



# **2012 Center City Commuter Mode Split Survey Results**

**Prepared for:**  
**Commute Seattle**

**Final Report**  
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# INTRODUCTION

Commute Seattle is a commuter service organization founded in 2004 to enhance Downtown's economic competitiveness by improving access to and through Downtown Seattle. This alliance of the Downtown Seattle Association (DSA)/Metropolitan Improvement District (MID), King County Metro Transit, and the City of Seattle Department of Transportation (SDOT) aims to increase all commuting options other than driving alone in a car. Commute Seattle's goal is to increase the portion of Downtown commuters who do not drive alone in a car to 70%, leading the nation in non-drive-alone commuting.

This study represents a longitudinal effort to understand commute trends over time. A similar study was undertaken in 2010 and is intended to be replicated every two years. The 2010 Center City Commute Mode Split study can be found online at [Commuteseattle.com/2010](http://Commuteseattle.com/2010)

In 2012, Commute Seattle commissioned Gilmore Research to conduct a survey of commuters within businesses located in Seattle's Center City neighborhoods to determine mode share among employees that commute to work Monday through Friday between 6 a.m. and 9 a.m. The sample for the survey was selected to obtain a representative sample of employees in all business sizes across ten distinct neighborhoods that make up the Seattle Center City. Data from this survey were combined with data collected in 2011 and 2012 by the Washington State Department of Transportation (WSDOT) from all Center City businesses affected by the State of Washington's Commuter Trip Reduction (CTR) Efficiency Act. The survey used questions from Washington State's standard CTR survey to collect information about travel mode to work, vehicle miles traveled and origin of commute trips.

The primary objectives for the study are:

- To understand commute behavior among commuters within the entire Center City area as well as similarities and differences among commuters in Center City neighborhoods.
- Track changes between the study conducted in 2010 and 2012.

# METHODOLOGY

## Sampling

The 2012 survey collected data from 2,119 employees at non-CTR affected worksites within the Seattle's Center City neighborhoods (see map on page 41).

Gilmore Research purchased a list of all businesses in the downtown Seattle area from InfoGroup. Gilmore Research provided InfoGroup with neighborhood boundaries and asked them to append a neighborhood identifier to each company interviewed. In most cases, the business sample included the name, address and telephone number of the business, a contact name, and the approximate number of employees at each location.

The sample was sorted based on neighborhood and business size (1-4, 5-9, 10-19, 20-49, 50-99, 100+). Quotas were established for each size cohort to ensure all businesses sizes were represented proportionally in the final dataset. The data in 2010 and 2012 represent a slightly different population as all non-CTR affected companies were included in the sampling frame in 2012 while those companies with 100 or more employees were excluded from the non-CTR sampling frame in 2010. The effects of this change in the population studied are analyzed later in the report on page 39. The sample for each neighborhood was then randomized prior to data collection and a representative sample was pulled for initial recruitment.

## Data Collection

### *Timing of the Study*

The 2012 study is part of a longitudinal comparative study and therefore a premium was placed on replicating the methods, steps and timing of the 2010 study. Any departure from the 2010 study will be noted, as well as, externalities that may be thought to have played a role in affecting commute behavior in 2012.

The study was fielded during the week of October 29<sup>th</sup>, 2012 asking respondents to recall their commute mode for the prior week beginning on October 22<sup>nd</sup>. The 2012 survey was conducted in the same month as the 2010 but the survey was fielded one week later in October. The weather during the commute week in questions (week of October 22<sup>nd</sup>) was a mixture of rain, wind and partly sunny days with temperatures in the high forties and low fifties. Comparatively, weather during the week surveyed in 2010 was generally marked by the absence of rain and the presence of sun. This is notable for its likely but unknown impact on biking and walking to work.

The week respondents were asked to report their commute mode was a week that fell four weeks after King County Metro Transit implemented its Fall Service Change which included elimination of the Downtown Ride Free Area, launch of Metro's Rapid Ride lines C and D serving Downtown, and Metro's largest route restructure in several decades. The system and user disruption as a result of these significant, but short-term changes, may have been detected in the survey results associated with bus mode share but are unquantifiable.

Vehicle tolling on State Route-520 began in December 2011 and was in place for nine months prior to fielding the 2012 survey. The impact of tolling is unknown on the results of this study.

Average gas prices in the Seattle area in 2012 remained high (\$3.80) compared to 2010 average gas prices (\$2.80-\$3.00). In the months preceding the 2012 survey, gas prices hit an annual peak (\$4.00+) and declined sharply in November and December. (GasBuddy.com).

### ***Fielding the Study***

Gilmore Research worked with Commute Seattle to draft a pre-notification letter (Appendix page 30), signed by the Commute Seattle Executive Director. This letter was sent to all randomly selected businesses with more than 4 employees (those with four or fewer employees were treated differently, see below) to inform business owners about the upcoming survey effort and to encourage their participation.

After the letters were sent out, Gilmore contacted individuals at the selected businesses by phone to verify the name, location and size of the business and to recruit a person inside each organization to distribute and collect the surveys. Coordinators were given the option of distributing hard copies of the survey, distributing electronic surveys in fillable format, or providing a link to a secure website where employees could complete the surveys online. Depending on the option selected, coordinators either received a survey packet in the mail with hard copies of the survey instrument, or were sent a packet electronically that included either a survey attachment (fillable format) or a link to the online survey. Packets sent via regular mail included a self-addressed stamped envelope for coordinators to use when returning the completed surveys.

To encourage participation, survey coordinators were entered into a drawing for 20 gift cards valued at \$25 for small businesses (5 to 19 employees), or 10 gift cards for medium-sized businesses (20 to 49 employees). Survey coordinators of larger businesses with 50 or more employees were each given a \$50 gift card in exchange for his or her assistance. Gilmore Research followed up with the on-site coordinator throughout the data collection process via email, phone calls to remind them to collect and return the completed surveys.

For the smallest employers (1-4 employees), Gilmore opted to program the surveys into our computer-assisted telephone interviewing (CATI) system and collect the data via telephone interview with as many employees as possible at each location. Quotas were set for number of completed interviews within this business size category for each neighborhood. No incentives were offered to these employees or their employers.

All questionnaires were edited for consistency, completeness and accuracy. Paper survey responses were entered into a data file using the data entry mode of Gilmore's CATI software. Once all of the data were entered and verified, data from the paper surveys were combined with data collected via phone and web to create a master data file of responses from employees in non-CTR-affected companies.

WSDOT supplied data for CTR-affected employees to be combined with the non-CTR-affected master data file to provide a complete picture of travel to the Center City. The WSDOT data were collected from CTR-affected companies (those with 100+ employees) in the Center City area in 2011 and 2012. This data included all responses to the state CTR survey included in the Appendix. Thus, it included information for trips made to the Center City area on all days at all hours. Prior to providing the data to Gilmore, WSDOT assigned each company surveyed to one of the ten neighborhoods that comprise the Center City area.

Although the Commute Trip Reduction Efficiency Act affects only businesses with 100 or more employees the data WSDOT provided included 294 responses from four worksites with fewer than 100 employees who voluntarily comply with CTR. At WSDOT's direction, the companies shown in Table 1 were treated as CTR-affected companies for purposes of this analysis.

**Table 1**  
**Companies Treated as CTR-Affected Despite Having Fewer than 100 Employees**

	CTRID	Number of Employees	Neighborhood
Christensen O'Connor Johnson & Kindness	E85894	96	Commercial Core
Washington State DHS	E86041	50	Belltown
Washington State DOT	E80534	78	Pioneer Square
Defender Association	E81547	70	Commercial Core
<b>TOTAL</b>		<b>294</b>	

## Weighting and Analysis

The data collected for Commute Seattle (n=2,119) were then combined with data WSDOT collected from CTR-affected companies in the Center City (n=46,937) and analyses were performed to determine commute mode share, vehicle miles traveled and trip origins. State of Washington CTR guidelines require a 70% response rate among employees in large organizations. To help encourage a high survey response rate, worksites with less than a 70% response rate will see their survey results adjusted, by WSDOT with the assumption that non-respondents were making drive-alone trips. This adjustment of their drive-alone rate is called "fill-in". It is important to note "fill-in" was *not* applied to the data received from WSDOT. Thus, mode share in this report is calculated based on actual trips reported.

The combined data file was weighted to ensure accurate representation of businesses based on the number of employees in CTR-affected and non-CTR-affected companies for the Center City as a whole. Separate weights were also developed for each neighborhood to proportionately represent the number of employees that work in CTR-affected and non-affected businesses in each of these locations.

Findings reported at the *neighborhood level* are based on data weighted for that specific neighborhood while those for the Center City are based on the aggregate weight for CTR-affected/not-affected businesses in all neighborhoods combined.

When developing the Drive Alone Rate (DAR), Gilmore Research followed the protocols set forth in the "Commute Trip Reduction Program Rules 2010" published by the Washington State Department of Transportation.<sup>1</sup> A copy of these rules is included in the Appendix.

It is important to note that both the WSDOT data and the data collected for Commute Seattle asked employees about their travel to the Center City all days of the week and all hours of the day. The Respondent Profile at the end of the report (on page 27) is based on all respondents regardless of travel days and times. The subsequent travel analysis in the Summary and Detailed Findings Section is based on responses from employees that travel to the Center City on weekdays between 6 and 9 A.M.

<sup>1</sup> Leotta, Kathy and Avinash, Rai J. Commute Trip Reduction Program Rules 2010. Washington State Department of Transportation. September 13, 2010.

\*Using expansion factor for City of Seattle employees (3.24675)

Throughout this report statistically significant differences are reported at the 95% level of confidence unless otherwise noted. The maximum margin of error for Center City employees is  $\pm 0.44$  percentage points at the 95% confidence level. The margin of error for employees of businesses not affected by CTR rules is  $\pm 2.13$  percentage points. Margins of error at the neighborhood level range from  $\pm 0.68$  percentage points in the Commercial Core to  $\pm 11.06$  percentage points in the Capitol Hill neighborhood.

## Response Rates

Response rates were calculated based on the number of surveys distributed and the number of valid surveys received. The overall response rate for all surveys was 66%. This includes both the surveys collected by Gilmore Research on behalf of Commute Seattle and those from CTR-affected companies provided by WSDOT.

Table 2 shows the response rates for businesses that WSDOT designated as CTR-affected and non-affected businesses. Response rates are also shown by business size and neighborhood.

	<b>Surveys Distributed</b>	<b>Surveys Completed</b>	<b>Response Rate</b>
<b>Center City</b>	<b>74,696</b>	<b>49,056</b>	<b>66%</b>
CTR-affected	70,735	46,937	66
Not CTR-affected	3,963	2,119	53
<b>Neighborhood</b>			
Belltown	3,347	2,332	70%
Capitol Hill	114	88	77
Chinatown-International District	2,395	1,842	77
Commercial Core	34,857	20,979	60
Denny Triangle	12,745	8,081	63
First Hill	5,848	4,556	78
Pike/Pine	347	239	69
Pioneer Square	2,559	1,718	67
South Lake Union	7,183	5,392	75
Uptown	5,301	3,829	72
<b>Business Size</b>			
1 to 4 employees	475	442	93%
5 to 9 employees	240	176	73
10 to 19 employees	414	276	67
20 to 49 employees	1,046	505	48
50 to 99 employees	1,437	715	50
100 or more employees	68,440	49,553*	72

# SUMMARY FINDINGS

## Weekday Mode Share

Four out of five Center City employees (85%) reported working at least one weekday and indicated they started work between 6 a.m. and 9 a.m.

Commute mode share is the percentage of all commute trips made using each mode of transportation during the week prior to the survey period.

### Center City

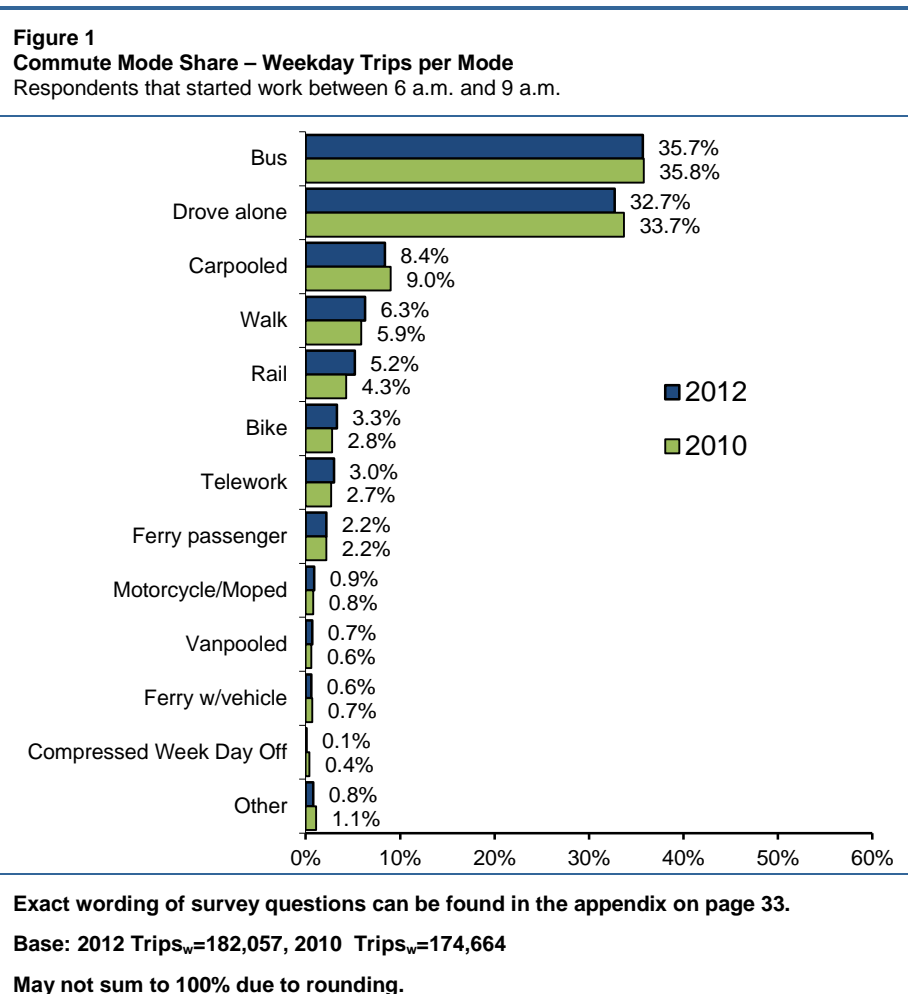
As mentioned in the Methodology Section, results for the Center City use data weighted at the aggregate level. More information about the weights used can be found in the Appendix.

### All Weekday Morning Commuters

Respondents that travel to work in the Center City made a total of 182,057 commute trips to work (one way) the week surveys were conducted. Of these, more trips were made on the bus (35.7%) than by any other mode, although drive alone trips were a close second (32.7%). Figure 1 shows the percentage of trips made using each mode for all respondents related to questions 1 and 4 in the survey (see appendix).

### Compared to 2010

Four modes saw a significant increase in overall usage over the past two years. These modes include rail, bicycle, walk, and teleworking.



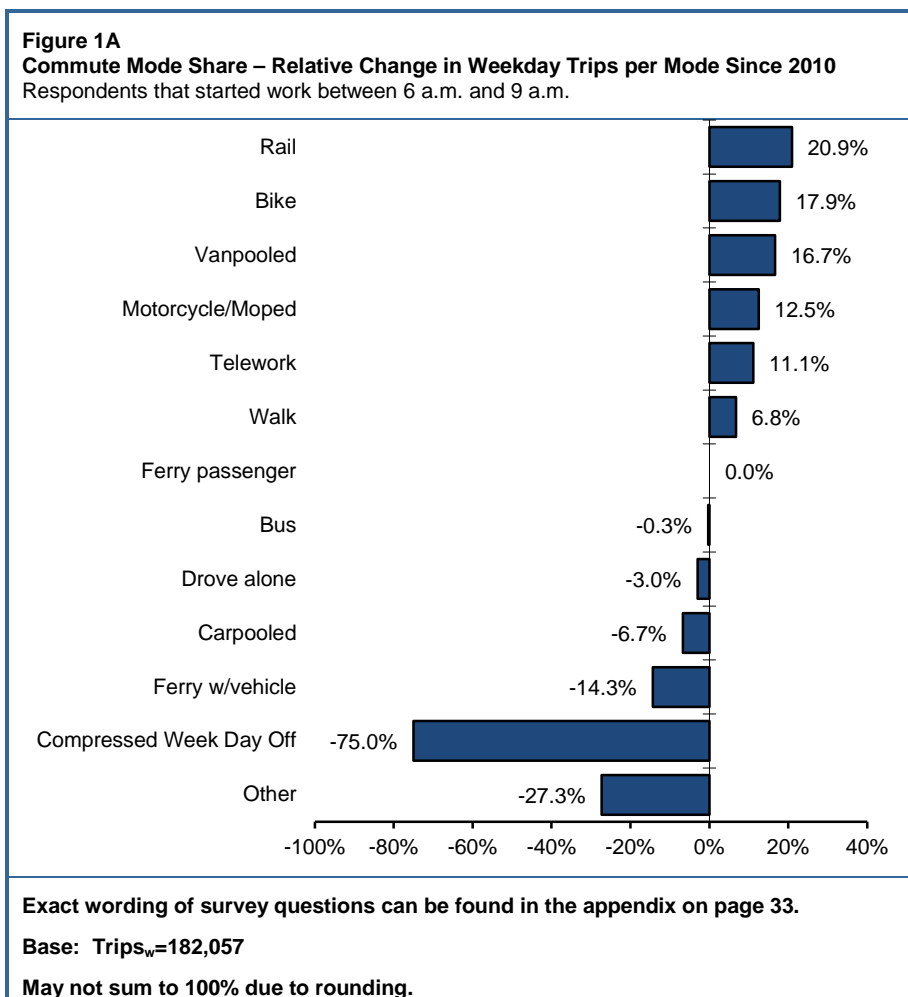


Significantly fewer commuters drove alone this year than in 2010. There was also a significant decrease in the percentage of commuters who carpool, used a compressed work week with a day off, or some “other” mode.

This finding could be interpreted as commuters increasing their usage of rail, biking, walking, and teleworking rather than driving alone, carpooling, using a compressed work week, or an “other” mode of transportation.

**Relative Change**

The drive alone rate has seen a decrease in relative change of 3 percentage points in the past two years. Rail has seen the largest improvement over the last two years, with a relative increase of 21% since 2010. Bike and vanpool have also shown a considerable relative improvement since 2010. The largest decrease in mode share is a 75% decrease in relative use of the compressed week day off.



## DETAILED FINDINGS

Drive alone rate is calculated by dividing the number of single occupancy vehicle (SOV) trips into the number of potential trips.<sup>2</sup> Respondents that travel to work in the Center City on weekdays between 6 and 9 a.m. made a total of 59,595 one way SOV trips. The drive alone rate for these commuters is 32.7% (59,595/182,057).

Table 3 shows absolute change in commute mode share, for both CTR-affected and Not-affected companies. All mode share numbers are reported using weighted trips. For detailed weighting information please see the Weighting and Analysis discussion in the Methodology section and the table of weights included in the Appendix.

### Comparing CTR-Affected to Non CTR-Affected Companies

Employees working in CTR-affected companies make significantly more trips by bus, in a carpool, in a vanpool, or those traveling by an “other mode” than those working for companies who are Not CTR-affected. Employees in businesses that are not CTR-affected make a significantly greater percentage of trips by driving alone, walking, riding a bicycle, or taking the ferry (with vehicle) to work. Not CTR-affected companies’ rate of change from drive alone to other modes is moving rapidly.

<b>Table 3</b>						
<b>Commute Mode Share – Weekday Trips per Mode by CTR-Affected/Not Affected Companies</b>						
Respondents that started work between 6 a.m. and 9 a.m.						
Base = Trips <sub>w</sub>	Total		CTR-Affected		Not CTR-Affected*	
	n=48,221 n <sub>w</sub> =41,206 Trips <sub>w</sub> =182,057	% Change from 2010	n=46,672 n <sub>w</sub> =20,175 Trips <sub>w</sub> =85,970	% Change from 2010	n=1,549 n <sub>w</sub> =21,031 Trips <sub>w</sub> =96,087	% Change from 2010
Bus	35.7%	-0.1%	42.1%	<b>-3.4%</b>	29.9%	<b>6.2%</b>
Drive alone	32.7	<b>-1.0</b>	25.4	<b>1.4</b>	39.3	<b>-6.7</b>
Carpool	8.4	<b>-0.6</b>	9.6	<b>-0.4</b>	7.3	-0.5
Walk	6.3	<b>0.4</b>	5.0	<b>1.1</b>	7.5	-1.0
Train/light rail/streetcar	5.2	<b>0.9</b>	5.6	<b>0.7</b>	4.8	1.3
Bicycle	3.3	<b>0.5</b>	2.7	<b>0.4</b>	3.8	0.3
Telework	3.0	<b>0.3</b>	3.4	<b>0.3</b>	2.6	0.5
Ferry as walk-on passenger	2.2	0.0	2.5	-0.2	2.0	0.6
Motorcycle/Moped	0.9	0.1	0.8	0.1	1.0	0.1
Vanpool	0.7	0.1	1.2	0.2	0.3	0.2
Ferry with vehicle	0.6	-0.1	0.4	-0.1	0.9	0.0
Compressed workweek day off	0.1	<b>-0.3</b>	0.1	-0.2	0.1	<b>-0.4</b>
Other mode	0.8	<b>-0.3</b>	1.2	0.1	0.5	<b>-0.7</b>

**Exact wording of survey questions can be found in the appendix on page 33.**

**Bold** denotes a significant change from 2010 to 2012.

**\*Note:** Not a direct comparison because 100+ Non CTR-affected companies are included in 2012 data and are excluded from 2010 data.

