

# **Joint Transportation Committee Stormwater Management Survey**

## **Summary Report**

**9/23/11**



1501 Fourth Avenue, Suite 550 Seattle, Washington 98101

T 206.623.0735 F 206.623.0781

SEATTLE • WASHINGTON DC

## Table of Contents

INTRODUCTION.....	3
What was the purpose of the survey?.....	3
How was the survey conducted?.....	3
CHARACTERISTICS OF RESPONDING JURISDICTIONS.....	4
What parts of the state are the responding jurisdictions from?.....	4
What methods are used to manage stormwater from limited access highways?.....	5
RESULTS.....	8
What are the challenges to managing stormwater from limited access highways?.....	8
What are the challenges to complying with RCW 90.03.525?.....	9
What does it cost to manage stormwater from limited access highways?.....	10
Why do some, but not all charge WSDOT?.....	11
How expensive and how long is the charging process?.....	13
How receptive is WSDOT to charges and documentation?.....	14
How efficient is the process of working with WSDOT?.....	15
How can the process be improved?.....	18
SUMMARY.....	19
Appendix A: Survey Questions.....	21
Appendix B: Detailed Methodology.....	30
Appendix C: Map of Participating Cities and Counties.....	31
Appendix D: Characteristics of Responding Jurisdictions.....	32

## INTRODUCTION

### ***What was the purpose of the survey?***

The survey was designed to gather information from jurisdictions that:

- Have a stormwater utility,
- Are subject to National Pollutant Discharge Elimination System (NPDES) Phase 1 or Phase 2 municipal stormwater permitting requirements, and
- Have one or more limited access state highways within their jurisdiction.

Furthermore, the survey was intended for those jurisdictions that impose stormwater fees to the Washington State Department of Transportation (WSDOT), or otherwise manage stormwater from limited access state highways. It also surveyed jurisdictions that currently do not manage stormwater from limited access highways, but which plan to do so in the future.

In particular, the survey questions were designed to identify successes experienced and challenges faced by the jurisdictions in:

- Working with WSDOT to manage stormwater
- Complying with RCW 90.03.525
- Preparing documentation for recovery of costs associated with managing stormwater from limited access highways

Results of the survey will be used, in conjunction with other project tasks to identify ways to improve the process by which cities charge the Washington State Department of Transportation for managing stormwater runoff from state limited access highways within jurisdiction boundaries, and to make stormwater management of these facilities more efficient.

### ***How was the survey conducted?***

The survey questions (see Appendix A) were administered through an online survey process. A total of eighty-one qualified jurisdictions were invited to participate. Forty-five completed the survey, for a response rate of 56%. (See Appendix B for a detailed discussion of the survey methodology.)

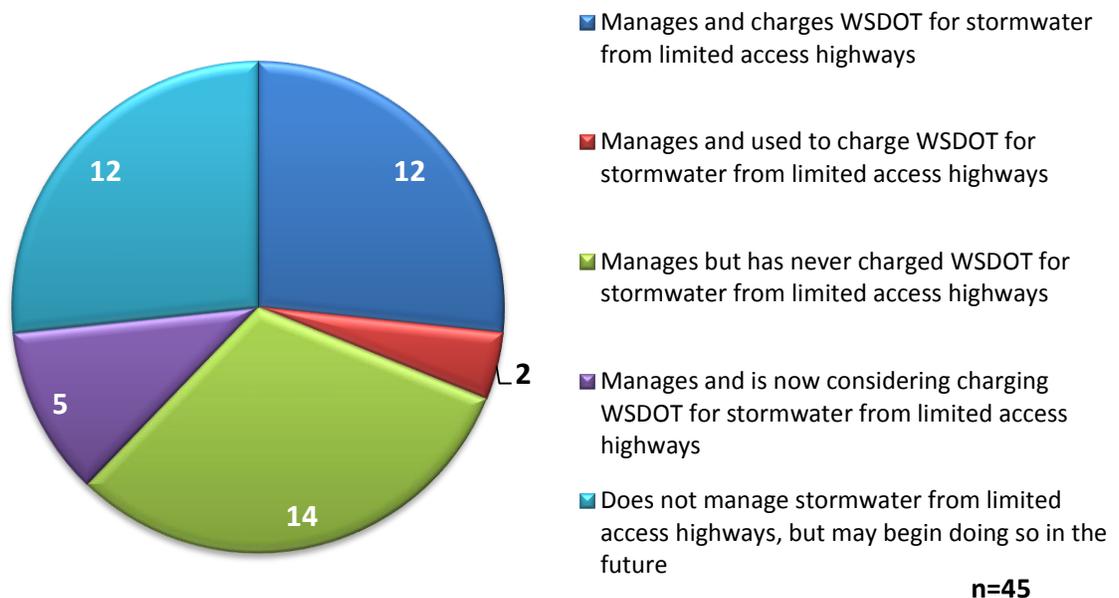
## CHARACTERISTICS OF RESPONDING JURISDICTIONS

Participating jurisdictions were asked to choose one of five categories that reflected whether or not they managed stormwater from limited access highways and whether or not they charged WSDOT for doing so. The distribution of responding jurisdictions in regard to this can be seen in the chart below. A total of fourteen managed stormwater and did currently charge or had charged WSDOT in the past, another nineteen managed stormwater and had never charged WSDOT, and twelve did not manage stormwater from limited access highways, but were considering doing so in the future.

Certain survey questions were asked of respondents depending on their jurisdiction category. The first two categories were asked all of the questions; the next two categories were asked all questions up to question 27, and the last category was asked all questions up to question 16. Because the total number of respondents for some of the questions was relatively small we thought it best to present the results in regard to counts and not percents, since percents for small numbers of respondents can appear to artificially over-inflate the results.

### Which of the following best describes how your municipality deals with stormwater from state limited access highways?

Base: All respondents who participated in the survey

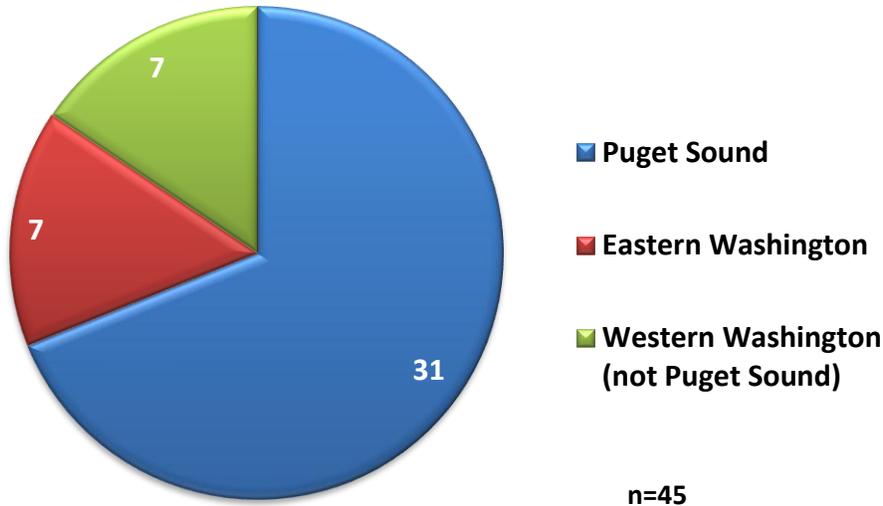


### What parts of the state are the responding jurisdictions from?

As can be seen in the next chart, most (31 of 45) respondents are from the Puget Sound region. Appendix C presents a map of the responding jurisdictions. (For additional jurisdiction characteristics, see Appendix D.)

