

# AGENDA

## CITIZENS UTILITY ADVISORY BOARD

WEDNESDAY, SEPTEMBER 8, 2004

**5:00 p.m. Tour of Sewer/Storm TV Van**

**6:00 p.m. Regular Meeting**

**JOHNSON CREEK FACILITY CONFERENCE ROOM**  
**6101 SE JOHNSON CREEK BLVD.**

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|-------|----------------------------------|--|
| I.    | CALL TO ORDER                    | CUAB Chair                               |
| II.   | INTRODUCTIONS                    | CUAB Chair                               |
| III.  | CONSENT AGENDA                   | CUAB Board                               |
|       | A. June 16, 2004, Minutes        |  |
| IV.   | REPORTS                          |  |
|       | A. Transportation SDC            | Brion Barnett<br>Randy Young, Consultant |
| V.    | DISCUSSION (no items)            |  |
| VI.   | MATTERS FROM THE BOARD           | CUAB Members                             |
| VII.  | OTHER                            |  |
| VIII. | INFORMATION SHARING              | ALL                                      |
| IX.   | FUTURE MEETING DATE/AGENDA ITEMS | ALL                                      |
| X.    | ADJOURN                          |  |

**CUAB MEETING MINUTES**  
**Wednesday, June 16, 2004**  
**Johnson Creek Facility Conference Room**  
**6101 SE Johnson Creek Blvd.**

**Members Present**

Bob Hatz, Chair  
Lisa Batey  
Ed Miller

**Members Absent**

Charles Bird, Vice Chair  
Betty Chandler

**Staff Present**

Paul Shirey, Engineering Director  
John Ghilarducci, Consultant FCSG  
Ruthanne Bennett, Civil Engineer

I. CALL TO ORDER

Chair Hatz called the meeting to order at 6:05 p.m.

II. INTRODUCTIONS

None.

III. CONSENT AGENDA

May 12, 2004, Minutes approved as presented.

IV. REPORTS

A. 21<sup>st</sup> Avenue extension

Jeff King reviewed the need to extend 21<sup>st</sup> Avenue north of Harrison to provide public access to the North Main development project. The extension will provide additional access to the project, which will be shared with the Ledding Library. The City intends to provide some level of subsidy to assist the project, since this is the first project of its kind and the risks are relatively high. It is expected that a large portion of the cost of the extension can be funded with SDC revenue since it provides new capacity.

The impact of the extension is quite benign and is not expected to cause any adverse consequences to the library, its parking lot, or the habitat of Spring Creek.

B. Stormwater Master Plan Rate Analysis

John Ghilarducci, consultant for the rate analysis of the Storm Water Master Plan, shared with the Board the somewhat surprising news that the storm water fund is slightly in the red this fiscal year. The draft master plan envisions 15 capital projects that need to be constructed to address deficiencies in the system. The cost of the capital projects is approximately \$10.3 million. The consultants developed four plan alternatives including 12- and 24-year implementation schedules, using debt in one case and no debt in the other. This provided a range of rate adjustments that varied from an increase of \$6 per month over the next five years, to an increase of almost \$14 per month. The current monthly rate for storm water services is \$6.00.

The Board concluded that the best opportunity for customer acceptance is raising rates slowly and gently over time and avoiding rate spikes if at all possible. A 24-year, pay-as-you-go (no debt) option was selected by the Board as the least impactful approach.

V. DISCUSSION

Paul Shirey reviewed the status of several projects, along with an adoption calendar for City of Milwaukie items. The Transportation SDC will be considered by the CUAB at its September 8 meeting and forwarded to City Council for action on October 5. The Stormwater Master Plan has been reviewed by the CUAB and will be considered by City Council on October 19. The Wastewater Consolidation Study is moving into a public involvement process beginning in August. Final action on the plan is expected to be in Jan/Feb 2005.

VI. MATTERS FROM THE BOARD

The Board discussed its ongoing concern with the lack of public awareness of the work of the CUAB. It is important to try to educate the public about the role of the CUAB and the issues it deals with. Chair Hatz repeated his intent to invite a City Council member to a future CUAB meeting.

VII. OTHER

None.

VIII. INFORMATION SHARING

None.