May not sum to 100% due to rounding.

<sup>2</sup> Single occupancy trips include all “drive alone” trips plus one-person motorcycle trips. Potential trips includes trips made using all travel modes plus telework and compressed work week days off.

## Comparing 2012 Results to 2010 Results

Employees working for CTR-Affected companies are more likely to drive alone, walk, take the rail, bike, or telework commute in 2012 than in 2010. These employees are less likely to take the bus or carpool in 2012. Those working for non-CTR affected organizations are more likely to take the bus now than in 2010 and are less likely to drive alone, use a compressed work week day off, or to use an “other mode” of transportation into the city.

## Business Size

Several statistically significant differences were noted with respect to company size. As Table 4 shows, employees of large companies (100 or more employees) make a greater percentage of trips by bus or vanpool than employees of medium and small-sized companies. Employees of large companies also make proportionately more ferry trips as a walk-on passenger than those in small companies and more carpool trips or trips by “other” modes than those in medium size companies.

Respondents working in mid-size companies (20 to 99 employees) make proportionately more bus or telework trips than those in small companies and more drive alone or bicycle trips than those in large companies. Respondents working for small companies make more drive alone, walking, and vehicle ferry trips than those in either medium or large-sized companies. Those who work for small or medium sized businesses are more likely to ride a bicycle to work than those working for large companies.

<b>Table 4</b>							
<b>Commute Mode Share – Weekday Trips per Mode by Business Size</b>							
Respondents that started work between 6 a.m. and 9 a.m.							
	Total	Business Size (Number of Employees)					
		1 to 19	% Change from 2010	20 to 99	% Change from 2010	100+ (Both CTR affected and Non CTR-affected)	% Change from 2010
	n=48,221 n <sub>w</sub> =41,206 Trips <sub>w</sub> =182,057	n=865 n <sub>w</sub> =11,744 Trips <sub>w</sub> =36,360		n=1,219 n <sub>w</sub> =14,089 Trips <sub>w</sub> =51,026		n=46,972 n <sub>w</sub> =23,223 Trips <sub>w</sub> =94,671	
Bus	35.7%	20.6%	-1.5	34.4%	7.2	42.1%	-3.3
Drive alone	32.7	46.4	-1.0	35.4	-7.4	26.0	2.0
Carpool	8.4	8.5	1.2	6.5	-2.1	9.4	-0.7
Walk	6.3	9.8	0.5	6.2	-0.7	5.1	1.2
Train/light rail/streetcar	5.2	4.2	1.4	5.1	0.3	5.6	0.8
Bicycle	3.3	4.1	0.6	3.8	0.5	2.7	0.4
Telework	3.0	1.0	-1.4	3.8	2.1	3.3	0.2
Ferry as walk-on passenger	2.2	1.9	0.6	2.2	0.4	2.3	-0.4
Motorcycle/Moped	0.9	0.5	-0.4	1.3	0.3	0.8	0.1
Vanpool	0.7	0.3	-0.7	0.3	0.2	1.1	0.1
Ferry with vehicle	0.6	1.7	0.7	0.5	-0.1	0.4	-0.1
Compressed workweek day off	0.1	0.1	-0.3	0.1	-0.4	0.1	-0.2
Other mode	0.8	0.8	-0.7	0.3	-0.5	1.1	0.0

Exact wording of survey questions can be found in the appendix on page 33.

Base = Trips<sub>w</sub>

When looking at commuting changes between 2010 and 2012, the most change occurred within large companies, though mid-size companies saw the largest growth in bus ridership and the largest

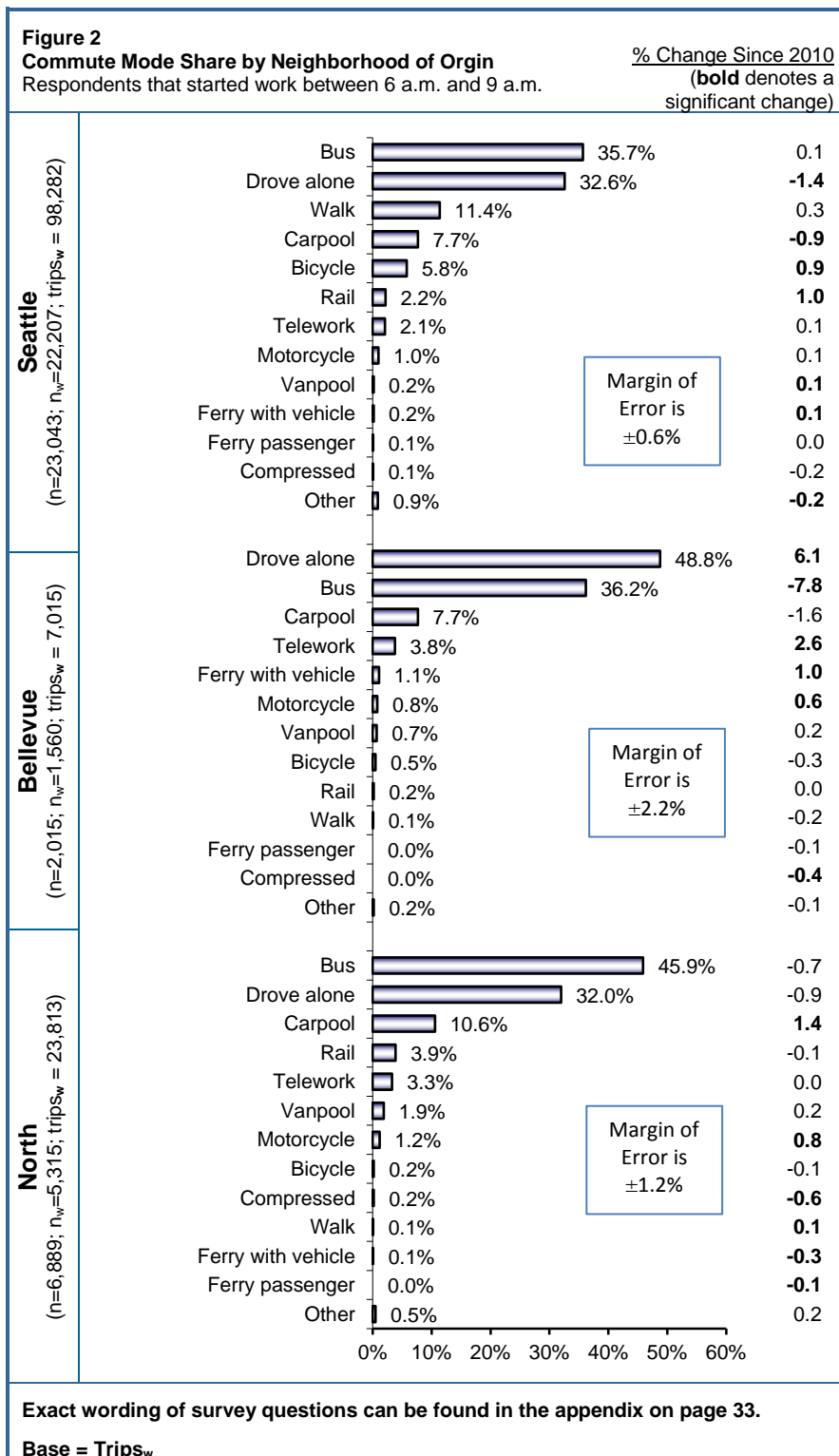
drop in drive-alone rates. Since 2010, large companies saw increases in employees driving alone, walking, taking rail, or biking to work and decreases in commuters taking the bus, carpooling, taking the ferry as a walk-on passenger, using a compressed work week with a day off, or taking the ferry with a vehicle. Those at small businesses are less likely to telework in 2012 than in 2012. Mid-size employees are more likely to take the bus or telework, and are less likely to drive alone in 2012.

## Area of Residence

As Table 6 shows, there are many statistically significant differences in commute mode share depending on where the respondent lives.

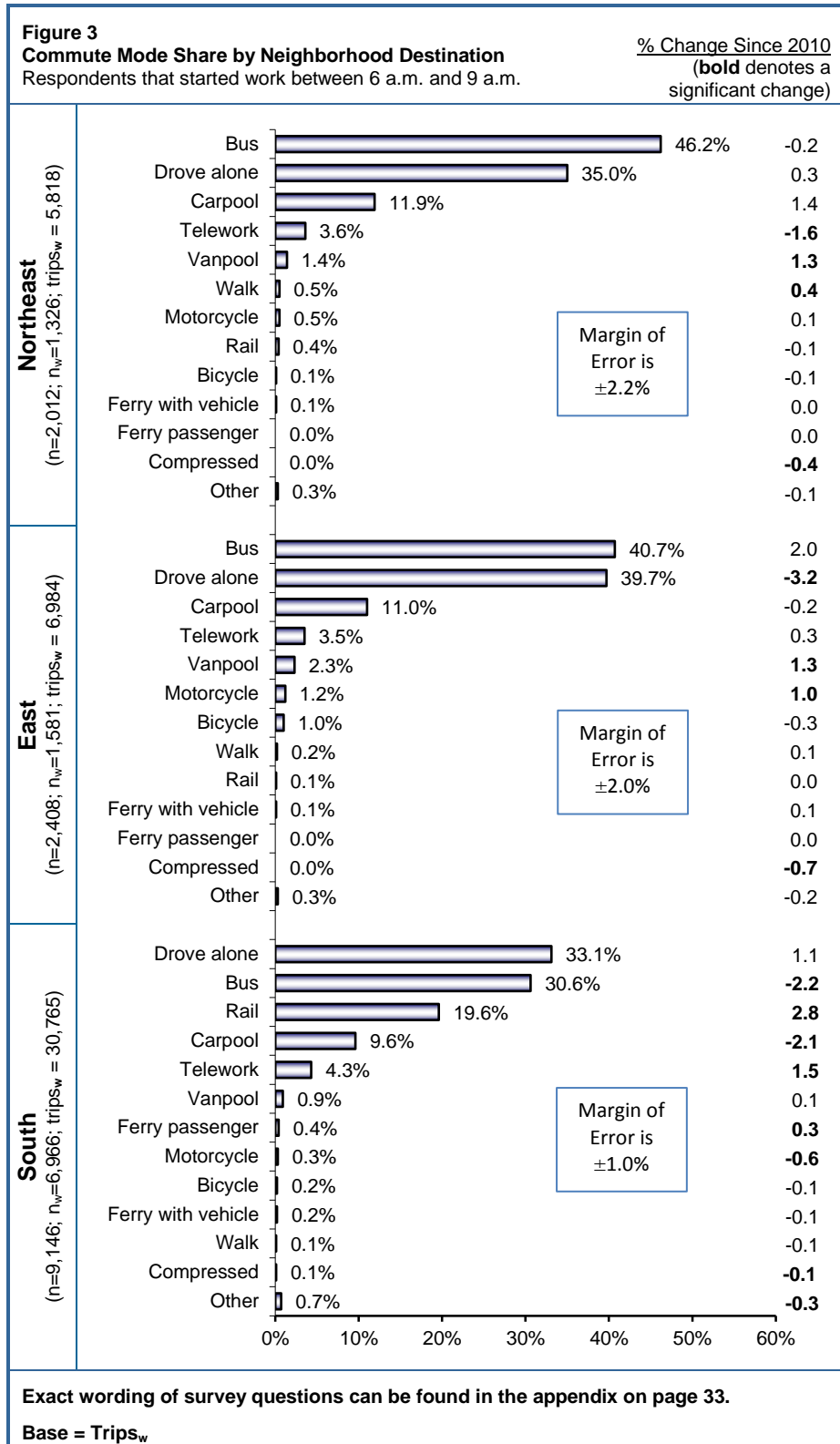
Residents of Seattle made proportionately more morning commute trips by bicycling or walking to work than those living in other areas and the proportion biking continues to rise over 2010 findings.

Respondents living in the North (Kirkland/W. Snohomish County), and Northeast Regions (Redmond/NE King County/SE Snohomish County) made a significantly greater share of commute trips by bus than those from other areas.



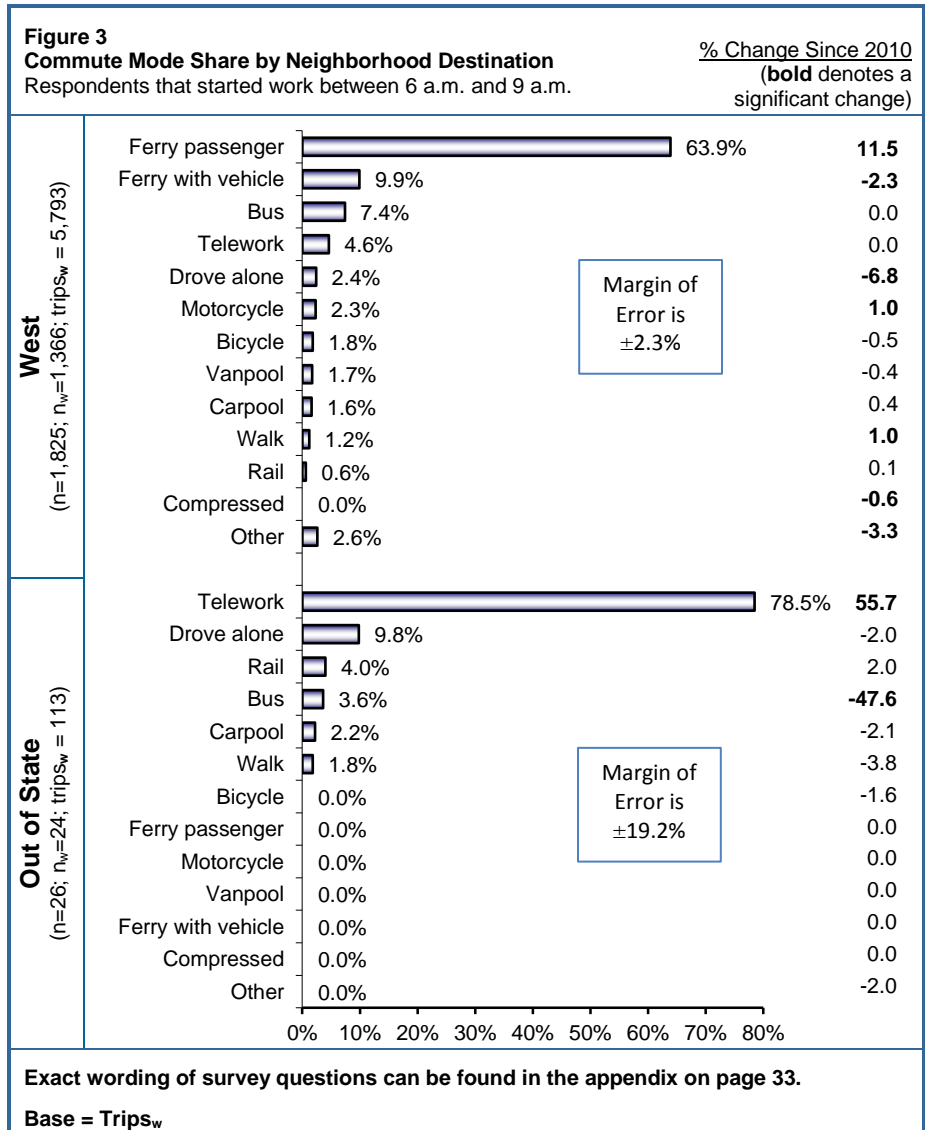
Respondents living in the East (Issaquah/East King County) and those in Bellevue made proportionately more drive alone trips. Though, drive alone trips from these areas are significantly lower now than in 2010.

Respondents living in the South (Renton, South King County, Pierce County) took the greatest number of trips by rail. Rail usage grew significantly in Seattle, South King County and Pierce County between 2010-2012.



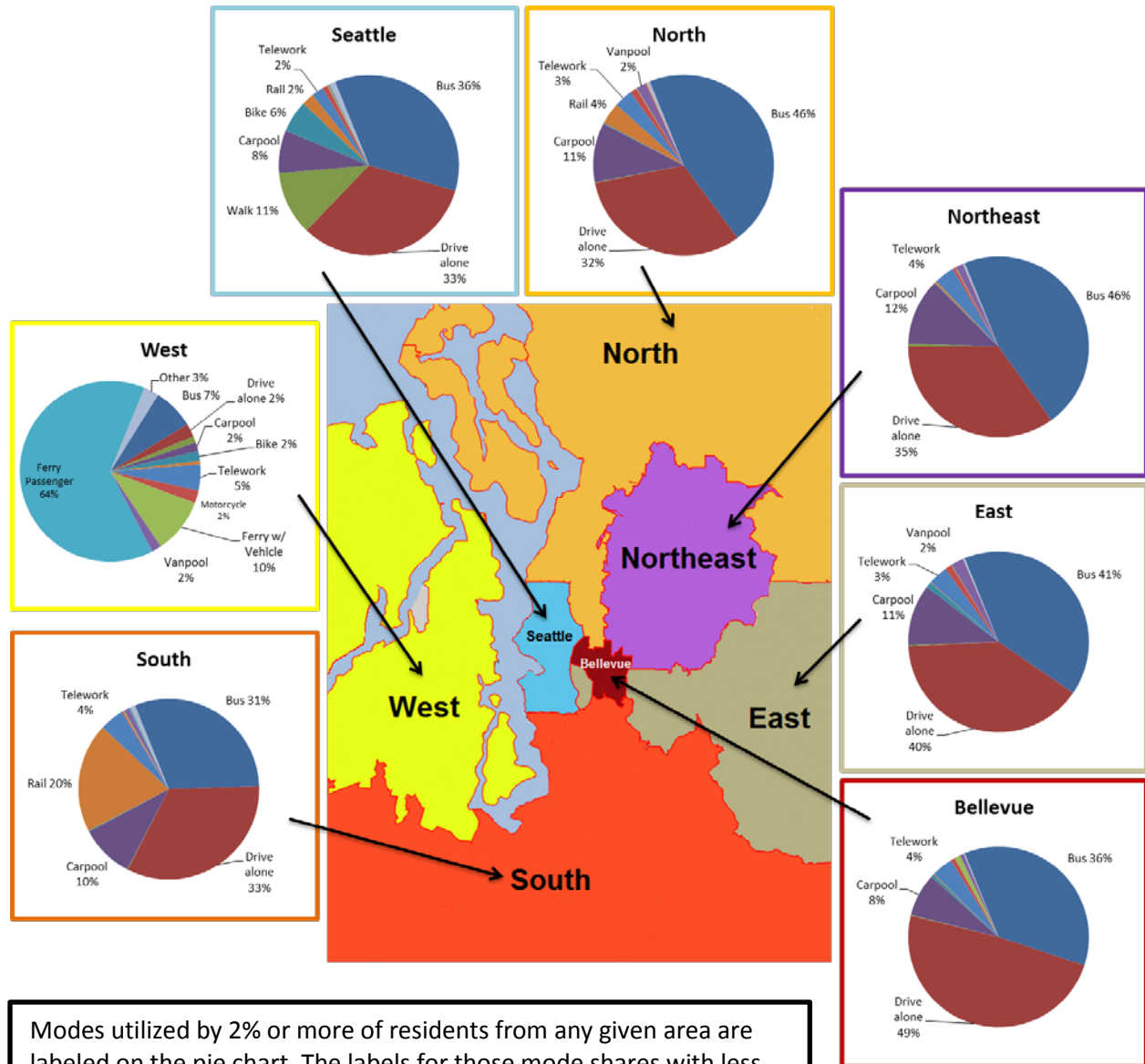
Employees living in the West Region made more than half of all weekday morning commute trips as walk-on ferry passengers.

As expected, most out of state commuters use teleworking as their method of working for a Seattle-based company.



### Main Mode Shares Used per Area

The map below shows the types of modes used by 2% or more of the population commuting from each of the seven areas.



Modes utilized by 2% or more of residents from any given area are labeled on the pie chart. The labels for those mode shares with less than 2% have been removed, but the percentage is still represented by the colored slice.

