Bus Market Research Study
Summary Report

Prepared for the
Orange County Transportation Authority

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INTRODUCTION

The Orange County Transportation Authority (OCTA) is the primary transportation agency for Orange County, California. Formed in 1991, OCTA's mission is to create an integrated and balanced transportation system that supports the diverse needs of travelers, and deliver transportation solutions that improve mobility, reduce emissions, and ultimately enhance the quality of life in Orange County.

One of OCTA's core service areas is providing fixed-route bus services to Orange County residents, commuters and travelers. OCTA currently operates 77 bus routes throughout the County with daily boardings averaging 160,000 on weekdays. Over the past five years, OCTA has witnessed a significant decline (15%) in ridership on the fixed-route bus system. Although some of this decline occurred shortly after an extensive service reduction in 2010, and again in 2013 after fare increases, the general pattern of decline suggests there may be additional factors contributing to declining ridership.

MOTIVATION FOR RESEARCH

The primary goals of this study were to understand the potential market for fixed-route bus service among current non-riders, as well as identify why ridership declined over the past five years. By identifying non-riders' and former riders' perceptions of bus service, their reasons for not riding the bus, their willingness to ride the bus in the future, and what changes may be needed to make that happen, this study will help OCTA develop effective operational, marketing and promotional strategies in the interest of increasing bus ridership. Specifically, this study:

- Profiles non-rider's current travel patterns including mode preference.
- Measures their familiarity with, prior use of, and perceptions of OCTA's bus service.
- Identifies the types of changes that may be required to expand bus ridership from non-riders' perspectives, as well as potential barriers.
- Identifies factors that contributed to declining ridership in recent years by oversampling and interviewing individuals who recently stopped riding the bus.
- Profiles the potential market for bus service among existing non-riders based on their views of the bus and their willingness to use the bus in the future, identifying segments that represent the best targets in the latent market for bus service.

OVERVIEW OF METHODOLOGY

A full description of the methodology used for this study is included later in this report (see *Methodology* on page 52). In brief, a total of 1200 randomly selected Orange County adult residents (including an oversample of 253 former OCTA bus riders) participated in the survey between June 2 and June 25, 2015. For the general public survey, telephone numbers were selected at random from land-line and mobile-phone exchanges that service Orange County. For the oversample of former riders, telephone numbers were obtained from a random sample of individuals who were previously surveyed onboard an OCTA bus between 2010 and 2013. The current survey was conducted using a mixed-method approach which allowed respondents the option to participate in the survey by telephone or online through a secure, password-protected, web-based application designed and hosted by True North Research. Telephone interviews averaged 17 minutes in length and were conducted in English, Spanish and Vietnamese during weekday evenings (5:30PM to 9PM) and on weekends (10AM to 5PM).

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 (see *Methodology* on page 52). 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 56), and a complete set of crosstabulations for the survey results is contained in Appendix A, which is bound separately.

ACKNOWLEDGEMENTS True North thanks Stella Lin, Ellen Burton, CEO Darrell Johnson, as well as other OCTA staff for contributing their valuable input during the design stage of this study. Their collective experience, insight, and local knowledge 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 OCTA. 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, perceptions, 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 900 survey research studies for public agencies, including more than 300 studies for California municipalities, special districts, and transportation planning agencies.

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.

FAMILIARITY & GENERAL OPINION OF BUS SERVICE

- Among Orange County adult residents, 15% indicated that they were very familiar with OCTA's bus service, 17% somewhat familiar, 17% slightly familiar, whereas half (50%) indicated they were not at all familiar with the service.
- Among those who were familiar with the OCTA bus, 30% held a very favorable opinion of the bus as a travel option, and 38% held a somewhat favorable opinion. Approximately 22% held an unfavorable opinion of the bus as a travel option for them, whereas 11% were unsure or preferred not to share their opinion.
- Those who had an unfavorable opinion of the bus as a travel option were most likely to explain their opinion by stating that the travel times are too long (25%), OCTA's bus does not travel to the areas they need to go (17%), the available times/schedules are insufficient (15%), or that riding the bus is inconvenient in general (11%).

TRAVEL MODES & BUS USE

- The majority (64%) of residents surveyed indicated that they *primarily* drive alone when traveling in Orange County, whereas one-quarter typically drive with one or more passengers (26%). Overall, 6% stated that they primarily travel by bus and 1% primarily walk. No other individual transportation mode was mentioned by at least 1% of respondents.
- Nearly three-quarters (73%) of respondents indicated they had not ridden the OCTA bus at any time during the four years prior to the interview, whereas 27% stated that they had ridden the bus during this period.
- Among the 26% who had ridden OCTA's bus during the prior four year period, approximately half (13%) indicated that they had also ridden the bus in the six months prior to the interview.
- With respect to frequency of bus ridership, 8% of respondents reported riding the OCTA bus more than once per month in the six months prior to the interview, 6% rode once per month or less often during this period, 13% had ridden the bus during the prior four years but not in the past six months, whereas 74% indicated they had not ridden the bus in the past four years.

FORMER BUS RIDERS

- For the purposes of this study, former riders were defined as individuals who currently reside in Orange County and had ridden the OCTA bus during the four years prior to the interview at a frequency of at least once per month, but had not ridden the bus during the six months prior to the interview. Five percent (5%) of Orange County residents surveyed met the definition of a former rider.

