

CITY OF SILVERTON
RESOLUTION NO. 94-39

A RESOLUTION AMENDING THE STREET SYSTEM CAPITAL IMPROVEMENTS PLAN AND CREATING A TRANSPORTATION SYSTEMS DEVELOPMENT CHARGE METHODOLOGY.

WHEREAS, the City Council has determined a need to plan for transportation capital improvements projects, and

WHEREAS, the City Council has determined that transportation systems development charges are necessary for the improvement of the transportation systems for future users of the City of Silverton, and

WHEREAS, the City has determined that industrial development is a priority of the community as represented by City participation in the Silverton Industrial Park,


NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of Silverton has adopted a capital improvements plan and systems development charge methodology for transportation as contained in exhibits "A" and "B", respectively and attached hereto.

BE IT FURTHER RESOLVED, that in order to attract industrial development to the Silverton Industrial Park, the City will waive transportation related systems development charges to industrial development through June 30, 2004.

Adopted by the City Council of the City of Silverton, Oregon this 3rd day of Oct., 1994.


Ken Hector, Mayor

ATTEST:


Michael J. Scott, City Manager/Recorder

(res94-39.res)

EXHIBIT "A"

CITY OF SILVERTON CAPITAL IMPROVEMENTS PLAN

OCTOBER 3, 1994

At this time, the City of Silverton has adopted an amended Capital Improvements Plan for project changes to the street system as attached.

The capital projects contained in the Transportation Capital Improvements Plan attached are consistent with the Transportation Master Plan previously adopted by the City Council.

The storm drainage system, sewer system, water system and parks and recreation system shall retain their existing capital improvement projects for the present time.

The Capital Improvements Plan as contained herein outlines a priority for major projects that will require the use of City funds to pay for system capacity related improvements and which will qualify for the use of system development charges (SDC's).

The City may adopt and fund other street , storm drainage, sewer, water, and parks and recreation projects not contained in this plan which would normally be funded by local assessments, but such projects are not a part of this system capacity-related plan and should not use SDC funds until such time as they are adopted as part of this capital improvements plan.

The future street , storm drainage, sanitary sewer, water, and parks and recreation capital improvements that follow may be amended at any time by the City Council by resolution.

(res94_39a.exh)

TABLE 1
STREET SYSTEM CAPITAL PROJECTS - TWENTY YEAR SCHEDULE

9-19-94 CIPSTRE.WK1

PROJECT	GROWTH	CONSTRUCTION	CAPITAL COST	PROVIDER	FUNDING SOURCE	COMMENTS
"C" STREET/ McCLAIN STREET IMPROVEMENT	BIKES & PED.	'95	\$219,000	CITY/COUNTY	ISTEA ENHANCEMENT SDC'S GAS TAX	2,000 FEET OF STREET WIDENING, 900 FT. OF STORM FOR BIKE
OAK STREET S/W	PED. VOL.	'96	\$ 9,000	CITY	GAS TAX, LID	1200 FEET - CHURCH TO HILL
MILL STREET S/W	PED. VOL. SCHOOL	'97	\$ 34,000	CITY	GAS TAX SCHOOL DIST. REDMAN/LID	4500 FEET - LONE OAKS TO JEFFERSON
"B" STREET S/W	PED. VOL.	'98	\$ 15,800	CITY	GAS TAX LID	2100 FEET - MILL TO FRONT
S. WATER ST. BIKE LN.	BIKE USE	'98	\$ 75,000	CITY	GAS TAX, ODOT	2500 FEET - LANE TO SMITH
SILVER CREEK E PATH	BIKE/WALK	'99	\$844,000	CITY	ODOT, LID, ISTE BOND	5 MILES - DAM TO PARK
E. MAIN STREET IMPROVEMENT (THIRD TO ROCK)	SAFETY	'95	\$80,000	CITY	GAS TAX ODOT FUND EXCHANGE	IMPROVE SIDEWALK WIDEN AND CURB
IKE MOONEY ROAD IMPROVEMENT	BIKES & PED 600 HOMES	'95	\$510,000	CITY/COUNTY	GAS TAX, SDC, LID COUNTY \$200K	1800 FEET OF NEW STREET SOME STORM, DITCH REMAINS CURBS, GUARDRAIL, PARTIAL SIDEWALK, ROW BIKE LANE
"D" STREET IMPROVEMENT	LINK FOR FRONTAGE STREET ACCESS	'96	\$70,000	CITY	SDC'S LID GAS TAX ODOT FUND EXCHANGE	300 FEET OF NEW PAVED STREET AND SIDEWALK
ONE WAY STREET CONVERSION TO TWO WAY		'95	\$45,000	CITY/STATE	GAS TAX SDC'S	RESIGNING & CHANNELIZATION PER TWP

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STREETS CIP (CONTINUED)