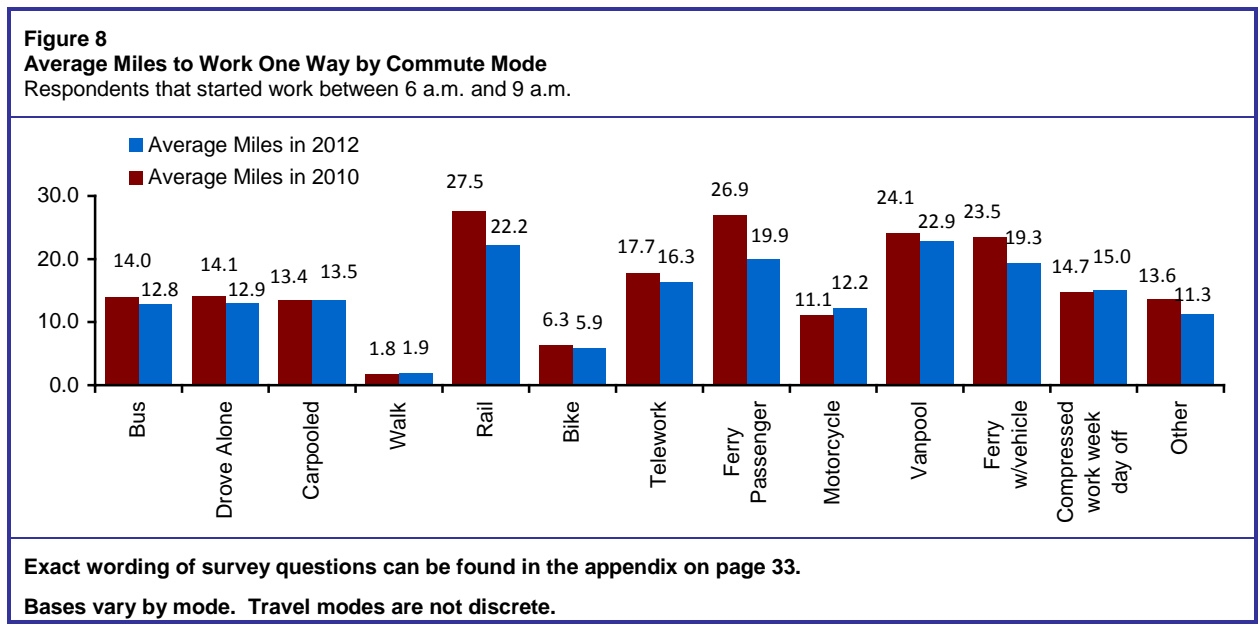
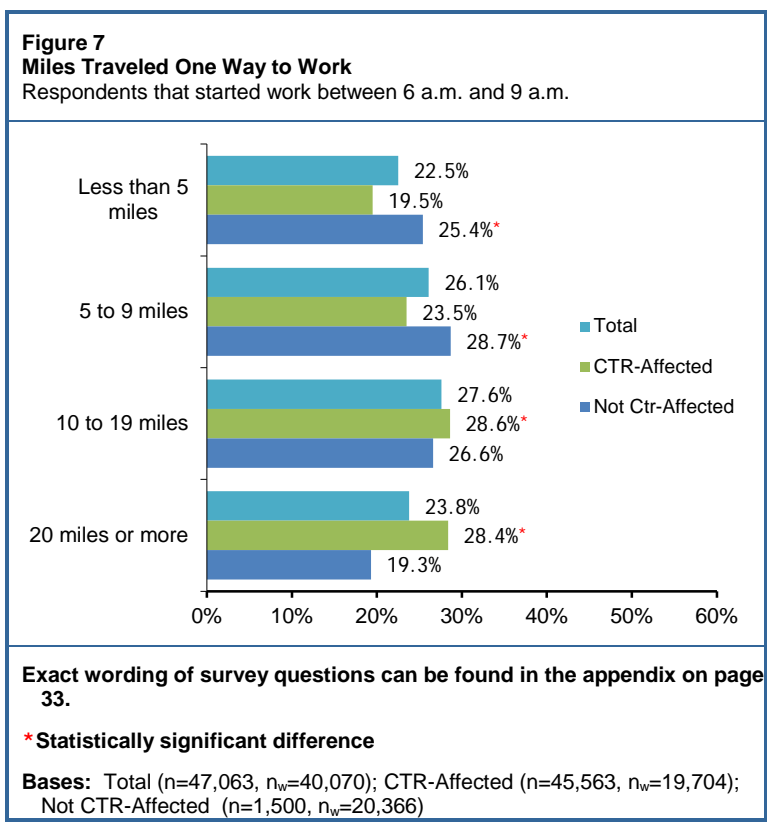


## Commute Distance

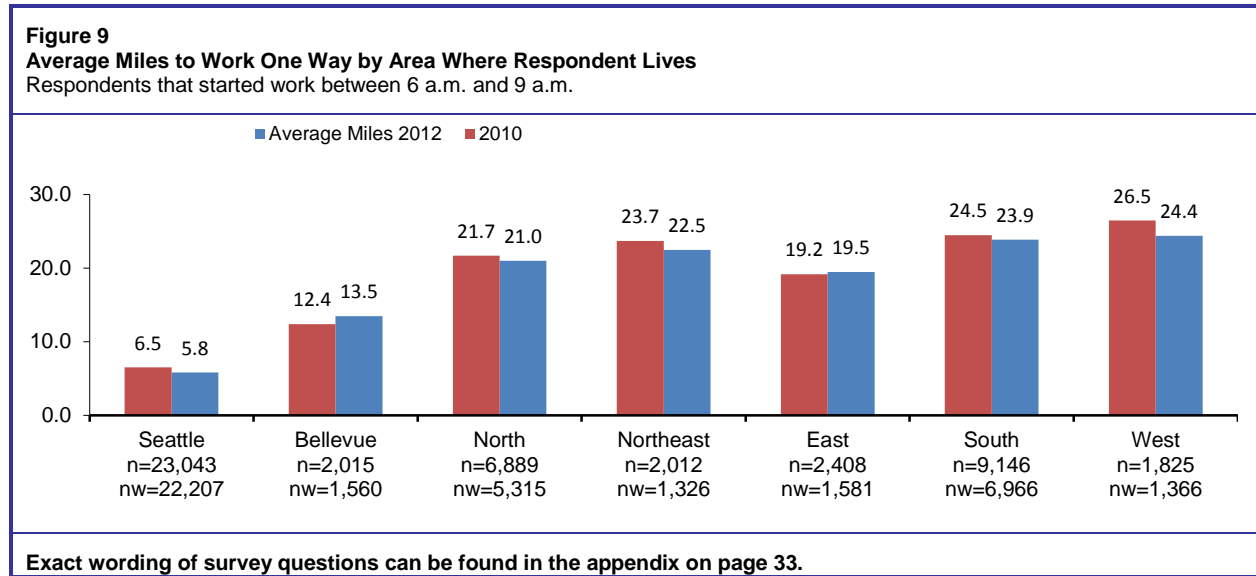
Overall, weekday morning commuters travel 13.0 miles on average. As Figure 7 shows, employees working for companies not affected by the Commute Trip Reduction law were more likely to report driving fewer than 10 miles to work while those in larger companies tended to drive longer distances. Commuters working for CTR-affected companies travel 14.5 miles to work on average; significantly more than those working for non-affected companies (mean = 11.2 miles).

When looking at miles traveled one way to work by mode, those that travel by vanpool (22.9 miles) or train, light rail or streetcar (22.2 miles) travel farther, on average, than those using different commute modes. Bus commuters and those that drive alone travel close to the same distance on average—just under 13 miles (Figure 8).

The distances traveled by mode are similar in 2012 than in 2010 and there are no significant differences found in miles traveled by mode.

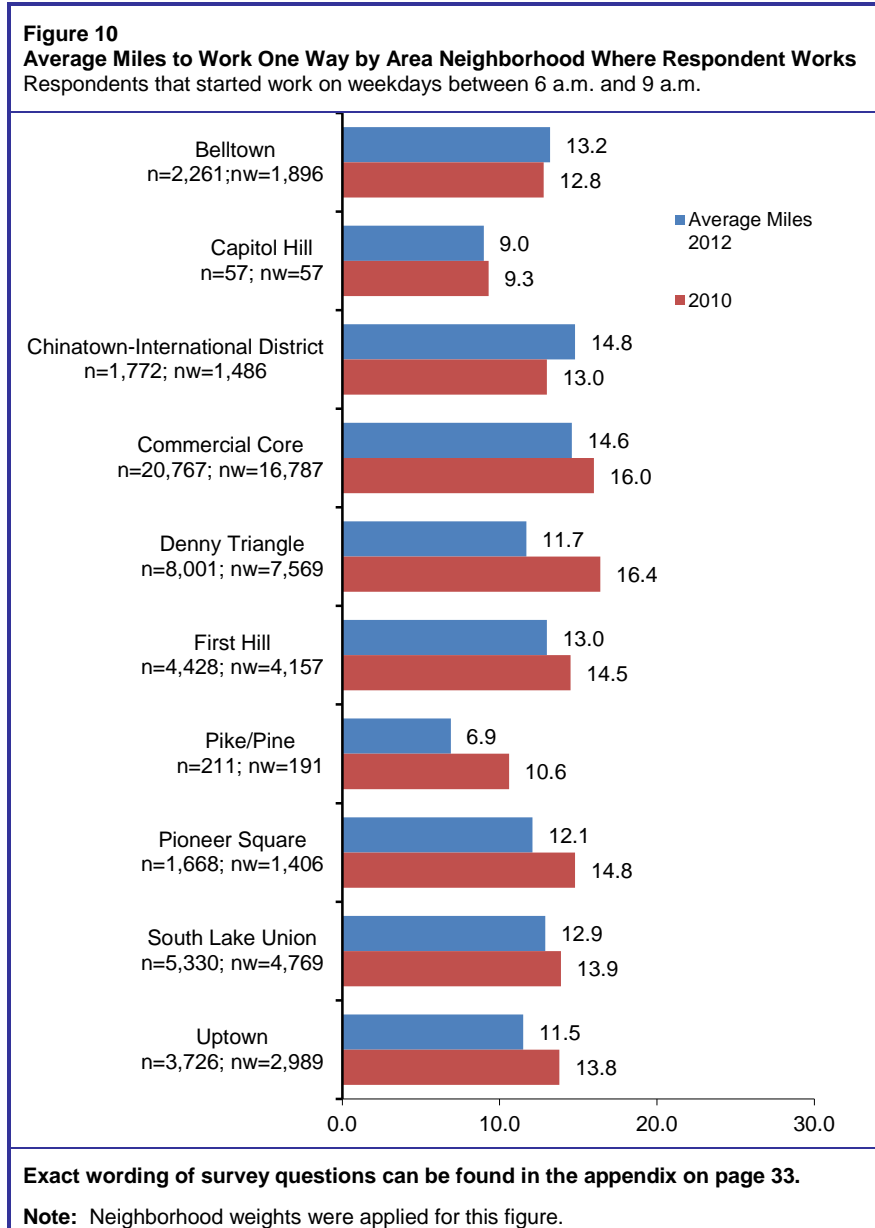


Respondents that live west or south of Seattle travel the greatest distances on average while those that live in Bellevue travel the shortest distance of all employees except those living in Seattle itself (Figure 9).



The average number of miles to work differs from neighborhood to neighborhood. As Figure 10 shows, those commuting to the Pike/Pine neighborhood travel the shortest distance on average (8.3 miles). This finding is consistent with mode share results that show Pike/Pine and Capitol Hill (with only 9.0 mile commutes) have the highest percentage of walking commute trips across all ten neighborhoods.

Most respondents travel 12.7 miles to work on average. Those that work in Chinatown, the Commercial Core, and First Hill neighborhoods have the longest commutes on average.



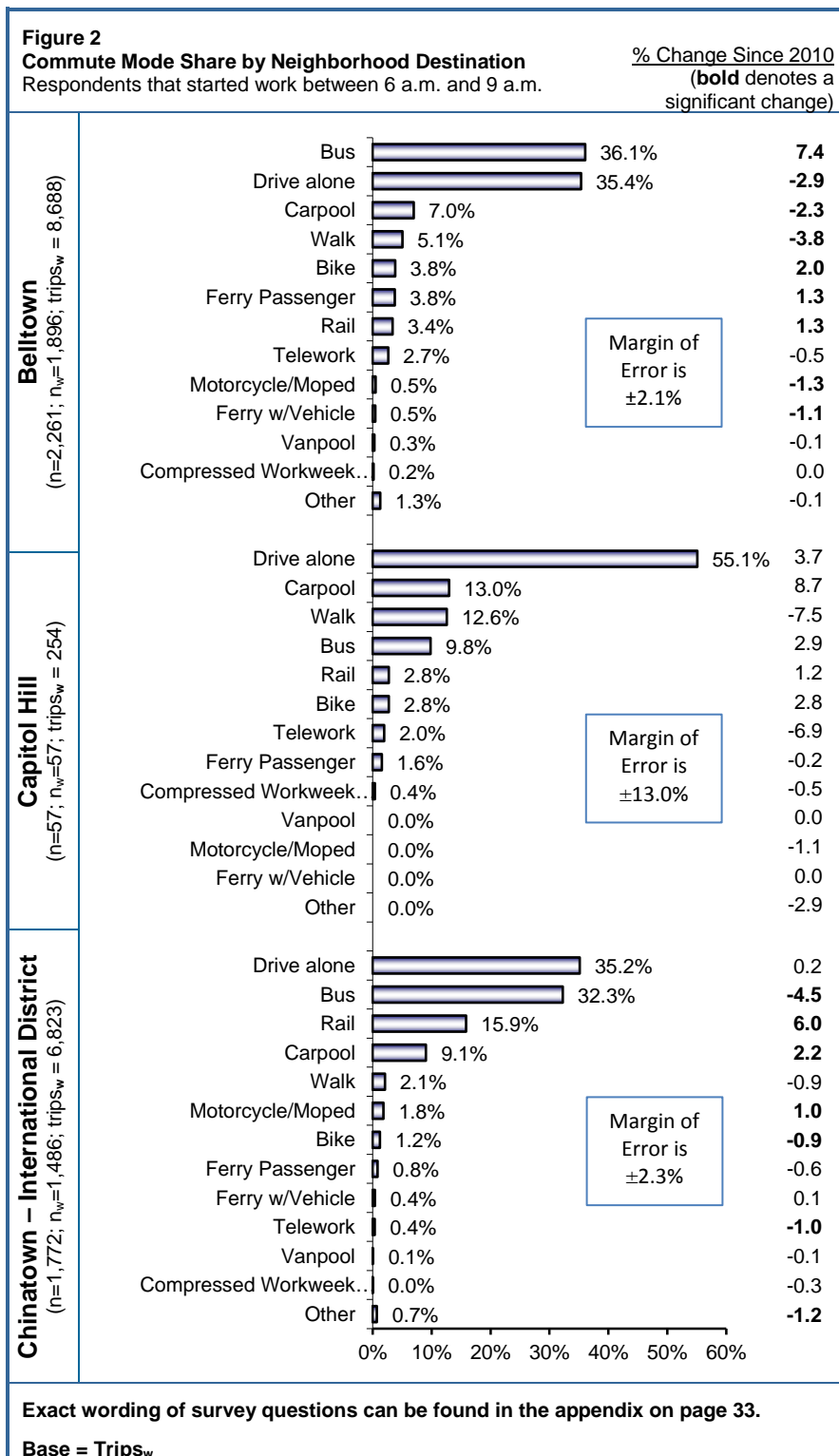
## Neighborhood Reporting

As mentioned in the Methodology Section, results for individual neighborhoods are weighted based on the proportion of employees working for CTR-affected and non-affected companies in each neighborhood. Additional information can be found in the weights table included in the Appendix.

**Note:** Results for each neighborhood should be looked at individually and not compared to other neighborhoods due to varying sample sizes and inconsistent representation of the true City-Center population when broken into neighborhoods. Any comparisons should be made to the aggregate City-Center data only.

Figures 2 through 5 show the mode share for weekday morning commute trips to each of the ten study neighborhoods.

Table 6 provides a breakout of mode share by employees that work for CTR-affected and not-affected companies for each of the ten downtown neighborhoods.



Bus is the most common commute mode in Belltown with drive alone as a close second. A significantly larger proportion of commuters are taking the bus in 2012 compared to 2010.

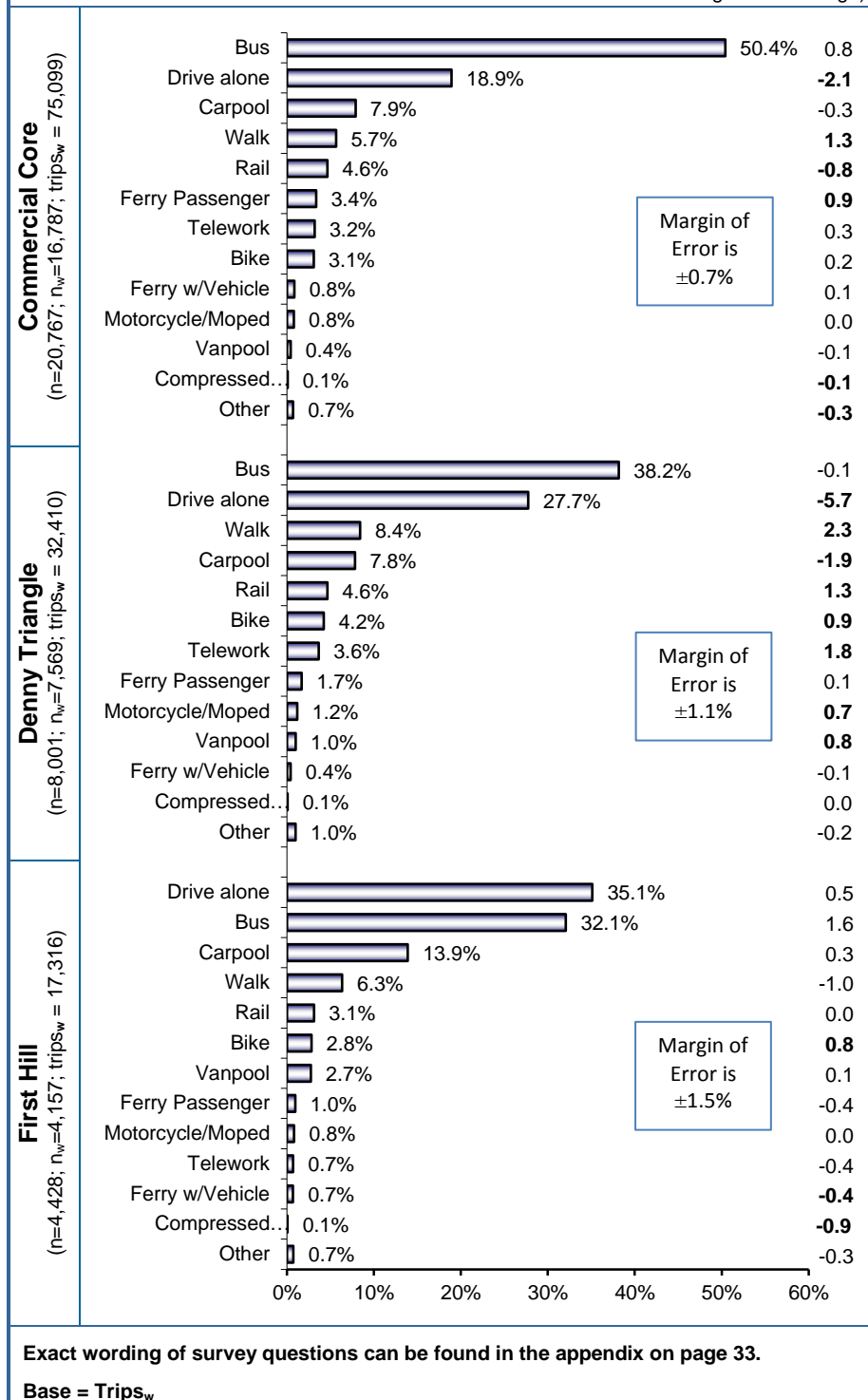
In Capitol Hill, significantly more trips are made by driving alone than by any other mode.

In International District, drive alone trips edge out bus trips by a narrow margin. Trips by train, light rail or streetcar are the third most common at 16%. Since 2010, trips by rail have increased significantly while trips by bus have decreased.

Half of the commute trips in the Commercial Core are made by bus and about one in five are drive alone trips. Carpool is a distant third with 8% of all trips. The portion of drive alone commute trips declined by 2.1%.

In the Denny Triangle neighborhood, close to four in ten morning commute trips are made on the bus (38%) and just over one-quarter of commute trips are made by driving alone (28%). Walking and carpool trips are a distant third/fourth place, accounting for a little less roughly 8% of trips to this neighborhood. The percentage who drive in alone decreased significantly from 33% in 2010 to 28% in 2012.

