

BAY AREA COMMUTER BENEFITS PROGRAM
EVALUATION OF TRIP, VMT & EMISSION IMPACTS

PREPARED FOR
MTC & BAAQMD



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INTRODUCTION

Pursuant to SB 1339, the Bay Area Air Quality Management District (BAAQMD) and the Metropolitan Transportation Commission (MTC) established the *Bay Area Commuter Benefits Program* in March, 2014.¹ The Program is designed to decrease motor vehicle travel and traffic congestion, reduce emissions of greenhouse gases and other pollutants, and ultimately protect the climate and public health. Under the Program, employers with 50 or more full-time employees within the nine-county jurisdiction of the BAAQMD must offer one or more of the following commuter benefit options to their employees by September 30, 2014:

Option 1: Pre-Tax Benefit Employer allows employees to exclude transit or vanpool costs from taxable income, up to the maximum permitted by federal law (currently \$130 per month). This option can reduce payroll and/or income taxes for both employers and employees.

Option 2: Employer-Provided Subsidy Employer provides a subsidy (up to \$75 per month) to offset the costs incurred by an employee while using transit or vanpool for their work commute.

Option 3: Employer-Provided Transit Employer provides free or low-cost bus, shuttle, and/or vanpool services for employees.

Option 4: Alternative Commuter Benefit Employer provides an alternative commuter benefit that is at least as effective as the prior options in reducing single-occupant vehicle trips (and/or emissions).

In addition to providing commuter benefits, employers are also required to register with the Program via 511.org and notify their employees of the commuter benefits offered.

Although employers are required to make commuter benefits available, they are *not* required to achieve any performance standards or targets. Similarly, employees are not required to take advantage of commuter benefits offered and/or change their commute mode in response to the Program. Nevertheless, the BAAQMD and MTC have sought to measure the impacts and effectiveness of the Program and plan to submit a report to the California State Legislature by July 1, 2016.

RESEARCH OVERVIEW Much of the information to be used for evaluating the Program is (or can be) captured through the employer registration process. MTC is currently tracking employer registrations, the types of benefit options being offered by employers, and the estimated number of employees being offered each benefit option.

The *Survey of Bay Area Employees* discussed in this report gathered data needed to measure impacts of the Program that can *not* be reliably measured through the employer registration process. By profiling employee awareness of commuter benefits offered by their employer, their utilization of those benefits, commute characteristics (work and residence locations, mode, distance, frequency), and vehicle characteristics, the data gathered through the *Survey of Bay Area Employees* (in combination with that collected during the employer registration process)

1. Effective March 26, 2014, Regulation 14: Mobile Source Emission Control Measures, Rule 1: Bay Area Commuter Benefits Program.

enables the research team to estimate the Program's impact on reducing motor vehicle trips, vehicle miles traveled (VMT), and vehicle emissions.

CONSERVATIVE IMPACT ESTIMATES It should be noted at the outset that the impacts of the Program detailed in this report are conservative estimates. The employee survey was performed approximately 12 months after the commuter benefits regulation was adopted. MTC and the BAAQMD will be conducting additional employer outreach and education during the remainder of the pilot phase with the objective of expanding the number of employers and employees who participate in the Program, thus further increasing the environmental benefits of the Program.

In addition, it is important to emphasize that a very conservative protocol was also employed for assigning credit to the Program for trip, VMT and emission impacts. Trip, VMT and emission reductions were attributed to the Program only if an employee's use of an alternative mode was contingent on the commuter benefit being offered *and* they work for an employer who began offering the benefit in response to the regulation.

OVERVIEW OF METHODOLOGY A full description of the methodology used for the study is included later in this report (see *Methodology* on page 21). In brief, the survey was administered to a random sample of 1,400 employees in the Bay Area who work for organizations that employ at least 50 employees in the Bay Area. The study was administered using a mixed-method design that utilized two recruiting methods (email & telephone) and offered respondents two ways to complete the survey (online & telephone). Research has shown that this approach generally produces a higher response rate, reduces response bias, and ultimately improves the overall reliability of a survey when compared to using a single recruiting and data collection method. The 1,400 interviews were conducted between March 19 and April 13, 2015, and were comprised of 878 telephone interviews and 522 interviews completed online. The study has a maximum margin of error due to sampling of $\pm 2.6\%$ at the 95% level of confidence.

ORGANIZATION OF REPORT This report is designed to meet the needs of readers who prefer a summary of the findings as well as those who are interested in the details of the results. For those who seek an overview of the findings, the section titled *Key Findings* is for you. It provides a summary of the most important factual findings of the survey and a discussion of their implications. For those seeking more details, this section is followed by a detailed discussion of the results from the survey by topic area (see *Table of Contents*), a description of the methodology employed for collecting and analyzing the data (see *Methodology* on page 21), as well as the questionnaire used for the interviews (see *Questionnaire* on page 24).

ACKNOWLEDGEMENTS True North thanks the staff at MTC and the BAAQMD who contributed their valuable input during the design stage of this study, especially Christine Maley-Grubl (MTC) and David Burch (BAAQMD). Their collective experience, local knowledge, and insight improved the overall quality of the research presented here.

DISCLAIMER The statements and conclusions in this report are those of the authors—Dr. Timothy McLarney and Richard Sarles at True North Research—and not necessarily those of MTC or the BAAQMD. Any errors and omissions are the responsibility of the authors.

ABOUT TRUE NORTH True North is a full-service research firm that is dedicated to providing public agencies with a clear understanding of the values, perceptions, opinions and behaviors of their residents and customers. Through designing and implementing scientific surveys, focus groups and one-on-one interviews, as well as expert interpretation of the findings, True North helps its clients to move with confidence when making strategic decisions in a variety of areas—such as planning, program and policy evaluation, performance management, organizational development, establishing fiscal priorities, and developing effective public information campaigns.

During their careers, Dr. McLarney (President) and Mr. Sarles (Principal Researcher) have designed and conducted over 900 survey research studies for public agencies, including dozens for the purposes of developing and/or evaluating environmental programs, pilots, and public education campaigns.



KEY FINDINGS

As noted in the *Introduction*, this study was designed to measure the effectiveness of the *Bay Area Commuter Benefits Program* during its first year of implementation. Whereas subsequent sections of this report are devoted to conveying the detailed results of the study, in this section we attempt to ‘see the forest through the trees’ and note how the collective results answer some of the key questions that motivated the research.

To what extent are employees aware of commuter benefits offered by their employers?

Overall, 55% of employees surveyed who work for Bay Area employers with at least 50 employees (and thus are subject to the regulation) were aware that their employer offers at least one commuter benefit, whereas 45% indicated their employer does not offer such benefits or were unsure (see *Awareness of Commuter Benefits* on page 6). The level of awareness recorded in the survey is strikingly consistent with Program registration to date. As of May 5, 2015, it was estimated that of the estimated 2.1 million employees who work for organizations that are subject to the regulation, 56% (1.18 million) are working for employers who had registered with MTC and are offering at least one qualified commuter benefit. The similarity in these figures suggests that employers who are offering commuter benefits are doing a solid job, overall, in informing their employees that the benefits are available, thus complying with the Program’s employee notification requirement.

To what extent are Bay Area employees utilizing commuter benefits?

More than one-quarter (28%) of Bay Area employees who work for organizations that are subject to the regulation indicated that they had utilized at least one commuter benefit during the 12 months prior to the interview (see *Utilization of Commuter Benefits - Overall* on page 10). Approximately 27% of employees were aware that their employer offers commuter benefits but chose not to participate, whereas 45% indicated that their employer does not offer commuter benefits (or were unsure).

Are commuter benefits positively impacting employee commute behavior?

A key task for evaluating the impacts of the *Bay Area Commuter Benefits Program* is to distinguish within participating employees those who have altered their commute behavior in response to the benefit being offered. In other words, what percentage of employees who are utilizing an alternative mode for their commute would not be doing so (or would be doing so less frequently) in the absence of the commuter benefit?

Overall, 6% of employees surveyed had increased their use of alternative modes for their commute in response to the commuter benefit being offered by their employer, resulting in at least one reduced vehicle trip per month that is contingent on the commuter benefit being offered (see *Reduced Trips Because of Benefit Offered* on page 12). Approximately 22% of employees participated in a commuter benefit program, but reported that the frequency with which they use alternative modes for their commute is not influenced by their employer offering a benefit. The remaining employees (72%) did not participate in a commuter benefit

program, either by choice (27%) or due to their employer not offering a commuter benefit (45%).

What were the trip, VMT and emission impacts of the Bay Area Commuter Benefits Program during its first year of implementation?

Estimating the impacts of the *Bay Area Commuter Benefits Program* requires isolating the behaviors of employees who meet three key conditions. First, they must participate in a commuter benefit program offered by their employer. Second, their use of alternative modes for their commute must be positively impacted by the presence of the commuter benefit. As noted above, approximately 6% of Bay Area employees surveyed satisfy these first two conditions.

The third key condition is that the employee also works for an organization that offered the commuter benefit in response to the regulation. If an employer offered commuter benefits prior to the regulation, then our analysis assumes that the *Bay Area Commuter Benefits Program* was not instrumental in the benefit being offered or the resulting commute behavior impacts.

As detailed in *Program Impacts* on page 14, of the estimated 2,099,506 Bay Area employees who work for companies that are subject to the regulation, an estimated 44,397 (2.1%) satisfy all of the aforementioned conditions. That is, they are participating in a commuter benefit program, their use of an alternative mode is contingent on the commuter benefit being offered, *and* they work for an employer who began offering the benefit in response to the regulation (post-regulation). To provide a sense of scale, 44,397 is approximately equivalent to the entire adult population of the City of Cupertino using alternative modes for their commute in direct response to the Program.

