

**Alaskan Way Viaduct and Seawall Replacement Project  
Moving Forward Projects Construction Traffic Mitigation**

**Enhanced Transit, Transit Travel Time and Demand Management  
Performance Report**

*Prepared for:*  
WSDOT

*Prepared by:*  
King County Department of Transportation  
Metro Service Development Section

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General Manager, King County Metro Transit  
201 S. Jackson St. KSC-TR-0415, Seattle, WA 98104

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# Projects Overview

## SUMMARY

To keep people and goods moving during construction of the Moving Forward Projects (primarily the Holgate to King project) of the Alaskan Way Viaduct and Seawall Replacement Project, the Washington State Department of Transportation (WSDOT) provided \$31.9 million to King County to enhance transit and water taxi service, improve bus monitoring equipment, and to provide transportation demand management services. This investment in transit and demand management services is one part of the state's construction traffic mitigation investments, which total more than \$125 million. Other projects include South Spokane Street Widening, State Route 519 improvements, electronic travel time signs and intelligent transportation systems.

These efforts are governed by three contracts - GCA 5820 Enhanced Transit Services, GCA 5864 Expanded Bus Monitoring Project and GCA 5865 South End Transportation Demand Management and Downtown Transportation Demand Management. Performance reports are a requirement of each of these contracts. Therefore, in an effort to consolidate and streamline the reporting process, this single performance report has been developed to address the contractual requirement for all three agreements.

The enhanced transit and trip reduction services were strategically designed to address the most significant Moving Forward construction traffic impacts and to build upon ongoing local, state and federal investments in transit and trip reduction services. As construction-related traffic intensifies, we will continue to add bus trips to help increase transit capacity and maintain reliable schedules and will implement additional demand management programs to reduce drive-alone trips on the most congested routes.

This report is broken down into three sections:

- **Enhanced Transit Services:** This section compares the Fall 2010 service change data to the baseline 2009 data. This section will track the performance of WSDOT supported transit services that were operated during that period to mitigate construction impacts.
- **Transit Travel Time:** This section describes the changes in transit travel times in key corridors that feed into the Seattle Central Business District (CBD) and changes in travel time that occur within the CBD during the Fall 2010 service change..
- **Transportation Demand Management Report.** This section provides the status and impacts of education and outreach programs and marketing of travel options.

These transit and demand management performance reports will be published three times per year during the life of the construction project. The reports will be available approximately two months after each transit service change, which traditionally occur in February, June and September.

In the following chapters you will find baseline data, performance measurement methods and measured performance for state-sponsored transit and demand management services:

- Transit capacity and ridership
- Transit travel times
- Transportation demand management trip reduction
- Budget and expenditures

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## **SERVICES AND ACTIVITIES: SEPTEMBER 2010 TO FEBRUARY 2011**

### **Enhanced transit service continued in West Seattle and SODO**

WSDOT continued funding 31 peak period transit trips between West Seattle and SODO and downtown.

### **Ridership increased on WSDOT funded transit routes**

On average the four routes receiving WSDOT support experienced 22% growth in peak period ridership while peak period ridership on the corridor as a whole declined by 1%.

### **1<sup>st</sup> Avenue pathways continue to be affected by new and on-going construction activities**

Several individual pathways have experienced degradation in transit speed and reliability due to construction activities, while others have maintained similar or better performance compared with June 2010 conditions. The most significant impact this period has been the closure of southbound 1st Avenue S between Main and Jackson Streets, and lane reduction on both directions of 1st Avenue S to a single lane of travel in each direction near Railroad Avenue. This has directly impacted transit service using 1<sup>st</sup> Avenue. There have also been apparent residual effects to other pathways using the Alaskan Way Viaduct, SW Avalon Way, Elliott Ave, Western Avenue, and Mercer Place, due to traffic diversion. Third Avenue in the Seattle CBD has shown slight improvement due to increased enforcement efforts of the peak period traffic restrictions. Other transit pathways using Dexter Ave and Westlake Ave have been impacted by Mercer Street related construction activities and local street closures.

### **Downtown Seattle employers continued to provide ORCA passes to employees**

Metro continued to recruit new employer partners in downtown Seattle to provide ORCA transit passes to their employees. Employer-provided transit passes are a proven way to increase employee use of buses, vanpools, and rail service. Once employers start offering this benefit to employees, they tend to do so in subsequent years. In Center City Seattle, 1,580 new passport passes were sold between May 2010 and April 2011 with an incentive using Metro grant dollars as match to WSDOT AWW mitigation funding. Thus far, our calculation estimates that these incentives have reduced 132 single occupancy vehicle trips daily.

### **Telework Program creates 300-500 new teleworkers**

Working with a consultant, Metro implemented a telework program with a large employer. Metro is currently working with another large employer to help convert to teleworking and compressed work week schedules, affecting another 100-300 employees.

## **EXPENDITURES: SEPTEMBER 2009 – 1<sup>ST</sup> QUARTER 2011**

As of the end of March 2011 we have spent approximately \$4.6 million of the state's \$31.9 million investment in enhanced transit and demand management services.

## PERFORMANCE REPORT SCHEDULE

Performance Reports will be produced three times a year, approximately two months after the service change. This reporting schedule is provided in more detail in the chart below.

Performance Report Release Dates												
					CURRENT REPORT							
Performance Measure Updates Submittal Date	Draft	Volume 1	Volume 2	Volume 3	Volume 4	Volume 5	Volume 6	Volume 7	Volume 8	Volume 9	Volume 10	Volume 11
	12-14-09	4-05-10	8-09-10	12-13-10	4-04-11	8-22-11	12-12-11	4-02-12	08-20-12	12-10-12	TBD	TBD
Reporting Period of Volume Data												
Ridership/ Capacity/ Utilization Baseline		Feb 09 Jun 09 Sep 09										
Travel Time Baseline		Sep 2009*										
Service Plan		As of April 2010	As of Aug 2010	As of Dec 2010	As of April 2011	As of Aug 2011	As of Dec 2011	As of April 2011	As of Aug 2012	As of Dec 2012		
Travel Time Monitoring, Ridership/ Capacity/ Utilization Data, TDM Measures			Feb 10- Jun 10	Jun 10- Sept 10	Sep 10 – Feb 11	Feb 11 – Jun 11	Jun 11 – Sep 11	Sep 11 – Feb 12	Feb 12 – Jun 12	Jun 12 – Sep 12	Sep 12 – Feb 13	Feb 13 – Jun 13

\*The September 2009 travel time data will serve as the travel time baseline, against which, all travel time monitoring activities will be compare

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# Enhanced Transit Service Report

## INTRODUCTION

The Nisqually earthquake highlighted the structural vulnerability of the State's Alaskan Way Viaduct portion of SR 99 and the region began immediately planning for its reinforcement or replacement. SR 99 serves as a major transportation facility carrying approximately 110,000 vehicles a day to and through downtown Seattle. As the region planned for its replacement it became apparent that a facility of this size could not be planned for and replaced without considering the impacts that the construction phase and final design would have on virtually all major north/south arterials and I-5. Inevitable construction impacts and potential for reduced capacity in the final SR 99 design increased interest in utilization of transit as a more compact travel alternative. In March of 2007, as planning continued on the central waterfront portion of SR 99 and the Viaduct (King St. to Battery Street), Governor Gregoire identified several projects for the Early Safety and Mobility projects, i.e. "Moving Forward Projects". Enhanced transit services were one of the major components of the Moving Forward Projects.

One of the major objectives of the enhanced transit services agreement is to "reduce vehicle travel demand in order to help mitigate construction related mobility impacts on the general public." Metro identified 33 candidate routes that, with additional service could help reduce vehicle travel demand. Greater transit utilization can help maintain public mobility while roadway capacity is constrained. The purpose of this report is to understand and document the usefulness of WSDOT's resources that will be used to maintain and enhance transit service in the SR 99 corridor during the Moving Forward construction projects.

In the Fall of 2009, the baseline against which service in this report will be compared, Metro transit service on these pathways provided an estimated 78,500 unlinked passenger trips daily. A conservative estimate would value these trips to equal approximately 38,000 vehicle trips a day in the SR 99 corridor. This transit service provided mobility to thousands of people per day and removed nearly 38,000 vehicle trips a day reducing delay for all other vehicular traffic in the corridor.

## ENHANCED TRANSIT SERVICE REPORT PURPOSE

The Enhanced Transit Service Report provides various data that is useful in understanding the impact of the 31 additional trips funded by WSDOT. These trips are scheduled on routes 21 express, 54, 56 express (part of Pathway J) and 121 (part of Pathway I). This report compares Fall 2009 baseline performance measures with Fall of 2010 performance measures. As with previous volumes, these transit performance measures are presented in daily totals and by peak, shoulder and midday periods. Ridership data for the past three years, 2008, 2009 and 2010 is also included to show short term trends.

Time of Day and Pathway Group designations are described below:

- **Time of Day Designations:** Time of day designations measure changes in transit supply and use by peak period (6-9am, 3-6pm), shoulder periods (9-10am, 2-3pm, 6-7pm) and midday periods (10am-2pm).
- **Pathway Groups:** The four pathway groups defined below are the transit corridors of emphasis for this contract. A more complete description is available in Travel Time Table 1, page 23. System-wide ridership numbers are also shown to give perspective on the relative performance of the four pathway groups when compared to the system as a whole.

