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

Enhanced Transit, Transit Travel Time and Demand Management Performance Report

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WSDOT

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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 Summer 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 Summer 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

SERVICES AND ACTIVITIES: JUNE 2010 TO SEPTEMBER 2010

Enhanced transit service continued in West Seattle and SODO
The 31 additional peak period trips on routes 12X, 54, 56X, and 121 continued through the June service change. These additional trips helped improve the a.m. and p.m. peak period transit capacity on the SODO and West Seattle pathways by 5.1% and 12.4% respectively (see Enhanced Transit Service Table 4, pg 13).

Ridership increased on WSDOT funded transit routes
Transit ridership increased on average by 10.7% during the peak period on routes that received WSDOT funded service. In the summer of 2010 there were, on average, 330 additional weekday transit boardings on routes 21X, 54, 56X, and 121, approximately a daily 5.9% increase (see Enhanced Transit Service Table 3, pg 12).

Several transit pathways have been affected by construction activities
Several individual pathways have experienced degradation in speed and reliability due to construction activities, while others have maintained similar or better performance compared with February 2010 conditions. The most significant impact has been the closure of the westbound on-ramp from 1st Avenue S to the West Seattle Bridge; and slow down of traffic on 1st Avenue S due to electrical relocation project. These conditions have impacted all J-Pathway routes that travel to West Seattle via 1st Avenue S in the outbound direction. In the CBD area, 1st Avenue has been impacted in the southbound direction due to slow-down of traffic on 1st Avenue S near Railroad Avenue due to the Alaskan Way Viaduct Holgate to King St electrical relocation project.

Some transit pathways in other areas have experienced slight degradation in travel time and speeds, due to various other construction activities.

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, 518 new passport passes were sold between May and August with an incentive using Metro grant dollars as match to WSDOT AWV mitigation funding. In total this incentive has supported 1,259 Passport passes in downtown Seattle. Thus far, our calculation estimates that these incentives have reduced 109 single occupancy vehicle trips daily. The WSDOT portion of the program will begin in January 2011.

Telework Program outreach started
Working with a consultant, Metro continued employer outreach through phone calls, in-person meetings, and Commute Trip Reduction (CTR) network group meetings, held two employer trainings, and was successful in getting two companies to adopt formal policies and begin planning for training and implementation.

EXPENDITURES: JUNE 2010 – SEPTEMBER 2010

As of the end of September 2010 we have spent approximately $2.9 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 **12-14-09**	Volume 1 **4-05-10**	Volume 2 **8-09-10**	Volume 3 **12-13-10**	Volume 4 **4-04-11**	Volume 5 **8-22-11**	Volume 6 **12-12-11**	Volume 7 **4-02-12**	Volume 8 **08-20-12**	Volume 9 **12-10-12**	Volume 10 **TBD**	Volume 11 **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 summer of 2009, the baseline against which service in this report will be compared, Metro transit service on these pathways provided an estimated 79,300 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 Summer 2009 baseline performance measures with Summer 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.

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 June Service Change has climbed back to approximately $3.00/gal; however, the average unemployment rate for June to September in 2010 is almost double what it was in 2008. The combined impact of the recession and lower gas prices have driven 2010 system-wide ridership below 2008 levels with a ridership decline of 12 percent since 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 SODO Georgetown Pathway (Pathway I) both declined faster than the system-wide average while the Aurora Pathway (Pathway B) and the West Seattle Pathway (Pathway J) were both slightly better than the system-wide average.

Enhanced Transit Service Table 1

3 YEAR TRANSIT CORRIDOR WEEKDAY RIDERSHIP TREND FOR JUN SERVICE CHANGE				
Ridership Group	**2008**	**2009**	**2010**	**% Change 2008-2010**
System-wide Ridership	394,000	355,000	347,000	-11.9%
Total of Pathways	87,240	79,330	77,130 [80,640]*	-11.6% [-7.6%]*
Pathway A – Ballard/Magnolia	22,000	19,470	18,610	-15.4%
Pathway B – Aurora Fremont	31,740	29,570	29,460	-7.2%
Pathway I – SODO/Georgetown	9,570	8,150	7,400 [10,910]*	-22.7% [14.1%]*
Pathway J – West Seattle	23,930	22,140	21,660	-9.5%
* 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.				

RIDERSHIP CHANGE IN JUNE 2010 COMPARED TO 2009 BASELINE

The Enhanced Transit Service Table 2 below compares the June 2010 system-wide and Enhanced Transit Service pathway ridership with the June 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 in all pathways except for the SODO/Georgetown Pathway (Pathway I). Also, the Ballard/Magnolia and Aurora/Fremont pathways, (pathways A and B) had significantly higher ridership losses during the shoulder period than either of the other two periods. This might have to do with a general weakening of the peak period demand. The SODO/Georgetown and West Seattle Pathways, (Pathways I & J) had the sharpest ridership declines during the midday. This is a reversal of the trends reported in the February Service Change report, where midday ridership appeared to be more stable than shoulder or even peak ridership.

Enhanced Transit Service Table 2

COMPARISON OF JUN 2009 BASELINE WEEKDAY RIDERSHIP BY TIME OF DAY AND PATHWAY WITH JUN 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	355,000	347,000 (-2.3%)	169,000	166,000 (-1.8%)	64,000	62,000 (-3.1%)	76,000	73,000 (-4.0%)
Total of Pathways†	79,330	77,130 (-2.8%) [80,640 (1.7%)]	37,650	37,140 (-1.4%) [38,660 (2.7%)]	14,010	13,310 (-5.0%) [13,860 (-1.1%)]	16,420	15,810 (-3.7%) [16,540 (0.7%)]
Pathway A – Ballard/Magnolia	19,470	18,610 (-4.4%)	9,660	9,420 (-2.5%)	3,350	3,180 (-5.0)	3,850	3,730 (-3.3%)
Pathway B – Aurora Fremont	29,570	29,460 (-0.4%)	13,120	13,280 (-1.3)	5,490	5,160 (-6.0%)	6,590	6,430 (-2.5%)
Pathway I – SODO/Georgetown†	8,150	7,400 (-9.2%) [10,910 (33.9%)]	4,240	3,850 (-9.1%) [5,370 (26.7%)]	1,320	1,260 (-4.2%) [1,810 (37.4%)]	1,420	1,270 (-10.8%) [2,000 (36.4%)]
Pathway J – West Seattle	22,140	21,660 (-2.2%)	10,630	10,590 (-0.3%)	3,850	3,710 (-3.6%)	4,560	4,380 (-4.0%)

*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.
† The ridership reported in brackets includes ridership of route 124 to the pathway. Route 124 began operating in pathway I in September 2009.

PERFORMANCE OF ENHANCED TRANSIT SERVICE ADDITIONS

Ridership increased during the peak and shoulder periods on all four routes that received Enhanced Transit Service funding during the June 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 300 additional weekday boardings. During the shoulder periods, there were approximately 50 additional weekday boardings on routes 21X and 56X (a 50% increase). The decline in average weekday boardings for route 121 is entirely due to discontinuing low productivity midday service. Route 121 saw ridership grow in both the peak and shoulder periods, where we added service. In all periods, except the midday, for route 54, the ridership performance of these routes outperformed the system-wide and pathway trends.

Enhanced Transit Service Table 3

COMPARISON OF RIDERSHIP PERFORMANCE OF SERVICES THAT RECEIVED WSDOT FUNDED ENHANCEMENTS WITH JUN 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	750	800 (6.7%)	710	740 (4.2%)	40	60 (50.0%)	No Service	No Service
54 / Pathway J	3,220	3,520 (9.3%)	1,220	1,480 (21.3)	600	640 (6.7)	740	670 (-9.5%)
56X / Pathway J	600	670 (11.7%)	520	560 (7.7%)	60	90 (50.0%)	No Service	No Service
121 / Pathway I	1060	970 (-8.5%)	730	740 (1.4%)	180	190 (5.6%)	100	No Service
Enhanced Transit Service Route Total	5,630	5,960 (5.9%)	3,180	3,520 (10.7%)	880	980 (11.4%)	740†	670 (-9.5%)

*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.
†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.

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

The largest increase in seating capacity occurred on the West Seattle and SODO Georgetown pathways, where the 2010 Enhanced Transit Service was implemented. The June 2010 service change continued the additional transit capacity to routes 21X, 54, 56X, (Pathway J routes) and 121 (Pathway I route). WSDOT funds paid for approximately 1,300 additional peak period seats in peak period capacity.

Transit capacity within a given period can be increased by scheduling additional trips or by scheduling coaches with higher seating capacity. Pathways A and B 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 and B changed by less than 1 percent between summer 2009 and summer 2010.

Enhanced Transit Service Table 4

JUN 2010 SERVICE CHANGE COMPARISON OF WEEKDAY TRANSIT SEATING CAPACITY BY CORRIDOR AND TIME OF DAY WITH JUN 2009 BASELINE

Pathway	Peak Period		Shoulder Periods		Midday Period	
	2009	**2010 (% Change)**	**2009**	**2010 (% Change)**	**2009**	**2010 (% Change)**
Pathway A – Ballard/Magnolia	10,680	11,300 (5.8%)	3,570	3,920 (11.5%)	4,430	5,010 (10.7%)
Pathway B – Aurora Fremont	14,060	14,570 (3.6%)	5,370	5,370 (3.6%)	6,910	7,140 (2.9%)
Pathway I – SODO/Georgetown†	6,290	6,610 (5.1%) [8,700 (38.3%)]	1,920	2,230 (20.6%) [3,040 (68.3%)]	1,950	2,050 (5.7%) [2,980 (58.2%)]
Pathway J – West Seattle	16,190	18,200 (12.4%)	5,770	6,420 (11.6%)	7,480	7,920 (6.0%)
Total of all Pathways†	**47,220**	**50,680 (7.3%)** [52,770 (11.8%)]	**16,630**	**17,940 (7.9%)** [18,750 (12.8%)]	**20,770**	**22,120 (6.5%)** [23,050 (11.0%)]

† Note: Most of the increase in seating capacity in Pathway I was due to the addition of the new Route 124 to this pathway in September 2009. Seating capacity figures including route 124 are shown in brackets

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:

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

TRANSIT CAPACITY AND QUALITY OF SERVICE MANUAL LOAD FACTOR GUIDELINES

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

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

Summer 2010 Transit Capacity Compared to Summer 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 Summer 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 downward ridership trend of 2010 and shifts in ridership by time of day resulted in significant changes to levels of crowding between the Summer 2009 baseline and the Summer 2010 service change periods. An overview of ridership changes is described below:

- Expect for the Aurora Pathway (Pathway A) in the AM inbound direction, All Pathways, all directions and all time periods experienced an improvement in passenger load levels of service. In total there were almost 8,000 fewer daily passengers who experienced a passenger load LOS of C or worse in the Summer of 2010 than in the Summer 2009 baseline.
- There are an estimated 1,660 fewer passengers experiencing a passenger load LOS of C or worse on the West Seattle and SODO pathways, during the peak period, both of which received additional service funded by WSDOT.
- Outbound PM peak period experienced the largest absolute improvement in passengers experiencing passenger load LOS of C or worse but the PM peak period is still the period with the most overcrowding.
- The majority of persons experiencing crowding during the peak period are on the Aurora/Fremont or West Seattle pathways (Pathway Groups B or J).

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

JUN 2010 SERVICE CHANGE COMPARISON OF INBOUND WEEKDAY PASSENGER LOADS BY CORRIDOR PEAK PERIOD SUMMARY WITH JUN 2009 BASELINE

AM 6:00-9:00 Inbound						
Pathway	% of riders experiencing a transit capacity LOS of C or worse		# of trips in period providing a transit capacity LOS of C or worse		Est. Number of daily riders experiencing transit capacity LOS of C or worse	
	2009	**2010**	**2009**	**2010**	**2009**	**2010**
Pathway A – Ballard/Magnolia	38%	46%	14	18	890	1,190
Pathway B – Aurora Fremont	43%	39%	30	28	1,970	1,720
Pathway I – SODO/Georgetown	13%	8%	5	3	200	140
Pathway J – West Seattle	35%	19%	22	12	1,310	690
All Pathways	36%	30%	71	61	4,370	3,740
Inbound Trips All Other Times of Day						
	2009	**2010**	**2009**	**2010**	**2009**	**2010**
Pathway A – Ballard/Magnolia	27%	5%	26	4	1,400	230
Pathway B – Aurora Fremont	24%	19%	46	35	2,740	2,130
Pathway I – SODO/Georgetown	17%	3%	12	2	500	120
Pathway J – West Seattle	8%	4%	8	4	550	250
All Pathways	20%	10%	92	45	5,190	2,720
Total Inbound Trips			**163**	**106**	**9,560**	**6,460**

† Note: The percentage changes in Pathway I were generally larger than percentages in the other pathways due to the addition of new Route 124 to Pathway I in September 2009.

TRANSIT CAPACITY AND QUALITY OF SERVICE MANUAL LOAD FACTOR GUIDELINES

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

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

Enhanced Transit Service Table 7

JUN 2010 SERVICE CHANGE COMPARISON OF OUTBOUND WEEKDAY PASSENGER LOADS BY CORRIDOR PEAK PERIOD SUMMARY WITH JUN 2009 BASELINE						
PM 3:00 – 6:00 Outbound						
Corridor	% of riders experiencing a transit capacity LOS of C or worse		# of trips in period providing a transit capacity LOS of C or worse		Est. Number of daily riders experiencing transit capacity LOS of C or worse	
	2009	**2010**	**2009**	**2010**	**2009**	**2010**
Pathway A – Ballard/Magnolia	48%	12%	24	7	1,430	370
Pathway B – Aurora Fremont	61%	48%	51	38	3,270	2,510
Pathway I – SODO/Georgetown	45%	5%	12	2	620	80
Pathway J – West Seattle	40%	29%	25	18	1,580	1,140
All Pathways	50%	30%	112	65	6,900	4,100
Outbound Trips All Other Times of Day						
	2009	**2010**	**2009**	**2010**	**2009**	**2010**
Pathway A – Ballard/Magnolia	23%	11%	23	10	1,380	640
Pathway B – Aurora Fremont	19%	16%	35	29	2,080	1,730
Pathway I – SODO/Georgetown	8%	2%	5	2	190	80†
Pathway J – West Seattle	12%	11%	14	12	880	770
All Pathways	15%	12%	77	53	4,520	3,220
Total Outbound Trips			**192**	**118**	**12,110**	**7,320**

† Note: The percentage changes in Pathway I were generally larger than percentages in the other pathways due to the addition of new Route 124 to Pathway I in September 2009.

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

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

Service Plan – December 2010

The Enhanced Transit Service plan below is the service plan as of December 2010. As with Volume 1, this service plan shows the anticipated service through 2014. It also shows the anticipated use of the water taxi services in 2012, 2013 and 2014. Metro is still working with WSDOT on a contract amendment to extend the contract through June 2014 and make the water taxi services eligible.

The table below describes how the Enhanced Transit Service additions will help achieve the goal of keeping people and goods moving during construction. The service plan shown here is guided by the contract's primary objectives (Scope of Work Exhibit A for GCA 5829):

- "Reduce vehicle travel demand in order to help mitigate construction related mobility impacts on the general public."
- "Mitigate the impact of the Early Safety and Mobility Projects on the operations and delivery of Metro Transit's fixed route-bus services."

The trip additions described in this Enhanced Transit Service plan are designed to reduce congestion by encouraging a mode shift towards transit through ensuring consistent and frequent headways on transit service. These service additions will be complimented by Transportation Demand Management efforts which will market transit services and reach out to downtown Seattle employers to encourage transit use during the congested peak periods. The service plan makes adjustments to service prior to construction activities because there is a delay between service implementation and increased use of service. It takes time for the public to learn about and adjust their schedules to transit services. In Metro's experience, sharp increases in transit service are less effective than growing service incrementally over time.

In addition to funding additional trips, a significant portion of the resources will go towards mitigating the impact of construction activities on existing Metro transit fixed route services. The service plan described below shows the anticipated service plan through June of 2014. There is a greater range of annual budget hours in the extended service plan, then in the original plan to account for construction uncertainty. As each year gets closer the range of annual budgeted hours will shrink as plans become more specific. These mitigation resources have been designed to match the periods of greatest construction activity.

Enhanced Transit Service Table 8

Description of Service Plan Changes				
Year	**Annual Service Description***	**Annual Budget Hours**	**Change from Vol 2**	**Change from original plan**
2009	Implementation of all 2009 services were delayed until 2010	0	0	Less 1,500-2,500
2010	Add new peak service in West Seattle (+); Begin build up of Route 54 service frequency in West Seattle (+); Mitigate added operations costs for travel time delay in the 1st Avenue corridor. (+)	10,000-11,000	0	Less 14,000-15,000
2011	Implement higher service frequency in West Seattle, Metro funded (-); Add trips to North Seattle, Ballard (+); Mitigate added operations costs for travel time delay in SODO area and First Avenue (+)	30,000-35,000	0	Less 25,000-26,000

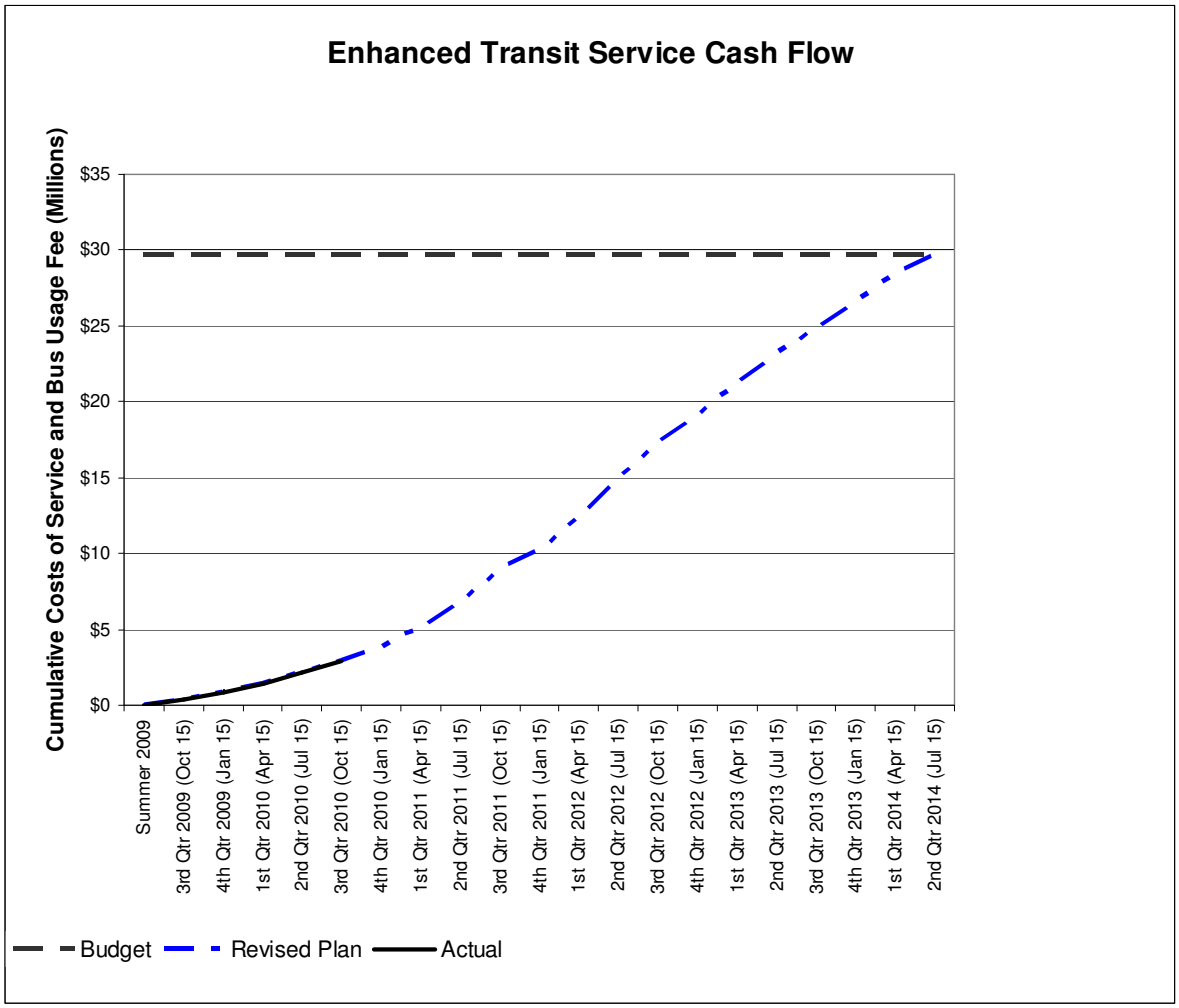
Description of Service Plan Changes				
Year	**Annual Service Description***	**Annual Budget Hours**	**Change from Vol 2**	**Change from original plan**
2012	Implement Ballard and West Seattle RapidRide (-); Mitigate added operations cost for travel time delay on SR 99 mainline services (+); Mitigate added trips to South and West Seattle in the on SR 99 mainline corridor (+); Mitigate added trips to North Seattle (+); Begin weekday commute period West Seattle water taxi service for winter 2012 (+); Discontinue water taxi winter 2012 service (-); Begin water taxi service for winter 2012/2013 (+)	51,000-61,000	More 1,000	More 1,000 to Less 4,000
2013	Begin to scale back Enhanced Transit Service schedule maintenance hours as impacts attenuate (-); Continue majority of added trips through 2013; Implement Metro funded Aurora RapidRide (-); Discontinue water taxi winter 2012/2013 service (-); Begin water taxi service for winter 2013/14 (+)	41,000-51,000	More 1,000	More 38,000-46,000
2014	Terminate remaining Enhanced Transit Service trip adds at June 2014 service change (-); End Enhanced Transit Service schedule maintenance hours by June 2014 (-); Discontinue water taxi 2013/2014 winter service (-)	10,500-20,500	More 500	More 10,500-20,500
(+) symbols indicate additional Enhanced Transit Service hours necessary for service described, (-) indicates a reduction in Enhanced Transit Service hours necessary for service described. The total budget for all bus transit and water taxi hours are not to exceed 142,500-158,500				

ENHANCED TRANSIT SERVICE BUDGET AND EXPENDITURE SUMMARY – DECEMBER 2010

Listed below is the budget and expenditure summary for the Enhanced Transit Service as of December 2010.

Enhanced Transit Service Cash Flow - The estimated cash flow as of December 2010 by quarter is shown in the graphic below Enhanced Transit Service Table 9 and described in further detail on Enhanced Transit Service Table 10.

Enhanced Transit Service Table 9



Enhanced Transit Service Table 10

Current Enhanced Transit Service Cash Flow Table- December 2010			
Service Period (billing date)	**Expenditures** (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	N/A
4th Qtr 2009 (Jan 15)	$409,349	$409,349	N/A
1st Qtr 2010 (Apr 15)	$409,349	$600,451	N/A
2nd Qtr 2010 (Jul 15)	$409,349	$731,206	N/A
3rd Qtr 2010 (Oct 15)	$409,349	$731,206	N/A
4th Qtr 2010 (Jan 15)	$409,349		$523,000
1st Qtr 2011 (Apr 15)	$409,349		$894,000
2nd Qtr 2011 (Jul 15)	$409,349		$1,346,000
3rd Qtr 2011 (Oct 15)	$409,349		$1,681,000
4th Qtr 2011 (Jan 15)	$409,349		$873,000
1st Qtr 2012 (Apr 15)	$409,349		$1,796,000
2nd Qtr 2012 (Jul 15)	$409,349		$2,127,000
3rd Qtr 2012 (Oct 15)			$2,323,000
4th Qtr 2012 (Jan 15)			$1,868,000
1st Qtr 2013 (Apr 15)			$2,107,000
2nd Qtr 2013 (Jul 15)			$1,882,000
3rd Qtr 2013 (Oct 15)			$1,684,000
4th Qtr 2013 (Jan 15)			$1,742,000
1st Qtr 2014 (Apr 15)			$1,849,000
2nd Qtr 2014 (Jul 15)			$1,256,000
Total	$4,912,000	$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 3rd quarter of 2009.

Transit Travel Time Report

TRAVEL TIME REPORT PURPOSE

As part of the AWV 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 AWV program.

This report compares the June 2010 condition to the previous travel time report (February 2010) and the baseline condition (September 2009). The list bellow show the dates of when travel time observations were collected for those conditions:

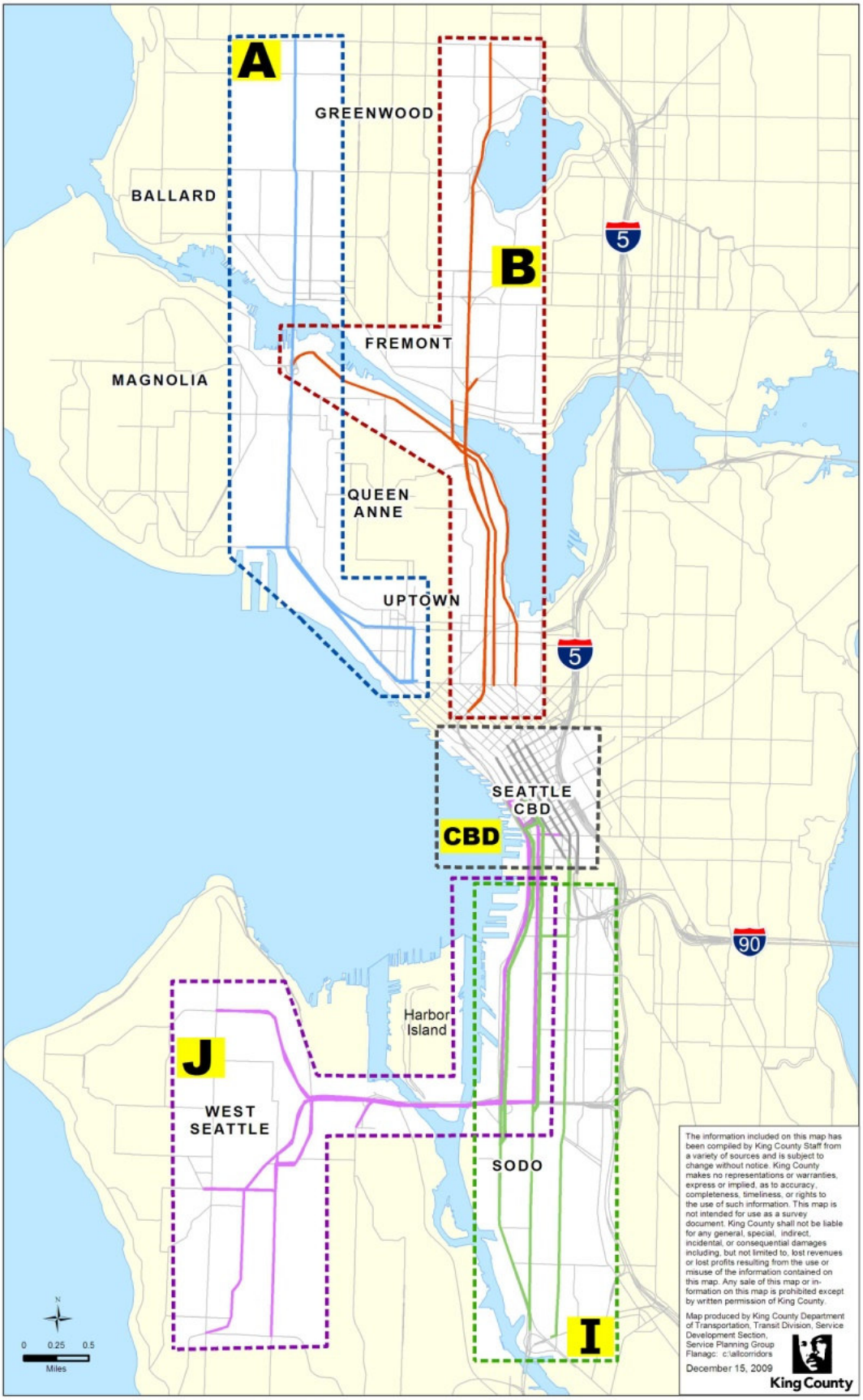
- September 2009 (baseline condition): September 21, 2009 through October 16, 2009.
- February 2010 condition: March 1, 2010 through March 31, 2010
- June 2010 condition: August 30, 2010 through October 1, 2010

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:
    - Automatic Vehicle Identification (AVI) readers installed at endpoints of key transit corridors
    - 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 <u>group</u> performance and travel *times* are used to assess <u>individual</u> pathway performance.