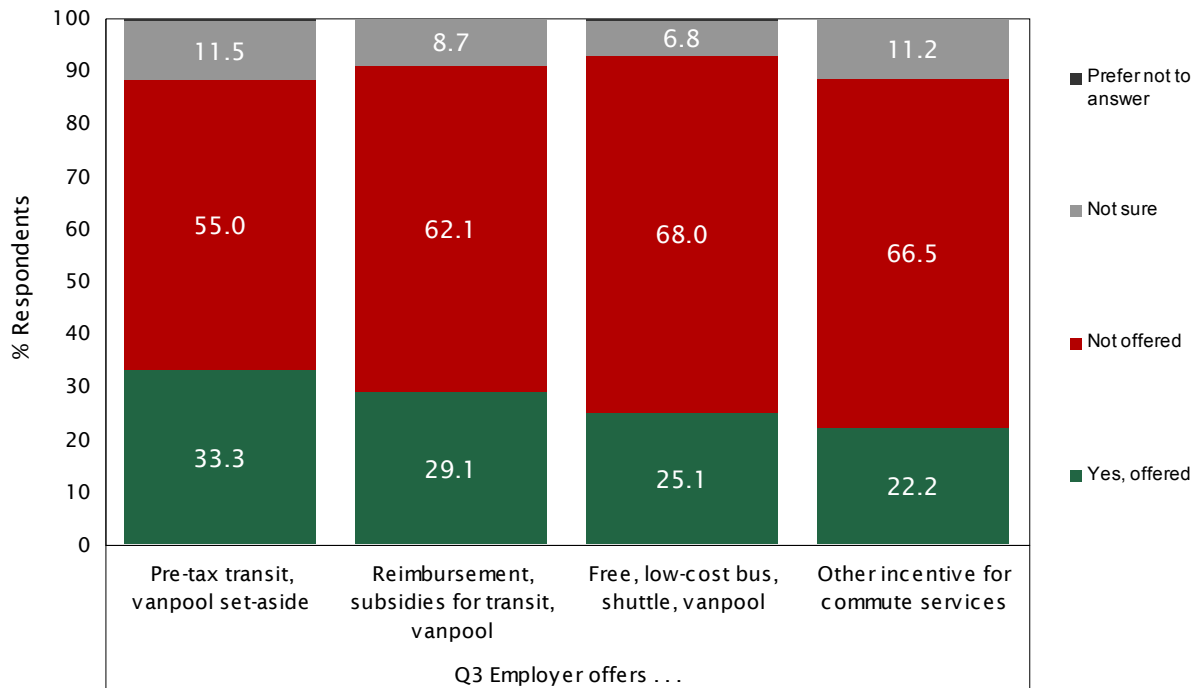
During the first 12 months of the Program, these 44,397 individuals reduced an estimated 4,291,308 vehicle trips and 85,601,490 vehicle miles traveled (VMT) in direct response to the *Bay Area Commuter Benefits Program*. The trip and VMT reductions resulted in substantial vehicle emission reductions that can be attributed to the Program. During the first 12 months, the *Bay Area Commuter Benefits Program* reduced an estimated 17.28 tons of nitrogen oxides (NOx), 17.94 tons of reactive organic gases (ROG), 4.41 tons of particulate matter (PM10), 1.85 tons of fine particulate matter (PM2.5), 163 tons of carbon monoxide (CO), and 35,778 tons of carbon dioxide (CO2).

AWARENESS OF COMMUTER BENEFITS

One of the initial steps in measuring the impacts of the *Bay Area Commuter Benefits Program* was to gauge employee awareness of the commuter benefits that may (or may not) be offered by their employer. In addition to awareness being a prerequisite to utilizing a benefit, measuring employee awareness of the commuter benefits offered by their employer also serves as a useful way to evaluate whether registered employers are doing an adequate job in informing their employees of the benefits that are available to them.

AWARENESS OF BENEFITS BY TYPE As shown in Figure 1, one-third of employees (33%) surveyed indicated that their employer allows employees to set aside part of their paycheck each month to pay for transit or vanpool costs on a pre-tax basis, whereas 29% indicated their employer reimburses or subsidizes employees for the cost of taking transit or vanpool to work. Approximately one-quarter (25%) of Bay Area employees reported that their employer provides free or low-cost bus, shuttle or vanpool services to employees, while 22% stated that their employer offers some *other* type of incentive program to encourage employees to use transit, carpool, or vanpool services for their commute.

FIGURE 1 AWARENESS OF COMMUTER BENEFITS OFFERED BY TYPE

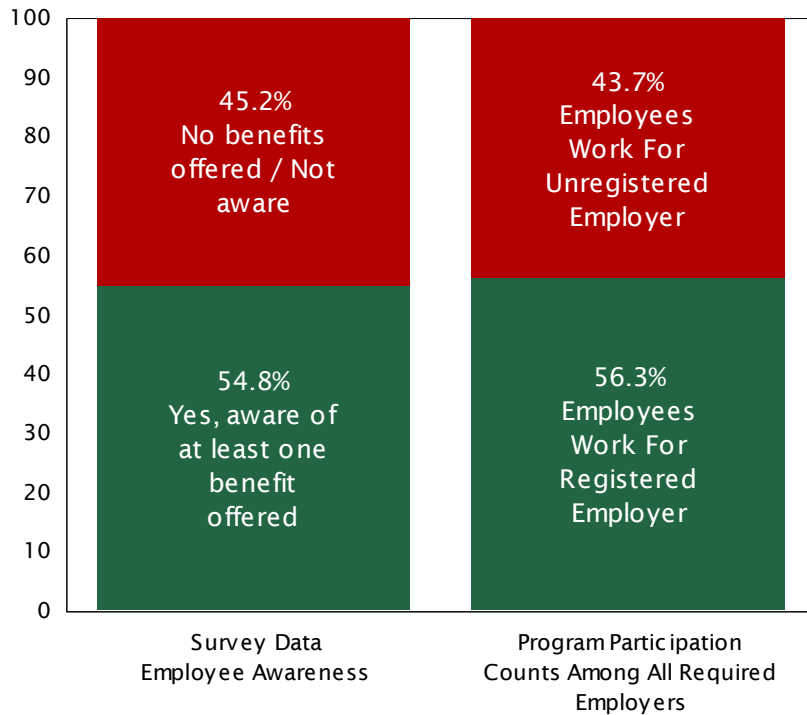


AWARENESS OF BENEFITS OVERALL As of May 5, 2015 (approximately 13 months since the Program’s inception), it is estimated that of the 2.1 million employees who work for organizations that are subject to the regulation, 56% (1.18 million) are working for employers who had registered with MTC and are offering at least one qualified commuter benefit.² This fig-

2. The estimated number of employees working for employers who are subject to the regulation is 2,099,506. That is, they work for an organization that employs at least 50 employees in the Bay Area. As of May 5, 2015, employers who had registered with the Program and were offering at least one qualified commuter benefit accounted for 1,182,091 Bay Area employees.

ure is strikingly similar to the percentage of employees surveyed who indicated their employer offers one or more commuter benefits (55%), as shown in Figure 2. The similarity in these figures suggests that employers who are offering commuter benefits are doing a solid job, overall, in informing their employees that the benefits are available.³

FIGURE 2 COMPARISON OF AWARENESS OF COMMUTER BENEFIT OFFERED & EMPLOYEES WORKING FOR REGISTERED EMPLOYERS



Figures 3 and 4 on the next page show how the percentage of employees who indicated their employer provides one or more commuter benefits varied according to the location of their employer (county) and the number of employees working at their particular site in the Bay Area. The percentage of employees who were aware that their employer offers commuter benefits varied substantially based on the location of their employer, ranging from a low of 22% in Sonoma County to a high of 75% among those who work in San Francisco County. The number of employees working at a particular location also bore a strong, positive relationship with awareness of commuter benefits being offered, with employees working at locations with at least 2500 employees being the most likely (77%) to report that their employer offers one or more commuter benefits.⁴

3. Given the known registration figures, if employers were not doing an adequate job informing employees about the commuter benefits being offered, the percentage of employees surveyed who were aware their employer offers commuter benefits would be substantially lower than 55%.

4. Note that the category 1-49 employees in Figure 4 refers to the number of employees at the respondent's particular work location in the Bay Area. Although the number of employees at their particular work location was less than 50, their employer had multiple locations and employed at least 50 employees in the Bay Area.

FIGURE 3 AWARENESS OF COMMUTER BENEFIT OFFERED BY COUNTY

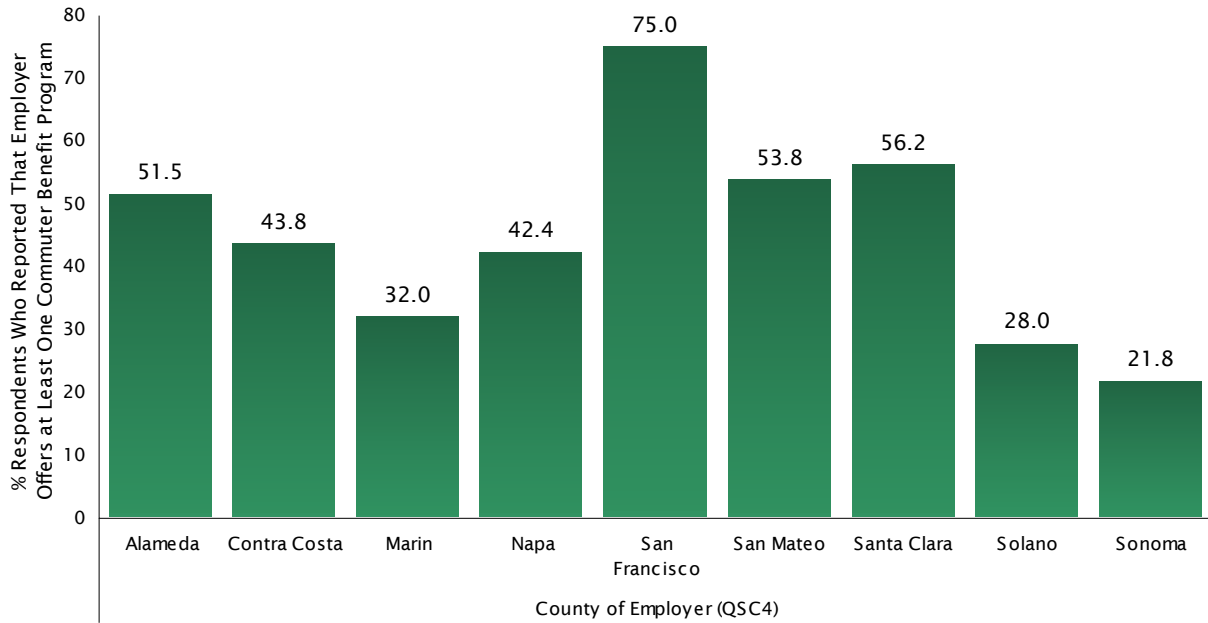
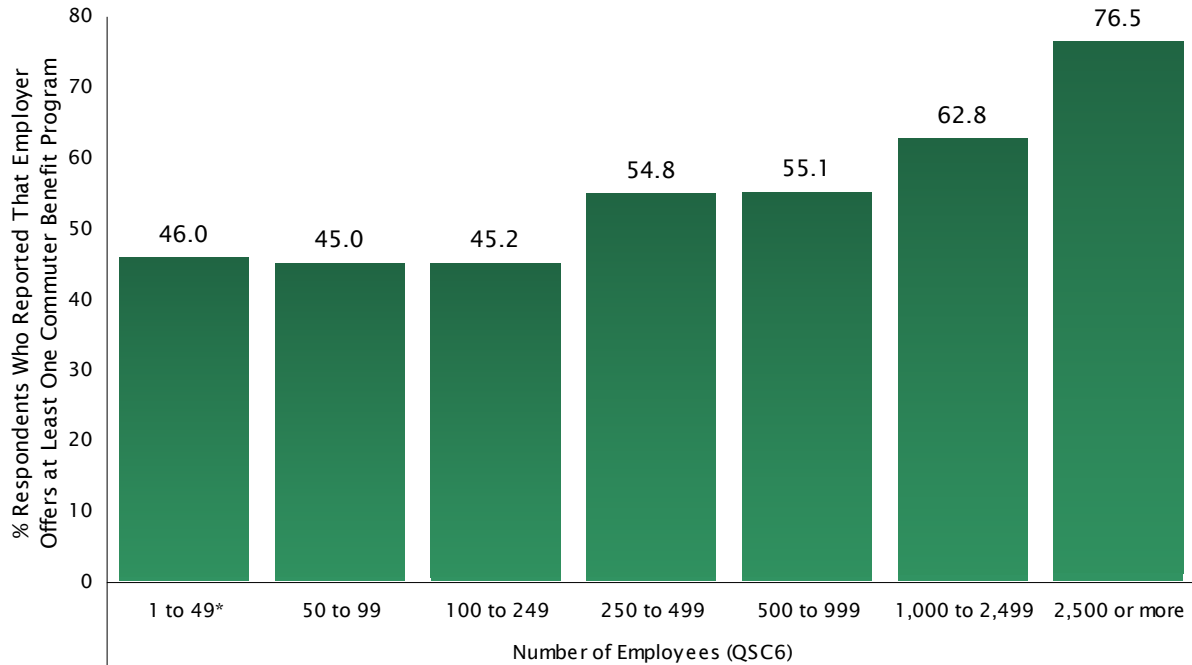


