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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 Metro (Metro) 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 2011 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 2011 service change..
- **Transportation Demand Management (TDM) 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 2011 TO SEPTEMBER 2011

Enhanced Transit Service summary

- During this period, Metro continued the 41 peak period trips funded by WSDOT on routes 21X, 54, 56X, and 121. This helped increase the combined peak period transit capacity of these routes by 55 percent, (see Table 5 on page 15).
- Metro used 2,065 flexible transit service hours to meet the day to day variations in construction related traffic disruptions. These service hours allow Metro to respond immediately to conditions on the street. The service provided approximately 1,060 bus trips serving approximately 22,560 transit riders (see Table 11 on page 20).

Ridership summary

- Peak period ridership on routes that received WSDOT funding grew faster than the average peak period ridership growth in the West Seattle and SODO/Georgetown corridors (see tables 2 and 3).
- Routes that received WSDOT funding carried on average 1,220 more people daily during the peak period than in the baseline. Leading the growth in ridership was route 54, operating between Westwood Village and downtown Seattle via Alaska Junction. Peak ridership on route 54 responded very positively to service improvements made during peak hours, growing 62 percent from 1,220 to 1,980 daily peak period rides between the June 2009 baseline period and June 2011 (see table 3 on page 13).

Travel Time Summary

- Travel time on pathways using the SR-99 and 1st Avenue South continue to be impacted by lane reduction on SR-99 and ongoing construction on the Spokane Street Viaduct. AM inbound travel times on all West Seattle Pathways increased since Spring 2011. Outbound pathways using 1st Avenue South have shown reliability problems during certain times of day due to Port of Seattle trucks queuing near the 1st Avenue S and S Atlantic Street intersection.
- The Columbia Street pathway in the CBD has shown some improvement during the PM peak since the Spring 2011 period, but is still worse than baseline conditions.
- Pathways north of the CBD continue to be impacted by surface street diversion and backups through the Battery Street Tunnel, primarily during the PM peak hour.

Transportation Demand Management Summary

- TDM teams began preparations for the coordinated outreach efforts to promote increases in services and to mitigate the AWV closure in October 2011.
- Three Residential Outreach programs were launched in West Seattle, White Center, and South Park. An additional project was implemented in Georgetown.
- The Carpool Program, Incentives Program, Employer Outreach, Telework Program and SOV Parking continued as planned.
- The Plan you Commute effort wrapped up in June but follow-up communications and program benefits are on-going.

EXPENDITURES: SEPTEMBER 2009 – 3RD QUARTER 2011

As of the end of September 2011, Metro has invoiced WSDOT $8,536,899.39 ($544,456.00 under GCA 5864, $7,498,719.81 under GCA 5820 and $493,723.58 under GCA 5865) 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	u				
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 41 additional trips funded by WSDOT. The trips funded by WSDOT as part of the February service change are scheduled on routes 21 Express (X), 54, 56X (part of Pathway J) and 121 (part of Pathway I). This report compares Summer 2009 baseline performance measures with Summer of 2011 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, 2009, 2010 and 2011 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. 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 – For the first time in three years, system-wide ridership grew over the previous year. Not only did ridership grow compared to 2010 but Table 1 shows that 2011 Summer ridership was two percent greater than baseline 2009 ridership. In the SR99 corridor, 2011 Summer ridership was 11 percent higher than the 2009 baseline. Higher fuel prices and a somewhat stabilized economy are likely contributing factors to this ridership growth.

Coming off record ridership in 2008, the year 2009 was the first year to show a ridership decline since 2002. Many of the factors influencing ridership growth in 2008 reversed course in 2009, fuel prices fell, unemployment rose and sales tax receipts declined. In 2010 ridership stabilized and the economy began a slow recovery. Compared to the 2009 baseline, the average unemployment for the months of June to October has remained fairly constant from 8.5 percent in 2009 to 8.3 percent and 8.4 percent in 2010 and 2011 respectively. Fuel prices, however, have increased by 36 percent, from a weekly average of $2.82/gal between June and October in 2009 to $3.84/gal in 2011.

The Enhanced Transit Service Table 1 below shows that the ridership trends of the Enhance Transit Service pathways on the whole have exceeded system-wide ridership growth by 9 percentage points. Pathways I and J received WSDOT mitigation funding. This funding helped grow ridership in Pathways I and J faster than Pathways A or B (which did not receive any mitigation funding) or system as a whole.

The system-wide and pathway trends provide the context for which we will evaluate the effectiveness of the WSDOT funded construction mitigation.

Enhanced Transit Service Table 1

3 YEAR TRANSIT CORRIDOR WEEKDAY RIDERSHIP TREND FOR JUN SERVICE CHANGE				
Ridership Group	**2009**	**2010**	**2011**	**% Change 2009-2011**
System-wide Ridership	355,000	347,000	362,000	2%
Total of Pathways	79,530	77,320 [80,640]*	88,190 [93,060]*	11% [17%]*
Pathway A – Ballard/Magnolia†	17,090	16,170	17,730	4%
Pathway B – Aurora Fremont†	31,960	31,900	34,410	8%
Pathway I – SODO/Georgetown	8,150	7,400 [10,910]*	9,630 [14,490]*	18% [78%]*
Pathway J – West Seattle‡	22,330	21,850	26,420	18%

*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.

† Pathway A ridership is slightly lower and B is slightly higher than the baseline ridership shown in the Vol 3 because express 17 trips were incorrectly assigned to pathway A.

‡Pathway J baseline is larger than the baseline shown for Vol 3 because express routes 118 and 119 were inadvertently excluded from the previous baseline.

RIDERSHIP CHANGE IN JUN 2011 COMPARED TO 2009 BASELINE

The Enhanced Transit Service Table 2 below compares the June 2011 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. Overall, ridership in the SR99 corridor during the 2011 Summer service change period was 11% higher than the 2009 baseline. 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 am) and (3-6 pm) while general purpose mobility occurs during all periods of the day. Table 2 shows that ridership is up for all pathways during the peak and shoulder periods, with 5,080 more trips being made during the peak period and 1,490 more trips during the shoulder period than in the baseline.

The system-wide and pathway trends shown in Table 2 provide more context for which we will evaluate the effectiveness of the WSDOT funded construction mitigation.

Enhanced Transit Service Table 2

COMPARISON OF JUN 2009 BASELINE WEEKDAY RIDERSHIP BY TIME OF DAY AND PATHWAY WITH JUN 2011 SERVICE CHANGE RIDERSHIP

Ridership Group	Avg. Weekday		Peak Period*		Shoulder Periods		Midday Period	
	2009	2011 (% Change)	2009	2011 (% Change)	2009	2011 (% Change)	2009	2011 (% Change)
System-wide Ridership	355,000	362,000 (2%)	169,000	173,000 (2%%)	64,000	65,000 (2%)	76,000	77,000 (1%
Total of Pathways†‡	79,530	88,190 (11%) [93,060 (17%)]*	37,650	42,730 (13%) [44,680 (19%]	14,010	15,500 (11%) [16,270 (16%)]	16,420	17,830 (9%) [18,930 (15%)]
Pathway A – Ballard/Magnolia	17,090†	17,730 (4%)	8,500	9,170 (8%)	2,910	2,930 (1%)	3,850	3,320 (-14%)
Pathway B – Aurora Fremont	31,960†	34,410 (8%)	14,270	15,710 (10%)	5,930	6,120 (3%)	6,590	7,420 (13%)
Pathway I – SODO/Georgetown†	8,150	9,630 (18%) [14,490 (78%)]*	4,240	5,020 (18%) [6,970 (64%)]	1,320	1,620 (23%) [2,390 (81%)]	1,420	1,670 (18%) [2,760 (94%)]
Pathway J – West Seattle†	22,330‡	26,420 (18%)	10,760	12,830 (19%)	3,910	4,830 (24%)	4,560	5,430 (19%)

*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.
† Pathway A ridership is slightly lower and B is slightly higher than the baseline ridership shown in the Vol 3 because express 17 trips were incorrectly assigned to pathway A.
‡Pathway J baseline is larger than the baseline shown for Vol 3 because express routes 118 and 119 were inadvertently excluded from the previous baseline.

PERFORMANCE OF ENHANCED TRANSIT SERVICE ADDITIONS

In June 2011, WSDOT funded the continuation of 41 trips on routes 21X, 54, 56X and 121 during the peak and shoulder periods. Compared to the June 2009 baseline peak period ridership has increased on all four routes that received mitigation funding by 19 percent to 62 percent, resulting in 1,220 more peak period trips. 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. On this route, there were 760 more peak period trips and 390 more shoulder and midday trips than in the 2009 baseline during this same period. The largest percent increase in ridership was in the shoulder period on the 21X which increased by 50 additional peak period trips or 125 percent.

Route 121, which has been slower that the other routes to respond to the added service, has added 190 peak period trips. The total weekday ridership growth for route 121 appears to be weaker than the other routes in large part because of the elimination of the low-productivity midday period. Also, the interim park and ride facility in Burien has also likely had a negative impact on ridership growth potential of route 121. Construction on the new Park-and-Ride facility at the Burien Transit Center was not complete until late August 2011.

On the whole, the peak period ridership performance of the enhanced transit service routes outperformed system-wide trends by 36 percentage points and pathway J and I peak period trends by 23 and 8 percentage points respectively. With the exception of route 121 in the shoulder period the ridership performance of the ETS routes also outperformed system-wide and pathway trends in the shoulder and midday periods.

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	2011 (% Change)	2009	2011 (% Change)	2009	2011 (% Change)	2009	2011 (% Change)
21X / Pathway J	750	980 (30%)	710	890 (25%)	40	90 (125%)	No Service	No Service
54 / Pathway J	3,220	4,360 (35%)	1,220	1,980 (62%)	600	820 (37%)	740	910 (23%)
56X / Pathway J	600	730 (22%)	520	620 (19%)	60	90 (50%)	No Service	No Service
Total Pathway J	**4,570**	**6,070 (33%)**	**2,450**	**3,490 (42%)**	**700**	**1,000 (43%)**	**740**	**910 (23%)**
121 / Pathway I	1060	1,130 (7%)	730	920 (26%)	180	160 (-11%)	100	No Service†
Enhanced Transit Service Route Total	**5,630**	**7,200 (28%)**	**3,180**	**4,400 (38%)**	**880**	**1,170 (33%)**	**740†**	**910 (23%)**

*Peak Period is 6-9 am and 3-6 pm; Shoulder Period is 9-10 am, 2-3 pm, and 6-7 pm; Midday is 10 am - 2 pm.
†Midday Ridership does not include 121 boardings because those trips were discontinued in Feb 2010.

TRANSIT CAPACITY

The primary way transit services have mitigated 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.

June 2011 Transit Capacity Compared to June 2009 Baseline – The baseline is the scheduled number of seats that are supplied each weekday within a pathway group for June 2009. Enhanced Transit Service Table 4 shows the number of seats by time of day for June 2011 for the four different pathways compared to the baseline. The pathway trends shown in Table 4 are provided for context to help evaluate the effectiveness of WSDOT investments.

Table 4 shows that the WSDOT investments in the pathway J (routes 21X, 54, 56X) have helped increase the peak period capacity of the whole corridor. WSDOT investments in Pathway I however (route 121 trips), were too small to be seen at this summary level. Transit capacity by time period can change based on the number of trips scheduled in the time period, or the coach size assigned to the trips. Both factors are behind the seating capacity changes shown in Table 4. In all pathways Metro has assigned larger coaches to accommodate demand. This has resulted in larger average number of seats per trip for all pathways; Pathway A increased from 51 seats to 57 seats, Pathway B increased from 55 to 57, Pathway I increased from 50 to 53, Pathway J increased from 53 to 55. At a pathway level, the total number of trips has remained fairly constant for pathways A, B and I during the peak, shoulder and midday periods. Pathway J, however, has increased by 21 trips in the peak period and 11 trips in the shoulder period.

Enhanced Transit Service Table 4

JUN 2011 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	2011 (% Change)	2009	2011 (% Change)	2009	2011 (% Change)
Pathway A – Ballard/Magnolia†	9,240	10,170 (10%)	3,040	3,290 (8%)	3,690	4,450 (21%)
Pathway B – Aurora Fremont†	15,490	15,980 (3%)	5,900	6,100 (3%)	7,650	7,650 (0%)
Pathway I – SODO/Georgetown*	6,290	6,340 (1%) [8,370]	1,920	1,940 (1%) [2,770])	1,950	1,820 (-7%) [2,760]
Pathway J – West Seattle‡	16,340	18,270 (13%)	5,830	6,530 (13%)	7,480	7,780 (4%)
Total of all Pathways†‡	**47,360**	**50,760 (7%)**	**16,630**	**17,860 (7%)**	**20,770**	**21,700 (4%)**

*The increase in capacity 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.
†Pathway A is slightly lower and B is slightly higher than the capacity shown in the Vol 3 baseline because express 17 trips were incorrectly assigned to pathway A.
‡Pathway J baseline is larger than the baseline shown for Vol 3 because express routes 118 and 119 were inadvertently excluded from the previous baseline.

Enhanced Transit Service Table 5 compares the actual transit capacity delivered during the June 2011 service change to the June 2011 enhanced transit service proposal. As described above, the larger coaches assigned to service in these corridors has resulted in Metro providing almost two percent more capacity than originally

proposed. During the June 2011 service change WSDOT funds provided 55 percent more transit capacity than the peak period capacity of routes 21X, 54, 56X and 121. As will be shown in the next section this additional capacity has improved the transit capacity level of service on these routes and certainly helped attract some of the 1,220 peak period transit trips over the 2009 baseline.

Enhanced Transit Service Table 5

COMPARISON OF WSDOT FUNDED TRANSIT SEATING CAPACITY WITH METRO FUNDED PEAK PERIOD TRANSIT SEATING CAPACITY				
Jun 2011				
Route/Pathway	**Metro Funded Peak Period***	**Actual WSDOT Funded***	**Jun 2011 ETS Proposal†**	**% Increase in Seating Capacity Compared to Metro Peak Period**
21X	850	360	350	42%
54	1,410	1,580	1,570	112%
56X	670	240	230	36%
121	1,490	240	230	16%
Total	4,420	2,420	2,380	55%

*Actual average seats/trip for Jun 2011 was as follows: 21X:61, 54:59, 56x:61 and 121:59
†ETS Proposal was based on 58 seats/trip

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 6

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.

June 2011 Transit Capacity Compared to Spring 2009 Baseline – Enhanced Transit Service tables 7, and 8 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 June 2009 baseline.

Crowding happens when demand pushes the limits of capacity. Changes in crowding reflect a change in the capacity, the demand or both. Even with peak period ridership growing on all enhanced transit service routes the percent of riders experiencing transit capacity level of service C or worse has declined on all routes except route 121. Overall, there are 180 fewer AM and 530 fewer PM peak period riders experiencing transit capacity level of service C or worse than there were in the June of 2009.

One of the purposes of these added trips was to make room for additional transit commuters in advance of the most disruptive construction period. Table 7 and 8 below shows that the average load factors on all but route 54 and 121 AM inbound are down, meaning that WSDOT has made it possible for Metro to make room for additional transit commuters even while increasing the number of transit riders, in preparation for the most disruptive construction period.

Enhanced Transit Service Table 7

COMPARISON OF JUN 2011 TRANSIT CAPACITY LOS WITH JUN 2009 BASELINE								
AM 6:00-9:00 Inbound								
Route/ Pathway	Average Load Factor		# of trips providing a transit capacity LOS of C or worse		% of riders at a transit capacity LOS of C or worse		Est. Number of daily riders at a transit capacity LOS of C or worse	
	2009	**2011**	**2009**	**2011**	**2009**	**2011**	**2009**	**2011**
21X	0.74	0.63	4	3	66%	44%	250	190
54	0.61	0.63	2	2	37%	31%	150	150
56X	0.69	0.54	3	0	66%	0%	170	0
121	0.50	0.56	0	1	0%	18%	0	50
Total							570	390

Enhanced Transit Service Table 8

COMPARISON OF JUN 2011 TRANSIT CAPACITY LOS WITH JUN 2009 BASELINE								
PM 3:00-6:00 Outbound								
Route/ Pathway	Average Load Factor		# of trips providing a transit capacity LOS of C or worse		% of riders at a transit capacity LOS of C or worse		Est. Number of daily riders at a transit capacity LOS of C or worse	
	2009	**2011**	**2009**	**2011**	**2009**	**2011**	**2009**	**2011**
21X	0.78	0.62	4	1	80%	15%	270	70
54	0.63	0.52	2	1	32%	8%	130	70
56X	0.74	0.58	3	2	78%	29%	210	110
121	0.68	0.55	3	0	57%	0%	170	0
Total							780	250

The fairly static performance of the AM Inbound transit capacity on route 54, demonstrates that riders have already responded positively to the modest growth in AM inbound transit service. The Average load factor changed very little and the estimated number of daily riders experiencing a transit capacity LOS of C or worse has remained the same. The percent of riders experiencing a transit capacity LOS of C or worse, however, has declined because more people are riding. The majority of additional route 54 trips (twenty of the twenty seven) were scheduled in the PM peak period. Table 8 clearly shows a significant decline in average load factor, and in the estimated number and percent of daily riders experiencing a transit capacity LOS of C or worse.

Enhanced Transit Service tables 9, and 10 display similar information as tables 7 and 8 for all the ETS pathways. As with tables 7 and 8, the percent of riders experiencing LOS C has gone down slightly over all, only pathways A and I in the AM inbound pathway J outbound trips outside the PM peak had a percent increase in rides experiencing LOC C or worse. In addition they 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. These tables are provided for context to evaluate the effectiveness of WSDOT funded construction mitigation services.

Enhanced Transit Service Table 9

JUN 2011 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 at 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 at a transit capacity LOS of C or worse	
	2009	**2011**	**2009**	**2011**	**2009**	**2011**
Pathway A – Ballard/Magnolia	38%	48%	14	22	890	1,360
Pathway B – Aurora Fremont	43%	42%	30	29	1,970	1,870
Pathway I – SODO/Georgetown	13%	15%	5	7	200	290
Pathway J – West Seattle	35%	23%	22	14	1,310	950
All Pathways	36%	34%	71	72	4,370	4,470
Inbound Trips All Other Times of Day						
	2009	**2011**	**2009**	**2011**	**2009**	**2011**
Pathway A – Ballard/Magnolia	27%	13%	26	14	1,400	750
Pathway B – Aurora Fremont	24%	20%	46	38	2,740	2,540
Pathway I – SODO/Georgetown	17%	8%	12	8	500	410
Pathway J – West Seattle	8%	5%	8	9	550	500
All Pathways	20%	13%	92	69	5,190	4,200
Total Inbound Trips			**163**	**141**	**9,560**	**8,670**

Enhanced Transit Service Table 10

JUN 2011 SERVICE CHANGE COMPARISON OF OUTBOUND WEEKDAY PASSENGER LOADS BY CORRIDOR PEAK PERIOD SUMMARY WITH JUN 2011 BASELINE						
PM 3:00 – 6:00 Outbound						
Corridor	% of riders at 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 at a transit capacity LOS of C or worse	
	2009	**2011**	**2009**	**2011**	**2009**	**2011**
Pathway A – Ballard/Magnolia	48%	28%	24	17	1,430	980
Pathway B – Aurora Fremont	61%	52%	51	44	3,270	2,990
Pathway I – SODO/Georgetown	45%	14%	12	7	620	310
Pathway J – West Seattle	40%	27%	25	22	1,580	1,280
All Pathways	50%	35%	112	90	6,900	5,560
Outbound Trips All Other Times of Day						
	2009	**2011**	**2009**	**2011**	**2009**	**2011**
Pathway A – Ballard/Magnolia	23%	14%	23	13	1,380	810
Pathway B – Aurora Fremont	19%	14%	35	25	2,080	1,530
Pathway I – SODO/Georgetown	8%	5%	5	6	190	240
Pathway J – West Seattle	12%	14%	14	18	880	1,150
All Pathways	15%	12%	77	62	4,520	3,730
Total Outbound Trips			**192**	**152**	**12,110**	**9,290**

FLEXIBLE TRANSIT SERVICE

The Enhanced Transit Service contract provides for the use of flexible hours to meet the day to day variations in construction related traffic disruptions. These hours allow Metro to assign standby buses that enable Metro to respond immediately to conditions on the street. In the June 2011 ETS proposal, Metro budgeted 1,000 hours of flexible services to meet these needs. Subsequently, WSDOT approved an increase in that amount to match the total shown in table 11.

The Enhanced Transit Service Table 11 below reports on all flexible hours that were used during the June 2011 service change. The trips and boardings reported on this table come from self reported driver count sheets. Table 11 table shows, more than 22,000 transit trips were taken on service provided by flexible hours, showing how important they have been on days when traffic delays have caused transit services to fall behind. The real-time response of these services allows for greater reliability of service and has helped to maintain public confidence in riding transit.

Enhanced Transit Service Table 11

Jun 2011 Use of Flexible Hours					
Date Range	Number of Weekdays	Max. number of Standby coaches	Total flexible hours	Number of trips provided	Number of Boardings
June 13 – July 15	24	3	800	442	9,770
July 18 – Sept 30	54	3	1,246	612	12,740
Saturday - July 31	n/a	2	19	3	50
Actual Totals	**64**	**4**	**2,065**	**1,057**	**22,560**
Amended June 2011 ETS Proposal			2,100		

SCHEDULE ADJUSTMENTS

In February 2011 Metro changed the routing of all 1st Avenue services to use 3rd Avenue in order to avoid construction activities on 1st Avenue. Metro continued this re-route in June of 2011. This re-route was estimated to add five to eight minutes of running time. Table 12 below compares the actual transit travel time of service before and after the change and shows that the travel time is higher than estimated at most times of the day, depending on direction of travel.

Enhanced Transit Service Table 12

Difference in Minutes Between 2009 Baseline and Jun 2011 Travel Time			
Pathway	AM Peak Inbound Max/Min	Midday Max/Min	PM Peak Outbound Max/Min
J1: Alaska Jct. to 3rd Ave and Seneca St via 1st Ave S, Edgar Martinez, 4th Ave S onto 3rd Ave	9/3	11/0	9/7
J2: 35th Ave SW & SW Morgan St to 3rd Ave & Seneca St via 1st Ave S, Edgar Martinez, 4th Ave S onto 3rd Ave	7/3	9/0	9/6

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 Summer 2011 service change condition to the previous travel time report (Spring 2011) and the baseline condition (Fall 2009). The list below show the dates of when travel time observations were collected for those conditions:

- Fall 2009 service change (baseline condition): September 21, 2009 through October 16, 2009
- Spring 2011 service change condition: May 23, 2011 through June 10, 2011, excluding Memorial Day (May 31, 2011)
- Summer 2011 service change condition: September 6, 2011 through September 30, 2011

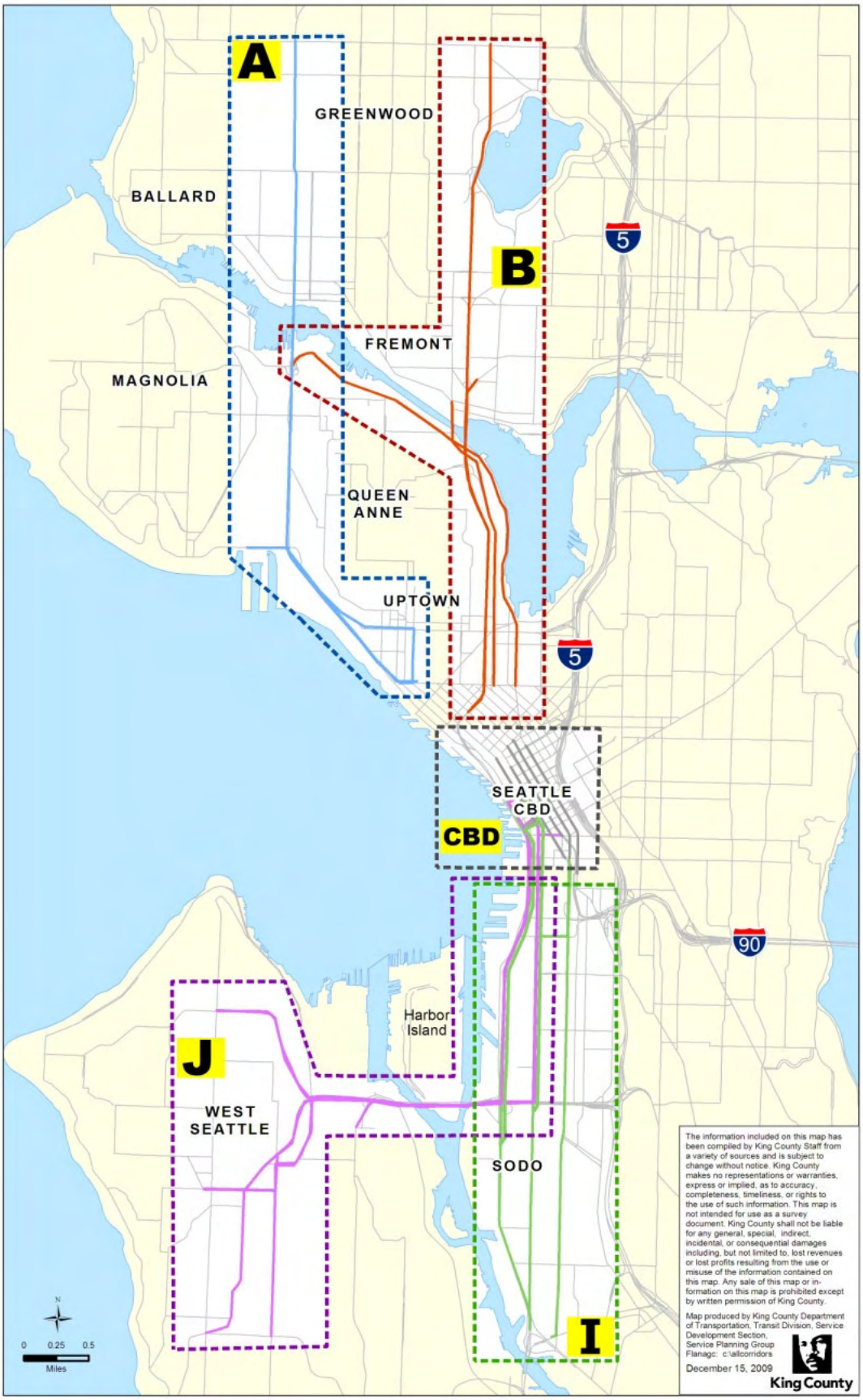
Travel time data was collected and processed as discussed below:

- 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.

