Canby, Oregon

Final Report for

TRANSPORTATION SYSTEM DEVELOPMENT CHARGE STUDY

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SECTION I: BACKGROUND

This section describes the policy context and project scope upon which the body of this report is based.

A. POLICY

Oregon Revised Statutes (ORS) 223.297 to 223.314 authorize local governments to establish system development charges (SDCs). These are one-time fees on new development, and they are paid at the time of development. SDCs are intended to recover a fair share of the cost of existing and planned facilities that provide capacity to serve future growth.

ORS 223.299 defines two types of SDC:

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

ORS 223.304(1) states, in part, that a reimbursement fee must be based on "the value of unused capacity available to future system users or the cost of existing facilities" and must account for prior contributions by existing users and any gifted or grant-funded facilities. The calculation must "promote the objective of future system users contributing no more than an equitable share to the cost of existing facilities." **A reimbursement fee may be spent on any capital improvement related to the system for which it is being charged** (whether cash-financed or debt-financed) and on the costs of compliance with Oregon's SDC law.

ORS 223.304(2) states, in part, that an improvement fee must be calculated to include only the cost of projected capital improvements needed to increase system capacity for future users. In other words, the cost of planned projects that correct existing deficiencies or that do not otherwise increase capacity for future users, may not be included in the improvement fee calculation. An **improvement fee may be spent only on capital improvements (or portions thereof) that increase the capacity of the system** for which it is being charged (whether cash-financed or debt-financed) and on the costs of compliance with Oregon's SDC law.

B. PROJECT

The City last revised its methodology for transportation SDCs in 2001. In 2011, the City contracted with FCS GROUP to update its transportation SDCs.

We approached this project as a series of three steps:

- **Framework for Charges**. In this step, we worked with City staff to identify and agree on the approach to be used and the components to be included in the analysis.
- **Technical Analysis**. In this step, we worked with City staff to isolate the recoverable portion of planned facility costs and calculate draft SDC rates.
- **Draft Methodology Report Preparation**. In this step, we documented the calculation of the draft SDC rates included in this report.

SECTION II: METHODOLOGY

This section provides a non-numeric overview of the calculations that result in SDC rates.

A. REIMBURSEMENT FEE COST BASIS

Canby currently charges a reimbursement fee related to the estimated cost of unused system capacity investments on the local collector and arterial street system. In order for a reimbursement fee to continue to be collected and calculated, excess (i.e., not currently utilized) capacity must be available to serve future growth.

The current estimated value of Canby's excess capacity in the transportation system was determined based on the prior actual City cost of SDC-funded capacity projects. The actual historic cost incurred by the City of Canby for capacity-increasing transportation facilities is shown in **Appendix A**. The eligible reimbursement costs is determined by adjusting the actual capital facility cost expenditures downward to reflect the amount of capacity that has "used up" since the facility was constructed. Next, all costs were converted to year 2012 dollar amounts to adjust for inflation using factors derived from the *Engineering News Record*, Seattle Cost Index. The resulting calculated reimbursement fee cost basis of the unused roadway capacity in the transportation system is **$4,650,750.**

B. IMPROVEMENT FEE COST BASIS

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 demand. This approach works best where a detailed and up-to-date master plan or project list is available and the benefits of projects can be readily apportioned between growth and current users.

We recommend that Canby continue to utilize the "improvements-driven capacity approach" to allocate costs to the improvement fee basis for roadways as well as non-motorized facilities, including sidewalks and bicycle facilities. Canby's current transportation SDC methodology uses a variation of an "improvements-driven capacity approach" to allocate costs to the improvement fee basis. Under the "improvements-driven capacity approach," the cost of a given project is allocated to growth proportionately by the capacity made available for growth.

Ideally, the most directly applicable measure of capacity demand should be used as the basis for allocation. The *Canby Transportation System Plan, (2010),* includes a list of "financially constrained" transportation system plan (TSP) improvements that are needed to address future

growth needs. The Canby TSP long-range capital improvement project list has been adjusted to account for non-capacity projects and non-local funding sources (please refer to Appendix B).

According to the *Canby TSP (2010)* "financially constrained" plan, and after adjusting for projects that have already been completed, the long-range TSP facility improvements needed to address future capacity needs in Canby is $38,828,000 (adjusted to 2012 dollars).

After accounting for capacity and local funding share assumptions (shown in **Appendix B**), $25,016,000 in capital improvements is considered to be SDC eligible (locally SDC funded and needed to address growth). **The SDC eligible facility cost includes $19,483,000 in roadway facilities, $2,960,000 in bicycle facilities, and $2,573,000 in pedestrian facilities** (costs in 2012 dollars), as reflected in **Appendix B**.

C. 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 TSDC methodology update assumes that local City compliance costs will equate to 2.5% of the eligible TSDC facility costs (equals $625,400 over the next 20 years or an average cost of $31,270 per year).**

D. SUMMARY

In general, SDC rates are calculated by adding the reimbursement fee component, improvement fee component, and compliance cost component. Each component is calculated by dividing the eligible cost by the growth of units of demand.

Section III of this report provides detailed calculations related to growth in demand, which is the denominator in the SDC equation. **Section IV** of this report provides detailed calculations on eligible costs, which is the numerator in the SDC equation.

SECTION III: GROWTH CALCULATION

This section provides detailed calculations related to growth in demand, which is the denominator in the SDC equation.

A. RELEVANT TYPES OF GROWTH

Canby's existing transportation SDCs are based on projected "equivalent length new daily trips" for motor vehicle trip generation. In light of the fact that the current *Canby TSP* (2010) plans to provide a balanced transportation system with a mix of roadway, bicycle and pedestrian facility improvements, it is recommended that the City's revised SDC methodology utilize an average daily (weekday) "person trip" basis for determining local SDCs required to pay for the growth-related share of all types of transportation modes of travel (including roads, bicycle and pedestrian facilities).

Transportation engineers commonly use peak-hour trip or average daily trip estimates to assess transportation performance and determine system needs. Average weekday P.M. peak-hour vehicle trip generation rates were derived from the Canby TSP (2010) with internal (inside city limit) trip estimates for 2010 and projections for 2030. Using the traffic modeling assumptions from the Canby TSP, internal trip rates were interpolated for year 2012 and extrapolated for year 2032. Average weekday *motor vehicle* trip generation statistics provided in the *Institute of Transportation Engineers* (ITE) *Trip Generation Manual* for each land use type and development size serve as the basis for converting peak-hour vehicle trip-ends to average weekday trip-end estimates and projections.

This new transportation SDC methodology includes additional calculations to identify average daily *person-trips*. In addition to trips by motor vehicles, *person-trips* also include non-motor vehicle trips that utilize bicycle and pedestrian facilities. The proposed charges continue to adjust for linked trips (also known as pass-by trips) and average trip length. The calculation of the proposed TSDC rates is summarized below.

B. GROWTH IN TRIP ENDS

Having established the relevance of average weekday person-trip ends, we now quantify expected growth rates.

B.1 Expected Growth Levels

To convert vehicle trips to person trips, we analyzed data from the *Canby TSP* (2010) and applied factors to covert average weekday vehicle trips to average weekday person trips using findings from the *U.S. National Household Travel Survey* (2009), conducted by the U. S. Department of Transportation. Based on the current Canby TSP trip-end estimates and projections, the number of internal average weekday person-trip-ends in Canby is projected to increase by 162,431 between

2012 and 2032, as shown in **Table 1.** The rate of increase in trips equates to 3.1% annually over this time period.

B.2 Calculating the Growth Share

New collector or arterial facilities (roadways, bicycle and pedestrian facilities) that are only needed to serve growth are 100% SDC eligible.

