

# CITY OF HUBARD, OREGON

## RESOLUTION NO. 533-2012

### **A RESOLUTION AUTHORIZING ADOPTION OF UPDATED SYSTEM DEVELOPMENT CHARGE METHODOLOGIES AND RATES FOR TRANSPORTATION, WATER, WASTEWATER, AND PARKS SERVICES AND REPEALING RESOLUTION 517-2012**

**WHEREAS**, Title 15 of the Hubbard Municipal Code (HMC) provides for the periodic updating of System Development Charge (SDC) methodologies and rates, and

**WHEREAS**, Section 15.15.010 of the HMC specifies that such charges shall be set by a separate resolution, and

**WHEREAS**, Section 15.15.120 of the HMC specifies that no later than every five (5) years as measured from initial enactment, the City shall undertake a review to determine that sufficient money will be available to help fund the capacity-increasing facilities identified in the SDC methodology report to determine whether the adopted SDC rates keep pace with inflation, and to ensure that such facilities will not be overfunded by the SDC receipts, and

**WHEREAS**, the City has commissioned and funded an independent update to its transportation SDC methodology resulting in the "Methodology Report – Transportation System Development Charge Update," dated May 31, 2012 by FCS Group, and

**WHEREAS**, the City has commissioned and funded an independent update to its water, wastewater and parks SDC methodology resulting in the "2012 Water, Wastewater, & Parks SDC Methodology Update," dated April 12, 2012 by Donovan Enterprises, Inc. and

**WHEREAS**, ORS 223.304(7) requires any local government that proposes to establish or modify a system development charge to maintain a list of persons who have made a written request for notification prior to adoption or amendment of a methodology for any system development charge. Written notice must be mailed to persons on the list at least 90 days prior to the first hearing to establish or modify a system development charge, and the methodology supporting the system development charge must be available at least 60 days prior to the first hearing, and

**WHEREAS**, Ninety (90) days prior to the anticipated first reading of the proposed SDC methodologies updates by the City Council, the City recorder published the notice of intent to modify the City's transportation, water, wastewater, and parks SDC methodologies in the Woodburn Independent newspaper on March 7, 2012, and notified the Home Builders Association of Marion & Polk Counties via letter of the same on March 2, 2012, and

**WHEREAS**, Sixty (60) days prior to the anticipated first reading of the proposed SDC methodologies updates by the City Council, the City Recorder made copies of the proposed SDC methodologies updates available to the public for review and comment.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF HUBBARD HEREBY RESOLVES AS FOLLOWS:

**SECTION 1. UPDATE OF SYSTEM DEVELOPMENT CHARGE METHODOLOGIES**

- A. Transportation – Effective July 1, 2012, the City of Hubbard transportation SDC methodology is hereby updated to reflect the facts and findings contained in the "Methodology Report – Transportation System Development Charge Update," dated May 31, 2012, by FCS Group, as set forth in "Exhibit A" attached hereto and by this reference incorporated herein and entitled "Transportation System Development Charge Update."
- B. Water, Wastewater, and Parks - Effective July 1, 2012, the City of Hubbard water, wastewater, and parks SDC methodology is hereby updated to reflect the facts and findings contained in the "2012 Water, Wastewater, Parks SDC Methodology Update", dated April 12, 2012 by Donovan Enterprises, Inc., as set forth in "Exhibit B" attached hereto and by this reference incorporated herein and entitled "2012 Water, Wastewater, and Parks SDC Methodology Update."

**SECTION 2. ADJUSTMENT OF SYSTEM DEVELOPMENT CHARGES**


- A. Effective July 1, 2012, the City of Hubbard transportation, water, wastewater, and parks SDCs are hereby adjusted. The new schedule of SDCs are attached in Appendix A to this Resolution.
- B. Resolution No. 517-2012 is hereby repealed.

**SECTION 3. EFFECTIVE DATE**


This resolution shall be in full force and effect on June 12, 2012.

CONSIDERED AND PASSED BY THE COMMONM COUNCIL OF THE CITY OF HUBBARD this 12<sup>th</sup> day of June, 2012.

APPROVED:

  
\_\_\_\_\_  
Tom McCain, Mayor

ATTEST:

  
\_\_\_\_\_  
Vickie Nogle, MMC, Director of Administration/City Recorder

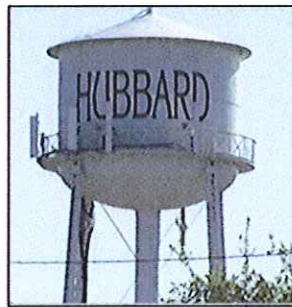
  
APPROVED AS TO FORM:  
\_\_\_\_\_  
Robert Engle, City Attorney

# Exhibit A

Methodology Report – Transportation System  
Development Charge Update, dated May 31,  
2012, by FCS Group

# 2012 Water, Wastewater & Parks SDC Methodology Update

*Pursuant to Hubbard Municipal Code Chapter 15.15*



Prepared by:



**EXHIBIT "A"**

June 12, 2012

**City of Hubbard**  
**2012 Water, Wastewater, & Parks SDC Methodology Update**

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## Introduction

The city of Hubbard's current schedule of system development charges (SDCs) for water and wastewater were last reviewed in 2003. The parks SDC was updated in 2007 with the adoption of the City's current parks master plan. Finally, the City is currently in the process of adopting a new Transportation System Plan (TSP) that will result in a new schedule of transportation SDCs. This TSP work is scheduled to be completed in the spring of 2012, with a targeted adoption date of June 12, 2012.

With the preparation/adoption of the new TSP, and the municipal code requirement for periodic review of SDCs, the City undertook this update of its water, wastewater, and parks SDCs to get all SDC methodologies and rates current. With this review and update, the City has stated a number of objectives:

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

This report provides the documentation of that effort, and was done in close coordination with City staff and available Master Plan and other relevant documents. The water, wastewater, and parks SDC update complies with City municipal code section 15.15.120. The text of that code is:

*15.15.120 City review of SDC.*

*(1) No later than every five years as measured from initial enactment, the city shall undertake a review to determine that sufficient money will be available to help fund the capacity-increasing facilities identified in the SDC methodology report to determine whether the adopted SDC rates keep pace with inflation, and to ensure that such facilities will not be overfunded by the SDC receipts.*

*(2) In the event that during the review referred to above, it is determined that an adjustment to the SDC is necessary for sufficient funding of the improvements listed in the SDC methodology report, or to ensure that such improvements are not overfunded by the SDC, the city council may propose and adopt appropriately adjusted SDC rates (Ord. 272-2003 § 12, 2003).*

Table 1 gives a component breakdown for the current and proposed residential equivalent SDCs for water wastewater, and parks. Appendix A to this report shows the detailed calculations that were used to arrive at the proposed SDCs for each service.

Table 1 - Component Breakdown of the Proposed Residential Equivalent Water, Wastewater, and Parks SDCs

	Reimbursement	Improvement	Administrative Cost Recovery	Total
<b>Proposed:</b>				
Water	1,930	301	244	2,475
Wastewater	2,589	923	242	3,755
Parks	417	2,666	129	3,212
Total proposed	<u>\$ 4,936</u>	<u>\$ 3,891</u>	<u>\$ 615</u>	<u>\$ 9,442</u>
<b>Current:</b>				
Water	559	-	28	587
Wastewater	3,522	2,128	283	5,933
Parks	-	3,151	158	3,309
Total current	<u>\$ 4,081</u>	<u>\$ 5,279</u>	<u>\$ 469</u>	<u>\$ 9,829</u>
<b>Difference:</b>				
Water	1,371	301	216	1,888
Wastewater	(933)	(1,205)	(41)	(2,178)
Parks	417	(485)	(29)	(97)
Difference	<u>\$ 855</u>	<u>\$ (1,388)</u>	<u>\$ 146</u>	<u>\$ (387)</u>

The framework for SDC calculation is established by Oregon Revised Statute (ORS) 223.297-314 which is the basis for this review. Under statute, SDC's are one-time fees imposed on new development and have two components: reimbursement and improvement.

The reimbursement fee considers the cost of existing facilities, prior contributions by existing users of those facilities, the value of the unused/available capacity, and generally accepted ratemaking principles. The objective is "future system users contribute no more than an equitable share to the cost of existing facilities." The reimbursement fee can be spent on capital costs or debt service related to the systems for which the SDC is applied.

The improvement fee portion of the SDC is based on the cost of planned future facilities that expand the system's capacity to accommodate growth or increase its level of performance. In developing an analysis of the improvement portion of the fee for water, wastewater, and parks, each project in the respective service's capital improvement plan is evaluated to exclude costs related to correcting existing system deficiencies or upgrading for historical lack of capacity. An example is a facility which improves system capacity to better serve current customers. The costs for this type of project must be eliminated from the improvement fee calculation. Only capacity increasing/level of performance costs provide the basis for the SDC calculation. The improvement SDC is calculated as a function of the estimated number of additional equivalent residential units to be served by the City's facilities over the planning period. Such a fee represents the greatest potential for future SDC changes.

## SDC Legal Authorization

SDCs are authorized by Oregon Revised Statute (ORS) 223.297-314. The statute is specific in its definition of system development charges, their application, and their accounting. In general, an SDC is a one-time fee imposed on new development or expansion of existing development, and assessed at the time of development approval or increased usage of the system. SB 939, passed by the 2003 legislature, included many procedural adjustments and clarifications to ORS 223. Overall, the statute is intended to promote equity between new and existing customers by recovering a proportionate share of the cost of existing and planned/future capital facilities that serve the developing property. Statute further provides the framework for the development and imposition of SDCs and establishes that SDC receipts may only be used for capital improvements and/or related debt service.

The methodology used to determine the improvement fee portion of the SDC must consider the cost of projected capital improvements needed to increase system capacity or level of performance. In other words, the cost of planned projects that correct existing deficiencies or do not otherwise increase capacity would not be SDC eligible. The improvement fee must also provide a credit for construction of a qualified public improvement.

## SDC Methodology

The essential ingredient in the development of an SDC methodology for water, wastewater, and parks services is valid sources of data. For this project, the consultant team has relied on a number of data sources. The primary sources have been the adopted master plans and plan updates for these municipal facilities. We have supplemented these data sources with City utility billing records, certified 2010 census data, and other documents that we deemed helpful, accurate, and relevant to this study. Table 2 contains a bibliography of the key documents/sources that we relied upon to facilitate our analysis and hence the resulting SDCs.

Table 2 - Data Sources for the Calculation of Water, Wastewater, and Parks SDC

Service	Master Plan Document and/or Corroborating Source Documentation
Water	<ul style="list-style-type: none"> <li>• City of Hubbard Water Master Plan; December 10, 1996; KPFF Consulting Engineers</li> <li>• City of Hubbard Utility Billing System - water meters in service report; February 21, 2012</li> <li>• Per American Water Works Association standards effective January 1, 2003 for cold water meters- displacement type, bronze main case. ANSI approval October 11, 2002. American Water Works Association ANSI/AWWA C700-02 (Revision of ANSI/AWWA C700-95).</li> <li>• Portland State University, College of Urban Affairs, Population Research Center; Certified 2010 census for Hubbard, Oregon; March 31, 2011</li> </ul>
Wastewater	<ul style="list-style-type: none"> <li>• Wastewater Facilities Plan for the City of Hubbard; March, 2003; BST, Inc.</li> <li>• 2004 Hubbard Wastewater Treatment Plant Improvements Facilities Plan Amendment and Preliminary Design Report; October 22, 2004; Kennedy/Jenks Consultants</li> <li>• Hubbard WWTP Alternative Discharge Study; April, 2006; Kennedy/Jenks Consultants</li> <li>• City of Hubbard Utility Billing System – water meters in service report; February, 2012</li> <li>• Portland State University, College of Urban Affairs, Population Research Center; Certified 2010 census for Hubbard, Oregon; March 31, 2011</li> </ul>
Parks	<ul style="list-style-type: none"> <li>• City of Hubbard, Parks Master Plan; David M. Kinney; May 8, 2007; Page 6</li> <li>• Portland State University, College of Urban Affairs, Population Research Center; Certified 2010 census for Hubbard, Oregon; March 31, 2011</li> </ul>

## Reimbursement Fee Methodology

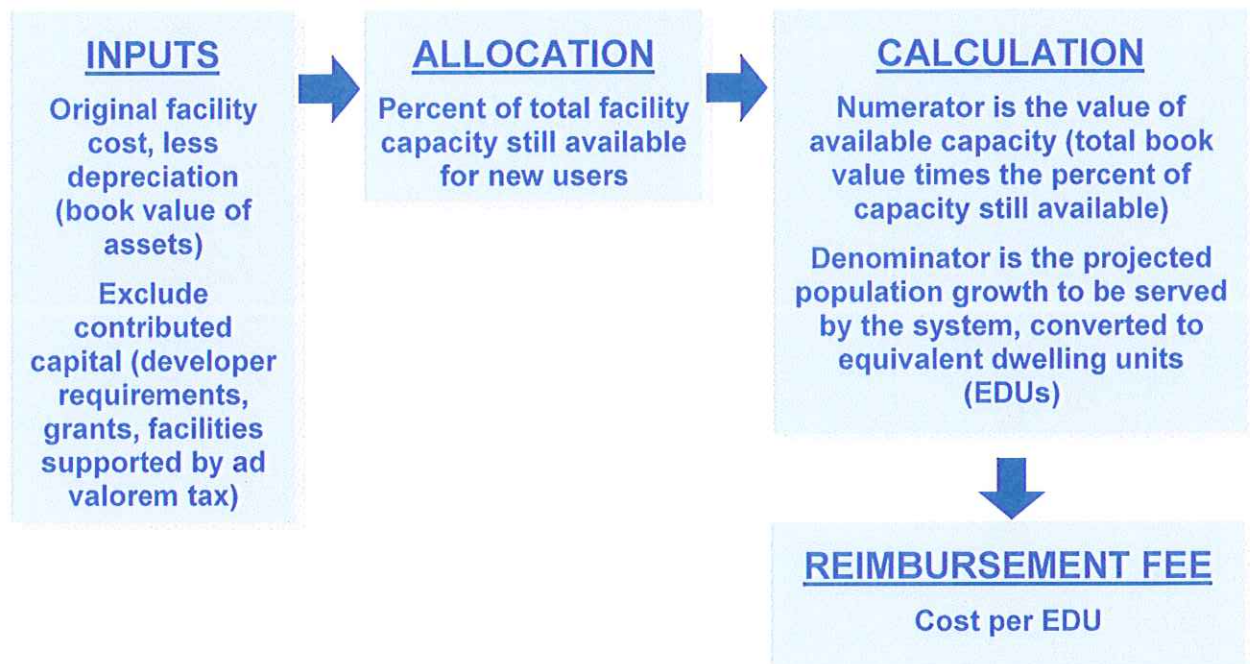
The reimbursement fee represents a buy-in to the cost, or value, of infrastructure capacity within the existing system. Generally, if a system were adequately sized for future growth, the reimbursement fee might be the only charge imposed, since the new customer would be buying existing capacity. However,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

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

customer is less than the value to an existing customer, since the new customer must also pay, through an improvement fee, for expansion of some portions of the system.