For this report, no changes were made to any pathway endpoints compared to the previous report. The reduction from three to two lanes on SR-99 in both directions began on May 16, 2011 and continued through this reporting period.

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.	3rd Ave/Seneca	22
	J.2	West Seattle	35thAve SW/SW Morgan	3rd Ave/Seneca	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	4th Ave/Jackson	56, 57
	J.7	West Seattle	Admiral Way/California Ave	1stAve/Columbia (OB) 1stAve/Seneca (IB)	56X
CBD	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 percent of the observed transit speeds are faster and 50 percent 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 am and 8 pm. 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 pm and 6 pm; the AM Peak Range is a similar comparison of speeds between 6 am and 9 am. These ranges can be used to understand pathway group performance and assess whether, as a group, speeds are trending up or down during periods when daily travel demand is the greatest.

Travel Time Table 2: Summer 2011, Spring 2011, and Baseline Travel Speeds

Performance by Pathway Group: Summer 2011, Spring 2011, & Baseline Comparison					
Pathway Group	**Area**	**Service Change Period**	**Median Speed [MPH]**	**AM Peak Period* Hourly Median Range [MPH]**	**PM Peak Period* Hourly Median Range [MPH]**
A	Ballard, Interbay	Summer '11	15.5	13.1 – 23.1	11.9 – 17.3
		Spring '11	15.8	11.8 – 22.2	12.4 – 17.6
		Baseline	14.9	12.1 – 23.6	11.4 – 19.0
B	Aurora, Fremont	Summer '11	17.8	11.9 – 23.1	10.5 – 20.7
		Spring '11	18.4	12.2 – 21.0	9.2 – 22.9
		Baseline	18.6	11.0 – 22.7	11.0 – 20.3
I	SODO, Georgetown	Summer '11	17.7	14.1 – 41.9	12.2 – 23.6
		Spring '11	17.8	15.3 – 40.0	12.3 – 23.2
		Baseline	17.7	16.4 – 48.4	12.7 – 21.7
J 1st Ave	West Seattle via 1st Ave S	Summer '11	13.6	9.6 – 22.9	10.6 – 16.4
		Spring '11	13.5	10.6 – 21.2	9.4 – 15.8
		Baseline	15.9	11.9 – 20.7	12.4 – 21.0
J AWV	West Seattle via AWV	Summer '11	26.4	15.7 – 36.4	18.5 – 35.5
		Spring '11	27.1	15.9 – 37.2	19.5 – 33.3
		Baseline	30.1	20.1 – 36.6	22.1 – 33.8
CBD	2nd - 5th Avenues	Summer '11	7.4	6.7 – 11.1	6.3 – 9.9
		Spring '11	7.4	6.6 – 9.8	5.5 – 9.9
		Baseline	7.2	5.9 – 9.9	5.4 – 9.6

* AM peak includes 6 – 9 am and inbound trips only, pm peak includes 3 – 6 pm and outbound trips only, except CBD group includes both directions for am and pm peak ranges.

Summer 2011 Highlights

The Spring 2011 reporting period marked the beginning of a significant impact with the reduction of SR-99 from three to two lanes in both directions, which began on May 16, 2011. In Summer 2011, this continued to impact routes on the AWV as well as routes using 1st Avenue S, and will be an ongoing impact until the bored tunnel is open for traffic. Comparing the current period with Spring 2011 conditions, the most significant new impact appears to be to inbound pathways on both the AWV and 1st Ave S, which both have taken a hit in travel time and reliability measures during the AM peak.

"A" and "B" pathways continue to see elevated travel times due to diversion of SR-99 traffic to surface streets especially during the PM peak hour. Impacts are occurring in both directions and are most significant during the 5:00pm hour. "B" pathways using Aurora Avenue N continue to see elevated travel times during the PM peak in the inbound direction due to SR-99 queues extending through and beyond the Battery Street Tunnel. These effects are illustrated on the individual pathway summaries in Appendix A.

Additional highlights of changes in travel time and travel speeds observed in Summer 2011 compared to the Spring 2011 and baseline conditions are noted below. See Appendix A for details.

- The "A" and "B" Pathways show reduced median travel speeds compared to Spring 2011 conditions, especially in the PM period. As mentioned above, this could be due to SR-99 traffic diverting to surface streets. The reduction in median speed, which is an all-day measure, suggests that these delays are occurring more frequently and longer in duration. Although "A" pathways show slower speeds in the most recent period, the "A" pathway median speed is still better than the baseline condition; the improvement was likely due to new bus lanes that were installed along Elliott and 15th Ave W around the 2009 timeframe and signal timing improvements that were installed thereafter.
- Pathway B.2 shows travel time and reliability improvements in the inbound direction throughout the day, and in the outbound direction during the PM peak hour. Since the last reporting period, bus lanes were installed on Wall & Battery streets between Denny Way & 3rd Avenue, which have likely provided some improvement to this pathway.
- Pathway B.3 has shown mixed results throughout the day. Paving activities on Dexter Avenue have been winding down during this period; however AWV lane reduction and the Mercer project are probably counter-acting these gains during certain times of day.
- "J" pathways using the AWV have worsened overall, with median speeds decreasing throughout the day compared to Spring 2011. Compared to Baseline, the all-day median speed has decreased by almost 4 MPH, or 12%.
- "J" pathways using 1st Avenue S continue to show poor travel time and reliability performance in the outbound direction compared to baseline conditions, due to the reroute via the Hanford Street rail crossing and the Spokane Street Lower Level Bridge. In the outbound direction, reliability has degraded during some periods. Another contributing factor to reliability problems is due to trucks going to/from the Port of Seattle clogging the westbound left turn at the 1st Avenue S & S Atlantic Street intersection.
- Pathway CBD3 has shown slight improvements throughout the day and in both directions compared to Spring 2011, when service on 3rd Avenue was changed significantly. The improved performance could be due to lower number of boardings occurring in the summer months. Performance has notably improved during the PM peak hour, which could be related to improvements on Columbia Street and reduced blockages of Columbia Street coaches on 3rd Avenue.
- Pathway Columbia has improved during the PM period compared to Spring 2011 conditions, but is still significantly worse than baseline conditions. A number of minor signal and bus stop adjustments were made by SDOT and Metro to improve operations on Columbia Street. Also, the recurring traffic congestion on Columbia Street has likely encouraged some drivers to find other routes.

SERVICE ADDITIONS TRAVEL TIME

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

Route 21X [Pathway J.3] – Pathway J.3 shows increases of two to four minutes in median travel time during the AM peak flow compared to Spring 2011 conditions. Compared to baseline conditions, the increase is around five to seven minutes per trip. In the PM Peak, Pathway J.3 has increased by one or two minutes, but there have been some savings on the Columbia pathway. Considering the cumulative effects of these two pathways, travel times for the PM flow have held steady since Spring 2011: around five to eight minutes increase compared to baseline. Note that the route 21X does not follow the J.3 pathway exactly, but parallels a significant portion of it.

Route 54 [Pathway J.3] – Pathway J.3 shows increases of two to four minutes in median travel time during the AM peak flow compared to Spring 2011 conditions. Compared to baseline conditions, the increase is around five to seven minutes per trip. In the PM Peak, Pathway J.3 has increased by one or two minutes, but there have been some savings on the Columbia pathway. Considering the cumulative effects of these two pathways, travel times for the PM flow have held steady since Spring 2011: around five to eight minutes increase compared to baseline.

Route 56X [Pathway J.7] – Pathway J.7 is a peak-only pathway using the AWV that has shown mixed results in both directions compared to Spring 2011. Compared to baseline conditions, however, travel time and variability are still at increased levels.

Route 121 [Pathway I.1] – Pathway I.1 is also a peak-only pathway, with limited reverse-peak trips, that also has shown mixed results compared to Spring 2011. Compared to baseline conditions, median travel time during the am peak flow has increased between one and two minutes.

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 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 along the SR 99 corridor. 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:

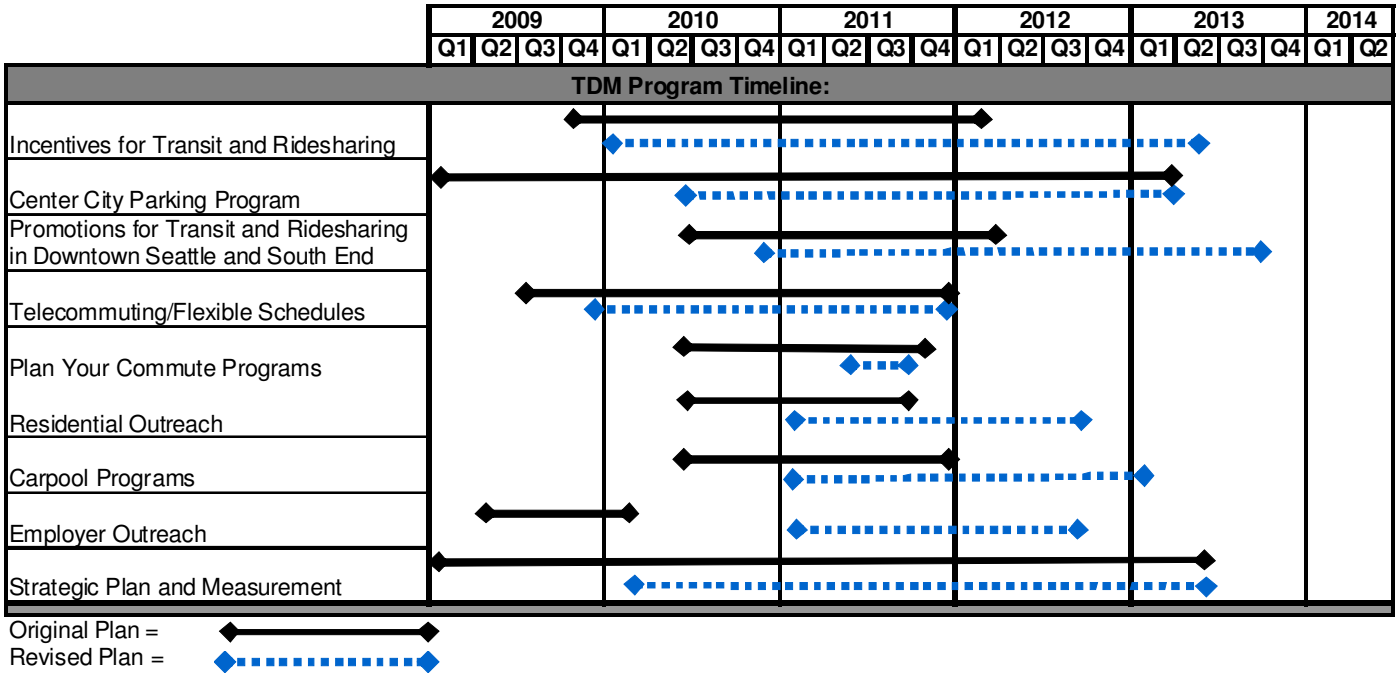
TDM Table 1

TDM Project Definitions for Downtown Seattle and the South End SR 99 Corridor	
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 of Seattle'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.
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	Analyze and report on overall results of transportation demand management efforts

TDM Program Timeline

Most TDM programs began in early 2011. Teleworking/Flexible Schedules, Center City Parking, and the Metro funded Incentives for Transit began in 2010. The program schedule is below:

TDM Table 2



TDM Program Update

During the June to September 2011 time frame, the Incentives for Transit and Ridesharing, the Reduce SOV Commuter Parking, Promotions for Transit and Ridesharing, Plan Your Commute, Carpool Program, Employer Outreach and the Teleworking programs continued. Also during this time, the Residential Outreach projects were implemented. During this time the ATV TDM team worked together to prepare for promoting October service changes and options for the 9 day closure. Listed below in TDM Table 3 are the TDM program updates for June to September 2011**.**

TDM Table 3

TDM Program Update – (June – September 2011)	
Incentives for Transit and Ridesharing	▪ Incentives continue to be offered in the Center City for first year Passport purchases. There was about $30K in incentives in the first half of 2011.
Reduce Single Occupancy Vehicles (SOV) Commuter Parking	▪ Finalized agreement template for phase 2 garages ▪ Entered into negotiations with four candidate facilities ▪ Submitted quarterly reporting of garage occupancy continues with garage reports for 2Q 2011 (3Q 2011 have been requested but not yet received) ▪ Conducted E-Park customer evaluation survey in six e-Park garages in June; report is being finalized and will be complete by year's end ▪ Used E-Park customer evaluation results to inform development of Winter 2011 e-Park marketing campaign, set to occur in November and December 2011 ▪ Advisory appearances before the International Special Review District and the Pioneer Square Preservation Board in August 2011; special design of "historic" e-Park signs for the PSQ neighborhood is currently underway ▪ Reached Phase 2 30% design for sign locations
Promotions for Transit and Ridesharing	▪ Launched bus/rideshare campaign to promote bus service and rideshare during AWV October closure. Campaign continues use of "Do Something Else" message through" radio/internet; residential mailers; employer postcards; shelter signs, and bus ads.
Teleworking/Flexible Schedules	▪ Provided initial proposal to Group Health. Completed employee and manager survey for Russell Investments and analyzed results. Assisted Russell Investments with developing presentation for providing results to management. Worked with Vulcan Inc on their program. Launched website to promote services (fully funded by SR-520 project).
Plan Your Commute	▪ This program element was completed in June 2011. There is no activity to report.
Residential Outreach	▪ Launched West Seattle In Motion, White Center and South Park In Motion, and Georgetown In Motion (partnership with the Duwamish TMA). ▪ Conducted numerous events, maintained ongoing communication and encouragement of In Motion participants, provided travel information and reward incentives as appropriate.

Carpool Program	▪ Launched "Get You There" promotions ▪ Continued promotions to the public, employers, worksites and within RideshareOnline.com
Employer Outreach	▪ Met with marketing team to plan outreach pieces; postcard, e-mails, and letter. Confirmed target business list for mailings. Mailed out postcard. ▪ Presented AWV information to employer network group meetings. ▪ Sent out e-mails to CTR employers. ▪ Sent bus reroute information to SODO employers. ▪ Completed employer follow-up from PRR phone calls to small employer list.

TDM PERFORMANCE

Each TDM task has a trip reduction target set by contract (GCA 5865). Metro worked with WSDOT and SDOT staff to develop the methodology to measure progress in meeting the trip reduction targets. The factors used to measure progress in the AWV TDM program used past performance and other factors to estimate performance.

As construction has progressed and other global factors have changed travel patterns there have been some necessary changes to the implementation of the TDM projects. These changes, as well as difficulties in gathering data, have led King County Metro and WSDOT staff to review the methodology of all performance measurement plans. Additionally with so many programs targeting travelers in a concentrated area it can be difficult to attribute a trip reduction to a single factor. Several of the reporting tools will be revised for the next report to better align with current implementation, data availability and to ensure the transparency of reporting.

The mitigation is a collaboration of efforts to encourage people to meet their travel needs without driving alone. All the TDM elements are implemented in an environment where many different actions interact including but not limited to other promotions, changes in bus service, and construction activities. Broader factors like the price of gas, seasonal effects, unemployment, and other economic factors, can also influence a traveler's choice.

The majority of TDM activities began in spring 2011. By July 2011, all TDM activities had begun and the collection of the performance data had started. During the summer months of 2011, AWV TDM teams worked on developing an outreach effort for October 2011 to promote increases in service and the AWV 9 day closure options. Tasks like Incentives, Carpool, and In Motion continued through the summer. Additionally, planning for the fall promotions occurred during the summer.

As of June 2011, 3,111 ORCA transit passes have been sold and 1,216 commute incentives have been distributed exceeding the required deliverables for these tasks. This is estimated to have reduced 734 daily trips. In Motion residential outreaches were launched this past summer with projects in Georgetown, South Park, White Center and West Seattle.

Half way though the program, the Carpool Program has exceeded its target by about 50% percent. The transit Incentives program is within 12 trips of target. The Residential Outreach program is on target.

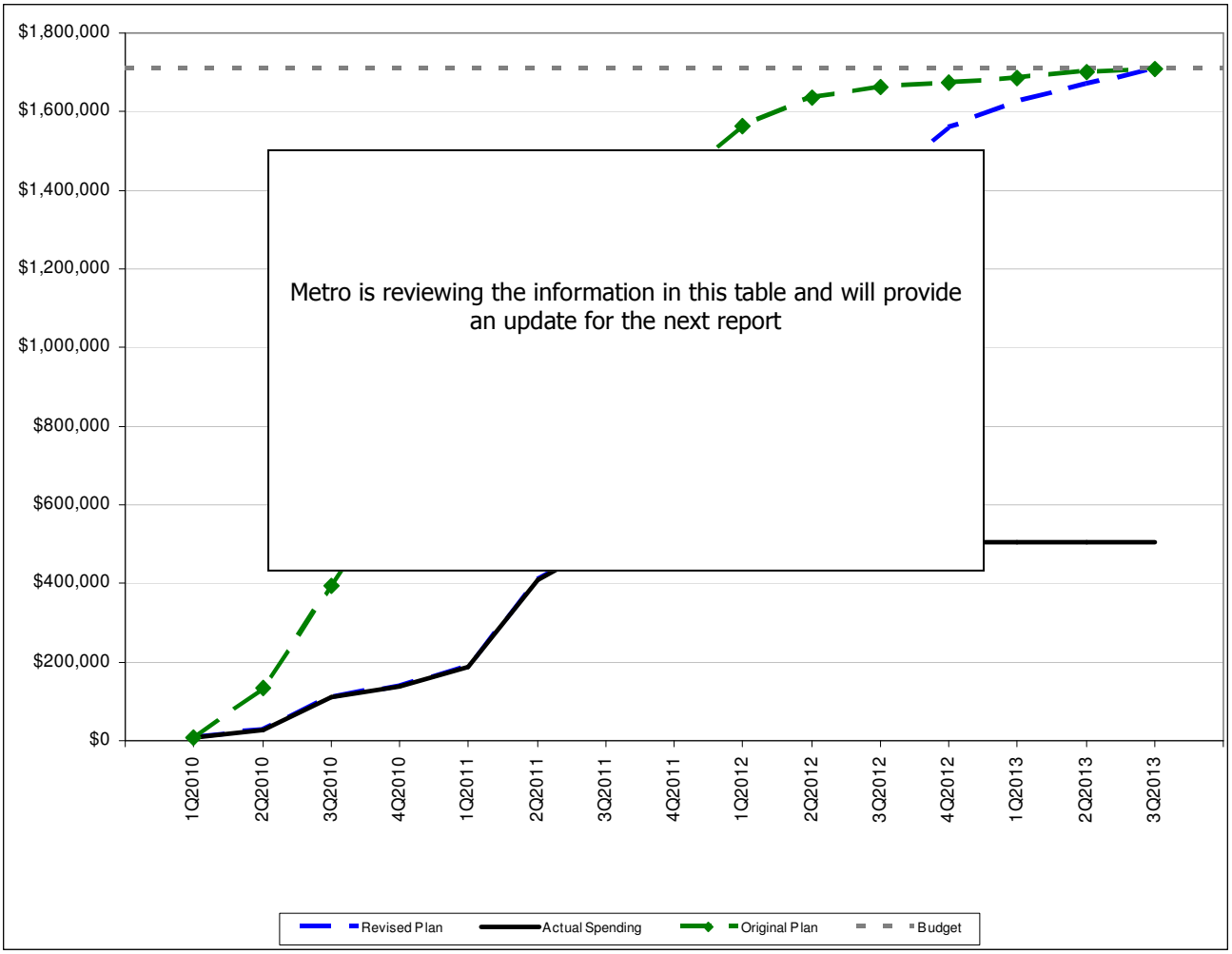
TDM Impacts: Table 4.

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	850
			Households in South End	90,000	75,000
Downtown Transportation Demand Management					
Incentives for Transit	240	228	Transit Pass Incentives	2,500	3,111
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	125	Number of Companies Participating	15-20	8
Plan Your Commute	740		Pledges	1,800	
South End Transportation Demand Management					
Residential Outreach	390	121	Household Participation Rate	10%	10.7%
Carpool Program	270	400	Carpool Incentives	1,000	1,949
Employer Outreach	100	34	Transit Passes Distributed	N/A	175
TOTAL	4,130	908			

TDM BUDGET AND EXPENDITURE – JUNE 2011

The estimated cash flow as of June 2011 by quarter is listed in the table below. Metro is reviewing the information in this table and will provide an update for the next report.

TDM Table 5



Expenditures

(All expenditures (planned, actual or revised) should be entered in the quarter the billing will be submitted to WSDOT not the quarter in which the work is performed.)
Metro is reviewing the information in this table and will provide an update for the next report.

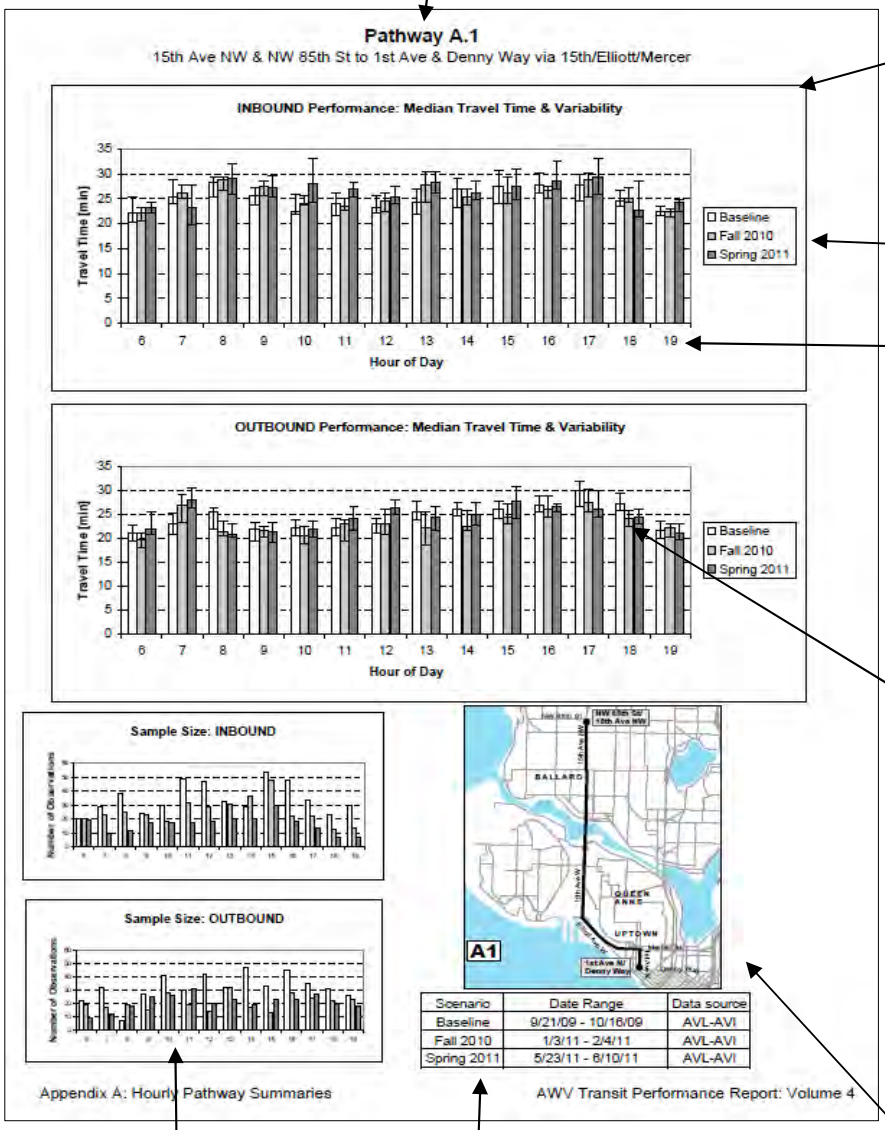
Quarter	Actual Spending	Revised Plan
1Q2013		$64,000.00
2Q2013		$47,333.95
3Q2013		$37,908.00
Sub total	$505,547.55	$1,202,064.45
Total	$1,707,612.00	

Metro is reviewing the information in this table and will provide an update for the next report

Interpreting the Hourly Pathway Summaries

Pathway
Each page is a report of one pathway, defined in the title.

