What Contributes to Successful Commute Trip Reduction in the State of Washington? A Focus on Transit Accessibility

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Abstract

What Contributes to Successful Commute Trip Reduction in the State of Washington? A Focus on Transit Accessibility

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Washington State passed the first version of the Commute Trip Reduction (CTR) Law in 1991 and the resulting CTR program has been run by the Washington State Department of Transportation (WSDOT). The primary goal of the program was to reduce congestion by promoting the use of alternative commuting modes to SOV. That intention has remained the same today, although much of the implementation has shifted from the state to city level. Rather than setting state-wide goals for all work sites, WSDOT now primarily serves as an advisor to local jurisdictions in charge of creating their own CTR plans. Existing data shows a concentration of sites in downtown Seattle meeting their state-wide CTR goals while work sites in suburban jurisdictions struggle to meet the same goal. The purpose of this research is to

determine the primary contributors to a site's ability to reduce SOV mode split and meet its CTR goal—including the effect of transit accessibility. Specifically, this research attempts to answer two questions: 1) Do the factors for which WSDOT currently collects data significantly contribute to a site's success to reduce its SOV mode split and meet its CTR goal? and 2) How can transit accessibility be factored into these CTR goals? A transit accessibility indicator was developed by summing the number of transit stops within a quarter-mile radial buffer of a work site. WSDOT's 2015/2016 employee CTR survey data as well as King County Metro transit data were used as the basis for this research. Each site's transit accessibility score was compared to its SOV mode split, and an exponential regression resulted in an R-squared value of 0.71 for a sample of 294 CTR work sites. The transit accessibility indicator, along with other variables identified in WSDOT's employee CTR survey, were then incorporated into logit and multivariable regression models that explain, respectively, whether a site has achieved an 18% reduction in calculated VMT set by WSDOT in 2007/2008, and its SOV mode share. The results of the analysis show the transit accessibility indicator having a significant association with both a work site's ability to meet its VMT goal and its SOV mode split. Preliminary discussions with WSDOT indicate the analysis will inform future policymaking as wells as be useful for TDM plan evaluation and department resource allocation. The analysis may also alleviate some concerns from suburban jurisdictions and employers who feel that alternative modes to SOV are not as widely available in areas with lower population and employment densities compared to central business districts. This research demonstrates that an "expected" SOV percentage can be identified for each work site depending on the level of transit accessibility, which could then be used as a benchmark for evaluation within the CTR program.

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INTRODUCTION

Background Information

Washington State passed the first version of the Commute Trip Reduction (CTR) Law in 1991 (RCW 70.94.521-551) and passed an updated version of the law called the Commute Trip Reduction Efficiency Act in 2006 (WSDOT 2017). Employers with one-hundred or more employees at a single work site who begin work between 6:00 and 9:00 AM are required to participate in the program, which is run by the Washington State Department of Transportation (WSDOT) (Washington State Legislature 1991). Originally, the law's intention was "to reduce air pollution, traffic congestion, and dependence on imported petroleum" (Kadesh and Roach 1997) as a way to combat Seattle's designation as a non-attainment area from the Clean Air Act of 1990. That intention has remained the same today although some of the implementation has shifted from the state level to city level. In 1997, Substitute House Bill 1513 extended the timeline for reductions in VMT citing concerns from suburban employers who felt a lack of transit accessibility would keep them from attaining their CTR goals. WSDOT is obligated to report on the progress the program makes towards reducing SOV trips to the state legislature and the state must also create a commute trip reduction program board to review "progress towards implementing commute trip reduction plans and programs," (Wandler 2017). Employers cannot be penalized for not achieving targets within the program as long as they are following requirements and "giving a good faith effort" to reduce their SOV mode split (Washington State Legislature 2007). Employers can also qualify for a CTR tax credit if they devote financial resources to employee programs that attempt to reduce SOV mode split (Washington State Legislature 2003).

Relevance of Topic

The relevance of this topic from an urban planning perspective comes from its overlapping of social, political, and technical areas. WSDOT's CTR survey attempts to document how several factors influence commuting habits. Examples of these factors are the type of work someone does, where that job is located, constraining factors of that job, and personal obligations outside of that job. While Washington State does have a history of trying to limit sprawl and its effects through laws such as the Growth Management Act, any type of legislation attempting to push an agenda that can be classified as "sustainable", "green", or otherwise aimed at curbing impacts to the environment is often criticized for its impact on business or consumer choices (Washington Research Council 2016). How these social and political factors influence the type of data collected and policies implemented for the program can have a direct impact on the effectiveness and "buy-in" of the program by participating employers. A compelling reason for allowing cities to create their own CTR plans and set their own targets is because they will be more sensitive to the interests of employers within their boundaries than a top-down, state level agency would be. If WSDOT had a better methodology for taking into account the interests of employers when setting CTR and TDM policy, then they may receive more support—or less resistance—for the CTR program itself.

The CTR program has recently gone through a restructure where much of the political guiding principals were shifted from the state level to the city level (Wandler 2017). With it, one could argue, much of the burden for implementation and expertise has shifted from the state to cities which may or not be willing or able to accept such a burden. WSDOT plays an advisory and support role now that it is no longer in charge of directly establishing targets for worksites. This

new advisory role means the state can provide clear guidance for cities on how to best set reachable targets while still achieving reductions in VMT the original legislation set out to do, but is limited in the amount of direct influence it has on worksites. Any changes to the program will likely need to be funneled through the state to the jurisdictions who create their own commute trip reduction plans.

Intended Audience

The intended audience of this research is transportation planners and engineers, business managers, city politicians, and anyone else involved in the formation of transportation policy that directly involves businesses who formulate commute trip reduction plans. The paper attempts to formulate a solution to identifying fair commute trip reduction evaluation methodologies for businesses specifically based on transit accessibility in contrast to previously attempted blanket percent reductions and whether or not a site was able to meet its reductions. This paper uses data from WSDOT's CTR program and while the trends and conclusions are meant to be applied to policies directly tied to WSDOT's CTR program, general takeaways can also be drawn and applied to similar trip reduction programs that are focused on employer generated data.

RESEARCH SCOPE AND FORMULATION

Literature Review

An extensive literature review was conducted prior to the initial analysis conducted for this paper. The contents of the literature review were continuously referenced and compared to results of the analysis conducted for this thesis. Most literature sources covered topics pertaining to the relationship between land use and transportation, transit accessibility, and commute trip

reduction programs. Additional sources related to statistical modeling and analysis were also referenced.

Sources primarily focused on the relationship between land use and transportation attempted to find causality rather than only identifying correlation. Handy et al provide evidence that differences in travel behaviors between urban and suburban are mostly explained by personal attitudes and the built environment can influence the types of travel behavior by reducing the distances between origins and destinations (Handy, Cao and Mokhtarian 2005). This research could support the hypothesis that people who are willing to travel by other modes besides SOV self-select themselves to locations that offer those possibilities. The reduction in distance in dense neighborhoods allows for the viability of alternative modes to increase. Shen has a similar conclusion in his work stating "the models provide strong evidence that urban spatial structure, which is determined jointly by transportation and land use, has a statistically significant and important effect on workers' travel behavior" (Shen 2000).

A literature review of studies related to transit accessibility was conducted to better shape a methodology for measuring transit accessibility of WSDOT CTR worksites. Owen discusses the difference between individual accessibility and locational accessibility. Individual accessibility "seeks to characterize the ease with which travelers might reach their destinations, subject to constraints of ability, budget, and other barriers," (Owen 2013, 3). Locational accessibility is focused on the cost of potential trips between origins and destinations within a spatial context. (Owen 2013). Horner elaborates on the description of location accessibility measures by referring to them as "potential" because "they capture a location's potential for interaction"

(Horner 2004, 167). The research for this paper will focus more on locational or potential accessibility because it is concerned with a site's ability to meet a VMT reduction goal. Individual accessibility plays a role in a worksite meeting its goal, but is a function of the transportation demand management strategies put in place by the employer and personal demographics of the individual.

Two sources created their own location accessibility measures using transit stations. Kim and Kim used the distance to the nearest transit station as a transit accessibility indicator within their model estimating the effects of public transit on automobile ownership. Justification was provided by elaborating, "[the method] provides a good description of spatial opportunities to pursue household activities by transit," (Kim and Kim 2004, 250). This methodology for measuring transit accessibility does not take into account the total number, or density, of transit stations within walking distance. The study was focused on residential trip origins (as opposed to commuting destinations which is the focus of this paper), but yet yielded several conclusions relevant to this analysis including: "(i) transit access has a large negative effect on the number of automobiles and VMT… (iv) multi-vehicle households are more sensitive towards the availability of transit than one-vehicle households; and (v) the presence of children is not a significant factor on automobile ownership and usage." (Kim and Kim 2004, 258). Hamre and Buehler used a transit access measure that counted the number of DC Metro stations within the same traffic analysis zone (TAZ) as the survey participant's home address to control for transit accessibility while measuring the effectiveness of TDM programs. The study acknowledges the impreciseness of the indicator saying "it is a general approximation of transit access and is expected to be positively correlated with public transportation use" (Hamre and Buehler 2014).

Such a measure does not account for the distance to transit stations and may provide a false sense of access depending on the size of the TAZ.

The last section of literature sources focused on evaluations of TDM efforts by employers. Zhou's research using data from WSDOT's CTR program found several factors of an employer and their TDM measures that can help reduce the drive alone rate including: characteristics of the employer such as the type of work being done, continuous promotion of employer's incentives for alternative commuting modes, and financial savings when employees do not drive to work (Zhou 2008). Zhou specifically mentions a lack of demographic data available for survey respondents that limits some of the applicability of the model results. Information that might be relevant on a company-wide level would be median income of survey respondents compared to median income of the entire company. Financial savings of TDM measures may be more enticing to lower-paid workers compared to higher level management. Ferguson describes the theory behind TDM programs and gives examples of possible TDM objectives related to the four step transportation planning process (trip generation, trip distribution, mode choice, route choice). He specifically identifies a TDM objective for each step as listed below (Ferguson 1990):

Table 1: TDM Objectives of Transportation Planning Steps (Ferguson, 1990)

Planning Step	TDM Objective
Trip Generation	Eliminate trip entirely
Trip Distribution	Shift trip from more congested to less congested destination
Mode Choice	Shift trip from low-occupancy to high occupancy mode
Route Selection (spatial)	Shift trip from more congested to less congested route
Route Selection (temporal)	Shift trip from more congested to less congested time

It is interesting to note Ferguson's inclusion of shifting of trips from more congested to lower congested routes and times as part of a TDM objective. These two "objectives" are two of the three elements of "triple convergence" theory created by Downs (Downs 2004). Actively promoting the use of lower congested routes and commuting times would seem to facilitate driving alone by only reducing the delay a commuter experiences rather than attempting to reduce VMT. WSDOT's CTR program specifically uses VMT as a measurement of the effectiveness of the program so such TDM objectives as these would not benefit an employer participating in the WSDOT CTR program.

This research will attempt to focus on areas of incomplete research amongst the research cited above. Evidence has been provided that the built environment can influence travel behaviors (Handy, Cao and Mokhtarian, and Shen). Transit accessibility is a function of the transit infrastructure in place within the built environment and therefore should be considered in any type of CTR policy or program. Several different ways to measure transit accessibility have been produced in the literature or are publicly available (TransitScore ® being an example of a publicly available metric). Commonly applied transit accessibility indicators have not included both proximity and density of transit services or infrastructure. This research will attempt to develop a transparent and easily replicable methodology that can give an accurate representation of a work site's transit accessibility. Once transit accessibility has been evaluated and substantiated, it can be compared to other TDM strategies and included in larger TDM policy objectives. This thesis will build on the TDM objectives currently in place in WSDOT's CTR program and those included in the literature review.

Research Formulation

After extensive review of the current TDM research, there has been much research devoted to evaluating effectiveness of TDM measures and modeling mode choice of commuters, yet there has been little research on the built environment's impact on a TDM policy. Research has attempted to analyze the relationship between the built environment and overall trip generation, but little research has been done in regards to a specific policy where recommendations can be extracted. A direct criticism of WSDOT's CTR program was the inability of suburban CTR locations to offer alternatives to SOV commutes. Analyzing the spatial characteristics of a site, specifically the transit accessibility, would allow WSDOT to take such characteristics into account when working with jurisdictions to form their own CTR plans.

Research Purpose

The purpose of this research is to determine the primary contributors to a site's ability to reduce SOV mode split and meet its CTR goal—including the effect of transit accessibility. Specifically, this research attempts to answer two questions: 1) Do the factors for which WSDOT currently collects data significantly contribute to a site's success to reduce its SOV mode split and meet its CTR goal? and 2) How can transit accessibility be factored into these CTR goals? This research will use survey results from WSDOT's 2015/2016 CTR survey cycle and the last round of VMT reduction goals formulated by the state in 2007/2008. The percent reduction (18%) identified for the VMT targets come from RCW 47.01.440 which was written in support of Executive Order 07-02 penned by Governor Christine Gregoire. The order identifies targets for reductions in greenhouse gases, air quality improvements, and other environmental standards (Gregoire 2007). The 18% reduction in VMT used in this research is the first

benchmark of RCW 47.01.440 and had a timeline to be completed by the year 2020. However, CTR data from WSDOT shows the highest percent reduction achieved so far from the program was 4.8% in 2012. Recent trends do not show the program nearing the 18% benchmark. 2015/2016 data showed a reduction from the 2007/2008 baseline of only 2.6% (Appendix A). WSDOT's 18% reduction of 2007/2008 baseline VMT for worksites was used in this research due to it being the first benchmark in the timeline of the RCW and it having a consistent application to all CTR work sites. An extrapolated benchmark for the year 2016 was not used because no rates of VMT reduction were given in the RCW or by WSDOT. A linear extrapolation of the benchmark would have CTR sites striving to achieve a 12% reduction in VMT—a reduction percentage the state has not approached thus far. A preliminary check using the 12% reduction goal rather than the 18% did not show any significant changes in the distribution of results that would change the conclusions of this research. Local VMT reduction goals are formulated by city jurisdictions' individual commute trip reduction plans and typically vary from one jurisdiction to another depending on the amount of CTR affected worksites in that jurisdiction. Jurisdictions are still completing and formulating CTR plans and therefore some do not have VMT reduction goals available. Application of the research conclusions are meant to support WSDOT staff in advising city jurisdictions in the formation of their own VMT reduction goals.

DATA

Data Sources

The original data source was provided by WSDOT for the 2015/2016 CTR survey cycle for worksites located in King County, Washington. The CTR survey is published every two years to employers who must distribute it to their employees. The data provided by WSDOT were coded survey responses aggregated by worksite within a text file. A work site differs from an employer in that an employer can have multiple work sites in the CTR program that are evaluated separately. A good example of this is Boeing. Boeing has 26 different work sites in Washington State that participate in the CTR program. Each one of these 26 sites is evaluated independently of the others even though they all operate under the same employer. In each text file provided per site, one row of data represented the response of one employee. In total, the initial data set was comprised of 143,565 individual survey responses from 499 work sites[1]. Responses per worksite averaged 288 with a median of 165. Both the average amount of responses and the median number of responses per site are above the 100-person threshold the state uses to identify which sites must participate in the program. A histogram of the survey responses by work site is shown in Figure 1. The highest of these had 3,155 survey responses.

[1] The surveys analyzed represent a population for the statistical analysis, but the survey responses did not have a 100% response rate so they are still samples of the work sites

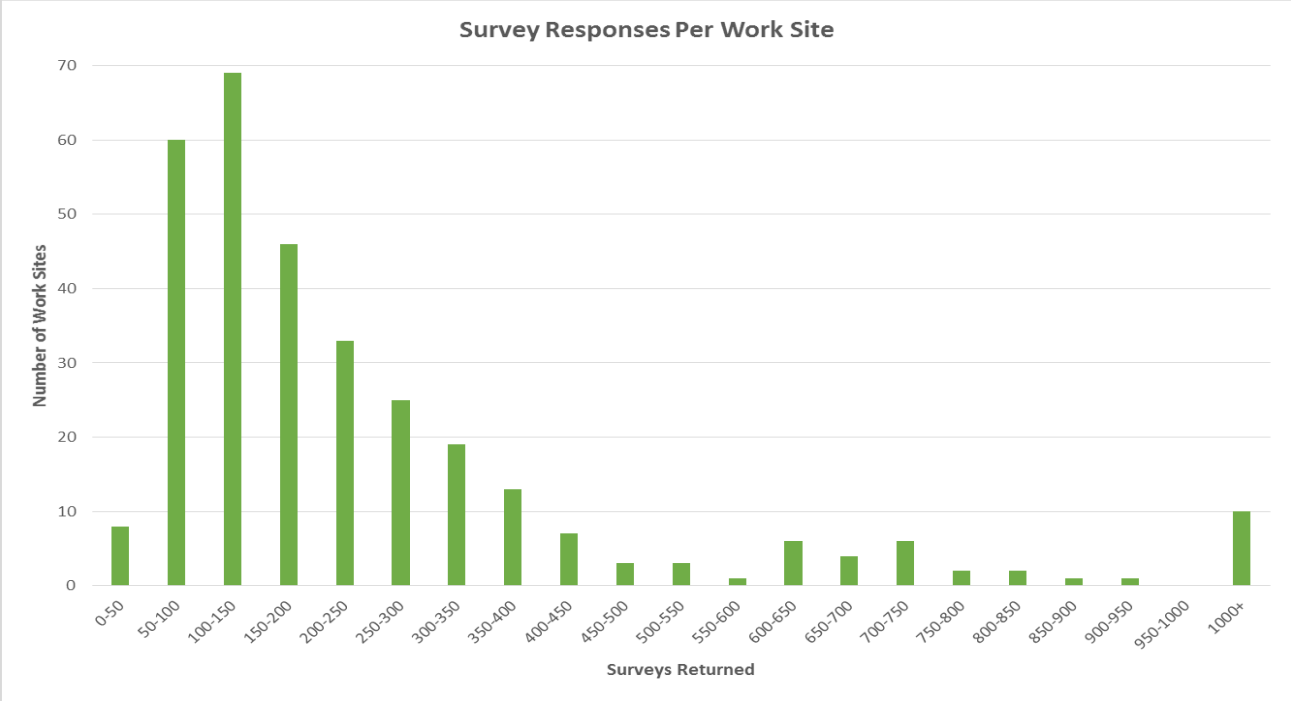

Figure 1: Number of Survey Responses from Work Sites

The survey responses contained information about the hours worked by the individual, the primary mode of travel for each day by the individual, a commute distance, and responses to questions about mode choices. The two questions asked about mode choice were "When you do not drive alone to work, what are the three most important reasons?" (Questions #11) and "When you do drive alone to work, what are the three most important reasons?" (Question #12). The percent-response for these two questions were calculated for each CTR work site and put into a table along with commuting mode split. Other demographic information about individuals or work sites was not included in the original data set and was therefore not analyzed as a part of this research.

In addition to the 2015/2016 CTR survey cycle data, WSDOT also provided all electronic historical data available for sites within the CTR program. This master table included

information for every CTR site participating in the program about mode split, whether the site met its defined goal, and calculations for VMT per employee for each work site. This list would later be used to determine which sites had been in the program since 2007/2008 and had current 2015/2016 survey data available. A copy of this table is included in Appendix A.

WSDOT uses a calculated VMT per employee that is dependent on mode type and occupancy rather than the total distance traveled by an employee. For example, a small office with ten employees all have the commuting profiles shown in Table 2. The ten employees have a combined commuting distance of 195 miles for an average of 19.5 miles per employee. However, the mode used by each employee differs. WSDOT attempts to take this into consideration by dividing a vehicle by the occupancy of the vehicle to determine a mode factor. A SOV would therefore have a mode factor of 1 (1 vehicle/1 occupant) and a carpool of three people would have a mode factor of 0.33 (1 vehicle/3 occupants). Because determining ridership numbers for individual bus routes would be too time intensive, and because most bus/train routes have ridership high enough where the mode factor would be approaching zero, commute trips on transit are given a mode factor of 0. Non-vehicular trips such as walking or biking are also given a mode factor of 0 because they do not emit pollution and generally do not contribute to regional congestion. WSDOT's mode factors are then multiplied by the distance traveled to get an individual travel distance. In the case of the three employees who carpool together, although each of them is traveling 20 miles, they are all in a single vehicle so that vehicles distance traveled is divided equally amongst the passengers. Using the individual vehicle distances gives a total office commute distance of 125 miles, or 12.5 miles per employee. The 12.5 miles per employee is the figure WSDOT would report for a site's VMT per employee statistic. If this

office were subject to WSDOT's 2007/2008 VMT reduction goal of 18%, the office would therefore be trying to attain an individual VMT per employee of 10.25 miles.

Table 2: Example WSDOT VMT Calculation

Employee	Commute Distance [mi]	Mode	Mode Factor	Individual VMT
1	15	Bus/Train	0	0
2	30	SOV	1	30
3	20	SOV	1	20
4	5	Bike	0	0
5	20	Carpool	0.33	6.7
6	20	Carpool	0.33	6.7
7	40	SOV	1	40
8	10	Bus/Train	0	0
9	15	SOV	1	15
10	20	Carpool	0.33	6.7
Total	**195**			**125**
Total/employee	**19.5**			**12.5**

One important factor this methodology does not take into account is the cost effectiveness of the TDM incentives used by the company. If Employee #2 were to switch modes and either commute by transit or by carpool, in both cases the office's individual VMT per employee would drop to 10.5 miles. However, if it costs the office $100 per month to subsidize a transit pass and $100 a month to pay for a carpool vehicle, it would be in the company's best interest to have Employee #2 join the existing carpool rather than start riding transit because of the cost savings. For the individual employee, there may be fewer barriers to entry for her to switch to transit, assuming there is service to the work site, compared to joining the existing carpool because of the effort needed to coordinate schedules amongst the passengers. The cost-benefit analysis of TDM programs has been the focus of research at both an employer and policy level (Concas and Winters 2007). Further complicating the perspective of how cost-effective TDM programs are is

the fact that some companies use TDM incentives as a recruiting tool to attract top talent (Wandler 2017). Approaching WSDOT's CTR program from a cost-benefit perspective is outside the scope of this research, but it is still a factor for companies who offer TDM incentives—especially those where commuting options are limited.

Preliminary Data Analysis

The first round of data analysis from the set of surveys provided by WSDOT focused on the survey responses to questions about mode choice. Individual respondents were asked to identify their personal top three reasons for Questions #11 and #12, but without ranking them in order. The percentage of respondents at each work site who included a given reason to one of the questions was then calculated (example: 62% of respondents at work site X identified "Save Money" as a top three reason for not driving to work). The top three reasons for Question #11 and Question #12 based on the response percentage calculated were identified for each work site to determine which answers were most popular by location. The number of times a reason was the #1, #2, or #3 reason for a work site was then summarized. Figure 2 and Figure 3 show the frequency of each reason for Questions #11 and #12, respectively, for all 499 work sites.

Question #11: When you do not drive alone to work, what are the three most important reasons?

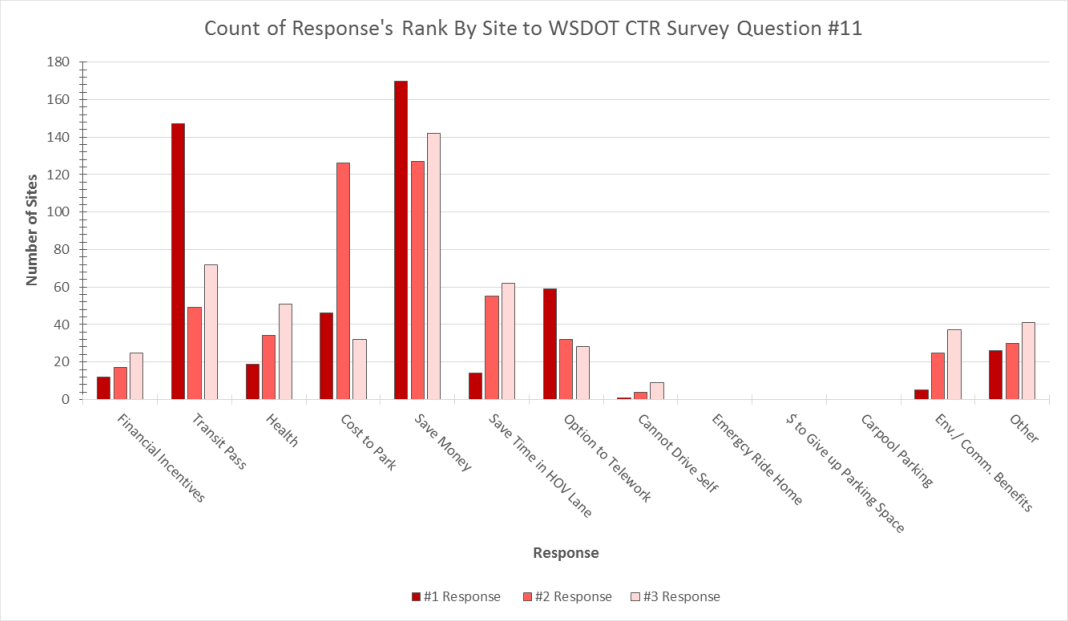

Figure 2: Count of Response Rank for WSDOT Question #11

Question #12: When you do drive alone to work, what are the three most important reasons?