Pathway A - Ballard/Magnolia: 15th Avenue and Elliot Avenue W between NW 85th Street and 1st Avenue and Denny Way, Including routes 15, 15X, 17X 18, 18X, 19, 24 and 33.

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Pathway B – Aurora/Fremont: Aurora Avenue, Nickerson Street, Dexter Avenue and Westlake Avenue between NW 85th Street, Ballard Bridge, Fremont and 3rd Avenue/Denny Way, including routes 5, 5X, 16, 17, 26, 26X, 28, 28X and 358.

Pathway I: - SODO: 1st Avenue S, East Marginal Way, and 4th Avenue S between S Michigan and S Jackson Streets, including routes 23, 113, 121, 123, 124, 131, 132, 134.

Pathway J: - West Seattle: Admiral Way, Fauntleroy Way, 35th Avenue SW, Delridge Way and SR 99 between California Avenue, SW Morgan Street, Andover Street and Columbia/Seneca Streets, including routes 21, 21X, 37, 54, 54X, 55, 56, 56X, 57, 116, 120, 125.

## RIDERSHIP TRENDS

Transit ridership is influenced by many factors, including amount of service provided, seasonal travel patterns, the cost of driving (fuel/vehicle expenses and time), employment, route design, and construction impacts. The purpose of looking at ridership trend data is to measure and understand these influences. This report will specifically evaluate how pathways I and J, which received WSDOT funding, performed compared to the other pathways. This section includes a brief overview of ridership trends over the last three years.

**Three-Year Ridership Trends** – 2008 was the third record transit ridership growth year in a row. Metro ridership grew by 7 percent annually in 2007 and 2008. Ridership growth in 2008 was fueled in part by increases in gas prices, peaking at more than \$4.30/gallon in July of 2008, and by continued economic growth. The June 2008 period was the peak ridership ever experienced by King County Metro. By the end of 2008, however, both the nation and region were facing a serious recession and gas prices fell to less than \$2.00/gal. The average price of gas for the 2010 October Service Change has climbed back to approximately \$2.80/gal; however, the average unemployment rate for September 2010 to February in 2011 is almost 70% higher than what it was in 2008. The combined impact of the recession and lower gas prices have driven Fall 2010 system-wide ridership below 2008 levels with a ridership decline of approximately 8 percent since the Fall of 2008.

The Enhanced Transit Service Table 1 below shows that while the ridership trend of all Enhanced Transit Service (ETS) pathways combined tracks closely with the system-wide change, the impacts were not consistent across individual ETS pathways. The Ballard/Magnolia Pathway (Pathway A) and the West Seattle Pathway (Pathway J) both declined faster than the system-wide average while the Aurora Pathway (Pathway B) and the SODO/Georgetown Pathway (Pathway I) were both slightly better than the system-wide average.

**Enhanced Transit Service Table 1**

<b>3 YEAR TRANSIT CORRIDOR WEEKDAY RIDERSHIP TREND FOR FALL SERVICE CHANGE</b>				
<b>Ridership Group</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>% Change 2008-2010</b>
System-wide Ridership	395,000	364,000	365,000	-7.6%
Total of Pathways	83,890	75,794 [78,500]	75,370 [78,590]*	-10.2% [-6.3%]*
Pathway A – Ballard/Magnolia	20,580	19,120	18,394	-10.6%
Pathway B – Aurora Fremont	30,360	27,117	28,529	-6.0%
Pathway I – SODO/Georgetown	8,800	7,700 [10,401]*	7,069 [10,289]*	-6.3% [16.9%]*
Pathway J – West Seattle	24,150	21,858	21,374	-11.5%

\* The increase in ridership reported in the brackets is due to the addition of route 124 to the pathway. Route 124 began operating in pathway "I" in September 2009.

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## RIDERSHIP CHANGE IN FALL 2010 COMPARED TO 2009 BASELINE

The Enhanced Transit Service Table 2 below compares the Fall 2010 system-wide and Enhanced Transit Service pathway ridership with the Fall 2009 baseline for average weekday ridership by time of day

**Ridership Changes Vary by Time of Day** – Evaluating aggregate ridership numbers alone can sometimes hide shifts in ridership that have important planning implications. Ridership analysis by time of day allows you to see which time period has the greatest demand for resources. Employment driven transit service tends to be oriented toward the peak period (6-9 a.m.) and (3-6 p.m.) while general purpose mobility occurs during all periods of the day. As shown in table 2, at a system-wide level peak period ridership accounts for roughly 50% of daily ridership. This is also true for the total of all pathways.

For system wide ridership Table 2 shows peak period ridership declined the least of the time periods in all pathways. Peak period ridership actually increased in the Aurora/Fremont Pathway (Pathway B). Pathway B ridership also increased during both shoulder and midday periods.

**Enhanced Transit Service Table 2**

COMPARISON OF FALL 2009 BASELINE WEEKDAY RIDERSHIP BY TIME OF DAY AND PATHWAY WITH FALL 2010 SERVICE CHANGE RIDERSHIP								
Ridership Group	Avg. Weekday		Peak Period*		Shoulder Periods		Midday Period	
	2009	2010 (% Change)	2009	2010 (% Change)	2009	2010 (% Change)	2009	2010 (% Change)
System-wide Ridership	364,000	365,000 (<1%)	179,000	180,000 (1%)	66,000	66,000 (0%)	77,000	77,000 (0%)
Total of Pathways†	78,500	78,600 (<1%)	38,810	39,230 (1%)	13,650	13,790 (1%)	15,720	15,600 (-1%)
Pathway A – Ballard/Magnolia	19,120	18,394 (-4%)	9,820	9,810 (-<1%)	3,340	3,150 (-6%)	3,610	3,420 (-5%)
Pathway B – Aurora Fremont	27,120	28,529 (5%)	12,640	13,140 (4%)	4,790	5,290 (10%)	5,780	6,060 (5%)
Pathway I – SODO/Georgetown†	10,400	10,289 (-1%)	5,240	5,240 (0%)	1,750	1,730 (-1%)	1,910	1,840 (-4%)
Pathway J – West Seattle	21,860	21,374 (-2%)	11,110	11,040 (-1%)	3,770	3,620 (-4%)	4,420	4,270 (-3%)

\*Peak Period is 6-9 a.m. and 3-6 p.m.; Shoulder Period is 9-10 a.m., 2-3 p.m. & 6-7 p.m.; Midday is 10 a.m. - 2 p.m.

## PERFORMANCE OF ENHANCED TRANSIT SERVICE ADDITIONS

Ridership increased during the peak and shoulder periods on all four routes that received Enhanced Transit Service (ETS) funding during the Fall 2010 service change. The largest absolute change was in response to upgrading the peak frequencies from every 20-30 minutes to every 10-15 minutes on route 54. This resulted in an estimated 400 additional weekday boardings during the peak period, and 40 additional boardings during the shoulder periods. Also during the shoulder periods, there were approximately 30 additional weekday boardings on Route 21X. The decline in average weekday boardings for route 121 is entirely due to discontinuing low productivity midday service. Route 121 saw ridership grow by 15% in the peak period, where service was added. In the peak period the ridership performance of the ETS routes outperformed system-wide and pathway trends by 21 percentage points. The ridership performance of the ETS routes also outperformed system-wide and pathway trends in the shoulder periods, and were service was added, also in the Midday period.

**Enhanced Transit Service Table 3**

COMPARISON OF RIDERSHIP PERFORMANCE OF SERVICES THAT RECEIVED WSDOT FUNDED ENHANCEMENTS WITH FALL 2009 BASELINE								
Route/Pathway	Avg. Weekday		Peak Period*		Shoulder Periods		Midday Period	
	2009	2010 (% Change)	2009	2010 (% Change)	2009	2010 (% Change)	2009	2010 (% Change)
21X / Pathway J	740	890 (20%)	700	830 (19%)	30	60 (100%)	No Service	No Service
54 / Pathway J	2,910	3,360 (15%)	1,190	1,580 (33%)	530	570 (8%)	620	630 (2%)
56X / Pathway J	580	640 (10%)	500	550 (10%)	70	70 (0%)	No Service	No Service
121 / Pathway I	1,030	970 (-6%)	670	770 (15%)	220	170 (-23%)	100	No Service <sup>†</sup>
Enhanced Transit Service Route Total	5,260	5,870 (11%)	3,060	3,730 (22%)	850	870 (2%)	720	630 (-13%)

\*Peak Period is 6-9 a.m. and 3-6 p.m.; Shoulder Period is 9-10 a.m., 2-3 p.m. & 6-7 p.m.; Midday is 10 a.m. - 2 p.m.  
<sup>†</sup>Midday Ridership does not include 121 boardings because those trips were discontinued in Feb 2010.

## TRANSIT CAPACITY

The primary way transit services will mitigate construction impacts is by providing an alternative travel option to driving alone. In order to attract people to transit service, that service must be reliable. In addition, sufficient transit capacity is a prerequisite to establishing transit as a desirable alternative travel option.

**Fall 2010 Transit Capacity Compared to Fall 2009 Baseline** – The baseline is the scheduled number of seats that are supplied each weekday within a pathway group for Fall 2009. Enhanced Transit Service Table 4 shows the number of seats by time of day for Fall 2010 for the four different pathways compared to the Baseline.