Direction
Most pathways have two directions, either inbound/outbound or northbound/southbound. Inbound trips generally head into the Seattle CBD, and outbound trips generally originate in the CBD. Separate charts are provided for the two directions.



Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL-AVI
Fall 2010	1/3/11 - 2/4/11	AVL-AVI
Spring 2011	5/23/11 - 6/10/11	AVL-AVI

Scenario
Long-term changes in transit performance are illustrated by selecting various scenarios for side-by-side comparison.

Time-of-Day
Travel time data is sliced into hour-interval segments for each pathway and direction, and the median travel time is calculated for each hour interval between 5:00 and 19:59 (5:00am - 7:59pm). The hour interval for each trip is determined by the hour of day when the trip passes the end point of the pathway.

Variability Factors
In addition to the median travel time shown in the bar charts, a variability indicator is shown with whiskers extending above and below each bar. The upper whisker shows the 75th percentile travel time measured for the hour interval, and the lower whisker shows the 25th percentile travel time. A larger spread between the 25th and 75th percentile indicates a larger variation in travel times. In other words, 50% of the observed trips fit within this range.

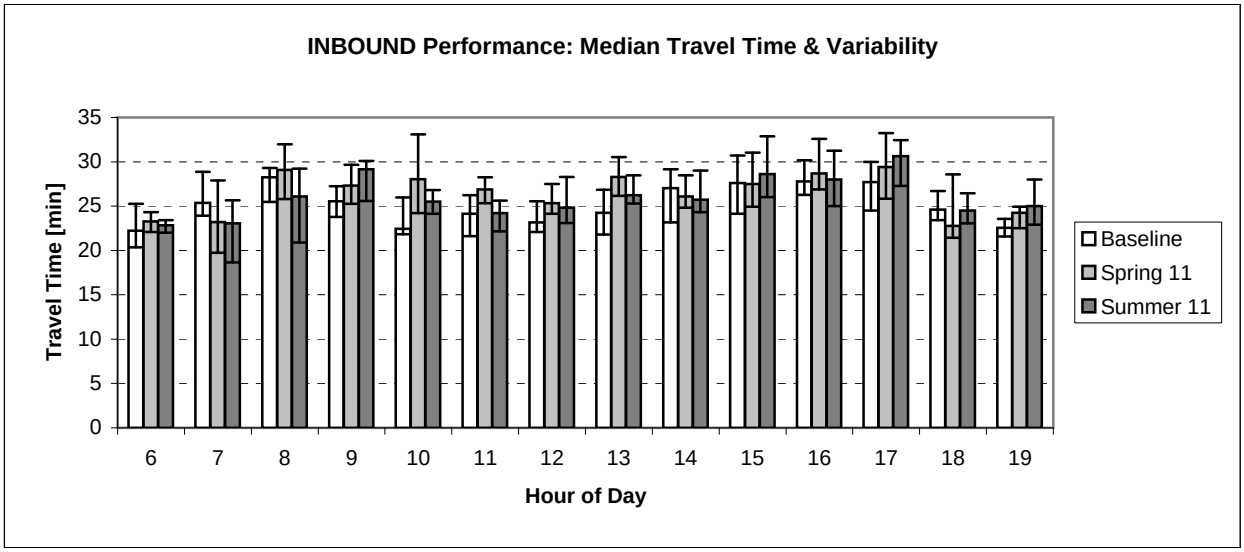
Sample Size Charts
These charts show the number of observations used within each slice of travel time data. These charts provide an indication of the quality and relevancy of the data that is presented in the larger charts.

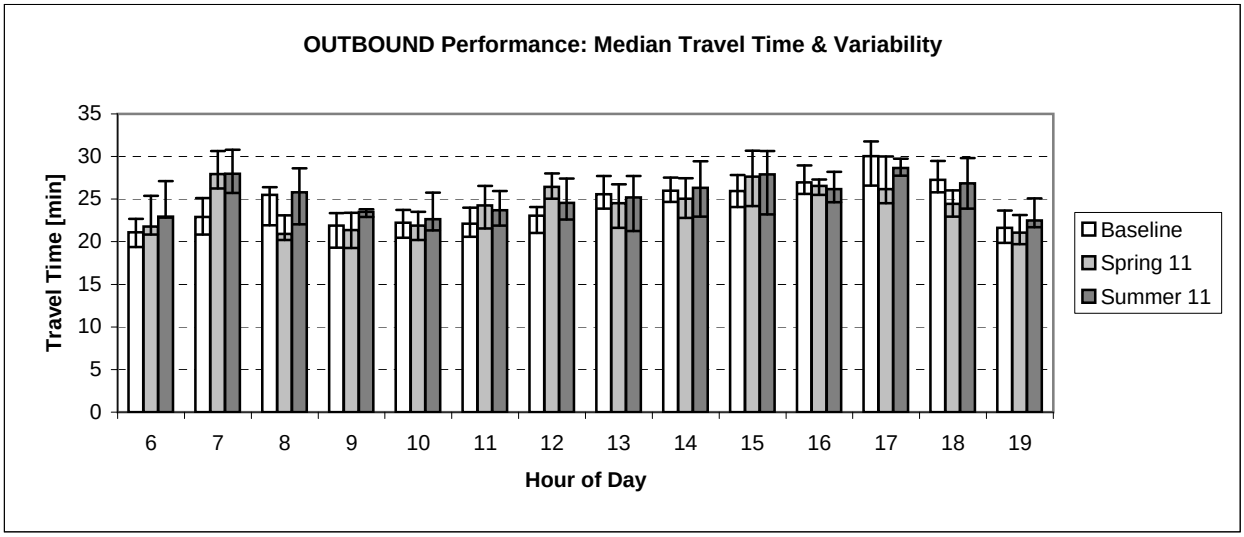
Scenario Descriptions
Details about the scenarios being reported are shown in the table, including the date ranges and data source used (AVL or AVI).

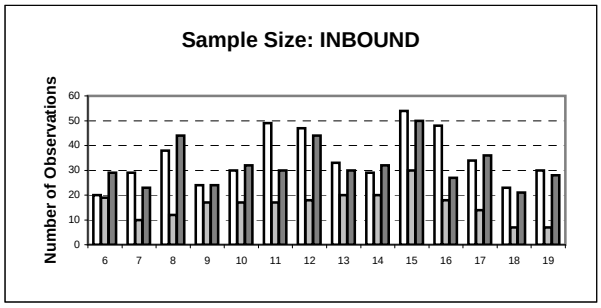
Pathway Map
The map shows the detailed route of the pathway being reported, as well as the start and end points. In some cases, the start or end points are different for inbound/outbound directions, for example for trips using the Seneca and Columbia AWV ramps.

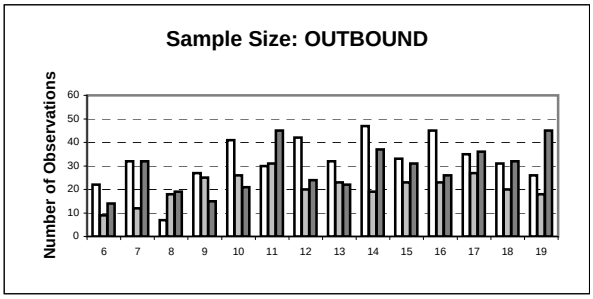
Pathway A.1

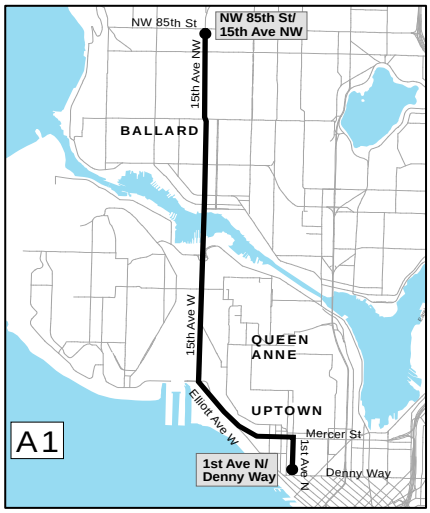
15th Ave NW & NW 85th St to 1st Ave & Denny Way via 15th/Elliott/Mercer







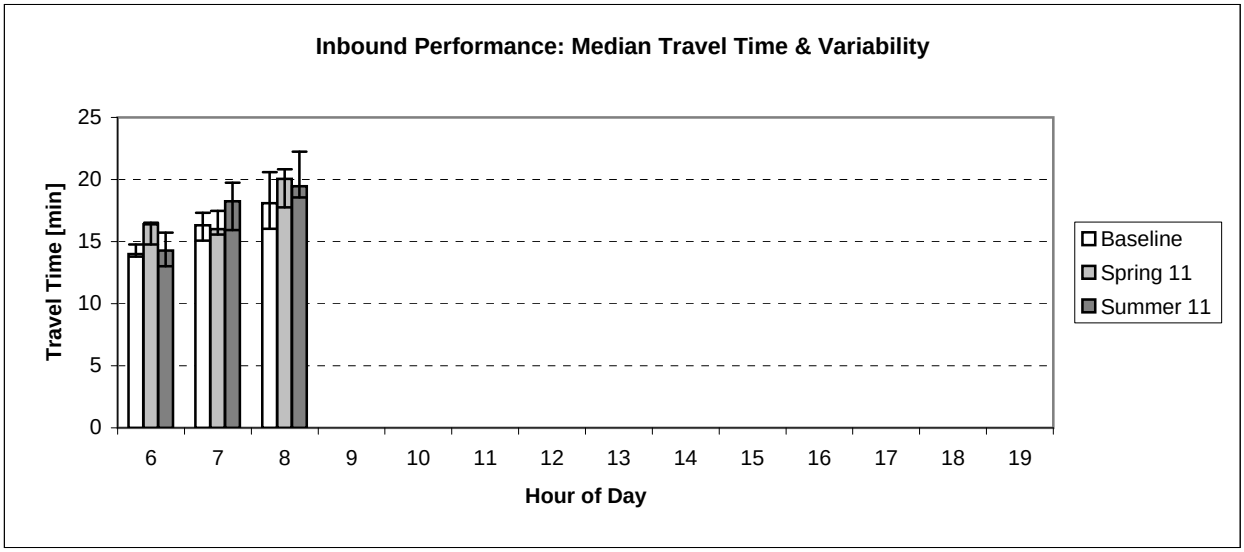


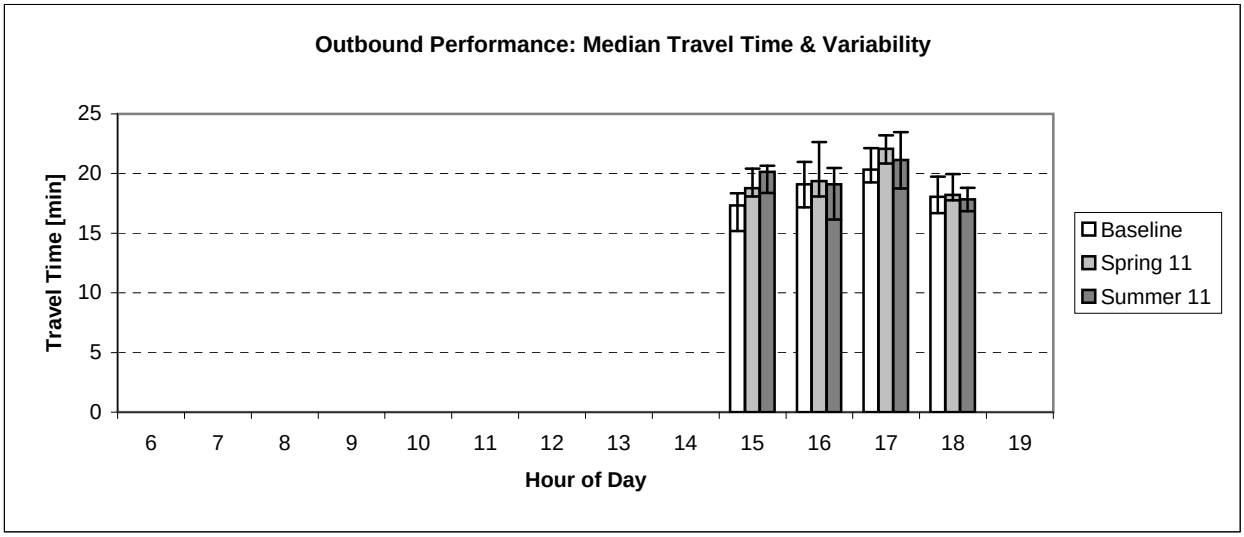


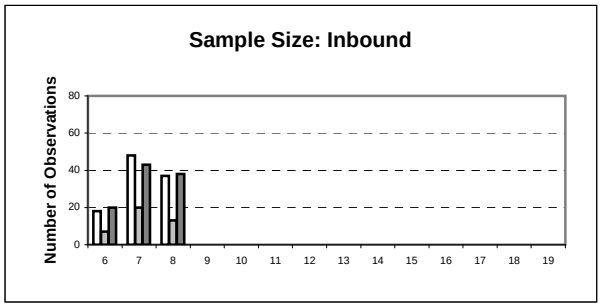
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL-AVI
Spring 11	5/23/11 - 6/10/11	AVL-AVI
Summer 11	9/6/11 - 9/30/11	AVL-AVI

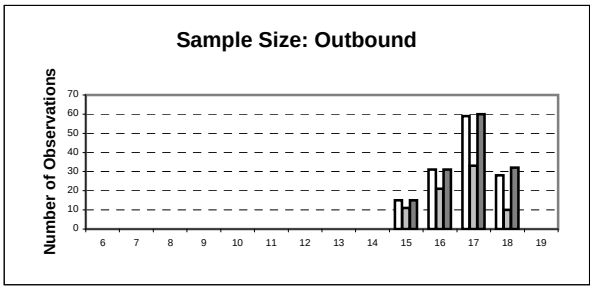
Pathway A.2

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





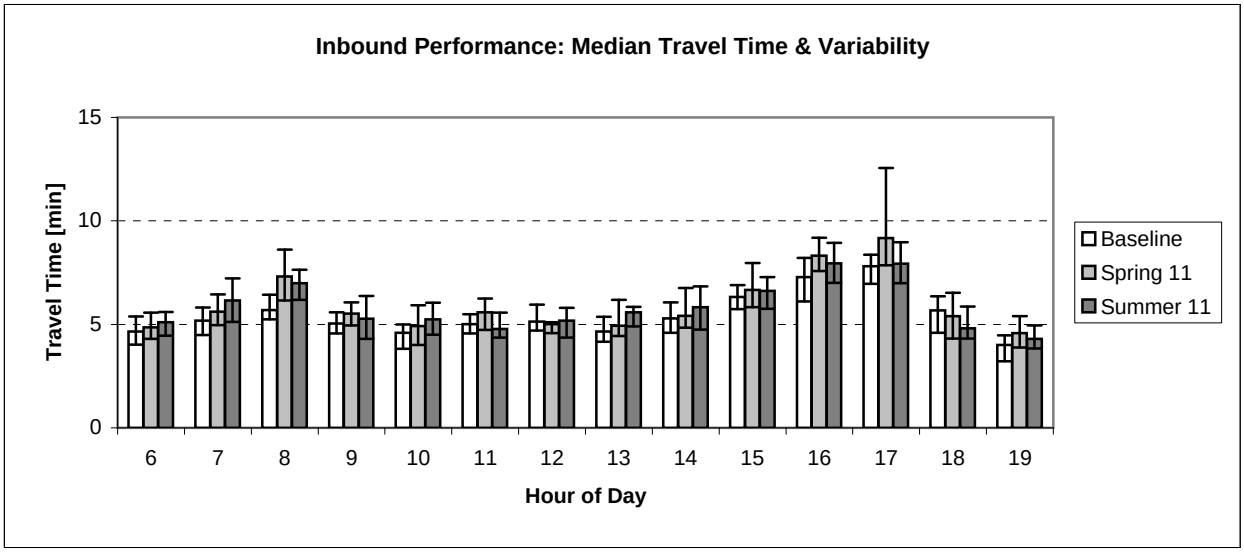


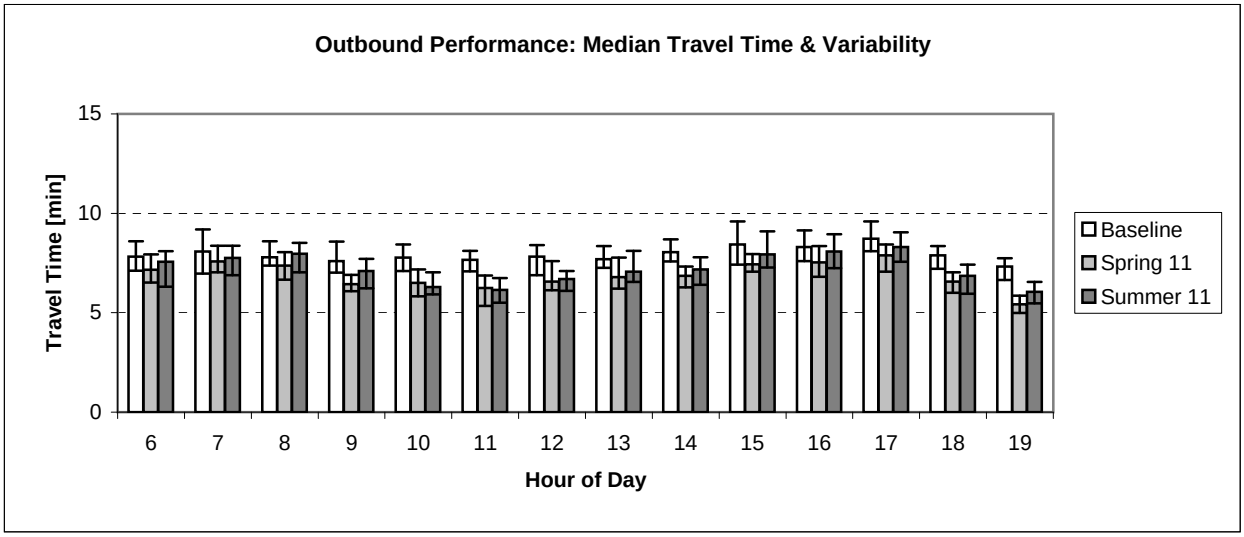


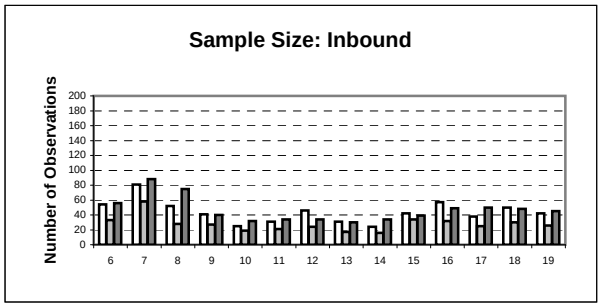
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL-AVI
Spring 11	5/23/11 - 6/10/11	AVL-AVI
Summer 11	9/6/11 - 9/30/11	AVL-AVI

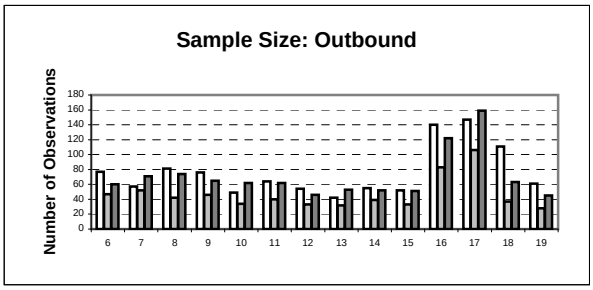
Pathway A.3

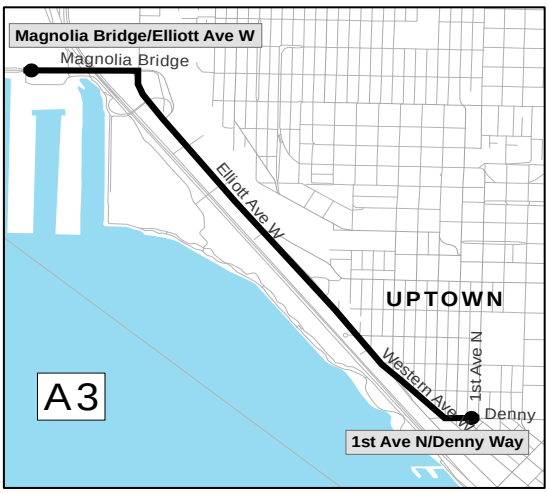
Magnolia Bridge to 1st Ave & Denny Way via Elliott/Western







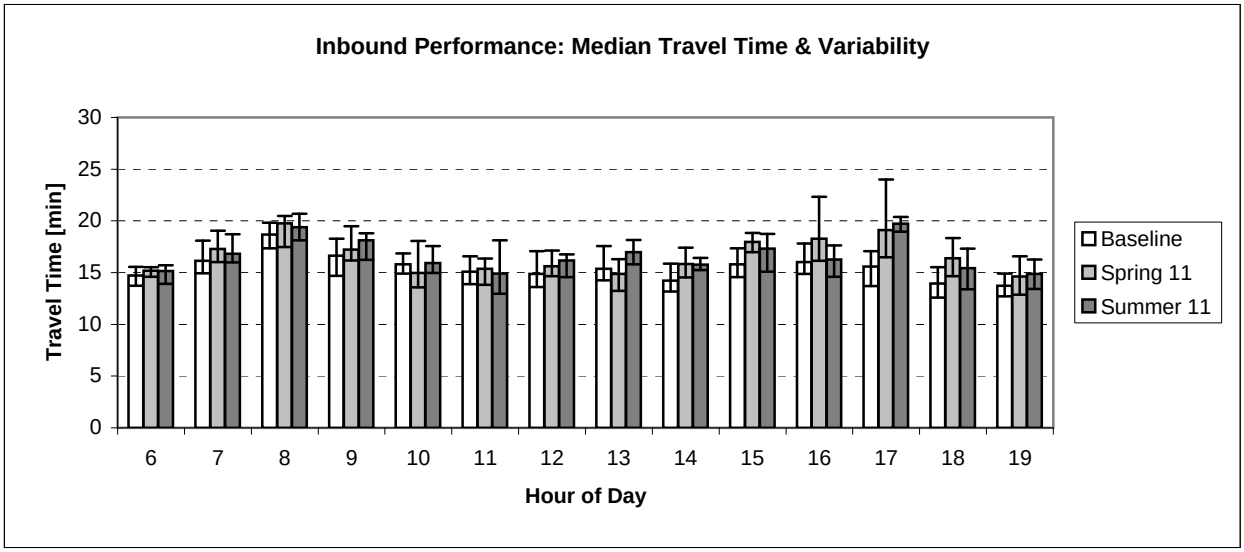


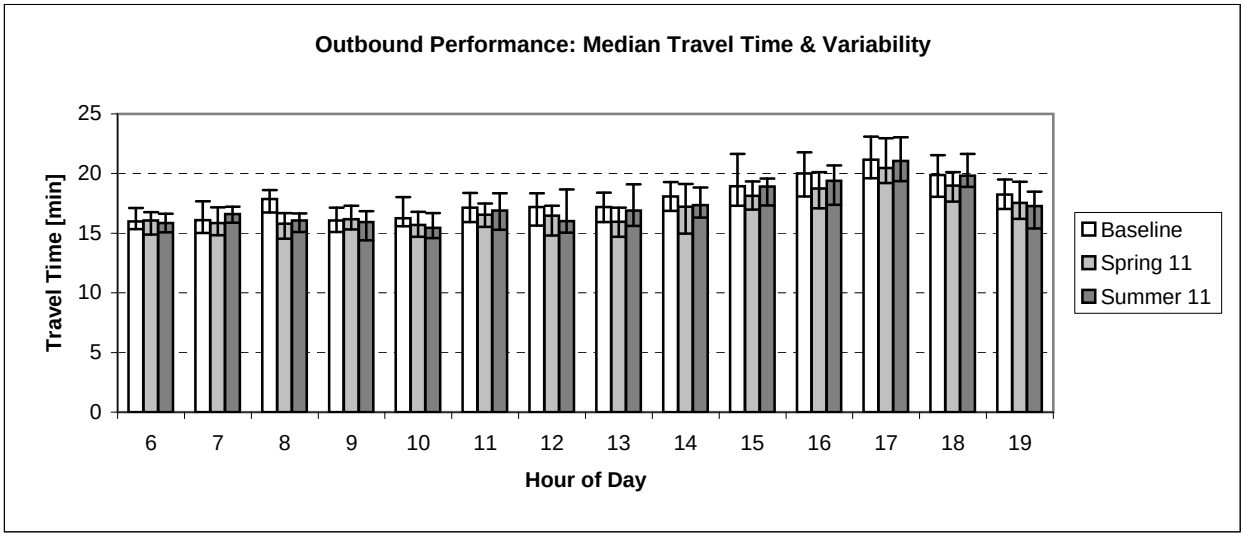


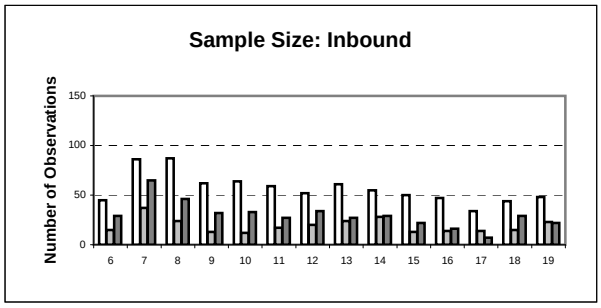
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL-AVI
Spring 11	5/23/11 - 6/10/11	AVL-AVI
Summer 11	9/6/11 - 9/30/11	AVL-AVI

