

EMPLOYEE COMMUTE SURVEY
DRAFT REPORT – VERSION 2T

PREPARED FOR
SANDAG



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INTRODUCTION

The San Diego Association of Governments (SANDAG) is the regional planning agency for San Diego County and, as such, serves as both a technical and information resource for the region's 18 incorporated cities and the county government. One of SANDAG's primary functions is to plan and invest in the transportation system so that it best meets the mobility needs of the region—now and in the future. By better integrating the region's freeway, transit, and road networks, linking land-use and transportation planning, and strategically investing in infrastructure improvements where they are most needed, SANDAG helps to promote a sustainable, high quality of life in the region.

MOTIVATION FOR RESEARCH Successfully fulfilling its planning role requires that SANDAG have up-to-date and reliable information regarding the travel behaviors of residents and others who place demands on the region's transportation infrastructure. Of particular interest for this study was profiling the *State of the Commute* in the San Diego region. That is, understanding how employees are distributed throughout the region, profiling their commute characteristics (e.g., frequency, timing, mode, origin, destination), and estimating the prevalence of teleworking. As the first State of the Commute survey for SANDAG, the results of this study also establish a useful baseline from which to evaluate the impacts of future improvements, programs and marketing efforts on commute behavior in the region.

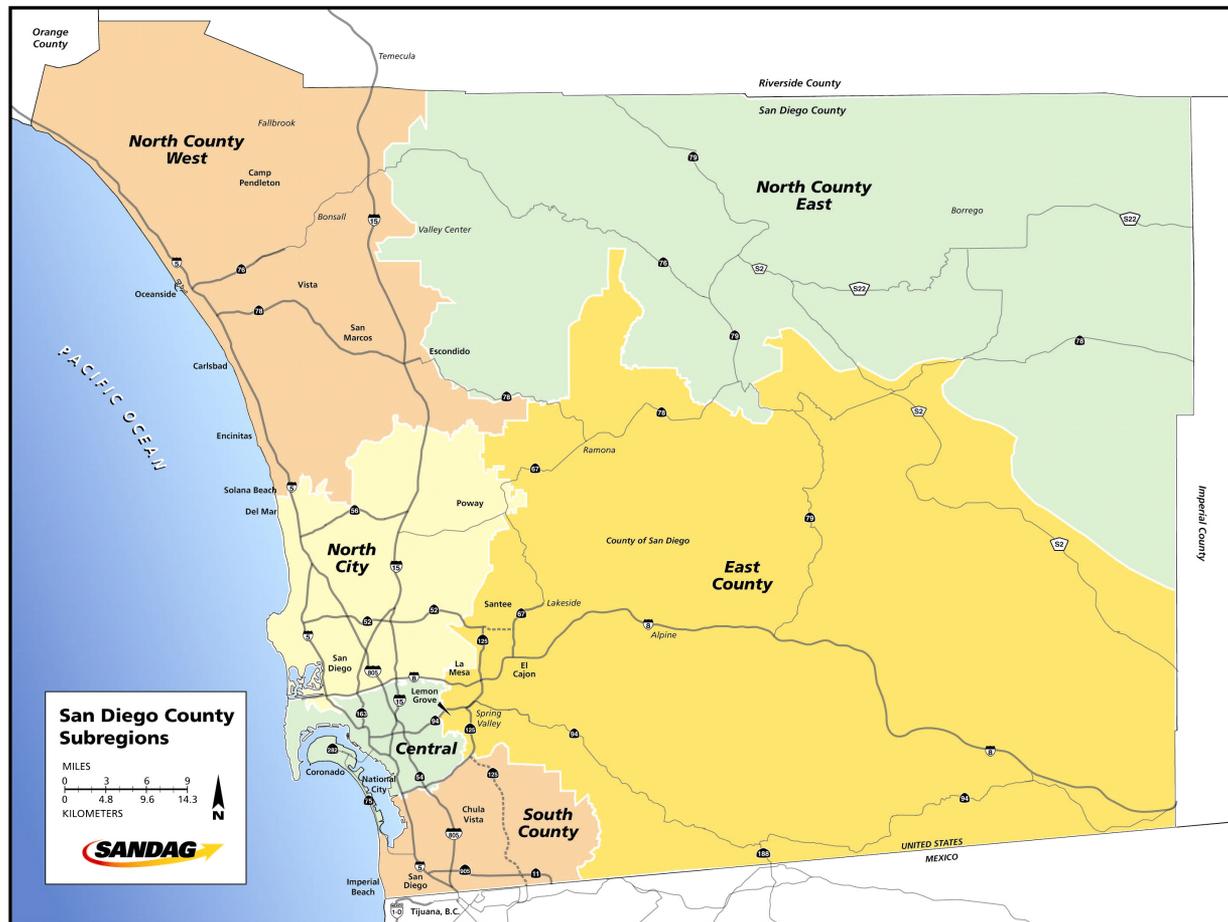
In addition to the general goal of profiling commute behavior, this study was also designed to help inform SANDAG's regional vanpool and carpool programs and develop a plan for program expansion. By gauging the impact of current employer offerings on commute behavior, employees' interest in various rideshare incentive programs that could be offered, as well as the factors that appear to condition rideshare behavior, this study provides much of the information needed to estimate the latent market and potential growth in vanpooling and carpooling in response to program enhancements that iCommute and its partners may undertake in the near future. Ultimately, these estimates can be compared to the policy targets set for vanpooling and carpooling as outlined in the 2050 RTP as part of the region's Sustainable Communities Strategy to meet state climate change goals.

Finally, it is worth noting that the survey effort described in this report represents just one of several related data collection and analysis efforts currently underway for iCommute. In addition to the current survey, the overall study also includes a survey of area employers to assess current and potential strategies to increase vanpooling to their worksites. Secondary analyses of iCommute program data and other regional travel data will also be conducted to estimate the potential for growth in the vanpool and carpool markets in response to recommended program enhancements, incentives, and partnerships.

METHODOLOGY OVERVIEW A full description of the methodology used for this study is included later in this report (see *Methodology* on page 80). In brief, a total of 2,000 employees who reside in the San Diego region and work at least 30 hours per week were selected for the survey using stratified random sampling of land line and cell phone numbers. An additional 150 interregional commuters were also sampled from southwest Riverside County (Temecula and Murrieta) as they commute into the San Diego region for their job. To accommodate SANDAG's interest in obtaining reliable parameter estimates for the region as a whole, as well as within the

six planning areas identified in Figure 1, the study employed a strategic oversample by planning area to balance the statistical margins of error associated with estimates at the planning area level. To adjust for the oversampling, the raw data were then weighted according to 2011 *American Community Survey* (ACS) estimates of the number of employed persons in each planning area prior to analyses and presentation. The results presented in this report are the weighted results, which are representative at the region-wide level, as well as within each planning areas.

FIGURE 1 SAN DIEGO REGIONAL PLANNING AREAS



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 sections titled *Just the Facts* and *Conclusions* are for you. They provide a summary of the most important factual findings of the survey in bullet-point format and a discussion of their implications. For the interested reader, this section is followed by a more detailed question-by-question discussion of the results from the survey by topic area (see *Table of Contents*), as well as a description of the methodology employed for collecting and analyzing the data. And, for the truly ambitious reader, the questionnaire used for the interviews is contained at the back of this report (see *Questionnaire & Toplines* on page 83) and a complete set of crosstabulations for the study results is contained in Appendix A, which is bound separately.

ACKNOWLEDGEMENTS True North thanks the staff at SANDAG (Maria Filippelli, Antoinette Meier, Darlance Hocht Mulmat, Ray Traynor and Kimberly Weinstein), KTU+A (Mike Singleton), TMS (Peter Valk), and ESTC (Eric Schreffler) who participated in the design of this study. Their expertise 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, Inc. and not necessarily those of SANDAG. Any errors and omissions are the responsibility of the authors.

ABOUT TRUE NORTH True North is a full-service survey research firm that is dedicated to providing public agencies with a clear understanding of the values, opinions, priorities and concerns 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, 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 800 survey research studies for public agencies, including more than 300 studies for councils of government, municipalities and special districts.



JUST THE FACTS

The following is an outline of the main factual findings from the survey. For the reader's convenience, we have organized the findings according to the section titles used in the body of this report. Thus, if you would like to learn more about a particular finding, simply turn to the appropriate report section.

COMMUTE FREQUENCY

- Among employees who reported that they work at least 30 hours per week, at least 90% indicated that they worked each midweek day (Monday through Friday). Approximately one-quarter (23%) reported that they worked on Saturday during their most recently completed work week, while the corresponding figure for Sunday was 17%.
- On any given midweek day, the percentage of all employees who *always/primarily* work from a home office was just under 7%, those that don't normally work from home but tele-commuted on that day ranged from 4% to 5%, whereas those that commuted to a work destination outside the home ranged from 78% to 83%. The remaining percentage indicated that they had that day off of work.
- Although the percentage of employees who work on the weekend is much lower, the tendency to work from home on weekends is much higher. Approximately one in five employees who worked on Saturday, for example, reported that they worked from home.
- The average number of days per week that employees reported commuting to a work destination was 4.36.

TELEWORK

- Overall, 7% of employees surveyed indicated that they primarily or always work from home, 23% stated that they occasionally telework, whereas 70% indicated that they never telework.
- Most individuals who primarily work from home or telework on occasion (60%) have been working from home at least occasionally for three years or more, with 42% offering that they have been teleworking five years or more. Overall, 11% reported that they had been teleworking between two and three years, 9% between one and two years, whereas approximately 20% had been teleworking less than one year.
- Among employees who never telework, 19% indicated that their job responsibilities would allow them to do so occasionally, whereas a somewhat higher percentage (26%) indicated that their employer does allow people to work from home occasionally.

COMMUTE DETAILS

- During the midweek (Monday through Friday), driving alone to work was the most common primary mode, ranging from 66% to 69% of all employees per midweek day.
- Carpooling ranged from 4% to 5% as the primary mode midweek, whereas transit (local bus, premium bus, Trolley, Coaster, Sprinter, AMTRAK or Metrolink) collectively was reported as the primary commute mode by approximately 4% of employees.
- Overall, 11% to 12% of employees indicated that they teleworked on a given midweek day, whereas 6% to 10% stated that they did not work on given day midweek.
- By focusing on a full week of commute behavior, the survey identified whether employees changed their primary mode at some point during the course of a work week. Overall, 78% of employees indicated that they primarily drove alone to work at least once during the ref-

erence week, 17% teleworked at least once, 8% carpooled or vanpooled as their primary mode at least once, 5% used public transit, 5% used a different alternative mode at least once as their primary mode, whereas 2% reported some other primary mode at least once during the reference week.

- In terms of commute *distance*, approximately one-third of respondents were represented in commute length categories of less than 10 miles (30%), one-third reported traveling 10 to 19 miles (32%), 16% commute 20 to 29 miles, 11% commute 30 to 49 miles, whereas 7% indicated they commute 50 miles or more between work and home, one-way. The average commute length among all commuters was 18.97 miles.
- Overall, a majority of employees (54%) indicated their commute time to work is 20 minutes or less, 21% stated their commute to work takes between 25 and 30 minutes, and 25% indicated their commute is at least 35 minutes. The average commute time to work was 27 minutes.¹
- Return commutes home were typically a bit longer for employees, averaging 31 minutes. Overall, 47% indicated their return commute home is 20 minutes or less, 20% stated their commute home takes between 25 and 30 minutes, and 32% indicated their commute home is at least 35 minutes.
- Nearly two-thirds of commuters indicated that they begin their commute to work between 5:15am and 7:00am (39%), or between 7:15am and 8:00am (25%). An additional 13% offered that they begin their commute to work between 8:15am and 9:00am.
- As for the return commute home, the start times were similarly concentrated in a three hour window. Nearly two-thirds of employees (64%) indicated that they begin their commute home between 3:15pm and 4:00pm (19%), 4:15pm and 5:00pm (25%), or 5:15pm and 6:00pm (19%).
- Certain subregions are ‘job rich’, as they attract a disproportionate share of employees for their work commutes when compared to their percentage of employee households. North City, for example, represents 38.5% of work destinations, but accounts for 25.4% of worker households among those surveyed. Collectively, the North City and Central subregions account for more than 60% of workers’ primary work locations/commute destinations.
- Among employees who would carpool or vanpool if a full suite of services and incentives were offered, North City becomes an even more dominant destination for work commutes (+5.1%), accounting for 44% of all work locations/commute destinations.
- The average length of commute among those who were willing to carpool or vanpool was longer (16.7 miles) than the average commute distance for all workers (13.67 miles).

FIRST & LAST MILE

- Across all primary modes with a potential First Mile component, 40% of commuters reported that they started from their house and thus did not need to travel to a different destination to access their primary mode. Among those who did travel from their home to a separate destination to access their primary mode, 30% walked, 22% drove alone, 10% were dropped off, 4% used a form of transit, and 2% used a bicycle.
- The travel modes used for the **First Mile** varied considerably depending on the *type* of primary mode being accessed. The vast majority of carpoolers (72%) and a large percentage of vanpoolers (37%) reported that they were picked up a home, or that they drove alone to access their carpool (22%) or vanpool (53%).

1. Commute times were rounded to nearest 5 minute increment, which is why the categories are not continuous.

- Bus riders, meanwhile, were far more apt to walk to their bus stop (74%), while those riding the Trolley were split between driving alone (33%), taking another form of transit (21%), and walking (48%).
- A majority of train riders walked to access their train (51%), with an additional 24% driving alone, 17% biking, and 14% getting dropped off.
- As with the First Mile, the travel modes used for the **Last Mile** of their trip varied greatly depending on the primary mode being used. Approximately two-thirds of carpoolers (66%) and three-quarters of vanpoolers (73%) indicated that they were dropped at their final destination. Among those who were dropped by their carpool or vanpool at a different destination, most walked to their final destination (18% carpool; 26% vanpool).
- Walking the Last Mile was also the dominant mode for bus riders (88%) and Trolley riders (83%).
- Train riders, meanwhile, displayed the most diversified mix of Last Mile modes including walking (41%), biking (30%), other forms of transit (15%), and getting picked up (7%).
- Overall, commuters reported traveling an average 2.55 miles from their home to access their primary mode, and 1.9 miles from the point they are dropped off to reach their final destination.

ALTERNATIVE COMMUTE MODES

- Among all commuters who do not always or primarily work from home, 57% indicated that they *always* drive alone to work—they have not used an alternative mode in the past 12 months.
- Among the alternative modes tested, 20% of commuters reported that they had carpooled at least once for their commute during the prior 12 month period, 12% had walked, 10% had ridden a bus, 8% had biked, 8% had ridden the Trolley, 6% had taken a train, and 5% reported vanpooling for their commute at least once during the period of interest.

AWARENESS OF ICOMMUTE

- Nearly half (48%) of commuters indicated that they are aware of specific organizations, phone numbers and/or websites that they can go to for information about alternative ways of commuting.
- Using an open-ended measure of unaided recall, the most frequently mentioned sources of information about alternative ways to commute were MTS (43%), 511 (24%), SANDAG (24%), www.sdmts.com (20%), NCTD (17%), www.sandag.org (16%), iCommute (14%), www.511sd.com (14%), www.icommutesd.com (9%), and www.gonctd.com (7%).

EMPLOYER SERVICES

- When respondents were asked to identify from a list of commute benefit programs those that are currently offered by their employer, the most commonly offered commute benefit programs were special facilities or lockers for employees who bike or walk to work (27%), compressed work weeks where employees can work a full-time schedule in less than five days (25%), information about alternative commute options (25%), and preferred parking locations for carpools and vanpools (21%).
- Programs less commonly offered were access to carpool or vanpool matching services (18%), free or discounted transit passes (15%), and guaranteed rides home in case of emergencies (15%).

- Of the commute benefits tested, those offered by the fewest employers appear to be pre-tax transit pass programs (12%), free employee shuttles (11%), cash incentives for carpooling, vanpooling, walking or biking to work (10%), and cash or other incentives for not using parking (6%).
- Sixty-one percent (61%) of employees surveyed worked for an employer who offers at least one commute benefit program.
- Of the commute benefit programs tested, compressed work weeks were the most commonly *utilized* program (12%), followed by facilities or lockers for employees who bike or walk to work (7%), information about alternative commute options (6%), and preferred parking locations for carpools or vanpools (5%).
- At the other end of the spectrum and in part reflecting the small number of employers who offer such programs, few employees reported that they have taken advantage of cash or other incentives for not using parking (2%), pre-tax transit pass programs (2%), and cash or other incentives for carpooling, vanpooling, walking or biking to work (2%).
- Overall, just over one-quarter (27%) of employees indicated that they have utilized a commute benefit program offered by their employer. Approximately one-third of employees (34%) surveyed indicated that their employer offers one or more commute benefit programs, but confided that they have not taken advantage of the program(s). An additional 39% indicated that their employer does not offer commute benefit programs.
- Ninety percent (90%) of employees surveyed indicated that they have free parking at their work site.
- Among the small percentage (9%) of employees who indicated that there is no free parking at their work site, 16% stated they pay \$20 or more per day, 15% pay between \$10 and \$19 per day, 19% pay between \$4 and \$9 daily, while 16% indicated that they pay \$3 or less per day to park when they drive to work. Approximately 33% were not sure or refused the question, likely indicating that they don't drive to work and thus the question does not apply to their situation.
- The vast majority of employees who indicated that they pay for parking when they drive to work indicated that their employer does *not* reimburse their parking fees (84%). Approximately 10% of employees in this group (1% of all commuters) offered that their employer pays for all of their parking costs, whereas an additional 5% receive a partial subsidy.

CARPOOL & VANPOOL STRATEGIES

- Overall, 44% of employees surveyed indicated that they would commute to work in a carpool at least twice per week under the right circumstances, whereas 44% were unwilling to do so unless they had no other options and 12% were unsure.
- The responses for vanpooling were similar, with 39% indicating they would vanpool to work at least two times per week under the right circumstances, 45% offering that they would only do so if they had no other options, and 17% unsure.
- When those who stated they would carpool or vanpool to work under the right conditions were subsequently asked in an open-ended manner to identify the condition or change needed to effect this mode shift, the condition mentioned by the largest percentage of employees (29%) was having other employees near their home that are also interested in carpooling or vanpooling.
- Others cited a change in their work schedule (16%), that carpooling or vanpooling must be at least as fast as driving solo (8%), or that their employer helps organize (5%) and pay (4%) the cost of ridesharing as being a necessary condition for them to carpool or vanpool to work at least two days per week.

- It is worth noting that 12% were unable to specify a condition or change that would result in them carpooling or vanpooling to work, and an additional 7% confided that the changes needed were not realistic.
- Nearly one-quarter (23%) of commuters indicated they would carpool or vanpool to work at least twice per week if the price of gas rose to \$5 per gallon.
- Among commuters who stated they would carpool or vanpool to work under the right conditions, cash incentives were attractive. At the lowest tier offering (\$30 per individual in a carpool/\$300 per vanpool group), 22% indicated they would definitely carpool or vanpool to work at least twice per week, and an additional 33% indicated they would probably do so.
- Incremental increases in the cash incentive resulted in incremental increases in a willingness to rideshare, with 39% of commuters administered the question (16% of all commuters) indicating they would definitely carpool or vanpool to work at least two days per week if they were offered \$50 per individual carpooler or \$500 to the vanpool group.
- Among employees who stated they would carpool or vanpool to work at least two days per week under the right conditions, the most compelling commute benefits were a guaranteed ride home in case of emergencies or unscheduled overtime (64%), access to carpool/vanpool information that is specific to their commute route (60%), a smartphone App that enables them to search for and find a carpool/vanpool ride on-demand and also provides details about the driver in advance (51%), and a website that helps plan carpool and vanpool trips (51%).
- When compared to the other benefits tested, commuters were a bit less responsive to discounts from local retail businesses and restaurants for carpooling or vanpooling (47%), having access to an advisor who could assist them in finding a carpool or vanpool (46%), preferred parking locations at their work site (38%), and free parking at their work site (34%).²
- Among all employees who commute outside of the home for work, 19% indicated they would definitely carpool or vanpool at least twice per week to work if a full suite of commute benefits were offered—including free assistance joining a carpool/vanpool, cash incentives, preferred parking, and a guaranteed ride home in case of emergencies. An additional 19% indicated they would probably do so.
- Approximately 17% of employees had indicated they would commute to work in a carpool or vanpool under the right conditions, but even with the full suite of commute benefits offered they indicated they would still not carpool or vanpool. The remaining employees had previously indicated they would only rideshare to work if they had no other options (44%) or were unsure or unwilling to answer the question (1%).

2. The free parking incentive was only asked of commuters who currently pay for parking at their work.



CONCLUSIONS

As noted in the *Introduction*, this study was designed to provide up-to-date and reliable information regarding the commute behaviors of employees, the commute benefit programs currently offered by employers in the region, employees' use of these programs, as well as the receptiveness of commuters to program enhancements that iCommute and its partners may undertake in the near future to expand the vanpool and carpool markets, respectively. Whereas subsequent sections of this report are devoted to conveying the detailed results of the survey, in this section we attempt to “see the forest through the trees” by noting how the collective results of the survey answer some of the key questions that motivated the research.

Why did the survey focus on the employee's most recent work week?

Past research has shown that asking employees about their *general* work and commute behavior has a tendency to underrepresent behaviors that are not dominant. An employee who typically drives solo to work, but occasionally uses transit will report that they drive solo when asked about their commute in general. Similarly, an employee who occasionally teleworks will often not report this behavior when asked about where they typically work. To avoid this potential source of measurement error, rather than ask respondents about what they *generally* do, this study asked employees to report on their work and commute behavior during their most recently completed work week. In the aggregate, this approach provides a much more reliable measure of commute behavior in the region, as well as the prevalence of teleworking and other behaviors that may occur infrequently. Unless otherwise indicated, the findings discussed in the following sections are based on profiling work patterns and travel behaviors for a full reference week.

How are work days distributed among employees, and to what extent are they commuting vs. teleworking?

Among employees who reported that they work at least 30 hours per week, their work days are concentrated during the midweek. At least 90% of employees surveyed reported that in their most recently completed work week they worked each midweek day (Monday through Friday). Approximately one-quarter (23%) reported that they worked on Saturday during their most recently completed work week, while the corresponding figure for Sunday was 17%.

On any given midweek day, the percentage of all employees who *always/primarily* work from a home office was just under 7%, those that don't normally work from home but telecommuted on that day ranged from 4% to 5%, whereas those that commuted to a work destination outside the home ranged from 78% to 83%. The remainder did not work that day. Overall, the average number of days per week that employees reported commuting to a destination outside of their home was 4.36. There is also a slight tendency to have fewer commute days per week as commute distance increased and employee age increased beyond 44 years.

What percentage of employees telework, what characteristics are related to teleworking, and where do the best opportunities lie for expansion?

Considering their most recent work week as well as their work patterns in general, 7% of employees indicated that they primary or always work from home/telework, 23% occasionally telework, whereas 70% of employees offered that they never telework. Although teleworking was found in all employee subgroups, when compared to their respective counterparts, employees over the age of 44, those working at small work sites (less than five employees), workers who reside in North County West and North City, Caucasians, those at the income extremes (less than \$20,000 or more than \$150,000 annually), and males were the most likely to practice teleworking at least occasionally.

Among the 70% of employees who indicated that they never telework, the survey also found substantial opportunities for the expansion of teleworking based on job requirements and employer policies. Overall, 19% of employees who never telework indicated that their job responsibilities would allow them to do so occasionally, and a somewhat higher percentage (26%) indicated that their employer does allow people to work from home occasionally. Combining these criteria to identify employees who currently do not telework but have the ability to do so based on their job responsibilities and employer policies, the study reveals a high percentage of employees in certain subgroups fit the ‘telework eligible’ profile—most notably North City residents (21%), Asian Americans (21%), employees from high-income households (21%), those who do not have free parking at their work site (22%), and employees who work in the Communications (34%) and IT manufacturing/services (37%) industries.

What is the current primary mode split among employees in a typical work week, and do employees alter their primary mode?

Based on employees’ commute behavior in their most recent work week and calculating the percentages among *all* employees (including those who teleworked or had the day off), driving alone to work was most common *primary* commute mode, ranging from 66% to 69% of employees during the midweek. Carpooling ranged from 4% to 5% midweek, whereas transit (local bus, premium bus, Trolley, Coaster, Sprinter, AMTRAK or Metrolink) collectively was reported as the primary commute mode by approximately 4% of employees. Overall, 11% to 12% of employees indicated that they teleworked, whereas 6% to 10% stated that they did not work on given day midweek.

By focusing on a full week of commute behavior, the survey also found that a significant percentage of employees alter their primary mode throughout the week. The result is that over the course of the reference week, 78% of employees indicated that they primarily drove alone to work at least once, 17% worked from home/teleworked at least once, 8% carpooled or vanpooled as their primary mode at least once, 5% used public transit, 5% used a different alternative mode at least once as their primary mode, whereas 2% reported some other primary mode at least once during the reference week.

Are First Mile and Last Mile mode uses different depending on the primary mode?

Across *all* primary modes with a potential First Mile component, 40% of commuters reported that they started from their house and thus did not need to travel to a different destination to access their primary mode. Among those who did travel from their home to a separate destination to access their primary mode, 30% walked, 22% drove alone, 10% were dropped off, 4% used a form of transit, and 2% used a bicycle.

The general patterns noted above notwithstanding, it's important to recognize that the travel modes used for the First Mile varied considerably depending on the *type* of primary mode being accessed. The vast majority of carpoolers (72%) and a large percentage of vanpoolers (37%) reported that they were picked up at home, or that they drove alone to access their carpool (22%) or vanpool (53%). Bus riders, meanwhile, were far more apt to walk to their bus stop (74%), while those riding the Trolley were split between driving alone (33%), taking another form of transit (21%), and walking (48%). A majority of train riders walked to access their train (51%), with an additional 24% driving alone, 17% biking, and 14% getting dropped off.

As with the First Mile, the travel modes used for the Last Mile of their trip varied greatly depending on the primary mode being used. Approximately two-thirds of carpoolers (66%) and three-quarters of vanpoolers (73%) indicated that they were dropped at their final destination. Among those who were dropped by their carpool or vanpool at a different destination, most walked to their final destination (18% carpool; 26% vanpool). Walking the Last Mile was also the dominant mode for bus riders (88%) and Trolley riders (83%). Train riders, meanwhile, displayed the most diversified mix of Last Mile modes including walking (41%), biking (30%), other forms of transit (15%), and getting picked up (7%).

Are there noteworthy patterns in commute origins and destinations at the subregional level?

Analyzing the origins and destinations for work-related commutes reveals that certain subregions are 'job rich', as they attract a disproportionate share of employees for their work commutes when compared to their percentage of employee households. North City, for example, represents 38.5% of work destinations, but accounts for just 25.4% of worker households among those surveyed. The Central subregion also attracts more workers than it exports. Collectively the North City and Central subregions account for more than 60% of workers' primary work locations/commute destinations.

From the perspective of targeting employers in certain subregions for carpooling and vanpooling programs, North City becomes an even more attractive subregion as workers who are employed in this subregion are disproportionately interested in carpooling and vanpooling. Although North City accounts for 38.5% of all commute destinations, it represents 44% of work locations among those who would be willing to carpool or vanpool if offered a full suite of associated services and incentives.

To what extent are employers offering commute benefit programs, and are employees taking advantage of them?

Most employees surveyed (61%) reported working for an employer who offers at least one type of commute benefit program. Among the most commonly offered commute benefit programs were special facilities or lockers for employees who bike or walk to work (27%), compressed work weeks where employees can work a full-time schedule in less than five days (25%), information about alternative commute options (25%), and preferred parking locations for carpools and vanpools (21%). Programs less commonly offered were access to carpool or vanpool matching services (18%), free or discounted transit passes (15%), and guaranteed rides home in case of emergencies (15%). Of the commute benefits tested, those offered by the fewest employers appear to be pre-tax transit pass programs (12%), free employee shuttles (11%), cash incentives for carpooling, vanpooling, walking or biking to work (10%), and cash or other incentives for not using parking (6%). It's worth noting that large employers (100+ employees) and public sector employers appear to offer these benefit programs far more frequently than their counterpart organizations.

Being offered a commute benefit program is one thing. Actually taking advantage of the program is another. Overall, just over one-quarter (27%) of employees indicated that they have utilized a commute benefit program offered by their employer. Approximately one-third of employees (34%) surveyed indicated that their employer offers one or more commute benefit programs, but confided that they have not taken advantage of the program(s). An additional 39% indicated that their employer does not offer commute benefit programs.

Of the programs tested, compressed work weeks were the most commonly utilized commute benefit program (12%), followed by facilities or lockers for employees who bike or walk to work (7%), information about alternative commute options (6%), and preferred parking locations for carpools or vanpools (5%). At the other end of the spectrum and in part reflecting the small number of employers who offer such programs, few employees reported that they have taken advantage of cash or other incentives for not using parking (2%), pre-tax transit pass programs (2%), and cash or other incentives for carpooling, vanpooling, walking or biking to work (2%).

To what extent are employees receptive to ridesharing, and what programs do they indicate would be most enticing in this respect?³

Employees' attitudes about ridesharing are one important factor in estimating the potential for increasing carpooling and vanpooling through enhanced program offerings and strategies. Among all employees who commute outside of the home for work and do not already use an alternative mode, 19% indicated they would *definitely* carpool or vanpool at least twice per week to work if a full suite of commute benefits were

3. Only employees who drive solo to work for the entire reference week and had a commute of at least six miles were administered questions related to carpool or vanpool incentives.

offered, and an additional 19% indicated they would probably do so. Approximately 17% of employees indicated they would commute to work in a carpool or vanpool under the right conditions, but even with the full suite of commute benefits offered they indicated they would still not carpool or vanpool. The remaining employees indicated they would only rideshare to work if they had no other options (44%) or were unsure or unwilling to answer the question (1%). In general, a willingness to rideshare to work under these conditions was highest for employees between 25 and 54 years of age, females, those in households that earn between \$50,000 and \$74,999 annually, residents of Southwest Riverside County and the North County West planning area, employees with commute distances between 15 and 49 miles and a commute length of 25 minutes or more, employees with mixed ethnic backgrounds, as well as employees who work at sites with 20 to 49 employees, or at least 100 employees.

Among employees who stated they would carpool or vanpool to work at least two days per week under the right conditions, the most compelling commute benefits were a guaranteed ride home in case of emergencies or unscheduled overtime, access to carpool/vanpool information that is specific to their commute route, a smartphone App that enables them to search for and find a carpool/vanpool ride on-demand and also provides details about the driver in advance, and a website that helps plan carpool and vanpool trips.

Naturally, cash incentives were also quite compelling—although their impact varied depending the amount being offered. At the lowest tier offering (\$30 per individual in a carpool/\$300 per vanpool group), 22% of those administered the question (10% of all commuters) indicated they would definitely carpool or vanpool to work at least twice per week, and an additional 33% indicated they would probably do so. Incremental increases in the cash incentive resulted in incremental increases in a willingness to rideshare, with 39% of commuters administered the question (16% of all commuters) indicating they would definitely carpool or vanpool to work at least two days per week if they were offered \$50 per individual carpooler or \$500 to the vanpool group.

When compared to the other benefits tested, commuters were a bit less responsive to discounts from local retail businesses and restaurants for carpooling or vanpooling, having access to an advisor who could assist them in finding a carpool or vanpool, preferred parking locations at their work site, and free parking at their work site.⁴

4. The free parking incentive was only asked of commuters who currently pay for parking at their work.

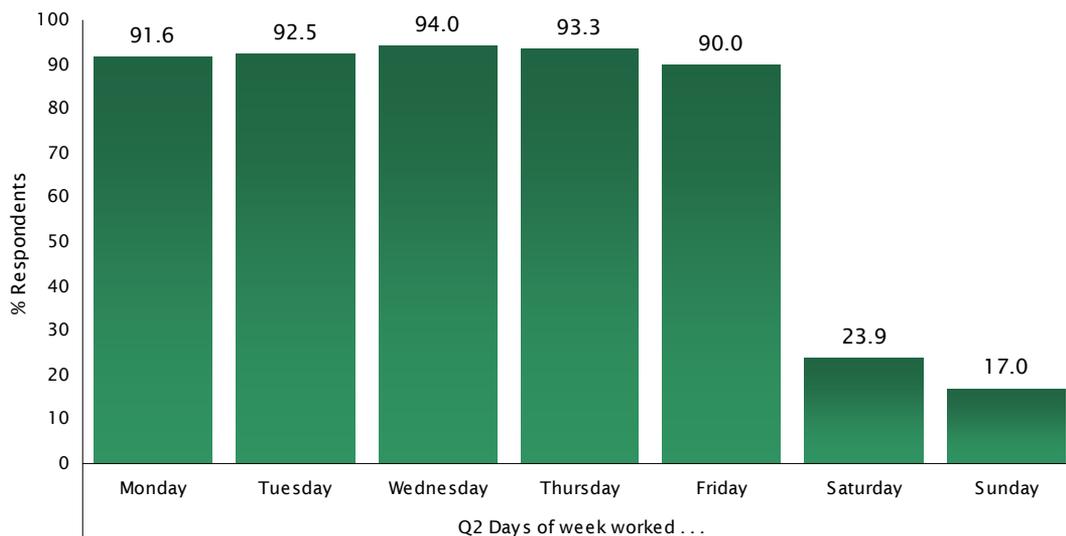
COMMUTE FREQUENCY

Asking employees about their *general* commute behavior has a tendency to underrepresent alternative mode use, especially when such use is occasional (rather than frequent). To avoid this source of measurement error, this study focused on commute behavior during the employee's most *recently* completed work week. The opening series of questions in the survey were thus designed to identify which days of the week they worked, as well as which of their work days they commuted to a destination outside of the home.

WORK DAYS Among employees who reported that they work at least 30 hours per week, Figure 2 shows how their work days were distributed across the seven day week. At least 90% of employees surveyed indicated that they worked each midweek day (Monday through Friday). Approximately one-quarter (23%) reported that they worked on Saturday during their most recently completed work week, while the corresponding figure for Sunday was 17%.

Question 2 *In your most recently completed work week, what days of the week did you work?*

FIGURE 2 DAYS WORKED IN LAST WEEK



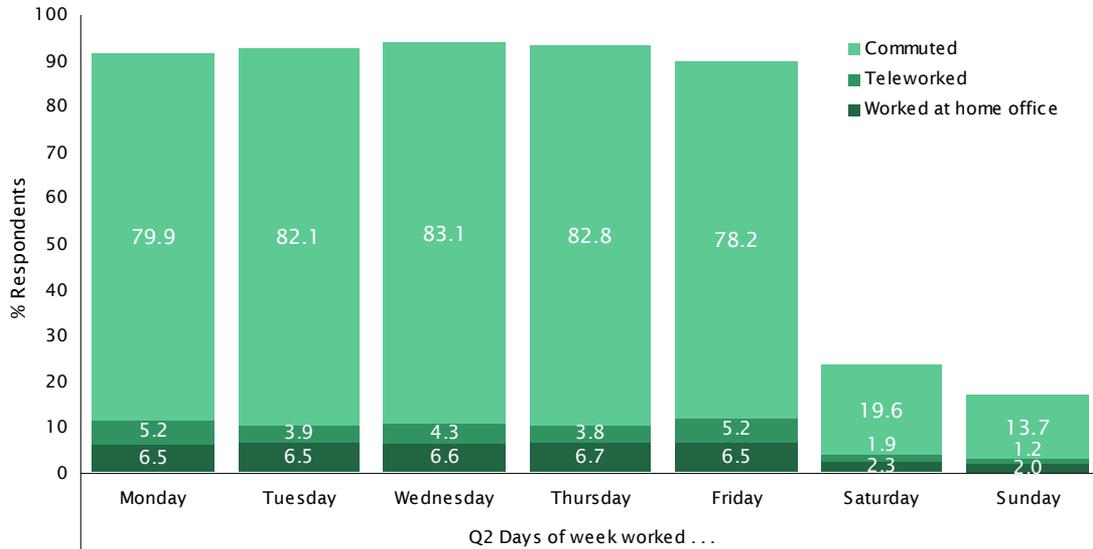
COMMUTED VS. TELEWORK Having identified which days of the week an employee worked, the survey next inquired as to how many (and which) of those work days they commuted to a work destination outside the home. Combining the results of three related questions (Questions 3, 4 & 8), Figure 3 shows that on any given midweek day, the percentage of all employees who *always/primarily* work from a home office was just under 7%, those that don't normally work from home but telecommuted on that day ranged from 4% to 5%, whereas those that commuted to a work destination outside the home ranged from 78% to 83%. Although the percentage of employees who work on the weekend is much lower, the tendency to work from home on weekends is much higher. Approximately one in five employees who worked on Saturday, for example, reported that they worked from home.

Question 3 Of the <# from Question 2> days you worked that week, how many days did you commute to a work location outside of your home?

Question 4 Just to confirm, you worked from home or teleworked <sum # from Question 2 - Question 3 value> days that week?

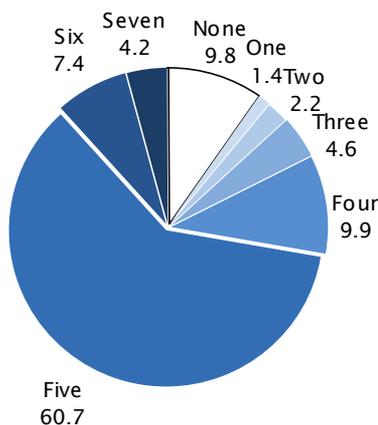
Question 8 In your most recently completed work week, which days of the week did you work from home or telework?

FIGURE 3 COMMUTE VS. WORKED FROM HOME IN LAST WEEK



COMMUTE DAYS Among employees who work at least 30 hours per week, more than half (61%) indicated that they commuted to a work destination outside the home five days per week during their most recently completed work week. Approximately 15% indicated that they commuted to work three to four days in the reference week, 4% commuted to work one to two days, 12% offered that they commuted to work six or seven days, whereas 10% indicated that they did not commute at all that week.

FIGURE 4 NUMBER OF DAYS COMMUTING TO WORK IN LAST WEEK



Overall, the average number of days that employees reported commuting to work was 4.36. Figures 5 through 7 on the following pages show how this average varied according to area of residence, commute distance, and employee age. There was a slight tendency to have fewer commute days per week as commute distance increased, as well as fewer commute days as employee age increased beyond 44 years.