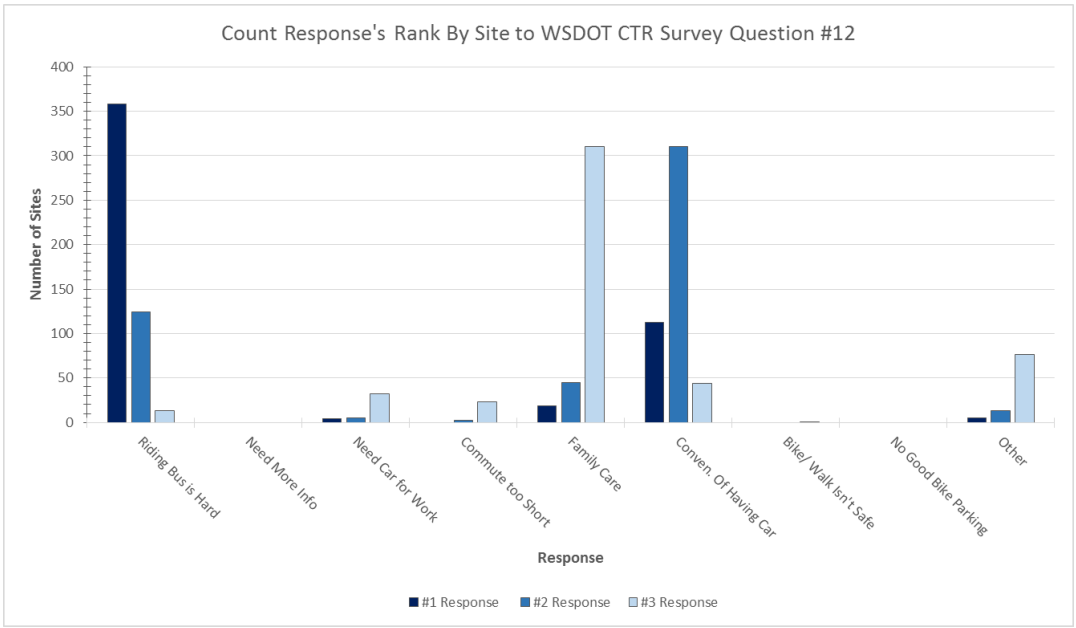

Figure 3: Count of Response Rank for WSDOT Question #12

The results for Question #11 show a range of responses having a dispersed distribution for the ranking at the surveyed work sites. Two responses, “Transit Pass” and “Save Money”, showed a clear distinction of being the #1 response at the most work sites with “Save Money” having the most work sites citing it as the #1 reason for not driving alone (170). After these two responses, the next highest survey response for #1 reason was “Option to Telework” with 59 work sites identifying it as the #1 reason. Somewhat unsurprisingly, “Save Money” also had the highest number of work sites where it was the #2 and #3 reason for not driving to work. Clearly, the financial savings of not driving alone to work, whether it be through the cost of parking, gas, maintenance, or other reasons, is a reason that carries a lot of weight in the minds of survey respondents. One difficult piece of information to interpret is how the survey respondents distinguished the response of “Save Money” versus other answers related to financial savings such as “Financial Incentives” and “Cost to Park”. An individual may prefer one of these of these incentives over another, but because the survey does not ask the respondents to rank their choices, there is no way to determine this. It is interesting to note that “Emergency Ride Home”, “Money to Give Up Parking”, and “Carpool Parking”—all common TDM policies implemented by companies—did not rank in the top three reasons for any of the sites surveyed. Table 3 shows a break down for each survey answer and the number of times it ranked in the top three at a survey site.

Table 3: Work Site Rank Count for Question #11 Responses

Response	Count of Response Rank			Total Count
	#1	#2	#3	
Financial Incentives	12	17	25	54
Transit Pass	147	49	72	268
Health	19	34	51	104
Cost to Park	46	126	32	204
Save Money	170	127	142	439
Save Time in HOV Lane	14	55	62	131
Option to Telework	59	32	28	119
Cannot Drive Self	1	4	9	14
Emergency Ride Home	0	0	0	0
Money to Give Up Parking Space	0	0	0	0
Carpool Parking	0	0	0	0
Env./ Comm. Benefits	5	25	37	67
Other	26	30	41	97

Survey results for Question #12 show a clear distinction between which responses ranked #1, #2, and #3 most often. “Riding Bus is Hard” had by far the most sites ranking it as the #1 reason why employees did drive to work alone (358 sites). The next closest response “Convenience of Having a Car” only had 113 sites rank it as the #1 reason. “Convenience of Having a Car” did have the most sites ranking it the #2 reason (310) followed by “Riding Bus is Hard” (124). “Family Obligations” had the highest number of work sites ranking it #3 (310). “Need Car for Work”—a common reason many give for not using an alternative mode for commuting—only ranked in the top three responses for 41 work sites and it ranked #3 at 32 of those 41 sites. Just like in the survey responses for Question #11, how survey respondents distinguished between the possible choices and their individual ranking of these choices cannot be determined the way the data is currently collected. Table 4 shows the total number of top three rankings for each possible response to Question #12.

Table 4: Work Site Rank Count for Question #12 Responses

Response	Count of Response Rank			Total Count
	#1	#2	#3	
Riding Bus is Hard	358	124	13	495
Need More Info	0	0	0	0
Need Car for Work	4	5	32	41
Commute too Short	0	2	23	25
Family Care	19	45	310	374
Convenience of Having Car	113	310	44	467
Bike/ Walk Isn't Safe	0	0	1	1
No Good Bike Parking	0	0	0	0
Other	5	13	76	94

During the initial review of the historical data from WSDOT, it appeared the businesses with the most consistent ability to meet their VMT goals were in urban locations—particularly Seattle, WA and Bellevue, WA for King County data. There were a total of 71 work sites within King County in 2015/2016 that met their VMT per employee goal. Of these 71 sites, 57 were located in Seattle, which equates to 80% of the 71 sites. Bellevue, the next closest city in terms of sites meeting their VMT per employee goal, had 7 sites (10%). No other city had more than 2 sites to meet their goal. Of the cities in King County, Seattle is the only one showing an ability for a comparatively large number of sites to meet their VMT per employee goal.

There was a clear clustering of work sites able to meet their goal in Seattle versus non-Seattle locations. Separating the survey responses by city jurisdiction could give insight into how the survey responses changed depending on where the work site was located. The sample of Seattle work site locations is comprised of 254 sites (51% of total) and 77,948 survey responses (54% of total). Figure 4 and Figure 5 show the survey responses for CTR locations inside and outside the city of Seattle, respectively, for WSDOT Question #11. There is a clear distinction between the sets of responses where “Transit Pass” has the highest amount of #1 rankings among the sites for

why someone does not drive to work alone. “Cost to Park” has nearly the same amount of #2 response ranks as “Transit Pass” has for #1 ranks. “Save Money” also a similar number of #3 response ranks as the leading #1 and #2 responses. A narrative could be formed from this Seattle data where the combination of high parking costs and subsidized transit passes form an attractive alternative for the people to commute to work because of the cost savings. This narrative is also supported by the fact that survey respondents were asked to identify their top three reasons and these three responses showed the most frequency of Seattle work sites. Some combination of these factors likely outweigh the other factors when a Seattle commuter is making a mode choice decision. “Save Money” has the highest amount of total ranked responses for Seattle locations. Similarly, the non-Seattle locations also identify “Save Money” as the most ranked response, but, “Transit Pass” and “Cost of Parking” also have significantly fewer ranked responses compared to Seattle locations. Totals for each possible response to Question #11 between Seattle and non-Seattle locations are shown in Table 5 and Table 6, respectively.

Question #11: When you do not drive alone to work, what are the three most important reasons?

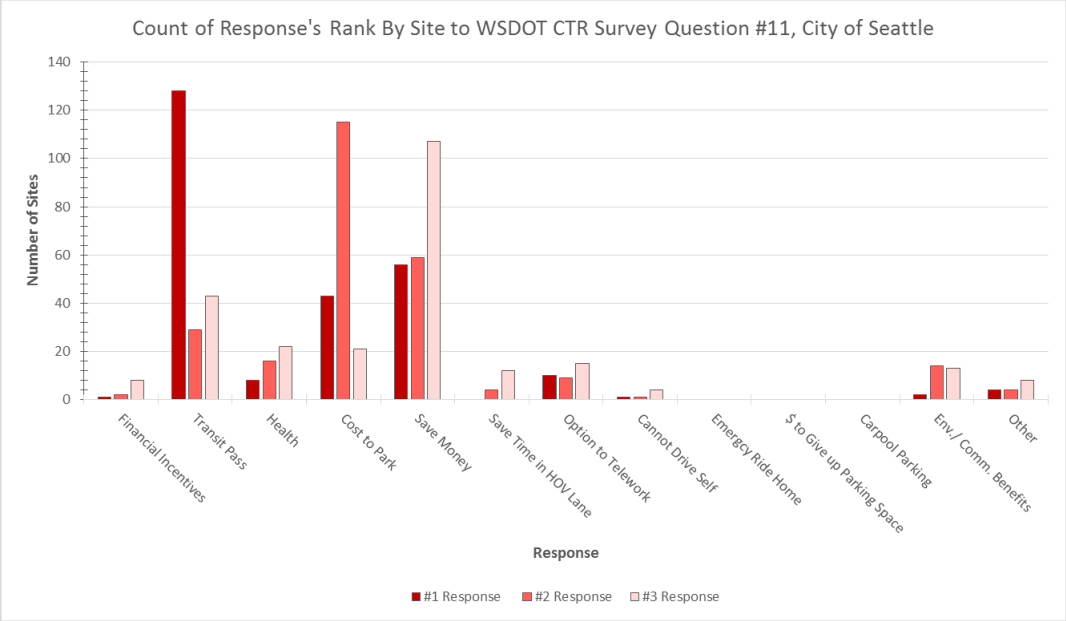

Figure 4: Count of Response Rank for WSDOT Question #11, City of Seattle Locations

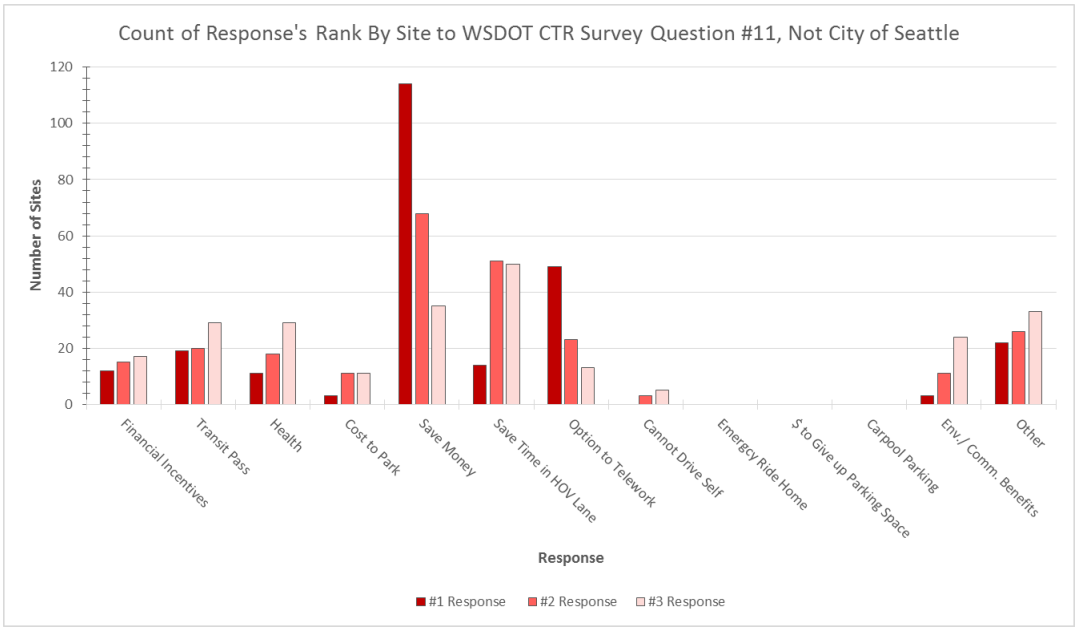

Figure 5: Count of Response Rank for WSDOT Question #11, Non-Seattle Locations

Table 5: Response Rank Totals WSDOT Question #11, Seattle Locations

Response	Count of Response Rank			Total Count
	#1	#2	#3	
Financial Incentives	1	2	8	11
Transit Pass	128	29	43	200
Health	8	16	22	46
Cost to Park	43	115	21	179
Save Money	56	59	107	222
Save Time in HOV Lane	0	4	12	16
Option to Telework	10	9	15	34
Cannot Drive Self	1	1	4	6
Emergency Ride Home	0	0	0	0
Money to Give up Parking Space	0	0	0	0
Carpool Parking	0	0	0	0
Env./ Comm. Benefits	2	14	13	29
Other	4	4	8	16

Table 6: Response Rank Totals WSDOT Question #11, Non-Seattle Locations

Response	Count of Response Rank			Total Count
	#1	#2	#3	
Financial Incentives	11	15	17	43
Transit Pass	19	20	29	68
Health	11	18	29	58
Cost to Park	3	11	11	25
Save Money	114	68	35	217
Save Time in HOV Lane	14	51	50	115
Option to Telework	49	23	13	85
Cannot Drive Self	0	3	5	8
Emergency Ride Home	0	0	0	0
Money to Give up Parking Space	0	0	0	0
Carpool Parking	0	0	0	0
Env./ Comm. Benefits	3	11	24	38
Other	22	26	33	81

Responses to WSDOT's Question #12 shows very little distinction between Seattle and non-Seattle CTR locations. Figure 6 and Figure 7 show the survey results for WSDOT Question #12 for Seattle and non-Seattle work sites, respectively. "Riding Bus is Hard" is the most common #1 ranked response, "Convenience of Having Car" is the most common #2 ranked response, and "Family Care" is the most common #3 ranked response for both Seattle and non-Seattle work sites. Table 7 and Table 8 summarize the total rankings for each response for Seattle and non-Seattle work sites, respectively. It is interesting to note that while there are some small differences in the reasons why survey respondents did not drive to work alone, the same differences do not appear when comparing reasons why survey respondents did drive to work alone. The average SOV commute percentage for sites in Seattle was 35% compared to 69% for non-Seattle sites. Most of this difference is likely made up by the difference in transit commuters (Bus % + Train %). Seattle has a transit percentage of 38% while non-Seattle locations have a transit percentage of only 8%. The data points to a clear distinction in commuting behaviors between Seattle and non-Seattle locations. Several factors could be contributing to this difference including the types of jobs located in each city, availability of free parking, transit accessibility, demographics, etc. Some of these factors may contribute to a work site's ability to meet its VMT per employee goal. The next part of this research will attempt to identify transit accessibility's role in a work site meeting its VMT per employee goal and how a site's goal may be modified depending on its transit accessibility.

Question #12: When you do drive alone to work, what are the three most important reasons?

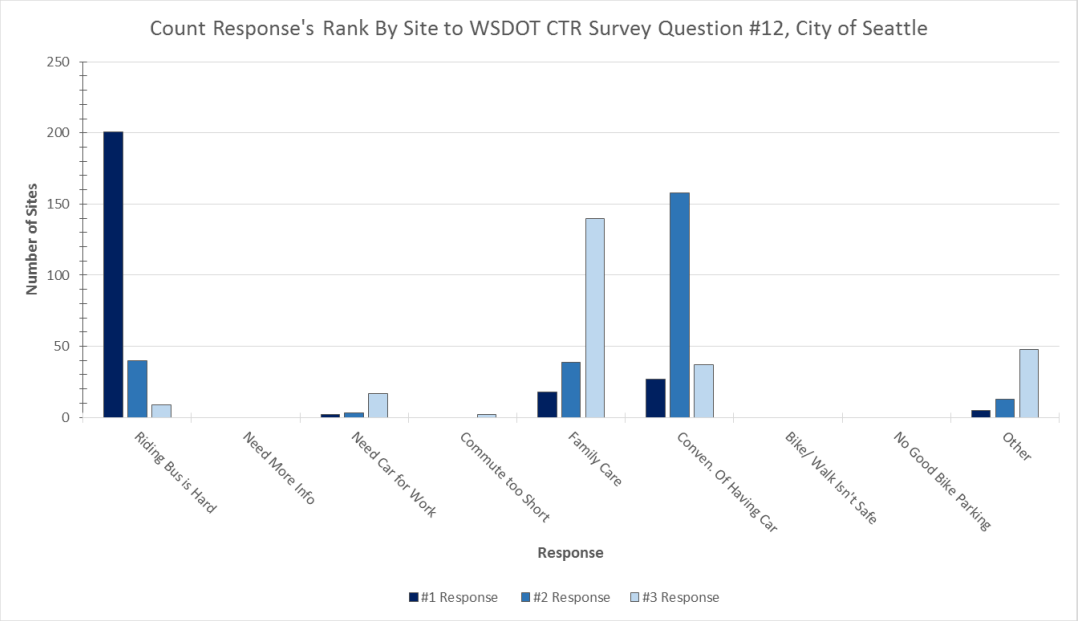

Figure 6: Count of Response Rank for WSDOT Question #12, Seattle Locations

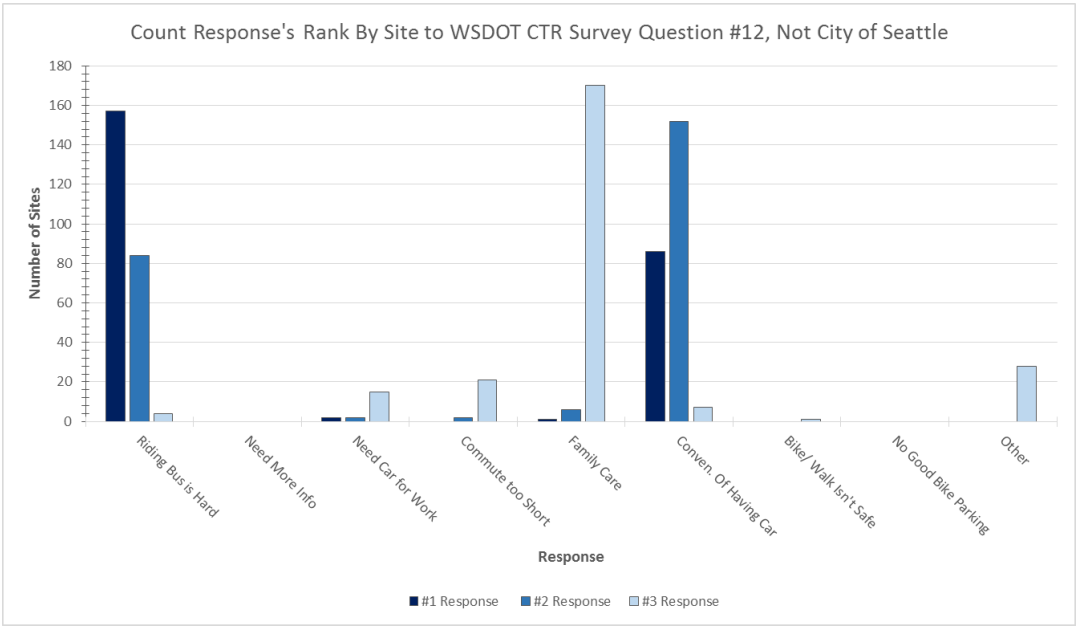

Figure 7: Count of Response Rank for WSDOT Question #12, Non-Seattle Locations

Table 7: Response Rank Totals WSDOT Question #12, Seattle Locations

Response	Count of Response Rank			Total Count
	#1	#2	#3	
Riding Bus is Hard	201	40	9	250
Need More Info	0	0	0	0
Need Car for Work	2	3	17	22
Commute too Short	0	0	2	2
Family Care	18	39	140	197
Convenience Of Having Car	27	158	37	222
Bike/ Walk Isn't Safe	0	0	0	0
No Good Bike Parking	0	0	0	0
Other	5	13	48	66

Table 8: Response Rank Totals WSDOT Question #12, Non-Seattle Locations

Response	Count of Response Rank			Total Count
	#1	#2	#3	
Riding Bus is Hard	157	84	4	245
Need More Info	0	0	0	0
Need Car for Work	2	2	15	19
Commute too Short	0	2	21	23
Family Care	1	6	170	177
Convenience Of Having Car	86	152	7	245
Bike/ Walk Isn't Safe	0	0	1	1
No Good Bike Parking	0	0	0	0
Other	0	0	28	28

Statistical Analysis Using Logit Modeling

Site Selection

While the WSDOT CTR survey results provided useful background information, they did not provide any statistically significant data about the role of transit accessibility with respect to a site's ability to meet its VMT per employee goal. In order to determine transit accessibility's significance, locational data about the sites would need to be collected and a method to measure transit accessibility would need to be developed. CTR data for each work site would need to be contained in both the 2015/2016 WSDOT CTR survey results and in WSDOT's historical data as only sites with 2015/2016 survey data and 2007/2008 historical VMT data could be used. As was stated earlier, the methodology of this research uses the 18% reduction in calculated VMT per employee last established in 2007/2008 rather than the current jurisdiction-defined goals outlined in city CTR plans. The WSDOT target reduction goal was chosen for its uniformity and because data about VMT per employee reductions is not publicly available for all jurisdictions in King County at this time. Additionally, only sites that were required to participate in the WSDOT CTR survey were chosen (some sites choose to voluntarily participate in the program). These criteria left 304 King County work sites as a sample to work from. Of these 304 sites, 165 sites were located in Seattle—roughly 54%—as well as 55% of survey responses from the 304 sites. The location of these work sites was entered into ArcMap GIS software. A map of their locations is shown in Figure 8 and whether a site was able to meet its CTR goal is shown in Figure 9. There is a large cluster of sites in the downtown Seattle area with a much smaller cluster in the downtown Bellevue area as well. The remaining sites mostly located in surrounding municipalities with a small number in unincorporated King County.