IX. FUTURE MEETING DATE/AGENDA ITEMS

September 8, 2004: Transportation SDC

X. ADJOURN

The meeting adjourned at 8:01 p.m.

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Bob Hatz, Chair

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Paul Shirey, Scribe

TRANSPORTATION  
SYSTEM DEVELOPMENT CHARGES  
RATE STUDY AND METHODOLOGY

FOR  
MILWAUKIE, OREGON

Henderson,  
Young &  
Company

FINAL REPORT  
August 30, 2004

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## 1. INTRODUCTION

The purpose of this study is to establish the rates for system development charges (SDCs) for transportation facilities in the City of Milwaukie, Oregon.

System development charges are one-time fees paid by new development to pay governments for capital costs of public facilities that are needed to serve new development and the people who occupy or use the new development.

Local governments charge SDCs for several reasons:

- To obtain revenue to pay for some of the cost of new public facilities.
- To implement a public policy that new development should pay a portion of the cost of facilities that it requires, and that existing development should not pay all of the cost of such facilities.
- To assure that public facilities will be constructed within a reasonable time period in order to achieve and maintain local standards for new development without decreasing the level of service for existing residents and businesses.
- To provide predictability to developers and builders about the type, timing, and amount of development fees required by local governments.

This rate study presents the system development charges for transportation facilities in the City of Milwaukie. The rate study includes:

1. This introduction
2. Summary of legal requirements and issues that affect the calculation of SDC rates in Oregon.
3. Transportation capital improvement program listing projects that are the basis of the SDC rates.
4. Rate schedule of transportation SDCs for various types of development.

## **2. LEGAL REQUIREMENTS AND ISSUES AFFECTING SDC CALCULATIONS**

### **OREGON SYSTEMS DEVELOPMENT ACT**

In 1989, the State of Oregon adopted the Oregon Systems Development Act (ORS 223.297 - 223.314) to “provide a uniform framework for the imposition of system development charges by local governments.” The statutes outline the types of charges that are considered to be System Development Charges (SDCs) and impose a variety of requirements on governments that impose SDCs. The ORS provisions that directly affect the calculation of the SDC rates require the City of Milwaukie to:

1. Adopt a capital improvement program (to designate capital improvements that can be funded with SDCs).
2. Set forth a methodology for the SDC (to establish rate-making principles and costs).
3. Calculate the SDC as a “reimbursement” fee, or an “improvement” fee, or a combination of both:
  - a. “Reimbursement” fees are based on the costs (including carrying costs) associated with capital improvements which are already constructed or are under construction provided that “excess” capacity is available to accommodate growth.
  - b. “Improvement” fees are based on the costs of capital improvements that increase capacity available for new development. SDCs may not be used for the construction of administrative office facilities.

### **EQUITABLE SHARES AMONG IMPACTS OF DEVELOPMENT**

There are several ways to fulfill the objective (ORS 223.304(1)) that future system users contribute no more than an equitable share of the cost of public facilities, including:

1. DEMAND (IMPACTS)

Demands placed on public facilities vary among different types of development. The City of Milwaukie transportation SDC is based on the number of trips generated on the transportation system by each type of development. Each type of development generates a different number of trips per square foot of development (i.e., fast food restaurants generate more trips per square foot than a traditional

restaurant).

Local government system development charge rate studies are based on a “standard” impact on public facilities created by “typical” development of different types. Milwaukie’s SDC is based on trip generation rates reported nationally by the Institute of Transportation Engineers (ITE). Milwaukie’s SDC ordinance could be amended to enable developers to submit data and analysis to demonstrate that the impacts of their proposed development are less than the ITE-reported impacts used in this rate study. In order for the City to accept alternative (reduced) impacts, they must be permanent and enforceable (i.e., through land use restrictions, deed restrictions, lease terms, etc.).

## 2. BENEFIT CRITERIA

Benefit criteria include personal use and use by others in the family or business enterprise (direct benefit), use by persons or organizations who provide goods or services to the fee-paying property (indirect benefit), and geographical proximity (presumed benefit).

Although direct benefits are “stronger” than indirect benefits, and both are “stronger” than presumed benefits, all three types indicate some benefit is received by the development, thus contributing to the “proportionality” between benefits received and SDCs paid.