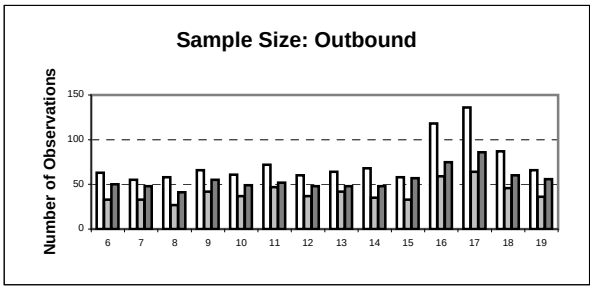
Pathway B.1

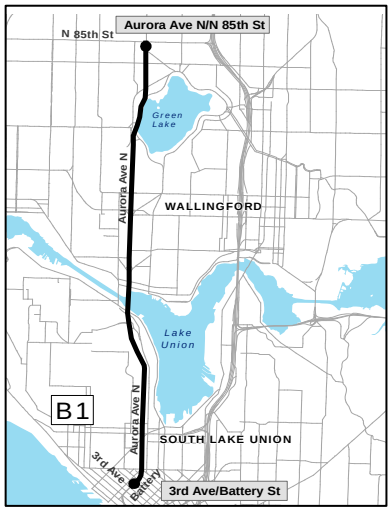
Aurora Ave N & N 85th St to 3rd Ave & Battery St via Aurora Ave







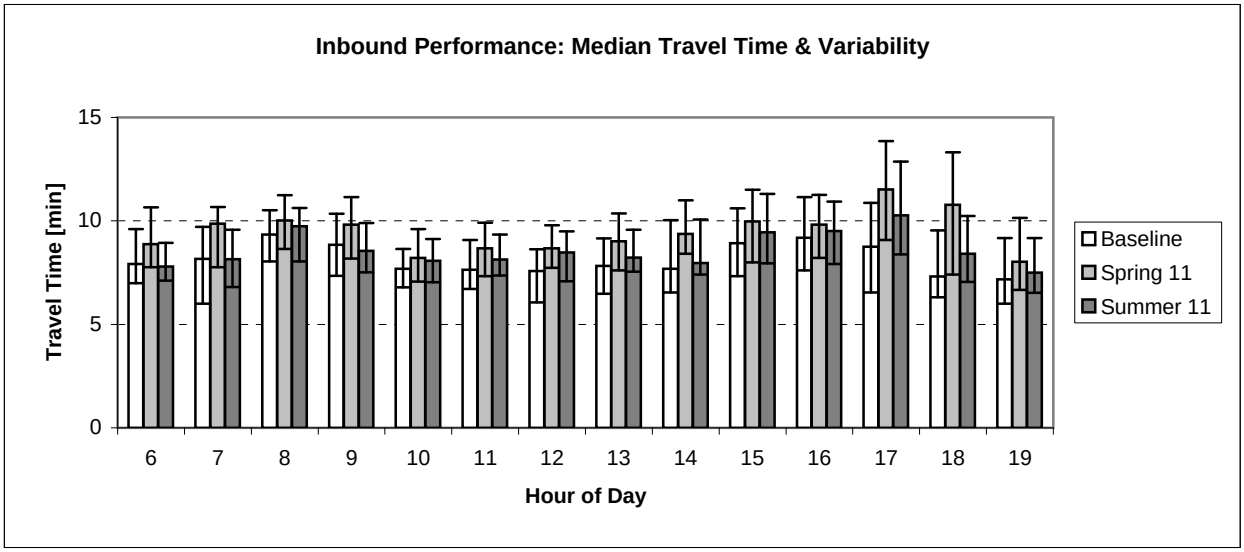


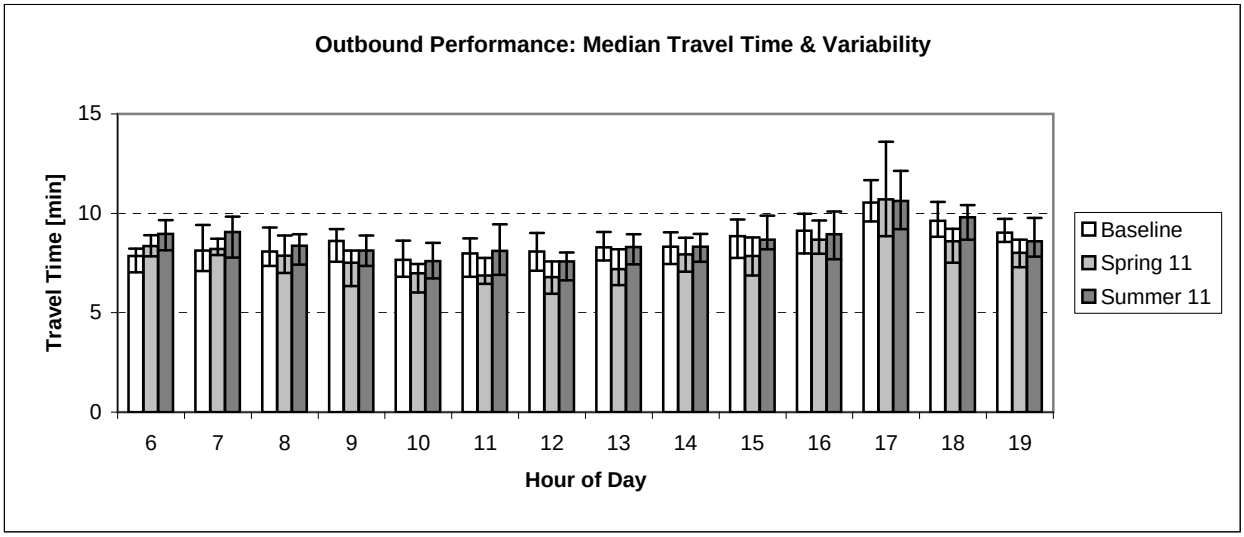


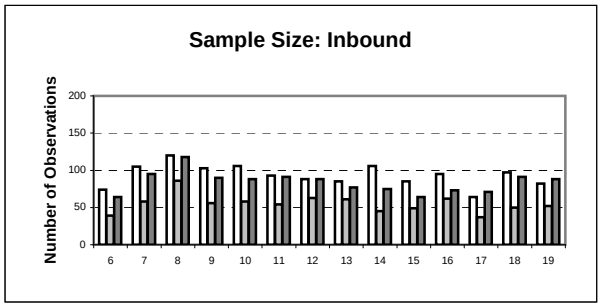
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL-AVI
Spring 11	5/23/11 - 6/10/11	AVL-AVI
Summer 11	9/6/11 - 9/30/11	AVL-AVI

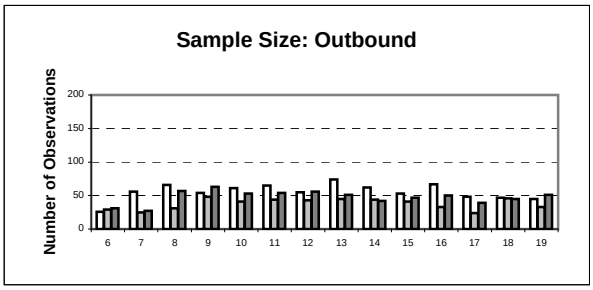
Pathway B.2

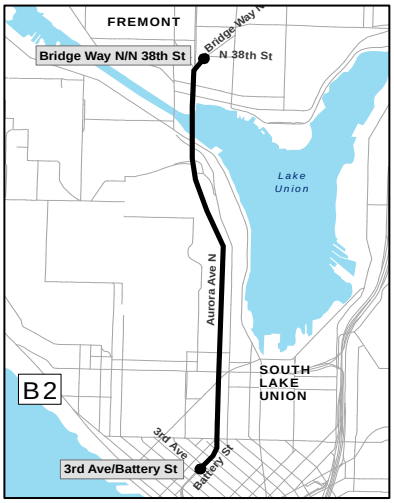
Bridge Way & N 38th St to 3rd Ave & Battery via Aurora Ave







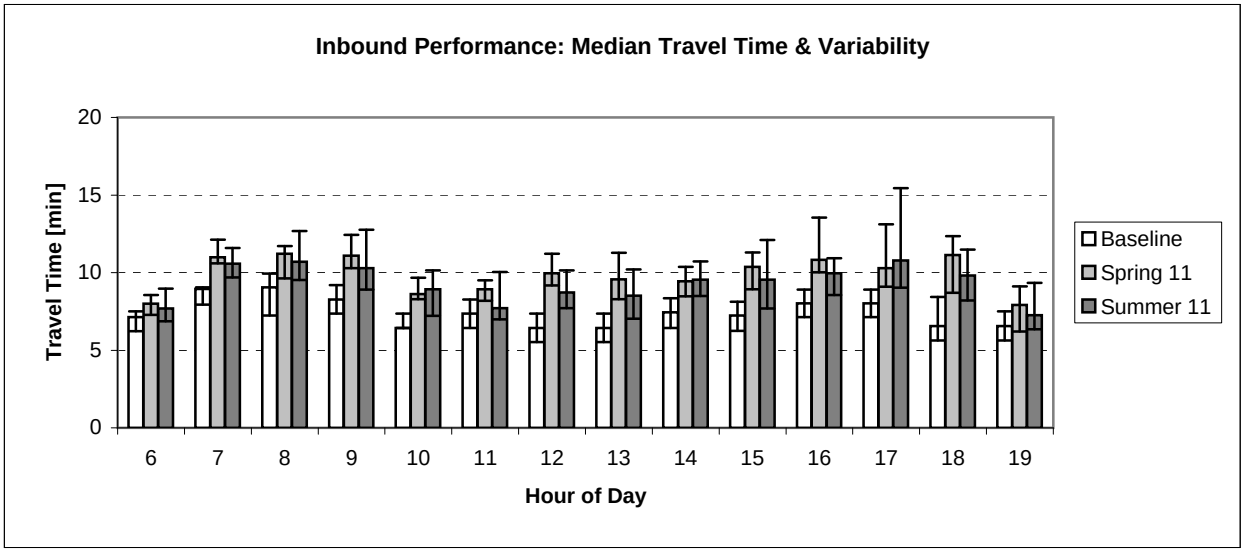


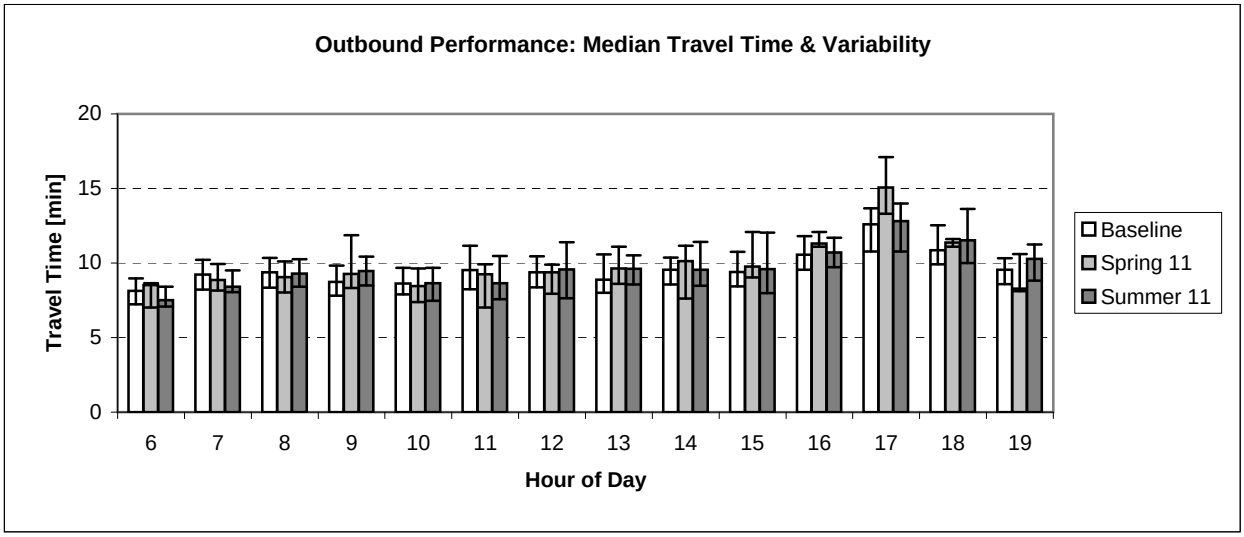


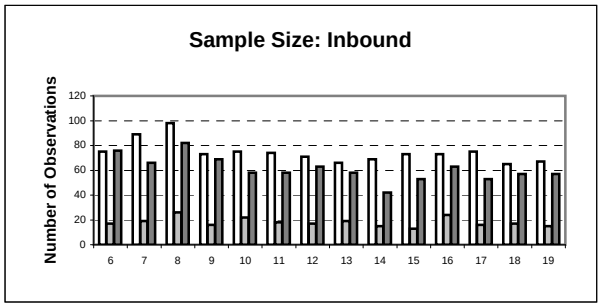
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL-AVI
Spring 11	5/23/11 - 6/10/11	AVL-AVI
Summer 11	9/6/11 - 9/30/11	AVL-AVI

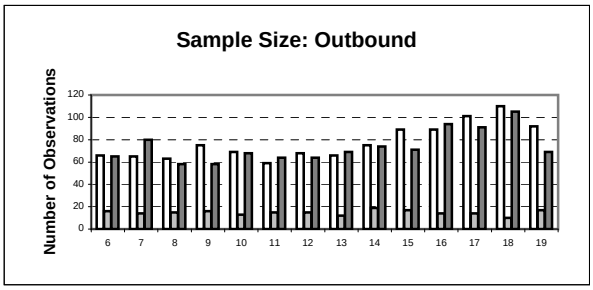
Pathway B.3

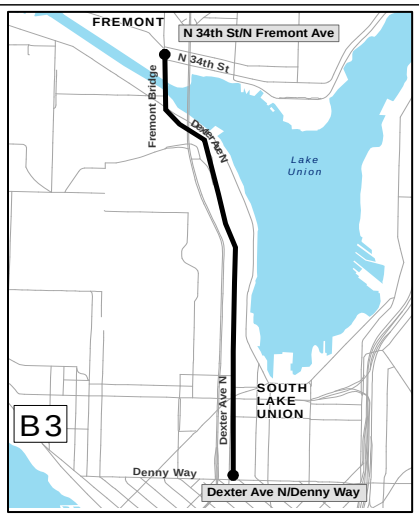
Fremont Ave N & N 34th St to Denny Way & Dexter Ave via Dexter







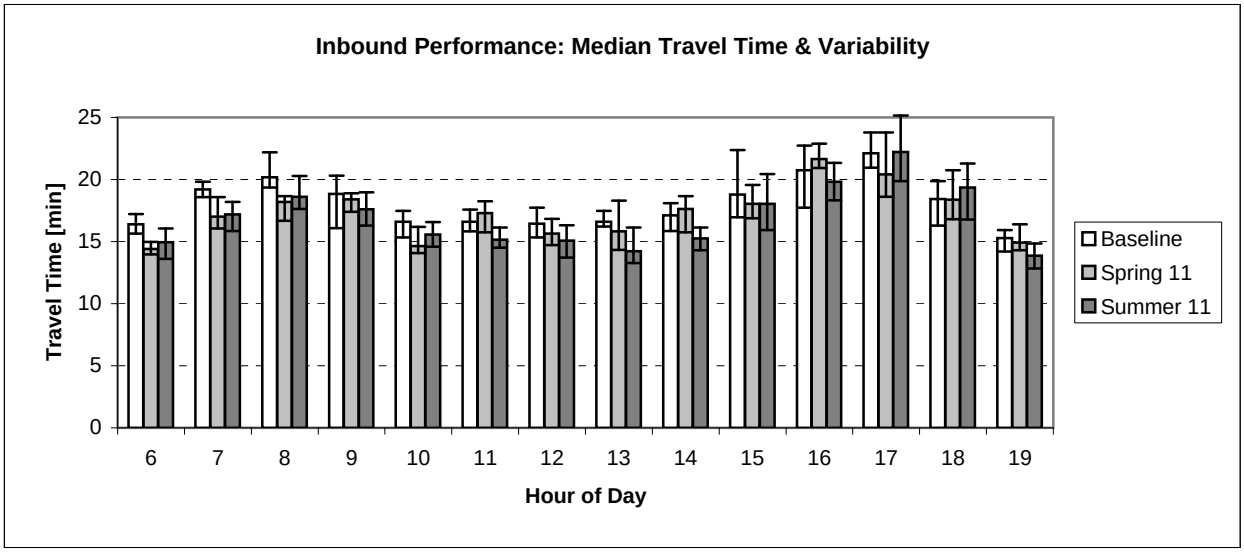


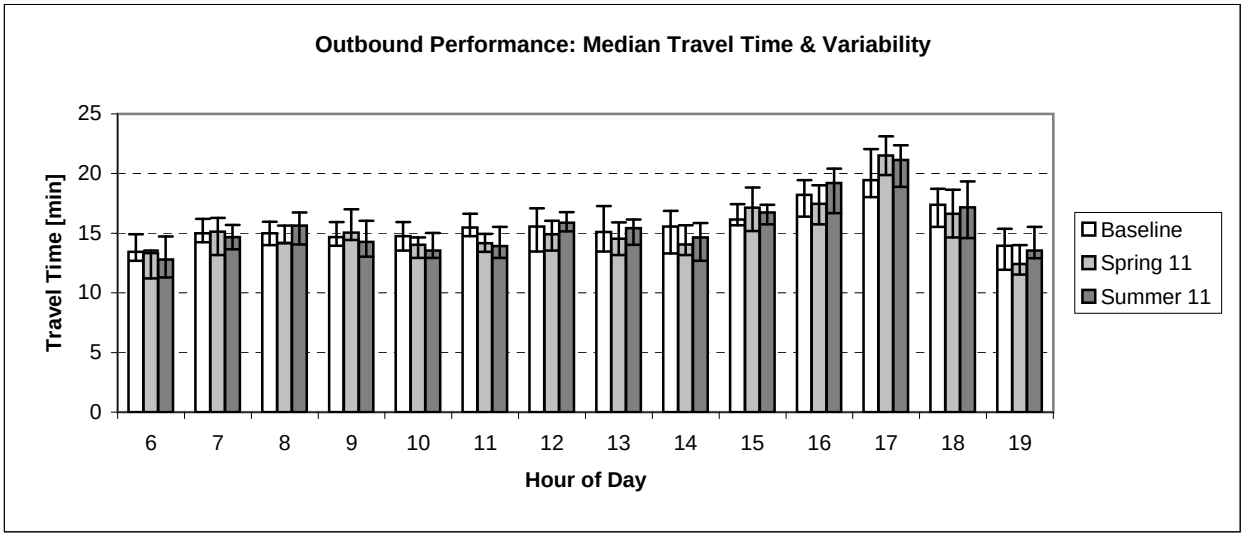


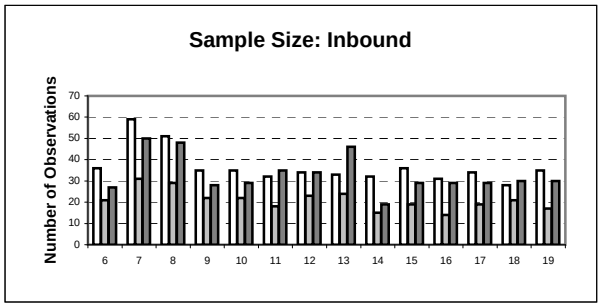
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL
Spring 11	5/23/11 - 6/10/11	AVL
Summer 11	9/6/11 - 9/30/11	AVL

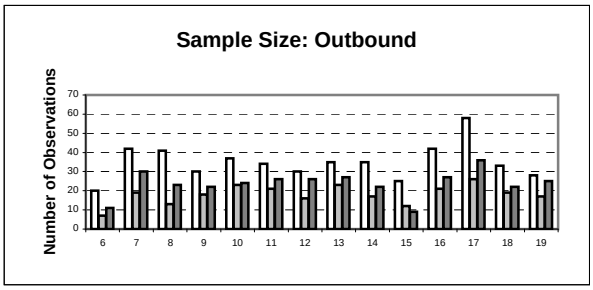
Pathway B.4

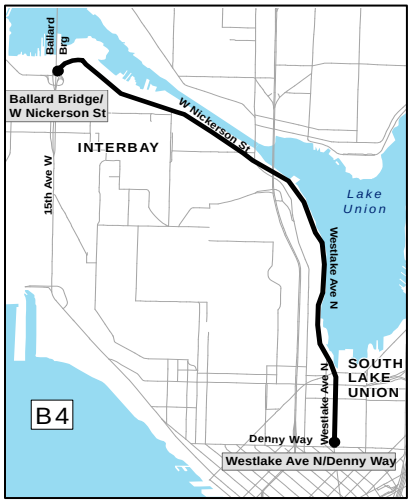
Ballard Bridge to Denny Way & Westlake Ave via Nickerson/Westlake







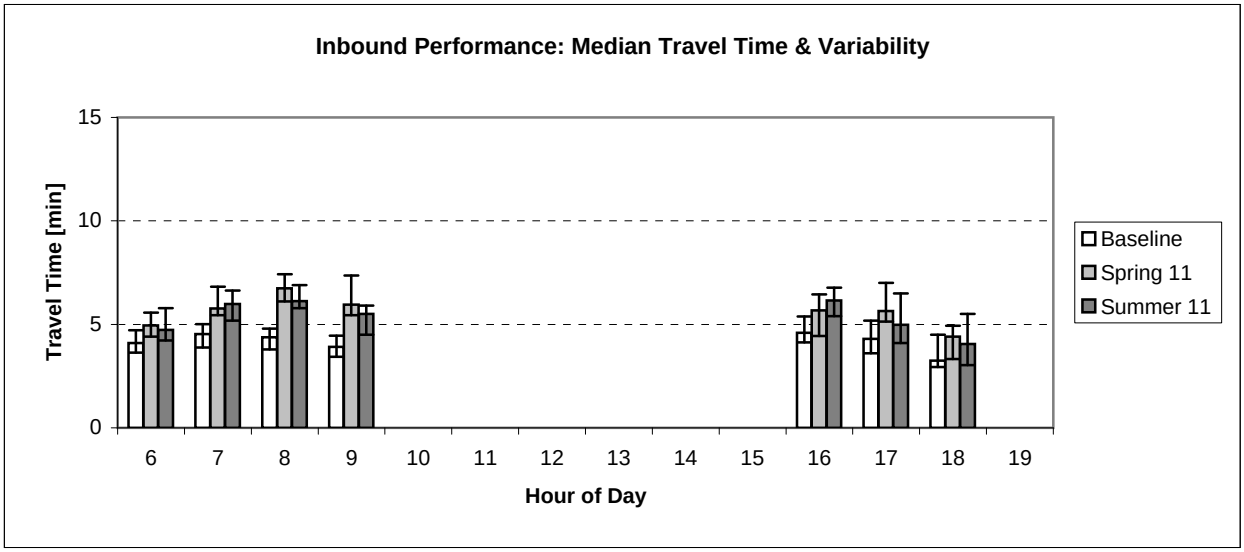


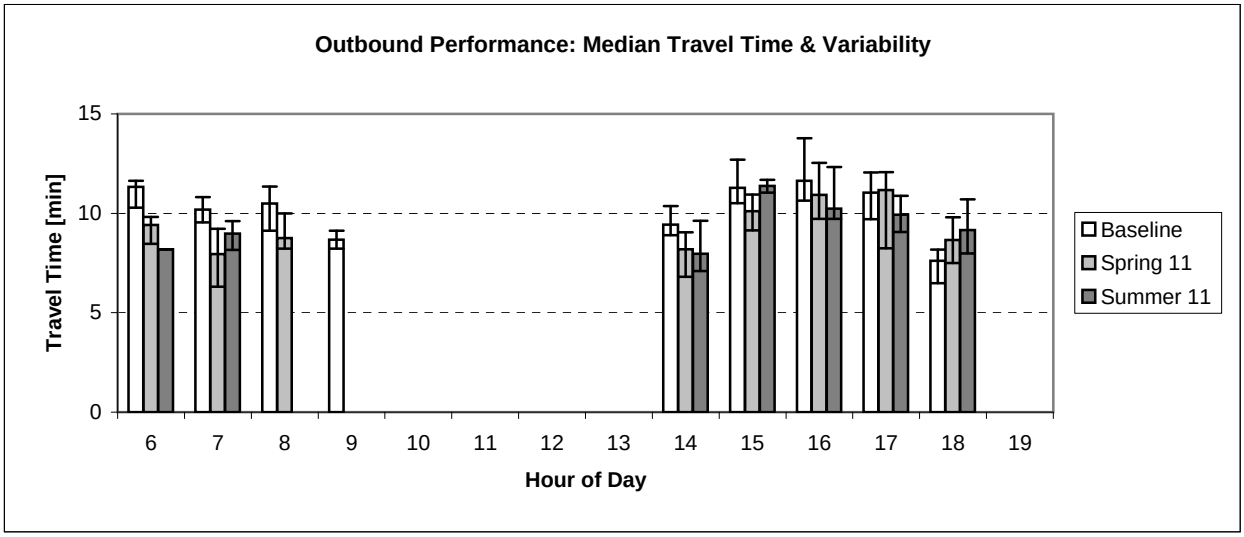


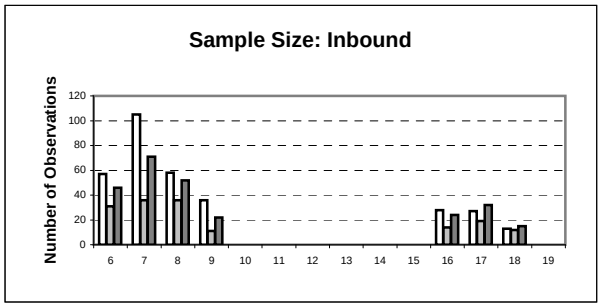
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL
Spring 11	5/23/11 - 6/10/11	AVL
Summer 11	9/6/11 - 9/30/11	AVL