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STREET	SCHOOL	'96	\$19,000	CITY	GAS TAX	MILL TO FIRST ST.
SIDEWALK	SAFETY				LID	ONE SIDE
N. SECOND STREET IMPROVEMENT (R/R TO CITY LIMITS)	IMPROVES 2ND ST. TRAFFIC CAPACITY AS A FRONTAGE ST.	'97	\$330,000	CITY	COUNTY TRANSFER FUNDS FROM '94 LID ODOT FUND EXCHANGE SDC'S	WIDEN W/ CURBS, SIDEWALKS, BIKE LANES
N. SECOND STREET IMPROVEMENT (ROTHS TO OAK ST.)	IMPROVES 2ND ST. TRAFFIC CAPACITY AS A FRONTAGE ST.	'99	\$370,000	CITY	ODOT FUND EXCH. ISTEEN ENHANCEMENT GAS TAX SDC'S	WIDEN W/ CURBS, SIDEWALKS, BIKE LANES
JAMES AVE. IMPROVEMENT	INTERSECTION VOLUME	'99	\$100,000	CITY	ODOT FUND EXCHANGE GAS TAX SDC'S	400 FEET OF STREET AND CORNER WIDENING BIKE LANES
NEW EAST-WEST COLLECTOR	VOLUME	'96-'15	\$1,301,000	CITY	GAS TAX SDC'S, ODOT DEVELOPERS, LID	3800 FEET MONITOR TO N. FIRST
NEW NORTH-SOUTH COLLECTOR	VOLUME	'96-'15	\$2,808,500	CITY, COUNTY	GAS TAX SDC'S, ODOT DEVELOPERS, LID COUNTY	8300 FEET OAK STREET TO S. WATER ST.
NEW EUREKA COLLECTOR EXTENSION	VOLUME	'96-'15	\$1,317,800	CITY, COUNTY	GAS TAX, SDC'S ODOT FUND EXC. DEVELOPERS, LID COUNTY	3850 FEET EUREKA TO SILVERTON RD.

STREETS CIP (CONTINUED)

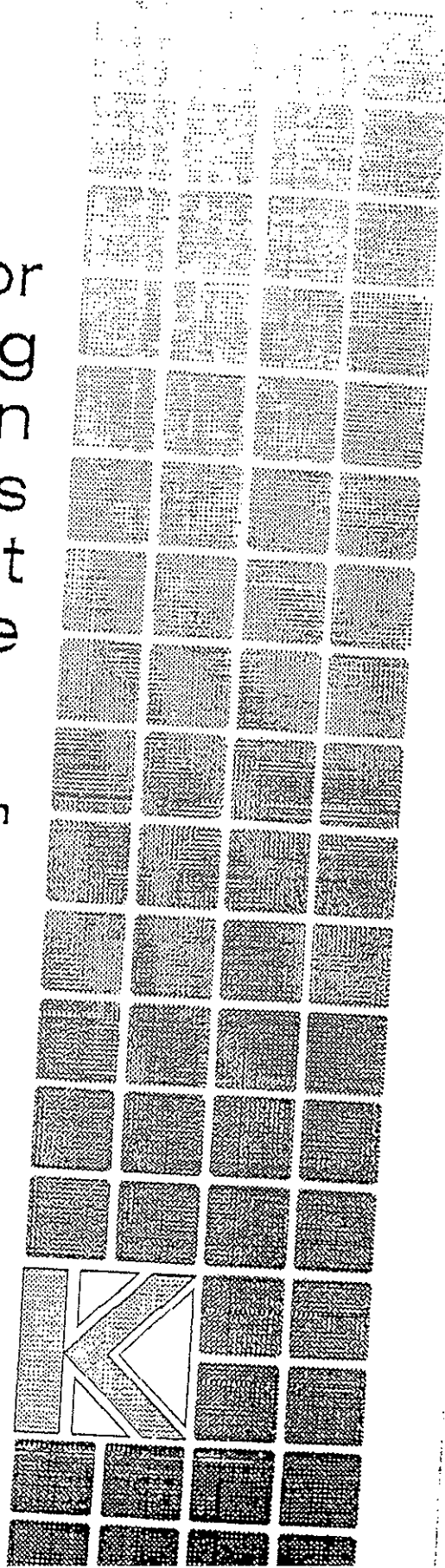
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" FIRST STS. SIGNALIZATION	CAPACITY LOS	'99	\$ 150,000	CITY, ODOT	SDC'S ODOT	MAINTAIN LOS 'D'
"C" & McCLAIN SIGNALIZATION	CAPACITY LOS	'00	\$ 150,000	CITY, COUNTY	SDC'S COUNTY	MAINTAIN LOS 'D'
"C" & WATER SIGNALIZATION	CAPACITY LOS	'05	\$ 150,000	CITY, COUNTY	SDC'S COUNTY	MAINTAIN LOS 'D'
FIRST & JEFFERSON SIGNALIZATION	CAPACITY LOS	'05	\$ 150,000	CITY, ODOT	SDC'S ODOT	MAINTAIN LOS 'D'
STEELHAMMER & OAK STS. SIGNALIZATION	CAPACITY LOS	'05	\$ 150,000	CITY, ODOT	SDC'S ODOT	MAINTAIN LOS 'D'
MAIN & McCLAIN SIGNALIZATION	CAPACITY LOS	'14	\$ 150,000	CITY	SDC'S	MAINTAIN LOS 'D'
PARK & FIRST SIGNALIZATION	CAPACITY LOS	'14	\$ 150,000	CITY, ODOT	SDC'S ODOT	MAINTAIN LOS 'D'
S. WATER & JERSEY SIGNALIZATION	CAPACITY LOS	'14	\$ 150,000	CITY, ODOT	SDC'S ODOT	MAINTAIN LOS 'D'
FIRST & MAIN STS. SIGNALIZATION	CAPACITY LOS	'14	\$ 150,000	CITY, ODOT	SDC'S ODOT	MAINTAIN LOS 'D'

EXHIBIT "B"

Methodology for Calculating Transportation Systems Development Charge

City of Silverton



Kittelson & Associates, Inc.
Transportation Planning/Traffic Engineering

September 1994

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INTRODUCTION

Background

The City of Silverton has recently developed a Draft Transportation Master Plan (TMP) that outlines existing traffic conditions, expected growth within the Silverton Urban Growth Boundary (UGB), needed transportation system improvements to accommodate the growth, and a financial plan to fund the needed improvements. Based on the expected growth in the Silverton urban area, several new traffic signals, and new collector streets will need to be constructed to accommodate future growth. The Draft TMP includes standards for local, collector, and arterial streets to meet the future needs of all travelers in the City.