Pathways and Pathway Groups

Transit Routes Affected by AWV Project



Travel Time Table 1

Description of Pathways and Associated Transit Routes					
Pathway Group	**Pathway**	**Market Coverage**	**From**	**To**	**Current Transit Routes***
A	A.1	Ballard, Uptown	15th NW/NW 85th	1stAve/Denny	15,[18]
	A.2	Ballard	15th NW/NW 85th	1stAve/Denny	15X,[17X,18X]
	A.3	Magnolia	Elliot Ave/Magnolia Br.	1stAve/Denny	19,24,33
B	B.1	North Seattle	Aurora Ave NW/NE 85th	3rdAve/Battery	358
	B.2	North Seattle	Bridge Way/N 38th	3rdAve/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
I	I.1	South Seattle/Burien	1stAve S/E. Marginal (OB) S Alaska/E Marginal (IB)	1stAve/Columbia (OB) 1stAve/Seneca (IB)	121,122
	I.2	South Seattle/Burien	4thAve S/S Michigan	4th/2ndAve/Jackson	23, 123X, 124
	I.3	South Seattle/Burien	1stAve S/E. Marginal	4th/2ndAve/Jackson	132
J	J.1	West Seattle	Alaska Jct.	1stAve/Columbia (OB) 1stAve/Seneca (IB)	22
	J.2	West Seattle	35thAve SW/SW Morgan	1stAve/Columbia (OB) 1stAve/Seneca (IB)	21
	J.3	West Seattle	Alaska Jct.	1stAve/Columbia (OB) 1stAve/Seneca (IB)	54,55 [21X]
	J.4	West Seattle	California Ave/SW Fauntleroy Way	3rdAve/Yesler	116,118, 119, [54X]
	J.5	West Seattle/Burien	Delridge Way/Andover	1stAve/Columbia (OB) 1stAve/Seneca (IB)	120,125
	J.6	West Seattle	Admiral Way/California Ave	1stAve/Jackson	56, 57
	J.7	West Seattle	Admiral Way/California Ave	1stAve/Columbia (OB) 1stAve/Seneca (IB)	56X
CBD	CBD.1	1stAve	1stAve/Stewart	1stAve/Columbia	Many
	CBD.2	2ndAve	2ndAve/Pike	2nd/Jackson	Many
	CBD.3	3rdAve	3rdAve/Stewart	3rdAve/Yesler	Many
	CBD.4	4thAve	4thAve/Jackson	4thAve/Stewart	Many
	CBD.5	5thAve	5thAve/Pine	5thAve/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: June 2010, February 2010, and Baseline Travel Speeds

Performance by Pathway Group: June 2010, February 2010, & Baseline Comparison					
Pathway Group	**Area**	**Scenario**	**Median Speed [MPH]**	**AM Peak Period* Hourly Median Range [MPH]**	**PM Peak Period* Hourly Median Range [MPH]**
A	Ballard, Interbay	June '10	15.4	13.6 – 23.1	12.6 – 17.1
		Feb '10	15.5	12.4 – 22.4	12.6 – 18.8
		Baseline	14.9	12.1 – 23.6	11.4 – 19.0
B	Aurora, Fremont	June '10	19.1	10.4 – 24.4	11.3 – 22.3
		Feb '10	19.4	10.4 – 25.7	11.8 – 20.4
		Baseline	18.6	11.0 – 22.7	11.0 – 20.3
I	SODO, Georgetown	June '10	18.2	17.0 – 45.1	12.0 – 22.8
		Feb '10	18.5	17.5 – 47.0	12.6 – 25.0
		Baseline	17.7	16.4 – 48.4	12.7 – 21.7
J	West Seattle, Fauntleroy	June '10	24.8	12.3 – 37.6	11.4 – 36.9
		Feb '10	24.8	11.8 – 38.6	13.0 – 38.6
		Baseline	24.2	11.9 – 36.6	12.4 – 33.8
CBD	1st - 5th Avenues	June '10	7.4	6.4 – 9.9	4.4 – 10.4
		Feb '10	7.3	5.9 – 10.5	5.2 – 9.8
		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.

June 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 February 2010 conditions. This most significant impact has been the closure of the westbound on-ramp from 1st Avenue S to the West Seattle Bridge; and slow down of traffic on 1st Avenue S due to electrical relocation project. These conditions have impacted all J-Pathway routes that travel to West Seattle via 1st Avenue S in the outbound direction. Note that the travel speeds associated with the J-Pathway group, shown previously in Table 2, combines all West Seattle routes via 1st Avenue S and the Alaskan Way Viaduct. In the CBD area, 1st Avenue has been impacted in the southbound direction due to slow-down of traffic on 1st Avenue S near Railroad Avenue due to the Alaskan Way Viaduct Holgate to King St electrical relocation project.

Table 3 below shows median travel speeds on the J (West Seattle) Pathways, grouped by pathways via 1st Avenue S vs. the Alaskan Way Viaduct. Travel speeds on the 1st Avenue S pathways have deteriorated by about 24 percent in the June 2010 period compared to the previous periods during the PM peak (outbound direction). It is expected that transit travel speed will continue to deteriorate with the upcoming lane reductions on 1st Avenue S from two to one lane of travel due to WOSCA construction and the Seattle City Light duct bank project.

Travel Time Table 3: J-Pathway Travel Speeds; 1st Ave S and AWV Comparison

J-Pathways Performance: June 2010, February 2010, & Baseline Comparison					
Pathway Group	**Area**	**Scenario**	**Median Speed [MPH]**	**AM Peak Period* Hourly Median Range [MPH]**	**PM Peak Period* Hourly Median Range [MPH]**
J 1st Ave	West Seattle via 1st Ave S	June '10	15.0	12.3 – 22.3	11.4 – 15.9
		Feb '10	16.3	11.8 – 19.7	13.0 – 20.6
		Baseline	15.9	11.9 – 20.7	12.4 – 21.0
J AWV	West Seattle via AWV	June '10	29.3	19.5 – 37.6	22.4 – 36.9
		Feb '10	29.9	20.3 – 38.7	20.8 – 38.6
		Baseline	30.1	20.1 – 36.6	22.1 – 33.8

* 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.

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

- Pathways J.1, J.2, J.4, and J.6 show significant increases in travel time and variation all day in the outbound direction. Median travel time has increased between 4 and 6 minutes typically for these pathways, and the 75th percentile travel time during the PM peak has increased between 6 and 8 minutes. This impact is attributable to the closure of the westbound on-ramp to the West Seattle Bridge from 1st Avenue S; the required detour involves roadway blockages due to railroad crossings and lengthy drawbridge openings.
- Pathway I.2, along 4th Avenue S, has shown improvement in the outbound (southbound) direction. This pathway has been impacted by Spokane Viaduct construction during all reporting periods. The completion of the Spokane Viaduct loop ramp to 4th Avenue has likely helped this pathway. In the inbound direction, median travel time results are mixed, but travel time variation seems to have improved overall.
- Pathway I.3 has shown a continued travel time increase in the inbound (northbound) direction, particularly in the afternoon period. This pathway travels on 1st Avenue S and has been impacted by the Spokane Viaduct construction during both June '10 and February '10 periods, however this impact is not as severe as those pathways affected by the ramp closure. Significant impacts from evening lane closures are evident in the 7:00pm hour.

- Pathways B.1, B.2, and B.3 show increased travel time between 1 and 2 minutes in the inbound direction across most of the day. This is likely due to Aurora ITS construction and construction activities on the Aurora Bridge.
- Pathway B.4 shows an increase in travel time of about one minute or less in the outbound direction during the PM peak. This pathway includes Nickerson St, where a road diet was recently applied.
- CBD1 pathway (1st Ave between Stewart St and Columbia St) shows significant travel time and reliability degradations in the southbound direction during the PM peak, especially in the 5:00pm hour where the 75th percentile travel time has increased by almost 4 minutes. The Northbound direction appears to be unaffected. Utility relocation work has begun on 1st Avenue S in the Pioneer Square area; this work has been occurring south of Columbia St, the southern end of the CBD1 pathway, but it appears that traffic queues during the PM peak are affecting transit travel times north of Columbia St. In addition, there have been intermittent closures of Alaskan Way surface street, Atlantic Street, Royal Brougham Way, and Railroad Avenue; these closures may have funneled additional traffic onto 1st Avenue.
- In Downtown Seattle, with exception of 1st Avenue S, these pathways have returned to performance levels on par with baseline conditions. 2nd Avenue and 4th Avenue paving projects have been completed.
    - The CBD2 pathway (2nd Ave between Stewart and Jackson) appears to have improved since the last reporting period, returning to conditions on-par with baseline conditions.
    - CBD3 pathway (3rd Ave between Stewart and Yesler) has maintained consistent performance across all reporting periods.
    - The CBD4 pathway (4th Avenue between Stewart and Jackson) has shown considerable improvement since February, returning to baseline conditions.

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 demonstrated performance comparable to the J pathways as a whole. In the inbound direction during the 8:00am hour, travel times increased by about one minute. 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 demonstrated performance comparable to the J pathways as a whole. In the inbound direction in the 8:00am hour, travel times increased by about one minute.

Route 56X [Pathway J.7] – Pathway J.7 demonstrated performance comparable to the J pathways as a whole. Travel times in the outbound direction have shown minor improvement. However, in the inbound direction in the 8:00am hour, travel times increased by about one minute.

Route 121 [Pathway I.1] – Pathway I.1 demonstrated performance comparable to the I pathways as a whole. The outbound direction has shown some improvement in travel time across most of the day, except for a increase of about one minute during the 5:00pm hour.

Travel Time Budget and Expenditures – August 2010

Bus Monitoring Budget - The bus monitoring equipment installation was substantially completed in 2009, with some follow-up work being completed in 1st Quarter of 2010. The total expenses were billed through the 2nd Quarter of 2010.

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	
Downtown TDM Project	*Primary Market:* Downtown Seattle *Secondary Market:* Center City Urban Centers (Lower Queen Anne, South Lake Union, Capitol Hill, First Hill), Ballard/Interbay, Upper Queen Anne, and Fremont.
Program	**Description**
Incentives for Transit and Ridesharing **$350,000 WSDOT** **$150,000 Metro Match**	Provide a minimum of 2,500 transit pass incentives to downtown Seattle employers and 1,000 incentives to new carpoolers.
Reduce Single Occupancy Vehicles (SOV) Commuter Parking **$225,000**	Encourage property owners and drivers to use the city's electronic parking guidance system to convert 2,000 long term commuter parking stalls to short-term parking through marketing and incentives.
Promotions for Transit and Ridesharing **$150,000**	Promote new transit services and all rideshare programs to a minimum of 75,000 households and/or employees.
Teleworking/Flexible Schedules **$140,000**	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.

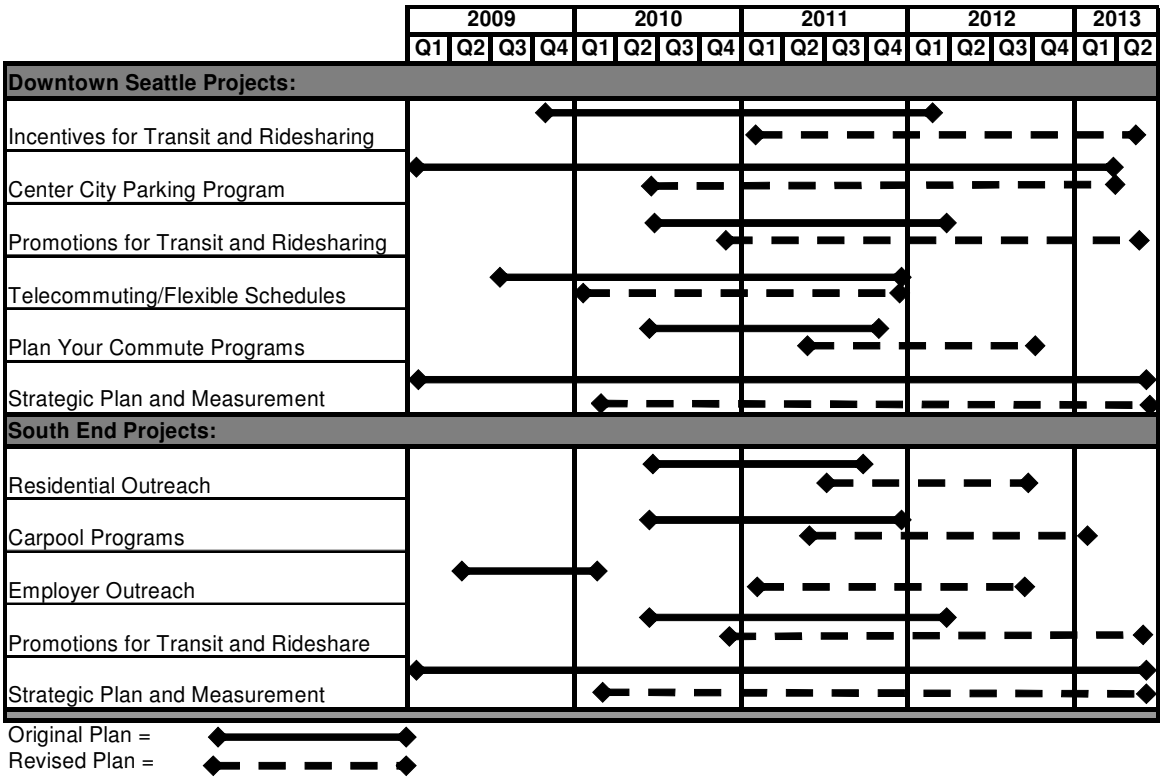
Plan Your Commute Programs **$75,000**	Provide one-on-one consultations about commute options with Plan Your Commute Events. Information and free bus ride tickets are usually given to participants.
Strategic Plan and Measurement **$25,172**	Analyze and report on overall results of transportation demand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

TDM Program Definitions (continued)	
South End SR 99 Corridor TDM Project	*Primary Market:* West Seattle/SODO-South Duwamish *Secondary Market:* 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
Program	**Description**
Residential Outreach **$300,000 WSDOT** **$200,000 Metro match**	Conduct residential outreach targeted to neighborhoods potentially affected by construction. Outreach will encourage residents to ride the bus, carpool, bicycle, walk or eliminate trips.
Carpool Programs **$150,000**	Offer 1,000 incentives to new carpoolers in the SODO/Duwamish and West Seattle areas.
Promotions for Transit and Ridesharing **$167,000**	Promote new transit services and all rideshare programs to a minimum of 90,000 households.
Employer Outreach **$100,000**	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.).
Strategic Plan and Measurement **$25,440**	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



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 June through September 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 began planning for implementation of a couple of programs, which will kick off before the end of 2010. During this reporting period, SDOT hired a consultant to conduct their parking intercept study under the Alaskan Way Viaduct. The survey 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. Also during this reporting period SDOT launched phase one of e-Park, with six participating garages.

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 5 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. The incentive offer is $30 per pass purchased, which is sent as a rebate to employers after their program has started. The incentive is only offered to employers who are new to the program. The retention rate of the program is around 90%. This program provides commuters a valuable tool which makes choosing a non-drive alone travel option easier.

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

TDM Table 3

TDM Program Update – (June 2010– September 2010)	
Incentives for Transit and Ridesharing	▪ Continued to offer ORCA Passport Incentives using Metro matching dollars ▪ Distributed 518 new ORCA Passports in Downtown Seattle between June and August. Incentives are processed after programs begin, which leads to a one-month delay before data is available. September data will be included in the next report. ▪ Carpooling incentives and transit incentives funded by WSDOT will be offered starting in Quarter 1 2011
Reduce Single Occupancy Vehicles (SOV) Commuter Parking	▪ Consultant conducted the parking intercept survey. ▪ Held Kick-Off event for e-Park in early September. ▪ Began planning for phase 2 of e-Park. ▪ Received data on the first month of operation of e-Park (Sept)
Promotions for Transit and Ridesharing	▪ Project is now on-hold until Quarter 4 2010 due to changes in the WSDOT construction schedule

Teleworking/Flexible Schedules	▪ Conducted two employer trainings—one for larger employers and one for small employers ▪ Followed-up with at least 15 companies who attended the trainings ▪ Had in-person meetings with twelve companies, including Russell Investments, Fisher Communications, and Starbucks ▪ Helped get official policies adopted by Russell Investments and Starbucks ▪ Began planning trainings with Russell Investments for November ▪ Three companies are reaching the implementation stage, which will begin over the next reporting period
Plan Your Commute	▪ Participated in an Amazon Employee Transportation Fair to help their employees learn about all of their transportation options ▪ Main part of project will kick off in Quarter 2 2011
Residential Outreach	▪ Project is now on-hold until Quarter 1 2011 due to changes in the WSDOT construction schedule
Carpool Program	▪ Project is now on-hold until Quarter 1 2011 due to changes in the WSDOT construction schedule
Employer Outreach	▪ Project is now on-hold until Quarter 1 2011 due to changes in the WSDOT constructions schedule
Promotions for Transit and Ridesharing	▪ Duwamish TMA handed out informational materials to over 50 small businesses in SODO as part of their small employer outreach program ▪ The materials covered transit service, construction timing/info, and information on alternative ways to commute ▪ They conducted in-person surveys with a large proportion of these businesses ▪ The Metro portion of this work will begin in Quarter 1 2011

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, 1,259 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 109 single occupancy vehicle trips. The WSDOT portion of the program will begin in January 2011.

TDM Impacts: Table 4

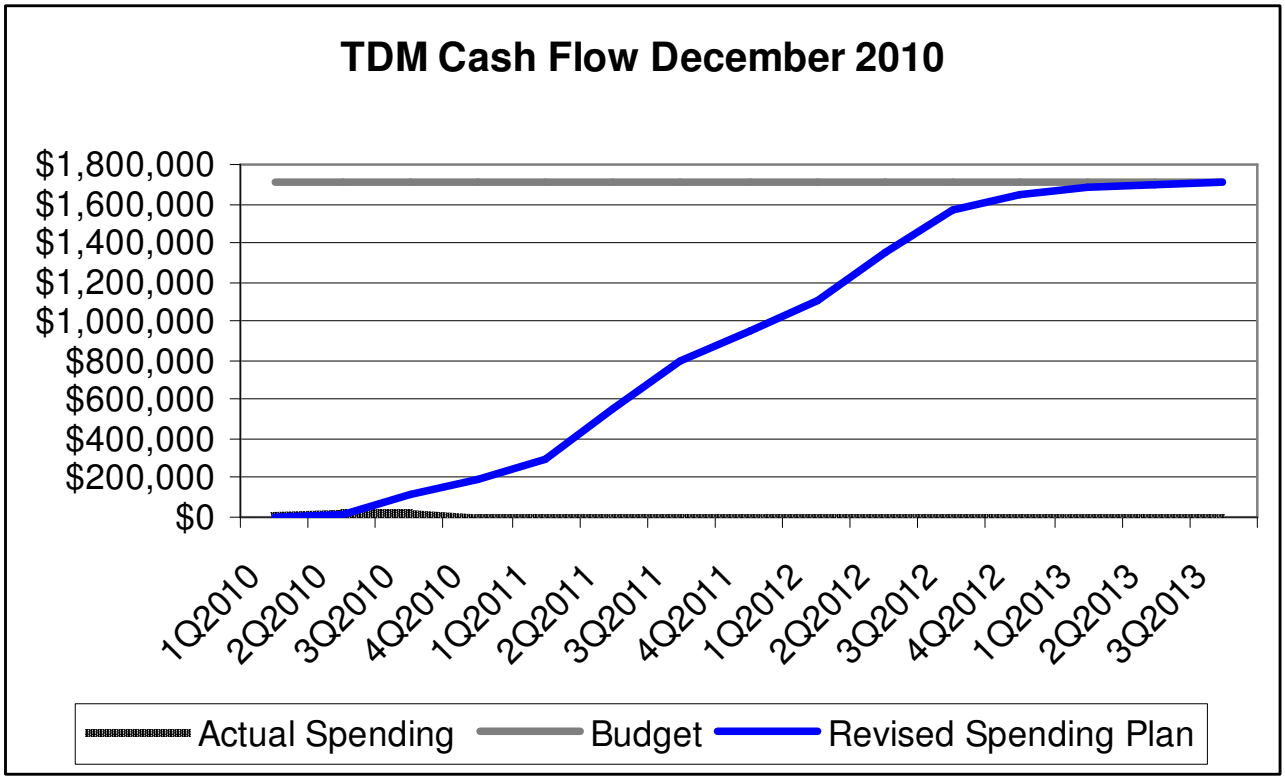
Activity	Trip Reduction (round trips reduced daily)		Individual Metrics		
	Target for entire program period	Current performance	Description	Target for entire program period	Current performance
Enhanced Transit Service & Downtown / South End Transportation Demand Management					
Promotion of Enhanced Transit Service / Enhanced Transit Service	1,100		Employees/Households in Downtown	75,000	
Promote Ridesharing			Households in South End	90,000	
Downtown Transportation Demand Management					
Incentives for Transit	240	109	Transit Pass Incentives	2,500	1,259
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	
South End Transportation Demand Management					
Residential Outreach	390		Household Participation Rate	10%	
Carpool Program	270		Carpool Incentives	1,000	
Employer Outreach	100		Transit Passes Distributed	N/A	
TOTAL	4,130	109			

TDM BUDGET AND EXPENDITURE – SEPTEMBER 2010

The estimated cash flow as of September 2010 by quarter is listed in the table below.