The method used for determining the reimbursement fee accounts for both of these points. First, the charge is based on the net investment in the system, rather than the gross cost. Therefore, donated facilities, typically including distribution (water) and collection (wastewater) lines, local facilities, and grant-funded facilities, would be excluded from the cost basis. Also, the charge should be based on investments clearly made by the current users of the system, and not already supported by new customers. Tax supported activities fail this test since funding sources have historically been from general revenues, or from revenues which emanate, at least in part, from the properties now developing. Second, the cost basis is allocated between used and unused capacity, or capacity available to serve growth. In the absence of a detailed asset by asset analysis, it is appropriate to allocate the cost of existing facilities between used and available capacity proportionally based on the forecasted population growth as converted to meter equivalents over the planning period. This approach reflects the philosophy, consistent with the City's Updated Master Plans, that facilities have been sized to meet the demands of the customer base within the established planning period.

## Setting the Reimbursement Fee



## Improvement Fee Methodology

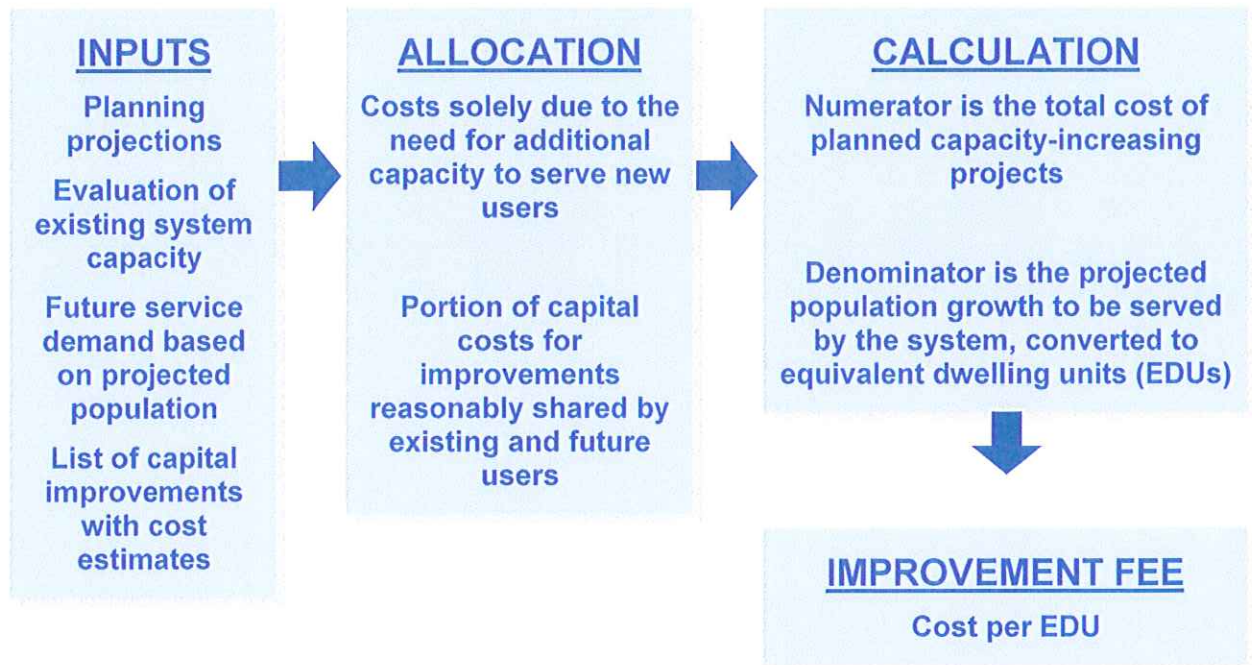
There are three basic approaches used to develop improvement fee SDCs: “standards driven”, “improvements-driven”, and “combination/hybrid” approaches. The “standards-driven” approach is based on the application of Level of Service (LOS) standards for facilities. Facility needs are determined by applying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

In the past, the City has utilized the “improvements-driven” approach for the calculation of water, wastewater, and parks SDCs. This study continues to use this method, and has relied on the capital improvement plans that are incorporated in the master plans, and plan updates for these three municipal services.

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

The key step in determining the improvement fee is identifying capital improvement projects that expand the system and the share of those projects attributable to growth. Some projects may be entirely attributable to growth, such as a wastewater collection line that exclusively serves a newly developing area. Other projects, however, are of mixed purpose, in that they may expand capacity, but they also improve service or correct a deficiency for existing customers. An example might be a water booster pump station that both expands water distribution system capacity and corrects a chronic capacity issue for existing users. In this case, a rational allocation basis must be defined.

# Setting the Improvement Fee



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

Figure 1 - SDC Eligibility Criteria

<b>City of Hubbard</b>	
<b>Steps Toward Evaluating</b>	
<b><u>Capital Improvement Lists for SDC Eligibility</u></b>	
<b><u>ORS 223</u></b>	
1.	Capital improvements mean the facilities or assets used for : <ol style="list-style-type: none"><li>Water supply, treatment, storage, transmission, and distribution</li><li>Wastewater collection, transmission, treatment, and disposal</li><li>Parks land acquisition, and improvements</li></ol> <p>This definition DOES NOT ALLOW costs for operation or routine maintenance of the improvements;</p>
2.	The SDC improvement base shall consider the cost of projected capital improvements needed to increase the capacity of the systems to which the fee is related;
3.	An increase in system capacity is established if a capital improvement increases the "level of performance or service" provided by existing facilities or provides new facilities.
<b><u>Under the City' approach, the following rules will be followed</u></b>	
1.	Repair costs are not to be included;
2.	Replacement costs will not be included unless the replacement includes an upsizing of system capacity and/or the level of performance of the facility is increased;
3.	New regulatory compliance facility requirements fall under the level of performance definition and should be proportionately included;
4.	Costs will not be included which bring deficient systems up to established design levels.

In developing the improvement fee, the project team in consultation with City staff evaluated each of its CIP projects to exclude costs related to correcting existing system deficiencies or upgrading for historical lack of capacity. Only capacity increasing/level of performance costs were used as the basis for the SDC calculation, as reflected in the capital improvement schedules developed by the City. The improvement fee is calculated as a function of the estimated number of projected additional Equivalent Residential Units for water and wastewater, and in Equivalent Dwelling Units for parks to be served by the City's facilities over the planning horizon.

Once the future costs to serve growth have been segregated (i.e., the numerator), they can be divided into the total number of new ERUs (EDUs for parks) that will use the capacity derived from those investments (i.e., the denominator).

## Methodology for the Granting of Credits, Exemptions, Discounts, and Indexing

### SDC Credits Policy

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

The City has adopted a policy for granting SDC credits, and has codified this policy in the Hubbard Municipal Code (HMC) §15.15.060. The adopted SDC credit policy consists of six (6) items as follows:

1. The city shall grant a credit against the SDC, which is otherwise assessed for a new development, for any qualified public improvements(s) constructed or dedicated as part of that new development. The applicant bears the burden of evidence and persuasion in establishing entitlement to an SDC credit and to a particular value of SDC credit.
2. To obtain an SDC credit, the applicant must specifically request a credit prior to the city's issuance of a building permit for the new development. In the request, the applicant must identify the improvement(s) for which credit is sought and explain how the improvement(s) meet the requirements for a qualified public improvement. The applicant shall also document, with credible evidence, the value of the improvement(s) for which credit is sought. If, in the administrator's opinion, the improvement(s) is a qualified public improvement, and the administrator concurs with the proposed value of the improvements(s), an SDC credit shall be granted. The value of the SDC credits under this section shall be determined by the administrator based on the cost of the qualified public improvement, or the value of land dedicated as follows:
  - a. For dedicated lands, the value shall be based upon a written appraisal of fair market value by a qualified, professional appraiser based upon comparable sales of similar property between unrelated parties in an arms-length transaction;
  - b. For improvements yet to be constructed, value shall be based upon the anticipated cost of construction. Any such cost estimates shall be certified by a professional architect or engineer or based on a fixed price bid from a contractor ready and able to construct the improvements(s) for which SDC credit is sought;
  - c. For improvements already constructed, value shall be based on the actual cost of the construction as verified by receipts submitted by the applicant;
  - d. For all improvements for which credit is sought, only the fraction of over-capacity in the improvement is eligible for SDC credit.

3. The administrator will respond to the applicant's request in writing within 30 days of when the request is submitted. The administrator shall provide a written explanation of the decision on the SDC credit request.
4. If the applicant disputes the administrator's decision with regard to an SDC credit request, including the amount of the credit, the applicant may seek an alternative SDC credit calculation under HMC 15.15.070. Any request for an alternative SDC credit calculation must be filed with the administrator in writing within 30 calendar days of the written decision on the initial credit request.
5. Where the amount of an SDC credit approved by the administrator under this section exceeds the amount of the SDC assessed by the city upon a new development, the excess credit may be applied against SDCs that accrue in subsequent phases of the original development project. Any excess credit must be used not later than 10 years from the date the credit is given.
6. Notwithstanding any other provision of this chapter, the city may, by action of the city council, provide a greater credit, establish a system providing for the transferability of credits, provide a credit for a capital improvement not identified in the SDC methodology report or CIP, or provide a share of the cost of a capital improvement by means other than a credit.

### Partial and Full SDC Exemptions Policy

The City may exempt certain types of development, from the requirement to pay SDCs. Exemptions reduce SDC revenues and, therefore, increase the amounts that must come from other sources, such as user fees and property taxes. As in the case of SDC credits, the City has articulated a policy relative to partial and full SDC exemption. This SDC exemption policy is codified in HMC §15.15.050, and is as follows:

The uses listed and described in this section [sic Chapter 15.15] shall be exempt, either partially or fully, from payment of the SDC. Any applicant seeking an exemption under this section shall specifically request that exemption no later than the time of application for the building permit. Where new development consists of only part of one or more of the uses described in this section, only that/those portion(s) of the development which qualify under this section are eligible for an exemption. The balance of the new development which does not qualify for any exemption under this section shall be subject to the full SDC. Should the applicant dispute any decision by the city regarding an exemption request, the applicant must apply for an alternative exemption calculation under HMC 15.15.070. The applicant has the burden of proving entitlement to any exemption so requested.

1. Temporary uses are fully exempt so long as the new development use or structure will be used for not more than 180 days in a single calendar year.
2. Alteration permits for tenant improvements are fully exempt.
3. New development which, in the administrator's opinion, will not create demands on the system greater than those of the present use of the property are fully exempt.

### SDC Discount Policy

The City, at its sole discretion may discount the SDC rates by choosing not to charge a reimbursement fee for excess capacity, or by reducing the portion of growth-required improvements to be funded with

SDCs. A discount in the SDC rates may also be applied on a pro-rata basis to any identified deficiencies, which must to be funded from sources other than improvement fee SDCs. The portion of growth-required costs to be funded with SDCs must be identified in the CIP. Because discounts reduce SDC revenues, they increase the amounts that must come from other sources, such as user fees or general fund contributions, in order to acquire the facilities identified in the Updated Master Plan

### Policy to Adjust SDCs for Inflation

The City has a policy of reviewing its suite of SDCs every five years. Between the review dates, the city applies a cost adjustment index to adjust the SDC rates annually to reflect changes in costs for land and construction. HMC §15.15.040 (6) lays out the specific cost index to be used, and how the index is to be applied as follows:

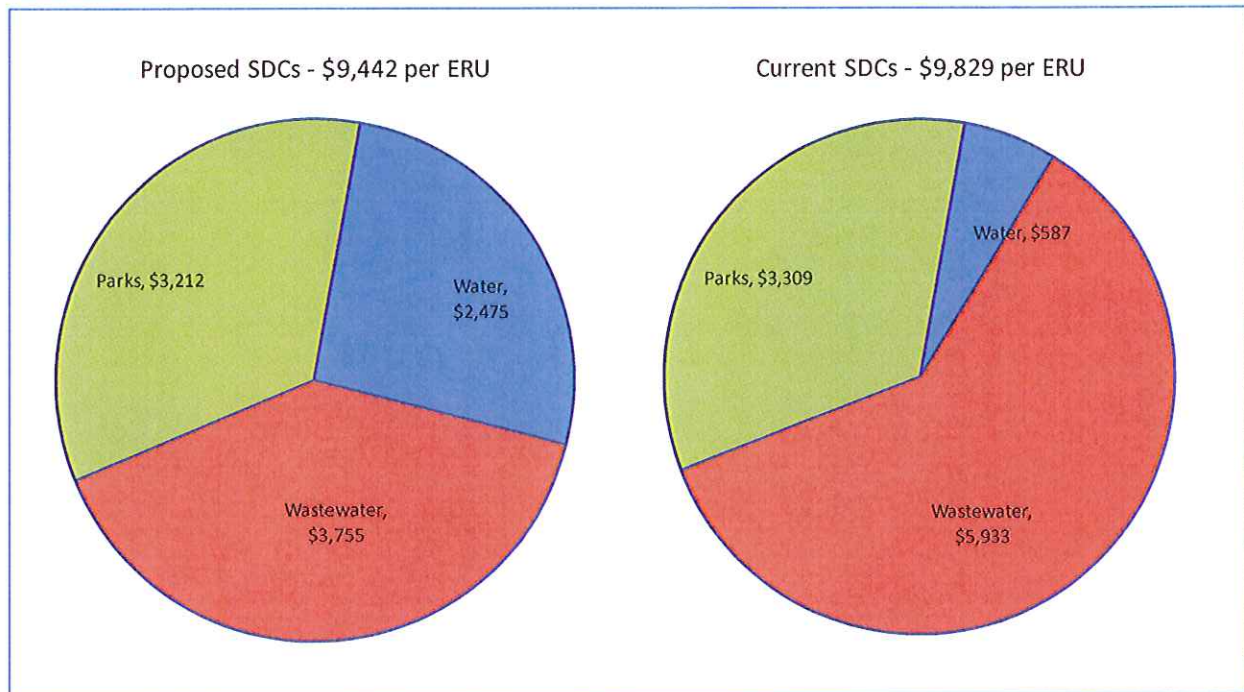
1. Notwithstanding any other provision, the dollar amounts of the SDC set forth in the SDC methodology report shall on January 1<sup>st</sup> of each year be adjusted to account for changes in the costs of acquiring and constructing facilities. The adjustment factor shall be based on:
  - a. The change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

### Conclusions and Recommendations

The 2012 water, wastewater, and parks SDC methodology update was done in accordance with HMC Chapter 15.15, and with the benefit of adopted master plans and plan updates for the three municipal services. Our analysis indicates the City can charge a maximum of \$2,475 for water, \$3,755 for wastewater, and \$3,212 for Parks. These figures are on a per ERU basis. The sum of these maximum fees amounts to \$9,442 per ERU; \$387 less than the sum of the current SDCs for water, wastewater, and parks of \$9,829.

A graphic side by side comparison of the proposed and current schedule of water, wastewater and parks SDCs is shown below in figure 2.