- Based on 1037 screening interviews conducted by True North with individuals who had previously been surveyed while riding an OCTA bus between 2010 and 2013, 36% had subsequently moved out of Orange County, 42% were still riding the OCTA bus, 19% qualified as a former rider, and 3% did not ride the bus at least once per month in the past and thus did not qualify as a former rider for the purposes of this study.
- When asked in an open-ended manner, the dominant reason offered by former OCTA bus riders for why they stopped riding the bus is that they acquired access to and prefer to use a personal vehicle (70%). Other reasons included a personal work or school schedule change (11%), a perception that the bus is generally inconvenient to use (6%), and concerns about travel time being too long on the bus (5%).
- When asked specifically about four potential factors for why they stopped riding the bus, travel times being too long was mentioned by half (51%) of former riders as being *at least* a small factor in their decision to stop riding the bus, with 29% stating that it was a big factor. A decrease in the frequency of service was cited by more than one-third (36%) of former riders as at least a small reason they stopped riding the bus, with 16% indicating it was a big factor.
- Compared to the other factors tested, an increase in the cost of riding the bus and a change in bus routes were less prevalent factors in former riders' decisions to stop riding the bus, being mentioned by 32% and 23% of respondents, respectively, as being at least a small factor in their decision. Just one-in-ten former riders cited the cost of riding the bus (11%) and a change in a bus route (10%) as being a big factor that contributed to their no longer using the OCTA bus system.
- At the time they were riding the bus in the past, just 15% of former riders indicated that they always had access to a personal vehicle. Approximately one-quarter (25%) sometimes had access to a vehicle, 21% rarely had access to a vehicle, and 40% stated that they never had access to a personal vehicle.
- The situation is much different today among former riders, with 81% indicating that they now always have access to a personal vehicle, and 9% sometimes have access. Less than 10% of former OCTA bus riders rarely or never have access to a personal vehicle.
- When former riders were asked what form of transportation they started to use for trips that they previously made by bus, nearly all reported that they now make these trips using a personal vehicle—either driving alone (72%), in a carpool (19%), or using a motorcycle (5%). Approximately 2% indicated that they stopped making the trips for which they used to ride the bus, whereas 3% mentioned some other mode including Uber/Lyft, Taxi, bike, walk or Amtrak.

COMPARATIVE PERFORMANCE & PERCEPTIONS

- Orange County adults reported favorable comparative rankings for the bus on two of the performance dimensions tested. The bus was perceived to outperform a personal vehicle by the largest margin on being an economical way to travel and being a safe way to travel.
- The OCTA bus and a personal vehicle were rated similarly, on average, with respect to avoiding traffic congestion, being a stress-free way to travel, and being a reliable form of transportation.
- On the remaining performance dimensions, however, the bus was viewed as underperforming a personal vehicle. When compared to a personal vehicle, the largest performance gaps were found with respect to getting to a destination in a reasonable time, going where needed, being available when needed, and being a convenient way to travel. The bus also received a lower average score for being clean and comfortable when compared to a personal vehicle.

INTEREST IN RIDING BUS

- Among *current* OCTA bus riders, 30% were very interested in increasing the frequency with which they ride the OCTA bus, 25% were somewhat interested, 20% were slightly interested, whereas the remainder were not interested in increasing their frequency of bus ridership (24%) or were unsure (1%).
- Among *former* OCTA bus riders, 10% were very interested in using the OCTA bus for some of the trips they make in Orange County, 19% were somewhat interested, 29% were slightly interested, whereas 41% were not interested in riding the bus.
- Orange County residents who had not ridden the OCTA bus in the four years prior to the interview expressed the least overall interest in riding the bus. Among this group, 8% were very interested in riding the bus for some of the trips they take in Orange County, 8% were somewhat interested, 22% were slightly interested, whereas 61% indicated they were not at all interested in riding the OCTA bus.
- Among *current* riders, 64% expected to ride the bus at the same frequency as they do now, 21% anticipated riding more frequently during the next six months, whereas 15% expected to ride less often.
- Among former riders and those who had not ridden the OCTA bus during the past four years, 85% did not anticipate riding the OCTA bus for any trips they take in Orange County, whereas 15% expected that they would ride the OCTA bus during the next six months.
- Of those who were interested in riding the bus, but indicated they did not expect to actually ride more often during the next six months, 39% were not sure or mentioned that there was no particular reason/obstacle preventing them from riding the bus more often. Among the specific obstacles that were identified, the most common were that the travel times when riding the bus are too long (21%), they have access to and prefer a personal vehicle (13%), a perception that the bus is generally inconvenient (11%), concerns about the reliability of the bus/being on time (7%), and a perception that the bus does not travel to the areas they need to go (6%).
- Approximately 62% of survey participants indicated that there were no changes to bus services in Orange County that came to mind that would cause them to ride the bus more frequently in the future.
- Among those that did mention an improvement that would cause them to increase their ridership, the most common changes were providing additional buses/increasing frequency of service (13%), providing additional direct routes/express routes (9%), providing additional bus stops that are closer to their origins/destinations (5%), reducing travel time (4%), and improving reliability/timeliness of service (3%).
- When provided with a list of 12 potential improvements to bus service and asked to indicate the impact that the improvement may have on their ridership, the most compelling improvements were providing a neighborhood bus service that would pick riders up at a place and time of their choosing (37% definitely ride more often), the ability to reach destinations without having to transfer buses (37%), a mobile app with information about the timing and status of buses in real-time (31%), and more direct routes with fewer stops (29%).
- Increasing the frequency of bus service (26%), placing bus stops closer to destinations so it requires less walking (30%), and reducing bus fares (28%) were also mentioned by at least one-in-four respondents as improvements that would definitely cause them to ride the bus more often.

- At the other end of the spectrum, just one-in-four (or fewer) respondents indicated that improved benches and shelters at bus stops (22%), more parking available at transit stations (20%), expanding the hours of bus service earlier/later in the day (23%), making WiFi available on buses (24%), and the ability to purchase a ticket with a mobile device (25%) would definitely cause them to ride the OCTA bus more frequently than they do currently.
- If OCTA were to implement all twelve of the service improvements noted above, one-third (33%) of Orange County residents indicated that they would definitely ride the bus more often in the future, and an additional 32% indicated they would probably do so. The remaining respondents indicated they would not ride the bus more often in the future even if the improvements were made (34%) or were unsure (1%).
- Among the different types of trips tested, those who stated they would be likely to ride the bus in the future (with service improvements) indicated they would be most likely to use the bus for social and recreational trips (68%), as well as commuting to/from work (67%) or school (63%). Approximately half of those administered the question indicated they would be likely to use the bus for medical appointments (56%) and shopping trips (54%).
- When provided an open-ended opportunity to mention other types of trips for which they would be very likely to use the bus, most (78%) indicated there were no additional destinations/trip types for which they would be very likely to use the bus in the future. Among the specific destinations offered, sports/concert venues (4%), beaches (4%), other cities (3%), and the airport (3%) were the most frequently mentioned.