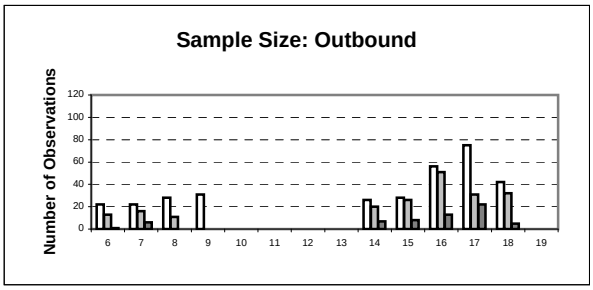
Pathway I.1

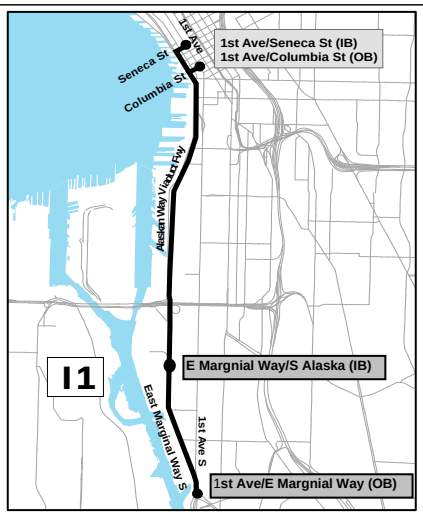
East Marginal Way & 1st Ave/Alaska St to 1st Ave & Seneca/Columbia St via Marginal/AWV







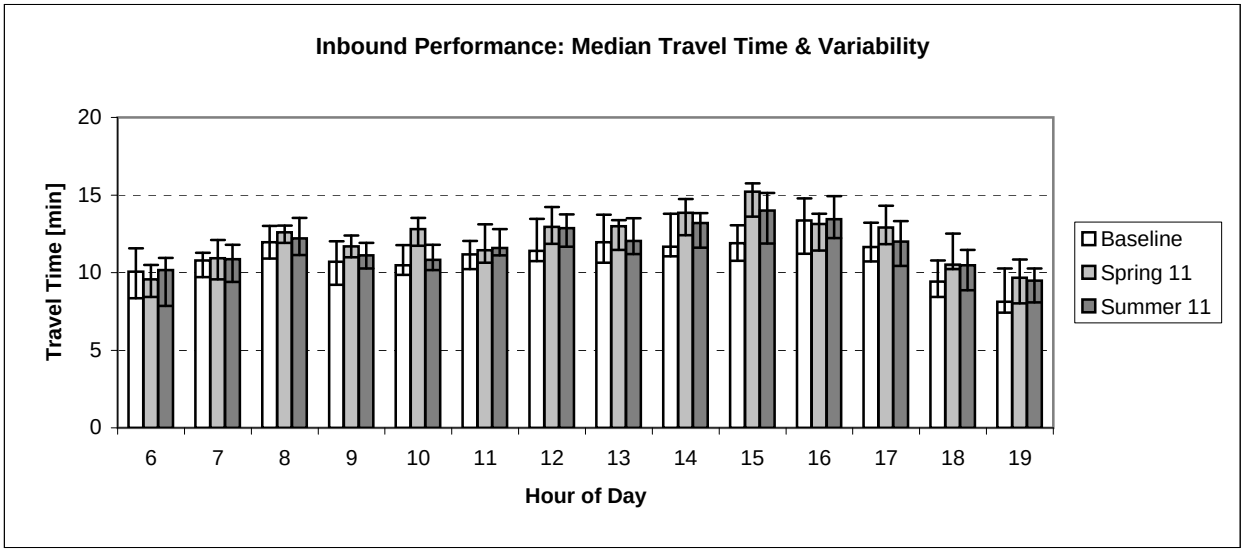


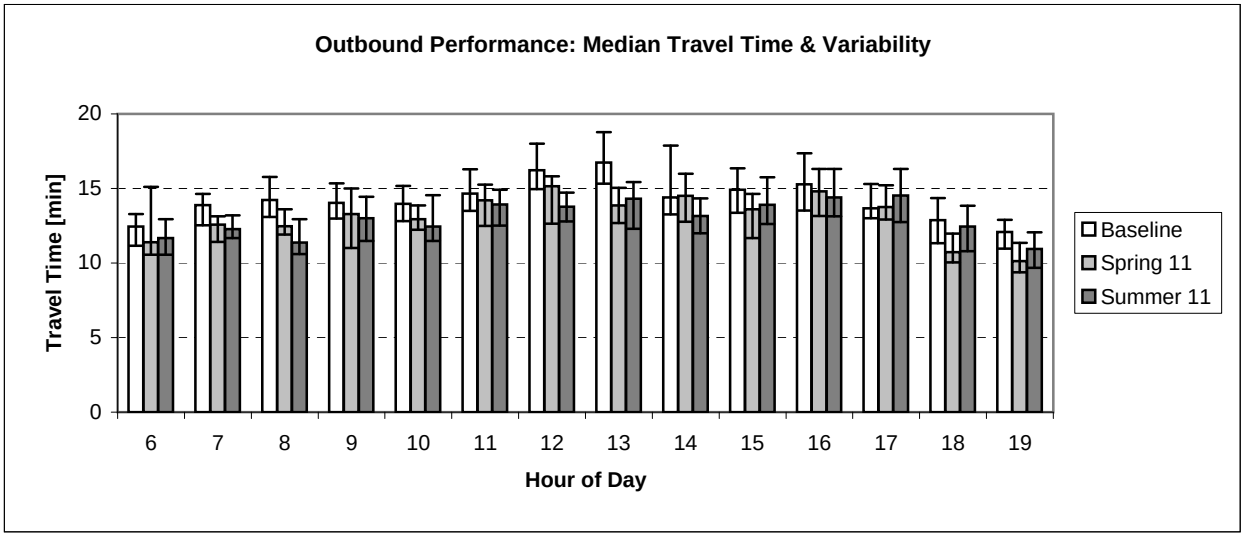


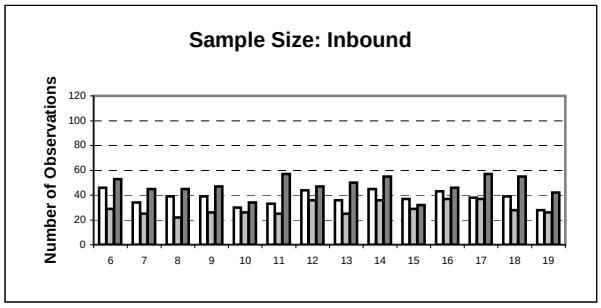
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL-AVI
Spring 11	5/23/11 - 6/10/11	AVL-AVI
Summer 11	9/6/11 - 9/30/11	AVL-AVI

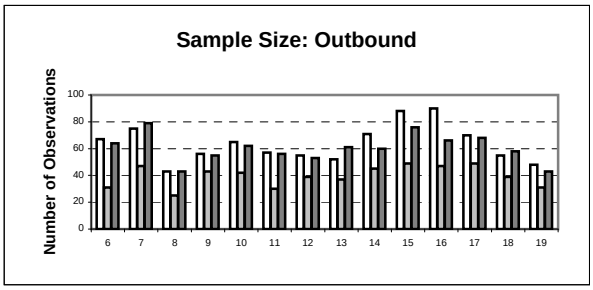
Pathway I.2

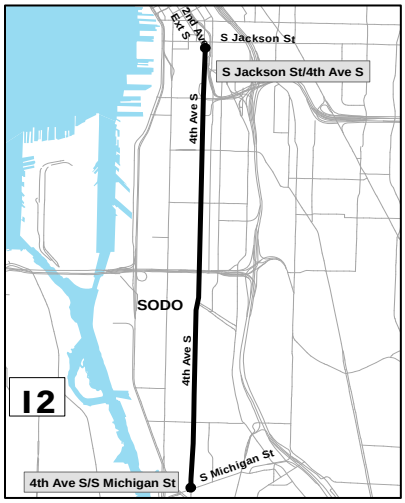
4th Ave S & S Michigan St to 4th/2nd Ave & Jackson St via 4th Ave S







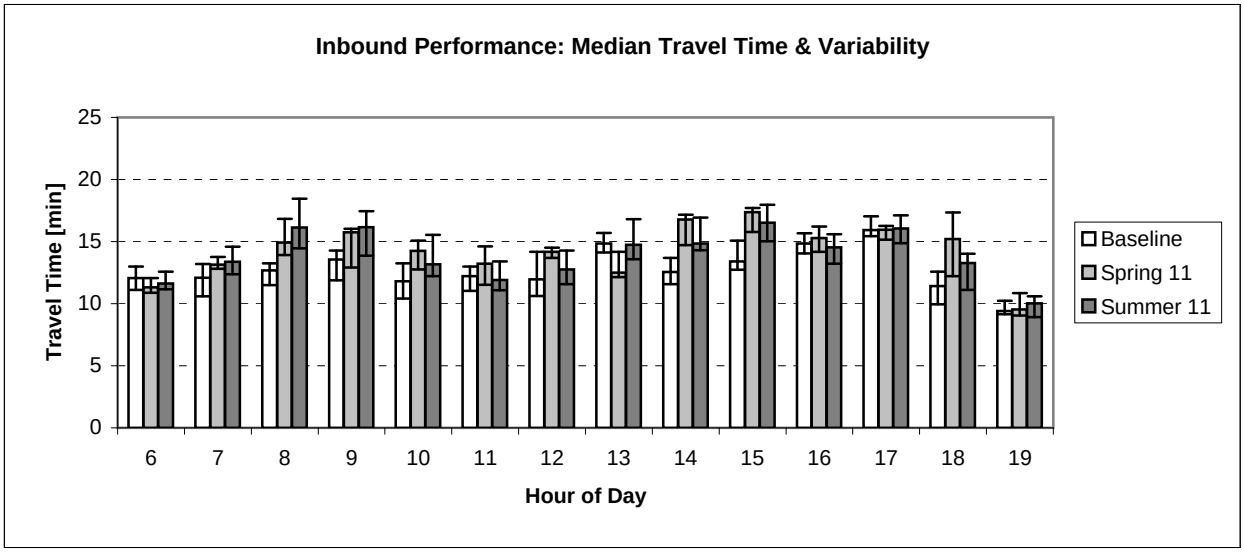


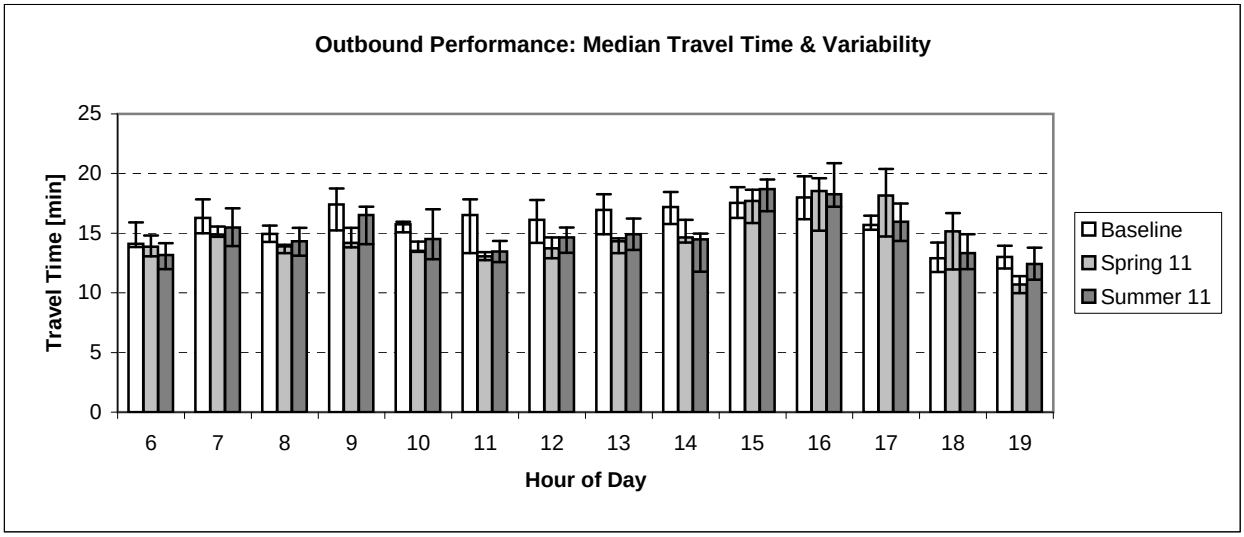


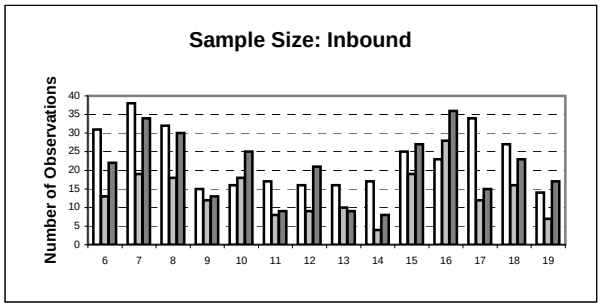
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL-AVI
Spring 11	5/23/11 - 6/10/11	AVL-AVI
Summer 11	9/6/11 - 9/30/11	AVL-AVI

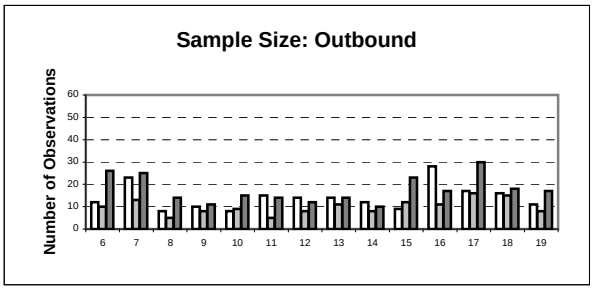
Pathway I.3

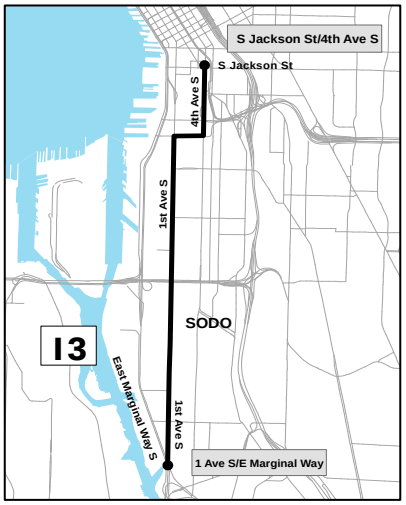
1st Ave S & East Marginal Way to 4th/2nd Ave & Jackson St via 1st Ave S







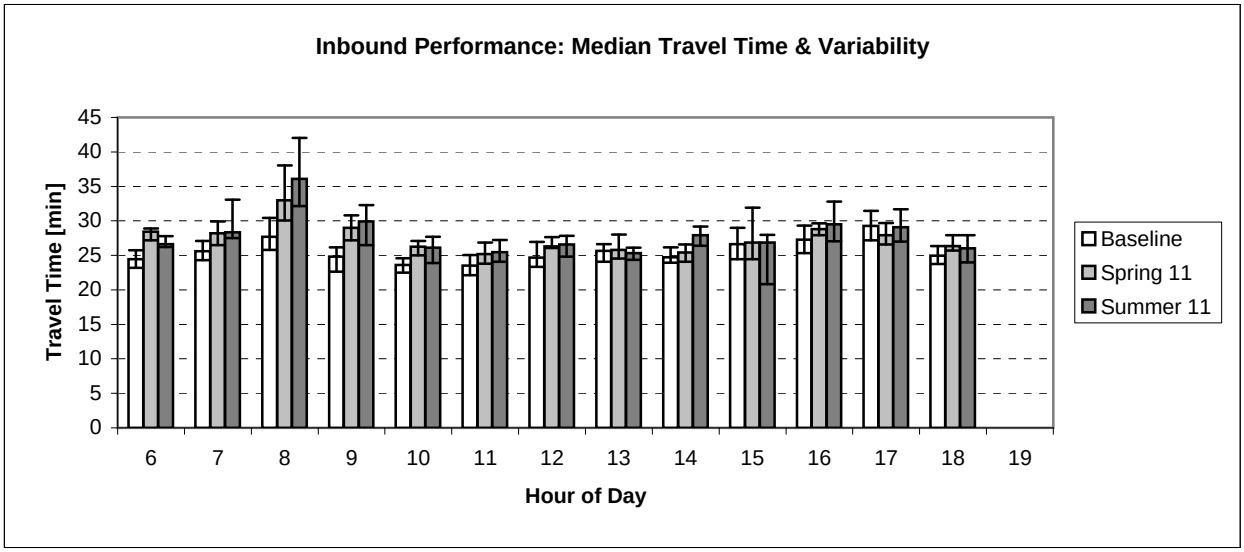


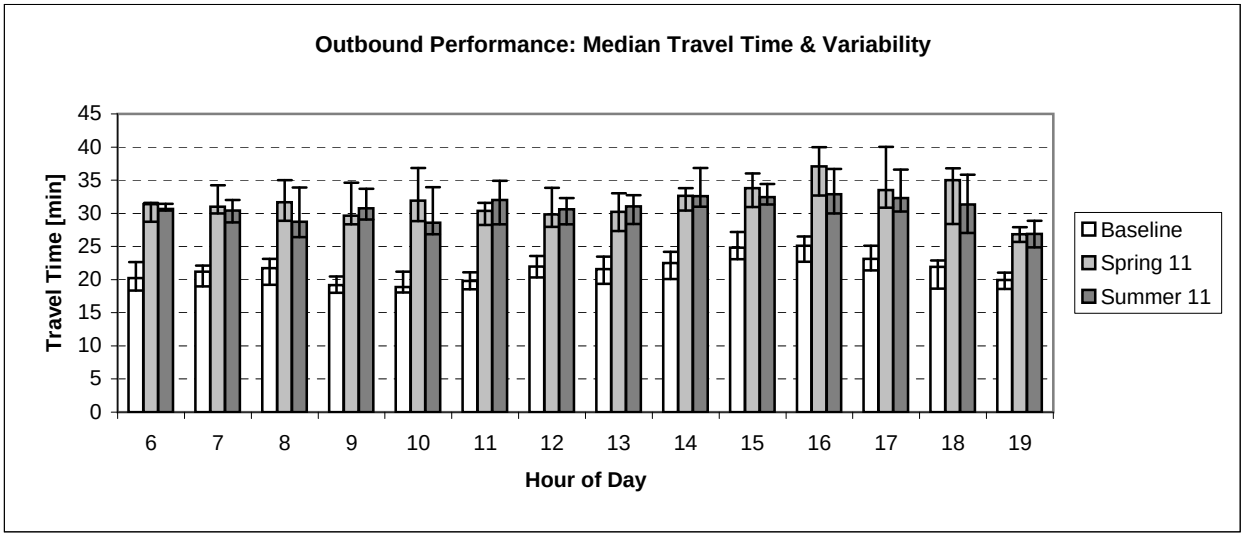


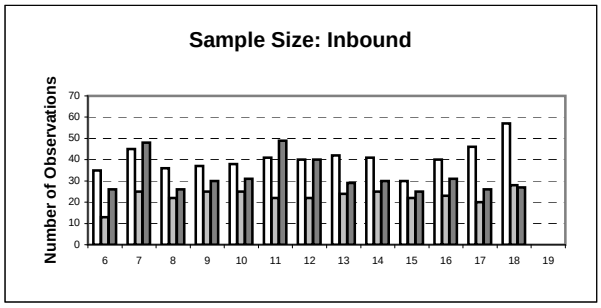
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL-AVI
Spring 11	5/23/11 - 6/10/11	AVL-AVI
Summer 11	9/6/11 - 9/30/11	AVL-AVI

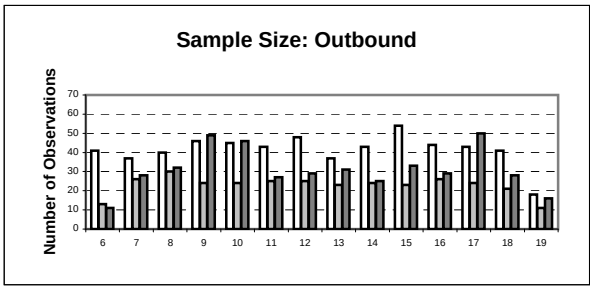
Pathway J.1

Alaska Junction to 3rd Ave & Seneca St via 1st Ave S





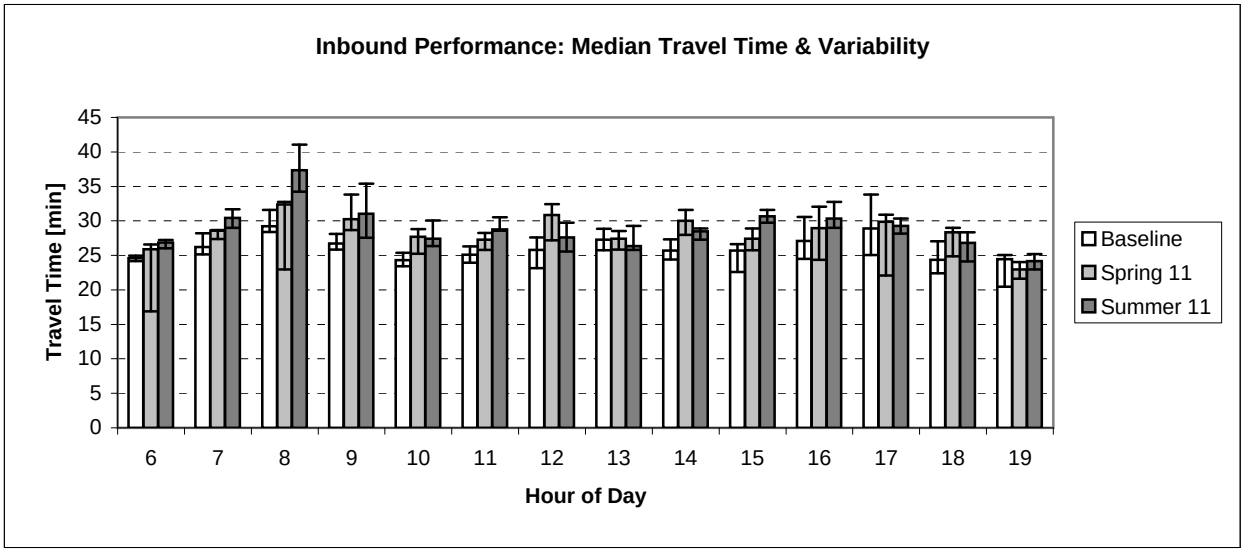


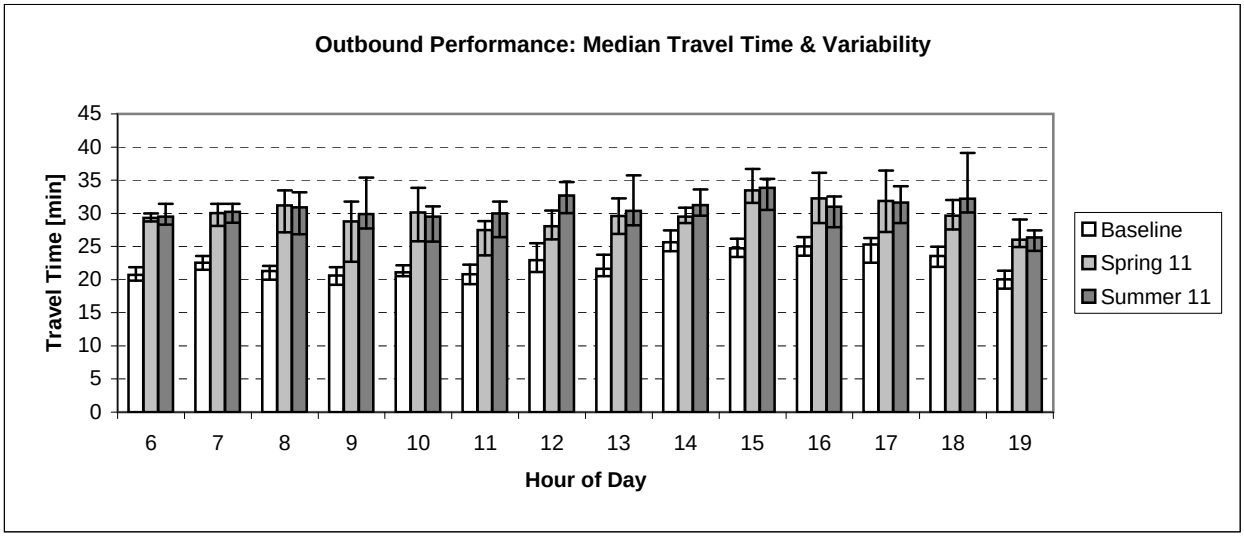


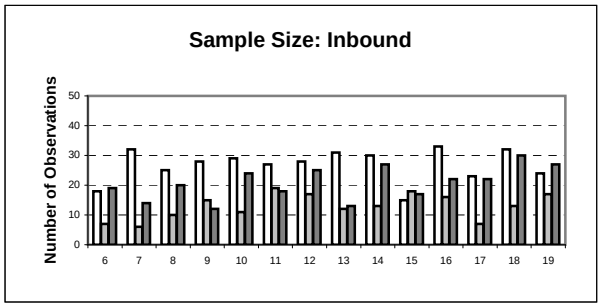
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVI-AVI
Spring 11	5/23/11 - 6/10/11	AVI-AVI
Summer 11	9/6/11 - 9/30/11	AVI-AVI