Figure 2 - Proposed and Current Schedule of Water, Wastewater, and Parks SDCs



As the data in Figure 2 shows, there was a significant reduction in the proposed wastewater SDC. When the wastewater SDC was last updated in 2003, it was assumed that the City's wastewater treatment plant was at effective full capacity, and that new users of the system would bear a preponderance of the costs to add new capacity. Since that time, the City has invested \$1.076 million to upgrade facilities, and to enhance treatment processes. A significant amount of the investments made at the wastewater treatment plant were made to correct system deficiencies and to meet existing permit criteria. These investments also resulted in providing in-place wastewater treatment capacity through 2025.

The water SDC is proposed to increase. In 2000, the City invested almost \$2 million to construct a new well (i.e., well #4), and upgrade water treatment plant capacity and storage. These investments have alleviated the historical summer water shortages the City had been incurring. The \$2 million investments increased the reimbursement fee from the 2003 update of \$559 to the proposed value of \$1,930. The improvement fee is proposed to go from the current value of zero to \$301. We recommend the City update its water master plan. The current plan is vintage 1996, and needs to be revisited. Although the City has adequate water supplies through the master planning period of 2032, there are issues concerning low static water pressure in some areas of the City. An updated water master plan will help the City address this low pressure issue.

The parks SDC is proposed to be \$3,212, a decrease of \$97 from the current parks SDC of \$3,309. The principal reason for the decrease is that since 2007, the Hubbard Parks Committee has donated \$94,810 in labor and materials for projects identified in the parks master plan. These "in-kind" contributions increased park infrastructure capacity at no cost to the City. The net effect of these contributions is to reduce the reimbursement fee basis. Another, lesser reason for the decrease is that one master plan project, the perimeter pathway widening project at Barendse Park was 80% grant funded. As in the case of the Hubbard Parks Committee contributions, grant funding is eliminated from the parks reimbursement fee basis.

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# Appendix A

## SDC Calculations

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## Water SDC Calculations

### Existing and Future Water Demands

City of Hubbard  
Estimation of ERUs based on Meters in Service  
Water SDC Update - March, 2012

Meter Size	AWWA Rated Flow (GPM)*	Flow Factor Equivalence	Number of Meters in Service per City**	Equivalent Residential Units (ERU's)
0.625 x 0.75	10	1.00	921	921
1.00 inch	25	2.50	28	70
1.50 inch	50	5.00	5	25
2.00 inch	80	8.00	1	8
3.00 inch	175	17.50	1	18
4.00 inch	300	30.00	0	0
6.00 inch	625	62.50	0	0
8.00 inch	900	90.00	0	0
10.00 inch	1450	145.00	0	0
12.00 inch	2160	216.00	-	-
			956	1,042

\* Per American Water Works Association standards effective January 1, 2003 for cold water meters- displacement type, bronze main case. ANSI approval October 11, 2002. American Water Works Association ANSI/AWWA C700-02 (Revision of ANSI/AWWA C700-95).

\*\* Source - City utility billing system records; February, 2012

City of Hubbard  
Estimation of Growth MEs based on Meters in Service  
Water SDC Update - March, 2012

Annual Growth Factor *	2.30%
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Year	Equivalent Res. Meters	Annual ERU Additions	Cumulative Growth (in ERUs)
2012	1,042	0	0
2013	1,065	24	24
2014	1,089	24	48
2015	1,114	25	73
2016	1,140	26	99
2017	1,166	26	125
2018	1,193	27	152
2019	1,220	27	179
2020	1,248	28	207
2021	1,277	29	236
2022	1,306	29	265
2023	1,336	30	295
2024	1,367	31	326
2025	1,398	31	357
2026	1,430	32	389
2027	1,463	33	422
2028	1,497	34	456
2029	1,531	34	490
2030	1,566	35	525
2031	1,602	36	561
2032	1,639	37	598

\* - Per City of Hubbard and Marion County planning staff memorandum of understanding;  
December 19, 2006

## Water Reimbursement Fee Calculations

City of Hubbard		
System Development Charge Study - 2012 Update		
Water Reimbursement Charge Calculations		
Data as of Fiscal Year Ended June 30, 2011		
Book value of water utility plant-in-service:		
002.04	Pump house	\$ 89,520
004.01	Shop/Pump house	121,249
004.02	Water Tower	443,000
004.03	Old Shop	6,069
005.01	Water Tank	522,250
005.02	Water Treatment building	1,790,800
005.03	Process piping for WTP	277,550
006.01	Water Tank	522,250
006.02	Pump House #4	180,150
008.01	Lab Building	78,875
004.04	Land Improvements: Old Shop	1,550
005.04	Land Improvements: Treatment plant	2,400
008.02	Land Improvements: Lab building/office	33,250
Total book value of water utility plant-in-service		\$ 4,068,913
Eliminating entries:		
Principal outstanding on long term debt and contracts payable		905,000
Developer contributions and grants (net of amortization)		-
Total eliminating entries		905,000
Net basis in utility plant-in-service available to serve future customers		\$ 3,163,913
Estimated existing and future Equivalent Residential Units (ERUs)		1,639
Calculated Reimbursement Fee - \$/ERU		<u>\$ 1,930</u>

## Water Improvement Fee Calculations

City of Hubbard System Development Charge Study - 2012 Update Water Improvement Fee Calculations		
	Project Cost	
	Total	SDC Eligible
Future projects cost category:		
Storage	-	-
Source of supply	-	-
Land acquisition	-	-
Pumping plant	-	-
Transmission/distribution system	180,000	180,000
PRVs	-	-
Meters & services	-	-
Total	180,000	180,000
Total SDC Eligible Costs From Future Projects .....	\$	180,000
Total Growth in Equivalent Residential Units (ERU) .....		598
Calculated Water System Development Impact Fee per ERU.....	\$	301

## Water SDC Administrative Fee Calculations

City of Hubbard System Development Charge Study - 2012 Update Administrative Cost Recovery Fee Calculations Payroll Data per Fiscal Year 2012-13 Proposed Budget				
Line Item Description	Hrs./Yr.	Payroll Costs - \$/Hr.		Total
		Direct Salary	Benefits	
Personnel Costs:				
Public works assistant	60	19.21	16.41	2,137
Senior Accounting Specialist	30	24.01	16.39	1,212
Director of Administration/City Recorder	40	31.14	19.94	2,043
Public Works Supervisor	30	31.48	21.50	1,589
Subtotal Personnel Costs				6,982
		(\$) Unit Cost	Number of Units/Filing	Total Additional Cost per Year
Additional Costs:				
Filing Fees:				
Marion County access tax Fee	15	1	10	150
Per document charge	6	1	10	60
Per page charge (usually 2 pgs.)	5	2	10	100
Subtotal Additional Costs				310
Total administrative costs to the City per year .....				7,292
Future cost of administrative services over the planning horizon (fiscal 2012-2032) .....				145,842
Total Growth in Equivalent Residential Units (ERU) .....				598
Calculated administrative fee per ERU .....				\$ 244

## Proposed Schedule of Water SDCs

City of Hubbard  
Comparison of Current and Proposed SDCs by Fee Type  
For a Standard Residential 5/8" Meter  
Water SDC Update - March, 2012

Line Item Description	Proposed	Current
Reimbursement Element	1,930	559
Improvement Element	301	-
Administration	244	28
Total Water SDC	2,475	587

City of Hubbard  
Schedule of Proposed System Development Charges  
Water SDC Update - March, 2012

Meter Size	AWWA Rated Flow (GPM)*	Flow Factor Equivalence	Proposed SDC
0.625 x 0.75 inch	10	1.0	\$ 2,475
1.00 inch	25	2.5	6,188
1.50 inch	50	5.0	12,376
2.00 inch	80	8.0	19,802
3.00 inch	175	17.5	43,317
4.00 inch	300	30.0	74,258
6.00 inch	625	62.5	154,705
8.00 inch	900	90.0	222,775
10.00 inch	1,450	145.0	358,915
12.00 inch	2,160	216.0	534,660

\* Per American Water Works Association standards effective January 1, 2003 for cold water meters-displacement type, bronze main case. ANSI approval October 11, 2002. American Water Works Association ANSI/AWWA C700-02 (Revision of ANSI/AWWA C700-95).

# Wastewater SDC Calculations

## Existing and Future Wastewater Demands

City of Hubbard  
Estimation of Current and Growth Wastewater ERUs  
Wastewater SDC Update - March, 2012

Compound annualized population growth rate <sup>1</sup>	2.30%
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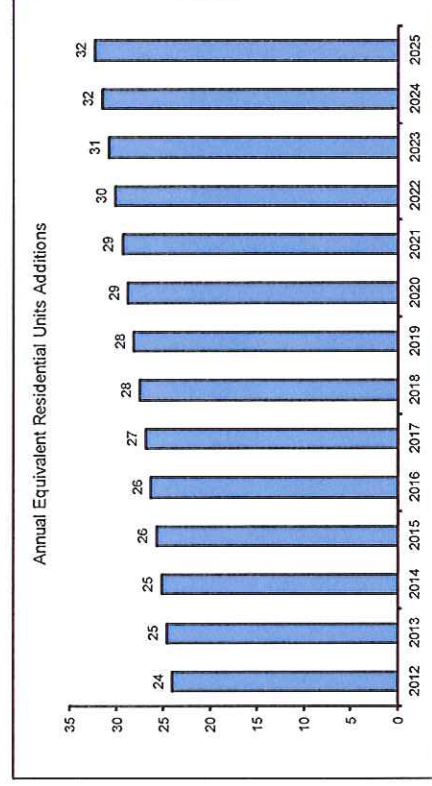
Estimation of base year (i.e., FY12) ERUs per Table 5 Treatment Plan Facilities Plan Amendment; Kennedy/Jenks; October 22, 2004						
Year	Average Dry Weather Flow (MGD)		Resident Population	GPD Per Capita <sup>2</sup>	Density People/RU	MMDWf (MGD) <sup>3</sup> DEQ Method
	Total	Industrial				
2000	0.12	n/a	2,483	76.12	2.50	0.189
2001	0.12	n/a	2,545	71.52	2.50	0.182
2002	0.13	n/a	2,608	64.04	2.50	0.167
2003	0.13	n/a	2,673	74.84	2.50	0.200
2004	0.13	n/a	2,739	71.56	2.50	0.196
				71.62	2.50	0.187
						Estimated ERUs
						993
						1,018
						1,043
						1,069
						1,096
						1,044

<sup>1</sup> Per City of Hubbard and Marion County planning staff memorandum of understanding; December 19, 2006

<sup>2</sup> Values based on 2004 Wastewater Treatment Plant Improvements Facilities Plan Amendment & Preliminary Design Report; Kennedy/Jenks Consultants; Table 5

<sup>3</sup> MMDWf = Maximum Month Dry Weather Flows DEQ Method. Statistical correlation between plant flow and precipitation data.

Fiscal Year	Equivalent Residential Units (ERUs)		
	Beginning	Additions	End of Year
2012	1,044	24	1,068
2013	1,068	25	1,092
2014	1,092	25	1,117
2015	1,117	26	1,143
2016	1,143	26	1,169
2017	1,169	27	1,196
2018	1,196	28	1,224
2019	1,224	28	1,252
2020	1,252	29	1,281
2021	1,281	29	1,310
2022	1,310	30	1,340
2023	1,340	31	1,371
2024	1,371	32	1,403
2025	1,403	32	1,435
		391	



## Wastewater Reimbursement Fee Calculations

City of Hubbard System Development Charge Study - 2012 Update Wastewater Reimbursement Charge Calculations Data as of Fiscal Year Ended June 30, 2011			
	Prior Insured Value <sup>1</sup>	2006 WWTP Improvements <sup>2</sup>	Updated Insured Value
Book value of water utility plant-in-service:			
004.03 Old Shop	\$ 6,069	\$ -	\$ 6,069
007.01 Lift Station	79,111	-	79,111
008.01 Lab Building	78,875	-	78,875
008.03 Aerator/Digester/Clarifier	1,064,550	396,206	1,460,756
008.04 Digester #1	143,000	-	143,000
008.05 Digester #2	260,700	-	260,700
008.06 Old Control building/Chlorine Building	152,700	-	152,700
008.07 Clarifier	237,500	-	237,500
008.08 Lift Station	95,300	-	95,300
008.09 Headworks Structure	108,500	126,465	234,965
008.10 UV Filter Structure	161,900	-	161,900
008.11 Dewater/Solid Storage Building	526,600	497,823	1,024,423
008.12 Process Piping for WWTP	303,500	-	303,500
008.13 SCADA/Process Automation	-	55,630	55,630
004.04 Land Improvements: Old Shop	1,550	-	1,550
008.02 Land Improvements: Lab building/office	33,250	-	33,250
Total book value of wastewater utility plant-in-service	\$ 3,253,105	\$ 1,076,123	\$ 4,329,227
Eliminating entries:			
Principal outstanding on long term debt and contracts payable			613,984
Developer contributions and grants (net of amortization)			-
Total eliminating entries			613,984
Net basis in utility plant-in-service available to serve future customers			\$ 3,715,243
Estimated existing and future Equivalent Residential Units (ERUs)			1,435
Calculated Reimbursement Fee - \$/ERU			\$ 2,589

<sup>1</sup> Source: City of Hubbard Records

<sup>2</sup> Source: Oregon Department of Environmental Quality, Clean Water State Revolving Loan Program