TDM Table 5

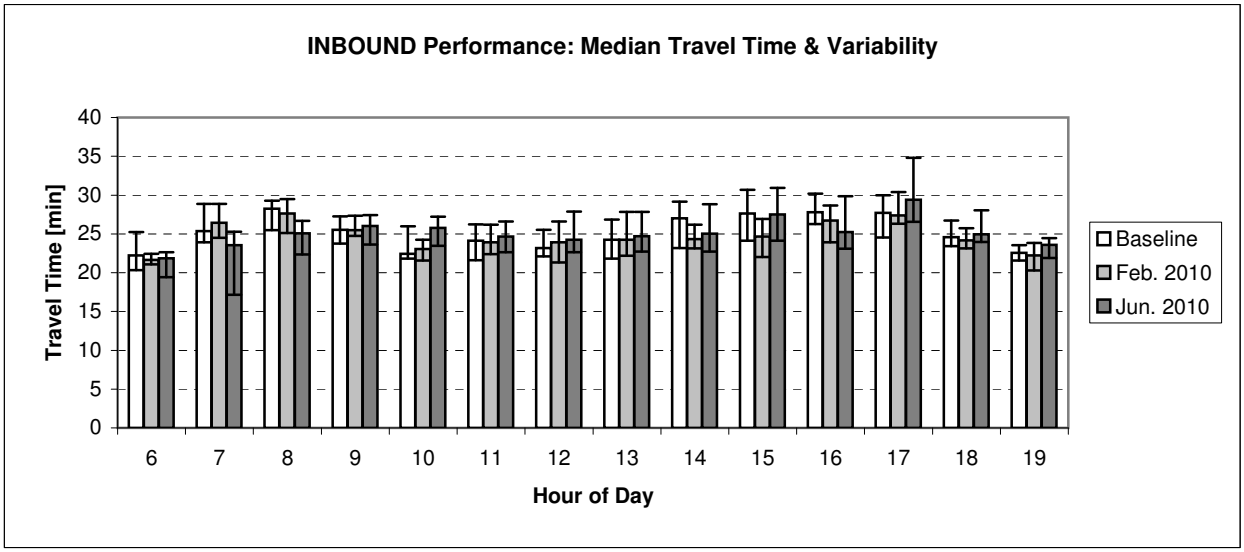
TDM Cash Flow –September 2010

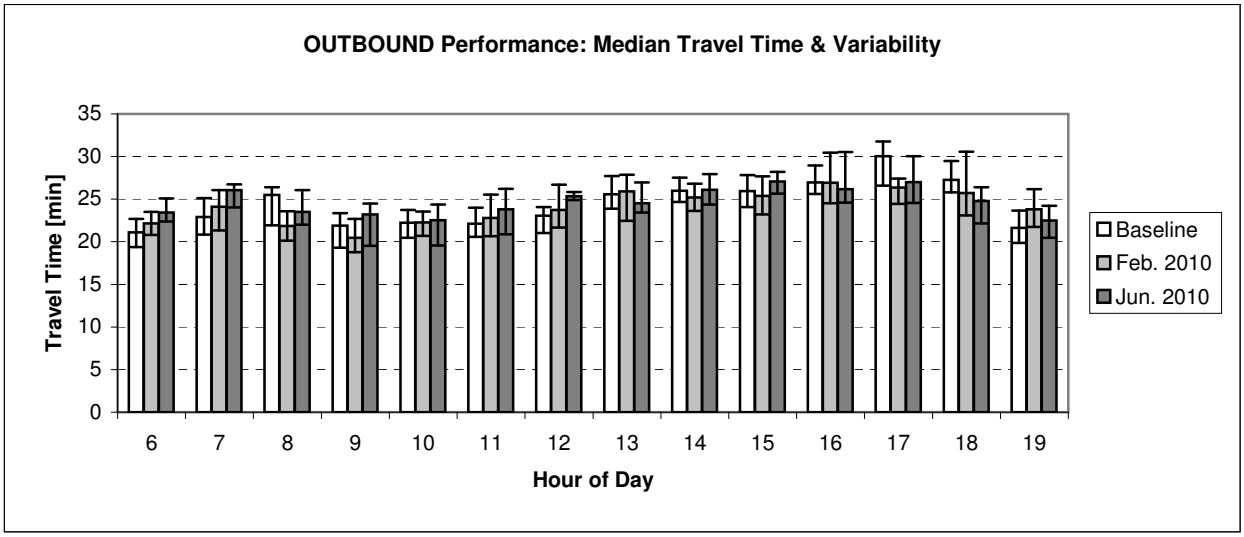


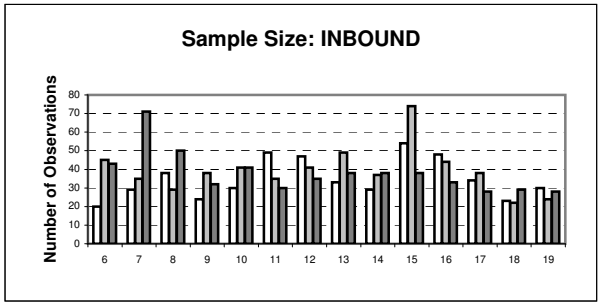
Quarter (Billing Month)	**Expenditures** (All expenditures are entered in the quarter the billing will be submitted to WSDOT not the quarter in which the work is performed.)	
	Actual Spending	Current Plan
1Q2010 (Mar)	$7,269	
2Q2010 (May)	$21,135	$32,731
3Q2010 (Oct)	$25,607	$81,000
4Q2010		$71,000
1Q2011		$107,000
2Q2011		$253,750
3Q2011		$245,000
4Q2011		$156,500
1Q2012		$157,250
2Q2012		$236,500
3Q2012		$226,000
4Q2012		$72,000
1Q2013		$34,000
2Q2013		$21,000
3Q2013		$6,612
Total	$1,707,612	

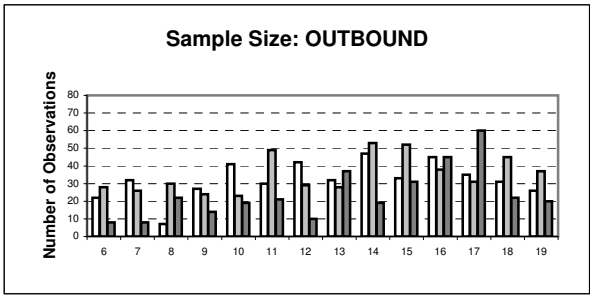
Pathway A.1

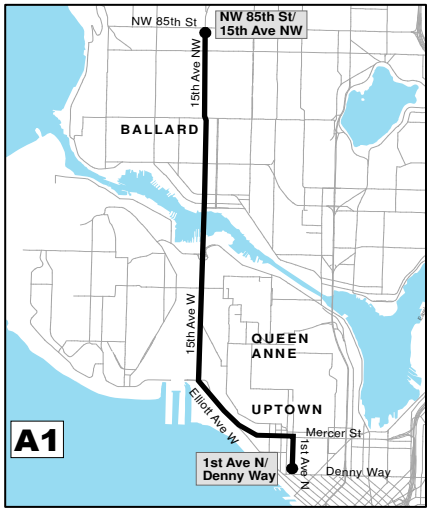
15th Ave NW & NW 85th St to 1st Ave & Denny Way via 15th/Elliott/Mercer







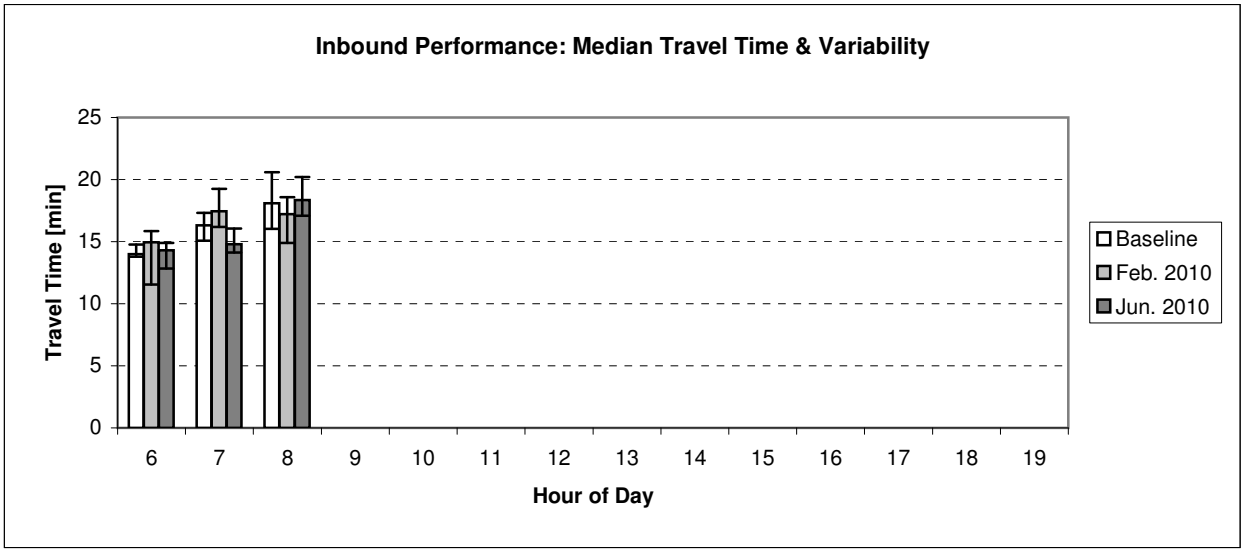


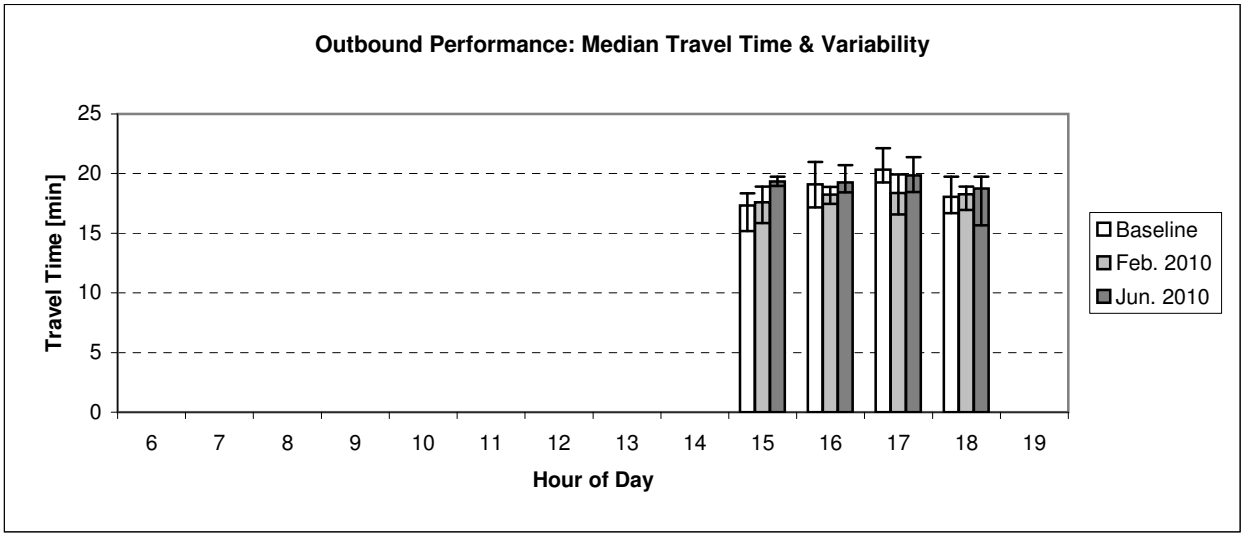


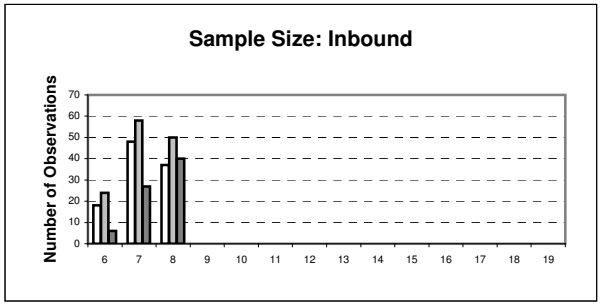
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL-AVI
Feb. 2010	3/1/10 - 3/31/10	AVL-AVI
Jun. 2010	9/7/10 - 10/1/10	AVL-AVI

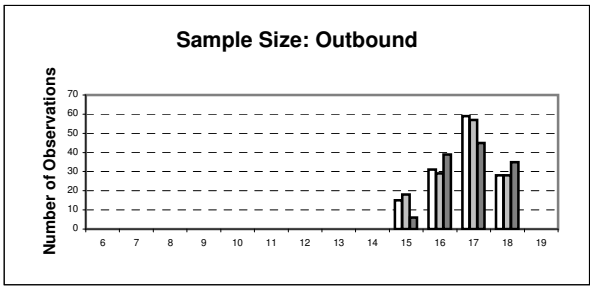
Pathway A.2

15th Ave NW & NW 85th St to 1st Ave & Denny Way via 15th/Elliott/Western (Peak Only)





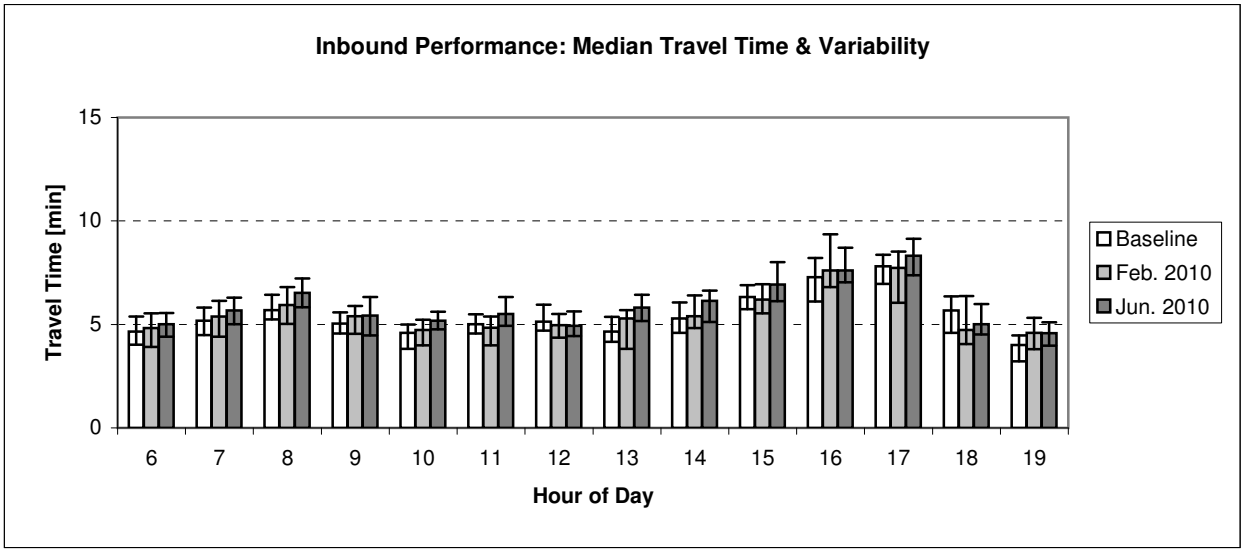


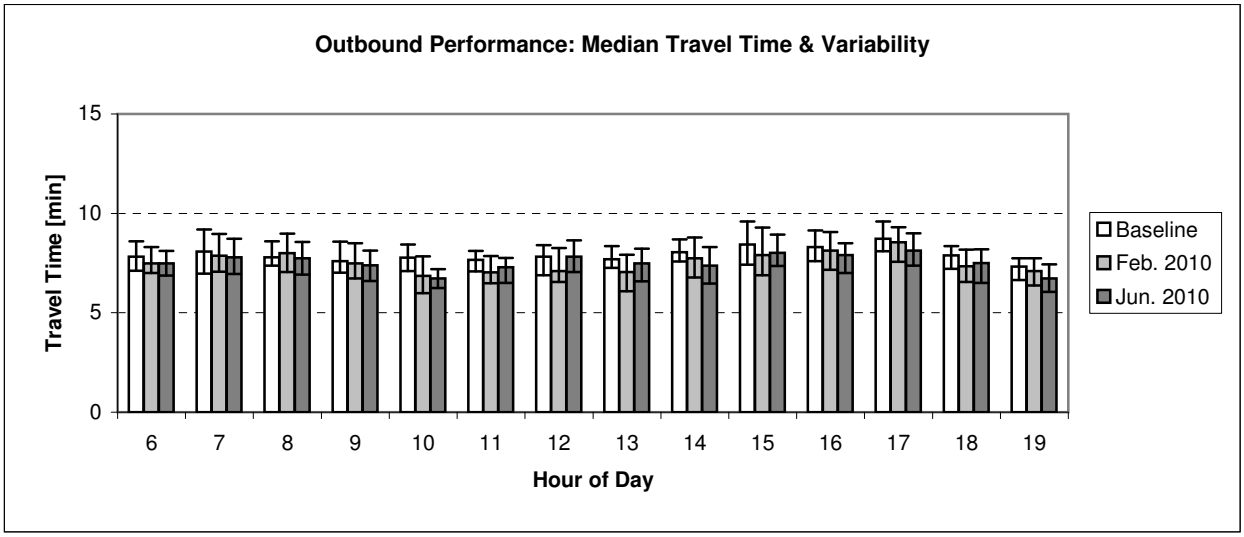


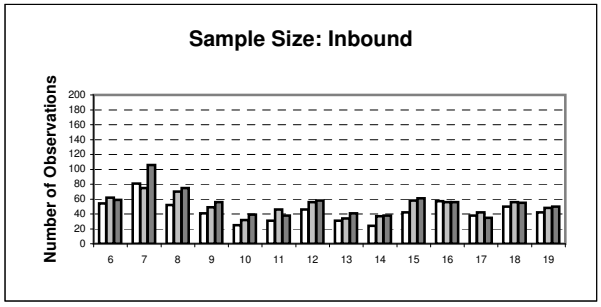
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL-AVI
Feb. 2010	3/1/10 - 3/31/10	AVL-AVI
Jun. 2010	9/7/10 - 10/1/10	AVL-AVI

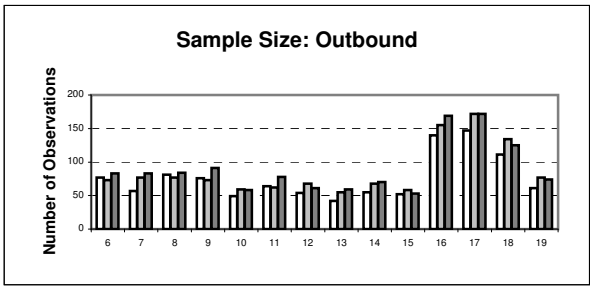
Pathway A.3

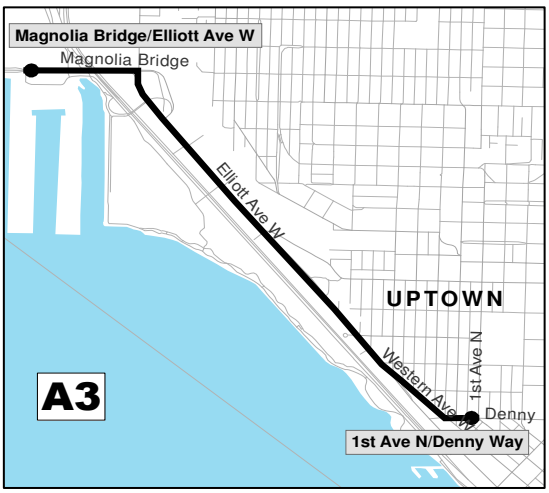
Magnolia Bridge to 1st Ave & Denny Way via Elliott/Western







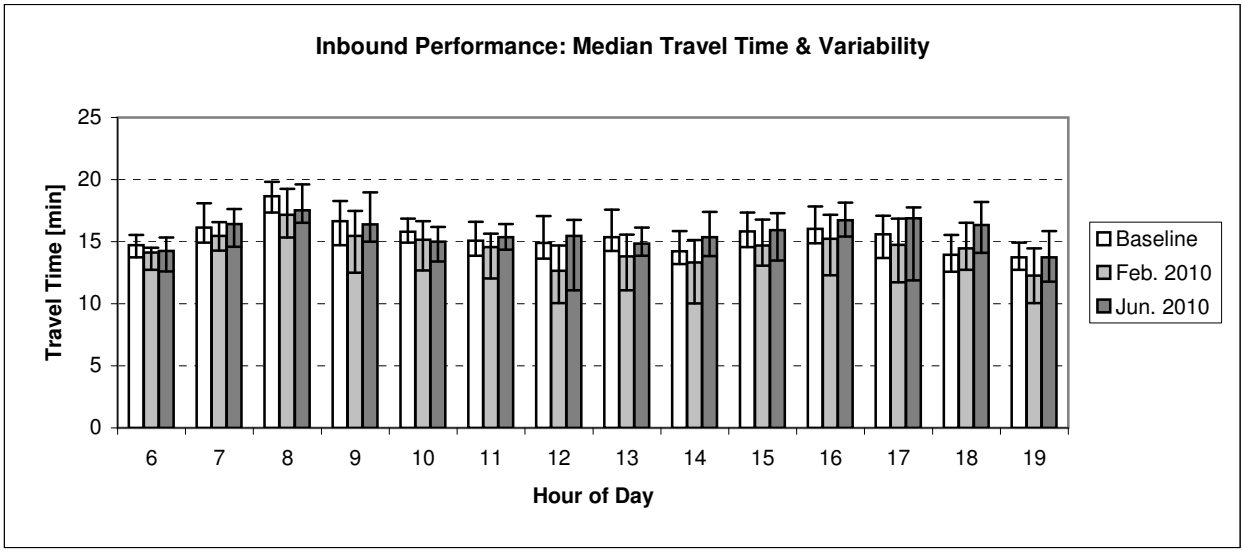


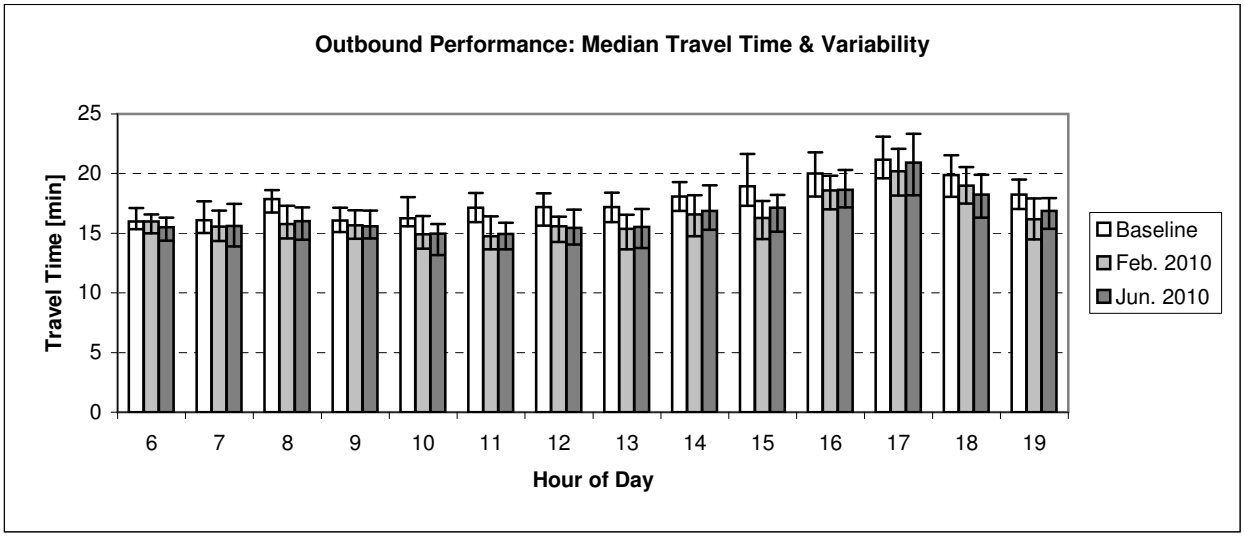


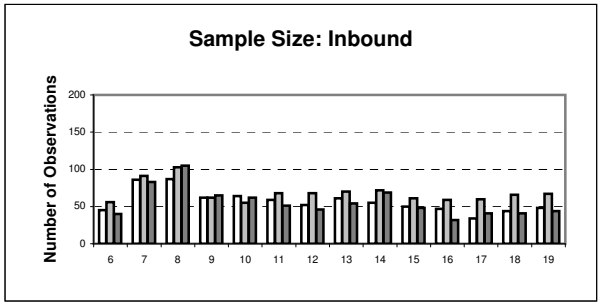
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL-AVI
Feb. 2010	3/1/10 - 3/31/10	AVL-AVI
Jun. 2010	9/7/10 - 10/1/10	AVL-AVI

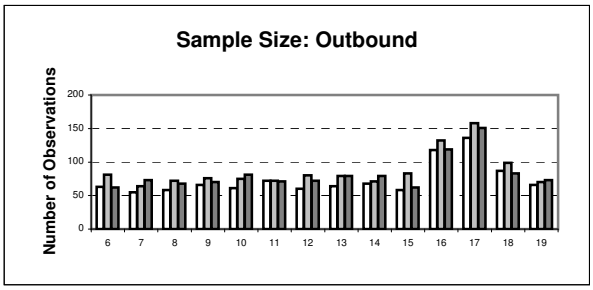
Pathway B.1

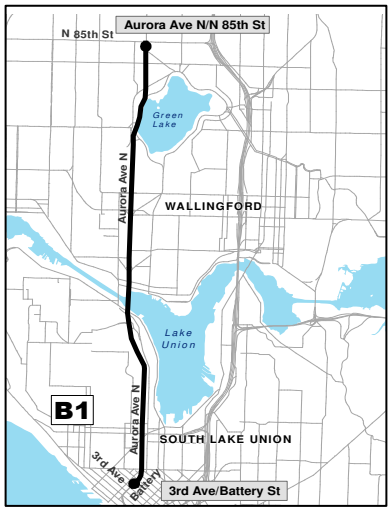
Aurora Ave N & N 85th St to 3rd Ave & Battery St via Aurora Ave







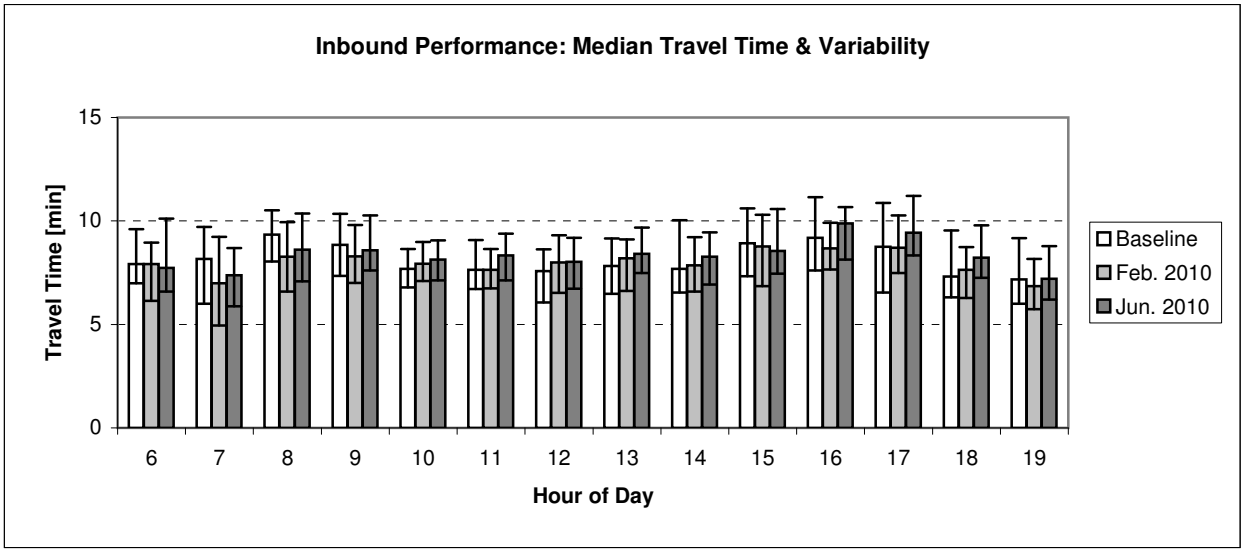


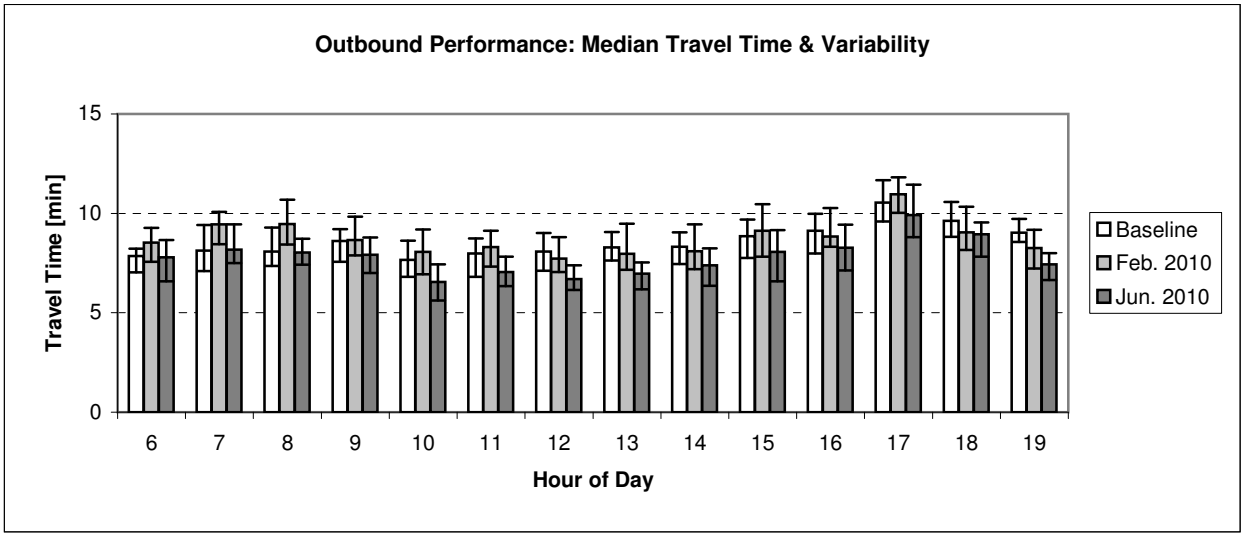


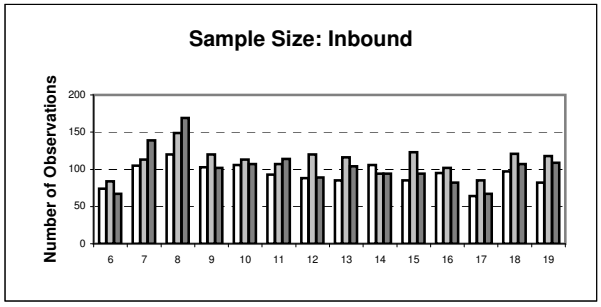
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL-AVI
Feb. 2010	3/1/10 - 3/31/10	AVL-AVI
Jun. 2010	9/7/10 - 10/1/10	AVL-AVI