The City of Milwaukie’s transportation SDC is based on the number of trips generated on the transportation system by each type of development. The trips generated by a development include some direct benefit trips, some indirect benefit trips and some trips with presumed benefits. Each trip, regardless of benefit type, constitutes a unit of demand (impact) on the system, thus each development’s total trip count quantifies the impact of that development. By basing the SDC on the number of trips, the SDC is proportional to the impacts generated and benefits received by the development.

## 3. LEVELS OF SERVICE

Standards for levels of service provide objective and equitable measures of the capacity of public facilities that are needed to serve each unit of development (i.e., each house, person, or square foot of development). The capacity required to achieve the standard is then compared to the existing inventory to determine the need for new facilities (or the reserve capacity of existing facilities).

The City of Milwaukie determines its needs for transportation facilities by reviewing additions to capacity of the transportation system, including enhancement of mobility and reduction of congestion.

#### 4. SIZE OF DEVELOPMENT

System development charges are typically charged on the basis of the size of the development (i.e., number of dwelling units, or number of square feet of development).

Milwaukie's SDC rate schedule lists the SDC amount per unit of development (i.e., dwelling unit or square foot). The size of each proposed development is multiplied times the SDC rate per unit to determine the total SDC for that development.

#### 5. SERVICE AREAS

Service areas, zones or other districts can be used to define the geographical relationship between development and the public facilities that are impacted by the development.

The use of service areas or "zones" for system development charges depends on the type of public facility and the size of the jurisdiction in which the system development charge is being imposed. There is no need for zones for public facilities that serve the entire City (i.e., arterial roads). Zones are appropriate for public facilities that serve small areas (i.e., a neighborhood park in a large city).

Considering the continuity and connected character of the transportation network in the City of Milwaukie, system development charges can be collected and expended on a City-wide basis (there is no need for SDC zones in Milwaukie).

### **REDUCTIONS OF SYSTEM DEVELOPMENT CHARGE AMOUNTS**

System development charges cannot "double dip" (i.e., they need to take into account the payment by the new development of other fees, taxes, etc. that the government uses to pay for the capital cost of public facilities). These other revenues are accounted for by subtracting them from the cost of capital improvement projects that are attributable to SDCs. The adjustment includes only the taxes, fees, etc. that are earmarked for or proratable to the same capital improvements that are the basis for the system development charge.

In the past, Milwaukie has used Street Fund gas taxes and grants to pay for a portion of its transportation improvement projects. Milwaukie's SDCs take into account future use of Street Fund gas taxes and grants by subtracting commitments for those revenues from the cost of projects in the Transportation SDC Capital Improvement Program (see Chapter 2).

A developer who contributes land, improvements or other assets receives a "credit" which reduces the amount of system development charge that is due (MMC 13.28.120). Milwaukie may establish reasonable conditions affecting these credits.

For example, the location of dedicated land and the quality and design of a donated public facility can be required to conform to the City's adopted local standards for such facilities. Furthermore, the contributions for which credits are given must be for the same public facilities for which the system development charges are being imposed. This credit is in addition to the adjustment for payments of other revenues described in the preceding paragraph.

### **TIMING OF PAYMENT OF SYSTEM DEVELOPMENT CHARGES**

Milwaukie's SDC ordinance authorizes collection of the SDC at the time a building permit is issued, or the issuance of a development permit for development not requiring the issuance of a building permit (MMC 13.28.090).

### **USES OF SYSTEM DEVELOPMENT CHARGE REVENUE**

System development charge revenue can be used for the capital cost of public facilities. SDCs cannot be used for operating or maintenance expenses. The cost of capital facilities that can be paid for by system development charges are specified in Milwaukie's SDC ordinance (MMC 13.28.060). In general SDCs can pay for costs of preparing for and constructing transportation facilities, including planning, design, land acquisition, construction, financing, and costs of complying with provisions of ORS regarding SDCs.

System development charges can be imposed for new public facilities which benefit new development. SDCs can also be charged to reimburse the government for the unused capacity of existing public facilities that benefit new development. SDCs that recover the costs of existing unused capacity should be based on the government's actual cost, rather than the replacement cost of the facility. Carrying costs may be added to reflect the government's actual or imputed interest expense. The "reimbursement" fee will take effect in Milwaukie when new transportation capital improvements (see Chapter 2) are completed, but they have "reserve" capacity to serve additional development.