## Municipality locations

Base: All respondents who participated in the survey



### *What methods are used to manage stormwater from limited access highways?*

Most responding jurisdictions reported using conveyance facilities<sup>1</sup> (27 of 32), with detention<sup>2</sup> (19 of 32), and water quality treatment facilities<sup>3</sup> (16 of 32), and retention<sup>4</sup> (9 of 32) also being used.

---

<sup>1</sup> **Conveyance** - A mechanism for transporting water from one point to another, including pipes, ditches, and channels. The drainage facilities, both natural and man-made, which collect, contain, and provide for the flow of surface and stormwater from the highest points on the land down to a receiving water. The natural elements of the conveyance system include swales and small drainage courses, streams, rivers, lakes, and wetlands. The human-made elements of the conveyance system include gutters, ditches, pipes, channels, and most retention/detention facilities.

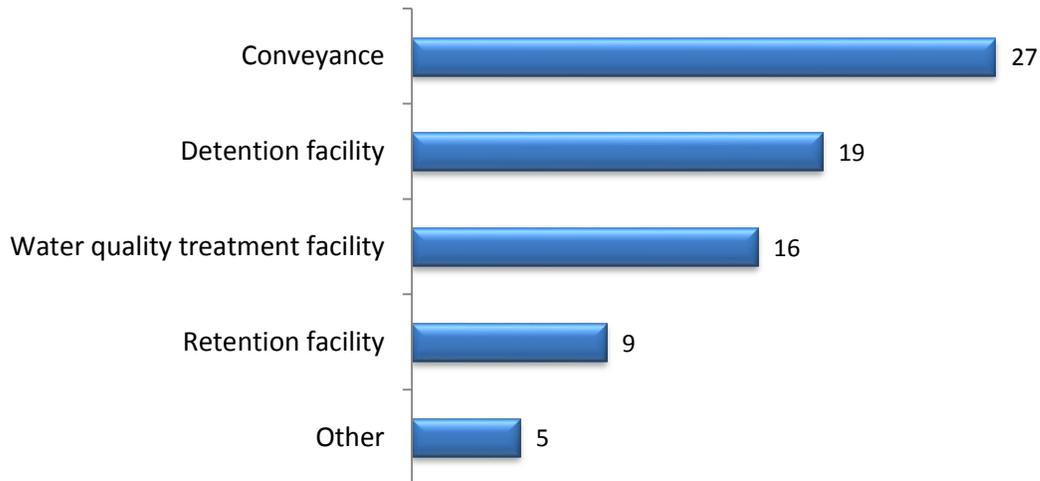
<sup>2</sup> **Detention** - The release of stormwater runoff from the site at a slower rate than it is collected by the stormwater facility system, the difference being held in temporary storage. An above or below ground facility, such as a pond or tank, that temporarily stores stormwater runoff and subsequently releases it at a slower rate than it is collected by the drainage facility system. There is little or no infiltration of stored stormwater.

<sup>3</sup> **Water Quality Treatment Facility** - A man-made structure such as a grass lined swale, engineered soil, or structural mechanism designed to remove pollutants from stormwater runoff prior to discharge to waters of the State.

<sup>4</sup> **Retention** - The process of collecting and holding surface and stormwater runoff with no surface outflow. A type of drainage facility designed either to hold water for a considerable length of time and then release it by evaporation, plant transpiration, and/or infiltration into the ground; or to hold surface and stormwater runoff for a short period of time and then release it to the surface and stormwater management system.

## Type of stormwater management facilities used

Base: Respondents who reported that they managed stormwater



Note: More than one response allowed; numbers add up to more than n.

n=32

When asked if they had pursued any alternative stormwater management practices with WSDOT, a few (6 of 45) reported doing so.

Successful alternative methods reported by five jurisdictions included:

- Tree planting projects to shade highway road surface
- Open channels and adjacent streams
- Low impact development
- Retrofitting existing freeway for flow control and water quality
- Infiltration
- Porous concrete

The reasons for the success of these alternative stormwater management practices included:

- Tree planting recognized as acceptable best management practice
- Retrofitting requirements by WSDOT allowed this to happen
- Reduced maintenance costs
- Enhanced water quality

Unsuccessful alternative stormwater management practices pursued with WSDOT were also reported by five jurisdictions and included:

- Biofiltration swales

- Contribution of fees toward property acquisitions for future water quality and detention ponds that would treat WSDOT stormwater runoff
- Off right of way solutions for flow control and treatment (mitigation) for highway expansion

The reasons for the lack of success of these alternatives included:

- Heavy sands and debris tracking in winter months clogs curb cuts and fills swales
- State doesn't/or can't support contribution of fees for property acquisitions
- Lack of time to develop solutions
- Too infrequent routine maintenance including sweeping and removal of debris
- Lack of available land to implement solutions

Finally, WSDOT manages a portion of the stormwater for a third (15 of 45) of the responding jurisdictions. Of those, only one reimburses WSDOT for managing stormwater in their jurisdiction. Another 3 of 45 reported having an agreement with WSDOT for construction of future facilities to manage stormwater .

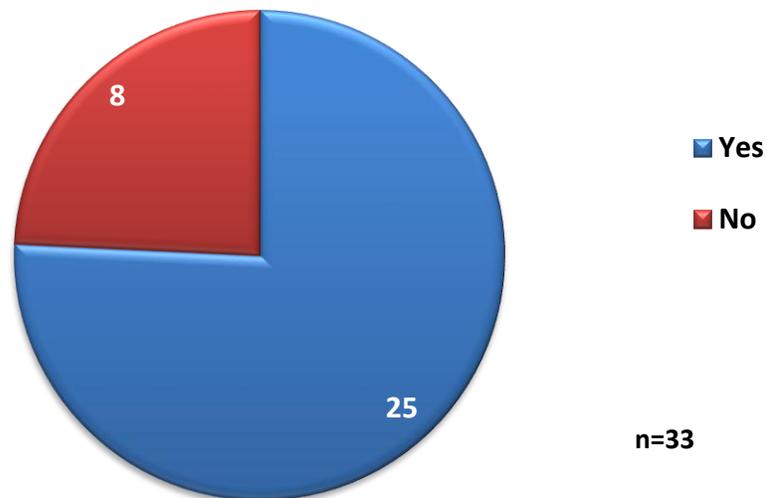
## RESULTS

### ***What are the challenges to managing stormwater from limited access highways?***

Three-fourths (25 of 33) of those jurisdictions that manage stormwater from limited access highways indicated challenges in doing so.