The largest increase in seating capacity occurred on the West Seattle Pathway, where the 2010 Enhanced Transit Service was implemented. The Fall 2010 service change continued the additional transit capacity to routes 21X, 54, 56X, (Pathway J routes) and 121 (Pathway I route).

Transit capacity within a given period can be increased by scheduling additional trips or by scheduling coaches with higher seating capacity. Pathways A and J also increased in capacity largely due to assigning larger coaches to trips in the peak period. In addition, transit capacity can be influenced by schedule changes, where a trip that was outside the peak period was rescheduled within the peak period, even if the daily total remains the same. Total daily trips in pathways A B and I changed by less than 2% percent between Fall 2009 and Fall 2010.

The following table shows transit capacity by pathway. Capacity changes to individual WSDOT funded routes may not directly correlate to changes in the pathways containing those routes due to changes of non-WSDOT funded routes within the pathway. These changes include assignment of smaller capacity buses to certain routes

**Enhanced Transit Service Table 4**

FALL 2010 SERVICE CHANGE COMPARISON OF WEEKDAY TRANSIT SEATING CAPACITY BY CORRIDOR AND TIME OF DAY WITH FALL 2009 BASELINE						
Pathway	Peak Period		Shoulder Periods		Midday Period	
	2009	2010 (% Change)	2009	2010 (% Change)	2009	2010 (% Change)
Pathway A – Ballard/Magnolia	10,700	11,320 (6%)	3,750	3,920 (5%)	4,4710	4,900 (4%)
Pathway B – Aurora Fremont	14,760	14,460 (-2%)	5,490	5,560 (1%)	7,110	7,100 (-<1%)
Pathway I – SODO/Georgetown†	8,790	8,660 (-1%)	3,100	2,950 (-5%)	3,180	2,670 (-16%)
Pathway J – West Seattle	16,360	17,670 (8%)	5,860	6,230 (6%)	7,680	7,590 (-3%)
<b>Total of all Pathways†</b>	<b>50,610</b>	<b>52,110 (3%)</b>	<b>18,200</b>	<b>18,660 (3%)</b>	<b>22,680</b>	<b>22,260 (-2%)</b>

## TRANSIT CAPACITY LEVEL OF SERVICE

Transit capacity level of service (LOS) measures how riders perceive crowding and comfort on transit services. The second edition of the Transit Cooperative Research Program's Transit Capacity and Quality of Service Manual describes the importance of transit capacity LOS in the following statement:

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From the passenger’s perspective, passenger loads reflect the comfort level of the on-board vehicle portion of a transit trip—both in terms of being able to find a seat and in overall crowding levels within the vehicle. From a transit operator’s perspective, a poor LOS may indicate the need to increase service frequency or vehicle size in order to reduce crowding and provide a more comfortable ride for passengers. A poor passenger load LOS indicates that dwell times will be longer for a given passenger boarding and alighting demand at a transit stop and, as a result, travel times and service reliability will be negatively affected.

The Transit Capacity and Quality of Service Manual provides suggested capacity LOS guidelines. This report uses the ratio of passengers to seats, or Load Factor to evaluate the transit capacity LOS on routes in the identified pathways. The level of service thresholds are described in the table below.

**Enhanced Transit Service Table 5**

<b>TRANSIT CAPACITY AND QUALITY OF SERVICE MANUAL LOAD FACTOR GUIDELINES</b>		
<b>LOS</b>	<b>Load Factor (passengers/seat)</b>	<b>Comments</b>
<b>A</b>	0.00-0.50	No passenger need sit next to another
<b>B</b>	0.51-0.75	Passengers can choose where to sit
<b>C</b>	0.76-1.00	All passengers can sit
<b>D</b>	1.01-1.25*	Comfortable standee load for design
<b>E</b>	1.26-1.50*	Maximum schedule load
<b>F</b>	>1.50*	Crush load

\*Approximate value for comparison, for vehicles designed to have most passengers seated.

**Fall 2010 Transit Capacity Compared to Fall 2009 Baseline** – Enhanced Transit Service Tables 6, and 7 display the number and percent of riders experiencing a transit capacity LOS of C or worse when traveling in the peak direction during the peak period as compared to the Fall 2009 baseline. In addition to reporting on the peak period, Enhanced Transit Service Tables 6 and 7 also give the number and percent of riders that experience a transit capacity LOS of C or worse for those traveling in off peak periods. The off peak information is included to show that crowding occurs at times outside the peak period. The table also provides the total daily trips and estimated number of riders that experience LOS C or worse.

Crowding happens when demand pushes the limits of capacity. Changes in crowding reflect a change in the capacity, the demand or both. The leveling of the downward ridership trend of 2010 and shifts in ridership by time of day resulted in little change overall to the percentage of riders and number of trips with a Level of Service (LOS) of C or worse. An overview of ridership changes is described below:

- A small increase occurred in the number of riders experiencing an LOS of C or worse on inbound trips during the a.m. peak period (6:00-9:00 a.m.). On inbound trips during other times of day, there was a decrease of 1,700 fewer daily passengers who experienced a passenger load LOS of C or worse in Fall 2010 than in the Fall 2009 baseline.
- For the West Seattle Pathway J where most of the ETS adds were focused, the percentage of riders experiencing an LOS of C or worse declined from 32% to 24%.
- The number of Pathway J trips providing LOS C or worse declined from 20 to 17, reflecting the beneficial effect of the ETS adds on routes using the West Seattle Pathway.
- The majority of persons experiencing crowding during the a.m. peak period are on the Ballard/Magnolia or Aurora/Fremont pathways (Pathway Groups A or B).

Enhanced Transit Service Tables 6 and 7 focus on the peak periods because they tend to have the highest proportion of trips of any period where riders experience an LOS of C or worse. The hour after the a.m. peak period (9:00 to 10:00 a.m.) and the hour before the p.m. peak period (2:00 to 3:00 p.m.) are also times when a

significant number of riders experience LOS of C or worse. Table 5, the Transit Capacity and Quality of Service Manual Load Factor Guidelines is also repeated below tables 6 and 7 for your convenience.

**Enhanced Transit Service Table 6**

<b>FALL 2010 SERVICE CHANGE COMPARISON OF INBOUND WEEKDAY PASSENGER LOADS BY CORRIDOR PEAK PERIOD SUMMARY WITH FALL 2009 BASELINE</b>						
<b>AM 6:00-9:00 Inbound</b>						
<b>Pathway</b>	<b>% of riders experiencing a transit capacity LOS of C or worse</b>		<b># of trips in period providing a transit capacity LOS of C or worse</b>		<b>Est. Number of daily riders experiencing transit capacity LOS of C or worse</b>	
	<b>2009</b>	<b>2010</b>	<b>2009</b>	<b>2010</b>	<b>2009</b>	<b>2010</b>
Pathway A – Ballard/Magnolia	34%	54%	13	22	860	1,480
Pathway B – Aurora Fremont	41%	44%	30	30	1,940	1,910
Pathway I – SODO/Georgetown	9%	0%	3	0	140	0
Pathway J – West Seattle	32%	24%	20	17	1,300	950
All Pathways	33%	34%	66	69	4,240	4,340
<b>Inbound Trips All Other Times of Day</b>						
	<b>2009</b>	<b>2010</b>	<b>2009</b>	<b>2010</b>	<b>2009</b>	<b>2010</b>
Pathway A – Ballard/Magnolia	27%	7%	23	6	1,430	350
Pathway B – Aurora Fremont	18%	14%	30	24	1,840	1,480
Pathway I – SODO/Georgetown	9%	1%	5	1	230	50
Pathway J – West Seattle	6%	5%	7	6	480	340
All Pathways	15%	8%	65	37	3,980	2,220
<b>Total Inbound Trips</b>			<b>131</b>	<b>106</b>	<b>8,220</b>	<b>6,560</b>

**TRANSIT CAPACITY AND QUALITY OF SERVICE MANUAL LOAD FACTOR GUIDELINES**

<b>LOS</b>	<b>Load Factor (passengers/seat)</b>	<b>Comments</b>
<b>A</b>	0.00-0.50	No passenger need sit next to another
<b>B</b>	0.51-0.75	Passengers can choose where to sit
<b>C</b>	0.76-1.00	All passengers can sit
<b>D</b>	1.01-1.25*	Comfortable standee load for design
<b>E</b>	1.26-1.50*	Maximum schedule load
<b>F</b>	>1.50*	Crush load

\*Approximate value for comparison, for vehicles designed to have most passengers seated.