FIGURE 5 MEAN NUMBER OF DAYS COMMUTING TO WORK IN LAST WEEK BY AREA OF REGION

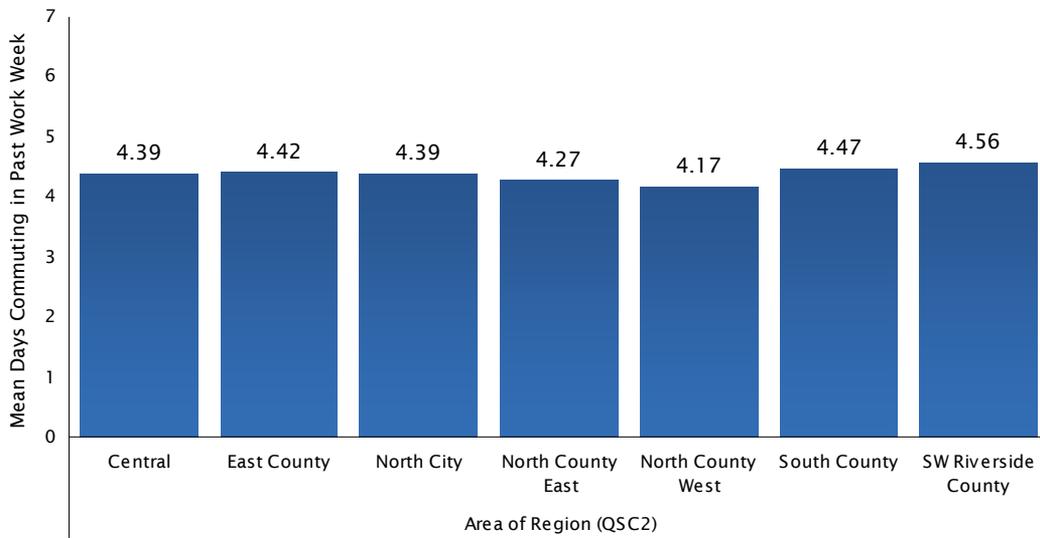


FIGURE 6 MEAN NUMBER OF DAYS COMMUTING TO WORK IN LAST WEEK BY COMMUTE DISTANCE IN MILES

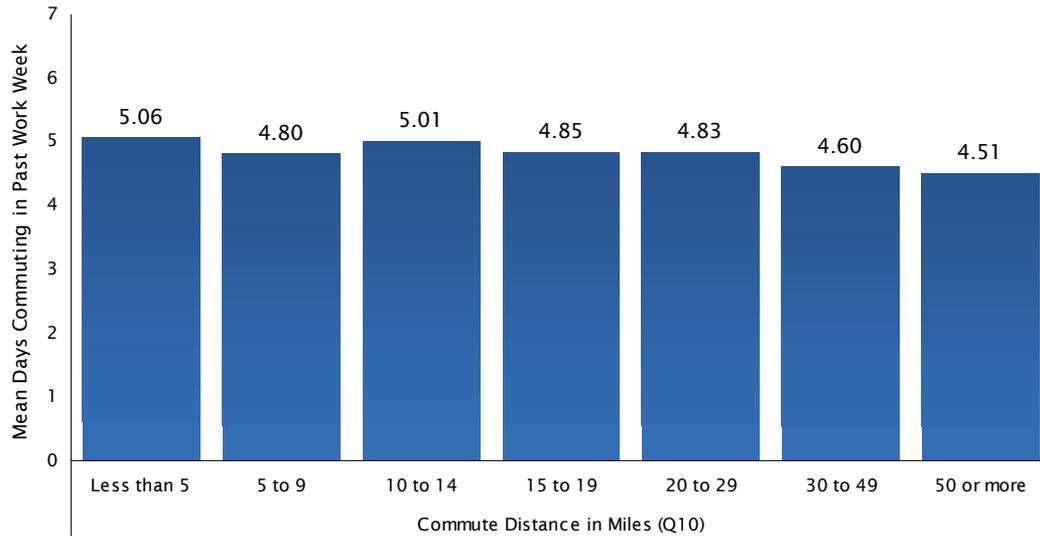
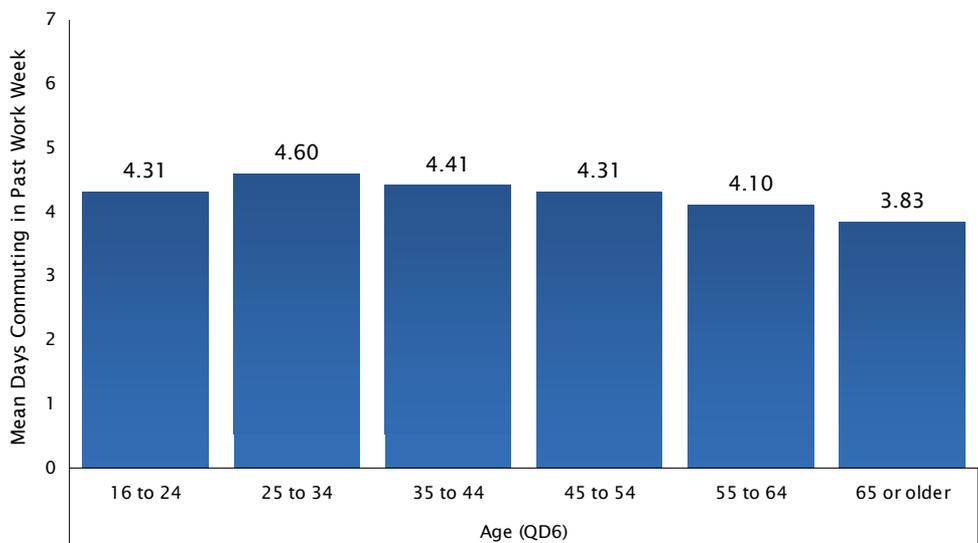


FIGURE 7 MEAN NUMBER OF DAYS COMMUTING TO WORK IN LAST WEEK BY AGE



TELEWORK

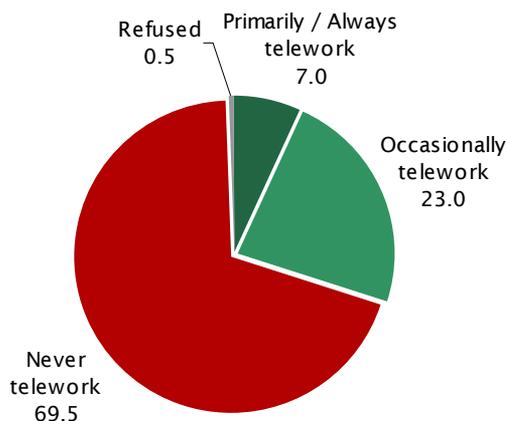
Defined as working from home or at a location close to home for an entire work day, *teleworking* can be a win-win for employers and employees. Teleworking reduces commute costs, lowers demand for parking, reduces traffic congestion, and helps protect the environment. One of the goals of this survey was to establish baseline measures of the prevalence and frequency of teleworking in the San Diego region, identify employee characteristics that are strongly associated with teleworking, and understand whether those that don't currently telework have an opportunity to do so.

DO YOU TELEWORK? Respondents' telework status was derived from several questions. Employees who reported teleworking at least one day during the reference work week were automatically identified as teleworkers, with a subset identified as primarily or always teleworking based on their survey responses. Employees who did *not* report teleworking during the reference week were subsequently asked in Question 44 whether they occasionally telework. The answers to these questions are combined in Figure 8. Overall, 7% of employees surveyed indicated that they primarily or always telework, 23% stated that they occasionally telework, whereas 70% indicated that they never telework.

Question 5 *Do you primarily work from home?*

Question 44 *Now I want to ask you about teleworking. Teleworkers are employees who occasionally work from home or at a location close to their home for an entire work day instead of commuting to their regular work place. Do you occasionally telework?*

FIGURE 8 FREQUENCY OF TELEWORKING



For the interested reader, Figures 9-11 show how the tendency to telework varied across a host of employee characteristics. When compared to their respective counterparts, teleworking was most common among employees over the age of 44, those working at small work sites (less than five employees), workers who reside in North County West and North City, Caucasians, those at the income extremes (less than \$20,000 or more than \$150,000 annually), and males.

FIGURE 9 FREQUENCY OF TELEWORKING BY AGE & EMPLOYEES AT PRIMARY WORKPLACE

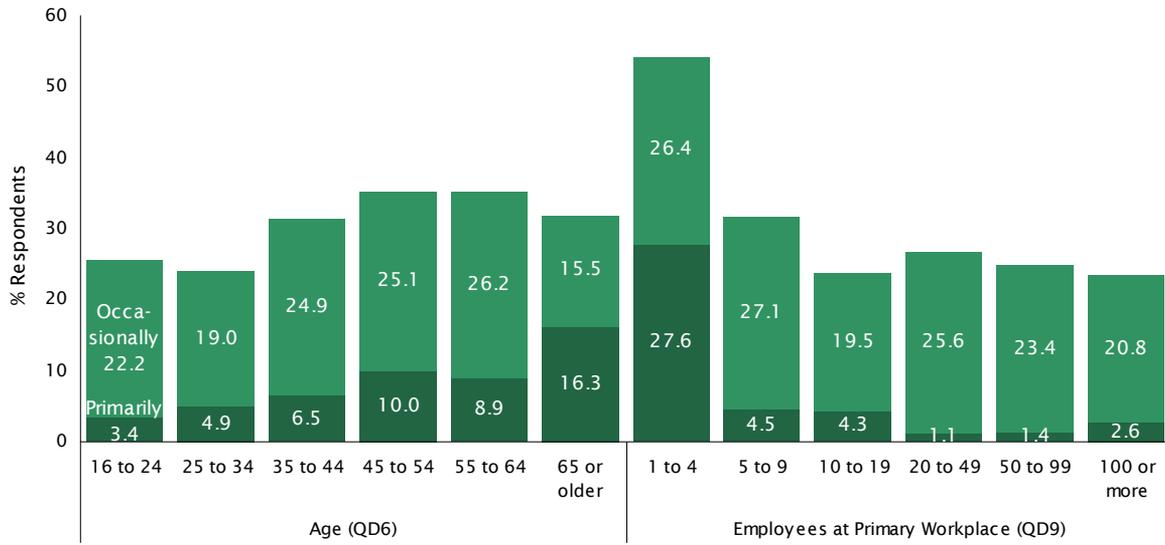


FIGURE 10 FREQUENCY OF TELEWORKING BY AREA OF REGION & ETHNICITY

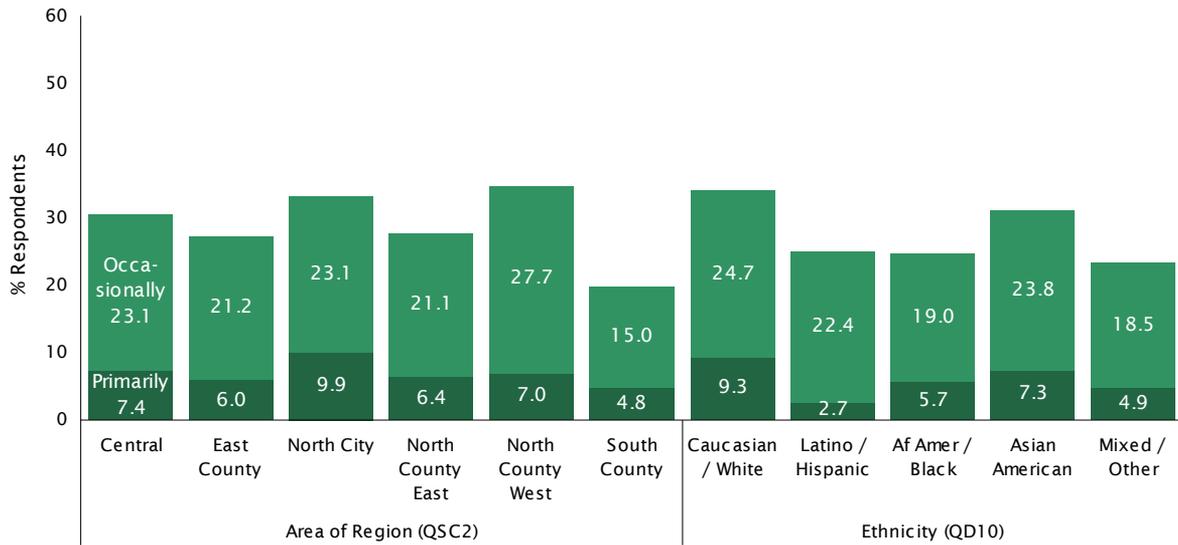
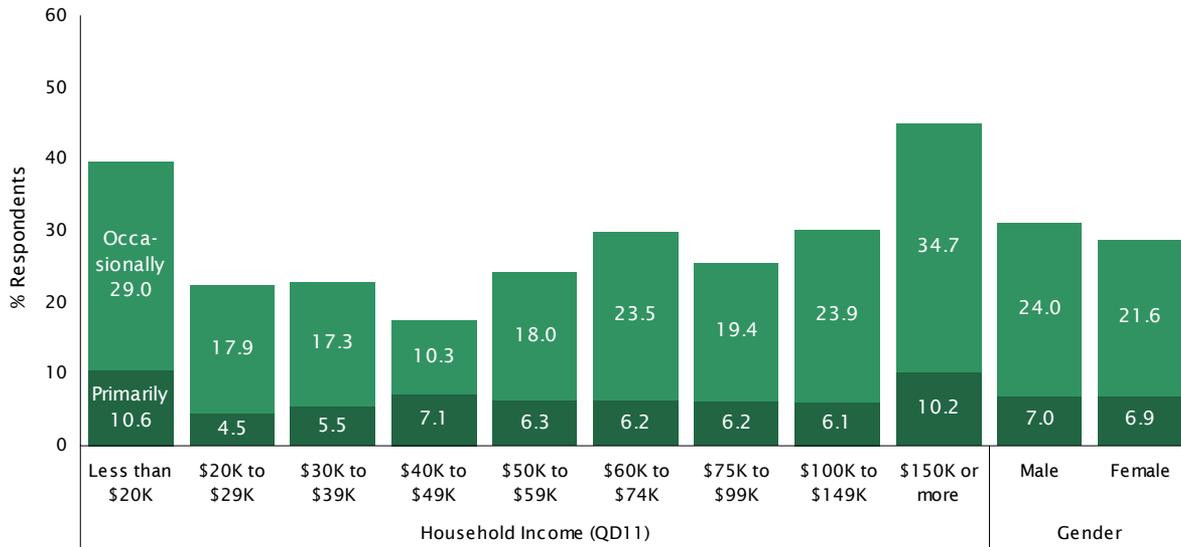


FIGURE 11 FREQUENCY OF TELEWORKING BY HOUSEHOLD INCOME & GENDER



FREQUENCY OF TELEWORKING Whereas the prior figures grouped teleworkers into two broad categories (always or occasionally teleworking), Figures 12-15 provide a more detailed breakdown of teleworkers based on their frequency of teleworking. Overall, 7% of employees always or primarily telework, 9% teleworked in the past week but do not primarily telework, 5% did not telework in the past week but usually do so at least once per week, 5% offered that they telework at least once per month, whereas 4% telework less often than once per month and/or on special occasions. Figures 13-15 display how frequency of teleworking varied by employee age, size of work site, area of region, ethnicity, household income, and gender.

Question 45 *How often do you usually telework?*

FIGURE 12 FREQUENCY OF TELEWORKING DETAILED

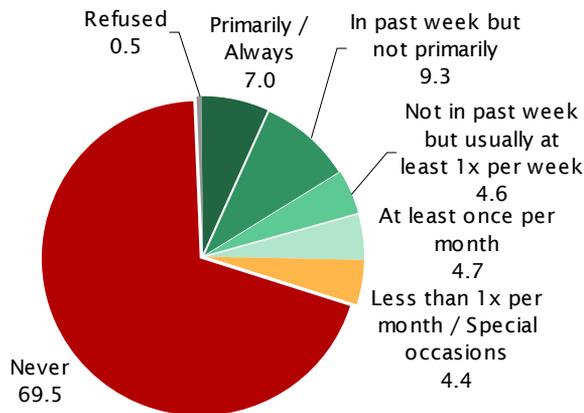


FIGURE 13 FREQUENCY OF TELEWORKING DETAILED BY AGE & EMPLOYEES AT PRIMARY WORKPLACE

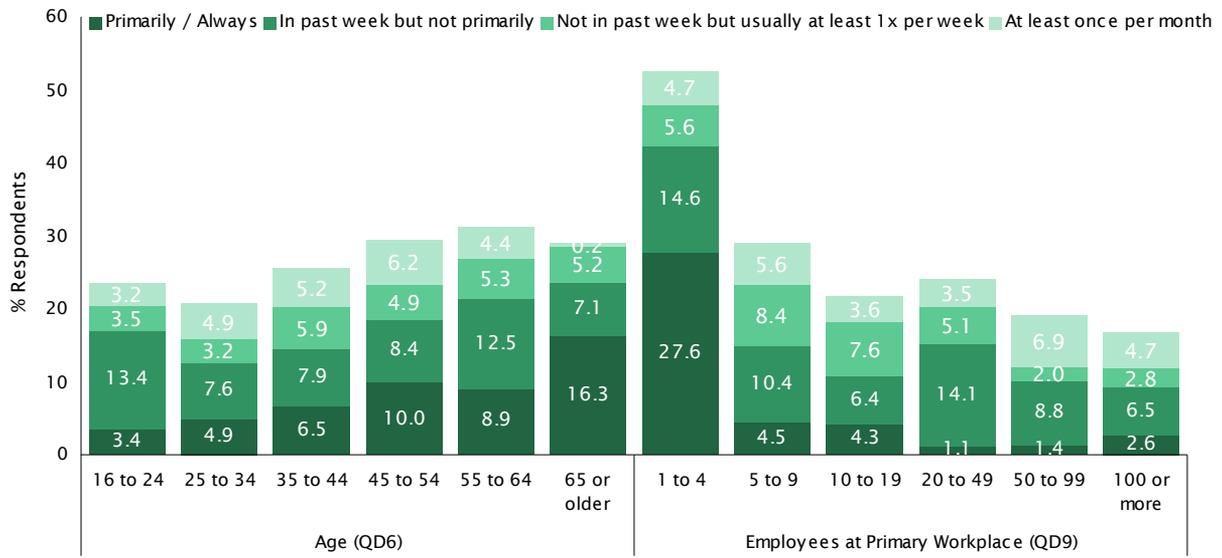


FIGURE 14 FREQUENCY OF TELEWORKING DETAILED BY AREA OF REGION & ETHNICITY

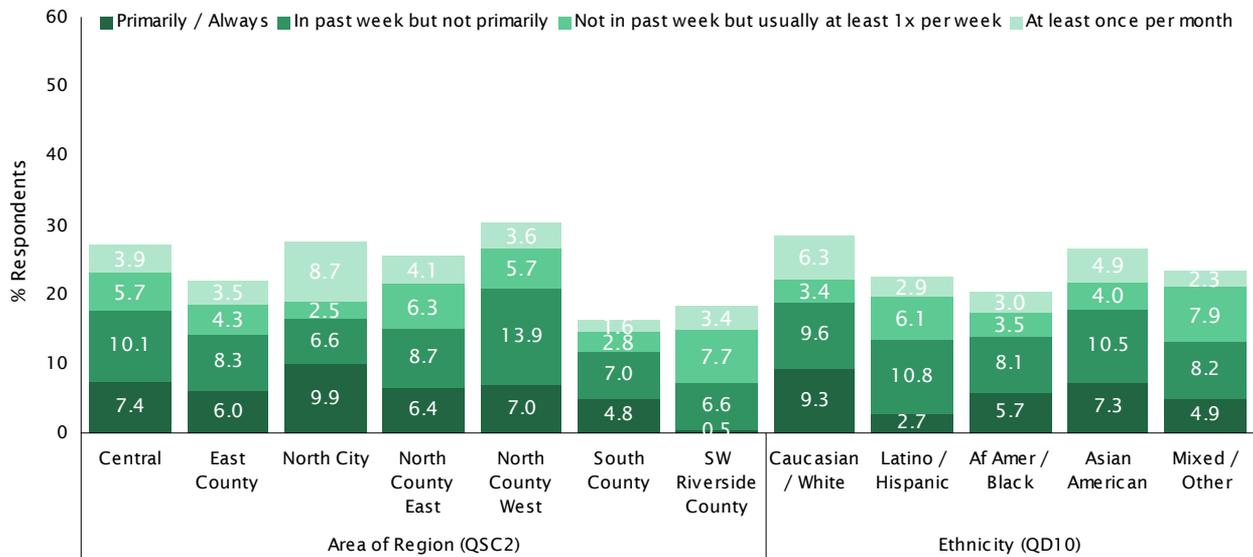
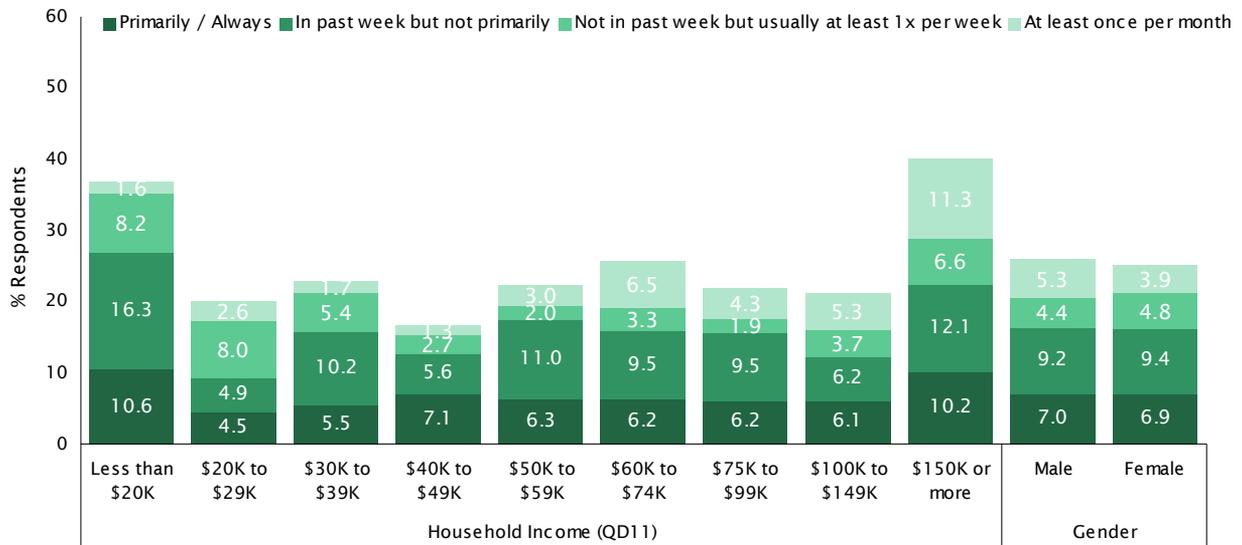


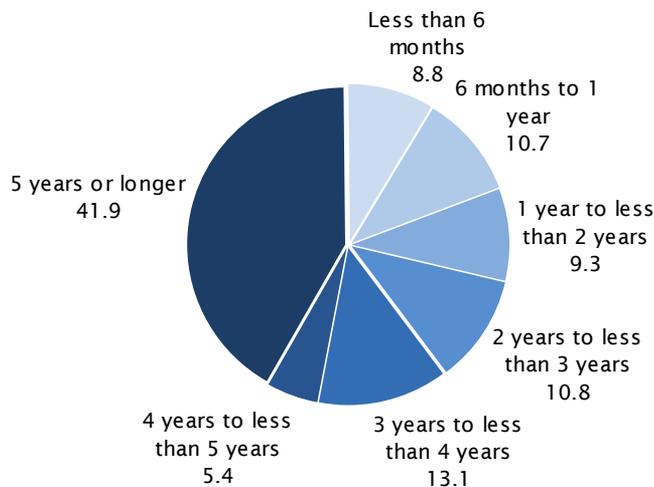
FIGURE 15 FREQUENCY OF TELEWORKING DETAILED BY HOUSEHOLD INCOME & GENDER



HOW LONG HAVE YOU BEEN TELEWORKING? Among employees who reported that they at least occasionally telework, Question 46 inquired as to how long they had been teleworking. The results in Figure 16 reveal that most teleworkers (60%) have been working from home at least occasionally for three years or more, with 42% offering that they have been teleworking five years or more. Overall, 11% reported that they had been teleworking between two and three years, 9% between one and two years, whereas approximately 20% had been teleworking less than one year.

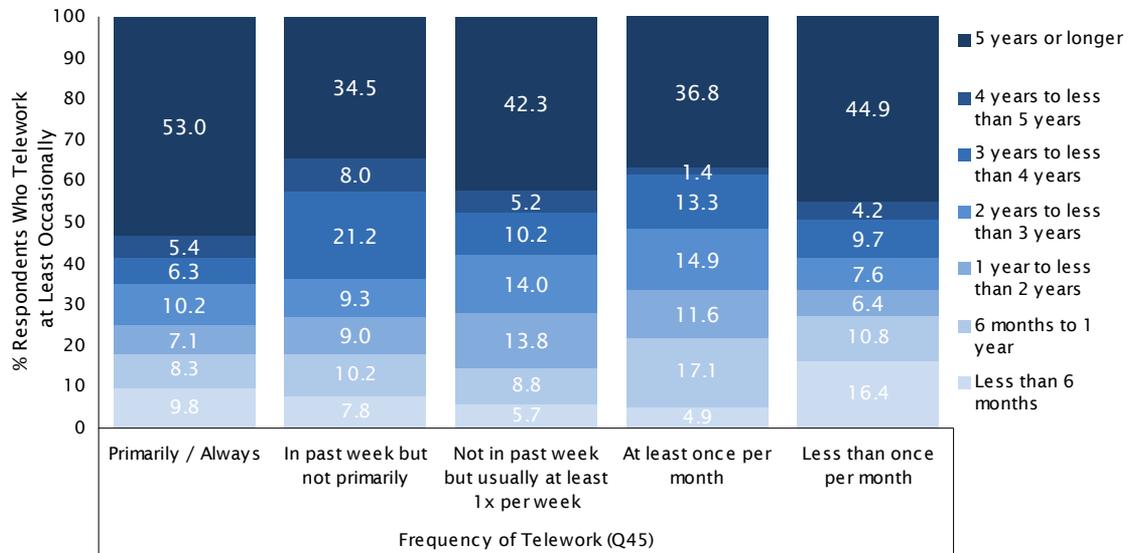
Question 46 For how many years or months have you been teleworking?

FIGURE 16 LENGTH OF TIME TELEWORKING



As one might expect, those who primarily or always telework also happen to be the most experienced teleworkers. More than half (53%) of those who always or primarily telework indicated that they have been working from home for at least five years (see Figure 17 on the next page).

FIGURE 17 LENGTH OF TIME TELEWORKING BY FREQUENCY OF TELEWORKING

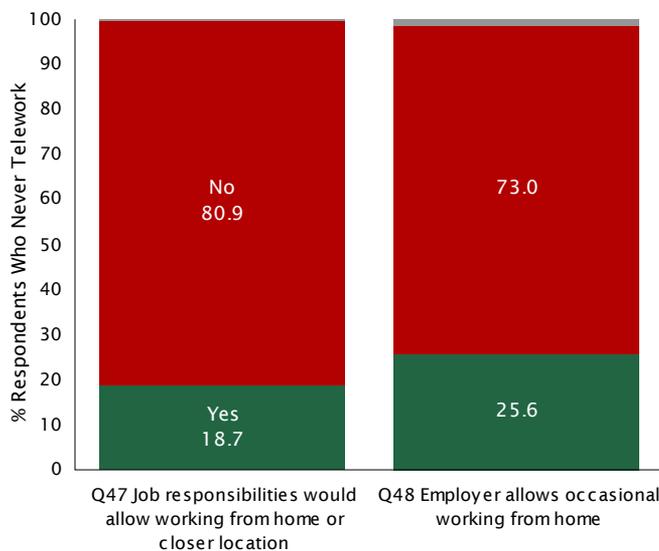


JOB OR EMPLOYER FACTORS NOT ALLOW FOR TELEWORKING? The final questions in this series were reserved for the 70% of employees who indicated that they never telework. For this group, the survey inquired as to whether their job responsibilities would allow them to work from home (or a location closer to home) for an entire day at least occasionally, as well as whether their employer allows people to work from home occasionally?

Question 47 *Would your job responsibilities allow you to work for an entire day from home or a location closer to home at least occasionally?*

Question 48 *Does your employer allow people to work from home occasionally?*

FIGURE 18 ABILITY TO TELEWORK



Overall, 19% of employees who never telework indicated that their job responsibilities would allow them to do so occasionally, whereas 81% stated their job responsibilities preclude teleworking. A somewhat higher percentage (26%) indicated that their employer does allow people to work from home occasionally.

Figures 19-23 combine the answers to these two questions to identify the percentage of employees who currently do not telework but have the ability to do so based on their job responsibilities *and* employer policies. When compared to their respective counterparts, employees who fit this profile were most commonly found among those between 35 and 44 years of age, employees who work at large employer sites (at least 100 people), North City residents, Asian Americans, high income earners (\$100,000 or more), males, those with commute distances under 20 miles, those who work for employers that offer commute benefits and/or do not have free parking at their work site, and employees in the Communications and IT manufacturing industries.

FIGURE 19 ABILITY TO TELEWORK BY AGE & EMPLOYEES AT PRIMARY WORKPLACE

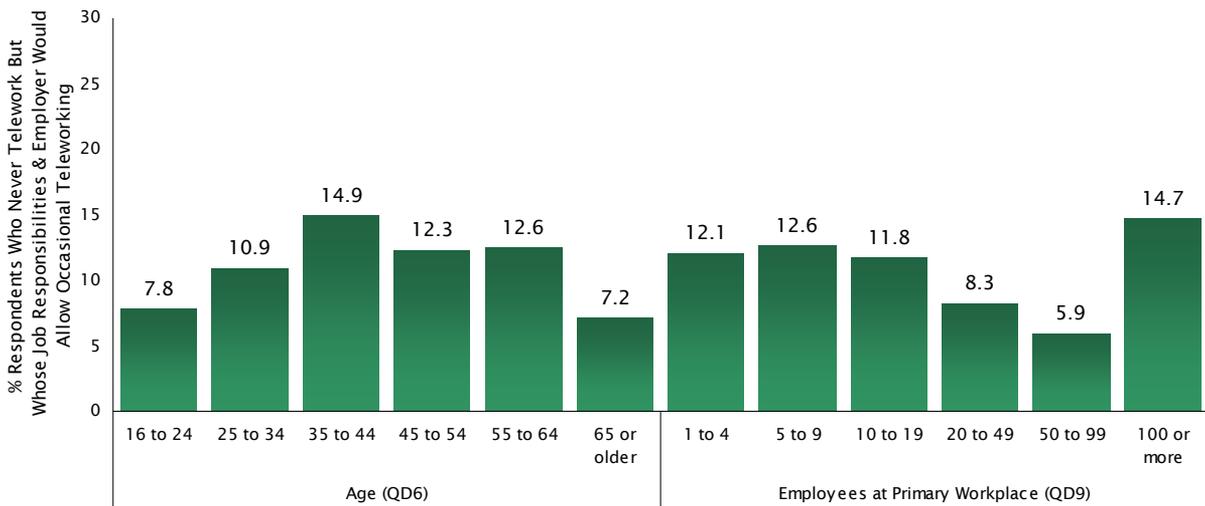


FIGURE 20 ABILITY TO TELEWORK BY AREA OF REGION & ETHNICITY

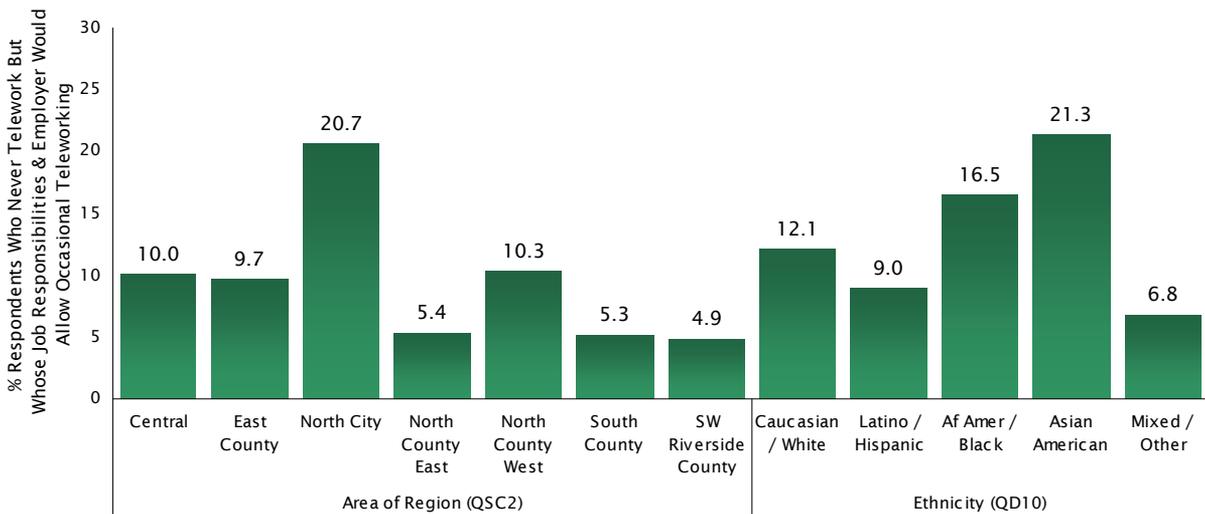


FIGURE 21 ABILITY TO TELEWORK BY HOUSEHOLD INCOME & GENDER

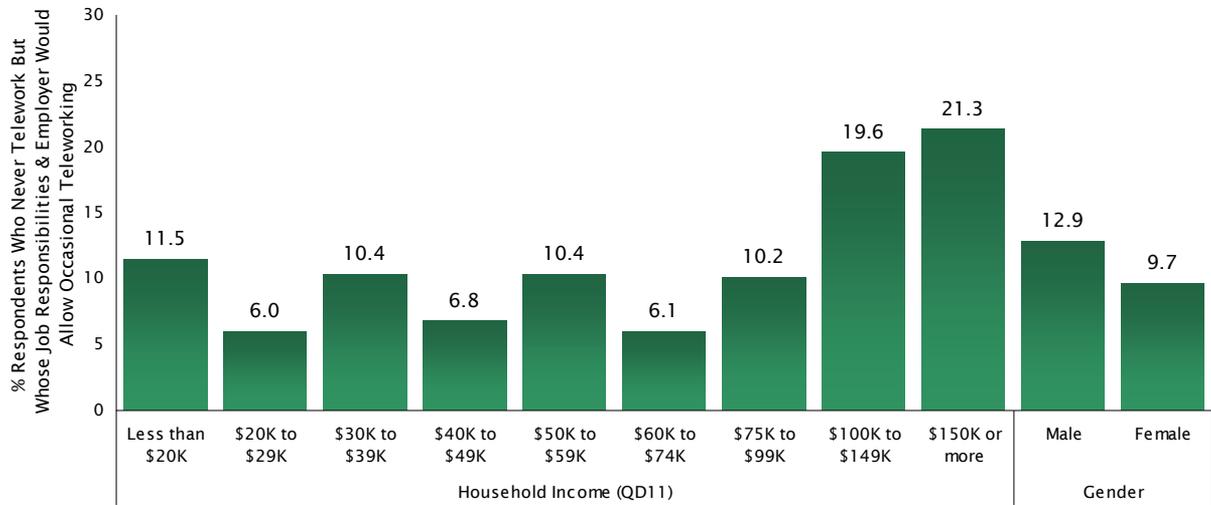


FIGURE 22 ABILITY TO TELEWORK BY COMMUTE DISTANCE IN MILES, EMPLOYER OFFERS COMMUTE INCENTIVES & FREE PARKING AT WORK SITE

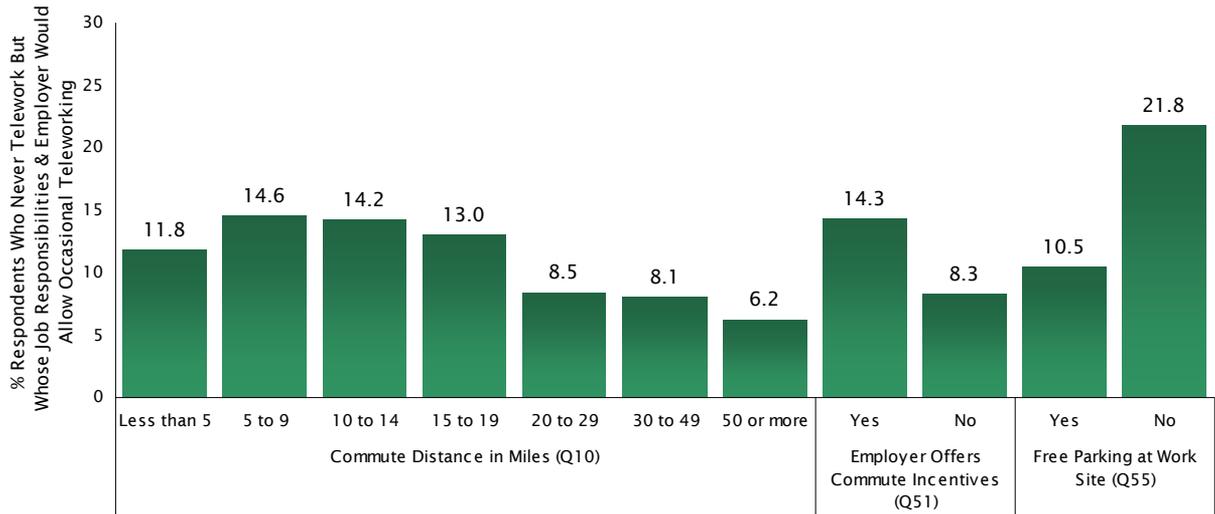
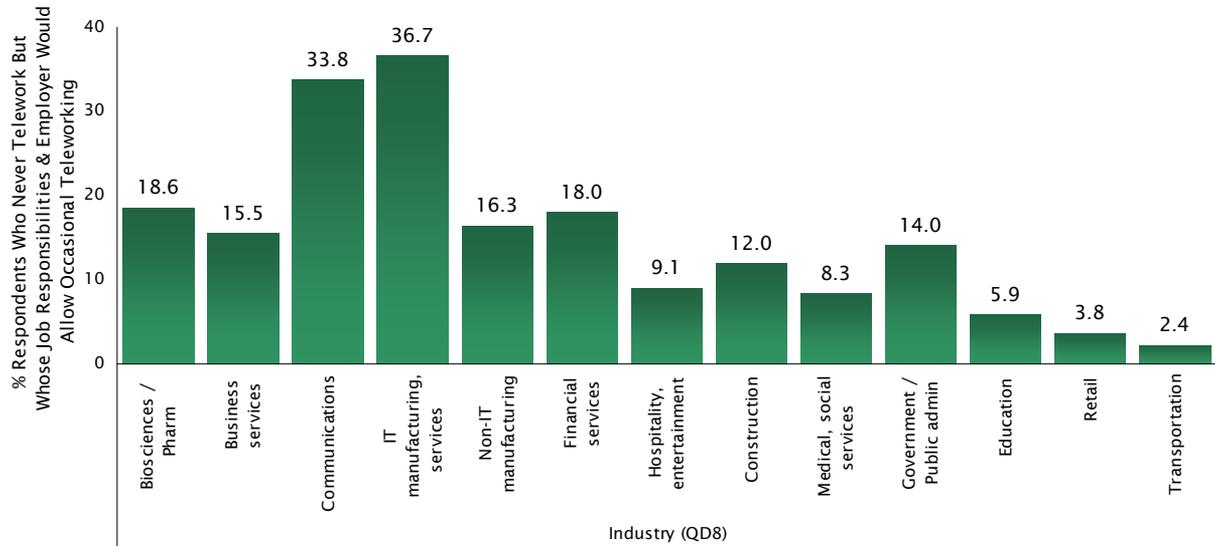


FIGURE 23 ABILITY TO TELEWORK BY INDUSTRY



COMMUTE DETAILS

Having established the frequency with which employees commute to a destination outside of their home for work, the survey next turned to gathering more specific information about their commute—including primary mode use, commute distance and duration, the typical timing of their commutes to and from work, as well as origin and destination.

MODE As noted previously, to avoid under reporting alternative mode use this study asked respondents to report on their most recently completed work week. Table 1 below displays the primary mode used by employees for their work commute during the reference week, by day of week. Regardless of the day of the week, driving alone to work was most common, ranging from 66% to 69% of employees during the midweek. Carpooling ranged from 4% to 5% midweek, whereas transit (local bus, premium bus, Trolley, Coaster, Sprinter, AMTRAK or Metrolink) collectively was reported as the primary commute mode by approximately 4% of employees. Overall, 11% to 12% of employees indicated that they teleworked, whereas 6% to 10% stated that they did not work on given day midweek.