### **Does your municipality face any challenges in managing stormwater from state limited access highways?**

Base: All respondents who reported that they manage stormwater



The challenges reported by 29 respondents could be classified into the following four categories, presented in order of how frequently they were mentioned:

1. Stormwater system capacity, such as:
  - Sediment control
  - Flood control
  - Excessive runoff from older highways that lack flow control
  - Erosion downstream
2. Costs, such as:
  - Maintenance costs
  - Lack of adequate funding
  - Reimbursement challenges
  - Lack of compensation for other state highways (not limited access)
3. Water quality, such as:
  - Lack of water quality treatment
  - Non-point source water quality pollutants entering storm system

4. Staff resources, such as:
  - Getting maintenance completed
  - Identifying who is responsible for the maintenance

It was also found that:

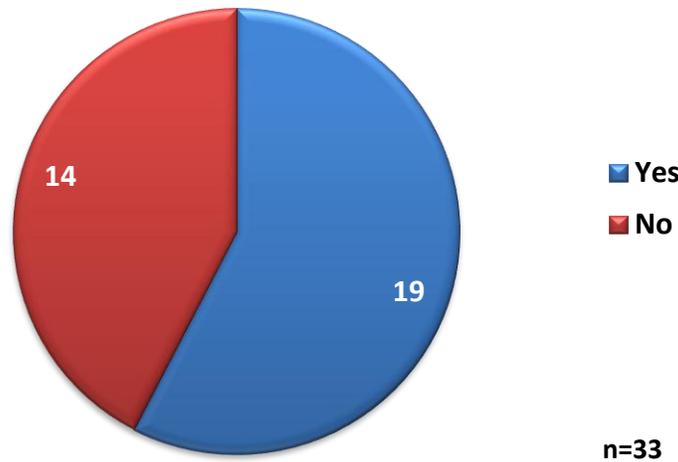
- Those in the Puget Sound region were more likely (20 of 24) to report challenges in managing stormwater than those in the Western Washington (4 of 6) or Eastern Washington (1 of 3) regions.
- Those with conveyance facilities were somewhat less likely (21 of 27) to report challenges in stormwater management than those with detention (16 of 19), retention (8 of 9), or water quality treatment facilities (15 of 16).

***What are the challenges to complying with RCW 90.03.525?***

More than half of those that manage stormwater (19 of 33) reported facing challenges complying with RCW 90.03.525. Facing challenges complying with the RCW did not differ significantly between those that charge WSDOT and those that don't.

**Does your municipality face any challenges specifically in complying with RCW 90.03.525?**

Base: Respondents who reported that they manage stormwater



Those with retention facilities (5 of 9) were somewhat less likely to report problems in complying with RCW 90.03.525 than those with detention (13 of 19), conveyance (17 of 27), or water quality treatment facilities (10 of 16).

The challenges reported by 21 respondents could be classified into the following four categories, presented in order of how frequently they were mentioned:

1. Factors upon which the fee is based, such as:
  - a. Funding only for maintenance

- b. Unable to assess fee to WSDOT because do not assess their own streets
- c. 30% fee seems arbitrary and unfair
- 2. Definition of what is eligible for reimbursement, such as:
  - a. Definition not inclusive of all state right-of-ways or other properties
  - b. Identifying projects that are “solely for stormwater control facility that directly reduce stormwater runoff impacts” is difficult since stormwater is typically intermingled
  - c. Projects that provide water quality mitigation and fish passage ineligible
  - d. Operational costs of stormwater facility not allowed even though those costs involve WSDOT highways
- 3. Limited staff resources, such as:
  - a. Limited staff resources to prepare plans and negotiate with WSDOT
  - b. Limited staff to maintain WSDOT facilities
  - c. Limited time to comply with requirements
- 4. Working with WSDOT, such as:
  - a. Coordination with WSDOT
  - b. Ability to collect reimbursement

With 15 of 34 of cities charging city streets for stormwater service in 2010, but with only 8 of the 15 charging WSDOT for managing stormwater from limited access highways, it seems that the city street charge requirement is a major impediment.

***What does it cost to manage stormwater from limited access highways?***

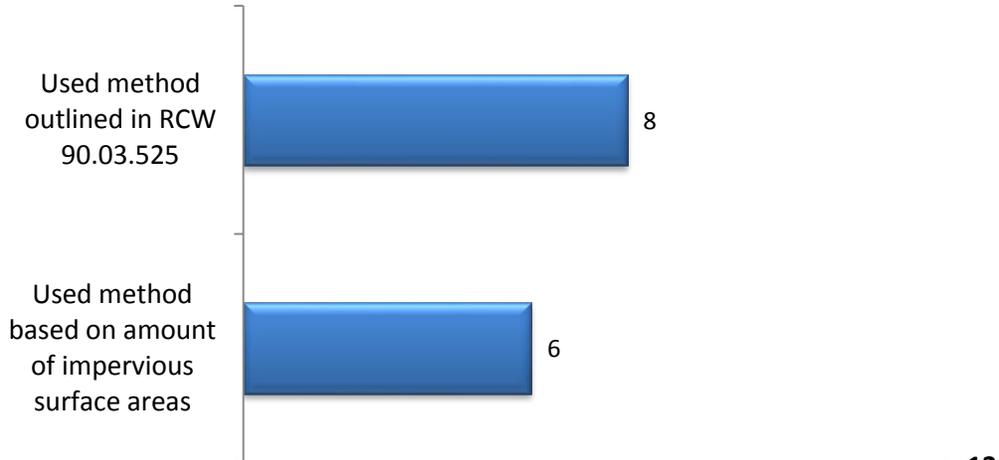
More than a quarter (10 of 34) of those who manage stormwater from limited access highways account for those stormwater management costs. It was also found that:

- Those with more miles of limited access highway were more likely to account for stormwater management costs.
- Counties (6 of 10) were more likely than cities (4 of 19) to account for stormwater management costs.
- Those with retention facilities (5 of 7) were more likely to account for stormwater management from limited access highways than those with detention (8 of 17), conveyance (8 of 23), or water quality treatment facilities (5 of 13).

Among those that did charge WSDOT, most (8 of 13) used the method outlined in the RCW for calculating the charges.

## Method for calculating charges to WSDOT in the 2009-2011 biennium

Base: Respondents who reported that they currently charge WSDOT



Note: More than one response allowed; numbers add up to more than n.