### **RECEIPT AND EXPENDITURE OF SYSTEM DEVELOPMENT CHARGES**

System development charge revenues will be deposited into separate accounts of the City of Milwaukie, and the City will prepare annual reports describing all revenue and expenditures (MMC 13.28.130). System development charge payments that are not expended within 10 years from receipt will be refunded (on the premise that if they cannot be expended in a reasonable time, they were probably not "needed" nor did they contribute to achieving and maintaining an adequate transportation system for new development).

## **RESPONSIBILITY FOR PUBLIC FACILITIES**

System development charges are collected by local governments in conjunction with approval of applications to develop property. Most frequently, the system development charges are for public facilities that are owned by the local government that imposes the SDC. Local governments do not impose system development charges for private facilities, but they may collect system development charges for public facilities they do not administer if such facilities are owned or operated by other public (government) entities.

### **3. TRANSPORTATION CAPITAL IMPROVEMENT PROGRAM FOR SDCs**

Oregon's System Development Act requires that system development charges be based on an adopted capital improvement program (CIP). This chapter of the rate study presents the City's Transportation SDC capital improvement program. Adoption of this rate study by the City of Milwaukie, and adoption of the SDC ordinance that incorporates this rate study by reference constitute adoption of this Transportation SDC capital improvement program by the City for the purpose of calculating SDCs.

#### **CRITERIA FOR PROJECTS TO BE ELIGIBLE FOR TRANSPORTATION SDCs**

The City of Milwaukie used criteria<sup>1</sup> to identify transportation capital improvement projects that are eligible for Transportation SDCs. The criteria was developed to ensure "equitable shares" (see Chapter 1). The City used the following criteria:

##### **A. Minimum Qualifications**

In order to be eligible for transportation SDCs, a project must meet all three of the following criteria:

- Project is not a maintenance project.
- Project is not for purchase of equipment or rolling stock.
- Project includes a component that adds capacity to the transportation system.

Projects can provide capacity in one or more modes of travel: roads, transit, bicycle, pedestrian, and combined bicycle and pedestrian projects. Relative to "bikeways" type projects, dedicated bike lanes add capacity, but a wide shared lane (14-16 feet) used by both vehicle and bike modes does not add capacity.

##### **B. Qualifying Criteria**

In addition to the minimum qualifications, a project is eligible for transportation SDCs only if it also meets one or more of the following criteria:

1. Project enhances mobility.
  - a. Improve pedestrian and bicycle facilities (reduces reliance on automobile usage by increasing access to alternate modes of travel)

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<sup>1</sup> The City of Portland has used criteria (rather than volume/capacity ratios) for its transportation SDC since 1997.

- b. Improve access to activity centers (i.e., Marketplace, Historic Downtown, 42nd and King, North Industrial Center, North Clackamas Aquatic Center, or Clackamas Town Center). Curb extension type intersection improvements that improve functioning of intersections would improve access to activity centers by promoting a more pedestrian friendly environment.
  - c. Improve connectivity
  - d. Improve transit speed, reliability, and/or connections between activity centers and neighborhoods (reduces reliance on automobile usage by increasing access to alternate modes of travel). Overlay projects are assumed to improve transit speed and reliability.
  - e. Pedestrian/bicycle/transit volumes served
2. Project reduces congestion.
    - a. Improve levels of service on City arterial and collector roads and streets
    - b. Improve traffic flow
    - c. Reduce turning movement conflicts
    - d. Ensure access to intermodal terminals and related distribution facilities (i.e., rail-truck interchange in North Industrial Area).

Projects that meet these criteria are considered to be eligible for SDC funding because they add new capacity to the transportation system by enhancing the movement of automobiles, trucks, motorcycles, buses, railcars and/or pedestrians.

## **PROJECT LIST**

The City of Milwaukie use the criteria described above to evaluate many potential transportation improvement projects. The City identified 28 transportation improvement projects that are eligible for SDC funding<sup>2</sup>. The total cost of these projects is approximately \$25.6 million. The list of capital improvement projects is presented in Table 3-1. For each project, the list shows:

- Project #, Street Name and limits (“From” and “To”) or names of streets forming intersections.
- Project Description: type of improvement(s).
- Criteria: adds capacity, enhances mobility, and/or reduces congestion.