Existing roadways and bicycle/pedestrian facilities that are planned for expansion may only be partially eligible for SDC funding. The share of existing transportation facilities that are planned for capacity upgrades to serve future growth needs is determined to be 46.8%, as shown in **Table 1.**

Table 1 Canby Existing and Projected Weekday Person-Trip-Ends: 2012 to 2032

a	b	c	d	e	f	g
Trip Generator	Est. 2012 (Avg. Weekday Vehicle Trip Ends)[1]	Proj. 2032 (Avg. Weekday Vehicle Trip Ends)[1]	Est. 2012 (Avg. Weekday Person Trip Ends)[2]	Proj. 2032 (Avg. Weekday Person Trip Ends)[2]	Increase in Person Trip-ends (e - d)	Trip End Avg. Annual Growth Rate (AAGR)
Residential Trip-ends	49,647	83,161	83,406	139,711	56,304	2.6%
Retail Trip-ends	26,605	57,043	44,697	95,832	51,136	3.7%
Non-retail Trip-ends	33,583	66,315	56,419	111,410	54,991	3.3%
Total Trip-ends	**109,835**	**206,520**	**184,522**	**346,953**	**162,431**	**3.1%**
New person trips as a % of total future trips					**46.8%**	

Notes:

1 Derived from Canby Transportation System Plan, March 2010, with 2012 estimates and 2032 projections based on extrapolations of 2010 to 2030 forecast. Assumes peak trips account for 10% of average weekday trip rates.

2 Person trip conversion rate of 1.68 derived from 2009 U.S. Dept. of Trans. National Household Travel Survey findings.

SECTION IV: COST CALCULATION

This section provides detailed calculations on eligible costs, which is the numerator in the SDC equation. The Canby Transportation SDC rates are calculated using the following series of formulas which:

a) Calculate the cost per person trip-end for motor vehicle improvements, non-motorized facility improvements, reimbursement costs, and compliance costs,

b) Identify the number of new person trips for each type of land use,

c) Adjust trip rates by land use type to allow for differences in "linked" or "pass-by" trips,

d) Adjust trip rates by land use type to allow for differences in trip lengths,

e) Calculate the motor vehicle improvements cost and SDC fee per trip-end and unit of development,

f) Calculate the non-motorized (bicycle and pedestrian) facility improvements cost and SDC fee per trip-end and unit of development,

g) Calculate the reimbursement cost and SDC fee per trip-end and unit of development,

h) Calculate the compliance cost and SDC fee per trip-end and unit of development, and

i) Calculate the total transportation SDC cost per unit of development.

A. IMPROVEMENT FEE

The projects listed in the financially constrained long-range transportation capital improvement plan that are eligible for SDC funding can only to the extent that the projects will benefit future users (rather than cure an existing deficiency). As mentioned previously, the total eligible SDC share of local transportation facilities is $25,016,000, of which $19,483,000 is for planned roadway facilities and $5,533,000 is for planned bicycle/pedestrian facilities (costs in 2012 dollars), as reflected in **Appendix B**.

To calculate the improvement fee by unit of development, the following calculations were made.

A1. Cost Per Person Trip-End

The capital improvements included in the appendices include both motor vehicle improvements and non-motorized facility improvements. The cost per person trip-end is calculated for each of these modes and for compliance costs by dividing the SDC-eligible costs by the increase in the average number of new person trip-ends shown in **Table 2**, using the following formula:

SDC-Eligible Cost (after reserves)	÷	**Increase In Person Trip-Ends**	=	**SDC-Eligible Cost Per Person Trip-End**

The SDC-Eligible Cost Per Person Trip-End for each mode and for compliance costs are shown in **Appendix C-1** and summarized in **Table 2,** below.

Table 2

SDC-Eligible Cost Per Person Trip End, Before Existing SDC Fund Balance

Type of Cost	SDC-Eligible Cost		Avg. Weekday Person Trip-Ends		Cost Per New Person Trip-End*
Motor Vehicle Facility Cost	$19,483,000	÷	162,431	=	**$119.95**
Non-Motorized Facility Cost	$5,533,000	÷	162,431	=	**$36.06**
Compliance Cost	$625,000	÷	162,431	=	**$3.85**

** denotes cost per person-trip end **before deducting existing fund balance**.*

A2. Adjustment for Current Fund Balance

The transportation improvement SDC fund balance that has been collected by the City but not yet committed or spent has been deducted from total eligible SDC facility costs. According to City staff the existing fund balance is estimated to equate to approximately $438,000. The adjusted eligible SDC for motor vehicle facility costs per person trip-end after deducting the current fund balance from the SDC cost per trip end is shown in **Table 3.**

Table 3

SDC-Eligible SDC Cost Per Person Trip End, After Existing SDC Fund Balance

a	b TSDC Eligible Cost	c Growth in Avg. Weekday Person Trip Ends [4]	d Eligible TSDC Cost Per Person Trip End Before Fund Balance (b / d)	e Eligible TSDC Cost Per Person Trip End After Fund Balance
Motor Vehicle Facility Costs [1]	$19,483,000	162,431	$119.95	**$117.90**
Pedestrian/Bicycle Facility Costs [1]	$5,533,000	162,431	$34.06	**$33.48**
Subtotal	**$25,016,000**			
Compliance Costs [2]	**$625,000**	162,431	$3.85	**$3.78**
Subtotal	**$25,641,000**			
Less SDC Fund Balance [3]	**($438,000)**	162,431	-$2.70	
Total	**$25,203,000**	**162,431**	**$155.16**	**$155.16**

Notes:
[1] Derived from Appendix B. Amounts shown are adjusted to 2012 dollars.
[2] Assumed to be 2.5% of total SDC eligible capital costs, and allocated based on capital cost allocation shown above.
[3] Based on City staff estimates.
[4] Derived from Table 1.

A3. New Person Trip-Ends Per Unit of Development

The number of new person trip-ends generated per day is calculated for each type of land use using the following formula:

ITE Trip Rate	X	Number of Person Trips	X	Percent New Trips	=	New Person-Trip Ends

The ITE *Trip Generation* manual contains trip rates based on trip generation studies conducted nationwide, and provides the base data of unadjusted counts of trips generated by various types of land use. The trip rates included in *Trip Generation* include all traffic entering or leaving a primary location, and do not account for traffic that is passing by and interrupts a "primary" trip between two other locations. These "pass-by" trips are not "new" because they would occur regardless of development activity.

"New" trips are often based on the assumption that all trips from residential land uses are new trips (therefore, percentage = 100%), and all other land uses are evaluated to reflect the percentage of their trips that are "new" versus the remainder (which are "pass-by" trips). No land use category has greater than 100% new trips, but some categories have as few as 34% new trips. The percentages used to account for pass-by trips in this methodology are based on pass-by data included in the ITE *Trip Generation Handbook, 2nd Edition* (2004).

Appendix C-1 lists the number of new trips generated for each selected ITE land use category, using Formula 2. Column 1 lists land use categories and their ITE code numbers. Column 2 contains the Weekday Average Trip Rate from ITE Trip Generation. Column 3 identifies the total person-trips (Column 2 X 1.68) (projected total person trips for all modes of travel per motor vehicle trip per *U.S. Department of Transportation, National Household Travel Survey*, 2009). Column 4 identifies the percentage of trips that are new, as opposed to pass-by trips. Column 5 is the result of multiplying columns 3 and 4 by each other, producing the number of new person trips generated per day for each land use category. (NOTE: Because of small sample sizes in Trip Generation, some land use categories do not include trip rates or a number of net new trips generated. For these categories, the trip generation rate for the land use which is the most similar to actual land use will be used in determining the amount of the Transportation SDC).