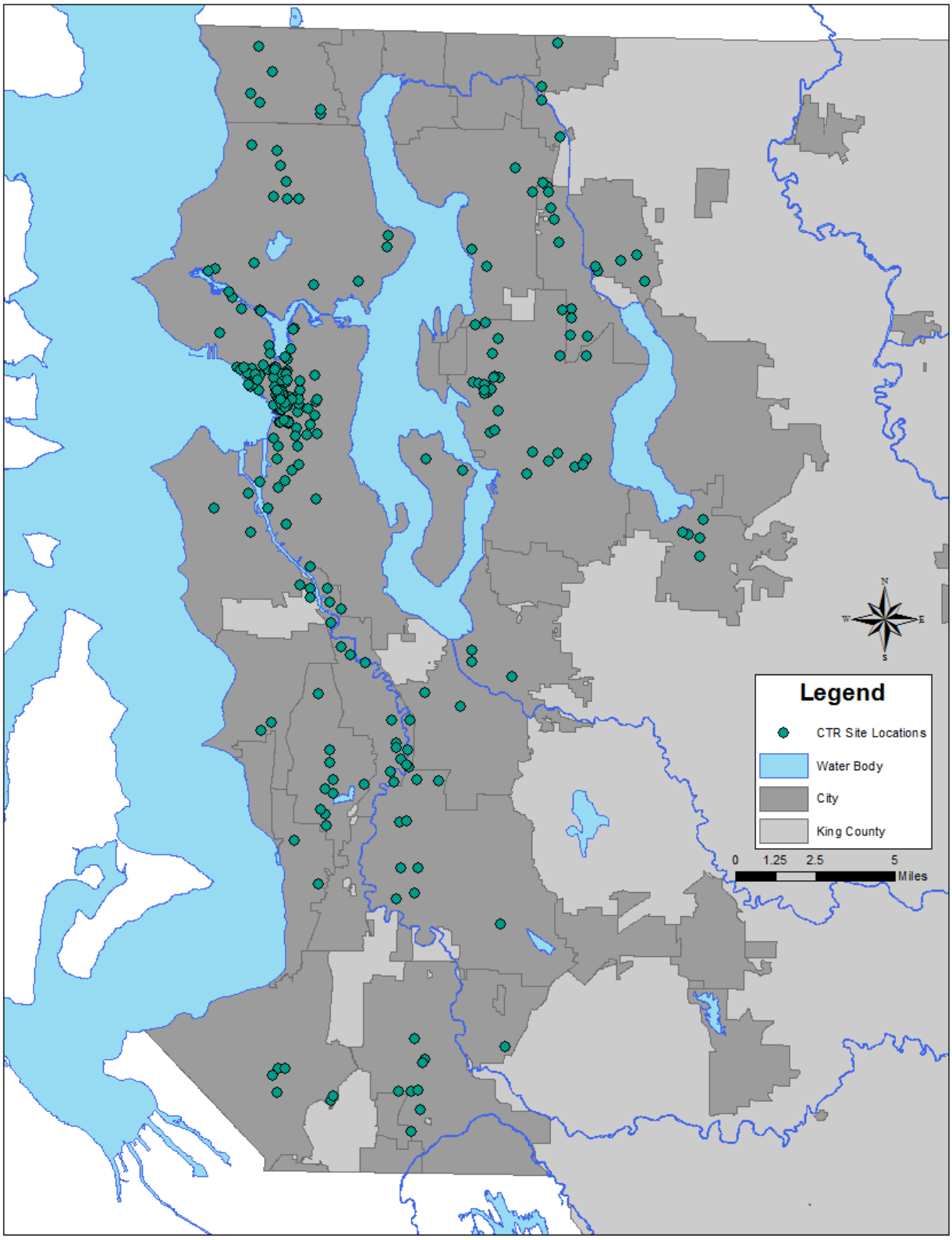

Figure 8: WSDOT CTR Sites Selected for Modeling Analysis

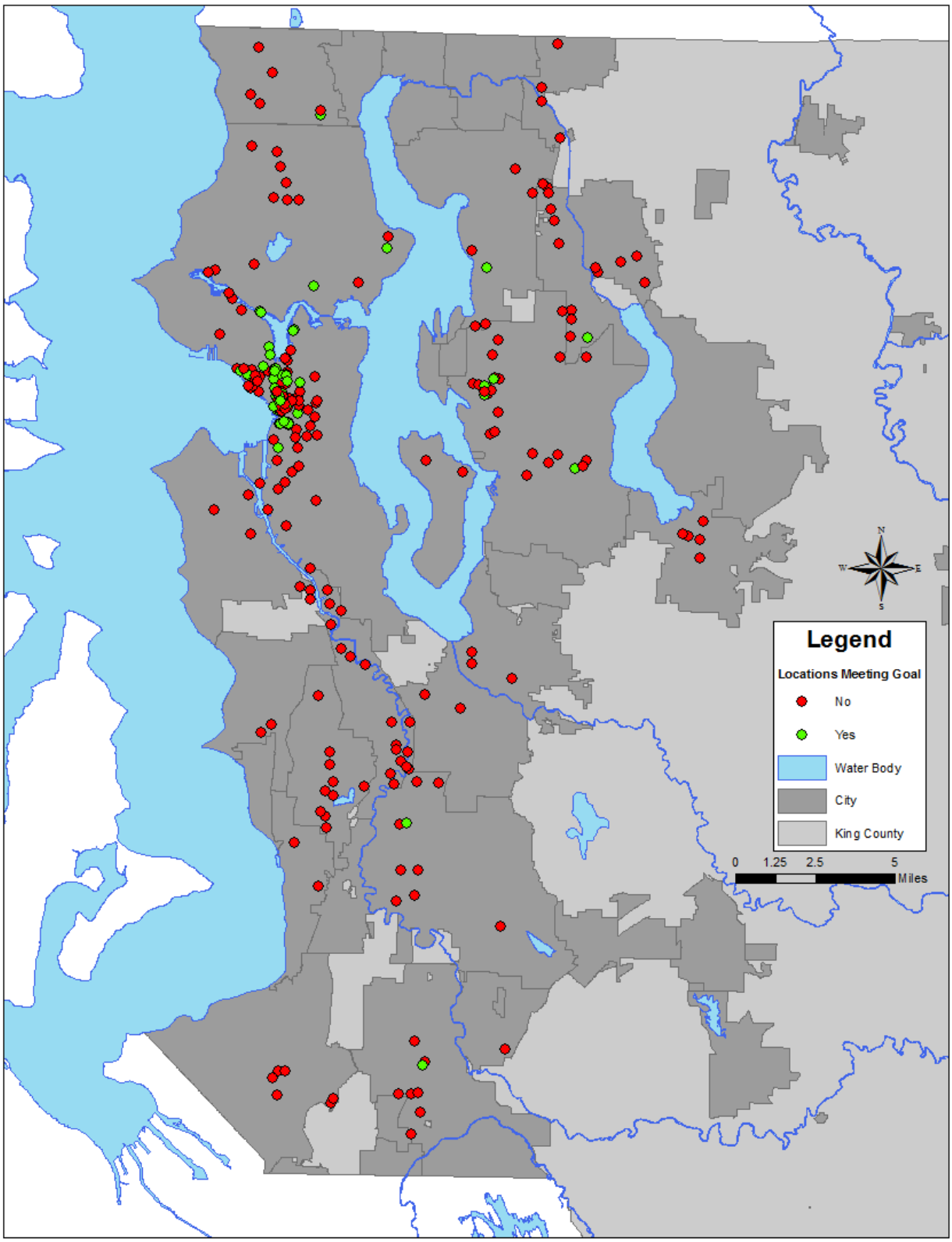

Figure 9: King County CTR Work Sites Meeting WSDOT VMT Goal

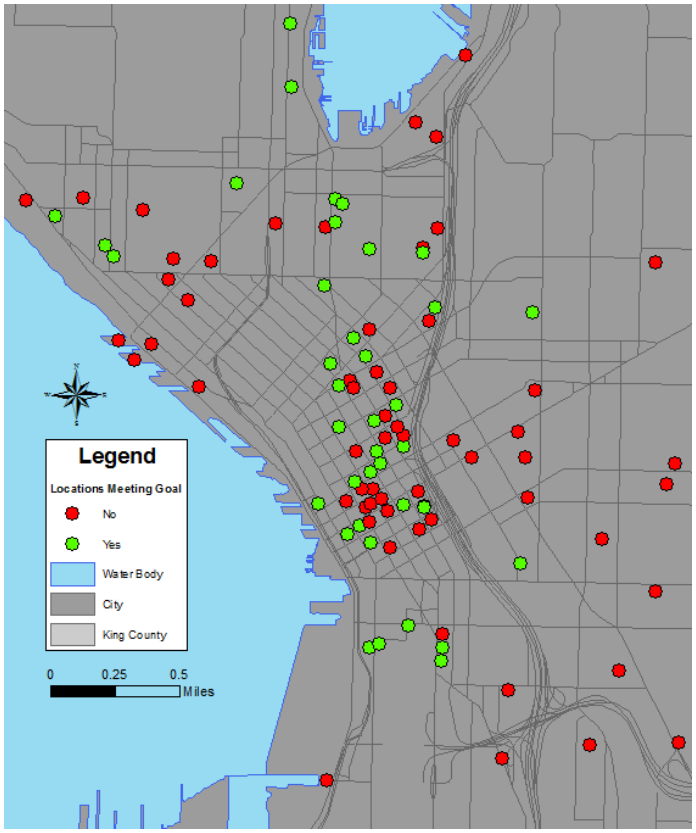

Figure 10: Downtown CTR Work Sites Meeting WSDOT VMT Goal

Preliminary Logit Models

A logit model was estimated using the mode split data contained in WSDOT's historical data set. A site's 2015/2016 SOV, walk, and bus mode splits were used as independent variables and were compared to a binary dependent variable indicating whether or not a work site met its VMT per employee goal ("1" for met goal, "0" for did not meet goal). Other transit modes, such as light rail or car/passenger ferry, were not included in the analysis due to their narrow service areas which overlap with areas of high bus transit service. Table 9 shows the results of this logit model.

Table 9: Mode Split Logit Model

Logistic regression — Number of obs = 304; LR chi2(3) = 85.15; Prob > chi2 = 0.0000; Log likelihood = -122.65946; Pseudo R2 = 0.2577

meet_goal	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
sov	-6.140258	1.620332	-3.79	0.000	-9.316051	-2.964466
walk	4.862836	4.674119	1.04	0.298	-4.298268	14.02394
bus	-1.417511	1.863776	-0.76	0.447	-5.070446	2.235424
_cons	1.762629	1.188523	1.48	0.138	-.5668338	4.092092

The results of the mode share logit model show SOV being the only significant independent variable. As was explained earlier in this thesis, the VMT WSDOT uses when calculating the VMT per employee is based on a VMT per individual per mode. A single commuter in a SOV therefore would contribute the most on a per-individual level compared to commuters in other modes where the VMT is dispersed among multiple occupants. Therefore, the high significance of the SOV mode split to a site's ability to meet its VMT goal is to be expected. The negative coefficient of SOV is expected because as the SOV mode split of a site increases, it is expected their VMT per employee would increase as well, and therefore a lower likelihood the site would achieve its reduction goal.

A second model was ran using these 304 work sites where each response to WSDOT Question #11 and Question #12 were included as an independent variable and the site meeting it's VMT per employee goal was again a binary dependent variable. This model would therefore represent the significance of the self-identified responses WSDOT currently collects as part of its CTR survey. Rather than using the variable's ranking at each individual work site as the value of the

independent variables, the raw percentage of survey respondents identifying the variable in their top-three reasons for each question was used in this model. Variable abbreviations are listed below and the results of this logit model are shown in Table 10.

- cost2park: percent of surveys at each site that identified cost of parking as a top three reason why they do not drive alone to work
- transitpass: percent of surveys at each site that identified a subsidized transit pass as the reason why they do not drive alone to work
- financialincentives: percent of surveys at each site that identified financial incentives for commuting by alternative mode as a reason why they do not drive alone to work
- health: percent of surveys at each site that identified personal health as a reason why they do not drive alone to work
- savemoney: percent of survey responses that identified saving money as a reason why they do not drive alone to work
- savetimeinhovlane: percent of survey responses that identified saving time by traveling in the HOV lane as a reason why they do not drive alone to work
- telework: percent of survey responses that identified having the ability to telework as the reason why they did not drive alone to work
- ridingbusishard: percent of survey responses that identified riding the bus is hard as a reason why they do drive alone to work
- carconven: percent of survey responses that identified the convenience of having a car as a reason why they did drive alone to work
- family: percent of survey responses that identified family obligations as a reason why the did drive alone to work

Several possible responses to Questions #11 and #12 included in the survey were not included in the logit model because they never ranked in the top three responses for a site or had almost no #1 or #2 ranks of all the surveyed sites. Question #11 responses that were excluded from the model include “Cannot drive self”, “Emergency ride home”, “Money to Give up Parking”, “Preferred/Reserved Carpool Parking”, and “Environmental/Community Benefits”. Question #12 responses that were excluded from the model include “Need More Information on Alternative Modes”, “Need Car for Work”, “Commute Too Short”, “Biking/Walking Isn’t Safe”, “No Secured or Covered Bike Parking”, and “Other”.

Table 10: Preliminary Logit Model with WSDOT Survey Responses

Logistic regression — Number of obs = 304; LR chi2(10) = 98.48; Prob > chi2 = 0.0000; Log likelihood = -115.99266; Pseudo R2 = 0.2980

goal	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
cost2park	2.881898	1.475352	1.95	0.051	-.0097387	5.773534
transitpass	4.156086	1.119196	3.71	0.000	1.962502	6.34967
financialin~s	1.459182	2.51305	0.58	0.561	-3.466306	6.38467
health	2.580377	2.911754	0.89	0.376	-3.126556	8.28731
savemoney	5.24759	2.8343	1.85	0.064	-.3075368	10.80272
savetimehov~e	-.3595535	3.360748	-0.11	0.915	-6.946499	6.227392
telework	7.457316	1.56468	4.77	0.000	4.3906	10.52403
ridingbushard	-.1996469	2.752445	-0.07	0.942	-5.594341	5.195047
carconven	-4.717459	3.037477	-1.55	0.120	-10.6708	1.235887
family	-8.753379	3.252625	-2.69	0.007	-15.12841	-2.37835

Table 11: Pearson Coefficients Matrix for Logit Model

	cost2p~k	transi~s	financ~s	health	savemo~y	saveti~e	telework	carcon~n	riding~d	family
cost2park	1.0000									
transitpass	0.7226	1.0000								
financiali~s	-0.3509	-0.3112	1.0000							
health	-0.1077	0.1049	0.0876	1.0000						
savemoney	0.5949	0.4048	-0.0611	-0.2484	1.0000					
savetimeho~e	-0.2301	-0.1896	0.1564	-0.1688	0.2133	1.0000				
telework	-0.1713	-0.0978	0.0192	0.4020	-0.2443	0.1957	1.0000			
carconven	-0.6482	-0.5408	0.3698	0.0216	-0.2362	0.4727	0.2344	1.0000		
ridingbush~d	-0.4854	-0.3194	0.3107	0.3611	-0.3221	0.3628	0.4352	0.6895	1.0000	
family	0.5797	0.5828	-0.1167	0.1968	0.3779	-0.1295	0.0558	-0.4708	-0.1995	1.0000

As can be seen from the results, five survey responses were below or near the threshold of $p>0.05$ to show the independent variable's significance within the model. These five variables were "Cost to Park", "Transit Pass", "Save Money", "Telework", and "Family". It is interesting to note the "Family" variable having the third lowest p-value indicating there may be some correlation between that variables response rate and a site meeting its goal. "Transit Pass" and "Telework" had the lowest p-values indicating they had the most influence on a site's ability to meet its VMT per employee goal. "Riding the Bus is Hard", although having a high ranking in the site responses, did not show much significance within the model. This is likely due to the fact that the variable's ranking did not show much change between Seattle and non-Seattle locations and similarly between sites that did or did not meet their goal. This response does not give good specifics about what aspect of riding the bus is hard. Several factors including cost, scheduling, proximity, frequency, and physical ability could all fall under the blanket term that "riding the bus is hard". Separating some of these factors into individual responses may provide better reasoning into the response's popularity. Two other variables, "Cost to Park" and "Save Money", were near the $p<0.05$ threshold. The Pearson correlation matrix shown in Table 11 shows "cost2park" and "transitpass" as having the highest correlation of any pair of variables.

The model showed that the variable relating to transit subsidies (transitpass) was one of the most significant independent variables within the model. Yet, the model does not differentiate whether it is the cost savings that attracts people to transit or the access to transit near the work site that is the driving significance. The cost of parking was also near the $p<0.05$ threshold and also had higher response rates for Seattle locations than non-Seattle locations. How subsidized transit fares and the cost of parking relate to a site's ability to meet its VMT goal and its SOV mode split percentage when compared to transit accessibility are comparisons that could be made by including transit accessibility within the model. Overall, this model provided enough justification to pursue development of a transit accessibility indicator that could measure the level of transit infrastructure and/or service near a work site which could then be compared to a site's ability to meet its VMT goal and its SOV mode split.

Developing a Transit Indicator

A widely available transit accessibility indicator is the Transit Score® calculated by Walk Score®. Despite its easy availability, Transit Score® was not used in this research because of its weighting criteria for its different modes of transit service. Transit Score® assigns weights of 2x, 1.5x, and 1x for heavy/light rail, ferry/cable/car/other, and buses, respectively (Walk Score 2017). It is not clear how these weights are derived and if they serve the purpose to account for mode attractiveness or capacity. In a hypothetical example, a cable car in mixed-traffic with 10-minute headways would score higher than a bus on the same route with the same capacity and headway even though it could be argued their usefulness to the rider is the exact same. Walker argues Transit Score® also penalizes the speed of the transit mode as well as the coverage the nearby transit routes offer to other parts of the city within a defined period of time for the sake of

proximity to the user's location (Walker 2017). For these reasons, Transit Score® was not used in this research.

The literature review conducted prior to the start of this research showed many possibilities of how a transit indicator may be constructed. After reviewing the literature and determining strengths and weaknesses of each method, several guidelines were created to help develop an indicator:

- The indicator should measure transit accessibility within a standard area around each work site.
- The indicator should reflect transit infrastructure and if possible level of transit service.
- The indicator should reflect conditions at the time data was collected for the 2015/2016 survey cycle.
- The indicator should be easily replicable for any CTR work site no matter the amount of work site data available (applicable to new sites).

King County Metro GIS data was used to create an ArcMap file of transit routes and transit stops that represented a hybrid of 2015 and 2016 service conditions. Transit stop locations were filtered to exclude layover and other non-passenger service transit stop locations included in the original data set. One assumption included in the development of this hybrid network was the exclusion of the U-Link Light Rail expansion by Sound Transit in March 2016 (Sound Transit n.d.). Accompanying the U-Link expansion was a significant restructure of King County Metro bus routes in north Seattle. To the extent possible, this restructure was excluded from the

ArcMap file as well. Most of the work site responses (256 of 304) were conducted prior to these major transit service revisions that increased the population within coverage of Metro's frequent transit network by 43,700 people (King County Metro 2017). Because a site's VMT per employee and SOV mode split are calculated based on survey responses, these site statistics would not take into account the revised transit network. King County Metro does not publish stop-level ridership statistics system-wide and therefore stop ridership of routes was not taken into consideration when developing the transit accessibility indicator.

A quarter-mile, radial defined (straight line) buffer around each of the 304 CTR worksites was used instead of a network defined (sidewalk/road path) quarter-mile or half-mile walkshed. There is no consensus about whether a quarter-mile or half-mile walkshed is the industry standard and thus the quarter-mile radial buffer would capture transit infrastructure and service at a minimum of a quarter-mile network distance and longer. Using a radial distance also reduces the complexity of calculating the buffer area for sites.

Four different methodologies were used to create a transit accessibility indicator for each of the 304 work site locations. A location's transit accessibility indicator was then plotted against the site's SOV mode split percentage. SOV mode split percentage was chosen as the dependent variable to measure transit accessibility because it was determined to have the most significant impact of all mode choices on a site's ability to meet its VMT goal and the purpose of creating the transit indicator was to measure the significance transit accessibility has on a site to meet its VMT goal.. An exponential trendline was used to evaluate the R-squared value between the

indicator and SOV mode split percentage. The four methodologies evaluated within a quarter-mile of the sites are listed below:

- Number of Route Stops – summation of the number of times transit routes stops at a pick-up location. If a single route stopped at two locations within the quarter mile, both stops would be counted
- Number of Transit Stops – the number of locations where buses/trains pick up passengers
- Total Ridership of Routes – total average weekday ridership of transit routes stopping within a quarter-mile of the work site. This indicator does not measure stop-level ridership and uses the ridership for the whole transit route.
- Number of Unique Transit Routes – the number of individual transit routes that serve pick-up locations within the quarter-mile buffer

Plots for each of the transit indicators are shown in Figures 11 through 14.

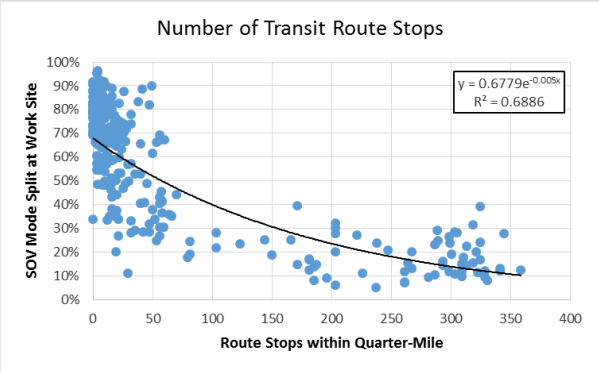

Figure 11: Transit Indicator, Number of Route Stops

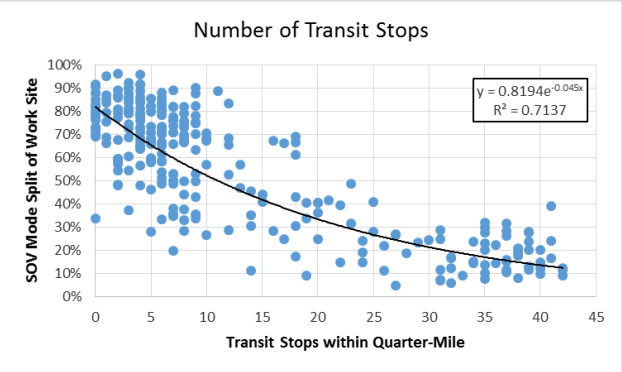

Figure 12: Transit Indicator, Number of Transit Stops

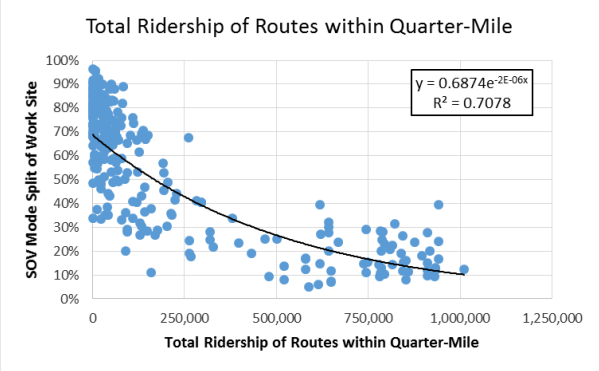

Figure 13: Transit Indicator, Total Ridership of Routes

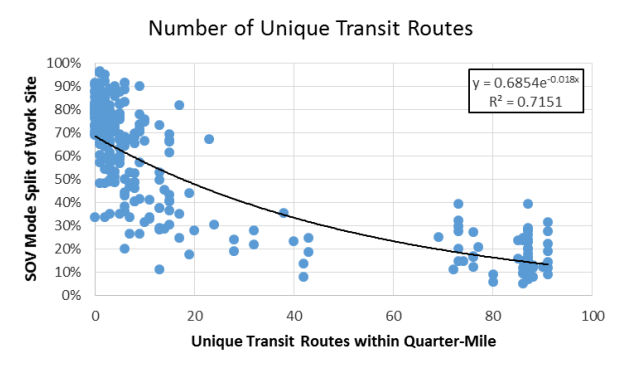

Figure 14: Transit Indicator, Number of Unique Routes

The potential transit indicators developed had R-squared values ranging from 0.6886 to 0.7151 showing that transit accessibility seemed to have a similar correlation to SOV mode split percentage between the four methods. Number of Transit Stops was chosen as the best indicator for two primary reasons; it had a similar R-squared value to the indicator with the highest correlation –Number of Unique Routes—but unlike Number of Unique Routes, it did not have as severe of clustering of its indicator scores. Most of the indicator scores for Number of Unique Routes were clustered at either 0-5 or 75-85 with the high cluster representing downtown Seattle work sites. This left a sizeable gap in the data where intermediate scores were sparse. If this indicator was implemented as a method to predict an expected SOV mode split percentage it could be argued it was not constructed with enough intermediate data points between locations

with extremely high or extremely low levels of transit access. Conversely, Number of Transit Stops had a more evenly dispersed range of indicator scores although it too had some clustering from 0-10 and 35-40. Overall, Number of Transit Stops is justified as a logical indicator of transit accessibility because it takes into account the transit infrastructure surrounding a site and it indirectly measures transit service by measuring the density of transit stops around a work site. It is easy to anticipate transit service increasing as density of transit stops increases within a defined area. The only way this statement would not be true is if stop spacing on transit routes decreased. The other benefits this indicator has over the others is it is conceptually easy to understand and measure and does not rely on ridership statistics that may change with route reorganizations. Figure 15 shows the transit accessibility scores as defined by the number of transit stops within a quarter-mile for the King County CTR sites. Figure 16 shows the transit access scores for CTR work sites in downtown Seattle. Even within downtown Seattle, there is a clear distinction of transit access scores between the downtown core and locations outside of the core. Similar to the distribution of sites meeting the 18% reduction in VMT per employee, the transit scores show a clustering of sites scoring 26 and higher in the downtown Seattle area while most sites in the surrounding cities have scores in the 0-5 or 6-15 range. This graphic shows the comparable advantage work sites in downtown Seattle have over suburban sites in terms of transit infrastructure available.