Conclusions

As noted in the *Introduction*, this study was designed to identify the factors contributing to declining bus ridership in recent years, as well as profile the *potential* market for OCTA's fixed-route bus service among Orange County residents. By identifying non-riders' and former riders' perceptions of bus service, their reasons for not riding the bus, their willingness to ride the bus in the future, and what changes may be needed to make that happen, the study will help OCTA develop effective operational, marketing and promotional strategies in the interest of increasing bus ridership.

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' and note how the collective results of the survey answer some of the key questions that motivated the research.

What factors contributed to declining OCTA bus ridership in recent years?

Over the past five years, OCTA has witnessed a significant decline (15%) in ridership on the fixed-route bus system. Although some of this decline occurred shortly after an extensive service reduction in 2010, and again in 2013 after fare increases, the general pattern of decline suggests there are likely to be additional factors contributing to declining ridership. One of the primary research objectives of this study was thus to identify factors that have contributed to the declining ridership on OCTA's fixed-route bus system in recent years. The survey results (and the survey process) provide good insights regarding the main contributing factors.

To learn why bus ridership has declined, True North held in-depth interviews with former riders. For the purposes of this study, *former riders* were defined as individuals who currently reside in Orange County and had ridden the OCTA bus during the four years prior to the interview at a frequency of at least once per month, but had not ridden the bus during the six months prior to the interview. Approximately 5% of Orange County residents met the definition of a former rider.[1]

As noted above, one of the definitional requirements of a *former rider* was that they still currently reside in Orange County. This requirement was included so that the individuals included in the oversample were *choosing* to not ride the bus, rather than not riding the bus due to the fact that they moved out of Orange County. During the course of the oversample survey, however, it became clear that one of the significant factors contributing to the loss of OCTA bus ridership is that many individuals who rode the bus in recent years no longer live in Orange County. In other words, riders are moving out of OCTA's service area. Based on 1,037 screening interviews conducted by True North with individuals who had previously been surveyed while riding an OCTA bus between 2010 and 2013, 36% had subsequently moved out of Orange

1. With oversampling, a total of 253 former riders were administered in-depth interviews.

County, 42% were still riding the OCTA bus, 19% qualified as a former rider, and 3% did not ride the bus at least once per month in the past and thus did not qualify as a former rider for the purposes of this study.

Whether one considers it a cause or a secondary effect, access to a personal vehicle is also a key factor explaining why former riders no longer use the OCTA bus. At the time they were riding the bus in the past, most former riders were transit-dependent to some degree. Just 15% of former riders indicated that they always had access to a personal vehicle. Approximately one-quarter (25%) sometimes had access to a vehicle, 21% rarely had access to a vehicle, and 40% stated that they never had access to a personal vehicle.

The situation is strikingly different today among former riders, with 81% indicating that they now *always* have access to a personal vehicle, and 9% sometimes have access. Less than 10% of former OCTA bus riders rarely or never have access to a personal vehicle today. Acquiring access to a personal vehicle was the dominant explanation offered by former riders for why they stopped riding the bus (70%), and nearly all former riders also reported that trips they previously made by bus they now make using a personal vehicle—either driving alone (72%), in a carpool (19%), or using a motorcycle (5%).

Operational factors have also contributed to declining ridership according to former riders. Travel times being too long was mentioned by half (51%) of former riders as being *at leas*t a small factor in their decision to stop riding the bus, with 29% stating that it was a big factor. A decrease in the frequency of service was cited by more than one-third (36%) of former riders as at least a small reason they stopped riding the bus, with 16% indicating it was a big factor.

When compared to the other factors tested, an increase in the cost of riding the bus and a change in bus routes were less prevalent factors in former riders' decisions to stop riding the bus, being mentioned by 32% and 23% of respondents, respectively, as being at least a small factor in their decision. Just one-in-ten former riders cited the cost of riding the bus (11%) and a change in a bus route (10%) as being a big factor that contributed to their no longer using the OCTA bus system.

Finally, personal schedule changes (e.g., change of work or school schedule) also accounted for a portion of lost ridership, being mentioned by 11% of former riders as the primary reason they stopped riding the OCTA bus.

How do residents view the performance of the OCTA bus system—and what improvements can be made to attract ridership?

The survey provided clear insights into why former riders have stopped riding the OCTA bus (see above). It's also clear that the acquisition of new riders is not keeping pace with the turnover of existing riders, resulting in a general decline in ridership. The central question moving forward, therefore, is how to make the bus more attractive to existing riders, non-riders, and former riders to stem the decline in ridership and perhaps restore ridership to previous levels.

Of course, people will choose to ride the OCTA bus only if bus services are more desirable than the alternative modes available to the traveler. With this in mind, the survey first explored residents' perspectives of the OCTA bus' performance relative to the most obvious competitor—a personal vehicle. In other words, how competitive is the OCTA bus system with a personal vehicle in satisfying a variety of travel requirements and conditions?

On two key performance dimensions—being an economical way to travel and being a safe way to travel—the bus was perceived as outperforming a personal vehicle. The OCTA bus and a personal vehicle were rated similarly, on average, with respect to avoiding traffic congestion, being a stress-free way to travel, and being a reliable form of transportation.