Part of the TMP identified and compared two alternative plans for the downtown circulation system. Those plans are:

- 1) Maintain the existing one-way couplet on Water Street and First Street.
- 2) Convert Water Street and First Street into two two-way streets.

At this time a circulation plan for the downtown Silverton area has not been selected, thus two different SDC rates have been developed.

In the interim, the City has undertaken the task of considering a transportation system development charge (SDC). Generally, a transportation SDC is a fee assessed on new development to help pay for needed transportation system improvements.

Consistency With State Law

ORS 223.297 through 223.314 establishes a uniform framework for governmental units to impose systems development charges to pay for capital improvements, including facilities or assets used for transportation. Such charges may be assessed or collected "at the time of increased usage of a capital improvement or issuance of a development permit, building permit or connection to the capital improvement." ORS 223.299(4)(a). The statute allows imposition of systems development charges for costs associated with capital improvements to be constructed ("improvement fees") and capital improvements already constructed or under construction ("reimbursement fees"). ORS 223.304. The statute also provides for credits against fees for the construction of qualified public improvements. ORS 223.304 (3), (4).

As relevant to the City's proposed SDC, ORS 223.307(2) authorizes improvement fees on new development to help cover the costs of capacity increasing capital improvements. Under ORS 223.309(1), such improvements must be identified in a capital improvement plan, public facilities plan, transportation master plan or similar plan which lists the capital improvements which may be funded with improvement fee revenues and the estimated cost and timing for each improvement. Consistent with ORS 223.307(2), the capital improvements identified in this report are limited to those which are capacity increasing. Their inclusion in a plan as defined in ORS 223.309(1) assures compliance with that requirement of the statute.

Under ORS 223.304(2), improvement fees must be established by ordinance or resolution setting forth a methodology that considers the costs of projected capital improvements needed to increase the capacity of the systems to which the fee is related. The statute requires no specific methodology. However, there must be a rational basis for the charge, i.e. the costs imposed on development must reasonably relate to the impacts created by the development and the overall costs of the improvements. Here, the City proposed to use a methodology based on the number of trips generated by a type of development and the average trip length for that development. Because this methodology reasonably provides for the fair and equitable distribution of costs, it satisfies the requirements of state law.

SECTION 1: DEVELOPABLE ACREAGE

The first step in developing the Silverton transportation SDC is to quantify the amount of land available for development between now and the year 2015. The amount of land available for development was deduced from the 1989 Silverton Comprehensive Plan and was verified and updated by Silverton Staff. The results are shown in Table 1.

Table 1: Developable Land within the Silverton Urban Growth Boundary

Land Use	Developable Units within the UGB	Notes
Residential		
Single Family Residential	1,060 Units	
Multi-Family Residential	799 Units	
Commercial	44.1 Acres	Assume 25% lot coverage
Industrial	82.4 Acres	Assume 25% lot coverage

Table 1 shows that by the year 2015 there is land zoned and available for 1,060 single family, and 799 multi-family residential units. Slightly more than 44 acres of commercial and 82 acres of industrial lands are available for development in the Silverton UGB.

SECTION 2: TRIP GENERATION ADJUSTMENTS

The methodology used to determine the transportation system development charge fee in Silverton, Oregon, was based upon *equivalent length new trips* to be generated by future development. This methodology used the best available trip generation, trip length, and linked trip information. Due to the relatively limited nature of trip data of this type, it was necessary to use data based on studies conducted in Sarasota, Florida¹, to assure a statistically reliable sample. It would be more desirable to base the traffic impact fee upon travel data from Silverton. However, in order to obtain travel data specific to Silverton, a relatively expensive travel survey would need to be administered to existing residents and business owners. This survey would need to be administered to a sufficient number of travelers in Silverton to assure that the results are reliable. Even with an extensive survey, it is questionable whether the travel behaviors of existing residents and businesses is directly comparable to that of future Silverton travelers. The character of Silverton is expected to change significantly at build out of the Silverton urban area, and it is reasonable to expect that a marked change in travel behaviors will follow. Thus, even if it were feasible to gather travel data specific to Silverton, it is doubtful whether this data would provide an improved basis for determining the traffic impact fee. Therefore, the Sarasota data which has been used provides the most defensible and credible basis for determining the transportation system development charge.

The travel data upon which the traffic impact fee is based, uses average trip length for each major land use category. As described above, these trip lengths are based upon studies conducted in Sarasota, Florida. Recognizing that travel generated by Silverton land uses is not self-contained, these average trip lengths do not differentiate between the mileage that is spent upon the Silverton road system and that mileage that is spent either in surrounding jurisdictions or on roadways within Silverton under other jurisdiction (Oregon state highways). For example, the average trip length for residential trips is 6.07 miles, as reported in the Sarasota County Technical Report. It is clear that all of the mileage of these trips cannot take place within the city limits of Silverton. Also, it is clear that not all of the 2.99 miles for an average trip for retail purposes occurs within Silverton on city streets. It would be a copious task to differentiate travel miles accordingly. Moreover, without an arduous (and costly) travel survey as described above, it would be impossible to determine this split. In any case, it is reasonable to assume that the relationship between trip lengths for each land use, as based on total trip length, are relatively the same as trip lengths for each land use on Silverton roadways. Thus, the methodology used in the determination of the traffic impact fee provides a reasonable basis for equitably determining the relative impact of each land use category.

Trip generation rates for each of the general land use categories listed in Section 1 were adjusted using trip generation rates reported in Trip Generation, Fifth Edition (published by the Institute of Transportation Engineers, 1991). Table 2 lists these trip generation rates and the adjustment factors used to determine the *equivalent length new daily trip* generation rate for each general land use category listed in the current Silverton Comprehensive Land Use Plan.