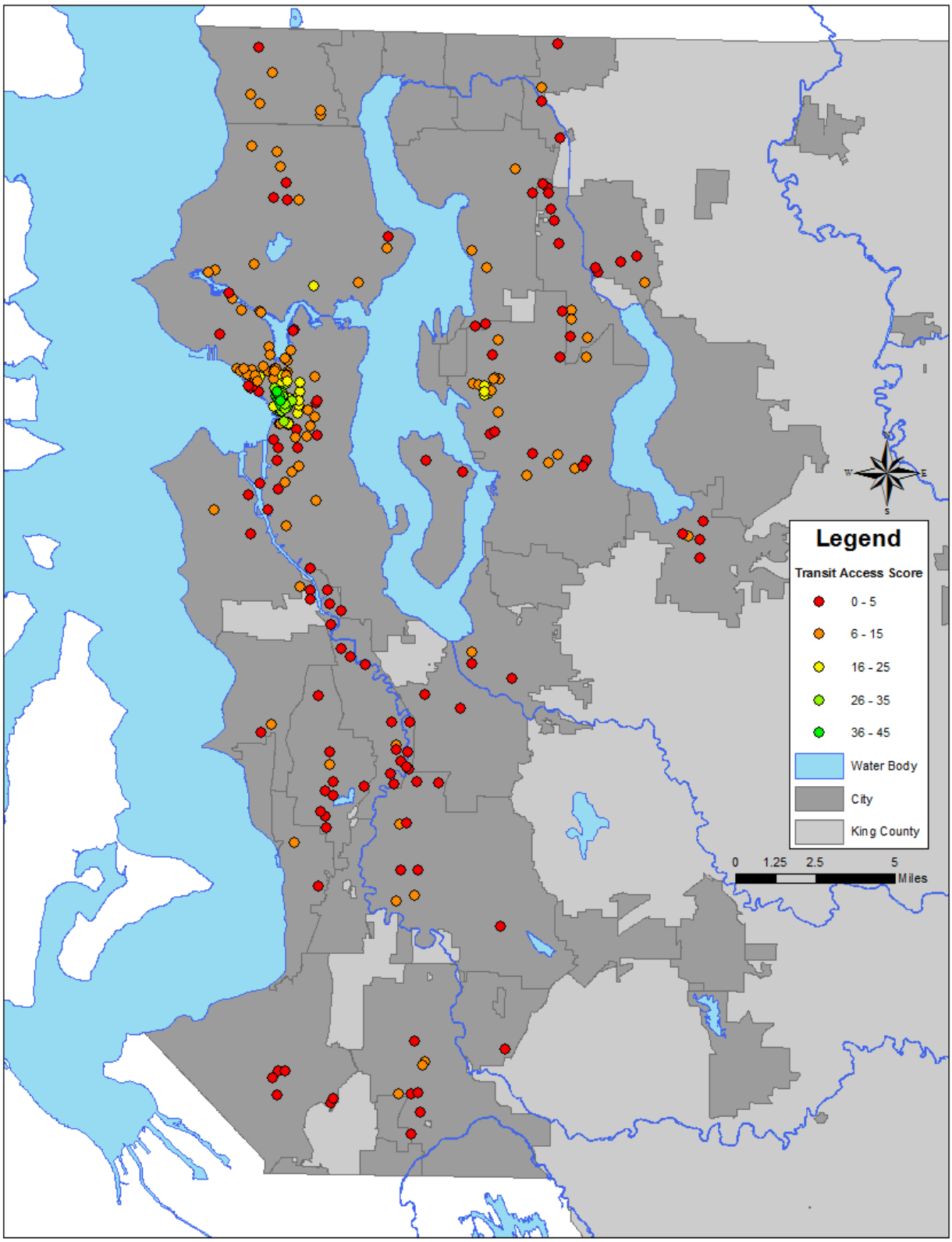

Figure 15: Map of Transit Accessibility Scores

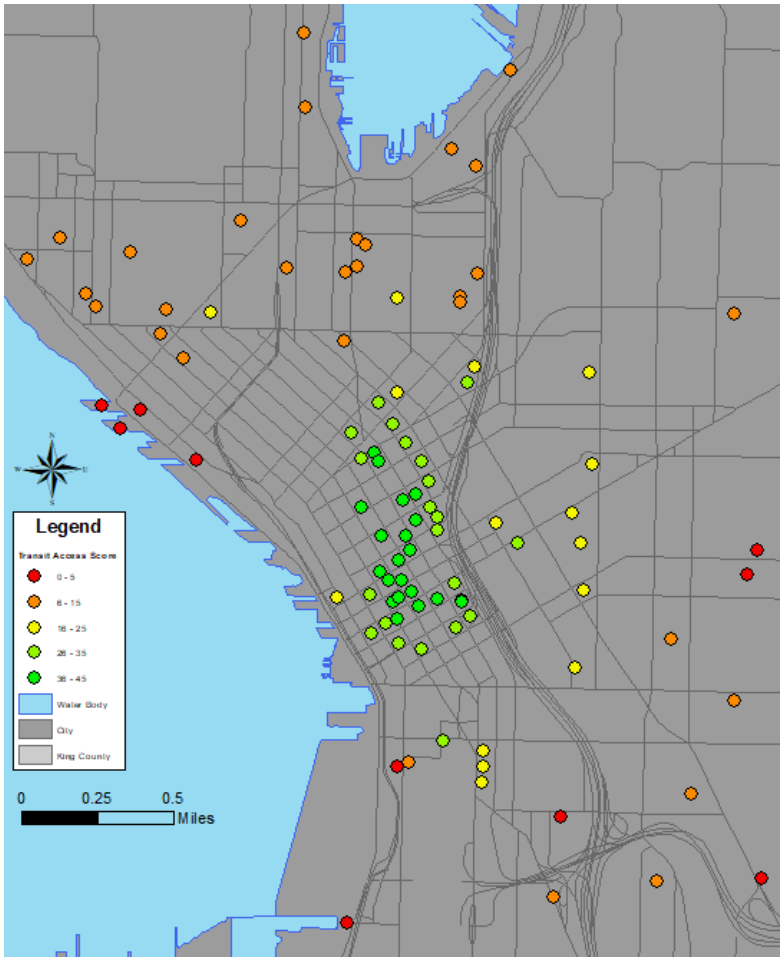

Figure 16: Downtown Seattle CTR Locations

A similar regression analysis was performed with the percent of survey respondents who identified the cost of parking a reason why they did not drive to work alone compared to a site's SOV percentage. An exponential regression of these two variables produced an R-squared value of 0.79—very close to the R-squared value of the transit indicator. This gives an indication that transit accessibility could have a similar correlation to SOV mode split as a common TDM tool used by work sites. However, the transit accessibility indicator provides an additional advantage over the influence of the cost of parking because it can be directly measured independently of a

survey which is subject to individual bias. The transit accessibility indicator quantifies an element of the built environment around the work site and not a response by individuals that could be influenced by the availability of off-site parking or a policy put in place by a company. Figure 17 shows the comparison of cost of parking survey percentage versus a site's SOV mode split.

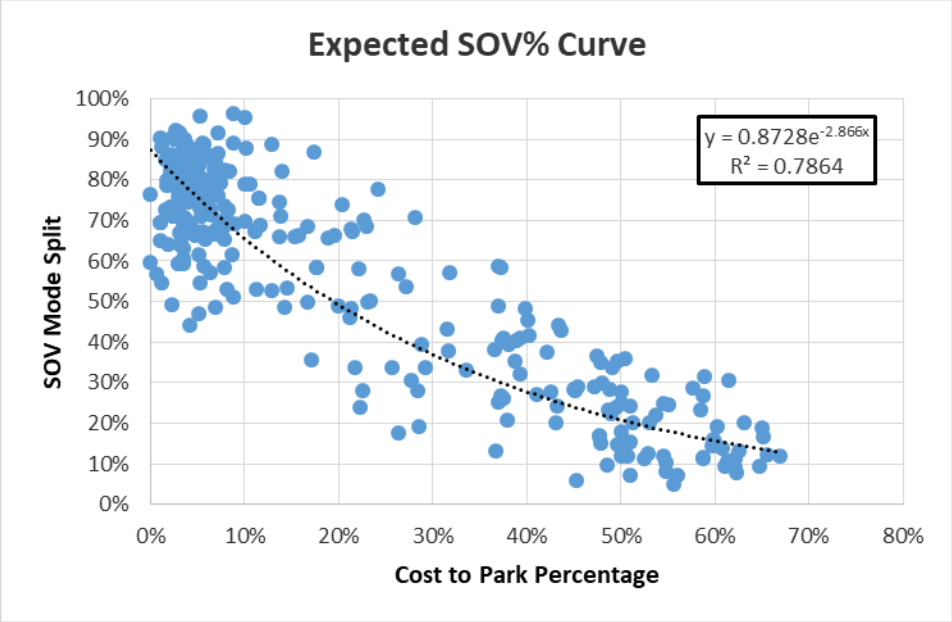

Figure 17: Expected SOV Percentage from Cost of Parking Percentage

Revised Logit Model #1

The preliminary logit model using survey response data was updated to include significant factors from the previous model as well as SOV mode share and transit accessibility scores. Additionally, a studentized residual test was performed on the data using the percent of a site's VMT goal as the dependent variable and SOV mode split as the independent variable. A site's measured VMT per employee was calculated as a percent of its VMT per employee goal as a way to create a linear regression showing the relationship between a site's SOV mode split and whether or not it was able to meet its VMT per employee goal (sites at 100% met their VMT

goal, sites over 100% did not meet their VMT goal, and sites below 100% had a VMT per employee below their target VMT per employee). The mode split logit model previously showed SOV mode split as the only statistically significant mode split for a site to meet its VMT goal. Because a residuals test could not be performed with a binary dependent variable, the percent of a site's VMT goal versus its SOV mode split was used to identify any outliers within the data set that could possibly influence any findings. Sites with a residual greater than 2.0 were removed from the data set because they had a dependent variable value greater than two standard deviations above the residual mean. This left a data set containing 294 work sites. Figure 18 and Figure 19 show plots of the sample set before and after the studentized residuals test, respectively. Table 12 shows the result of the revised logit model.

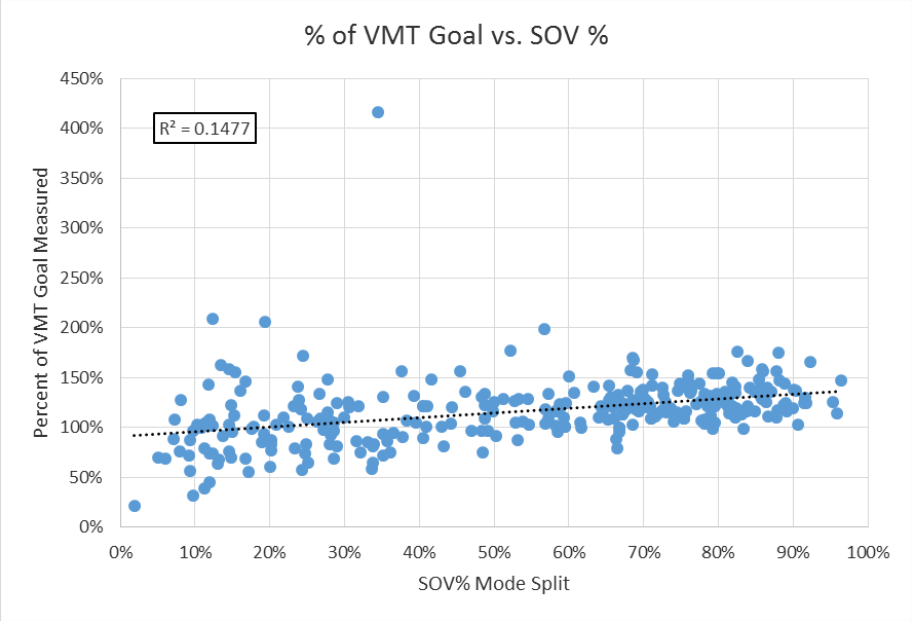

Figure 18: Percent of VMT Goal vs. SOV Mode Split – All Sites

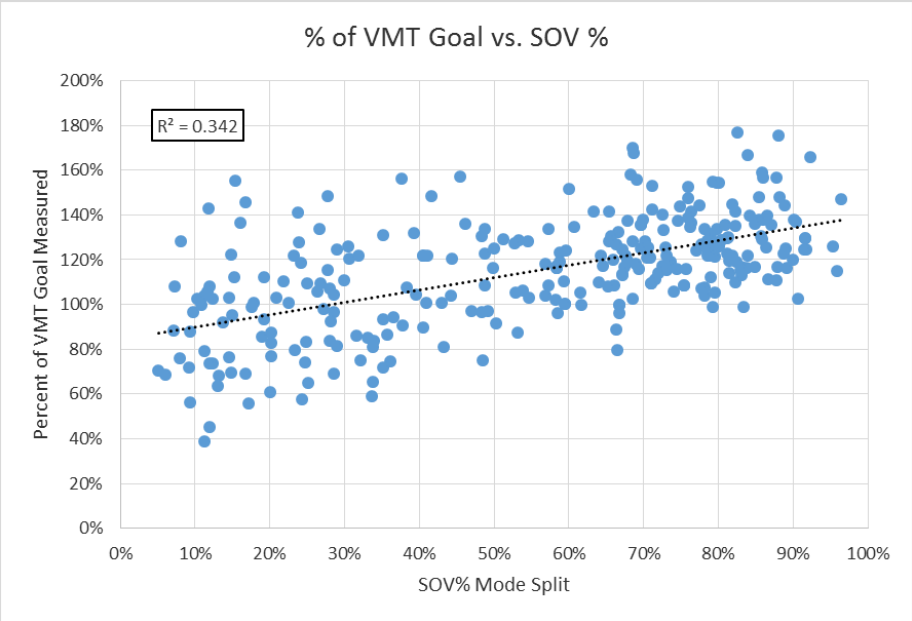

Figure 19: Percent of VMT Goal vs. SOV Mode Split – Revised Sample

Table 12: Revised Logit Model Describing Site's Ability to Meet CTR Goal

Logistic regression — Number of obs = 294; LR chi2(6) = 115.91; Prob > chi2 = 0.0000; Log likelihood = -102.23993; Pseudo R2 = 0.3618

goal	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
cost2park	.0098778	.0183898	0.54	0.591	-.0261655	.0459211
transitpass	.0197472	.0118579	1.67	0.096	-.0034939	.0429882
telework	.0488316	.014308	3.41	0.001	.0207883	.0768748
family	-.1087769	.0348953	-3.12	0.002	-.1771705	-.0403834
sov	-.0933608	.0215573	-4.33	0.000	-.1356124	-.0511092
num_stops	-.0551467	.0226961	-2.43	0.015	-.0996303	-.0106632
_cons	5.161134	1.97129	2.62	0.009	1.297475	9.024792

The revised logit model shows four variables having a significant association with a site's ability to meet its CTR goal: teleworking, family obligations, SOV mode split, and the transit indicator score "num_stops". An interesting observation from this model is the p-value of the cost to park variable, 0.591. There may be a couple reasons for this high p-value signifying a lack of

association with a site's ability to meet its CTR goal. The first possibility is the inclusion of new variables "sov" and "num_stops"., After including variables that were not responses to Questions #11 and #12 from the WSDOT CTR survey, "cost2park" may not have the same significance it held in previous logit models when the models only included survey response results. However, given the correlation seen between the percent of survey respondents who identified the cost of parking as a reason they do not drive alone to work compared to a site's SOV mode split, it does not make sense this would be the reason for the high p-value—especially because the transit indicator had a similar correlation but has a much lower p-value. A more likely reason given cost of parking's correlation to SOV mode split and similarity to the transit indicator is there is some amount of multicollinearity within the model. Multicollinearity may also help explain why the sign of the transit indicator coefficient and Z-score is the opposite of what would be expected given its correlation to SOV mode split. A multicollinearity test was performed on the variables within the model and the results are summarized in Table 13.

Table 13: Multicollinearity Test of Revised Logit Model

Correlation matrix of coefficients of logit model

e(V)	goal cost2p~k	transi~s	telework	family	sov	num_st~s
goal						
cost2park	1.0000					
transitpass	0.0207	1.0000				
telework	0.3651	0.2199	1.0000			
family	-0.1433	-0.2879	-0.2345	1.0000		
sov	0.5187	0.2860	0.1001	0.2835	1.0000	
num_stops	-0.1644	0.0885	0.0332	0.1280	0.5173	1.0000
_cons	-0.4711	-0.2656	-0.2238	-0.5157	-0.9197	-0.4747

Table 14: Pearson Coefficients Matrix for Revised Logit Model

	cost2p~k	transi~s	telework	family	sov	num_st~s
cost2park	1.0000					
transitpass	0.7306	1.0000				
telework	-0.1986	-0.0924	1.0000			
family	0.5826	0.5919	0.0196	1.0000		
sov	-0.8969	-0.7933	0.0553	-0.6368	1.0000	
num_stops	0.8195	0.6340	-0.1584	0.5038	-0.8277	1.0000

The multicollinearity test shows high correlation (absolute value >0.500) between SOV mode split and the cost of parking and transit indicator variables. This correlation should be expected given the previous results presented about the variables. The sign of the coefficient correlation is expected to be opposite of the sign of the correlation between the raw data (Hamrick 2013).

From this data, a few relationships can be drawn between the variables. An increase in the percent of survey respondents identifying the cost of parking as a reason they do not drive alone to work would reduce the SOV mode split of a site. This increase would have no effect on the existing transit infrastructure around the work site and would have no effect on a worker's ability to telework, or their family obligations. It may increase the value of having a subsidized transit pass provided by the employer, but the transit pass is still dependent on transit options being available as an alternative to SOV.

An increase in transit accessibility increases the attractiveness of transit versus SOV and may cause commuters to switch from one mode to another. The effect of this shift on the logit model goes back to how the original WSDOT survey questions were asked. The effect of cost of parking is asked to primarily non-SOV commuters because SOV commuters would not be able

to identify why they do not drive alone to work. Therefore, people who have already made the switch from SOV to some other form of commuting (likely transit) are the respondents to this question. An increase in transit accessibility score will likely decrease the SOV mode split percentage *as well as increase* the percent of survey respondents at each site who identify parking as a reason they do not drive alone simply because there is a larger number of non-SOV commuters at the site. An increase in cost of parking responses affects SOV mode split but does not correlate to a change in transit accessibility. However, an increase in transit accessibility will likely affect SOV mode split *and* the cost of parking responses. This could explain why both cost of parking and the transit indicator have a high, negative correlation with SOV mode split when plotted individually, but do not share the same significance within the logit model.

Teleworking and family obligations are two external variables that would not be subject to the effects of an increase in cost of parking responses or transit accessibility. Family obligations is relevant on an individual level and little can be done at a program level to take this into account. This concept relates back to the idea of individual versus locational accessibility discussed in the literature review section of this thesis (Horner, Owen). It cannot be ruled out that work sites with a high proportion of survey responses indicating family obligations as a reason why they do drive alone to work are statistically random. Until demographic information is collected as a part of the CTR Survey, this question will largely go unanswered. Teleworking is only an option for certain types of jobs that can be performed in an office environment. The downtown Seattle area has a high concentration of these types of jobs and high concentration of sites meeting their CTR goal. This is likely a result of land use designations and the reason for the significance of the teleworking within the logit model. Any TDM policy crafted around teleworking would be

dependent on the type of work being done and therefore would lack the ability to be applied at a consistent state-wide level, or even across a city-wide level.

Revised Logit Models #2 and #3

Given the multicollinearity seen in the first revised logit model between SOV mode split and "cost2park" as well as the transit access indicator "num_stops", two revised logit models were created that removed "sov" as an independent variable and either included "cost2park" (Model #2) or "num_stops" (Model #3). The reasoning behind this was to determine how the variables "cost2park" and "num_stops" acted when they were not included in a model where they shared collinearity amongst other variables. The results of these two revised models are shown below.

Table 15: Revised Logit Model with "Cost2Park" (Model #2)

```
Logistic regression                             Number of obs     =        294
                                                LR chi2(4)        =      94.43
                                                Prob > chi2       =     0.0000
Log likelihood =  -112.9803                     Pseudo R2         =     0.2947
```

goal	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
cost2park	.0552345	.0123993	4.45	0.000	.0309323	.0795367
transitpass	.0393942	.0110315	3.57	0.000	.0177727	.0610156
telework	.0631555	.0140083	4.51	0.000	.0356998	.0906112
family	-.0691112	.0323297	-2.14	0.033	-.1324763	-.0057462
_cons	-3.263728	.7893271	-4.13	0.000	-4.810781	-1.716675

Table 16: Revised Logit Model with "num_stops" (Model #3)

Logistic regression — Number of obs = 294; LR chi2(4) = 78.35; Prob > chi2 = 0.0000; Log likelihood = -121.02207; Pseudo R2 = 0.2445

goal	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
transitpass	.0535471	.0108144	4.95	0.000	.0323514	.0747429
telework	.0483247	.0126711	3.81	0.000	.0234899	.0731596
family	-.0365044	.0299782	-1.22	0.223	-.0952607	.0222519
num_stops	.0370664	.0153546	2.41	0.016	.0069719	.067161
_cons	-3.412523	.7567574	-4.51	0.000	-4.895741	-1.929306

Model #2, which used “cost2park” had an R-squared value of 0.2947 while Model #3, which used “num_stops”, had an R-squared value of 0.2445. Both “cost2park” and “num_stops” were shown to have statistical significance within their respective models (p-value <0.05). This shows that while the model with the transit accessibility indicator has a slightly lower correlation as the model with the influence of the cost of parking, it has value as an independent variable measured from the built environment that gives similar significance compared to a variable directly measuring influences of a commuters mode choice decision.

Multivariable Regression Model

Although the basis of the CTR program is to establish VMT per employee goals and evaluate a site based on those goals, the reduction of SOV mode split helps form many of the policy decisions of the program. A multivariable regression model was created to reflect this by including “transitpass”, “telework”, “family”, “cost2park”, and “num_stops” as independent variables with “sov” as the dependent variable. Table 17 summarizes the results of the multivariable regression.

Table 17: Multivariable Regression Analyzing SOV Mode Split

Source	SS	df	MS	Number of obs	=	294
				F(5, 288)	=	430.70
Model	176206.6	5	35241.3201	Prob > F	=	0.0000
Residual	23565.1214	288	81.8233381	R-squared	=	0.8820
				Adj R-squared	=	0.8800
Total	199771.722	293	681.81475	Root MSE	=	9.0456

sov	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
transitpass	-.2912473	.0384568	-7.57	0.000	-.3669393	-.2155553
telework	-.1991003	.0408613	-4.87	0.000	-.2795249	-.1186757
family	-.2909281	.0929803	-3.13	0.002	-.4739351	-.107921
cost2park	-.6140844	.0517168	-11.87	0.000	-.7158751	-.5122936
num_stops	-.5081898	.0724214	-7.02	0.000	-.6507321	-.3656475
_cons	94.71875	2.113951	44.81	0.000	90.558	98.87951

The results of the regression show all independent variables having a negative coefficient and t-score. This makes sense for all variables including “family” even though the reason may not be intuitive. A possible, yet unproven, explanation for the negative coefficient of “family” is SOV drivers in areas with high transit accessibility (i.e. Seattle) ranked “Family Obligations” in the top three reasons for driving to work at 78% of worksites (197 of 254 sites). Suburban locations ranked “Family Obligations” in the top three reasons for driving to work at 72% of worksites (177 of 245 sites). The average work site response rate for “family” within Seattle was 30% while outside Seattle it was 23%. This shows that in areas with higher transit accessibility and higher influence of parking costs and therefore lower SOV rates, the influence of family obligations on a person’s decision to drive alone has a higher relative effect than in areas without the same transit or parking influences. This could be a reason why the model predicts SOV percentage to decrease as “family” increases. The model also assigns the lowest t-score to “family” showing it is still not as significant as some of the other independent variables. Results

for multicollinearity within the model produced similar relationships as seen in previous models. The multicollinearity results are summarized in Table 18.