**Figure 3**  
**Commute Mode Share by Neighborhood Destination**  
 Respondents that started work between 6 a.m. and 9 a.m.  
 % Change Since 2010  
 (bold denotes a significant change)

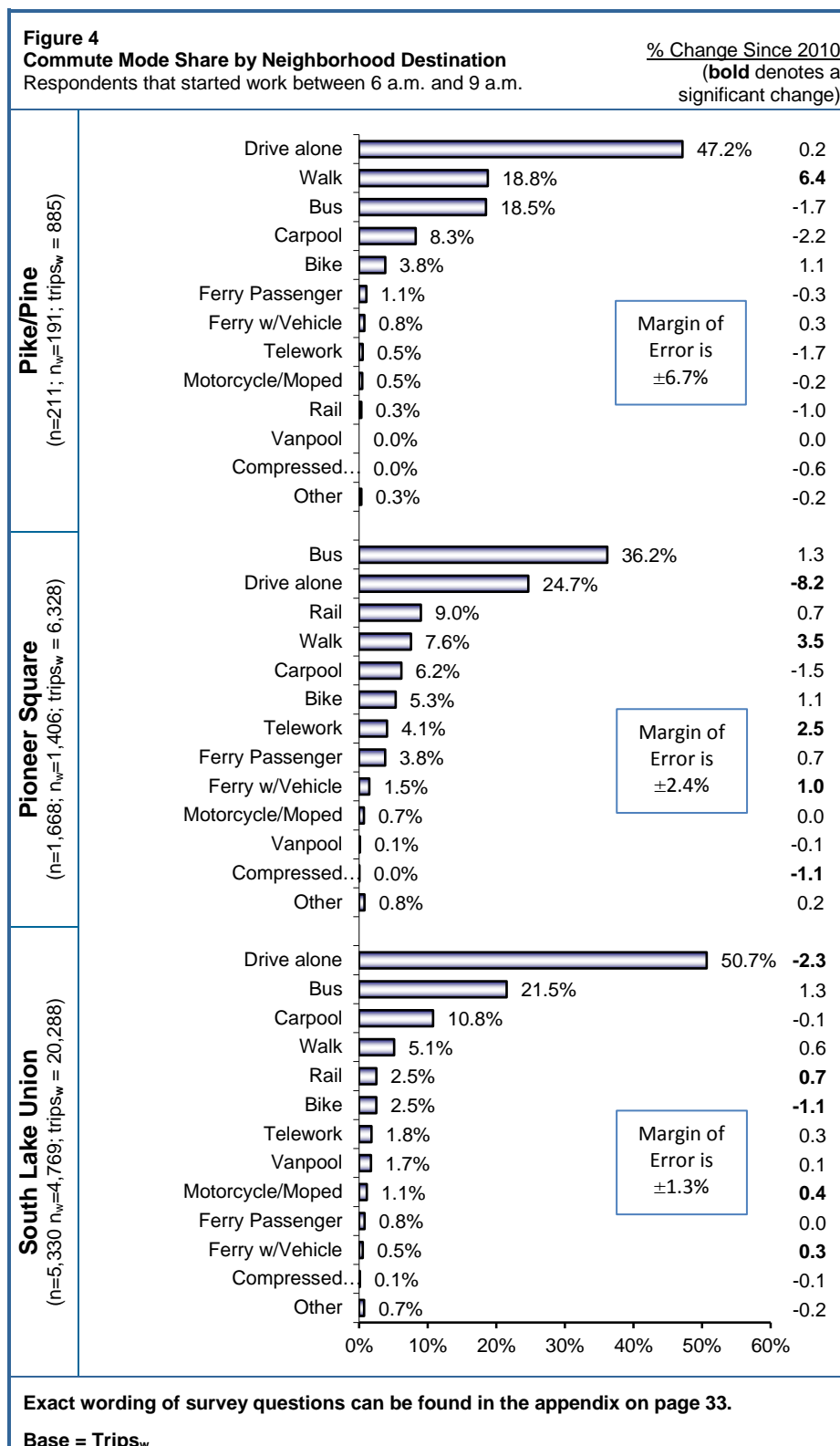


In the First Hill neighborhood, a little more than one third of morning commute trips are made by driving alone (35%) and about three in ten are made on the bus (32%). At 13.9% of all trips, carpooling is the third most common form of commuting to this neighborhood.

Just under half of all commute trips in the Pike/Pine area are made by driving alone (47%). Walking is a distant second (19%) followed closely by taking the bus (19%). Significantly more commuters are walking to Pike/Pine from their homes now than in 2010.

Employees traveling to Pioneer Square use several different modes, but the most popular routes are to take the bus (36%) or drive alone (25%). Rail is the third most common choice (9%) followed closely by walking (8%). A significant percentage of employees who used to drive alone to work in Pioneer Square are now walking or teleworking instead.

Driving alone is the most common commute mode to jobs in the South Lake Union neighborhood (51%), even with its slight reduction of drivers since 2010. Bus trips are a distant second (22%).



Commuters to the Uptown neighborhood most commonly drive alone to work (56%). Bus is a distant second (14%) followed closely by carpooling (7%). Though fewer carpool now than did in 2010 and a significant increase in driving alone has been noted since 2010.

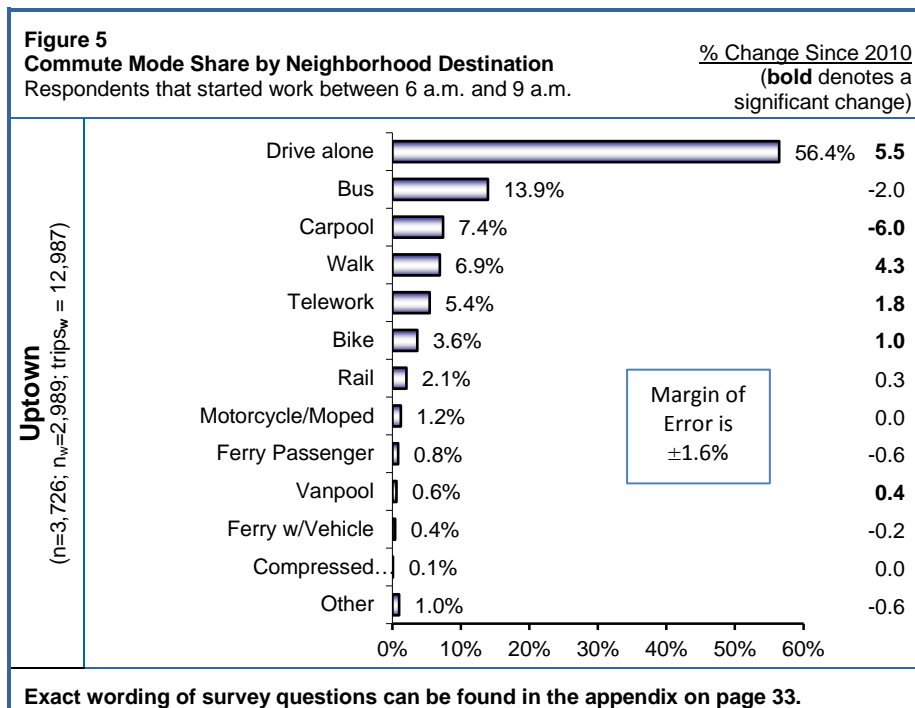


Table 6 shows the percentage of employees that work in both CTR affected and non-CTR affected businesses within each neighborhood. This table is provided to aid in understanding differences in how employees in the various neighborhoods commute to work.

<b>Table 6</b>			
<b>Weekday (Monday-Friday) Commute Mode Share by Neighborhood – Percentage of Trips per Mode by CTG-Affected/Not CTR-Affected</b>			
Respondents that started work between 6 a.m. and 9 a.m.			
	<b>(Total)</b>	<b>CTR-Affected</b>	<b>Not CTR-Affected</b>
	<b>n=2,261</b>	<b>n=2,031</b>	<b>n=230</b>
	<b>n<sub>w</sub>=1,896</b>	<b>n<sub>w</sub>=309</b>	<b>n<sub>w</sub>=1,587</b>
	<b>Trips<sub>w</sub> = 8,688</b>	<b>Trips<sub>w</sub> = 1,312</b>	<b>Trips<sub>w</sub> = 7,375</b>
<b>Belltown</b>			
Bus	36.1%	31.3%	37.0%
Drive alone	35.4%	36.1%	35.3%
Carpool	7.0%	10.5%	6.4%
Walk	5.1%	4.1%	5.2%
Bike	3.8%	2.8%	4.0%
Ferry Passenger	3.8%	2.9%	3.9%
Rail	3.4%	4.6%	3.2%
Telework	2.7%	3.0%	2.6%
Motorcycle/Moped	0.5%	0.8%	0.5%
Ferry w/Vehicle	0.5%	1.0%	0.4%
Vanpool	0.3%	2.1%	0.0%
Compressed Workweek Day Off	0.2%	0.1%	0.2%
Other	1.3%	0.7%	1.4%
	<b>n=57</b>	<b>n=0</b>	<b>n=57</b>
	<b>n<sub>w</sub>=57</b>	<b>n<sub>w</sub>=0</b>	<b>n<sub>w</sub>=57</b>
	<b>Trips<sub>w</sub> = 254</b>	<b>Trips<sub>w</sub> = 0</b>	<b>Trips<sub>w</sub> = 254</b>
<b>Capitol Hill</b>			
Drive alone	55.1%	0.0%	55.1%
Carpool	13.0%	0.0%	13.0%
Walk	12.6%	0.0%	12.6%
Bus	9.8%	0.0%	9.8%
Rail	2.8%	0.0%	2.8%
Bike	2.8%	0.0%	2.8%
Telework	2.0%	0.0%	2.0%
Ferry Passenger	1.6%	0.0%	1.6%
Compressed Workweek Day Off	0.4%	0.0%	0.4%
Vanpool	0.0%	0.0%	0.0%
Motorcycle/Moped	0.0%	0.0%	0.0%
Ferry w/Vehicle	0.0%	0.0%	0.0%
Other	0.0%	0.0%	0.0%
	<b>n=1,772</b>	<b>n=1,639</b>	<b>n=133</b>
	<b>n<sub>w</sub>=1,468</b>	<b>n<sub>w</sub>=763</b>	<b>n<sub>w</sub>=723</b>
	<b>Trips<sub>w</sub> = 6,823</b>	<b>Trips<sub>w</sub> = 3,453</b>	<b>Trips<sub>w</sub> = 3,370</b>
<b>Chinatown – International District</b>			
Drive alone	35.2%	22.2%	48.4%
Bus	32.3%	44.9%	19.4%
Rail	15.9%	15.6%	16.1%
Carpool	9.1%	8.3%	9.8%
Walk	2.1%	1.6%	2.6%
Motorcycle/Moped	1.8%	1.0%	2.7%
Bike	1.2%	2.3%	0.2%
Ferry Passenger	0.8%	1.7%	0.0%
Ferry w/Vehicle	0.4%	0.0%	0.8%
Telework	0.4%	0.7%	0.0%
Vanpool	0.1%	0.1%	0.0%
Compressed Workweek Day Off	0.0%	0.1%	0.0%
Other	0.7%	1.4%	0.0%

**Exact wording of survey questions can be found in the appendix on page 33.**

**Base = Trips<sub>w</sub>**



<b>Table 6 (Continued)</b>			
<b>Commute Mode Share by Neighborhood – Percentage of Trips per Mode</b>			
Respondents that started work between 6 a.m. and 9 a.m.			
	<b>(Total)</b>	<b>CTR-Affected</b>	<b>Not CTR-Affected</b>
	<b>n=20,767</b>	<b>n=20,518</b>	<b>n=249</b>
	<b>n<sub>w</sub>=16,787</b>	<b>n<sub>w</sub>=8,942</b>	<b>n<sub>w</sub>=7,845</b>
	<b>Trips<sub>w</sub> = 75,099</b>	<b>Trips<sub>w</sub> = 39,275</b>	<b>Trips<sub>w</sub> = 35,824</b>
<b>Commercial Core</b>			
Bus	50.4%	52.4%	48.3%
Drive alone	18.9%	16.7%	21.4%
Carpool	7.9%	8.2%	7.6%
Walk	5.7%	3.7%	7.7%
Rail	4.6%	6.7%	2.4%
Ferry Passenger	3.4%	3.4%	3.3%
Telework	3.2%	4.2%	2.1%
Bike	3.1%	2.0%	4.2%
Ferry w/Vehicle	0.8%	0.4%	1.3%
Motorcycle/Moped	0.8%	0.5%	1.1%
Vanpool	0.4%	0.5%	0.4%
Compressed Workweek Day Off	0.1%	0.1%	0.1%
Other	0.7%	1.2%	0.2%
	<b>n=8,001</b>	<b>n=7,763</b>	<b>n=238</b>
	<b>n<sub>w</sub>=7,569</b>	<b>n<sub>w</sub>=5,086</b>	<b>n<sub>w</sub>=2,483</b>
	<b>Trips<sub>w</sub> = 32,410</b>	<b>Trips<sub>w</sub> = 21,185</b>	<b>Trips<sub>w</sub> = 11,225</b>
<b>Denny Triangle</b>			
Bus	38.2%	36.8%	40.7%
Drive alone	27.7%	28.5%	26.4%
Walk	8.4%	9.2%	6.9%
Carpool	7.8%	8.5%	6.6%
Rail	4.6%	3.8%	6.2%
Bike	4.2%	3.4%	5.8%
Telework	3.6%	4.3%	2.5%
Ferry Passenger	1.7%	1.4%	2.1%
Motorcycle/Moped	1.2%	1.4%	0.8%
Vanpool	1.0%	1.1%	0.8%
Ferry w/Vehicle	0.4%	0.3%	0.6%
Compressed Workweek Day Off	0.1%	0.1%	0.1%
Other	1.0%	1.3%	0.5%
	<b>n=4,428</b>	<b>n=4,319</b>	<b>n=109</b>
	<b>n<sub>w</sub>=4,157</b>	<b>n<sub>w</sub>=2,906</b>	<b>n<sub>w</sub>=1,251</b>
	<b>Trips<sub>w</sub> = 17,316</b>	<b>Trips<sub>w</sub> = 11,682</b>	<b>Trips<sub>w</sub> = 5,633</b>
<b>First Hill</b>			
Drive alone	35.1%	32.2%	41.1%
Bus	32.1%	35.6%	24.6%
Carpool	13.9%	13.4%	14.9%
Walk	6.3%	5.3%	8.6%
Rail	3.1%	2.9%	3.5%
Bike	2.8%	2.2%	4.1%
Vanpool	2.7%	3.5%	1.2%
Ferry Passenger	1.0%	1.4%	0.0%
Motorcycle/Moped	0.8%	1.1%	0.2%
Telework	0.7%	0.7%	0.6%
Ferry w/Vehicle	0.7%	0.5%	1.0%
Compressed Workweek Day Off	0.1%	0.1%	0.0%
Other	0.7%	1.0%	0.2%
<b>Exact wording of survey questions can be found in the appendix on page 33.</b>			
<b>Base = Trips<sub>w</sub></b>			

<b>Table 6 (Continued)</b>			
<b>Commute Mode Share by Neighborhood – Percentage of Trips per Mode</b>			
Respondents that started work between 6 a.m. and 9 a.m.			
	<b>(Total)</b>	<b>CTR-Affected</b>	<b>Not CTR-Affected</b>
	<b>n=211</b>	<b>n=151</b>	<b>n=60</b>
	<b>n<sub>w</sub>=191</b>	<b>n<sub>w</sub>=89</b>	<b>n<sub>w</sub>=102</b>
	<b>Trips<sub>w</sub> = 885</b>	<b>Trips<sub>w</sub> = 408</b>	<b>Trips<sub>w</sub> = 477</b>
<b>Pike/Pine</b>			
Drive alone	47.2%	40.9%	52.5%
Walk	18.8%	13.1%	23.6%
Bus	18.5%	24.3%	13.6%
Carpool	8.3%	14.2%	3.2%
Bike	3.8%	2.0%	5.4%
Ferry Passenger	1.1%	2.3%	0.0%
Ferry w/Vehicle	0.8%	0.0%	1.4%
Telework	0.5%	0.7%	0.4%
Motorcycle/Moped	0.5%	1.0%	0.0%
Rail	0.3%	0.7%	0.0%
Vanpool	0.0%	0.0%	0.0%
Compressed Workweek Day Off	0.0%	0.0%	0.0%
Other	0.3%	0.7%	0.0%
	<b>n=1,668</b>	<b>n=1,502</b>	<b>n=166</b>
	<b>n<sub>w</sub>=1,406</b>	<b>n<sub>w</sub>=352</b>	<b>n<sub>w</sub>=1,055</b>
	<b>Trips<sub>w</sub> = 6,328</b>	<b>Trips<sub>w</sub> = 1,512</b>	<b>Trips<sub>w</sub> = 4,815</b>
<b>Pioneer Square</b>			
Bus	36.2%	41.8%	34.4%
Drive alone	24.7%	22.2%	25.5%
Rail	9.0%	12.9%	7.8%
Walk	7.6%	1.8%	9.4%
Carpool	6.2%	8.2%	5.5%
Bike	5.3%	5.5%	5.3%
Telework	4.1%	1.5%	4.9%
Ferry Passenger	3.8%	2.9%	4.1%
Ferry w/Vehicle	1.5%	0.4%	1.8%
Motorcycle/Moped	0.7%	0.9%	0.7%
Vanpool	0.1%	0.1%	0.1%
Compressed Workweek Day Off	0.0%	0.2%	0.0%
Other	0.8%	1.6%	0.5%
	<b>n=5,330</b>	<b>n=5,202</b>	<b>n=128</b>
	<b>n<sub>w</sub>=4,769</b>	<b>n<sub>w</sub>=2,860</b>	<b>n<sub>w</sub>=1,909</b>
	<b>Trips<sub>w</sub> = 20,288</b>	<b>Trips<sub>w</sub> = 11,803</b>	<b>Trips<sub>w</sub> = 8,485</b>
<b>South Lake Union</b>			
Drive alone	50.7%	40.6%	64.7%
Bus	21.5%	25.5%	16.0%
Carpool	10.8%	13.7%	6.7%
Walk	5.1%	5.1%	5.1%
Rail	2.5%	2.7%	2.3%
Bike	2.5%	3.9%	0.5%
Telework	1.8%	1.6%	2.1%
Vanpool	1.7%	3.0%	0.0%
Motorcycle/Moped	1.1%	0.8%	1.6%
Ferry Passenger	0.8%	1.4%	0.0%
Ferry w/Vehicle	0.5%	0.3%	0.9%
Compressed Workweek Day Off	0.1%	0.1%	0.2%
Other	0.7%	1.3%	0.0%
<b>Exact wording of survey questions can be found in the appendix on page 33.</b>			
<b>Base = Trips<sub>w</sub></b>			

**Table 6 (Continued)****Commute Mode Share by Neighborhood – Percentage of Trips per Mode**

Respondents that started work between 6 a.m. and 9 a.m.

	<b>(Total)</b>	<b>CTR-Affected</b>	<b>Not CTR-Affected</b>
	<b>n=3,726</b>	<b>n=3,547</b>	<b>n=179</b>
	<b>n<sub>w</sub>=2,989</b>	<b>n<sub>w</sub>=1,233</b>	<b>n<sub>w</sub>=1,756</b>
<b>Uptown</b>	<b>Trips<sub>w</sub> = 12,987</b>	<b>Trips<sub>w</sub> = 4,912</b>	<b>Trips<sub>w</sub> = 8,075</b>
Drive alone	56.4%	44.6%	63.7%
Bus	13.9%	20.9%	9.7%
Carpool	7.4%	12.0%	4.6%
Walk	6.9%	6.9%	6.9%
Telework	5.4%	4.4%	6.1%
Bike	3.6%	3.4%	3.8%
Rail	2.1%	2.0%	2.1%
Motorcycle/Moped	1.2%	1.3%	1.2%
Ferry Passenger	0.8%	1.2%	0.6%
Vanpool	0.6%	1.6%	0.0%
Ferry w/Vehicle	0.4%	0.3%	0.5%
Compressed Workweek Day Off	0.1%	0.2%	0.0%
Other	1.0%	1.2%	0.9%

Exact wording of survey questions can be found in the appendix on page 33.

Base = Trips<sub>w</sub>

# APPENDIX

## Respondent Profile

Table 7 provides a demographic profile of all survey respondents. As shown, between 83% and 89% of respondents work on any given weekday with fewer respondents working on Mondays and Fridays than on days in the middle of the week. Respondents in smaller businesses (those not CTR-affected) are more than twice as likely to work on Saturdays and Sundays as those working for CTR-affected employers. Respondents working in CTR-affected companies are significantly more likely than others to start work between 6 a.m. and 9 a.m.

Just under half (43.7%) of Center City employees drove alone at least once during the survey period and nearly as many (40.0%) made at least one commute trip on the bus. Respondents working for CTR-affected companies were more likely than those working for smaller companies to commute by: riding the bus; carpooling; teleworking; and/or vanpooling. Respondents in companies that are not CTR-affected were more likely than those in large organizations to drive alone, walk, bicycle, or take the ferry with a vehicle.