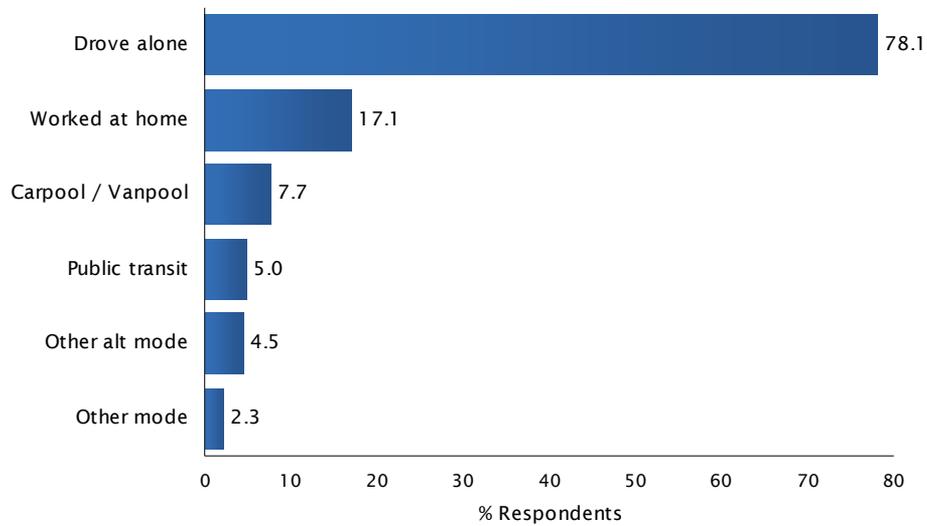
Question 9 *Thinking back to your most recently completed work week, how did you get to work on -----?*

TABLE 1 PRIMARY COMMUTE MODE BY DAY OF WEEK

	Day of Week						
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Drove alone	68.3	69.2	69.2	68.7	65.8	15.2	10.3
Carpool	3.7	4.7	5.0	5.3	4.4	1.0	0.8
Vanpool	0.4	0.4	0.4	0.5	0.3	0.2	0.1
Motorcycle	0.7	0.8	0.8	0.7	0.7	0.2	0.1
Local bus	2.3	2.0	2.0	1.8	2.0	0.7	0.7
Premium bus	0.3	0.2	0.2	0.2	0.1	0.0	0.0
Trolley	0.7	0.8	0.7	0.6	0.5	0.5	0.2
Coaster	0.1	0.2	0.1	0.2	0.2	0.0	0.0
Sprinter	0.1	0.1	0.1	0.2	0.1	0.2	0.0
AMTRAK / Metrolink	0.0	0.1	0.1	0.1	0.1	0.0	0.0
Shuttle	0.3	0.3	0.3	0.2	0.2	0.0	0.0
Taxi	0.1	0.2	0.2	0.1	0.3	0.0	0.0
Bike	0.7	0.5	0.7	1.0	0.6	0.3	0.4
Walk	1.1	1.5	2.0	1.7	1.6	0.6	0.5
Other mode	1.0	0.9	1.0	1.0	1.0	0.4	0.3
Worked at home	11.9	10.6	11.2	10.9	12.2	4.6	3.5
No work	8.4	7.5	6.0	6.7	10.0	76.1	83.0

PRIMARY MODE USE By focusing on a full week of commute behavior, the survey can identify whether employees change their primary mode at some point during the course of a work week. Figure 24 on the next page identifies the percentage of employees who reported each mode as a *primary* mode at least one day during the reference week. Overall, 78% of employees indicated that they primarily drove alone to work at least once during the reference week, 17% teleworked at least once, 8% carpooled or vanpooled as their primary mode at least once, 5% used public transit, 5% used a different alternative mode at least once as their primary mode, whereas 2% reported some other primary mode at least once during the reference week.

FIGURE 24 PRIMARY COMMUTE MODES IN PAST WEEK



Figures 25-29 show how use of a primary mode at least once during the reference week varied by employee age, area of residence, ethnicity, household income, and commute distance. Given the purpose of this study, it is worth noting that carpooling/vanpooling as a primary mode at least one day during the reference week was most frequently reported by younger employees (under 25), residents of Southwest Riverside County, Latinos/Hispanics, those in households earning less than \$20,000 annually, and employees who have a commute distance of 50 miles or more.

FIGURE 25 PRIMARY COMMUTE MODES IN PAST WEEK BY AGE

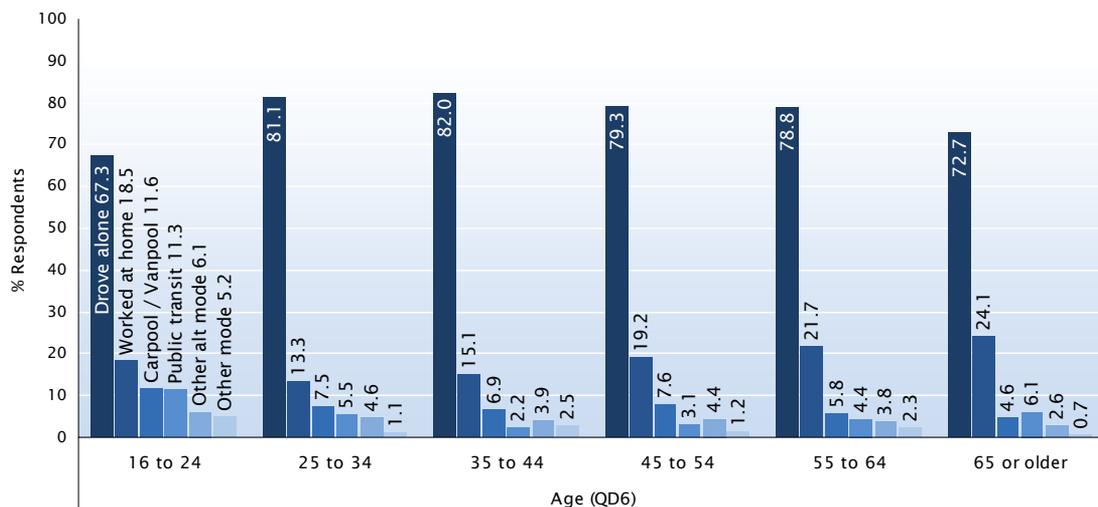


FIGURE 26 PRIMARY COMMUTE MODES IN PAST WEEK BY AREA OF REGION

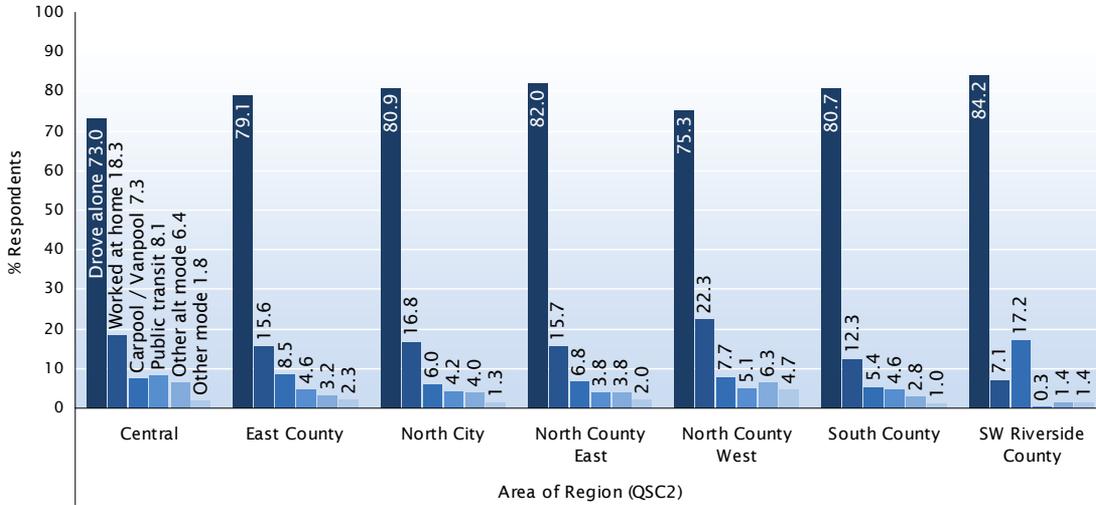


FIGURE 27 PRIMARY COMMUTE MODES IN PAST WEEK BY GENDER & ETHNICITY

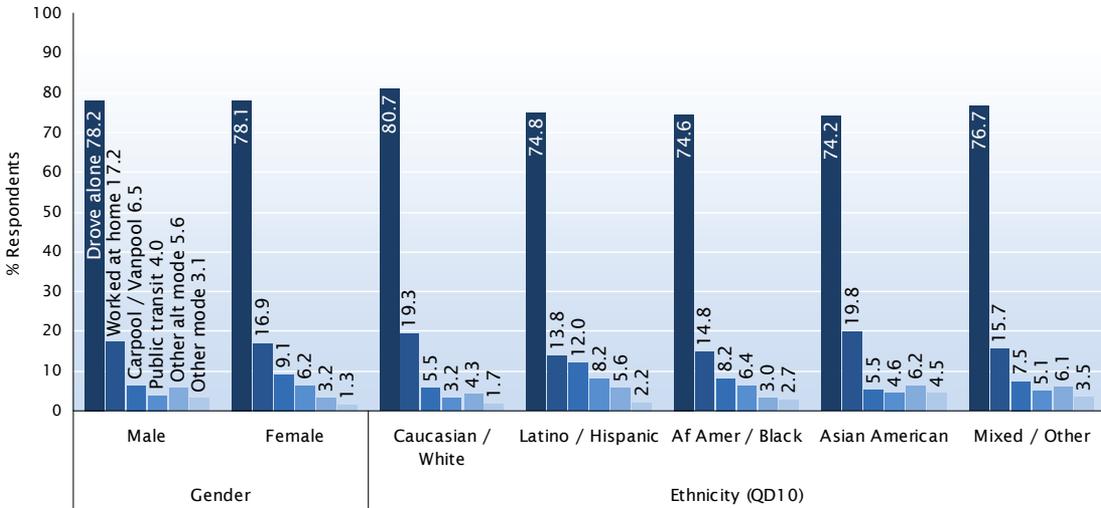


FIGURE 28 PRIMARY COMMUTE MODES IN PAST WEEK BY HOUSEHOLD INCOME

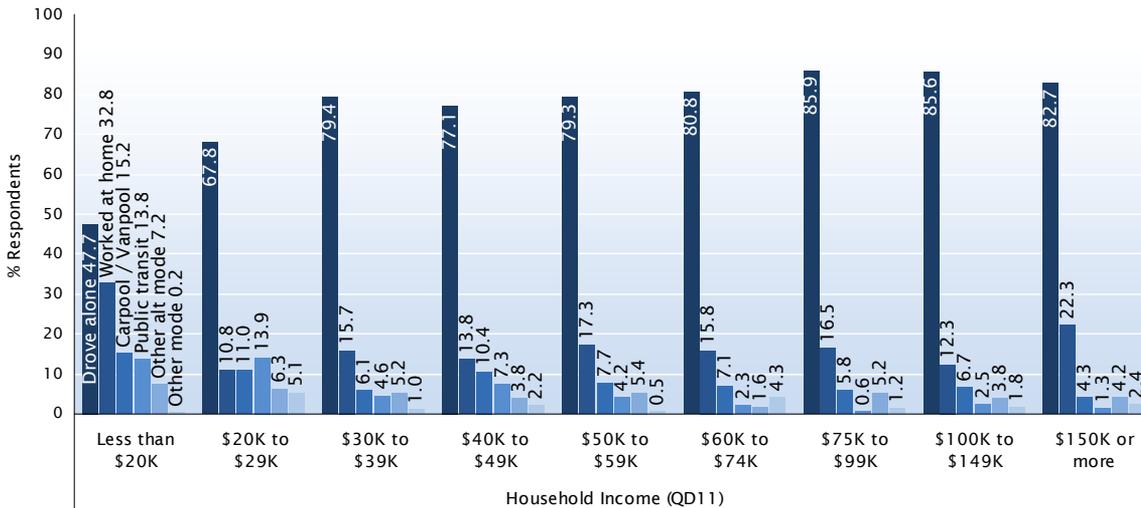
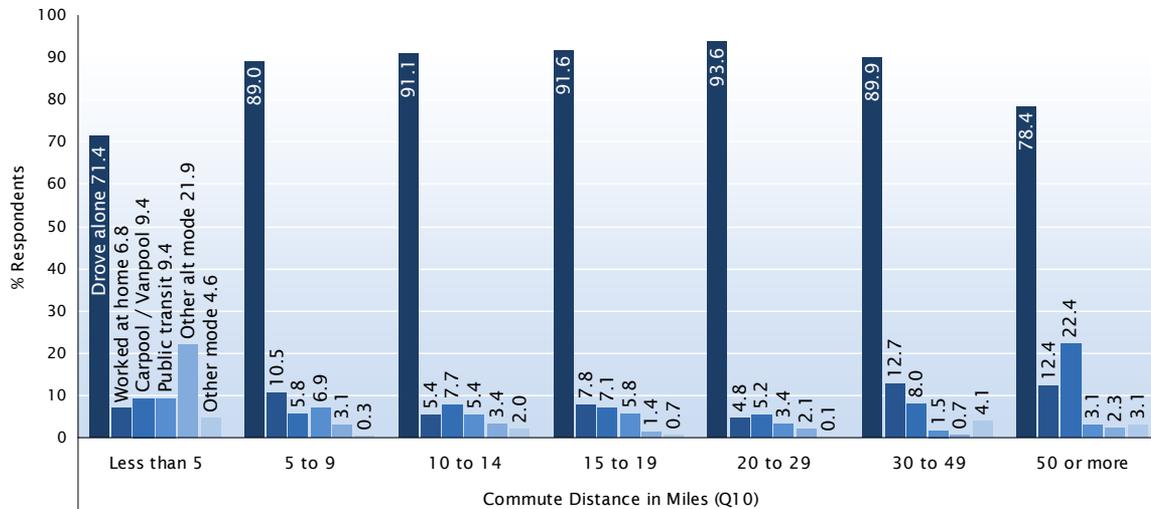


FIGURE 29 PRIMARY COMMUTE MODES IN PAST WEEK BY COMMUTE DISTANCE IN MILES

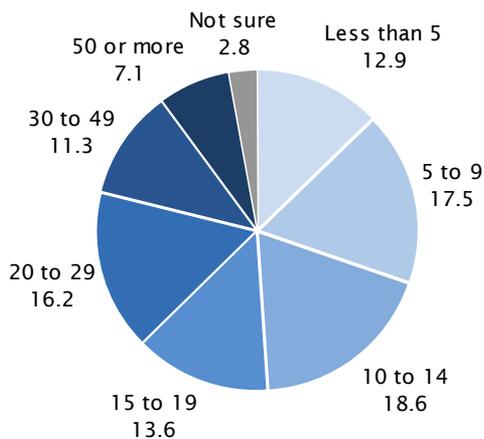


LENGTH OF COMMUTE Length of commute was measured both in terms of *distance* traveled one-way between an employee’s home and their primary work place (Question 10), as well as the *time* it typically takes to commute between home and work if they drive directly without stops (Questions 11 & 14).

In terms of commute *distance* (see Figure 30), approximately one-third of respondents were represented in commute length categories of less than 10 miles (30%), one-third reported traveling 10 to 19 miles (32%), 16% commute 20 to 29 miles, 11% commute 30 to 49 miles, whereas 7% indicated they commute 50 miles or more between work and home, one-way. The average commute length among all commuters was 18.97 miles.

Question 10 *In miles, what is the approximate distance between your home and your primary place of work?*

FIGURE 30 COMMUTE DISTANCE IN MILES



Figures 31-34 show how the average commute distance varied by key employee characteristics. In general, the longest average commute lengths were reported by employees between 55 and 64 years of age, residents of Southwest Riverside County, high income earners (\$150,000 or more annually), and males.

FIGURE 31 MEAN COMMUTE DISTANCE IN MILES BY AGE

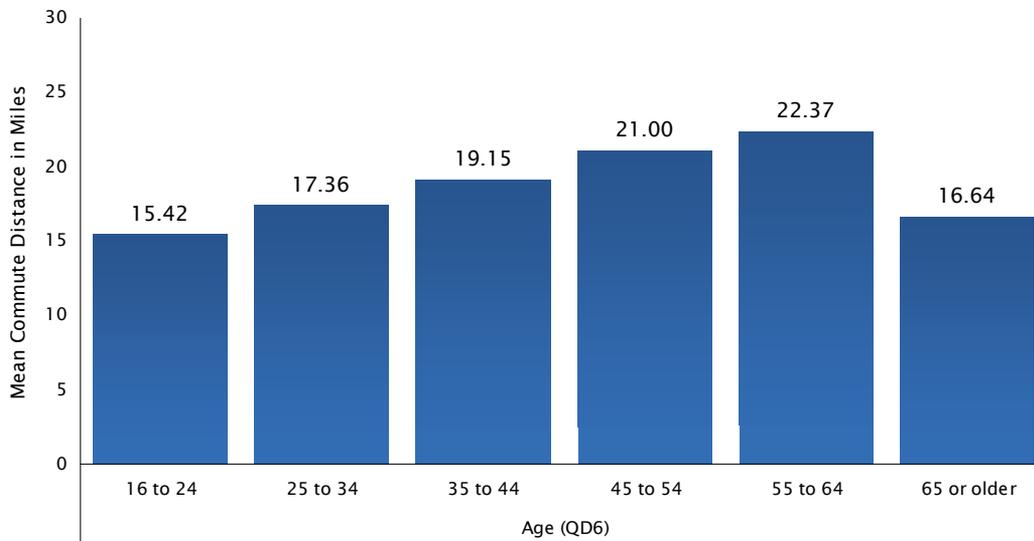


FIGURE 32 MEAN COMMUTE DISTANCE IN MILES BY AREA OF REGION

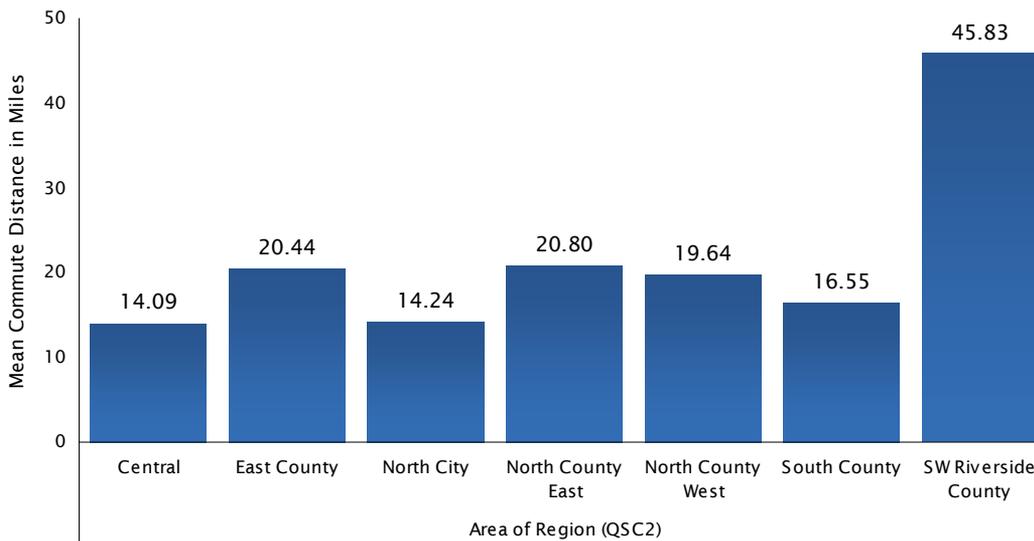


FIGURE 33 MEAN COMMUTE DISTANCE IN MILES BY HOUSEHOLD INCOME

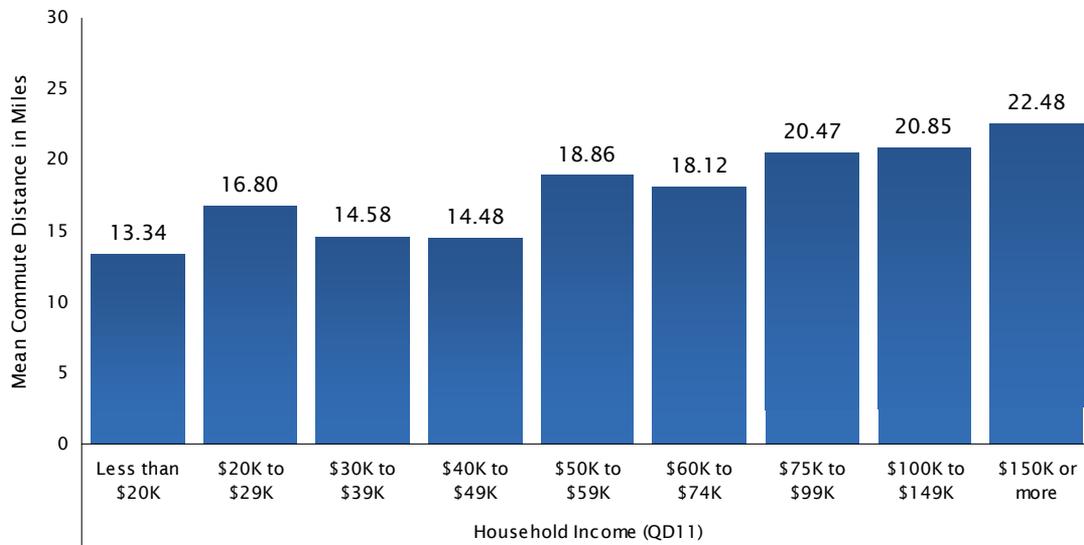
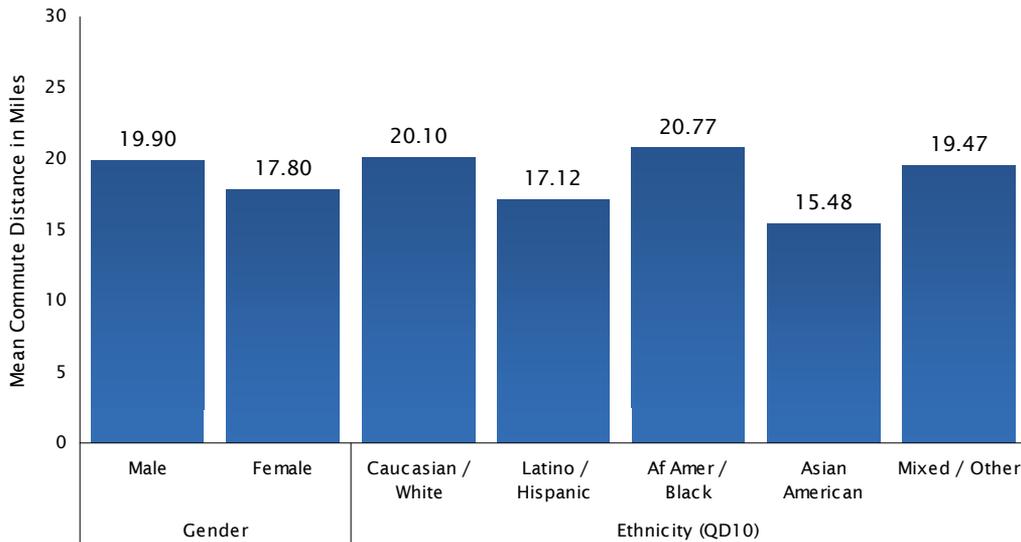


FIGURE 34 MEAN COMMUTE DISTANCE IN MILES BY GENDER & ETHNICITY



As for the *time* it typically takes an employee to commute between home and work, the answer to that question could vary depending on whether they are commuting to work or back home. Accordingly, the survey captured typical commute times for both situations (see Figure 35). Note that commute time was rounded to the nearest 5 minute increment, which is why the categories shown in Figure 35 are not continuous.

In general, employees reported that their commute to work was somewhat quicker than their commute home. Overall, a majority of employees (54%) indicated their commute time to work is 20 minutes or less, 21% stated their commute to work takes between 25 and 30 minutes, and

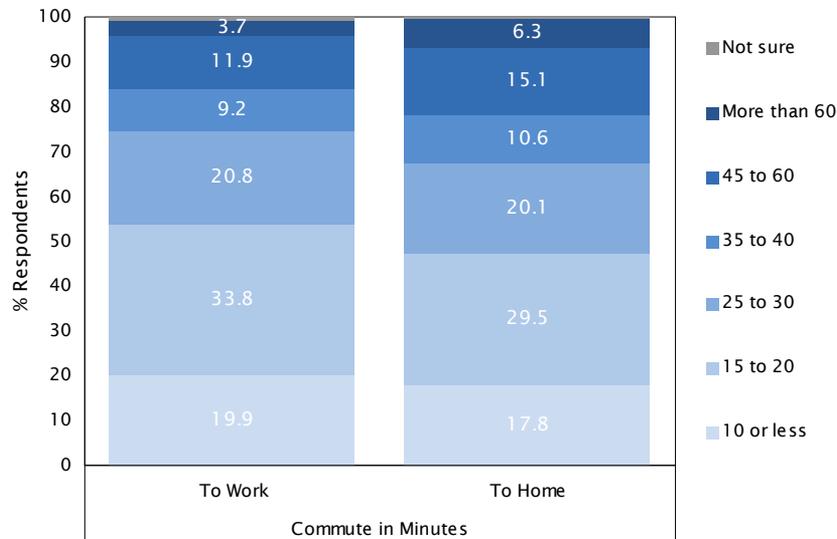
25% indicated their commute is at least 35 minutes. The average commute time to work was 27 minutes.

Return commutes home were typically a bit longer for employees, averaging 31 minutes. Overall, 47% indicated their return commute home is 20 minutes or less, 20% stated their commute home takes between 25 and 30 minutes, and 32% indicated their commute home is at least 35 minutes.

Question 11 *How long does it typically take you to commute to work one-way if you go there directly without stops?*

Question 14 *How long does it typically take you to commute one-way from work back to your home if you go there directly without stops?*

FIGURE 35 COMMUTE TIME IN MINUTES



Figures 36-39 display the mean commute times both to and from work according to employees' age, area of residence, household income, gender and ethnicity. The general finding that the commute to work is typically shorter than the return commute home was echoed at the sub-group level for nearly every identified group. When compared to their respective counterparts, commute times were noticeably longer among residents of Southwest Riverside County and high income earners.

FIGURE 36 MEAN COMMUTE TIME IN MINUTES BY AGE

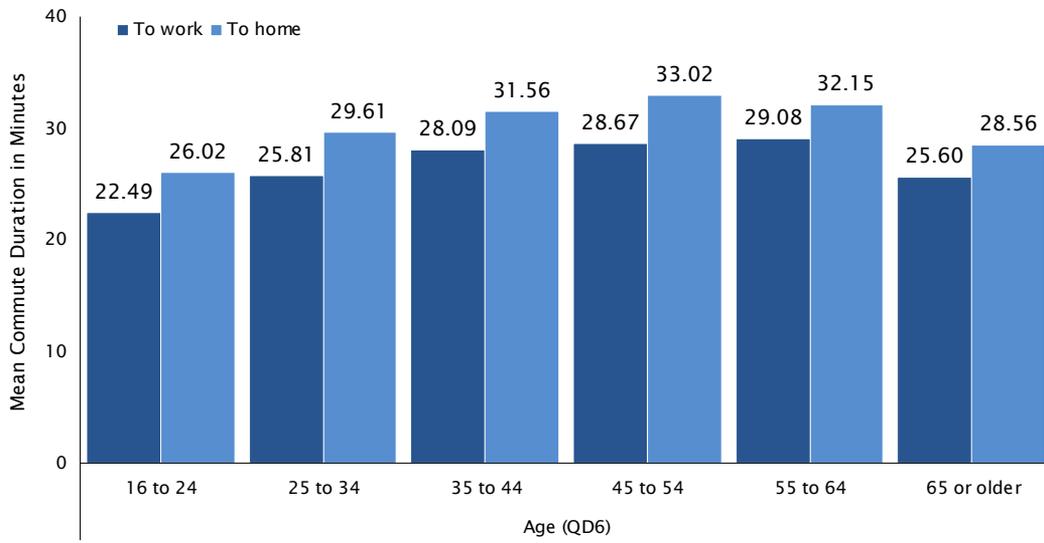


FIGURE 37 MEAN COMMUTE TIME IN MINUTES BY AREA OF REGION

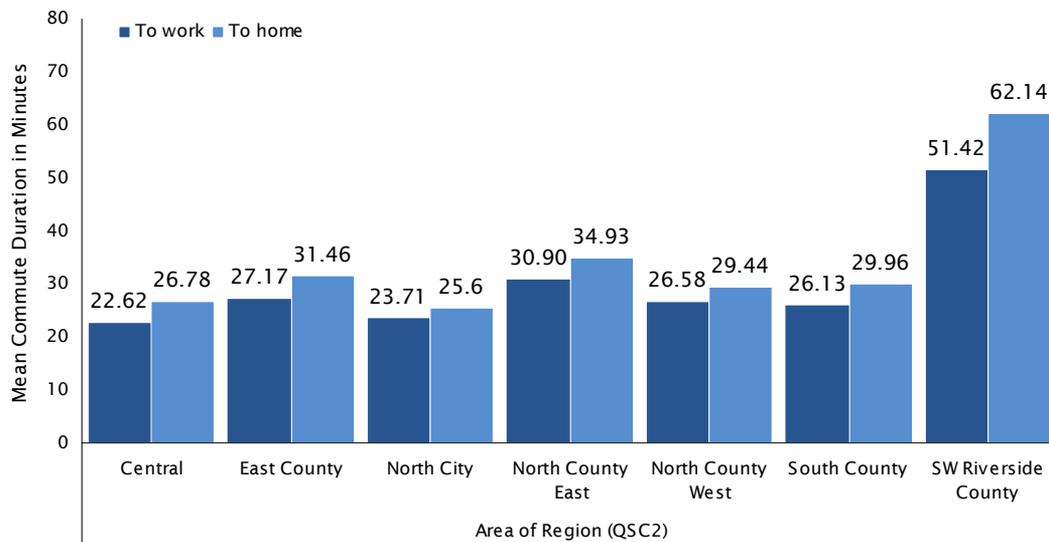


FIGURE 38 MEAN COMMUTE TIME IN MINUTES BY HOUSEHOLD INCOME

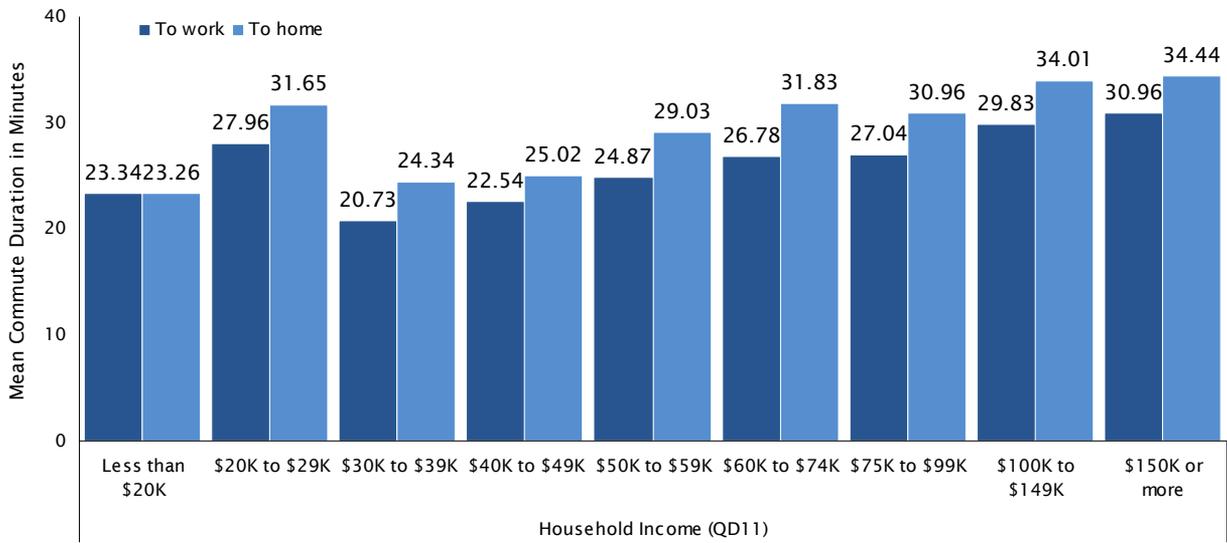
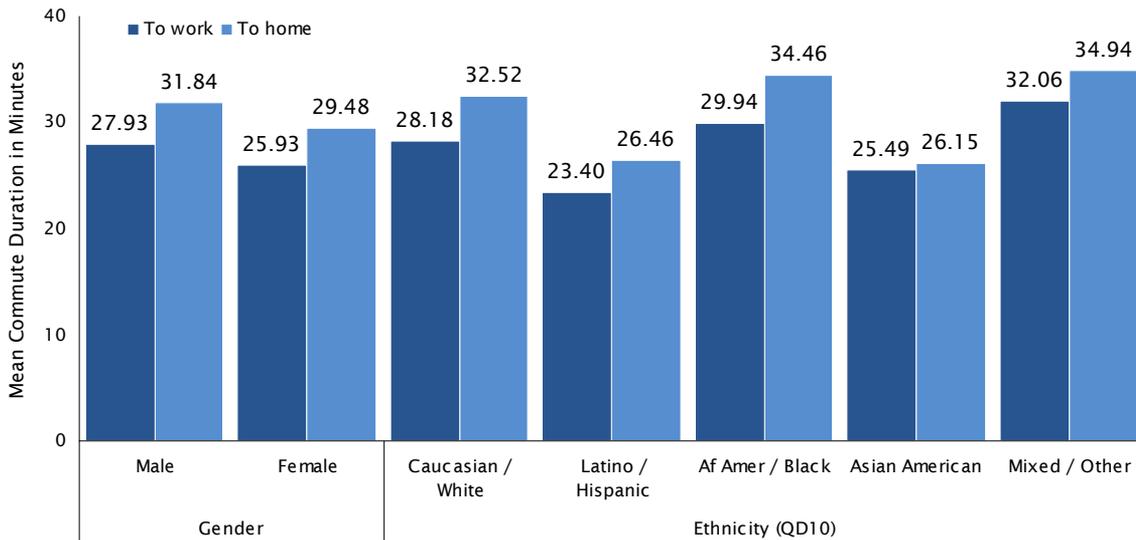


FIGURE 39 MEAN COMMUTE TIME IN MINUTES GENDER & ETHNICITY

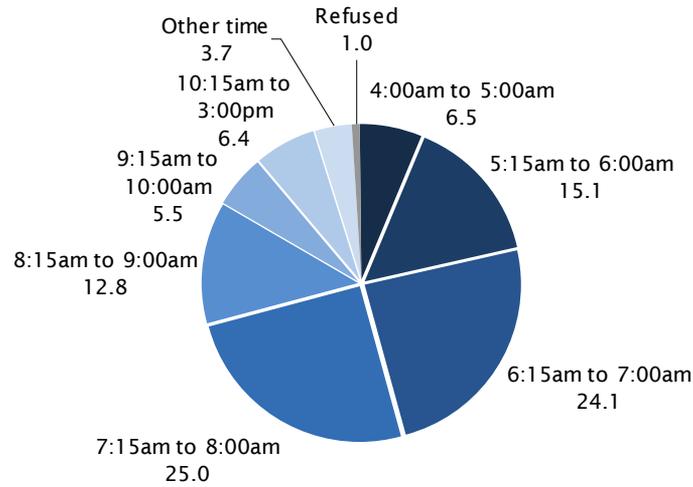


COMMUTE START TIME Figures 40 and 41 display the time that commuters reported they typically begin their commute to work and their commute back home, respectively. Nearly two-thirds of commuters indicated that they begin their commute to work between 5:15am and 7:00am (39%), or between 7:15am and 8:00am (25%). An additional 13% offered that they begin their commute to work between 8:15am and 9:00am.

As for the return commute home, the start times were similarly concentrated in a three hour window. Nearly two-thirds of employees (64%) indicated that they begin their commute home between 3:15pm and 4:00pm (19%), 4:15pm and 5:00pm (25%), or 5:15pm and 6:00pm (19%).

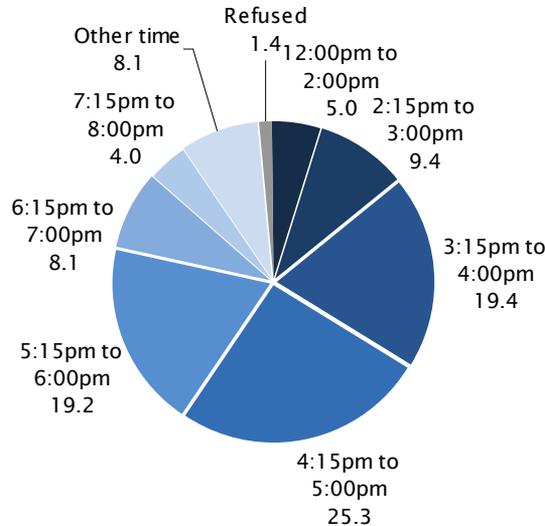
Question 12 *What time of the day do you typically start your commute to work?*

FIGURE 40 COMMUTE TO WORK START TIME



Question 13 *What time of the day do you typically start your reverse commute back home?*

FIGURE 41 COMMUTE TO HOME START TIME



ORIGIN & DESTINATION ANALYSES The origin and destination of workers' commutes was naturally of interest to the study. Knowing where workers begin their commutes and to what locations they travel for their job is not only important from a transportation planning perspective, it can also help identify specific opportunities for vanpooling, carpooling, and transit.

Table 2 on the next page shows the relationship between commute origin (on left) and destination (across top) at the subregional level. The column percentages indicate the percentage of all employees who work (destination) in the specified subregion who commute from (origin) each of subregions shown on the left. Thus, for example, 9.4% of employees commute to the Central

subregion and also live in the Central subregion, whereas 3.1% commute to the Central subregion from East County, 4.8% commute to the Central subregion for work from their home in North City, etc. Table 2 makes clear that certain subregions are ‘job rich’, as they attract a disproportionate share of employees for their work commutes when compared to their percentage of employee households. North City, for example, represents 38.5% of work destinations, but accounts for 25.4% of worker households among those surveyed. The table also makes clear that the North City and Central subregions account for more than 60% of workers’ primary work locations.⁵ Table 3 below provides the same analyses, but excludes individuals who primarily work from home.

TABLE 2 ORIGIN & DESTINATION: ALL RESPONDENTS⁶

	Overall	Area of Region: Work (Q71~Q73)						
		Central	East County	North City	East	West	South County	Outside County
Overall	100.0%	22.0%	7.7%	38.5%	2.2%	17.8%	7.2%	4.7%
Area of Region: Home								
Central	18.4%	9.4%	0.8%	6.2%	0.0%	0.5%	1.2%	0.3%
East County	14.4%	3.1%	5.5%	4.3%	0.0%	0.2%	1.0%	0.2%
North City	25.4%	4.8%	0.8%	17.5%	0.0%	1.0%	0.7%	0.7%
North County East	2.9%	0.1%	0.1%	0.6%	0.7%	1.1%	0.0%	0.3%
North County West	22.4%	0.8%	0.0%	5.1%	1.4%	13.0%	0.1%	2.0%
South County	10.7%	3.1%	0.4%	2.7%	0.0%	0.2%	4.2%	0.2%
SW Riverside County	5.8%	0.7%	0.1%	2.1%	0.1%	1.9%	0.0%	0.9%

TABLE 3 ORIGIN & DESTINATION: RESPONDENTS WHO DO NOT PRIMARILY WORK FROM HOME

	Overall	Area of Region: Work (Q71~Q73)						
		Central	East County	North City	East	West	South County	Outside County
Overall	100.0%	22.2%	7.3%	38.9%	2.1%	17.3%	7.2%	5.1%
Area of Region: Home								
Central	18.3%	8.5%	0.9%	6.7%	0.0%	0.5%	1.3%	0.4%
East County	14.5%	3.3%	4.9%	4.7%	0.0%	0.2%	1.1%	0.3%
North City	24.6%	5.2%	0.8%	15.9%	0.0%	1.1%	0.7%	0.8%
North County East	2.9%	0.1%	0.1%	0.7%	0.5%	1.2%	0.0%	0.3%
North County West	22.3%	0.9%	0.0%	5.6%	1.5%	12.1%	0.1%	2.2%
South County	11.0%	3.4%	0.5%	2.9%	0.0%	0.2%	3.9%	0.2%
SW Riverside County	6.4%	0.8%	0.1%	2.3%	0.1%	2.1%	0.0%	1.0%

Given this study’s interest in the potential market for carpooling and vanpooling, Table 4 restricts the origin and destination comparison to just those individuals who indicated that they would definitely or probably carpool or vanpool if a full suite of services and incentives were offered (Questions 63 & 69). Table 5, meanwhile, shows the difference in percentage results when comparing just those workers who indicated they would carpool or vanpool to all workers.

Among employees who would carpool or vanpool if a full suite of services and incentives were offered, North City becomes an even more dominant destination for work commutes (+5.1%), accounting for 44% of all work destinations. The percentage of commute destinations that are within the Central subregion, meanwhile, declines by 4.2% once the analyses is restricted to just those workers who are willing to carpool or vanpool. The percentage of commute destinations in each of the other subregions did not change significantly when the analysis was restricted to just those individuals who are willing to carpool or vanpool.

5. The tables are based on the 85% of respondents who provided identifiable location information for both home and work locations.
 6. A small number of Southwest Riverside respondents indicated that, although they commute to San Diego for their job at least three days per week, their primary work location is somewhere outside San Diego County.