Table 18: Multicollinearity Results for Multivariable SOV Regression

Correlation matrix of coefficients of **regress** model

e(V)	transi~s	telework	family	num_st~s	cost2p~k	_cons
transitpass	1.0000					
telework	-0.0298	1.0000				
family	-0.2879	-0.1539	1.0000			
num_stops	-0.0768	0.0043	-0.0316	1.0000		
cost2park	-0.3914	0.1708	-0.2064	-0.6466	1.0000	
_cons	0.0537	-0.1933	-0.8418	-0.0088	0.1412	1.0000

Table 19: Pearson Coefficient Matrix for Multivariable SOV Regression

	cost2p~k	transi~s	family	telework	num_st~s
cost2park	1.0000				
transitpass	0.7306	1.0000			
family	0.5826	0.5919	1.0000		
telework	-0.1986	-0.0924	0.0196	1.0000	
num_stops	0.8195	0.6340	0.5038	-0.1584	1.0000

"Cost2park" has the highest t-score from the multivariable regression model. This is likely because even if a site in Seattle did not meet its CTR goal, it still likely has a lower SOV mode split than a suburban location and therefore there will still have a correlation to the influence from the cost of parking. A site with a low baseline VMT per employee before the 18% reduction in VMT goal was applied may not reach its goal and therefore be classified as not meeting its goal, but it will still maintain a low VMT per employee. It is interesting to note the nearly identical t-scores of the transit accessibility indicator variable and the variable tracking the influence of the transit pass. It makes sense that these two variables would be complimentary of one another in that a transit pass has more value to the owner in areas with high transit

accessibility. The option to telework is shown as having a significant association with SOV mode split percentage but it has the second lowest t-score. This is likely a result of the unique circumstances surrounding teleworking previously discussed.

RESULTS ANALYSIS AND APPLICATION

The models created as a part of this research shed light on how TDM measures compare to characteristics of the built environment of a work site in their ability to meet a defined VMT reduction goal and reduce SOV mode split. The revised logit models showed transit accessibility to be a significant factor for a site to meet its VMT goal. Additionally, the transit indicator showed to have a high correlation to SOV mode split, similar to the influence of parking costs. The value of the transit accessibility indicator comes from its ability to measure the built-in benefits of a site's location before any TDM policies are put in place. Additionally, the indicator could also provide information on whether certain TDM policies, like subsidized transit passes, would even be useful for an employer to consider.

Perhaps the indicator's most important application is its ability to generate an expected SOV mode split for a site. Figure 20 shows the expected SOV mode split based on a site's transit accessibility. The expected SOV percentage of a new site could be calculated by substituting the number of transit stops within a quarter-mile of the site as the "x" variable in the trendline equation. Figure 21 shows which sites met or exceeded their expected SOV mode split.

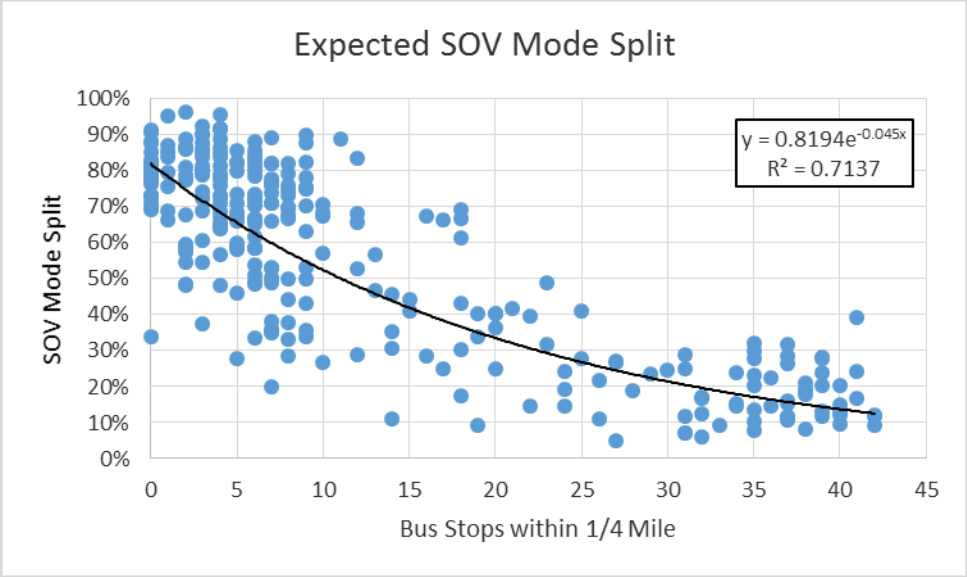

Figure 20: Expected SOV Mode Split Based on Transit Accessibility

One criticism of the expected SOV mode split methodology could be that the expected score is based on the performance of other CTR worksites because the equation used as the basis for the expected value is generated from a trendline of existing data from CTR locations. It is true that the trendline does not prevent the influence of outside factors, such as the presence of an employer subsidized transit pass or the cost of parking in its dependent variable (SOV mode split), but that is the exact intent of the expected SOV mode split methodology. Given two locations with a transit accessibility score of X, Location 1 which offers a subsidized transit pass could have a SOV mode split of 30% while Location 2, which does not offer a subsidized transit pass could have a SOV mode split of 50%. The "expected" SOV mode split for these two locations given their transit accessibility would be 40% if the expected value is based on empirical data. Location 2 is identified as having an SOV mode split higher than expected and is contacted by the jurisdiction to see what improvements to their TDM policies can be made. Location 2 then decides to offer subsidized transit passes and their SOV mode split drops to 30%--matching Location 1. The overall "expected" SOV modes split for a site with a transit

accessibility score of X also drops to 30% because that is what both locations are able to achieve. Both sites are now classified as meeting their expected SOV mode split. By using existing data from CTR locations to form the expected SOV mode split curve, it is using data from the CTR locations to show what is attainable rather than creating a hypothetical environment where outside variables are held constant. The success of TDM programs at similar locations are set as the standard for locations with similar transit accessibility and the SOV mode split reductions that are feasible are set as the targets. The idea that expected SOV mode splits do not control for a site's TDM program is important because of the significant factors identified to be associated with SOV mode split, such as cost of parking and subsidized transit passes. As transit accessibility increases, it could be "expected" that these TDM policies are used to their fullest extent. Of the variables collected by WSDOT and used within the models included in this research, only transit accessibility can be measured independently without influence from a site's TDM program. This is the reason why it is valuable as an indicator for establishing SOV mode split targets for CTR work sites.

WSDOT is no longer in charge of establishing VMT targets or goals for work sites within the CTR program besides the benchmarks set at a statewide level in accordance with Executive Order 07-02. Instead, it now has an advisory role to jurisdictions and employers who are looking for help in how to best establish their own policies and programs. Information like an expected SOV mode split based on transit accessibility would allow WSDOT and other jurisdictions to better inform their decision making when crafting new policies. A city with less transit accessibility can identify this and focus on policies that are aimed more at carpooling or teleworking than advocating companies to promote a mode of transportation that may not even

be practical or feasible given the surrounding infrastructure. Conversely, cities with typically high transit accessibility scores can identify work sites who are underperforming their expected SOV mode split given the transit infrastructure around them.

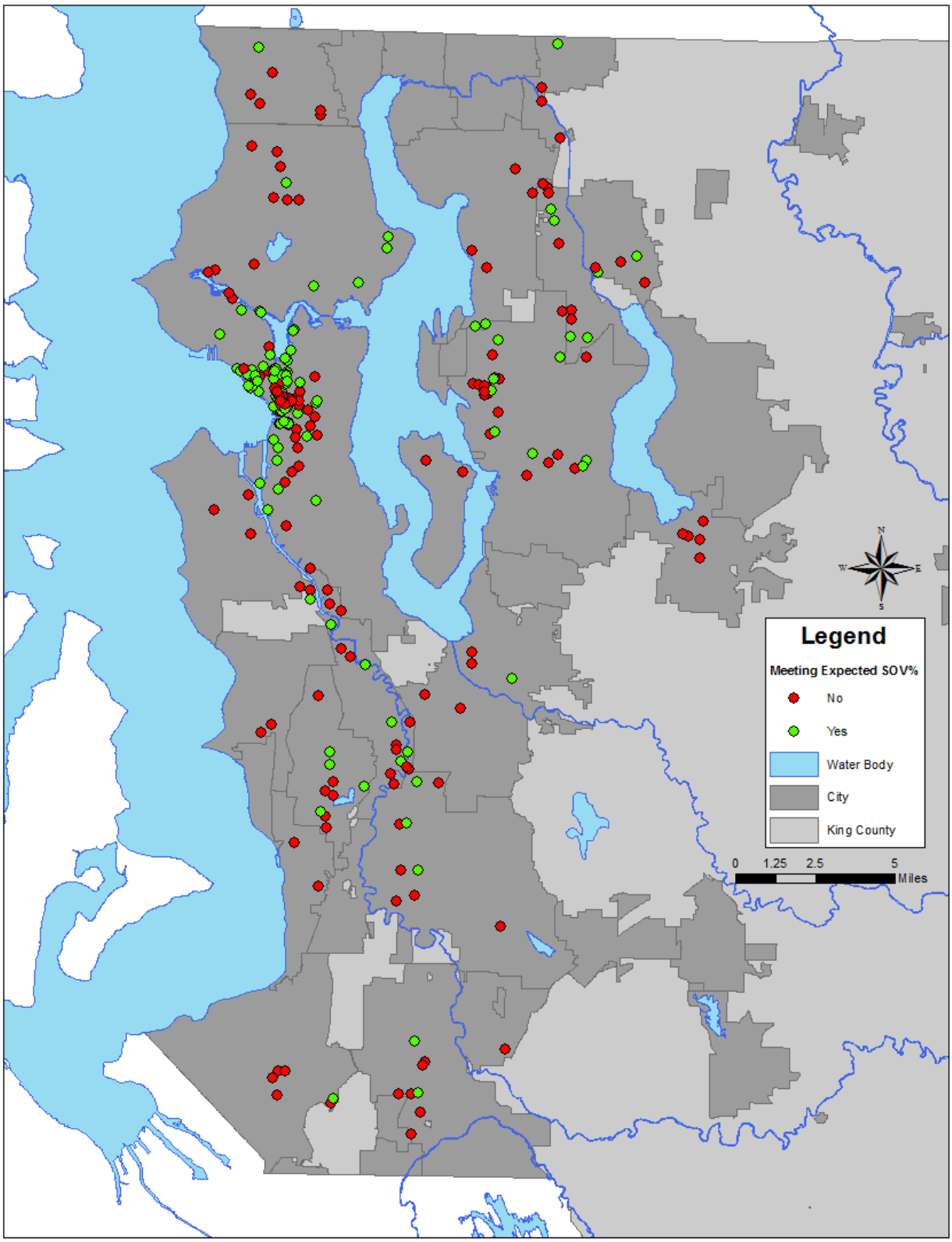

Figure 21: King County CTR Work Sites Meeting Expected SOV Target

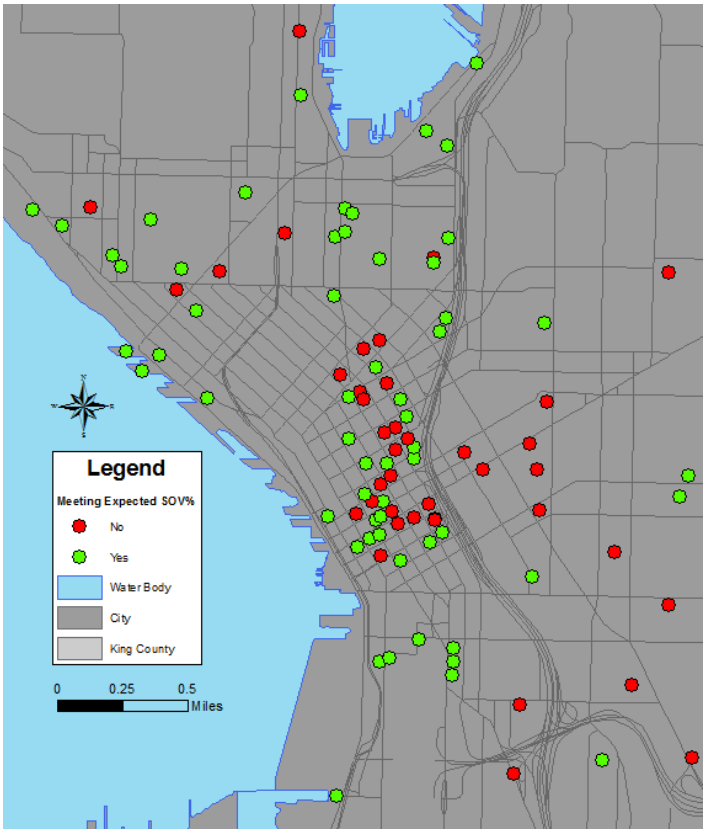

Figure 22: Downtown Seattle CTR Locations Meeting Expected SOV Target

The number of sites meeting their expected SOV mode split percentage is 131. Only 71 sites met their VMT goal established by WSDOT. This shows an increase in the ability of sites to meet a CTR program target when using an expected SOV mode split based on transit accessibility. Table 20 summarizes the breakdown of sites meeting or not meeting their respective targets for VMT goal and expected SOV mode split and whether those sites were located inside or outside the city limits of Seattle. Additionally, Table 21 breaks down the average transit accessibility scores of sites meeting the WSDOT VMT per employee reduction of 18% and expected SOV mode split generated by the trendline of Figure 20. The table breaks down the results by Seattle and non-Seattle locations to contrast the effectiveness of methodologies in setting achievable targets for CTR work sites in suburban locations.

Table 20: Comparison of Sites Meeting WSDOT and Expected SOV Mode Split Targets

Met Goal	Location Category	WSDOT VMT/Employee Goal	Expected SOV Mode Split Target
Yes	Seattle Locations	57	91 (+34)
	Non-Seattle Locations	14	40 (+26)
	Total	**71**	**131 (+60)**
No	Seattle Locations	108	74
	Non-Seattle Locations	125	99
	Total	**233**	**173**

Table 21: Average Transit Access Scores of Work Sites

Met Goal	WSDOT VMT/Employee Goal	Expected SOV Mode Split Target
Yes	20.4	14.0
No	11.9	12.6

Both Seattle and non-Seattle locations see an increase in the number of sites that meet the targets when the evaluation method changes from the WSDOT VMT/employee criteria to the expected SOV mode split criteria. This is an important observation to make because not only does it show how suburban employers and jurisdictions can see how the new methodology favorably considers their existing constraints, but it also does not "punish" Seattle locations as a collective group relative to how they were previously evaluated. Of the 57 sites who were meeting their VMT per employee target under the WSDOT criteria, only 13 would no longer meet the criteria using the expected SOV mode split methodology. The difference between expected and measured SOV mode split for these sites ranged from 1-16% with an average difference of 6%.

The sites at the higher end of this spectrum would be prime targets for WSDOT or City of Seattle employees to follow up with the CTR coordinator for that specific employer and try to determine why the site has an SOV mode split higher than would be expected. The other takeaway from this analysis is there were 47 sites within Seattle who were previously not meeting the VMT per employee criteria set by WSDOT, but were either meeting or outperforming their expected SOV mode split percentage. These sites would be examples of where reductions in SOV mode split would be more difficult because they are already overachieving relative to the surrounding transit infrastructure.

Table 21 highlights another discrepancy between the two evaluation methodologies when it comes to the average transit accessibility score of sites who were able to meet the criteria. The average transit score for sites meeting the WSDOT methodology was 20.4 while it was 11.9 for sites not meeting the criteria. The expected SOV mode split evaluation criteria shows a much smaller difference with sites meeting the criteria having an average transit score of 14.0 while sites not meeting the criteria had a score of 12.6. It should be noted that while the average score for sites meeting the respective criteria drops from 20.4 to 14.0 with the change in methodology, the average score for sites *not* meeting the criteria stays very similar. This shows that sites with lower transit accessibility have a more attainable target using the expected SOV mode split methodology and incorporating the viability of alternative commuting modes. Additionally, the slight increase in the average transit score of sites not meeting their expected SOV mode split compared to sites not meeting the WSDOT methodology shows the expected SOV mode split methodology is capturing sites in higher transit accessible areas that are not performing as well as they could be.

CONCLUSION

WSDOT's CTR program's scope and motivation are unique and not found in any other state in the U.S. The program has evolved from a top-down approach to one that is more dependent on the support of local municipalities and employers. This shift has resulted in the need for evaluation methodology and criteria within the program to shift as well. As WSDOT continues to provide technical support for municipalities in creating their own commute trip reduction plans, WSDOT should have the ability to adjust the techniques they use to reduce SOV mode split and help cities set achievable goals.

Perhaps one of the best ways to start this shift is by identifying current TDM policies and incentives that seem to have the most impact on site to reduce its VMT per employee and its SOV mode split. Based on the results from the analysis performed as part of this research, the cost of parking, availability of subsidized transit passes, teleworking, and family obligations of employees appear to have the most significant association with a site being able to meet its VMT reduction goal. Additionally, a site's transit accessibility, as measured by an indicator created for this research, is also shown to have a significant negative correlation to a site's SOV mode split. These findings, while not necessarily surprising, can be valuable in how an agency or municipality develop and implement TDM policies. More importantly, they can be used in a way that takes into account the context of a site when evaluating its TDM policies and mode splits. Several important takeaways build on this applicability:

- The influence of subsidized transit passes and transit access appears to increase when the influence from the cost of parking also increases. This is supported by transit pass

responses scoring much higher from City of Seattle CTR locations than at sites outside the City of Seattle. Given the clustering of CTR locations occurring in the downtown core of Seattle, it is reasonable to assume that these Seattle locations have higher parking costs, thus the higher influence of the cost of parking. This means that as cities and WSDOT work to craft TDM policies, they should account for the amount of free parking near a site and how it may contribute or detract from the effectiveness of transit incentives.

- Teleworking is shown as having a significant association to a site being able to meet its CTR goal and in reducing SOV mode split. However, teleworking is not a TDM policy that can be relied on for all types of work sites and locations. Given its relative influence in reducing SOV trips based on WSDOT's survey responses, teleworking may be a more viable option for suburban work sites to reduce SOV trips than transit incentives due to the lower influence of the cost of parking at these locations.
- The latest round of WSDOT VMT reduction targets used a blanket reduction of 18% in calculated VMT per employee by 2020. This methodology failed to take into account the current performance of CTR sites locations relative to potential ability to reduce SOV. An evaluation methodology based on a site's expected performance, as was identified in this research with a site's transit access score, does a better job of taking into account the advantages of the built environment around a location and how the site performs relative to other locations with similar transit access.
- Using the number of transit stops near a CTR work site as the basis for transit accessibility as well as the basis for evaluating a site's expected SOV mode split may shift some of the responsibility in reducing SOV trips from employers to municipalities.

The location and density of bus stops is mostly out of the control of private sector employers. Cities, at the request of employers, may advocate for more transit service so commuting by transit becomes more feasible.

- A methodology based on the relative performance of sites with similar transit accessibility scores can allow for better resource allocation within agencies and municipalities. CTR work sites with a high SOV mode split but low transit access may not be as important to address as work sites with a high SOV mode split *and* high transit access. Focusing resources where gains in SOV reduction are more likely would allow the resources within the program to be spent more efficiently.
- Further research in the area may focus on how other factors of the built environment—such as pedestrian infrastructure—have an impact on a site's ability to reduce SOV mode split. Additionally, collection of demographic data as a part of the CTR program may help answer questions about the significance of variables included in this research such as family obligations and teleworking. Finally, refinement of the transit accessibility indicator to include frequency of transit routes in the area may provide an even better range of transit indicators to generate an expected SOV mode split.

The WSDOT CTR program has the potential to become more adaptive to constraining conditions of work sites and to provide informative information to jurisdictions who are creating their own CTR programs. Transit accessibility is shown to have a similar significance to variables identifying the influence of other TDM policies. By using data that considers the transit accessibility of the site and the relative influences of TDM policies and incentives, WSDOT's CTR program can continue to reduce SOV trips and attain the goals it originally set out to achieve.

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APPENDIX A – Historical WSDOT CTR Data

Survey Statistics Report

Row Labels	# of Worksites	# Surveys Distributed	# Surveys Returned	% Responded
2007/2008	1,007	471,308	332,674	70.6%
2009/2010	1,087	509,327	327,143	64.2%
2011/2012	1,097	522,759	303,496	58.1%
2013/2014	971	445,798	293,797	65.9%
2015/2016	896	393,985	270,572	68.7%

Non-Drive Alone Travel

Row Labels	NDAT Rate	Target NDAT Rate
2007/2008	34.3%	40.3%
2009/2010	37.2%	
2011/2012	36.5%	
2013/2014	36.7%	
2015/2016	37.3%	

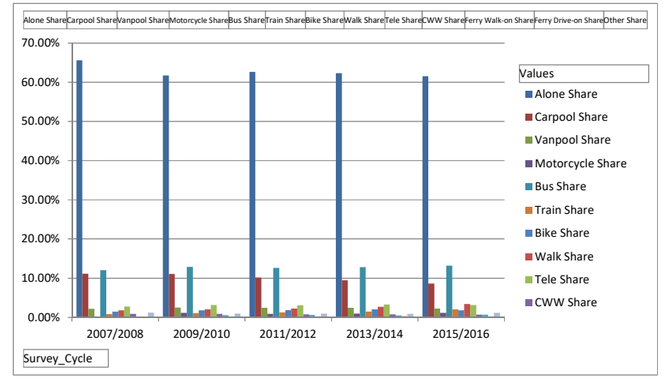
VMT Report (Red depicts Reduction)

Row Labels	VMT	% Change in VMT from 2007/8	Target for VMT
2007/2008	10.9		9.0
2009/2010	10.4	4.8%	
2011/2012	10.4	4.8%	
2013/2014	10.6	3.0%	
2015/2016	10.6	2.6%	

GHG Report (Red depicts Reductic For light duty vehicles (dri*Modeshare Report*

Row Labels	Total Annual GHG - All Employees (Metric Tons CO2e)	Daily GHG per Employee (Pounds) Roundtrip
2007/2008	1,284,452	21.53
2009/2010	1,345,975	20.48
2011/2012	1,456,862	20.53
2013/2014	1,194,127	20.75
2015/2016	-	19.73

Row Labels	Alone Share	Carpool Share	Vanpool Share	Motorcycle Share	Bus Share	Train Share	Bike Share	Walk Share	Tele Share	CWW Share	Ferry Walk-on Share	Ferry Drive-on Share	Other Share
2007/2008	65.59%	11.13%	2.16%	0.10%	12.05%	0.84%	1.51%	1.76%	2.75%	0.88%	0.00%	0.00%	1.24%
2009/2010	61.75%	11.05%	2.52%	1.13%	12.87%	1.05%	1.78%	2.05%	3.16%	0.89%	0.57%	0.21%	0.96%
2011/2012	62.65%	10.18%	2.44%	0.90%	12.62%	1.32%	1.87%	2.25%	3.12%	0.77%	0.61%	0.27%	0.99%
2013/2014	62.32%	9.42%	2.43%	0.98%	12.83%	1.47%	2.09%	2.70%	3.28%	0.76%	0.50%	0.31%	0.90%
2015/2016	61.59%	8.63%	2.25%	1.15%	13.22%	2.06%	1.81%	3.38%	3.16%	0.71%	0.65%	0.26%	1.12%