**Enhanced Transit Service Table 7**

<b>FALL 2010 SERVICE CHANGE COMPARISON OF OUTBOUND WEEKDAY PASSENGER LOADS BY CORRIDOR PEAK PERIOD SUMMARY WITH FALL 2009 BASELINE</b>						
<b>PM 3:00 – 6:00 Outbound</b>						
<b>Corridor</b>	<b>% of riders experiencing a transit capacity LOS of C or worse</b>		<b># of trips in period providing a transit capacity LOS of C or worse</b>		<b>Est. Number of daily riders experiencing transit capacity LOS of C or worse</b>	
	<b>2009</b>	<b>2010</b>	<b>2009</b>	<b>2010</b>	<b>2009</b>	<b>2010</b>
Pathway A – Ballard/Magnolia	34%	21%	13	10	860	640
Pathway B – Aurora Fremont	41%	40%	30	28	1,940	2,000
Pathway I – SODO/Georgetown	9%	9%	3	3	140	140
Pathway J – West Seattle	32%	34%	20	20	1,300	1,310
All Pathways	33%	30%	66	61	4,240	4,090
<b>Outbound Trips All Other Times of Day</b>						
	<b>2009</b>	<b>2010</b>	<b>2009</b>	<b>2010</b>	<b>2009</b>	<b>2010</b>
Pathway A – Ballard/Magnolia	27%	15%	23	14	1,430	810
Pathway B – Aurora Fremont	18%	12%	30	21	1,840	1,280
Pathway I – SODO/Georgetown	9%	1%	5	1	230	40
Pathway J – West Seattle	6%	6%	7	6	480	390
All Pathways	15%	10%	65	42	3,980	2,530
<b>Total Outbound Trips</b>			<b>131</b>	<b>103</b>	<b>8,220</b>	<b>6,620</b>

**TRANSIT CAPACITY AND QUALITY OF SERVICE MANUAL LOAD FACTOR GUIDELINES**

<b>LOS</b>	<b>Load Factor (passengers/seat)</b>	<b>Comments</b>
<b>A</b>	0.00-0.50	No passenger need sit next to another
<b>B</b>	0.51-0.75	Passengers can choose where to sit
<b>C</b>	0.76-1.00	All passengers can sit
<b>D</b>	1.01-1.25*	Comfortable standee load for design
<b>E</b>	1.26-1.50*	Maximum schedule load
<b>F</b>	>1.50*	Crush load

\*Approximate value for comparison, for vehicles designed to have most passengers seated.

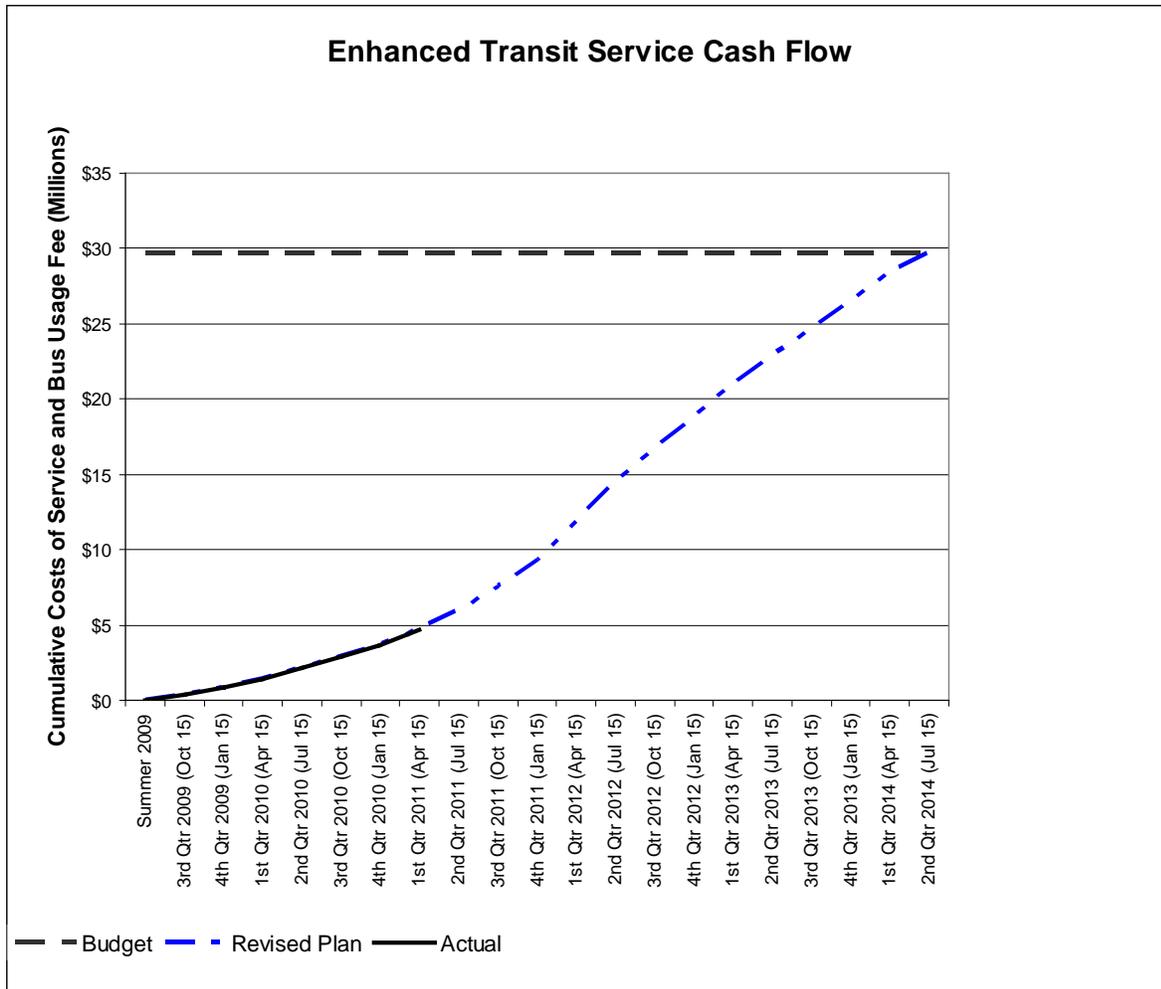
# ENHANCED TRANSIT SERVICE BUDGET AND EXPENDITURE SUMMARY – APRIL 2011

Listed below is the budget and expenditure summary for the Enhanced Transit Service as of April 2011.

**Enhanced Transit Service Cash Flow** - The estimated cash flow as of April 2011 by quarter is shown in the graphic below Enhanced Transit Service Table 9 and described in further detail on Enhanced Transit Service Table 10.

The majority of the difference between the current cash flow and the cash flow submitted in Volume 3 is attributable to the change in construction schedule. Although in the 4<sup>th</sup> quarter 2010 and 1<sup>st</sup> quarter 2011 there have smaller than expected travel delays. Metro is expecting a significant amount of delay to be caused by the north and southbound lane closures on SR-99. As more about the construction schedule and its impacts is revealed Metro will re-evaluate the balance between added travel time and transit capacity to ensure the most effective mitigation possible.

**Enhanced Transit Service Table 9**



Enhanced Transit Service Table 10

<b>Current Enhanced Transit Service Cash Flow Table- April 2011</b>			
Service Period (billing date)	<b>Expenditures</b> (All expenditures are entered in the quarter the billing will be submitted to WSDOT not the quarter in which the work is performed.)		
	Bus Usage Fee* \$4,912,183 of lost interest and usage evenly charged for 12 quarterly invoices	Actual Spending Bus Usage fee plus actual Enhanced Transit Service expenditures	Current Plan
2nd Qtr 2009 (Jul 15)	N/A	N/A	N/A
3rd Qtr 2009 (Oct 15)	\$409,349	\$409,349	\$0
4th Qtr 2009 (Jan 15)	\$409,349	\$409,349	\$0
1st Qtr 2010 (Apr 15)	\$409,349	\$600,451	\$0
2nd Qtr 2010 (Jul 15)	\$409,349	\$731,206	\$0
3rd Qtr 2010 (Oct 15)	\$409,349	\$731,206	\$0
4th Qtr 2010 (Jan 15)	\$409,349	\$736,235	\$0
1st Qtr 2011 (Apr 15)	\$409,349	\$1,046,865	\$0
2nd Qtr 2011 (Jul 15)	\$409,349		\$951,000
3rd Qtr 2011 (Oct 15)	\$409,349		\$1,128,000
4th Qtr 2011 (Jan 15)	\$409,349		\$1,367,000
1st Qtr 2012 (Apr 15)	\$409,349		\$2,169,000
2nd Qtr 2012 (Jul 15)	\$409,349		\$2,262,000
3rd Qtr 2012 (Oct 15)			\$2,229,000
4th Qtr 2012 (Jan 15)			\$2,056,000
1st Qtr 2013 (Apr 15)			\$2,184,000
2nd Qtr 2013 (Jul 15)			\$1,893,000
3rd Qtr 2013 (Oct 15)			\$1,766,000
4th Qtr 2013 (Jan 15)			\$1,821,000
1st Qtr 2014 (Apr 15)			\$1,899,000
2nd Qtr 2014 (Jul 15)			\$1,261,781
Total	\$4,912,000	\$4,664,661	\$24,786,000

\*Billing for the bus usage fee reflects the difference in bus usage and the lost interest that Metro incurred when it changed its fleet procurement plans to accommodate the original service schedule. It was agreed at that point that the fee would be charged evenly across twelve quarters. Postponing the implementation of service does not change the fact that Metro purchased buses early to accommodate mitigation services that were planned to begin in the 3<sup>rd</sup> quarter of 2009.

# Transit Travel Time Report

## TRAVEL TIME REPORT PURPOSE

As part of the AWW Moving Forward contract, Metro received funding to improve the equipment that monitors bus travel time through the construction corridors. The Transit Travel Time report uses data from this equipment provided by WSDOT and other sources throughout the network. This report summarizes data collected to monitor transit travel times along pathways that are expected to be most heavily impacted by the Moving Forward project of the AWW program.