<b>Table 7 Respondent Profile</b>			
	<b>Center City (All Respondents) n=49,056 n<sub>w</sub>=49,056</b>	<b>CTR-Affected n=46,937 n<sub>w</sub>=20,175</b>	<b>Not CTR-Affected n=2,119 n<sub>w</sub>=28,770</b>
<b>Base</b>			
<b>Days Worked Downtown</b>			
Monday	85.9%	89.2	83.6
Tuesday	88.8	91.3	87.0
Wednesday	87.6	90.8	85.2
Thursday	87.7	90.4	85.8
Friday	83.1	84.1	82.3
Saturday	16.8	8.5	22.7
Sunday	12.8	5.8	17.8
<b>Started Work Any Day Between 6 a.m. and 9 a.m.</b>			
Yes	84.5%	99.5%	73.9%
No	15.5	0.5	26.1
<b>Commute Mode to Work* (between 6 a.m. and 9 a.m.)</b>			
<b>Base trips:</b>	<b>n<sub>w</sub>=182,057</b>	<b>n<sub>w</sub>=85,970</b>	<b>n<sub>w</sub>=96,087</b>
Bus	35.7%	42.1%	29.9%
Drive alone	32.7	25.4	39.3
Carpool	8.4	9.6	7.3
Walk	6.3	5.0	7.5
Train/light rail/streetcar	5.2	5.6	4.8
Bicycle	3.3	2.7	3.8
Telework	3.0	3.4	2.6
Ferry as walk-on passenger	2.2	2.5	2.0
Motorcycle/Moped	0.9	0.8	1.0
Vanpool	0.7	1.2	0.3
Ferry with vehicle	0.6	0.4	0.9
Compressed workweek day off	0.1	0.1	0.1
Other mode	0.8	1.2	0.5
<b>* Multiple responses accepted.</b>			
<b>Note: CTR-affected plus Not CTR-affected may not sum to Center City due to weighting and rounding.</b>			

<b>Table 7 (Continued) Respondent Profile</b>			
<b>Base</b>	<b>Center City (All Respondents) n=49,056 n<sub>w</sub>=49,056</b>	<b>CTR-Affected n=46,937 n<sub>w</sub>=20,286</b>	<b>Not CTR-Affected n=2,119 n<sub>w</sub>=28,770</b>
<b>Number of Miles One Way to Work**</b>			
Less than 5	24.5%	19.5%	28.1%
5 to 9	25.6	23.5	27.1
10 to 19	27.1	28.6	26.1
20 or more	22.8	28.4	18.8
<i>Average</i>	<i>12.7 miles</i>	<i>14.5 miles</i>	<i>11.2 miles</i>
<b>Geographic Area of Residence</b>			
Seattle	57.9%	48.3%	64.9%
South (Renton/South King County/Pierce County)	16.5	19.7	14.2
North (Kirkland/W. Snohomish County)	12.2	14.6	10.5
Bellevue	3.8	4.2	3.6
East (Issaquah/East King County)	3.5	5.1	2.3
West (Kitsap County/Island County)	3.1	3.9	2.6
Northeast (Redmond/NE King County/SE Snohomish County)	2.9	4.2	1.9
<b>Employment Neighborhood</b>			
Belltown	9.8%	4.1%	13.8%
Capitol Hill	2.4	0.0	4.2
Chinatown-International District	6.9	3.3	9.3
Commercial Core	29.7	46.4	18.0
Denny Triangle	14.4	15.9	13.4
First Hill	7.5	9.0	6.5
Pike/Pine	2.6	0.3	4.2
Pioneer Square	7.2	3.1	10.1
South Lake Union	9.1	10.6	8.0
Uptown	10.3	7.3	12.5
<b>Business Size</b>			
1 to 4	11.4%	0.0%	19.5%
5 to 9	4.9	0.0	8.3
10 to 19	7.6	0.0	13.0
20 to 49	14.0	0.0	23.8
50 to 99	14.7	0.4	24.9
100 or More	47.3	99.6	10.5
* Excludes reported overnight business trips.			
** Excludes reported miles over 150, also reported miles over 10 for those that walk to work three or more times a week or over 30 for those that bicycle to work three or more times per week.			
<sup>AB</sup> Statistically significant difference between referenced columns. May not sum to 100% due to rounding.			

Center City employees live 12.7 miles from work on average. Employees working for smaller companies are significantly more likely than those in CTR-affected companies to live within ten miles of work (55.2% and 45.0% respectively). This finding is corroborated by the fact that 64.9% of employees in non-affected companies live in Seattle compared to 48.3% of those in large organizations.

Employees working for CTR-affected companies are significantly more likely to work than those in smaller companies to work in the Commercial Core, Denny Triangle, South Lake Union, and First Hill neighborhoods. Employees in companies not affected by the CTR rule are more likely than others to work in Belltown, Uptown, Pioneer Square, Chinatown, Capitol Hill, or Pike/Pine neighborhoods.

## Prenotification Letter

### COMMUTE SEATTLE



LIVE MORE. DRIVE LESS.

DATE

Dear <contact and title>:

Within the next few weeks, an interviewer from Gilmore Research Group, an experienced professional research firm headquartered in Seattle, Washington, may be calling your office and asking you to allow your employees to participate in a survey about how they commute to work. Your participation will help support our continuing efforts to improve commuter options and access to downtown Seattle.

The survey will only take 2-3 minutes of each employee's time and will provide valuable information to Commute Seattle, a partnership between Downtown Seattle Association, King County Metro and the City of Seattle. It will ask what method of transportation employees used to get to work each day of the preceding week and the zip code they are traveling from.

Participation in this survey is completely voluntary. Responses from your employees will be combined with those from other organizations to give us a complete picture of commute travel to downtown Seattle that will inform decisions about alternative forms of transportation, parking and other travel-related issues.

All survey responses are confidential and your employee's answers will not be associated with your company. If you have any questions you may contact the Gilmore Project Director, Wendy Sears [wsears@gilmore-research.com](mailto:wsears@gilmore-research.com) (206. 219.1943).

Thank you in advance for taking part in this research effort.

Sincerely,

A handwritten signature in black ink that reads "Jamie Cheney".

Jamie Cheney  
Executive Director  
Commute Seattle

## Recruiting Screener

Hello, this is \_\_\_\_\_ with the Gilmore Research Group. I am calling on behalf of Commute Seattle. We are asking employers to help with a very short survey on how employees commute to work in the downtown area to support continuing efforts to improve commuter options and access to downtown Seattle. The survey involves having each employee from selected businesses fill out a short form about how they commute to work. Your employees can complete the forms online or can fill out a paper version. It should only take a minute or two for each person to do it. What we need is a contact person at your business who is willing to distribute and collect the surveys. Are you the best person or would you recommend we talk with someone else?

**IF NEEDED:** Your business was selected at random to represent other businesses of the same size, and it is very important that we include the information from your employees.

- Same person                       New person (reintroduce)

Great! First, I just need to verify some information about your business.

Are you located at \_\_\_\_\_ (**ADDRESS FROM SAMPLE**)

- Yes  
 No => Are you located in the <neighborhood from sample> area?  
 Yes=> May I have your address?

No=> **THANK AND TERMINATE**

And about how many employees do you have that commute to this office? # \_\_\_\_\_

- 1 – 2       5 – 9       20 – 49       100 – 249       500+  
 3 – 4       10 – 19       50 – 99       250 – 499

What is your major business activity? **IF NEEDED READ LIST**

- |   |   |
|---|---|
| <input type="checkbox"/> Retail         | <input type="checkbox"/> Restaurant/Food Service              |
| <input type="checkbox"/> Medical office | <input type="checkbox"/> Commercial office                    |
| <input type="checkbox"/> Government     | <input type="checkbox"/> Personal service (i.e. beauty salon) |
| <input type="checkbox"/> Banking        | <input type="checkbox"/> Childcare/daycare                    |
| <input type="checkbox"/> Other _____    |   |

As I mentioned, we have a short form for employee that asks about their commute method each day during the week of October 18 – 24. Since this involves some effort to distribute the forms to each employee and collect them again, we are having a drawing for the people who are handling this in each business. The drawing will be for: **(READ APPROPRIATE ONE)**

**IF LESS THAN 10 EMPLOYEES:** 20 gift certificates valued at \$25

**IF TEN OR MORE EMPLOYEES:** 10 gift certificates valued at \$50

Since we are only interviewing a sample of local businesses, your odds are pretty good. Would you be willing to help us get the forms handed out and collected from your employees?

- Yes  
 No – Is there someone else in your business that might be willing to do it?  
 Yes => **GET REFERRAL AND REINTRODUCE**  
 No => **THANK AND TERMINATE**



Would you prefer that we...

- Come by and drop them off at your business
- Mail them to you
- Send you a link to an online survey with a PIN number for each employee or
- Send you the survey in an electronic fillable format that you can distribute and collect by email?

=> Email \_\_\_\_\_ **(VERIFY CORRECT SPELLING)**

We will need to collect the forms the week of November 1st. We'll send you a postage paid self-addressed envelope for you to mail everyone's forms back to us as well as directions for submitting the surveys electronically. Thank you so much for agreeing to do this. Is there anything else that we can do to make this easier for you?

Let me make sure I have your correct name and phone number:

Name \_\_\_\_\_ **(VERIFY CORRECT SPELLING)**

Phone \_\_\_\_\_

Fax \_\_\_\_\_

We will get this information out to you soon with detailed instructions and contact information in case you have questions.

## Commute Seattle Questionnaire

### COMMUTE SEATTLE



LIVE MORE. DRIVE LESS.

### Downtown Seattle Commuter Survey

DEAR DOWNTOWN SEATTLE EMPLOYEE: Commute Seattle, in partnership with the Downtown Seattle Association, King County Metro and the City of Seattle, is working with Gilmore Research to conduct a survey of employees in downtown Seattle to understand how you commute to work. Your participation will help support our continuing efforts to improve commuter options and access to downtown Seattle. Please take a few minutes to fill out this questionnaire. Mark your answers clearly and neatly in the boxes like this: (☑Yes ☐No)

1) Last week, what type of transportation did you use each day to commute TO your usual work location?

- > Fill in **ONLY ONE** type of transportation per day
- > If you used more than one type, fill in the type used for the **LONGEST DISTANCE**
- > Fill in "Carpooled" only if at least one other person age 16 or older was in the vehicle
- > Fill in "Teleworked" if you eliminated a commute trip by working at home, at a Telework Center or at a Satellite Office less than one-half as far from home as your usual work location. If you teleworked part of the day and then went to your usual work location, fill in how you got to your usual work location that day.

	M	T	W	T	F	S	S
Drove alone (or with children under 16)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Carpooled (2 or more people)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vanpooled	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Motorcycle/Moped	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Took the bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rode the train/light rail/streetcar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rode a bicycle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Walked	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Teleworked	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Compressed workweek day off	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overnight business trip	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did not work (day off, sick, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Boarded ferry with car/van/bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Used ferry as walk-on passenger	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2) If you used a carpool or vanpool as part of your commute, or if you ride a motorcycle, how many people (age 16 or older) are usually in the vehicle, including yourself?

\_\_\_ Number of people in carpool/vanpool or on motorcycle

3) Was last week a typical week for commuting?  Yes  No

4) Last week were you scheduled to begin work between 6 a.m. and 9 a.m.? If you were not assigned starting times, did you begin work sometime between 6 a.m. and 9 a.m.?

- Yes, started work between 6 a.m. and 9 a.m.  
 No, did not start work between 6 a.m. and 9 a.m.


5) ONE WAY, how many miles do you commute from home TO your usual work location?

- > DO NOT use roundtrip or weekly distance
- > Include miles for errands or stops made daily on the way to work
- > If you telework, report the miles from your residence to your worksite
- > Round off the distance traveled to the nearest mile

\_\_\_ Miles you commute one way

6) What is the zip code where you live? \_\_\_\_\_

State of Washington CTR Survey



State of Washington

January 2009 - December 2010

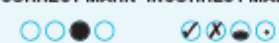
# Employee Questionnaire

**MARKING DIRECTIONS**

- Use a No. 2 pencil.
- Fill in the circle completely.

- Erase cleanly any marks you wish to change.
- Do not make any stray marks on this form.

CORRECT MARK INCORRECT MARKS



**ALL QUESTIONS REFER TO WORK FOR THIS EMPLOYER ONLY.**

**1. Which of the following best describes your employment status?**

Full-time (35 hours or more each week)       Part-time (20 to 34 hours each week)

Part-time (less than 20 hours each week)

**2. Is your position with this employer intended to last 12 months or more?**       Yes       No

**3. Last week, which days were you scheduled to begin work between 6 and 9 a.m.? (Mark all that apply.)**

Monday     Tuesday     Wednesday     Thursday     Friday     Saturday     Sunday     None

**4a. Last week, what type of transportation did you use each day to commute TO your usual work location?**

- Fill in **ONLY ONE** type of transportation per day.
- If you used more than one type, fill in the type used for the **LONGEST DISTANCE**.
- Fill in "Carpooled" only if at least one other person age 16 or older was in the vehicle.
- Fill in "Teleworked" if you eliminated a commute trip by working at home, at a Telework Center or at a Satellite Office less than one-half as far from home as your usual work location. If you teleworked part of the day and then went to your usual work location, fill in how you got to your usual work location that day.

M	T	W	Th	F	Sa	Su	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drove alone (or with children under 16)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Carpooled (2 or more people)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vanpooled
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Motorcycle/Moped
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Took the bus
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rode the train/light rail/streetcar
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rode a bicycle
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Walked
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Teleworked
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Compressed workweek day off
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Overnight business trip
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Did not work (day off, sick, etc.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Boarded ferry with car/van/bus
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Used ferry as walk-on passenger
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Other: _____

**4b. If you used a carpool or vanpool as part of your commute, or if you ride a motorcycle, how many people (age 16 or older) are usually in the vehicle, including yourself?**

One person       Nine people

Two people       Ten people

Three people       Eleven people

Four people       Twelve people

Five people       Thirteen people

Six people       Fourteen people

Seven people       Fifteen or more people

Eight people

**4c. Was last week a typical week for commuting?**       Yes       No

**5. Which of the following most fits your normal work schedule?**

5 days a week       4 days a week (4/10s)       3 days a week

9 days in 2 weeks (9/80)       7 days in 2 weeks       Other: \_\_\_\_\_

**6a. On average, do you telework at least one full day in two weeks? Mark "Yes" if you work a full day at home or at a Telework Center or Satellite Office less than one-half as far from home as your usual work location, and do not go to your usual work location that day.**


Yes (go to question 6b below)       No (go to question 7a on the other side)

**6b. How many days did you telework in the last two weeks?**

no days     1 day     2 days     3 days     4 days     5 days

6 days     7 days     8 days     9 days     10 days

**Continued on Reverse**



DO NOT WRITE IN THIS AREA

**SERIAL #**

7a. **ONE WAY**, how many miles do you commute from home TO your usual work location?

- **DO NOT** use roundtrip or weekly distance.
- Include miles for errands or stops made daily on the way to work.
- If you telework, report the miles from your residence to your worksite.
- Round off the distance traveled to the nearest mile.
- Write numbers in the boxes and fill in the corresponding circles.
- The example is for someone who lives 8 miles from work.

0	0	8		
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

7b. Last week did you ride a ferry as part of your commute?

- Yes  No

7c. Last week did you use a park-and-ride lot as part of your commute?

- Yes  No

7d. Last week did you pay for parking at work?

- Answer YES whether you paid by the day, or prepaid by the week, month, or year, or whether your employer reimbursed part of your parking cost.

- Yes  No

8. What is your home zip code? (Write numbers in the boxes and fill in corresponding circles.)

0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9

9. If you drive alone to work, which of the following would most encourage you to try using an alternative to driving alone? Mark the three most important to you.

- a. An employer-provided car for work purposes during work hours
- b. Transportation during lunch or breaks for personal errands
- c. An immediate ride home in case of an emergency (guaranteed ride home)
- d. A more flexible work schedule to meet carpools, vanpools, the bus, etc.
- e. A financial incentive (allowance/subsidy) for using an alternative to driving alone
- f. A financial subsidy for giving up your parking space
- g. Priority, reserved, or discounted parking for carpools and vanpools
- h. Personalized help forming a carpool or vanpool
- i. Secured, covered parking for your bicycle
- j. Lockers and showers for walkers and bicyclists
- k. On-site childcare, banking, dry cleaning, fitness center or other services
- l. On-site food service or kitchen facility
- m. Personalized help finding bus times and routes
- n. More frequent bus service at the worksite
- o. More information about commute alternatives
- p. Opportunity to work at home (telework)
- q. Improved security at park-and-ride lots
- r. More spaces at park-and-ride lots
- s. Other: \_\_\_\_\_

10. How likely would you be to try the following ways of getting to work?

	do now	likely	not likely	not an option
carpool	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
vanpool	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
bus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
train	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
bicycle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
walking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
telework	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
a compressed work week	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Answer question 11 only if you rode transit (either bus or train), or a ferry as a walk-on passenger, at least once last week.

11. Last week, how many one-way transit or walk-on ferry rides did you take on each listed below (for any purpose, not just getting to and from work)? If you transferred between buses within the same system, count only one (1) ride on that system. If you transferred to another system, count a ride on each. Do not count ferry rides where you boarded with a motor vehicle. Write numbers in the boxes and fill in the corresponding circles.

King County Metro	Sound Transit	Community Transit	Pierce Transit	Kitsap Transit	Intercity Transit	Everett Transit	Island Transit	Ferry as walk-on	Other
0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

Thank you for completing the survey!

## Geographic Areas

Respondents were asked to provide the zip code where they live. Commute Seattle then grouped the reported zip codes into geographic areas to gain a better understanding of travel behaviors. The zip codes in each grouping are shown in the table below:

Seattle	North	North	East	South	South	West	Out of State
98101	98011	98277	99118	98158	98499	98325	97223
98102	98012	98279	99122	98166	98501	98329	97224
98103	98020	98282	99125	98168	98502	98332	97236
98104	98021	98284	99202	98178	98503	98335	97267
98105	98026	29292	99203	98188	98504	98337	97462
98106	98028		99205	98198	98506	98339	97601
98107	98033	<b>Northeast</b>	99206	98321	98507	98340	97701
98108	98034	98014	99207	98323	98509	98342	97845
98109	98036	98019	99208	98327	98512	98345	
98111	98037	98052	99212	98328	98513	98346	
98112	98041	98053	99216	98333	98516	98353	
98113	98043	98072	99217	98338	98520	98358	
98114	98046	98074	99218	98349	98524	98359	
98115	98082	98077	99223	98354	98531	98362	
98116	98086	98272	99224	98360	98532	98363	
98117	98087	98290	99336	98361	98537	98365	
98118	98201	98294	99350	98371	98541	98366	
98119	98202	98296	99353	98372	98544	98367	
98121	98203		99362	98373	98546	98368	
98122	98204	<b>East</b>	99403	98374	98550	98370	
98124	98205	98024		98375	98558	98376	
98125	98206	98027	<b>South</b>	98377	98569	98380	
98126	98208	98029	98001	98385	98579	98382	
98127	98213	98040	98002	98387	98580	98383	
98133	98221	98045	98003	98388	98584	98384	
98134	98223	98050	98010	98390	98589	98392	
98136	98225	98065	98022	98391	98592	98393	
98138	98226	98068	98023	98401	98597	98394	
98139	98229	98075	98025	98402	98604	98528	
98144	98230	98801	98030	98403	98607	98588	
98145	98232	98802	98031	98404	98611		
98155	98233	98816	98032	98405	98625	<b>Out of State</b>	
98161	98236	98823	98035	98406	98626	83709	
98164	98239	98826	98038	98407	98638	83814	
98165	98247	98855	98042	98408	98642	83815	
98174	98248	98901	98047	98409	98661	83854	
98175	98249	98902	98051	98416	98662	92103	
98177	98250	98908	98055	98418	98672	97005	
98185	98251	98925	98056	98422	98682	97006	
98199	98252	98296	98057	98424	98684	97008	
98316	98253	98930	98058	98433	98685	97013	
	98256	98942	98059	98443	98922	97060	
<b>Bellevue</b>	98257	99004	98062	98444		97068	
98004	98258	99012	98063	98445	<b>West</b>	97070	
98005	98260	99016	98064	98446	98013	97108	
98006	98261	99019	98071	98447	98061	97140	
98007	98264	99021	98090	98464	98070	97143	
98008	98270	99022	98092	98465	98110	97144	
98009	98271	99025	98093	98466	98310	97203	
98015	98273	99027	98146	98467	98311	97212	
98039	98274	99037	98148	98498	98312	97217	

Q6. What is the zip code where you live?

## **Weights**

The table on page 37 shows how weights were derived for this study. The total number of employees in the Center City and within each neighborhood was calculated from two sources: A database listing all companies within defined Seattle boundaries purchased from InfoGroup and data provided by the Washington State Department of Transportation (WSDOT) for companies with 100 or more employees. Using this information, Gilmore determined the percentage of employees in CTR-affected and non-affected businesses in the Center City overall and within each neighborhood. Responses from completed surveys were then weighted by the factors shown in Table A-1 to ensure proportionate representation based on business size.

As shown in the table, the City of Seattle was treated differently from other businesses because it distributed surveys to only 2,700 of its 5,500 employees. Because the City of Seattle sampled employees rather than attempting a census, responses from employees in this organization had to be factored up first to represent all employees in the City of Seattle (factor of 3.24675) and then weighted to align them with the actual distribution of CTR-affected and non-affected businesses in the Center City and the Commercial Core neighborhood. The City of Seattle is a subset of the CTR-Affected companies shown in Table A-1.