# Allocation of Wastewater Reuse Project Costs to Funding Sources

City of Hubbard, Oregon															
System Development Charge Study - 2012 Update															
Allocation of Recommended Wastewater Collection, Pumping, and Treatment Plant Projects to Projected Funding Sources <sup>1</sup>															
Cost in FY	Construction Year	Project	Future Cost <sup>2</sup>	Funding Source - %				Funding Source - \$							
				Existing Customers	Future Customers	Benefited Properties	Contributed Capital	Total	Existing Customers	Future Customers	Benefited Properties	Contributed Capital	Total		
2005															
		Collection System Improvements													
275,000	2016	6" C900PVC force main (granular BF)	401,492	72.73%	27.27%	0.00%	0.00%	100.00%	292,023	109,468	-	-	401,492		
2,500	2016	6" C900 PVC fittings	3,650	72.73%	27.27%	0.00%	0.00%	100.00%	2,655	995	-	-	3,650		
5,000	2016	Air release valves	7,300	72.73%	27.27%	0.00%	0.00%	100.00%	5,310	1,990	-	-	7,300		
10,000	2016	Allowance: site preparation/restoration	14,600	72.73%	27.27%	0.00%	0.00%	100.00%	10,619	3,981	-	-	14,600		
292,500		Subtotal Collection System Improvements	427,041	72.73%	27.27%	0.00%	0.00%	100.00%	310,607	116,434	-	-	427,041		
		Additional Pump Stations													
15,000	2016	PCC pump station wet well	21,900	72.73%	27.27%	0.00%	0.00%	100.00%	15,929	5,971	-	-	21,900		
40,000	2016	Submersible pumps (10 hp) & appurtenances	58,399	72.73%	27.27%	0.00%	0.00%	100.00%	42,476	15,923	-	-	58,399		
5,000	2016	Pump station valves & piping	7,300	72.73%	27.27%	0.00%	0.00%	100.00%	5,310	1,990	-	-	7,300		
15,000	2016	Gates bypass channel (2 slide gates)	21,900	72.73%	27.27%	0.00%	0.00%	100.00%	15,929	5,971	-	-	21,900		
2,000	2016	Connect to existing 8" C900 PVC force main	2,920	72.73%	27.27%	0.00%	0.00%	100.00%	2,124	796	-	-	2,920		
7,700	2016	Electrical & controls	11,242	72.73%	27.27%	0.00%	0.00%	100.00%	8,177	3,065	-	-	11,242		
84,700		Subtotal Additional Pump Stations	123,659	72.73%	27.27%	0.00%	0.00%	100.00%	89,943	33,716	-	-	123,659		
		Reclaimed Water Holding Pond													
7,700	2016	Basin excavation	11,242	72.73%	27.27%	0.00%	0.00%	100.00%	8,177	3,065	-	-	11,242		
4,000	2016	Embankment	5,840	72.73%	27.27%	0.00%	0.00%	100.00%	4,248	1,592	-	-	5,840		
100,000	2016	HDPE liner & geotextile fabric	145,997	72.73%	27.27%	0.00%	0.00%	100.00%	106,190	39,807	-	-	145,997		
14,000	2016	HDPE liner anchor trench	20,440	72.73%	27.27%	0.00%	0.00%	100.00%	14,867	5,573	-	-	20,440		
5,000	2016	Allowance: site preparation/restoration	7,300	72.73%	27.27%	0.00%	0.00%	100.00%	5,310	1,990	-	-	7,300		
130,700		Subtotal Reclaimed Water Holding Pond	190,818	72.73%	27.27%	0.00%	0.00%	100.00%	138,791	52,027	-	-	190,818		
		Other Site Development Costs													
76,185	2016	Contractor mobilization, overhead, & profit - 15% of direct construction costs	111,228	72.73%	27.27%	0.00%	0.00%	100.00%	80,901	30,327	-	-	111,228		
		Planning & Design Costs													
146,021	2015	Engineering, survey, legal, and administration - 25% of all direct costs	205,977	72.73%	27.27%	0.00%	0.00%	100.00%	149,817	56,161	-	-	205,977		
182,527	2016	Contingency - 25% of all costs	266,483	72.73%	27.27%	0.00%	0.00%	100.00%	193,826	72,658	-	-	266,483		
\$ 912,633		Wastewater System Facility Master Plan Total	\$ 1,325,207	72.73%	27.27%	0.00%	0.00%	100.00%	\$ 963,884	\$ 361,323	\$ -	\$ -	\$ 1,325,207		

<sup>1</sup> Source: City of Hubbard, Alternate Discharge Alternative Study; April, 2006; Kennedy/Jenks Consultants, Reclaimed Water & agricultural Irrigation Alternative  
<sup>2</sup> Inflation Rate 3.50%

## Wastewater Improvement Fee Calculations

City of Hubbard, Oregon System Development Study - 2012 Update Wastewater Improvement Fee Calculations					
	Existing Customers	Future Customers	Benefited Properties	Contributed Capital	Total
Future Projects Cost Category:					
Collection System Improvements	310,607	116,434	-	-	427,041
Additional Pump Stations	89,943	33,716	-	-	123,659
Reclaimed Water Holding Pond	138,791	52,027	-	-	190,818
Other Site Development Costs	80,901	30,327	-	-	111,228
Planning & Design Costs	149,817	56,161	-	-	205,977
Contingency	193,826	72,658	-	-	266,483
Total - \$	\$ 963,884	\$ 361,323	\$ -	\$ -	\$ 1,325,207
Total - %	72.73%	27.27%	0.00%	0.00%	100.00%
Future project costs planned to serve growth .....		361,323			
Estimated ERU additions (fiscal 2012 through fiscal 2025) .....		391			
Calculated improvement fee - \$/Equivalent Residential Unit (ERU) .....		\$ 923			

## Wastewater SDC Administrative Fee Calculations

City of Hubbard				
System Development Charge Study - 2012 Update				
Administrative Cost Recovery Fee Calculations				
Payroll Data per Fiscal Year 2012-13 Proposed Budget				
Line Item Description	Hrs./ Yr.	Payroll Costs - \$/Hr.		Total
		Direct Salary	Benefits	
Personnel Costs:				
Public works assistant	60	19.21	16.41	2,137
Senior Accounting Specialist	30	24.01	16.39	1,212
Director of Administration/City Recorder	40	31.14	19.94	2,043
Public Works Supervisor	30	31.48	21.50	1,589
Subtotal Personnel Costs				6,982
		(\$) Unit Cost	Number of Units/Filing Filings/Yr.	Total Additional Cost per Year
Additional Costs:				
Filing Fees:				
Marion County access tax Fee	15	1	10	150
Per document charge	6	1	10	60
Per page charge (usually 2 pgs.)	5	2	10	100
Subtotal Additional Costs				310
Total administrative costs to the City per year .....				7,292
Future cost of administrative services over the planning horizon (fiscal 2012-2025) .....				94,797
Total Growth in Equivalent Residential Units (ERU) .....				391
Calculated administrative fee per ERU .....				\$ 242

## Proposed Schedule of Wastewater SDCs

<p style="text-align: center;">City of Hubbard Comparison of Current and Proposed Wastewater SDCs by Fee Type For a Standard Residential 5/8" Meter Wastewater SDC Update - 2012</p>		
Line Item Description	Proposed	Current
Reimbursement Element	2,589	3,522
Improvement Element	923	2,128
Administration	242	283
Total Wastewater SDC	3,755	5,933

<p style="text-align: center;">City of Hubbard Draft Schedule of Proposed Residential Wastewater System Development Charges Wastewater SDC Update - 2012</p>						
Meter Size	AWWA Rated Flow (GPM)*	Flow Factor Equivalence	Proposed Schedule of Wastewater SDCs			
			Reimbursement	Improvement	Administration	Total
0.625 x 0.75 inch	10	1.00	2,589	923	242	3,755
1.00 inch	25	2.50	6,472	2,309	606	9,387
1.50 inch	50	5.00	12,945	4,617	1,211	18,774
2.00 inch	80	8.00	20,712	7,388	1,938	30,038
3.00 inch	175	17.50	45,307	16,161	4,240	65,708
4.00 inch	300	30.00	77,670	27,704	7,269	112,643
6.00 inch	625	62.50	161,812	57,718	15,143	234,673
8.00 inch	900	90.00	233,010	83,113	21,806	337,929
10.00 inch	1450	145.00	375,405	133,905	35,132	544,441
12.00 inch	2160	216.00	559,224	199,472	52,334	811,030

\* Recommended maximum rate for continuous operations; per American Water Works Association standards effective January 1, 2003 for cold water meters- displacement type, bronze main case. ANSI approval October 11, 2002. American Water Works Association ANSI/AWWA C700-02 (Revision of ANSI/AWWA C700-95).

## Parks SDC Calculations

### Existing and Future Park Demands

City of Hubbard Estimation of EDUs based on Meters in Service Parks SDC Update - March, 2012			
	Existing	Growth	Total
2010 Census certified Hubbard population <sup>1</sup>	3,175		
Residents per dwelling Unit <sup>2</sup>	3.11		
Equivalent Dwelling Units (EDUs)	1,021		
Annual growth rate in resident Hubbard population <sup>3</sup>			2.30%
Forecasted Hubbard resident population at 2027			4,673
Residents per dwelling unit <sup>2</sup>			2.50
Equivalent Dwelling Units (EDUs)			1,869
Summary:			
Population	3,175	1,498	4,673
EDUs	1,021	848	1,869
	68%	32%	100%

<sup>1</sup> Portland State University, College of Urban and Public Affairs, Population Research Center; March 31, 2011

<sup>2</sup> Per City of Hubbard and Marion County planning staff memorandum of understanding; December 19, 2006

<sup>3</sup> City of Hubbard, Parks Master Plan; David M. Kinney; May 8, 2007; Page 6

## Parks Reimbursement Fee Calculations

City of Hubbard System Development Charge Study - 2012 Update Parks Reimbursement Charge Calculations Data as of Fiscal Year Ended June 30, 2011			
	Prior Insured Value <sup>1</sup>	2007 Parks Master Plan Improvements <sup>1</sup>	Updated Insured Value
Book value of water utility plant-in-service:			
002.01 Restroom Building - City Park	\$ 55,057		\$ 55,057
002.02 30'Flgpl / 1 bskbl crt / plystrctre / 4 BBQ pit / 200LF CHNLK 4'	84,657		84,657
002.03 Picnic Shelter - City Park	40,212		40,212
002.05 Splash Fountain	42,691		42,691
003.01 Restroom Building	53,515		53,515
004.03 Old Shop	6,069		6,069
008.01 Lab Building	78,875		78,875
003.02 Land Improvements: Barendse Park	250,500		250,500
004.04 Land Improvements: Old Shop	1,550		1,550
008.02 Land Improvements: Lab building/office	33,250		33,250
003.03 Barendse Park improvements	-	130,090	130,090
003.04 Kari Park improvements		23,210	23,210
003.05 Walnut Vale Park improvements		42,080	42,080
003.06 Winchester Park improvements		10,320	10,320
003.07 Wolfer Will greenway improvements	-	21,600	21,600
Total book value of water utility plant-in-service	\$ 646,376	\$ 227,300	\$ 873,676
Eliminating entries:			
Principal outstanding on long term debt and contracts payable			-
Developer contributions, grants, and gifts			94,810
Total eliminating entries			94,810
Net basis in utility plant-in-service available to serve future customers			\$ 778,866
Estimated existing and future Equivalent Dwelling Units (ERUs)			1,869
Calculated Reimbursement Fee - \$/EDU			\$ 417

<sup>1</sup> Source: City of Hubbard Records

## Parks Improvement Fee Calculations

City of Hubbard, Oregon System Development Study - 2012 Update Parks Improvement Fee Calculations					
	Existing Customers	Future Customers	Benefited Properties	Contributed Capital	Total
Future Projects Cost Category:					
Barendse Park	915,680	432,028	-	-	1,347,708
Rivenes Park	212,314	100,172	-	-	312,487
Kari Park	31,626	14,922	-	-	46,548
Walnut Vale Park	257,282	121,389	-	-	378,671
Winchester Park	10,022	4,729	-	-	14,751
Wolfer-Will Greenway	60,335	28,467	-	-	88,801
Centennial Park	51,146	24,131	-	-	75,277
Andrew Commons	86,923	41,011	-	-	127,935
Community Garden	4,917	-	-	-	4,917
New East UGB Neighborhood Park	286,475	859,425	-	-	1,145,900
New North UGB Neighborhood Park	-	634,528	-	-	634,528
Total - \$	\$ 1,916,721	\$ 2,260,801	\$ -	\$ -	\$ 4,177,522
Total - %	45.88%	54.12%	0.00%	0.00%	100.00%
Future project costs planned to serve growth .....					
		2,260,801			
Estimated ERU additions (fiscal 2012 through fiscal 2027) .....					
		848			
Calculated improvement fee - \$/Equivalent Dwelling Unit (EDU) .....					
		\$ 2,666			

## Parks SDC Administrative Fee Calculations

City of Hubbard System Development Charge Study - 2012 Update Administrative Cost Recovery Fee Calculations Payroll Data per Fiscal Year 2012-13 Proposed Budget				
Line Item Description	Hrs./ Yr.	Payroll Costs - \$/Hr.		Total
		Direct Salary	Benefits	
Personnel Costs:				
Public works assistant	60	19.21	16.41	2,137
Senior Accounting Specialist	30	24.01	16.39	1,212
Director of Administration/City Recorder	40	31.14	19.94	2,043
Public Works Supervisor	30	31.48	21.50	1,589
Subtotal Personnel Costs				6,982
	(\$) Unit Cost	Number of Units/Filing	Filings/Yr.	Total Additional Cost per Year
Additional Costs:				
Filing Fees:				
Marion County access tax Fee	15	1	10	150
Per document charge	6	1	10	60
Per page charge (usually 2 pgs.)	5	2	10	100
Subtotal Additional Costs				310
Total administrative costs to the City per year .....				7,292
Future cost of administrative services over the planning horizon (fiscal 2012-2027) .....				109,382
Total Growth in Equivalent Dwelling Units (EDU) .....				848
Calculated administrative fee per EDU .....				\$ 129

## Proposed Schedule of Parks SDCs

City of Hubbard Comparison of Current and Proposed Parks SDCs by Fee Type Per Equivalent Dwelling Unit Wastewater SDC Update - 2012		
Line Item Description	Proposed	Current
Reimbursement Element	417	-
Improvement Element	2,666	3,151
Administration	129	158
Total Parks SDC	3,212	3,309

City of Hubbard Draft Schedule of Proposed Residential Parks System Development Charges Parks SDC Update - 2012					
Residential Housing Type	Number of Dwelling Units	Proposed Schedule of Wastewater SDCs			
		Reimbursement	Improvement	Administration	Total
Detached single family	1	\$ 417	\$ 2,666	\$ 129	\$ 3,212
Mobil/manufactured home	1	417	2,666	129	3,212
Duplex	2	833	5,332	258	6,424
Tri-plex	3	1,250	7,998	387	9,635
Four-plex	4	1,667	10,664	516	12,847
Apartment complex	*	*	*	*	*
Condominium complex	*	*	*	*	*
Retirement/Assisted Living complex	*	*	*	*	*

\* - multiply the number of dwelling units by the corresponding detached single family fee component

# Exhibit B

2012 Water, Wastewater, Parks SDC  
Methodology Update, dated April 12, 2012 by  
Donovan Enterprises, Inc.

# Hubbard, Oregon

Methodology Report

## TRANSPORTATION SYSTEM DEVELOPMENT CHARGE UPDATE

May 31, 2012

CONSULTING SERVICES PROVIDED BY:



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EXHIBIT "A"



**City of Hubbard**  
**Transportation System Development Charge Update**  
**Methodology Report**  
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## SECTION 1: INTRODUCTION / BACKGROUND

In 2011, the City of Hubbard engaged FCS GROUP and Kittelson & Associates (Consultant) to update the City's Transportation SDC methodology to reflect changes in facility needs and costs since the City's last update in 2003. The 2003 study had resulted in a methodology for assessing Transportation System Development Charges that was based on the adopted Transportation System Plan (TSP) that addressed needs through the year 2020. On this current update, the Hubbard Transportation Project Advisory Committee worked with City staff and the Consultant to develop an up-to-date list of expected transportation facility needs for the next 20+ years (through the year 2035) and develop recommendations for consideration by the City Council.

This report presents the recommended current transportation SDC methodology and rates that are consistent with the "preferred alternative" from the 2012 Hubbard TSP.

System Development Charges (SDCs) are one-time fees charged to new development to help pay a portion of the costs associated with building capital facilities to meet needs created by growth. SDCs are authorized for five types of capital facilities including: transportation, water, sewer, stormwater, and parks and recreation.

Following this Section (1.0 Introduction), Section 2.0 presents authority and background information including (1) legislative authority for SDCs; (2) an explanation of "improvement fee" and "reimbursement fee" SDCs; and (3) requirements and options for credits, exemptions and discounts.