This report compares the Fall 2010 service change condition to the previous travel time report (Summer 2010) and the baseline condition (Fall 2009). The list below show the dates of when travel time observations were collected for those conditions:

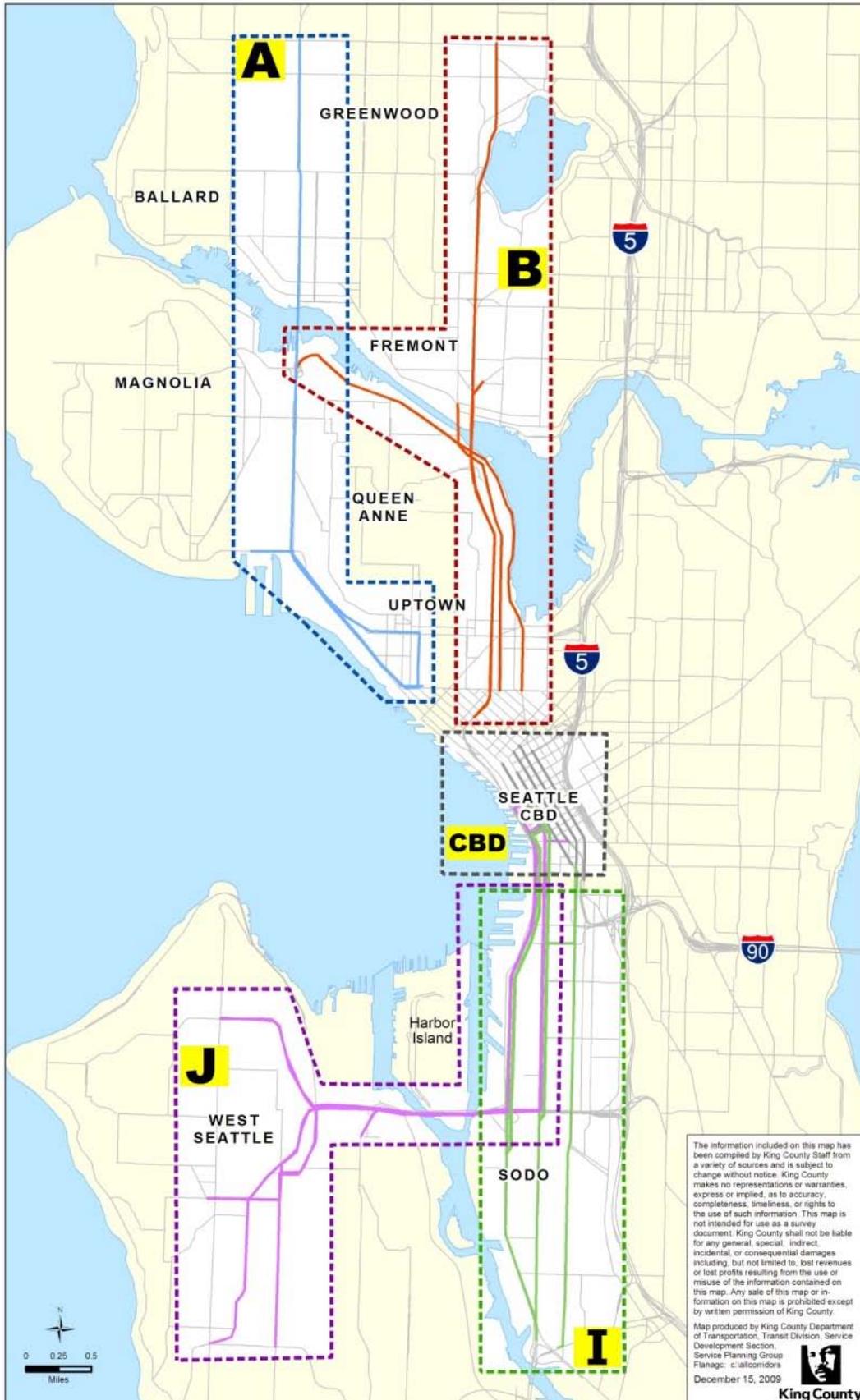
- Fall 2009 service change(baseline condition): September 21, 2009 through October 16, 2009.
- Summer 2010 service change condition: August 30, 2010 through October 1, 2010
- Fall 2010 service change condition: January 3, 2011 through February 4, 2011, excluding January 11 and 12 due to snow event

Travel time data was collected and processed as discussed below:

- Transit travel time was measured on key transit corridors feeding into and within the Seattle Central Business District (CBD). The data for this was collected through:
  - o Automatic Vehicle Identification (AVI) readers installed at endpoints of key transit corridors
  - o Data from Metro's signpost-based Automatic Vehicle Location (AVL) system
- Pathways were defined by the roadway segments on which one or more transit routes operate.
- Pathways were grouped by geographic market area, as shown in the "Pathways and Pathway Groups" map on the next page. Each group consists of several distinct pathways described in the "Description of Pathways and Associated Transit Routes" (Travel Time Table 1).
- Because pathway lengths vary, and travel times will not be comparable across pathways, travel *speeds* are used to assess pathway group performance and travel *times* are used to assess individual pathway performance.

## Pathways and Pathway Groups

### Transit Routes Affected by AWW Project



**Travel Time Table 1**

Description of Pathways and Associated Transit Routes					
Pathway Group	Pathway	Market Coverage	From	To	Current Transit Routes*
<b>A</b>	A.1	Ballard, Uptown	15 <sup>th</sup> NW/NW 85 <sup>th</sup>	1 <sup>st</sup> Ave/Denny	15,[18]
	A.2	Ballard	15 <sup>th</sup> NW/NW 85 <sup>th</sup>	1 <sup>st</sup> Ave/Denny	15X,[17X,18X]
	A.3	Magnolia	Elliot Ave/Magnolia Br.	1 <sup>st</sup> Ave/Denny	19,24,33
<b>B</b>	B.1	North Seattle	Aurora Ave NW/NE 85 <sup>th</sup>	3 <sup>rd</sup> Ave/Battery	358
	B.2	North Seattle	Bridge Way/N 38 <sup>th</sup>	3 <sup>rd</sup> Ave/Battery	5, [5X,26X,28X]
	B.3	Fremont	Dexter/Westlake/Fremont	Dexter/Denny	26,28
	B.4	South Lake Union	Ballard Br./Denny	Denny/Westlake	17
<b>I</b>	I.1	South Seattle/Burien	1 <sup>st</sup> Ave S/E. Marginal (OB) S Alaska/E Marginal (IB)	1 <sup>st</sup> Ave/Columbia (OB) 1 <sup>st</sup> Ave/Seneca (IB)	121,122
	I.2	South Seattle/Burien	4 <sup>th</sup> Ave S/S Michigan	4 <sup>th</sup> /2 <sup>nd</sup> Ave/Jackson	23, 123X, 124
	I.3	South Seattle/Burien	1 <sup>st</sup> Ave S/E. Marginal	4 <sup>th</sup> /2 <sup>nd</sup> Ave/Jackson	132
<b>J</b>	J.1	West Seattle	Alaska Jct.	1 <sup>st</sup> Ave/Columbia (OB) 1 <sup>st</sup> Ave/Seneca (IB)	22
	J.2	West Seattle	35 <sup>th</sup> Ave SW/SW Morgan	1 <sup>st</sup> Ave/Columbia (OB) 1 <sup>st</sup> Ave/Seneca (IB)	21
	J.3	West Seattle	Alaska Jct.	1 <sup>st</sup> Ave/Columbia (OB) 1 <sup>st</sup> Ave/Seneca (IB)	54,55 [21X]
	J.4	West Seattle	California Ave/SW Fauntleroy Way	3 <sup>rd</sup> Ave/Yesler	116,118, 119, [54X]
	J.5	West Seattle/Burien	Delridge Way/Andover	1 <sup>st</sup> Ave/Columbia (OB) 1 <sup>st</sup> Ave/Seneca (IB)	120,125
	J.6	West Seattle	Admiral Way/California Ave	1 <sup>st</sup> Ave/Jackson	56, 57
	J.7	West Seattle	Admiral Way/California Ave	1 <sup>st</sup> Ave/Columbia (OB) 1 <sup>st</sup> Ave/Seneca (IB)	56X
<b>CBD</b>	CBD.1	1 <sup>st</sup> Ave	1 <sup>st</sup> Ave/Stewart	1 <sup>st</sup> Ave/Columbia	Many
	CBD.2	2 <sup>nd</sup> Ave	2 <sup>nd</sup> Ave/Pike	2 <sup>nd</sup> /Jackson	Many
	CBD.3	3 <sup>rd</sup> Ave	3 <sup>rd</sup> Ave/Stewart	3 <sup>rd</sup> Ave/Yesler	Many
	CBD.4	4 <sup>th</sup> Ave	4 <sup>th</sup> Ave/Jackson	4 <sup>th</sup> Ave/Stewart	Many
	CBD.5	5 <sup>th</sup> Ave	5 <sup>th</sup> Ave/Pine	5 <sup>th</sup> Ave/Weller	Many

\*Routes identified with an X are express routes. Routes in [brackets] are routes that parallel a significant portion of the pathway, but are not included in the data for that pathway. Because so many routes operate on the five CBD pathways they are not all listed here.

## TRAVEL TIME DATA

A summary of performance results are reported on the “Performance by Pathway Group” and “Performance of Pathways with Service Additions” tables below, while detailed travel time charts of the individual pathways are included in Appendix A.