Based on the seven jurisdictions that reported their total costs to manage stormwater from limited access highways, the range, average, and median for the 2009-2011 biennium were:

- Range -- \$20,000 to \$1,800,000
- Average -- \$408,382
- Median -- \$237,671

Those costs can be compared to the range, average, and median stormwater revenue generated in the 2009-2011 biennium for those same seven jurisdictions:

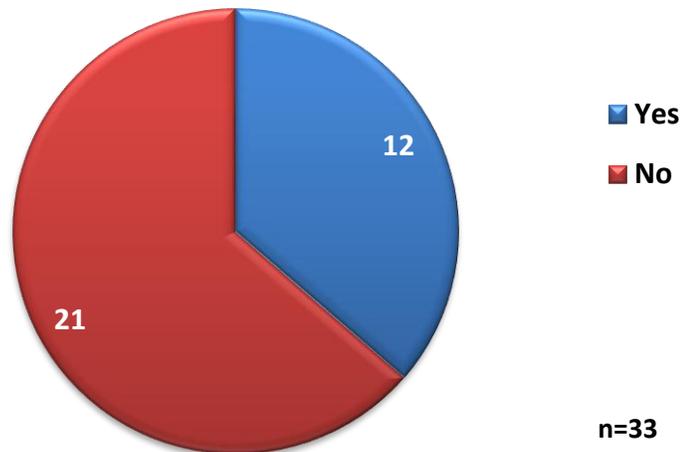
- Range -- \$34,000 to \$31,000,000
- Average -- \$8,989,000
- Median -- \$4,750,000

### ***Why do some, but not all charge WSDOT?***

More than a third (12 of 33) reported charging WSDOT for stormwater management in the 2009-2011 biennium .

**Did your municipality charge the Washington State Department of Transportation for managing stormwater from state limited access highways in the 2009-2011 biennium as allowed by RCW 90.03.525?**

Base: Respondents who reported that they manage stormwater



Among those that manage stormwater from limited access highways (n=33), the percent that charged WSDOT and the average amount charged in the last five biennium is shown in the table below.

Biennium	% that charged WSDOT	Average \$ charged
2009-2011	30%	\$197,275
2007-2009	30%	\$265,914
2005-2007	33%	\$226,945
2003-2005	27%	\$221,853
2001-2003	33%	\$190,388

It was also found that:

- The more miles of limited access highway, the more likely to charge WSDOT.
- The more revenue generated in 2009-2011 biennium by stormwater utility, the more likely to charge WSDOT.

When those who did not charge WSDOT (n=18) were asked why not, they reported the following reasons, presented in order of how frequently they were mentioned:

1. Don't charge for city streets
2. Burdensome work plan and reporting requirements
3. Don't track costs of runoff from state highways
4. Haven't charged WSDOT in the past

These same jurisdictions (n=17) reported that the following would motivate them to start charging WSDOT, presented in order of how frequently they were mentioned:

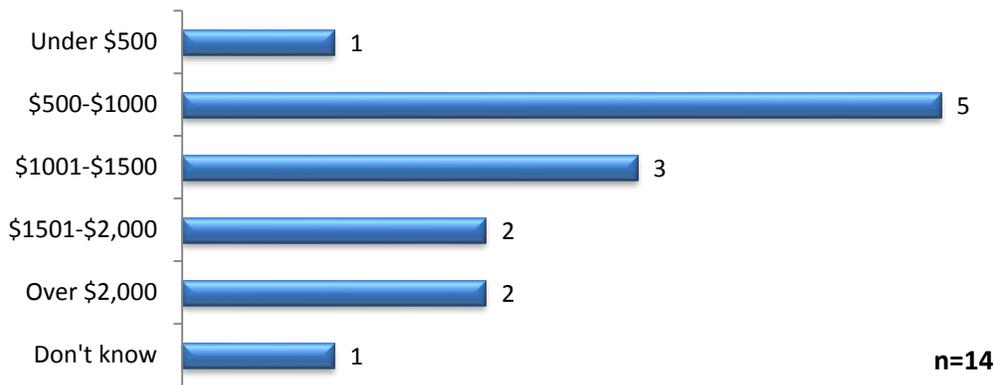
1. Amount of reimbursement
  - a. Change reimbursement to based on length of right of way and not on arbitrary 30%
  - b. If process generated enough revenue to make the process worth the bother
2. Eliminate the city street charge requirement
3. Less burdensome planning and reporting
4. Better understanding of options and process
5. If highway had additional negative impact

***How expensive and how long is the charging process?***

Many (6 of 14) reported spending \$1,000 or less annually to gather the necessary reporting data and file a request.

**How much would you estimate it costs your jurisdiction to gather the necessary reporting data and file a request to the Washington State Department of Transportation for reimbursement?**

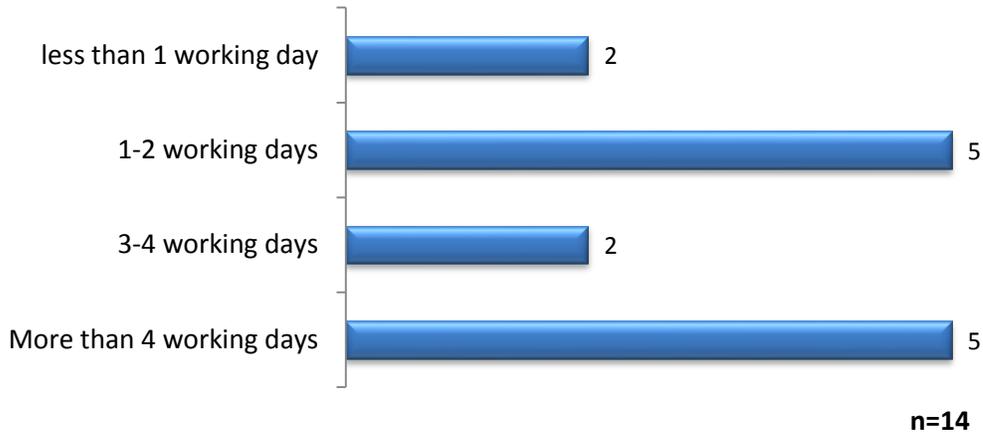
Base: Respondents who reported that they currently or used to charge WSDOT



When it came to how long it takes to gather the necessary reporting documentation, many reported spending either 1-2 days (5 of 14) or more than 4 days (5 of 14). The length of time it takes to gather the reporting documentation did not differ significantly by the number of lane miles of limited access highway in the jurisdiction.

### How long would you estimate it takes your jurisdiction to gather the necessary reporting data and file a request to the Washington State Department of Transportation for reimbursement?

Base: Respondents who reported that they currently or used to charge WSDOT

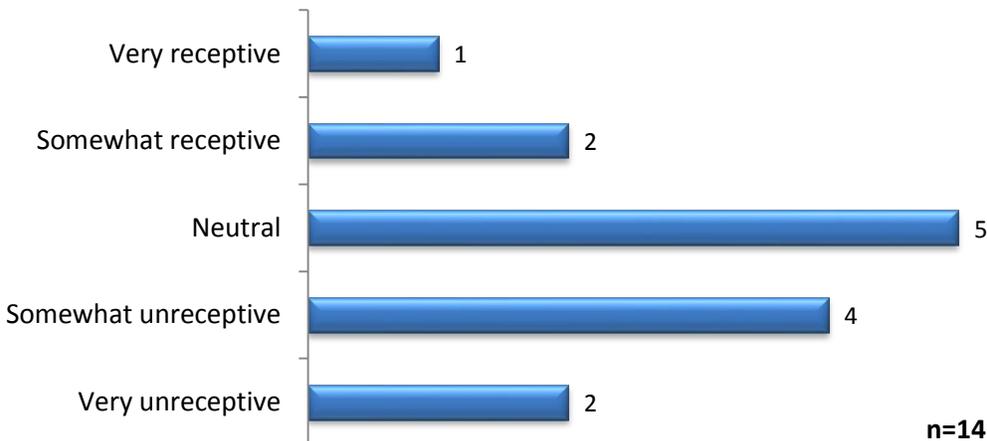


### How receptive is WSDOT to charges and documentation?

Among those who have charged WSDOT for stormwater management, we asked how receptive WSDOT was to the charges submitted. We found 8 of the 14 reporting WSDOT being either receptive or at least neutral to the charges submitted.