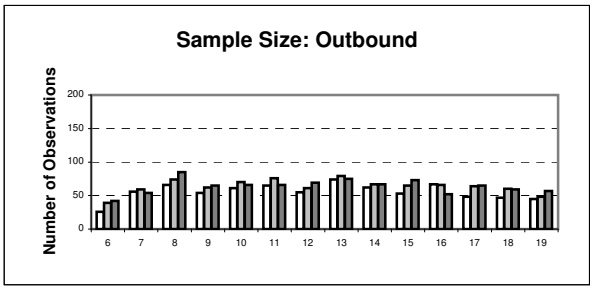
Pathway B.2

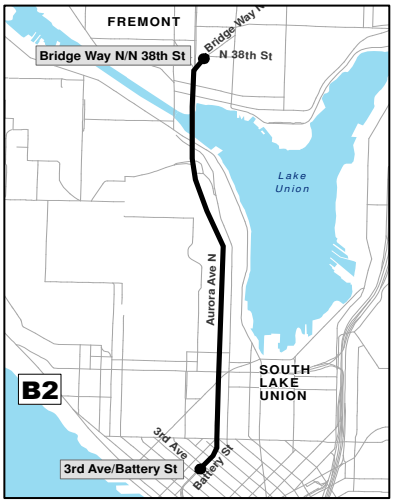
Bridge Way & N 38th St to 3rd Ave & Battery via Aurora Ave







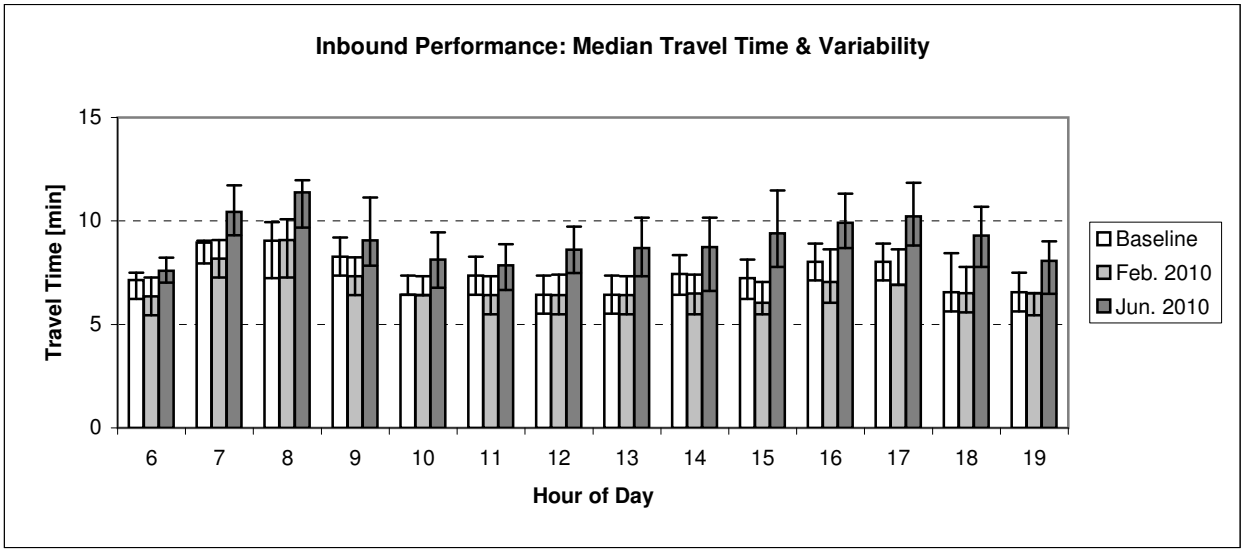


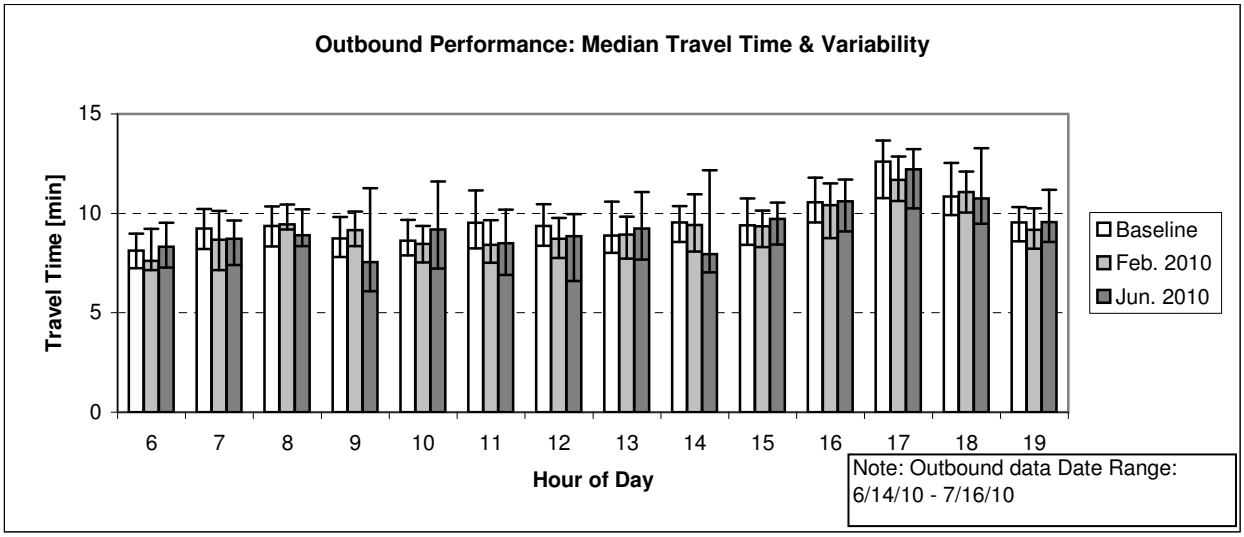


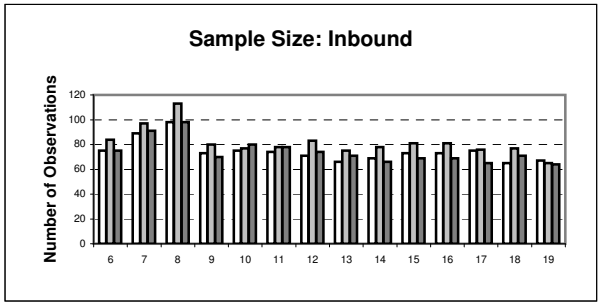
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL-AVI
Feb. 2010	3/1/10 - 3/31/10	AVL-AVI
Jun. 2010	9/7/10 - 10/1/10	AVL-AVI

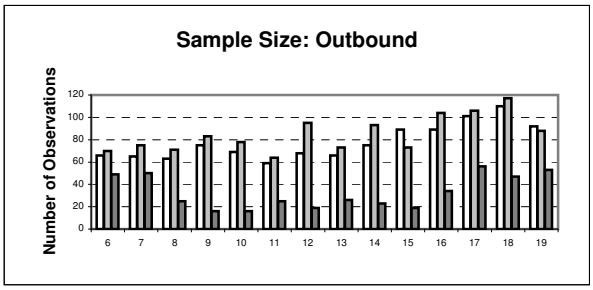
Pathway B.3

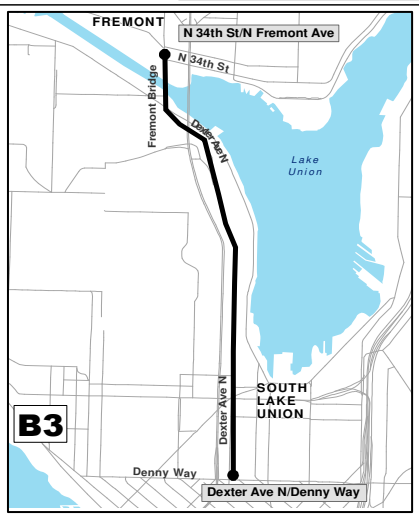
Fremont Ave N & N 34th St to Denny Way & Dexter Ave via Dexter







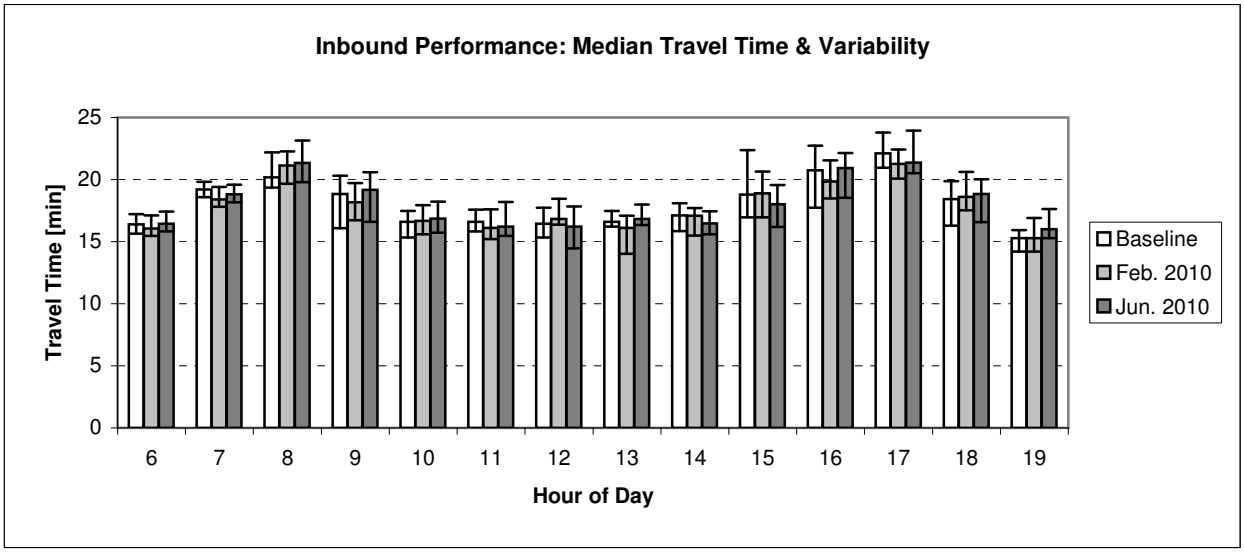


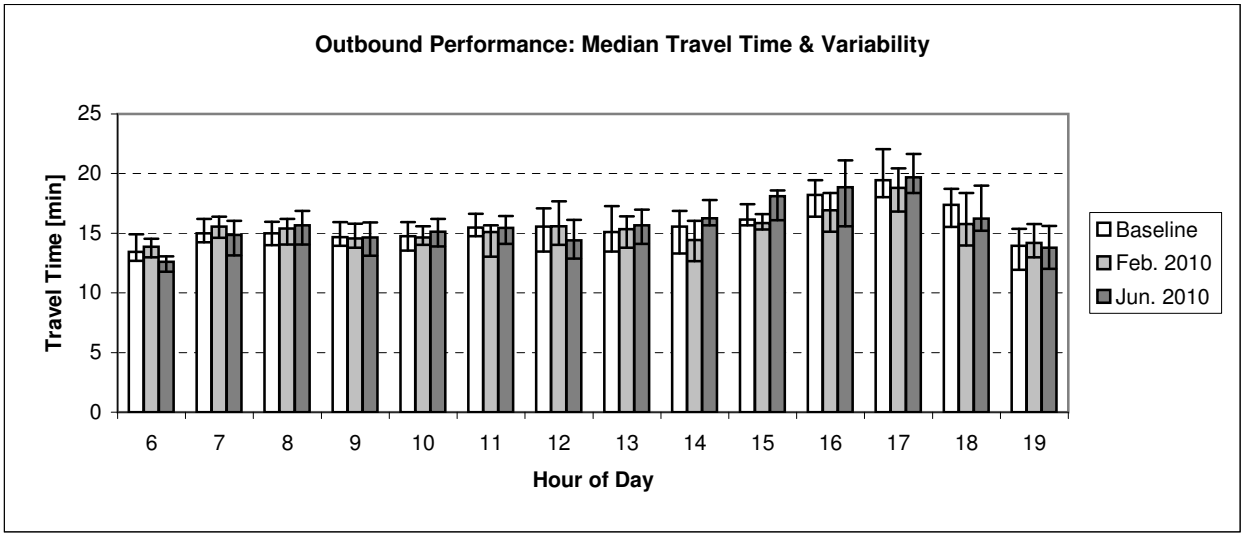


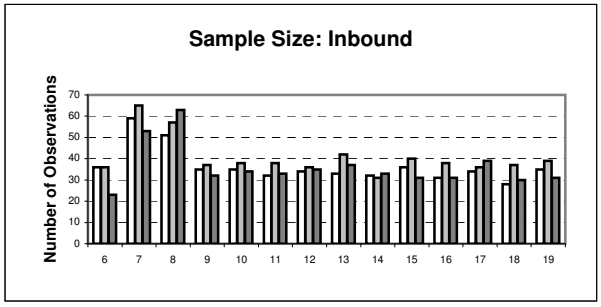
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL
Feb. 2010	3/1/10 - 3/31/10	AVL
Jun. 2010	9/7/10 - 10/1/10	AVL

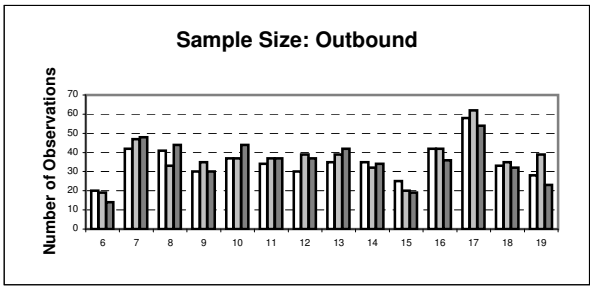
Pathway 41B.4

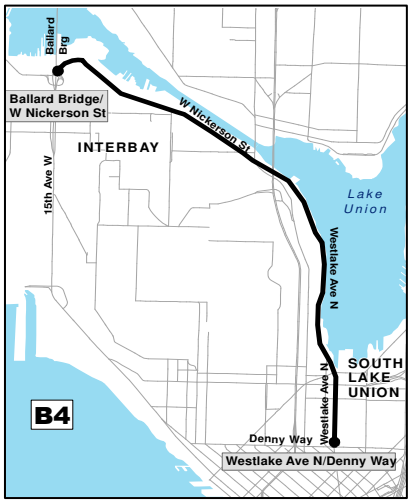
Ballard Bridge to Denny Way & Westlake Ave via Nickerson/Westlake







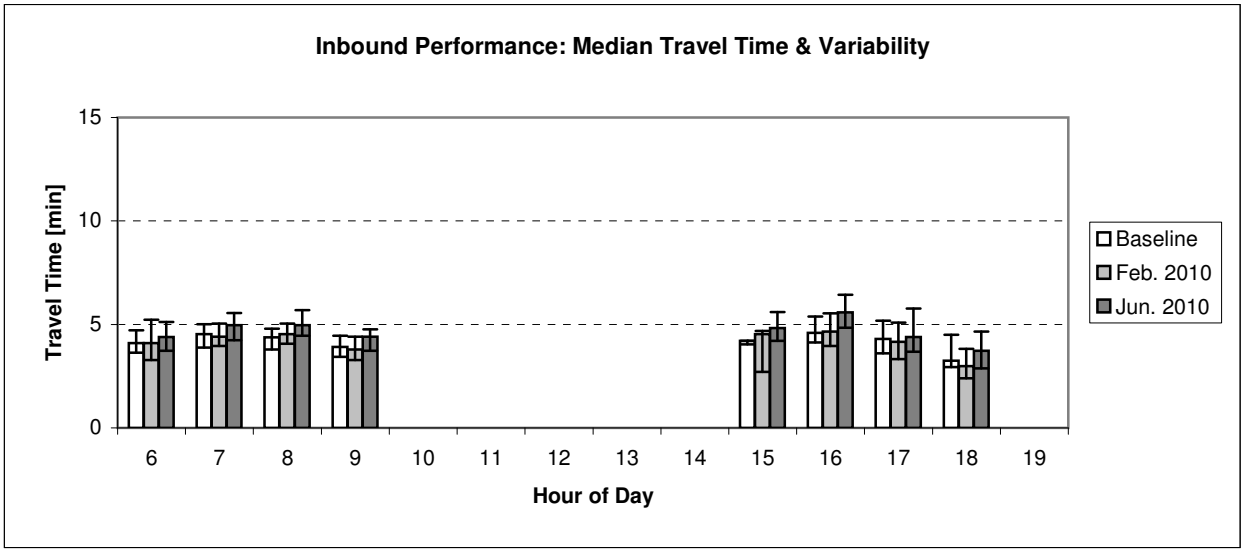


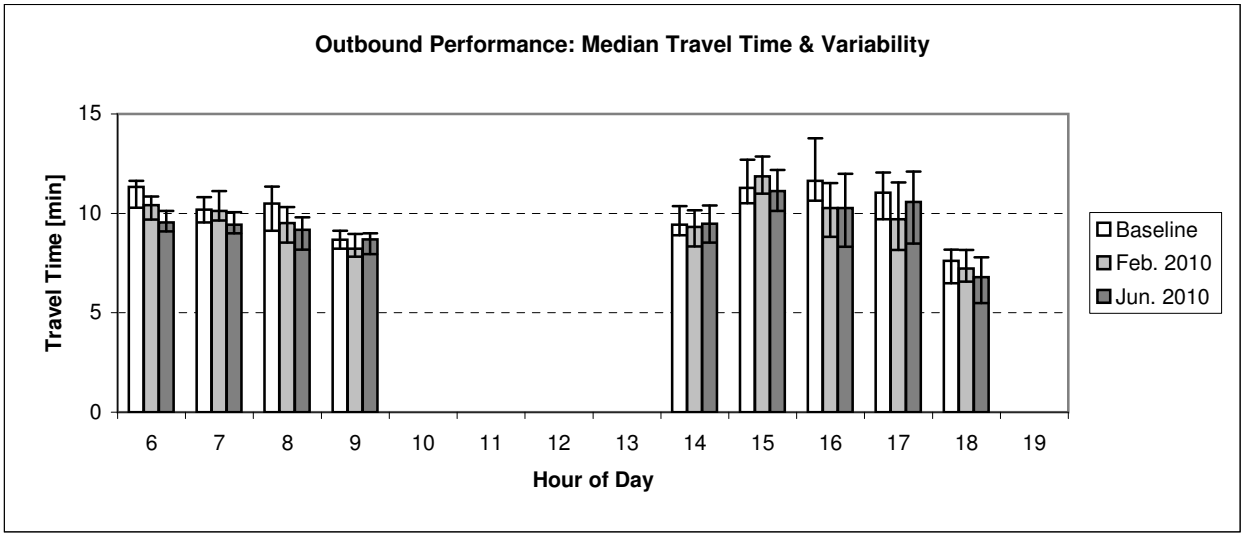


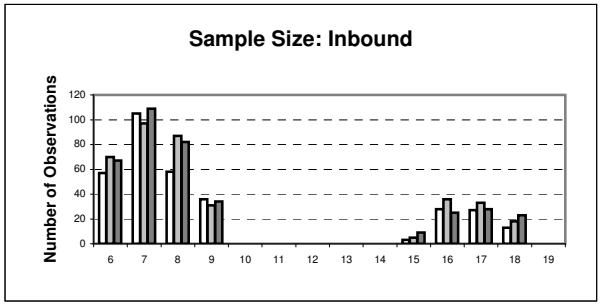
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL
Feb. 2010	3/1/10 - 3/31/10	AVL
Jun. 2010	9/7/10 - 10/1/10	AVL

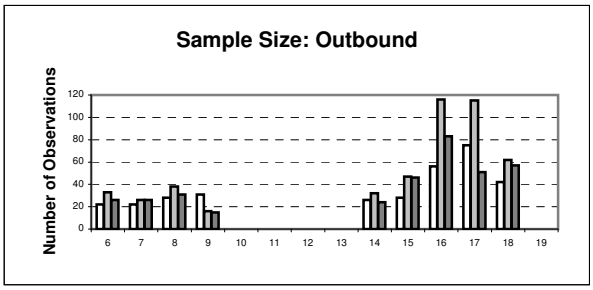
Pathway I1

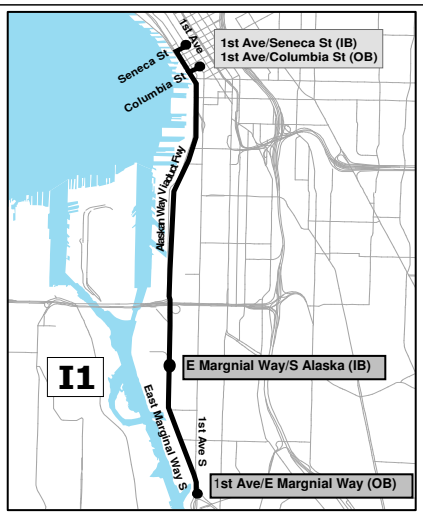
East Marginal Way & 1st Ave/Alaska St to 1st Ave & Seneca/Columbia St via Marginal/AWV







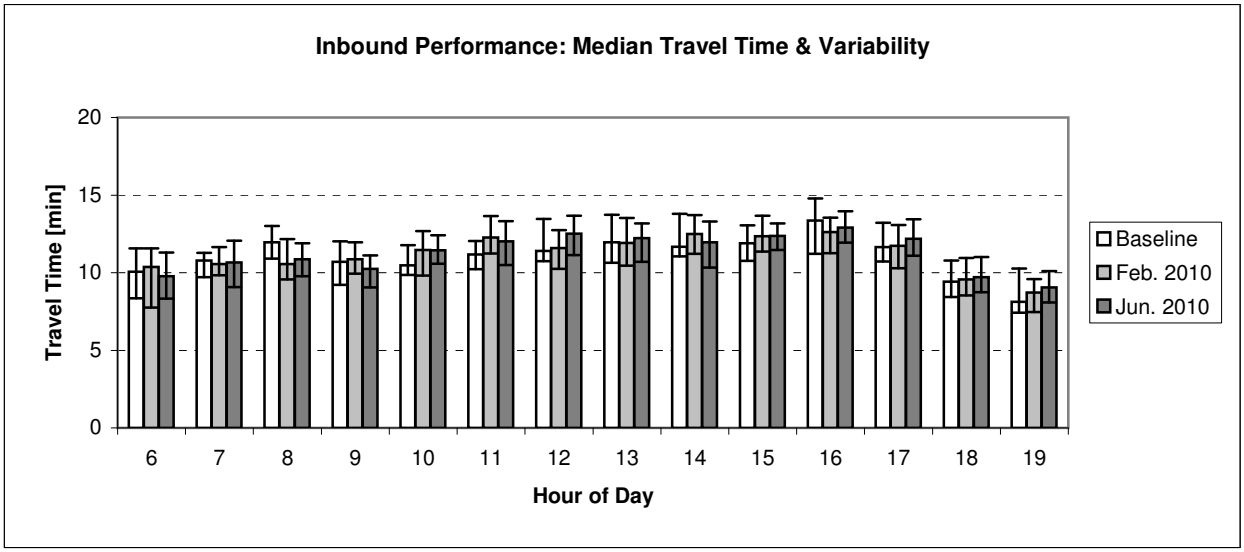


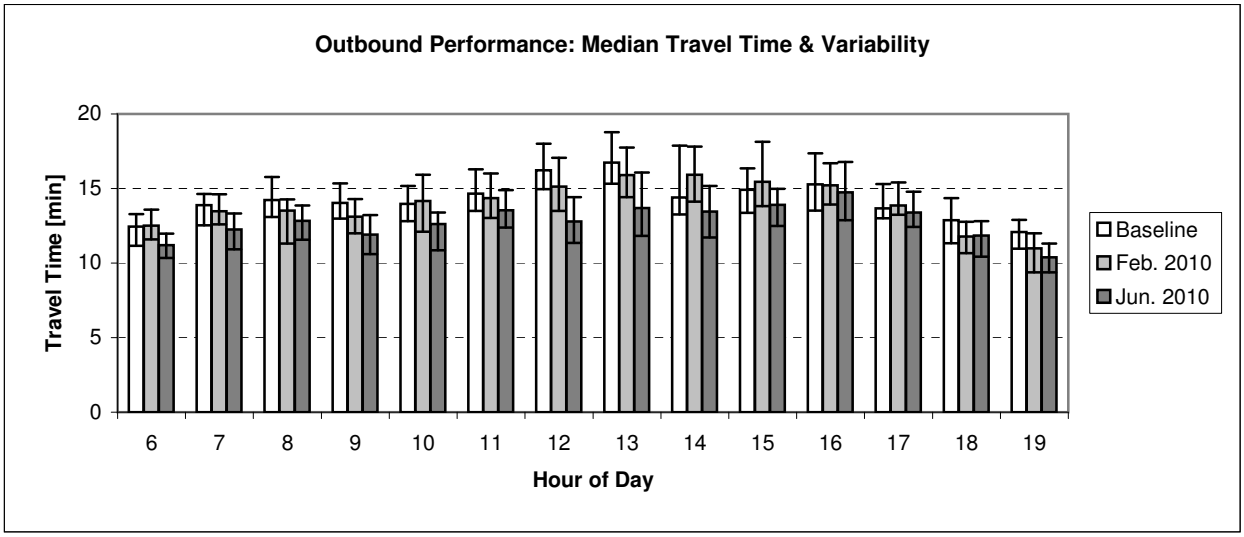


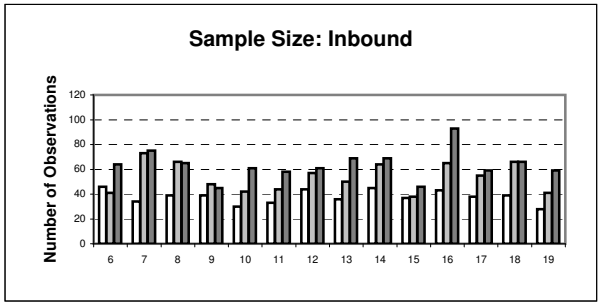
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL-AVI
Feb. 2010	3/1/10 - 3/31/10	AVL-AVI
Jun. 2010	9/7/10 - 10/1/10	AVL-AVI