**Table A-1**  
**Weights Applied to Center City Aggregated Data & Neighborhood Data**

	Estimated Number of Employees (InfoUSA/WSDOT)	Percentage of Employees (InfoUSA/WSDOT)	Valid Surveys Received*	Percentage Valid Surveys	Weight
<b>CTR-Affected</b>	74,864	39%	45,775	93%	0.4128311
City of Seattle	5,500	3%	1,162	2%	1.1947699
<b>Non-Affected</b>	<u>113,977</u>	<u>59%</u>	<u>2,119</u>	<u>5%</u>	13.5773172
<b>Total</b>	<b>194,341</b>	<b>100%</b>	<b>49,056</b>	<b>100%</b>	
<b>Belltown</b>					
CTR-Affected	3,032	13%	2,039	87%	0.1522988
Non-Affected	<u>19,737</u>	<u>87%</u>	<u>293</u>	<u>13%</u>	6.8991901
<b>Total</b>	<b>22,769</b>	<b>100%</b>	<b>2,332</b>	<b>100%</b>	
<b>Capitol Hill</b>					
CTR-Affected	0	0%	0	0%	
Non-Affected	<u>2,224</u>	<u>100%</u>	<u>88</u>	<u>100%</u>	1.0000000
<b>Total</b>	<b>2,006</b>	<b>100%</b>	<b>88</b>	<b>100%</b>	
<b>Chinatown – International District</b>					
CTR-Affected	3,455	42%	1,644	89%	0.4657819
Non-Affected	<u>4,856</u>	<u>58%</u>	<u>198</u>	<u>11%</u>	5.4356293
<b>Total</b>	<b>8,311</b>	<b>100%</b>	<b>1,842</b>	<b>100%</b>	
<b>Commercial Core</b>					
CTR-Affected	29,518	36%	19,436	93%	0.3892324
City of Seattle*	5,500	7%	1,162	6	1.2130690
Non-Affected	<u>46,839</u>	<u>57%</u>	<u>381</u>	<u>2%</u>	31.5073297
<b>Total</b>	<b>81,857</b>	<b>100%</b>	<b>20,979</b>	<b>100%</b>	
<b>Denny Triangle</b>					
CTR-Affected	13,036	63%	7,796	96%	0.6551862
Non-Affected	<u>7,588</u>	<u>37%</u>	<u>285</u>	<u>4%</u>	10.4321703
<b>Total</b>	<b>20,624</b>	<b>100%</b>	<b>8,081</b>	<b>100%</b>	
<b>First Hill</b>					
CTR-Affected	10,112	65%	4,418	97%	0.6728515
Non-Affected	<u>5,386</u>	<u>35%</u>	<u>138</u>	<u>3%</u>	11.4734842
<b>Total</b>	<b>15,498</b>	<b>100%</b>	<b>4,556</b>	<b>100%</b>	
<b>Pike/Pine</b>					
CTR-Affected	992	37%	151	63%	0.5891629
Non-Affected	<u>1,673</u>	<u>63%</u>	<u>88</u>	<u>37%</u>	1.7049591
<b>Total</b>	<b>2,665</b>	<b>100%</b>	<b>239</b>	<b>100%</b>	
<b>Pioneer Square</b>					
CTR-Affected	2,247	20%	1,503	87%	0.2343028
Non-Affected	<u>8,715</u>	<u>80%</u>	<u>215</u>	<u>13%</u>	6.3527577
<b>Total</b>	<b>10,962</b>	<b>100%</b>	<b>1,718</b>	<b>100%</b>	
<b>South Lake Union</b>					
CTR-Affected	7,516	53%	5,223	97%	0.5498295
Non-Affected	<u>6,596</u>	<u>47%</u>	<u>169</u>	<u>3%</u>	14.9126649
<b>Total</b>	<b>14,112</b>	<b>100%</b>	<b>5,392</b>	<b>100%</b>	
<b>Uptown</b>					
CTR-Affected	4,956	32%	3,565	97%	0.3474775
Non-Affected	<u>10,363</u>	<u>68%</u>	<u>264</u>	<u>3%</u>	9.8115252
<b>Total</b>	<b>15,319</b>	<b>100%</b>	<b>3,829</b>	<b>100%</b>	
* Valid surveys are the number of completed surveys received after eliminating surveys that were blank or largely incomplete					
Percentages may not sum to 100% due to rounding.					

### 100+ non-CTR Cohort Analysis

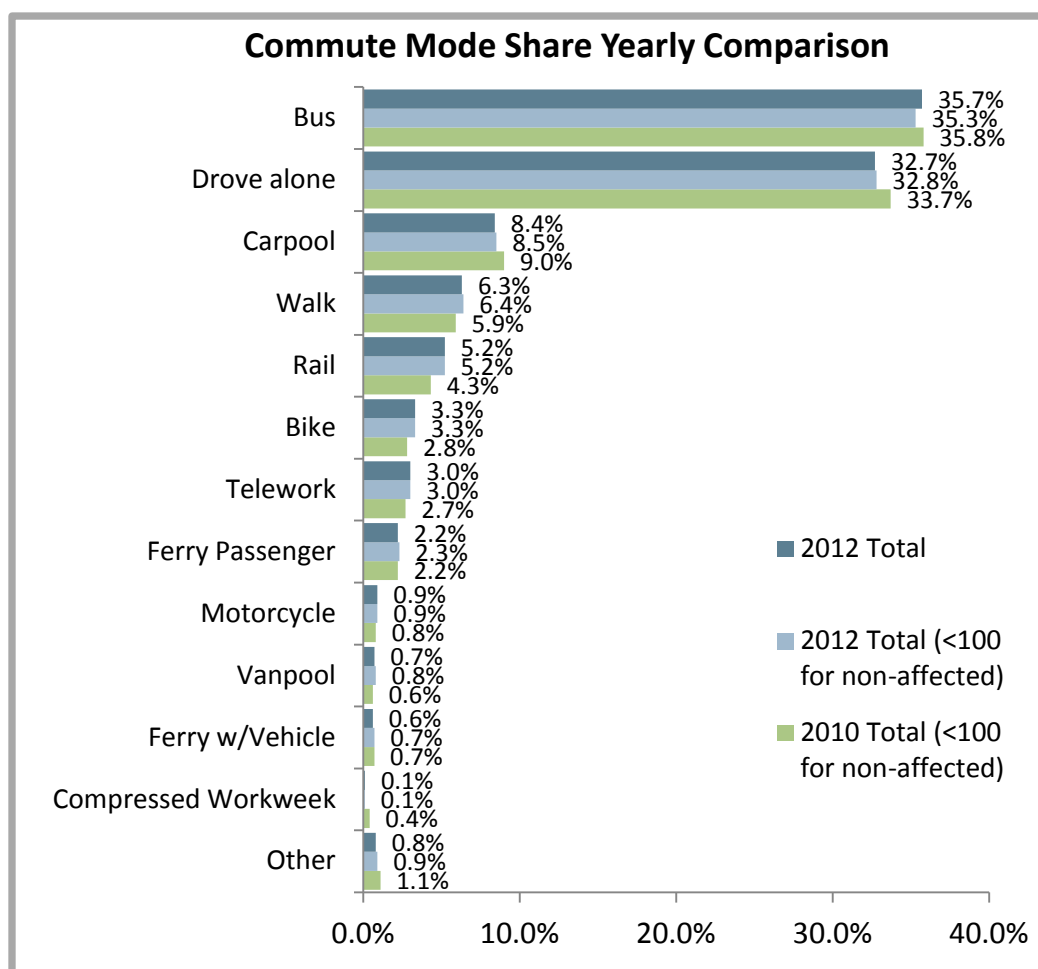
In 2010, only those organizations with fewer than 100 employees were included in the non CTR-affected group. This year, all non CTR-affected organizations were included in the study. Because of this inclusion, the data needed to be looked at in order to insure results were not alarmingly different due to the inclusion of this group of people.

Overall results for 2012 are similar to 2010 results even though the 2012 results include organizations in the non CTR-affected group with 100 or more employees and the 2010 data only included non CTR-affected companies with fewer than 100 employees.

In order to make a direct comparison to 2010 data, those working for non CTR-affected companies with 100 or more employees were removed from the 2012 data in the light blue bar below.

There are a few significant differences from 2010 to 2012 data, and these differences are present regardless of whether 100+ Non-Affected companies are included in analysis. The differences are:

- Fewer employees drove alone , carpooled, or used a compressed workweek.
- More employees walk, rail, or bike to work.



2012 Total: n<sub>w</sub> =41,206; Trips<sub>w</sub>=182,057

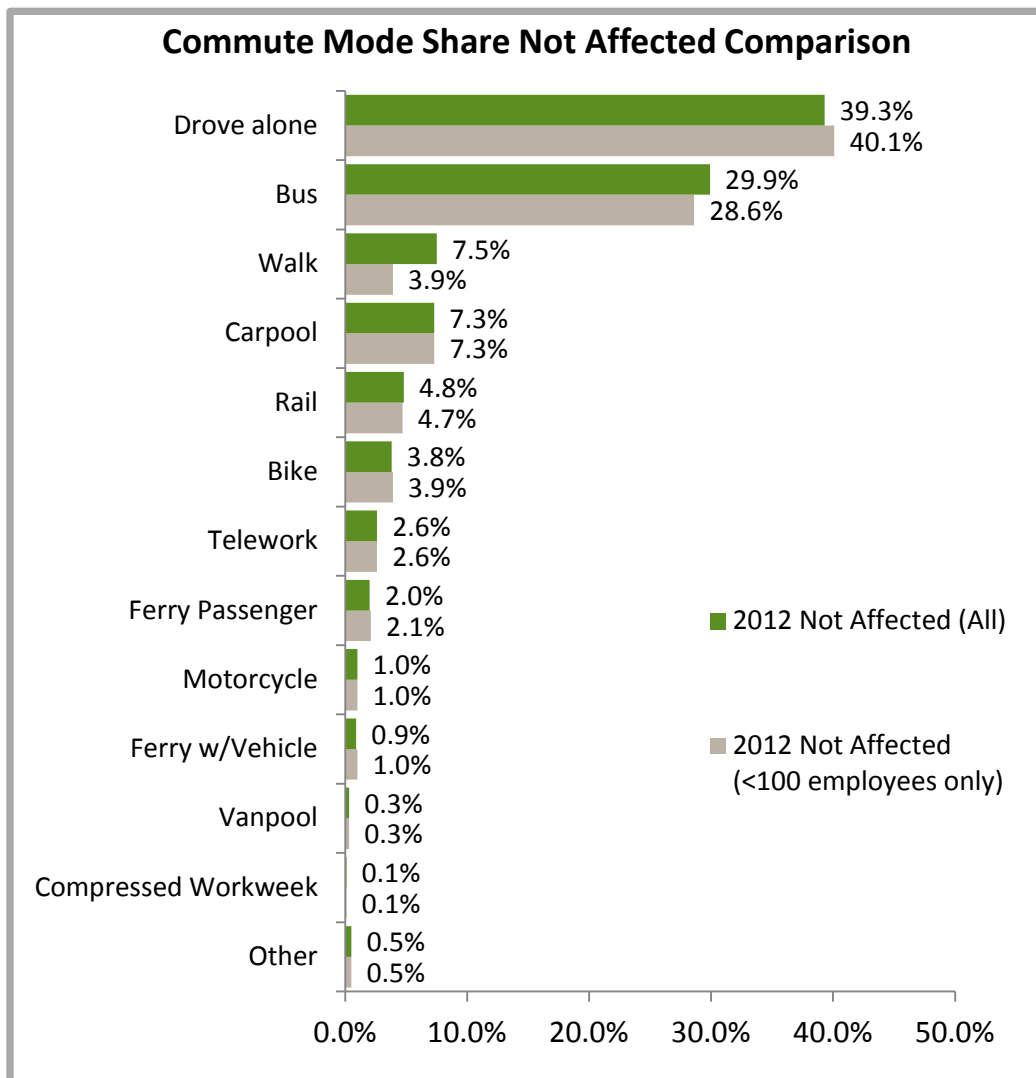
2012 Total (excluding non-affected with 100+ employees): n<sub>w</sub> =39,238; Trips<sub>w</sub> =173,014

2010 Total: n<sub>w</sub> =37,846; Trips<sub>w</sub> =174,664



When looking at 2012's data for the non CTR-affected respondents, the total that includes employees at companies with 100 or more employees are more likely to walk to work than those working at companies with less than 100 employees.

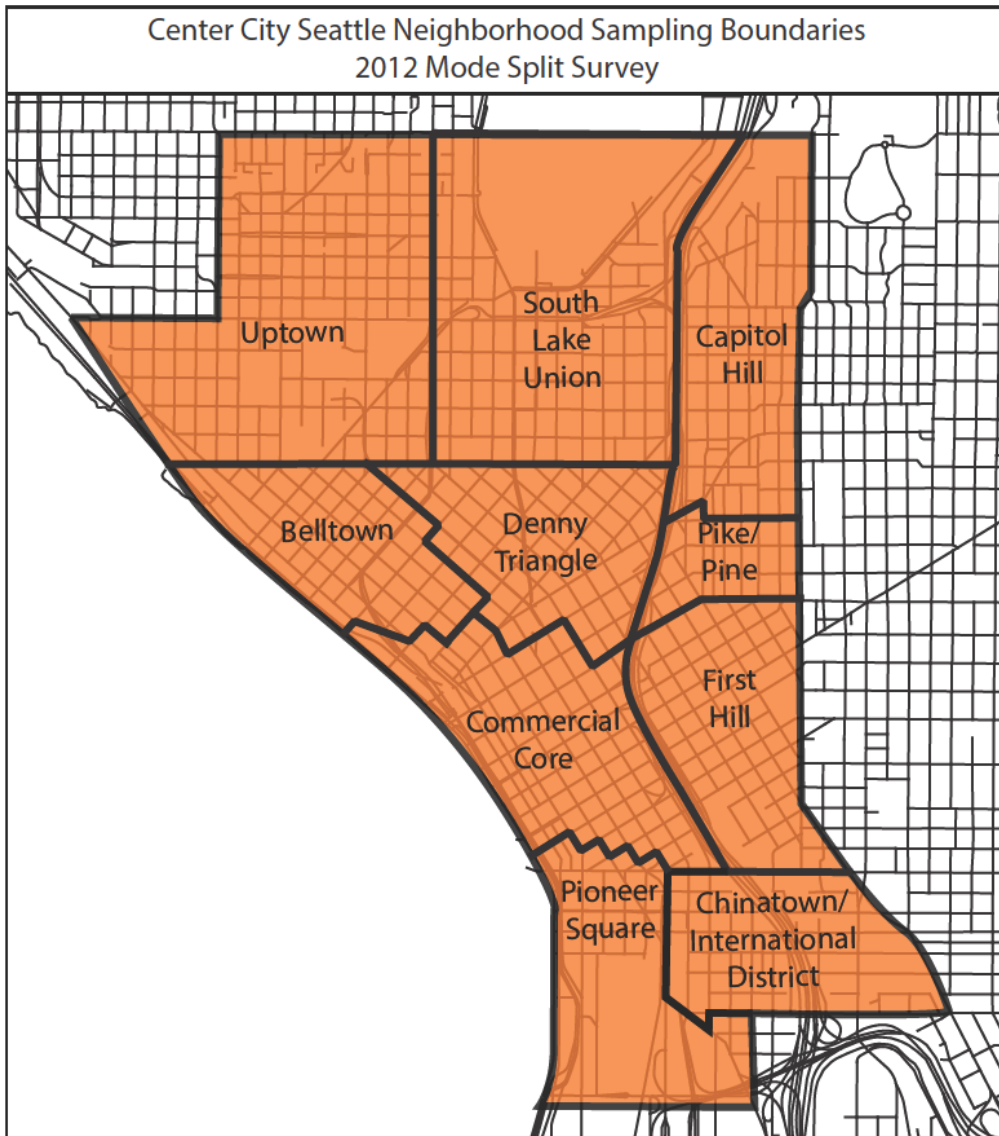
Other than the difference among walkers, the non-affected group that includes 100+ companies is similar in commute behaviors to the non-affected group that excludes those with 100 or more employees.



2012 Non CTR Affected:  $n_w = 21,031$ ;  $Trips_w = 96,087$

2012 Non CTR Affected (excluding non-affected with 100+ employees):  $n_w = 19,063$ ;  $Trips_w = 87,044$

## Map of Downtown Neighborhoods



OT CommuteTrip Reduction Program Rules 2010



# Commute Trip Reduction

Program Rules 2010

Kathy Leotta, Avinash J. Rai



## COMMUTE TRIP REDUCTION

### PROGRAM RULES

2010

Revised by:

**Kathy Leotta**

[Demand Management Data and Evaluation Manager, WSDOT Public Transportation Division]

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Updated on 2/4/2013

### Overview

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This document describes the methods used to calculate drive alone rates (DAR or SOV Rate) and Vehicle Miles Travelled Per Employee (VMT). Additional business rules and/or formulae that have been implemented in the CTR Processing and Reporting System as applicable to the Commute Trip Reduction Program have also been added.

### Employee Response Rate

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Employee Response Rate is defined as the proportion of survey responses returned by employees to the surveys distributed by the worksite to its employees. The number of surveys returned (Surveys Returned Count) is the actual number of surveys (responses) as determined by the CTR System. This number includes responses that may be deemed invalid by the CTR System after application of business rules validating responses. The number of surveys distributed (Surveys Distributed Count) is obtained from the survey header sheet

$$\text{Employee Response Rate} = \text{Surveys Returned Count} / \text{Surveys Distributed Count}$$

### Drove Alone Rate

---

Drove Alone Rate is the proportion of all trips made by respondents that are considered 'drove alone' trips to all trips that are considered "potential trips".



## Drove Alone Trips

A trip is considered a "drive alone" trip when, on the survey:

- (i) A respondent chooses 'drove alone' as a mode of transport to his/her work location for one day
- (ii) A respondent chooses 'motorcycle' as a mode of transport to his/her work location for one day, but does not provide an occupancy for the vehicle, i.e. does not satisfactorily answer the question that pertains to the number of people that are usually in the vehicle, in the scenario that the respondent has used a carpool, vanpool or motorcycle as a mode of transport to place of employment.

## Potential Trip

A trip is considered a "potential" trip when, on the survey:

A respondent chooses any of the following modes of transport to his/her work location for one day:

- Drove Alone
- Carpool
- Vanpool
- Motorcycle
- Bus
- Used ferry as walk-on passenger
- Boarded ferry with car/van/bus
- Teleworked
- Compressed Work Week (CWW) / Day Off
- Walked
- Rail
- Bicycle
- Other

A respondent is

*Base drive alone rate for worksites with 70% or greater employee response rate:*

Question 4a, Last week, what type of transportation did you use each day to commute TO your usual work location?

$$\text{Drive Alone Rate} = \frac{\text{Trips A}}{\text{Trips P}}$$



Drive Alone Rate is calculated for all valid survey responses (Monday through Sunday):

Where,

$\text{Trips}_A = \sum \text{Drive Alone} + \sum \text{Motorcycle/Moped Trips Where Occupancy 1 or Occupancy Not Indicated}$

$\text{Trips}_P = \sum \text{All Trip Modes} - (\sum \text{Overnight Trip} + \sum \text{Did Not Work})$

Note: "All Trip Modes" includes drove alone, carpool, vanpool, motorcycle/moped, took the bus, rode the train, bicycled, walked, teleworked, compressed workweek day off, Boarded ferry with car/van/bus, Used ferry as walk-on passenger, Other.

*Drive alone rate with "fill-in" - for worksites with less than 70% employee response rate:*

The drive alone calculation with fill-in = all "trips" between the actual response rate up to 70 percent count as 1 full trip.

For example, if 100 employees but response only 50%, 20% additional are assumed to be drive alone. That is, additional "phantom" survey responses needed to meet 70% minimum would have responded drive alone for five days in a week). These additional "phantom" drive alone trips are called Additional Drive Alone Trips.

## Mode Shares

Mode shares represent the proportion of all trips made by respondents of each mode (sum of weekly counts by mode), relative to the weekly total of "potential trips".

For example, the walk mode share is calculated as follows:

$$\text{Walk Mode Share} = \frac{\sum \text{Weekly Walk Trips}}{\text{Trips}_P}$$



## Additional Drive Alone Trips ("Fill-In")

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Additional Drive Alone Trips is defined as:

$$\text{Additional Drive Alone Trips} = 5 * ((0.7 * \text{Surveys Distributed}) - \text{Surveys Returned})$$

Thus,

Drive Alone Rate with Fill-In: =  $(\text{Trips}_A + \text{Additional Drive Alone Trips}) / (\text{Trips}_P + \text{Additional Drive Alone Trips})$

## VMT per Employee Rate

---

Base VMT per employee rate for worksites with 70% or greater return rate:

$$\text{VMT Per Employee} = (\text{VMT Trips} / \text{TRIPS}_P) * (\text{MILES}_X / \text{MILES}_N)$$

Where:

**VMT Trips** = Sum of all drive alone, carpool, vanpool, and motorcycle trips for all employees for all days of the week. Except for drive alone trips, these are all vehicle trips weighted by occupancy. So a two-person carpool is ½ trip. A ten person vanpool is 1/10 trip. If respondent indicates carpool but not occupancy, assume occupancy of 2. If respondent indicates motorcycle but not occupancy, assume 1. If respondent indicates vanpool but not occupancy, assume 7.