Section 3.0 presents the methodology used to update the City's Transportation SDCs.

Section 4.0 presents the calculation of Motorized Vehicle Facility SDC Rates.

Section 5.0 presents the calculation of Non-motorized (bicycle and pedestrian facility) SDC Rates.

The Capital Improvements Plan that identifies projects that may be funded with SDC revenues is included in **Appendix A** of this report.

It should be noted that some of the data in this report were prepared using computer spreadsheet software. Due to rounding, the results shown may vary from what would be obtained using a calculator to compute the same data. For currency calculations, all results have been rounded to the nearest dollar, and have been adjusted to 2012 dollar amounts.

## SECTION 2: SYSTEM DEVELOPMENT CHARGE METHODOLOGY

### A. Legislative Authority

The source of authority for the adoption of SDCs is found both in Oregon state statute and in the City's own plenary authority to adopt this type of fee. While SDCs have been in use in Oregon since the mid-1970's, State legislation regarding SDCs was not adopted until 1989, when the Oregon Systems Development Act (ORS 223.297 - 223.314) was passed. The purpose of this Act was to "...provide a uniform framework for the imposition of system development charges...". Additions and modifications to the Oregon Systems Development Act have been made in 1993, 1999, 2001, and 2003. Together, these pieces of legislation require local governments that enact SDCs to:

- Adopt SDCs by ordinance or resolution;
- Develop a methodology outlining how the SDCs were developed;
- Adopt a capital improvements program to designate capital improvements that can be funded with "improvement fee" SDC revenues;
- Provide credit against the amount of the SDC for the construction of certain "qualified public improvements";
- Separately account for and report receipt and expenditure of SDC revenues, and develop procedures for challenging expenditures; and
- Use SDC revenues only for capital expenditures (operations and maintenance uses are prohibited).

### B. "Improvement fee" and "Reimbursement fee" SDCs

The Oregon Systems Development Act provides for the imposition of two types of SDCs: (1) "improvement fee" SDCs, and (2) "reimbursement fee" SDCs.

"Improvement fee" SDCs may be charged for new capital improvements that will increase capacity. Revenues from "improvement fee" SDCs may be spent only on capacity-increasing capital improvements identified in the required capital improvements program that lists each project, and the expected timing, cost, and growth-required portion of each project.

"Reimbursement fee" SDCs may be charged for the costs of existing capital facilities if "unused capacity" is available to accommodate growth. Revenues from "reimbursement fees" may be used on *any* capital improvement project, including major repairs, upgrades, or renovations. Capital improvements funded with "reimbursement fee" SDCs do not need to increase capacity. **Hubbard does not currently assess a transportation reimbursement fee SDC, nor is one proposed in this update.**

### C. Requirements and Options for Credits, Exemptions and Discounts

Hubbard's policies for TSDC credits and exemptions are described in the *City of Hubbard System Development Charge, Administrative Procedures Guide* (last adopted/revised on February 12, 2008). **The Hubbard SDC Administrative Procedures Guide 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.

#### D. Alternative Methodology Approaches

There are two basic approaches used to develop improvement fee SDCs: “standards-driven” and “improvements-driven.”

##### 1. *Standards-Driven Approach*

The “standards-driven” approach is based on the application of Level of Service (LOS) standards for facilities such as parks, streets, etc. Facility needs are determined by applying the LOS standards to projected future demand. SDC-eligible amounts are calculated based on the costs of facilities needed to serve growth. This approach works best where a specific list of projects needed to serve growth is not available, but Levels of Service can be identified and may be used to develop such a list.

##### 2. *Improvements-Driven Capacity Approach*

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.

##### 3. *Hybrid Capacity Approach*

A “hybrid capacity approach” is one where both LOS standards and planned capacity improvements are considered in formulating the SDC methodology. This type of approach often makes most sense when jurisdictions are considering facilities where measures of capacity are not easily determined, such as parks, sidewalks, and bicycle facilities.

**We recommend that Hubbard continue to utilize the “improvements-driven capacity approach” to allocate costs to the improvement fee basis for roadways; and utilize a “hybrid capacity approach” to allocate costs for non-motorized facilities, including sidewalks, trails and bicycle facilities. Most communities in Oregon use 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.

#### E. Compliance Costs

Oregon law provides that SDC revenues may be used for “...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.” [ORS 223.307(5)]. In order to avoid having to spend funds for compliance that would otherwise be available for growth-required project needs, estimates of compliance costs must be included in the SDC rate calculations.

## SECTION 3: CALCULATION OF THE TRANSPORTATION SDC RATES

Hubbard's existing transportation SDCs are based on projected peak-hour motor vehicle trip generation by land use. In light of the fact that most of the planned transportation improvements listed in the Hubbard TSP (2011) are bicycle and pedestrian facility improvements, it is recommended that the City's revised TSDC methodology utilize an average daily (weekday) "person trip" basis for determining local TSDCs for all types of transportation modes of travel (including roads, bicycle and pedestrian facilities).

Transportation engineers commonly use peak-hour trip and average daily trip estimates to assess transportation performance and determine system needs. Peak-hour *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 the current and prior Hubbard transportation SDC rate methodology. However, this methodology includes additional calculations to identify average daily *person-trips*. In addition to trips by motor vehicle, *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 transportation SDC rates is summarized below.

### A. Improvement Fee Cost Basis

The City's list of planned transportation capital improvement projects was derived from the Transportation System Plan (2012) and analyzed to identify: the SDC-eligible portion of each planned project. Estimates of the residential and non-residential benefit of each project were also developed. The resulting SDC-eligible project costs were then divided by the estimated total number of new residential and non-residential person trip-ends expected during the planning period, yielding the cost per new person trip-end, by type of trip (residential or non-residential).

The methodology used for the Transportation SDC is for an "improvement fee" only and establishes the required "essential nexus" between a project's impacts and the SDC through the use of trip generation data for specific land uses. *Trip Generation* (8th Ed., 2008) published by the Institute of Transportation Engineers (ITE) was used along with other sources of information to estimate the number of new person trips generated by each type of new development.

The SDC to be paid by new development meets the "rough proportionality" requirement because it is based on the impact of each specific development on the transportation facilities for which the SDC is charged. The SDC is based on the impacts of new trips, and the SDC rates are calculated based on the specific impact (e.g. new trips) a development is expected to have on the City's transportation system.

1. **Street/Intersection Improvements.** For street and intersection improvements designed primarily to serve motor vehicles, the improvement fee-eligible growth benefit was estimated for each project based on the portion needed to serve new development.

- Each project was analyzed to determine whether all or a portion of the project was needed to repair an existing deficiency. None of the street/intersection projects included in the action list are required to repair a deficiency (all are required to provide system capacity to meet the need of future users). Therefore, all street/intersection project costs are 100% SDC eligible.
- The sum of the list of capacity-increasing street/intersection project costs in current dollars is estimated at \$3,476,304 of which \$349,207 is SDC eligible (see **Appendix A-1**). The expected local funding share of 20% was assumed (based on prior history of the city's funding match on state transportation projects). The current remaining SDC fund balance was deducted from eligible SDC capital costs to (1) recognize that the fund balance is available for spending on the project list and (2) prevent new customers from paying for those project costs twice.

2. **Sidewalk/Trail Improvements.** For sidewalk/trail improvements, any non-growth need was first estimated based on the net increase in linear feet (l.f.) of sidewalks/trails (excluding local streets) compared to the projected increase in person trip-ends, using the formula:

*If the ratio of the future sidewalks/trails to future person trips (future L.F. per person trip)  
> (is greater than)*

*The ratio of existing sidewalks/trails to existing person trips (existing L.F. per person trip)*

*Then, a non-growth need exists to remedy an existing deficiency.*

$$\frac{55,746 \text{ future l.f.}}{31,341 \text{ person trips}} > \frac{30,536 \text{ existing l.f.}}{20,862 \text{ person trips}}$$

$$1.78 \text{ future l.f. per trip} > 1.46 \text{ existing l.f. per trip}$$

- In Hubbard's case, a non-growth need does exist for pedestrian facilities, so the share of project costs needed for growth is determined by calculating the amount of l.f. needed to bring current facilities up to planned levels of service. In this case, the City would need to add 6,571 l.f. to the existing (30,536 l.f.) to achieve the 1.78 l.f. per trip standard  $[(30,536 \text{ l.f.} + 6,571 \text{ l.f.}) \div 20,862 \text{ person trips}] = 1.78 \text{ l.f. per person trip}$ . The difference between the planned increase in sidewalks (25,210 l.f.) and the deficiency need (6,561 l.f.) is the growth required share (18,639 l.f.).
- Finally, the growth share (percentage) is calculated as follows:

$$\begin{aligned} & \text{growth-required sidewalks [18,639 l.f.]} \\ & \div \\ & \text{planned increase in sidewalks [25,210 l.f.]} \\ & = \\ & \text{growth-required share [74\%]} \end{aligned}$$

- **Appendix A-2** lists the planned pedestrian facility improvements that are included in the Hubbard TSP (after 2012 dollar escalation) with a total capital cost of \$2,330,415, of which \$1,234,407 is assumed to be SDC eligible.
- As indicated in **Appendix B-1**, the capacity-increasing share of sidewalk/trail project costs are estimated at 74% and the existing deficiency share is estimated at 26% of the planned facilities. After accounting for 74% capacity share and assuming a 20% local cost share for facilities along the state highway, the net total of \$1,234,407 as the sidewalk/trails portion of the improvement fee cost basis.

3. **Bicycle Facility Improvements.** For bike lane or shared roadway improvements, any non-growth need was first estimated based on the increase in linear feet (l.f.) of the bicycle facilities compared to the projected increase in person trip-ends, using the following formula:

*If the ratio of the future bicycle facilities to future person trips (future L.F. per person trip)  
> (is greater than)*

*The ratio of existing bicycle facilities to existing person trips (existing L.F. per person trip)*

*Then, a non-growth need exists to remedy an existing deficiency.*

$$\frac{10,546 \text{ future l.f.}}{31,341 \text{ person trips}} < \frac{7,856 \text{ existing l.f.}}{20,862 \text{ person trips}}$$

$$0.34 \text{ future l.f. per trip} < 0.38 \text{ existing l.f. per trip}$$

- **In Hubbard's case, a non-growth need does not exist for bicycle facilities**, since 100% (or more) of the planned facilities are required to maintain current levels of service.
- Finally, the growth share (percentage) was calculated as follows:

$$\begin{aligned} & \text{growth-required bicycle facilities [41,982 l.f.]} \\ & \div \\ & \text{planned increase in bicycle facilities [2,690 l.f.]} \\ & = \\ & \text{growth-required share [100\% maximum allowed]} \end{aligned}$$

- **Appendix A-3** lists the planned bicycle facility improvements that are included in the Hubbard TSP (after 2012 dollar adjustment) with a total capital cost of \$167,856.
- As indicated in **Appendix B-2**, the capacity-increasing share of bicycle project costs are estimated at 100% of the planned facilities. After accounting for 100% capacity share and assuming a 20% local cost share for facilities along the state highway, the net total of \$13,122 as the bicycle facilities portion of the improvement fee cost basis.

## B. Future Trip-Ends

The ITE *Trip Generation* manual includes motor vehicle trip estimates for various land use types. Each trip is considered to have two ends, one at the origin and one at the destination. To

accurately calculate SDC rates using *Trip Generation*, it is necessary to estimate the number of new motor vehicle trip-ends (origin trips and destination trips) so that the cost per trip is not overstated. The average daily number of motor vehicle trip-ends for the years 2010 and 2035 were estimated using population, housing and employment estimates included in the City's Transportation System Plan and planning estimates for home-based and non-home-based trips produced by and attracted to development in the City.

In addition to motor vehicle trips, this transportation SDC methodology also considers non-motorized (pedestrian and bicycle) trips. In order to adjust *Trip Generation*, estimates for motorized vehicle trips and non-motorized (bicycle and pedestrian trips) factors were utilized to estimate people per vehicle and total person trips as a share of motor vehicle trips. The average number of person trips per motor vehicle trip was estimated by using data from the U.S. Department of Transportation, National Household Transportation Survey (2009), at 1.4 person-trips per motor vehicle trip for 2010, increasing to 1.47 person-trips per motor vehicle trip in 2035. The projected increases in the average daily motor vehicle, transit, and total person trip-ends are shown in **Table 1**, below.

**TABLE 1**  
**PROJECTED GROWTH IN AVERAGE DAILY TRIP-ENDS\***  
**HUBBARD, OREGON**  
**(2010 – 2035)**

Motor Vehicle Trip-End Generation (ADT)	Current	Future	Growth in Vehicle Trip-Ends	Allocation of Growth
Residential	8,857	23,709	4,852	75%
Non-Residential	6,028	7,612	1,584	25%
<b>Total</b>	<b>14,885</b>	<b>21,321</b>	<b>6,436</b>	<b>100%</b>

Person Trip-End Generation	Current (@1.4 x ADT)**	Future (@1.47 x ADT)**	Growth in Person Trip-Ends	Allocation of Growth
Residential	12,414	20,314	7,900	75%
Non-Residential	8,448	11,027	2,579	25%
<b>Total</b>	<b>20,862</b>	<b>31,341</b>	<b>10,478</b>	<b>100%</b>
<b>Growth Trips as Percent of Current Trips</b>			<b>50%</b>	

\* derived from Hubbard Transportation System Plan, 2011.

\*\* person-trip per vehicle trip factors derived from U.S.D.O.T., National Household Transportation Survey, 2009.

ADT = average daily traffic (weekday).

### C. Capital Improvements Included in the Transportation SDC

The total SDC-eligible portion of costs for motor vehicle capital improvements included in Appendix A-1 is \$349,207, and for pedestrian facility improvements included in Appendix A-2 is \$1,261,946, and for bicycle facility improvements included in Appendix A-3 is \$13,122.

The SDC-eligible cost was identified for each project based on the portion needed to serve new development. For projects where a Level of Service deficiency currently exists, the future growth share is less than 100%, reflecting that the project also addresses a non-growth need.

The list of capital improvement projects used in calculating the SDC is included in **Appendix A-1, A-2, and A-3**. For each project, the following information is presented:

- 1) Project Title - a brief description of each project;
- 2) Estimated Total Project Cost - the total estimated cost for each project (2011 dollars), including planning, engineering, utility and storm drain moves and upgrades, and construction;
- 3) Expected Local Cost Share – the expected share of the overall project cost that is likely to be borne by the City of Hubbard, after subtracting out non-local funding sources.
- 4) Capacity-Increasing Portion (%) - the estimated capacity-increasing portion of the project, including right-of-way and width additions (NOTE: reconstruction of existing road surfaces are NOT included);
- 5) Capacity-Increasing Cost (\$) - the estimated cost of the capacity-increasing portion of the project;
- 6) Growth Benefit Portion (%) - the estimated portion of new capacity that will benefit growth and is not needed to remedy an existing capacity deficiency;
- 7) Growth Capacity Cost (\$) - the estimated cost of the portion of new capacity that will be available to serve growth;
- 8) Residential Growth Portion (%) - the portion of the growth capacity that will primarily benefit new residential, as opposed to non-residential, development;
- 9) Residential Growth Cost (\$) - the estimated cost of the portion of growth capacity that will primarily benefit residential development;
- 10) Non-residential Growth Portion (%) - the portion of the growth capacity that will primarily benefit new non-residential, as opposed to residential, development; and

- 11) Non-residential Growth Cost (\$) - the estimated cost of the portion of growth capacity that will primarily benefit non-residential development.
- 12) Other non-SDC funded cost portion (\$) – the estimated cost of the project that must be borne by non-SDC funding sources, such as transportation utility fees, state motor vehicle fuel tax, local improvement districts, private dedications, and state grants or loans.