FIGURE 4 AWARENESS OF COMMUTER BENEFIT OFFERED BY NUMBER OF EMPLOYEES AT BAY AREA SITE

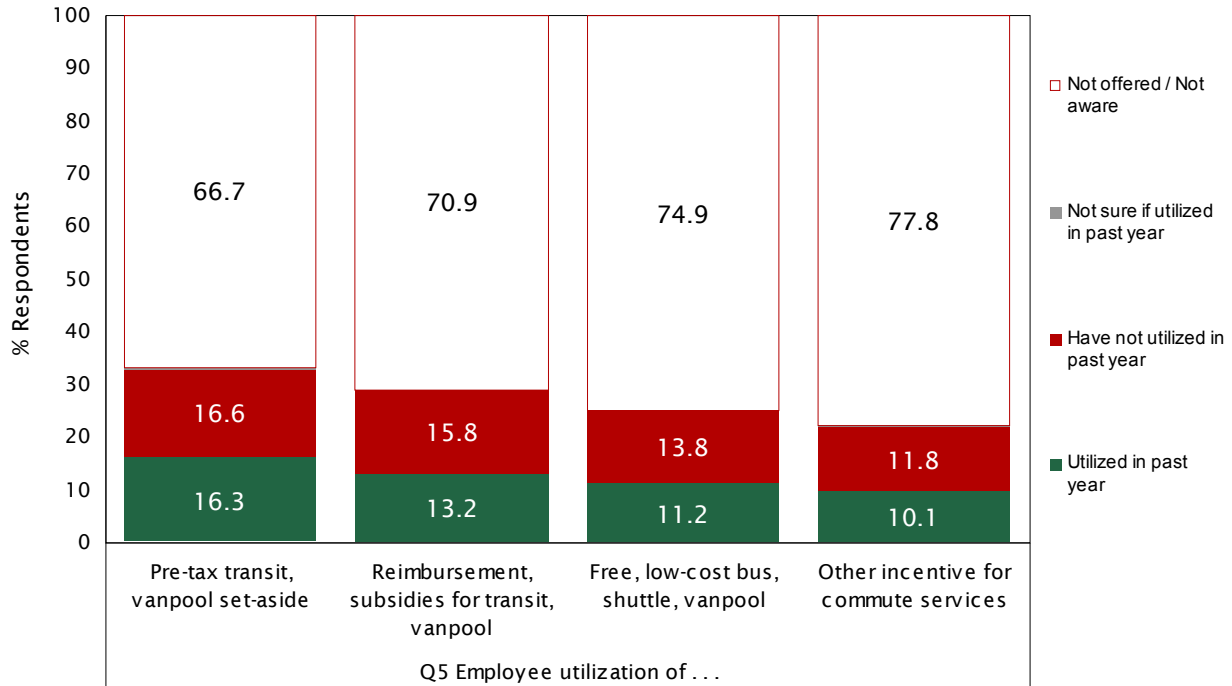


UTILIZATION OF COMMUTER BENEFITS

Having established which employees were aware that their employer offers one or more commuter benefits, the survey transitioned to profiling the extent to which Bay Area employees are actually *utilizing* commuter benefits.

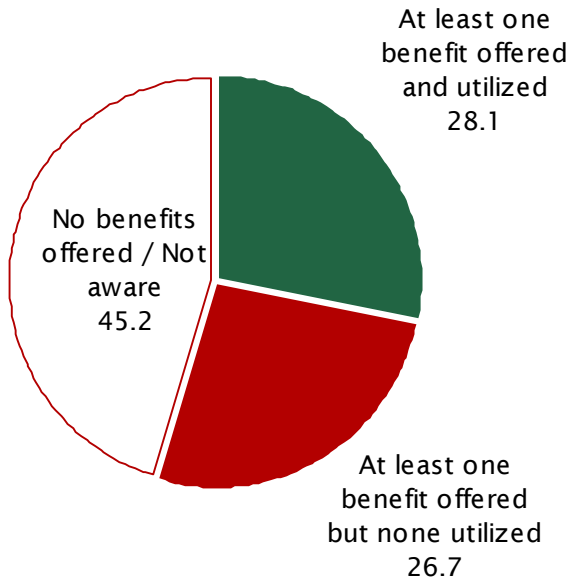
UTILIZATION OF COMMUTER BENEFITS BY TYPE Figure 5 presents the utilization rates for each type of commuter benefit in the context of *all* employees who work for companies with 50 or more employees in the Bay Area. Overall, 16% of employees surveyed indicated that in the 12 months prior to the interview they had participated in a program where they set aside part of their paycheck each month to pay for transit or vanpool costs on a pre-tax basis, while 13% had received reimbursements or subsidies from their employer for the cost of taking transit or a vanpool to work. Approximately 11% of Bay Area employees reported that they had utilized free or low-cost bus, shuttle or vanpool services offered by their employer during this period, while 10% stated they had participated in some *other* type of incentive program offered by their employer that encourages employees to use transit, carpool, or vanpool services for their commute.

FIGURE 5 UTILIZATION OF COMMUTER BENEFITS OFFERED BY TYPE



Because employees often reported utilizing more than one type of commuter benefit, Figure 6 on the next page presents the utilization data in terms of individual employees. Overall, 28% of Bay Area employees who work for subject employers indicated that they had utilized at least one commuter benefit during the 12 months prior to the interview. Approximately 27% of employees were aware that their employer offers commuter benefits but chose not to participate, whereas 45% indicated that their employer does not offer commuter benefits (or were unsure).

FIGURE 6 UTILIZATION OF COMMUTER BENEFITS - OVERALL



Figures 7 and 8 illustrate how the percentage of employees who utilized a commuter benefit varied by the location of their employer and the number of employees at their particular site. Just as *awareness* of benefits offered varied substantially by location (see Figure 3), so too did *utilization*—ranging from 7% in Sonoma County to 51% in San Francisco County. The percentage of employees who utilized a commuter benefit also bore a modest relationship to the number of employees at their work site, with those working at sites with 500 or more employees being somewhat more likely to have utilized one or more commuter benefits during the 12 months prior to the interview.

FIGURE 7 UTILIZATION OF COMMUTER BENEFITS BY COUNTY

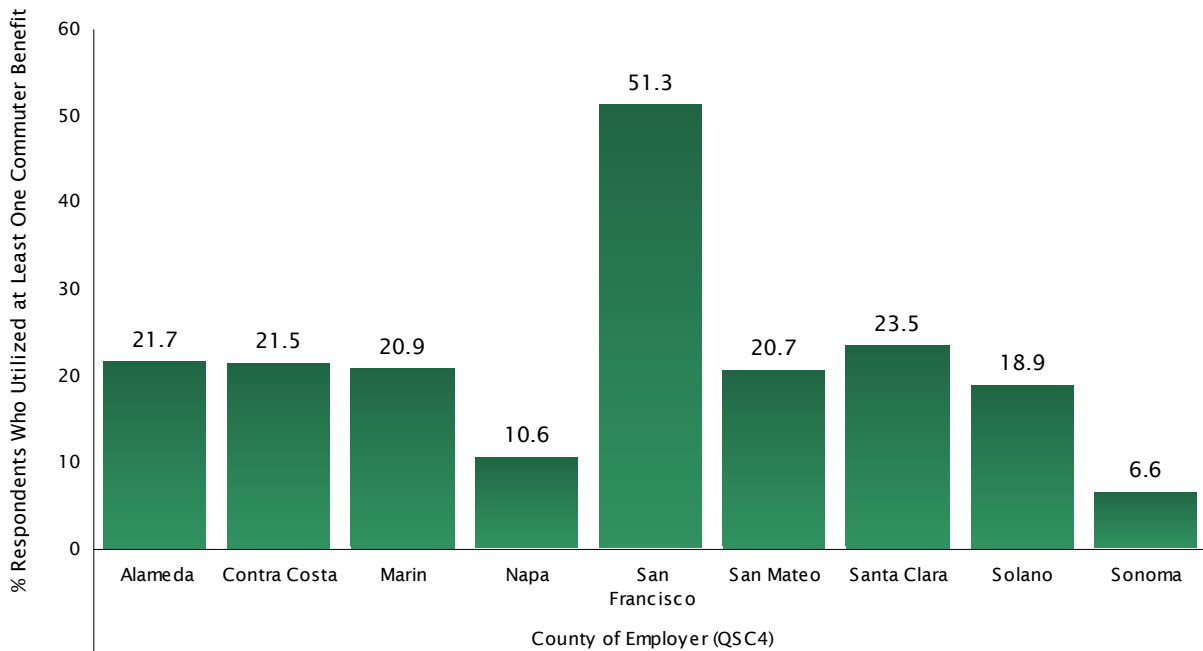
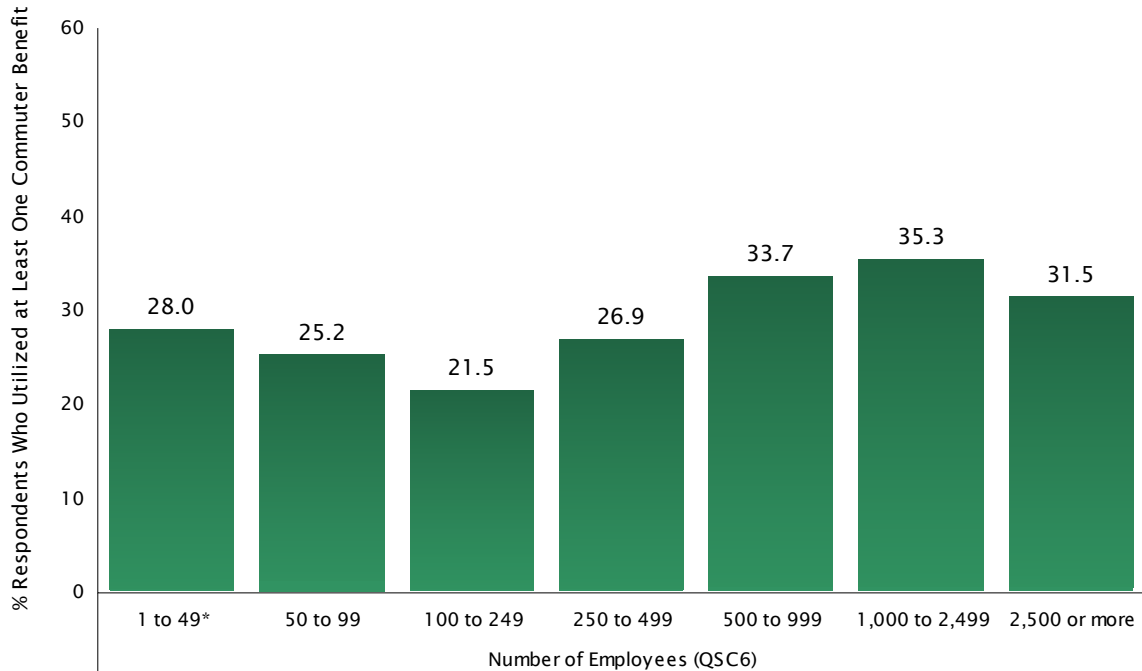