A4. Trip-Length Adjustment

The ITE trip generation rates do not account for differences in the lengths of trips for different types of development. Because longer trips have a relatively greater impact on the road system than do shorter trips, an adjustment factor is needed to account for differences in trip lengths relative to the length of an "average" trip. The net adjusted trip-ends generated per day is determined for each type of land use by multiplying the number of new person trip-ends (from Formula 3) by the trip length factor for each type of land use:

New Person Trip-Ends	X	Trip Length Factor	=	Net Adjusted Trip-Ends Per Day

Trip length data from surveys conducted for the U.S. Department of Transportation and published in the "*National Household Travel Survey*" (2009) were used in developing the Trip Length Factors, as were concepts and methods recommended by James C. Nicholas, in "The Calculation of Proportionate-Share

Impact Fees" (American Planning Association, 1988), and "Development Impact Fee Policy and Administration", (American Planning Association, 1990).

Appendix C-2 lists the net adjusted trip-ends per day for each type of development, as calculated using Formula 2. Column 1 repeats the ITE codes and land use categories, and Column 2 repeats the new trips per day from the last column of Appendix C-1. Column 3 presents the trip length factor for each type of land use. As the result of multiplying the number of trips (Column 2) by the trip length factor (Column 3), Column 4 displays the net adjusted trips per day for each land use category.

A5. Motor Vehicle Improvements Cost Per Unit of Development

The motor vehicle improvements cost per unit of development is calculated for each type of land use by multiplying the net adjusted person trip-ends for each land use by the motor vehicle improvements cost per trip-end.

Net Adjusted Person Trip-Ends Per Unit	X	Motor Vehicle Improvements Cost Per Trip-End	=	Motor Vehicle Improvements Cost Per Unit

Appendix C-3 displays the motor vehicle improvements cost per unit for each land use category. Column 1 repeats the ITE land use codes and categories, Column 2 repeats the net adjusted trip-ends for each land use category (from Appendix C-2), and column 3 shows the motor vehicle improvements cost per trip-end (from Appendix C-1). The Motor Vehicle Improvements Cost Per Unit, shown in Column 4, is calculated by multiplying the net adjusted trip-ends (Column 2) by the motor vehicle improvements cost per trip-end (Column 3).

A6. Non-Motorized Facility Improvements Cost Per Unit of Development

The non-motorized facility cost per unit of development is calculated for each type of land use by multiplying the net adjusted person trip-ends for each land use by the non-motorized (bicycle and pedestrian facility) improvements cost per trip-end.

	Net Adjusted Person Trip-Ends Per Unit	X	Non-Motor Vehicle Improvements Cost Per Trip-End	=	Non-Motor Vehicle Improvements Cost Per Unit
5.					

Appendix D-4 displays the non-motorized facility improvements cost per unit for each land use category. Column 1 repeats the ITE land use codes and categories, and Column 2 repeats the net adjusted trip-ends for each land use category (from Appendix C-2). The non-motorized facility improvements cost per trip-end is shown in Column 3.

A7. Compliance Cost Per Unit of Development

The compliance cost per unit of development is calculated for each type of land use by multiplying the net adjusted person trip-ends for each land use by the compliance cost per trip-end.

	Net Adjusted Person Trip-Ends Per Unit	X	Compliance Cost Per Trip-End	=	Compliance Cost Per Unit
6.					

Appendix C-5 displays the compliance cost per unit for each land use category. Column 1 repeats the ITE land use codes and categories, and Column 2 repeats the net adjusted person trip-ends for each land use category. The compliance cost per trip-end is shown in Column 3. The Compliance Cost Per Unit shown in Column 4 is calculated by multiplying the net adjusted person trip-ends for each land use category (Column 2) by the compliance cost per person trip-end (Column 3).

B. REIMBURSEMENT FEE

As mentioned previously, the eligible reimbursement cost basis is $**$4,650,760.** The reimbursement fee is determined by dividing the reimbursement fee cost basis ($4,650,760) by the projected increase in person-trip-ends (162,431) that is expected to occur in Canby between 2012 and 2032.

The reimbursement cost per unit of development is calculated for each type of land use by multiplying the net adjusted person trip-ends for each land use by the compliance cost per trip-end.

Net Adjusted Person Trip-Ends Per Unit	X	Reimbursement Cost Per Trip-End	=	Compliance Cost Per Unit

Appendix C-6 displays the reimbursement cost per unit for each land use category. Column 1 repeats the ITE land use codes and categories, and Column 2 repeats the net adjusted person trip-ends for each land use category. The reimbursement cost per trip-end is shown in Column 3. The Reimbursement Cost Per Unit shown in Column 4 is calculated by multiplying the net adjusted person trip-ends for each land use category (Column 2) by the reimbursement cost per person trip-end (Column 3).

C. TOTAL TRANSPORTATION SDC

The Total Transportation SDC per unit of development is calculated for each type of land use by adding the motor vehicle improvements SDC per unit (from Appendix C-3), the non-motorized facility improvements SDC per unit (from Appendix C-4), the compliance cost per unit (from Appendix C-5) and the reimbursement cost per unit (from Appendix C-6).

SECTION V: SUMMARY

This section provides a detailed calculation of the residential and non-residential SDCs.

A. SDC COST PER UNIT OF DEVELOPMENT

Table 4 displays the total Transportation SDC cost for selected ITE land use categories, which is determined from adding together the motor vehicle improvements SDC per unit (from Appendix C-3), the non-motorized facility improvements SDC per unit (from Appendix C-4), the compliance cost per unit (from Appendix C-5) and the reimbursement cost per unit (from Appendix C-6).

Table 4

Canby Transportation SDC Cost Per Unit of Development

ITE LAND USE CODE/ CATEGORY	Motor Vehicle SDC [2]	Non-Motor Vehicle SDC [3]	Compli-ance Cost [4]	Reim-bursement Cost [5]	Total Transpor-tation SDC	Unit [6]
210 Dwelling Unit	$1,896	$538	$61	$460	$2,955	/dwelling unit
220 Multifamily [1]	$1,327	$377	$43	$322	$2,069	/dwelling unit
520 Elementary School (Public)	$102	$29	$3	$25	$159	/student
560 Church	$1,353	$384	$43	$329	$2,110	/T.S.F.G.F.A.
565 Day Care Center/Preschool	$355	$101	$11	$86	$553	/student
630 Clinic	$6,603	$1,875	$212	$1,604	$10,294	/T.S.F.G.F.A.
814 Specialty Retail Center	$3,244	$921	$104	$788	$5,058	/T.S.F.G.L.A.
820 Shopping Center	$3,143	$893	$101	$763	$4,900	/T.S.F.G.L.A.
850 Supermarket	$10,887	$3,092	$349	$2,644	$16,972	/T.S.F.G.F.A.
853 Convenience Market	$23,943	$6,800	$768	$5,815	$37,325	/T.S.F.G.F.A.
880 Pharmacy/Drugstore	$7,642	$2,170	$245	$1,856	$11,913	/T.S.F.G.F.A.
911 Bank/Savings: Walk-in	$13,798	$3,919	$443	$3,351	$21,511	/T.S.F.G.F.A.
931 Quality Restaurant	$5,078	$1,442	$163	$1,233	$7,916	/T.S.F.G.F.A.
934 Fast Food Restaurant	$21,127	$6,000	$678	$5,131	$32,936	/T.S.F.G.F.A.
942 Automobile Care Center	$2,936	$834	$94	$713	$4,576	/T.S.F.G.L.A.
944 Gasoline/Service Station	$6,030	$1,712	$193	$1,464	$9,400	/V.F.P.
710 General Office Building	$2,181	$619	$70	$530	$3,400	/T.S.F.G.F.A.
720 Medical-Dental Office Building	$7,156	$2,032	$230	$1,738	$11,156	/T.S.F.G.F.A.
110 General Light Industrial	$1,381	$392	$44	$335	$2,152	/T.S.F.G.F.A.
120 General Heavy Industrial	$297	$84	$10	$72	$463	/T.S.F.G.F.A.
150 Warehouse	$982	$279	$32	$239	$1,532	/T.S.F.G.F.A.
151 Mini-Warehouse	$495	$141	$16	$120	$772	/T.S.F.G.F.A.