On the remaining performance dimensions, however, the bus was viewed as underperforming a personal vehicle. When compared to a personal vehicle, the largest performance gaps were found with respect to getting to a destination in a reasonable time, going where needed, being available when needed, and being a convenient way to travel. The bus also received a lower average score for being clean and comfortable when compared to a personal vehicle.

Perceived gaps in the performance of the OCTA bus relative to a personal vehicle were strongly related to ridership patterns at the individual and subgroup levels. When compared to current riders, former riders and non-riders were much more likely to view the bus as *underperforming* a personal vehicle with respect to being a convenient way to travel, being a reliable form of transportation, being available when needed, being consistent in travel times, getting to a destination in a reasonable amount of time, and going where they need to go.

A consistent theme throughout the survey was thus the importance of *time.* Different perspectives of the bus with respect to timely service go a long way in differentiating current riders from former riders and non-riders. Time also underpins the service improvements both riders and non-riders indicated would have the most positive impact on their future ridership. Of 12 potential service improvements tested, those that would make the bus a faster, more convenient method of travel were viewed as the most compelling, including:

- There was a neighborhood bus service that would pick you up at a place and time of your choosing.
- You could reach your destinations without having to transfer buses.
- There was a mobile app with information about the timing and status of buses in real-time.
- There were more direct routes with fewer stops.
- The frequency of bus service was increased.

Although still attractive, other potential improvements—such as reducing bus fares, providing WiFi, increasing the availability of free parking at transit stations, and improving benches and shelters at bus stops—were clearly less compelling in terms of their potential positive impact on future ridership.

What is the size and composition of the potential OCTA bus market?

One of the primary goals of this study was to profile the potential market for OCTA's fixed-route bus service among Orange County residents, many of whom have little or no familiarity with the bus. Rather than assume that *all* residents are potential riders, we operated from the premise that the market is comprised of tiers (layers)—with some residents sharing criteria that make them very good targets, others sharing criteria that make them moderately good targets, and still others that are realistically not within the potential OCTA bus market.

For the purposes of this study, a respondent's position in the OCTA bus market was based on several criteria, including whether they currently ride the OCTA bus, were able to suggest an improvement that would cause them to start riding the bus in the future, and their stated likelihood of riding the bus if OCTA were to implement a suite of service improvements (see Question 21 in *Questionnaire & Toplines* on page 56 for the list of service improvements). These three variables were combined to establish four market layers.

The **existing market** consists of individuals who reported riding the OCTA bus in the past six months, although not necessarily as their primary mode of transportation. Although currently riding the bus, these 13% of Orange County residents should not be overlooked from a marketing perspective given that many have an opportunity to increase the *frequency* with which they ride the bus.

The most promising *potential* riders are those who—although not currently riding the bus—were able to suggest changes that would cause them to increase their bus ridership, and also indicated that they would *definitely* ride the bus if OCTA were to implement a suite of service improvements. **Tier 1 Targets** represent 14% of the adult population in Orange County.

Second-tier targets are individuals who don't currently ride the bus and were unable to suggest a change that would cause them to ride the bus more often in the future, but did state they would definitely ride the bus if OCTA were to implement a suite of service improvements. **Tier 2 Targets** represent 12% of the adult population in Orange County.

Finally, approximately 61% of Orange County adults were classified as being **outside the OCTA bus market** based on their not being a current rider and their weak/lack of interest in riding the bus in the future even if OCTA were to implement a suite of service improvements.

As one might expect, the propensity to be an existing rider and/or potential rider varied significantly across demographic subgroups. When compared to their respective counterparts, those under 35 years of age, residents of Supervisorial District 1, part-time employees and those currently in between jobs, those who live in households with annual family incomes under $50,000, individuals who do not always have access to a personal vehicle, those already very familiar with OCTA's bus service, and those with comparatively short commutes of 3 to 10 miles were the most likely to be *at least* a Tier 2 Target (i.e., in the market). From a composition standpoint, age, ethnicity, household income, and access to a personal vehicle are the variables that best distinguish the market layers. For more on the composition of the market layers, see *Market Tiers & Size* on page 46.

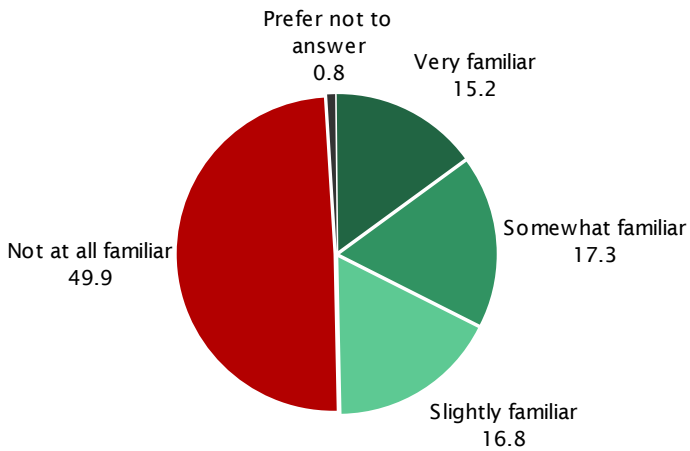
Familiarity & General Opinion of Bus Service

The opening section of the survey was designed to measure Orange County residents' familiarity with OCTA's fixed-route bus service, their overall opinion of the bus as a travel option, and the *reasons* they hold that particular view.

FAMILIARITY WITH OCTA BUS The initial question in the survey asked respondents to indicate how familiar they are with OCTA's bus service in Orange County. As shown in Figure 1, 15% indicated that they were very familiar with OCTA's bus service, 17% somewhat familiar, 17% slightly familiar, whereas half (50%) of Orange County residents indicated they were not at all familiar with the service.