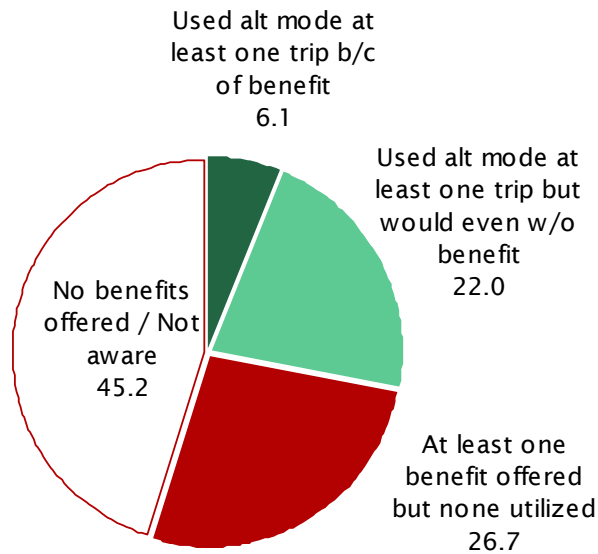
FIGURE 8 UTILIZATION OF COMMUTER BENEFITS BY NUMBER OF EMPLOYEES AT BAY AREA SITE



EMPLOYEES WHO REDUCED TRIPS DUE TO BENEFIT BEING OFFERED Knowing that an employee has participated in a commuter benefit program does *not* equate to knowing that the employee's behavior was impacted by the commuter benefit. For example, an employee could have a history of riding transit prior to their employer offering a subsidy or pre-tax set aside program. Although the employee may choose to take advantage of the benefit (now that it is offered) to reduce their costs of using transit, their participation in the program did not actually change their commute behavior (mode choice or frequency). A key task for evaluating the impacts of the *Bay Area Commuter Benefits Program*, therefore, is to distinguish within participating employees those who have altered their commute behavior in response to the benefit being offered. In other words, what percentage of employees who are utilizing an alternative mode for their commute would not be doing so (or would be doing so less frequently) in the absence of the commuter benefit?

The survey utilized a combination of questions (see Questions 14-20 in *Questionnaire* on page 24) to identify employees whose use of alternative modes for their commute was dependent, to some degree, on the presence of the commuter benefit being offered by their employer. These employees indicated that they would have made *at least* one less trip using alternative modes in a typical month if their employer did not offer a commuter benefit program.

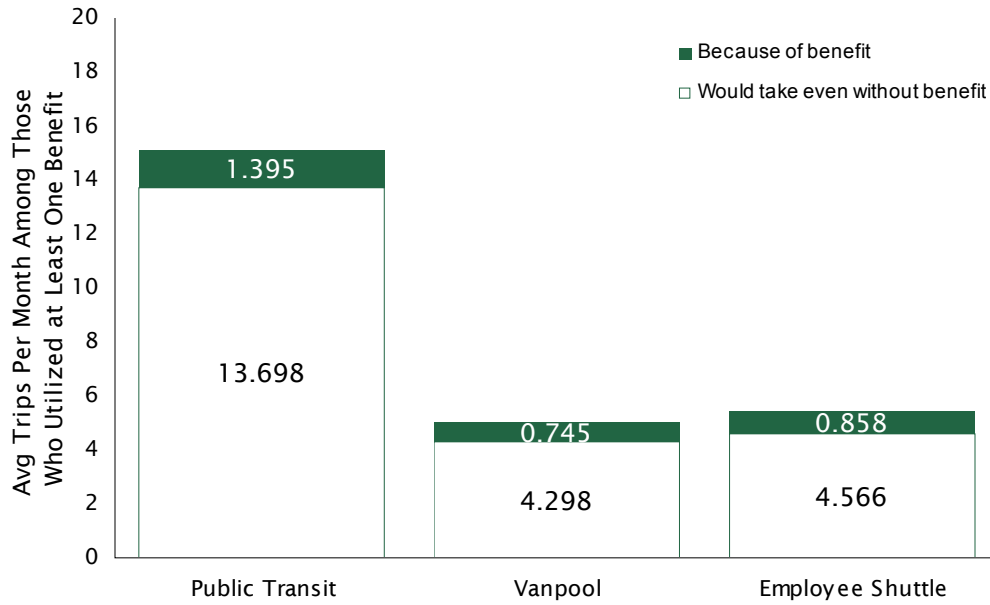
Overall, 6% of employees surveyed indicated that their use of alternative modes for their commute was positively impacted by the commuter benefit being offered by their employer, resulting in at least one reduced vehicle trip per month (see Figure 9). Approximately 22% of employees participated in a commuter benefit program, but reported that the frequency with which they use alternative modes for their commute is not influenced by their employer offering a benefit. The remaining employees (72%) did not participate in a commuter benefit program, either by choice (27%) or due to their employer not offering a commuter benefit (45%).

FIGURE 9 REDUCED TRIPS BECAUSE OF BENEFIT OFFERED

AVERAGE TRIPS REDUCED PER MONTH BECAUSE OF BENEFIT Figure 10 on the next page isolates the average monthly number of work commute trips taken per alternative mode among those participating in a commuter benefit program, separating those that are caused by the benefit (dark green) from those that would occur even without the benefit being offered (white). On average, Bay Area employees participating in a commuter benefit program reported taking 15.09 public transit trips, 5.04 vanpool trips, and 5.42 shuttle trips per month when commuting to or from work. Of these trips, an average 1.395 public transit trips, 0.745 vanpool trips, and 0.858 shuttle trips per month were caused by the commuter benefit being offered and would not have otherwise occurred. Stated differently, the average Bay Area employee who participates in a commuter benefit program reduces 2.998 vehicle trips per month through the use of alternative modes in direct response to the commuter benefits offered by their employer.⁵

5. Another way to consider the average trip reduction impacts is to extrapolate to just those 6% of employees who indicated their use of alternative modes is contingent on the commuter benefit being offered. Employees who fit this profile reported taking an average 13.837 commute trips per month using an alternative mode that would not have occurred without the commuter benefit.

FIGURE 10 MONTHLY TRIPS REDUCED BY AVERAGE EMPLOYEE USING COMMUTER BENEFIT



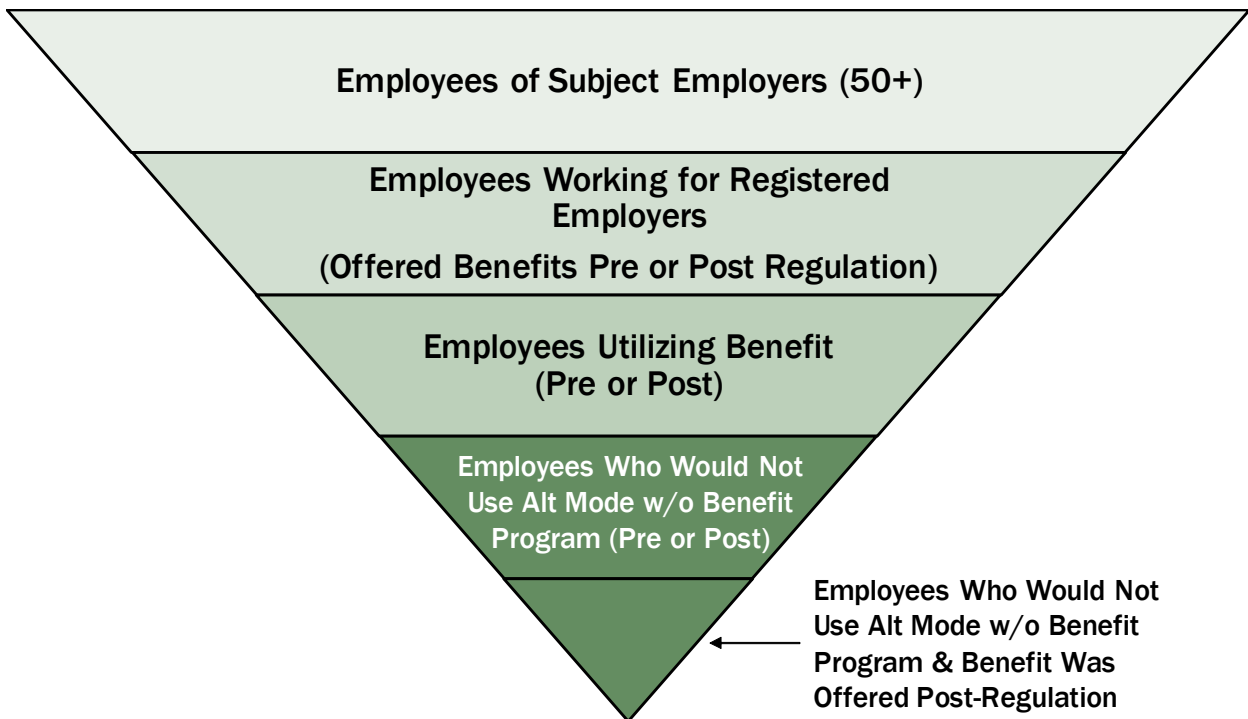
PROGRAM IMPACTS

Estimating the impacts of the *Bay Area Commuter Benefits Program* requires isolating the behaviors of employees who meet three key conditions. First, they must participate in a commuter benefit program offered by their employer. Second, their use of alternative modes for their commute must be positively impacted by the presence of the commuter benefit. As noted previously (see *Employees Who Reduced Trips Due To Benefit Being Offered* on page 11), approximately 6% of Bay Area employees surveyed satisfy these first two conditions.