#### **D. Compliance Costs**

The City incurs costs to comply with legal requirements for SDCs and may recoup a portion of these costs in accordance with ORS 223.307(5). Estimated compliance costs during the forecast period for this option are assumed to be 5% of total eligible SDC facility costs, or approximately \$83,000.

#### **E. Remaining SDC Reserves Balance**

The amount of transportation SDCs that have been collected by the City but not yet committed or spent has been deducted from total eligible SDC facility costs, which, according to City staff equates to approximately \$14,000.

#### **F. Calculation of Transportation SDC Rates**

The Hubbard 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, 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 average vehicle occupancy,
- e) Adjust trip rates by land use type to allow for differences in trip lengths,
- f) Calculate the motor vehicle improvements cost per trip-end and unit of development,
- g) Calculate the motor vehicle improvements SDC per trip-end and unit of development,
- h) Calculate the non-motorized (bicycle and pedestrian) facility improvements cost per trip-end and unit of development,
- i) Calculate the non-motorized facility improvements SDC per trip-end and unit of development,
- j) Calculate the compliance cost per trip-end and unit of development, and
- k) Calculate the total transportation SDC cost per unit of development.

### 1. Formula 1: 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:

$$1. \quad \frac{\text{SDC-Eligible Cost (after reserves)}}{\text{Increase In Person Trip-Ends}} = \text{SDC-Eligible Cost Per Person Trip-End}$$

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 2A**

#### **SDC-ELIGIBLE COST PER PERSON TRIP-END (Residential)**

<u>Type of Cost</u>	<u>SDC-Eligible Cost</u>		<u>ADT Person Trip-Ends</u>		<u>Cost Per New Person Trip-End</u>
Motor Vehicle Facility Cost	\$260,953	÷	7,900	=	<b>\$33</b>
Non-Motorized Facility Cost	\$1,212,637	÷	7,900	=	<b>\$154</b>
Compliance Cost	\$74,483	÷	7,900	=	<b>\$9</b>

**TABLE 2B**

#### **SDC-ELIGIBLE COST PER PERSON TRIP-END (Non-Residential)**

<u>Type of Cost</u>	<u>SDC-Eligible Cost</u>		<u>ADT Person Trip-Ends</u>		<u>Cost Per New Person Trip-End</u>
Motor Vehicle Cost	\$85,192	÷	2,579	=	<b>\$33</b>
Non-Motorized Facility Cost	\$23,954	÷	2,579	=	<b>\$9</b>
Compliance Cost	\$5,517	÷	2,579	=	<b>\$2</b>

## 2. Formula 2: 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:

$$2. \quad \begin{array}{c} \text{ITE} \\ \text{Trip} \\ \text{Rate} \end{array} \times \begin{array}{c} \text{Number} \\ \text{of Person} \\ \text{Trips} \end{array} \times \begin{array}{c} \text{Percent} \\ \text{New} \\ \text{Trips} \end{array} = \begin{array}{c} \text{New} \\ \text{Person} \\ \text{Trip-Ends} \end{array}$$

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*, 2<sup>nd</sup> Edition (2004).

**Appendix D-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 either the Weekday Average or the adjusted Weekday PM Peak Trip Rate from ITE Trip Generation. Column 3 identifies the total person-trips (Column 2 X 1.47) (projected person per motor vehicle trip). 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).

## 3. Formula 3: Persons Per Vehicle Adjustment

The ITE trip generation rates do not account for differences in the average number of persons per vehicle. Because work-related trips have lower average vehicle occupancy levels compared to personal and shopping trips, an adjustment factor is needed to account for differences in average vehicle occupancy levels relative to the "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 2) by the average vehicle occupancy factor for each type of land use:

$$3. \quad \begin{array}{c} \text{New} \\ \text{Person} \\ \text{Trip-Ends} \end{array} \quad \times \quad \begin{array}{c} \text{Vehicle} \\ \text{Occupancy} \\ \text{Factor} \end{array} = \begin{array}{c} \text{Net Adjusted} \\ \text{Trip-Ends} \\ \text{Per Day} \end{array}$$

Person-trip per motor vehicle trip factors are derived from surveys conducted by the U.S. Department of Transportation and published in the "National Household Travel Survey" (2009).

**Appendix D-2** lists the net adjusted trip-ends per day for each type of development, as calculated using Formula 3. 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 D-1**. Column 3 presents the vehicle occupancy factor for each type of land use. As the result of multiplying the number of trips (Column 2) by the vehicle occupancy factor (Column 3), Column 4 displays the net adjusted trips per day for each land use category.

#### 4. Formula 4: 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:

$$3. \quad \begin{array}{c} \text{New} \\ \text{Person} \\ \text{Trip-Ends} \end{array} \quad \times \quad \begin{array}{c} \text{Trip} \\ \text{Length} \\ \text{Factor} \end{array} = \begin{array}{c} \text{Net Adjusted} \\ \text{Trip-Ends} \\ \text{Per Day} \end{array}$$

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 D-3** 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 D-2**. 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.

#### 5. Formula 5: 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 .

$$\begin{array}{ccccc}
 & \text{Net Adjusted} & & \text{Motor Vehicle} & \\
 5. & \text{Person Trip-Ends} & \times & \text{Improvements} & = \\
 & \text{Per Unit} & & \text{Cost Per Trip-End} & \text{Motor Vehicle} \\
 & & & & \text{Improvements} \\
 & & & & \text{Cost Per Unit}
 \end{array}$$

**Appendix D-4** 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 D-3), and column 3 shows the motor vehicle improvements cost per trip-end (from Appendix D-2). 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).

#### 6. Formula 6: 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.

$$\begin{array}{ccccc}
 & \text{Net Adjusted} & & \text{Transit} & \\
 6. & \text{Person Trip-Ends} & \times & \text{Improvements} & = \\
 & \text{Per Unit} & & \text{Cost Per Trip-End} & \text{Transit} \\
 & & & & \text{Improvements} \\
 & & & & \text{Cost Per Unit}
 \end{array}$$

**Appendix D-5** 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 D-3). The non-motorized facility improvements cost per trip-end is shown in Column 3. The Non-Motorized Facility Improvements Cost Per Unit, shown in Column 4, is calculated by multiplying the net adjusted trip-ends for each land use category (Column 2) by the non-motorized facility improvements cost per trip-end (Column 3).

## 7. Formula 7: 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.

$$7. \quad \begin{array}{c} \text{Net Adjusted} \\ \text{Person Trip-Ends} \\ \text{Per Unit} \end{array} \quad \times \quad \begin{array}{c} \text{Compliance} \\ \text{Cost Per} \\ \text{Trip-End} \end{array} = \begin{array}{c} \text{Compliance} \\ \text{Cost} \\ \text{Per Unit} \end{array}$$

**Appendix D-6** 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).

## 8. Formula 8: Total Transportation SDC Per Unit of Development

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 D-4), the non-motorized facility improvements SDC per unit (from Appendix D-5), and the compliance cost per unit (from Appendix D-6).

$$8. \quad \begin{array}{c} \text{Motor Vehicle} \\ \text{Improvements} \\ \text{SDC Per Unit} \end{array} + \begin{array}{c} \text{Other Facility} \\ \text{Improvements} \\ \text{SDC Per Unit} \end{array} + \begin{array}{c} \text{Compliance} \\ \text{Cost} \\ \text{Per Unit} \end{array} = \begin{array}{c} \text{Total} \\ \text{Transportation} \\ \text{SDC Per Unit} \end{array}$$

**Table 3** displays the Total Transportation Cost per unit for each category. Columns 1 repeats the ITE codes and categories, and columns 2, 3, and 4 display the motor vehicle improvements SDC from Appendix D-4, the non-motorized facility improvements SDC from Appendix D-5, and the compliance cost from Appendix D-6, respectively. The Total Transportation SDC Per Unit is calculated by adding columns 2 (motor vehicle SDC), 3 (non-motor vehicle SDC), and 4 (compliance cost).

**TABLE 3**  
**SUMMARY OF TRANSPORTATION SYSTEM DEVELOPMENT CHARGES**  
**HUBBARD, OREGON**

ITE LAND USE CODE/CATEGORY	Motor Vehicle SDC	Non-Motor Vehicle SDC	Compliance Cost	Total Transportation SDC	Unit *
210 Dwelling Unit**	\$511	\$2,375	\$146	\$3,032	/dwelling unit
520 Elementary School (Public)	\$11	\$8	\$4	\$23	/student
560 Church	\$274	\$103	\$32	\$408	/T.S.F.G.F.A.
565 Day Care Center/Preschool	\$38	\$27	\$15	\$81	/student
630 Clinic	\$1,888	\$501	\$109	\$2,497	/T.S.F.G.F.A.
814 Specialty Retail Center	\$708	\$237	\$65	\$1,010	/T.S.F.G.L.A.
820 Shopping Center	\$686	\$230	\$63	\$979	/T.S.F.G.L.A.
850 Supermarket	\$2,376	\$795	\$218	\$3,390	/T.S.F.G.F.A.
853 Convenience Market	\$2,613	\$1,750	\$959	\$5,322	/T.S.F.G.F.A.
880 Pharmacy/Drugstore	\$1,668	\$558	\$153	\$2,380	/T.S.F.G.F.A.
911 Bank/Savings: Walk-in	\$3,012	\$1,008	\$276	\$4,297	/T.S.F.G.F.A.
931 Quality Restaurant	\$660	\$371	\$171	\$1,202	/T.S.F.G.F.A.
934 Fast Food Restaurant	\$2,745	\$1,544	\$711	\$5,000	/T.S.F.G.F.A.
942 Automobile Care Center	\$641	\$215	\$59	\$914	/T.S.F.G.L.A.
944 Gasoline/Service Station	\$658	\$441	\$242	\$1,340	/V.F.P.
710 General Office Building	\$364	\$102	\$24	\$489	/T.S.F.G.F.A.
720 Medical-Dental Office Building	\$1,193	\$335	\$77	\$1,606	/T.S.F.G.F.A.
110 General Light Industrial	\$230	\$65	\$15	\$310	/T.S.F.G.F.A.
120 General Heavy Industrial	\$50	\$14	\$3	\$67	/T.S.F.G.F.A.
150 Warehouse	\$164	\$46	\$11	\$220	/T.S.F.G.F.A.
151 Mini-Warehouse	\$129	\$36	\$8	\$173	/T.S.F.G.F.A.

\* 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

\*\* Based on ITE land use code for single family dwelling.

## TECHNICAL APPENDIX

## Appendix A-1 Planned Roadway Facility Improvements, Hubbard UGB, 2011 to 2035

Facility Improvement Category	Location		New Length (ft.) <sup>1</sup>	Project Description	Total Cost <sup>2</sup>	Project Benefit <sup>3</sup>		Existing V/C (avg.)	Future Unmitigated V/C (avg.)	Future Preferred Mitigated V/C (avg.)	Capacity Share Calc. % SDC Eligible <sup>4</sup>	Growth Share %	Expected Local City Cost Share	SDC Eligible Amount			Other Non-SDC Funded SDC Amount <sup>6</sup>
	Street	From To				Residential Benefit Allocation	Non-Residential Benefit Allocation							Residential Benefit Allocation	Non-Residential Benefit Allocation	Eligible SDC Amount	
R1	OR 99E	Northern UGB		Provide center turn lane	\$1,610,960	75%	25%	0.47	0.63	0.76	100%	50%	20%	\$ 121,999	\$ 39,828	\$ 161,827	\$1,449,133
R2	OR 99E	A Street Lane		Construct S.B./right turn lane	\$1,865,344	75%	25%	0.46	0.57	0.59	100%	50%	20%	\$ 141,263	\$ 46,117	\$ 187,380	\$1,677,964
R3	OR 99E	Southern UGB		Preserve 100-foot ROW													
<b>Total</b>					<b>\$3,476,304</b>									<b>\$ 263,262</b>	<b>\$ 86,945</b>	<b>\$349,207</b>	<b>\$3,127,097</b>

Notes:

<sup>1</sup> project length derived from Hubbard TSP August 4, 2011 memorandum from Kittelson & Associates.

<sup>2</sup> costs derived from Table 10 of Hubbard TSP August 4, 2011 memorandum from Kittelson & Associates; exclude additional right-of-way required for sidewalks, bike lanes, and landscaping. Costs adjusted to 2012 dollar amounts.

<sup>3</sup> residential and non-residential allocations derived from Table 1, based on projected change in trips by land use type.

<sup>4</sup> roadway improvements are not addressing an existing deficiency based on existing V/C measures.

<sup>5</sup> derived from calculations shown in Table 1.

<sup>6</sup> potential other (non-SDC) funding sources include: ODOT STIP funds, transportation utility fees, developer exactions, and special district funding.