TABLE 4 ORIGIN & DESTINATION: RESPONDENTS WHO WOULD CARPOOL/VANPOOL WITH INCENTIVES

	Overall	Area of Region: Work (Q71~Q73)							Outside County
		Central	East County	North City	North County East	North County West	South County		
Overall	100.0%	18.1%	6.4%	43.9%	1.7%	17.2%	8.1%	4.6%	
Area of Region: Home									
Central	17.1%	4.6%	0.4%	7.7%	0.0%	0.7%	3.3%	0.5%	
East County	14.7%	3.7%	3.9%	5.6%	0.0%	0.2%	1.3%	0.0%	
North City	23.5%	3.7%	0.4%	15.4%	0.0%	2.7%	1.0%	0.3%	
North County East	3.0%	0.2%	0.2%	1.1%	0.3%	0.6%	0.0%	0.7%	
North County West	21.2%	2.1%	0.0%	6.5%	1.4%	9.4%	0.0%	1.8%	
South County	11.0%	2.8%	1.3%	4.1%	0.0%	0.0%	2.6%	0.3%	
SW Riverside County	9.4%	1.0%	0.2%	3.5%	0.0%	3.6%	0.0%	1.1%	

TABLE 5 ORIGIN & DESTINATION: RESPONDENTS WHO WOULD CARPOOL/VANPOOL WITH INCENTIVES (DIFFERENCE FROM ALL RESPONDENTS WHO DO NOT PRIMARILY WORK FROM HOME)

	Overall	Area of Region: Work (Q71~Q73)							Outside County
		Central	East County	North City	North County East	North County West	South County		
Overall	-	-4.2%	-0.8%	+5.1%	-0.4%	-0.1%	+0.9%	-0.5%	
Area of Region: Home									
Central	-1.2%	-3.9%	-0.5%	+1.0%	No change	+0.2%	+1.9%	+0.1%	
East County	+0.2%	+0.4%	-1.0%	+0.9%	No change	+0.0%	+0.1%	-0.3%	
North City	-1.1%	-1.5%	-0.4%	-0.5%	No change	+1.6%	+0.3%	-0.5%	
North County East	+0.1%	+0.1%	+0.1%	+0.4%	-0.2%	-0.6%	No change	+0.3%	
North County West	-1.1%	+1.2%	No change	+1.0%	-0.1%	-2.7%	-0.1%	-0.4%	
South County	+0.1%	-0.6%	+0.8%	+1.2%	No change	-0.2%	-1.3%	+0.1%	
SW Riverside County	+3.0%	+0.2%	+0.1%	+1.2%	-0.1%	+1.5%	No change	+0.1%	

COMMUTE MAPS & ROUTE ANALYSES The following maps provide a visual representation of the data collected in the study, and convey additional information that was derived using GIS spatial analysis and route estimation techniques.

Figure 42 on the next page summarizes commute origins and destinations at the ZIP code level among all individuals in the survey that provided the information. Because the study oversampled based on subregion, the origin and destination information was appropriately weighted to adjust for the oversample prior to analysis. The patterns shown in Figure 42 and the following maps reflect the weighting and are representative at the regional and subregional levels.

Once home and work records were spatially located, ESRI's Network Analyst was used to find the shortest route from each home/work location pair along the San Diego County road network (the road network included all major and minor roads, minus alleys and paper streets). It is assumed that most drivers would take the shortest route between home and work. However, due to side trips for secondary destinations along the commute (such as dropping off children at schools) and due to preferences for higher speed roads it is likely that less of the local roads are used for these commutes compared to the larger arterials, highways and freeways. The GIS analysis produces a "polyline" for each commute along a particular roadway. These commute polylines were then intersected with the road network using a "spatial join" function in GIS. The spatial join sums the number of commutes which utilize each road segment, and included this number in a database field associated with each segment. The road networks, as shown in Figure 43, were symbolized by the number of commuters potentially utilizing each road segment. Figure 43 utilizes all geo-validated respondents to map the typical corridors of highest use.

FIGURE 42 ORIGINS & DESTINATIONS

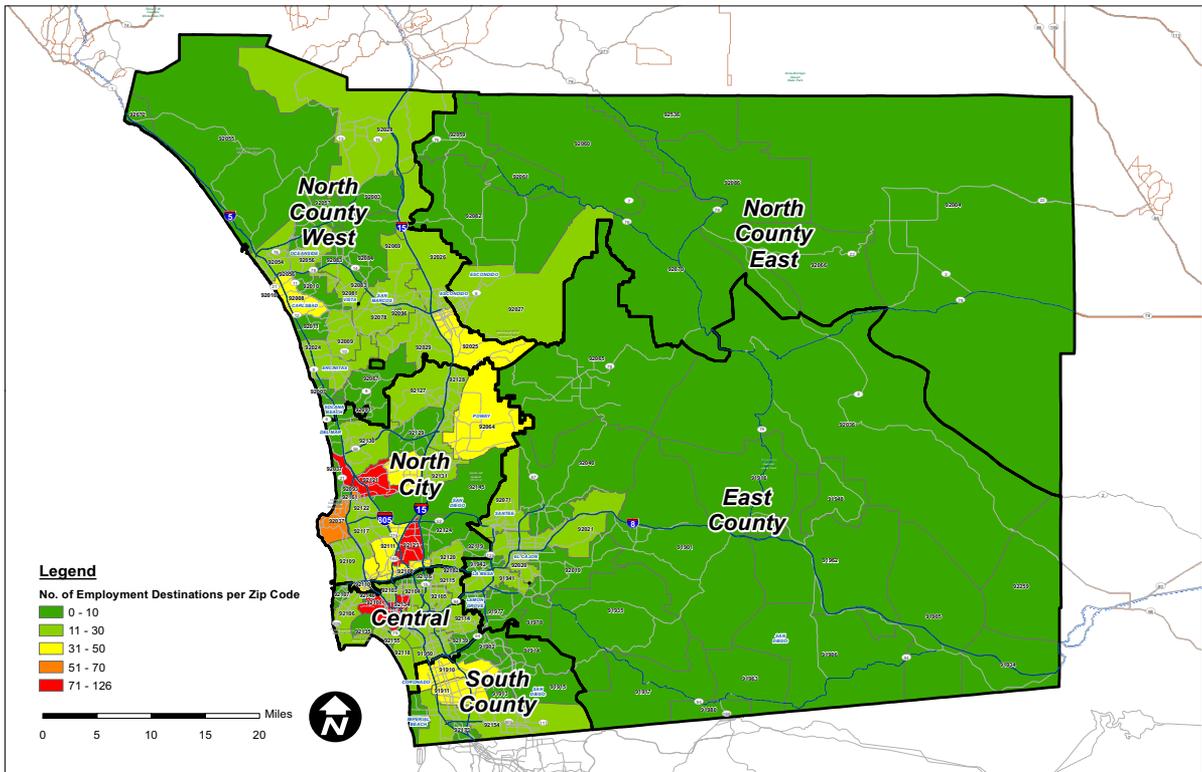
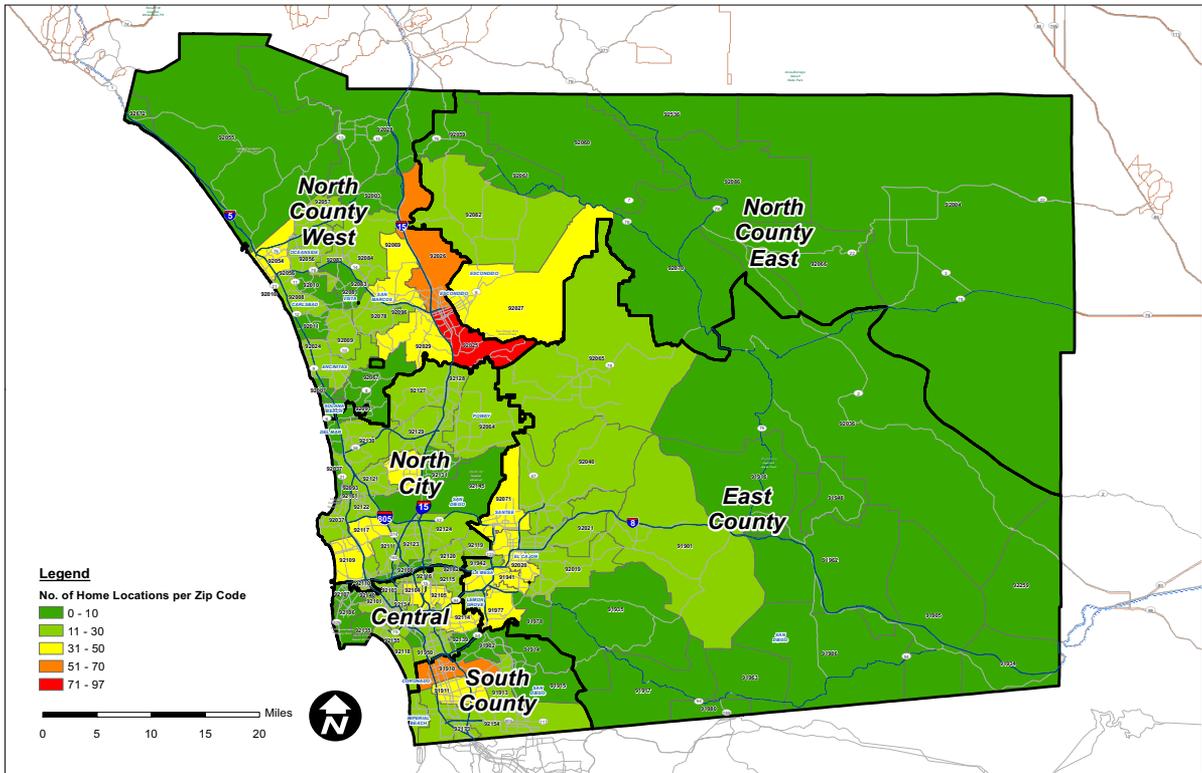


FIGURE 43 ROUTE ANALYSIS MAP

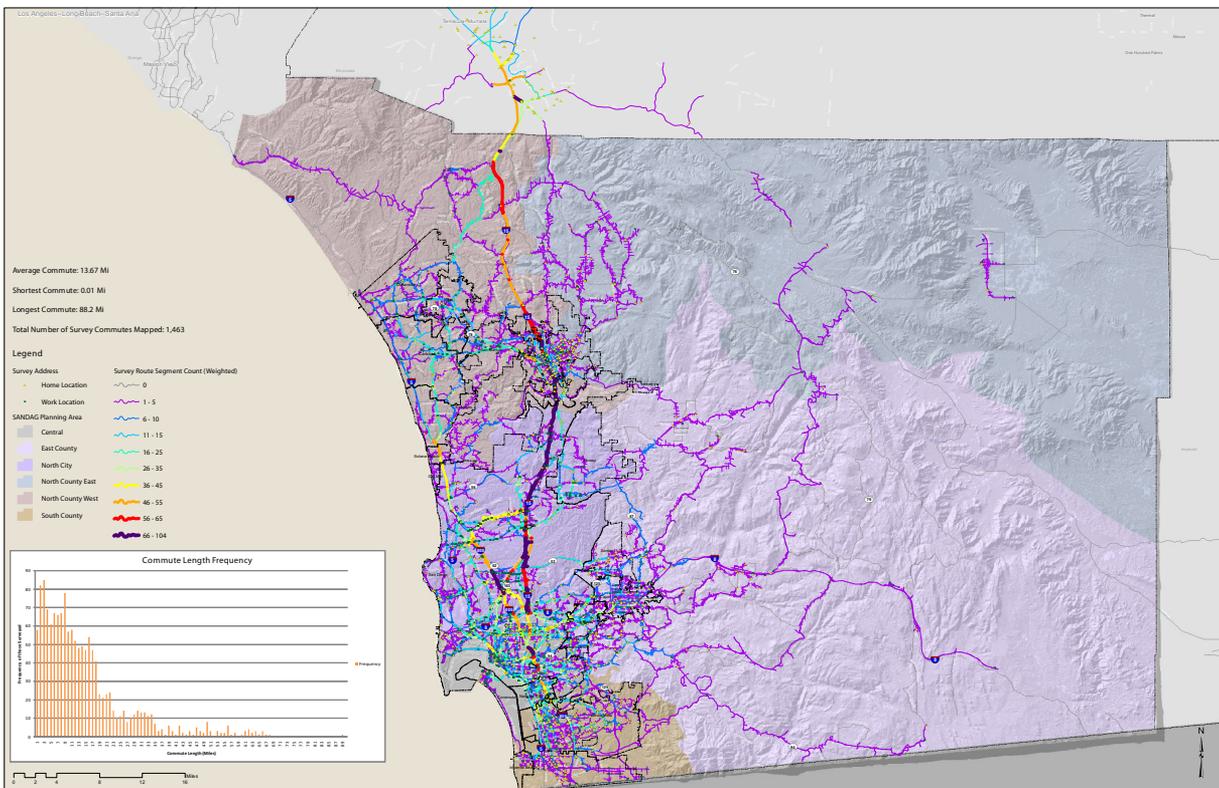


Figure 43 also summarizes the average, shortest and longest commute trip based on this GIS analysis for all geo-validated respondents. The shortest route for all geo-validated respondents is only 1/10th of a mile. The longest commute is 88.2 miles one-way. The average for all respondents is 13.67 miles. This is an important number to consider since it is generally thought that individuals with less than a 15 mile commute are not likely to utilize carpools or vanpool options. This is partly due to convenience and time factors that make it less of a return in useable reclaimed time for other non-driving tasks and the burden of costs for the commute is much lower as well. It is also partly due to the likelihood of preferential highway treatments such as HOV lanes, park and ride facilities and special metering being lower for shorter commutes.

When reviewing Figure 43, a few patterns emerge:

- The I-5 and the I-15 have very different commute patterns based on the survey results. I-15 contains a significant amount of collected roadway segments from a very large geographic area. Whereas I-5 in North San Diego County, have fewer commute trips. However, it must be noted that survey respondents do not reflect the local commute patterns likely around Camp Pendleton or Orange County. No surveys were administered for Orange County. However, Southwestern Riverside County was sampled. This may still be appropriate since the commute patterns from Riverside County to San Diego County are well documented, and because of inexpensive homes and few employment centers in Southwest Riverside County cause a morning commute into San Diego County and a return trip pattern back up to Riverside County.

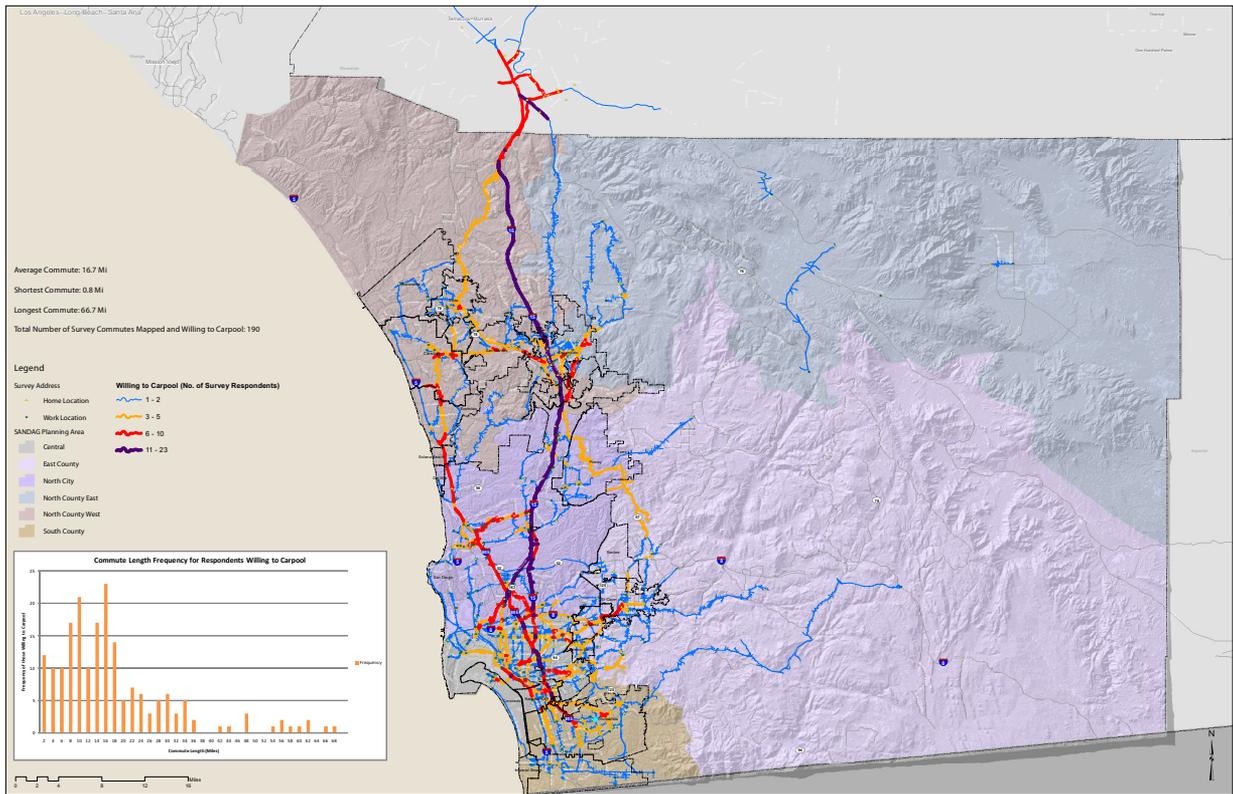
- Much of the study area in North Inland County have very remote and widely spaced homes with few street networks. These homes to work locations do not result in a primary concentration on one road network.
- A high concentration of housing in the Escondido area appears to be creating a heavy demand on major arterials and Highway 78 to the west, where a larger number of work locations have been indicated. A similar pattern takes place between Escondido and the Rancho Bernardo and Carmel Mountain Ranch area as well.
- South of Encinitas on I-5 there starts to become a concentration of commute trips utilizing freeway segments heading to jobs in Carmel Valley, UCSD, University City and Mira Mesa.
- El Cajon appears to have a fairly balanced housing and employment mixture, with a distributed network of roads that do not concentrate commutes to single corridors.
- The north end of Kearny Mesa appears to have work destinations in Mission Valley, Downtown and the older traditional neighborhoods such as Uptown, North Park and City Heights. A reverse of this commute pattern is also likely.
- A significant number of housing locations are concentrated in south bay in National City, Chula Vista and San Ysidro. These are likely to be contributing to commute patterns to jobs located in downtown or other mesa top employment areas of Mid-city, City Heights, Southeast San Diego, Mira Mesa, the Golden Triangle and UCSD. These patterns are showing a high concentration on I-805, and to a lesser degree on I-5.
- Overall, the thicker yellow, orange, red and purple lines on these maps indicate concentrations of commute patterns along certain corridors. These are likely the corridors that should concentrate HOV priorities and facilities on them. They primarily include 805, 15 (which already have HOV facilities), 163 and some portions of I-5.
- Separate analysis will need to be conducted as part of the broader carpool/vanpool program to determine the bundled corridors, common work destinations, and primary housing locations that are best suited for concentrating recruitment efforts by SANDAG.

Figure 44 on the next page provides the same type of analysis, only this time restricted to individuals who stated that they would carpool or vanpool for their commute if a full suite of services and commute benefits were available. Several patterns are noteworthy among those who are willing to carpool or vanpool:

- The average length of commute among those who were willing to carpool or vanpool was longer (16.7 miles) than the average commute distance for all workers (13.67 miles).
- There is a higher concentration of commutes on Highway 76 and Gird road, which appear to be heavily used by commuters living in Fallbrook and Temecula and who probably take shorter routes into Oceanside and San Marcos or Vista.
- A commute pattern emerges along El Camino Real and San Marcos Boulevard and Palomar Airport Road, perhaps joining residents in Escondido to jobs in Carlsbad and San Marcos.
- The central coast segments of I-5 appear to be important corridors as does Mira Mesa Boulevard.
- The I-15, 805 and 163 corridors all remain important to consider, as was show in Figure 43 as well.
- A variety of south county to mid-county and downtown corridors remain important to consider for the carpool / vanpool program.
- Lake Murray and El Cajon Boulevard also seem to be a major arterial showing up on this map as well.

- In subsequent analyses for the full study report, it will be important to dissect this data and mapping corridors to find the 15 mile plus corridors and determine where the concentration of originations (homes) and destinations (work) are most concentrated. This will be accomplished as part of the overall carpool / vanpool program recommendations.

FIGURE 44 ROUTE ANALYSIS MAP - ONLY THOSE WILLING TO CARPOOL OR VANPOOL



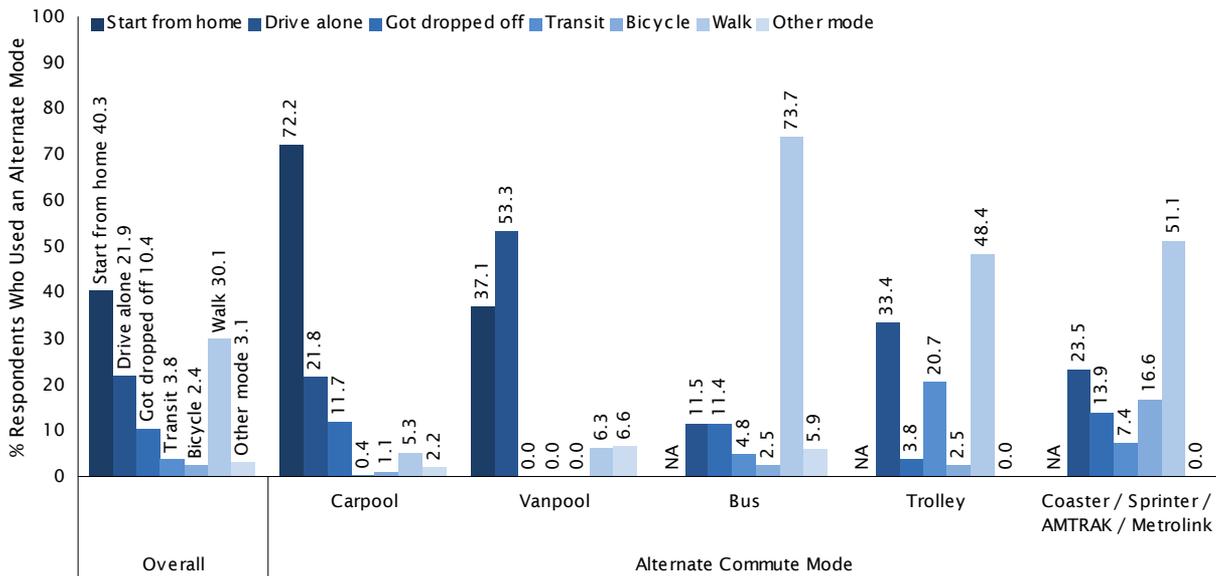
FIRST & LAST MILE

Employees who indicated during their reference week that they primarily carpooled, vanpooled or used public transit at least one day were subsequently asked about the modes they used to access their primary mode (First Mile) and to reach their final destination (Last Mile). Although these questions were tailored to each of the primary modes used, the answers to the questions are combined in the following figures to allow for easy comparisons across primary modes.

FIRST MILE Across all primary modes with a potential First Mile component, 40% of commuters reported that they started from their house and thus did not need to travel to a different destination to access their primary mode. Among those who did travel from their home to a separate destination to access their primary mode, 30% walked, 22% drove alone, 10% were dropped off, 4% used a form of transit, and 2% used a bicycle (see Figure 45).

Question 15, 17, 19, 21, 23, 25, 27 *How do you get from your home to where you meet _____?*

FIGURE 45 MODES USED TO REACH ALTERNATIVE MODE



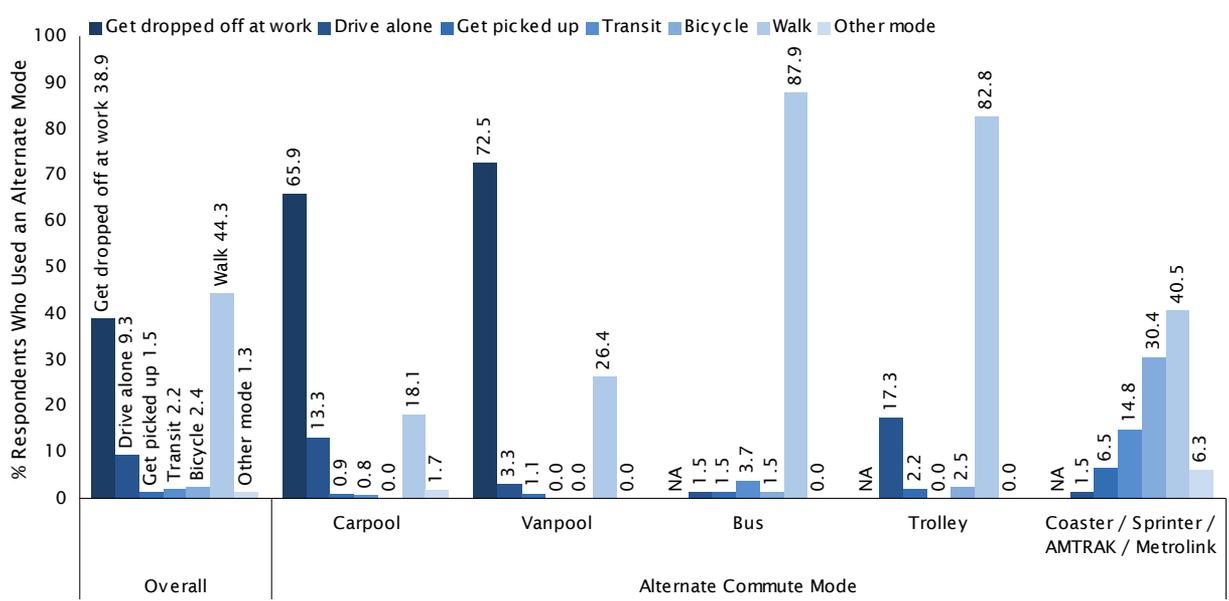
The travel modes used for the First Mile varied considerably depending on the *type* of primary mode being accessed. The vast majority of carpools (72%) and a large percentage of vanpoolers (37%) reported that they were picked up at home, or that they drove alone to access their carpool (22%) or vanpool (53%). Bus riders, meanwhile, were far more apt to walk to their bus stop (74%), while those riding the Trolley were split between driving alone (33%), taking another form of transit (21%), and walking (48%). A majority of train riders walked to access their train (51%), with an additional 24% driving alone, 17% biking, and 14% getting dropped off.

LAST MILE As with the First Mile, the travel modes used for the Last Mile of their trip varied greatly depending on the primary mode being used. Approximately two-thirds of carpools (66%) and three-quarters of vanpoolers (73%) indicated that they were dropped at their final destination. Among those who were dropped by their carpool or vanpool at a different destination,

most walked to their final destination (18% carpool; 26% vanpool). Walking the Last Mile was also the dominant mode for bus riders (88%) and Trolley riders (83%). Train riders, meanwhile, displayed the most diversified mix of Last Mile modes including walking (41%), biking (30%), other forms of transit (15%), and getting picked up (7%).

Question 29, 31, 33, 35, 37, 39, 41 After you get out of your carpool/vanpool / off the bus/trolley/Coaster/Sprinter/train, how do you get to your work destination?

FIGURE 46 MODES USED TO REACH PRIMARY WORK DESTINATION



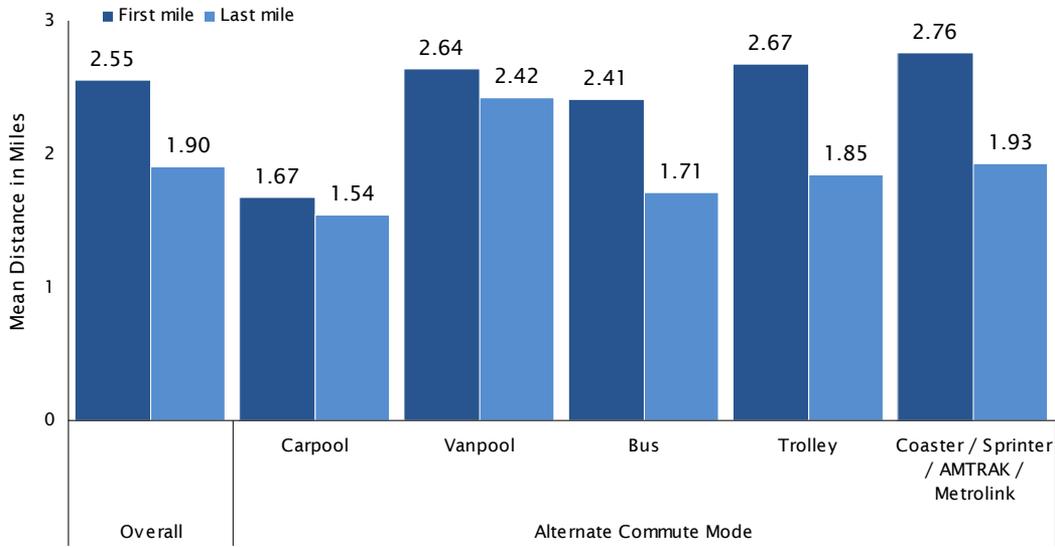
DISTANCE FOR FIRST AND LAST MILE Commuters who reported having a First Mile and/or Last Mile component to their commute were also asked to estimate the distance they travel for both segments. Figure 47 on the next page displays the average distance traveled for the First Mile and Last Mile across all modes, as well as separately by mode. Overall, commuters reported traveling an average 2.55 miles from their home to access their primary mode, and 1.9 miles from the point they are dropped off to reach their final destination. First mile distances were similar for vanpool, bus, Trolley and train riders, although vanpoolers reported the longest Last Mile trip distance.⁷

7. Trip distances were recorded for those who weren't picked up at home or dropped off at their final destination.

Question 16, 18, 20, 22, 24, 26, 28 *Approximately how many miles is it from your home to where you meet _____?*

Question 30, 32, 34, 36, 38, 40, 42 *Approximately how many miles is it from where your car-pool/vanpool ends / you get off the bus/trolley/Coaster/Sprinter/train to your place of work?*

FIGURE 47 MEAN DISTANCE IN MILES TO REACH ALTERNATIVE MODE / PRIMARY WORK DESTINATION



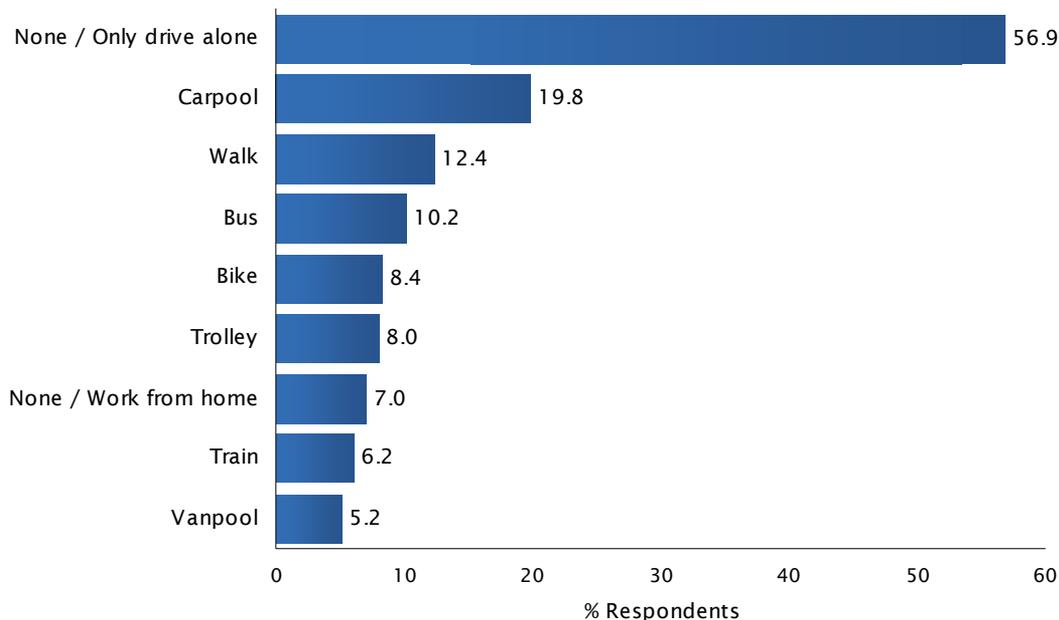
ALTERNATIVE COMMUTE MODES

The distribution of primary modes used by commuters during their most recently completed work week (see *Commute Details* on page 27) is representative of travel behavior in the region in a typical week. Because commuters may occasionally vary their mode and/or use secondary modes for their commute, however, it was of interest to identify the different types of modes commuters have used in the past 12 months. Note that commuters who indicated that they always or primarily telework were not asked about their alternative mode use.

WHICH MODES HAVE YOU USED FOR COMMUTE? Among all commuters who do not always or primarily work from home, 57% indicated that they *always* drive alone to work—they have not used an alternative mode in the past 12 months. Among the alternative modes tested, 20% of commuters reported that they had carpooled at least once for their commute during the prior 12 month period, 12% had walked, 10% had ridden a bus, 8% had biked, 8% had ridden the Trolley, 6% had taken a train, and 5% reported vanpooling for their commute at least once during the period of interest.

Question 43 *In the past 12 months, have you: _____ when commuting between your home and work?*

FIGURE 48 ALTERNATIVE COMMUTE MODES IN PAST 12 MONTHS



Figures 49-53 on the following pages show how use of different modes for their commute during the prior year varied according to a host of employee characteristics. For example, Figure 49 shows that biking or walking was reported far more frequently by those who commute less than five miles to work when compared to employees with longer commutes, whereas carpooling/vanpooling was most frequently reported by employees with commutes of 50 miles or more. Perhaps the most noteworthy pattern is that use of alternative modes, in general, was greater among those who do not always have access to a personal vehicle, those who work for employ-

ers that offer commute incentives/transit benefits, younger workers (under 25), those who work at locations that lack free parking, and employees in the lower household income brackets. Residents of Southwest Riverside County were also conspicuous in their exceptionally low use of transit for their commute.

FIGURE 49 ALTERNATIVE COMMUTE MODES IN PAST 12 MONTHS BY COMMUTE DISTANCE IN MILES

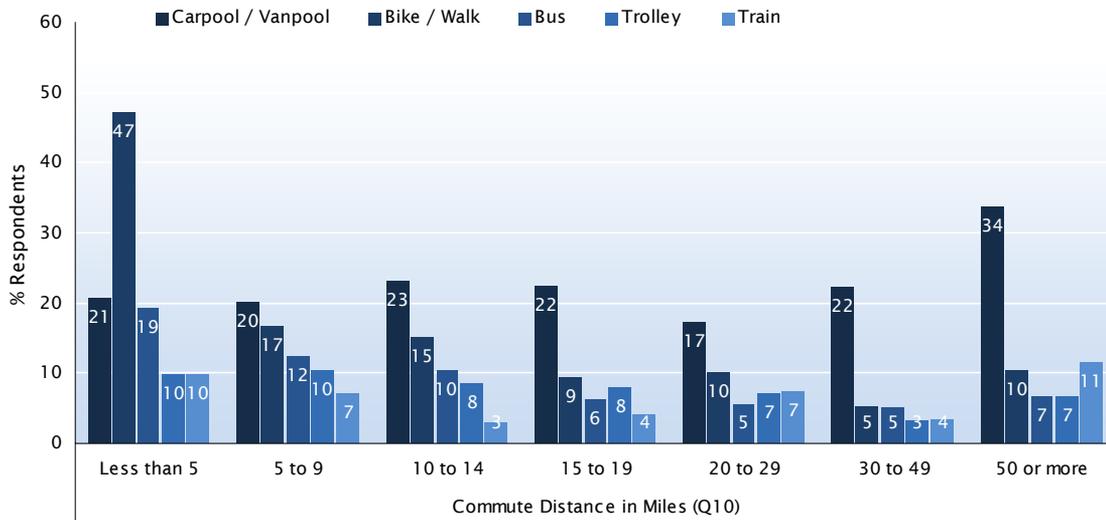


FIGURE 50 ALTERNATIVE COMMUTE MODES IN PAST 12 MONTHS BY PERSONAL ACCESS TO VEHICLE, GENDER & EMPLOYER OFFERS COMMUTE INCENTIVES

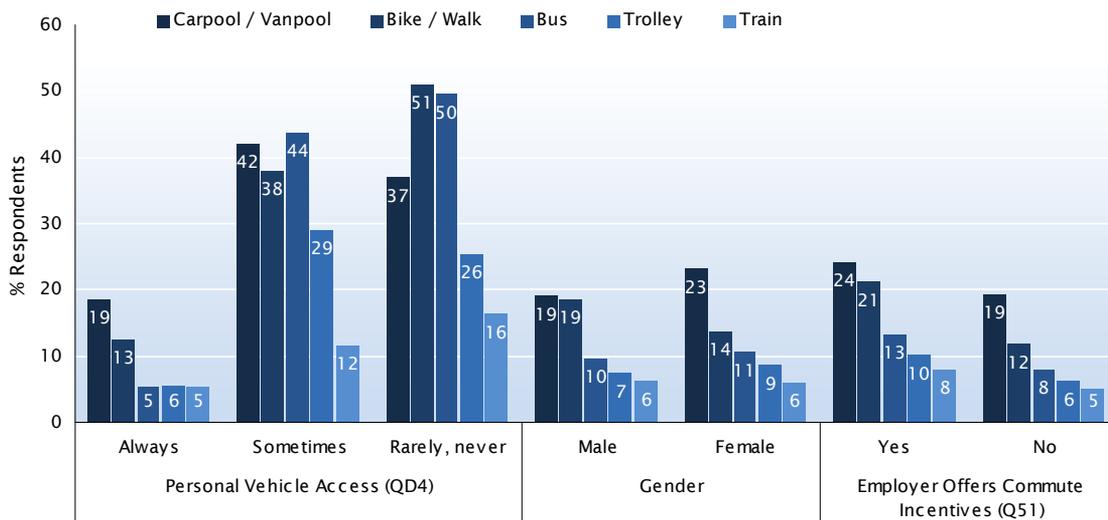


FIGURE 51 ALTERNATIVE COMMUTE MODES IN PAST 12 MONTHS BY AGE & FREE PARKING AT WORK SITE

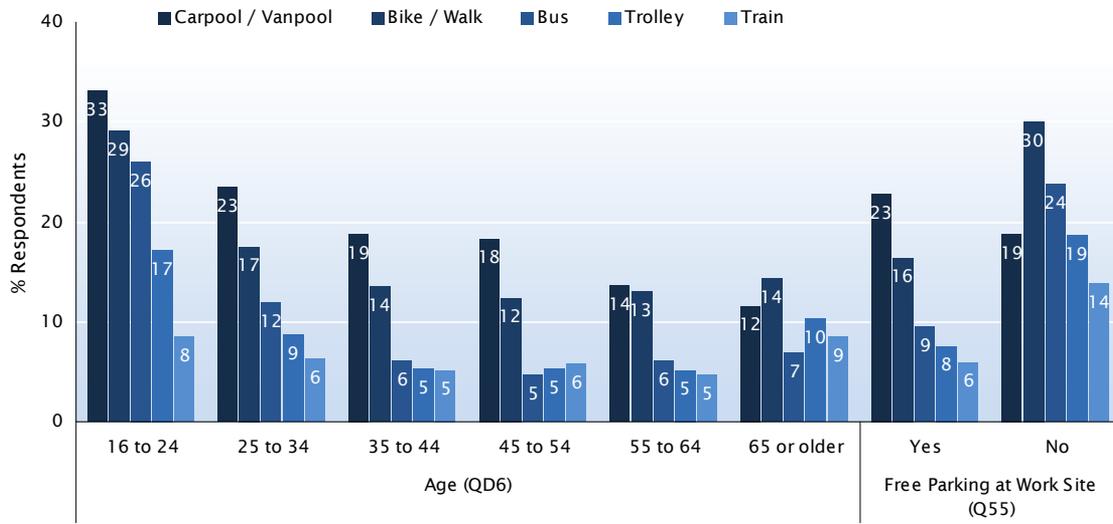


FIGURE 52 ALTERNATIVE COMMUTE MODES IN PAST 12 MONTHS BY AREA OF REGION

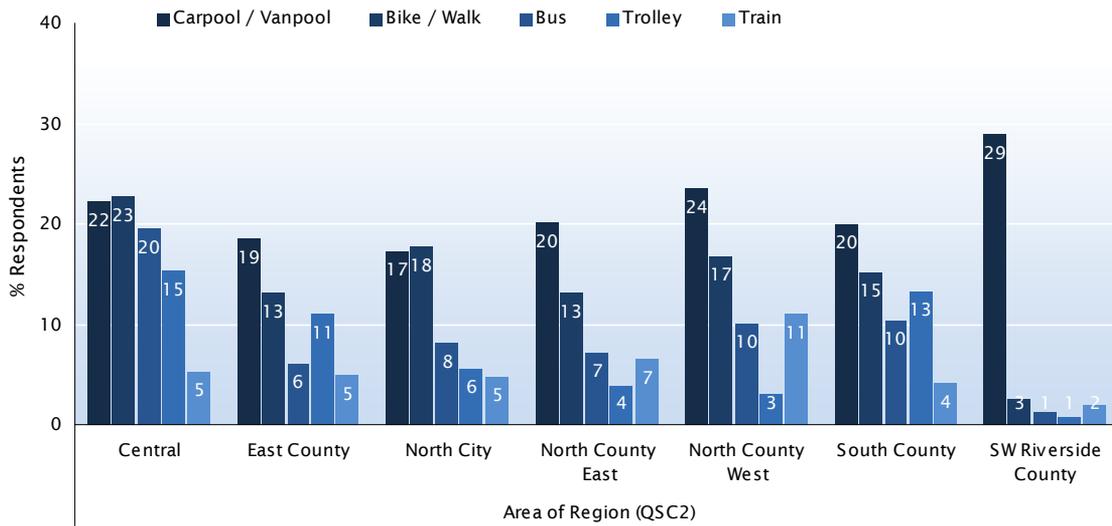
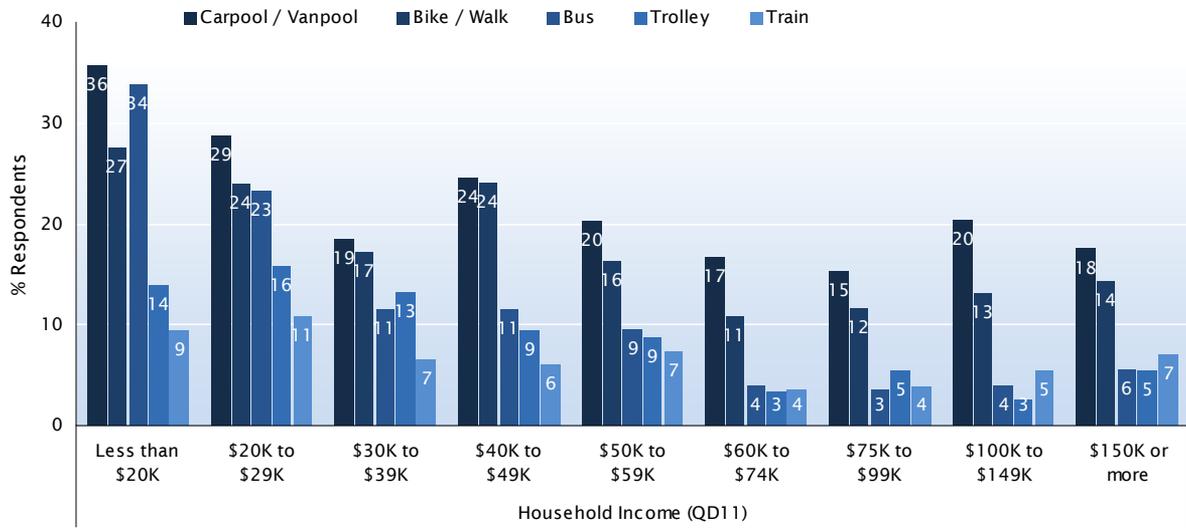


FIGURE 53 ALTERNATIVE COMMUTE MODES IN PAST 12 MONTHS BY HOUSEHOLD INCOME



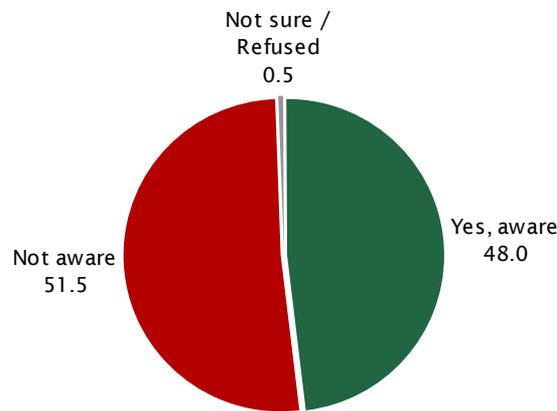
AWARENESS OF ICOMMUTE

iCommute provides assistance to employers and commuters in the San Diego region with the goals of reducing traffic congestion, protecting the environment, and facilitating a more sustainable quality of life. iCommute assists both employers and commuters by providing free carpool and ridematching services, a subsidized vanpool program, transit solutions, regional support for bicycling, the Guaranteed Ride Home program, SchoolPool carpooling programs for parents, and information about teleworking.