The third key condition is that the employee also works for an organization that offered the commuter benefit in response to the regulation. If an employer offered commuter benefits prior to the regulation, then our analysis assumes that the *Bay Area Commuter Benefits Program* was not instrumental in the benefit being offered or the resulting commute behavior impacts.

Figure 11 illustrates the filtering process used to isolate employees impacted by the *Bay Area Commuter Benefits Program* in this study. The Program is effectively given credit only for employees at the very bottom of the funnel—those whose use of an alternative mode is contingent on the commuter benefit being offered *and* they work for an employer who began offering the benefit in response to the regulation (post-regulation).

FIGURE 11 PROGRAM IMPACTS FILTER



IMPACTED EMPLOYEES Table 1 populates the filtering process depicted in Figure 11 by combining data from the Dunn & Bradstreet database of Bay Area employers,⁶ the *Bay Area Commuter Benefits Program* registration database of employers (as of May 5, 2015), and the results of the employee survey. Of the estimated 2,099,506 Bay Area employees who work for companies that are subject to the regulation, 1,182,091 work for employers that have registered with MTC and are known to offer at least one commuter benefit program, and 410,393 work for an employer who first offered a commuter benefit in response to the regulation (post-regulation).

Applying the percentage of all employees utilizing a commuter benefit program (28%) based on the survey to the estimated total number of employees who work for a company that is subject to the regulation (2,099,506) yields an estimated 590,146 employees who are participating in a commuter benefit program. Among these employees, it is estimated that 204,884 work for employers that first offered the benefit in response to the regulation (post-regulation), whereas 385,262 work for an employer that offered a commuter benefit prior to the regulation.⁷

TABLE 1 PROGRAM IMPACTS FUNNEL - ESTIMATED NUMBER OF BAY AREA EMPLOYEES

Employees Working For Subject Employers (50+)	2,099,506
Employees Working For Registered Employers	1,182,091
Working for Registered Employer that Offered Benefit Pre-Regulation	771,698
Working for Registered Employer that Offered Benefits only Post-Regulation	410,393
% Employees Utilizing a Benefit Program (Survey)	28.11%
Estimated Employees Utilizing a Benefit Program	590,146
Estimated Employees Utilizing Benefit Offered Pre-Regulation	385,262
Estimated Employees Utilizing Benefit Offered Post-Regulation	204,884
% Employees Utilizing Benefit Who Would Not Use Alt Mode w/o Benefit (Survey)	6.09%
Estimated Employees Utilizing Benefit Who Would Not Use Alt Mode w/o Benefit	127,881
Estimated Employees Who Would Not Use Alt Mode w/o Benefit (Pre-Reg)	83,484
Estimated Employees Who Would Not Use Alt Mode w/o Benefit (Post-Reg)	44,397

The final stage of the filter requires that at least a portion of the employee’s utilization of alternative modes for their commute be caused by the commuter benefit. Applying the percentage of all employees who met this standard in the survey (6.09%) to the estimated total number of employees who work for a company that is subject to the regulation (2,099,506) yields 127,881 employees whose use of alternative modes for their commute is contingent on the commuter

6. MTC purchased a database of employers from Dunn & Bradstreet for the purposes of identifying and contacting employers believed to be subject to the *Bay Area Commuter Benefits Program* based on the number of individuals they employ in the Bay Area.
 7. It was expected that in many cases employees would not have a reliable understanding of when their employer first offered a commuter benefit, thus this question was not asked of employees in the survey. Rather, we apply the percentage split in the number of employees who work for registered employers who offered programs pre- vs. post-regulation (65.28% vs. 34.72%) found in the registration database to the total number of estimated employees utilizing a benefit program (590,146) to estimate the number of employees who work for employers who first offered the benefit post-regulation.

benefits offered by their employer. Of these individuals, it is estimated that 44,397 also work for an employer who first offered the commuter benefit post-regulation.⁸ It is the trip and VMT reductions generated by these 44,397 individuals that can be attributed to the Program.

TRIP IMPACTS Based on the survey, it is estimated that the average Bay Area employee who participates in a commuter benefit program reduces 2.998 vehicle trips per month through the use of alternative modes in direct response to the commuter benefits offered by their employer (see *Reduced Trips Because of Benefit Offered* on page 12). Applying this trip reduction average to the 590,146 Bay Area employees utilizing a benefit program yields an estimated total 1,769,481 vehicle trips reduced per month because of commuter benefits in the Bay Area (see Table 2). Of these trips, 614,320 are estimated to be reduced by employees who also work for an employer that first offered the commuter benefit in response to the regulation and are thus attributable to the Program.

TABLE 2 ESTIMATED TRIPS REDUCED DUE TO PROGRAM

Average Vehicle Trips Per Month Reduced b/c of Benefits (Survey)	2.998
Estimated Total Vehicle Trips Per Month Reduced b/c of Benefits	1,769,481
Estimated Total Trips Per Month Reduced b/c of Benefits (Pre-Reg)	1,155,160
Estimated Total Trips Per Month Reduced b/c of Benefits (Post-Reg)	614,320
Average Trips Reduced in Past 12 Months b/c of Benefits (Survey)	20.945
Estimated Total Trips Reduced in Past 12 Months b/c of Program	12,360,630
Estimated Total Trips Reduced in Past 12 Months b/c of Benefits (Pre-Reg)	8,069,323
Estimated Total Trips Reduced in Past 12 Months b/c of Benefits (Post-Reg)	4,291,308
Average Reduced Trips Projected Over Next 6 Months b/c of Benefits (Survey)	15.776
Estimated Total Trips Reduced Over Next 6 Months b/c of Benefits	9,310,209
Estimated Total Trips Reduced Next 6 Months b/c of Benefits (Pre-Reg)	6,077,933
Estimated Total Trips Reduced Next 6 Months b/c of Benefits (Post-Reg)	3,232,276

Looking back over the 12 months since the regulation was put into place and taking into account that some employees had been utilizing a commuter benefit for only a portion of that time (see Questions 6, 8, 10 & 12), employees participating in a commuter benefit program reported an average 20.945 vehicle trips reduced during this period that were contingent on their employer offering a commuter benefit. Applying this trip reduction average to the 590,146 Bay Area employees utilizing a benefit program yields an estimated total 12,360,630 vehicle trips reduced per year because of commuter benefits in the Bay Area. Of these trips, 4,291,308 are estimated to be reduced by employees who work for an employer that first offered the commuter benefit in response to the regulation and can therefore be attributed to the Program.

8. Here again we apply the 65.28% vs. 34.72% split in the number of employees who work for registered employers who offered programs pre- vs. post-regulation based on the employer registration database to divide employees whose alternative commute behavior is contingent on the commuter benefits offered into those who work for employers offering the benefits pre- vs. post-regulation.

Looking forward to the next six months, most employees surveyed who were participating in a commuter benefit program anticipated *continuing* to participate in the program (see Questions 7, 9, 11 & 13). Projecting their current behavior forward results in an average 15.776 vehicle trips reduced per employee over the next six months that will be contingent on their employer offering a commuter benefit. Applying this trip reduction average to the 590,146 Bay Area employees currently utilizing a benefit program yields an estimated total 9,310,209 vehicle trips reduced over the next six months because of commuter benefits in the Bay Area. Of these trips, 3,232,276 are expected to be reduced by employees who also work for an employer that first offered the commuter benefit in response to the regulation and thus can be attributed to the Program.

VMT IMPACTS The vehicle miles traveled (VMT) impacts of the Program are calculated in a manner similar to that described above for vehicle trips. Based on the survey, it is estimated that the average Bay Area employee who participates in a commuter benefit program reduces 58.122 vehicle miles per month through the use of alternative modes in direct response to the commuter benefits offered by their employer.⁹ Applying this VMT reduction estimate to the 590,146 Bay Area employees utilizing a benefit program yields an estimated total 34,300,185 vehicle miles reduced per month because of commuter benefits in the Bay Area (see Table 3). Of these miles, 11,908,183 are estimated to be reduced by employees who also work for an employer who first offered the commuter benefit in response to the regulation and are thus attributable to the Program.

Looking back over the 12 months since the regulation was put into place and taking into account that some employees had been utilizing a commuter benefit for only a portion of that time (see Questions 6, 8, 10 & 12), employees participating in a commuter benefit program reported an average 417.804 vehicle miles reduced during this period that were contingent on their employer offering a commuter benefit. Applying this VMT reduction average to the 590,146 Bay Area employees utilizing a benefit program yields an estimated total 246,565,489 VMT reduced per year because of commuter benefits in the Bay Area. Of these miles, 85,601,490 are estimated to be reduced by employees who work for an employer that first offered the commuter benefit in response to the regulation and can therefore be attributed to the Program.

9. After subtracting any vehicle miles used to access their alternative mode and/or reach their destination after exiting their alternative mode from their reported commute distance, the remaining miles were doubled (to account for a round trip) and multiplied by the number of days in a typical month the employee reported commuting using an alternative mode to calculate an individual employee's VMT reduction. These individual-level VMT reduction estimates among those participating in a commuter benefit program were then averaged to yield 58.122 miles per month.