**Appendix A-2  
Planned Pedestrian Facility Improvements, Hubbard UGB, 2011 to 2035**

Hubbard, OR  
Transportation SDC Update  
May 31, 2012

Pedestrian Facility Improve- ment Project Number	Location		New Length (ft) 1	Retrofit Length (ft) 1	Total Cost <sup>2</sup>	Project Benefit <sup>3</sup>		Expected Local City Cost Share	Capacity Share Calc. % SDC Eligible <sup>4</sup>	Growth Share % <sup>4</sup>	Residential Eligible SDC Amount	Non- Residen- tial Eligible SDC Amount	Total Eligible SDC Amount	Other Non- SDC Funded Amount <sup>6</sup>
	Street	From To				Residential Benefit Allocation	Non- Residential Benefit Allocation							
P1	OR 99E	D Street	2,267	-	\$ 169,267	75%	25%	20%	100%	74%	\$ 18,886	\$ 6,166	\$ 25,052	\$ 144,216
P2	OR 99E	UGB Schmidt Lane	3,891	-	\$ 301,803	75%	25%	20%	100%	74%	\$ 33,674	\$ 10,993	\$ 44,667	\$ 257,136
P3	D Street	3rd Street	590	-	\$ 48,161	100%	0%	100%	100%	74%	\$ 35,639	\$ -	\$ 35,639	\$ 12,522
P5	D Street	OR 99E Oak Street	822	-	\$ 67,100	100%	0%	100%	100%	74%	\$ 49,654	\$ -	\$ 49,654	\$ 17,446
P6	J Street	UGB	2,111	261	\$ 189,554	100%	0%	100%	89%	74%	\$ 124,835	\$ -	\$ 124,835	\$ 64,718
P7	J Street	G Street Moonbeam Cl	2,047	-	\$ 167,096	100%	0%	100%	100%	74%	\$ 123,651	\$ -	\$ 123,651	\$ 43,445
P8	3rd Street	A Street	992	-	\$ 80,976	100%	0%	100%	100%	74%	\$ 59,923	\$ -	\$ 59,923	\$ 21,054
P9	3rd Street	J Street	647	-	\$ 52,814	100%	0%	100%	100%	74%	\$ 39,083	\$ -	\$ 39,083	\$ 13,732
P10	3rd Street	A Street Western end	-	985	\$ 74,228	100%	0%	100%	0%	74%	\$ -	\$ -	\$ -	\$ 74,228
P11	A Street	OR 99E	3,037	221	\$ 262,501	100%	0%	100%	93%	74%	\$ 181,074	\$ -	\$ 181,074	\$ 81,427
P12	G Street	7th Street	725	1,210	\$ 143,258	100%	0%	100%	37%	74%	\$ 39,720	\$ -	\$ 39,720	\$ 103,538
P13	G Street	OR 99E J Street	1,356	-	\$ 110,689	100%	0%	100%	100%	74%	\$ 81,910	\$ -	\$ 81,910	\$ 28,779
P15	5th Street	A Street	1,645	-	\$ 127,261	100%	0%	100%	100%	74%	\$ 94,173	\$ -	\$ 94,173	\$ 33,088
P16	7th Street	A Street	3,630	-	\$ 296,316	100%	0%	100%	100%	74%	\$ 219,274	\$ -	\$ 219,274	\$ 77,042
P17	A Street	RR xing	580	-	\$ 69,171	100%	0%	100%	100%	74%	\$ 51,187	\$ -	\$ 51,187	\$ 17,985
P18	D Street	northside	580	-	\$ 66,511	100%	0%	100%	100%	74%	\$ 49,218	\$ -	\$ 49,218	\$ 17,293
P20	G Street	OR 99E crosswalks	145	-	\$ 51,854	75%	25%	20%	100%	74%	\$ 5,786	\$ 1,889	\$ 7,674	\$ 44,180
P21	OR 99E	A Street multuse path	145	-	\$ 51,854	75%	25%	20%	100%	74%	\$ 5,786	\$ 1,889	\$ 7,674	\$ 44,180
P22	Mill Ck		n/a	-							\$ -	\$ -	\$ -	\$ -
<b>Total</b>			25,210	2,677	\$ 2,330,415						\$ 1,213,471	\$ 20,936	\$ 1,234,407	\$1,096,008

Notes:

<sup>1</sup> project length derived from Hubbard TSP as of January 20, 2012 by Kittelson & Associates.

<sup>2</sup> costs derived from Hubbard TSP as of January 2012; excludes additional right-of-way required for sidewalks, bike lanes, and landscaping. Costs shown adjusted to 2012 dollar amounts.

<sup>3</sup> residential and non-residential allocations for arterials are derived from Table 1, based on projected change in trips by land use type. Improvements along minor arterial and collector streets are assumed to provide 100% attributed to residential land use trip origins/destinations with commercial/other land uses as possible "linked" trip.

<sup>4</sup> roadway improvements are not addressing an existing deficiency based on existing V/C measures.

<sup>5</sup> derived from calculations shown in Appendix B.

<sup>6</sup> potential other (non-SDC) funding sources include: ODOT STIP funds, transportation utility fees, developer exactions, and special district funding.

## Appendix A-3 Planned Bicycle Facility Improvements, Hubbard UGB, 2011 to 2035

Facility Improvement Category	Location		New Length (ft) 1	Retrofit Length (ft) 1	Project Description Bike lanes or shoulder facility	Total Cost <sup>2</sup>		Project Benefit <sup>3</sup>		Capacity Share Calc. % SDC Eligible <sup>4</sup>	Growth Share % <sup>5</sup>	Residential Eligible SDC Amount	Non Residential Eligible SDC Amount	Total Eligible SDC Amount	Other Non-SDC Funded SDC Amount <sup>6</sup>
	From Street	To Street				Residential Benefit Allocation	Non-Residential Benefit Allocation	Expected Local City Cost/Share							
B1 Bicycle	OR 99E	D Street	2,690	-	Bike lanes or shoulder facility	\$ 167,856	75%	25%	20%	100%	39%	\$ 9,893	\$ 3,230	\$ 13,122	\$ 154,734
Total			2,690	-	-	\$ 167,856						\$ 9,893	\$ 3,230	\$ 13,122	\$ 154,734

Notes:

<sup>1</sup> project length derived from Hubbard TSP August 4, 2011 memorandum from Kittelson & Associates.

<sup>2</sup> costs derived from Table 10 of Hubbard TSP August 4, 2011 memorandum from Kittelson & Associates; exclude additional right-of-way required for sidewalks, bike lanes, and landscaping. Costs shown in 2011 dollar amounts.

<sup>3</sup> residential and non-residential allocations for arterials are derived from Table 1, based on projected change in trips by land use type.

<sup>4</sup> roadway improvements are not addressing an existing deficiency based on existing V/C measures.

<sup>5</sup> derived from calculations shown in Appendix B-3.

<sup>6</sup> potential other (non-SDC) funding sources include: ODOT STP funds, transportation utility fees, developer exactions, and special district funding.

## Appendix B

Appendix B-1			
Pedestrian Improvement Level of Service Analysis (LF), Hubbard UGB			
Pedestrian System	Existing	Planned/ New	Total Future
Collector Facilities	16,348	11,263	27,611
Minor Arterial Facilities	6,864	7,789	14,653
Major Arterial Facilities	3,837	6,158	9,995
Other (pathways)	3,487	-	3,487
<b>Total</b>	<b>30,536</b>	<b>25,210</b>	<b>55,746</b>
Person Trip-Ends	20,862	10,479	31,341
Ratio of LF to Person-Trip Ends	1.46		1.78
Planned Improvements			
Existing Deficiency Need		6,571	26%
Capacity Need (growth share)		18,639	74%
<b>Total</b>		<b>25,210</b>	<b>100%</b>

Note:

\*Since ratio of future to existing ped. Improvements is more than ratio of future to existing person trips, there is a deficiency and up to 77% of the future system is needed to account for growth.

Source: Hubbard TSP; compiled by Kittelson Associates, and FCS GROUP.

Appendix B-2			
Bicycle Improvement Level of Service Analysis (LF), Hubbard UGB			
Bicycle System	Existing	Planned/ New	Total Future
Collector Bike Lanes	-	-	-
Collector Shared Roadways	-	-	-
Minor Arterial Bike Lanes	-	-	-
Minor Arterial Shared Roadways	-	-	-
Major Arterial Bike Lanes	7,856	2,690	10,546
Major Arterial Shared Roadways	-	-	-
<b>Total</b>	<b>7,856</b>	<b>2,690</b>	<b>10,546</b>
Person Trip-Ends	20,862	10,479	31,341
Ratio of LF to Person-Trip Ends	0.38		0.34
Planned Improvements			
Existing Deficiency Need		-	0%
Capacity Need (growth share)		2,690	100%
<b>Total</b>		<b>2,690</b>	<b>100%</b>

Note:

\*Since ratio of future to existing bike Improvements is less than ratio of future to existing person trips, there is not a deficiency and up to 100% of the future system is needed to account for growth.

Source: Hubbard TSP; compiled by Kittelson Associates, and FCS GROUP.

## Appendix C-1 Residential and Non-Residential Transportation SDC Costs Per Person-Trip End

Cost Category	SDC Eligible Costs			Less Existing SDC Fund Balance			SDC Eligible Costs After Existing Fund Balance			Total New Person Trip-Ends			SDC-Eligible Cost Per New Person Trip-End	
	Residential Growth Cost	Non-Residential Growth Cost	Total Growth Cost	Residential Growth Cost	Non-Residential Growth Cost	Total	Residential Growth Cost	Non-Residential Growth Cost	Total	Residential Growth Trips	Non-Res. Growth Trips	Total Growth Trips	Residential Growth Cost	Non-Residential Growth Cost
Motor Vehicle Costs	\$263,262	\$85,945	\$349,207	(\$2,308)	(\$754)	\$260,953	\$85,192	\$23,954	\$346,145	7,900	2,579	10,478	\$33	\$33
Pedestrian/Bicycle Facility Costs	\$1,223,364	\$24,166	\$1,247,530	(\$10,726)	(\$212)	\$1,212,637	\$23,954	\$23,954	\$1,236,592	7,900	2,579	10,478	\$154	\$9
<b>Subtotal</b>	<b>\$1,486,625</b>	<b>\$110,111</b>	<b>\$1,596,737</b>	<b>(\$13,035)</b>	<b>(\$965)</b>	<b>\$1,473,591</b>	<b>\$109,146</b>	<b>\$1,582,737</b>					<b>\$187</b>	<b>\$42</b>
Allocation of Trips <sup>1</sup>										75%	25%	100%		
Allocation of Costs <sup>2</sup>	93%	7%	100%											
Compliance Costs <sup>3</sup>	\$74,483.18	\$5,517	\$80,000			\$74,483	\$5,517	\$80,000		7,900	2,579	10,478	\$9	\$2
<b>Subtotal</b>	<b>\$1,561,109</b>	<b>\$115,628</b>	<b>\$1,676,737</b>			<b>\$1,548,074</b>	<b>\$114,663</b>	<b>\$1,662,737</b>					<b>\$196</b>	<b>\$44</b>
Less SDC Fund Balance <sup>4</sup>	(\$13,034.56)	(\$965)	(\$14,000)							7,900	2,579	10,478		
<b>Total</b>	<b>\$1,548,074.10</b>	<b>\$114,662.64</b>	<b>\$1,662,737</b>										<b>\$196</b>	<b>\$44</b>

Notes:

<sup>1</sup> Derived from Table 1.

<sup>2</sup> Based on allocation of SDC eligible capital costs.

<sup>3</sup> Assumed to be 5% of total SDC eligible capital costs, and allocated based on capital cost allocation shown above.

<sup>4</sup> Based on City staff estimates.

APPENDIX TABLE D-1  
NEW PERSON TRIP-ENDS PER UNIT OF DEVELOPMENT

<u>ITE LAND USE CODE/CATEGORY</u>	<u>Weekday Avg. Veh. Trip Rate</u>	<u>Total Person Trip- Ends</u>	<u>% New Trips</u>	<u>New Person Trip- Ends</u>	<u>Unit *</u>
210 Dwelling Unit**	9.57	14.07	100%	14.07	/dwelling unit
520 Elementary School (Public)	1.29	1.90	100%	1.90	/student
560 Church	9.11	13.39	100%	13.39	/T.S.F.G.F.A.
565 Day Care Center/Preschool	4.48	6.59	100%	6.59	/student
630 Clinic	31.45	46.23	100%	46.23	/T.S.F.G.F.A.
814 Specialty Retail Center	44.32	65.15	44%	28.67	/T.S.F.G.L.A.
820 Shopping Center	42.94	63.12	44%	27.77	/T.S.F.G.L.A.
850 Supermarket	102.24	150.29	64%	96.18	/T.S.F.G.F.A.
853 Convenience Market	737.99	1084.81	39%	423.08	/T.S.F.G.F.A.
880 Pharmacy/Drugstore	90.06	132.38	51%	67.52	/T.S.F.G.F.A.
911 Bank/Savings: Walk-in	156.48	230.02	53%	121.91	/T.S.F.G.F.A.
931 Quality Restaurant	89.95	132.22	57%	75.37	/T.S.F.G.F.A.
934 Fast Food Restaurant	496.12	729.27	43%	313.59	/T.S.F.G.F.A.
942 Automobile Care Center ***	40.10	58.95	44%	25.94	/T.S.F.G.L.A.
944 Gasoline/Service Station	168.56	247.78	43%	106.54	/V.F.P.
710 General Office Building	11.01	16.18	100%	16.18	/T.S.F.G.F.A.
720 Medical-Dental Office Building	36.13	53.11	100%	53.11	/T.S.F.G.F.A.
110 General Light Industrial	6.97	10.25	100%	10.25	/T.S.F.G.F.A.
120 General Heavy Industrial	1.50	2.20	100%	2.20	/T.S.F.G.F.A.
150 Warehouse	4.96	7.29	100%	7.29	/T.S.F.G.F.A.
151 Mini-Warehouse	2.50	3.67	100%	3.67	/T.S.F.G.F.A.

\* 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

\*\* Based on ITE land use code for single family dwelling.

\*\*\* Because there is no ITE Weekday Average Trip Rate for this code/category, the Trip Rate shown is the ITE P.M. Peak Hour Trip Rate multiplied by a factor of ten.

**APPENDIX TABLE D-2**  
**NET ADJUSTED TRIP-ENDS PER UNIT OF DEVELOPMENT**  
**AVG. PERSON-TRIP PER VEHICLE TRIP ADJUSTMENT FACTORS**

<u>ITE LAND USE CODE/CATEGORY</u>	New Person <u>Trip- Ends</u>	Trip Adjustment <u>Factor</u>	Net Adjusted <u>Trip- Ends</u>	<u>Unit *</u>
210 Dwelling Unit**	14.07	1.10	15.47	/dwelling unit
520 Elementary School (Public)	1.90	1.10	2.09	/student
560 Church	13.39	1.10	14.73	/T.S.F.G.F.A.
565 Day Care Center/Preschool	6.59	1.10	7.24	/student
630 Clinic	46.23	1.10	50.85	/T.S.F.G.F.A.
814 Specialty Retail Center	28.67	1.06	30.39	/T.S.F.G.L.A.
820 Shopping Center	27.77	1.06	29.44	/T.S.F.G.L.A.
850 Supermarket	96.18	1.06	101.96	/T.S.F.G.F.A.
853 Convenience Market	423.08	1.06	448.46	/T.S.F.G.F.A.
880 Pharmacy/Drugstore	67.52	1.06	71.57	/T.S.F.G.F.A.
911 Bank/Savings: Walk-in	121.91	1.06	129.22	/T.S.F.G.F.A.
931 Quality Restaurant	75.37	1.06	79.89	/T.S.F.G.F.A.
934 Fast Food Restaurant	313.59	1.06	332.40	/T.S.F.G.F.A.
942 Automobile Care Center	25.94	1.06	27.49	/T.S.F.G.L.A.
944 Gasoline/Service Station	106.54	1.06	112.94	/V.F.P.
710 General Office Building	16.18	0.68	11.01	/T.S.F.G.F.A.
720 Medical-Dental Office Building	53.11	0.68	36.11	/T.S.F.G.F.A.
110 General Light Industrial	10.25	0.68	6.97	/T.S.F.G.F.A.
120 General Heavy Industrial	2.20	0.68	1.50	/T.S.F.G.F.A.
150 Warehouse	7.29	0.68	4.96	/T.S.F.G.F.A.
151 Mini-Warehouse	3.67	1.06	3.90	/T.S.F.G.F.A.

\* 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

\*\* Based on ITE land use code for single family dwelling.