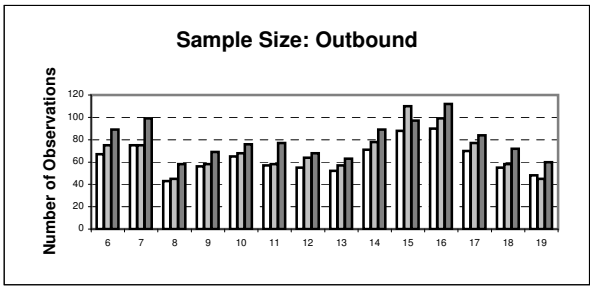
Pathway I.2

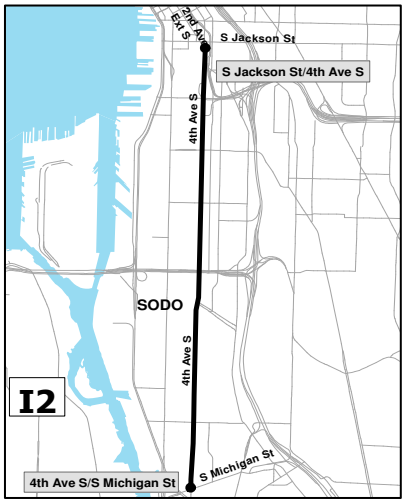
4th Ave S & S Michigan St to 4th/2nd Ave & Jackson St via 4th Ave S







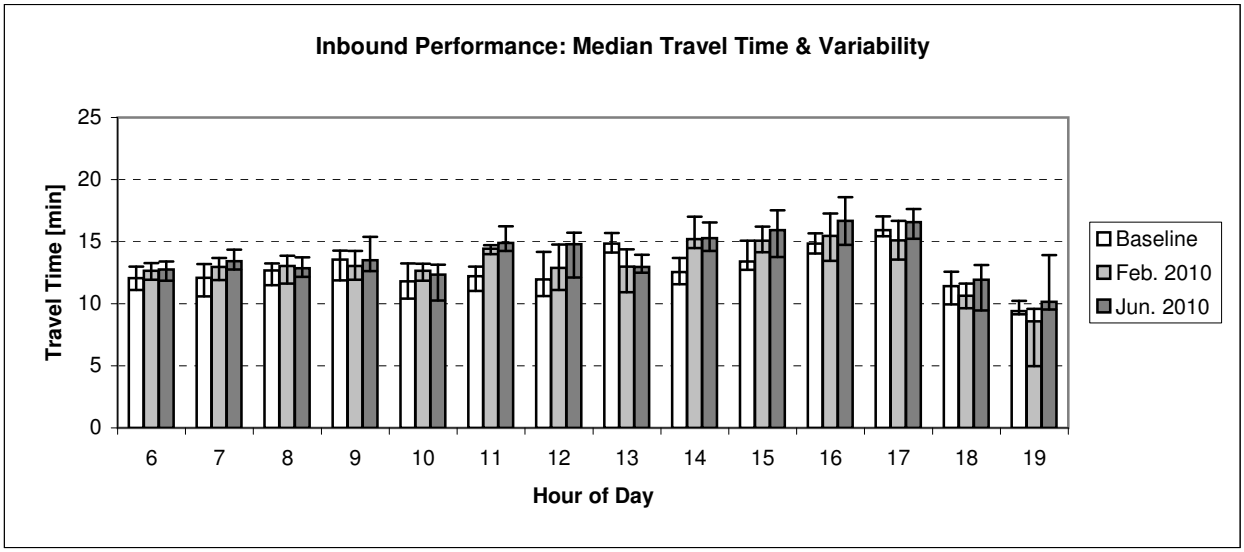


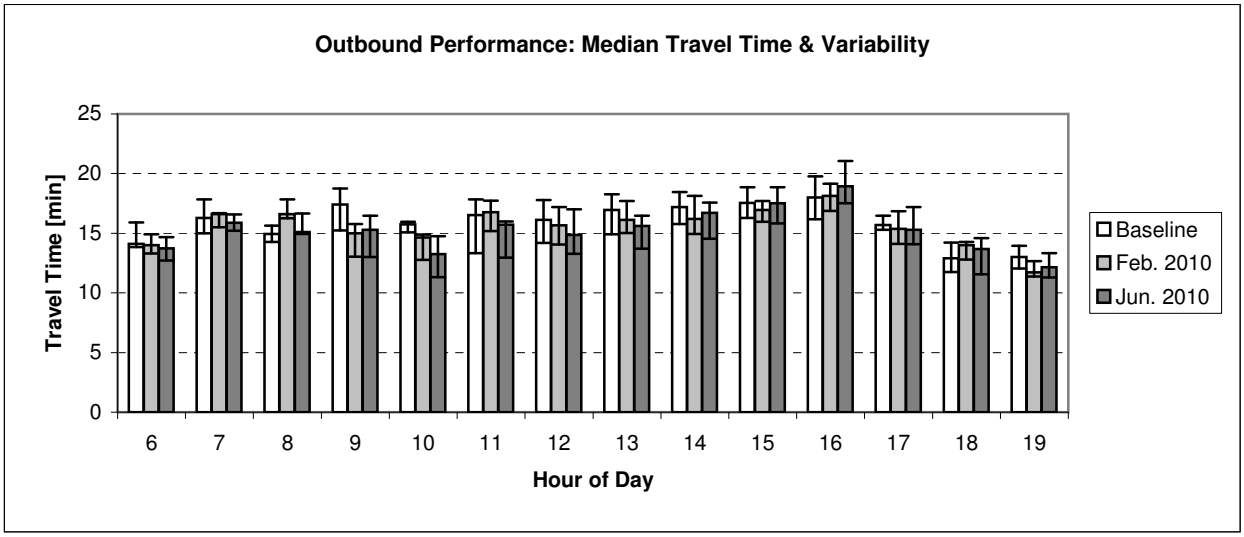


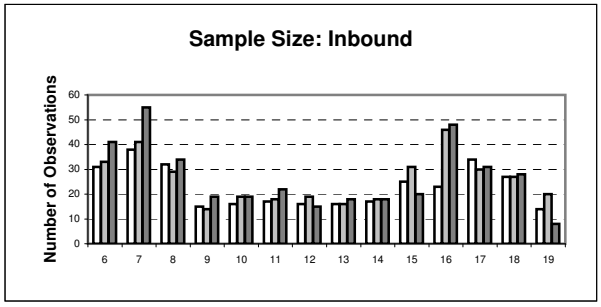
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL-AVI
Feb. 2010	3/1/10 - 3/31/10	AVL-AVI
Jun. 2010	9/7/10 - 10/1/10	AVL-AVI

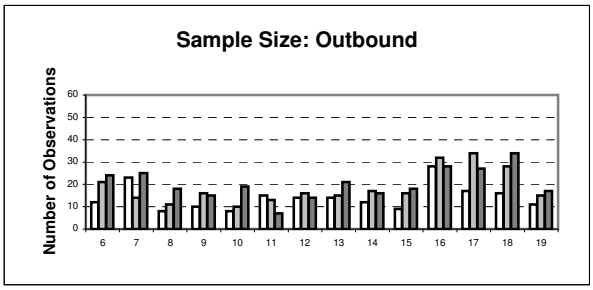
Pathway I.3

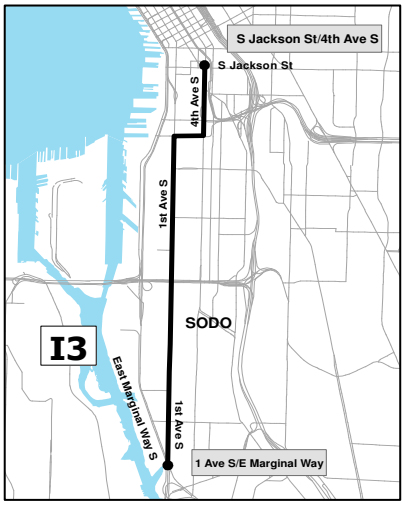
1st Ave S & East Marginal Way to 4th/2nd Ave & Jackson St via 1st Ave S







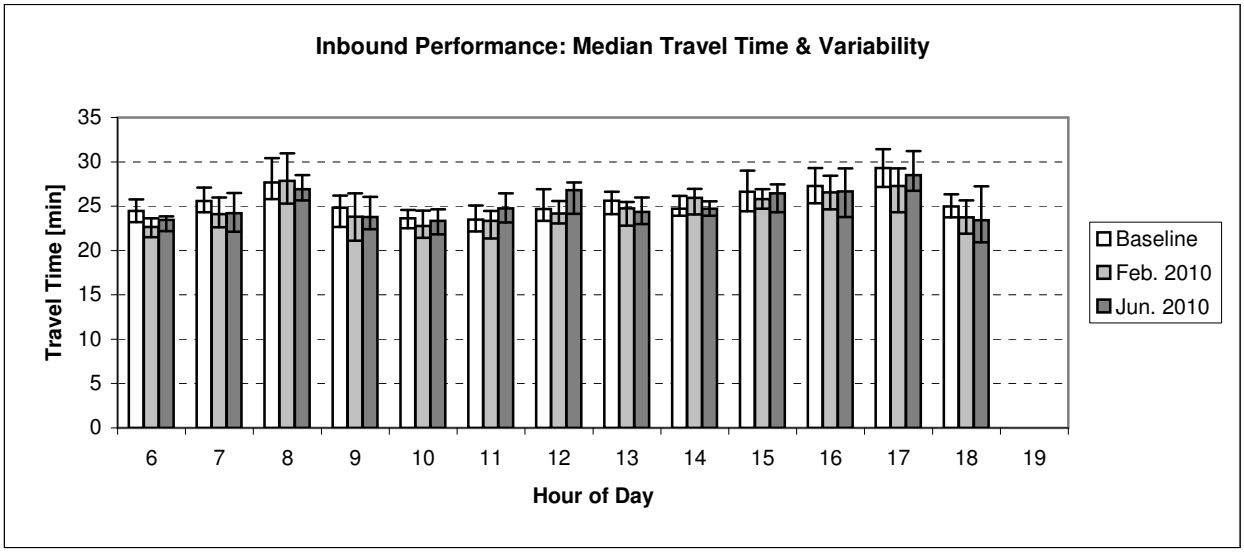


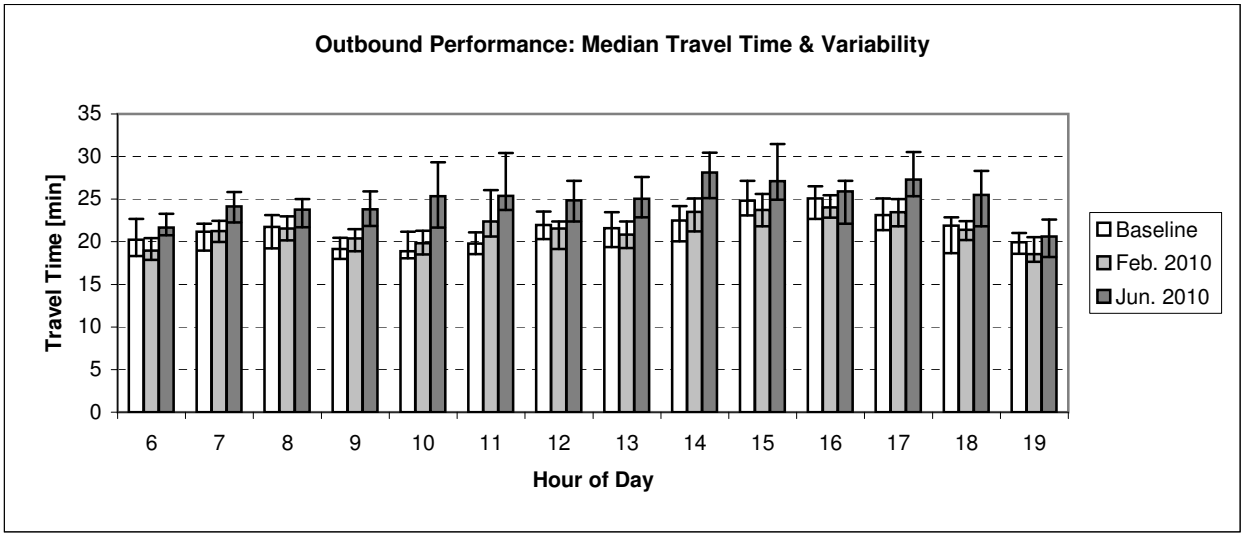


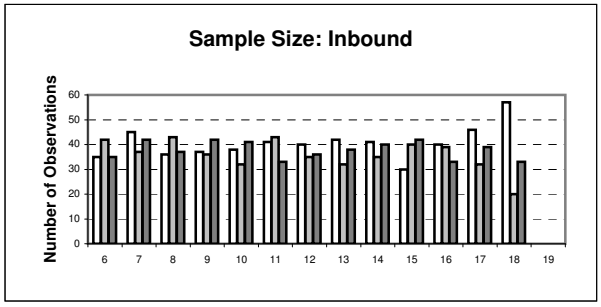
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL-AVI
Feb. 2010	3/1/10 - 3/31/10	AVL-AVI
Jun. 2010	9/7/10 - 10/1/10	AVL-AVI

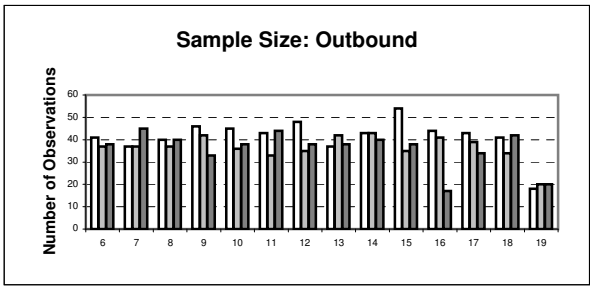
Pathway J.1

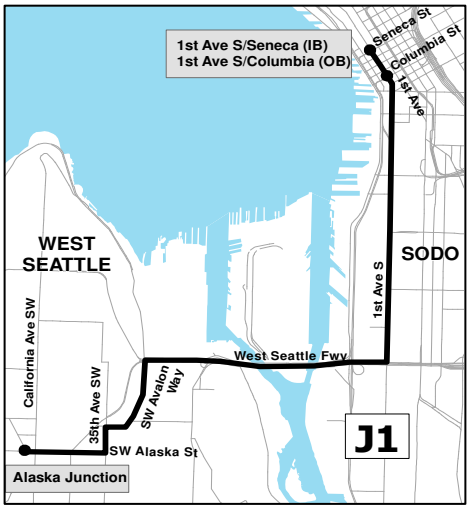
Alaska Junction to 1st Ave & Seneca/Columbia St via 1st Ave S







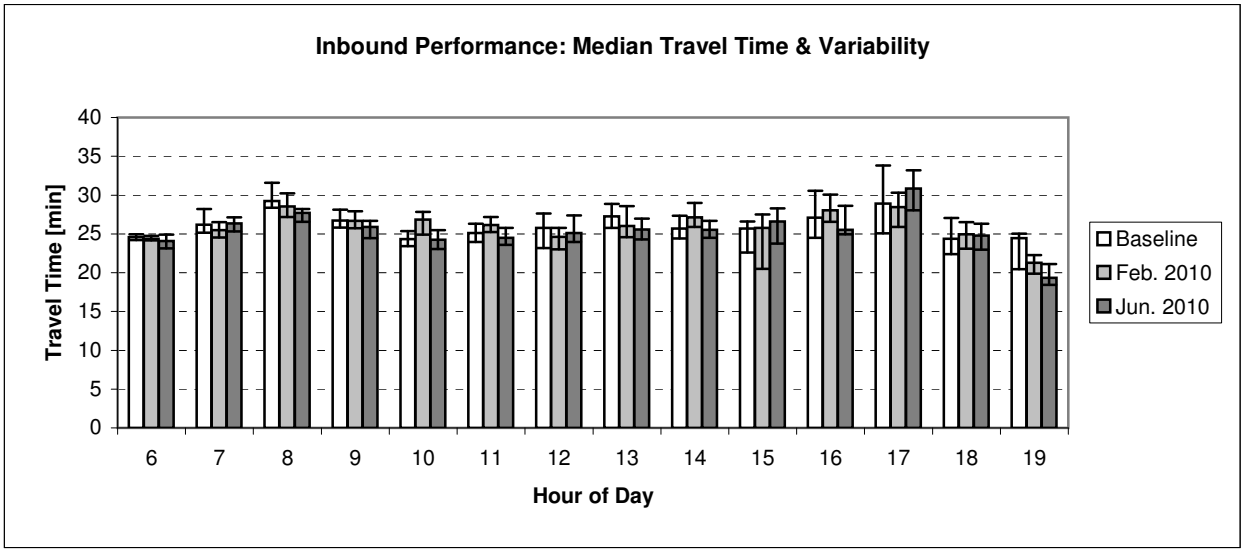


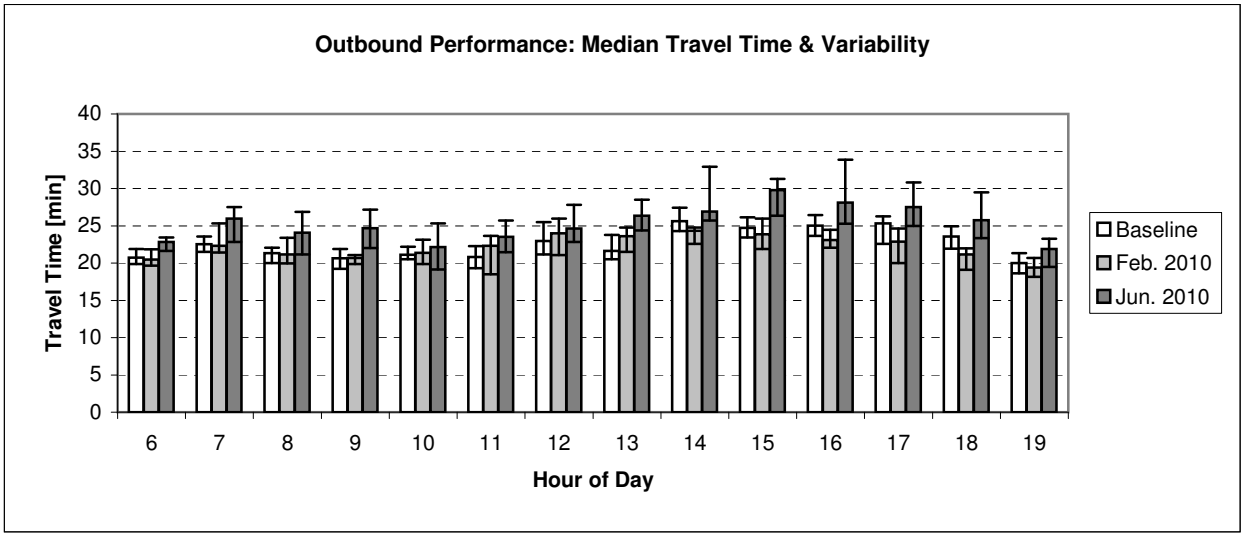


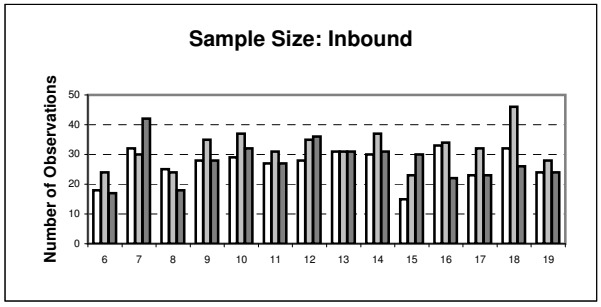
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVI-AVI
Feb. 2010	3/1/10 - 3/31/10	AVI-AVI
Jun. 2010	9/7/10 - 10/1/10	AVI-AVI

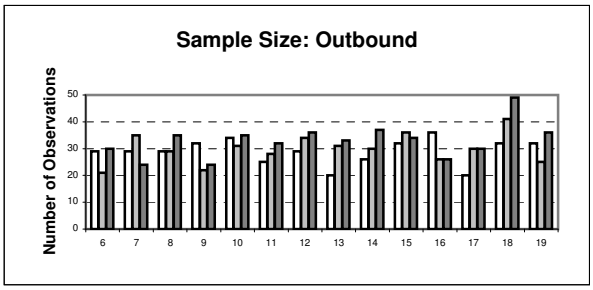
Pathway J.2

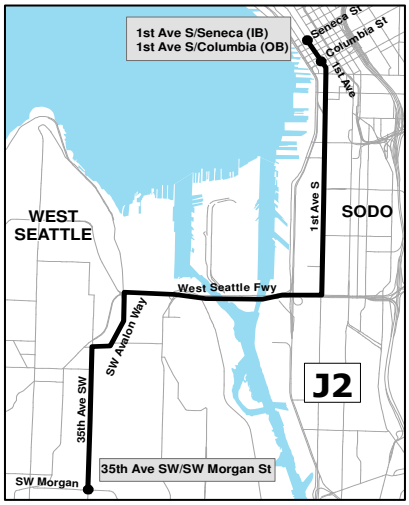
35th Ave SW & SW Morgan St to 1st Ave & Seneca/Columbia St via 1st Ave S







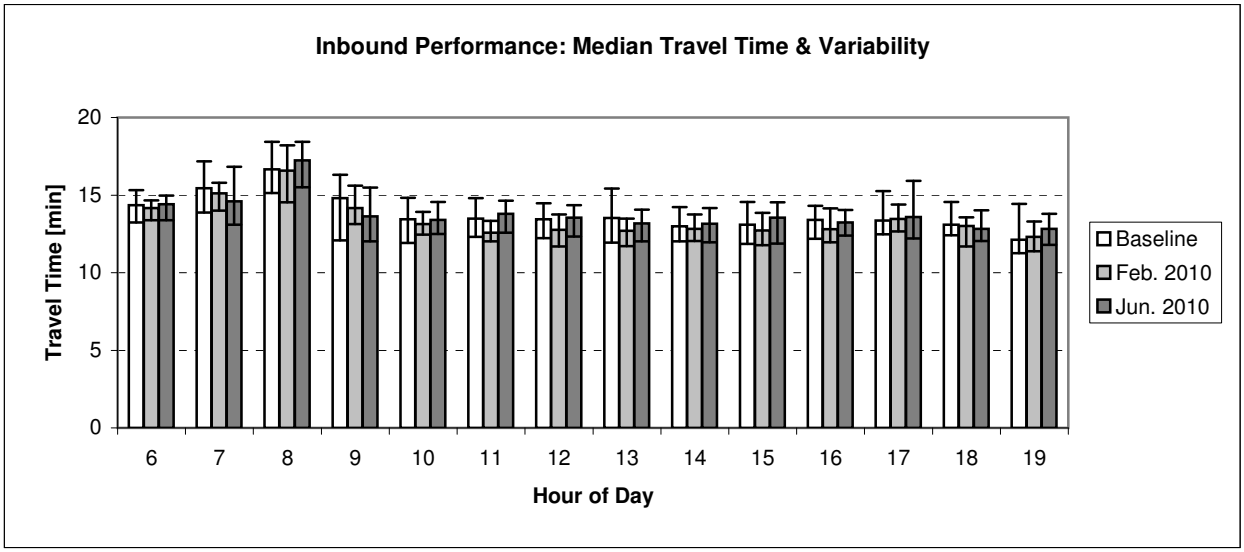


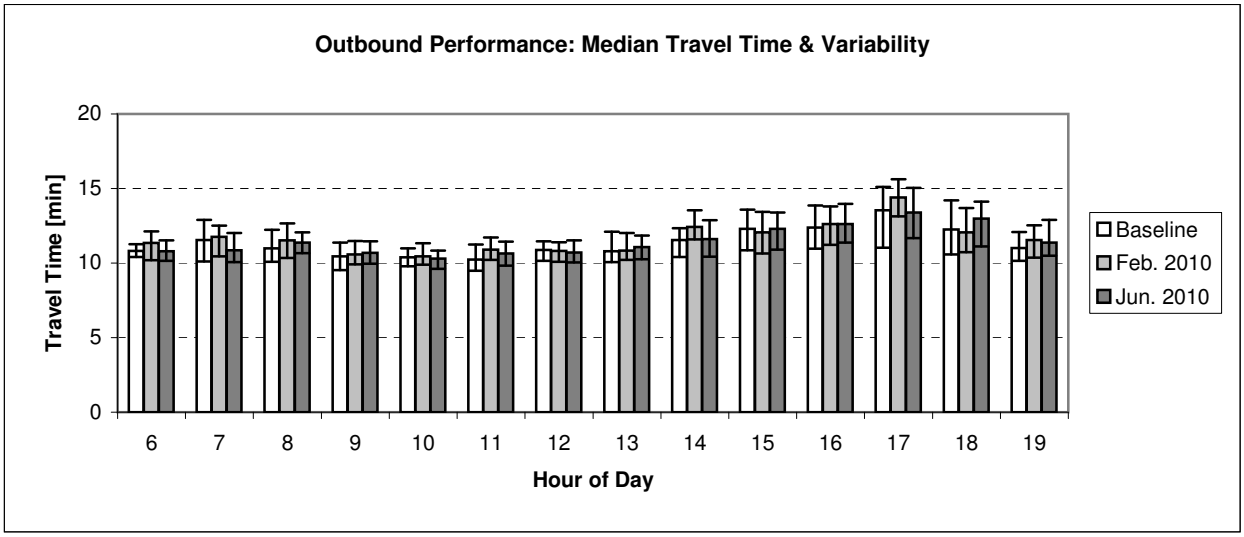


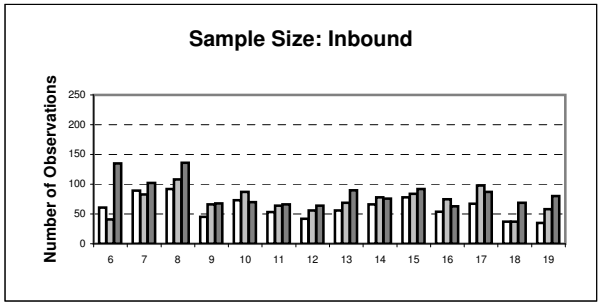
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL-AVI
Feb. 2010	3/1/10 - 3/31/10	AVL-AVI
Jun. 2010	9/7/10 - 10/1/10	AVL-AVI