TABLE 3 ESTIMATED VMT REDUCED DUE TO PROGRAM

Average VMT Reduced per Month b/c of Benefits (Survey)	58.122
Estimated Total VMT Per Month Reduced b/c of Benefits	34,300,185
Estimated Total VMT Per Month Reduced b/c of Benefits (Pre-Reg)	22,392,002
Estimated Total VMT Per Month Reduced b/c of Benefits (Post-Reg)	11,908,183
Average VMT Reduced in Past 12 Months b/c of Benefits (Survey)	417.804
Estimated Total VMT Reduced in Past 12 Months b/c of Benefits	246,565,489
Estimated Total VMT Reduced in Past 12 Months b/c of Benefits (Pre-Reg)	160,963,999
Estimated Total VMT Reduced in Past 12 Months b/c of Benefits (Post-Reg)	85,601,490
Average Reduced VMT Projected Over Next 6 Months b/c of Benefits (Survey)	320.619
Estimated Total Reduced VMT Projected Over Next 6 Months b/c of Benefits	189,211,906
Estimated Total VMT Reduced Over Next 6 Months b/c of Benefits (Pre-Reg)	123,522,173
Estimated Total VMT Reduced Over Next 6 Months b/c of Benefits (Post)	65,689,733

Projecting the current behavior of those who anticipated continuing to participate in a commuter benefit forward results in an average 320.619 vehicle miles reduced per employee over the next six months that will be contingent on their employer offering a commuter benefit. Applying this VMT reduction average to the 590,146 Bay Area employees currently utilizing a benefit program yields an estimated total 189,211,906 VMT reduced over the next six months because of commuter benefits in the Bay Area. Of these miles, 65,689,733 are expected to be reduced by employees who also work for an employer who first offered the commuter benefit in response to the regulation and therefore can be attributed to the Program.

EMISSION REDUCTIONS Table 4 presents the emission factors applied to the trips (4,291,308) and VMT (85,601,490) reduced by the *Bay Area Commuter Benefits Program* during the first 12 months of the Program, as well as the estimated total emissions reduced by the Program during this period. During the first 12 months, the *Bay Area Commuter Benefits Program* reduced an estimated 17.28 tons of nitrogen oxides (NOx), 17.94 tons of reactive organic gases (ROG), 4.41 tons of particulate matter (PM10), 1.85 tons of fine particulate matter (PM2.5), 163 tons of carbon monoxide (CO), and 35,778 tons of carbon dioxide (CO2).

TABLE 4 ESTIMATED EMISSIONS REDUCED DUE TO BAY AREA COMMUTER BENEFITS PROGRAM OVER PAST YEAR

Pollutant	Trip Factor	Running Factor	Trip Start Emissions	VMT Emissions	Total Emissions	Total Emissions
	grams/trip	grams/mile	grams	grams	grams	tons
NOX	0.2938	0.1684	1,260,786.29	14,415,290.92	15,676,077.21	17.280
ROG	0.6514	0.1575	2,795,358.03	13,482,234.68	16,277,592.71	17.943
PM10	0.0029	0.0466	12,444.79	3,989,029.43	4,001,474.23	4.411
PM2.5	0.0027	0.0195	11,586.53	1,669,229.06	1,680,815.59	1.853
CO	3.7401	1.5429	16,049,921.05	132,074,538.92	148,124,459.97	163.279
CO2	82.1877	375.0461	352,692,734.51	32,104,504,978.69	32,457,197,713.20	35,777.926

CONSERVATIVE IMPACT ESTIMATES It should be noted that the impacts of the Program detailed in this section are *conservative* estimates, especially the projections of Program impacts over the next six months.¹⁰ The reality is that measuring the impacts of the Program are akin to taking a snapshot of a moving target. Although this study generates reliable estimates of Program impacts during the first 12 months of the Program, the estimates do not capture the growth that can be expected over the next 14 months of the Program—a period in which MTC and the BAAQMD will be conducting additional employer outreach, education, and possibly enforcement in the interest of enhancing employer participation and compliance.

10. The six month projections assume no growth in the number of Bay Area employers offering a commuter benefit in response to additional outreach/education about the Program and/or enforcement efforts that may occur during the next six months. They also assume no growth in the percentage of employees taking advantage of commuter benefits among those working for employers who are already registered and first offered commuter benefits in response to the regulation.



BACKGROUND & DEMOGRAPHICS

TABLE 5 SAMPLE PROFILE

	All Employees 1,400
<i>Respondents</i>	
QD1 Gender	
Male	51.9
Female	48.1
QD2 Age	
16 to 24	9.4
25 to 44	44.4
45 to 54	21.4
55 to 64	15.0
65 or older	4.2
Prefer not to answer	5.7
QD3 ZIP code of residence	
Alameda	18.4
Contra Costa	12.4
Marin	3.2
Napa	1.7
San Francisco	12.7
San Mateo	10.2
Santa Clara	23.8
Solano	4.6
Sonoma	5.9
Outside Bay Area	2.4
Prefer not to answer	4.6
QD6 Frequency of personal vehicle access	
Always	83.7
Sometimes	7.8
Rarely	2.1
Never	4.1
Prefer not to answer	2.4
QD7 Personal vehicle a hybrid or EV	
Yes, Hybrid	14.8
Yes, EV	3.0
No	79.1
Prefer not to answer	3.1
QD8 Free parking near work	
Yes	76.8
No	20.3
Prefer not to answer	2.9
QD11 Ethnicity	
Caucasian/White	52.9
Latino/Hispanic	12.8
African American/Black	6.2
American Indian/Alaskan Native	0.6
Asian American	19.7
Pacific Islander	1.1
Mixed Heritage	1.7
Other	1.2
Prefer not to answer	3.9
QD12 Hsld income	
Less than \$20k	4.4
\$20k to \$34k	7.0
\$35k to \$49k	6.8
\$50k to \$74k	13.6
\$75k to \$99k	15.0
\$100k to \$149k	17.2
\$150k to \$199k	8.4
\$200k or more	11.8
Not sure	1.5
Prefer not to answer	14.2

Table 5 presents the key demographic and background information that was collected during the survey. Because of the probability-based sampling methodology used in this study (along with screening questions), the results shown in the table are representative of Bay Area employees who work for organizations with at least 50 employees in the region.



M E T H O D O L O G Y

The following sections outline the methodology used in the study, as well as the rationale for using certain techniques.

QUESTIONNAIRE DEVELOPMENT Dr. McLarney of True North Research worked closely with staff from MTC and the BAAQMD to develop a questionnaire that covered the topics of interest and avoided the many possible sources of systematic measurement error, including position-order effects, wording effects, response-category effects, scaling effects, and priming. Several questions included multiple individual items. Because asking items in a set order can lead to a systematic position bias in responses, the items were asked in a random order for each respondent.

Some questions asked in this study were presented only to a subset of respondents. For example, only employees who were aware that their employer offers a particular type of commuter benefit (Question 3) were asked in Question 5 whether they had personally participated in or used the commuter benefit during the prior 12 month period. The questionnaire included with this report (see *Questionnaire* on page 24) identifies the skip patterns used during the interview to ensure that each respondent received the appropriate questions.

PROGRAMMING & PRE-TEST Prior to fielding the survey, the questionnaire was CATI (Computer Assisted Telephone Interviewing) programmed to assist interviewers when conducting the telephone interviews. The CATI program automatically navigates the skip patterns, randomizes the appropriate question items, and alerts the interviewer to certain types of keypunching mistakes should they happen during the interview. The survey was also programmed into a passcode-protected online survey application to allow online participation for those recruited via email or for those recruited by telephone who preferred to participate online. The integrity of the questionnaire was pre-tested internally by True North and by dialing into 20 randomly selected homes in the Bay Area prior to formally beginning the survey.

SAMPLE, RECRUITING & DATA COLLECTION The survey was administered to a random sample of 1,400 employees who work for organizations that employ at least 50 employees in the Bay Area. Qualified employees were sampled using a combination of stratified, random sampling of land line and cell phone numbers in the Bay Area (telephone) and pre-screened panel samples (email) coupled with screening questions. Potential respondents were asked about their current work status, location of employment, and the number of employees who work for their employer (50+) to determine if they were qualified to participate in the survey. All interviews were conducted between March 19 and April 13, 2015.

The study was administered using a mixed-method design that utilized two recruiting methods (email & telephone) and offered respondents two ways to complete the survey (online & telephone). Research has shown that this approach generally produces a higher response rate, reduces response bias, and ultimately improves the overall reliability of a survey when compared to using a single recruiting and data collection method.

Telephone interviews were conducted by live, professional interviewers equipped with linked CATI (Computer-Assisted Telephone Interview) stations. Telephone calls were conducted during evening hours on weekdays (5:30PM to 9:00PM) and midday on weekends (10AM to 4PM) as these are the most productive hours for reaching an employee in a non-work setting. Each sampled record was attempted up to eight times (never more than once per day) and the attempts were rotated throughout the day, evening, and weekend shifts to maximize the probability of reaching a respondent before a telephone number was replaced.

Pre-screened online panel sample of Bay Area residents was also used in combination with additional screening questions to recruit qualified employees to participate in the survey online. Each individual was assigned a unique PIN (personal identification number) embedded in the link a respondent clicked to take the survey online, which ensured that only sampled respondents would be able to participate in the survey, and that an individual was able to complete the survey one time only.

MARGIN OF ERROR DUE TO SAMPLING By using the probability-based sample discussed above and monitoring the sample characteristics as data collection proceeded, True North ensured that the sample was representative of Bay Area employees who work for organizations that employ at least 50 individuals in the Bay Area and thus are subject to the regulation. The results of the survey can therefore be used to estimate the opinions and behaviors of *all* Bay Area employees who work for subject employers. Because not every qualified employee in the Bay Area participated in the survey, however, the results have what is known as a statistical margin of error due to sampling. The margin of error refers to the difference between what was found in the survey of 1,400 employees for a particular question and what would have been found if all of the estimated 2,977,978 qualified employees in the Bay Area¹¹ had been interviewed.

For example, in estimating the percentage of employees who primarily drive solo when commuting to work (Question 2), the margin of error can be calculated if one knows the size of the population, the size of the sample, a desired confidence level, and the distribution of responses to the question. The appropriate equation for estimating the margin of error, in this case, is shown below.

$$\hat{p} \pm t \sqrt{\left(\frac{N-n}{N}\right) \frac{\hat{p}(1-\hat{p})}{n-1}}$$

where \hat{p} is the proportion of employees who indicated they primarily drive solo when commuting to work (0.67 for 67% in this example), N is the population size of all qualified employees (2,977,978), n is the sample size that received the question (1,400), and t is the upper $\alpha/2$ point for the t-distribution with $n - 1$ degrees of freedom (1.96 for a 95% confidence interval). Solving the equation using these values reveals a margin of error of $\pm 2.46\%$. This means that with 67% of survey respondents indicating they primarily drive solo when commuting to work, we can be 95 percent confident that the actual percentage of *all* qualified employees in the Bay Area that primarily drive solo to work is between 65% and 69%.