Site ID	DTA ID	City	#Employees	Jurisdiction	# Employees	Goal Site?	Meet Goal?	% Goal	Drive Alone %	Walk %	Bus %	Train %	Bus + Train%	Riding Bus Hard	Car Conven	Family	AVG	Cost 2 Park	Transit Pass	Financial Incentives	Health	Save Money	Save Time HOV Lane	Telework	# Surveys
E82719	2016-10-11 E82719	City of Seattle	3178	City of Seattle	3178	Yes	No	16%	58%	1%	11%	7%	18%	68%	47%	32%	57%	18%	36%	10%	23%	24%	15%	9%	398
E80431	2016-10-10 E80431	City of Redmond	460	City of Redmond	460	Yes	No	36%	70%	1%	2%	0%	2%	71%	65%	22%	68%	1%	12%	44%	32%	24%	15%	43%	203
E80137	2016-07-11 E80137	City of Seattle	710	City of Seattle	710	Yes	Yes	-16%	28%	3%	32%	10%	41%	56%	49%	30%	52%	28%	51%	10%	25%	29%	16%	36%	492
E82594	2016-07-10 E82594	City of Seattle	65	City of Seattle	65	Yes	No	43%	12%	4%	39%	17%	55%	52%	52%	41%	52%	50%	76%	7%	30%	37%	11%	2%	453
E80404	2016-07-10 E80404	City of Seattle	321	City of Seattle	321	Yes	Yes	-78%	2%	6%	23%	2%	25%	31%	30%	45%	30%	46%	13%	4%	15%	34%	8%	51%	208
E82057	2016-07-04 E82057	City of Seattle	236	City of Seattle	236	Yes	No	16%	50%	2%	20%	3%	23%	75%	59%	27%	67%	23%	35%	9%	20%	32%	27%	28%	195
E82727	2016-06-30 E82727	City of Seattle	280	City of Seattle	280	Yes	No	26%	71%	0%	9%	12%	21%	60%	61%	24%	60%	28%	33%	12%	20%	25%	10%	18%	89
E82610	2016-06-30 E82610	City of Seattle	456	City of Seattle	456	Yes	No	22%	68%	1%	14%	0%	14%	51%	59%	37%	55%	11%	17%	8%	24%	32%	10%	0%	63
E89771	2016-06-21 E89771	City of Kent	395	City of Kent	395	Yes	No	42%	76%	0%	2%	3%	5%	63%	69%	15%	66%	4%	20%	14%	15%	33%	25%	32%	137
E84657	2016-06-21 E84657	City of Seattle	207	City of Seattle	207	Yes	No	109%	12%	1%	44%	18%	61%	49%	41%	38%	45%	55%	74%	5%	16%	40%	8%	16%	86
E88013	2016-06-19 E88013	City of Kent	220	City of Kent	220	Yes	No	44%	89%	1%	4%	1%	4%	57%	62%	17%	59%	13%	20%	15%	20%	28%	20%	11%	132
E82198	2016-06-19 E82198	City of Seattle	209	City of Seattle	209	Yes	Yes	-1%	18%	15%	52%	4%	56%	34%	28%	37%	31%	26%	47%	6%	15%	43%	7%	2%	95
E81901	2016-06-19 E81901	City of Seattle	320	City of Seattle	320	Yes	No	27%	66%	0%	5%	2%	6%	64%	57%	34%	60%	5%	22%	8%	44%	36%	12%	21%	170
E81836	2016-06-19 E81836	City of Seattle	260	City of Seattle	260	Yes	No	8%	12%	5%	50%	7%	57%	34%	25%	38%	29%	55%	65%	7%	23%	39%	12%	18%	165
E81398	2016-06-19 E81398	City of Redmond	711	City of Redmond	711	Yes	No	11%	59%	0%	5%	1%	5%	70%	58%	30%	64%	3%	28%	10%	27%	32%	22%	42%	372
E81414	2016-06-17 E81414	City of Auburn	1025	City of Auburn	1025	Yes	No	57%	88%	2%	2%	3%	5%	56%	58%	22%	57%	10%	27%	12%	12%	24%	6%	4%	246
E89995	2016-06-14 E89995	City of Kent	205	City of Kent	205	Yes	No	38%	86%	0%	1%	3%	4%	46%	58%	23%	52%	6%	11%	12%	13%	31%	25%	12%	151
E82552	2016-06-14 E82552	City of Seattle	124	City of Seattle	124	Yes	Yes	-30%	5%	3%	41%	20%	62%	40%	33%	46%	37%	56%	88%	3%	19%	33%	10%	29%	72
E80879	2016-06-14 E80879	City of Kent	215	City of Kent	215	Yes	No	15%	96%	1%	0%	0%	0%	38%	55%	14%	46%	5%	6%	13%	15%	16%	9%	6%	152
E88989	2016-06-08 E88989	City of Seattle	1210	City of Seattle	1210	Yes	Yes	-41%	34%	16%	16%	2%	19%	58%	44%	27%	51%	22%	39%	31%	38%	21%	7%	30%	895
E86793	2016-06-07 E86793	City of Redmond	1223	City of Redmond	1223	Yes	No	0%	59%	1%	2%	0%	2%	62%	58%	23%	60%	3%	19%	13%	21%	26%	18%	49%	834
E80580	2016-06-02 E80580	City of Redmond	701	City of Redmond	701	Yes	No	36%	81%	1%	1%	0%	1%	70%	66%	28%	68%	2%	11%	21%	23%	27%	21%	21%	516
E86645	2016-06-01 E86645	City of Redmond	183	City of Redmond	183	Yes	No	30%	92%	0%	0%	0%	0%	54%	51%	22%	53%	3%	1%	7%	21%	17%	9%	7%	138
E82636	2016-05-31 E82636	City of Seattle	1393	City of Seattle	1393	Yes	No	23%	59%	5%	12%	3%	15%	61%	50%	32%	55%	37%	30%	12%	19%	32%	13%	3%	1113
E80412	2016-05-31 E80412	City of Kent	277	City of Kent	277	Yes	No	37%	68%	1%	2%	1%	3%	49%	73%	14%	61%	21%	15%	10%	17%	56%	22%	11%	197
E83253	2016-05-24 E83253	City of Redmond	1025	City of Redmond	1025	Yes	No	10%	71%	1%	11%	0%	12%	72%	68%	22%	70%	2%	37%	20%	26%	34%	24%	20%	726
E89763	2016-05-20 E89763	City of Kent	111	City of Kent	111	Yes	No	37%	90%	0%	1%	0%	1%	58%	71%	14%	65%	1%	10%	13%	9%	18%	23%	8%	101
E86348	2016-05-20 E86348	City of Kent	104	City of Kent	104	Yes	No	20%	81%	0%	0%	0%	0%	53%	64%	16%	58%	4%	5%	20%	4%	34%	21%	15%	85
E88583	2016-05-17 E88583	City of Redmond	113	City of Redmond	113	Yes	No	17%	73%	0%	2%	0%	2%	74%	60%	14%	67%	2%	11%	6%	34%	22%	13%	46%	94
E83618	2016-05-17 E83618	City of Seattle	380	City of Seattle	380	Yes	No	78%	52%	5%	30%	1%	32%	44%	40%	20%	42%	8%	14%	13%	15%	22%	11%	8%	231
E82602	2016-05-17 E82602	City of Redmond	175	City of Redmond	175	Yes	No	29%	80%	1%	2%	0%	2%	65%	60%	23%	63%	2%	15%	17%	20%	31%	14%	17%	128
E83410	2016-05-15 E83410	City of Seattle	79	City of Seattle	79	Yes	No	56%	38%	10%	23%	11%	34%	47%	54%	26%	51%	42%	42%	25%	25%	40%	11%	4%	57
E80640	2016-05-15 E80640	City of Seattle	163	City of Seattle	163	Yes	No	5%	53%	14%	16%	0%	16%	57%	53%	27%	55%	8%	23%	5%	28%	25%	14%	32%	111
E85696	2016-05-10 E85696	City of Seattle	440	City of Seattle	440	Yes	No	23%	49%	3%	14%	14%	28%	54%	49%	29%	52%	37%	39%	15%	11%	26%	16%	3%	192
E87304	2016-05-08 E87304	City of Renton	122	City of Renton	122	Yes	No	26%	95%	0%	0%	0%	0%	74%	65%	26%	70%	10%	8%	7%	27%	13%	25%	33%	100
E85399	2016-05-08 E85399	City of Renton	1379	City of Renton	1379	Yes	No	31%	79%	0%	1%	7%	8%	71%	62%	27%	66%	5%	17%	11%	21%	22%	25%	33%	934
E84921	2016-05-08 E84921	City of SeaTac	324	City of SeaTac	324	Yes	No	13%	83%	1%	0%	0%	0%	52%	64%	28%	58%	4%	6%	13%	12%	29%	18%	6%	220
E84772	2016-05-08 E84772	City of Renton	835	City of Renton	835	Yes	No	41%	82%	0%	2%	1%	3%	72%	65%	22%	69%	8%	12%	11%	21%	26%	28%	37%	635
E84764	2016-05-08 E84764	City of Renton	9748	City of Renton	9748	Yes	No	17%	73%	1%	1%	1%	1%	54%	61%	29%	58%	8%	12%	20%	16%	33%	25%	8%	985
E84749	2016-05-08 E84749	City of Renton	2725	City of Renton	2725	Yes	No	54%	80%	0%	1%	1%	2%	68%	67%	25%	68%	6%	10%	15%	17%	26%	24%	29%	1183
E81786	2016-05-08 E81786	City of Seattle	455	City of Seattle	455	Yes	No	67%	84%	0%	1%	0%	1%	73%	60%	24%	66%	5%	9%	10%	19%	22%	23%	26%	339
E81406	2016-05-08 E81406	City of Auburn	5938	City of Auburn	5938	Yes	No	23%	89%	0%	0%	0%	0%	48%	65%	22%	57%	6%	6%	14%	13%	26%	16%	9%	1141
E81174	2016-05-08 E81174	City of Bellevue	1953	City of Bellevue	1953	Yes	No	56%	69%	1%	1%	0%	1%	73%	61%	30%	67%	3%	8%	10%	20%	24%	23%	52%	1104
E80408	2016-05-08 E80408	City of Tukwila	641	City of Tukwila	641	Yes	No	40%	87%	0%	1%	1%	2%	70%	68%	25%	69%	3%	13%	18%	17%	26%	22%	23%	474
E80374	2016-05-08 E80374	City of Tukwila	4111	City of Tukwila	4111	Yes	No	26%	79%	0%	1%	1%	2%	71%	62%	27%	66%	5%	12%	17%	18%	27%	26%	22%	1099
E80366	2016-05-08 E80366	City of Tukwila	3976	City of Tukwila	3976	Yes	No	29%	81%	0%	1%	1%	2%	71%	64%	25%	68%	4%	11%	15%	20%	28%	24%	22%	1211
E82560	2016-05-03 E82560	City of Seattle	206	City of Seattle	206	Yes	No	28%	8%	1%	62%	16%	78%	42%	45%	44%	44%	55%	79%	5%	13%	56%	11%	0%	62
E82644	2016-04-18 E82644	City of Seattle	262	City of Seattle	262	Yes	No	22%	41%	5%	33%	6%	39%	49%	47%	20%	48%	37%	36%	8%	16%	38%	16%	3%	179
E81273	2016-03-14 E81273	City of Bellevue	545	City of Bellevue	545	Yes	Yes	0%	67%	0%	10%	1%	10%	66%	63%	21%	65%	4%	27%	15%	16%	33%	33%	46%	164
E87627	2015-11-29 E87627	City of Seattle	1255	City of Seattle	1255	Yes	No	9%	49%	8%	14%	3%	17%	70%	54%	29%	62%	20%	26%	22%	32%	25%	17%	26%	958
E89672	2015-11-19 E89672	City of Seattle	80	City of Seattle	80	Yes	No	55%	15%	0%	47%	11%	58%	44%	36%	33%	40%	60%	64%	18%	9%	35%	16%	9%	55
E88971	2015-11-19 E88971	City of Seattle	287	City of Seattle	287	Yes	No	19%	59%	7%	4%	0%	4%	65%	48%	24%	57%	6%	11%	10%	26%	15%	8%	41%	107
E84368	2015-11-19 E84368	City of Seattle	550	City of Seattle	550	Yes	Yes	-31%	17%	3%	65%	4%	68%	59%	52%	27%	55%	65%	78%	11%	11%	51%	14%	11%	264
E84335	2015-11-19 E84335	City of Seattle	1574	City of Seattle	1574	Yes	No	99%	57%	1%	7%	8%	15%	63%	61%	30%	62%	20%	35%	16%	17%	41%	22%	1%	420
E84079	2015-11-19 E84079	City of Seattle	547	City of Seattle	547	Yes	No	9%	25%	2%	31%	9%	39%	52%	45%	37%	49%	55%	6%	8%	15%	53%	25%	29%	416
E83683	2015-11-19 E83683	City of Seattle	1257	City of Seattle	1257	Yes	Yes	-15%	33%	6%	21%	3%	25%	62%	55%	30%	58%	34%	39%	8%	15%	38%	17%	23%	772
E82719	2015-11-19 E82719	City of Seattle	3178	City of Seattle	3178	Yes	No	16%	58%	1%	11%	7%	18%	73%	48%	31%	60%	33%	29%	10%	13%	24%	20%	8%	494
E82644	2015-11-19 E82644	City of Seattle	262	City of Seattle	262	Yes	No	22%	41%	5%	33%	6%	39%	55%	55%	30%	55%	47%	38%	10%	10%	46%	17%	2%	166
E85242	2015-11-17 E85242	City of Kirkland	219	City of Kirkland	219	Yes	No	68%	69%	0%	15%	0%	15%	71%	75%	25%	73%	4%	33%	11%	10%	43%	20%	31%	96
E82511	2015-11-16 E82511	City of Seattle	300	City of Seattle	300	Yes	Yes	-32%	13%	4%	22%	2%	25%	49%	47%	38%	48%	37%	43%	8%	9%	38%	15%	43%	221
E89474	2015-11-15 E89474	City of Seattle	127	City of Seattle	127	Yes	Yes	-20%	23%	1%	47%	9%	56%	45%	36%	31%	41%	58%	61%	6%	17%	35%	22%	3%	77
E85126	2015-11-12 E85126	City of Seattle	205	City of Seattle	205	Yes	Yes	-35%	34%	0%	31%	9%	40%	43%	37%	10%	40%	26%	63%	6%	21%	33%	3%	8%	160
E84434	2015-11-12 E84434	City of Seattle	294	City of Seattle	294	Yes	No	8%	7%	1%	47%	18%	65%	43%	45%	43%	44%	56%	80%	8%	15%	45%	14%	14%	166
E84327	2015-11-11 E84327	City of Seattle	480	City of Seattle	480	Yes	Yes	-31%	6%	2%	50%	7%	57%	37%	25%	40%	31%	45%	73%	7%	23%	29%	10%	23%	329
E82685	2015-11-11 E82685	City of Seattle	146	City of Seattle	146	Yes	No	29%	51%	3%	16%	5%	21%	71%	65%	25%	68%	9%	45%	10%	32%	32%	23%	18%	91
E81646	2015-11-11 E81646	City of Seattle	519	City of Seattle	519	Yes	No	9%	66%	3%	13%	1%	13%	60%	43%	27%	52%	15%	19%	16%	20%	29%	11%	14%	215
E80559	2015-11-11 E80559	City of Kirkland	1111	City of Kirkland	1111	Yes	Yes	-11%	66%	6%	10%	0%	11%	70%	57%	16%	64%	20%	24%	8%	32%	10%	16%	31%	774
E83238	2015-11-10 E83238	City of Seattle	882	City of Seattle	882	Yes	No	10%	64%	1%	7%	0%	7%	70%	54%	25%	62%	3%	14%	11%	37%	28%	9%	31%	419
E81984	2015-11-10 E81984	City of Seattle	349	City of Seattle	349	Yes	No	17%	67%	6%	11%	3%	14%	56%	51%	29%	54%	21%	24%	14%	18%	28%	15%	9%	238
E81844	2015-11-10 E81844	City of Seattle	638	City of Seattle	638	Yes	No	29%	53%	8%	12%	3%	14%	65%	52%	26%	58%	14%	41%	17%	34%	33%	13%	21%	429
E85092	2015-11-09 E85092	City of Seattle	4791	City of Seattle	4791	Yes	No	17%	58%	1%	11%	6%	17%	71%	62%	26%	67%	37%	27%	12%	19%	26%	20%	24%	2626
E83972	2015-11-09 E83972	City of Seattle	238	City of Seattle	238	Yes	No	27%	53%	3%	22%	3%	25%	58%	44%	26%	51%	13%	46%	4%	25%	40%	18%	8%	93
E82438	2015-11-09 E82438	City of Seattle	500	City of Seattle	500	Yes	No	28%	69%	3%	8%	1%	9%	66%	40%	30%	53%	17%	17%	11%	25%	25%	10%	10%	114
E80234	2015-11-05 E80234	City of SeaTac	7073	City of SeaTac	7073	Yes	No	18%	69%	0%	8%	3%	11%	77%	53%	19%	65%	12%	30%	16%	16%	35%	9%	7%	43
E84582	2015-11-03 E84582	City of Seattle	255	City of Seattle	255	Yes	Yes	-68%	10%	2%	49%	15%	63%	37%	29%	36%	33%	62%	74%	3%	15%	40%	11%	19%	193
E84129	2015-11-03 E84129	City of Seattle	337	City of Seattle	337	Yes	No	72%	25%	7%	42%	5%	46%	54%	45%	33%	50%	51%	36%	10%	17%	55%	16%	14%	245
E89599	2015-11-02 E89599	City of Seattle	449	City of Seattle	449	Yes	No	19%	68%	7%	8%	0%	8%	63%	54%	26%	58%	4%	19%	15%	26%	28%	11%	7%	269
E89581	2015-11-02 E89581	City of Seattle	400	City of Seattle	400	Yes	Yes	-26%	25%	11%	42%	7%	48%	53%	47%	17%	50%	55%	44%	11%	12%	48%	15%	12%	294
E89078	2015-11-02 E89078	City of Seattle	1547	City of Seattle	1547	Yes	Yes	-14%	19%	9%	49%	7%	56%	53%	48%	31%	50%	65%	12%	11%	14%	64%	24%	6%	852
E87049	2015-11-02 E87049	City of Seattle	900	City of Seattle	900	Yes	No	4%	11%	2%	63%	13%	76%	51%	44%	34%	47%	59%	75%	6%	14%	50%	15%	1%	891
E84913	2015-11-02 E84913	City of Seattle	951	City of Seattle	951	Yes	Yes	-19%	34%	9%	36%	4%	40%	47%	29%	34%	38%	29%	48%	15%	19%	38%	8%	6%	216
E84244	2015-11-02 E84244	City of Seattle	143	City of Seattle	143	Yes	Yes	-44%	17%	4%	41%	4%	45%	48%	43%	33%	45%	48%	12%	8%	18%	48%	18%	35%	130