Question 1 *How familiar would you say you are with OCTA's bus service in Orange County? Would you say you are very familiar, somewhat familiar, slightly familiar, or not at all familiar?*

Figure 1 Familiarity With OCTA Bus Service [n = 1,200][2]



Figures 2-5 on the following pages display how familiarity with OCTA's bus service varied across a host of demographic subgroups and characteristics. When compared to their respective counterparts, familiarity with the bus was notably higher among Latinos and those of mixed ethnic heritage, those who currently ride the bus at least once per month, individuals who had encountered an advertisement relating to OCTA's bus service in the six months prior to the interview, those with household incomes under $50,000 annually, and individuals whose primary mode of transportation when traveling in Orange County is public transit.

2. The [n=122] notation in the figure title indicates the number of respondents in the weighted sample that are factored into the analysis shown in the figure. Due to skip patterns, some figures are based on a smaller subset of respondents. Also, it is important to keep in mind that the data were weighted to adjust for the strategic oversampling of former riders. Thus, for figures based solely on former riders, the weighted sample size will appear to be much smaller than the actual number of raw interviews conducted with former riders.

FIGURE 2 FAMILIARITY WITH OCTA BUS SERVICE BY AGE & ETHNICITY [N = 1,200]

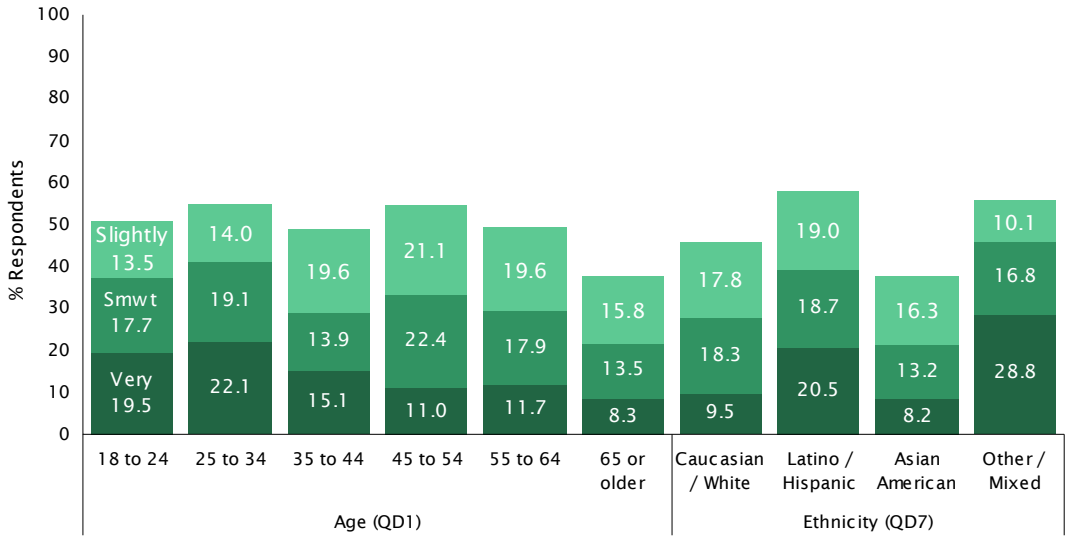


FIGURE 3 FAMILIARITY WITH OCTA BUS SERVICE BY FREQUENCY OF BUS USAGE, GENDER & ENCOUNTERED OCTA BUS AD IN PAST 6 MONTHS [N = 1,200]

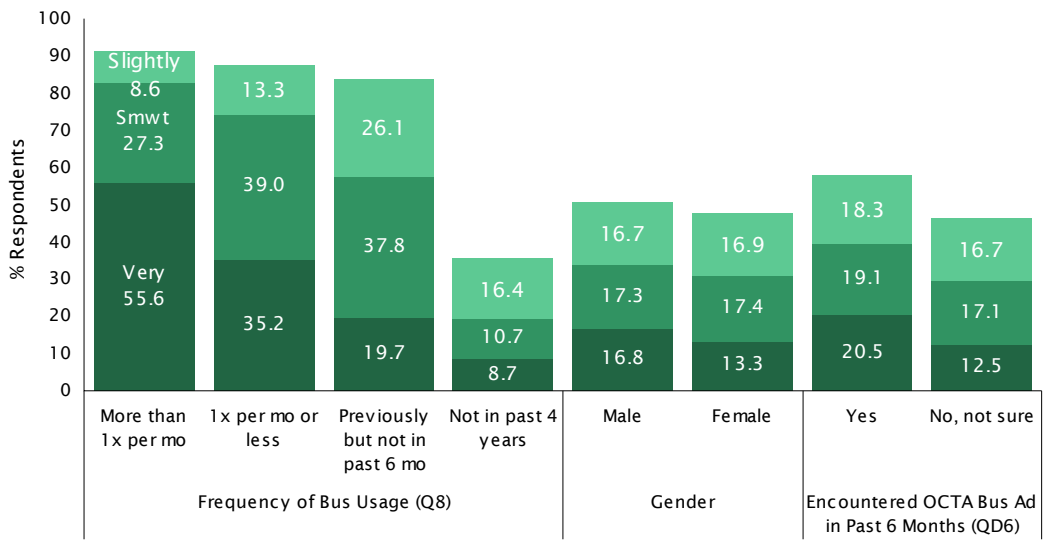


FIGURE 4 FAMILIARITY WITH OCTA BUS SERVICE BY HSLD INCOME [N = 1,200]