Notes:

[1] Based on ITE land use code for apartment dwelling.

[2] Derived from Appendix Table C-3.

[3] Derived from Appendix Table C-4.

[4] Derived from Appendix Table C-5.

[5] Derived from Appendix Table C-6.

[6] Abbreviations used in the "Unit" column:
T.S.F.G.F.A. = Thousand Square Feet Gross Floor Area
T.S.F.G.L.A. = Thousand Square Feet Gross Leasable Area
V.F.P. = Vehicle Fueling Position

B. CREDITS, EXEMPTIONS AND DISCOUNTS

The exiting Canby SDC administrative procedures will continue to establish local policies for issuing credits and exemptions, annual adjustments, and other administrative procedures.

(1) Credits

A credit is a reduction in the amount of the SDC for a specific development. The Oregon SDC Act requires that credit be allowed for the construction of a "qualified public improvement" which (1) is required as a condition of development approval, (2) is identified in the City's capital improvements program, and (3) 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 (e.g., a transportation improvement can only be used for a credit for a future transportation SDC), and must 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 up to the amount of the improvement fee. 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 City's SDC Capital Improvements Plan, or provide a share of the cost of an improvement by other means (i.e., partnerships, other City revenues, etc.).

(2) Exemptions

The City may "exempt" specific classes of development (i.e., minor additions, etc.) from the requirement to pay transportation SDCs.

(3) Discounts

The City may "discount" the amount of the SDC by reducing the portion of growth-required improvements to be funded with SDCs. Alternatively, the City may decide to charge only a percentage (i.e., 50%, 75%, etc.) of the SDC rates required to fund identified growth-related facility costs. Because discounts reduce SDC revenues, they increase the amounts that must come from other sources, such as general fund contributions in order for the City to maintain levels of service.

C. INDEXING

Oregon law (ORS 223.304) also allows for the periodic indexing of system development charges for inflation, as long as the index used is:

> "(A) A relevant measurement of the average change in prices or costs over an identified time period for materials, labor, real property or a combination of the three;
>
> (B) Published by a recognized organization or agency that produces the index or data source for reasons that are independent of the system development charge methodology; and
>
> (C) Incorporated as part of the established methodology or identified and adopted in a separate ordinance, resolution or order."

We recommend that the City of Canby index its charges to the **Engineering News Record** (ENR) Construction Cost Index (CCI) for the City of Seattle, and adjust the charges annually as per that index. There is no comparable Oregon-specific index.

D. SUMMARY AND COMPARISON

Table 5 summarizes the SDC calculations and compares them with SDCs currently in effect.

Table 5 Existing and Revised Transportation SDCs in Canby

LAND USE TYPE	Prior/Current Transportation SDC [1]	New Revised Transportation SDC	Change
Residential: Single family per Dwelling Unit	$2,603	$2,955	$352
Residential: Multi-family per Dwelling Unit	$1,738	$2,069	$331
Commercial: Shopping Center (50,000 SF floor area)	$165,655	$196,017	$30,362
Office building (4,000 SF floor area)	$7,786	$13,598	$5,812
Light Industrial building (60,000 SF floor area)	$127,400	$129,129	$1,729
Commercial/Industrial Rate per avg. daily vehicle-trip-end	$272	--	varies
Commercial/Industrial Rate per avg. daily person-trip-end [2]	$162	$184 (avg.)	$22 (avg.)

Notes:

[1] Based upon City of Canby Master Fee Schedule, effective as of 1/2/2012.

[2] Conversion of current transportation SDC from vehicle trips to person trips based on factor used for current methodology report.

APPENDIX

APPENDIX A

Year:	1	2	3	4	5	6	7	8	9	10	11	12	Cumulative
Calender Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Amount
Transportation SDC Expenditures													
Beginning Balance in Year 1 [1]	$ 1,637,155												
Additional Annual Expenditure [2]	$ 163,589	$ 182,690	$ 316,112	$ 231,525	$ 163,206	$ 183,903	$ 577,630	$ 668,044	$ 682,790	$ 98,168	$ 32,008	$ 26,033	
Total Expenditures	$ 1,800,744	$ 182,690	$ 316,112	$ 231,525	$ 163,206	$ 183,903	$ 577,630	$ 668,044	$ 682,790	$ 98,168	$ 32,008	$ 26,033	$ 4,962,853
	12	11	10	9	8	7	6	5	4	3	2	1	
Depreciation Deduction Factor [3]	0.4447	0.4011	0.3588	0.3178	0.2780	0.2394	0.2020	0.1657	0.1305	0.0963	0.0632	0.0311	
Depreciation Deduction Values													
Year 1-Expenditures (12 years of dep.)	$ (800,862)												$ (800,862)
Year 2 Expenditures (11 years of dep.)		$ (73,280)											$ (73,280)
Year 3 Expenditures (10 years of dep.)			$ (113,423)										$ (113,423)
Year 4 Expenditures (9 years of dep.)				$ (73,574)									$ (73,574)
Year 5 Expenditures (8 years of dep.)					$ (45,369)								$ (45,369)
Year 6 Expenditures (7 years of dep.)						$ (44,026)							$ (44,026)
Year 7 Expenditures (6 years of dep.)							$ (116,666)						$ (116,666)
Year 8 Expenditures (5 years of dep.)								$ (110,681)					$ (110,681)
Year 9 Expenditures (4 years of dep.)									$ (89,091)				$ (89,091)
Year 10 Expenditures (3 years of dep.)										$ (9,458)			$ (9,458)
Year 11 Expenditures (2 years of dep.)											$ (2,024)		$ (2,024)
Year 12 Expenditures (1 years of dep.)												$ (811)	$ (811)
Total Depreciation Deduction													$(1,479,265)
Remaining Transportation SDC Reimbursement Value													
Nominal current year value	$ 999,882	$ 109,410	$ 202,689	$ 157,951	$ 117,837	$ 139,877	$ 460,964	$ 557,363	$ 593,699	$ 88,710	$ 29,984	$ 25,222	$ 3,483,588
Inflation adjusted value (2012 $) [4]	$ 1,549,882	$ 163,511	$ 292,048	$ 219,425	$ 157,827	$ 180,628	$ 573,908	$ 669,038	$ 687,094	$ 98,983	$ 32,256	$ 26,161	**$ 4,650,760**
Projected Increase in Person Trips [5]													162,431
Reimbursement Cost Per Person Trip													**$ 28.63**

Notes:

[1] *Derived from prior adopted Canby Transportation SDC Methodology report (2001).*

[2] *Actual TSDC expenditures based on city budget documents, provided by City of Canby.*

[3] *Depreciation factors based on trip generation model growth in vehicle trip ends, Canby Transportation System Plan, 2010 (3.11%)*

[4] *Inflation escalation factors based on Engineering News Record, Seattle Construction Cost Index average cost increase between 2000 and 2011 (3.72%).*

[5] *Derived from Table 1.*

APPENDIX B

CITY OF CANBY
SDC-Eligible Transportation System Projects List
Financially Constrained List (as of August 2012)