E83949	2015-11-02 E83949	City of Seattle	7000	City of Seattle	7000	Yes	No	12%	15%	3%	51%	10%	61%	43%	34%	37%	39%	51%	71%	8%	20%	38%	16%	3%	1136
E83568	2015-11-02 E83568	City of Seattle	235	City of Seattle	235	Yes	No	48%	28%	4%	39%	9%	48%	53%	40%	35%	46%	43%	47%	7%	20%	37%	10%	9%	174
E82990	2015-11-02 E82990	City of Seattle	109	City of Seattle	109	Yes	Yes	-8%	14%	1%	56%	4%	60%	39%	41%	41%	40%	61%	63%	9%	15%	41%	20%	15%	79
E82487	2015-11-02 E82487	City of Seattle	339	City of Seattle	339	Yes	No	19%	24%	9%	42%	9%	50%	48%	39%	32%	44%	43%	49%	5%	20%	35%	13%	10%	236
E82073	2015-11-02 E82073	City of Seattle	533	City of Seattle	533	Yes	Yes	-3%	29%	7%	35%	5%	40%	59%	48%	31%	53%	58%	35%	11%	19%	44%	14%	13%	208
E80355	2015-11-02 E80355	City of Seattle	345	City of Seattle	345	Yes	Yes	-25%	36%	7%	31%	4%	35%	62%	53%	31%	57%	50%	43%	10%	17%	44%	16%	6%	262
E80176	2015-11-01 E80176	City of Federal Way	322	City of Federal Way	322	Yes	No	17%	88%	0%	0%	0%	0%	60%	63%	22%	61%	4%	8%	24%	20%	34%	15%	5%	144
E88658	2015-10-31 E88658	City of Kent	490	City of Kent	490	Yes	Yes	-25%	49%	1%	1%	1%	2%	59%	66%	24%	63%	7%	8%	7%	12%	34%	24%	43%	291
E87882	2015-10-31 E87882	City of SeaTac	298	City of SeaTac	298	Yes	No	11%	87%	0%	1%	1%	2%	69%	63%	16%	66%	7%	11%	13%	12%	32%	20%	31%	209
E80601	2015-10-31 E80601	City of SeaTac	761	City of SeaTac	761	Yes	No	38%	85%	1%	2%	1%	3%	74%	62%	28%	68%	4%	12%	18%	16%	32%	14%	20%	194
E80275	2015-10-31 E80275	City of SeaTac	254	City of SeaTac	254	Yes	No	25%	89%	0%	1%	2%	2%	76%	62%	21%	69%	9%	14%	10%	15%	31%	22%	32%	194
E80259	2015-10-31 E80259	City of SeaTac	314	City of SeaTac	314	Yes	No	30%	81%	0%	1%	1%	2%	78%	66%	21%	72%	5%	15%	19%	17%	32%	32%	37%	217
E86074	2015-10-29 E86074	City of Seattle	576	City of Seattle	576	Yes	No	10%	22%	4%	44%	5%	49%	50%	44%	31%	47%	54%	51%	7%	14%	44%	21%	10%	477
E82966	2015-10-29 E82966	City of Seattle	400	City of Seattle	400	Yes	No	34%	57%	2%	13%	5%	18%	69%	50%	29%	60%	6%	47%	12%	31%	33%	18%	23%	333
E82388	2015-10-29 E82388	City of Seattle	3749	City of Seattle	3749	Yes	No	22%	32%	8%	38%	4%	41%	56%	45%	36%	50%	53%	47%	9%	16%	43%	13%	2%	2708
E89565	2015-10-28 E89565	City of Seattle	402	City of Seattle	402	Yes	No	10%	82%	0%	5%	0%	6%	52%	52%	21%	52%	8%	6%	10%	17%	29%	20%	3%	227
E82677	2015-10-28 E82677	City of Seattle	166	City of Seattle	166	Yes	Yes	-3%	47%	2%	22%	11%	33%	66%	57%	29%	61%	5%	60%	10%	23%	27%	16%	38%	138
E89896	2015-10-27 E89896	City of Seattle	125	City of Seattle	125	Yes	Yes	-13%	53%	6%	12%	0%	12%	73%	55%	28%	64%	11%	8%	0%	42%	20%	11%	54%	71
E88906	2015-10-27 E88906	City of Seattle	575	City of Seattle	575	Yes	No	7%	28%	7%	22%	3%	25%	64%	52%	28%	58%	45%	21%	7%	19%	41%	21%	51%	363
E84962	2015-10-27 E84962	City of Seattle	225	City of Seattle	225	Yes	Yes	-31%	29%	3%	31%	5%	35%	55%	41%	37%	48%	45%	60%	11%	27%	39%	17%	11%	169
E82297	2015-10-27 E82297	City of Seattle	899	City of Seattle	899	Yes	Yes	-12%	7%	2%	48%	9%	57%	31%	29%	37%	30%	51%	76%	5%	12%	36%	9%	24%	435
E81992	2015-10-27 E81992	City of Seattle	96	City of Seattle	96	Yes	No	11%	30%	11%	39%	4%	43%	48%	45%	36%	47%	48%	40%	6%	22%	48%	10%	14%	77
E89904	2015-10-26 E89904	City of Seattle	167	City of Seattle	167	Yes	No	34%	27%	11%	32%	3%	35%	53%	35%	29%	44%	37%	50%	7%	29%	37%	13%	10%	420
E89383	2015-10-26 E89383	City of Seattle	100	City of Seattle	100	Yes	Yes	-8%	50%	3%	19%	4%	23%	62%	48%	38%	55%	23%	42%	12%	33%	37%	16%	21%	73
E87759	2015-10-26 E87759	City of Seattle	185	City of Seattle	185	Yes	Yes	-17%	25%	6%	39%	9%	48%	58%	44%	36%	51%	50%	64%	8%	20%	36%	12%	17%	138
E87213	2015-10-26 E87213	City of Seattle	185	City of Seattle	185	Yes	No	36%	46%	4%	18%	6%	24%	67%	52%	23%	59%	21%	33%	5%	30%	34%	23%	24%	132
E85050	2015-10-26 E85050	City of Seattle	1082	City of Seattle	1082	Yes	Yes	-17%	20%	10%	48%	6%	54%	55%	50%	32%	53%	63%	15%	11%	12%	63%	26%	4%	711
E83303	2015-10-26 E83303	City of Seattle	117	City of Seattle	117	Yes	No	317%	34%	1%	27%	9%	37%	46%	40%	38%	43%	42%	26%	19%	9%	47%	22%	26%	98
E82958	2015-10-26 E82958	City of Seattle	127	City of Seattle	127	Yes	No	31%	48%	2%	27%	1%	28%	61%	41%	35%	51%	21%	35%	12%	24%	21%	5%	16%	75
E82768	2015-10-26 E82768	City of Seattle	320	City of Seattle	320	Yes	No	48%	42%	6%	32%	6%	39%	59%	50%	30%	55%	40%	37%	12%	16%	43%	14%	2%	216
E82669	2015-10-26 E82669	City of Seattle	421	City of Seattle	421	Yes	No	51%	60%	0%	6%	2%	8%	71%	50%	33%	61%	3%	36%	13%	28%	31%	23%	28%	317
E82404	2015-10-26 E82404	City of Seattle	361	City of Seattle	361	Yes	No	5%	29%	4%	39%	4%	42%	49%	45%	22%	47%	49%	22%	15%	12%	46%	19%	20%	268
E82082	2015-10-26 E82082	City of Tukwila	616	City of Tukwila	616	Yes	No	28%	79%	0%	7%	1%	9%	53%	61%	9%	57%	11%	5%	12%	8%	32%	29%	0%	76
E81695	2015-10-26 E81695	City of Seattle	1985	City of Seattle	1985	Yes	No	28%	70%	2%	8%	0%	8%	59%	53%	25%	56%	23%	29%	16%	16%	33%	16%	4%	843
E81620	2015-10-26 E81620	City of Seattle	335	City of Seattle	335	Yes	No	63%	13%	3%	48%	13%	61%	40%	37%	32%	39%	64%	78%	10%	14%	50%	15%	4%	246
E81588	2015-10-26 E81588	City of Bellevue	2250	City of Bellevue	2250	Yes	No	22%	79%	0%	7%	0%	7%	64%	59%	21%	62%	5%	15%	11%	13%	27%	20%	3%	653
E80724	2015-10-26 E80724	City of Seattle	119	City of Seattle	119	Yes	Yes	-36%	13%	3%	51%	15%	66%	44%	33%	36%	38%	63%	11%	11%	14%	64%	23%	5%	80
E80418	2015-10-26 E80418	City of Bellevue	120	City of Bellevue	120	Yes	No	36%	76%	0%	12%	0%	12%	56%	33%	28%	44%	0%	28%	14%	31%	28%	25%	14%	36
E84053	2015-10-25 E84053	City of Seattle	5210	City of Seattle	5210	Yes	No	22%	41%	7%	24%	3%	27%	55%	38%	32%	46%	39%	38%	13%	16%	40%	14%	4%	2267
E84046	2015-10-25 E84046	City of Seattle	495	City of Seattle	495	Yes	No	2%	69%	11%	7%	1%	8%	61%	50%	32%	56%	23%	18%	9%	23%	29%	8%	3%	236
E88757	2015-10-22 E88757	City of Seattle	165	City of Seattle	165	Yes	No	4%	44%	4%	10%	0%	10%	59%	52%	28%	55%	4%	10%	8%	37%	21%	17%	56%	120
E86843	2015-10-21 E86843	City of Seattle	130	City of Seattle	130	Yes	Yes	-7%	28%	2%	32%	7%	39%	60%	50%	32%	55%	23%	68%	2%	25%	29%	15%	37%	102
E84038	2015-10-20 E84038	City of Seattle	156	City of Seattle	156	Yes	Yes	-26%	12%	9%	52%	11%	63%	44%	35%	36%	39%	53%	78%	7%	13%	51%	18%	0%	85
E83824	2015-10-20 E83824	City of Seattle	2355	City of Seattle	2355	Yes	No	1%	23%	6%	48%	6%	54%	51%	43%	38%	47%	49%	51%	5%	20%	38%	16%	14%	613
E82537	2015-10-20 E82537	City of Seattle	350	City of Seattle	350	Yes	No	28%	24%	7%	50%	5%	54%	51%	42%	29%	46%	49%	38%	15%	24%	56%	22%	0%	89
E82354	2015-10-20 E82354	City of Seattle	266	City of Seattle	266	Yes	Yes	-19%	29%	12%	33%	1%	34%	52%	35%	38%	44%	47%	44%	9%	36%	38%	10%	9%	191
E81885	2015-10-20 E81885	City of Seattle	213	City of Seattle	213	Yes	Yes	-9%	38%	5%	13%	1%	14%	60%	55%	36%	57%	32%	14%	16%	19%	40%	16%	33%	161
E80519	2015-10-20 E80519	City of Seattle	1877	City of Seattle	1877	Yes	No	6%	12%	6%	44%	6%	50%	45%	39%	31%	42%	59%	15%	7%	15%	50%	22%	31%	1449
E88872	2015-10-19 E88872	City of Seattle	294	City of Seattle	294	Yes	No	106%	19%	10%	56%	2%	58%	34%	30%	13%	32%	60%	18%	6%	10%	34%	9%	3%	107
E88237	2015-10-19 E88237	City of Seattle	140	City of Seattle	140	Yes	No	37%	16%	3%	59%	8%	67%	45%	38%	39%	42%	60%	25%	6%	7%	50%	17%	15%	102
E85340	2015-10-19 E85340	City of Seattle	332	City of Seattle	332	Yes	No	31%	35%	7%	45%	2%	47%	56%	46%	47%	51%	39%	43%	10%	19%	42%	14%	5%	232
E82396	2015-10-19 E82396	City of Seattle	530	City of Seattle	530	Yes	No	3%	21%	6%	60%	3%	64%	40%	31%	24%	36%	38%	18%	8%	14%	45%	13%	2%	190
E82149	2015-10-19 E82149	City of Seattle	282	City of Seattle	282	Yes	No	37%	75%	1%	2%	1%	3%	46%	58%	20%	52%	14%	6%	10%	4%	48%	33%	0%	153
E85167	2015-10-15 E85167	City of Seattle	140	City of Seattle	140	Yes	No	0%	11%	5%	59%	8%	66%	36%	32%	37%	34%	61%	70%	6%	26%	36%	15%	4%	106
E85530	2015-10-12 E85530	City of Seattle	126	City of Seattle	126	Yes	No	24%	29%	0%	45%	5%	50%	55%	44%	34%	49%	45%	65%	5%	24%	35%	10%	9%	97
E83360	2015-10-12 E83360	City of Seattle	166	City of Seattle	166	Yes	No	44%	75%	1%	10%	0%	10%	74%	72%	18%	73%	3%	13%	14%	23%	38%	27%	1%	118
E89482	2015-10-11 E89482	City of Seattle	146	City of Seattle	146	Yes	No	3%	15%	6%	60%	7%	67%	42%	35%	35%	39%	60%	69%	9%	21%	42%	14%	13%	139
E89185	2015-10-11 E89185	City of Seattle	500	City of Seattle	500	Yes	Yes	-35%	25%	3%	36%	18%	55%	50%	45%	31%	48%	37%	56%	8%	20%	35%	13%	18%	335
E84202	2015-10-11 E84202	City of Seattle	186	City of Seattle	186	Yes	No	24%	67%	3%	9%	3%	13%	64%	52%	26%	58%	11%	25%	16%	26%	36%	21%	10%	153
E82289	2015-10-11 E82289	City of Seattle	232	City of Seattle	232	Yes	No	21%	71%	0%	3%	1%	4%	68%	54%	31%	61%	4%	14%	16%	24%	30%	19%	21%	195
E82271	2015-10-11 E82271	City of Seattle	110	City of Seattle	110	Yes	No	6%	26%	10%	41%	5%	47%	48%	45%	26%	47%	38%	43%	6%	19%	39%	16%	13%	88
E82131	2015-10-11 E82131	City of Seattle	543	City of Seattle	543	Yes	No	2%	58%	2%	15%	2%	18%	56%	62%	28%	59%	22%	25%	12%	16%	42%	16%	7%	303
E81703	2015-10-11 E81703	City of Seattle	408	City of Seattle	408	Yes	Yes	-3%	48%	3%	22%	2%	24%	66%	63%	28%	65%	40%	26%	15%	17%	40%	25%	5%	324
E80583	2015-10-11 E80583	City of Seattle	164	City of Seattle	164	Yes	No	40%	84%	0%	6%	1%	7%	81%	62%	25%	72%	7%	25%	6%	16%	22%	22%	23%	130
E80383	2015-10-11 E80383	City of Seattle	156	City of Seattle	156	Yes	No	12%	19%	3%	50%	10%	60%	42%	39%	30%	41%	60%	52%	12%	13%	52%	15%	4%	85
E88146	2015-10-08 E88146	City of Seattle	146	City of Seattle	146	Yes	No	46%	17%	5%	48%	11%	58%	41%	40%	36%	40%	48%	64%	5%	10%	40%	20%	13%	113
E87957	2015-10-08 E87957	City of Seattle	104	City of Seattle	104	Yes	No	22%	23%	10%	41%	3%	44%	55%	50%	33%	53%	49%	34%	9%	13%	61%	25%	18%	76
E86587	2015-10-08 E86587	City of SeaTac	237	City of SeaTac	237	Yes	No	28%	55%	0%	0%	0%	0%	45%	63%	27%	54%	1%	45%	19%	9%	61%	36%	1%	88
E86454	2015-10-08 E86454	City of Seattle	247	City of Seattle	247	Yes	Yes	-12%	9%	7%	63%	9%	72%	51%	42%	34%	46%	65%	75%	7%	16%	52%	15%	2%	190
E83378	2015-10-08 E83378	City of Seattle	460	City of Seattle	460	Yes	Yes	-3%	49%	5%	9%	1%	10%	71%	59%	26%	65%	2%	35%	21%	42%	22%	8%	53%	356
E80428	2015-10-08 E80428	City of Seattle	122	City of Seattle	122	Yes	Yes	-24%	8%	4%	60%	8%	68%	51%	29%	28%	40%	62%	84%	4%	20%	33%	14%	13%	85
E87254	2015-10-06 E87254	City of Seattle	666	City of Seattle	666	Yes	No	22%	15%	3%	38%	26%	64%	41%	34%	38%	38%	50%	76%	5%	25%	37%	17%	3%	488
E82925	2015-10-06 E82925	City of Seattle	363	City of Seattle	363	Yes	No	19%	74%	2%	5%	0%	5%	76%	63%	21%	69%	6%	36%	22%	26%	29%	21%	42%	140
E82016	2015-10-06 E82016	City of Seattle	849	City of Seattle	849	Yes	No	9%	27%	6%	34%	4%	38%	58%	41%	33%	49%	59%	52%	8%	20%	38%	16%	8%	184
E89243	2015-10-05 E89243	City of Seattle	256	City of Seattle	256	Yes	Yes	-13%	20%	9%	56%	5%	61%	52%	53%	29%	52%	53%	59%	11%	14%	48%	19%	13%	219
E89201	2015-10-05 E89201	City of Seattle	183	City of Seattle	183	Yes	Yes	-39%	20%	12%	35%	5%	40%	48%	38%	25%	43%	43%	51%	6%	35%	24%	10%	18%	130
E82750	2015-10-05 E82750	City of Seattle	597	City of Seattle	597	Yes	No	57%	46%	13%	24%	1%	25%	66%	62%	26%	64%	40%	22%	12%	24%	40%	16%	20%	324
E82172	2015-10-05 E82172	City of Seattle	495	City of Seattle	495	Yes	Yes	-24%	15%	7%	51%	10%	61%	41%	31%	38%	36%	50%	53%	8%	16%	48%	17%	14%	319
E82081	2015-10-05 E82081	City of Seattle	511	City of Seattle	511	Yes	Yes	-26%	12%	9%	56%	6%	62%	42%	43%	29%	42%	51%	69%	6%	17%	39%	17%	17%	357
E80582	2015-10-05 E80582	City of Seattle	1450	City of Seattle	1450	Yes	No	17%	74%	0%	12%	6%	18%	72%	58%	22%	65%	8%	39%	10%	9%	39%	16%	20%	153
E80435	2015-10-05 E80435	City of Seattle	507	City of Seattle	507	Yes	No	52%	76%	6%	3%	1%	3%	67%	62%	20%	65%	3%	16%	11%	27%	33%	15%	14%	274
E80423	2015-10-05 E80423	City of Seattle	290	City of Seattle	290	Yes	Yes	-25%	32%	3%	44%	6%	50%	38%	52%	31%	45%	39%	47%	8%	15%	36%	23%	15%	214
E80420	2015-10-05 E80420	City of Seattle	141	City of Seattle	141	Yes	No	2%	12%	3%	60%	10%	70%	41%	41%	36%	41%	66%	74%	5%	15%	48%	13%	7%	125
E83899	2015-10-04 E83899	City of Seattle	446	City of Seattle	446	Yes	Yes	-23%	20%	5%	30%	8%	37%	48%	46%	29%	47%	51%	26%	11%	14%	43%	21%	33%	314

E89631	2015-09-30 E89631	City of SeaTac	72	City of SeaTac	72	Yes	No	54%	80%	2%	2%	0%	2%	66%	68%	26%	67%	3%	18%	32%	23%	29%	15%	13%	62
E82008	2015-09-30 E82008	City of Seattle	192	City of Seattle	192	Yes	No	21%	31%	2%	29%	4%	33%	49%	47%	40%	48%	28%	57%	7%	14%	35%	17%	17%	144
E80421	2015-09-30 E80421	City of Seattle	100	City of Seattle	100	Yes	Yes	-28%	9%	1%	61%	16%	76%	45%	47%	26%	46%	62%	67%	8%	8%	48%	18%	6%	66
E88864	2015-09-29 E88864	City of Seattle	379	City of Seattle	379	Yes	No	5%	40%	2%	32%	14%	46%	60%	53%	30%	56%	38%	39%	8%	22%	38%	16%	11%	289
E88930	2015-09-28 E88930	City of Seattle	312	City of Seattle	312	Yes	No	58%	68%	5%	9%	2%	11%	55%	50%	27%	52%	8%	11%	8%	16%	21%	10%	6%	208
E88005	2015-09-28 E88005	City of Seattle	442	City of Seattle	442	Yes	Yes	-30%	15%	1%	50%	19%	70%	47%	44%	38%	46%	51%	70%	5%	6%	49%	18%	17%	174
E87916	2015-09-28 E87916	City of Seattle	444	City of Seattle	444	Yes	Yes	-61%	11%	8%	43%	5%	48%	51%	35%	36%	43%	62%	69%	7%	27%	34%	8%	14%	341
E86934	2015-09-28 E86934	City of Seattle	110	City of Seattle	110	Yes	Yes	-14%	32%	8%	44%	4%	48%	53%	44%	27%	49%	59%	44%	10%	12%	51%	11%	6%	90
E85100	2015-09-28 E85100	City of Seattle	480	City of Seattle	480	Yes	No	32%	67%	0%	11%	2%	13%	44%	49%	12%	46%	7%	28%	11%	12%	28%	15%	1%	280
E83956	2015-09-28 E83956	City of Seattle	265	City of Seattle	265	Yes	No	70%	69%	1%	3%	6%	9%	27%	33%	11%	30%	7%	16%	8%	5%	25%	9%	1%	147
E83527	2015-09-28 E83527	City of Seattle	513	City of Seattle	513	Yes	No	15%	28%	4%	44%	7%	51%	51%	49%	33%	50%	50%	50%	10%	16%	42%	18%	11%	370
E82735	2015-09-28 E82735	City of Seattle	239	City of Seattle	239	Yes	No	6%	54%	1%	16%	13%	29%	50%	54%	21%	52%	27%	42%	15%	21%	42%	19%	6%	195
E89607	2015-09-27 E89607	City of Seattle	349	City of Seattle	349	Yes	Yes	-7%	35%	3%	19%	1%	19%	67%	38%	36%	52%	48%	34%	43%	19%	38%	8%	23%	305
E83832	2015-09-27 E83832	City of Seattle	170	City of Seattle	170	Yes	No	59%	15%	3%	37%	3%	40%	48%	45%	34%	47%	52%	27%	6%	15%	39%	16%	49%	122
E82800	2015-09-27 E82800	City of Seattle	4058	City of Seattle	4058	Yes	No	1%	43%	6%	16%	1%	17%	63%	41%	41%	52%	44%	32%	49%	22%	38%	9%	5%	3155
E89953	2015-09-21 E89953	City of Seattle	134	City of Seattle	134	Yes	No	32%	39%	5%	34%	1%	35%	53%	43%	19%	48%	29%	13%	12%	11%	26%	11%	8%	97
E84889	2015-09-21 E84889	City of SeaTac	730	City of SeaTac	730	Yes	No	25%	50%	7%	23%	5%	29%	32%	32%	17%	32%	17%	5%	5%	4%	25%	10%	0%	349
E83964	2015-09-21 E83964	City of Seattle	122	City of Seattle	122	Yes	No	15%	73%	1%	1%	0%	1%	29%	24%	3%	27%	6%	4%	6%	4%	14%	8%	0%	79
E81927	2015-09-20 E81927	City of Seattle	234	City of Seattle	234	Yes	No	53%	71%	0%	12%	1%	13%	59%	59%	24%	59%	14%	31%	24%	14%	47%	17%	7%	58
E81273	2015-09-15 E81273	City of Bellevue	545	City of Bellevue	545	Yes	Yes	0%	67%	0%	10%	1%	10%	63%	57%	18%	60%	5%	28%	14%	16%	30%	35%	40%	230
E89284	2015-09-14 E89284	City of Seattle	148	City of Seattle	148	Yes	No	75%	88%	1%	0%	0%	0%	43%	36%	29%	39%	1%	7%	13%	18%	30%	18%	1%	87
E85936	2015-09-09 E85936	City of Seattle	200	City of Seattle	200	Yes	Yes	-55%	12%	2%	69%	4%	73%	63%	57%	24%	60%	67%	63%	17%	8%	52%	21%	14%	85
E82180	2015-09-07 E82180	City of Seattle	353	City of Seattle	353	Yes	Yes	-4%	10%	8%	57%	5%	62%	43%	31%	38%	37%	48%	72%	12%	14%	41%	15%	4%	266
E80283	2015-09-07 E80283	City of SeaTac	357	City of SeaTac	357	Yes	No	44%	77%	1%	9%	2%	11%	53%	64%	13%	58%	4%	5%	14%	17%	40%	21%	3%	77
E87163	2015-09-01 E87163	City of Seattle	267	City of Seattle	267	Yes	No	2%	10%	1%	39%	15%	53%	46%	41%	36%	43%	55%	61%	9%	15%	38%	20%	22%	195
E87528	2015-08-31 E87528	City of Seattle	270	City of Seattle	270	Yes	No	41%	24%	4%	55%	5%	60%	31%	22%	22%	27%	22%	25%	7%	7%	29%	12%	1%	126
E86710	2015-08-31 E86710	City of Seattle	186	City of Seattle	186	Yes	Yes	-43%	9%	10%	66%	5%	71%	57%	45%	23%	51%	61%	76%	4%	16%	52%	13%	1%	180
E84228	2015-08-31 E84228	City of Seattle	252	City of Seattle	252	Yes	Yes	-2%	27%	8%	41%	11%	52%	43%	40%	25%	41%	41%	26%	15%	17%	45%	12%	2%	178
E83998	2015-08-31 E83998	City of Seattle	357	City of Seattle	357	Yes	No	12%	79%	2%	5%	0%	5%	68%	60%	18%	64%	7%	19%	10%	11%	22%	14%	1%	214
E83980	2015-08-31 E83980	City of Seattle	246	City of Seattle	246	Yes	No	11%	72%	0%	6%	3%	9%	54%	53%	26%	53%	7%	26%	9%	16%	35%	17%	2%	215
E83246	2015-08-31 E83246	City of Seattle	331	City of Seattle	331	Yes	No	20%	66%	16%	4%	0%	4%	54%	49%	13%	51%	14%	10%	15%	17%	36%	10%	0%	102
E83139	2015-08-31 E83139	City of Seattle	335	City of Seattle	335	Yes	No	42%	71%	2%	5%	1%	6%	65%	65%	21%	65%	5%	9%	20%	15%	26%	14%	7%	94
E83048	2015-08-31 E83048	City of Seattle	102	City of Seattle	102	Yes	Yes	-13%	36%	4%	27%	22%	49%	49%	39%	26%	44%	17%	55%	3%	14%	36%	10%	5%	88
E82693	2015-08-31 E82693	City of Seattle	276	City of Seattle	276	Yes	Yes	-5%	15%	6%	55%	9%	64%	45%	40%	27%	42%	48%	55%	3%	18%	46%	14%	3%	182
E82545	2015-08-31 E82545	City of Seattle	900	City of Seattle	900	Yes	No	1%	18%	17%	47%	6%	53%	42%	38%	35%	40%	50%	11%	14%	11%	51%	14%	0%	368
E83576	2015-08-28 E83576	City of Seattle	430	City of Seattle	430	Yes	Yes	-7%	19%	0%	64%	6%	70%	22%	17%	25%	19%	29%	22%	5%	8%	44%	12%	0%	119
E80432	2015-08-10 E80432	Unincorporated King C	360	Unincorporated King C	360	Yes	No	42%	65%	1%	0%	0%	0%	62%	56%	19%	59%	6%	3%	13%	11%	39%	27%	0%	205
E81018	2015-08-01 E81018	City of Redmond	263	City of Redmond	263	Yes	No	22%	64%	0%	2%	0%	2%	66%	67%	19%	67%	2%	22%	25%	12%	48%	43%	9%	161
E80028	2015-07-29 E80028	City of Federal Way	1100	City of Federal Way	1100	Yes	No	25%	92%	1%	0%	0%	0%	49%	64%	27%	57%	7%	5%	19%	12%	26%	12%	1%	268
E87767	2015-07-09 E87767	City of Bellevue	3762	City of Bellevue	3762	Yes	No	14%	72%	1%	5%	1%	6%	71%	65%	21%	68%	6%	25%	18%	20%	26%	31%	32%	2161
E86017	2015-06-30 E86017	City of Tukwila	1702	City of Tukwila	1702	Yes	No	20%	68%	0%	3%	4%	7%	60%	57%	26%	58%	7%	26%	13%	15%	33%	24%	25%	1287
E83659	2015-06-30 E83659	City of Seattle	604	City of Seattle	604	Yes	Yes	-16%	34%	5%	34%	4%	38%	57%	49%	29%	53%	49%	56%	8%	24%	36%	12%	22%	491
E83642	2015-06-30 E83642	City of Seattle	315	City of Seattle	315	Yes	Yes	-42%	24%	6%	40%	5%	44%	50%	29%	33%	40%	51%	59%	4%	27%	30%	7%	16%	243
E83634	2015-06-30 E83634	City of Seattle	1236	City of Seattle	1236	Yes	No	4%	57%	6%	17%	2%	18%	57%	40%	31%	48%	26%	34%	10%	21%	29%	9%	5%	851
E82974	2015-06-30 E82974	City of Issaquah	225	City of Issaquah	225	Yes	No	34%	80%	1%	2%	0%	2%	58%	54%	24%	56%	2%	24%	17%	20%	34%	10%	14%	212
E85944	2015-06-24 E85944	City of Burien	96	City of Burien	96	Yes	No	16%	89%	3%	3%	0%	3%	69%	65%	20%	67%	6%	20%	17%	17%	19%	15%	9%	54
E82917	2015-06-24 E82917	City of Shoreline	112	City of Shoreline	112	Yes	Yes	-1%	79%	1%	5%	0%	5%	68%	67%	21%	67%	3%	15%	28%	21%	28%	13%	14%	72
E80739	2015-06-24 E80739	City of Kirkland	390	City of Kirkland	390	Yes	No	34%	78%	3%	1%	0%	1%	65%	59%	28%	62%	3%	11%	32%	22%	31%	23%	8%	318
E89516	2015-06-23 E89516	City of Issaquah	503	City of Issaquah	503	Yes	No	35%	82%	0%	3%	0%	3%	62%	67%	26%	65%	14%	15%	15%	16%	35%	19%	2%	393
E88401	2015-06-23 E88401	City of Issaquah	252	City of Issaquah	252	Yes	No	27%	78%	2%	4%	0%	4%	64%	50%	22%	57%	3%	17%	11%	26%	25%	16%	26%	139
E85589	2015-06-23 E85589	City of Issaquah	3824	City of Issaquah	3824	Yes	No	25%	73%	0%	1%	0%	1%	50%	65%	29%	58%	5%	20%	19%	16%	41%	24%	5%	2136
E80431	2015-06-16 E80431	City of Redmond	460	City of Redmond	460	Yes	No	36%	70%	1%	2%	0%	2%	68%	61%	22%	65%	0%	13%	48%	34%	28%	18%	38%	270
E89334	2015-06-15 E89334	City of Redmond	261	City of Redmond	261	Yes	No	4%	78%	1%	4%	0%	4%	75%	64%	20%	70%	3%	14%	23%	22%	43%	23%	21%	166
E86793	2015-06-15 E86793	City of Redmond	1223	City of Redmond	1223	Yes	No	0%	59%	1%	2%	0%	2%	60%	58%	27%	59%	2%	22%	14%	22%	30%	20%	45%	772
E80443	2015-06-15 E80443	City of Redmond	230	City of Redmond	230	Yes	No	13%	67%	0%	3%	0%	3%	59%	63%	26%	61%	3%	27%	15%	17%	34%	20%	30%	130
E80101	2015-06-09 E80101	City of Kirkland	3969	City of Kirkland	3969	Yes	No	38%	90%	1%	1%	0%	1%	78%	67%	15%	73%	2%	8%	12%	8%	14%	11%	4%	1243
E88138	2015-06-08 E88138	City of Seattle	1247	City of Seattle	1247	Yes	Yes	-21%	11%	2%	45%	20%	64%	39%	35%	39%	37%	52%	76%	4%	26%	42%	10%	7%	928
E86819	2015-05-26 E86819	City of Federal Way	137	City of Federal Way	137	Yes	No	59%	86%	1%	0%	0%	0%	77%	62%	28%	70%	5%	10%	30%	22%	31%	15%	32%	101
E86322	2015-06-08 E86322	City of Kent	450	City of Kent	450	Yes	No	30%	66%	0%	5%	9%	14%	56%	49%	30%	52%	19%	39%	16%	14%	36%	14%	2%	250
E83733	2015-06-08 E83733	City of Issaquah	179	City of Issaquah	179	Yes	No	57%	86%	1%	1%	0%	1%	72%	61%	23%	67%	5%	13%	12%	20%	16%	11%	27%	129
E83196	2015-06-08 E83196	City of Burien	1092	City of Burien	1092	Yes	No	16%	84%	1%	1%	0%	1%	57%	55%	24%	56%	5%	5%	7%	9%	15%	9%	2%	262
E80788	2015-06-08 E80788	City of Seattle	238	City of Seattle	238	Yes	No	38%	70%	1%	5%	3%	8%	59%	48%	34%	53%	10%	29%	28%	14%	33%	23%	2%	181
E80762	2015-06-08 E80762	City of Renton	181	City of Renton	181	Yes	No	24%	77%	1%	0%	5%	5%	49%	48%	25%	49%	6%	23%	28%	11%	34%	14%	4%	160
E88849	2015-06-06 E88849	City of Seattle	903	City of Seattle	903	Yes	No	21%	44%	5%	23%	2%	25%	60%	47%	31%	53%	43%	37%	12%	16%	43%	17%	2%	635
E80002	2015-06-02 E80002	City of Mercer Island	185	City of Mercer Island	185	Yes	No	21%	80%	1%	1%	0%	1%	66%	57%	32%	62%	4%	7%	17%	21%	26%	22%	22%	152
E84541	2015-06-01 E84541	City of Seattle	2481	City of Seattle	2481	Yes	No	7%	38%	9%	22%	3%	25%	63%	47%	28%	55%	37%	38%	12%	27%	35%	13%	13%	1787
E83147	2015-05-31 E83147	City of Bellevue	247	City of Bellevue	247	Yes	No	16%	74%	0%	9%	1%	10%	71%	57%	29%	64%	4%	25%	18%	15%	30%	32%	10%	150
E86363	2015-05-29 E86363	City of Redmond	990	City of Redmond	990	Yes	No	28%	65%	1%	0%	0%	0%	35%	58%	22%	47%	8%	11%	24%	11%	45%	27%	1%	710
E82578	2015-05-29 E82578	City of Bellevue	849	City of Bellevue	849	Yes	No	9%	75%	4%	10%	0%	10%	57%	66%	20%	62%	12%	5%	12%	10%	25%	27%	0%	147
E89920	2015-05-27 E89920	City of Redmond	158	City of Redmond	158	Yes	Yes	-4%	59%	1%	18%	0%	18%	71%	69%	23%	70%	8%	38%	13%	29%	38%	26%	23%	128
E86645	2015-05-27 E86645	City of Redmond	183	City of Redmond	183	Yes	No	30%	92%	0%	0%	0%	0%	56%	55%	19%	55%	3%	8%	12%	22%	21%	10%	9%	250
E80069	2015-05-27 E80069	City of Kirkland	478	City of Kirkland	478	Yes	No	17%	65%	1%	6%	1%	6%	70%	55%	32%	63%	3%	29%	26%	20%	48%	32%	7%	284
E86538	2015-05-26 E86538	City of Bellevue	354	City of Bellevue	354	Yes	No	8%	78%	0%	2%	0%	2%	75%	75%	26%	75%	3%	12%	8%	17%	26%	31%	41%	191
E85779	2015-05-26 E85779	City of Federal Way	799	City of Federal Way	799	Yes	No	19%	82%	0%	1%	0%	1%	60%	70%	21%	65%	2%	6%	12%	17%	34%	13%	29%	413
E83253	2015-05-26 E83253	City of Redmond	1025	City of Redmond	1025	Yes	No	10%	71%	1%	11%	0%	12%	73%	66%	24%	69%	3%	33%	15%	24%	33%	27%	20%	785
E81596	2015-05-26 E81596	City of Redmond	500	City of Redmond	500	Yes	No	33%	73%	0%	0%	0%	0%	57%	66%	38%	62%	2%	12%	17%	22%	35%	24%	9%	378
E80010	2015-05-26 E80010	City of Mercer Island	530	City of Mercer Island	530	Yes	No	22%	73%	2%	2%	1%	4%	70%	63%	33%	66%	3%	15%	14%	18%	33%	30%	18%	243
E88583	2015-05-21 E88583	City of Redmond	113	City of Redmond	113	Yes	No	17%	73%	0%	2%	0%	2%	70%	62%	21%	66%	3%	14%	14%	34%	25%	15%	40%	102
E87890	2015-05-20 E87890	City of Federal Way	135	City of Federal Way	135	Yes	No	29%	79%	0%	0%	0%	0%	50%	73%	22%	62%	2%	7%	42%	10%	37%	9%	1%	250
E86413	2015-05-20 E86413	City of Tukwila	133	City of Tukwila	133	Yes	No	66%	92%	0%	0%	1%	1%	55%	61%	18%	58%	3%	7%	7%	11%	26%	20%	0%	76
E82867	2015-05-20 E82867	City of Tukwila	201	City of Tukwila	201	Yes	No	14%	82%	1%	0%	2%	2%	66%	66%	22%	66%	3%	5%	8%	15%	24%	12%	4%	137
E82602	2015-05-20 E82602	City of Redmond	175	City of Redmond	175	Yes	No	29%	80%	1%	2%	0%	2%	65%	56%	25%	60%	5%	12%	17%	17%	32%	22%	13%	144
E80655	2015-05-20 E80655	City of Tukwila	513	City of Tukwila	513	Yes	No	16%	76%	0%	1%	4%	5%	69%	68%	24%	69%	5%	21%	13%	19%	30%	25%	35%	367
E80523	2015-05-19 E80523	City of Shoreline	985	City of Shoreline	985	Yes	No	77%	83%	2%	5%	0%	5%	63%	54%	23%	58%	7%	11%	10%	20%	21%	9%	13%	209