AWARENESS OF SOURCES FOR ALTERNATIVE MODE INFORMATION One of the goals of this study was to establish benchmark measures of commuter awareness of sources they can turn to for information about alternative ways of commuting. Put simply, do commuters know where to go for information about carpools, vanpools, using public transit, or teleworking? As shown in Figure 54, nearly half (48%) of commuters indicated that they are aware of specific organizations, phone numbers and/or websites that they can go to for information about alternative ways of commuting.

Question 49 *Are you aware of any specific organizations, phone numbers or websites that you can go to for information about alternative ways of commuting, including carpools, vanpools, using public transit, and teleworking?*

FIGURE 54 AWARENESS OF ALTERNATIVE COMMUTE MODE INFO SOURCES



For the interested reader, Figures 55-60 show how awareness of alternative commute information sources varied across commuter subgroups. When compared to their respective counterparts, awareness of information sources was greatest among those who have used a train or the Trolley for their work commute during the prior 12 months, those who always have access to a personal vehicle, residents of Southwest Riverside County and East San Diego County, employees who work at large locations with at least 100 employees, those with commute distances of five miles or greater, individuals who work for employers that offer commute incentives/transit benefits, employees whose households earn at least \$50,000 annually, Caucasians, and those who completed the interview in English.

FIGURE 55 AWARENESS OF ALTERNATIVE COMMUTE MODE INFO SOURCES BY ALTERNATIVE COMMUTE MODES IN PAST 12 MONTHS

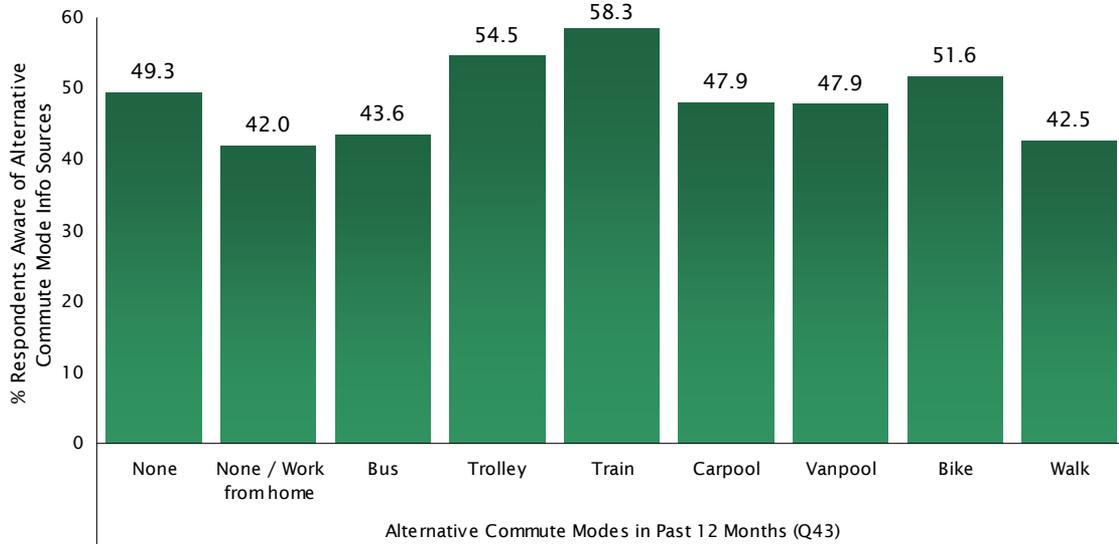


FIGURE 56 AWARENESS OF ALTERNATIVE COMMUTE MODE INFO SOURCES BY PERSONAL VEHICLE ACCESS & AGE

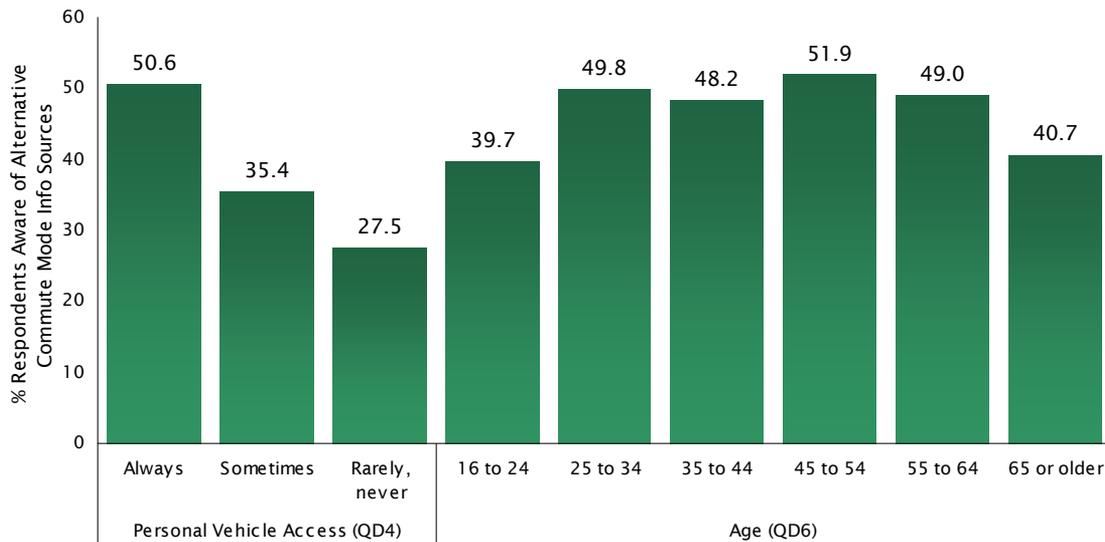


FIGURE 57 AWARENESS OF ALTERNATIVE COMMUTE MODE INFO SOURCES BY AREA OF REGION & EMPLOYEES AT PRIMARY WORKPLACE

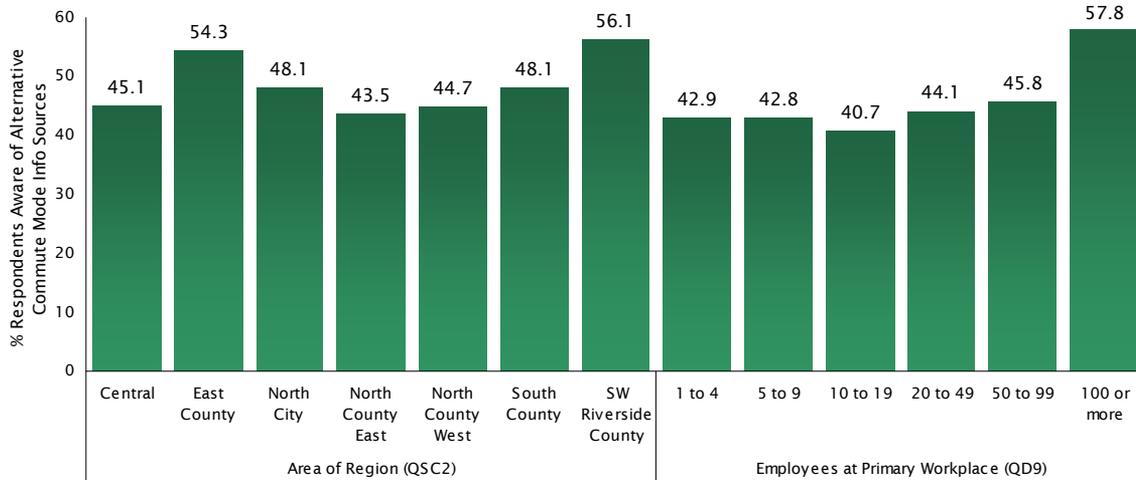


FIGURE 58 AWARENESS OF ALTERNATIVE COMMUTE MODE INFO SOURCES BY COMMUTE DISTANCE IN MILES

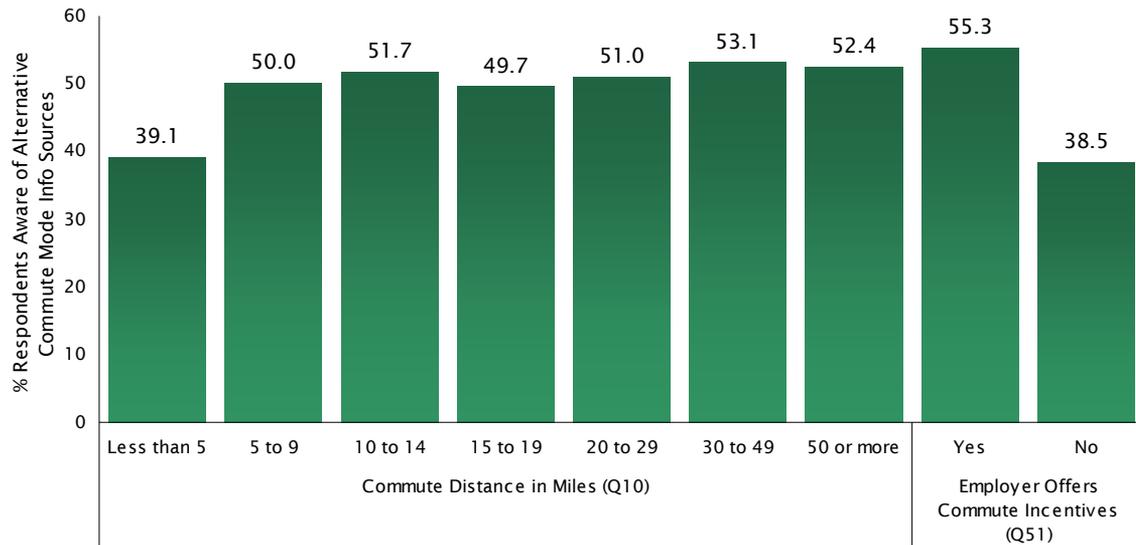


FIGURE 59 AWARENESS OF ALTERNATIVE COMMUTE MODE INFO SOURCES BY HOUSEHOLD INCOME

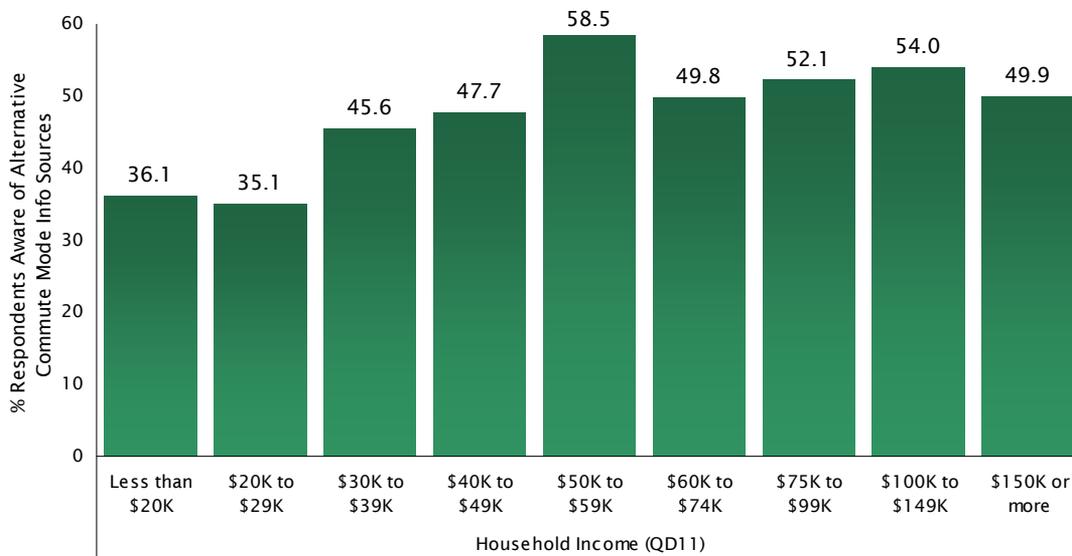
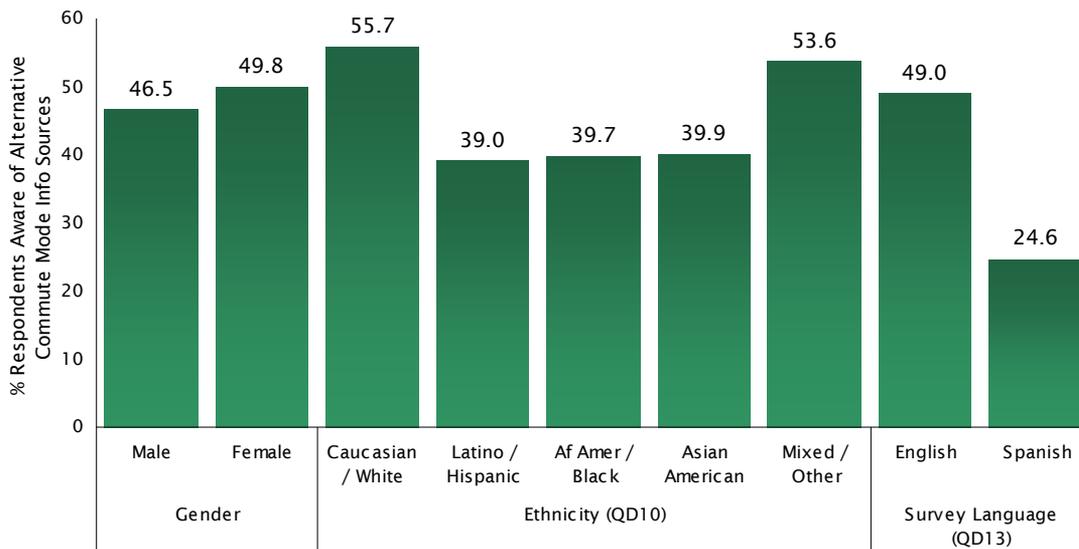


FIGURE 60 AWARENESS OF ALTERNATIVE COMMUTE MODE INFO SOURCES BY GENDER, ETHNICITY & SURVEY LANGUAGE

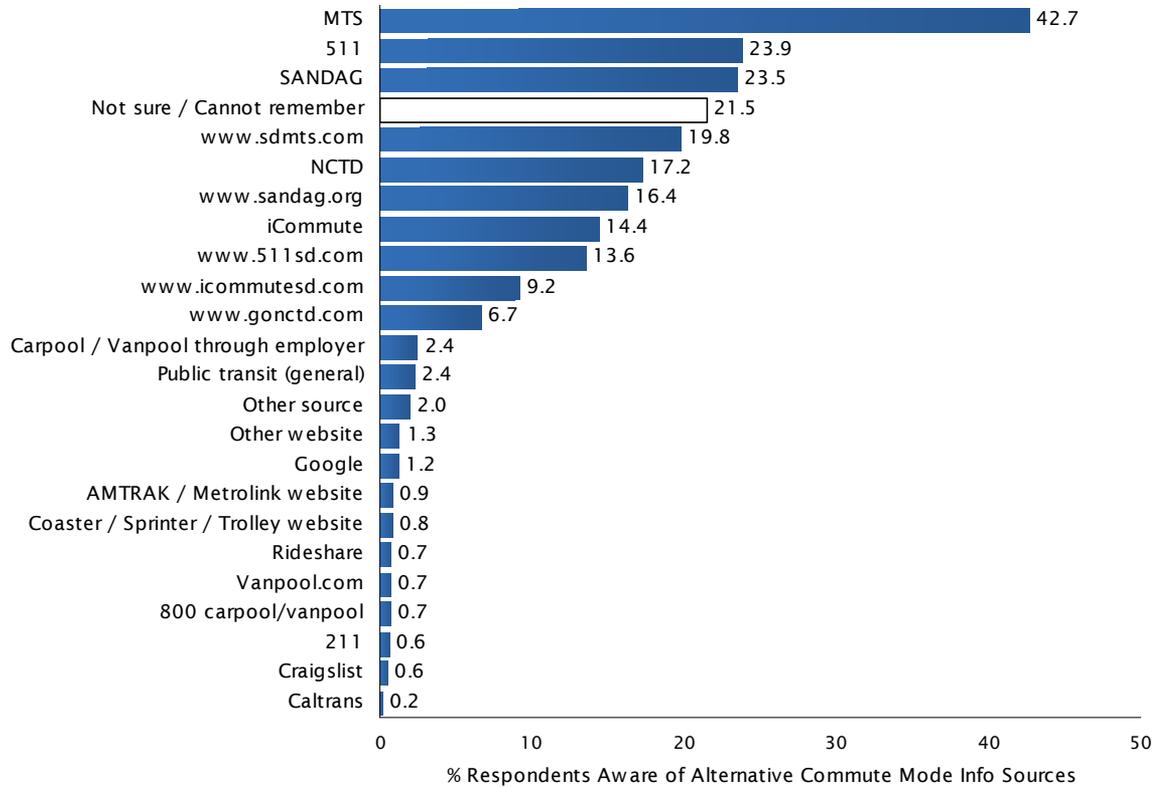


UNAIDED RECALL OF SPECIFIC INFORMATION SOURCES Respondents who indicated that they were aware of sources to which they could turn for information about alternative ways to commute were subsequently asked to identify the specific sources. Question 50 was asked in an open-ended manner—meaning that respondents were not prompted with a specific list of sources from which to choose—and is thus a good measure of *unaided recall* for each of the sources shown in Figure 61 on the next page.

The most frequently mentioned sources of information about alternative ways to commute were MTS (43%), 511 (24%), SANDAG (24%), www.sdmts.com (20%), NCTD (17%), www.sandag.org (16%), iCommute (14%), www.511sd.com (14%), www.icommutesd.com (9%), and www.gonctd.com (7%).

Question 50 Which specific ones are you aware of?

FIGURE 61 RECALL OF ALTERNATIVE COMMUTE MODE INFO SOURCES AMONG THOSE AWARE



Tables 6-9 display how the percentage of commuters who recalled each information source varied by employee characteristics. The percentage figure is based on *all* commuters, not just those who answered Question 49 in the affirmative.

TABLE 6 RECALL OF ALTERNATIVE COMMUTE MODE INFO SOURCES BY AGE & GENDER

	Age (QD6)						Gender	
	16 to 24	25 to 34	35 to 44	45 to 54	55 to 64	65 or older	Male	Female
MTS	16.8	24.6	22.3	20.3	17.7	13.6	20.0	21.1
511	8.5	10.5	12.4	12.3	14.6	7.8	11.2	11.8
SANDAG	2.2	11.8	10.5	14.5	17.2	10.1	12.5	9.8
www.sdmts.com	4.7	12.8	8.6	9.1	12.5	6.4	10.0	8.9
NCTD	4.5	8.5	7.6	10.2	10.4	5.2	7.5	9.2
www.sandag.org	1.4	7.0	7.7	10.0	12.8	7.2	8.8	6.7
iCommute	5.2	5.6	7.3	8.2	8.5	5.5	7.3	6.4
www.511sd.com	3.4	8.1	7.0	6.1	7.3	4.1	7.1	5.7
www.icommutesd.com	2.3	4.9	3.7	4.7	6.8	3.4	4.7	4.1
www.gonctd.com	1.7	4.9	3.4	1.8	4.9	0.8	3.5	2.9

TABLE 7 RECALL OF ALTERNATIVE COMMUTE MODE INFO SOURCES BY HOUSEHOLD INCOME

	Household Income (QD11)								
	Less than \$20K	\$20K to \$29K	\$30K to \$39K	\$40K to \$49K	\$50K to \$59K	\$60K to \$74K	\$75K to \$99K	\$100K to \$149K	\$150K or more
MTS	22.5	15.6	21.6	20.0	21.9	20.2	20.6	22.6	23.2
511	11.3	12.6	13.3	3.8	14.4	12.6	14.2	10.3	10.7
SANDAG	5.6	5.0	4.4	10.1	10.9	17.2	14.8	13.3	16.8
www.sdmts.com	8.6	4.6	6.7	4.7	11.7	11.3	10.0	13.9	9.4
NCTD	4.6	8.5	7.5	1.5	14.4	9.1	8.5	8.2	11.1
www.sandag.org	6.8	4.3	4.9	4.2	9.5	7.1	8.7	10.4	10.3
iCommute	5.2	2.7	8.0	3.1	11.8	6.0	7.1	9.9	7.0
www.511sd.com	11.6	6.2	8.6	2.2	4.4	7.1	7.8	3.5	5.4
www.icommutesd.com	3.9	2.8	6.3	2.0	5.7	5.9	3.6	5.1	5.1
www.gonctd.com	1.3	5.0	1.1	1.2	5.3	3.7	1.4	4.6	4.0

TABLE 8 RECALL OF ALTERNATIVE COMMUTE MODE INFO SOURCES BY AREA OF REGION

	Area of Region (QSC2)						
	Central	East County	North City	North		South County	SW Riverside County
				County East	County West		
MTS	23.8	26.0	22.9	15.5	13.0	24.0	13.8
511	13.0	12.9	11.1	10.2	9.4	11.7	13.1
SANDAG	8.5	12.0	12.6	10.4	11.2	11.7	12.8
www.sdmts.com	12.6	10.6	10.7	8.0	6.4	9.6	6.0
NCTD	4.5	4.9	7.3	11.5	16.1	4.0	6.2
www.sandag.org	4.9	10.3	8.7	10.0	6.4	10.7	7.2
iCommute	5.1	6.8	7.2	5.0	6.3	8.9	11.2
www.511sd.com	6.9	6.5	6.8	8.4	5.0	8.3	6.2
www.icommutesd.com	3.5	5.5	4.7	3.6	3.9	4.1	6.4
www.gonctd.com	0.9	2.8	3.1	4.5	5.9	2.0	2.9

TABLE 9 RECALL OF ALTERNATIVE COMMUTE MODE INFO SOURCES BY ETHNICITY & SURVEY LANGUAGE

	Ethnicity (QD10)					Survey Language (QD13)	
	Caucasian / White	Latino / Hispanic	Af Amer / Black	Asian American	Mixed / Other	English	Spanish
MTS	24.3	15.1	12.0	13.7	30.6	20.8	13.0
511	12.4	11.1	7.9	8.1	14.5	11.8	4.2
SANDAG	13.7	7.8	7.1	9.0	14.5	11.5	6.9
www.sdmts.com	12.3	6.1	8.3	4.2	8.4	9.8	3.0
NCTD	9.8	6.8	4.6	4.6	10.0	8.3	6.7
www.sandag.org	9.9	5.5	5.3	4.3	7.3	7.9	6.7
iCommute	8.1	6.2	2.6	4.7	9.2	7.1	3.7
www.511sd.com	6.3	6.7	4.6	3.5	7.8	6.5	6.7
www.icommutesd.com	5.1	4.9	1.6	3.2	5.9	4.4	4.4
www.gonctd.com	3.7	2.0	2.3	1.2	4.7	3.3	1.9

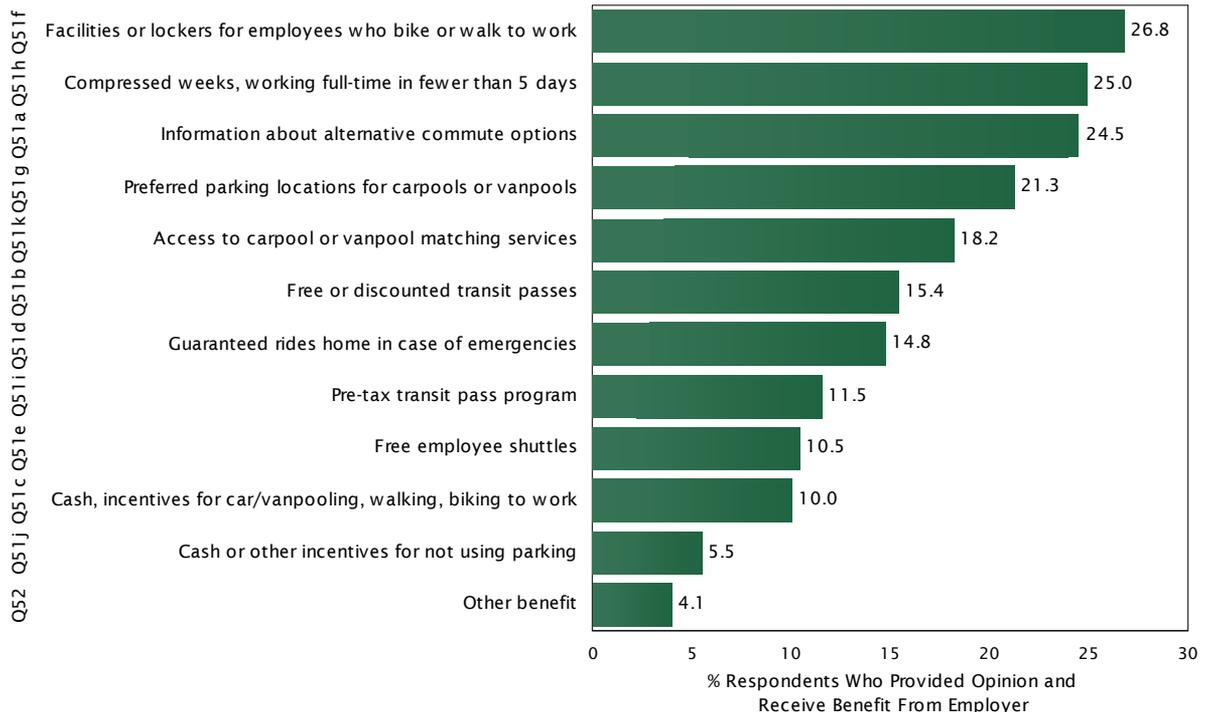
EMPLOYER SERVICES

Up to this point, the survey focused on profiling the employee’s commute behavior and their awareness of information sources about alternative ways to commute. Beginning with Question 51, the survey transitioned to the topic of commute benefits. The first questions in this series were devoted to assessing the extent to which employers in the region are offering various types of commute benefits to their employees.

COMMUTE BENEFITS OFFERED BY EMPLOYER To begin, all employees who indicated they do not always or primarily work from home (i.e., those who commute to a work destination outside the home) were specifically asked whether their employer offers each of the benefit programs listed in Figure 62. As shown in the figure, the commute benefit programs varied widely in their prevalence. Among the most commonly offered commute benefit programs were special facilities or lockers for employees who bike or walk to work (27%), compressed work weeks where employees can work a full-time schedule in less than five days (25%), information about alternative commute options (25%), and preferred parking locations for carpools and vanpools (21%). Programs less commonly offered were access to carpool or vanpool matching services (18%), free or discounted transit passes (15%), and guaranteed rides home in case of emergencies (15%). Of the commute benefits tested, those offered by the fewest employers appear to be pre-tax transit pass programs (12%), free employee shuttles (11%), cash incentives for carpooling, vanpooling, walking or biking to work (10%), and cash or other incentives for not using parking (6%).

Question 51 *Does your employer offer: _____?*

FIGURE 62 BENEFIT PROGRAMS OFFERED BY EMPLOYER



Compiling the results for all commute benefit programs tested in Question 51 reveals that 61% of employees surveyed worked for an employer who offers at least one of the programs listed in Figure 62 (see Figure 63). As shown in Figures 64-67, there was a reasonable degree of consistency in the distribution of commute benefit programs by employee characteristics, although the clear exceptions to this pattern occur among employees who work for large employers (100+ employees) and public agencies. Employees in both of these subgroups were much more likely than their counterparts to indicate that their employer offers commute benefits. It's also worth noting that employees who indicated they had not used any alternative modes for their commute during the past 12 months were also the least likely to report that their employer offers commute benefit programs.

FIGURE 63 EMPLOYER OFFERS COMMUTE BENEFIT PROGRAMS

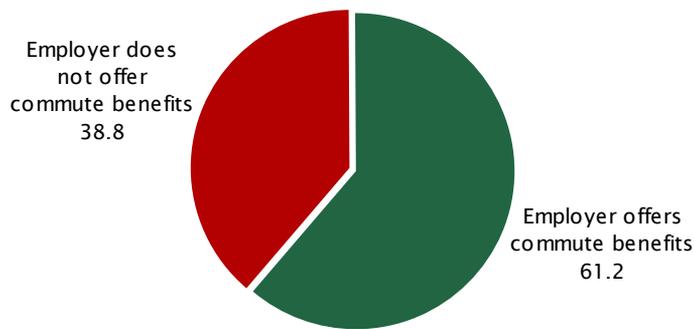


FIGURE 64 EMPLOYER OFFERS COMMUTE BENEFIT PROGRAMS BY ALTERNATIVE COMMUTE MODES IN PAST 12 MONTHS

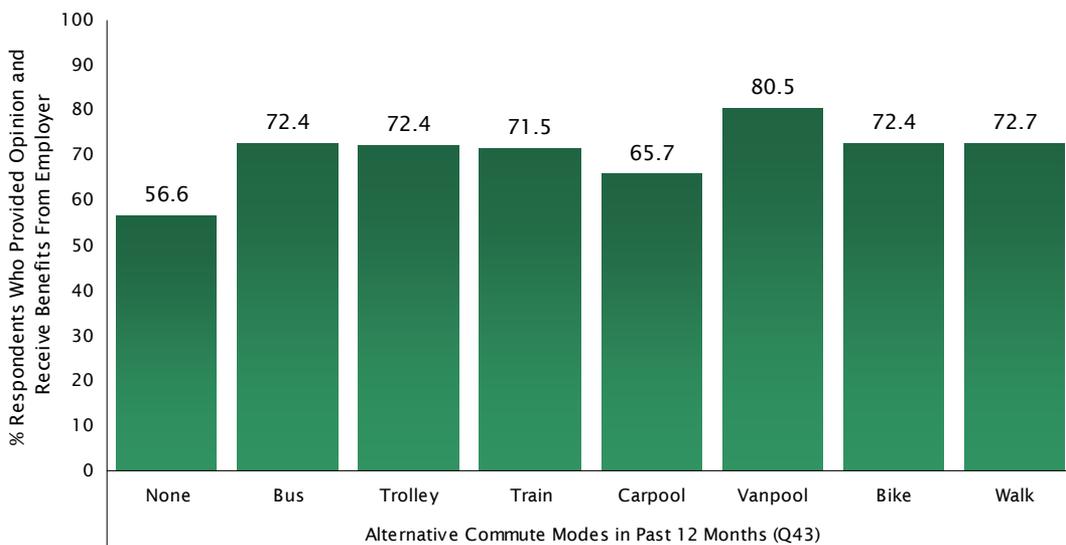


FIGURE 65 EMPLOYER OFFERS COMMUTE BENEFIT PROGRAMS BY AREA OF REGION & EMPLOYEES AT PRIMARY WORKPLACE

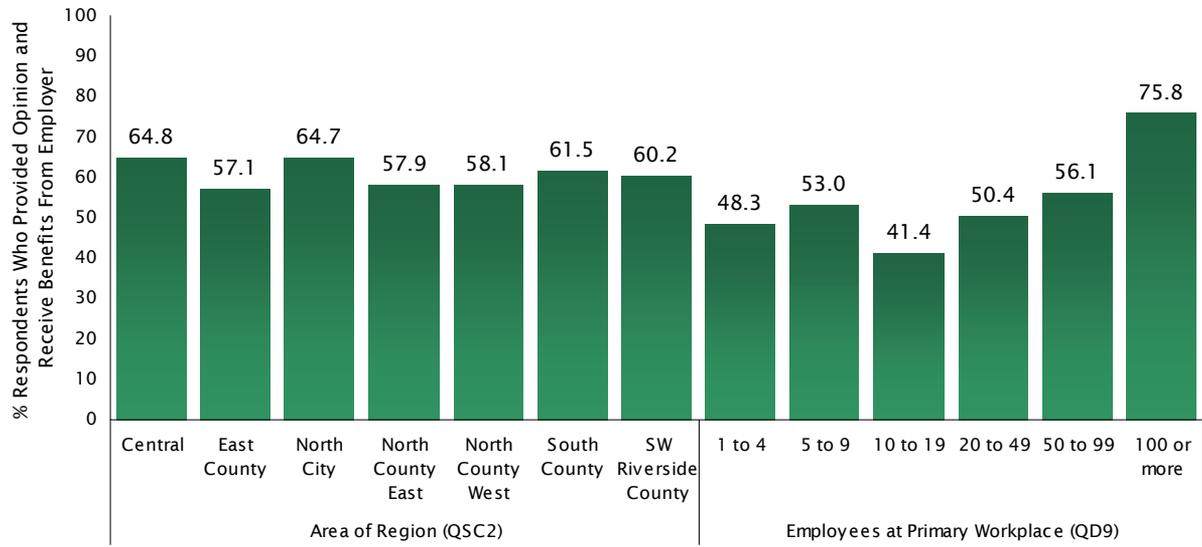


FIGURE 66 EMPLOYER OFFERS COMMUTE BENEFIT PROGRAMS BY HOUSEHOLD INCOME

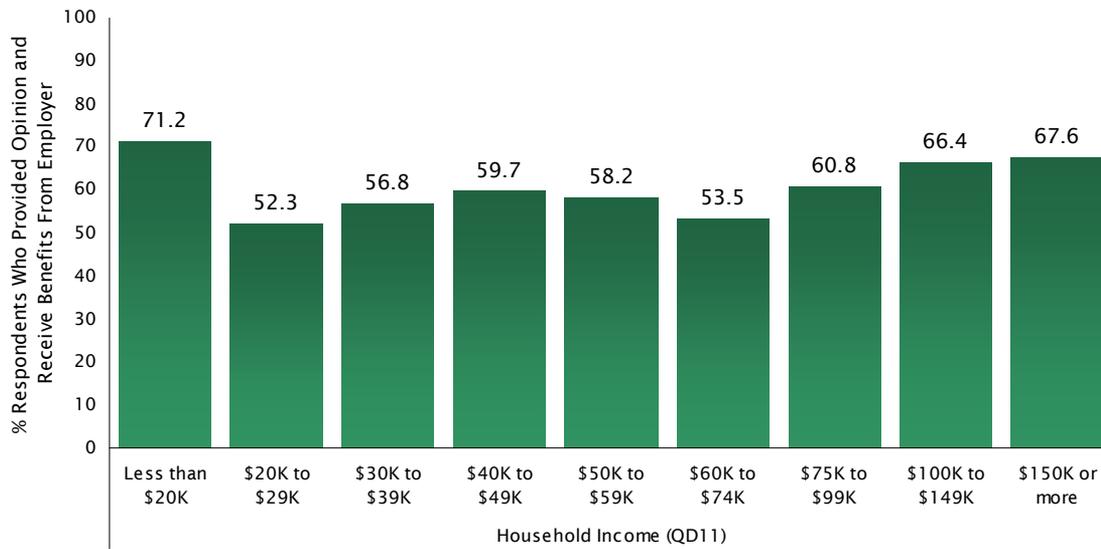
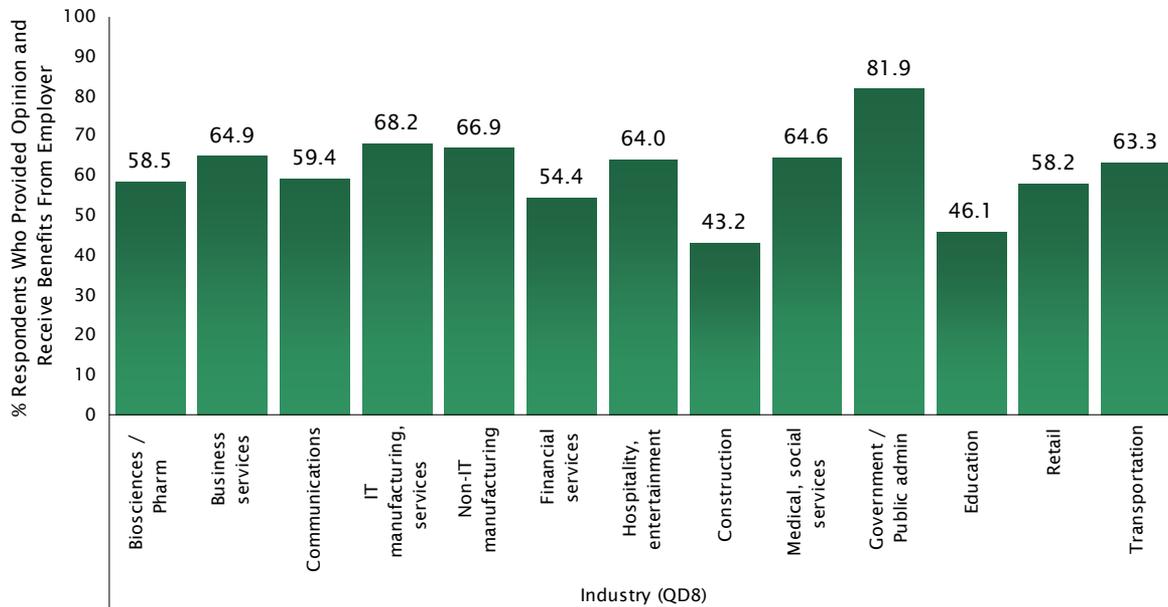


FIGURE 67 EMPLOYER OFFERS COMMUTE BENEFIT PROGRAMS BY INDUSTRY



Recognizing that the list of programs tested in Question 51 was not exhaustive, the survey followed-up with respondents by asking whether there were any commute-related benefit programs *not* mentioned in Question 51 that their employer offers. Just 4% of commuters answered this question in the affirmative. The programs identified included some already mentioned (e.g, free transit/shuttle passes) as well as different programs including mileage reimbursement, discounts and incentives (unspecified), parking passes/discounts, free gas/gas card, programs that encourage a healthy lifestyle, discounted health insurance, and electric car charging. Because of the small number of respondents who provided a specific response to Question 53, a separate figure is not shown.