$\text{TRIPS}_P = \sum \text{All Trip Modes} - (\sum \text{Overnight Trip} + \sum \text{Did Not Work})$



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*Note:* "All Trip Modes" includes drove alone, carpool, vanpool, motorcycle/moped, took the bus, rode the train, bicycled, walked, teleworked, compressed workweek day off, Boarded ferry with car/van/bus, Used ferry as walk-on passenger, Other

$\text{VMT\_Trips} / \text{TRIPS\_P}$  = Average of all trips to a worksite occurring in a vehicle.

**MILES\_X** = Sum of all one-way miles traveled regardless of mode for all employees (sum of responses to question 7a in survey). However, responses with VMT greater than 150 miles should be screened out as "suspected errors" and not included in the **Miles\_X** calculation, with the exceptions in the table below.

**MILES\_N** = Sum of all people who have traveled more than 0 miles. E.g., if 90 survey respondents traveled 1 mile or more to work, then **Miles\_N** = 90. However, responses with VMT greater than 150 miles should be screened out as "suspected errors" and not included in the **Miles\_N** calculation, with the exceptions in the table below.

Mode	If Mode Choice This Many Times or More in Week...	Screen out from Miles_X and Miles_N If One-Way Miles:
All modes except if the modes below satisfy conditions in table.	Any	Greater than 150
Walk	3	Greater than 10
Bike	3	Greater than 30

$\text{Miles\_X} / \text{Miles\_N}$  = Average one-way miles traveled by workers to that worksite.

*VMT Per employee rate with "fill-in" - for worksites with less than 70% return rate:*

For VMT with "fill-in", **Miles\_X** and **Miles\_N** are the same as above. **VMT\_Trips** and **TRIPS\_P** are both increased to reflect the additional drive alone trips added to meet the 70% return rate minimum (assumed additional "phantom" survey responses needed to meet 70% minimum would have responded drive alone for five days in a week).





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Additional "Phantom" Drive Alone survey responses ("Additional Drive Alone Trips") is calculated as:

$$\text{Additional Drive Alone Trips} = 5 * ((0.7 * \text{Surveys Distributed}) - \text{Surveys Returned})$$

Thus,

$\text{VMT\_Trips}$  with additional drive alone trips =  $\text{VMT\_Trips}$  + Additional Drive Alone Trips

and

$\text{TRIPS\_P}$  with additional drive alone trips =  $\text{TRIPS\_P}$  + Additional Drive Alone Trips.

## GHG Emissions

**Average Annual GHG Emissions from survey respondents who drive alone, carpooled, vanpooled, or motorcycled (metric tons CO<sub>2</sub>e) without fill-in = {Average GHG emissions (CO<sub>2</sub>e) per vehicle mile} \* {Two Way Average Annual Commute VMT For Survey Respondents Without Fill-In} \* 0.001**

$$\text{GnF} = \text{AvG} * \text{BnF} * 0.001$$

$$\text{GwF} = \text{AvG} * \text{BwF} * 0.001$$

$$\text{BnF} = \text{AW} * \text{VMTnF} * \text{R} * 100$$

$$\text{BwF} = \text{AW} * \text{VMTwF} * \text{R} * 100$$

Where,

$\text{BnF}$  → Two Way Average Annual Commute VMT for Survey Respondents without Fill-In

$\text{BwF}$  → Two Way Average Annual Commute VMT for Survey Respondents with Fill-In



- R** → Total Number of Survey Respondents (calculated from Survey Data)  
**AW** → Average Weekly Work Days Per Survey Respondent

And,

- T** → Total Employees (from Header)  
**VMTnF** → VMT/Employee without Fill-In (rounded to one decimal place)  
**VMTwF** → VMT/Employee with Fill-In (rounded to one decimal place)

Constants:

- L** → Light Duty Vehicle Assumed Fleet Economy = 20.4  
**F** → Factor to convert CO2 to CO2e = 0.977  
**KC** → Kg CO2 per gallon of gasoline = 8.92  
**M** → Future Adjustment Factor = 1

Note that these values will change as the fleet and factors change (our survey report system allows update of these values based on changing vehicle fleets.).

Derived Constants

- AW** → Average Weekly Work Days Per Survey Respondent =  $TRIPS\_P / R$  (rounded to one decimal place)  
**KG** →  $KC / F$   
**AvG** =  $(1 / L) * KG$   
**AnG** =  $(GnF * T) / R$

Where,

- KG** → Kg GHG emissions (CO2e) per gallon of gasoline  
**AvG** → Average GHG Emissions (CO2e) per vehicle mile  
**AnG** → Estimated annual GHG emissions from all employees (based on employee rate without fill-in applied)  
**AwG** → Estimated annual GHG emissions from all employees (based on employee rate WITH fill-in applied)

## Annual Transit Passenger Miles

Transit passenger miles can be used to calculate greenhouse gas emissions from transit. However, emissions attributable to transit vary widely from transit route to transit route, depending on the



efficiency/energy source of vehicles and transit vehicle passenger load. Very roughly speaking, GHG emissions per transit passenger mile ranges from a high of about 0.9 pounds CO<sub>2</sub>e emissions/passenger mile for a standard bus that is relatively empty, to a low of about 0.2 pounds CO<sub>2</sub>e emissions/passenger mile for a well-utilized bus. Train and light rail emissions can vary widely depending on the energy source, passenger loads, etc. Employers may contact their local transit agencies for more information on GHG emissions for their transit trips, as local transit agencies may have more precise estimates of CO<sub>2</sub>e emissions/passenger mile for all transit routes in the agency, or for specific routes.

The following results are obtained from data surveyed:

$$\text{BAPMs} = 100 * \sum \text{QwBPM}$$

$$\text{BAPMt} = \text{BAPMs} * (\text{T} / \text{R})$$

$$\text{RAPMs} = 100 * \sum \text{QwTPM}$$

$$\text{RAPMt} = \text{RAPMs} * (\text{T} / \text{R})$$

$$\text{FAPMs} = 100 * \sum \text{QwFPM}$$

$$\text{FAPMt} = \text{FAPMs} * (\text{T} / \text{R})$$

*Note:* The value 100 used in the determination of **BAPMs**, **RAPMs**, and **FAPMs** is obtained by multiplying 50 (number of survey weeks in a year) and 2 (since we require two-way miles)

<b>BAPMs</b>	→	Bus Annual Passenger Miles (Surveyed Employees)
<b>BAPMt</b>	→	Bus Annual Passenger Miles (Estimated for Total Employment)
<b>RAPMs</b>	→	Train/Light Rail/Streetcar Annual Passenger Miles (Surveyed Employees)
<b>RAPMt</b>	→	Train/Light Rail/Streetcar Annual Passenger Miles (Estimated for Total Employment)
<b>FAPMs</b>	→	Ferry Annual Passenger Miles (Surveyed Employees)
<b>FAPMt</b>	→	Ferry Annual Passenger Miles (Estimated for Total Employment)
<b>T</b>	→	Total Employees (from Header)
<b>R</b>	→	Total Number of Survey Respondents (calculated from Survey Data)

$$\text{TwVMT} = 2 * \text{VMT\_Trips} * \text{Miles}_X$$

$$\text{TdVMT} = \text{TwVMT} / \text{Trips}_P$$

*Note:* If **TwVMT** is zero, then **TdVMT** is set to zero.



$$\text{TaVMT} = \text{TwVMT} * 50$$

$$\text{OwBPM} = \text{Count\_Bus} * \text{Miles\_X}$$

$$\text{OwTPM} = \text{Count\_Train} * \text{Miles\_X}$$

$$\text{OwFPM} = \text{Count\_Ferry} * \text{Miles\_X}$$

Where,

TwVMT → Two Way Total Weekly VMT for Survey Respondents

TdVMT → Two Way Average Workday VMT for Survey Respondents

TaVMT\*\* → Two Way Average Annual VMT for Survey Respondents

OwBPM → One-way Weekly Bus Passenger Miles

OwTPM → One-way Weekly Train Passenger Miles

OwFPM → One-way Weekly Ferry Passenger Miles

VMT\_Trips → VMT\_Trips is called "Vehicle Trips" in the system, which is per response.

Miles\_X → Miles\_X (Consider only "valid" values as outlined previously)

Count\_Bus → Number of Bus Trips taken during survey week per respondent

Count\_Ferry → Number of Bus Trips taken during survey week per respondent (includes "Ferry As Walk On" and "Boarded Ferry")

Count\_Train → Number of Train Trips taken during survey week per respondent

Trips\_P → Potential Trips

\*\*Note that values (when necessary) are multiplied weekly by 50 since surveys are not conducted during holiday weeks

## Sampling Worksites<sup>1</sup>

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<sup>1</sup> Portions relating to Sampling are courtesy Minnesota Center for Survey Research at the University of Minnesota



Fill-in calculation is used to estimate Drive Alone Rates, VMT, and Vehicle Trips for employers that have fewer than 70 percent of surveys returned. However employers at some worksites (e.g., larger worksites with at least 1,000 employees) conduct surveys via "sampling" which means the number of employees surveyed does not need to meet the minimum Response Rate of 70% that is required to avoid application of a Fill-in penalty. These worksites are called "Sampling Worksites." See the document "Guidance for Worksites that are Sampling" for instructions for worksites on the number of surveys to distribute and the number of returned surveys required based on the number of employees at a worksite.

Because sampling worksites are taking a sample that should be representative of the larger population of employees, some data pertaining to the worksite will need to be 'factored up', to represent the whole worksite and not limited to the subset of employees that were surveyed. Data that needs to be factored up includes:

- (a) Surveys distributed
- (b) Actual surveys returned
- (c) Surveys returned
- (d) Weekly trips by all modes (with and without fill-in applied).

The factoring up value ("Sampled Site Factor") is determined as follows:

<b>Sampled Site Factor</b>	→	<b>Total Affected Employees / Surveys Distributed</b>
----------------------------	---	---

A sampling worksite will have fill-in applied according to the sampling worksite fill-in formula if the number of surveys returned is less than the "**Minimum Sampling Threshold**" (**S**) - which is the minimum number of surveys that have been returned to avoid application of Fill-In. If the worksite is smaller than ETC, it will still need to meet the 70% response rate threshold, and fill-in applied as normally. This threshold is determined by the following rule:

If ( $T < ECT$ )

Then,

<b>S</b>	=	<b>0.7 * T</b>
----------	---	----------------

(Fill-in applied as normal.)

Else,

<b>S</b>	=	<b><math>\frac{P * (1 - P)}{(A^2 / Z^2) + ((P * (1 - P)) / T)}</math></b>
----------	---	---

(Fill-in applied according to sampling worksite formula, see below.)



Where:

- S** → Minimum Sample Size (Sample Threshold)  
**T** → Total Employees (from Header)

Constants:

- A** → Accuracy Desired - "Sampling Error" in percentage = **0.03 (i.e. 3%)**  
**Z** → The number of standard deviations of the sampling distribution that correspond to the desired confidence level (Z-Score). E.g. 1.96 = 95% confidence level; 1.64 = 90% confidence level. = **1.96**  
**P** → Variability = **0.5**  
**ECT** → Minimum number of employees at worksite required for conducting a sample survey (Employee Count Threshold) = **1,000**

Thus, for the constants used above, S is the minimum sample size desired for selected population sizes for accuracy level of + or - 3% at the 95% confidence level i.e. There is a 95% probability that the survey responses will not vary more than + or - 3%.

S is derived from the following determination of Sampling Error (A):

$$A^2 = \frac{[(P-P^2) - S ((P-P^2)/T)] * Z^2}{S}$$

If actual surveys returned are lower than the minimum sample size threshold (S), then weekly drive alone trips will be increased.

Additional fill-in drive alone trips for sampling worksites:

$$\text{Sampling Worksite Additional Drive Alone Trips} = 5 * (\text{Minimum Sample Size Threshold (S)} - \text{Actual Surveys Returned})$$

## Tables with Significant Notations

<b>Table 3</b> <b>Percentage of Weekday Trips per Mode by CTR-Affected/Not Affected Companies</b> Respondents that started work between 6 a.m. and 9 a.m.			
	(Total)	<b>A</b> CTR-Affected	<b>B</b> Not CTR-Affected
<b>Base = Trips<sub>w</sub></b>	n=48,221 n <sub>w</sub> =41,206 Trips <sub>w</sub> =182,057	n=46,672 n <sub>w</sub> =20,175 Trips <sub>w</sub> =85,970	n=1,549 n <sub>w</sub> =21,031 Trips <sub>w</sub> =96,087
Bus	35.7%	42.1% <sup>B</sup>	29.9%
Drive alone	32.7	25.4	39.3 <sup>A</sup>
Carpool	8.4	9.6 <sup>B</sup>	7.3
Walk	6.3	5.0	7.5 <sup>A</sup>
Train/light rail/streetcar	5.2	5.6	4.8
Bicycle	3.3	2.7	3.8 <sup>A</sup>
Telework	3.0	3.4	2.6
Ferry as walk-on passenger	2.2	2.5	2.0
Motorcycle/Moped	0.9	0.8	1.0
Vanpool	0.7	1.2 <sup>B</sup>	0.3
Ferry with vehicle	0.6	0.4	0.9 <sup>A</sup>
Compressed workweek day off	0.1	0.1	0.1
Other mode	0.8	1.2 <sup>B</sup>	0.5

**Question 1:** Last week, what type of transportation did you use each day to commute TO your usual work location?

**Question 4:** Last week were you scheduled to begin work between 6 a.m. and 9 a.m.? If you were not assigned starting times, did you begin work sometime between 6 a.m. and 9 a.m.?

<sup>AB</sup> Statistically significant difference between referenced columns.

<b>Table 4</b> <b>Percentage of Weekday Trips per Mode by Business Size</b> Respondents that started work between 6 a.m. and 9 a.m.				
	Business Size (Number of Employees)			
	Total	<b>A</b> 1 to 19	<b>B</b> 20 to 99	<b>C</b> 100+
<b>Base = Trips<sub>w</sub></b>	n=48,221 n <sub>w</sub> =41,206 Trips <sub>w</sub> =182,057	n=865 n <sub>w</sub> =11,744 Trips <sub>w</sub> =36,360	n=1,219 n <sub>w</sub> =14,089 Trips <sub>w</sub> =51,026	n=46,972 n <sub>w</sub> =23,223 Trips <sub>w</sub> =94,671
Bus	35.7%	20.6%	34.4% <sup>A</sup>	42.1% <sup>AB</sup>
Drive alone	32.7	46.4 <sup>BC</sup>	35.4 <sup>C</sup>	26.0
Carpool	8.4	8.5	6.5	9.4 <sup>B</sup>
Walk	6.3	9.8 <sup>BC</sup>	6.2	5.1
Train/light rail/streetcar	5.2	4.2	5.1	5.6
Bicycle	3.3	4.1 <sup>C</sup>	3.8 <sup>C</sup>	2.7
Telework	3.0	1.0	3.8 <sup>A</sup>	3.3
Ferry as walk-on passenger	2.2	1.9	2.2	2.3 <sup>A</sup>
Motorcycle/Moped	0.9	0.5	1.3	0.8
Vanpool	0.7	0.3	0.3	1.1 <sup>AB</sup>
Ferry with vehicle	0.6	1.7 <sup>BC</sup>	0.5	0.4
Compressed workweek day off	0.1	0.1	0.1	0.1
Other mode	0.8	0.8	0.3	1.1 <sup>B</sup>

**Question 1:** Last week, what type of transportation did you use each day to commute TO your usual work location?

**Question 4:** Last week were you scheduled to begin work between 6 a.m. and 9 a.m.?

**Base = Trips<sub>w</sub>**

<sup>ABC</sup> Statistically significant difference between referenced columns.

		Area Where Respondent Lives								H Out of State n=26 n <sub>w</sub> =24
		A Seattle n=23,043 n <sub>w</sub> =22,207	B Bellevue n=2,015 n <sub>w</sub> =1,560	C North n=6,889 n <sub>w</sub> =5,315	D Northeast n=2,012 n <sub>w</sub> =1,326	E East n=2,408 n <sub>w</sub> =1,581	F South n=9,146 n <sub>w</sub> =6,966	G West n=1,825 n <sub>w</sub> =1,366		
Total		n=48,221 n <sub>w</sub> =41,206								
Drove alone		32.7% n=15,762 n <sub>w</sub> =14,207	48.8% n=23,712 n <sub>w</sub> =18,120	32.0% n=15,648 n <sub>w</sub> =12,105	35.0% n=17,124 n <sub>w</sub> =12,816	39.7% n=19,440 n <sub>w</sub> =12,581	33.1% n=16,116 n <sub>w</sub> =12,105	2.4% n=11,712 n <sub>w</sub> =8,712	9.8% n=4,776 n <sub>w</sub> =3,528	3.6% n=17,568 n <sub>w</sub> =13,368
Bus		35.7% n=17,232 n <sub>w</sub> =13,127	36.2% n=17,712 n <sub>w</sub> =13,367	45.9% n=22,207 n <sub>w</sub> =16,812	46.2% n=22,464 n <sub>w</sub> =16,967	40.7% n=19,944 n <sub>w</sub> =15,059	30.6% n=14,976 n <sub>w</sub> =11,271	7.4% n=3,552 n <sub>w</sub> =2,647	2.2% n=10,512 n <sub>w</sub> =7,812	1.8% n=8,712 n <sub>w</sub> =6,567
Carpool		8.4% n=4,032 n <sub>w</sub> =3,027	7.7% n=3,744 n <sub>w</sub> =2,739	10.6% n=5,100 n <sub>w</sub> =3,795	11.9% n=5,760 n <sub>w</sub> =4,255	11.0% n=5,280 n <sub>w</sub> =3,975	9.6% n=4,560 n <sub>w</sub> =3,405	1.6% n=7,632 n <sub>w</sub> =5,677	2.2% n=10,512 n <sub>w</sub> =7,812	1.8% n=8,712 n <sub>w</sub> =6,567
Walk		6.3% n=3,024 n <sub>w</sub> =2,269	0.1% n=480 n <sub>w</sub> =360	0.1% n=480 n <sub>w</sub> =360	0.5% n=2,400 n <sub>w</sub> =1,800	0.2% n=960 n <sub>w</sub> =720	0.1% n=480 n <sub>w</sub> =360	1.2% n=5,760 n <sub>w</sub> =4,255	1.8% n=8,712 n <sub>w</sub> =6,567	0.0% n=0 n <sub>w</sub> =0
Train/light rail/streetcar		5.2% n=2,500 n <sub>w</sub> =1,875	0.2% n=960 n <sub>w</sub> =720	3.9% n=1,872 n <sub>w</sub> =1,407	0.4% n=1,920 n <sub>w</sub> =1,440	0.1% n=480 n <sub>w</sub> =360	19.6% n=9,456 n <sub>w</sub> =7,041	0.6% n=2,880 n <sub>w</sub> =2,160	4.0% n=19,200 n <sub>w</sub> =14,400	0.0% n=0 n <sub>w</sub> =0
Bicycle		3.3% n=1,584 n <sub>w</sub> =1,188	0.5% n=2,400 n <sub>w</sub> =1,800	0.2% n=960 n <sub>w</sub> =720	0.1% n=480 n <sub>w</sub> =360	1.0% n=4,800 n <sub>w</sub> =3,600	0.2% n=960 n <sub>w</sub> =720	1.8% n=8,712 n <sub>w</sub> =6,567	0.0% n=0 n <sub>w</sub> =0	0.0% n=0 n <sub>w</sub> =0
Telework		3.0% n=1,440 n <sub>w</sub> =1,080	3.8% n=1,824 n <sub>w</sub> =1,368	3.3% n=1,584 n <sub>w</sub> =1,188	3.6% n=1,728 n <sub>w</sub> =1,296	3.5% n=1,710 n <sub>w</sub> =1,281	4.3% n=2,052 n <sub>w</sub> =1,539	4.6% n=2,208 n <sub>w</sub> =1,665	78.5% n=38,160 n <sub>w</sub> =28,620	0.0% n=0 n <sub>w</sub> =0
Ferry passenger		2.2% n=1,056 n <sub>w</sub> =792	0.0% n=0 n <sub>w</sub> =0	0.0% n=0 n <sub>w</sub> =0	0.0% n=0 n <sub>w</sub> =0	0.0% n=0 n <sub>w</sub> =0	0.4% n=1,920 n <sub>w</sub> =1,440	63.9% n=30,624 n <sub>w</sub> =22,968	0.0% n=0 n <sub>w</sub> =0	0.0% n=0 n <sub>w</sub> =0
Motorcycle/Moped		0.9% n=432 n <sub>w</sub> =324	0.8% n=384 n <sub>w</sub> =288	1.2% n=576 n <sub>w</sub> =432	0.5% n=240 n <sub>w</sub> =180	1.2% n=576 n <sub>w</sub> =432	0.3% n=144 n <sub>w</sub> =108	2.3% n=1,116 n <sub>w</sub> =837	0.0% n=0 n <sub>w</sub> =0	0.0% n=0 n <sub>w</sub> =0
Vanpool		0.7% n=336 n <sub>w</sub> =252	0.7% n=336 n <sub>w</sub> =252	1.9% n=912 n <sub>w</sub> =684	1.4% n=672 n <sub>w</sub> =504	2.3% n=1,116 n <sub>w</sub> =837	0.9% n=432 n <sub>w</sub> =324	1.7% n=816 n <sub>w</sub> =612	0.0% n=0 n <sub>w</sub> =0	0.0% n=0 n <sub>w</sub> =0
Ferry with vehicle		0.6% n=288 n <sub>w</sub> =216	1.1% n=528 n <sub>w</sub> =396	0.1% n=480 n <sub>w</sub> =360	0.1% n=480 n <sub>w</sub> =360	0.1% n=480 n <sub>w</sub> =360	0.2% n=960 n <sub>w</sub> =720	9.9% n=47,520 n <sub>w</sub> =35,628	0.0% n=0 n <sub>w</sub> =0	0.0% n=0 n <sub>w</sub> =0
Compressed work week		0.1% n=480 n <sub>w</sub> =360	0.0% n=0 n <sub>w</sub> =0	0.2% n=960 n <sub>w</sub> =720	0.0% n=0 n <sub>w</sub> =0	0.0% n=0 n <sub>w</sub> =0	0.1% n=480 n <sub>w</sub> =360	0.0% n=0 n <sub>w</sub> =0	0.0% n=0 n <sub>w</sub> =0	0.0% n=0 n <sub>w</sub> =0
day off		0.8% n=3,840 n <sub>w</sub> =2,880	0.2% n=960 n <sub>w</sub> =720	0.5% n=2,400 n <sub>w</sub> =1,800	0.3% n=1,440 n <sub>w</sub> =1,080	0.3% n=1,440 n <sub>w</sub> =1,080	0.7% n=3,360 n <sub>w</sub> =2,520	2.6% n=12,288 n <sub>w</sub> =9,216	0.0% n=0 n <sub>w</sub> =0	0.0% n=0 n <sub>w</sub> =0
Other mode		182,057	7,015	23,813	5,818	6,984	30,765	5,793	113	113
Trips <sub>w</sub>		182,057	7,015	23,813	5,818	6,984	30,765	5,793	113	113
Percent of Total Trips (Read across)		100.0%	3.9%	13.1%	3.2%	3.8%	16.9%	3.2%	0.1%	0.1%

**Question 1:** Last week, what type of transportation did you use each day to commute TO your usual work location?

**Question 4:** Last week were you scheduled to begin work between 6 a.m. and 9 a.m.? If you were not assigned starting times, did you begin work sometime between 6 a.m. and 9 a.m.?