¹ Sarasota County: Sarasota County Road Impact Fee Ordinance, Technical Report. September, 1991.

of Silverton.

*Transportation Systems Development Charge Methodology
Draft 9/26/94*

ivalent length new daily trip generation rates listed in Table 2 were then applied to the developable lands listed in Section 1 to determine the total number of new daily trips generated by each of the land categories in the current Silverton Comprehensive Land Use Plan. The total daily trips, by land use category, are adjusted for trip length and linked trips to ensure equity in determining the equivalent number of new trips among the land uses within the Silverton UGB. It is expected that a total of 26,922 equivalent length new daily trips (ELNDT) will be generated on the Silverton transportation system upon development of land use within the Silverton UGB.

idential lands (low, medium, and high density) are estimated to generate 56% of the total ELNDT, commercial 25%, and industrial 19 %.

Table 2: Equivalent Length New Daily Trips Silverton Developable Lands

Land Use	GFA (SF)	Average Daily Trips per Unit	Trip Length Factor (1)	Linked Trip Factor (2)	ELNDT (Trips)
Residential Development					
Single Family Detached	1,060	9.55/dwelling	1.00	1.00	10,123
Multi-Family Detached	799	6.47/dwelling	0.97	1.00	5,014
Residential Subtotal	1,859				15,137
Commercial Development					
Fast Food Restaurant - No drive through (3 @ 3,000 SF)	9,000	786.22/KSF	0.09	0.51	325
Shopping Center	200,000	60.07/KSF	0.40	0.61	2,931
Hardware Store	50,000	51.29/KSF	0.49	0.75	942
General Office	50,000	16.58/KSF	0.65	1.00	539
High Turn-over Sit Down Restaurant (3 @ 5000 SF)	15,000	205.36/KSF	0.19	0.75	439
Business Park	156,250	14.37/KSF	0.67	1.00	1,504
Commercial Subtotal	480,250				6,680
Industrial Development					
Heavy Industrial	224,334	1.5/KSF	1.12	1.00	377
Light Industrial	224,333	6.97/KSF	1.12	1.00	1,751
Warehouse	224,334	4.88/KSF	1.12	1.00	1,226
Industrial Park	224,334	6.97/KSF	1.12	1.00	1,751
Industrial Subtotal	897,335				5,105
Total Equivalent Length New Daily Trips					26,922

Footnotes:

- The average trip length for residential trips is 6.07 miles per trip (Sarasota County Road Impact Fee Ordinance Technical Report, 1991). Using this as a benchmark, trip lengths for all other land uses were compared. According to this same source, the average trip length for "shopping" trips is 2.99 miles. Thus, in order to determine the Trip Length Factor for the Commercial use, 2.99 was divided into 6.07, resulting in a Trip Length Factor of 0.49.
- It was assumed that for commercial retail uses, on average (unless otherwise specified in the ITE Trip Generation Manual, 5th Edition), approximately 25 percent of entering trips are "drop-in" trips that would have been on the road anyway. Thus, only 75 percent of commercial retail trips actually have an additional impact on the road system. All other uses have a Linked Trip Factor of one.

Two Way Circulation	\$2,218,368.00	26,922	\$82.00
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Table 4: Systems Development Charge Comparison

Typical Development	Proposed Silverton SDC ^A	
	Alternative #1: One-Way Circ.	Alternative #2: Two-Way Circ.
Single-Family (LDR) Dwelling Unit	\$840	\$780
Multi-Family (MDR) Dwelling Unit	\$250	\$510
Retail 100,000 sq ft	\$128,980	\$120,190
Fast Food 3,000 sq ft	\$9,530	\$8,380
Industrial 100,000 sq ft	\$68,760	\$64,010

Typical Development	Other Jurisdictions ^B							
	Candy	Clackamas County	Washington County	West Linn ^B	Wilsonville	Newberg	Lake Oswego	Oregon City
Single Family Dwelling Unit	\$820	\$1,220	\$1,380	\$790 (City) \$2,660 (FDA)	\$1,810	\$990	\$1,370	\$1,000
Multi-Family Dwelling Unit	\$540	\$ 830	\$ 840	\$540 (City) \$1,800 (FDA)	\$1,290	\$670	\$830	\$660
Retail (100,000 sq ft)	\$147,930	\$449,960	\$233,170	\$304,300 (City) \$1,021,900 (FDA)	\$354,000	\$179,300	\$958,710 ^C	\$197,800
Fast Food (3,000 sq ft)	\$9,290	\$40,730	\$10,500	\$9,130 (City) \$30,660 (FDA)	N/A	\$11,300	\$257,250 ^C	N/A
Industrial (100,000 sq ft)	\$66,970	\$94,500	\$92,700	N/A	N/A	\$81,200	\$94,560	N/A

N/A = Not Available

^A All fee amounts have been rounded to nearest \$10.

^B West Linn has one fee structure for the city proper and another for the Future Development Area (FDA).

^C Assumes no reduction for pass-by and trip length.

SECTION 5: SILVERTON TRANSPORTATION SDC CALCULATION

The Silverton transportation SDC is applicable to all new land development within the Silverton UGB and is calculated at either \$88 per *equivalent length new daily trip (ELNDT)* for Alternative #1, and \$82 per *equivalent length new daily trip (ELNDT)* for Alternative #2. The Trip Generation, Fifth Edition (published by the Institute of Transportation Engineers, 1991) is to be used for all SDC calculations. The ITE trip generation rates and ELNDT adjustment factors are provided in Appendix B.