APPENDIX TABLE D-3  
NET ADJUSTED TRIP-ENDS PER UNIT OF DEVELOPMENT  
AVG. TRIP LENGTH ADJUSTMENT FACTORS

ITE LAND USE CODE/CATEGORY	New Person <u>Trip- Ends</u>	Trip Adjustment <u>Factor</u>	Net Adjusted <u>Trip- Ends</u>	<u>Unit *</u>
210 Dwelling Unit**	15.47	1.00	15.47	/dwelling unit
520 Elementary School (Public)	2.09	0.40	0.83	/student
560 Church	14.73	0.75	11.05	/T.S.F.G.F.A.
565 Day Care Center/Preschool	7.24	0.40	2.90	/student
630 Clinic	50.85	1.06	53.90	/T.S.F.G.F.A.
814 Specialty Retail Center	30.39	0.84	25.52	/T.S.F.G.L.A.
820 Shopping Center	29.44	0.84	24.73	/T.S.F.G.L.A.
850 Supermarket	101.96	0.84	85.64	/T.S.F.G.F.A.
853 Convenience Market	448.46	0.42	188.35	/T.S.F.G.F.A.
880 Pharmacy/Drugstore	71.57	0.84	60.12	/T.S.F.G.F.A.
911 Bank/Savings; Walk-in	129.22	0.84	108.55	/T.S.F.G.F.A.
931 Quality Restaurant	79.89	0.50	39.94	/T.S.F.G.F.A.
934 Fast Food Restaurant	332.40	0.50	166.20	/T.S.F.G.F.A.
942 Automobile Care Center	27.49	0.84	23.09	/T.S.F.G.L.A.
944 Gasoline/Service Station	112.94	0.42	47.43	/V.F.P.
710 General Office Building	11.01	1.00	11.01	/T.S.F.G.F.A.
720 Medical-Dental Office Building	36.11	1.00	36.11	/T.S.F.G.F.A.
110 General Light Industrial	6.97	1.00	6.97	/T.S.F.G.F.A.
120 General Heavy Industrial	1.50	1.00	1.50	/T.S.F.G.F.A.
150 Warehouse	4.96	1.00	4.96	/T.S.F.G.F.A.
151 Mini-Warehouse	3.90	1.00	3.90	/T.S.F.G.F.A.

\* 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

\*\* Based on ITE land use code for single family dwelling.

APPENDIX TABLE D-4  
MOTOR VEHICLE FACILITY COST PER UNIT OF DEVELOPMENT

ITE LAND USE CODE/CATEGORY	Net Adjusted Trip- Ends	Motor Vehicle Cost Per Trip-End	Motor Vehicle Cost Per Unit	Unit *
210 Dwelling Unit**	15.47	\$33	\$511	/dwelling unit
520 Elementary School (Public)	0.33	\$33	\$11	/student
560 Church	8.29	\$33	\$274	/T.S.F.G.F.A.
565 Day Care Center/Preschool	1.16	\$33	\$38	/student
630 Clinic	57.14	\$33	\$1,888	/T.S.F.G.F.A.
814 Specialty Retail Center	21.44	\$33	\$708	/T.S.F.G.L.A.
820 Shopping Center	20.77	\$33	\$686	/T.S.F.G.L.A.
850 Supermarket	71.94	\$33	\$2,376	/T.S.F.G.F.A.
853 Convenience Market	79.11	\$33	\$2,613	/T.S.F.G.F.A.
880 Pharmacy/Drugstore	50.50	\$33	\$1,668	/T.S.F.G.F.A.
911 Bank/Savings: Walk-in	91.18	\$33	\$3,012	/T.S.F.G.F.A.
931 Quality Restaurant	19.97	\$33	\$660	/T.S.F.G.F.A.
934 Fast Food Restaurant	83.10	\$33	\$2,745	/T.S.F.G.F.A.
942 Automobile Care Center	19.40	\$33	\$641	/T.S.F.G.L.A.
944 Gasoline/Service Station	19.92	\$33	\$658	/V.F.P.
710 General Office Building	11.01	\$33	\$364	/T.S.F.G.F.A.
720 Medical-Dental Office Building	36.11	\$33	\$1,193	/T.S.F.G.F.A.
110 General Light Industrial	6.97	\$33	\$230	/T.S.F.G.F.A.
120 General Heavy Industrial	1.50	\$33	\$50	/T.S.F.G.F.A.
150 Warehouse	4.96	\$33	\$164	/T.S.F.G.F.A.
151 Mini-Warehouse	3.90	\$33	\$129	/T.S.F.G.F.A.

\* 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

\*\* Based on ITE land use code for single family dwelling.

APPENDIX TABLE D-5  
NON-MOTOR VEHICLE FACILITY COST PER UNIT OF DEVELOPMENT

ITE LAND USE CODE/CATEGORY	Net Adjusted	Non- MV Cost Per Trip- End	Non- MV Cost Per Unit	Unit *
	<u>Trip- Ends</u>	<u>Trip- End</u>	<u>Per Unit</u>	
210 Dwelling Unit**	15.47	\$154	\$2,375	/dwelling unit
520 Elementary School (Public)	0.83	\$9	\$8	/student
560 Church	11.05	\$9	\$103	/T.S.F.G.F.A.
565 Day Care Center/Preschool	2.90	\$9	\$27	/student
630 Clinic	53.90	\$9	\$501	/T.S.F.G.F.A.
814 Specialty Retail Center	25.52	\$9	\$237	/T.S.F.G.L.A.
820 Shopping Center	24.73	\$9	\$230	/T.S.F.G.L.A.
850 Supermarket	85.64	\$9	\$795	/T.S.F.G.F.A.
853 Convenience Market	188.35	\$9	\$1,750	/T.S.F.G.F.A.
880 Pharmacy/Drugstore	60.12	\$9	\$558	/T.S.F.G.F.A.
911 Bank/Savings: Walk-in	108.55	\$9	\$1,008	/T.S.F.G.F.A.
931 Quality Restaurant	39.94	\$9	\$371	/T.S.F.G.F.A.
934 Fast Food Restaurant	166.20	\$9	\$1,544	/T.S.F.G.F.A.
942 Automobile Care Center	23.09	\$9	\$215	/T.S.F.G.L.A.
944 Gasoline/Service Station	47.43	\$9	\$441	/V.F.P.
710 General Office Building	11.01	\$9	\$102	/T.S.F.G.F.A.
720 Medical-Dental Office Building	36.11	\$9	\$335	/T.S.F.G.F.A.
110 General Light Industrial	6.97	\$9	\$65	/T.S.F.G.F.A.
120 General Heavy Industrial	1.50	\$9	\$14	/T.S.F.G.F.A.
150 Warehouse	4.96	\$9	\$46	/T.S.F.G.F.A.
151 Mini-Warehouse	3.90	\$9	\$36	/T.S.F.G.F.A.

\* 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

\*\* Based on ITE land use code for single family dwelling.

APPENDIX TABLE D-6  
COMPLIANCE COST PER UNIT OF DEVELOPMENT

<u>ITE LAND USE CODE/CATEGORY</u>	<u>Net Adjusted Trips</u>	<u>Compliance Cost Per Trip-End</u>	<u>Compliance Cost Per Unit</u>	<u>Unit *</u>
210 Dwelling Unit**	15.47	\$9	\$146	/dwelling unit
520 Elementary School (Public)	2.09	\$2	\$4	/student
560 Church	14.73	\$2	\$32	/T.S.F.G.F.A.
565 Day Care Center/Preschool	7.24	\$2	\$15	/student
630 Clinic	50.85	\$2	\$109	/T.S.F.G.F.A.
814 Specialty Retail Center	30.39	\$2	\$65	/T.S.F.G.L.A.
820 Shopping Center	29.44	\$2	\$63	/T.S.F.G.L.A.
850 Supermarket	101.96	\$2	\$218	/T.S.F.G.F.A.
853 Convenience Market	448.46	\$2	\$959	/T.S.F.G.F.A.
880 Pharmacy/Drugstore	71.57	\$2	\$153	/T.S.F.G.F.A.
911 Bank/Savings: Walk-in	129.22	\$2	\$276	/T.S.F.G.F.A.
931 Quality Restaurant	79.89	\$2	\$171	/T.S.F.G.F.A.
934 Fast Food Restaurant	332.40	\$2	\$711	/T.S.F.G.F.A.
942 Automobile Care Center	27.49	\$2	\$59	/T.S.F.G.L.A.
944 Gasoline/Service Station	112.94	\$2	\$242	/V.F.P.
710 General Office Building	11.01	\$2	\$24	/T.S.F.G.F.A.
720 Medical-Dental Office Building	36.11	\$2	\$77	/T.S.F.G.F.A.
110 General Light Industrial	6.97	\$2	\$15	/T.S.F.G.F.A.
120 General Heavy Industrial	1.50	\$2	\$3	/T.S.F.G.F.A.
150 Warehouse	4.96	\$2	\$11	/T.S.F.G.F.A.
151 Mini-Warehouse	3.90	\$2	\$8	/T.S.F.G.F.A.

\* 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

\*\* Based on ITE land use code for single family dwelling.

Hubbard, OR  
Transportation SDC Update  
May 31, 2012

# Exhibit C

Schedule of Transportation, Water,  
Wastewater, and Parks SDCs Effective July 1,  
2012

# **A. Transportation SDCs**

<b>ITE LAND USE CODE/CATEGORY</b>	<b>Motor Vehicle SDC</b>	<b>Non-Motor Vehicle SDC</b>	<b>Compli- ance Cost</b>	<b>Total Transpor- tation SDC</b>	<b>Unit *</b>
210 Dwelling Unit**	\$511	\$2,375	\$146	\$3,032	/dwelling unit
520 Elementary School (Public)	\$11	\$8	\$4	\$23	/student
560 Church	\$274	\$103	\$32	\$408	/T.S.F.G.F.A.
565 Day Care Center/Preschool	\$38	\$27	\$15	\$81	/student
630 Clinic	\$1,888	\$501	\$109	\$2,497	/T.S.F.G.F.A.
814 Specialty Retail Center	\$708	\$237	\$65	\$1,010	/T.S.F.G.L.A.
820 Shopping Center	\$686	\$230	\$63	\$979	/T.S.F.G.L.A.
850 Supermarket	\$2,376	\$795	\$218	\$3,390	/T.S.F.G.F.A.
853 Convenience Market	\$2,613	\$1,750	\$959	\$5,322	/T.S.F.G.F.A.
880 Pharmacy/Drugstore	\$1,668	\$558	\$153	\$2,380	/T.S.F.G.F.A.
911 Bank/Savings: Walk-in	\$3,012	\$1,008	\$276	\$4,297	/T.S.F.G.F.A.
931 Quality Restaurant	\$660	\$371	\$171	\$1,202	/T.S.F.G.F.A.
934 Fast Food Restaurant	\$2,745	\$1,544	\$711	\$5,000	/T.S.F.G.F.A.
942 Automobile Care Center	\$641	\$215	\$59	\$914	/T.S.F.G.L.A.
944 Gasoline/Service Station	\$658	\$441	\$242	\$1,340	/V.F.P.
710 General Office Building	\$364	\$102	\$24	\$489	/T.S.F.G.F.A.
720 Medical-Dental Office Building	\$1,193	\$335	\$77	\$1,606	/T.S.F.G.F.A.
110 General Light Industrial	\$230	\$65	\$15	\$310	/T.S.F.G.F.A.
120 General Heavy Industrial	\$50	\$14	\$3	\$67	/T.S.F.G.F.A.
150 Warehouse	\$164	\$46	\$11	\$220	/T.S.F.G.F.A.
151 Mini-Warehouse	\$129	\$36	\$8	\$173	/T.S.F.G.F.A.

\* 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

\*\* Based on ITE land use code for single family dwelling.

## B. Water SDCs

City of Hubbard Schedule of Proposed Residential Water System Development Charges Wastewater SDC Update - 2012						
Meter Size	AWWA Rated Flow (GPM)*	Flow Factor Equivalence	Proposed Schedule of Water SDCs			
			Reimbursement	Improvement	Administration	Total
0.625 x 0.75 inch	10	1.00	1,930	301	244	\$ 2,475
1.00 inch	25	2.50	4,826	753	610	6,188
1.50 inch	50	5.00	9,652	1,505	1,219	12,376
2.00 inch	80	8.00	15,443	2,408	1,951	19,802
3.00 inch	175	17.50	33,782	5,268	4,268	43,317
4.00 inch	300	30.00	57,912	9,030	7,316	74,258
6.00 inch	625	62.50	120,650	18,813	15,243	154,705
8.00 inch	900	90.00	173,735	27,090	21,949	222,775
10.00 inch	1450	145.00	279,907	43,645	35,363	358,915
12.00 inch	2160	216.00	416,965	65,017	52,679	534,660

\* Recommended maximum rate for continuous operations; per American Water Works Association standards effective January 1, 2003 for cold water meters- displacement type, bronze main case. ANSI approval October 11, 2002. American Water Works Association ANSI/AWWA C700-02 (Revision of ANSI/AWWA C700-95).

### C. Wastewater SDCs

City of Hubbard  
Schedule of Proposed Residential Wastewater System Development Charges  
Wastewater SDC Update - 2012

Meter Size	AWWA Rated Flow (GPM)*	Flow Factor Equivalence	Proposed Schedule of Wastewater SDCs			
			Reimbursement	Improvement	Administration	Total
0.625 x 0.75 inch	10	1.00	2,589	923	242	3,755
1.00 inch	25	2.50	6,472	2,309	606	9,387
1.50 inch	50	5.00	12,945	4,617	1,211	18,774
2.00 inch	80	8.00	20,712	7,388	1,938	30,038
3.00 inch	175	17.50	45,307	16,161	4,240	65,708
4.00 inch	300	30.00	77,670	27,704	7,269	112,643
6.00 inch	625	62.50	161,812	57,718	15,143	234,673
8.00 inch	900	90.00	233,010	83,113	21,806	337,929
10.00 inch	1450	145.00	375,405	133,905	35,132	544,441
12.00 inch	2160	216.00	559,224	199,472	52,334	811,030

\* Recommended maximum rate for continuous operations; per American Water Works Association standards effective January 1, 2003 for cold water meters- displacement type, bronze main case. ANSI approval October 11, 2002. American Water Works Association ANSI/AWWA C700-02 (Revision of ANSI/AWWA C700-95).

### D. Parks SDCs

City of Hubbard  
Schedule of Proposed Residential Parks System Development Charges  
Parks SDC Update - 2012

Residential Housing Type	Number of Dwelling Units	Proposed Schedule of Wastewater SDCs			
		Reimbursement	Improvement	Administration	Total
Detached single family	1	\$ 417	\$ 2,666	\$ 129	\$ 3,212
Mobil/manufactured home	1	417	2,666	129	3,212
Duplex	2	833	5,332	258	6,424
Tri-plex	3	1,250	7,998	387	9,635
Four-plex	4	1,667	10,664	516	12,847
Apartment complex	*	*	*	*	*
Condominium complex	*	*	*	*	*
Retirement/Assisted Living complex	*	*	*	*	*

\* - multiply the number of dwelling units by the corresponding detached single family fee component