		MOTOR VEHICLE				BICYCLE				PEDESTRIAN				
PLAN/ PROJECT NUMBER	DESCRIPTION	ESTIMATED MOTOR VEHICLE PORTION OF PROJECT	Local TSDC Cost Share*	GROWTH REQUIRED SDC-ELIGIBLE VEHICLE %	SDC-ELIGIBLE MOTOR VEHICLE COSTS	ESTIMATED BICYCLE FACILITY PORTION OF PROJECT	Local TSDC Cost Share*	GROWTH REQUIRED SDC-ELIGIBLE BICYCLE %	SDC-ELIGIBLE BICYCLE COSTS	ESTIMATED PEDESTRIAN FACILITY PORTION OF PROJECT	Local TSDC Cost Share*	GROWTH REQUIRED SDC-ELIGIBLE PED %	SDC-ELIGIBLE PEDESTRIAN COSTS	TOTAL SDC-ELIGIBLE COSTS
B1	N Holly St. (NW 6th Ave. to Multi-Use Trail). Install enhancements to create a bicycle boulevard.	$ -			$ -	$ 30,000	100%	46.8%	$ 14,040	$ -			$ -	$ 14,040
B3	N Holly St. (NW 22nd Ave. to NW 6th Ave.). Stripe bike lanes (widen as needed).				-	$ 663,000	100%	46.8%	$ 310,284				-	$ 310,284
B6	Pine St. (OR 99E to NE 4th Ave.). Install bike lanes.				-	-			-				-	-
B7	Otto Rd. (OR 99E to Mulino Rd.). Install bike lanes.				-	-			-				-	-
B8	SE 4th Ave. (Sequoia Pkwy. To Mulino Rd.). Install bike lanes.				-	-			-				-	-

Notes:

[1]

Local Cost Assumptions	Source
Streets	TSP, page 9-5
Bicycle	TSP, page 9-5
Pedestrian	TSP, page 9-5

[2] *Local TSDC Cost Share, ranges from 67% for projects with non-local funding to 100%. Derived from Canby TSP, Table 9-5.*

[3] *Growth Required percentage calculation derived from Table 1.*

APPENDIX B (continued)

		MOTOR VEHICLE				BICYCLE				PEDESTRIAN				
PLAN/ PROJECT NUMBER	DESCRIPTION	ESTIMATED MOTOR VEHICLE PORTION OF PROJECT	Local TSDC Cost Share*	GROWTH REQUIRED SDC-ELIGIBLE VEHICLE %	SDC-ELIGIBLE MOTOR VEHICLE COSTS	ESTIMATED BICYCLE FACILITY PORTION OF PROJECT	Local TSDC Cost Share*	GROWTH REQUIRED SDC-ELIGIBLE BICYCLE %	SDC-ELIGIBLE BICYCLE COSTS	ESTIMATED PEDESTRIAN FACILITY PORTION OF PROJECT	Local TSDC Cost Share*	GROWTH REQUIRED SDC-ELIGIBLE PED %	SDC-ELIGIBLE PEDESTRIAN COSTS	TOTAL SDC-ELIGIBLE COSTS
C1	OR 99E and UPRR (at Elm St.). Improve crosswalk and ramps.				-				-	$ 40,000	67%	46.8%	$ 12,542	$ 12,542
C2	OR 99E and UPRR (at Grant St.). Improve crosswalk and ramps; install pedestrian refuge island.				-				-	$ 30,000	67%	46.8%	$ 9,407	$ 9,407
C3	OR 99E and UPRR (at Ivy St.). Improve crosswalk and ramps; install pedestrian refuge island.				-				-	$ 30,000	67%	46.8%	$ 9,407	$ 9,407
C4	OR 99E (between Ivy St. and Locust St.). Install pedestrian refuge island.				-				-	-			-	$ -
C5	S Ivy St. (north leg at Township Rd.). Install crosswalk and ramps.				-				-	-			-	$ -
C6	Township Rd. (at Sequoia Pkwy.). Provide crosswalk.				-				-	-			-	$ -
C7	OR 99E and UPRR (at Pine St.). Improve crosswalk and ramps.				-				-	-			-	$ -
C8	S Ivy St. (south leg at SW 3rd Ave.). Install crosswalk, ramps, and pedestrian refuge island (remove crosswalk striping on north leg).				-				-	-			-	$ -

Notes:

[1] Local Cost Assumptions	Source
Streets	TSP, page 9-5
Bicycle	TSP, page 9-5
Pedestrian	TSP, page 9-5

[2] *Local TSDC Cost Share, ranges from 67% for projects with non-local funding to 100%. Derived from Canby TSP, Table 9-5.*

[3] *Growth Required percentage calculation derived from Table 1.*

APPENDIX B (continued)

		MOTOR VEHICLE				BICYCLE				PEDESTRIAN				
PLAN/ PROJECT NUMBER	DESCRIPTION	ESTIMATED MOTOR VEHICLE PORTION OF PROJECT	Local TSDC Cost Share*	GROWTH REQUIRED SDC-ELIGIBLE VEHICLE %	SDC-ELIGIBLE MOTOR VEHICLE COSTS	ESTIMATED BICYCLE FACILITY PORTION OF PROJECT	Local TSDC Cost Share*	GROWTH REQUIRED SDC-ELIGIBLE BICYCLE %	SDC-ELIGIBLE BICYCLE COSTS	ESTIMATED PEDESTRIAN FACILITY PORTION OF PROJECT	Local TSDC Cost Share*	GROWTH REQUIRED SDC-ELIGIBLE PED %	SDC-ELIGIBLE PEDESTRIAN COSTS	TOTAL SDC-ELIGIBLE COSTS
I1	Township Rd./S Ivy St. Install traffic signal (includes project C5).	$ 300,000	100%	46.8%	$ 140,400				-				-	$ 140,400
I2	Township Rd./Sequoia Pkwy.. Convert to all-way stop and install eastbound and westbound left-turn lanes (includes project C6).	$ 510,000	100%	46.8%	$ 238,680				-				-	$ 238,680
I3	N Ivy St./N 1st Ave. Remove southbound stop sign, restrict east leg to right-in/right-out, and install diverter on west leg to only allow southbound right turns.	$ 10,000	100%	46.8%	$ 4,680				-				-	$ 4,680
I4	N Grant St./NW 1st Ave. Remove southbound stop sign.	$ 10,000	100%	46.8%	$ 4,680				-				-	$ 4,680
I5	Knights Bridge Rd./Cedar St. Restripe northbound approach to include a right-turn lane.	$ 5,000	100%	46.8%	$ 2,340				-				-	$ 2,340
I6	S Grant St./SW 2nd Ave. Install westbound right-turn lane.	$ 100,000	100%	46.8%	$ 46,800				-				-	$ 46,800
I7	S Ivy St./SW 2nd Ave. Install eastbound right-turn lane.	$ 100,000	100%	46.8%	$ 46,800				-				-	$ 46,800
I8	S. Ivy St./SW 3rd Ave. Install partial diverter on west leg to close westbound receiving lane (includes project C8).	$ 40,000	100%	46.8%	$ 18,720				-				-	$ 18,720
L1	Otto Rd. Extension (OR 99E to Mulino Rd.). Construct new road (includes two roundabouts and projects B7 and S10).	$ 8,915,000	100%	100%	$ 8,915,000				-				-	$ 8,915,000
L2	OR 99E/Otto Rd. Install traffic signal (associated with Otto Rd. Extension).	$ 300,000	100%	100%	$ 300,000				-				-	$ 300,000
L3	NE 4th Ave./Pine St.	$ 1,255,000	100%	100%	$ 1,255,000				-				-	$ 1,255,000
L4	OR 99E/Pine St. and Adjacent UPRR Crossing	$ 2,000,000	100%	100%	$ 2,000,000				-				-	$ 2,000,000
L5	SE 4th Ave. Extension (Sequoia Pkwy. To Mulino Rd.)	$ 3,140,000	100%	100%	$ 3,140,000				-				-	$ 3,140,000
L6	NE 3rd Ave. (Locust St. to NE 4th Ave.) and NE 4th Ave. (Locust St. to NE 3rd Ave.)	tbd	100%	100%					-				-	$ -