Exceptions

1. Those uses, or combinations of uses, that are not specifically identified in Appendix B (ITE *Trip Generation, Fifth Edition, 1991*), shall be categorized by the City of Silverton as the use (or uses) identified in Appendix B that is most similar in trip generation; or,
2. In the event trip rates calculated by the Institute of Transportation Engineers are felt to inadequately reflect an individual development's trips, the Public Works Director will consider, at the applicant's expense, traffic generation studies performed by a registered traffic engineer, or other data performed in a credible manner to show traffic data in the calculation of transportation SDC's.

Where the ITE average daily trip rate is based on less than five studies or the fitted relationship based on the unit employed in *ITE Trip Generation, Fifth Edition (1991)* exhibits an R^2 (correlation) less than 0.70, the applicant is strongly encouraged to submit, at the applicant's expense, the traffic generation studies noted above. In Appendix B, these two cases are noted for each of the land uses cited.

ITE TRIP GENERATION RATE REFINEMENTSAdditional Land Use Categories

The ITE Trip Generation Manual (Fifth Edition) identifies the **Convenience Market with Gasoline Pump** (Land Use Code #853) land use category that will likely appear in review of development applications. This use is exemplified by typical Gas Pump/"Mini-Mart" developments throughout Oregon. A daily trip generation rate is not provided by the ITE Trip Generation Manual for this specific land use, but is estimated in Appendix B (see below) based upon the p.m. peak hour/daily trip generation rate data for the ITE Service Station land use category (#844). The "linked" trip rate ("pass-by" and "diverted") for Service Station land use is identified in the Institute of Transportation Engineers Journal (June 1990) as 78%, and is applied in Appendix B for calculating the linked trip reduction factor. The average trip length for this use is estimated in the Sarasota, Florida Study.

The ITE Trip Generation Manual does not include trip generation rates for all types of development. Additional land use/trip generation rates were borrowed from the San Diego Traffic Generators (San Diego Association of Governments, March 1993) manual, including:

Parks (city, neighborhood and amusement)	Racquetball/tennis courts
Bus Depots	Transit Stations (rail)
Park-And-Ride Lots	U.S. Post Offices

Linked Trip ("Pass-By") Adjustment Factor to ELNDT

The ITE Trip Generation Manual (Fifth Edition) lists a series of case studies that identify the "pass-by" trip rates for specific commercial uses. The Silverton Transportation SDC includes the weighted average "pass-by" trip rates for the following uses:

<u>LAND USE</u>	<u>PASS-BY TRIP RATES</u>
Shopping Center	
< 50,000 GLA	72%
50,000-99,999 GLA	50%
100,000-199,999 GLA	39%
200,000-299,999 GLA	33%
300,000-399,999 GLA	29%
400,000-499,999 GLA	27%
500,000-599,999 GLA	20%
Quality Restaurant	28%
Fast Food Restaurant	49%
Service Station	*
Supermarket	54%
Convenience Market	65%
Convenience Market with Gas Pump	78%
Banks/Savings & Loans (Drive-In)	45%

These pass-by rates were used to modify the "Linked Trip" adjustment factors (from the Sarasota study) and are summarized in Appendix B.

Trip Length Adjustment Factor to ELNDT

Average trip lengths for certain land uses were calculated using data from the Sarasota, Florida, case study, and were used to develop the trip length adjustment factors listed in Appendix B, particularly for the "Business and Commercial" land uses. These adjusted average trip lengths adjustments are also summarized in Appendix B. Sample transportation SDC calculations are shown in Appendix C, and Appendix D defines many of the terms used previously.

SECTION 6: SDC ADMINISTRATION

Fee Collection

The SDC will be collected from the applicant at the time the building permits are issued. The City of Silverton reserves the right to re-determine the SDC at the time the development is approved for occupancy to assure that the appropriate land use designation was used as the basis for the SDC.

Payment

Funds collected through the SDC program and any interest earned on these funds must be used only for projects specifically included in the currently adopted SDC program. SDC funds can be used only for designated components of the project (pavement, curb/gutter, sidewalk, etc.) and only in the proportions shown in the currently adopted SDC program.

Credits

Credits against the calculated SDC will be given for the cost of qualified public improvements, in whole or in part, identified in the systems development charge project schedule (see Appendix A). The value of right of way owned by the applicant will be included in the costs of an improvement eligible for credit if the cost of right of way is included in the project cost which is part of the SDC costs. Costs not included in the calculation of the SDC shall *not* be eligible for SDC credit. Except that the City of Silverton may agree that certain costs may, in fact, represent "system" costs that will be considered for addition to SDC-eligible costs during the next SDC update. If those "non-eligible" costs are subsequently changed to become SDC eligible, credit will be given in a form of a reimbursement of a portion of the SDC improvement fees.

If any of the credits, described above are pursued by the applicant, their approval shall be at the discretion of the City of Silverton Public Works Director.

Monitoring

The SDC program will require monitoring to assure that the project needs and estimated project costs are current. Because long-range forecasts of population and employment may not be realized, as projected, it is necessary to monitor the SDC program and to update it when conditions require. Projects will need to be added or deleted from the plan and costs for building the projects may increase. In addition, the plan should be extended to include needs in years beyond 2015 (i.e. in year 2000, the program period should extend to 2020). It is anticipated that the SDC program will need to be updated at least every five years; however, interim updates may also be required if large changes in assumptions are detected. Changes in the SDC program will require a public hearing.

Exceptions

If any of the exceptions, described previously are pursued by the applicant, their approval shall be at the discretion of the City of Silverton Public Works Director.