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<sup>2</sup> The City has a longer list of needed transportation improvements, such as those listed in the Transportation System Plan. This study is limited to those projects that are eligible for SDC funding.

- Total Cost: estimated total cost of project.
- Allocation of total costs between ineligible and eligible costs (described in the next chapter).

The list of transportation improvement projects in Table 3-1 contains two sections. The first section (projects 1-6) are projects that have been completed and have the capacity to serve additional traffic, therefore they are eligible for “reimbursement fees” as authorized by ORS. The second section (projects 7-28) are future projects, therefore they are eligible for “improvements fees” authorized by law. The list also contains the previous and current SDC rate studies, as allowed by law.

**Table 3-1**  
**Capital Improvement Program for System Development Charges**

Project	Description	Adds Capacity	Enhances Mobility	Reduces Congestion	Total Cost	Ineligible Cost	Cost Eligible for SDC
<b>Reimbursement Fee Projects</b>							
1.	42nd (Olsen St.- Harvey Street), Harvey St. (42nd Ave. - 40th.)	√	√	√	155,263	121,857	33,406
2.	Johnson Creek Blvd. - 32nd to 45th	√	√		2,953,000	2,793,100	159,900
3.	Olsen 32nd to 42nd	√	√		124,161	64,161	60,000
4.	Roswell, 32nd to 42nd	√	√		329,000	195,300	133,700
5.	Stanley, King to Railroad	√	√		117,827	51,970	65,857
6.	1998 Transp. SDC Project				13,030	0	13,030
<b>Subtotal: Reimbursement Projects</b>					<b>3,692,281</b>	<b>3,226,388</b>	<b>465,893</b>
<b>Improvement Fee Projects</b>							
7.	42nd Ave. Street Improvements (JCB - Olsen St)	√	√		391,000	270,000	121,000
8.	CDBG - King Rd Improvements (37th-42nd Ave)	√	√		227,120	181,900	45,220
9.	CDBG - 37th Ave Improvements (Harvey - King Rd.)	√	√		200,400	160,500	39,900
10.	CDBG - 40th Ave. Improvements (Harvey - King Rd.)	√	√		200,400	160,500	39,900
11.	CDBG - Oak St. Improvements (Campbell St. - Railroad Ave/Monore St.)	√	√		33,400	26,750	6,650
12.	CDBG - 37th Ave. Improvements (Railroad Ave. to just south of RR Tracks, approx. 75 feet)	√	√		6,680	5,350	1,330

*Transportation System Development Charge Rate Study and Methodology*

<b>Project</b>	<b>Description</b>	<b>Adds Capacity</b>	<b>Enhances Mobility</b>	<b>Reduces Congestion</b>	<b>Total Cost</b>	<b>Ineligible Cost</b>	<b>Cost Eligible for SDC</b>
13. Match for Springwater Corridor Three Bridges Project	Bike/Trail	√	√		2,440,000	2,411,300	28,700
14. McLoughlin Blvd. Improvements Project	Multi-Modal	√	√	√	4,100,000	3,883,000	217,000
15. 21st Avenue Extension Project	Street/Sidewalk/ Pedestrian	√	√		415,000	0	415,000
16. 37th Avenue Sidewalks	Walkway	√	√		30,000	0	30,000
17. Lake Road Multimodal Improvements (21st Ave to E. City Limits)	Multi-modal	√	√	√	4,663,000	3,000,000	1,663,000
18. King Road & 43rd Ave	Traffic Signal	√	√	√	200,000	98,400	101,600
19. Stanley, King to Railroad	Curb, sidewalk, and storm improvements	√	√		511,441	0	511,441
20. 2004 Transp. SDC Project	Rate study				24,999	0	24,999
21. CDBG Projects 04/06. 36th Ave. Improvements (Harvey - King)	Street/Storm	√	√		201,800	0	201,800
22. Lewellyn St - Franklin St Improv	Street/Storm	√	√		125,000	0	125,000
23. STSP - Cedercrest Drive Sidewalks	Walkways	√	√		52,000	0	52,000
24. STSP - Logus Road Street Improvements	Street/Storm	√	√		1,750,000	525,000	1,225,000
25. Railroad Ave. Multi-Modal/ Reconstruction	Multi-modal	√	√	√	4,000,000	1,200,000	2,800,000
26. Monroe Street Reconstruction	Multi-modal	√	√		1,800,000	540,000	1,260,000
27. Howe Street and 43rd Ave.	Curb and sidewalk	√	√		400,000	200,000	200,000
28. Harrison & 42nd Ave	Traffic signal	√	√		160,762	0	160,762
<b>Subtotal: Improvement Projects</b>					<b>21,933,002</b>	<b>12,662,700</b>	<b>9,270,302</b>
<b>Combined Total: Reimbursements plus Improvements</b>					<b>25,625,283</b>	<b>15,889,088</b>	<b>9,736,195</b>

