasoline/Service Station with Convenience Market	VFP	\$1,573	\$12,826	\$8	\$14,407
946	Gasoline/Service Station with Car Wash	VFP	\$3,016	\$24,551	\$16	\$27,583

**Source:** ITE Trip Generation Manual, 9th Edition, and Oregon City.

<sup>1</sup> P.M. Peak Hour Vehicle Trips are peak hour of adjacent street traffic, one hour between 4 p.m. and 6 p.m.

<sup>2</sup> Adjustment factor deducts pass-by and diverted/linked trips between land use types.

Abbreviations

CFD - commercial flights per day

ODU - occupied dwelling unit

SFGFA - square feet of gross floor area

SFGLA - square feet of gross leasable area

VFP - vehicle fueling position

## APPENDIX A – REIMBURSEMENT FEE CALCULATION

### Unused Capacity of Assets Funded by TSDC Expenditures

Construction Year	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
Improvement Fee Expenditures [Note A]	\$ 12,444	\$ 5,163	\$ 507,849	\$ 714,935	\$ 136,330	\$ 607,438	\$ 349,194	\$ 2,150,624	\$ 464,918	\$ 1,830,294	\$ 1,623,524	\$ 898,980	\$ 1,433,872
Percentage For Capacity Increasing Projects	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Applicable TSDC Expenditures	\$ 12,444	\$ 5,163	\$ 507,849	\$ 714,935	\$ 136,330	\$ 607,438	\$ 349,194	\$ 2,150,624	\$ 464,918	\$ 1,830,294	\$ 1,623,524	\$ 898,980	\$ 1,433,872
Beginning Trip Total [Note B]	23,487	23,962	24,447	24,941	25,446	25,961	26,486	27,021	27,568	28,125	28,694	29,275	29,867
Current Trip Total (FY 2016) [Note B]	37,226	37,226	37,226	37,226	37,226	37,226	37,226	37,226	37,226	37,226	37,226	37,226	37,226
Ending Trip Total for Study Period (FY 2035) [Note B]	54,461	54,461	54,461	54,461	54,461	54,461	54,461	54,461	54,461	54,461	54,461	54,461	54,461
% of Capacity Used by Growth to FY 2016	44.4%	43.5%	42.6%	41.6%	40.6%	39.5%	38.4%	37.2%	35.9%	34.6%	33.1%	31.6%	29.9%
Cost of Unused Capacity	\$ 6,924	\$ 2,917	\$ 291,615	\$ 417,404	\$ 80,978	\$ 367,325	\$ 215,126	\$ 1,350,785	\$ 297,944	\$ 1,197,786	\$ 1,085,929	\$ 615,158	\$ 1,004,799

Note [A]. Source: FY1991 - FY2000 expenditures based on 2009 Transportation SDC Methodology; FY 2001-FY2016 expenditures based on City staff.

Note [B]. Source: Historical peak-hour trips derived from rate of growth implied in trip growth forecast.

### Unused Capacity of Assets Funded by TSDC Expenditures

Construction Year	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	Total
Improvement Fee Expenditures [Note A]	\$ 514,297	\$ 2,937,689	\$ 1,011,597	\$ 816,519	\$ 1,919,051	\$ 959,333	\$ 1,703,698	\$ 553,328	\$ 5,179	\$ 473,661	\$ 79,189	\$ 21,709,104
Percentage For Capacity Increasing Projects	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Applicable TSDC Expenditures	\$ 514,297	\$ 2,937,689	\$ 1,011,597	\$ 816,519	\$ 1,919,051	\$ 959,333	\$ 1,703,698	\$ 553,328	\$ 5,179	\$ 473,661	\$ 79,189	\$ 21,709,104
Beginning Trip Total [Note B]	30,471	31,087	31,716	32,358	33,012	33,680	34,361	35,056	35,765	36,488	37,226	
Current Trip Total (FY 2016) [Note B]	37,226	37,226	37,226	37,226	37,226	37,226	37,226	37,226	37,226	37,226	37,226	
Ending Trip Total for Study Period (FY 2035) [Note B]	54,461	54,461	54,461	54,461	54,461	54,461	54,461	54,461	54,461	54,461	54,461	
% of Capacity Used by Growth to FY 2016	28.2%	26.3%	24.2%	22.0%	19.6%	17.1%	14.3%	11.2%	7.8%	4.1%	0.0%	
Cost of Unused Capacity	\$ 369,474	\$ 2,166,099	\$ 766,519	\$ 636,659	\$ 1,541,986	\$ 795,606	\$ 1,460,818	\$ 491,438	\$ 4,774	\$ 454,210	\$ 79,189	\$ 15,701,460

Note [A]. Source: FY1991 - FY2000 expenditures based on 2009 Transportation SDC Methodology; FY 2001-FY2016 expenditures based on City staff.

Note [B]. Source: Historical peak-hour trips derived from rate of growth implied in trip growth forecast.