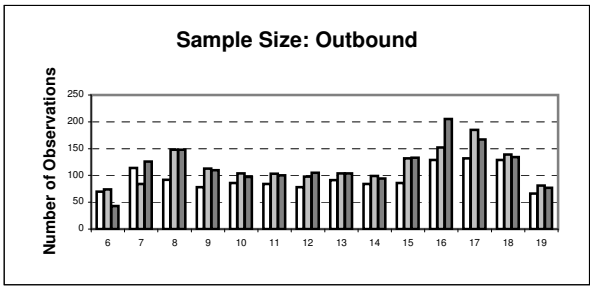
Pathway J.3

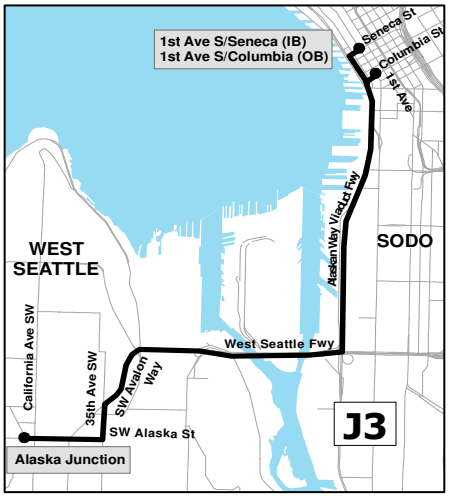
Alaska Junction to 1st Ave & Seneca/Columbia St via Alaskan Way Viaduct







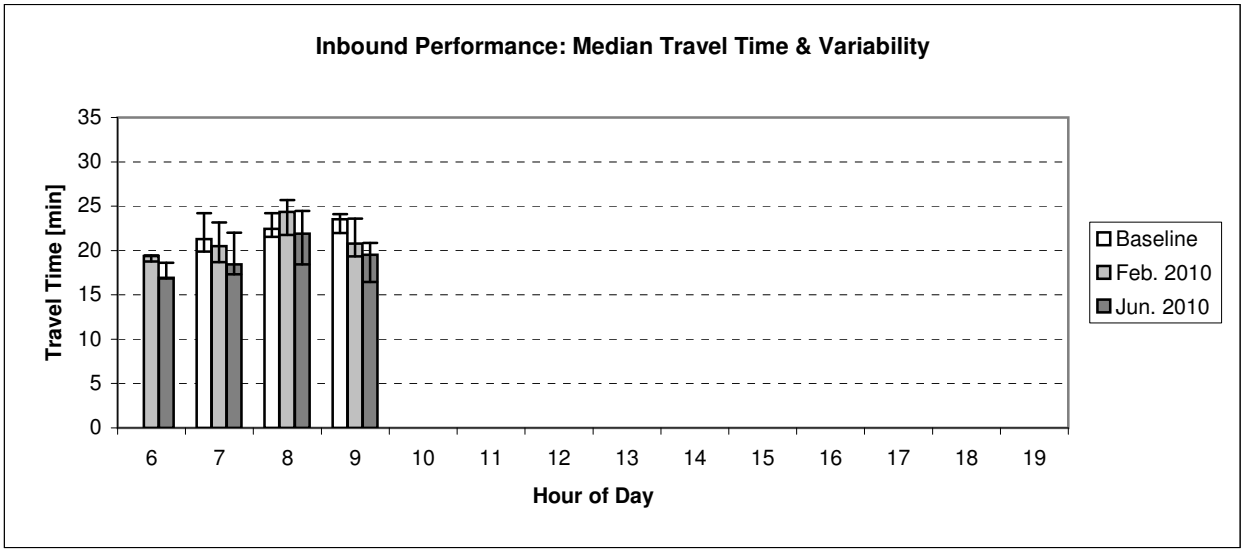


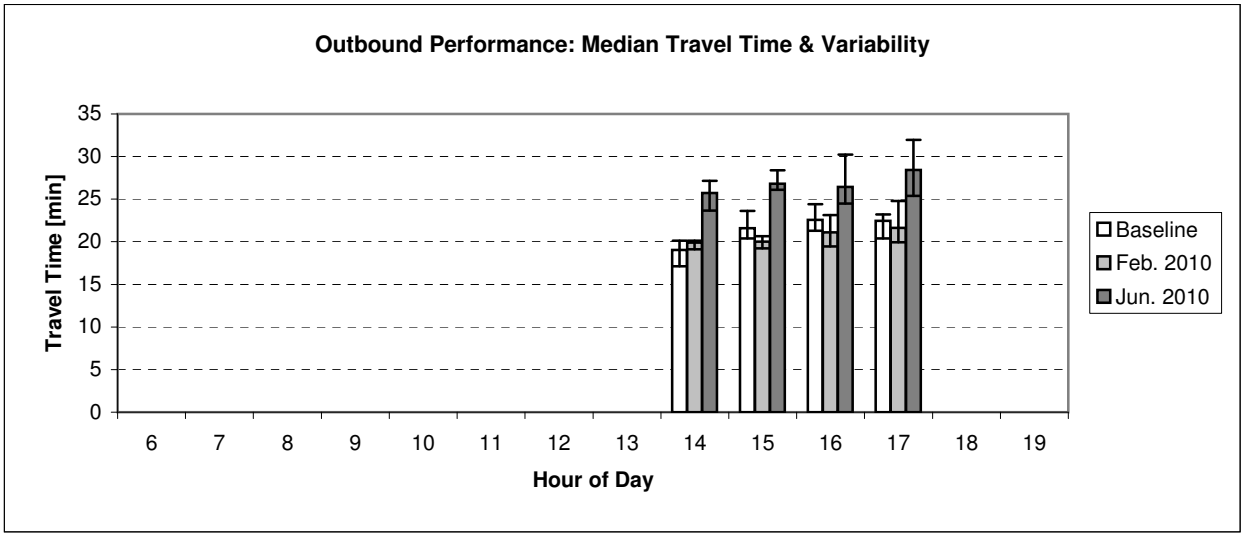


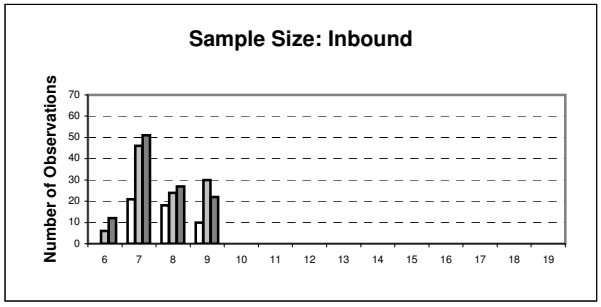
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVI
Feb. 2010	3/1/10 - 3/31/10	AVI
Jun. 2010	9/7/10 - 10/1/10	AVI

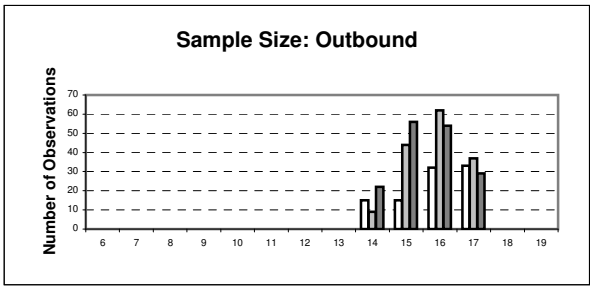
Pathway J.4

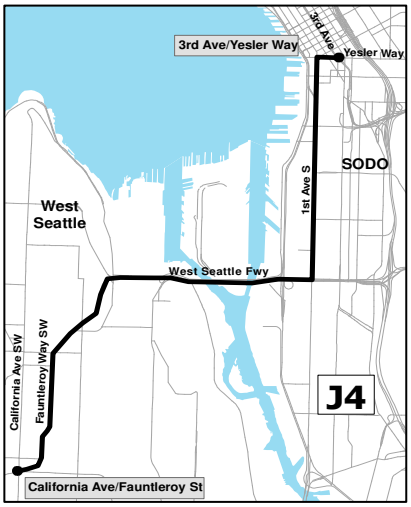
California Ave SW & SW Fauntleroy Way SW to 3rd Ave & Yesler St via 1st Ave S (Peak Only)







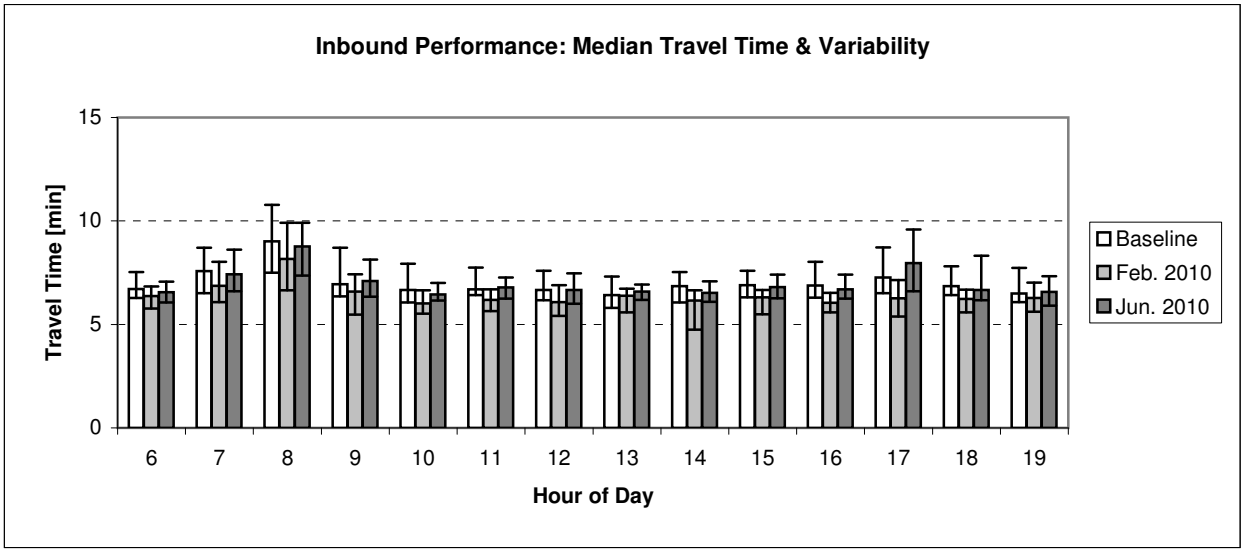


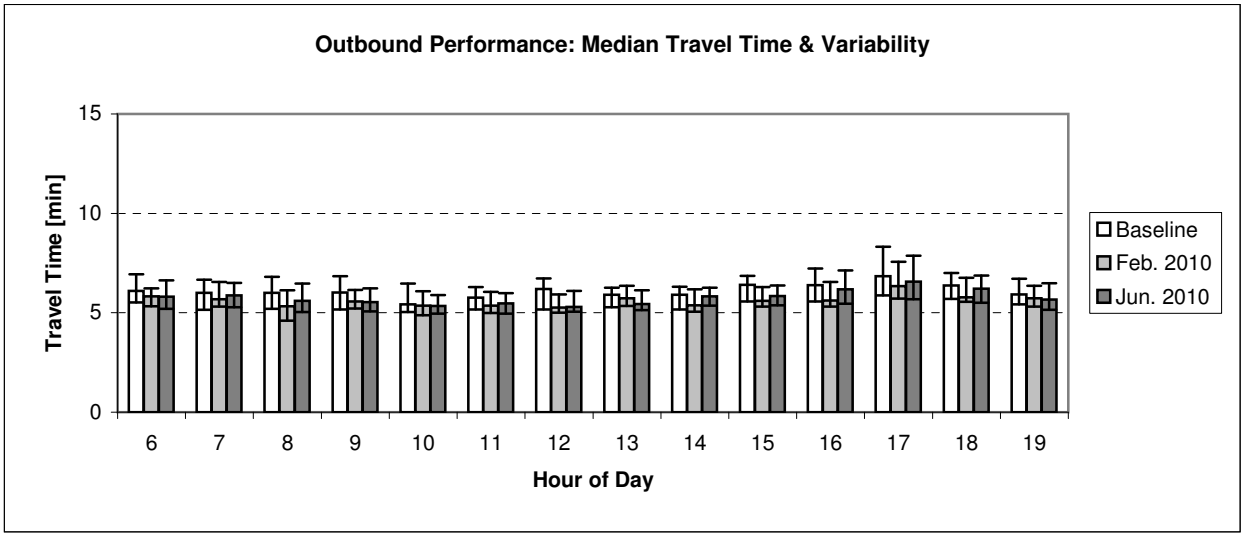


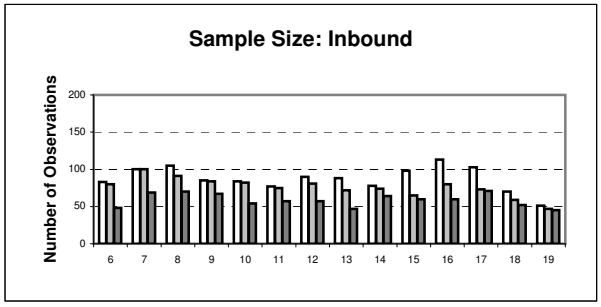
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL-AVI
Feb. 2010	3/1/10 - 3/31/10	AVL-AVI
Jun. 2010	9/7/10 - 10/1/10	AVL-AVI

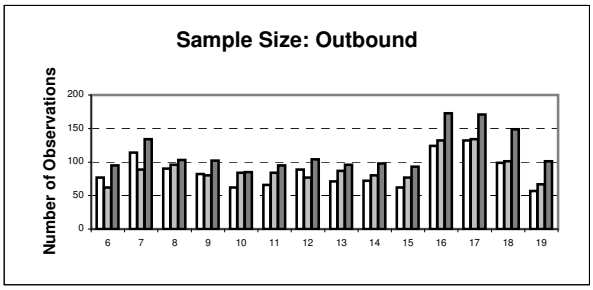
Pathway J.5

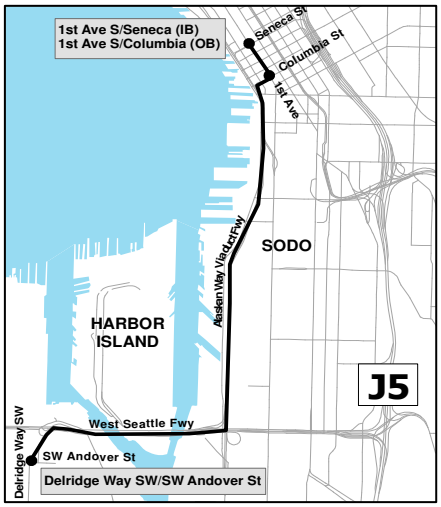
Delridge Way SW & SW Andover St to 1st Ave & Seneca/Columbia St via AWV







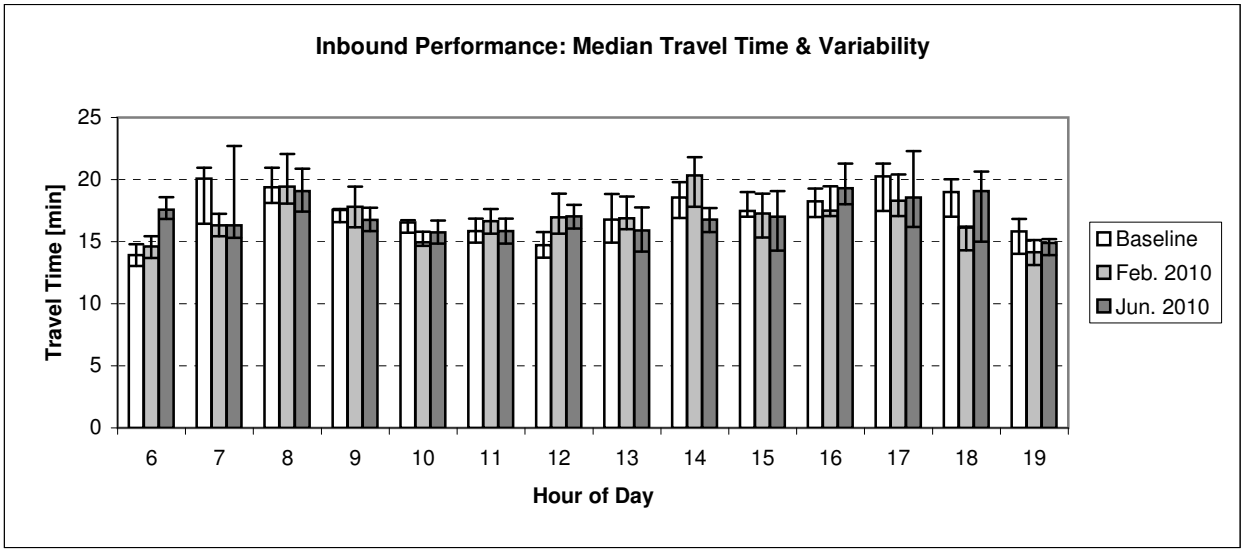


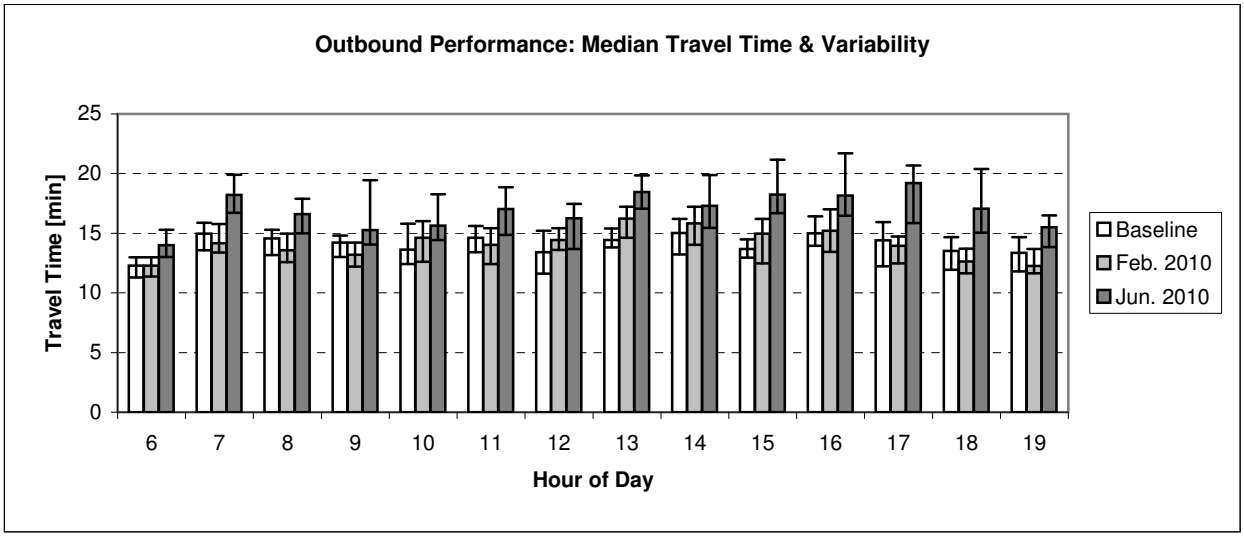


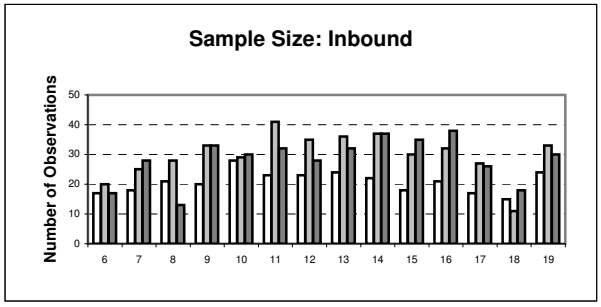
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVI
Feb. 2010	3/1/10 - 3/31/10	AVI
Jun. 2010	9/7/10 - 10/1/10	AVI

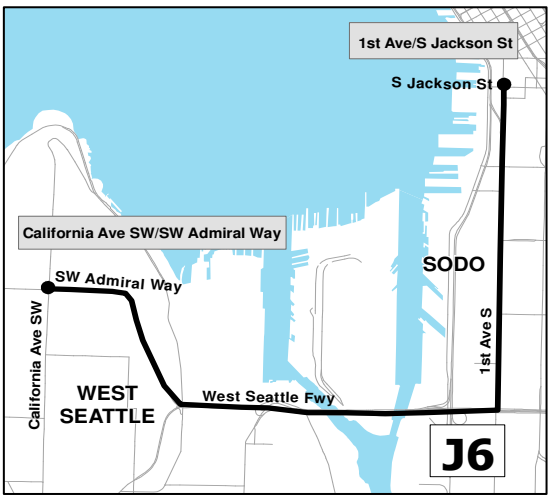
Pathway J.6

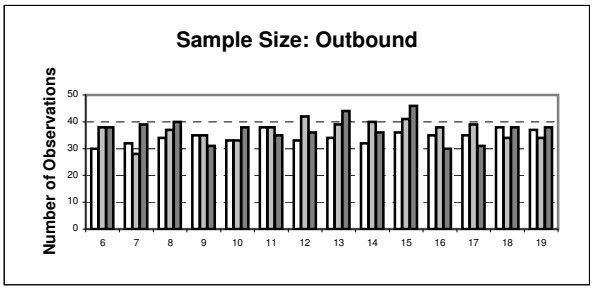
Admiral Way SW & Calfornia Ave SW to 1st Ave S & S Jackson St via 1st Ave S







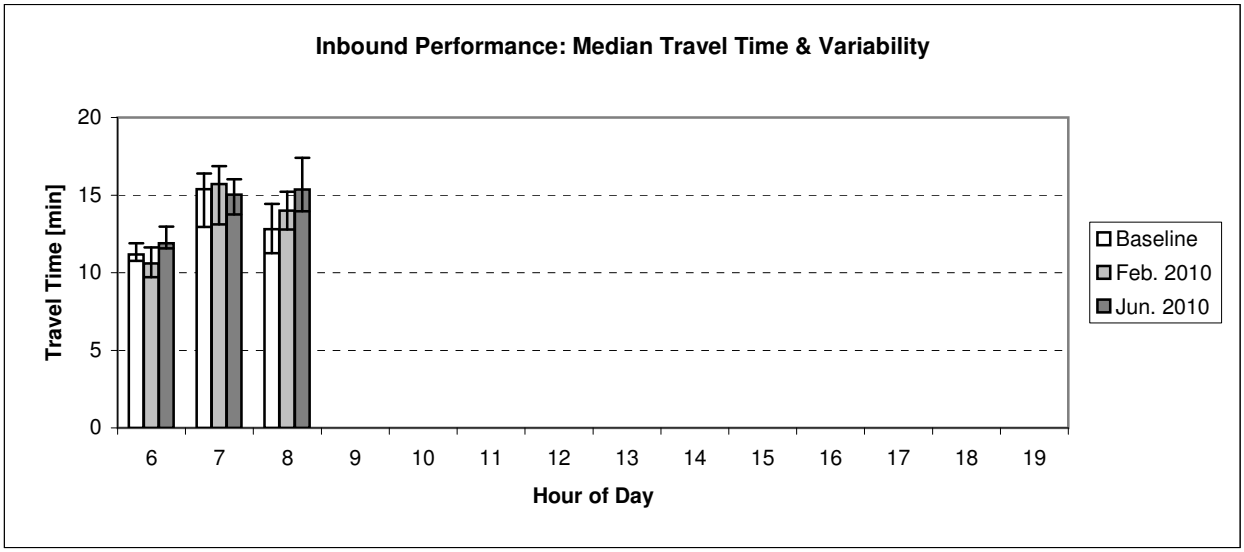


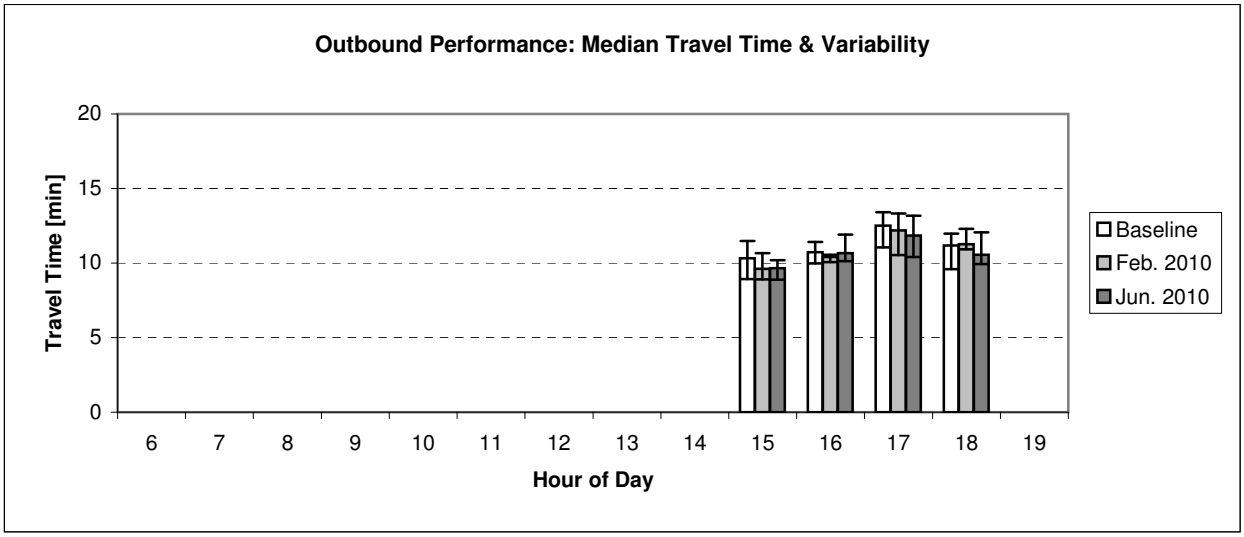


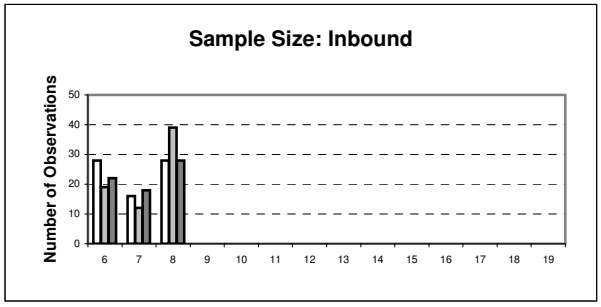
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL
Feb. 2010	3/1/10 - 3/31/10	AVL
Jun. 2010	9/7/10 - 10/1/10	AVL