### How would you characterize the receptiveness of the Washington State Department of Transportation to charges for stormwater management?

Base: Respondents who reported that they currently or used to charge WSDOT



5 of 14 reported being denied reimbursement. The reasons for denial included:

1. Lack of adequate documentation
2. Perceived inability to demonstrate performance on projects
3. Project took too long and WSDOT thought they had paid their fair share
4. Progress report submitted too late
5. Didn't agree to percent of WSDOT responsibility
6. Ambiguity in code as to what is reimbursable

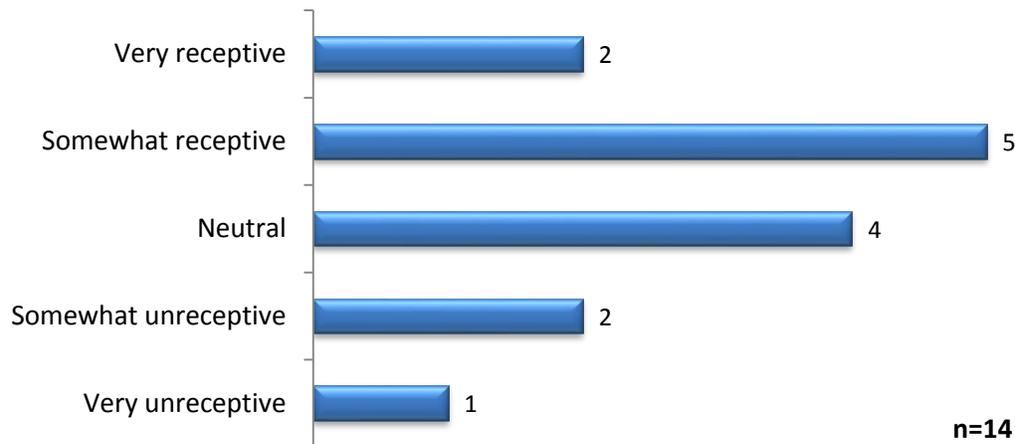
3 of 14 reported being reimbursed less than the charges submitted, with their reasons for less reimbursement including:

1. WSDOT refusal to pay penalty and interest on late payments
2. Didn't agree to percent of WSDOT responsibility
3. Denial of certain activities

When it came to WSDOT receptiveness to the documentation that jurisdictions submitted for reimbursement, 11 of 14 reported WSDOT being receptive or at least neutral.

### **How would you characterize the receptiveness of the Washington State Department of Transportation to supporting documentation that you submit for stormwater management?**

Base: Respondents who reported that they currently or used to charge WSDOT



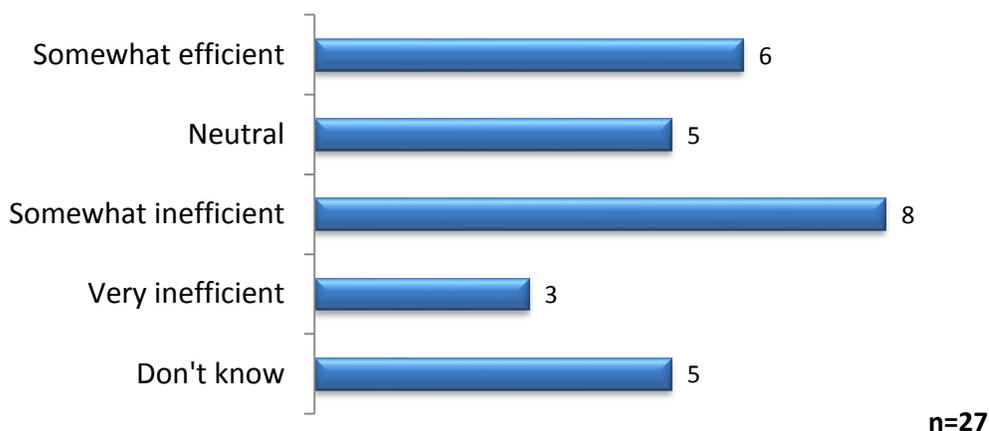
### ***How efficient is the process of working with WSDOT?***

We asked several questions in regard to the efficiency of working with WSDOT in managing stormwater from limited access highways and seeking reimbursement from WSDOT.

Most (19 of 27) reported the process of working with WSDOT on stormwater management to be either somewhat efficient or neutral. The level of efficiency of working with WSDOT to manage stormwater did not differ significantly between those that charged and those that did not charge WSDOT.

**How would you characterize the efficiency of the process (between your jurisdiction and the Washington State Department of Transportation) of managing stormwater runoff from any state limited access highways in your jurisdiction?**

Base: Respondents who reported that they manage stormwater



We found that those with retention facilities (4 of 6) were more likely to report that the process between them and WSDOT for managing stormwater runoff was inefficient than those with detention (8 of 13), conveyance (10 of 20), or water quality treatment facilities (7 of 13).

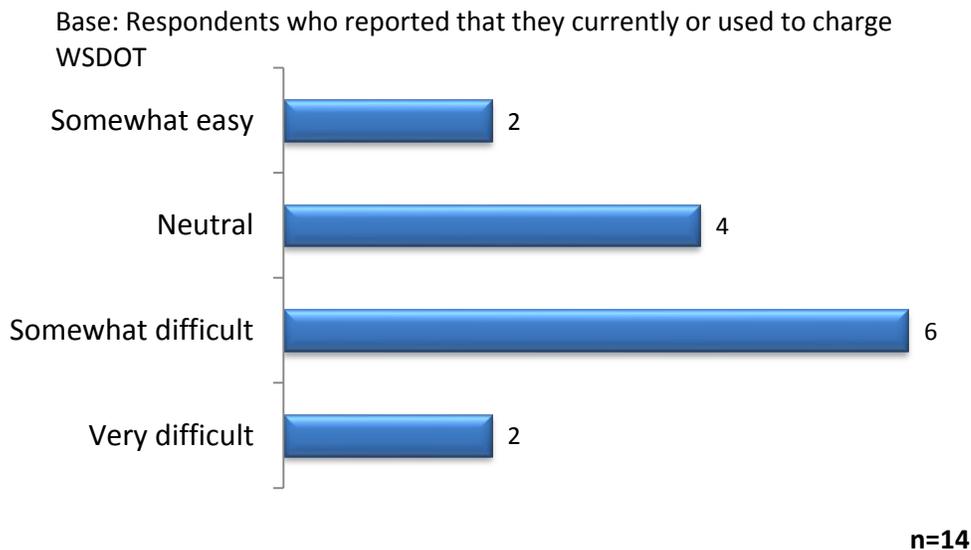
Among the 19 jurisdictions who reported inefficiencies, the inefficiencies tended to focus on the following four categories, presented in order of how frequently they were mentioned:

1. Communication challenges, such as:
  - a. Lack of communication with WSDOT
  - b. Multiple WSDOT contact people
2. The process itself, such as:
  - a. Slow process for formal notice of project approval/denial
  - b. Redtape
  - c. Lack of cooperation from WSDOT
  - d. Cumbersome and confusing process

3. Documentation, such as:
  - a. Annual report useless and time consuming
  - b. Financial process is overly cumbersome
  - c. Difficult to determine WSDOT percent of responsibility
  - d. WSDOT should inventory their stormwater infrastructure and provide GIS to jurisdictions
4. Not enough monetary incentive, such as:
  - a. Not enough incentive to compel local jurisdictions
  - b. Process isn't the problem. The program is the problem – not worthwhile for local jurisdictions

We also asked about the ease of the charging process and found that 6 of 13 reported the charging process to be somewhat easy or neutral.