Travel Time Table 2 below shows daily median travel speeds and range of speeds experienced by each pathway group during the AM and PM Peaks, including a comparison with the Baseline condition. The “Median Speed” is the speed where 50% of the observed transit speeds are faster and 50% of the observed transit speeds are slower than the median speed. The median speed includes all transit trips operating along all of the pathways in each group, in both directions, on weekdays between 5 a.m. and 8 p.m. Median speed is reported rather than average speed because the median is less sensitive to unusual events such as bus breakdowns or accidents that could skew the average. This measure gives an overall performance metric for the pathway group, and is a useful aggregate measure to assess whether the speeds of individual pathways in a given group are trending up or down. It is not, however, appropriate to use the pathway group median speed as an assessment of travel speed for any individual pathway. In Appendix A, observed travel times are aggregated by hour of day for both directions of each pathway.

The strongest influence in travel time variability is time of day and direction of travel. The “PM Peak Period Hourly Median Range” and “AM Peak Hourly Median Range” are aggregate performance measures for the times of day that traditionally have the most congestion. The PM Peak Range is the range between the median speed for the slowest hour of the slowest pathway and the fastest hour of the fastest pathway between 3 p.m. and 6 p.m.; the AM Peak Range is a similar comparison of speeds between 6 a.m. and 9 a.m. These ranges can be used to understand pathway group performance and assess whether, as a group, speeds are trending up or down during periods when daily travel demand is the greatest.

**Travel Time Table 2: Summer 2010, Fall 2010, and Baseline Travel Speeds**

Performance by Pathway Group: June 2010, February 2010, & Baseline Comparison					
Pathway Group	Area	Scenario for Service Change	Median Speed [MPH]	AM Peak Period* Hourly Median Range [MPH]	PM Peak Period* Hourly Median Range [MPH]
A	Ballard, Interbay	Fall '10	15.4	11.8 – 24.0	12.5 – 17.2
		Summer '10	15.4	13.6 – 23.1	12.6 – 17.1
		Baseline	14.9	12.1 – 23.6	11.4 – 19.0
B	Aurora, Fremont	Fall '10	18.6	11.5 – 22.5	9.6 – 22.6
		Summer '10	19.1	10.4 – 24.4	11.3 – 22.3
		Baseline	18.6	11.0 – 22.7	11.0 – 20.3
I	SODO, Georgetown	Fall '10	18.6	19.6 – 41.1	13.9 – 22.1
		Summer '10	18.2	17.0 – 45.1	12.0 – 22.8
		Baseline	17.7	16.4 – 48.4	12.7 – 21.7
J 1 <sup>st</sup> Ave	West Seattle via 1 <sup>st</sup> Ave S	Fall '10	14.4	11.5 – 17.4	10.8 – 15.0
		Summer '10	15.0	12.3 – 22.3	11.4 – 15.9
		Baseline	15.9	11.9 – 20.7	12.4 – 21.0
J AWV	West Seattle via AWV	Fall '10	28.9	19.0 – 36.1	20.8 – 37.7
		Summer '10	29.3	19.5 – 37.6	22.4 – 36.9
		Baseline	30.1	20.1 – 36.6	22.1 – 33.8
CBD	1 <sup>st</sup> - 5 <sup>th</sup> Avenues	Fall '10	7.4	6.1 – 10.0	4.7 – 9.4
		Summer '10	7.4	6.4 – 9.9	4.4 – 10.4
		Baseline	7.2	5.9 – 9.9	5.4 – 9.6

\* AM Peak includes 6:00 – 9:00 AM and inbound trips only, PM peak includes 3:00 – 6:00 PM and outbound trips only, except CBD group includes both directions for AM and PM peak ranges.

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## Fall 2010 Highlights

Several individual pathways have experienced degradation in speed and reliability due to construction activities, while others have maintained similar or better performance compared with June 2010 conditions. In general, Fall service change periods are expected to have slightly higher travel times compared to Summer service change periods, due to seasonal traffic and ridership variations.

The most significant new impact this period was the closure of southbound 1<sup>st</sup> Avenue S between Main and Jackson Streets, which began on January 3, 2011, and reduction to a single lane in each direction on both directions of 1<sup>st</sup> Avenue S near Railroad Avenue. This has directly impacted Pathways J.1, J.2, J.4, and J.6 in the outbound (southbound) direction due to a reroute onto 2<sup>nd</sup> Ave via Cherry Street. These pathways have received the double impact of the Spokane Viaduct westbound on-ramp at 1<sup>st</sup> Avenue South, which has been ongoing since May 2010, in addition to these new closures and lane reductions. Compared to baseline conditions, median travel time has in the outbound direction has increased by five to seven minutes throughout the day.

The 1<sup>st</sup> Avenue closures have also appeared to have had residual effects to other pathways due to traffic diversions. Pathway J.3, which includes Avalon Way and the AWW, shows increases of around one minute in median travel time during the AM and PM peak flows Pathway CBD2, which includes 2<sup>nd</sup> Avenue in the downtown area, shows increases in median and 75<sup>th</sup> percentile travel times during the 5:00 pm hour, probably due to traffic diversion off of 1<sup>st</sup> Avenue.

Additional highlights of changes in travel time and travel speeds observed in Fall 2010 compared to the Summer 2010 and baseline conditions are noted below. See Appendix A for details.

- Pathways B.1 and B.2 show travel time increases between one to two minutes in the inbound (southbound) direction at all times of day. Travel time variation (spread between 25<sup>th</sup> and 75<sup>th</sup> percentiles) has also increased during the PM peak. This could be the result of ongoing fence construction on the Aurora Bridge.
- Pathways B.3 and B.4 show travel time increases between one to three minutes in the outbound (northbound) direction during the PM peak period. These pathways are likely impacted by construction on Mercer Street. Pathways A.1 and A.2 also show varying amounts of median travel time increase, especially in the inbound (southbound) direction during the AM Peak; these pathways include Elliott Ave, Western Avenue, and Mercer Place, which could be receiving traffic diversion due to various street closures related to Mercer St construction.
- Pathway CBD3 has shown slight improvements in median travel times and significant improvements in reliability, in particular during the PM peak. There have recently been efforts to increase enforcement of the 3<sup>rd</sup> Avenue peak traffic restrictions; the travel time and reliability improvement is likely to be a direct result of this effort.
- Pathway CBD4 has held similar performance in Fall 2010 as compared to Summer 2010 periods. In Summer 2010, performance was significantly improved over baseline conditions, due to the paving project that was occurring on 4<sup>th</sup> Avenue during the baseline period. Pathway CBD 5 shows a similar pattern, probably due to traffic diversion and backups onto 5<sup>th</sup> Avenue due to the paving project.
- Pathways I.3 and CBD1 show slight levels of improvement in travel time in both directions. Pathway I.3 includes 1<sup>st</sup> Avenue S south of Atlantic Street, and CBD1 includes 1<sup>st</sup> Avenue north of Columbia Street. Since these pathways exclude the portion of 1<sup>st</sup> Avenue impacted by construction activities, they could be receiving less traffic due to traffic diverting to other routes. The improvement to pathway I.3 is encouraging since it is the pathway that all 1<sup>st</sup> Avenue service will be diverted to in February 2011; however this pathway is expected to degrade when lane reduction begins on SR-99.

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## SERVICE ADDITIONS TRAVEL TIME

The following is a summary of travel time performance of transit pathways that have received WSDOT funding.

**Route 21X [Pathway J.3]** – Pathway J.3, shows increases of around one minute in median travel time during the AM and PM peak flows, most likely due to traffic diversion around the 1<sup>st</sup> Avenue closure and lane reductions. Note that the route 21 Express does not follow the J.3 pathway exactly, but parallels a significant portion of it.

**Route 54 [Pathway J.3]** – Pathway J.3, shows increases of around one minute in median travel time during the AM and PM peak flows, most likely due to traffic diversion around the 1<sup>st</sup> Avenue closure and lane reductions.

**Route 56X [Pathway J.7]** – Pathway J.7 is a peak-only pathway using the AWV that has shown both increases and decreases in travel time, depending on time of day. During AM and PM peak hours, (7am – 8am and 5pm – 6pm) travel times have shown consistent improvement since the baseline period; this is likely due to the addition of WSDOT-funded trips to this pathway. Increased travel time is occurring in the early AM period (6am – 7am) and late PM period (6pm – 7pm), suggesting a spreading out of peak congestion periods.

**Route 121 [Pathway I.1]** – Pathway I.1 demonstrated performance comparable to the I pathways as a whole. The inbound direction has shown increases amounting to less than one minute in median travel time across the whole day. The outbound direction has shown slight improvement in travel time across most of the day, except for an increase of about one minute during the 4pm – 5pm hour, and less than one minute during the 5pm – 6pm hour.

# Transportation Demand Management Report

## TDM REPORT PURPOSE

Transportation Demand Management (TDM) projects are designed to improve system efficiency by reducing traffic congestion on SR 99 during the construction of the Moving Forward Projects primarily S Holgate Street to S King Street. WSDOT is investing \$1.7 million in strategic trip reduction projects to complement the Enhanced Transit Service project with incentives, transit subsidies, outreach events and consultations. These projects encourage people to ride the bus, helping to fill seats on the added bus service. The TDM projects also help show people their travel options which include carpooling, vanpooling, teleworking, or flexing their work schedules. The contract is for December 2008 through June 2013, but is currently being amended to extend the due date to June 2014.