Question 52 *Does your employer offer any other commute-related benefit programs that I did not mention?*

Question 53 *Please briefly describe the benefit program to me.*

HAVE YOU TAKEN ADVANTAGE OF COMMUTE BENEFITS OFFERED? Having identified which commute benefit programs were offered by a respondent's employer, the survey next sought to identify which of these programs the respondent had actually used or taken advantage of during the prior 12 month period. Figure 68 on the next page combines the responses to Questions 51 and 54 to show the percentage of employers who offered each program, as well as the percentage of employees who reported that they had used the benefit in the prior 12 month period.

Of the programs listed, compressed work weeks were the most commonly utilized commute benefit program (12%), followed by facilities or lockers for employees who bike or walk to work (7%), information about alternative commute options (6%), and preferred parking locations for carpools or vanpools (5%). At the other end of the spectrum and in part reflecting the small num-

ber of employers who offer such programs, few employees reported that they have taken advantage of cash or other incentives for not using parking (2%), pre-tax transit pass programs (2%), and cash or other incentives for carpooling, vanpooling, walking or biking to work (2%).

Question 54 *As I read the following benefits offered by your employer, please tell me whether you have used the benefit in the past 12 months.*

FIGURE 68 COMMUTE BENEFIT PROGRAMS USED IN PAST 12 MONTHS

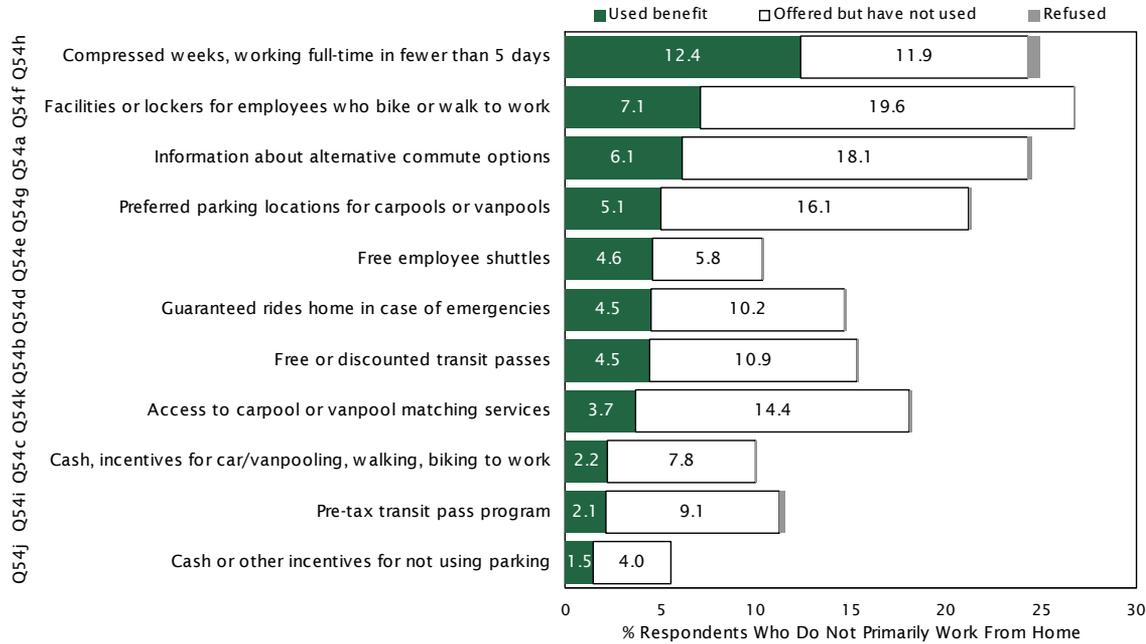
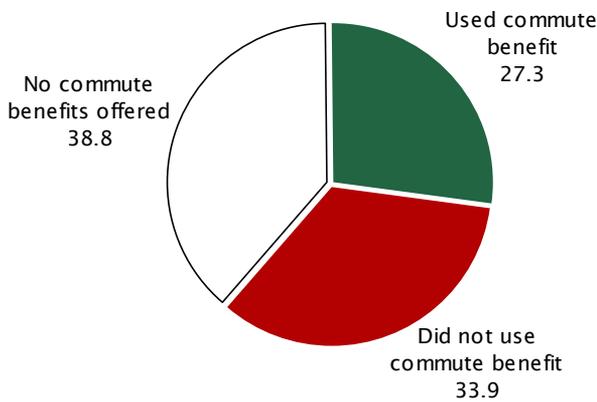


FIGURE 69 USED COMMUTE BENEFIT PROGRAM IN PAST 12 MONTHS



Overall, just over one-quarter (27%) of employees indicated that they have utilized a commute benefit program offered by their employer. Approximately one-third of employees (34%) surveyed indicated that their employer offers one or more commute benefit programs, but confided that they have not taken advantage of the program(s). An additional 39% indicated that their employer does not offer commute benefit programs. Figures 70-72 show how the tendency to utilize commute benefit programs varied by area of residence,

employer size, household income, and industry. As one might expect, employees who work for large employers and government/public agencies were the most likely to report having taken advantage of commute benefit programs during the 12 months preceding the interview.

FIGURE 70 USED COMMUTE BENEFIT PROGRAM IN PAST 12 MONTHS BY AREA OF REGION & EMPLOYEES AT PRIMARY WORKPLACE

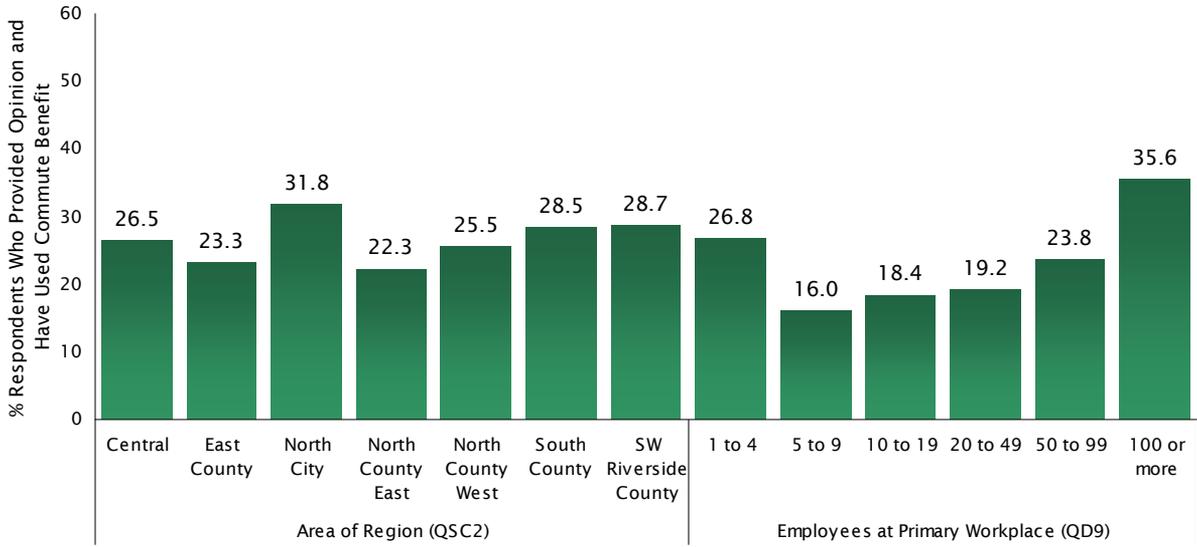


FIGURE 71 USED COMMUTE BENEFIT PROGRAM IN PAST 12 MONTHS BY HOUSEHOLD INCOME

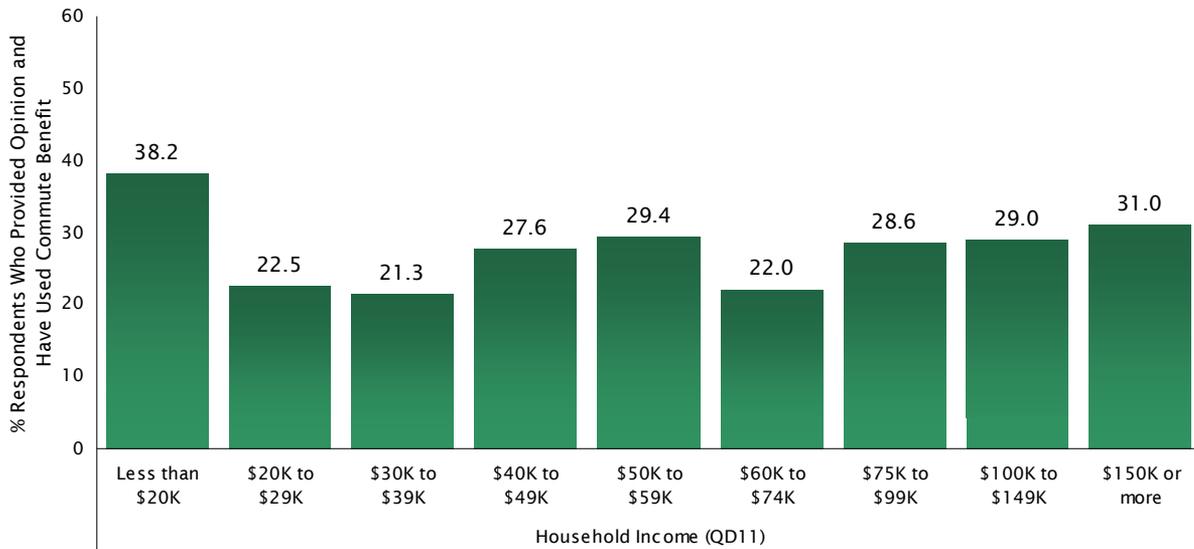
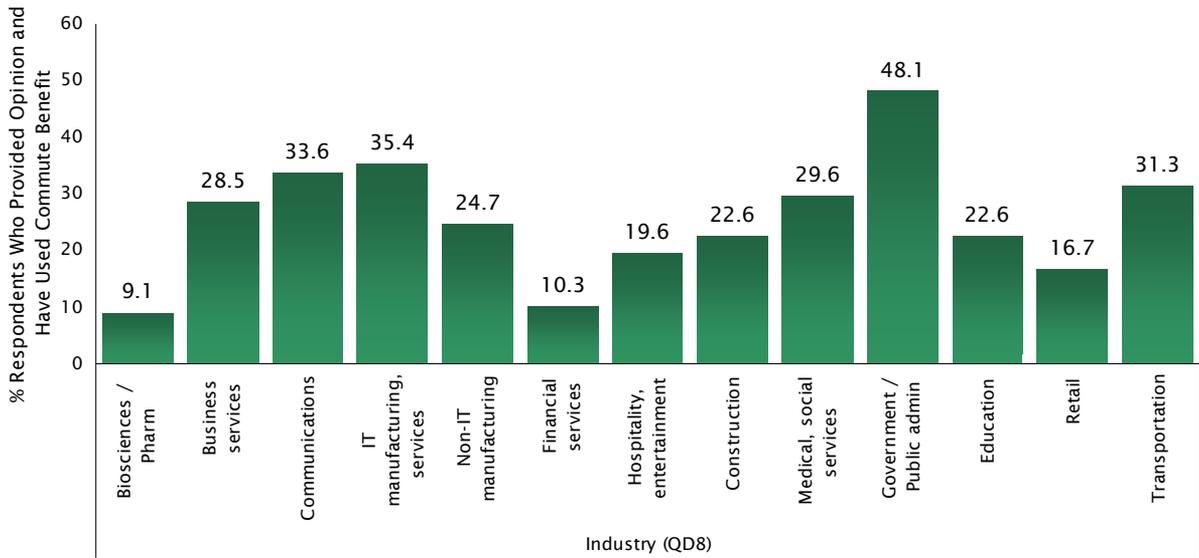


FIGURE 72 USED COMMUTE BENEFIT PROGRAM IN PAST 12 MONTHS BY INDUSTRY



PARKING The final questions in this series pertained to work site parking. Specifically, does the respondent pay for parking at their work site? If yes, how much do they pay on a daily basis and what—if any—subsidy do they receive from their employer?

Overall, 90% of employees surveyed indicated that they have free parking at their work site (Figure 73). Although free parking at one’s work site varied little according to the area in which an employee resides, it is worth noting that free work site parking was less commonly reported by employees who used public transit as their primary commute mode (see Figures 74 & 75).

Question 55 *Is parking free at your work site?*

FIGURE 73 FREE PARKING AT WORK SITE

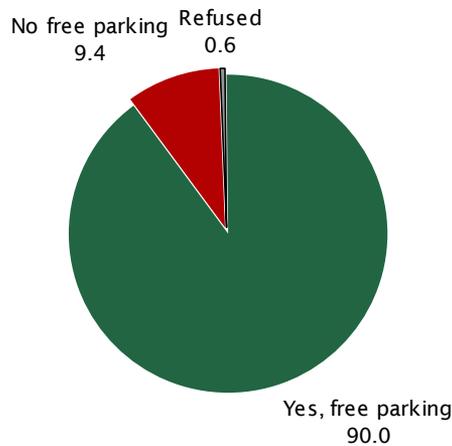


FIGURE 74 FREE PARKING AT WORK SITE BY AREA OF REGION & PRIMARY COMMUTE MODES

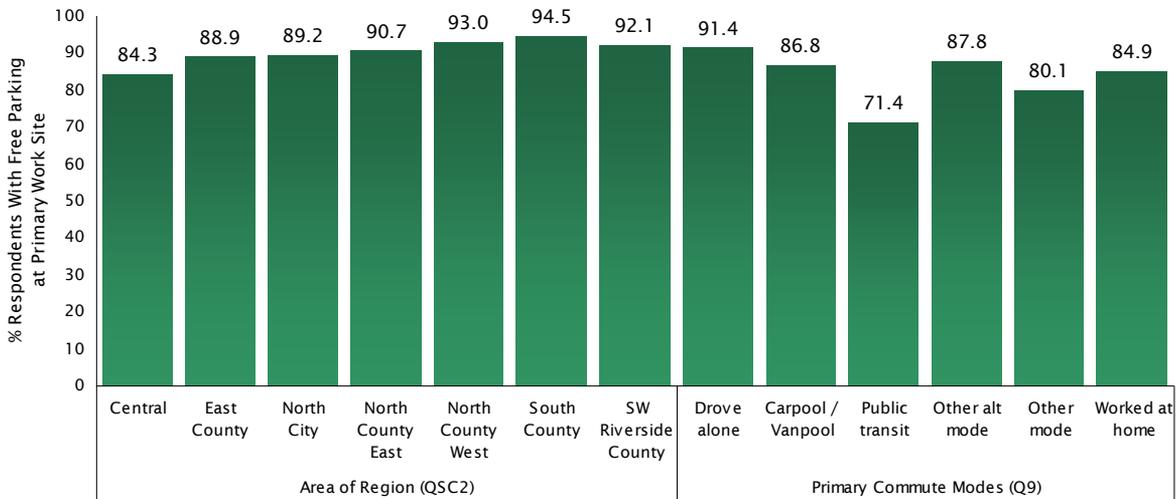
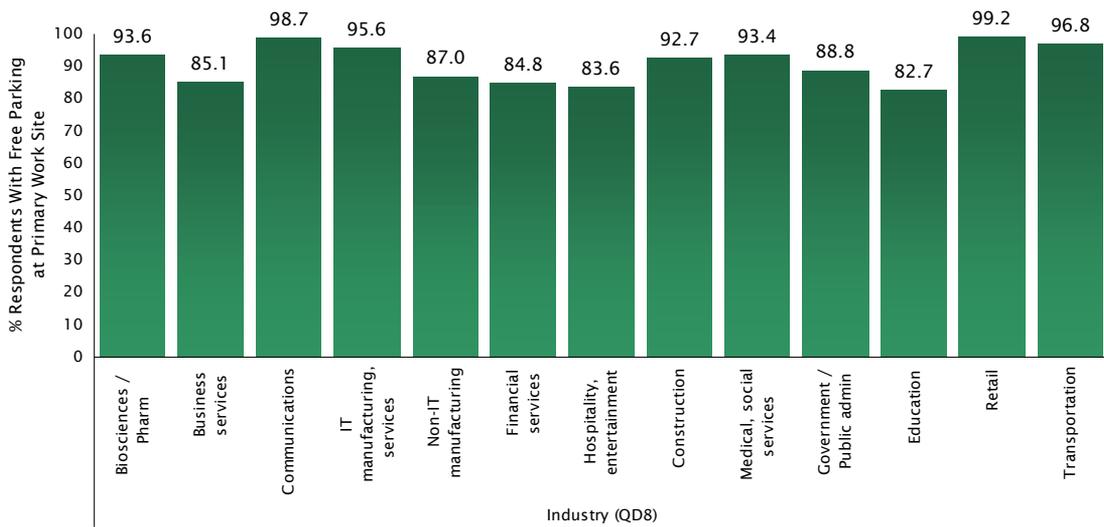


FIGURE 75 FREE PARKING AT WORK SITE BY INDUSTRY

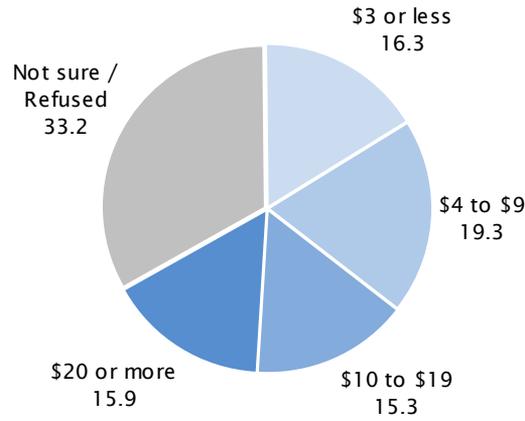


Among the small percentage (9%) of employees who indicated that there is no free parking at their work site, the daily cost of parking varied widely (see Figure 76 on the next page). Sixteen percent (16%) stated they pay \$20 or more per day, 15% pay between \$10 and \$19 per day, 19% pay between \$4 and \$9 daily, while 16% indicated that they pay \$3 or less per day to park when they drive to work. Approximately 33% were not sure or refused the question, likely indicating that they don't drive to work and thus the question does not apply to their situation.

The vast majority of employees who indicated that they pay for parking when they drive to work indicated that their employer does *not* reimburse their parking fees (84%). Approximately 10% of employees in this group (1% of all commuters) offered that their employer pays for all of their parking costs, whereas an additional 5% receive a partial subsidy (see Figure 77).

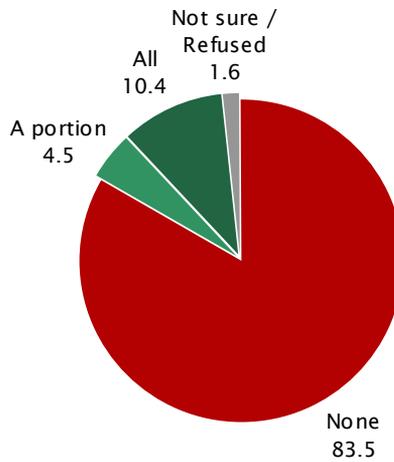
Question 56 *How much does it cost to park when you drive to work, on a per-day basis?*

FIGURE 76 PER-DAY COST TO PARK AT WORK



Question 57 *How much of the <Question 56 amount> you pay for parking per work day does your employer reimburse you, if any?*

FIGURE 77 EMPLOYER REIMBURSEMENT OF PARKING COSTS



CARPPOOL & VANPOOL STRATEGIES

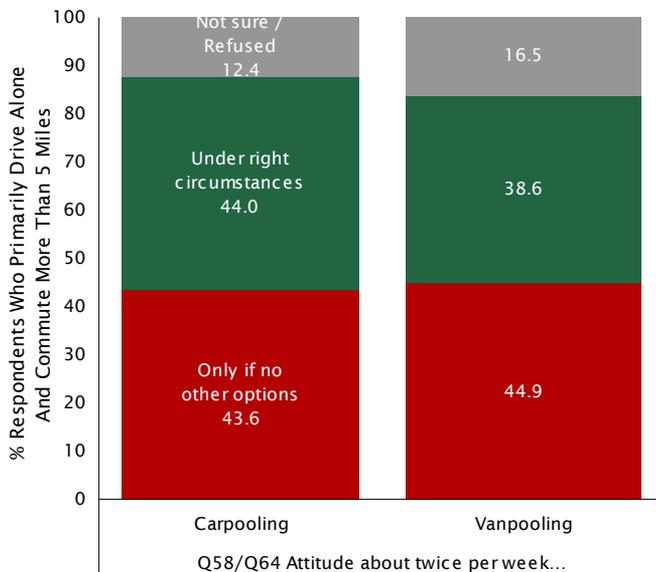
As noted in the *Introduction*, one of the primary goals of this study was to help inform SANDAG’s regional vanpool and carpool programs and develop a plan for program expansion. By gauging employees’ interest in various rideshare incentive programs that could be offered, as well as the factors that appear to condition rideshare behavior, this study provides much of the information needed to estimate the latent market and potential growth in vanpooling and carpooling in response to program enhancements that iCommute and its partners may undertake in the near future.

LITMUS TEST FOR CARPOOL & VANPOOL The first questions in this series asked employees to choose which statement best matches their overall attitude about joining a carpool or vanpool for their work commute: *I would only ride in a carpool/vanpool to work at least twice per week if I had no other options*, or *I would ride in a carpool/vanpool to work at least twice per week under the right circumstances*. Because the second statement allows the respondent to define what they consider the *right circumstances*, Questions 58 and 64 are a useful litmus test for identifying employees who are not in the potential market for carpooling or vanpooling, respectively, because they are unwilling to rideshare even under the right circumstances unless there are no other options. Note that to avoid respondent fatigue, a split sample strategy was employed where half of respondents received the questions in this series that pertained to carpooling, whereas the other half received only the questions that focused on vanpooling.

Question 58 Which of the following statements best matches your attitude about joining a carpool to commute to work? _____ OR _____?

Question 64 Which of the following statements best matches your attitude about joining a vanpool to commute to work? _____ OR _____?

FIGURE 78 ATTITUDE ABOUT CARPOOLING / VANPOOLING TWICE PER WEEK



Overall, 44% of employees surveyed indicated that they would commute to work in a carpool at least twice per week under the right circumstances, whereas 44% were unwilling to do so unless they had no other options and 12% were unsure. The responses for vanpooling were similar, with 39% indicating they would vanpool to work at least two times per week under the right circumstances, 45% offering that they would only do so if they had no other options, and 17% unsure.

Due to the similarity in responses, Figures 79-83 combine the data to show how interest in ride-sharing to work at least two days per week under the right circumstances varied according to a host of employee characteristics. In general, interest in carpooling or vanpooling to work was greatest among employees with commute distances of 20 to 49 miles, commutes that last at least 25 minutes one-way, employees between the ages of 25 and 54, those from households that earn between \$50,000 and \$74,999 annually, employees of mixed ethnic backgrounds, and those who are employed at a work site with at least 10 employees.

FIGURE 79 ATTITUDE ABOUT CARPOOLING / VANPOOLING TWICE PER WEEK BY COMMUTE DISTANCE IN MILES & WORK COMMUTE MINS

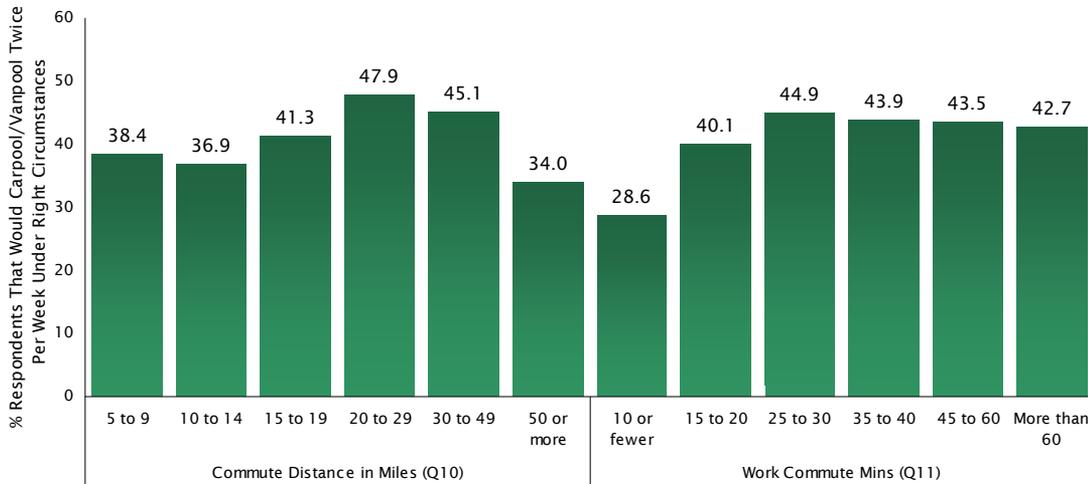


FIGURE 80 ATTITUDE ABOUT CARPOOLING / VANPOOLING TWICE PER WEEK BY AGE & GENDER

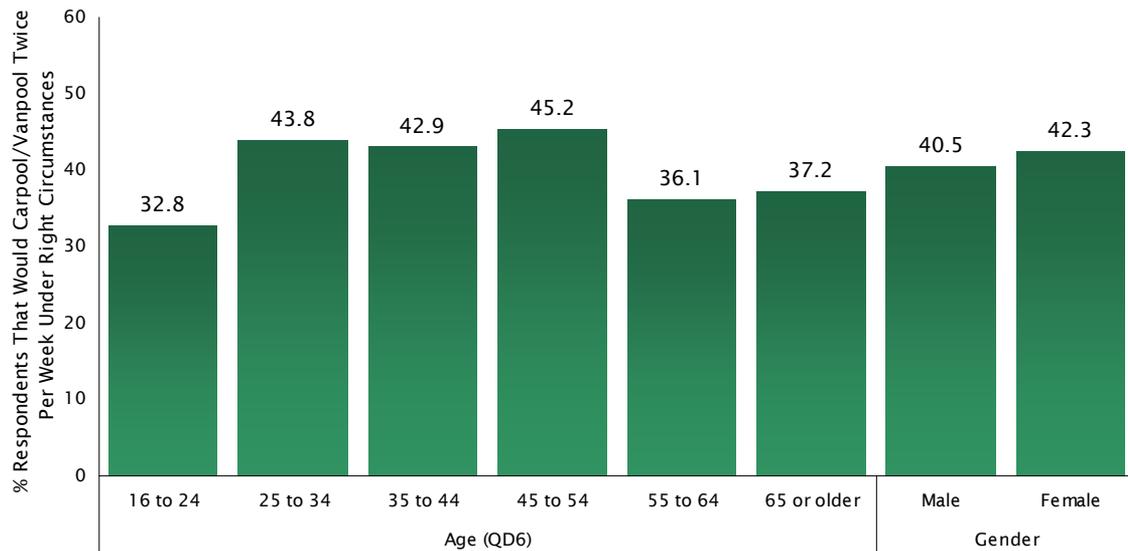


FIGURE 81 ATTITUDE ABOUT CARPOOLING / VANPOOLING TWICE PER WEEK BY AREA OF REGION

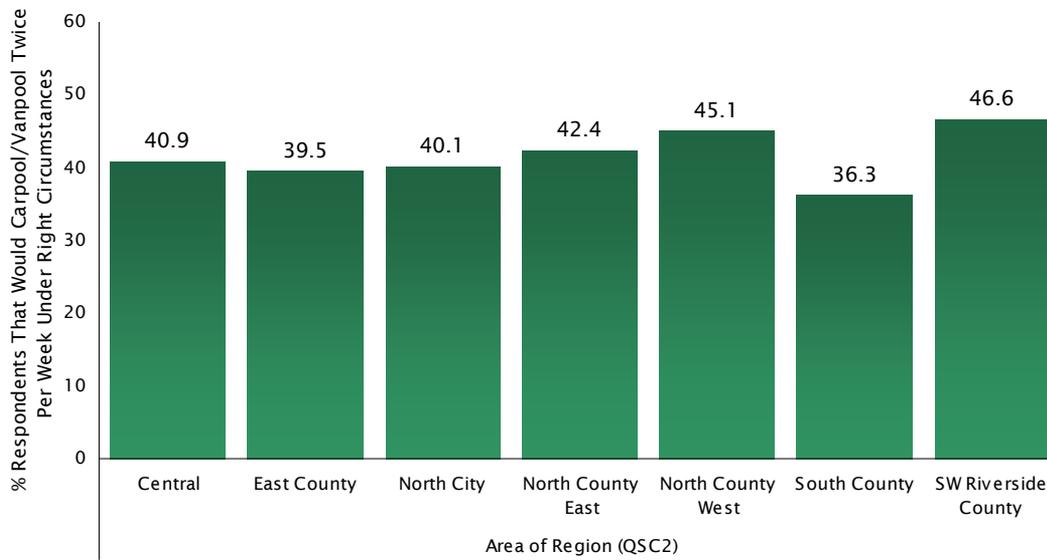


FIGURE 82 ATTITUDE ABOUT CARPOOLING / VANPOOLING TWICE PER WEEK BY HOUSEHOLD INCOME

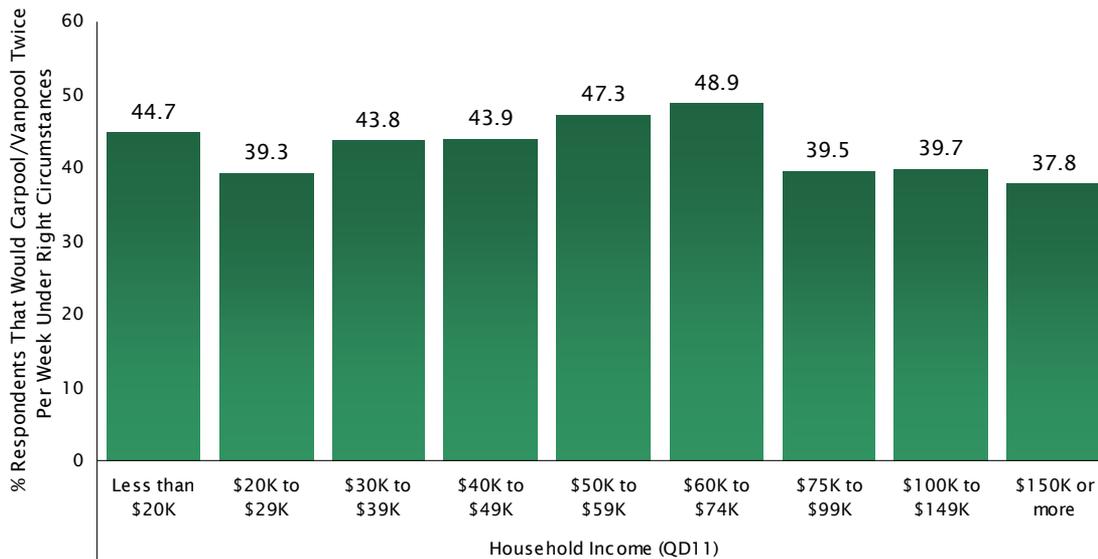
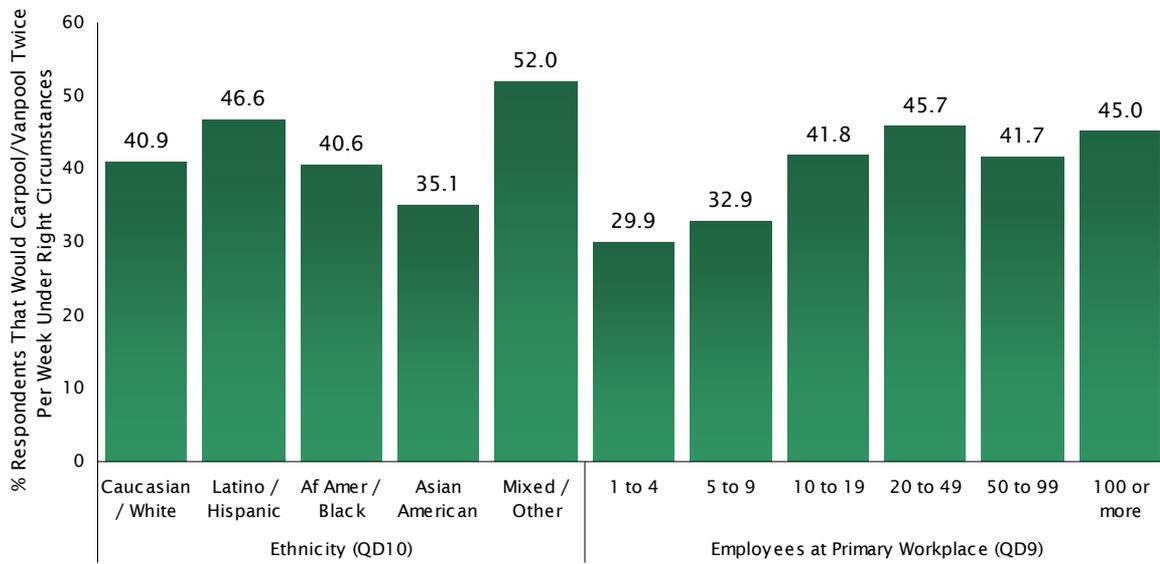


FIGURE 83 ATTITUDE ABOUT CARPOOLING / VANPOOLING TWICE PER WEEK BY ETHNICITY & EMPLOYEES AT PRIMARY WORKPLACE



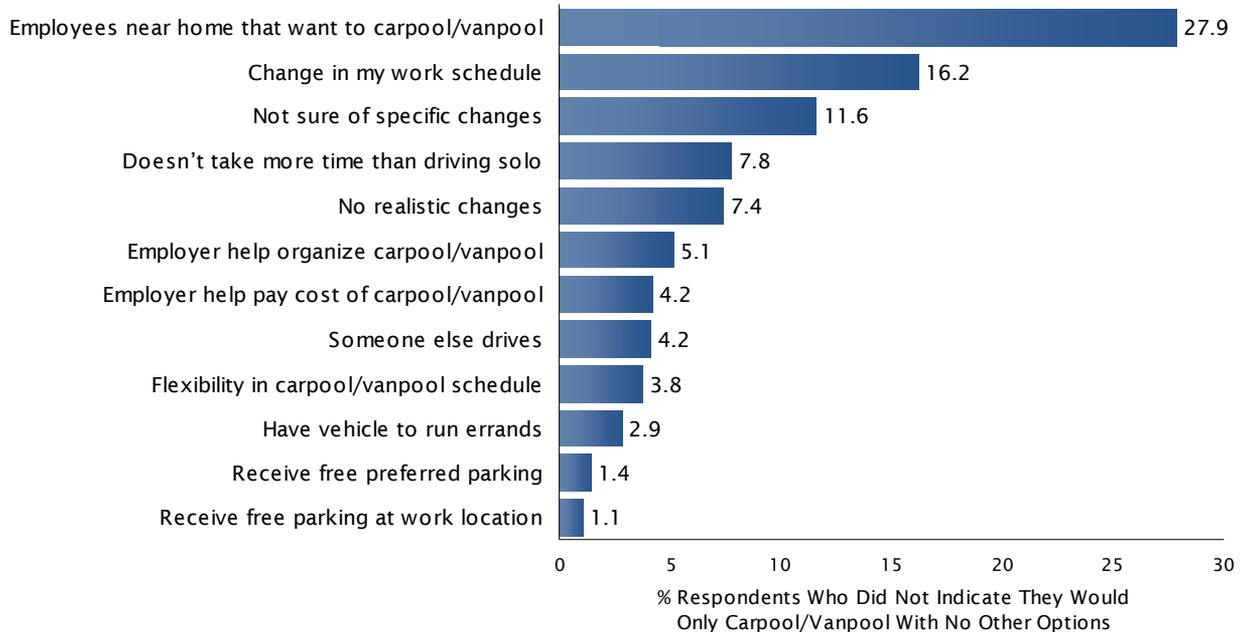
CONDITIONS NEEDED TO CARPOOL OR VANPOOL TO WORK Among employees who indicated that they would carpool or vanpool to work at least twice per week under the right circumstances (or were unsure), the survey next inquired as to what specific conditions or changes are needed for them to carpool or vanpool to work. Questions 59 and 65 were posed in an open-ended manner, thereby allowing employees to mention any change or condition that came to mind. True North later reviewed the verbatim responses and grouped them into the categories shown in Figure 84 on the next page.

The condition mentioned by the largest percentage of employees (29%) as needed for them to carpool or vanpool to work was having other employees near their home that are also interested in carpooling or vanpooling. Others cited a change in their work schedule (16%), that carpooling or vanpooling must be at least as fast as driving solo (8%), or that their employer helps organize (5%) and pay (4%) the cost of ridesharing as being a necessary condition for them to carpool or vanpool to work at least two days per week. It is worth noting that 12% were unable to specify a condition or change that would result in them carpooling or vanpooling to work, and an additional 7% confided that the changes needed were not realistic.

Question 59 *What conditions or changes are needed for you to ride in a carpool for your work commute at least twice per week? Please be as specific as you can in your response.*

Question 65 *What conditions or changes are needed for you to ride in a vanpool for your work commute at least twice per week? Please be as specific as you can in your response.*

FIGURE 84 CHANGES NEEDED TO CARPOOL / VANPOOL AT LEAST TWICE PER WEEK



GAS PRICE IMPACT LIKELIHOOD OF CARPOOLING/VANPOOLING? The presence of incentives that reduce the cost of ridesharing can lead to a higher percentage of employees commuting to work in a carpool or vanpool. So too, however, can changes that increase the cost of driving solo—such as a sustained increase in the cost of fuel. With this in mind, commuters who previously indicated they would commute to work at least twice per week in a carpool or vanpool under the right conditions were asked if they would do so if the price of gasoline rose to \$5 per gallon.

As shown in Figure 85 on the next page, 23% of commuters indicated they would carpool or vanpool to work at least twice per week if the price of gas rose to \$5 per gallon. Approximately 31% had previously indicated they would commute to work in a carpool or vanpool under the right conditions, but a rise in the cost of gas was not sufficient to get them to make that change. The remaining respondents either refused to answer the question (2%) or had previously indicated they would only rideshare to work if they had no other options (44%). Figures 86-90 show that younger employees (under 35), those in lower income brackets, residents of Southwest Riverside County and the Central planning region, Latinos/Hispanics and those with mixed ethnic backgrounds, and employees who work at sites with at least 10 other employees were the most likely to state that an increase in the price of gas will result in them carpooling or vanpooling to work.