### How would you characterize the process of charging the Washington State Department of Transportation for stormwater management?



The difficulties with the charging process reported by 10 jurisdictions could be classified into the following three categories, presented in order of how frequently they were mentioned:

1. Method to determine charges, such as:
  - a. Limited to facility management
  - b. Knowing if projects approved so charges can be invoiced
  - c. Method to determine percent of impact from state highway
2. Justifying how the reimbursed fee is used, such as:
  - a. Justifying how fee is used to manage just WSDOT runoff

3. Documentation, such as:
  - a. Preparing annual report
  - b. Documentation of work completed

### ***How can the process be improved?***

When asked how the process of working with WSDOT to manage stormwater from limited access highways could be more efficient, the suggestions from 19 of the respondents could be classified into the following two categories, presented in order of how frequently they were mentioned:

1. Communication, such as:
  - a. Improve communication with WSDOT
  - b. Quicker notice of approval/denial of projects
  - c. Develop framework for identifying and planning construction projects
  - d. Better coordination to prioritize stormwater retrofit projects
  - e. Joint planning process to meet mutual water quality goals
2. Percent of reimbursement, such as:
  - a. Establish flat rate, eliminate 30% of what jurisdiction charges itself
  - b. WSDOT should pay the same as any other city utility customer

Finally, the ways to improve the charging process suggested by 10 respondents, and presented in order of how frequently they were mentioned were:

1. Percent of reimbursement, such as:
  - a. Base on percent of impervious surface
  - b. WSDOT pays the same as any other utility customer
  - c. If impervious surface figure didn't need to be recalculated each year
  - d. Consistent statewide method of determining percent of impact of state highway
2. Documentation, such as:
  - a. No annual report
  - b. Earlier notice of project approval/denial
  - c. Standardized reporting

## SUMMARY

### **Stormwater system capacity, costs, water quality, and staff resources are the major challenges to managing stormwater from limited access highways**

Three-fourths of those jurisdictions that manage stormwater from limited access highways indicated challenges in doing so. The challenges included stormwater system capacity, costs, water quality, and staff resources. It was also found that those in the Puget Sound region were more likely to report challenges in managing stormwater than those in the Western Washington or Eastern Washington regions. Those with conveyance facilities were somewhat less likely to report challenges in stormwater management than those with other stormwater management systems.

### **Factors upon which the fee is based, definition of what is eligible for reimbursement, limited staff resources, and working with WSDOT are the major challenges to complying with RCW 90.03.525**

More than half of those that manage stormwater reported facing challenges complying with RCW 90.03.525. The challenges included factors upon which the fee is based, definition of what is eligible for reimbursement, limited staff resources, and working with WSDOT. Facing challenges complying with the RCW did not differ significantly between those that charge WSDOT and those that don't. Those with retention facilities were somewhat less likely to report problems in complying with RCW 90.03.525 than those with other stormwater management systems.

### **Not charging for city streets, burdensome work plan and reporting requirements, and not tracking costs of runoff from state highways are the major reasons for not charging WSDOT**

When those who did not charge WSDOT were asked why not, their reasons included not charging for city streets, burdensome work plan and reporting requirements, not tracking costs of runoff from state highways, and having not charged WSDOT in the past. Most reported spending \$500 to \$1,000 annually to gather the necessary reporting data and file a request. When it came to how long it takes to gather the necessary reporting documentation, many reported spending either 1-2 days or more than 4 days. The length of time it takes to gather the reporting documentation did not differ significantly by the number of lane miles of limited access highway in the jurisdiction.

These same jurisdictions reported that the following would motivate them to start charging WSDOT: if the amount of reimbursement was increased, if the city street charge requirement was eliminated, if the planning and reporting was less burdensome, if the options and process were better understood, and if the limited access highway(s) in their jurisdiction had additional negative impact.

### **Working with WSDOT is OK, but could be improved**

Most reported the process of working with WSDOT on stormwater management to be either somewhat efficient or neutral. The level of efficiency of working with WSDOT to manage stormwater did not differ significantly between those that charged and those that did not charge WSDOT. Those with retention facilities were more likely to report that the process between them and WSDOT for

managing stormwater runoff was inefficient than those with other types of stormwater management systems. Among the jurisdictions who reported inefficiencies, the inefficiencies tended to focus on communication challenges, the regulatory process itself, documentation, and insufficient monetary incentives. In regard to the charging process specifically, the difficulties included the method used to determine charges, justifying how the reimbursed fee is used, and documentation issues.

## Appendix A: Survey Questions

Thank you very much for agreeing to participate in our survey. As a participant in this survey, your agency should (1) have a stormwater utility, (2) be subject to National Pollutant Discharge Elimination System (NPDES) Phase 1 or Phase 2 municipal stormwater permitting requirements, and (3) have one or more limited access state highways within your jurisdiction.

The results of this survey will be used by the legislature as they review the existing regulatory codes regarding stormwater management from limited access highways. Stormwater management is defined as flow control, water quality control, conveyance, and related requirements. A limited access highway is a highway or arterial road for high-speed traffic which has limited or no access to adjacent property, some degree of separation of opposing traffic flow, use of grade separated interchanges to some extent, prohibition of some modes of transport such as bicycles or horses and very few or no intersecting cross-streets.

### Limited Access Highway Example



The survey should take no more than 15-20 minutes of your time and your answers will be completely confidential. The bar at the bottom of each page tells you how much of the survey you have completed. The survey is programmed so that you can exit it at any time and you will be brought back to where you left off (if you use the same computer each time). The survey is best viewed by maximizing your computer screen. Please be sure to scroll down to the bottom of each page and click the "Next" button to proceed. Please click "Done" at the end of the survey so that your answers will be saved in our database. Once you have clicked "Done", you will not be able to make any changes.

PLEASE COMPLETE THE SURVEY BY SEPTEMBER 2, 2011.

Thank you for sharing your information and opinions!