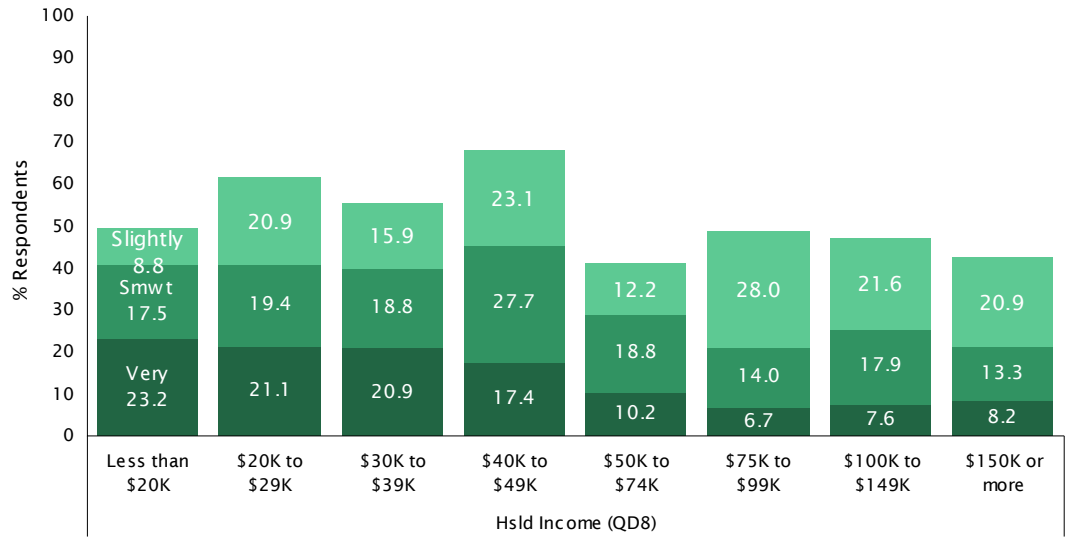
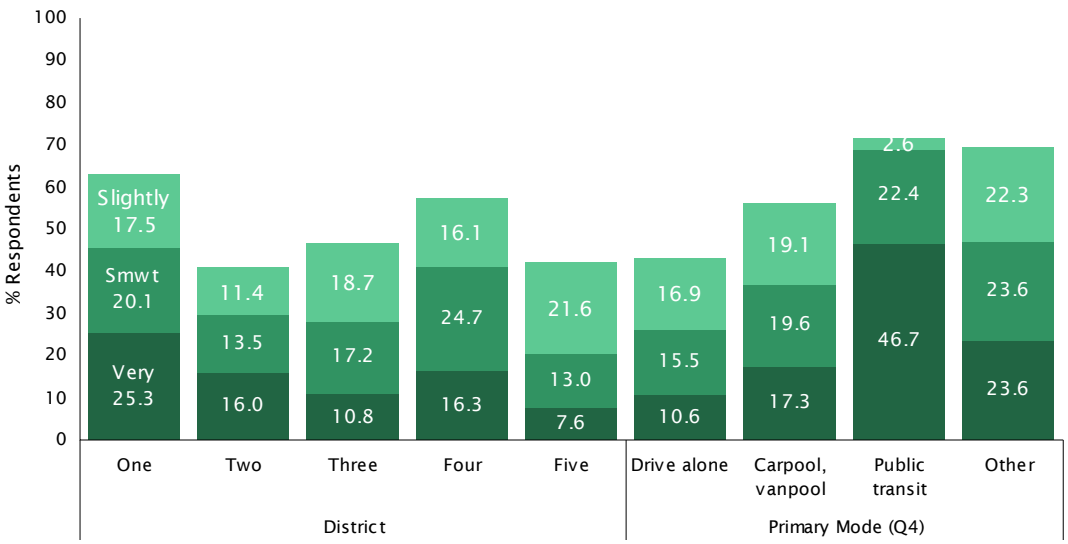


FIGURE 5 FAMILIARITY WITH OCTA BUS SERVICE BY DISTRICT & PRIMARY MODE [N = 1,200]



OPINION OF BUS AS TRAVEL OPTION Respondents who reported being at least slightly familiar with OCTA's bus service were subsequently asked their opinion of the service as a travel option for them. Among those who were familiar with the bus, 30% held a very favorable opinion of the bus as a travel option, and 38% held a somewhat favorable opinion. Approximately 22% held an unfavorable opinion of the bus as a travel option for them, whereas 11% were unsure or preferred not to share their opinion (Figure 6).

Figures 7-10 show how opinions of the bus as a travel option varied among subgroups of individuals who were at least slightly familiar with OCTA's bus service prior to taking the survey. Overall, Latinos and those of mixed ethnic heritage, individuals who had ridden the bus at least once per month during the past six months, those who indicated they are very familiar with OCTA's bus service, those from households with annual incomes under $75,000, and individuals who primarily travel in Orange County using public transit were the most likely to express a very favorable opinion of OCTA's bus as a travel option for them.

Question 2 *In general, would you say you have a favorable or unfavorable opinion of the OCTA bus as a travel option for you?*

FIGURE 6 OPINION OF OCTA BUS AS TRAVEL OPTION [N = 592]

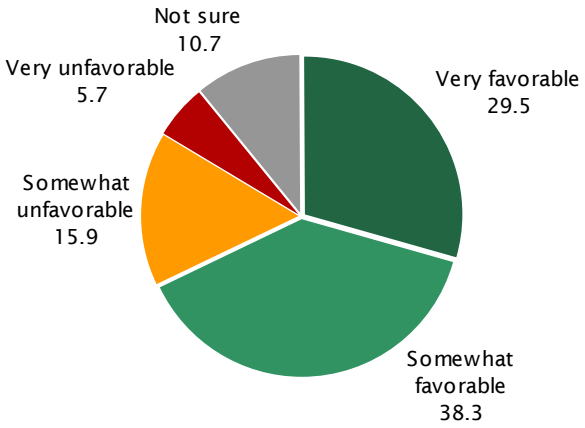


FIGURE 7 OPINION OF OCTA BUS AS TRAVEL OPTION BY AGE & ETHNICITY [N = 528]