Appendix A - Project Schedule

Improvement Category	Estimated Cost	Time Frame
I. New Streets		
East-west collector: Connection in northeast Silverton between Hwy 214 and Monitor Road.	\$208,160	2010-2015
North-south collector: Collector street in east Silverton between new east-west collector and Ike Mooney Road.	\$449,360	2010-2015
Eureka Extension: Collector street connection in southwest Silverton between Eureka Avenue and Highway 213.	\$210,848	2010-2015
II. New Traffic Signals - Outside Downtown		
C Street/McClaine Street	\$150,000	2005-2010
First Street/Jefferson Street	\$150,000	2005-2010
Oak Street/Steelhammer Street	\$150,000	2005-2010
Subtotal	\$1,318,368	
III. Downtown Circulation Plan Alternatives		
<i>1. One-way Circulation on Water Street, and First Street - New Traffic Signals</i>		
Water Street/C Street	\$150,000	1994-2004
Water Street/Main Street	\$150,000	1994-2004
First Street/Main Street	\$150,000	1994-2004
Water Street/Park Street	\$150,000	1994-2004
Main Street/McClaine Street	\$150,000	1994-2004
First Street/C Street	\$150,000	1994-2004
First Street/Park Street	\$150,000	1994-2004
Subtotal	\$1,050,000	
<i>2. Two-way Circulation System on Water Street and First Street - New Traffic Signals</i>		
Water Street/C Street	\$150,000	1994-2004
First Street/Main Street	\$150,000	1994-2004
Main Street/McClaine Street	\$150,000	1994-2004
First Street/C Street	\$150,000	1994-2004

Improvement Category	Estimated Cost	Time Frame
First Street/Park Street	\$150,000	1994-2004
Water Street/Lane Street	\$150,000	1994-2004
Subtotal	\$900,000	
Total Cost		
Alternative #1	\$2,368,368	
Alternative #2	\$2,218,368	

Appendix B - Trip Generation Rate and Adjustment Factor Table

ITE Trip Generation Rates/ELNDT Adjustment Factors

ITE Land Use	ITE Land Use Code	Average Weekday ITE Trip Rate		Equivalent Length New Daily Trip Adjustment Factor	
		Rate	Unit (a)	Trip Length	Linked Trip
RESIDENTIAL					
Single Family Detached	210	9.55	Dwelling Unit	1.0	1.0
Multi-Family Attached	220	6.47	Dwelling Unit	0.97	1.0
Residential Condominium	230	5.86	Dwelling Unit	0.97	1.0
Manufactured Housing	240	4.81	Occupied Dwelling Unit	0.97	1.0
Recreational Home/Condo	260	3.16	Dwelling Unit	1.0	1.0
INSTITUTIONAL					
Truck Terminals (b)	030	9.85	1,000 sf GFA	1.12	1.0
Bus Depot (f)		25.00	1,000 sf GFA		
Transit Station (Rail) (f)		300.00	Acres		
Park and Ride Lots (f)		500.00	Acres		
Park (b)	411	2.23	Acres	0.90	1.0
City (developed) (f)		50.00	Acres		
Neighborhood (undeveloped) (f)		5.00	Acres		
Amusement (Theme) (f)		80	Acres		
Marina	420	2.96	Docking Berths	0.91	1.0
Golf Course (c)	430	37.59	Holes	0.91	1.0
Movie Theater (b)	443	1.76	Seats	0.46	1.0
Racquet Club (c)	492	17.14	1,000 sf GFA	0.51	1.0
Racquetball (f)		40.00	1,000 sf GFA		
Tennis (f)		30.00	court		
Military Base	501	1.78	Employee	1.0	1.0

Notes:

(n) Abbreviations used in "Units" column:

GFA = Gross Floor Area sf = square feet

(It is assumed that the ratio between GFA and gross leasable area (GLA), as cited for shopping centers in *ITE Trip Generation* is 1.0 : 0.85. Therefore, the *ITE Trip Generation* rates are factored down by 15% to give GFA weekday trip rates.)(b) The *ITE Trip Generation* has less than 5 studies supporting this average rate. Applicants are strongly encouraged to conduct, at their own expense, independent trip generation studies in support of their application.(c) The fitted relationship between the number of units and the average weekday trip generation as noted in *ITE Trip Generation* has a coefficient of correlation (R^2) of less than 0.70. Applicants are strongly encouraged to conduct, at their own expense, independent trip generation studies in support of their application.

(d) The rate shown has been approximated from the published p.m. peak hour trip generation rate. Applicants are strongly encouraged to conduct, at their own expense, independent trip generation studies in support of their application.

(e) Average of elementary and high school trip generation rates.

(f) San Diego Traffic Generators. San Diego Association of Governments, March 1993.

ITE Land Use	ITE Land Use Code	Average Weekday ITE Trip Rate		Equivalent Length New Daily Trip Adjustment Factor	
		Rate	Unit (a)	Trip Length	Linked Trip
Elementary School	520	1.09	Student	1.08	1.0
Junior High School (e)		1.20	Student	1.08	1.0
High School	530	1.38	Student	1.08	1.0
Junior/Community College (b, d)	540	1.33	Student	1.08	1.0
University	550	2.37	Student	1.08	1.0
Church (c)	560	9.32	1,000 sf GFA	1.08	1.0
Day Care Center/Preschool (c)	565	4.65	Student	0.23	1.0
Library (b)	590	45.30	1,000 sf GFA	0.49	1.0
Hospital	610	16.78	1,000 sf GFA	0.95	1.0
Nursing Home	620	2.60	Occupied Bed	0.05	1.0
BUSINESS & COMMERCIAL					
Hotel/Motel	310	8.70	Occupied Room	0.69	0.75
Building Materials/Lumber	812	30.56	1,000 sf GFA	0.49	0.75
Specialty Retail Center (b)	814	34.57	1,000 sf GFA	0.49	0.75
Discount Stores	815	70.13	1,000 sf GFA	0.49	0.75
Hardware/Paint Stores (b)	816	51.29	1,000 sf GFA	0.49	0.75
Nursery-Retail (c)	817	36.08	1,000 sf GFA	0.49	0.75
Shopping Center	820				
(under 50,000 sf GFA)	820	142.45	1,000 sf GFA	0.31	0.28
(50,000-99,999 sf GFA)	820	77.90	1,000 sf GFA	0.33	0.50
(100,000-199,999 sf GFA)	820	60.07	1,000 sf GFA	0.40	0.61
(200,000-299,999 sf GFA)	820	46.33	1,000 sf GFA	0.49	0.67
(300,000-399,999 sf GFA)	820	39.79	1,000 sf GFA	0.49	0.71
(400,000-499,999 sf GFA)	820	35.72	1,000 sf GFA	0.49	0.73