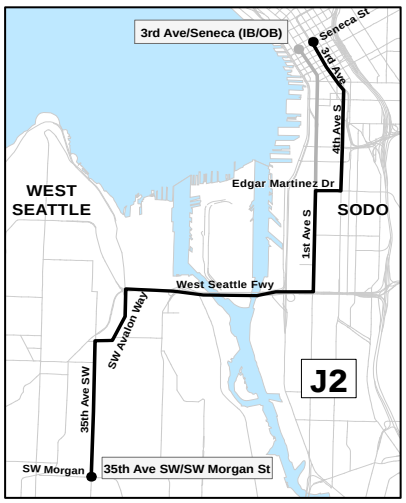
Pathway J.2

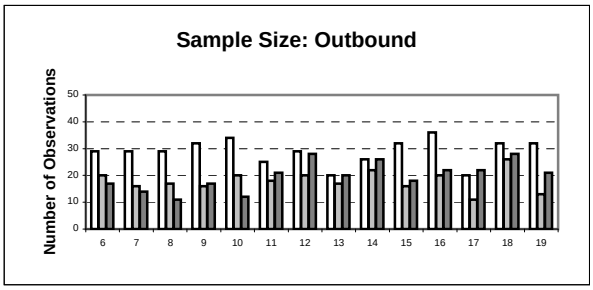
35th Ave SW & SW Morgan St to 3rd Ave & Seneca St via 1st Ave S







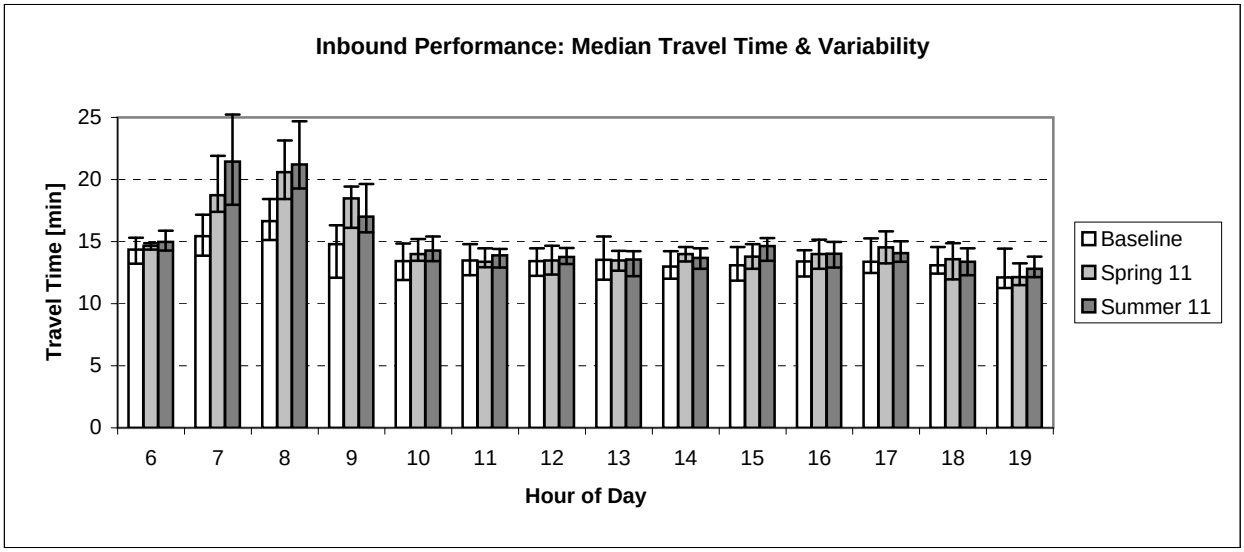


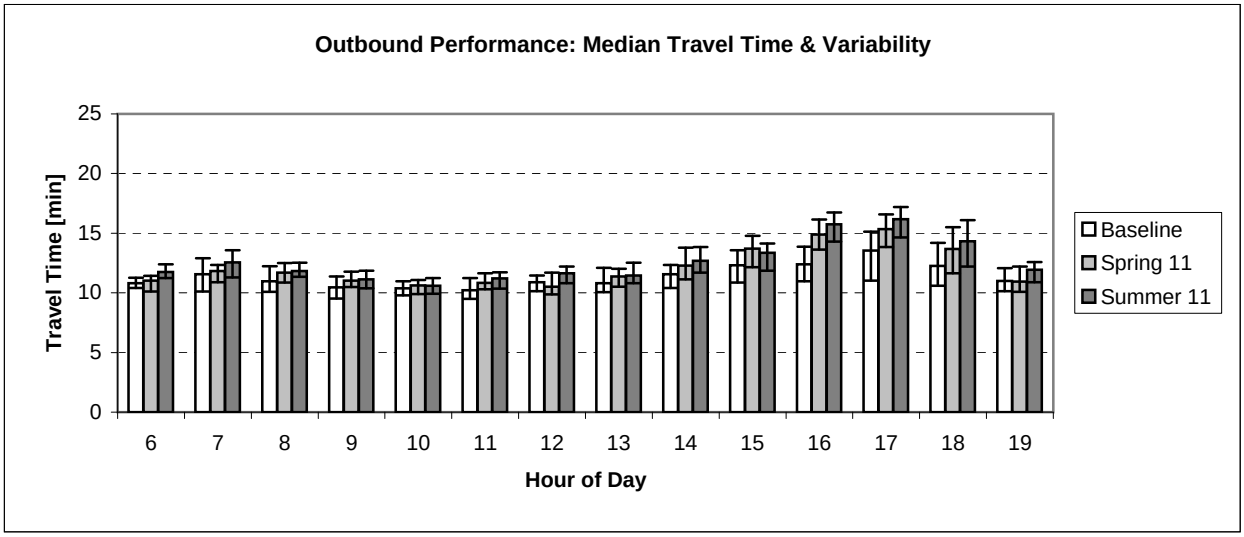


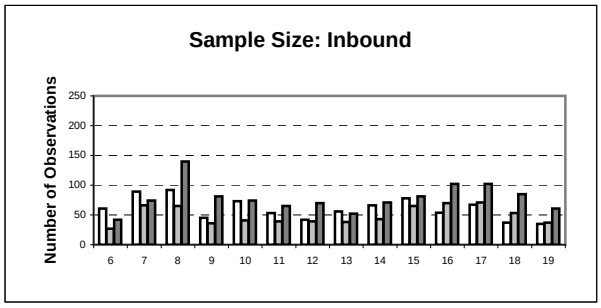
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL-AVI
Spring 11	5/23/11 - 6/10/11	AVL-AVI
Summer 11	9/6/11 - 9/30/11	AVL-AVI

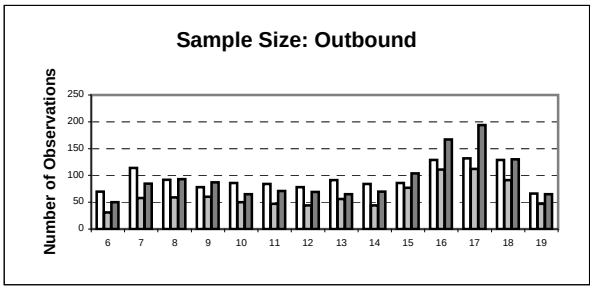
Pathway J.3

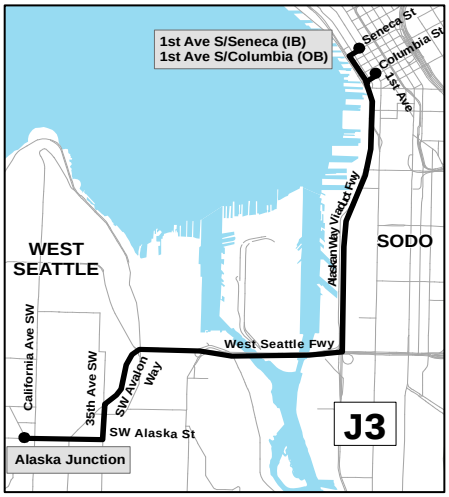
Alaska Junction to 1st Ave & Seneca/Columbia St via Alaskan Way Viaduct







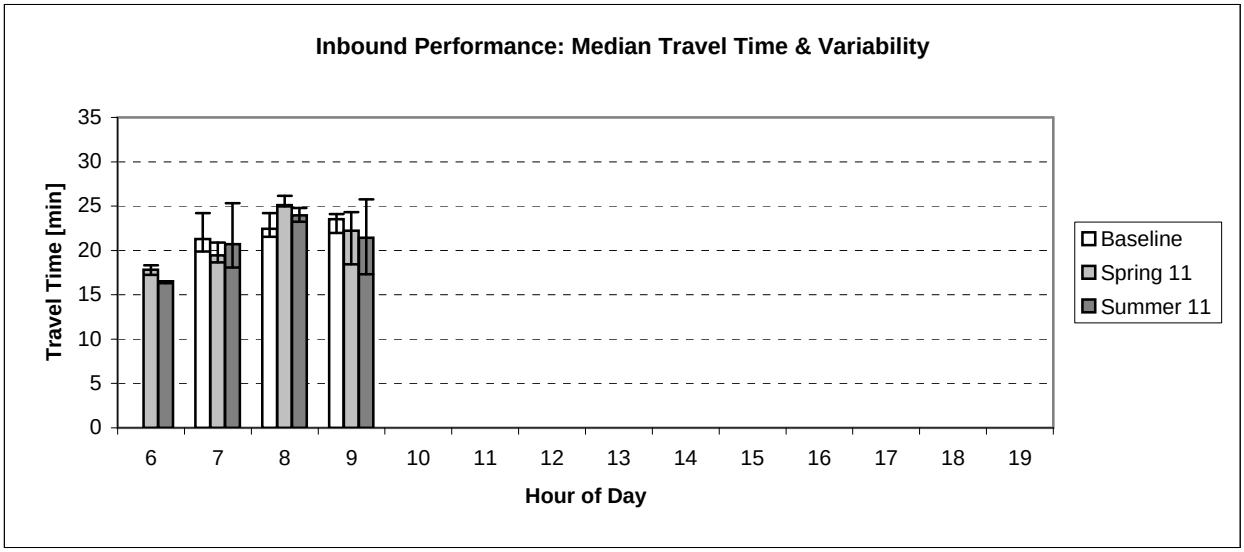


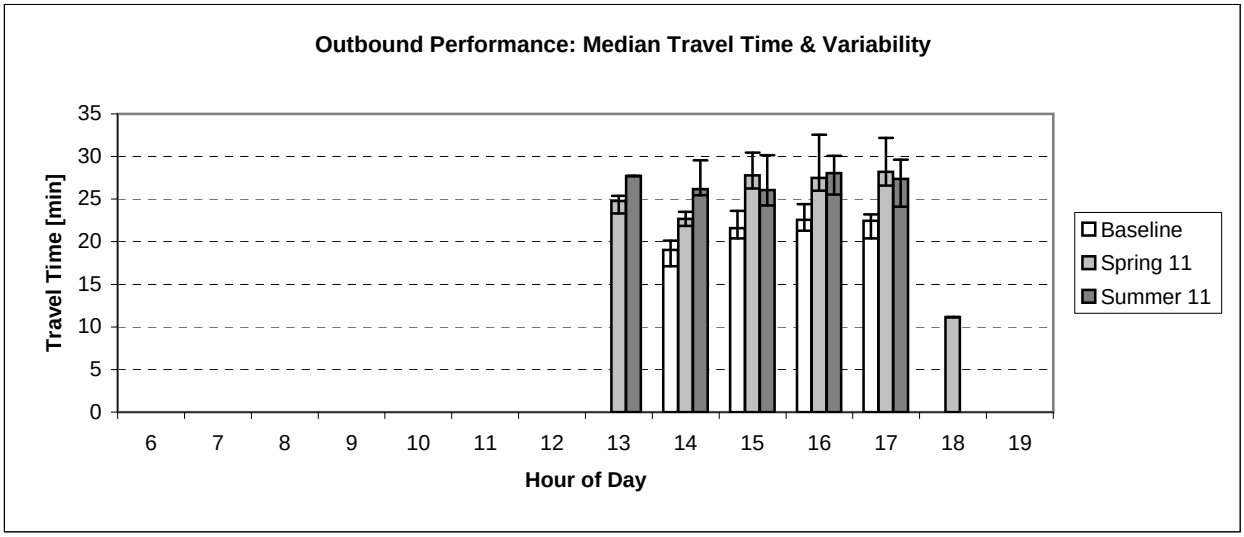


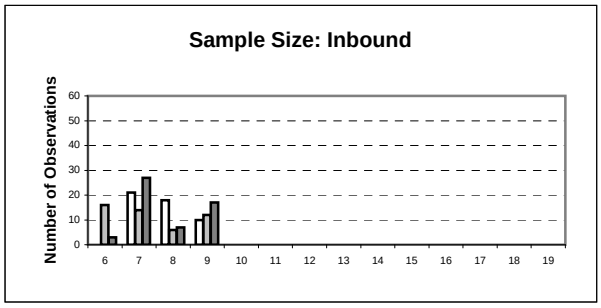
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVI
Spring 11	5/23/11 - 6/10/11	AVI
Summer 11	9/6/11 - 9/30/11	AVI

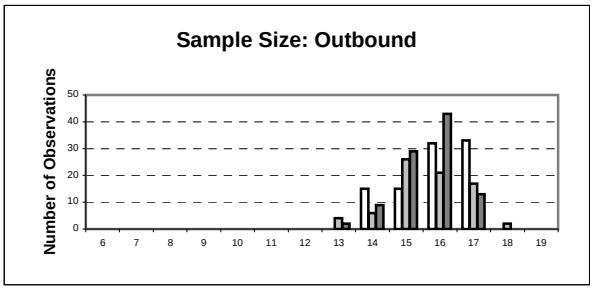
Pathway J.4

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





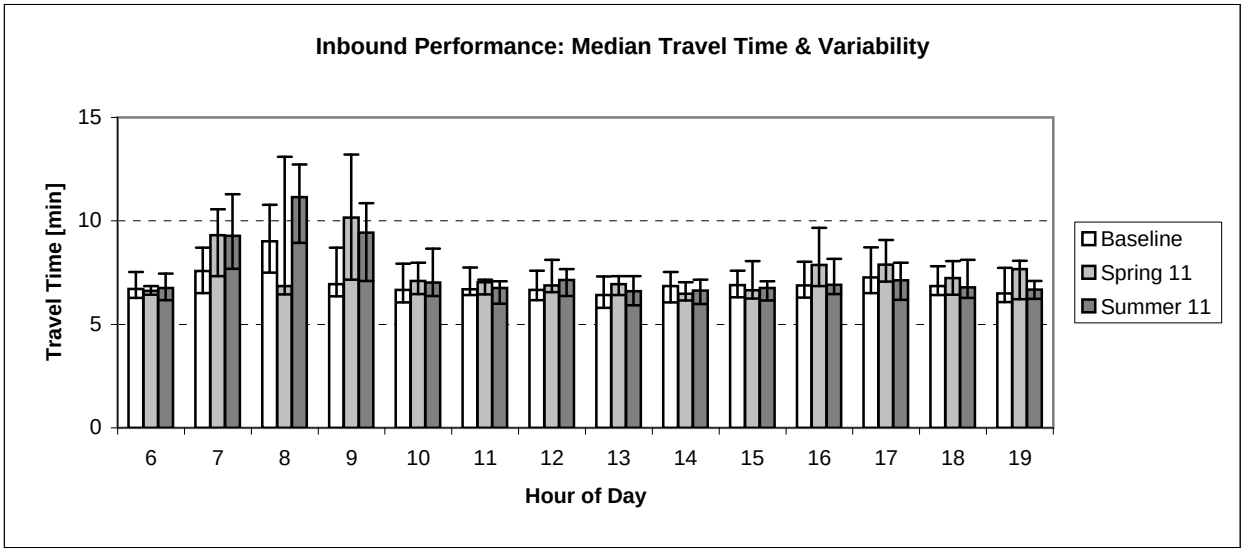


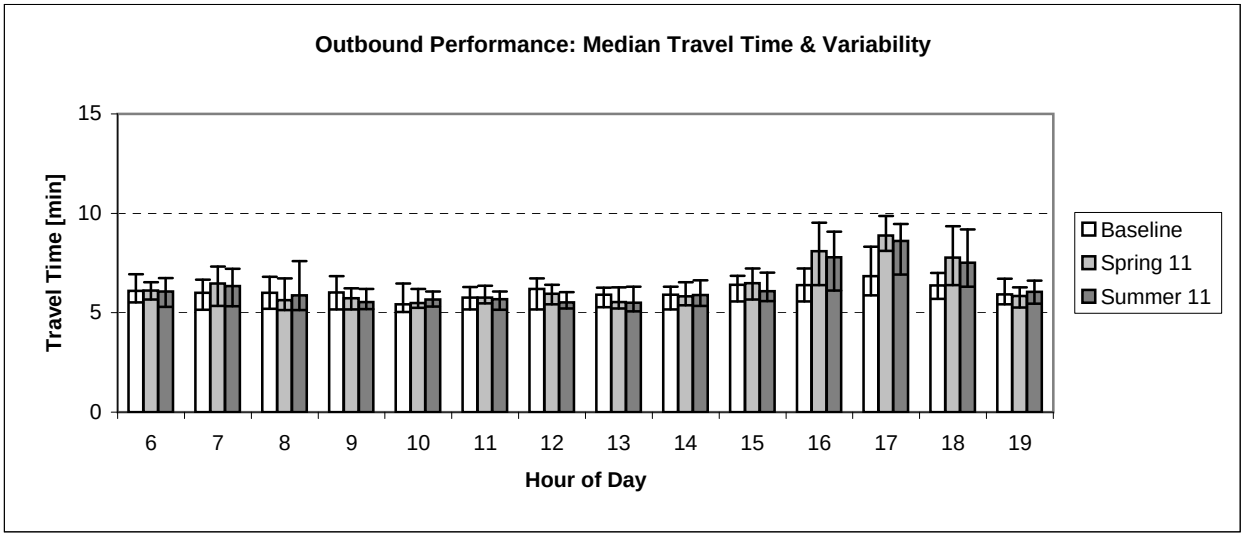


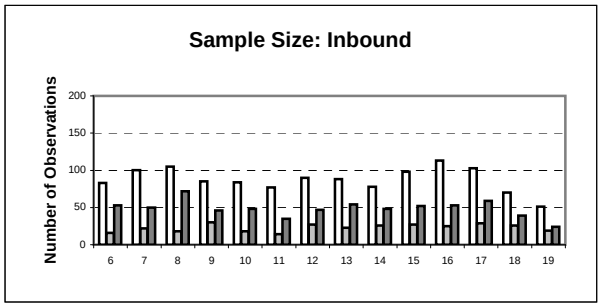
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL-AVI
Spring 11	5/23/11 - 6/10/11	AVL-AVI
Summer 11	9/6/11 - 9/30/11	AVL-AVI

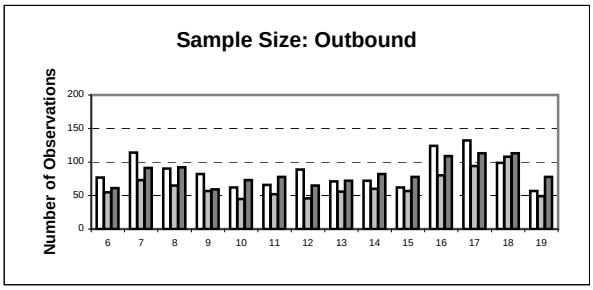
Pathway J.5

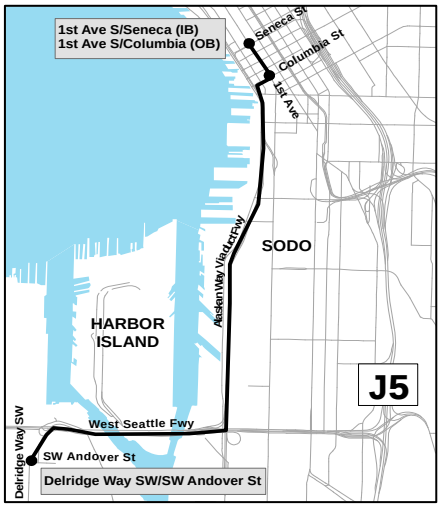
Delridge Way SW & SW Andover St to 1st Ave & Seneca/Columbia St via AWV