APPENDIX B (continued)

		MOTOR VEHICLE				BICYCLE				PEDESTRIAN				
PLAN/ PROJECT NUMBER	DESCRIPTION	ESTIMATED MOTOR VEHICLE PORTION OF PROJECT	Local TSDC Cost Share*	GROWTH REQUIRED SDC-ELIGIBLE VEHICLE %	SDC-ELIGIBLE MOTOR VEHICLE COSTS	ESTIMATED BICYCLE FACILITY PORTION OF PROJECT	Local TSDC Cost Share*	GROWTH REQUIRED SDC-ELIGIBLE BICYCLE %	SDC-ELIGIBLE BICYCLE COSTS	ESTIMATED PEDESTRIAN FACILITY PORTION OF PROJECT	Local TSDC Cost Share*	GROWTH REQUIRED SDC-ELIGIBLE PED %	SDC-ELIGIBLE PEDESTRIAN COSTS	TOTAL SDC-ELIGIBLE COSTS
N1	OR 99E (Elm St. to Locust St.). Construct multi-modal improvements and repave highway (includes projects C4 and S1).	$ 3,770,000	tbd	**0%**	-				-				-	$ -
N2	All traffic signals on OR 99E within Canby city limits. Convert to adaptive signal system.	$ 400,000	67%	46.8%	$ 125,424				-				-	$ 125,424
N3	13th Ave. (Berg Pkwy. To Sequoia Pkwy. Extension). Perform safety study and construct traffic calming and other safety improvements prior to constructing Sequoia Pkwy. Extension to SE 13th Ave.	$ 750,000	tbd	**0%**	-				-				-	$ -
O1	SE 1st Ave./Haines Rd./Mulino Rd./Bremer Rd. Install roundabout.	$ 2,000,000	100%	46.8%	$ 936,000				-				-	$ 936,000
O2	Township Rd./Redwood St. Install roundabout.	$ 1,000,000	100%	46.8%	$ 468,000				-				-	$ 468,000
O3	Township Rd./Mulino Rd. Install roundabout.	$ 1,000,000	100%	46.8%	$ 468,000				-				-	$ 468,000
P1	Safe Routes to School (yearly funding).				-				-	$ 1,050,000	tbd	0%	-	$ -
P2	ADA Improvements (yearly funding).				-				-	$ 1,050,000	tbd	0%	-	$ -
R1	UPRR (at Elm St.). Improve rail crossing.				-	$ 100,000	67%	46.8%	$ 31,356				-	$ 31,356
R2	UPRR (at Grant St.). Improve rail crossing.				-	$ 100,000	67%	46.8%	$ 31,356				-	$ 31,356
R3	UPRR (at Ivy St.). Improve rail crossing.				-	$ 100,000	67%	46.8%	$ 31,356				-	$ 31,356
R4	UPRR (at Pine St.-NE 4th Ave.). Provide rail crossing.				-	$ -		46.8%	$ -				-	$ -
R5	OPRR (at Township Rd.). Move guardrail and improve rail crossing.				-	$ 100,000	67%	46.8%	$ 31,356				-	$ 31,356

APPENDIX B (continued)

		MOTOR VEHICLE				BICYCLE				PEDESTRIAN				
PLAN/ PROJECT NUMBER	DESCRIPTION	ESTIMATED MOTOR VEHICLE PORTION OF PROJECT	Local TSDC Cost Share*	GROWTH REQUIRED SDC-ELIGIBLE VEHICLE %	SDC-ELIGIBLE MOTOR VEHICLE COSTS	ESTIMATED BICYCLE FACILITY PORTION OF PROJECT	Local TSDC Cost Share*	GROWTH REQUIRED SDC-ELIGIBLE BICYCLE %	SDC-ELIGIBLE BICYCLE COSTS	ESTIMATED PEDESTRIAN FACILITY PORTION OF PROJECT	Local TSDC Cost Share*	GROWTH REQUIRED SDC-ELIGIBLE PED %	SDC-ELIGIBLE PEDESTRIAN COSTS	TOTAL SDC-ELIGIBLE COSTS
S01	OR 99E (north side, Knott St. to Locust St.). Install sidewalks (north side).				-				-	-			-	$ -
S04	S Ivy St. (OR 99E to Lee Elementary). Fill in sidewalk gaps.				-				-	$ 490,000	100%	46.8%	$ 229,320	$ 229,320
S05	Pine St. (OR 99E to NE 4th Ave.). Install sidewalks.				-				-	$ -		46.8%	$ -	$ -
S07	N. Holly St. (Knights Bridge Rd. to NW Territorial Rd.). Fill in sidewalk gaps.				-				-	$ 550,000	100%	46.8%	$ 257,400	$ 257,400
S08	Territorial Rd. (Holly St. to OR 99E). Fill in sidewalk gaps.				-				-	$ 1,230,000	100%	46.8%	$ 575,640	$ 575,640
S09	NE 10th Ave. (Holly St. to Pine St.). Install sidewalks.				-				-	$ 830,000	100%	100%	$ 830,000	$ 830,000
S10	Otto Rd. (OR 99E to Mulino Rd.). Install sidewalks, crosswalks, ramps.				-				-	$ -		100%	$ -	$ -
S11	S Ivy St. (S 13th Ave. to S 16th Ave.). Fill in sidewalk gaps.				-				-	$ 100,000	100%	100%	$ 100,000	$ 100,000
S12	S Township Rd. (OP RR to Sequoia Pkwy.). Install sidewalks.				-				-	$ 200,000	100%	100%	$ 200,000	$ 200,000
S13	SE 4th Ave. (Sequoia Pkwy. To Mulino Rd.). Install sidewalks.				-				-	$ -		46.8%	$ -	$ -
T1	OR 99E and Molalla Forest Rd. Trail. Connect multi-use trail to sidewalks on south side of OR 99E.				-	-			-	$ 360,000	100%	46.8%	$ 168,480	$ 168,480
T2	Parallel Route to OR 99E (between Elm St. and Molalla Forest Rd. Trail). Construct 12'-wide multi-use trail along rail corridor.				-	$ 3,435,000	67%	100%	$ 2,301,450	-			-	$ 2,301,450
	Costs in 2010 dollars	**$ 25,605,000**			**$ 18,110,524**	**$ 4,528,000**			**$ 2,751,198**	**$ 5,960,000**			**$ 2,392,196**	**$ 23,253,918**
	Costs in 2012 dollars	**$ 27,545,000**			**$ 19,483,000**	**$ 4,871,000**			**$ 2,960,000**	**$ 6,412,000**			**$ 2,573,000**	**$ 25,016,000**

Notes:

[1] Local Cost Assumptions	Source
Streets	TSP, page 9-5
Bicycle	TSP, page 9-5
Pedestrian	TSP, page 9-5

[2] *Local TSDC Cost Share, ranges from 67% for projects with non-local funding to 100%. Derived from Canby TSP, Table 9-5.*