Notes:

(a) Abbreviations used in "Units" column:

GFA = Gross Floor Area sf = square feet

(It is assumed that the ratio between GFA and gross leasable area (GLA), as cited for shopping centers in ITE Trip Generation is 1.0 : 0.85. Therefore, the ITE Trip Generation rates are factored down by 15% to give GFA weekday trip rates.)

(b) The ITE Trip Generation has less than 5 studies supporting this average rate. Applicants are strongly encouraged to conduct, at their own expense, independent trip generation studies in support of their application.

(c) The fitted relationship between the number of units and the average weekday trip generation as noted in ITE Trip Generation has a coefficient of correlation (R^2) of less than 0.70. Applicants are strongly encouraged to conduct, at their own expense, independent trip generation studies in support of their application.

(d) The rate shown has been approximated from the published p.m. peak hour trip generation rate. Applicants are strongly encouraged to conduct, at their own expense, independent trip generation studies in support of their application.

(e) Average of elementary and high school trip generation rates.

(f) San Diego Traffic Generators. San Diego Association of Governments, March 1993.

ITE Land Use	ITE Land Use Code	Average Weekday ITE Trip Rate		Equivalent Length New Daily Trip Adjustment Factor	
		Rate	Unit (a)	Trip Length	Linked Trip
(500,000-599,999 sf GFA)	820	32.85	1,000 sf GFA	0.49	0.80
High Turnover Sit-Down Restaurant (b)	832	205.36	1,000 sf GFA	0.19	0.75
Fast Food Restaurant (c)	833	786.22	1,000 sf GFA	0.09	0.51
New Car Sales (b)	841	47.91	1,000 sf GFA	0.60	0.75
Service Station (b, d)	844	142.54	Gasoline Pump	0.07	0.77
Supermarket (b)	850	87.82	Employee	0.14	0.46
Convenience Market (c)	851	737.99	1,000 sf GFA	0.08	0.35
Convenience Market w/ Gas Pump (d,f)	853	194.34	Gasoline Pump	0.32	0.22
Apparel Store (d)	870	31.27	1,000 sf GFA	0.49	0.75
Furniture Store (e)	890	4.34	1,000 sf GFA	0.40	0.75
Bank/Savings: Walk-in (b)	911	140.61	1,000 sf GFA	0.17	0.75
Bank/Savings: Drive-in (e)	912	265.21	1,000 sf GFA	0.17	0.55
OFFICE					
Clinic (b)	630	23.79	1,000 sf GFA	0.53	1.0
General Office	710				
(Under 100,000 sf GFA)	710	16.58	1,000 sf GFA	0.65	1.0
(100,000-199,999 sf GFA)	710	14.03	1,000 sf GFA	0.65	1.0
(200,000 sf GFA and over)	710	11.85	1,000 sf GFA	0.65	1.0
Medical Office Building	720	34.17	1,000 sf GFA	0.53	1.0
Government Office Bldg. (b)	730	68.93	1,000 sf GFA	0.96	1.0
State Motor Vehicles Dept.	731	166.02	1,000 sf GFA	0.96	1.0
U.S. Post Office (c)	732	87.12	1,000 sf GFA	0.96	1.0
Walk-in Only	732	90.00	1,000 sf GFA		
Walk-in w/ mail Drop-Off Lane	732	300.00	1,000 sf GFA		

Notes:

(a) Abbreviations used in "Units" column:

GFA = Gross Floor Area sf = square feet

(It is assumed that the ratio between GFA and gross leasable area (GLA), as cited for shopping centers in ITE Trip Generation is 1.0 : 0.85. Therefore, the ITE Trip Generation rates are factored down by 15% to give GFA weekday trip rates.)

(b) The ITE Trip Generation has less than 5 studies supporting this average rate. Applicants are strongly encouraged to conduct, at their own expense, independent trip generation studies in support of their application.

(c) The fitted relationship between the number of units and the average weekday trip generation as noted in ITE Trip Generation has a coefficient of correlation (R²) of less than 0.70. Applicants are strongly encouraged to conduct, at their own expense, independent trip generation studies in support of their application.

(d) The rate shown has been approximated from the published p.m. peak hour trip generation rate. Applicants are strongly encouraged to conduct, at their own expense, independent trip generation studies in support of their application.

(e) Average of elementary and high school trip generation rates.

(f) San Diego Traffic Generators. San Diego Association of Governments, March 1993.