**\* 1. Which of the following Washington State cities or counties best describes the jurisdiction of your agency? (Please select one)**

Select City or County

City or County

**2. Did your stormwater utility charge City streets for stormwater service in 2010?**

- No
- Yes
- Don't know

**\* 3. Does the Washington State Department of Transportation manage a portion of your jurisdiction's stormwater with their facilities?**

- No
- Yes

**4. Do you reimburse the Washington State Department of Transportation for managing stormwater from your jurisdiction in their facilities?**

- No
- Yes

**5. Do you have an agreement with the Washington State Department of Transportation for construction of future facilities for managing stormwater?**

- No
- Yes

**\*6. Does your municipality face any challenges in managing stormwater from state limited access highways?**

- No
- Yes

**7. What are the most important challenges that your municipality faces in managing stormwater from state limited access highways? (only list three, 100 characters max for each)**

- 1.
- 2.
- 3.

**\*8. Does your municipality face any challenges specifically in complying with RCW 90.03.525? YOU CAN READ THE FULL RCW BELOW.**

- No
- Yes

The legislation related to charging the Washington State Department of Transportation for managing stormwater from limited access highways is RCW 90.03.525, and reads as follows:

(1) The rate charged by a local government utility to the department of transportation with respect to state highway right-of-way or any section of state highway right-of-way for the construction, operation, and maintenance of storm water control facilities under chapters 35.67, 35.92, 36.89, 36.94, 57.08, and 86.15 RCW, shall be thirty percent of the rate for comparable real property, except as otherwise provided in this section. The rate charged to the department with respect to state highway right-of-way or any section of state highway right-of-way within a local government utility's jurisdiction shall not, however, exceed the rate charged for comparable city street or county road right-of-way within the same jurisdiction. The legislature finds that the aforesaid rates are presumptively fair and equitable because of the traditional and continuing expenditures of the department of transportation for the construction, operation, and maintenance of storm water control facilities designed to control surface water or storm water runoff from state highway rights-of-way.

(2) Charges paid under subsection (1) of this section by the department of transportation must be used solely for storm water control facilities that directly reduce state highway runoff impacts or implementation of best management practices that will reduce the need for such facilities. By January 1st of each year, beginning with calendar year 1997, the local government utility, in coordination with the department, shall develop a plan for the expenditure of the charges for that calendar year. The plan must be consistent with the objectives identified in \*RCW 90.78.010. In addition, beginning with the submittal for 1998, the utility shall provide a progress report on the use of charges assessed for the prior year. No charges may be paid until the plan and report have been submitted to the department.

(3) The utility imposing the charge and the department of transportation may, however, agree to either higher or lower rates with respect to the construction, operation, or maintenance of any specific storm water control facilities based upon the annual plan prescribed in subsection (2) of this section. If, after mediation, the local government utility and the department of transportation cannot agree upon the proper rate, either may commence an action in the superior court for the county in which the state highway right-of-way is located to establish the proper rate. The court in establishing the proper rate shall take into account the extent and adequacy of storm water control facilities constructed by the department and the actual benefits to the sections of state highway rights-of-way from storm water control facilities constructed, operated, and maintained by the local government utility. Control of surface water runoff and storm water runoff from state highway rights-of-way shall be deemed an actual benefit to the state highway rights-of-way. The rate for sections of state highway right-of-way as determined by the court shall be set forth in terms of the percentage of the rate for comparable real property, but shall in no event exceed the rate charged for comparable city street or county road right-of-way within the same jurisdiction.

(4) The legislature finds that the federal clean water act (national pollutant discharge elimination system, 40 C.F.R. parts 122-124), the state water pollution control act, chapter 90.48 RCW, and the highway runoff program under chapter 90.71 RCW, mandate the treatment and control of storm water runoff from state highway rights-of-way owned by the department of transportation

**9. What are the most important challenges that your municipality faces in complying with RCW 90.03.525? (only list three, 100 characters max for each)**

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_

**\*10. Has your agency pursued alternative stormwater management practices with the Washington State Department of Transportation?**

- No
- Yes

**11. What are some stormwater management practices that your municipality pursued with the Washington State Department of Transportation, and which were successful? (only list three, 100 characters max for each)**

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_

**12. In your opinion, what are the most important reasons why these efforts have been successful? (only list three, 100 characters max for each)**

1.
2.
3.

**13. What are some stormwater management practices that your municipality pursued with the Washington State Department of Transportation, but which were unsuccessful? (only list three, 100 characters max for each)**

1.
2.
3.

**14. In your opinion, what are the most important reasons why these efforts have been unsuccessful? (only list three, 100 characters max for each)**

1.
2.
3.

**\*15. Which of the following best describes how your municipality deals with stormwater from state limited access highways?**

- A. My municipality manages stormwater from state limited access highways and charges the Washington State Department of Transportation
- B. My municipality manages stormwater from state limited access highways and used to charge the Washington State Department of Transportation, but no longer does so
- C. My municipality manages stormwater from state limited access highways and has never charged the Washington State Department of Transportation
- D. My municipality manages stormwater from state limited access highways and has never, but is now considering charging the Washington State Department of Transportation
- E. My municipality does not manage stormwater from state limited access highways, but may begin doing so in the future

**16. What type of facility do you use to manage stormwater from limited access highways? (check all that apply)**

- Detention facility
- Retention facility
- Water quality treatment facility
- Conveyance
- Other (please specify)

**\*17. Do you account for stormwater management costs to handle runoff from Washington State Department of Transportation limited access highways?**

- No
- Yes
- Don't know

**18. What was the total cost in the 2009-2011 biennium for your municipality to manage stormwater from state limited access highways? DO NOT USE THE DOLLAR SIGN, COMMAS. OR DECIMALS. FOR EXAMPLE, IF YOUR ANSWER WAS \$6,000,000 PLEASE ENTER IT AS 6000000. IF YOU DO NOT KNOW THE ANSWER TO THIS QUESTION, PLEASE LEAVE IT BLANK.**

Total cost:

**19. What was the total stormwater rate revenue generated by your stormwater utility in the 2009-2011 biennium? DO NOT USE THE DOLLAR SIGN, COMMAS. OR DECIMALS. FOR EXAMPLE, IF YOUR ANSWER WAS \$6,000,000 PLEASE ENTER IT AS 6000000. IF YOU DO NOT KNOW THE ANSWER TO THIS QUESTION, PLEASE LEAVE IT BLANK.**

Total rate revenue:

**\*20. Did your municipality charge the Washington State Department of Transportation for managing stormwater from state limited access highways in the 2009-2011 biennium as allowed by RCW 90.03.525?**

- No
- Yes

**21. Why did you not charge the Washington State Department of Transportation for stormwater management in the 2009-2011 biennium? (only list three reasons, 100 characters max for each)**

- 1
- 2
- 3

**22. What would motivate you to start charging the Washington State Department of Transportation for stormwater management? (only list three reasons, 100 characters max for each)**

- 1
- 2
- 3

**\*23. How would you characterize the efficiency of the process (between your jurisdiction and the Washington State Department of Transportation) of managing stormwater runoff from any state limited access highways in your jurisdiction?**

- Very inefficient
- Somewhat inefficient
- Neutral
- Somewhat efficient
- Very efficient
- Don't know
- Not applicable

**24. In your opinion, what are the most important inefficiencies in the process (between your jurisdiction and the Washington State Department of Transportation) of managing stormwater runoff from any state limited access highways in your jurisdiction? (only list three reasons, 100 characters max for each)**

1.
2.
3.