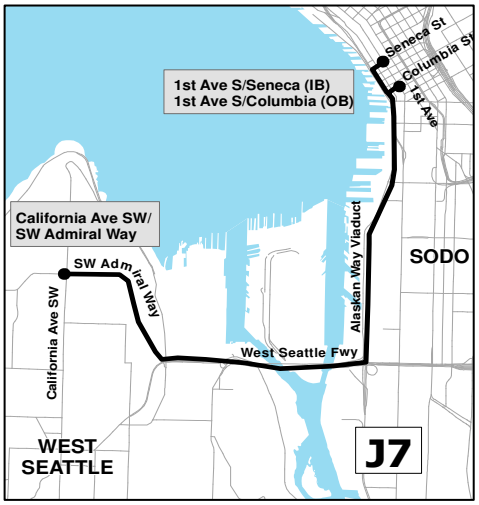
Pathway J.7

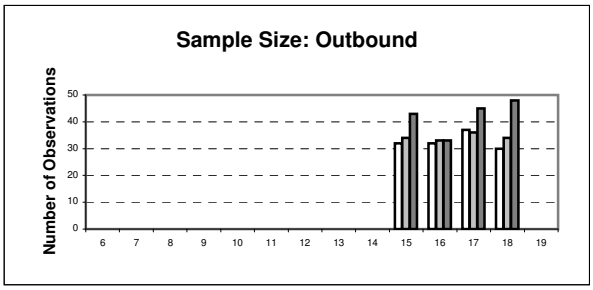
Admiral Way SW & Calfornia Ave SW to 1st Ave & Seneca/Columbia St via AWV (Peak Only)







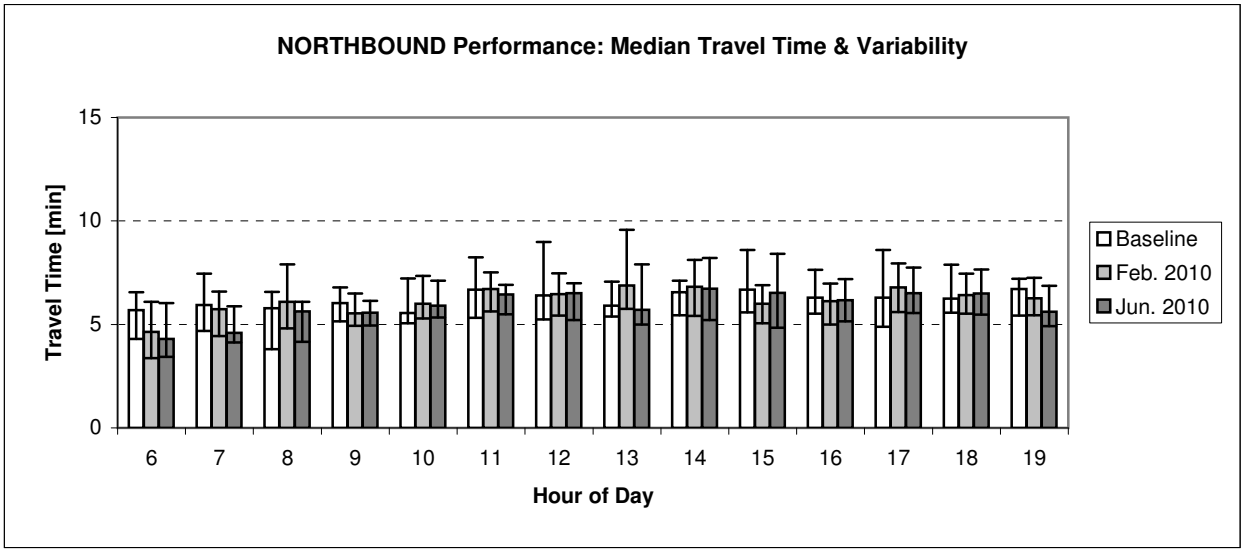


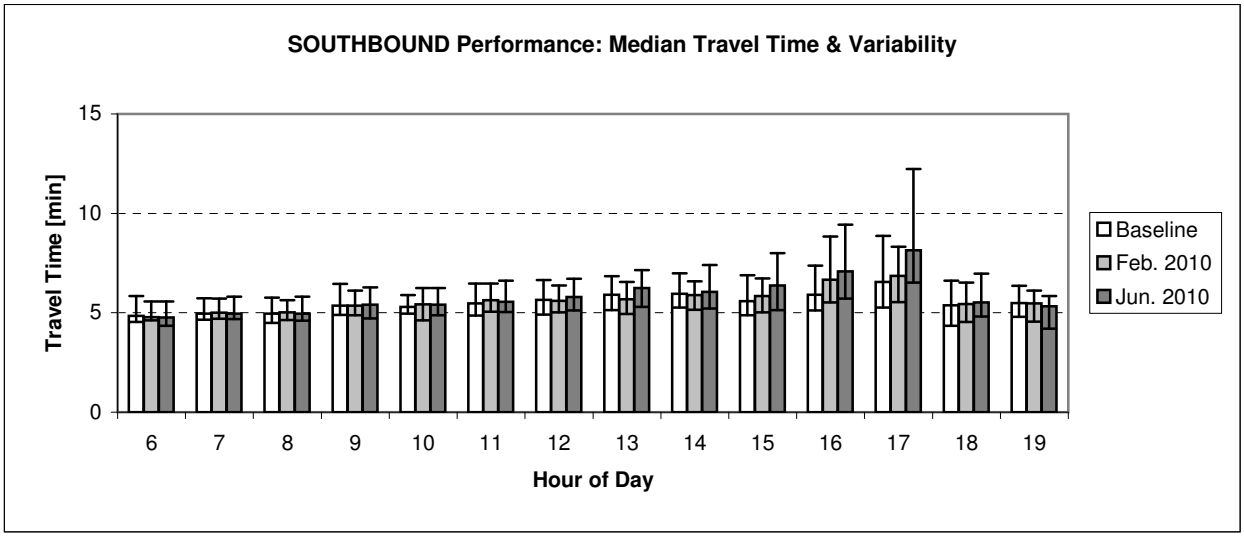


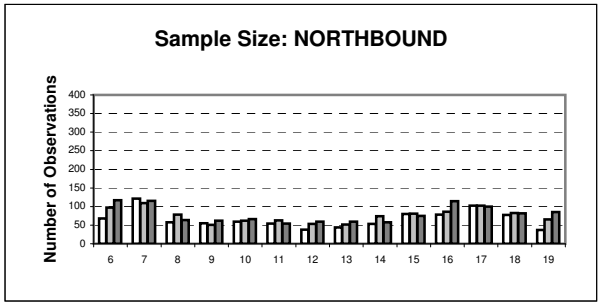
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVI-AVL
Feb. 2010	3/1/10 - 3/31/10	AVI-AVL
Jun. 2010	9/7/10 - 10/1/10	AVI-AVL

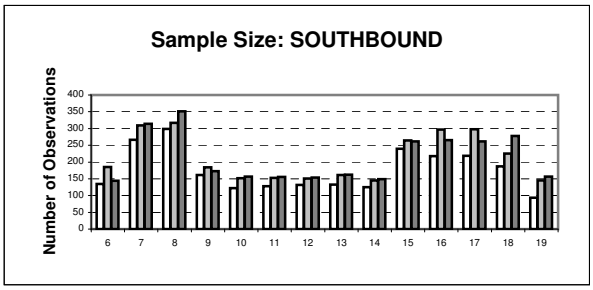
Pathway CBD1

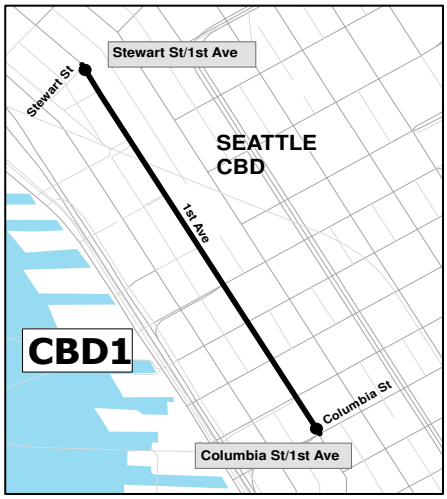
First Avenue: Stewart St to Cloumbia St







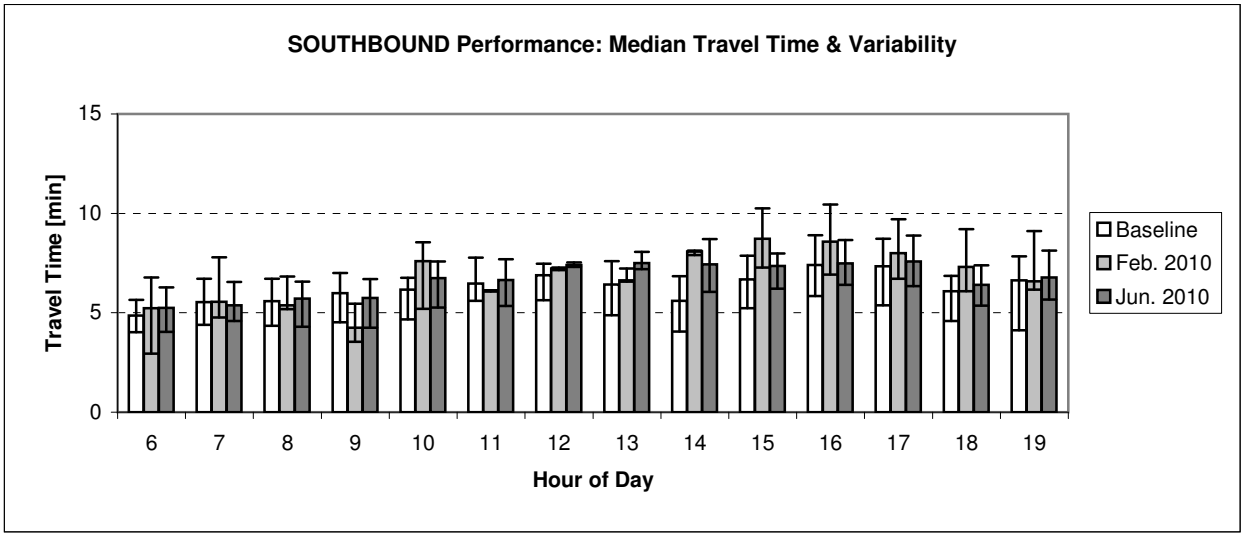


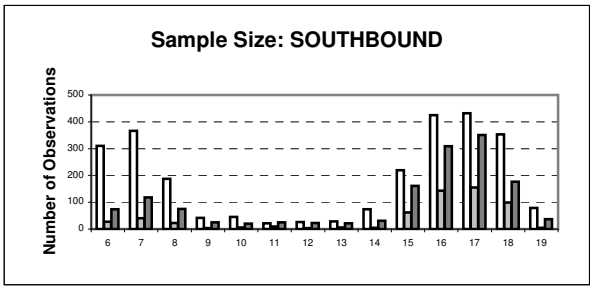


Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVI
Feb. 2010	3/1/10 - 3/31/10	AVI
Jun. 2010	9/7/10 - 10/1/10	AVI

Pathway CBD2

Second Avenue: Pike St to Jackson St

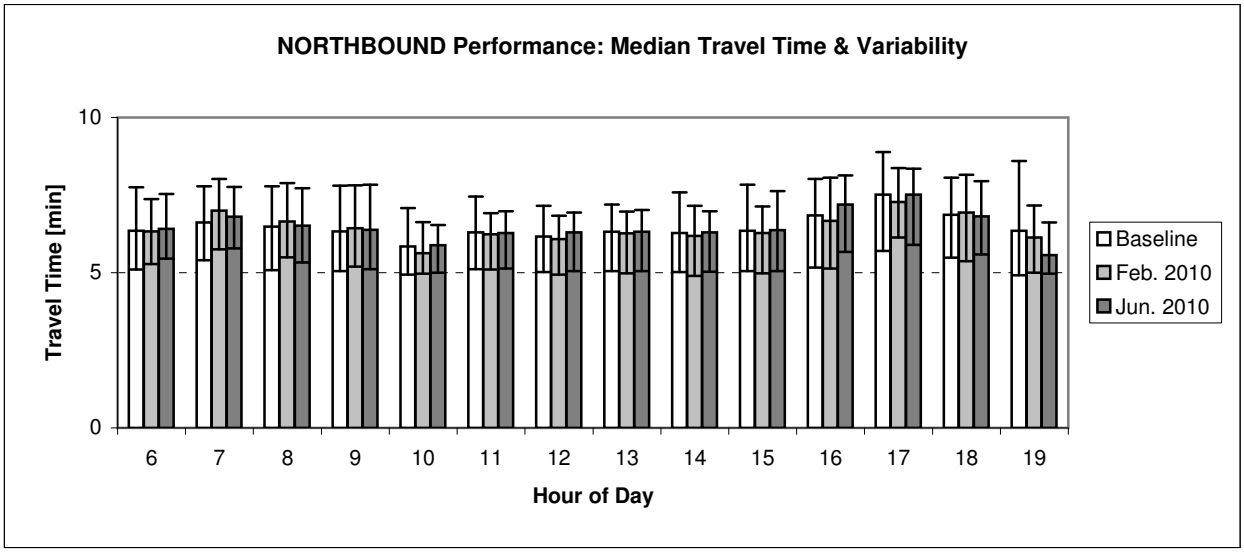


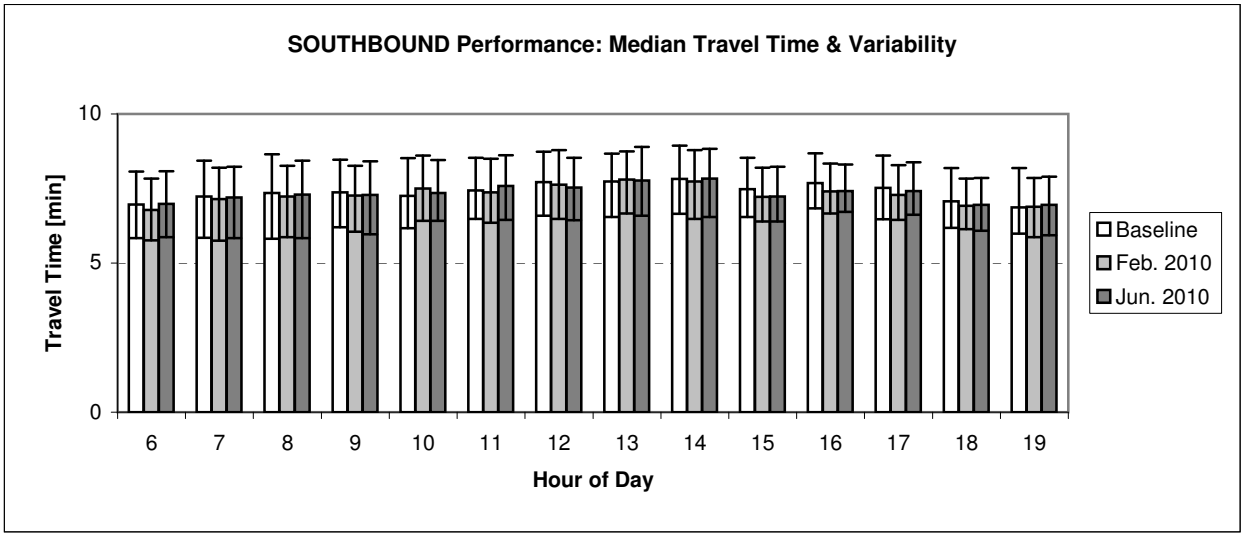


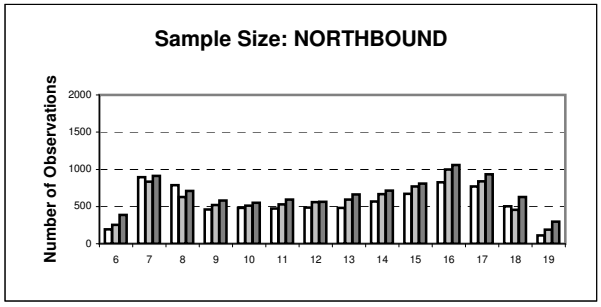
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVI
Feb. 2010	3/1/10 - 3/31/10	AVI
Jun. 2010	9/7/10 - 10/1/10	AVI

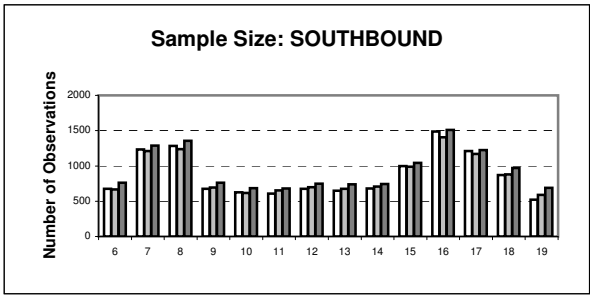
Pathway CBD3

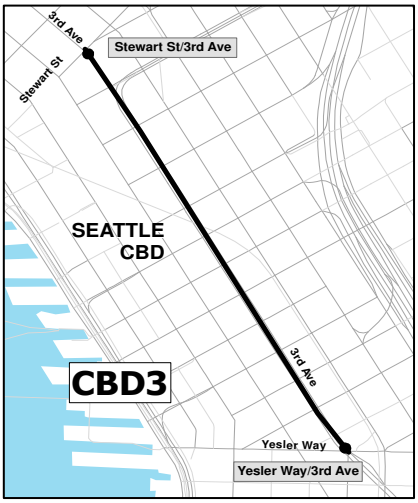
Third Ave: Stewart St to Yesler Way







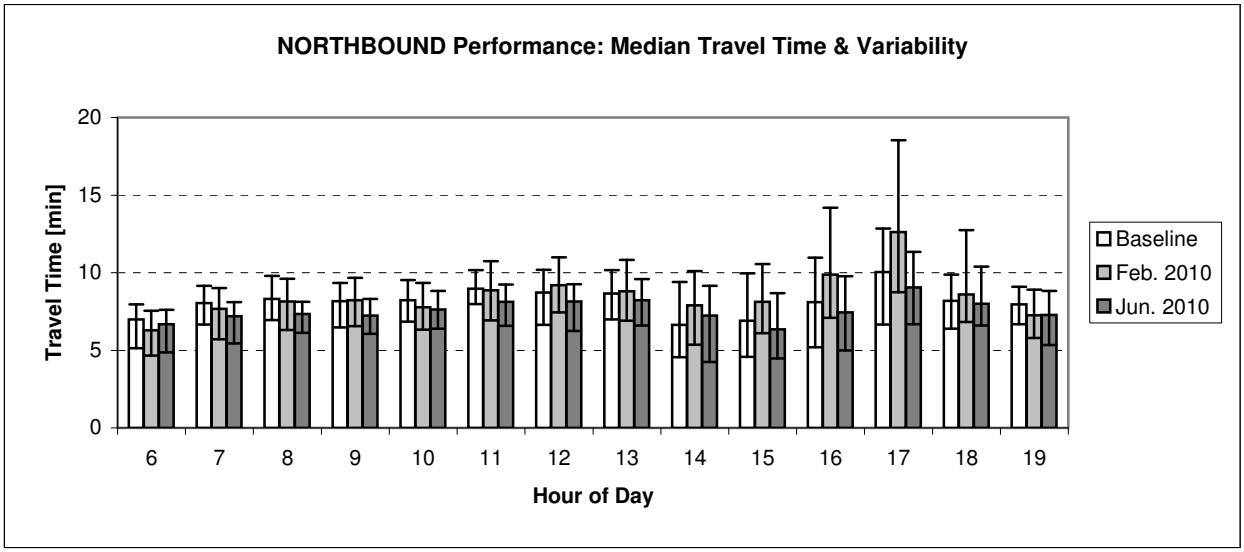


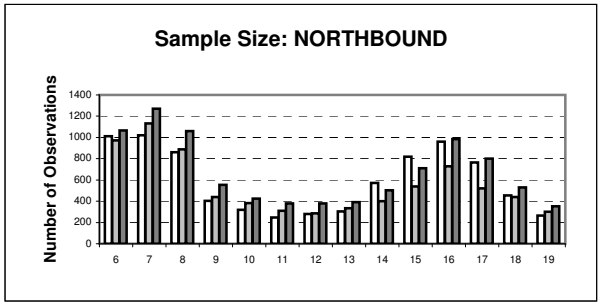


Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVI
Feb. 2010	3/1/10 - 3/31/10	AVI
Jun. 2010	9/7/10 - 10/1/10	AVI

Pathway CBD4

Fourth Ave: Jackson St to Stewart St

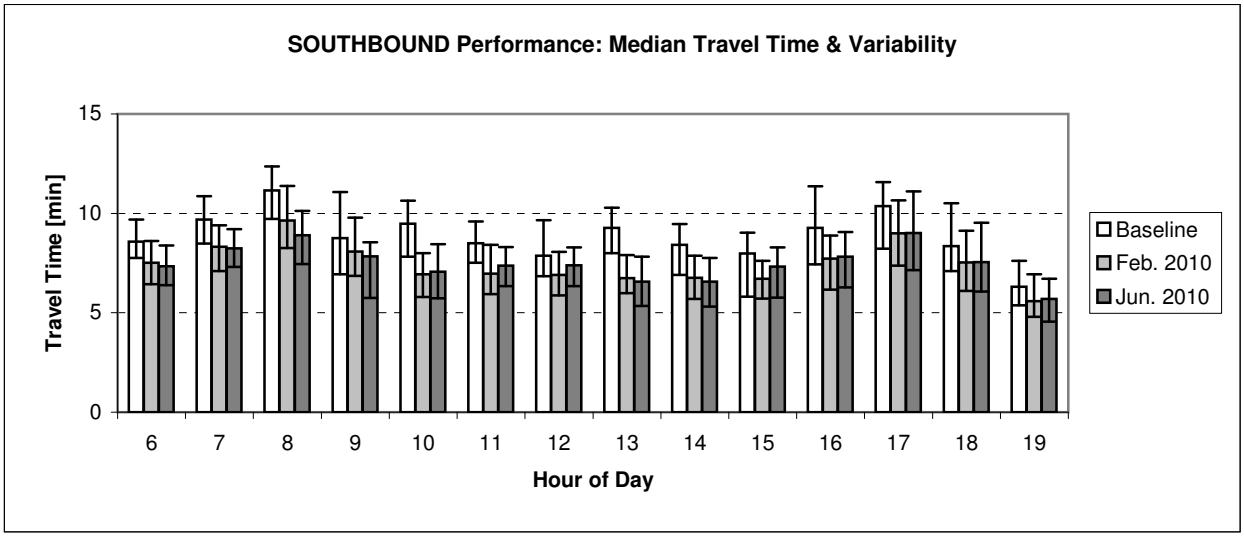


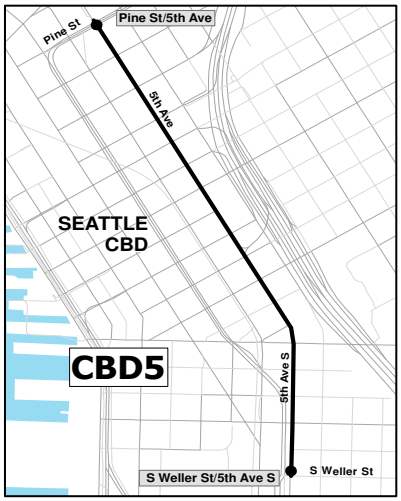


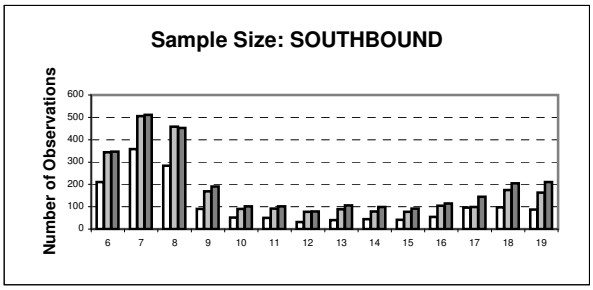
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVI
Feb. 2010	3/1/10 - 3/31/10	AVI
Jun. 2010	9/7/10 - 10/1/10	AVI

Pathway CBD5

Fifth Ave: Pine St to Weller St







Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVI
Feb. 2010	3/1/10 - 3/31/10	AVI
Jun. 2010	9/7/10 - 10/1/10	AVI

Calc Sheet Version 2.0

Task: Reduce Single Occupancy Vehicles (SOV) Commuter Parking
Task Lead: Meghan Shepard (SDOT)

The data in the shaded cells was provided by King County Metro.