**Question 6:** What is the zip code where you live?

**Note:** Respondents that did not provide zip code information (n=812; n<sub>w</sub>=663) made 3,474 Trips<sub>w</sub> or 1.9% of total Monday-Friday 6 to 9 a.m. commute trips.

**Base = Trips<sub>w</sub>**

**ABCDEF GH Statistically significant difference between referenced columns.**





**Table 6**  
**Weekday (Monday-Friday) Commute Mode Share by Neighborhood – Percentage of Trips per Mode**  
 Respondents that started work between 6 a.m. and 9 a.m.

	(Total)	<b>A</b> CTR-Affected	<b>B</b> Not CTR-Affected
	n=2,261 n <sub>w</sub> =1,896 Trips <sub>w</sub> = 8,688	n=2,031 n <sub>w</sub> =309 Trips <sub>w</sub> = 1,312	n=230 n <sub>w</sub> =1,587 Trips <sub>w</sub> = 7,375
<b>Belltown</b>			
Bus	36.1%	31.3%	37.0%
Drive alone	35.4%	36.1%	35.3%
Carpool	7.0%	10.5%	6.4%
Walk	5.1%	4.1%	5.2%
Bike	3.8%	2.8%	4.0%
Ferry Passenger	3.8%	2.9%	3.9%
Rail	3.4%	4.6%	3.2%
Telework	2.7%	3.0%	2.6%
Motorcycle/Moped	0.5%	0.8%	0.5%
Ferry w/Vehicle	0.5%	1.0% <sup>B</sup>	0.4%
Vanpool	0.3%	2.1% <sup>B</sup>	0.0%
Compressed Workweek Day Off	0.2%	0.1%	0.2%
Other	1.3%	0.7%	1.4%
<b>Capitol Hill</b>	n=57 n <sub>w</sub> =57 Trips <sub>w</sub> = 254	n=0 n <sub>w</sub> =0 Trips <sub>w</sub> = 0	n=57 n <sub>w</sub> =57 Trips <sub>w</sub> = 254
Drive alone	55.1%	0.0%	55.1%
Carpool	13.0%	0.0%	13.0%
Walk	12.6%	0.0%	12.6%
Bus	9.8%	0.0%	9.8%
Rail	2.8%	0.0%	2.8%
Bike	2.8%	0.0%	2.8%
Telework	2.0%	0.0%	2.0%
Ferry Passenger	1.6%	0.0%	1.6%
Compressed Workweek Day Off	0.4%	0.0%	0.4%
Vanpool	0.0%	0.0%	0.0%
Motorcycle/Moped	0.0%	0.0%	0.0%
Ferry w/Vehicle	0.0%	0.0%	0.0%
Other	0.0%	0.0%	0.0%
<b>Chinatown – International District</b>	n=1,772 n <sub>w</sub> =1,468 Trips <sub>w</sub> = 6,823	n=1,639 n <sub>w</sub> =763 Trips <sub>w</sub> = 3,453	n=133 n <sub>w</sub> =723 Trips <sub>w</sub> = 3,370
Drive alone	35.2%	22.2%	48.4% <sup>A</sup>
Bus	32.3%	44.9% <sup>B</sup>	19.4%
Rail	15.9%	15.6%	16.1%
Carpool	9.1%	8.3%	9.8%
Walk	2.1%	1.6%	2.6%
Motorcycle/Moped	1.8%	1.0%	2.7%
Bike	1.2%	2.3%	0.2%
Ferry Passenger	0.8%	1.7%	0.0%
Ferry w/Vehicle	0.4%	0.0%	0.8% <sup>A</sup>
Telework	0.4%	0.7%	0.0%
Vanpool	0.1%	0.1%	0.0%
Compressed Workweek Day Off	0.0%	0.1%	0.0%
Other	0.7%	1.4%	0.0%

**Question 1:** Last week, what type of transportation did you use each day to commute TO your usual work location?

**Question 4:** Last week were you scheduled to begin work between 6 a.m. and 9 a.m.? If you were not assigned starting times, did you begin work sometime between 6 a.m. and 9 a.m.?

Base = Trips<sub>w</sub>

<sup>ABC</sup> Statistically significant difference between referenced columns.

<b>Table 6 (Continued)</b>			
<b>Commute Mode Share by Neighborhood – Percentage of Trips per Mode</b>			
Respondents that started work between 6 a.m. and 9 a.m.			
	(Total)	<b>A</b> CTR-Affected	<b>B</b> Not CTR-Affected
	n=20,767 n <sub>w</sub> =16,787 Trips <sub>w</sub> = 75,099	n=20,518 n <sub>w</sub> =8,942 Trips <sub>w</sub> = 39,275	n=249 n <sub>w</sub> =7,845 Trips <sub>w</sub> = 35,824
<b>Commercial Core</b>			
Bus	50.4%	52.4%	48.3%
Drive alone	18.9%	16.7%	21.4% <sup>A</sup>
Carpool	7.9%	8.2%	7.6%
Walk	5.7%	3.7%	7.7% <sup>A</sup>
Rail	4.6%	6.7% <sup>B</sup>	2.4%
Ferry Passenger	3.4%	3.4%	3.3%
Telework	3.2%	4.2%	2.1%
Bike	3.1%	2.0%	4.2% <sup>A</sup>
Ferry w/Vehicle	0.8%	0.4%	1.3% <sup>A</sup>
Motorcycle/Moped	0.8%	0.5%	1.1%
Vanpool	0.4%	0.5%	0.4%
Compressed Workweek Day Off	0.1%	0.1%	0.1%
Other	0.7%	1.2%	0.2%
<b>Denny Triangle</b>	n=8,001 n <sub>w</sub> =7,569 Trips <sub>w</sub> = 32,410	n=7,763 n <sub>w</sub> =5,086 Trips <sub>w</sub> = 21,185	n=238 n <sub>w</sub> =2,483 Trips <sub>w</sub> = 11,225
Bus	38.2%	36.8%	40.7%
Drive alone	27.7%	28.5%	26.4%
Walk	8.4%	9.2%	6.9%
Carpool	7.8%	8.5%	6.6%
Rail	4.6%	3.8%	6.2%
Bike	4.2%	3.4%	5.8% <sup>A</sup>
Telework	3.6%	4.3%	2.5%
Ferry Passenger	1.7%	1.4%	2.1%
Motorcycle/Moped	1.2%	1.4%	0.8%
Vanpool	1.0%	1.1%	0.8%
Ferry w/Vehicle	0.4%	0.3%	0.6%
Compressed Workweek Day Off	0.1%	0.1%	0.1%
Other	1.0%	1.3%	0.5%
<b>First Hill</b>	n=4,428 n <sub>w</sub> =4,157 Trips <sub>w</sub> = 17,316	n=4,319 n <sub>w</sub> =2,906 Trips <sub>w</sub> = 11,682	n=109 n <sub>w</sub> =1,251 Trips <sub>w</sub> = 5,633
Drive alone	35.1%	32.2%	41.1% <sup>A</sup>
Bus	32.1%	35.6% <sup>B</sup>	24.6%
Carpool	13.9%	13.4%	14.9%
Walk	6.3%	5.3%	8.6%
Rail	3.1%	2.9%	3.5%
Bike	2.8%	2.2%	4.1%
Vanpool	2.7%	3.5%	1.2%
Ferry Passenger	1.0%	1.4%	0.0%
Motorcycle/Moped	0.8%	1.1%	0.2%
Telework	0.7%	0.7%	0.6%
Ferry w/Vehicle	0.7%	0.5%	1.0%
Compressed Workweek Day Off	0.1%	0.1%	0.0%
Other	0.7%	1.0%	0.2%
<b>Question 1:</b> Last week, what type of transportation did you use each day to commute TO your usual work location?			
<b>Question 4:</b> Last week were you scheduled to begin work between 6 a.m. and 9 a.m.? If you were not assigned starting times, did you begin work sometime between 6 a.m. and 9 a.m.?			
<b>Base = Trips<sub>w</sub></b>			
<sup>ABC</sup> Statistically significant difference between referenced columns.			

**Table 6 (Continued)****Commute Mode Share by Neighborhood – Percentage of Trips per Mode**

Respondents that started work between 6 a.m. and 9 a.m.

	(Total)	<b>A</b> CTR-Affected	<b>B</b> Not CTR-Affected
	<b>n=211</b> <b>n<sub>w</sub>=191</b> <b>Trips<sub>w</sub> = 885</b>	<b>n=151</b> <b>n<sub>w</sub>=89</b> <b>Trips<sub>w</sub> = 408</b>	<b>n=60</b> <b>n<sub>w</sub>=102</b> <b>Trips<sub>w</sub> = 477</b>
<b>Pike/Pine</b>			
Drive alone	47.2%	40.9%	52.5%
Walk	18.8%	13.1%	23.6%
Bus	18.5%	24.3%	13.6%
Carpool	8.3%	14.2% <sup>B</sup>	3.2%
Bike	3.8%	2.0%	5.4%
Ferry Passenger	1.1%	2.3%	0.0%
Ferry w/Vehicle	0.8%	0.0%	1.4%
Telework	0.5%	0.7%	0.4%
Motorcycle/Moped	0.5%	1.0%	0.0%
Rail	0.3%	0.7%	0.0%
Vanpool	0.0%	0.0%	0.0%
Compressed Workweek Day Off	0.0%	0.0%	0.0%
Other	0.3%	0.7%	0.0%
	<b>n=1,668</b> <b>n<sub>w</sub>=1,406</b> <b>Trips<sub>w</sub> = 6,328</b>	<b>n=1,502</b> <b>n<sub>w</sub>=352</b> <b>Trips<sub>w</sub> = 1,512</b>	<b>n=166</b> <b>n<sub>w</sub>=1,055</b> <b>Trips<sub>w</sub> = 4,815</b>
<b>Pioneer Square</b>			
Bus	36.2%	41.8%	34.4%
Drive alone	24.7%	22.2%	25.5%
Rail	9.0%	12.9%	7.8%
Walk	7.6%	1.8%	9.4% <sup>A</sup>
Carpool	6.2%	8.2%	5.5%
Bike	5.3%	5.5%	5.3%
Telework	4.1%	1.5%	4.9% <sup>A</sup>
Ferry Passenger	3.8%	2.9%	4.1%
Ferry w/Vehicle	1.5%	0.4%	1.8% <sup>A</sup>
Motorcycle/Moped	0.7%	0.9%	0.7%
Vanpool	0.1%	0.1%	0.1%
Compressed Workweek Day Off	0.0%	0.2%	0.0%
Other	0.8%	1.6%	0.5%
	<b>n=5,330</b> <b>n<sub>w</sub>=4,769</b> <b>Trips<sub>w</sub> = 20,288</b>	<b>n=5,202</b> <b>n<sub>w</sub>=2,860</b> <b>Trips<sub>w</sub> = 11,803</b>	<b>n=128</b> <b>n<sub>w</sub>=1,909</b> <b>Trips<sub>w</sub> = 8,485</b>
<b>South Lake Union</b>			
Drive alone	50.7%	40.6%	64.7% <sup>A</sup>
Bus	21.5%	25.5% <sup>B</sup>	16.0%
Carpool	10.8%	13.7% <sup>B</sup>	6.7%
Walk	5.1%	5.1%	5.1%
Rail	2.5%	2.7%	2.3%
Bike	2.5%	3.9% <sup>B</sup>	0.5%
Telework	1.8%	1.6%	2.1%
Vanpool	1.7%	3.0% <sup>B</sup>	0.0%
Motorcycle/Moped	1.1%	0.8%	1.6%
Ferry Passenger	0.8%	1.4%	0.0%
Ferry w/Vehicle	0.5%	0.3%	0.9%
Compressed Workweek Day Off	0.1%	0.1%	0.2%
Other	0.7%	1.3%	0.0%

**Question 1:** Last week, what type of transportation did you use each day to commute TO your usual work location?

**Question 4:** Last week were you scheduled to begin work between 6 a.m. and 9 a.m.? If you were not assigned starting times, did you begin work sometime between 6 a.m. and 9 a.m.?

Base = Trips<sub>w</sub>

<sup>ABC</sup> Statistically significant difference between referenced columns.

<b>Table 6 (Continued)</b>			
<b>Commute Mode Share by Neighborhood – Percentage of Trips per Mode</b>			
Respondents that started work between 6 a.m. and 9 a.m.			
	(Total)	<b>A</b> CTR-Affected	<b>B</b> Not CTR-Affected
	n=3,726 n <sub>w</sub> =2,989 Trips <sub>w</sub> = 12,987	n=3,547 n <sub>w</sub> =1,233 Trips <sub>w</sub> = 4,912	n=179 n <sub>w</sub> =1,756 Trips <sub>w</sub> = 8,075
<b>Uptown</b>			
Drive alone	56.4%	44.6%	63.7% <sup>A</sup>
Bus	13.9%	20.9% <sup>B</sup>	9.7%
Carpool	7.4%	12.0% <sup>B</sup>	4.6%
Walk	6.9%	6.9%	6.9%
Telework	5.4%	4.4%	6.1%
Bike	3.6%	3.4%	3.8%
Rail	2.1%	2.0%	2.1%
Motorcycle/Moped	1.2%	1.3%	1.2%
Ferry Passenger	0.8%	1.2%	0.6%
Vanpool	0.6%	1.6%	0.0%
Ferry w/Vehicle	0.4%	0.3%	0.5%
Compressed Workweek Day Off	0.1%	0.2%	0.0%
Other	1.0%	1.2%	0.9%

**Question 1 & Question 4 Base = Trips<sub>w</sub>**

<sup>ABC</sup> Statistically significant difference between referenced columns.

<b>Table 7</b>			
<b>Respondent Profile</b>			
	Center City (All Respondents) n=49,056 n <sub>w</sub> =49,056	<b>A</b> CTR-Affected n=46,937 n <sub>w</sub> =20,175	<b>B</b> Not CTR-Affected n=2,119 n <sub>w</sub> =28,770
<b>Base</b>			
<b>Days Worked Downtown</b>			
Monday	85.9%	89.2 <sup>B</sup>	83.6
Tuesday	88.8	91.3 <sup>B</sup>	87.0
Wednesday	87.6	90.8 <sup>B</sup>	85.2
Thursday	87.7	90.4 <sup>B</sup>	85.8
Friday	83.1	84.1 <sup>B</sup>	82.3
Saturday	16.8	8.5	22.7 <sup>A</sup>
Sunday	12.8	5.8	17.8 <sup>A</sup>
<b>Started Work Any Day Between 6 a.m. and 9 a.m.</b>			
Yes	84.5%	99.5% <sup>B</sup>	73.9%
No	15.5	0.5	26.1 <sup>A</sup>
<b>Commute Mode to Work* (between 6 a.m. and 9 a.m.)</b>			
<b>Base trips:</b>	<b>n<sub>w</sub>=182,057</b>	<b>n<sub>w</sub>=85,970</b>	<b>n<sub>w</sub>=96,087</b>
Bus	35.7%	42.1% <sup>B</sup>	29.9%
Drive alone	32.7	25.4	39.3 <sup>A</sup>
Carpool	8.4	9.6 <sup>B</sup>	7.3
Walk	6.3	5.0	7.5 <sup>A</sup>
Train/light rail/streetcar	5.2	5.6	4.8
Bicycle	3.3	2.7	3.8 <sup>A</sup>
Telework	3.0	3.4 <sup>B</sup>	2.6
Ferry as walk-on passenger	2.2	2.5	2.0
Motorcycle/Moped	0.9	0.8	1.0
Vanpool	0.7	1.2 <sup>B</sup>	0.3
Ferry with vehicle	0.6	0.4	0.9 <sup>A</sup>
Compressed workweek day off	0.1	0.1	0.1
Other mode	0.8	1.2 <sup>B</sup>	0.5

\* Multiple responses accepted.

Note: CTR-affected plus Not CTR-affected may not sum to Center City due to weighting and rounding.

<sup>AB</sup> Statistically significant difference between referenced columns

<b>Table 7 (Continued)</b>			
<b>Respondent Profile</b>			
<b>Base</b>	<b>Center City (All Respondents) n=49,056 n<sub>w</sub>=49,056</b>	<b>A CTR-Affected n=46,937 n<sub>w</sub>=20,286</b>	<b>B Not CTR-Affected n=2,119 n<sub>w</sub>=28,770</b>
<b>Number of Miles One Way to Work**</b>			
Less than 5	24.5%	19.5%	28.1% <sup>A</sup>
5 to 9	25.6	23.5	27.1 <sup>A</sup>
10 to 19	27.1	28.6 <sup>B</sup>	26.1
20 or more	22.8	28.4 <sup>B</sup>	18.8
<i>Average</i>	<i>12.7 miles</i>	<i>14.5 miles<sup>B</sup></i>	<i>11.2 miles</i>
<b>Geographic Area of Residence</b>			
Seattle	57.9%	48.3%	64.9% <sup>A</sup>
South (Renton/South King County/Pierce County)	16.5	19.7 <sup>B</sup>	14.2
North (Kirkland/W. Snohomish County)	12.2	14.6 <sup>B</sup>	10.5
Bellevue	3.8	4.2	3.6
East (Issaquah/East King County)	3.5	5.1 <sup>B</sup>	2.3
West (Kitsap County/Island County)	3.1	3.9 <sup>B</sup>	2.6
Northeast (Redmond/NE King County/SE Snohomish County)	2.9	4.2 <sup>B</sup>	1.9
<b>Employment Neighborhood</b>			
Belltown	9.8%	4.1%	13.8% <sup>A</sup>
Capitol Hill	2.4	0.0	4.2 <sup>A</sup>
Chinatown-International District	6.9	3.3	9.3 <sup>A</sup>
Commercial Core	29.7	46.4 <sup>B</sup>	18.0
Denny Triangle	14.4	15.9 <sup>B</sup>	13.4
First Hill	7.5	9.0 <sup>B</sup>	6.5
Pike/Pine	2.6	0.3	4.2 <sup>A</sup>
Pioneer Square	7.2	3.1	10.1 <sup>A</sup>
South Lake Union	9.1	10.6 <sup>B</sup>	8.0
Uptown	10.3	7.3	12.5 <sup>A</sup>
<b>Business Size</b>			
1 to 4	11.4%	0.0%	19.5% <sup>A</sup>
5 to 9	4.9	0.0	8.3 <sup>A</sup>
10 to 19	7.6	0.0	13.0 <sup>A</sup>
20 to 49	14.0	0.0	23.8 <sup>A</sup>
50 to 99	14.7	0.4	24.9 <sup>A</sup>
100 or More	47.3	99.6 <sup>B</sup>	10.5
* Excludes reported overnight business trips.			
** Excludes reported miles over 150, also reported miles over 10 for those that walk to work three or more times a week or over 30 for those that bicycle to work three or more times per week.			
<sup>AB</sup> Statistically significant difference between referenced columns. May not sum to 100% due to rounding.			

End of Report