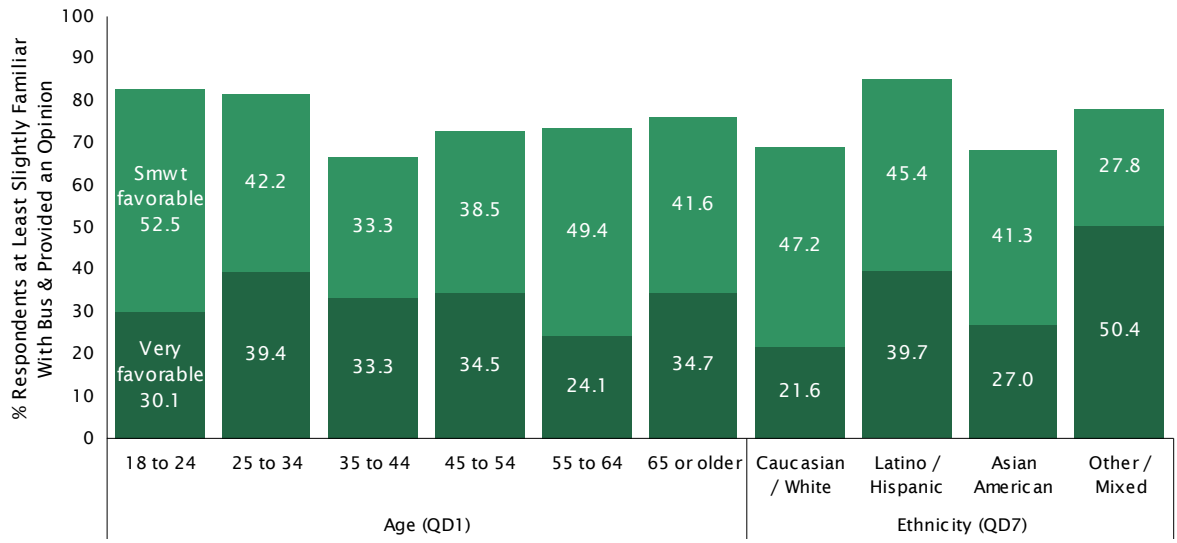


FIGURE 8 OPINION OF OCTA BUS AS TRAVEL OPTION BY FREQUENCY OF BUS USAGE, GENDER, ENCOUNTERED OCTA BUS AD IN PAST 6 MONTHS & FAMILIARITY WITH OCTA [N = 528]

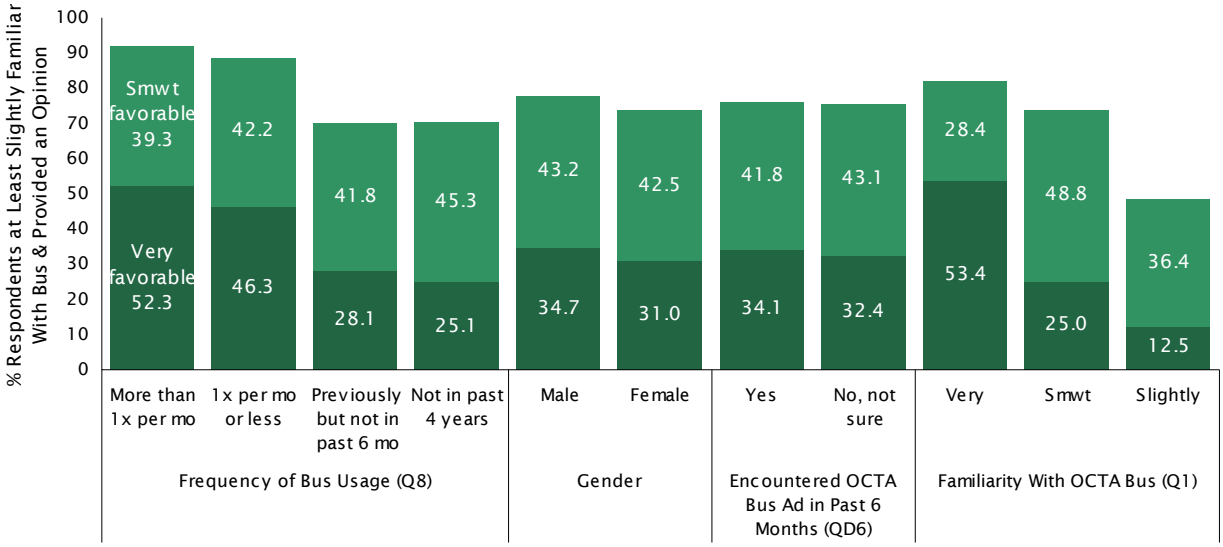


FIGURE 9 OPINION OF OCTA BUS AS TRAVEL OPTION BY HSLD INCOME & FORMER BUS RIDER [N = 528]