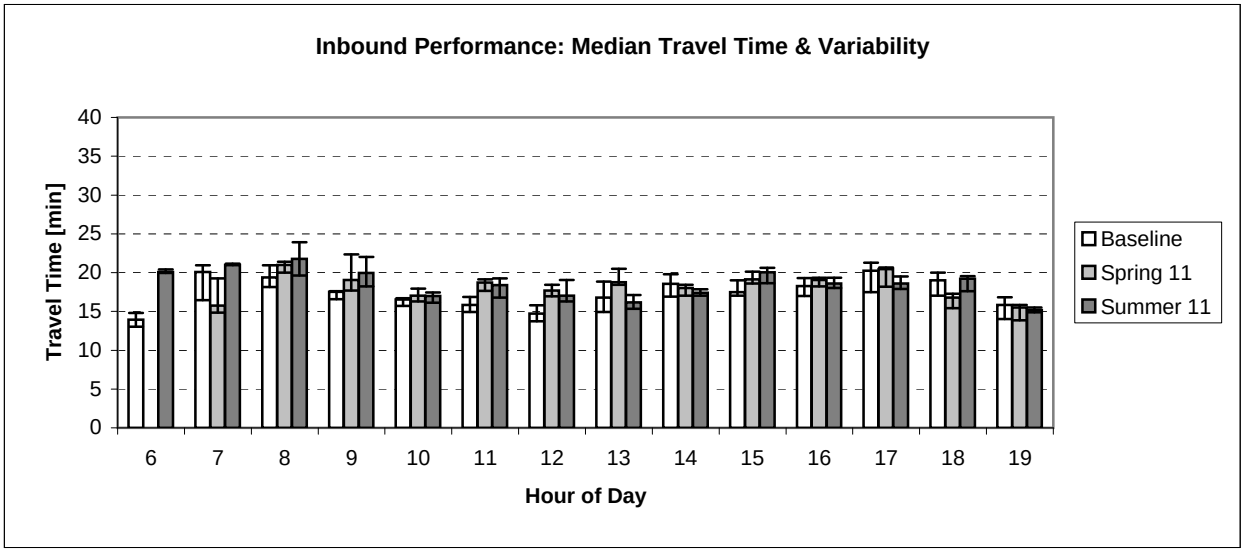


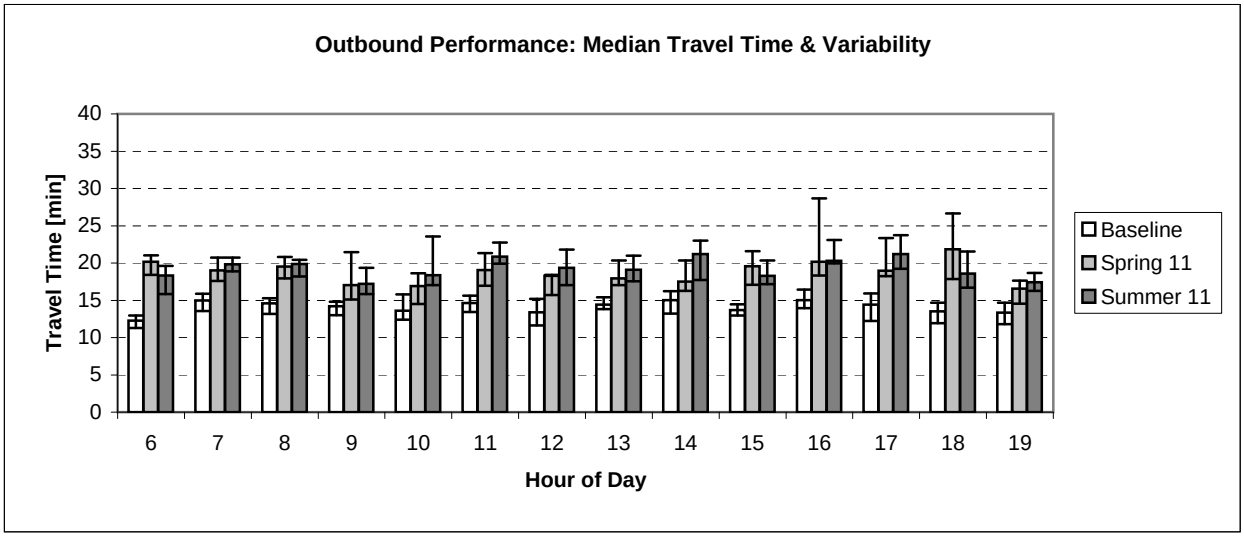


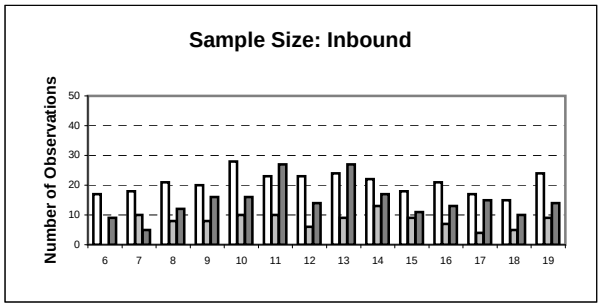
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVI
Spring 11	5/23/11 - 6/10/11	AVI
Summer 11	9/6/11 - 9/30/11	AVI

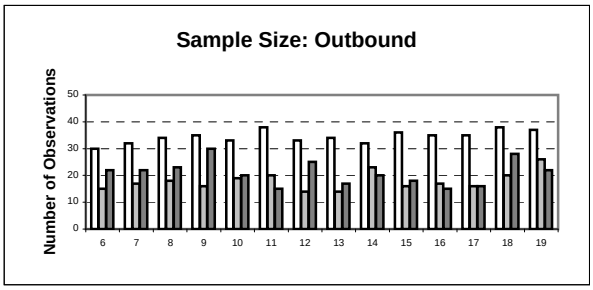
Pathway J.6

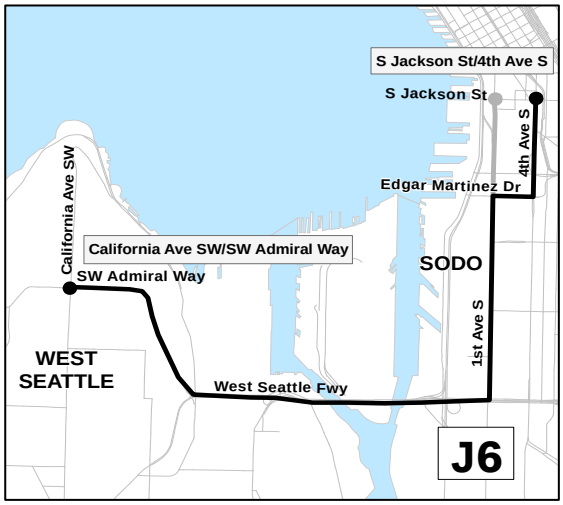
Admiral Way SW & Calfornia Ave SW to 2nd/4th Ave & S Jackson St via 1st Ave S







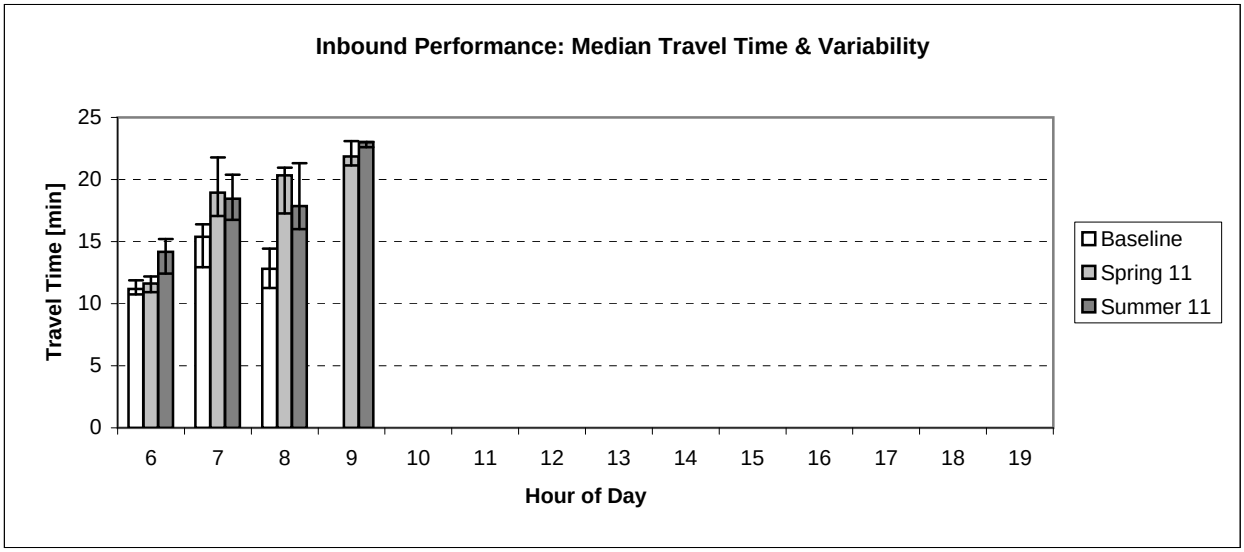


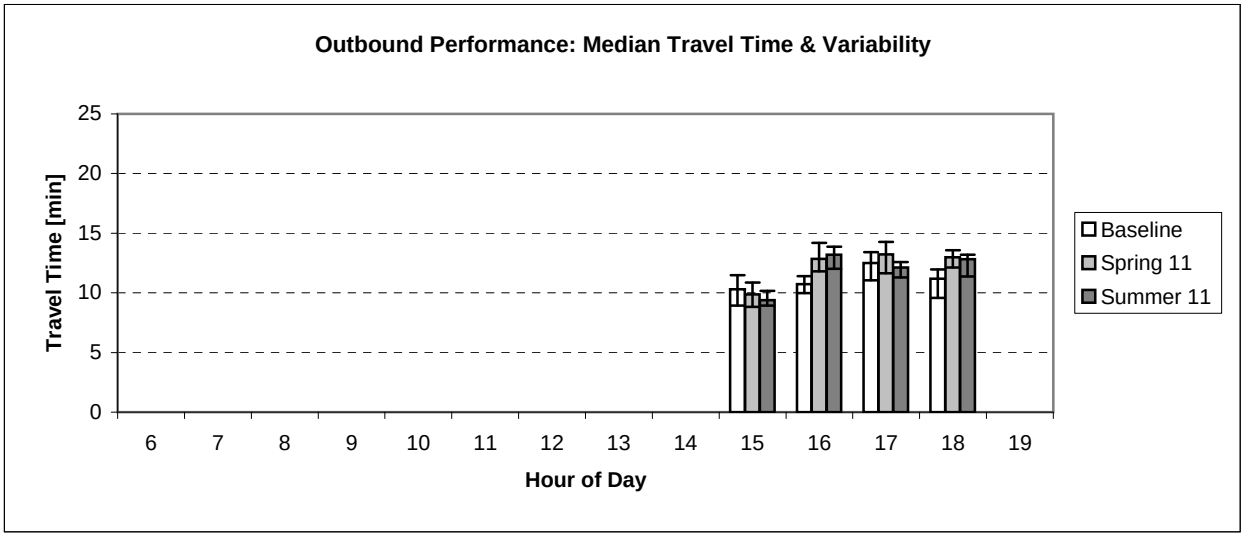


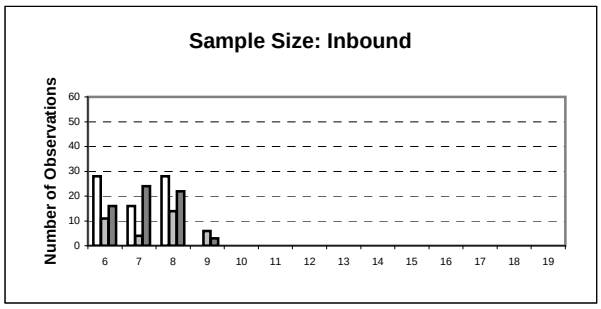
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVL-AVI
Spring 11	5/23/11 - 6/10/11	AVL-AVI
Summer 11	9/6/11 - 9/30/11	AVL-AVI

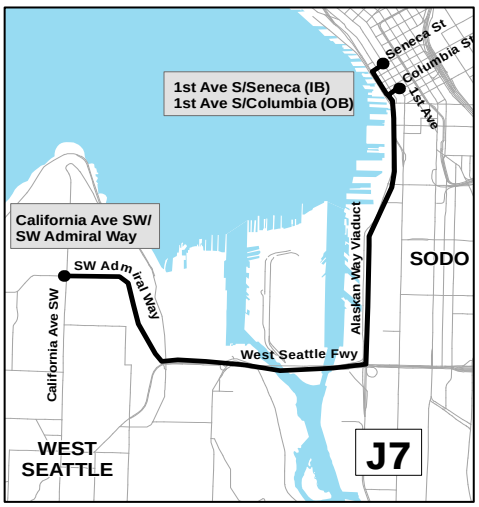
Pathway J.7

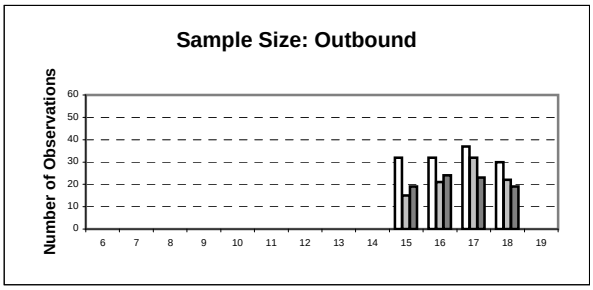
Admiral Way SW & Calfornia Ave SW to 1st Ave & Seneca/Columbia St via AWV (Peak Only)







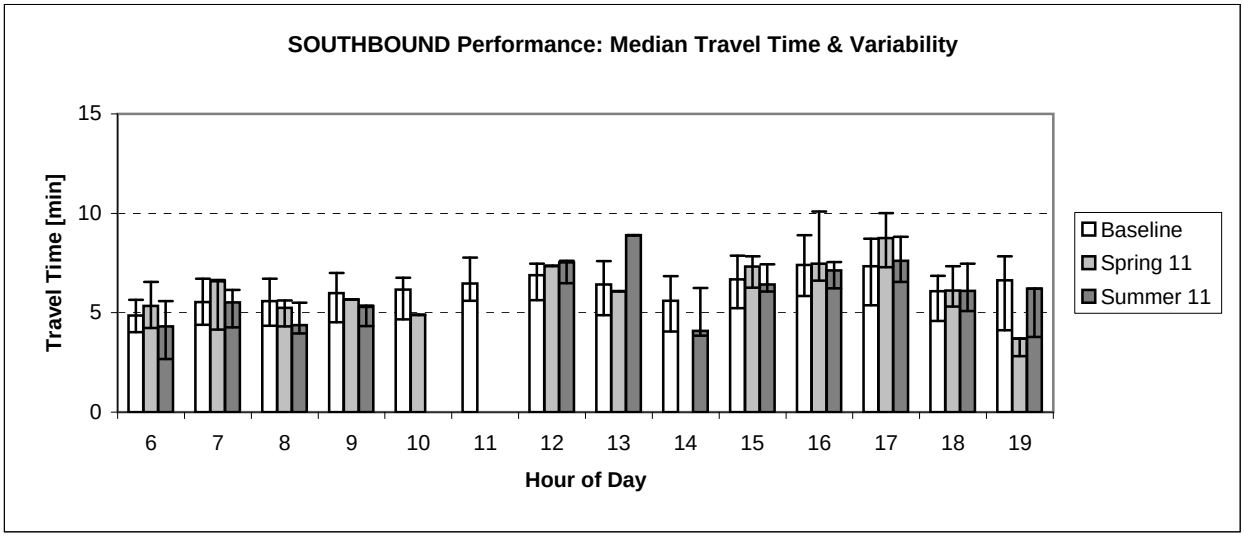


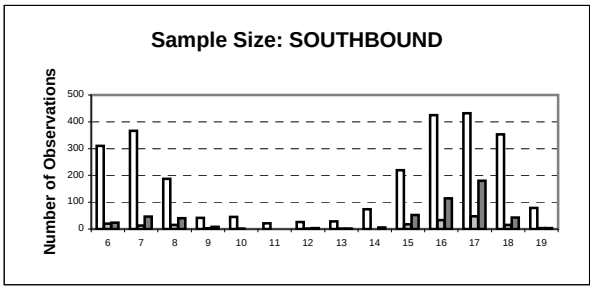


Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVI-AVL
Spring 11	5/23/11 - 6/10/11	AVI-AVL
Summer 11	9/6/11 - 9/30/11	AVI-AVL

Pathway CBD2

Second Avenue: Pike St to Jackson St

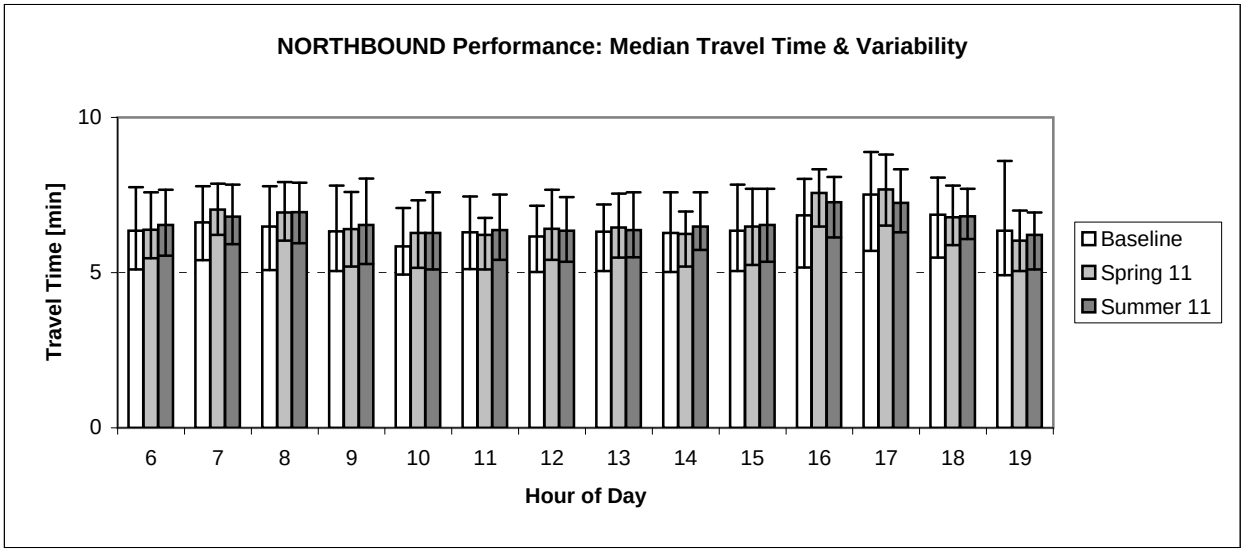


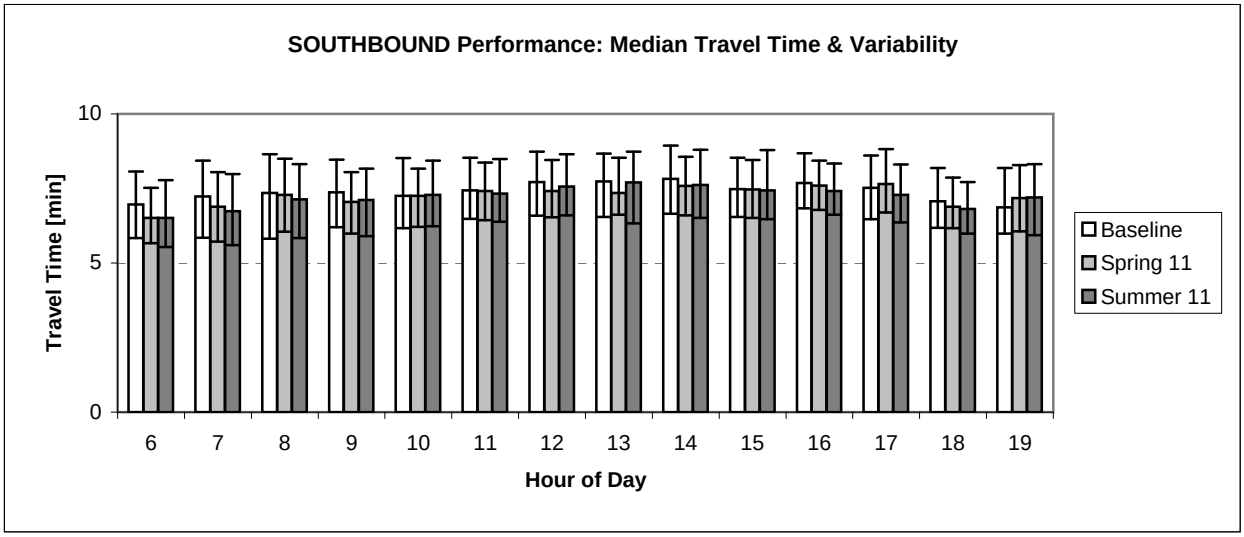


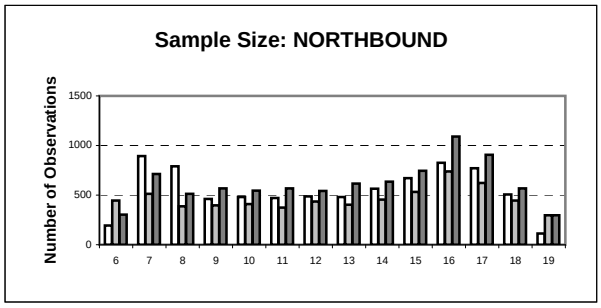
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVI
Spring 11	5/23/11 - 6/10/11	AVI
Summer 11	9/6/11 - 9/30/11	AVI

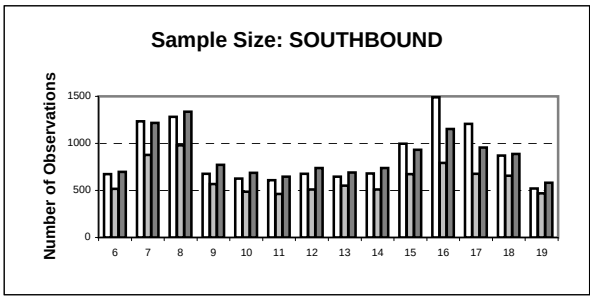
Pathway CBD3

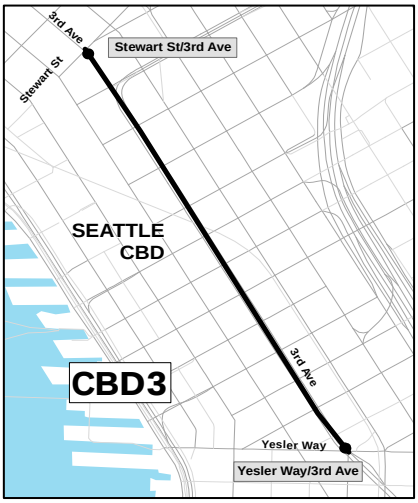
Third Ave: Stewart St to Yesler Way







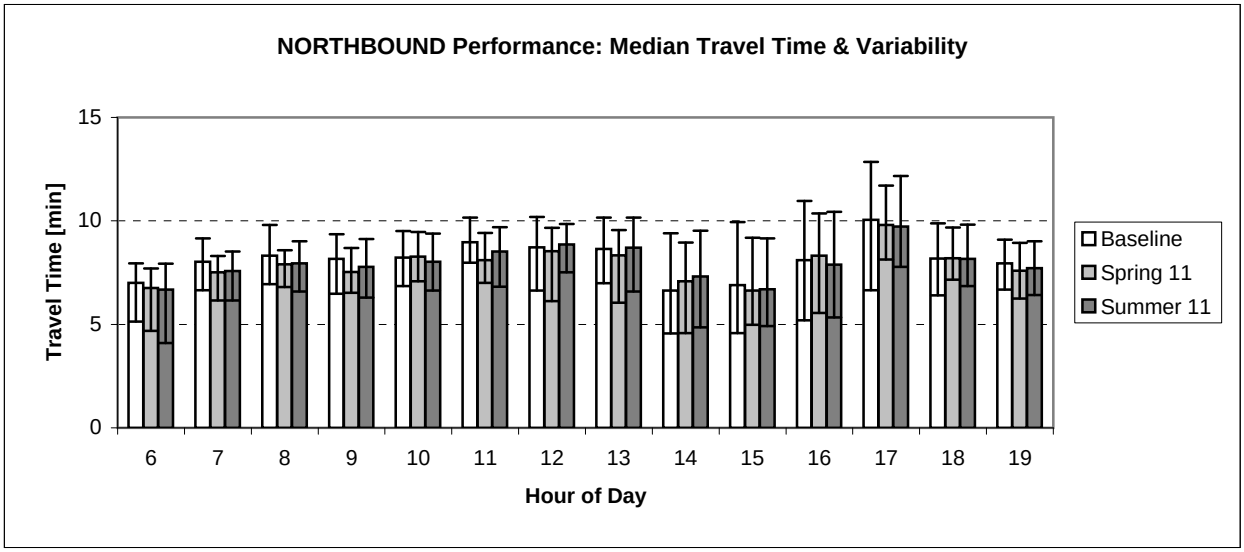


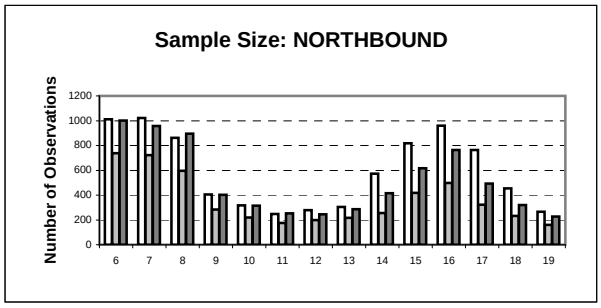


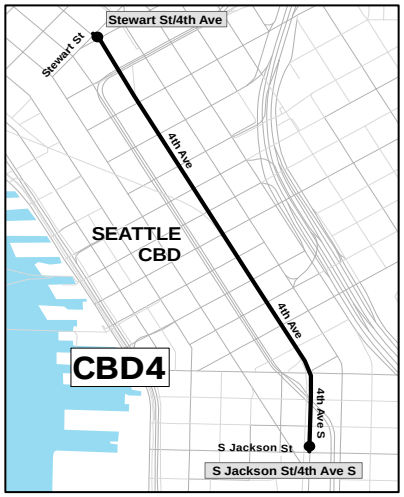
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVI
Spring 11	5/23/11 - 6/10/11	AVI
Summer 11	9/6/11 - 9/30/11	AVI