The goal of the overall TDM project is to reduce *4,130 peak round trips each weekday*. The agreement requires that the projects target two areas, downtown Seattle (and impacted surrounding areas) and the south end SR 99. In addition to the WSDOT funded programs, Metro will contribute matching dollars. Metro will use \$150,000 to fund transit incentives and \$200,000 to expand the Residential Outreach project. Metro will also contribute \$700,000 of In-Kind support to both the Downtown TDM project and the South End SR 99 Corridor TDM project.

A description of the various TDM projects follows TDM Table 1 below:

**TDM Table 1**

TDM Project Definitions for Downtown Seattle and the South End SR 99 Corridor	
<b>Downtown TDM Project</b>	<i>Primary Market:</i> Downtown Seattle  <i>Secondary Market:</i> Center City Urban Centers (Lower Queen Anne, South Lake Union, Capitol Hill, First Hill), Ballard/Interbay, Upper Queen Anne, and Fremont.
Program	Description
<b>Incentives for Transit and Ridesharing</b> <b>\$350,000 WSDOT</b> <b>\$150,000 Metro Match</b>	Provide a minimum of 2,500 transit pass incentives to downtown Seattle employers and 1,000 incentives to new carpoolers.
<b>Reduce Single Occupancy Vehicles (SOV) Commuter Parking</b> <b>\$225,000</b>	Encourage property owners and drivers to use the City of Seattle's electronic parking guidance system to convert 2,000 long term commuter parking stalls to short-term parking through marketing and incentives.
<b>Promotions for Transit and Ridesharing</b> <b>\$150,000</b>	Promote new transit services and all rideshare programs to a minimum of 75,000 households and/or employees.
<b>Teleworking/Flexible Schedules</b> <b>\$140,000</b>	Develop telework and flexible schedule plans with a minimum of 15 downtown Seattle companies with the help of a telework consultant. Consultant will also conduct a feasibility study for a telework center in west Seattle.

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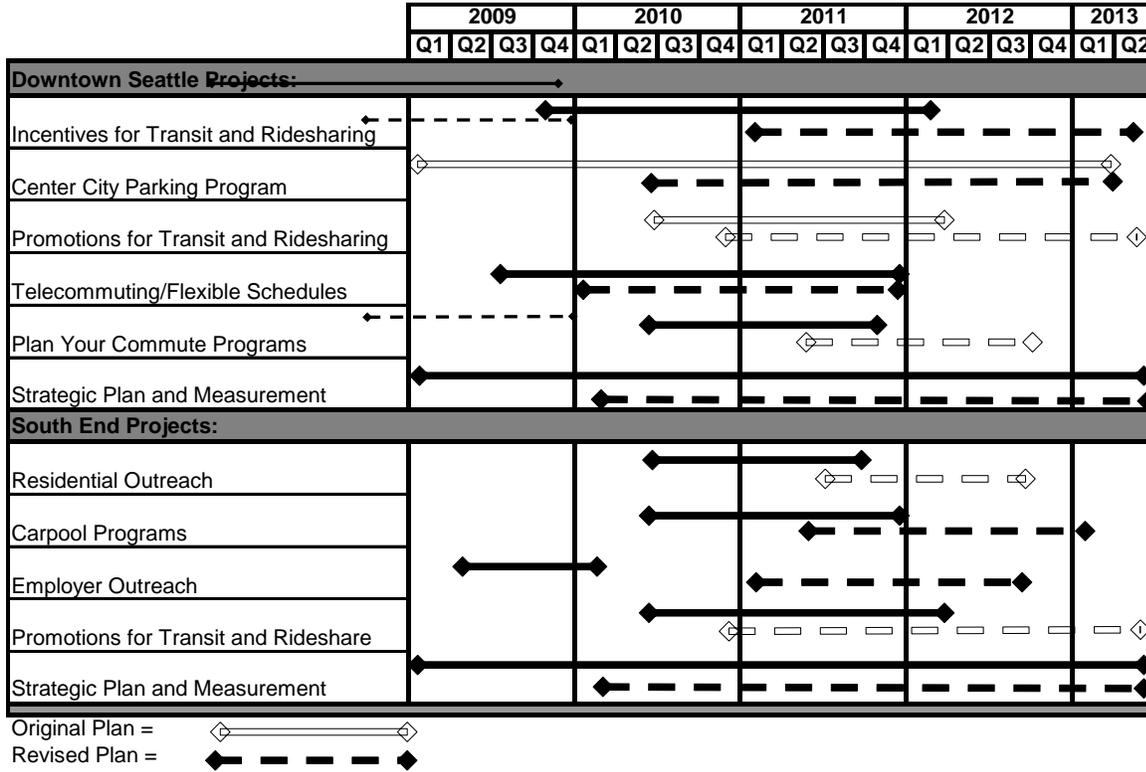
<b>Plan Your Commute Programs</b> <b>\$75,000</b>	Provide one-on-one consultations about commute options with Plan Your Commute Events. Information and free bus ride tickets are usually given to participants.
<b>Strategic Plan and Measurement</b> <b>\$25,172</b>	Analyze and report on overall results of transportation demand management efforts

<b>TDM Program Definitions (continued)</b>	
<b>South End SR 99 Corridor TDM Project</b>	<i>Primary Market:</i> West Seattle/SODO-South Duwamish  <i>Secondary Market:</i> South End Communities (Burien, Tukwila, Federal Way, etc.), Center City Urban Centers (Lower Queen Anne, South Lake Union, Capitol Hill, First Hill), Ballard/Interbay, Upper Queen Anne, and Fremont
<b>Program</b>	<b>Description</b>
<b>Residential Outreach</b> <b>\$300,000 WSDOT</b> <b>\$200,000 Metro match</b>	Conduct residential outreach targeted to neighborhoods potentially affected by construction. Outreach will encourage residents to ride the bus, carpool, bicycle, walk or eliminate trips.
<b>Carpool Programs</b> <b>\$150,000</b>	Offer 1,000 incentives to new carpoolers in the SODO/Duwamish and West Seattle areas.
<b>Promotions for Transit and Ridesharing</b> <b>\$167,000</b>	Promote new transit services and all rideshare programs to a minimum of 90,000 households.
<b>Employer Outreach</b> <b>\$100,000</b>	Offer transit passes or subsidies to smaller employers (not required to participate in commute trip reduction) in SODO/Duwamish and the downtown neighborhoods (Lower Queen Anne, South Lake Union, First Hill, etc.).
<b>Strategic Plan and Measurement</b> <b>\$25,440</b>	Analyze and report on overall results of transportation demand management efforts

# TDM PROGRAM TIMELINE

Most TDM programs will begin in early 2011. Teleworking/Flexible Schedules, Center City Parking, and the Metro funded Incentives for Transit have already begun. The program schedule is below:

TDM Table 2



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## TDM Program Update

Transportation Demand Management (TDM) programs are designed to build upon and complement existing projects and services that help keep people and goods moving in the downtown Seattle area, including transit service, vanpools, high occupancy vehicle lanes, park and ride lots, bike routes and more. In addition, extensive public information and outreach will help travelers get educated about their options and make smarter travel choices, along with the information they need about construction and traffic disruptions.

During the October 2010 through February 2011 time frame outreach continued on the telework/flexible scheduling program. Teleworking programs give people the choice of eliminating commute trips. These programs can take six months to a year to get implemented due to management approval processes, policy adoption, and training. The telework consultant also implemented a program for a large employer with 300-500 teleworkers. During this reporting period, SDOT planned their parking intercept study under the Alaskan Way Viaduct. The survey, now under final revision, provides valuable information about where people park, why, and how far they are willing to walk to certain destinations. This information will help SDOT plan the roll-out of phase two of e-Park.

Metro continued to offer ORCA Passport incentives in the downtown Seattle area using Metro grant dollars. The ORCA Passport is a deeply discounted transportation pass program for employers with five to 499 employees. It includes unlimited rides on all Metro, Sound Transit (including LINK Light Rail), Community, Kitsap, Pierce, and Everett transit services and 100% vanpool and vanshare subsidy. ORCA passport is purchased by employers and distributed to all of their employees. Metro's Plan Your Commute program provided one-on-one consultation for Gates employees to help them plan their commute to work.

Listed below in TDM Table 3 are the TDM program updates for October 2010 to February 2011. Most TDM programs will not begin until the beginning of 2011 due to the current construction timeline.