**25. In your opinion, what would be more efficient practices in the process (between your jurisdiction and the Washington State Department of Transportation) of managing stormwater runoff from any state limited access highways in your jurisdiction? (only list three reasons, 100 characters max for each)**

1.
2.
3.

**\*26. Just to confirm, which of the following best describes how your municipality deals with stormwater from state limited access highways? The reason we are asking this question again is to make sure that, depending on your situation, you are asked the appropriate remaining questions.**

- A. My municipality manages stormwater from state limited access highways and charges the Washington State Department of Transportation
- B. My municipality manages stormwater from state limited access highways and used to charge the Washington State Department of Transportation, but no longer does so
- C. My municipality manages stormwater from state limited access highways and has never charged the Washington State Department of Transportation
- D. My municipality manages stormwater from state limited access highways and has never, but is now considering charging the Washington State Department of Transportation

**27. What method did your municipality use in the 2009-2011 biennium to calculate its charges to the Washington State Department of Transportation for managing stormwater from state for limited access highways?**

- Used method outlined in RCW 90.03.525
- Used method based on amount of impervious surface areas
- Don't know
- Other (please specify)

\_\_\_\_\_

**\*28. How would you characterize the process of charging the Washington State Department of Transportation for stormwater management? Would you say it is:**

- Very difficult
- Somewhat difficult
- Neutral
- Somewhat easy
- Very easy
- Don't know

**29. What about the charging process was difficult? (only list three)**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**30. In your opinion, what are the most important ways the charging process could be improved?**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**31. How much would you estimate it costs your jurisdiction to gather the necessary reporting data and file a request to the Washington State Department of Transportation for reimbursement?**

- under \$500
- \$500-\$1000
- \$1001-\$1500
- \$1501-\$2,000
- Over \$2,000
- Don't know

**32. How long would you estimate it takes your jurisdiction to gather the necessary reporting data and file a request to the Washington State Department of Transportation for reimbursement?**

- less than 1 working day
- 1-2 working days
- 3-4 working days
- More than 4 working days
- Don't know

**33. How would you characterize the receptiveness of the Washington State Department of Transportation to charges for stormwater management?**

- Very unreceptive
- Somewhat unreceptive
- Neutral
- Somewhat receptive
- Very receptive
- Don't know

**34. How would you characterize the receptiveness of the Washington State Department of Transportation to supporting documentation that you submit for stormwater management?**

- Very unreceptive
- Somewhat unreceptive
- Neutral
- Somewhat receptive
- Very receptive
- Don't know

**\*35. Have you ever been denied reimbursement?**

- No
- Yes
- Don't know

**36. What were the most important reasons for your reimbursement denial? (only list three)**

1.
2.
3.

**\*37. Have you ever been reimbursed less than you billed for?**

- No
- Yes
- Don't know

**38. What were the most important reasons for your reimbursement being less than you billed for? (only list three)**

1.
2.
3.

You have completed the survey. Thank you very much for participating. PLEASE BE SURE TO CLICK THE 'DONE' BUTTON SO THAT YOUR ANSWERS ARE ENTERED.

## Appendix B: Detailed Methodology

PRR followed a three step process in conducting the survey:

1. Survey question development:
  - Developed survey questions in collaboration with the consultant team and the Joint Transportation Committee
  - Questions were programmed into Survey Monkey online survey software
  - Survey questions were pretested with three cities, with very minor changes being made as a result of the pretests
2. Identification of qualified cities and counties:
  - We used maps and spreadsheets from WSDOT to identify jurisdictions that have an NPDES permit and have limited access highways within their jurisdiction
  - This approach resulted in 81 qualified jurisdictions
3. Invitation process:
  - We appended phone numbers and email addresses for key contacts at each jurisdiction
  - The Association of Washington Cities sent email to all key contacts, explaining:
    - Purpose of survey
    - Benefits of participation
    - That PRR would be calling them to invite participation and answer any questions
  - PRR then called all key contacts and invited each to participate in the survey
  - Those agreeing to participate were sent an email invite with a live link to the survey
  - A follow-up reminder was sent approximately one week after the initial invite email was sent, with a second follow-up reminder sent approximately 3 days after first follow-up reminder
  - An email invite was also sent to all jurisdictions that we were unable to contact by phone
  - Finally, the survey close date was moved from August 26<sup>th</sup> to September 2<sup>nd</sup> to allow for additional completes

The above process resulted in 45 completed questionnaires, for a response rate of 56%. (See Appendix C for a map of participating cities and counties.)



## Appendix D: Characteristics of Responding Jurisdictions

The table below indicates the responding jurisdictions in each region of the state.

- Western Washington (not Puget Sound)

<input type="radio"/> Battleground	<input type="radio"/> Camas
<input type="radio"/> Centralia	<input type="radio"/> Clark County
<input type="radio"/> Cowlitz County	<input type="radio"/> Kelso
<input type="radio"/> Vancouver	

- Puget Sound

<input type="radio"/> Bellevue	<input type="radio"/> Bellingham
<input type="radio"/> Bremerton	<input type="radio"/> Burien
<input type="radio"/> Burlington	<input type="radio"/> Covington
<input type="radio"/> Edgewood	<input type="radio"/> Everett
<input type="radio"/> Issaquah	<input type="radio"/> King County
<input type="radio"/> Kirkland	<input type="radio"/> Kitsap County
<input type="radio"/> Lynnwood	<input type="radio"/> Maple Valley
<input type="radio"/> Marysville	<input type="radio"/> Milton
<input type="radio"/> Mount Vernon	<input type="radio"/> Olympia
<input type="radio"/> Pacific	<input type="radio"/> Pierce County
<input type="radio"/> Port Orchard	<input type="radio"/> Poulsbo
<input type="radio"/> Puyallup	<input type="radio"/> Renton
<input type="radio"/> Shoreline	<input type="radio"/> Snohomish (city)
<input type="radio"/> Sumner	<input type="radio"/> Tukwila
<input type="radio"/> Tumwater	<input type="radio"/> Skagit County
<input type="radio"/> Whatcom County	

- Eastern Washington:

<input type="radio"/> Chelan County	<input type="radio"/> Douglas County
<input type="radio"/> Kennewick	<input type="radio"/> Richland
<input type="radio"/> Spokane County	<input type="radio"/> Spokane Valley
<input type="radio"/> Walla Walla County	

Additional characteristics of responding municipalities include:

- Type of jurisdiction: (n=45)
  - City - 76%
  - County - 24%
- Lane miles of limited access highway: (n=45)
  - Median = 6
  - Range = 1 to 81
- Population: (n=45)
  - Median = 33,011
  - Range = 5,527 to 366,738

- Median income: (n=33)
  - Median = \$45,673
  - Range = \$29,722 to \$80,350
- Square miles of jurisdiction: (n=36)
  - Median = 11
  - Range = 3 to 1,734