Pathway CBD4

Fourth Ave: Jackson St to Stewart St



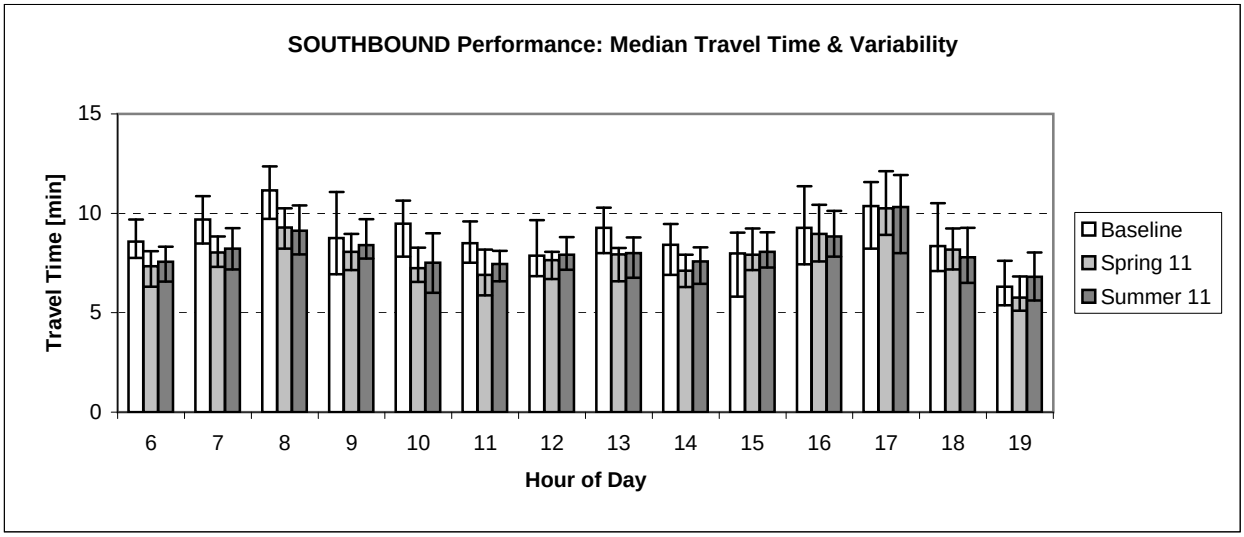


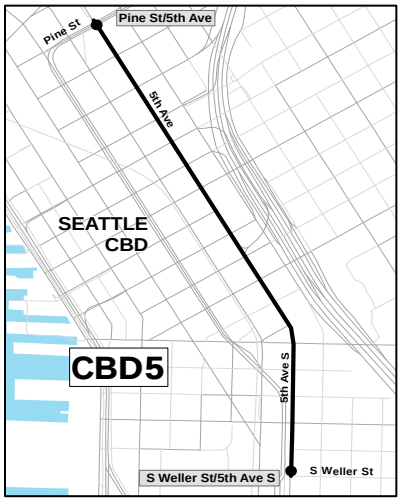


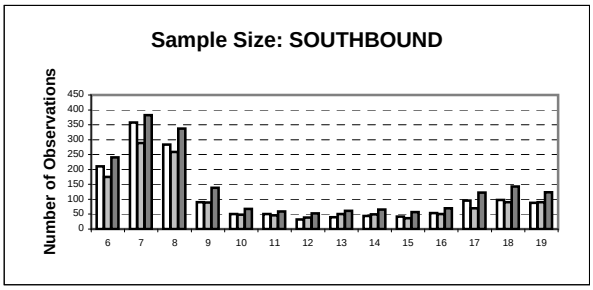
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVI
Spring 11	5/23/11 - 6/10/11	AVI
Summer 11	9/6/11 - 9/30/11	AVI

Pathway CBD5

Fifth Ave: Pine St to Weller St



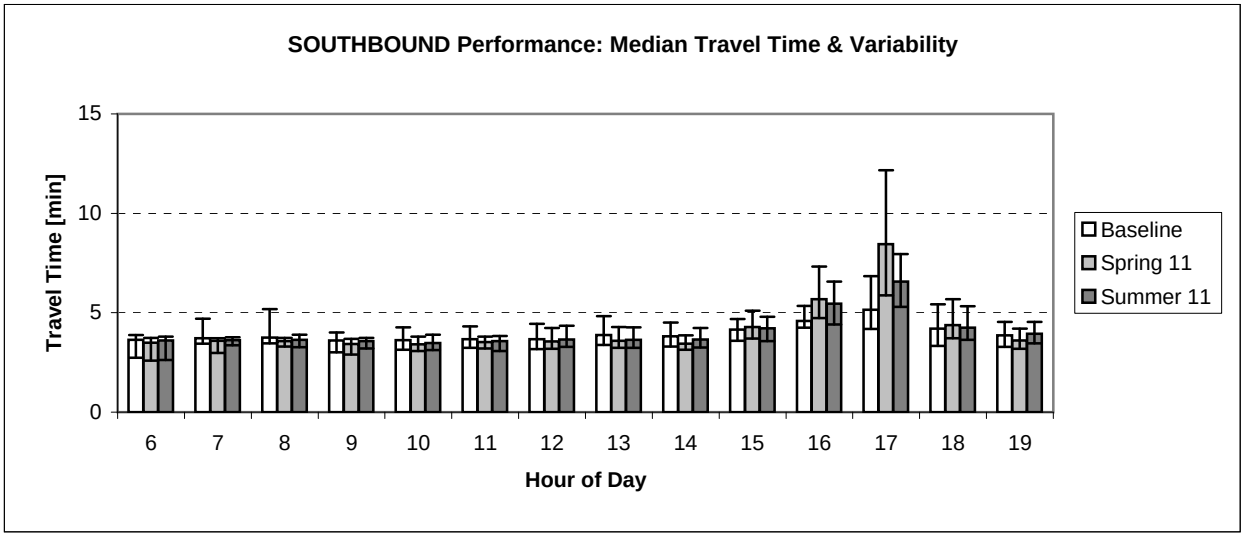


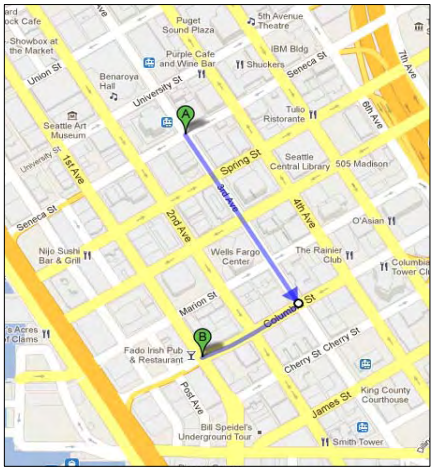


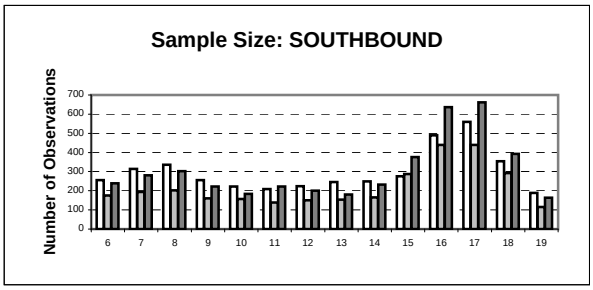
Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVI
Spring 11	5/23/11 - 6/10/11	AVI
Summer 11	9/6/11 - 9/30/11	AVI

Pathway Columbia

Columbia Street: 3rd & Seneca to 1st & Columbia







Scenario	Date Range	Data source
Baseline	9/21/09 - 10/16/09	AVI
Spring 11	5/23/11 - 6/10/11	AVI
Summer 11	9/6/11 - 9/30/11	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	1/15/2011	7/31/2011	10/15/2011							
WAC (Washington Athletic Club)		Average Monthly Passes	131			133	134	134	132							
1409 6th Ave		Average Early Birds / All Day Passes	12			11	9	14	14							
Capacity	314	Average Peak Occupancy (%)	90%			90%	95%	90%	90%							
Baseline # of Short Term Stalls		Long Term Use														
Incentive	No	Trips Reduced														
Location		Date of Report	6/1/2010			10/2/2010	2/2/2011	8/8/2011	10/15/2011							
WA State Convention and Trade Center		Average Monthly Passes	384			385	377	399	410							
800 Convention Pl		Average Early Birds / All Day Passes	0			0	0	0	0							
Capacity	825	Average Peak Occupancy (%)	13%			14%	12%	13%	13%							
Baseline # of Short Term Stalls		Long Term Use														
Incentive	No	Trips Reduced														
Location		Date of Report	6/1/2010			10/2/2010	2/14/2011	8/10/2011	11/25/2011							
PSD Pacific Place LLC		Average Monthly Passes	110			107	0	133	133							
600 Pine		Average Early Birds / All Day Passes														
Capacity	1,125	Average Peak Occupancy (%)														
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	1/15/2011	7/28/2011	10/15/2011							
Puget Sound Plaza/Cobb Garage (UNICO)		Average Monthly Passes				423	446	447	427							
315 Union St		Average Early Birds / All Day Passes				31	37	25	28							
Capacity	470	Average Peak Occupancy (%)				85%	81%	82%	73%							
Baseline # of Short Term Stalls		Long Term Use														
Incentive	No	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														
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

WSDOT and King County Metro staff are revising the methodology for performance measurement based on changes to data availability and project approach.

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

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	
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 Pl1300 Hubbell													
PSD Pacific Place LLC 600 Pine													
Pike Place Market Preservation and Development Authority 1531 Wester													
Puget Sound Plaza/Cobb Garage (UNICO) 315 Union St													
												Total	0

WSDOT and King County Metro staff are revising the methodology for performance measurement based on changes to data availability and project approach.

Target Check	
Short Term Stalls Conversion Target Reached	

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Calc Sheet Version 2.0

Task: Incentives for Transit
Task Lead: Kathy Koss

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	3,111
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

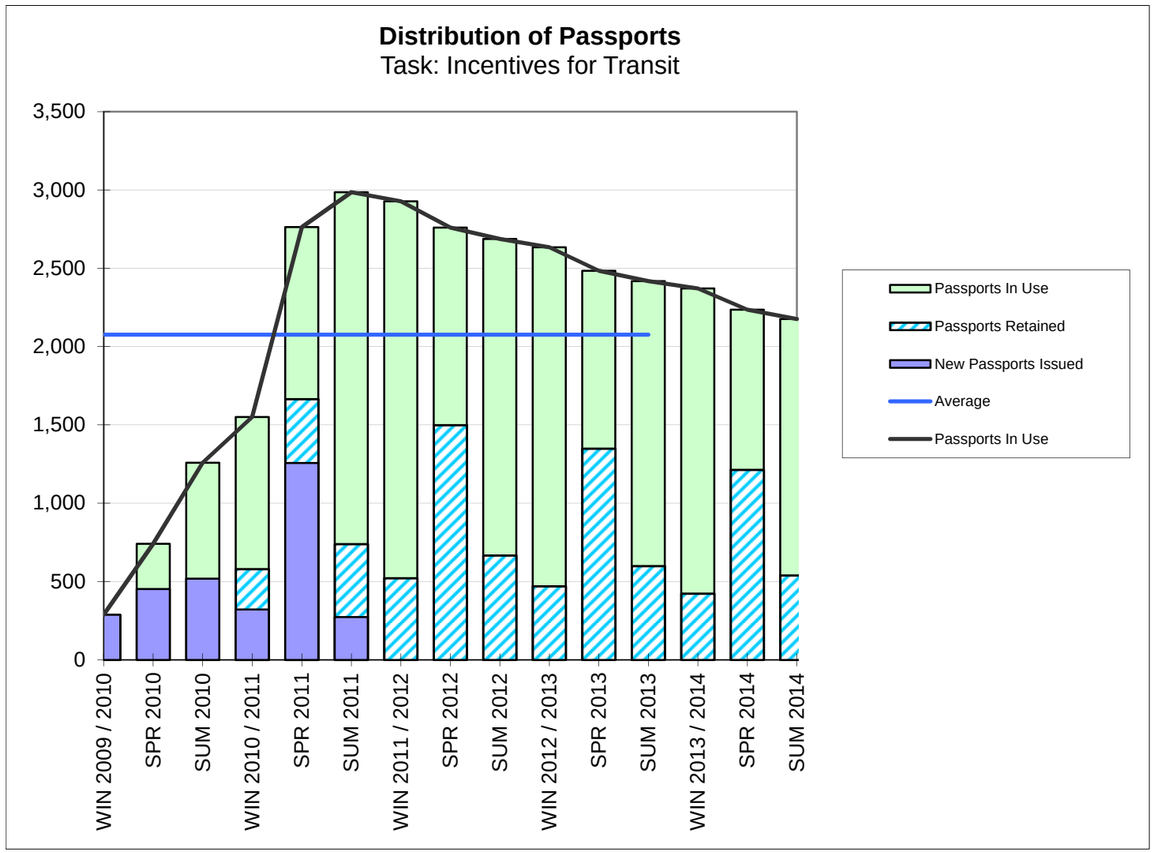
$$= \left(\begin{pmatrix} \text{Alt. Mode Share} \\ \text{for Passport Sites} \\ \text{During Program} \end{pmatrix} - \begin{pmatrix} \text{Alt. Mode Share} \\ \text{for Passport Sites} \\ \text{Prior to Program} \end{pmatrix} \right) * (\text{\# of Passports})$$

=((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%))*(2,076)= **228**



	Service Period	New Passports Issued	Passports Expiring	Passports Retained	Passports In Use	Average Passports In Use
Program Period	WIN 2009 / 2010	288			288	2,076
	SPR 2010	453			741	
	SUM 2010	518			1,259	
	WIN 2010 / 2011	321	288	259	1,551	
	SPR 2011	1,257	453	408	2,763	
	SUM 2011	274	518	466	2,985	
	WIN 2011 / 2012		580	522	2,927	
	SPR 2012		1,665	1,498	2,761	
	SUM 2012		740	666	2,687	
	WIN 2012 / 2013		522	470	2,634	
	SPR 2013		1,498	1,348	2,485	
	SUM 2013		666	600	2,418	
Post Program Period	WIN 2013 / 2014		470	423	2,371	2,276
	SPR 2014		1,348	1,214	2,236	
	SUM 2014		600	540	2,176	

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

Contacts:
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Calc Sheet Version 2.0

Task: Incentives for Ridesharing
Task Lead: Kathy Koss

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%						0	0	0	0
Total Trip Reduction (see formula below)		0	0									
Trips Reduced Per Day (see formula below)								0				

WSDOT and King County Metro staff are revising the methodology for performance measurement based on changes to data availability and project approach.

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.

Contacts:
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Calc Sheet Version 2.0

Task: Telework / Flexible Schedules
Task Lead: Kathy Koss

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
Russell	910	250	NA	NA	NA	6,020	6,160	5,390							17,570
Starbucks	2,000	200					7,040	6,160							13,200
Gates Foundation	790	40						616							616
Fisher	409														
Perkins and Coie	793														
Fred Hutchinson Cancer Center	2,175														
Vulcan	315														
Hargis Engineering	70														
Total	7,462	490				6,020	13,200	12,166							31,386
			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						86	88	77							

WSDOT and King County Metro staff are revising the methodology for performance measurement based on changes to data availability and project approach.

$$\text{Average Daily Trip Reduction} = \frac{\text{Total Days Teleworked to Date}}{\text{Total Possible Commute Days to Date}} = (31{,}386) / (251) = 125$$

Target Check	
Trip Reduction Target Reached	NO
Companies Participating Target	NO

Contacts:
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Task: Telework / Flexible Schedules
Task Lead: Kathy Koss

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 (%)	
Russell	910	0.0%				13.4%	79.8%	6.8%	
Total	910								
Weighted Average Mode Share		ERROR	ERROR	ERROR		#VALUE!	#VALUE!	#VALUE!	

WSDOT and King County Metro staff are revising the methodology for performance measurement based on changes to data availability and project approach.

Final Trip Reduction Calculation

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

Calc Sheet Version 2.1

Task: Promotion of Enhanced Transit Service / Enhanced Transit Service
Task Lead: Bob Virkelyst / Kathy Koss

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

Target*		
1,100	Trips Reduced*	
75,000	Employees / Households	Downtown
90,000	Households	South End

Weekday Ridership, SPR2008 through WIN 2013
Data provided by King County Metro
Daily Riders (one-way trips)

	Pre-Revised Service						Revised Service											
Pathway	SPR 2008	SUM 2008	WIN 2008	SPR 2009	SUM 2009	WIN 200	SPR	SUM	WIN	SPR	SUM	WIN	SPR	SUM	WIN 2012	SPR 2013	SUM 2013	WIN 2013
Pathway A - Ballard / Magnolia	20,520	22,000	20,580	19,250	19,470	19,120												
Pathway B - Aurora / Fremont	29,430	31,740	30,360	29,640	29,570	27,120												
Pathway I - SODO / Georgetown	9,150	6,570	8,800	8,260	8,150	7,700												
Pathway J - West Seattle	22,900	23,930	24,150	22,710	22,140	21,860	22,140	21,660	21,374	22,018	26,422							

WSDOT and King County Metro staff are revising the methodology for performance measurement based on changes to data availability and project approach.

WSDOT Analysis

Average Daily Ridership (one-way trips)		
Pre-Revised Service SPR 2008 through WIN 2009	Revised Service SPR 2010 through WIN 2013	Round Trips Reduced (Average Daily Ridership of Revised Service minus Pre-Revised Service) divided by 2
20,157	18,531	-813
29,643	29,965	161
8,105	8,442	168
22,948	22,723	-113
	Total	

*Target is shared between the promotion of all forms of ridesharing. There is no way to measure the performance of the promotions for carpooling or vanpooling. The transit service promotion will be measured in the form of pathways rather than individual routes. These pathways include transit routes with added service and other transit routes in the area of promotion. The added transit service will be promoted but we can't distinguish between the effects of the promotion vs the addition of service so their performance is measured jointly. There is no established trip reduction target for the addition of transit service. The target is a combination for all promotions so all promoted transit pathways will be jointly measured against the target. We expect to exceed this target since the measurement of performance for added transit routes is included in the analysis but the target does not include expectations of the added transit services to measure against. The comparison of the performance against the target is not valid in this case. Target is also the total (1,100 trips) of the contract elements for downtown (520 trips) and south end (580 trips).

Target* Check	
Trips Reduced vs. Employees / Households Reached (on track?)	NO
Trip Reduction Target Reached*	
Downtown Employees / Households Target Reached	NO
South End Households Target Reached	NO

	During Promotion						
	SPR 2011	**XXX 20XX**	**XXX 20XX**	**XXX 20XX**	**XXX 20XX**	**XXX 20XX**	**Total**
Downtown Employees Reached	850						850
Downtown Households Reached							
South End Households Reached	75,000						75,000

Contacts:
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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.

Target	
740	Trips Reduced
1,800	Pledges

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

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	Gates Foundation Transit Fair	2/11/2011	1	70											
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 Pledges	0							Total	

WSDOT and King County Metro staff are revising the methodology for performance measurement based on changes to data availability and project approach.

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

Target Check	
Trip Reduction Target Reached	

Calc Sheet Version 2.2

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

Trip Reduction Reporting

	Program Name	Start Date	Contacts Made	Participants	Total # of Logged Round Trips by Alternate Mode to Date	Total # of Logged Vehicle Miles Traveled Reduced by Alternate Mode	% of Logged Trips for Commuting	Program Reporting Period to date		Average Daily Commute Round Trips Reduced During Reporting Period [1]	Estimated Continued Participation	Post Program Reporting Period to date		Average Daily Commute Round Trips Reduced After Reporting Period [2]	Estimated Total Average Daily Commute Round Trip Reduction
		xx/xx/xxxx	households	people	round trips	vehicle miles traveled	%	months	commute days	round trips	%	months	commute days	round trips	round trips
Stand Alone Events	Georgetown In Motion	6/10/2011	6,600	200	3,475	41,062	47.0%	4	83	20					20
	White Center In Motion	6/17/2011	4,500	700	4,908	57,954	26.0%	4	83	15					15
	South Park In Motion	6/17/2011	3,000	139	2,368	4,782	35.0%	4	83	10					10
	West Seattle In Motion	7/8/2011	7,000	1,229	11,370	137,089	42.0%	3	63	76					76
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	10.7%									Total	121

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

Target Check	
Trip Reduction Target Reached	NO
Household Participation Rate Achieved	YES

Contacts:
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Calc Sheet Version 3.1

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		Commute Days in Service Period	Carpool Incentives Distributed
Program Period (Service Change, Year)	SPR 2010									
	SUM 2010									
	WIN 2010 / 2011									
	SPR 2011	45,595			131,127				88	1,216
	SUM 2011	65,174			92,793				77	733
	WIN 2011 / 2012									
	SPR 2012									
	SUM 2012									
	WIN 2012 / 2013									
	SPR 2013									
	SUM 2013									
% of Reported Trips Resulting in Trip Reductions by Mode		50%	97%	100%	88%	98%	100%	**Total**	165	1949
Participants Newness to Alternate Mode by Type*		36%	36%	36%	57%	36%	36%			
Total Trip Reduction (see formula below)		60	0	0	340	0	0	400		

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

Total Trip Reduction =

$$\left(\frac{Total\ Reported\ One\ Way\ Trips\ by\ Mode\ Type}{Commute\ Days\ During\ Program\ Period}\right) * \left(\frac{1\ round\ trip}{2\ one\ way\ trips}\right) * \left(\begin{matrix}\%\ of\ Reported\ Trips\ Resulting \\ in\ Trip\ Reductions\ by\ Mode\ Type\end{matrix}\right) * \left(\begin{matrix}\%\ of\ Participants\ Newness\ to \\ Alternate\ Mode\ by\ Type\ 0-6\ months\end{matrix}\right)$$

* Participants newness to alternate mode by type was derived from data King County Metro collected. The vanpool percentage was based on King County Metro's vanpool entry survey (sent to all new vanpool participants).

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	175
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

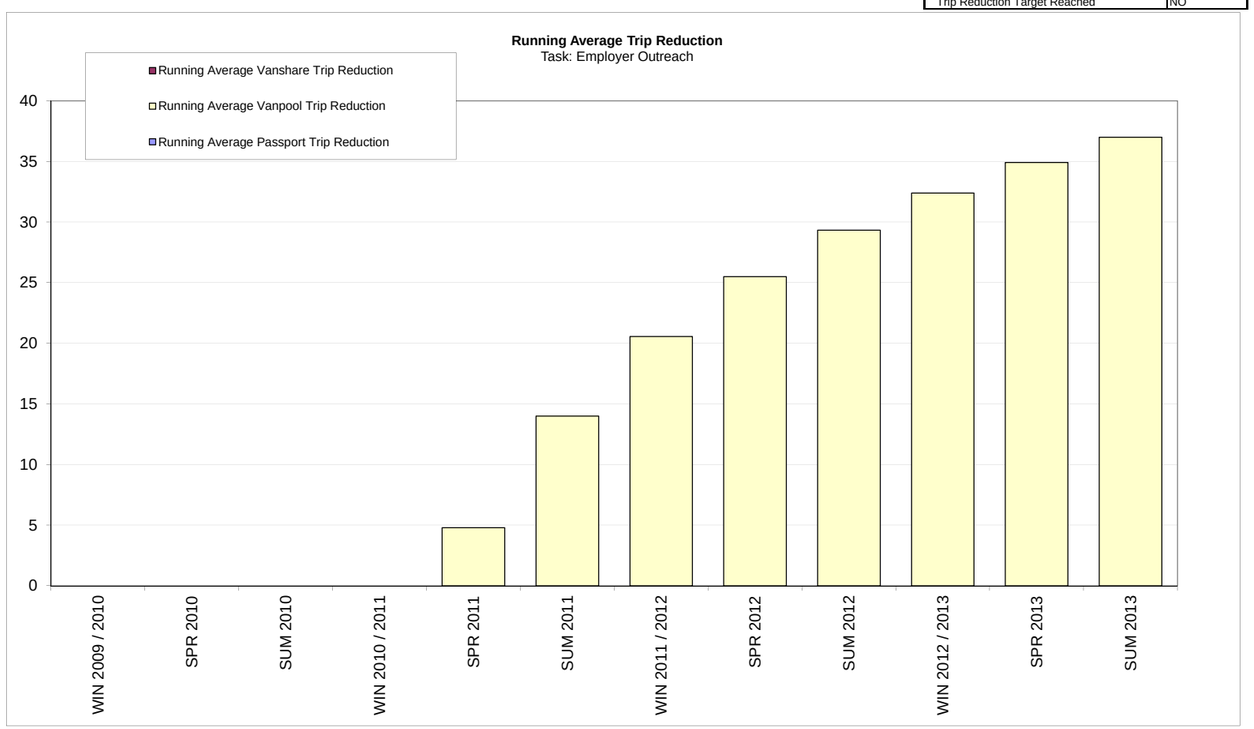
$$= \begin{pmatrix} \text{Passport Sales} \\ \text{Trips Reduced} \end{pmatrix} + \begin{pmatrix} \text{Vanpool Trips} \\ \text{Reduced} \end{pmatrix} + \begin{pmatrix} \text{Vanshare Trips} \\ \text{Reduced} \end{pmatrix}$$

=()+(34)+()= 34

	Quarter	Passports					Vanpools				Vanshares			
		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	
	SUM 2010								0				0	
	WIN 2010 / 2011		0						0		0	0	0	
	SPR 2011	65	0						4		0	0	0	
	SUM 2011	110	0						0	34			0	
	WIN 2011 / 2012		0						0				0	
	SPR 2012		65						0				0	
	SUM 2012		110						0				0	
	WIN 2012 / 2013		0						0				0	
	SPR 2013		0	0	0				60				0	
	SUM 2013		0	0	0				60				0	
Post Program Period	WIN 2013 / 2014		0	0	0				60				0	
	SPR 2014		0	0	0				60	60			0	
	SUM 2014		0	0	0				60				0	

WSDOT and King County Metro staff are revising the methodology for performance measurement based on changes to data availability and project approach.

Target Check	
Trip Reduction Target Reached	NO



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