## **4. METHODOLOGY**

This chapter of the rate study contains the rate making principles, costs and data to calculate transportation SDCs for the City of Milwaukie. The chapter begins with an overview of how the SDC rates are calculated. The balance of the chapter presents the formulas, variables, data, and rate schedule for transportation SDCs.

### **OVERVIEW OF SDC CALCULATIONS**

Transportation SDCs for the City of Milwaukie are calculated using the following steps.

1. Identify capital improvement projects that are needed to serve new development.
2. Determine the portion of the cost of the project that is not eligible for the SDC (because it is paid by other revenues to cover costs such as existing deficiencies or through traffic).
3. Use a traffic model to forecast the number of new trips that will be generated.
4. Calculate the cost per new trip by dividing the costs that are eligible for SDCs (from steps 1 and 2, above) by the number of new trips (from step 3).
5. Quantify the impacts of various types of new development by calculating the number of new trips that are generated by various types of land use. The trip generation data is adjusted to account for the number of trips that are part of another trip (i.e., stopping at a store on the way home from work).
6. Calculate the SDC rate for each type of land use: multiply the cost per new trip (from step 4) times the number of trips (from step 5).

### **CAPITAL IMPROVEMENT PROJECTS NEEDED FOR NEW DEVELOPMENT**

Chapter 3 describes the City's process for identifying capital improvement projects needed to serve new development. The projects are listed in Table 3-1.

### **ELIGIBLE PORTION OF COST OF EACH PROJECT**

SDCs cannot be charged for the portion of project costs that are paid by other revenues, such as Street Fund gas taxes or grants. Those revenues pay for the portion of project costs that are not eligible for SDCs, such as deficiencies that existed before the SDC program was initiated, or through traffic that travels through the City without stopping. Table 3-1 identifies ineligible and eligible costs.

**NEW TRIPS GENERATED BY EACH MODE OF TRAVEL**

New trips on the transportation network are primarily caused by growth in population and employment. The City’s traffic model uses the number of employees and households to predict the number of trips that will be generated on the transportation network. Table 4-1 shows the number of trips in 1997 and 2015, and the growth in trips forecast for 18 years. These trip data are obtained from Milwaukie’s traffic model.<sup>3</sup> The growth in trips from Table 4-1 are used to calculate cost per trip (as described in the next section).

**Table 4-1  
Growth in Trips**

Trip Type	1997	2015	18 Year Growth
P.M. Peak Hour Trips	14,865	21,306	6,441

**COST PER NEW TRIP**

The cost per new trip is calculated by dividing the costs that are eligible for SDCs (from steps 1 and 2, above) by the number of new trips (from step 3), as follows:

$$\text{Cost per growth trip} = \frac{\text{(Total cost eligible for SDC)}}{\text{(Growth in p.m. peak hour trips)}}$$

Table 4-2 shows the calculations of cost per growth trip for reimbursement fees and improvement fees.

**Table 4-2  
Cost per New Trip**

Category of CIP Projects	SDC CIP Eligible Cost	Growth Trips	Cost per Growth Trip
Reimbursement (completed)	\$ 465,893	6,441	\$ 72.33
Improvement (future)	9,270,302	6,441	1,439.17

<sup>3</sup> Data were provided by Falconi Consulting Services, using historical data from the Transportation System Plan, and forecasting growth at 2% per year.