Question 60 *Would you commute to work in a carpool at least twice per week if the price of gasoline rose to 5 dollars per gallon?*

Question 66 *Would you commute to work in a vanpool at least twice per week if the price of gasoline rose to 5 dollars per gallon?*

FIGURE 85 CARPOOL / VANPOOL TWICE PER WEEK IF GAS WERE \$5 PER GALLON

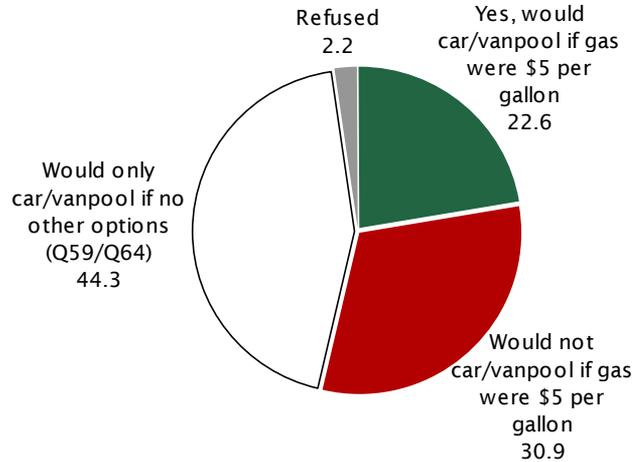


FIGURE 86 CARPOOL / VANPOOL TWICE PER WEEK IF GAS WERE \$5 PER GALLON BY AGE & GENDER

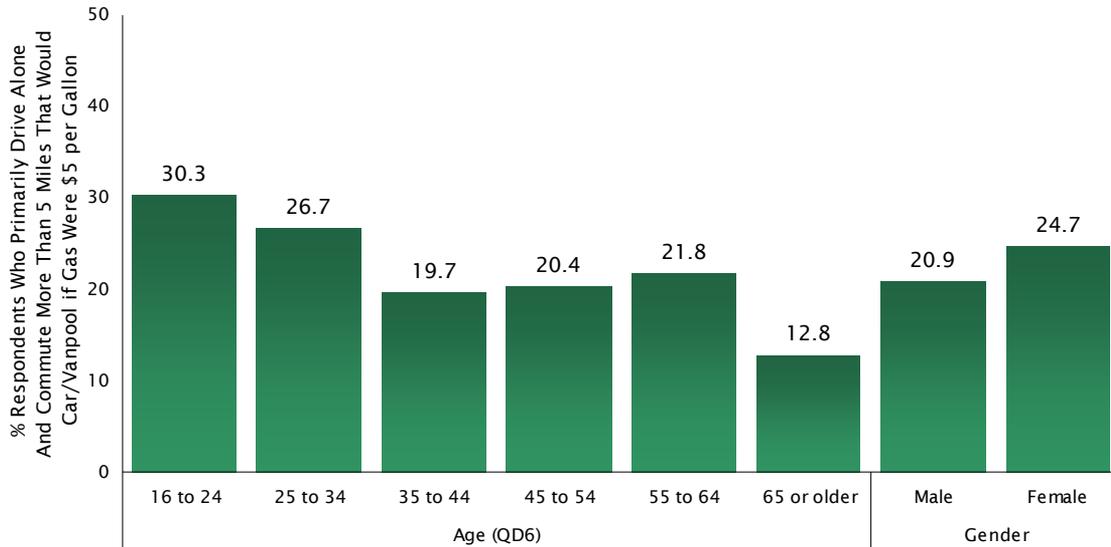


FIGURE 87 CARPOOL / VANPOOL TWICE PER WEEK IF GAS WERE \$5 PER GALLON BY HOUSEHOLD INCOME

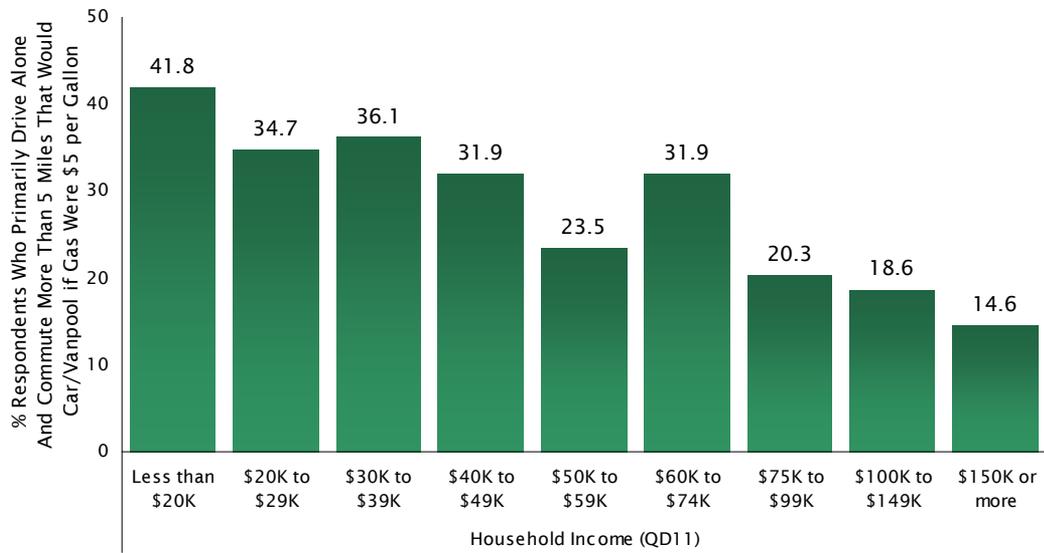


FIGURE 88 CARPOOL / VANPOOL TWICE PER WEEK IF GAS WERE \$5 PER GALLON BY AREA OF REGION

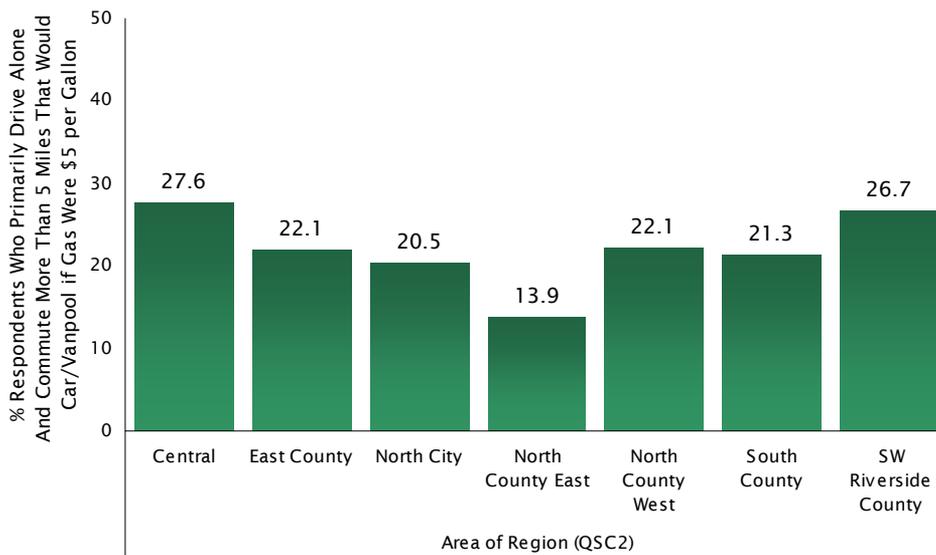


FIGURE 89 CARPOOL / VANPOOL TWICE PER WEEK IF GAS WERE \$5 PER GALLON BY COMMUTE DISTANCE IN MILES & WORK COMMUTE MINS

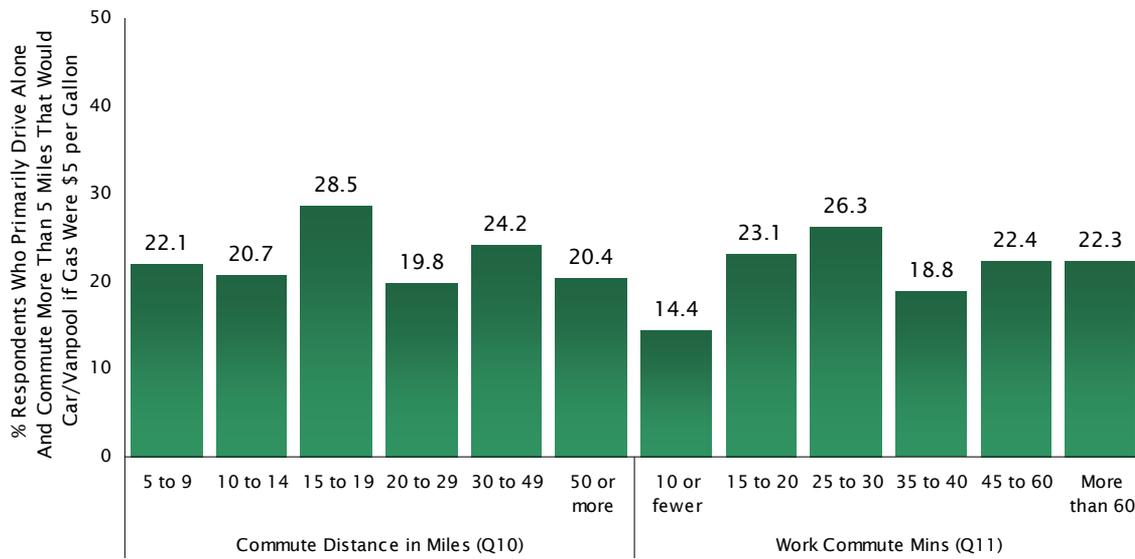
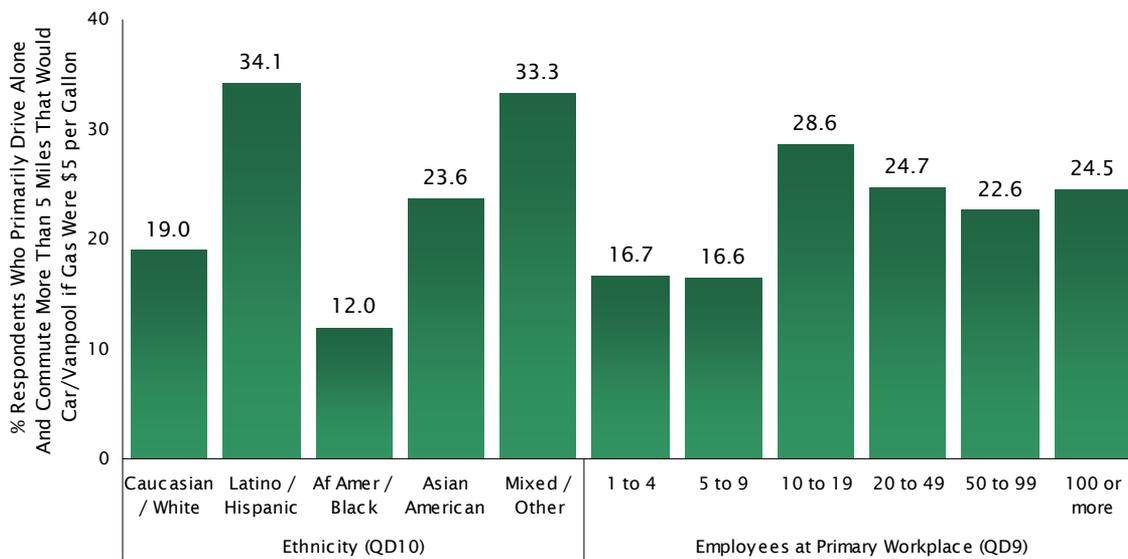


FIGURE 90 CARPOOL / VANPOOL TWICE PER WEEK IF GAS WERE \$5 PER GALLON ETHNICITY & EMPLOYEES AT PRIMARY WORKPLACE



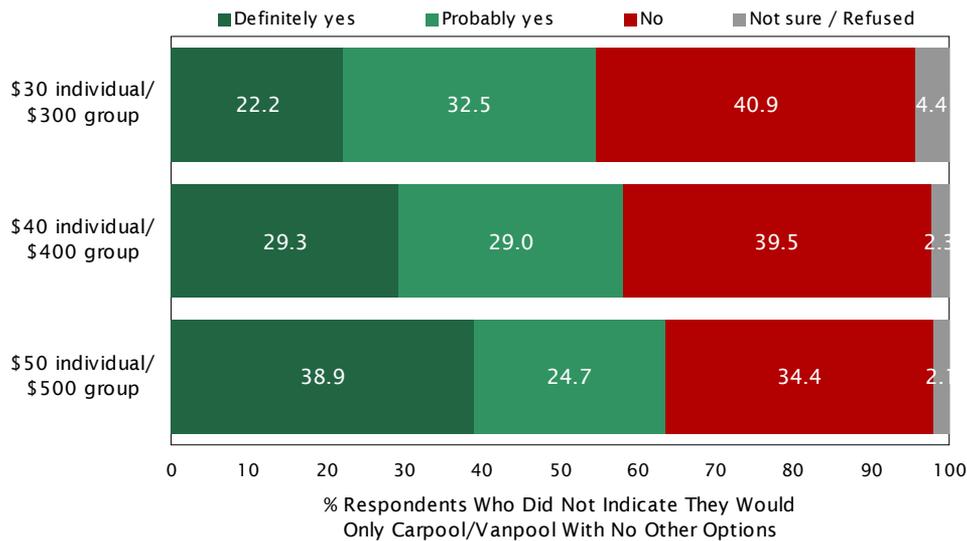
CASH INCENTIVE TO CARPOOL/VANPOOL One of the programs that SANDAG and iCommute have used with solid success in recent years to increase the vanpool market involves subsidizing the cost of a vanpool by up to \$400 per month. To gauge how such subsidies or cash incentives may inspire additional carpoolers and vanpoolers, the survey tested a range of *individual* cash incentives for carpoolers and *group* cash incentives for vanpools to identify how sensitive a commuter’s willingness to carpool or vanpool may be to the amount of the cash incentive offered. Because the results at each level were similar for carpool and vanpool, the results have been combined in Figure 91. Note that these questions were only asked of commuters who previously indicated they would carpool or vanpool to work under the right conditions.

As shown in Figure 91, commuters do appear to be sensitive to the amount of the cash incentive offered. At the lowest tier offering (\$30 per individual in a carpool/\$300 per vanpool group), 22% indicated they would definitely carpool or vanpool to work at least twice per week, and an additional 33% indicated they would probably do so. Incremental increases in the cash incentive resulted in incremental increases in a willingness to rideshare, with 39% of commuters administered the question (16% of all commuters) indicating they would definitely carpool or vanpool to work at least two days per week if they were offered \$50 per individual carpooler or \$500 to the vanpool group.

Question 61 *In some regions, there are programs that offer people a cash incentive to carpool. Would you carpool to work at least twice per week if every person in your carpool received: _____ per month?*

Question 67 *In some regions, there are also programs that provide subsidies to groups of people who vanpool to help pay for the cost of leasing the van. Would you vanpool to work at least twice per week if your group received a subsidy of _____ per month? If yes, ask: Would that be definitely yes or probably yes?*

FIGURE 91 INCENTIVE THRESHOLD TO CARPOOL / VANPOOL TWICE PER WEEK

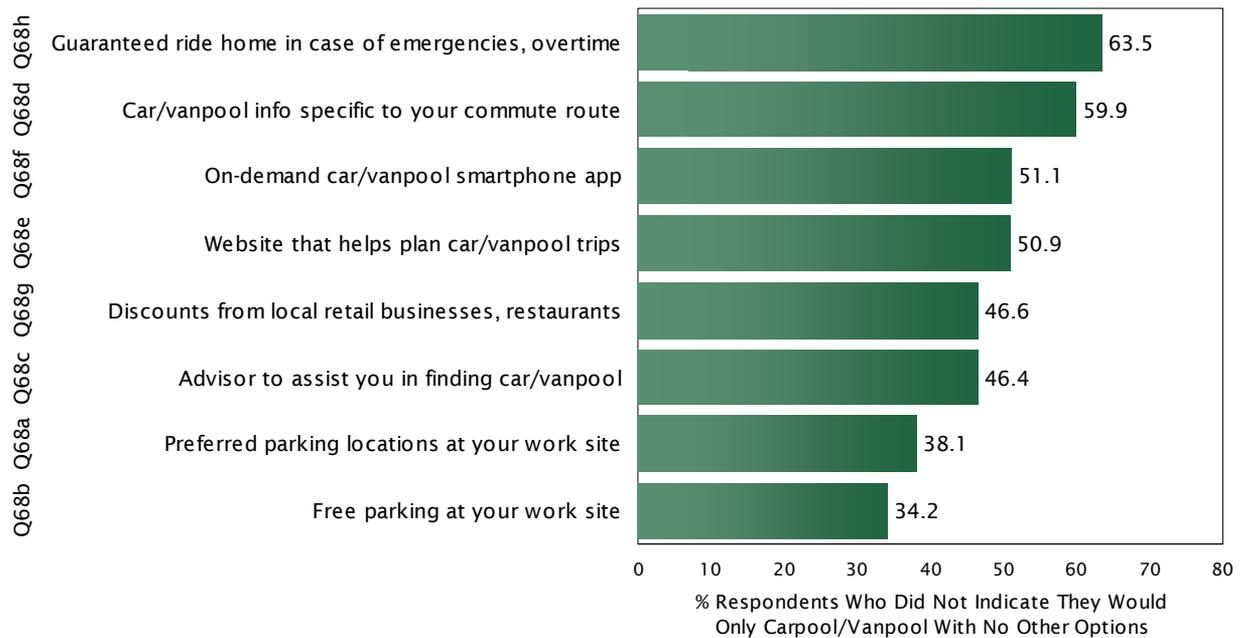


SPECIFIC LIST OF INCENTIVES & PROGRAMS Previously in the survey, respondents were asked in an open-ended manner to identify the conditions or changes needed for them to carpool or vanpool to work at least two days per week (see *Conditions Needed to Carpool or Vanpool to Work* on page 68). Having received their top-of-mind responses, the survey next presented a list of specific commute benefit programs to gauge which appear to have the greatest positive impact on commuters’ willingness to carpool or vanpool to work. The programs tested, as well as commuters’ reactions to the programs, are presented in Figure 92 on the next page.

Question 62 Next, I'm going to read a list of incentives or benefits that can be offered to people who carpool. As I read each item, I'd like to know whether it would motivate you to commute to work in a carpool at least twice per week. Would you commute to work in a carpool at least twice per week if: _____?

Question 68 Next, I'm going to read a list of incentives or benefits that can be offered to people who vanpool. As I read each item, I'd like to know whether it would motivate you to commute to work in a vanpool at least twice per week. Would you commute to work in a vanpool at least twice per week if: _____?

FIGURE 92 INCENTIVES & BENEFITS TO CARPOOL / VANPOOL TWICE PER WEEK



Among employees who stated they would carpool or vanpool to work at least two days per week under the right conditions, the most compelling commute benefits were a guaranteed ride home in case of emergencies or unscheduled overtime (64%), access to carpool/vanpool information that is specific to their commute route (60%), a smartphone App that enables them to search for and find a carpool/vanpool ride on-demand and also provides details about the driver in advance (51%), and a website that helps plan carpool and vanpool trips (51%).

When compared to the other benefits tested, commuters were a bit less responsive to discounts from local retail businesses and restaurants for carpooling or vanpooling (47%), having access to an advisor who could assist them in finding a carpool or vanpool (46%), preferred parking locations at their work site (38%), and free parking at their work site (34%).⁸

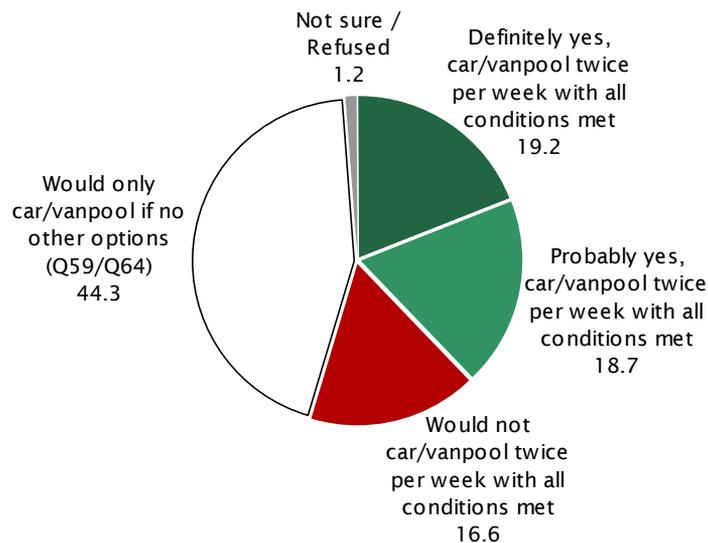
8. The free parking incentive was only asked of commuters who currently pay for parking at their work.

IMPACT OF FULL SUITE OF COMMUTE BENEFITS The final substantive question in this series was designed to assess the impact that a full suite of commute benefits, offered in concert, would have on commuters' willingness to carpool or vanpool to work at least twice per week. After presenting respondents with the list of commute benefits tested in Questions 62 and 68, the survey asked respondents whether they would carpool or vanpool to work at least twice per week if *all* of the conditions were met—including free assistance joining a carpool/vanpool, cash incentives, preferred parking, and a guaranteed ride home in case of emergencies? Figure 93 present the results in the context of *all* commuters, including those who had previously indicated that they would only carpool or vanpool if they had no other options.

Question 63 *What if ALL of the conditions I just mentioned were met, including free assistance in joining a carpool, cash incentives, preferred parking and a guaranteed ride home in case of emergencies? Would you carpool to work at least twice per week?*

Question 69 *What if ALL of the conditions I just mentioned were met, including free assistance in joining a vanpool, cash incentives, preferred parking and a guaranteed ride home in case of emergencies? Would you vanpool to work at least twice per week?*

FIGURE 93 CARPOOL / VANPOOL TWICE PER WEEK WITH ALL CONDITIONS MET



Among all employees who commute outside of the home for work, 19% indicated they would definitely carpool or vanpool at least twice per week to work if the full suite of commute benefits were offered, and an additional 19% indicated they would probably do so. Approximately 17% of employees had indicated they would commute to work in a carpool or vanpool under the right conditions, but even with the full suite of commute benefits offered they indicated they would still not carpool or vanpool. The remaining employees had previously indicated they would only rideshare to work if they had no other options (44%) or were unsure or unwilling to answer the question (1%).

Figures 94-98 show how employees' willingness to carpool or vanpool to work if a full suite of commute benefits were offered varied by age, gender, household income, area of residence, commute distance, commute length, ethnicity, and the number of employees at their work site.

In general, a willingness to rideshare to work under these conditions was highest for employees between 25 and 54 years of age, females, those in households that earn between \$50,000 and \$74,999 annually, residents of Southwest Riverside County and the North County West planning area, employees with commute distances between 15 and 49 miles and a commute length of 25 minutes or more, employees with mixed ethnic backgrounds, as well as employees who work at sites with 20 to 49 employees, or at least 100 employees.

FIGURE 94 CARPOOL / VANPOOL TWICE PER WEEK WITH ALL CONDITIONS MET BY AGE & GENDER

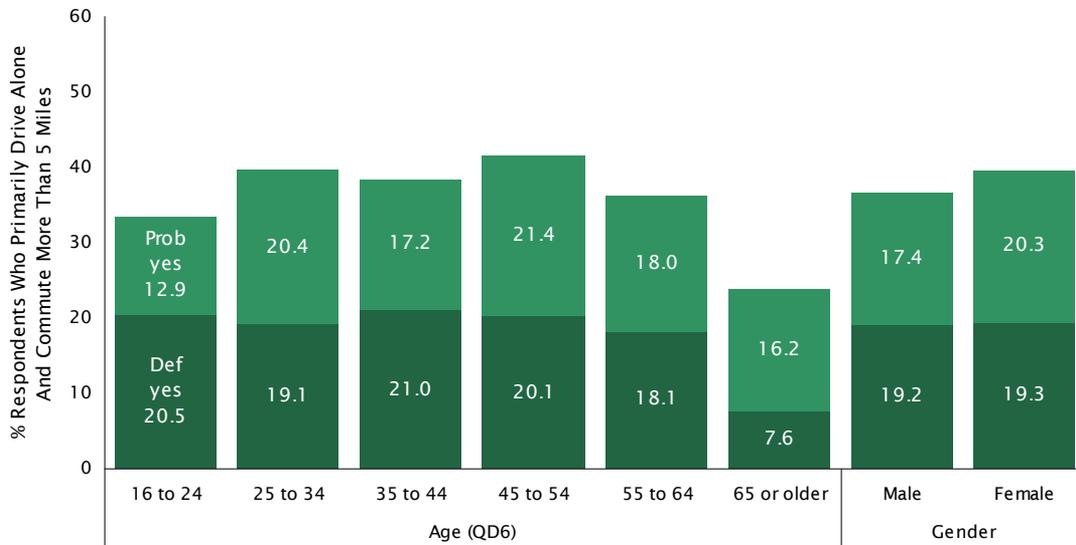


FIGURE 95 CARPOOL / VANPOOL TWICE PER WEEK WITH ALL CONDITIONS MET BY HOUSEHOLD INCOME

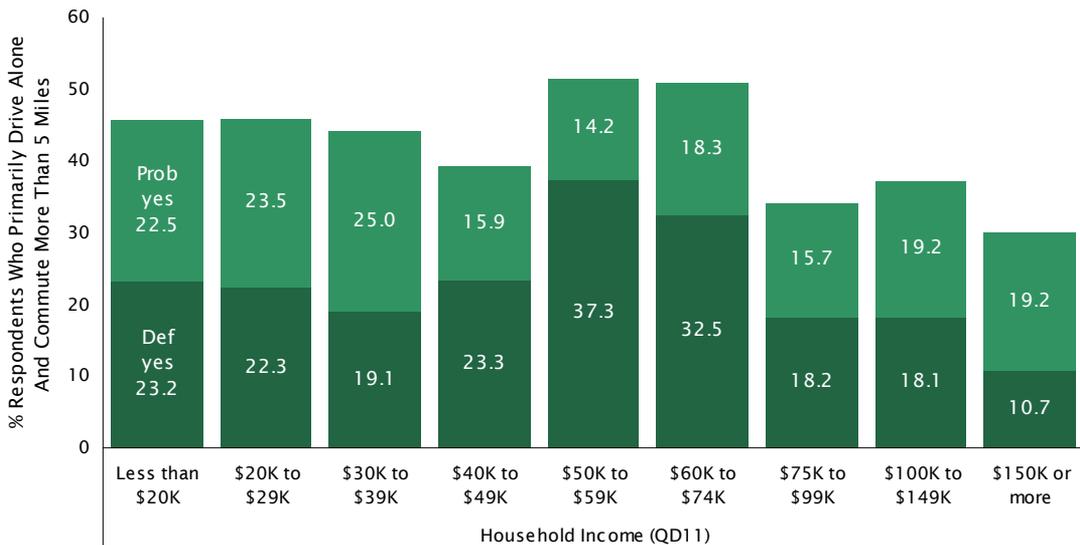


FIGURE 96 CARPOOL / VANPOOL TWICE PER WEEK WITH ALL CONDITIONS MET BY AREA OF REGION

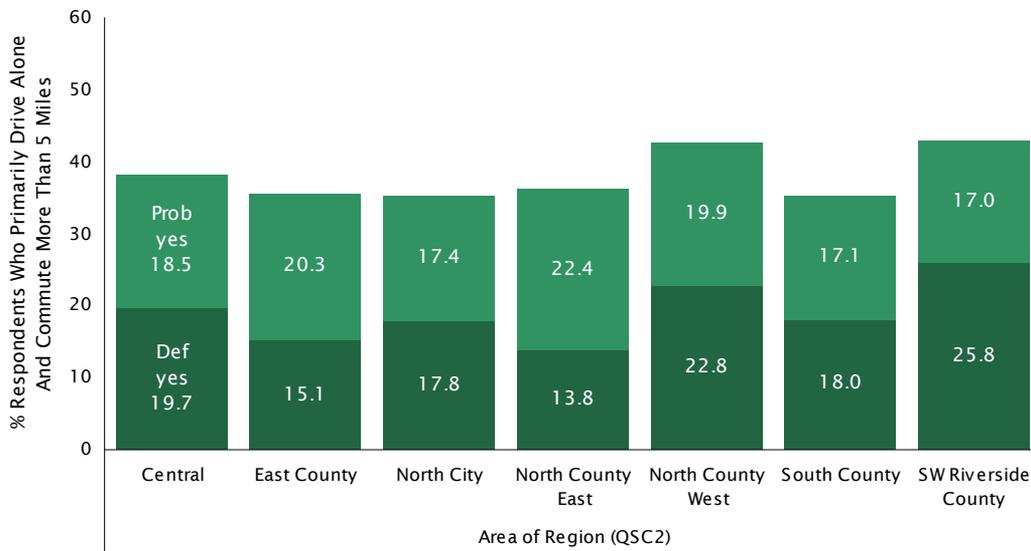


FIGURE 97 CARPOOL / VANPOOL TWICE PER WEEK WITH ALL CONDITIONS MET BY COMMUTE DISTANCE IN MILES & WORK COMMUTE MINS

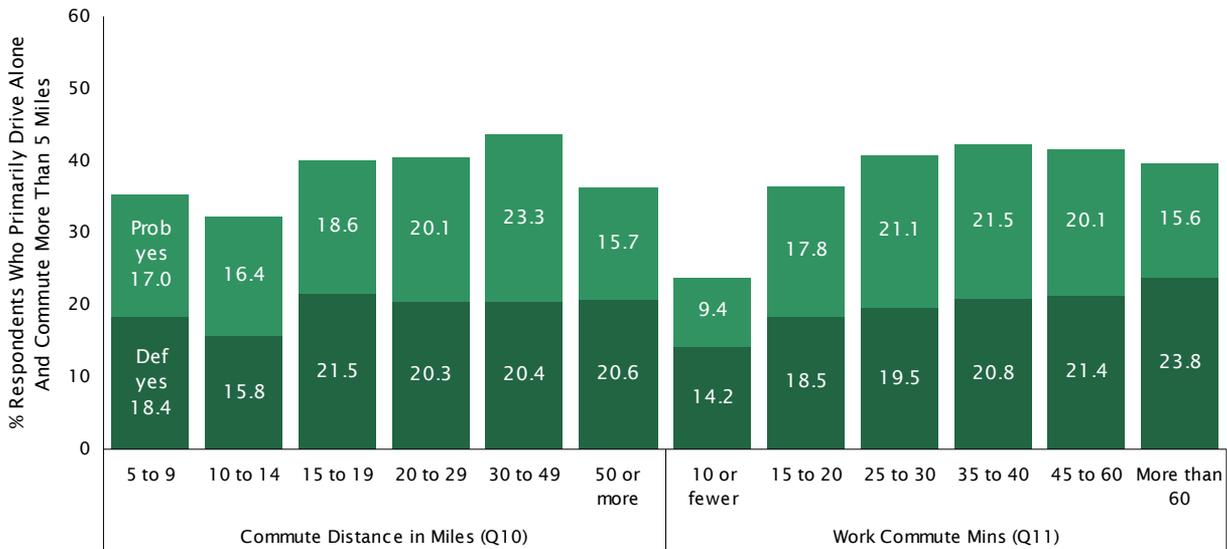
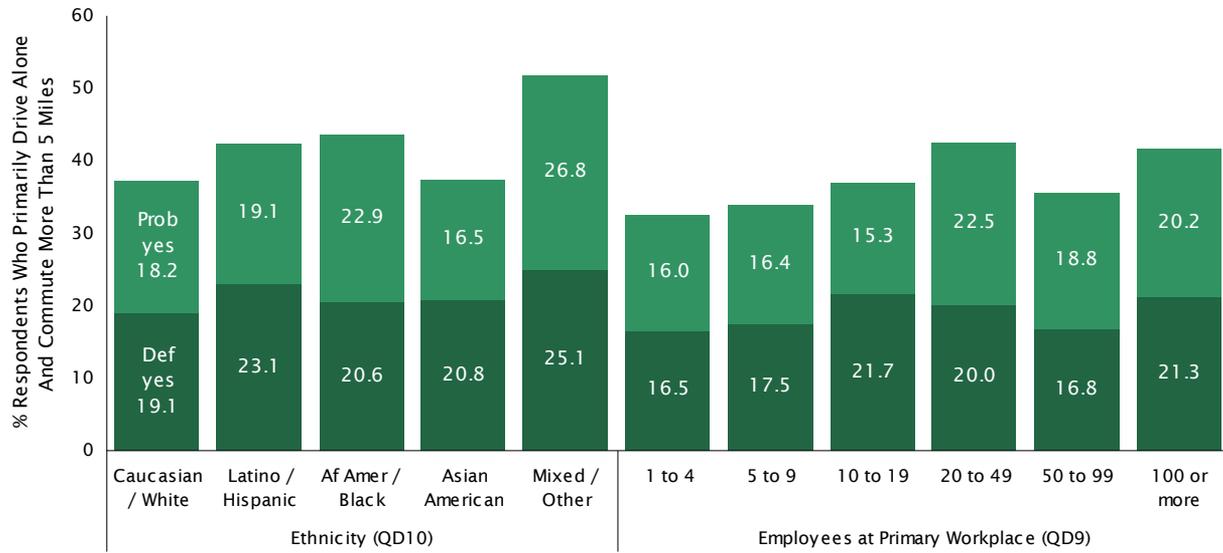


FIGURE 98 CARPOOL / VANPOOL TWICE PER WEEK WITH ALL CONDITIONS MET BY ETHNICITY & EMPLOYEES AT PRIMARY WORKPLACE



BACKGROUND & DEMOGRAPHICS

Table 10 presents background and demographic information collected during the course of the interview. The main motivations for collecting the background and demographic information were to ensure that the sample was representative of employees overall (as well as within subregions), and to provide a better insight into how the results of the substantive questions of the survey vary by demographic and household characteristics (see Appendix A for more details).

TABLE 10 DEMOGRAPHICS OF SAMPLE

	Overall	Area of Region (QSC2)						
		Central	East County	North City	North County East	North County West	South County	SW Riverside County
<i>Unweighted Respondents</i>	2,150	333	333	333	333	333	335	150
<i>Weighted Percentage of Overall</i>	100.0	17.9	14.4	24.4	3.1	23.5	10.4	6.2
Working Vehicles in Household (QD1)								
None	4.2	5.9	3.3	2.9	1.6	5.9	4.5	0.5
One	18.5	24.6	20.3	18.5	17.9	14.8	18.1	12.3
Two	35.9	34.6	34.1	39.7	32.7	34.2	34.5	40.2
Three or more	37.1	29.0	40.4	34.2	40.2	40.8	39.6	44.4
Refused	4.2	5.9	1.9	4.7	7.6	4.3	3.3	2.6
Number of People in Household (QD2)								
One	9.0	14.1	8.8	10.9	11.7	7.0	3.5	2.7
Two	24.0	27.0	25.4	27.3	21.0	24.3	13.4	17.4
Three	18.3	18.5	17.3	15.5	22.4	17.8	21.8	24.3
Four	20.8	12.3	22.6	24.1	16.9	22.5	24.6	17.7
Five or more	23.8	23.2	22.6	18.1	21.4	24.5	33.1	34.4
Refused	4.1	5.0	3.4	4.2	6.6	3.9	3.5	3.4
Number of People 16+ in Household (QD3)								
One	13.3	18.1	15.2	13.5	14.4	11.9	8.9	6.1
Two	45.0	42.3	45.1	48.6	41.1	45.2	39.2	49.6
Three	18.1	17.4	19.5	15.3	22.9	16.7	24.7	19.7
Four	11.5	7.8	11.9	11.8	7.9	13.5	12.2	12.9
Five or more	7.0	8.4	4.3	5.9	5.3	7.2	10.9	7.4
Refused	5.1	6.0	4.0	4.8	8.4	5.4	4.2	4.2
Personal Vehicle Access (QD4)								
Always	85.1	80.9	88.2	87.2	81.1	82.1	84.7	95.7
Sometimes	5.4	7.3	4.8	5.3	6.5	5.4	5.3	1.0
Rarely, never	5.1	7.1	4.0	2.8	3.0	7.9	6.0	0.0
Refused	4.4	4.7	3.0	4.7	9.3	4.6	4.0	3.3
Bicycle Access (QD5)								
Always	46.4	46.9	47.7	48.2	40.0	42.9	41.9	58.9
Sometimes	7.6	8.4	8.3	6.9	8.3	7.1	8.1	8.0
Rarely, never	41.1	39.4	40.9	39.9	41.6	45.3	43.8	30.3
Refused	4.9	5.2	3.2	5.0	10.0	4.7	6.2	2.8
Age (QD6)								
16 to 24	14.6	16.7	13.8	13.6	10.8	16.2	13.3	12.8
25 to 34	23.1	28.6	19.9	25.2	15.3	21.3	22.1	18.9
35 to 44	21.6	21.6	20.5	21.6	16.2	20.7	24.7	24.7
45 to 54	21.4	18.0	24.9	21.1	19.0	20.6	23.2	26.1
55 to 64	12.7	10.9	14.4	13.0	11.6	13.4	12.2	11.3
65 or older	3.2	2.6	3.6	3.4	3.5	3.7	2.7	2.4
Refused	3.3	1.6	2.9	2.1	23.7	4.0	1.8	3.7
Ethnicity (QD10)								
Caucasian / White	47.1	37.7	59.9	56.8	47.0	45.3	22.2	55.2
Latino / Hispanic	21.5	25.1	16.4	9.2	23.2	26.8	41.9	16.5
Af Amer / Black	4.2	8.3	4.8	1.3	1.7	3.0	5.5	6.1
Asian American	7.5	6.2	2.7	13.4	3.6	6.4	7.7	4.6
Mixed / Other	6.3	7.0	4.8	7.9	6.0	4.2	8.1	6.5
Refused	13.3	15.7	11.3	11.4	18.5	14.3	14.6	11.0
Household Income (QD11)								
Less than \$20K	5.9	9.7	5.0	2.3	3.6	7.3	10.3	0.0
\$20K to \$29K	7.4	10.6	9.6	2.5	8.9	10.5	6.3	1.9
\$30K to \$39K	9.1	9.6	10.1	7.7	11.1	11.4	9.1	1.9
\$40K to \$49K	6.2	7.6	6.4	5.8	4.7	5.5	8.3	2.9
\$50K to \$59K	5.9	6.9	5.0	5.2	7.9	6.0	6.7	5.0
\$60K to \$74K	7.2	4.4	8.7	9.3	8.8	5.0	7.4	10.5
\$75K to \$99K	13.7	14.0	15.6	14.7	9.1	9.5	15.1	20.7
\$100K to \$149K	15.5	12.6	14.6	18.3	13.6	13.7	13.4	26.5
\$150K or more	12.1	8.9	9.6	18.3	7.4	12.0	8.8	11.7
Refused	16.9	15.7	15.5	15.9	24.8	19.3	14.5	18.9
Gender								
Male	55.6	56.7	55.0	55.8	58.3	57.2	51.9	53.1
Female	44.4	43.3	45.0	44.2	41.7	42.8	48.1	46.9



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 motivation for using certain techniques.

QUESTIONNAIRE DEVELOPMENT Dr. McLarney of True North Research worked closely with SANDAG, KTU+A, TMS and ESTC 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. The final questionnaire used in the study can be found near the back of this report (see *Questionnaire & Toplines* on page 83). The reader should note that in order to avoid a systematic position bias, battery-style questions that included multiple individual items employed randomization to ensure that the items were asked in a random order for each respondent.

Several questions were also presented only to a subset of respondents. For example, only respondents who indicated that they occasionally telework (Question 44) were asked how often they telework (Question 45). The questionnaire included with this report 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 occur during the interview. The integrity of the questionnaire was pre-tested internally by True North and by dialing into random homes in the San Diego region prior to formally beginning the survey. To allow respondents who preferred to take the survey online the opportunity to do so, the questionnaire was also programmed into a secure, password-protected online survey application hosted by True North.

LANGUAGES The final survey was professionally translated into Spanish, and interviews were conducted in English or Spanish according to the preference of the respondent.

SAMPLE & WEIGHTING A total of 2,000 employees who reside in the San Diego region and work at least 30 hours per week were selected for the survey using stratified random sampling of land line and cell phone numbers. An additional 150 interregional commuters were also sampled from southwest Riverside County (Temecula and Murrieta) as they commute into the San Diego region for their job. To accommodate SANDAG's interest in obtaining reliable parameter estimates for the region as a whole, as well as within the six planning areas identified in Figure 1, the study employed a strategic oversample by planning area to balance the statistical margins of error associated with estimates at the planning area level. To adjust for the oversampling, the raw data were then weighted according to 2011 American Community Survey (ACS) estimates of the number of employed persons in each planning area (by age) prior to analyses and presentation. The results presented in this report are the weighted results, which are representative at the region-wide level, as well as within the six planning areas and Southwest Riverside County.