**TDM Table 3**

<b>TDM Program Update – (September 2010– February 2011)</b>	
<b>Incentives for Transit and Ridesharing</b>	<ul style="list-style-type: none"> <li>▪ Incentive amounts have been set and team is beginning to develop marketing materials.</li> <li>▪ Carpooling incentives and transit incentives funded by WSDOT will be offered starting in Quarter 1 2011</li> </ul>
<b>Reduce Single Occupancy Vehicles (SOV) Commuter Parking</b>	<ul style="list-style-type: none"> <li>▪ e-Park marketed through bus advertisements, collateral material distribution to restaurants and coffee shops around e-Park garages, and by sponsorship of the Figgy Pudding caroling competition in December including distribution of (donated) hot chocolate in e-Park cups</li> <li>▪ Viaduct Intercept Survey (strategic facility study) revisions occurring</li> <li>▪ Quarterly reporting of garage occupancy continues with garage reports submitted for 4Q 2010</li> <li>▪ 2011 Marketing Plan approved by SDOT management; Mayor's Office approval sought next</li> </ul>
<b>Promotions for Transit and Ridesharing</b>	<ul style="list-style-type: none"> <li>▪ Notice of transit trip additions included in Metro Timetables and Schedules and on website.</li> </ul>

<p><b>Teleworking/Flexible Schedules</b></p>	<ul style="list-style-type: none"> <li>▪ Met with several very large employers.</li> <li>▪ Implemented a program for an employer with about 300-500 teleworkers. Trained these employees in person and online. Working on surveys, evaluation and PR.</li> <li>▪ Worked with another very large employer on policies, surveys, and how to materials. Got approval for evaluation. Potentially hundreds will be teleworking or working a compressed work week schedule.</li> <li>▪ Planned workshops for Feb 17 for smaller and larger employers.</li> <li>▪ Another large employer's program is presently on hold.</li> </ul>
<p><b>Plan Your Commute</b></p>	<ul style="list-style-type: none"> <li>▪ Proposed revised program format to project managers.</li> <li>▪ Participated in a Gates Foundation Employee Transportation Fair to help their employees learn about all of their transportation options</li> <li>▪ Main part of project will kick off in Quarter 2 2011</li> </ul>
<p><b>Residential Outreach</b></p>	<ul style="list-style-type: none"> <li>▪ Started planning process for West Seattle, White Center/South Park, and Georgetown In Motion Programs.</li> </ul>
<p><b>Carpool Program</b></p>	<ul style="list-style-type: none"> <li>▪ Met with marketing consultant to develop marketing plan. Met with SR 520 team to develop incentive plan that will combine mitigation goals for both programs.</li> </ul>
<p><b>Employer Outreach</b></p>	<ul style="list-style-type: none"> <li>▪ Met with marketing team to plan out reach pieces – postcard(s) and potentially email(s).</li> <li>▪ Looked at multiple options of business lists for purchase.</li> </ul>
<p><b>Promotions for Transit and Ridesharing</b></p>	<ul style="list-style-type: none"> <li>▪ Notice of transit trip additions included in Metro Timetables and Schedules and on website.</li> </ul>

## TDM PERFORMANCE

Each of the TDM projects has an established trip reduction target. We measure the trip reductions of the projects based on the individual characteristics. The projects also have individual metrics that are unique to each project such as incentives or participation.

The majority of trip reduction targets were calculated based on previous performance of similar programs. The target for the Reduce Single Occupancy Vehicles (SOV) Commute Parking was estimated by SDOT, WSDOT, and Metro because no previous program results were available. All trip targets were agreed to by WSDOT and Metro during contract negotiations in 2008.

The TDM programs provide extensive public outreach to inform and educate travelers and transit and carpool incentives for people willing to try new commute modes. However, trip reductions are influenced by numerous factors outside of the TDM programs. Gas prices, the economy, seasonal affects and more can cause people to shift from a single occupancy vehicle to an alternative mode. It is important to measure and study how many people, and why they change, to help improve programs in the future.

The individual metrics were based on what would be needed to reach a trip target. Based on prior programs and follow-up research, in Downtown Seattle 1,000 ORCA Passport transit passes reduce 96 trips. To reach the trip reduction target of 240 trips 2,500 ORCA Passport transit passes need to be distributed. Each individual metric is based on the return each “touch” achieves. The programs all have a metric that makes sense based on the specific market reached and type of outreach performed.

The methodology and calculations for the trip reductions of each of the TDM projects were jointly developed by WSDOT and Metro during the development of this project. Details of these metrics can be found in Appendix B. The "TDM Impacts" table shown below includes the trips reduced and individual metrics for the TDM projects.

As seen in Table 4 below, 1,580 new passport passes have been sold in the Center City of Seattle with an incentive using Metro grant dollars as the match to WSDOT AWV mitigation funding. Thus far, our calculations estimate that these incentives have reduced 132 single occupancy vehicle trips. The WSDOT portion of the program has just barely begun in the first Quarter 2011.

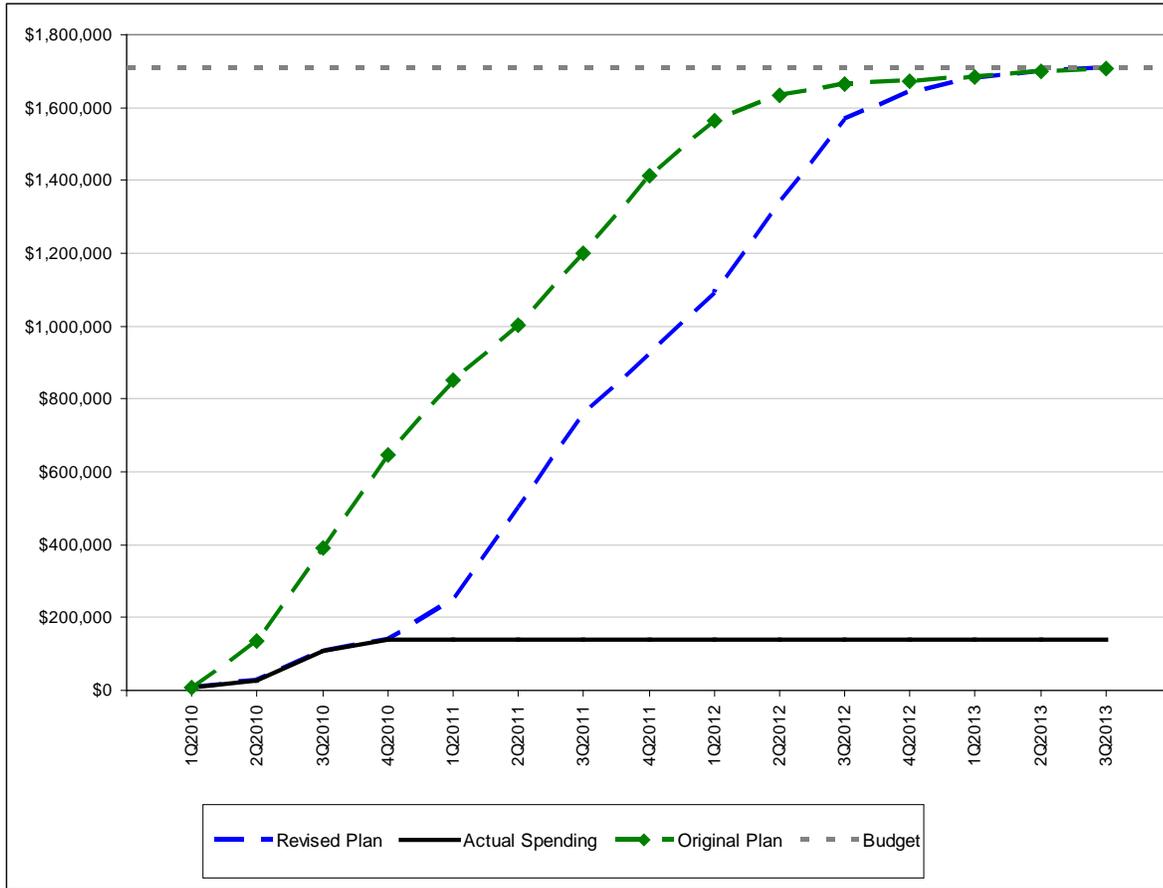
**TDM Impacts: Table 4**

Activity	Trip Reduction (round trips reduced daily)		Individual Metrics		
	Target for entire program period	Current performance	Description	Target for entire program period	Current performance
<b>Enhanced Transit Service &amp; Downtown / South End Transportation Demand Management</b>					
Promotion of Enhanced Transit Service / Enhanced Transit Service	1,100		Employees / Households in Downtown	75,000	
			Households in South End	90,000	
<b>Downtown Transportation Demand Management</b>					
Incentives for Transit	240	132	Transit Pass Incentives	2,500	1,580
Incentives for Ridesharing	380		Carpool Incentives	1,000	
Reduce Single Occupancy Vehicles (SOV) Commuter Parking	200		Incentives to Garages	5	0
			Stalls for Conversion to Short Term	2,000	
Teleworking	710		Number of Companies Participating	15-20	
Plan Your Commute	740		Pledges	1,800	
<b>South End Transportation Demand Management</b>					
Residential Outreach	390		Household Participation Rate	10%	
Carpool Program	270		Carpool Incentives	1,000	
Employer Outreach	100		Transit Passes Distributed	N/A	
<b>TOTAL</b>	<b>4,130</b>	<b>132</b>			

# TDM BUDGET AND EXPENDITURE – FEBRUARY 2011

The estimated cash flow as of February 2011 by quarter is listed in the table below.

TDM Table 5



Quarter (Billing Month)	<b>Expenditures</b> (All expenditures are entered in the quarter the billing will be submitted to WSDOT not the quarter in which the work is performed.)	
	Actual Spending	Current Plan
1Q2010 (Mar)	\$7,269	
2Q2010 (May)	\$21,135	
3Q2010 (Oct)	\$80,684.80	
4Q2010	\$29,185.01	
1Q2011		\$112,700
2Q2011		\$250,977.75
3Q2011		\$257,607.47
4Q2011		\$165,500
1Q2012		\$165,079.53
2Q2012		\$249,500
3Q2012		\$228,500
4Q2012		\$74,500
1Q2013		\$36,500
2Q2013		\$20,558.95
3Q2013		\$7,914
Total		\$1,707,612