## **TRIPS GENERATED BY VARIOUS TYPES OF DEVELOPMENT**

SDC rates vary according to the impact on the transportation network caused by each type of development. The impacts are measured in “trips.” Trip generation rates for each land use type are derived from the Institute of Transportation’s (ITE) report *Trip Generation* (7th Edition, 2003). The ITE rates used in this SDC study are expressed as vehicle trips entering and leaving a property during the peak travel period in the afternoon and evening (4-6 p.m.) which is called the “p.m. peak” trip rate.

The trip generation data is adjusted to account for the number of trips that are part of another trip (i.e., stopping at a store on the way home from work). For some land uses (e.g., retail), a substantial amount of this traffic is already passing-by the property and merely interrupts a trip between two other locations. These pass-by trips do not add to the impact on the surrounding street system because the trip would occur without the interruption. As a result, pass-by trips are subtracted from the total trips generated by each type of land use. The remaining trips are considered “new” to the street system and are therefore subject to the system development charge calculation. The pass-by trip percentages are derived from ITE’s *Trip Generation Handbook* (2001).

ITE trip rates, and adjustments for new trips are presented in Table 4-3. The table lists the most frequently used land use types from ITE’s *Trip Generation*, and the following information is presented in separate columns:

- Land Uses: major categories of land use for which ITE has reports of trip generation.
- P.M. Peak Vehicle Trips per Unit: the number of trips during the p.m. peak travel period as reported by ITE for one unit of measure.
- New Trip %: the percent of trips that are new (excludes “pass-by” trips).
- Net New Trips per Unit: the number of new trips during the p.m. peak travel period (excluding pass-by trips) for one unit of measure.
- Unit of Measure: the unit that generates the number of trips (i.e., residential development counts trips per dwelling, schools count trips per student, most commercial establishments count trips per 1,000 square feet).

The data described above is used in combination with costs per trip to calculate the SDC rates, as described in the following section.

### **SDC RATES FOR EACH TYPE OF DEVELOPMENT**

The SDC rate for each type of land use is calculated by multiplying the number of trips times the cost per new trip, as follows:

$$SDC_{lu} = (\text{cost per motorized trip}) \times (\text{p.m. peak hour new trips/unit})_{lu}$$

Where  $lu$  = land use category

The cost per trip is from Table 4-2 and is repeated in the appropriate column headings of Table 4-3, and the number of trips generated by the new development is shown in Table 4-3 for a variety of land use categories.

The SDC rates are calculated as dollars per unit of development for a variety of land use categories (as defined in ITE's *Trip Generation*).

The result of these calculations appear in the "Reimbursement" and "Improvement" columns of the SDC Rate Schedule, Table 4-3.

### **COMBINED RATES FOR REIMBURSEMENT AND IMPROVEMENT SDCs**

The combined SDC rates for each type of land use is the total of the reimbursement SDC and the improvement SDC. Earlier steps were performed separately for reimbursement fees and improvement fees, producing an SDC for each type of fee (for each land use). The final step in preparing the SDC rate schedule is to add the SDCs for both types. The result is the composite SDC for each type of development shown in the last column of Table 4-3.

**Table 4-3**  
**Trip Generation Rates and SDC Rate Schedule**

ITE Code	ITE Land Use Category	PM Peak Trip Rate <sup>4</sup>	% New Trips <sup>5</sup>	Net New Trips per	Unit of Measure	Reimbursement Projects SDC @ \$ 72.33	Improvement Projects SDC @ \$ 1,439.17	Combined Reimbursement and Future Improvement
110	Light Industrial	0.98	100%	0.98	1,000 sq ft	71	1,410	1,481
140	Manufacturing	0.74	100%	0.74	1,000 sq ft	54	1,065	1,119
151	Mini-warehouse	0.26	100%	0.26	1,000 sq ft	19	374	393
210	Single family detached house	1.01	100%	1.01	dwelling	73	1,454	1,527
220	Apartment	0.62	100%	0.62	dwelling	45	892	937
230	Condominium/townhouse	0.52	100%	0.52	dwelling	38	748	786
240	Mobile home	0.59	100%	0.59	dwelling	43	849	892
251	Senior adult housing-detached	0.26	100%	0.26	dwelling	19	374	393
252	Senior adult housing-attached	0.11	100%	0.11	dwelling	8	158	166
253	Congregate care facility	0.17	100%	0.17	dwelling	12	245	257
254	Assisted living	0.22	100%	0.22	dwelling	16	317	333
310	Hotel	0.59	100%	0.59	room	43	849	892
320	Motel	0.47	100%	0.47	room	34	676	710
420	Marina	0.19	100%	0.19	berth	14	273	287
430	Golf course	0.30	100%	0.30	acre	22	432	453
440	Adult cabaret	38.67	100%	38.67	1,000 sq ft	2,797	55,653	58,449
441	Live theater	0.02	100%	0.02	seat	1	29	30
443	Movie theater without matinee	0.07	100%	0.07	seat	5	101	106
445	Multiplex movie theater	5.22	100%	5.22	1,000 sq ft	378	7,512	7,890
522	Middle/junior high school	1.19	100%	1.19	1,000 sq ft	86	1,713	1,799
530	High school	0.97	100%	0.97	1,000 sq ft	70	1,396	1,466
560	Church	0.66	100%	0.66	1,000 sq ft	48	950	998