[3] *Growth Required percentage calculation derived from Table 1.*

APPENDIX TABLE C-1

NEW AVG. WEEKDAY TRIP-ENDS PER UNIT OF DEVELOPMENT

ITE LAND USE CODE/CATEGORY	Weekday Avg. Vehicle Trip Ends	Est. Person Trip Ends [2]	% New Trips [3]	New Person Trip-Ends	Unit [4]
210 Single Family Dwelling	9.6	16.08	100%	16.08	/dwelling unit
220 Multifamily [1]	6.7	11.26	100%	11.26	/dwelling unit
520 Elementary School (Public)	1.3	2.17	100%	2.17	/student
560 Church	9.1	15.30	100%	15.30	/T.S.F.G.F.A.
565 Day Care Center/Preschool	4.5	7.53	100%	7.53	/student
630 Clinic	31.5	52.84	100%	52.84	/T.S.F.G.F.A.
814 Specialty Retail Center	44.3	74.46	44%	32.76	/T.S.F.G.L.A.
820 Shopping Center	42.9	72.14	44%	31.74	/T.S.F.G.L.A.
850 Supermarket	102.2	171.76	64%	109.93	/T.S.F.G.F.A.
853 Convenience Market	738.0	1239.82	39%	483.53	/T.S.F.G.F.A.
880 Pharmacy/Drugstore	90.1	151.30	51%	77.16	/T.S.F.G.F.A.
911 Bank/Savings: Walk-in	156.5	262.89	53%	139.33	/T.S.F.G.F.A.
931 Quality Restaurant	90.0	151.12	57%	86.14	/T.S.F.G.F.A.
934 Fast Food Restaurant	496.1	833.48	43%	358.40	/T.S.F.G.F.A.
942 Automobile Care Center [5]	40.1	67.37	44%	29.64	/T.S.F.G.L.A.
944 Gasoline/Service Station	168.6	283.18	43%	121.77	/V.F.P.
710 General Office Building	11.0	18.50	100%	18.50	/T.S.F.G.F.A.
720 Medical-Dental Office Building	36.1	60.70	100%	60.70	/T.S.F.G.F.A.
110 General Light Industrial	7.0	11.71	100%	11.71	/T.S.F.G.F.A.
120 General Heavy Industrial	1.5	2.52	100%	2.52	/T.S.F.G.F.A.
150 Warehouse	5.0	8.33	100%	8.33	/T.S.F.G.F.A.
151 Mini-Warehouse	2.5	4.20	100%	4.20	/T.S.F.G.F.A.

Notes:

[1] Based on ITE land use code for apartment dwelling.

[2] Derived from U.S. National Household Transportation Survey, 2009.

[3] Reflects percent of trips that are direct vs. "linked"; Source: ITE, Trip Generation Handbook, 8th Ed.

[4] Abbreviations used in the "Unit" column:
T.S.F.G.F.A. = Thousand Square Feet Gross Floor Area
T.S.F.G.L.A. = Thousand Square Feet Gross Leasable Area
V.F.P. = Vehicle Fueling Position

5 Because there is no ITE Weekday Average Trip Rate for this land use category, the trip rate shown is the ITE P.M. peak-hour trip rate multiplied by a factor of ten.

APPENDIX TABLE C-2

NET ADJUSTED PERSON TRIP-ENDS PER UNIT OF DEVELOPMENT
AVG. TRIP LENGTH ADJUSTMENT FACTORS

ITE LAND USE CODE/CATEGORY	New Person Trip-Ends	Trip Length Adjustment Factor [2]	Net Person Trip-Ends	Unit [3]
210 Single Family Dwelling	16.08	1.00	16.08	/dwelling unit
220 Multifamily [1]	11.26	1.00	11.26	/dwelling unit
520 Elementary School (Public)	2.17	0.40	0.87	/student
560 Church	15.30	0.75	11.48	/T.S.F.G.F.A.
565 Day Care Center/Preschool	7.53	0.40	3.01	/student
630 Clinic	52.84	1.06	56.01	/T.S.F.G.F.A.
814 Specialty Retail Center	32.76	0.84	27.52	/T.S.F.G.L.A.
820 Shopping Center	31.74	0.84	26.66	/T.S.F.G.L.A.
850 Supermarket	109.93	0.84	92.34	/T.S.F.G.F.A.
853 Convenience Market	483.53	0.42	203.08	/T.S.F.G.F.A.
880 Pharmacy/Drugstore	77.16	0.84	64.82	/T.S.F.G.F.A.
911 Bank/Savings: Walk-in	139.33	0.84	117.04	/T.S.F.G.F.A.
931 Quality Restaurant	86.14	0.50	43.07	/T.S.F.G.F.A.
934 Fast Food Restaurant	358.40	0.50	179.20	/T.S.F.G.F.A.
942 Automobile Care Center	29.64	0.84	24.90	/T.S.F.G.L.A.
944 Gasoline/Service Station	121.77	0.42	51.14	/V.F.P.
710 General Office Building	18.50	1.00	18.50	/T.S.F.G.F.A.
720 Medical-Dental Office Building	60.70	1.00	60.70	/T.S.F.G.F.A.
110 General Light Industrial	11.71	1.00	11.71	/T.S.F.G.F.A.
120 General Heavy Industrial	2.52	1.00	2.52	/T.S.F.G.F.A.
150 Warehouse	8.33	1.00	8.33	/T.S.F.G.F.A.
151 Mini-Warehouse	4.20	1.00	4.20	/T.S.F.G.F.A.

Notes:

[1] Based on ITE land use code for apartment dwelling.

[2] Derived from U.S.D.O.T. National Household Travel Survey, 2009.

[3] Abbreviations used in the "Unit" column:
T.S.F.G.F.A. = Thousand Square Feet Gross Floor Area
T.S.F.G.L.A. = Thousand Square Feet Gross Leasable Area
V.F.P. = Vehicle Fueling Position

APPENDIX TABLE C-3

MOTOR VEHICLE FACILITY COST PER UNIT OF DEVELOPMENT

ITE LAND USE CODE/CATEGORY	Net Person Trip-Ends	Motor Veh. Cost Per Person Trip-End [2]	Motor Veh. Cost Per Unit
210 Single Family Dwelling	16.08	$117.90	$1,896
220 Multifamily [1]	11.26	$117.90	$1,327
520 Elementary School (Public)	0.87	$117.90	$102
560 Church	11.48	$117.90	$1,353
565 Day Care Center/Preschool	3.01	$117.90	$355
630 Clinic	56.01	$117.90	$6,603
814 Specialty Retail Center	27.52	$117.90	$3,244
820 Shopping Center	26.66	$117.90	$3,143
850 Supermarket	92.34	$117.90	$10,887
853 Convenience Market	203.08	$117.90	$23,943
880 Pharmacy/Drugstore	64.82	$117.90	$7,642
911 Bank/Savings: Walk-in	117.04	$117.90	$13,798
931 Quality Restaurant	43.07	$117.90	$5,078
934 Fast Food Restaurant	179.20	$117.90	$21,127
942 Automobile Care Center	24.90	$117.90	$2,936
944 Gasoline/Service Station	51.14	$117.90	$6,030
710 General Office Building	18.50	$117.90	$2,181
720 Medical-Dental Office Building	60.70	$117.90	$7,156
110 General Light Industrial	11.71	$117.90	$1,381
120 General Heavy Industrial	2.52	$117.90	$297
150 Warehouse	8.33	$117.90	$982
151 Mini-Warehouse	4.20	$117.90	$495

Notes:

[1] Based on ITE land use code for apartment dwelling.

[2] Derived from Table 3.