Targets	
5	Incentives to Garages
200	Trips Reduced

Elasticity of Use for Monthly Passes	

Parking Garage Use

			Baseline	WIN 2009 / 2010	SPR 2010	SUM 2010	WIN 2010 / 2011	SPR 2011	SUM 2011	WIN 2011 / 2012	SPR 2012	SUM 2012	WIN 2012 / 2013	SPR 2013	SUM 2013	Overall Program Performance
Location		Date of Report														
Republic Parking NW, Inc		Average Monthly Passes														
1615 Third Ave		Average Early Birds / All Day Passes														
Capacity	754	Average Peak Occupancy (%)														
Baseline # of Short Term Stalls		Long Term Use														
Incentive	No	Trips Reduced														
Location		Date of Report	6/1/2010			10/2/2010										
WAC (Washington Athletic Club)		Average Monthly Passes	131			133										
1409 6th Ave		Average Early Birds / All Day Passes	12			11										
Capacity	314	Average Peak Occupancy (%)	90%			90%										
Baseline # of Short Term Stalls		Long Term Use														
Incentive	No	Trips Reduced														
Location		Date of Report	6/1/2010			10/2/2010										
WA State Convention and Trade Center		Average Monthly Passes	384			385										
800 Convention Pl		Average Early Birds / All Day Passes	0			0										
Capacity	825	Average Peak Occupancy (%)	13%			14%										
Baseline # of Short Term Stalls		Long Term Use														
Incentive	No	Trips Reduced														
Location		Date of Report	6/1/2010			10/2/2010										
PSD Pacific Place LLC		Average Monthly Passes	110			107										
600 Pine		Average Early Birds / All Day Passes	0			37										
Capacity	1,125	Average Peak Occupancy (%)	49%			55%										
Baseline # of Short Term Stalls		Long Term Use														
Incentive	No	Trips Reduced														
Location		Date of Report														
Pike Place Market Preservation and		Average Monthly Passes														
Development Authority		Average Early Birds / All Day Passes														
Capacity	517	Average Peak Occupancy (%)														
Baseline # of Short Term Stalls		Long Term Use														
Incentive	No	Trips Reduced														
Location		Date of Report				10/2/2010										
Puget Sound Plaza/Cobb Garage (UNICO)		Average Monthly Passes				423										
315 Union St		Average Early Birds / All Day Passes				31										
Capacity	470	Average Peak Occupancy (%)				85%										
Baseline # of Short Term Stalls		Long Term Use														
Incentive	No	Trips Reduced														

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Parking Garage Use

			Baseline	WIN 2009 / 2010	SPR 2010	SUM 2010	WIN 2010 / 2011	SPR 2011	SUM 2011	WIN 2011 / 2012	SPR 2012	SUM 2012	WIN 2012 / 2013	SPR 2013	SUM 2013	Overall Program Performance
Location		Date of Report														
		Average Monthly Passes														
		Average Early Birds / All Day Passes														
Capacity		Average Peak Occupancy (%)														
Baseline # of Short Term Stalls		Long Term Use														
Incentive		Trips Reduced														
Location		Date of Report														
		Average Monthly Passes														
		Average Early Birds / All Day Passes														
Capacity		Average Peak Occupancy (%)														
Baseline # of Short Term Stalls		Long Term Use														
Incentive		Trips Reduced														
Location		Date of Report														
		Average Monthly Passes														
		Average Early Birds / All Day Passes														
Capacity		Average Peak Occupancy (%)														
Baseline # of Short Term Stalls		Long Term Use														
Incentive		Trips Reduced														
Location		Date of Report														
		Average Monthly Passes														
		Average Early Birds / All Day Passes														
Capacity		Average Peak Occupancy (%)														
Baseline # of Short Term Stalls		Long Term Use														
Incentive		Trips Reduced														
Total for All Garages	Incentives	0													Trips Reduced	0

Target Check	
Trip Reduction vs. Short Term Stalls (on track?)	
Garage Incentive Distribution Target Reached	NO
Trip Reduction Target Reached	

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Task: Reduce Single Occupancy Vehicles (SOV) Commuter Parking
Task Lead: Meghan Shepard (SDOT)

The data in the shaded cells was provided by King County Metro.

Targets	
2,000	Stalls for Conversion to Short Term

Garage	WIN 2009 / 2010	SPR 2010	SUM 2010	WIN 2010 / 2011	SPR 2011	SUM 2011	WIN 2011 / 2012	SPR 2012	SUM 2012	WIN 2012 / 2013	SPR 2013	SUM 2013	Average Short Term Stall
Republic Parking NW, Inc □1615 Third Ave													
WAC (Washington Athletic Club)□1409 6th Ave													
WA State Convention and Trade Center □800 Convention Pl□1300 Hubl													
PSD Pacific Place LLC □600 Pine													
Pike Place Market Preservation and Development Authority □1531 West													
Puget Sound Plaza/Cobb Garage (UNICO) □315 Union St													
												Total	0

Target Check	
Short Term Stalls Conversion Target Reached	

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Calc Sheet Version 2.0

Task: Incentives for Transit
Task Lead: Megan Wolfe

The data in the shaded cells was provided by King County Metro.

Target	
240	Trips Reduced
2,500	Transit Pass Incentives

ORCA Passport Data provided by King County Metro	
Pre-Construction / Pre-Program Implementation	
Passports (within defined impact area)	42,000
Alternate Mode Share for (transit and vanpool) Passport Sites	44.0%
Alternate Mode Share for Non-Passport Sites	33.0%
During Program Implementation	
Passports Distributed	1,259
Alternate Mode Share (transit and vanpool) for Passport Sites	44.0%
Alternate Mode Share for Non-Passport Sites	33.0%
Retention of Newly Distributed Passports	90.0%

WSDOT Analysis

Daily Round Trips Reduced Through Expanded Use of Existing Passports

$$= \left(\begin{pmatrix} \text{Alt. Mode Share} \\ \text{for Passport Sites} \\ \text{During Program} \end{pmatrix} - \begin{pmatrix} \text{Alt. Mode Share} \\ \text{for Passport Sites} \\ \text{Prior to Program} \end{pmatrix} \right) * (\text{\# of Passports})$$

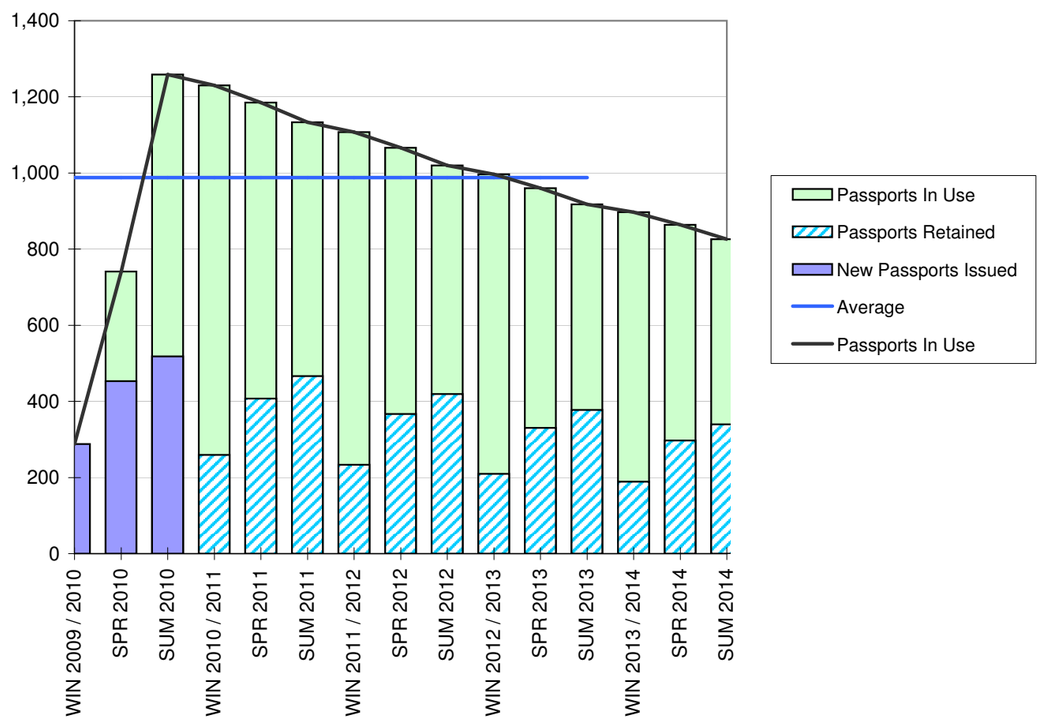
=((44.0%)-(44.0%))*(42,000)= 0

Average Daily Round Trips Reduced Through Distribution of New Passports

$$= \left(\begin{pmatrix} \text{Alt. Mode Share} \\ \text{for Passport Sites} \\ \text{During Program} \end{pmatrix} - \begin{pmatrix} \text{Alt. Mode Share} \\ \text{for non-Passport Sites} \\ \text{During Program} \end{pmatrix} \right) * \begin{pmatrix} \text{Average \# of Passports} \\ \text{In Use During Program} \end{pmatrix}$$

=((44.0%)-(33.0%))*(988)= 109

Distribution of Passports
Task: Incentives for Transit



	Service Period	New Passports Issued	Passports Expiring	Passports Retained	Passports In Use	Average Passports In Use
Program Period	WIN 2009 / 2010	288			288	988
	SPR 2010	453			741	
	SUM 2010	518			1,259	
	WIN 2010 / 2011		288	259	1,230	
	SPR 2011		453	408	1,185	
	SUM 2011		518	466	1,133	
	WIN 2011 / 2012		259	233	1,107	
	SPR 2012		408	367	1,066	
	SUM 2012		466	420	1,020	
	WIN 2012 / 2013		233	210	996	
	SPR 2013		367	330	960	
	SUM 2013		420	378	918	
Post Program Period	WIN 2013 / 2014		210	189	897	866
	SPR 2014		330	297	864	
	SUM 2014		378	340	826	

Target Check	
Trips Reduced vs. Incentives (on track?)	NO
Trip Reduction Target Reached	NO
Transit Pass Incentives Target Reached	NO

Contacts:
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Calc Sheet Version 2.0

Task: Incentives for Ridesharing
Task Lead: Megan Wolfe

Target	
380	Trips Reduced
1,000	Carpool Incentives

	Service Period	Reported Trips by Mode: Carpool	Bus	Bike/Walk	Vanpool / Vanshare	Train	Telework		Carpool Incentives Distributed	Commute Days in Quarter	# of Monthly Reports Provided by Participants	Anticipated Monthly Reports*
Program Period (Service Change, Year)	WIN 2009 / 2010											0
	SPR 2010											0
	SUM 2010											0
	WIN 2010 / 2011											0
	SPR 2011											0
	SUM 2011											0
	WIN 2011 / 2012											0
	SPR 2012											0
	SUM 2012											0
	WIN 2012 / 2013											0
	SPR 2013											0
	SUM 2013											0
% of Reported Trips Resulting in Trip Reductions by Mode		50%	97%	100%	88%	98%	100%	**Total**	0	0	0	0
Total Trip Reduction (see formula below)		0	0	0	0	0	0	0				
Trips Reduced Per Day (see formula below)								0				

Participants Newness to Alternate Mode	
Time	Percentage
0-6 months	
6-12 months	
1 year+	
Commute Days Per Year	250

Target Check	
Trips Reduced vs. Incentives (on track?)	
Trip Reduction Target Reached	
Transit Pass Incentives Target Reached	

$$= \left(\frac{\text{Anticipated \# of Monthly Reports}}{\text{Actual \# of Monthly Reports}}\right) * \left(\text{Reported Trips by Mode}\right) * \left(\text{\% of Reported Trips Resulting in Trip Reductions by Mode}\right) * \left(\text{\% of Participants 0 - 6 Months}\right)$$

$$\text{Trips Reduced Per Day} = \frac{\text{Total Trip Reduction}}{\text{Total Commute Days}}$$

*Assumes 1 year of participation by participants.

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Calc Sheet Version 2.0

Task: Telework / Flexible Schedules
Task Lead: Megan Wolfe

Target	
710	Trips Reduced
15	Companies Participating

The data in the shaded cells was provided by King County Metro.			Total # of days Teleworked in Each Service Period for All Employees Participating												
Name of Worksite (Worksites included should only be in the downtown area. If an employer has more than one worksite in the downtown area they may be combined or tracked separately.)	Total # of employees	# of employees participating	WIN 2009 / 2010	SPR 2010	SUM 2010	WIN 2010 / 2011	SPR 2011	SUM 2011	WIN 2011 / 2012	SPR 2012	SUM 2012	WIN 2012 / 2013	SPR 2013	SUM 2013	Total
Total															
			WIN 2009 / 2010	SPR 2010	SUM 2010	WIN 2010 / 2011	SPR 2011	SUM 2011	WIN 2011 / 2012	SPR 2012	SUM 2012	WIN 2012 / 2013	SPR 2013	SUM 2013	
Commute Days in Service Period															

$$\text{Average Daily Trip Reduction} = \frac{\text{Total Days Teleworked to Date}}{\text{Total Possible Commute Days to Date}}$$

Target Check	
Trip Reduction Target Reached	
Companies Participating Target	

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Task: Telework / Flexible Schedules
Task Lead: Megan Wolfe

Telework Mode Share

The data in the shaded cells was provided by King County Metro.	Baseline Survey				Final Survey				Error Check (The goal is to have nothing appear in this column)
		Mode Share				Mode Share			
Name of Worksite	Total # of employees	Telework (%)	Other Alternate Mode (bus, vanpool, carpool, walk, bike, etc.) (%)	Drive Alone (%)	Total # of employees	Telework (%)	Other Alternate Mode (bus, vanpool, carpool, walk, bike, etc.) (%)	Drive Alone (%)	
Total									
Weighted Average Mode Share									

Final Trip Reduction Calculation

$$\text{Trips Reduced} = \left(\begin{pmatrix} \text{Telework} \\ \text{Mode Share} \\ \text{After Program} \end{pmatrix} - \begin{pmatrix} \text{Telework} \\ \text{Mode Share} \\ \text{Baseline} \end{pmatrix} \right) * \begin{pmatrix} \text{Number of} \\ \text{Employees} \\ \text{After Program} \end{pmatrix}$$

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Calc Sheet Version 2.0

Task: Plan Your Commute
Task Lead: Kelly Lindsey

The data highlighted in yellow was provided by King County Metro.

250	Commute days per year
115	Non-commute days per year

Target	
740	Trips Reduced
1,800	Pledges

Weekday Trip Reduction Reporting

	Event Name	Date of Event	Contacts Made			Participants	Total # of Logged Weekday Round Trips by Alternate Mode to date	Program Reporting Period to date		Average Daily Round Trips Reduced During Reporting Period [1]	Estimated Continued Participation	Post Program Reporting Period to date		Average Daily Round Trips Reduced After Reporting Period [2]	Estimated Total Trip Reduction
			employers	employees	households	people / pledges	round trips	months	commute days	round trips	%	months	commute days	round trips	round trips
Stand Alone Events															
Stand Alone Events															
Stand Alone Events															
Stand Alone Events															
Stand Alone Events															
Stand Alone Events															
Stand Alone Events															
Stand Alone Events															
Stand Alone Events															
Stand Alone Events															
Stand Alone Events															
Stand Alone Events															
Stand Alone Events															
Stand Alone Events															
Paired Events	Full Event														
Paired Events	Follow-up Event														
Paired Events	Full Event														
Paired Events	Follow-up Event														
Paired Events	Full Event														
Paired Events	Follow-up Event														
Paired Events	Full Event														
Paired Events	Follow-up Event														
Paired Events	Full Event														
Paired Events	Follow-up Event														
Paired Events	Full Event														
Paired Events	Follow-up Event														
Paired Events	Full Event														
Paired Events	Follow-up Event														
						Total Pledges	0							Total	

[1] (Total Logged Round Trips) / (Length of the Program Reporting Period)
[2] (Average Daily Round Trips Reduced During Reporting Period) * (Estimated Continued Participatic

Target Check	
Trip Reduction Target Reached	

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Calc Sheet Version 2.0

Task: Residential Outreach
Task Lead: Carol Cooper

The data highlighted in yellow was provided by King County Metro.

250	Commute days per year
115	Non-commute days per year

Target	
390	Trips Reduced
10%	Household Participation Rate

Weekday Trip Reduction Reporting

		Program Name	Start Date	Contacts Made	Participants	Total # of Logged **Weekday** Round Trips by Alternate Mode to Date	Total # of Logged **Weekday** Vehicle Miles Traveled Reduced by Alternate Mode	Program Reporting Period to date		Average Daily Round Trips Reduced During Reporting Period [1]	Estimated Continued Participation	Post Program Reporting Period to date		Average Daily Round Trips Reduced After Reporting Period [2]	Estimated Total Trip Reduction	Estimated Total Vehicle Miles Traveled Reduced
			xx/xx/xxxx	households	people	round trips	vehicle miles traveled	months	commute days	round trips	%	months	commute days	round trips	round trips	vehicle miles traveled
Stand Alone Events																
Paired Events	Full Event															
	Follow-up Event															
	Full Event															
	Follow-up Event															
	Full Event															
	Follow-up Event															
	Full Event															
	Follow-up Event															
	Full Event															
	Follow-up Event															
	Full Event															
	Follow-up Event															
	Full Event															
	Follow-up Event															
					Participation Rate									Total		

[1] (Total Logged Round Trips) / (Length of the Program Reporting Period)
[2] (Average Daily Round Trips Reduced During Reporting Period) * (Estimated Continued Participation)

Target Check	
Trip Reduction Target Reached	
Household Participation Rate Achieved	

Contacts:
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Calc Sheet Version 2.0

Task: Residential Outreach
Task Lead: Carol Cooper

The data highlighted in yellow was provided by King County Metro.

250	Commute days per year
115	Non-commute days per year

Weekend Trip Reduction Reporting

		Program Name	Start Date	Total # of Logged **Weekend** Round Trips by Alternate Mode to Date	Total # of Logged **Weekend** Vehicle Miles Traveled Reduced by Alternate Mode	Program Reporting Period to date		Average Daily Round Trips Reduced During Reporting Period [1]	Estimated Continued Participation	Post Program Reporting Period to date		Average Daily Round Trips Reduced After Reporting Period [2]	Estimated Total Trip Reduction	Estimated Total Vehicle Miles Traveled Reduced
			xx/xx/xxxx	round trips	vehicle miles traveled	months	non-commute days	round trips	%	months	non-commute days	round trips	round trips	vehicle miles traveled
Stand Alone Events														
Paired Events	Full Event													
	Follow-up Event													
	Full Event													
	Follow-up Event													
	Full Event													
	Follow-up Event													
	Full Event													
	Follow-up Event													
	Full Event													
	Follow-up Event													
	Full Event													
	Follow-up Event													
	Full Event													
	Follow-up Event													
												Total		

[1] (Total Logged Round Trips) / (Length of the Program Reporting Period)
[2] (Average Daily Round Trips Reduced During Reporting Period) * (Estimated Continued Participation)

Contacts:
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Calc Sheet Version 2.0

Task: Carpool Program
Task Lead: Tom Devlin

Target	
270	Trips Reduced
1,000	Carpool Incentives

	Service Period	Reported Trips by Mode: Carpool	Bus	Bike/Walk	Vanpool / Vanshare	Train	Telework		Carpool Incentives Distributed	Commute Days in Service Period	# of Monthly Reports Provided by Participants	Anticipated Monthly Reports*
Program Period (Service Change, Year)	WIN 2009 / 2010											0
	SPR 2010											0
	SUM 2010											0
	WIN 2010 / 2011											0
	SPR 2011											0
	SUM 2011											0
	WIN 2011 / 2012											0
	SPR 2012											0
	SUM 2012											0
	WIN 2012 / 2013											0
	SPR 2013											0
	SUM 2013											0
% of Reported Trips Resulting in Trip Reductions by Mode		50%	97%	100%	88%	98%	100%	**Total**	0	0	0	0
Total Trip Reduction (see formula below)								0				
Trips Reduced Per Day (see formula below)								0				

Participants Newness to Alternate Mode	
Time	Percentage
0-6 months	
6-12 months	
1 year+	
Commute Days Per Year	250

Target Check	
Trips Reduced vs. Incentives (on track?)	
Trip Reduction Target Reached	
Carpool Incentives Target Reached	

$$= \left(\frac{\text{Anticipated \# of Monthly Reports}}{\text{Actual \# of Monthly Reports}}\right) * \left(\begin{array}{l}\text{Reported Trips}\\ \text{by Mode}\end{array}\right) * \left(\begin{array}{l}\text{\% of Reported Trips}\\ \text{Resulting in Trip Reductions}\\ \text{by Mode}\end{array}\right) * \left(\begin{array}{l}\text{\% of Participants}\\ \text{0 - 6 Months}\end{array}\right)$$

$$\text{Trips Reduced Per Day} = \frac{\text{Total Trip Reduction}}{\text{Total Commute Days}}$$

*Assumes 1 year of participation by participants.

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Calc Sheet Version 2.0

Task: Employer Outreach
Task Lead: Anne Ward-Ryan / Stacie Khalsa

Target	
100	Trips Reduced

ORCA Passport	
Data provided by King County Metro	
During Program Implementation	
Passports Distributed	0
Alternate Mode Share (transit and vanpool) for Passport Sites	
Alternate Mode Share for Non-Passport Sites	
Retention of Newly Distributed Passports	

The data in the shaded cells was provided by King County Metro.

WSDOT Analysis

Average Daily Round Trips Reduced Through Distribution of New Passports

$$= \left(\begin{pmatrix} \text{Alt. Mode Share} \\ \text{for Passport Sites} \\ \text{During Program} \end{pmatrix} - \begin{pmatrix} \text{Alt. Mode Share} \\ \text{for non - Passport Sites} \\ \text{During Program} \end{pmatrix} \right) * \begin{pmatrix} \text{Average \# of Passports} \\ \text{In Use During Program} \end{pmatrix}$$

Total Daily Round Trips Reduced Through Distribution of New Passports, Vanpool and Vanshare

$$= \begin{pmatrix} \text{Passport Sales} \\ \text{Trips Reduced} \end{pmatrix} + \begin{pmatrix} \text{Vanpool Trips} \\ \text{Reduced} \end{pmatrix} + \begin{pmatrix} \text{Vanshare Trips} \\ \text{Reduced} \end{pmatrix}$$

		Passports					Vanpools				Vanshares			
	Quarter	New Passports Issued	Passports Expiring	Passports Retained	Passports In Use	Average Passports In Use	Formed (Participants)	Disbanded (Participants)	Current Participants	Average Vanpool Participants	Formed (Participants)	Disbanded (Participants)	Current Participants	Average Vanshare Participants
Program Period	WIN 2009 / 2010				0				0				0	
	SPR 2010				0				0				0	
	SUM 2010				0				0				0	
	WIN 2010 / 2011		0	0	0				0				0	
	SPR 2011		0	0	0				0				0	
	SUM 2011		0	0	0				0				0	
	WIN 2011 / 2012		0	0	0				0				0	
	SPR 2012		0	0	0				0				0	
	SUM 2012		0	0	0				0				0	
	WIN 2012 / 2013		0	0	0				0				0	
	SPR 2013		0	0	0				0				0	
	SUM 2013		0	0	0				0				0	
Post Program Period	WIN 2013 / 2014		0	0	0				0				0	
	SPR 2014		0	0	0				0				0	
	SUM 2014		0	0	0				0				0	

Target Check	
Trip Reduction Target Reached	

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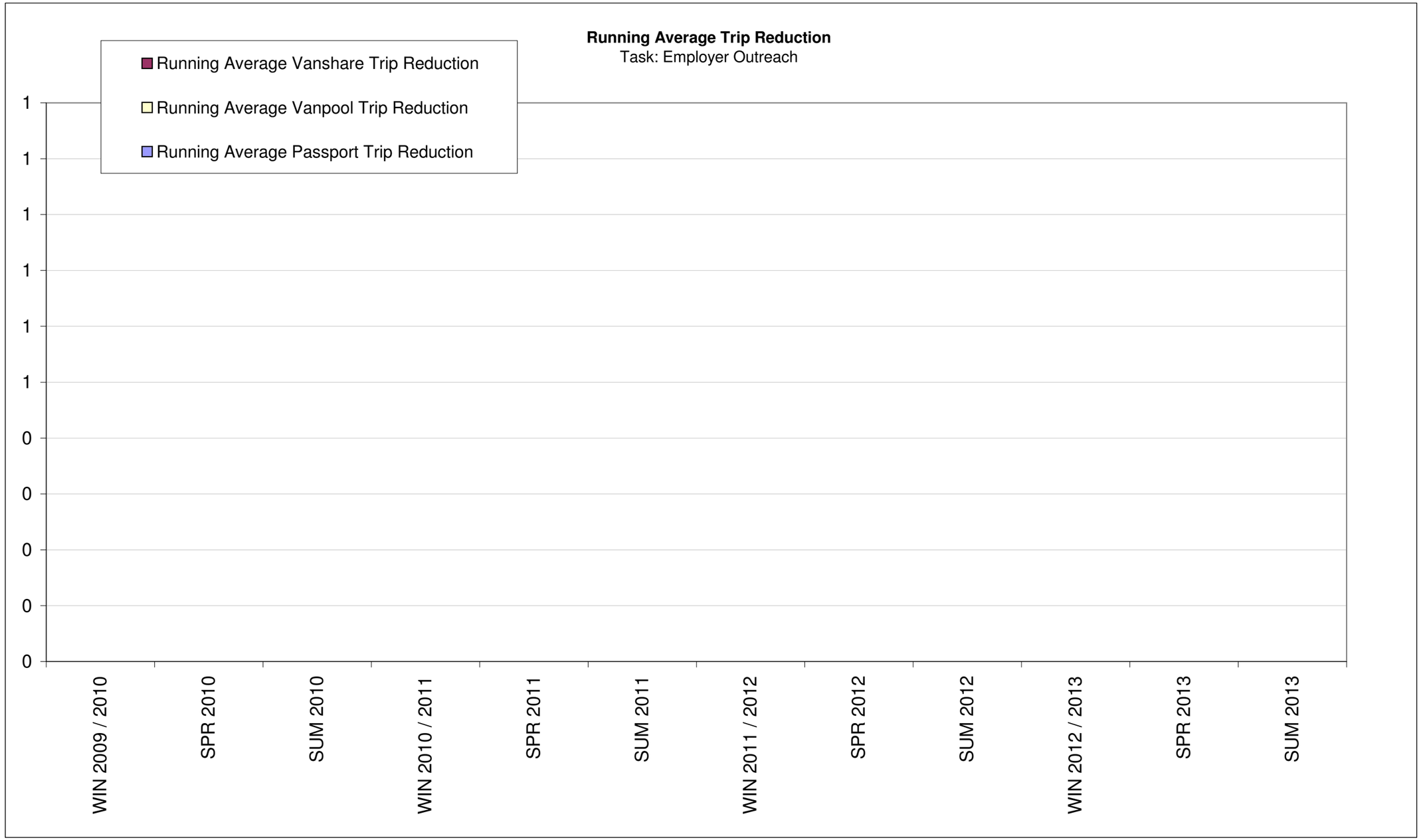

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