MARGIN OF ERROR DUE TO SAMPLING By using the probability-based sampling design noted above, True North ensured that the final sample was representative of adults in the San Diego region. Because not all adults 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 2,150 respondents for a particular question and what would have been found if all of the estimated 1,614,424 employed adults in the study area had been interviewed.⁹

For example, in estimating the percentage of employed adults who are aware of specific organizations, phone numbers or websites that they can go to for information about alternative ways of commuting (Question 49), 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:

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

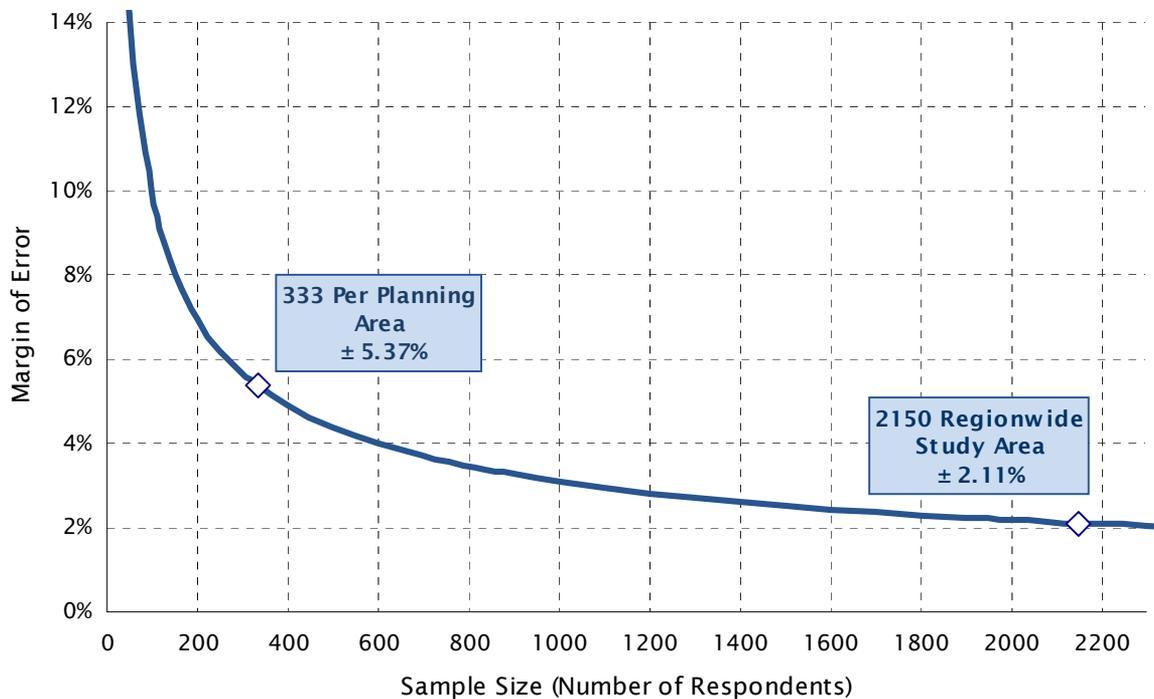
where \hat{p} is the proportion of respondents who indicated they were aware of at least one source of information about alternative ways of commuting (0.48 for 48%, in this example), N is the population size of all employed adults in the study region (1,614,424), n is the sample size that received the question (2150), 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 $\pm 2.11\%$. This means that with 48% of respondents indicating that they know of at least one source for information about alternative ways to commute, we can be 95% confident that the actual percentage of all employed adults in the study area that would be similarly aware is between 46% and 50%.

Figure 99 on the next page 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 $\pm 2.11\%$ for regionwide survey results for questions answered by all 2150 respondents. The margin of error at the subregional level is approximately $\pm 5.37\%$ based on 333 interviews per subregion.

Within this report, figures and tables show how responses to certain questions varied by demographic characteristics such as age of the respondent, length of residing in the San Diego region, household income, or home ownership status. Figure 99 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 results for small subgroups.

9. This estimate is based on estimates of the total number of employed adults in the San Diego region based on the 2011 *American Community Survey*, as well as the estimated number of adults who commute from Southwest Riverside County into San Diego for their jobs from a 2007 study conducted by True North Research for the Western Riverside Council of Governments (WRCOG).

FIGURE 99 MAXIMUM MARGIN OF ERROR



DATA COLLECTION The primary method of data collection for this study was telephone interviewing. Interviews were conducted during weekday evenings (6PM to 9PM) and on weekends (10AM to 5PM) between July 24 and August 30, 2013. It is standard practice not to call during the day on weekdays because most working adults are unavailable and thus calling during those hours would bias the sample. Telephone interviews averaged 20 minutes in length. Additionally, respondents who preferred to take the survey online were allowed to do so via a secure, password protected website.

DATA PROCESSING Data processing consisted of checking the data for errors or inconsistencies, coding and recoding responses, categorizing open-ended responses, and preparing frequency analyses and crosstabulations.

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 & TOPLINES



SANDAG
Commute Behavior & Vanpool/Carpool Survey
Final Toplines
September 2013

Section 1: Introduction to Study	
<i>Intro when dialing into San Diego County ZIPs:</i> Hi, my name is _____ and I'm calling on behalf of TNR, an independent public opinion research company. We're conducting a survey about important issues in San Diego County and we would like to get your opinions. I'm not selling anything and I won't ask for a donation. By participating in this survey, you will be entered into a sweepstakes to win \$500.	
<i>Alternative Intro when dialing into SW Riverside County ZIPs:</i> Hi, my name is _____ and I'm calling on behalf of TNR, an independent public opinion research company. We're conducting a survey about important issues in the region and we would like to get your opinions. I'm not selling anything and I won't ask for a donation. By participating in this survey, you will be entered into a sweepstakes to win \$500.	
<i>If needed:</i> This is a survey about how people work and travel in the region. Your answers will be confidential.	
<i>If needed:</i> The survey should take about 15 minutes to complete.	
<i>If needed:</i> If now is not a convenient time, can you let me know a better time so I can call back?	

Section 2: Screening Questions – San Diego County Calls																			
<i>Use these screening questions when dialing into San Diego County.</i>																			
To make sure our sample is balanced, I would like to speak to the youngest male currently at home that is employed at least 30 hours per week. <i>If there is no male currently at home that is employed, then ask:</i> Ok, then I'd like to speak to the youngest female currently at home that is employed at least 30 hours per week.																			
<i>If there is no employed adult currently available, then ask for a callback time.</i>																			
<i>If there is no employed adult in the household, note this in disposition.</i>																			
<i>NOTE: Adjust this screener as needed to match sample quotas on gender & age</i>																			
SC1	To begin, what is the ZIP code at your residence? <i>Read ZIP code back to them to confirm correct.</i>																		
	Record 5-digit ZIP code Data on file																		
SC2	<i>Record which area the ZIP code falls into. If the respondent provided a ZIP code that does not appear in one of the six areas below, terminate the interview. If qualified ZIP Code, go to intro preceding Q1. ZIP codes grouped into</i>																		
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: center;">1</td> <td style="width: 85%;">Central</td> <td style="width: 10%; text-align: center;">18%</td> </tr> <tr> <td style="text-align: center;">2</td> <td>East County</td> <td style="text-align: center;">14%</td> </tr> <tr> <td style="text-align: center;">3</td> <td>North City</td> <td style="text-align: center;">24%</td> </tr> <tr> <td style="text-align: center;">4</td> <td>North County East</td> <td style="text-align: center;">3%</td> </tr> <tr> <td style="text-align: center;">5</td> <td>North County West</td> <td style="text-align: center;">23%</td> </tr> <tr> <td style="text-align: center;">6</td> <td>South County</td> <td style="text-align: center;">10%</td> </tr> </table>	1	Central	18%	2	East County	14%	3	North City	24%	4	North County East	3%	5	North County West	23%	6	South County	10%
1	Central	18%																	
2	East County	14%																	
3	North City	24%																	
4	North County East	3%																	
5	North County West	23%																	
6	South County	10%																	

Section 3: Screening Questions – SW Riverside County Calls			
<i>Use these screening questions when dialing into SW Riverside County.</i>			
SC3	To begin, what is the zip code at your residence? <i>Read zip code back to them to confirm correct.</i>		
	Record 5-digit ZIP code	Data on file	
	7 SW Riverside County	6%	
SC4	Is there anyone in your household that commutes to San Diego County for their job at least three days per week?		
	1 Yes	100%	Ask SC5
	2 No	0%	Terminate
	3 Not sure	0%	Terminate
	99 Refused	0%	Terminate
SC5	I would like to speak to the person who commutes to San Diego County for their job. This survey applies to their commute situation.		
	1 Switched phone to San Diego commuter	100%	Go to Q1
	2 Not currently available	0%	Ask for name, callback time
	99 Refused	0%	Terminate

Section 4: Employment Status, Work Hours & Commute Frequency			
The purpose of this survey is to understand how people work and commute in the region. To begin, I have several questions about your employment.			
Q1	Are you currently employed at least 30 hours per week?		
	1 Yes	100%	Go to Q2
	2 No	0%	Ask for person employed at least 30 hours per week
	3 Yes, but currently on summer vacation/leave (e.g., teacher)	0%	Go to Q2
	99 Refused	0%	Terminate
For the next series of questions, please answer for your most recently completed work week. If Q1 = 3, also state: In your case, it would be the week of work before you took leave.			

Q2	In your most recently completed work week, what days of the week did you work? <i>Check all that apply.</i>			
	1	Monday	92%	
	2	Tuesday	93%	
	3	Wednesday	94%	
	4	Thursday	93%	
	5	Friday	90%	
	6	Saturday	24%	
	7	Sunday	17%	
<i>Sum days listed in Q2.</i>				
Q3	Of the <# from Q2> days you worked that week, how many days did you commute to a work location outside of your home? <i>Restrict: sum # from Q2 ≥ Q3.</i>			
	<i>If says Not sure, prompt: What would be your best estimate?</i>			
	0	None	10%	
	1	One day	1%	
	2	Two days	2%	
	3	Three days	5%	
	4	Four days	10%	
	5	Five days	61%	
	6	Six days	7%	
	7	Seven days	4%	
<i>If Q3 less than sum # of Q2, ask Q4. Otherwise skip to intro preceding Q9.</i>				
Q4	Just to confirm, you worked from home or teleworked <sum # from Q2 - Q3 value> days that week?			
	1	Yes	90%	<i>Go to Q5</i>
	2	No	10%	<i>Skip to Q7</i>
	99	Refused	0%	<i>Skip to Q7</i>
<i>Ask Q5 if Q3 = 0 and Q4 = 1.</i>				
Q5	Do you primarily work from home?			
	1	Yes	80%	
	2	No	20%	
	99	Refused	0%	

Q6 Are you self-employed?			
1	Yes	47%	Skip to Q9
2	No	52%	Skip to Q9
99	Refused	0%	Skip to Q9
<i>Ask Q7 if Q4 = (2,99).</i>			
Q7 You mentioned you worked <insert sum # Q2> days that week, but commuted to a work destination outside your home <insert Q3 value> days. Where did you work the other <insert sum # Q2 - Q3 value> days?			
1	Worked from home/Telework	21%	
2	Worked at a different satellite office location closer to home	26%	
3	Worked from a library, Starbucks or other local site	18%	
4	Traveled for business/different sales locations/went to see clients	33%	
5	Other	5%	
If Q7 = (1,2,3), read: Just to be clear, telework is defined as performing your work duties from home or from a location that is significantly closer to your home for the <i>entire</i> work day instead of commuting to your regular work place. <i>Derive # TELEWORK DAYS variable.</i> If Q4 = 1, telework days = sum # from Q2 - Q3 value. If Q4 = 2 and Q7 = (1,2,3), telework days = sum # from Q2 - Q3 value. If Q4 = 2 and Q7 = (4,5), telework days = 0.			
<i>Ask Q8 if # telework days > 0 but less than sum # days in Q2.</i>			
Computed telework days among all respondents.			
0	None	84%	
1	One	3%	
2	Two	2%	
3	Three	2%	
4	Four	1%	
5	Five	6%	
6	Six	1%	
7	Seven	2%	
Q8 In your most recently completed work week, which days of the week did you work from home or telework? Confirm number of days checked in Q8 matches # telework days, and telework days checked in Q8 were also checked in Q2.			
1	Monday	72%	
2	Tuesday	64%	
3	Wednesday	67%	
4	Thursday	65%	

5	Friday	72%
6	Saturday	26%
7	Sunday	20%

Section 5: Primary Commute Mode, Time & Distance

Do not ask questions in this section if Q3 = 0.

Q9	Thinking back to your most recently completed work week, how did you get to work on _____?
	<i>If mentions more than one type of transportation, ask: Which form of transportation did you use for the longest portion of your commute in miles?</i>
	<i>If says drove to work in a car, truck or van, ask: Were you alone in the vehicle? If no, ask: Including yourself, how many people were in the vehicle?</i>
	<i>If says carpool or vanpool, ask: Including yourself, how many people were in the vehicle?</i>

Loop. Only ask about days checked in Q2 as work days that weren't also telework days (Q8). Auto code the telework days from Q8. Percentage of all respondents shown below.

	A	B	C	D	E	F	G
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Drove alone	68%	69%	69%	69%	66%	15%	10%
Carpool (insert # 2-5 people as Q9.1)	4%	5%	5%	5%	4%	1%	1%
Vanpool (insert # 6-15 people as Q9.2)	0%	0%	0%	0%	0%	0%	0%
Motorcycle/scooter	1%	1%	1%	1%	1%	0%	0%
Bus (local bus)	2%	2%	2%	2%	2%	1%	1%
Bus (premium express bus)	0%	0%	0%	0%	0%	0%	0%
Trolley	1%	1%	1%	1%	0%	0%	0%
Coaster (train)	0%	0%	0%	0%	0%	0%	0%
SPRINTER (train)	0%	0%	0%	0%	0%	0%	0%
AMTRAK/Metrolink (train)	0%	0%	0%	0%	0%	0%	0%
Shuttle service	0%	0%	0%	0%	0%	0%	0%
Taxi	0%	0%	0%	0%	0%	0%	0%
Bike	1%	1%	1%	1%	1%	0%	0%
Walk	1%	2%	2%	2%	2%	1%	1%
Other	1%	1%	1%	1%	1%	0%	0%
Worked at Home/Teleworked/Didn't commute to work	12%	11%	11%	11%	12%	5%	4%
Did not work	8%	7%	6%	7%	10%	76%	83%

Primary commute modes used on at least one day.		
	Drove alone	78%
	Carpool	7%
	Vanpool	1%
	Motorcycle	1%
	Local bus	3%
	Premium bus	<1%
	Trolley	1%
	Coaster	<1%
	Sprinter	<1%
	AMTRAK/Metrolink	<1%
	Shuttle	<1%
	Taxi	<1%
	Bike	1%
	Walk	2%
	Other	2%
	Worked at home	17%
Q10	In miles, what is the approximate distance between your home and your primary place of work? <i>If respondent Not sure, ask them to estimate.</i>	
	Less than 5	13%
	5 to 9	18%
	10 to 14	19%
	15 to 19	14%
	20 to 29	16%
	30 to 49	11%
	50 or more	7%
	Not sure	3%
Q11	How long does it typically take you to commute to work one-way if you go there directly without stops? <i>If respondent says it depends or Not sure, ask them to estimate their average time. Responses recorded as 5-min increments.</i>	
	10 or less	20%
	15 to 20	34%
	25 to 30	21%
	35 to 40	9%
	45 to 60	12%
	More than 60	4%

	Not sure	1%
Q12	What time of the day do you typically start your commute to work? <i>If varies, ask what time is most common.</i>	
	4:00am to 5:00am	7%
	5:15am to 6:00am	15%
	6:15am to 7:00am	24%
	7:15am to 8:00am	25%
	8:15am to 9:00am	13%
	9:15am to 10:00am	5%
	10:15am to 3:00pm	6%
	3:15pm to 6:00pm	1%
	6:15pm to 3:45am	2%
	Refused	1%
Q13	What time of the day do you typically start your reverse commute back home? <i>If varies, ask what time is most common.</i>	
	12:00pm to 2:00pm	5%
	2:15pm to 3:00pm	9%
	3:15pm to 4:00pm	19%
	4:15pm to 5:00pm	25%
	5:15pm to 6:00pm	19%
	6:15pm to 7:00pm	8%
	7:15pm to 8:00pm	4%
	8:15pm to 11:45pm	7%
	12:00am to 11:45am	1%
	Refused	1%
Q14	How long does it typically take you to commute one-way from work back to your home if you go there directly without stops? <i>If respondent says it depends or Not sure, ask them to estimate their average time. Responses recorded as 5-min increments.</i>	
	10 or less	18%
	15 to 20	30%
	25 to 30	20%
	35 to 40	11%
	45 to 60	15%
	More than 60	6%
	Not sure	1%

Section 6: First Mile Details								
<i>Asked only of those who used the mode in Q9 for any day.</i>								
How do you get from your home to where you meet _____? <i>Multiple Response Allowed.</i>								
		Q15 Carpool	Q17 Vanpool	Q19 Bus	Q21 Trolley	Q23 Coaster	Q25 Sprinter	Q27 AMTRAK/ Metrolink
1	I get picked up at home/I am the driver/start at my house	72%	37%	0%	0%	0%	0%	0%
2	Drive alone	22%	53%	12%	33%	47%	2%	40%
3	Get dropped off by someone else driving	12%	0%	11%	4%	20%	15%	2%
4	Motorcycle/scooter	1%	3%	0%	0%	0%	0%	0%
5	Bus	0%	0%	0%	18%	20%	3%	0%
6	Trolley	0%	0%	3%	0%	0%	0%	0%
7	Coaster (train)	0%	0%	0%	0%	0%	0%	0%
8	Sprinter (train)	0%	0%	0%	0%	0%	0%	0%
9	AMTRAK/Metrolink (train)	0%	0%	2%	2%	0%	0%	0%
10	Shuttle service	0%	0%	0%	0%	0%	0%	0%
11	Taxi	0%	0%	0%	0%	0%	0%	0%
12	Bicycle	1%	0%	2%	2%	53%	0%	0%
13	Walk	5%	6%	74%	48%	0%	81%	57%
14	Other	1%	4%	6%	0%	0%	0%	0%
99	Refused	3%	0%	0%	0%	0%	0%	0%
Approximately how many miles is it from your home to where you meet _____? <i>If unsure, ask to estimate. (Not asked of carpool/vanpool respondents who said they begin carpool/vanpool at home at Q15/Q17).</i>								
		Q16 Carpool	Q18 Vanpool	Q20 Bus	Q22 Trolley	Q24 Coaster	Q26 Sprinter	Q28 AMTRAK/ Metrolink
	1/2 mile or less	21%	10%	44%	39%	0%	0%	57%
	3/4 to 1 mile	6%	6%	29%	18%	33%	81%	0%
	2 to 5 miles	28%	56%	6%	28%	47%	5%	33%
	6 to 9 miles	7%	24%	3%	0%	0%	15%	0%
	10 or more miles	24%	4%	8%	15%	20%	0%	8%
	Refused	13%	0%	10%	0%	0%	0%	2%

Section 7: Last Mile Details								
Asked only of those who used the mode in Q9 for any day.								
After you get out of your carpool/vanpool / off the bus/trolley/Coaster/Sprinter/train, how do you get to your work destination? <i>Multiple Response Allowed.</i>								
		Q29 Carpool	Q31 Vanpool	Q33 Bus	Q35 Trolley	Q37 Coaster	Q39 Sprinter	Q41 AMTRAK/ Metrolink
1	Dropped off at worksite	66%	73%	0%	0%	0%	0%	0%
2	Drive alone	13%	3%	2%	17%	0%	0%	8%
3	Picked up by someone else	1%	1%	2%	2%	20%	0%	2%
4	Motorcycle/scooter	0%	0%	0%	0%	0%	0%	0%
5	Bus	0%	0%	0%	0%	20%	17%	0%
6	Trolley	0%	0%	2%	0%	0%	0%	0%
7	Coaster (train)	0%	0%	0%	0%	0%	0%	0%
8	Sprinter (train)	0%	0%	0%	0%	0%	0%	0%
9	AMTRAK/Metrolink (train)	0%	0%	1%	0%	0%	0%	0%
10	Shuttle service	0%	0%	4%	0%	0%	0%	0%
11	Taxi	0%	0%	0%	0%	0%	0%	0%
12	Bicycle	0%	0%	1%	2%	33%	40%	0%
13	Walk	18%	26%	88%	83%	27%	42%	57%
14	Other	1%	0%	0%	0%	0%	0%	33%
99	Refused	3%	0%	0%	0%	0%	0%	0%
Approximately how many miles is it from where your carpool/vanpool ends / you get off the bus/trolley/Coaster/Sprinter/train to your place of work? (Not asked of carpool/vanpool respondents who said they get dropped off at worksite at Q29/Q31).								
		Q30 Carpool	Q32 Vanpool	Q34 Bus	Q36 Trolley	Q38 Coaster	Q40 Sprinter	Q42 AMTRAK/ Metrolink
	1/2 mile or less	29%	51%	32%	61%	0%	0%	57%
	3/4 to 1 mile	15%	0%	40%	21%	27%	42%	0%
	2 to 5 miles	17%	0%	12%	3%	73%	58%	35%
	6 to 9 miles	6%	0%	0%	2%	0%	0%	0%
	10 or more miles	14%	33%	5%	13%	0%	0%	2%
	Refused	19%	16%	11%	0%	0%	0%	5%

Section 8: Alternative Modes for Commute					
<i>Do not ask Q43 if Q5 = 1 (those who primarily work from home).</i>					
Q43	In the past 12 months, have you: _____ when commuting between your home and work?				
	<i>Randomize</i>	Previously identified as a primary mode (Q9)	Yes	No	Prefer not to answer
A	Ridden the bus	4%	7%	89%	0%
B	Ridden the Trolley	1%	7%	91%	0%
C	Ridden a Train, including COASTER, SPRINTER, AMTRAK or METROLINK	1%	6%	93%	0%
D	Ridden in a Carpool	8%	14%	79%	0%
E	Ridden in a Vanpool	1%	5%	94%	0%
F	Ridden a bike	1%	8%	91%	0%
G	Walked	3%	11%	87%	0%
Alternate commute modes in past 12 months among all respondents who provided opinion.					
	None	57%			
	None / Primarily work from home	7%			
	Bus	10%			
	Trolley	8%			
	Train	6%			
	Carpool	20%			
	Vanpool	5%			
	Bike	8%			
	Walk	12%			

Section 9: Teleworking			
<i>Skip to Q46 if Telework Days > 0. If Telework Days = 0, ask Q44.</i>			
Q44	Now I want to ask you about teleworking. Teleworkers are employees who occasionally work from home or at a location close to their home for an entire work day instead of commuting to their regular work place. Do you occasionally telework?		
1	Yes	16%	Ask Q45
2	No	83%	Skip to Q47
99	Refused	1%	Skip to Q47

Q45	How often do you usually telework?			
	1	Only for emergency or special occasions	22%	
	2	Less than one time per month	11%	
	3	1 to 3 times per month	34%	
	4	1 day per week	12%	
	5	2 days per week	5%	
	6	3 or more days per week	17%	
Q46	For how many years or months have you been teleworking?			
	1	Less than 6 months	9%	Skip to Q49
	2	6 months to less than 1 year	11%	Skip to Q49
	3	1 year to less than 2 years	9%	Skip to Q49
	4	2 years to less than 3 years	11%	Skip to Q49
	5	3 years to less than 4 years	13%	Skip to Q49
	6	4 years to less than 5 years	5%	Skip to Q49
	7	5 years or longer	42%	Skip to Q49
Q47	Would your job responsibilities allow you to work for an entire day from home or a location closer to home at least occasionally?			
	1	Yes	19%	
	2	No	81%	
	99	Refused	0%	
Q48	Does your employer allow people to work from home occasionally?			
	1	Yes	26%	
	2	No	73%	
	99	Refused	1%	

Section 10: Awareness of iCommute, Programs & Services

Q49	Are you aware of any specific organizations, phone numbers or websites that you can go to for information about alternative ways of commuting, including carpools, vanpools, using public transit, and teleworking?			
	1	Yes	48%	Ask Q50
	2	No	51%	Skip to Q51
	3	Not sure	0%	Skip to Q51
	99	Refused	0%	Skip to Q51

Q50	Which specific ones are you aware of? Probe: Any others? Multiple Responses Allowed.		
	1	511 (phone)	24%
	2	www.511sd.com (web)	14%
	3	iCommute (organization)	14%
	4	www.icommutesd.com (web)	9%
	5	SANDAG - San Diego Association of Governments (organization)	24%
	6	www.sandag.org (web)	16%
	7	MTS - Metropolitan Transit System (organization)	43%
	8	www.sdmts.com	20%
	9	NCTD - North County Transit District (organization)	17%
	10	www.gonctd.com (web)	7%
	11	211	1%
	12	800 carpool/vanpool	1%
	13	AMTRAK/METROLINK website	1%
	14	Caltrans	<1%
	15	Coaster / Sprinter / Trolley website	1%
	16	Google	1%
	17	Craigslist	1%
	18	Public transit (general)	2%
	19	Carpool / Vanpool through employer	2%
	20	Vanpool.com	1%
	21	Rideshare	1%
	22	Other website	1%
	23	Other source	2%
	98	Not sure / Cannot remember	21%
	99	Refused	2%

Section 11: Employer Services				
<i>Do not ask questions in this section if Q5 = 1 (those who primarily work from home).</i>				
Q51	Does your employer offer: _____?			
	<i>Randomize</i>	Yes	No	Not sure / Refused
A	Information about alternative commute options	23%	72%	4%
B	Free or discounted transit passes	15%	81%	5%
C	Cash or other incentives for carpooling, vanpooling, walking or biking to work	10%	87%	4%
D	Guaranteed rides home in case of emergencies or unscheduled overtime for employees that don't drive to work	14%	79%	7%
E	Free employee shuttles	10%	87%	3%
F	Special facilities or lockers for employees who bike or walk to work	26%	70%	4%
G	Preferred parking locations for carpools or vanpools	21%	76%	3%
H	Compressed work weeks where employees can work a full-time schedule in fewer than 5 days, such as a 3/36 (three-thirty-six), 4/40 (four-forty) or 9/80 (nine-eighty) schedule	24%	71%	5%
I	A program where you can withhold money from your paycheck and pay for transit passes pre-tax	11%	83%	6%
J	Cash or other incentives for not using parking	5%	92%	3%
K	Access to carpool or vanpool matching services	17%	78%	5%
Q52	Does your employer offer any other commute-related benefit programs that I did not mention?			
	1	Yes	4%	Ask Q53
	2	No	93%	Skip to Q54
	99	Not sure/Refused	3%	Skip to Q54
Q53	Please briefly describe the benefit program to me. Verbatim responses recorded and later grouped into categories shown below.			
	Free transit, shuttle pass		30%	
	Mileage reimbursement		17%	
	Discounts, incentives (general)		15%	
	Parking pass, discount		8%	
	Gas card / Free gas		4%	

	Encourage, support healthy lifestyle		4%
	Health insurance discount		3%
	Electric car charging		2%
	Other		8%
	Refused		17%
<i>Only ask items in Q54 for which Q51 = 1.</i>			
Q54	As I read the following benefits offered by your employer, please tell me whether you have used the benefit in the past 12 months.		
	<i>Randomize</i>	Yes	No Not sure / Refused
A	Information about alternative commute options	25%	74% 1%
B	Free or discounted transit passes	29%	71% 0%
C	Cash or other incentives for carpooling, vanpooling, walking or biking to work	22%	77% 1%
D	Guaranteed rides home in case of emergencies or unscheduled overtime for employees that don't drive to work	31%	69% 1%
E	Free employee shuttles	44%	56% 1%
F	Special facilities or lockers for employees who bike or walk to work	27%	73% 0%
G	Preferred parking locations for carpools or vanpools	24%	76% 1%
H	Compressed work weeks where employees can work a full-time schedule in fewer than 5 days - such as a 3/36 (three-thirty-six), 4/40 (four-forty) or 9/80 (nine-eighty) schedule	50%	48% 3%
I	A program where you can withhold money from your paycheck and pay for transit passes pre-tax	19%	79% 3%
J	Cash or other incentives for not using parking	27%	73% 0%
K	Access to carpool or vanpool matching services	20%	79% 1%
Q55	Is parking free at your work site?		
	1 Yes	90%	Skip to Q58
	2 No	9%	Ask Q56
	99 Not sure/Refused	1%	Skip to Q58

Q56	How much does it cost to park when you drive to work, on a per-day basis?	
	\$3 or less	16%
	\$4 to \$9	19%
	\$10 to \$19	15%
	\$20 or more	16%
	Not sure / Refused	33%
Q57	How much of the <insert Q56 amount> you pay for parking per work day does your employer reimburse you, if any?	
	None	85%
	A portion	5%
	All	11%
<p><i>Only ask questions in Sections 12 or 13 if Q9 = 1 for all reported work days AND Q10 > 5 miles. I.e, do not ask questions in these sections if the person used any form of transportation other than drive alone during the reported work week in Q9, or if they have a commute of less than 6 miles.</i></p> <p><i>Randomly Split Sample Sections 12 & 13. Half Get Section 12, Half Get Section 13.</i></p>		

Section 12: Carpool Incentives & Strategies

Q58	Which of the following statements best matches your attitude about joining a carpool to commute to work? _____ OR _____?			
<i>Randomize options 1 & 2.</i>				
	1	I would only ride in a carpool to work at least twice per week if I had no other options	44%	Skip to Q70
	2	I would ride in a carpool to work at least twice per week under the right circumstances	44%	Ask Q59
	99	Prefer not to answer	12%	Ask Q59
Q59	What conditions or changes are needed for you to ride in a carpool for your work commute at least twice per week? Please be as specific as you can in your response. <i>Do Not Read Options.</i>			
	1	Have/know other employees near my home that want to carpool too	36%	
	2	Employer help organize carpool	3%	
	3	Employer help pay cost of carpool/Provide incentive \$	4%	
	4	Change in my work schedule	15%	
	5	Receive free parking at work location	2%	
	6	Receive free preferred parking location at work	2%	
	7	Someone else drives/Use someone else's car	6%	

8	Doesn't take more time than driving solo	7%
10	Flexibility in carpool schedule	3%
11	Have vehicle to run errands	2%
12	No realistic changes	5%
9	Other	7%
98	Not sure	10%
99	Refused	8%
Q60	Would you commute to work in a carpool at least twice per week if the price of gasoline rose to 5 dollars per gallon?	
1	Yes	42%
2	No	53%
99	Not sure/Refused	4%
Q61	In some regions, there are programs that offer people a cash incentive to carpool. Would you carpool to work at least twice per week if every person in your carpool received: _____ per month? <i>If yes, ask: Would that be definitely yes or probably yes?</i>	
<i>Read in sequence starting with the lowest amount (A), then the next lowest (B), and so on. If respondent says 'definitely yes', record 'definitely yes' for all HIGHER dollar amounts and go to next question.</i>		
	<i>Ask in Order</i>	Definitely Yes
		Probably Yes
		No
		Not sure
		Refused
A	\$30	22%
B	\$40	28%
C	\$50	38%
Q62	Next, I'm going to read a list of incentives or benefits that can be offered to people who carpool. As I read each item, I'd like to know whether it would motivate you to commute to work in a carpool at least twice per week. Would you commute to work in a carpool at least twice per week if: _____?	
	<i>Randomize. Only ask item B if Q55 = 2.</i>	Yes
		No
		Not sure / Refused
A	You receive preferred parking locations at your work site	33%
B	You receive free parking at your work site	30%
C	You could talk to an advisor who would assist you in finding a carpool	43%
D	You were provided carpool information that is specific to your commute route	58%
E	You had access to a website that helps plan carpool trips	51%

F	There was a smartphone App that enables you to search for and find a carpool ride on-demand, when and where you need the ride, and you can view details about the carpool driver in advance of accepting the offer to rideshare	46%	51%	3%
G	You received discounts from local retail businesses and restaurants for carpooling	49%	50%	1%
H	You had a guaranteed ride home in case of emergencies or unscheduled overtime	60%	38%	2%
Q63	What if ALL of the conditions I just mentioned were met, including free assistance in joining a carpool, cash incentives, preferred parking and a guaranteed ride home in case of emergencies? Would you carpool to work at least twice per week? <i>If yes, ask: Would that be definitely yes or probably yes?</i>			
	1	Definitely yes	33%	
	2	Probably yes	35%	
	3	No	31%	
	99	Not sure/Refused	2%	

Section 13: Vanpool Incentives & Strategies

Q64	Which of the following statements best matches your attitude about joining a vanpool to commute to work? _____ OR _____?			
<i>Randomize options 1 & 2.</i>				
	1	I would only ride in a vanpool to work at least twice per week if I had no other options	45%	<i>Skip to Q70</i>
	2	I would ride in a vanpool to work at least twice per week under the right circumstances	39%	<i>Ask Q65</i>
	99	Prefer not to answer	16%	<i>Ask Q65</i>
Q65	What conditions or changes are needed for you to ride in a vanpool for your work commute at least twice per week? Please be as specific as you can in your response. <i>Do Not Read Options.</i>			
	1	Have/know other employees near my home that want to vanpool too	19%	
	2	Employer help organize vanpool	7%	
	3	Employer help pay cost of vanpool /Provide incentive \$	5%	
	4	Change in my work schedule	18%	
	5	Receive free parking at work location	0%	
	6	Receive free preferred parking location at work	1%	
	7	Someone else drives/Use someone else's car	3%	
	8	Doesn't take more time than driving solo	9%	
	10	Flexibility in vanpool schedule	5%	

	11	Have vehicle to run errands		4%			
	12	No realistic changes		10%			
	9	Other		5%			
	98	Not sure		13%			
	99	Refused		12%			
Q66	Would you commute to work in a vanpool at least twice per week if the price of gasoline rose to 5 dollars per gallon?						
	1	Yes		39%			
	2	No		58%			
	99	Not sure/Refused		4%			
Q67	In some regions, there are also programs that provide subsidies to groups of people who vanpool to help pay for the cost of leasing the van. Would you vanpool to work at least twice per week if your group received a subsidy of _____ per month? <i>If yes, ask: Would that be definitely yes or probably yes?</i>						
<i>Read in sequence starting with the lowest amount (A), then the next lowest (B), and so on. If respondent says 'definitely yes', record 'definitely yes' for all HIGHER dollar amounts and go to next question.</i>							
	<i>Ask in Order</i>		Definitely Yes	Probably Yes	No	Not sure	Refused
A	\$300		22%	35%	39%	4%	0%
B	\$400		30%	29%	38%	2%	0%
C	\$500		40%	23%	35%	2%	0%
Q68	Next, I'm going to read a list of incentives or benefits that can be offered to people who vanpool. As I read each item, I'd like to know whether it would motivate you to commute to work in a vanpool at least twice per week. Would you commute to work in a vanpool at least twice per week if: _____?						
	<i>Randomize. Only ask item B if Q55 = 2.</i>		Yes	No	Not sure / Refused		
A	You receive preferred parking locations at your work site		43%	55%	1%		
B	You receive free parking at your work site		38%	62%	0%		
C	You could talk to an advisor who would assist you in finding a vanpool		50%	47%	3%		
D	You were provided vanpool information that is specific to your commute route		62%	36%	2%		
E	You had access to a website that helps plan vanpool trips		51%	47%	2%		

F	There was a smartphone App that enables you to search for and find a vanpool ride on-demand, when and where you need the ride, and you can view details about the vanpool driver in advance of accepting the offer to rideshare	57%	41%	2%
G	You received discounts from local retail businesses and restaurants for vanpooling	44%	54%	1%
H	You had a guaranteed ride home in case of emergencies or unscheduled overtime	67%	32%	0%
Q69	What if ALL of the conditions I just mentioned were met, including free assistance in joining a vanpool, cash incentives, preferred parking and a guaranteed ride home in case of emergencies? Would you vanpool to work at least twice per week? <i>If yes, ask: Would that be definitely yes or probably yes?</i>			
	1	Definitely yes	36%	
	2	Probably yes	32%	
	3	No	29%	
	99	Not sure/Refused	3%	

Section 14: Commute Origin & Destination

Next, I have a few questions about your home and primary work locations. The information you provide will be completely confidential. It is used to make maps which show general commute patterns to help relieve traffic congestion.

Do not ask Q70 to Q72 if Q5 = 1 (those who primarily work from home).

Q70	In what county is your primary place of work located?			
	1	Los Angeles (L.A.)	1%	
	2	Orange	1%	
	3	Riverside	1%	
	4	San Bernardino	0%	
	5	San Diego	94%	
	6	Ventura	0%	
	7	Imperial	0%	
	8	Other	1%	
	99	Refused	2%	
Q71	In what city is your primary place of work located?			
	Data on file, geocoding pending			

Q72	What are the names of the two major cross-streets that are closest to your primary place of work? <i>If respondent hesitates, assure them:</i> This information is completely confidential. It is used to make maps which show commute patterns to help relieve traffic congestion.	
	A	Street #1
	B	Street #2
	99	Not sure/Refused
Q73	What are the names of the two major cross-streets that are closest to your home? <i>If respondent hesitates, assure them:</i> This information is completely confidential. It is used to make maps which show commute patterns to help relieve traffic congestion.	
	A	Street #1
	B	Street #2
	99	Not sure/Refused

Section 15: Demographics & Background Info

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

D1	How many motor vehicles in working condition are owned or leased by members of your household, including cars, trucks, vans and street-legal motorcycles or scooters.	
	0	None
	1	One
	2	Two
	3	Three or more
	99	Refused
D2	How many people live in your household?	
	1	One
	2	Two
	3	Three
	4	Four
	5	Five or more
	99	Refused
D3	How many of the people in your household are 16 years or older?	
	1	One
	2	Two
	3	Three
	4	Four

	5	Five or more	7%
	99	Refused	5%
D4	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	85%
	2	Sometimes	5%
	3	Rarely	2%
	4	Never	3%
	99	Refused	4%
D5	How would you describe your access to a bicycle? Would you say you always have access, sometimes have access, rarely have access, or never have access to a bicycle?		
	1	Always	46%
	2	Sometimes	8%
	3	Rarely	5%
	4	Never	36%
	99	Refused	5%
D6	In what year were you born? Year recorded and grouped into categories shown below.		
	1	16 to 24	15%
	2	25 to 34	23%
	3	35 to 44	22%
	4	45 to 54	21%
	5	55 to 64	13%
	6	65 or older	3%
	99	Refused	3%
D7	What is your current occupation? Verbatim responses recorded and later grouped into categories shown below.		
	Professional specialty (not IT)		14%
	Administrative / Office worker		10%
	Craft and repair		8%
	Supervisor / Manager		8%
	Sales		7%
	Teacher		6%
	Protective services		5%
	Medical assistant		4%
	Executive		4%

	Operator / Fabricator / Laborer	3%
	Food preparation, serving	3%
	Customer service / Telemarketer	3%
	Janitorial	2%
	Physician	2%
	Nurse	2%
	Professional specialty (IT)	2%
	Precision production, assembly	1%
	Church / Religious duties	0%
	Other	7%
	Not sure / Refused	9%
D8	And what industry do you work in? <i>If pauses, ask: What does your company do?</i> Verbatim responses recorded and later grouped into categories shown below.	
	Business services	17%
	Medical, social services	12%
	Education	8%
	Construction	6%
	Non-IT manufacturing	5%
	Hospitality, visitor, entertainment services	5%
	Government / Public administration	5%
	Transportation	5%
	IT manufacturing, services	4%
	Financial services	4%
	Retail	4%
	Biosciences / Pharmaceuticals	3%
	Communications	2%
	Agriculture	1%
	Religious / Spiritual	1%
	Energy / Natural Resources	<1%
	Other	5%
	Not sure / Refused	11%

D9 About how many employees work at your primary work location?		
1	1 to 4	15%
2	5 to 9	7%
3	10 to 19	8%
4	20 to 49	13%
5	50 to 99	9%
6	100 to 499	18%
7	500 or more	18%
98	Not sure	4%
99	Prefer not to answer	8%
D10 What ethnic group do you consider yourself a part of or feel closest to? <i>Read list if respondent hesitates</i>		
1	Caucasian/White	47%
2	Latino/Hispanic	22%
3	African-American/Black	4%
4	American Indian or Alaskan Native	1%
5	Asian—Korean, Japanese, Chinese, Vietnamese, Filipino or other Asian	7%
6	Pacific Islander	1%
7	Middle Eastern	1%
8	Mixed Heritage	4%
98	Other	2%
99	Prefer not to answer	11%
D11 I have just one more question for you for statistical reasons. I am going to read some income categories. Please stop me when I reach the category that best describes your total household income.		
1	Less than \$20,000	6%
2	\$20,000 to less than \$30,000	7%
3	\$30,000 to less than \$40,000	9%
4	\$40,000 to less than \$50,000	6%
5	\$50,000 to less than \$60,000	6%
6	\$60,000 to less than \$75,000	7%
7	\$75,000 to less than \$100,000	14%
8	\$100,000 to less than \$150,000	16%
9	\$150,000 to less than \$200,000	6%
10	\$200,000 or more	6%
98	Not sure / Refused	17%

Those are all of the questions that I have for you! Thanks very much for participating.

Post-Interview Items

D12 Gender			
	1	Male	56%
	2	Female	44%