<sup>4</sup> Trip Generation 7<sup>th</sup> Edition, ITE, 2003. Trip generation rates are weekday p.m. peak hour (4-6 pm)

<sup>5</sup> Trip Generation Handbook, ITE, 2001. New trip % is the reciprocal of “pass-by trips” in ITE.

*Transportation System Development Charge Rate Study and Methodology*

ITE Code	ITE Land Use Category	PM Peak Trip Rate <sup>4</sup>	% New Trips <sup>5</sup>	Net New Trips per	Unit of Measure	Reimbursement Projects SDC @ \$ 72.33	Improvement Projects SDC @ \$ 1,439.17	Combined Reimbursement and Future Improvement
565	Day care center	13.18	100%	13.18	1,000 sq ft	953	18,968	19,921
610	Hospital	1.18	100%	1.18	1,000 sq ft	85	1,698	1,784
620	Nursing home	0.22	100%	0.22	bed	16	317	333
710	Office	1.49	100%	1.49	1,000 sq ft	108	2,144	2,252
720	Medical office	3.72	100%	3.72	1,000 sq ft	269	5,354	5,623
730	Government office	1.21	100%	1.21	1,000 sq ft	88	1,741	1,829
760	R&D Center	1.08	100%	1.08	1,000 sq ft	78	1,554	1,632
812	Building materials & lumber	4.49	100%	4.49	1,000 sq ft	325	6,462	6,787
814	Specialty retail	2.71	100%	2.71	1,000 sq ft	196	3,900	4,096
820	Shopping center	3.75	66%	2.48	1,000 sq ft	179	3,562	3,741
850	Supermarket	10.45	64%	6.69	1,000 sq ft	484	9,625	10,109
851	Convenience market-24 hr	52.41	39%	20.44	1,000 sq ft	1,478	29,416	30,895
890	Furniture store	0.46	47%	0.22	1,000 sq ft	16	311	327
896	Video rental	13.60	100%	13.60	1,000 sq ft	984	19,573	20,556
911	Bank/savings: walk-in	33.15	100%	33.15	1,000 sq ft	2,398	47,708	50,106
912	Bank/savings: drive-in	45.74	53%	24.24	1,000 sq ft	1,753	34,889	36,642
931	Quality restaurant	7.49	56%	4.19	1,000 sq ft	303	6,036	6,340
932	Restaurant: sit-down	10.92	57%	6.22	1,000 sq ft	450	8,958	9,408
933	Fast food, no drive-through	26.15	50%	13.08	1,000 sq ft	946	18,817	19,763
934	Fast food, with drive-through	34.64	50%	17.32	1,000 sq ft	1,253	24,926	26,179
936	Drinking place	11.34	100%	11.34	1,000 sq ft	820	16,320	17,140
943	Auto parts & service center	4.46	57%	2.54	1,000 sq ft	184	3,659	3,843
944	Service station	13.86	58%	8.04	vfp <sup>6</sup>	581	11,569	12,151
947	Self-service car wash	5.54	100%	5.54	wash stall	401	7,973	8,374
948	Automated car wash	14.12	100%	14.12	1,000 sq ft	1,021	20,321	21,342

<sup>6</sup> vfp = vehicle fueling position