ITE Land Use	ITE Land Use Code	Average Weekday ITE Trip Rate		Equivalent Length New Daily Trip Adjustment Factor	
		Rate	Unit (a)	Trip Length	Linked Trip
Research Center	760	7.70	1,000 sf GFA	0.67	1.0
Business Park	770	14.37	1,000 sf GFA	0.67	1.0
INDUSTRIAL					
General Light Industrial	110	6.97	1,000 sf GFA	1.12	1.0
General Heavy Industrial (b)	120	1.50	1,000 sf GFA	1.12	1.0
Industrial Park (c)	130	6.97	1,000 sf GFA	1.12	1.0
Manufacturing	140	3.85	1,000 sf GFA	1.12	1.0
Warehouse	150	4.88	1,000 sf GFA	1.12	1.0
Mini-Warehouse	151	2.61	1,000 sf GFA	0.47	1.0
Utilities (b)	170	1.06	Employees	1.0	1.0
Wholesale (b)	860	6.73	1,000 sf GFA	0.49	1.0

Notes:

(a) Abbreviations used in "Units" column:

GFA = Gross Floor Area sf = square feet

(It is assumed that the ratio between GFA and gross leasable area (GLA), as cited for shopping centers in ITE Trip Generation is 1.0 : 0.85. Therefore, the ITE Trip Generation rates are factored down by 15% to give GFA weekday trip rates.)

(b) The ITE Trip Generation has less than 5 studies supporting this average rate. Applicants are strongly encouraged to conduct, at their own expense, independent trip generation studies in support of their application.

(c) The fitted relationship between the number of units and the average weekday trip generation as noted in ITE Trip Generation has a coefficient of correlation (R^2) of less than 0.70. Applicants are strongly encouraged to conduct, at their own expense, independent trip generation studies in support of their application.

(d) The rate shown has been approximated from the published p.m. peak hour trip generation rate. Applicants are strongly encouraged to conduct, at their own expense, independent trip generation studies in support of their application.

(e) Average of elementary and high school trip generation rates.

(f) San Diego Traffic Generators, San Diego Association of Governments, March 1993.

Appendix C - Example Calculations

Example Calculations

1. **One-Way Circulation System:** Residential development consisting of 100 single family detached units and 20 multi-family attached units.

Equivalent Length New Daily Trip (ELNDT) =

	Number Units	*	Trip Rate	*	Trip Length Factor	*	Linked Trip Factor	=	Total Trips (ELNDT)
Single Family	100	*	9.55	*	1.00	*	1.00	=	955
Multi-Family	20	*	6.47	*	0.97	*	1.00	=	126
Total									1,081

Transportation System Development Charge (SDC) =

	ELNDT	*	\$/ELNDT	=	SDC
Single Family	955	*	88	=	\$84,040
Multi-Family	126	*	88	=	\$11,088
Total					\$95,128

2. **Two-way Circulation System:** Shopping center consisting of 250,000 square feet of gross leasable area

Equivalent Length New Daily Trip (ELNDT) =

	Number Units (1,000 s.f.)	*	Trip Rate	*	Trip Length Factor	*	Linked Trip Factor	=	Total Trips (ELNDT)
Shopping Center	250	*	54.50	*	0.49	*	0.67	=	4,473

Transportation System Development Charge (SDC) =

	ELNDT	*	\$/ELNDT	=	SDC
Shopping Center	4,473	*	82	=	\$366,786

8. One-way Circulation System: Light industrial development with 100,000 square feet of gross floor area.

Equivalent Length New Daily Trips (ELNDT) =

	Number Units (1,000 s.f.)	*	Trip Rate	*	Trip Length Factor	*	Linked Trip Factor	=	Total Trips (ELNDT)
Light Industrial	100	*	6.97	*	1.12	*	1.00	=	781

Transportation System Development Charge (SDC) =

	ELNDT	*	\$/ELNDT	=	SDC
Light Industrial	781	*	88	=	\$68,728

Appendix D - Definition of Terms

DEFINITION OF TERMS

Average Weekday ITE Trip Rate: The average number of daily weekday (Monday through Friday) one-way trips that have been observed at specified land uses and reported to the Institute of Transportation Engineers or the San Diego Association of Governments.

Credits: Deductions from the SDC given to finance portions of qualified public improvement projects included in the SDC, or for proponents of developments as compensation for actions to reduce vehicle trip generation.

Currently Developed Area: An area, defined by the City of Silverton, that includes portions of the City of Silverton and the unincorporated area in the vicinity of the City of Silverton, that are considered to be developed as "urban areas".

Equivalent Length New Daily Trips: The number of estimated new daily trips that will be generated by projected new development anticipated by 2015, adjusted to account for different average trip lengths and different proportions of linked trips.

Equivalent Length New Daily Trip Adjustment Factors: Factors used to adjust the Average Weekday ITE Trip Rate to account for different average trip lengths of trips generated by various types of development and for trips made for multiple purposes.

Exemptions: Allowances for alternative methodologies that may be used for trip generation estimates by proponents of developments.

Improvement Costs: Capital costs required to construct projects identified in the Silverton Transportation Master Plan.

Improvement Fees: Systems development charges imposed on new developments to help fund projects identified in the Silverton Transportation Master Plan.

Linked Trip Factor: The factor used to adjust the Average Weekday ITE Trip Rate for trips with multiple purposes with respect to the type of development under consideration.

Measurement Unit: The parameter that is used to measure the size of the development proposed. The number of measurement units multiplied by the Average Weekday ITE Trip Rate (per unit of measurement) results in the estimated number of weekday trips generated by the proposed development, prior to adjustments for Trip Length and Linked Trips (see definitions for these adjustments).

Street Capacity Improvements: Arterial and collector street segments or intersections where current capacity will not accommodate projected 2015 travel demands at an acceptable level of service. Projects to mitigate deficiencies include: street widenings, new streets, new traffic signals, etc.

Transportation Deficiencies: Insufficient roadway capacity on arterials and collectors to accommodate projected travel demand (year 2015) and arterial and collector roadways that do not meet City of Silverton street standards, resulting in safety deficiencies.

Trip Length Factor: The factor used to adjust the Average Weekday ITE Trip Rate for variation in the average trip length of the type of development under consideration to be equivalent to the average trip length of a Single Family Detached residential unit.