11.Source: Dunn & Bradstreet database of employers with 50 or more employees working in the Bay Area.

FIGURE 12 MAXIMUM MARGIN OF ERROR

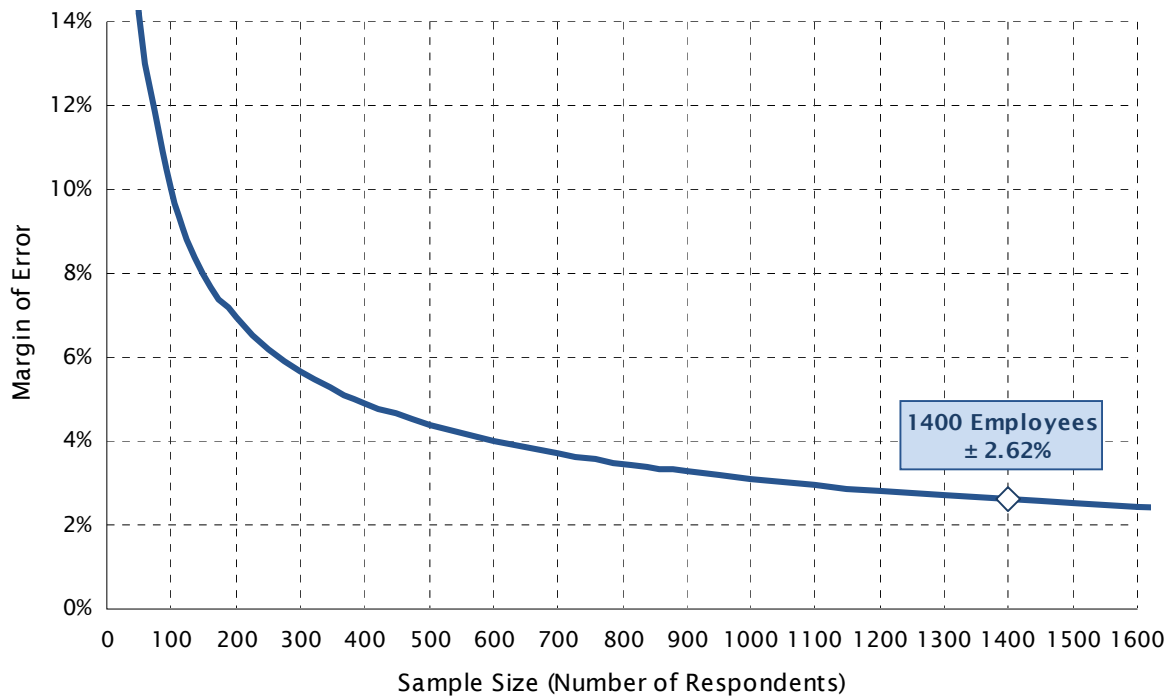


Figure 12 provides a plot of the *maximum* margin of error in this study. The maximum margin of error for a dichotomous percentage result occurs when the answers are evenly split such that 50% provide one response and 50% provide the alternative response (i.e., $\hat{p} = 0.5$). For this survey, the maximum margin of error is $\pm 2.62\%$ for questions answered by all 1,400 respondents.

Within this report, figures and tables show how responses to certain questions varied by characteristics such as location of employer (county) or number of employees at their work site. Figure 12 is thus useful for understanding how the maximum margin of error for a percentage estimate will grow as the number of individuals asked a question (or in a particular subgroup) shrinks. Because the margin of error grows exponentially as the sample size decreases, the reader should use caution when generalizing and interpreting the results for small subgroups.

DATA PROCESSING & WEIGHTING Data processing consisted of checking the data for errors or inconsistencies, coding and recoding responses, categorizing verbatim responses, deriving new variables based on combinations of existing variables, and preparing frequency analyses and cross-tabulations.

ROUNDING Numbers that end in 0.5 or higher are rounded up to the nearest whole number, whereas numbers that end in 0.4 or lower are rounded down to the nearest whole number. These same rounding rules are also applied, when needed, to arrive at numbers that include a decimal place in constructing figures and charts. Occasionally, these rounding rules lead to small discrepancies in the first decimal place when comparing tables and pie charts for a given question.

QUESTIONNAIRE



Commuter Benefits Survey
Phone Version *QFinal*
March 2015

Section 1: Introduction to Study – Phone Recruit

Hello, my name is _____, and I'm calling on behalf of TNR, an independent public opinion research firm. We're conducting a survey of people who work in the Bay Area about important local issues and I'd like to get your opinions. It's a short survey – it should take less than 10 minutes.

If needed: This is a survey about important issues in the Bay Area. I'm NOT trying to sell anything and I won't ask for a donation.

If needed: If now is not a convenient time, can you let me know a better time so I can call back?

Section 2: Screeners for Inclusion in the Study

To begin, I have a few questions about your employment status.

SC1	Are you currently employed full-time, part-time, or are you not currently employed?	
	1	Employed full-time <i>Skip to SC4</i>
	2	Employed part-time <i>Skip to SC3</i>
	3	Not employed <i>Ask SC2</i>
	99	Prefer not to answer <i>Thank and terminate</i>
SC2	This survey focuses on employees. Is there another person available in your household that is employed that I can speak to?	
	1	Yes <i>Ask to speak to that person and return to SC1</i>
	2	No <i>Thank and terminate</i>
	99	Prefer not to answer <i>Thank and terminate</i>
SC3	Do you typically work at least 20 hours per week?	
	1	Yes
	2	No
	99	Prefer not to answer
SC4	In what county is your place of employment located?	
	1	Alameda <i>Skip to SC6</i>
	2	Contra Costa <i>Skip to SC6</i>
	3	Marin <i>Skip to SC6</i>
	4	Napa <i>Skip to SC6</i>
	5	San Francisco <i>Skip to SC6</i>
	6	San Mateo <i>Skip to SC6</i>
	7	Santa Clara <i>Skip to SC6</i>
	8	Solano <i>Ask SC5</i>

	9	Sonoma		Ask SC5
	10	Any other county		Thank and terminate
	99	Prefer not to answer		Thank and terminate
SC5	What is the ZIP code at your place of employment?			
	1	Qualified Sonoma ZIPS	94951 94952 94954 94972 95401 95403	95404 95405 95407 95409 95431 95439
				95444 95452 95472 95476 95492
	2	Qualified Solano ZIPS	94510 94512 94533 94535 94571	94585 94589 94590 94591 94592
				95620 95625 95687 95688
	3	Any other ZIP		Continue
	98	Don't Know		Continue
	99	Prefer not to answer		Continue
SC6	Approximately how many people work at your place of employment? <i>If unsure, ask to estimate. This question is essential.</i>			
			Record #	
	99	Prefer not to answer		Thank and terminate
	<i>If SC6>49 skip to instruction after SC8. If SC6<50, ask SC7.</i>			
SC7	Does your employer have multiple business locations in the Bay Area, or just the one where you work?			
	1	Multiple locations in Bay Area		Ask SC8
	2	Just the one		Skip to instruction after SC8
	98	Don't Know		Skip to instruction after SC8
	99	Prefer not to answer		Skip to instruction after SC8
SC8	Are there at least <<50-SC6>> people who work at your employer's other locations in the Bay Area?			
	1	Yes		
	2	No		
	98	Don't Know/No opinion		
	99	Prefer not to answer		
	<i>If SC6>49 or SC8=1, respondent is qualified. IE, the respondent works for a company that has 50 or more employees in the Bay Area</i>			

Section 3: Commute Details

Next, let me ask you a few questions about your commute to work.

Q1 In miles, what is the approximate one-way distance between your home and work if you drive there directly? *If not sure, ask to please estimate.*

Record miles Range 1-100+ miles

999 Prefer not to answer

Q2 What method of transportation do you use most of the time when commuting to work? *If says drive, ask: Do you drive alone or carpool with others? If says they use more than one transportation method per trip, ask: Which mode do you use for the longest portion of your trip?*

- | | | |
|---|--|--|
| 1 | Drive vehicle alone | |
| 2 | Carpool (ride together with others in personally-owned vehicle) | |
| 3 | Vanpool (ride together with others in a vehicle owned by a private company or vanpool member – capacity for at least 7 adults) | |

Public Transit

- | | | |
|---|----------------------|--|
| 4 | BART | |
| 5 | Bus | |
| 6 | Train | |
| 7 | Shuttle | |
| 8 | Ferry | |
| 9 | Other public transit | |

- | | | |
|----|--------------------------------|--|
| 10 | Taxi or other paid car service | |
| 11 | Motorcycle | |
| 12 | Bicycle | |
| 13 | Walk all the way or jog | |
| 14 | Other | |
| 15 | Telecommutes/works from home | |
| 99 | Prefer not to answer | |

Section 4: Awareness of Commuter Benefits

Next, I'd like to ask you about commuter benefit programs that your employer may or may not offer.

Q3	To your knowledge, does your employer:_____?				
	<i>Randomize A-C, but always have D last</i>	Yes	No	Not Sure	Prefer not to Answer
A	Allow employees to set aside part of their paycheck each month to pay for transit or vanpool costs on a pre-tax basis	1	2	98	99
B	Reimburse or subsidize employees for the cost of taking transit or a vanpool to work	1	2	98	99
C	Provide free or low-cost bus, shuttle or vanpool services for employees	1	2	98	99
D	Provide any other type of incentive program to encourage employees to use transit, carpool or vanpool services for their commute	1	2	98	99

If Q3D=1, ask Q4

Q4 Can you describe the alternative type of incentive program your employer offers to encourage employees to use transit, carpool or vanpool services?