[3] Abbreviations used in the "Unit" column:
T.S.F.G.F.A. = Thousand Square Feet Gross Floor Area
T.S.F.G.L.A. = Thousand Square Feet Gross Leasable Area
V.F.P. = Vehicle Fueling Position

APPENDIX TABLE C-4

NON-MOTOR VEHICLE FACILITY COST PER UNIT OF DEVELOPMENT

Unit [3]	ITE LAND USE CODE/CATEGORY	Net Person Trip-Ends	Non-MV Cost Per Person Trip-End [2]	Non-MV Cost Per Unit	Unit [3]
/dwelling unit	210 Single Family Dwelling	16.08	$33.48	$538	/dwelling unit
/dwelling unit	220 Multifamily [1]	11.26	$33.48	$377	/dwelling unit
/student	520 Elementary School (Public)	0.87	$33.48	$29	/student
/T.S.F.G.F.A.	560 Church	11.48	$33.48	$384	/T.S.F.G.F.A.
/student	565 Day Care Center/Preschool	3.01	$33.48	$101	/student
/T.S.F.G.F.A.	630 Clinic	56.01	$33.48	$1,875	/T.S.F.G.F.A.
/T.S.F.G.L.A.	814 Specialty Retail Center	27.52	$33.48	$921	/T.S.F.G.L.A.
/T.S.F.G.L.A.	820 Shopping Center	26.66	$33.48	$893	/T.S.F.G.L.A.
/T.S.F.G.F.A.	850 Supermarket	92.34	$33.48	$3,092	/T.S.F.G.F.A.
/T.S.F.G.F.A.	853 Convenience Market	203.08	$33.48	$6,800	/T.S.F.G.F.A.
/T.S.F.G.F.A.	880 Pharmacy/Drugstore	64.82	$33.48	$2,170	/T.S.F.G.F.A.
/T.S.F.G.F.A.	911 Bank/Savings: Walk-in	117.04	$33.48	$3,919	/T.S.F.G.F.A.
/T.S.F.G.F.A.	931 Quality Restaurant	43.07	$33.48	$1,442	/T.S.F.G.F.A.
/T.S.F.G.F.A.	934 Fast Food Restaurant	179.20	$33.48	$6,000	/T.S.F.G.F.A.
/T.S.F.G.L.A.	942 Automobile Care Center	24.90	$33.48	$834	/T.S.F.G.L.A.
/V.F.P.	944 Gasoline/Service Station	51.14	$33.48	$1,712	/V.F.P.
/T.S.F.G.F.A.	710 General Office Building	18.50	$33.48	$619	/T.S.F.G.F.A.
/T.S.F.G.F.A.	720 Medical-Dental Office Building	60.70	$33.48	$2,032	/T.S.F.G.F.A.
/T.S.F.G.F.A.	110 General Light Industrial	11.71	$33.48	$392	/T.S.F.G.F.A.
/T.S.F.G.F.A.	120 General Heavy Industrial	2.52	$33.48	$84	/T.S.F.G.F.A.
/T.S.F.G.F.A.	150 Warehouse	8.33	$33.48	$279	/T.S.F.G.F.A.
/T.S.F.G.F.A.	151 Mini-Warehouse	4.20	$33	$141	/T.S.F.G.F.A.

Notes:

[1] Based on ITE land use code for apartment dwelling.

[2] Derived from Table 3.

[3] Abbreviations used in the "Unit" column:
T.S.F.G.F.A. = Thousand Square Feet Gross Floor Area
T.S.F.G.L.A. = Thousand Square Feet Gross Leasable Area
V.F.P. = Vehicle Fueling Position

APPENDIX TABLE C-5

COMPLIANCE COST PER UNIT OF DEVELOPMENT

ITE LAND USE CODE/CATEGORY	Net Person Trip-Ends	Compliance Cost Per Person Trip-End [2]	Compliance Cost Per Unit	Unit [3]
210 Single Family Dwelling	16.08	$3.78	$61	/dwelling unit
220 Multifamily [1]	11.26	$3.78	$43	/dwelling unit
520 Elementary School (Public)	0.87	$3.78	$3	/student
560 Church	11.48	$3.78	$43	/T.S.F.G.F.A.
565 Day Care Center/Preschool	3.01	$3.78	$11	/student
630 Clinic	56.01	$3.78	$212	/T.S.F.G.F.A.
814 Specialty Retail Center	27.52	$3.78	$104	/T.S.F.G.L.A.
820 Shopping Center	26.66	$3.78	$101	/T.S.F.G.L.A.
850 Supermarket	92.34	$3.78	$349	/T.S.F.G.F.A.
853 Convenience Market	203.08	$3.78	$768	/T.S.F.G.F.A.
880 Pharmacy/Drugstore	64.82	$3.78	$245	/T.S.F.G.F.A.
911 Bank/Savings: Walk-in	117.04	$3.78	$443	/T.S.F.G.F.A.
931 Quality Restaurant	43.07	$3.78	$163	/T.S.F.G.F.A.
934 Fast Food Restaurant	179.20	$3.78	$678	/T.S.F.G.F.A.
942 Automobile Care Center	24.90	$3.78	$94	/T.S.F.G.L.A.
944 Gasoline/Service Station	51.14	$3.78	$193	/V.F.P.
710 General Office Building	18.50	$3.78	$70	/T.S.F.G.F.A.
720 Medical-Dental Office Building	60.70	$3.78	$230	/T.S.F.G.F.A.
110 General Light Industrial	11.71	$3.78	$44	/T.S.F.G.F.A.
120 General Heavy Industrial	2.52	$3.78	$10	/T.S.F.G.F.A.
150 Warehouse	8.33	$3.78	$32	/T.S.F.G.F.A.
151 Mini-Warehouse	4.20	$3.78	$16	/T.S.F.G.F.A.

Notes:

[1] Based on ITE land use code for apartment dwelling.

[2] Derived from Table 3.

[3] Abbreviations used in the "Unit" column:
T.S.F.G.F.A. = Thousand Square Feet Gross Floor Area
T.S.F.G.L.A. = Thousand Square Feet Gross Leasable Area
V.F.P. = Vehicle Fueling Position

APPENDIX TABLE C-6

REIMBURSEMENT COST PER UNIT OF DEVELOPMENT

ITE LAND USE CODE/CATEGORY	Net Person Trip-Ends	Reimbursement Cost Per Person Trip-End[2]	Compliance Cost Per Unit	Unit[3]
210 Single Family Dwelling	16.08	$28.63	$460	/dwelling unit
220 Multifamily [1]	11.26	$28.63	$322	/dwelling unit
520 Elementary School (Public)	0.87	$28.63	$25	/student
560 Church	11.48	$28.63	$329	/T.S.F.G.F.A.
565 Day Care Center/Preschool	3.01	$28.63	$86	/student
630 Clinic	56.01	$28.63	$1,604	/T.S.F.G.F.A.
814 Specialty Retail Center	27.52	$28.63	$788	/T.S.F.G.L.A.
820 Shopping Center	26.66	$28.63	$763	/T.S.F.G.L.A.
850 Supermarket	92.34	$28.63	$2,644	/T.S.F.G.F.A.
853 Convenience Market	203.08	$28.63	$5,815	/T.S.F.G.F.A.
880 Pharmacy/Drugstore	64.82	$28.63	$1,856	/T.S.F.G.F.A.
911 Bank/Savings: Walk-in	117.04	$28.63	$3,351	/T.S.F.G.F.A.
931 Quality Restaurant	43.07	$28.63	$1,233	/T.S.F.G.F.A.
934 Fast Food Restaurant	179.20	$28.63	$5,131	/T.S.F.G.F.A.
942 Automobile Care Center	24.90	$28.63	$713	/T.S.F.G.L.A.
944 Gasoline/Service Station	51.14	$28.63	$1,464	/V.F.P.
710 General Office Building	18.50	$28.63	$530	/T.S.F.G.F.A.
720 Medical-Dental Office Building	60.70	$28.63	$1,738	/T.S.F.G.F.A.
110 General Light Industrial	11.71	$28.63	$335	/T.S.F.G.F.A.
120 General Heavy Industrial	2.52	$28.63	$72	/T.S.F.G.F.A.
150 Warehouse	8.33	$28.63	$239	/T.S.F.G.F.A.
151 Mini-Warehouse	4.20	$28.63	$120	/T.S.F.G.F.A.

Notes:

[1] Based on ITE land use code for apartment dwelling.

[2] Derived from Appendix B.

[3] Abbreviations used in the "Unit" column:
T.S.F.G.F.A. = Thousand Square Feet Gross Floor Area
T.S.F.G.L.A. = Thousand Square Feet Gross Leasable Area
V.F.P. = Vehicle Fueling Position