E86595	2015-05-18 E86595	City of Kirkland	752	City of Kirkland	752	Yes	No	26%	86%	2%	2%	0%	2%	64%	52%	23%	58%	2%	7%	9%	12%	18%	17%	6%	177
E80689	2015-05-15 E80689	City of Shoreline	311	City of Shoreline	311	Yes	No	25%	70%	1%	3%	0%	3%	68%	57%	28%	62%	4%	25%	30%	23%	38%	20%	13%	293
E89706	2015-05-14 E89706	City of Federal Way	270	City of Federal Way	270	Yes	No	47%	96%	0%	1%	0%	1%	56%	57%	9%	56%	9%	8%	7%	11%	15%	10%	3%	102
E85027	2015-05-12 E85027	City of Woodinville	309	City of Woodinville	309	Yes	No	25%	92%	0%	0%	0%	0%	61%	64%	30%	62%	3%	4%	14%	19%	27%	18%	29%	160
E81422	2015-05-12 E81422	City of Auburn	275	City of Auburn	275	Yes	No	3%	55%	0%	1%	0%	1%	69%	61%	24%	65%	5%	15%	7%	18%	34%	13%	52%	207
E80671	2015-05-12 E80671	City of Shoreline	502	City of Shoreline	502	Yes	No	40%	73%	4%	2%	1%	3%	53%	55%	25%	54%	5%	6%	27%	21%	28%	17%	15%	250
E87510	2015-05-11 E87510	City of Redmond	1062	City of Redmond	1062	Yes	Yes	0%	62%	5%	19%	1%	19%	47%	41%	12%	44%	5%	26%	14%	13%	39%	19%	2%	594
E89664	2015-05-09 E89664	City of Auburn	592	City of Auburn	592	Yes	No	23%	81%	0%	2%	0%	2%	61%	72%	19%	66%	2%	9%	31%	15%	40%	17%	24%	425
E89525	2015-05-08 E89525	City of Redmond	280	City of Redmond	280	Yes	No	14%	67%	0%	16%	0%	16%	61%	60%	27%	60%	6%	34%	15%	14%	38%	20%	2%	162
E82578	2015-05-05 E82578	City of Bellevue	849	City of Bellevue	849	Yes	No	9%	75%	4%	10%	0%	10%	62%	66%	19%	64%	12%	5%	14%	9%	34%	33%	0%	58
E80093	2015-04-30 E80093	City of Des Moines	146	City of Des Moines	146	Yes	No	17%	83%	2%	0%	0%	0%	66%	63%	27%	65%	5%	0%	10%	24%	40%	18%	10%	62
E85688	2015-04-28 E85688	City of Woodinville	132	City of Woodinville	132	Yes	No	48%	85%	0%	3%	0%	3%	73%	65%	19%	69%	3%	18%	13%	23%	32%	13%	27%	78
E84970	2015-04-28 E84970	City of Woodinville	32	City of Woodinville	32	Yes	No	29%	86%	1%	0%	0%	0%	55%	61%	16%	58%	6%	6%	16%	23%	26%	0%	10%	31
E80184	2015-04-27 E80184	City of Des Moines	1100	City of Des Moines	1100	Yes	No	22%	79%	0%	6%	1%	7%	69%	62%	23%	65%	10%	17%	12%	20%	35%	17%	21%	281
E85902	2015-04-21 E85902	City of Shoreline	130	City of Shoreline	130	Yes	No	16%	83%	0%	4%	3%	7%	57%	60%	25%	58%	4%	27%	25%	37%	25%	12%	8%	250
E81604	2015-04-21 E81604	City of Auburn	533	City of Auburn	533	Yes	No	11%	88%	0%	2%	2%	4%	71%	65%	19%	68%	3%	20%	18%	15%	31%	9%	3%	234
E87262	2015-04-20 E87262	City of Woodinville	505	City of Woodinville	505	Yes	No	23%	79%	0%	0%	0%	0%	55%	67%	21%	61%	5%	7%	28%	18%	43%	21%	17%	375
E84277	2015-04-20 E84277	City of Auburn	538	City of Auburn	538	Yes	Yes	-1%	83%	0%	1%	10%	11%	63%	71%	20%	67%	7%	23%	11%	23%	26%	10%	7%	146
E80606	2015-04-20 E80606	City of Auburn	1250	City of Auburn	1250	Yes	No	36%	87%	1%	1%	1%	1%	65%	58%	19%	61%	17%	10%	14%	16%	25%	11%	23%	219
E80473	2015-04-20 E80473	City of Shoreline	639	City of Shoreline	639	Yes	No	45%	82%	0%	6%	0%	6%	47%	58%	19%	53%	4%	11%	11%	15%	30%	13%	1%	360
E87825	2015-04-13 E87825	City of Bellevue	175	City of Bellevue	175	Yes	No	36%	85%	1%	1%	0%	1%	69%	65%	16%	67%	2%	10%	10%	10%	33%	35%	29%	124
E86157	2015-04-13 E86157	City of Tukwila	1256	City of Tukwila	1256	Yes	No	35%	76%	0%	2%	0%	2%	52%	53%	17%	53%	3%	5%	12%	5%	47%	23%	3%	60
E85316	2015-04-13 E85316	City of Auburn	158	City of Auburn	158	Yes	No	6%	80%	0%	1%	0%	1%	51%	71%	20%	61%	7%	2%	12%	12%	31%	12%	2%	137
E83121	2015-04-13 E83121	City of Tukwila	332	City of Tukwila	332	Yes	No	8%	65%	1%	1%	10%	10%	53%	59%	32%	56%	1%	14%	16%	12%	20%	15%	3%	285
E81141	2015-04-07 E81141	City of Bellevue	206	City of Bellevue	206	Yes	No	18%	57%	0%	5%	0%	5%	73%	48%	35%	60%	1%	36%	12%	24%	32%	27%	27%	177
E80401	2015-04-07 E80401	City of Bellevue	133	City of Bellevue	133	Yes	Yes	-19%	43%	4%	34%	0%	34%	67%	55%	32%	61%	32%	47%	22%	12%	28%	25%	35%	92
E84681	2015-04-06 E84681	City of Bellevue	1006	City of Bellevue	1006	Yes	No	5%	62%	2%	18%	1%	19%	64%	62%	27%	63%	9%	32%	13%	24%	33%	33%	30%	707
E81778	2015-04-06 E81778	City of Bellevue	416	City of Bellevue	416	Yes	Yes	-20%	66%	4%	11%	1%	12%	69%	65%	26%	67%	16%	28%	16%	14%	38%	36%	6%	318
E81612	2015-04-06 E81612	City of Bellevue	1661	City of Bellevue	1661	Yes	No	21%	70%	0%	13%	0%	13%	71%	55%	27%	63%	8%	21%	13%	16%	28%	26%	17%	262
E83071	2015-04-06 E83071	City of Seattle	979	City of Seattle	979	Yes	No	39%	76%	2%	8%	3%	10%	49%	40%	26%	45%	6%	27%	15%	14%	28%	12%	1%	617
E80507	2015-04-06 E80507	City of Tukwila	774	City of Tukwila	774	Yes	No	17%	85%	0%	1%	2%	3%	54%	42%	25%	48%	3%	12%	13%	7%	21%	15%	1%	510
E80379	2015-04-03 E80379	City of Bellevue	141	City of Bellevue	141	Yes	No	24%	60%	0%	0%	0%	0%	31%	60%	0%	46%	0%	0%	0%	11%	39%	28%	0%	141
E80381	2015-04-01 E80381	City of Auburn	657	City of Auburn	657	Yes	No	3%	91%	1%	0%	0%	0%	29%	49%	16%	39%	2%	2%	8%	6%	26%	11%	1%	129
E89375	2015-03-30 E89375	City of Bellevue	160	City of Bellevue	160	Yes	No	6%	74%	0%	2%	0%	2%	70%	71%	22%	70%	20%	11%	34%	21%	30%	36%	23%	128
E88963	2015-03-30 E88963	City of Tukwila	207	City of Tukwila	207	Yes	No	31%	86%	0%	2%	2%	4%	67%	72%	22%	70%	2%	8%	12%	17%	26%	26%	31%	166
E87353	2015-03-30 E87353	City of Tukwila	173	City of Tukwila	173	Yes	No	48%	88%	0%	2%	2%	3%	72%	76%	22%	74%	4%	9%	7%	17%	46%	31%	9%	148
E87189	2015-03-30 E87189	City of Bellevue	190	City of Bellevue	190	Yes	Yes	-4%	67%	1%	11%	0%	11%	72%	74%	21%	73%	6%	27%	12%	14%	32%	39%	51%	139
E81282	2015-03-30 E81282	City of Bellevue	379	City of Bellevue	379	Yes	No	22%	82%	1%	5%	1%	6%	76%	63%	17%	70%	3%	23%	10%	23%	23%	28%	35%	207
E80713	2015-03-25 E80713	City of Tukwila	386	City of Tukwila	386	Yes	No	26%	80%	0%	5%	3%	7%	65%	60%	21%	62%	2%	12%	13%	16%	34%	24%	18%	173
E81521	2015-03-23 E81521	City of Bellevue	129	City of Bellevue	129	Yes	Yes	-10%	41%	4%	40%	2%	42%	65%	52%	28%	59%	39%	51%	12%	23%	36%	26%	11%	707
E81471	2015-03-23 E81471	City of Bellevue	211	City of Bellevue	211	Yes	No	26%	31%	3%	50%	0%	51%	65%	48%	30%	56%	61%	66%	8%	12%	38%	24%	9%	153
E81257	2015-03-23 E81257	City of Bellevue	140	City of Bellevue	140	Yes	No	34%	49%	2%	1%	0%	1%	54%	62%	34%	58%	14%	42%	31%	9%	51%	33%	1%	91
E80541	2015-03-23 E80541	City of Bellevue	423	City of Bellevue	423	Yes	No	9%	57%	5%	24%	0%	24%	69%	62%	25%	66%	32%	31%	13%	15%	40%	24%	12%	302
E80526	2015-03-23 E80526	City of Bellevue	790	City of Bellevue	790	Yes	No	1%	41%	3%	29%	1%	30%	61%	54%	32%	57%	38%	58%	12%	17%	42%	24%	5%	434
E80402	2015-03-23 E80402	City of Bellevue	900	City of Bellevue	900	Yes	Yes	-6%	37%	3%	37%	1%	38%	61%	56%	33%	59%	47%	48%	10%	15%	45%	24%	17%	706
E87171	2015-03-16 E87171	City of Bellevue	210	City of Bellevue	210	Yes	No	7%	78%	1%	7%	0%	7%	76%	73%	19%	75%	24%	39%	9%	9%	40%	29%	25%	161
E87130	2015-03-16 E87130	City of Bellevue	158	City of Bellevue	158	Yes	No	35%	61%	0%	2%	0%	2%	65%	51%	25%	58%	4%	7%	12%	17%	21%	23%	41%	142
E82586	2015-03-16 E82586	City of Bellevue	156	City of Bellevue	156	Yes	No	41%	63%	0%	4%	0%	4%	68%	61%	35%	64%	4%	12%	17%	20%	53%	30%	22%	114
E81323	2015-03-16 E81323	City of Bellevue	200	City of Bellevue	200	Yes	Yes	-28%	35%	2%	26%	1%	27%	69%	61%	25%	65%	50%	41%	11%	18%	40%	22%	32%	149
E80630	2015-03-16 E80630	City of Tukwila	405	City of Tukwila	405	Yes	No	47%	76%	0%	4%	2%	6%	52%	63%	18%	58%	7%	7%	15%	8%	34%	18%	3%	268
E80552	2015-03-16 E80552	City of Bellevue	196	City of Bellevue	196	Yes	No	16%	69%	2%	15%	0%	15%	75%	74%	22%	74%	9%	43%	16%	22%	40%	36%	18%	134
E80341	2015-03-16 E80341	City of Tukwila	250	City of Tukwila	250	Yes	No	55%	79%	0%	1%	0%	1%	47%	69%	16%	58%	7%	2%	17%	2%	28%	15%	3%	163
E80326	2015-03-16 E80326	City of Tukwila	210	City of Tukwila	210	Yes	No	22%	84%	0%	3%	1%	4%	65%	55%	16%	60%	4%	4%	9%	9%	31%	18%	4%	148
E80722	2015-03-02 E80722	City of Bellevue	750	City of Bellevue	750	Yes	No	20%	90%	2%	2%	0%	2%	63%	73%	11%	68%	4%	2%	10%	11%	27%	17%	1%	167

Appendix B – WSDOT CTR Survey

Commute Trip Reduction

State of Washington

Employee Questionnaire

Directions

- All questions refer to work for this employer only.
- Use a No. 2 pencil.
- Fill in the circles completely.
- Erase cleanly any marks you wish to change.
- Do not make any stray marks on the form.

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. What days do you typically begin work between 6 and 9 a.m.? (Mark all that apply)

- ○ Monday
- ○ Tuesday
- ○ Wednesday
- ○ Thursday
- ○ Friday
- ○ Saturday
- ○ Sunday
- ○ None

3. 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 work location.
- Round off the distance traveled to the nearest mile.
- Write numbers in the boxes and fill in the corresponding circles.

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

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

- If you used more than one type, fill in the type used for the LONGEST DISTANCE.
- Fill in ONLY ONE type of transportation per day.
- 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 a location less than half the distance from your usual work location.
- If you teleworked part of the day then went to your usual work location, fill in how you got to your usual work location.

M	T	W	Th	F	Sa	Su	
○	○	○	○	○	○	○	Drove alone (or with children under 16)
○	○	○	○	○	○	○	Carpooled (2 or more people)
○	○	○	○	○	○	○	Vanpooled
○	○	○	○	○	○	○	Rode a motorcycle
○	○	○	○	○	○	○	Rode a bus
○	○	○	○	○	○	○	Rode a train/light rail/streetcar
○	○	○	○	○	○	○	Rode a bicycle
○	○	○	○	○	○	○	Walked
○	○	○	○	○	○	○	Teleworked
○	○	○	○	○	○	○	Compressed workweek day off
○	○	○	○	○	○	○	Overnight business trip
○	○	○	○	○	○	○	Did not work (day off, sick, etc.)
○	○	○	○	○	○	○	Boarded Ferry with car/van/bus
○	○	○	○	○	○	○	Boarded ferry as walk-on passenger
○	○	○	○	○	○	○	Other: _____

5. If you carpooled or vanpooled as part of your commute, or if you rode a motorcycle, how many people (age 16 or older) were usually in the vehicle including yourself?

- ○ One person
- ○ Two people
- ○ Three people
- ○ Four people
- ○ Five people
- ○ Six people
- ○ Seven people
- ○ Eight people
- ○ Nine people
- ○ Ten people
- ○ Eleven people
- ○ Twelve people
- ○ Thirteen people
- ○ Fourteen people
- ○ Fifteen or more people

6. What is your home zip code? (Write numbers in the boxes and fill in the 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

Continued on the other side

DO NOT WRITE IN THIS AREA

000842

7. **Was last week a typical week for commuting?**
   - ○ Yes ○ No

8. **Which of the following best describes your 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: _____

9. **On the most recent day that you drove alone to work, did you pay to park?** (Mark "yes" if you paid that day, if you prepaid, if you are billed later, or if the cost of parking is deducted from your paycheck.)
   - ○ Yes ○ No ○ I don't drive alone

10. **How many days do you typically telework?**
    - ○ I don't telework
    - ○ Occasionally, on an as-needed basis
    - ○ 1-2 days/month
    - ○ 1 day/week
    - ○ 2 days/week
    - ○ 3 days/week

11. **When you <u>do not</u> drive alone to work, what are the three most important reasons?**
    - ○ Financial incentives for carpooling, bicycling or walking
    - ○ Free or subsidized bus, train, vanpool pass or fare benefit
    - ○ Personal health or well-being
    - ○ Cost of parking or lack of parking
    - ○ To save money
    - ○ To save time using the HOV lane
    - ○ I have the option of teleworking
    - ○ Driving myself is not an option
    - ○ Emergency ride home is provided
    - ○ I receive a financial incentive for giving up my parking space
    - ○ Preferred/reserved carpool/vanpool parking is provided
    - ○ Environmental and community benefits
    - ○ Other: _____

12. **When you <u>drive alone</u> to work, what are the three most important reasons?**
    - ○ Riding the bus or train is inconvenient or takes too long
    - ○ I need more information on alternative modes
    - ○ My job requires me to use my car for work
    - ○ My commute distance is too short
    - ○ Family care or similar obligations
    - ○ I like the convenience of having my car
    - ○ Bicycling or walking isn't safe
    - ○ There isn't any secure or covered bicycle parking
    - ○ Other: _____

<u>Answer question 13 only if you rode transit (either bus or train), or boarded a ferry as a walk-on passenger, at least once last week.</u>

13. **Please indicate the number of one-way transit or walk-on ferry trips you took last week on each system listed below (for any purpose, not just getting to and from work)? Please select <u>"Other"</u> if your transit isn't listed.** 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)

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

Thank you for completing the survey!