		<i>Record verbatim</i>		
98	Not sure/Don't know			
99	Prefer not to answer			

Section 5: Utilization of Commuter Benefits

Ask Q5 only for items where Q3=1

Q5	In the past year (since March 2014), have you personally participated in or used:_____?				
	<i>Randomize A-C, but always have D last</i>	Yes	No	Not Sure	Prefer not to Answer
A	The program where you can set aside part of your paycheck each month to pay for transit or vanpool costs pre-tax	1	2	98	99
B	The program where you are reimbursed or subsidized by your employer for the costs of taking transit or a vanpool to work	1	2	98	99
C	A free or low-cost bus, shuttle or vanpool service offered by your employer	1	2	98	99
D	The alternative incentive program offered by your employer that you just described to me	1	2	98	99

Section 6: Duration of Participation		
<i>Only ask Q6 & Q7 if Q5A=1</i>		
Q6	Thinking of the past 12 months, for how many of these months were you participating in the program where you can set aside part of your paycheck each month to pay for transit or vanpool costs pre-tax?	
Drop down menu: 0-12		
999	Prefer not to answer	
Q7	Do you plan to continue participating in this benefit program over the next six months?	
1	Yes	
2	No	
98	Don't Know	
99	Prefer not to answer	
<i>Only ask Q8 & Q9 if Q5B=1</i>		
Q8	Thinking of the past 12 months, for how many of these months were you participating in the program where you are reimbursed or subsidized by your employer for the costs of taking transit or a vanpool to work?	
Drop down menu: 0-12		
999	Prefer not to answer	
Q9	Do you plan to continue participating in this benefit program over the next six months?	
1	Yes	
2	No	
98	Don't Know	
99	Prefer not to answer	
<i>Only ask Q10 & Q11 if Q5C=1</i>		
Q10	Thinking of the past 12 months, for how many of these months were you using a free or low-cost bus, shuttle or vanpool service offered by your employer?	
Drop down menu: 0-12		
999	Prefer not to answer	

Q11	Do you plan to continue using the free or low-cost bus, shuttle or vanpool service offered by your employer over the next six months?		
	1	Yes	
	2	No	
	98	Don't Know	
	99	Prefer not to answer	
<i>Only ask Q12 & Q13 if Q5D=1</i>			
Q12	Thinking of the past 12 months, for how many of these months were you participating in the alternative commuter incentive program offered by your employer that you described to me earlier?		
	Drop down menu: 0-12		
	999	Prefer not to answer	
Q13	Do you plan to continue participating in this benefit program over the next six months?		
	1	Yes	
	2	No	
	98	Don't Know	
	99	Prefer not to answer	

Section 7: Trips Impacted by Program

Ask Q14 if Q5A, Q5B, Q5C OR Q5D = 1. Otherwise skip to intro preceding D1.

Q14	During the time when you have participated in a commuter benefit program, how many days in a typical month did you commute to work _____? If you did not commute to work using this method in a typical month, just say zero.		
	<i>Randomize</i>	Enter Days	Prefer not to Answer/ Not Applicable
A	Using public transit	0-31	99
B	In a vanpool	0-31	99
C	In an employee shuttle	0-31	99
<i>Ask Q15 if Q14a=(1-31). Otherwise skip to instruction preceding Q17.</i>			
Q15	If your employer didn't offer commuter benefit programs, would you still have commuted to work using public transit <<# from Q14a>> days in a typical month?		
	1	Yes	<i>Skip to instruction preceding Q17</i>
	2	No	<i>Ask Q16</i>
	98	Don't Know	<i>Ask Q16</i>
	99	Prefer not to answer	<i>Ask Q16</i>

Q16	If your employer didn't offer commuter benefit programs, how many days in a typical month would you have commuted to work using public transit ?	
Drop down menu		Zero up to <<# from Q14a>>
99	Prefer not to answer	
<i>Ask Q17 if Q14b=(1-31). Otherwise skip to instruction preceding Q19</i>		
Q17	If your employer didn't offer commuter benefit programs, would you still have commuted to work in a vanpool <<# from Q14b>> days in a typical month?	
1	Yes	Skip to instruction preceding Q19
2	No	Ask Q18
98	Don't Know	Ask Q18
99	Prefer not to answer	Ask Q18
Q18	If your employer didn't offer commuter benefit programs, how many days in a typical month would you have commuted to work in a vanpool ?	
Drop down menu		Zero up to <<# from Q14b>>
99	Prefer not to answer	
<i>Ask Q19 if Q14c=(1-31). Otherwise skip to instruction preceding Q21</i>		
Q19	If your employer didn't offer commuter benefit programs, would you still have commuted to work using an employee shuttle <<# from Q14c>> days in a typical month?	
1	Yes	Skip to instruction preceding Q21
2	No	Ask Q20
98	Don't Know	Ask Q20
99	Prefer not to answer	Ask Q20
Q20	If your employer didn't offer commuter benefit programs, how many days in a typical month would you have commuted to work using an employee shuttle ?	
Drop down menu		Zero up to <<# from Q14c>>
99	Prefer not to answer	

Section 8: First & Last Mile

Ask Q21 if Q14a=(1-31). Otherwise skip to instruction preceding Q25.

Q21	In miles, approximately how far is the transit stop or station you use from your home?	
Record Miles		Drop down ¼ mile increments to first 2 miles, then 1 mile increments up to 20 miles +
97	I get picked up at my house	Skip to Q23
99	Prefer not to answer	Ask Q22

Q22	How do you usually get from your home to the transit station or stop?	
	1	Drive alone
	2	Carpool/dropped-off
	3	Motorcycle/scooter
	4	Bicycle
	5	Walk
	6	Taxi or other paid car service
	7	Other
	99	Prefer not to answer
Q23	Approximately how many miles is it from where public transit ends to your place of work? <i>If unsure, ask to estimate.</i>	
	Record miles	Drop down ¼ mile increments to first 2 miles, then 1 mile increments up to 20 miles +
	97	It ends right at my place of work
	99	Prefer not to answer
		Skip to instruction preceding Q25
		Ask Q24
Q24	After you get off public transit , how do you get to your work destination? <i>Multiple Response Allowed.</i>	
	1	Drive alone
	2	Get picked up by someone else driving
	3	Motorcycle/scooter
	4	Shuttle service
	5	Taxi or other paid car service
	6	Bicycle
	7	Walk
	8	Other
	99	Prefer not to answer
	<i>Ask Q25 if Q14B=(1-31). Otherwise skip to instruction preceding Q29.</i>	
Q25	In miles, approximately how far is the vanpool pick-up location from your home?	
	Record miles	Drop down ¼ mile increments to first 2 miles, then 1 mile increments up to 20 miles +
	97	I get picked up at my house
	99	Prefer not to answer
		Skip to Q27
		Ask Q26

Q26	How do you usually get from your home to the vanpool pick-up location?	
	1	Drive alone
	2	Carpool/dropped-off
	3	Motorcycle/scooter
	4	Bicycle
	5	Walk
	6	Public transit
	7	Taxi or other paid car service
	8	Other
	99	Prefer not to answer
Q27	Approximately how many miles is it from where the vanpool ends to your place of work? <i>If unsure, ask to estimate.</i>	
	Record miles	Drop down ¼ mile increments to first 2 miles, then 1 mile increments up to 20 miles +
	97	It ends right at my place of work
	99	Prefer not to answer
		Skip to instruction preceding Q29
		Ask Q28
Q28	After you exit your vanpool , how do you get to your work destination? <i>Multiple Response Allowed.</i>	
	1	Drive alone
	2	Get picked up by someone else driving
	3	Motorcycle/scooter
	4	Shuttle service
	5	Taxi or other paid car service
	6	Bicycle
	7	Walk
	8	Other
	99	Prefer not to answer
	<i>Ask Q29 if Q14C=(1-31). Otherwise skip to intro preceding D1</i>	
Q29	In miles, approximately how far is the employee shuttle pick-up location from your home?	
	Record miles	Drop down ¼ mile increments to first 2 miles, then 1 mile increments up to 20 miles +
	97	I get picked up at my house
	99	Prefer not to answer
		Skip to Q31
		Ask Q30

Q30	How do you usually get from your home to the employee shuttle pick-up location?	
	1	Drive alone
	2	Carpool/dropped-off
	3	Motorcycle/scooter
	4	Bicycle
	5	Walk
	6	Public transit
	7	Taxi or other paid car service
	8	Other
	99	Prefer not to answer
Q31	Approximately how many miles is it from where the shuttle ends to your place of work? <i>If unsure, ask to estimate.</i>	
	Record miles	Drop down ¼ mile increments to first 2 miles, then 1 mile increments up to 20 miles +
	97	It ends right at my place of work
	99	Prefer not to answer
		Skip to intro preceding D1
		Ask Q32
Q32	After you exit your shuttle , how do you get to your work destination? <i>Multiple Response Allowed.</i>	
	1	Drive alone
	2	Get picked up by someone else driving
	3	Motorcycle/scooter
	4	Shuttle service
	5	Taxi or other paid car service
	6	Bicycle
	7	Walk
	8	Other
	99	Prefer not to answer

Section 9: Demographics and Background Info

Thank you so much for your participation. I have just a few background questions for statistical purposes.

D1	What is your gender? (Interviewer will automatically code for phone interview based on voice)	
	1	Male
	2	Female
	99	Prefer not to answer

D2	In what year were you born?	
	<i>Record four-digit year</i>	
	99	Prefer not to answer
D3	What is the ZIP code at your current residence? <i>Read back to confirm.</i>	
	<i>Record five-digit ZIP Code</i>	
	99	Prefer not to answer
D4	What is the ZIP code at your current place of employment? <i>Read back to confirm.</i>	
	<i>Record five-digit ZIP Code</i>	
	98	Not sure
	99	Prefer not to answer
	<i>Ask D5 if D4=(98,99)</i>	
D5	In what city is your current place of employment located?	
	<i>Record city name</i>	
	99	Prefer not to answer
D6	How would you describe your access to a personal vehicle? Would you say you always have access, sometimes have access, rarely have access, or never have access to a personal vehicle?	
	1	Always
	2	Sometimes
	3	Rarely
	4	Never
	99	Prefer not to answer
D7	Is the personal vehicle you use most often a hybrid or electric vehicle?	
	1	Yes hybrid
	2	Yes electric vehicle
	3	No
	99	Prefer not to answer
D8	Is there free parking at or near your work site?	
	1	Yes
	2	No
	99	Prefer not to answer

D9	What is your current occupation?	
		<i>Record Verbatim Response</i>
	99	Prefer not to answer
D10	And what industry do you work in? <i>If pauses, ask: What does your company do?</i>	
		<i>Record Verbatim Response</i>
	99	Prefer not to answer
D11	What ethnic group do you consider yourself a part of or feel closest to? <i>Read list if respondent hesitates.</i>	
	1	Caucasian/White
	2	Latino/Hispanic/Mexican
	3	African-American/Black
	4	Native American Indian or Alaskan Native
	5	Asian -- Korean, Japanese, Chinese, Vietnamese, Filipino or other Asian
	6	Pacific Islander
	7	Mixed Heritage
	8	Other
	98	No Opinion/Not Sure
	99	Prefer not to answer
D12	This next question is for statistical purposes only. As I read the following income categories, please stop me when I reach the category that best represents your household's total annual income before taxes.	
	1	Less than \$20,000
	2	\$20,000 to \$34,999
	3	\$35,000 to \$49,999
	4	\$50,000 to \$74,999
	5	\$75,000 to \$99,999
	6	\$100,000 to \$149,999
	7	\$150,000 to \$199,999
	8	\$200,000 or more
	98	No Opinion/Not Sure
	99	Prefer not to answer
Thank you for participating in this important survey!		