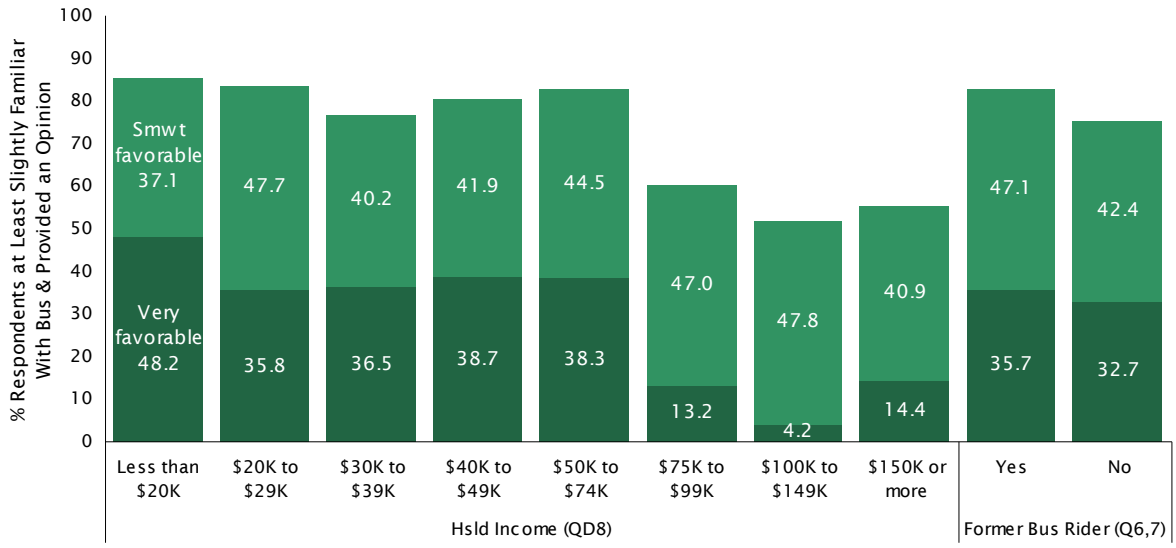
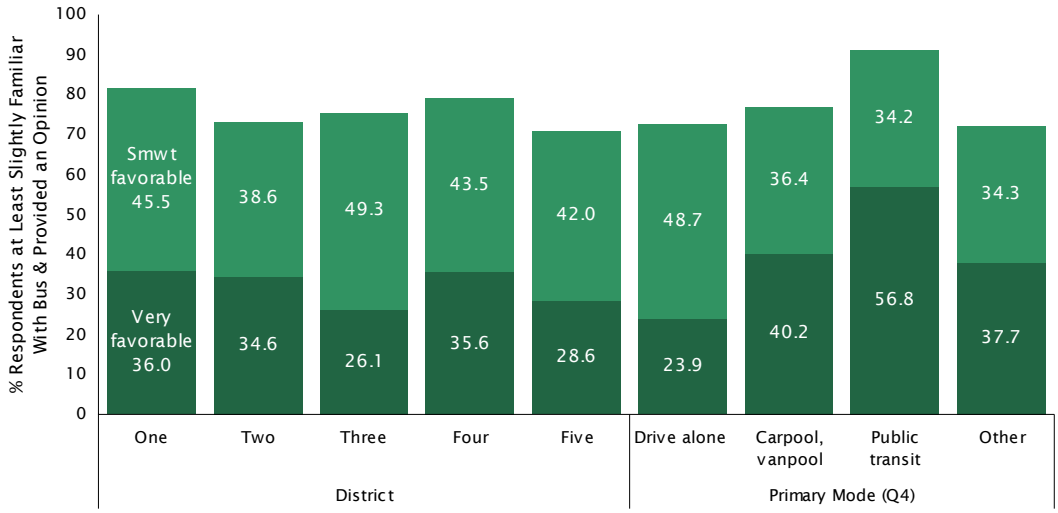


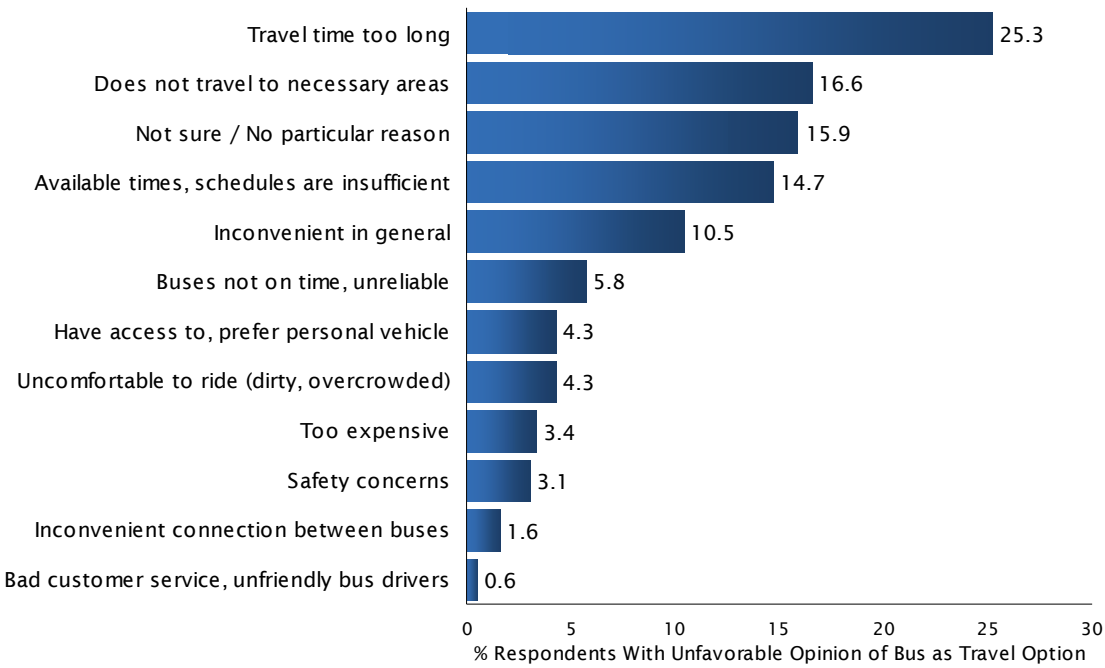
FIGURE 10 OPINION OF OCTA BUS AS TRAVEL OPTION BY DISTRICT & PRIMARY MODE [N = 528]



Orange County residents who were at least slightly familiar with OCTA's bus service but indicated that they have an unfavorable opinion of the service as a travel option for them were subsequently asked if their was a particular reason for their unfavorable opinion. Question 3 was asked in an open-ended manner, thereby allowing respondents to mention any reason that came to mind without being prompted by or restricted to a particular list of options. True North later reviewed the verbatim responses and grouped them into the categories shown in Figure 11.

Question 3 *Is there a particular reason why you have an unfavorable opinion of the bus as a travel option for you in Orange County? If yes, ask: What is the reason? Probe: Any other reasons?*

FIGURE 11 REASON FOR UNFAVORABLE OPINION OF BUS AS TRAVEL OPTION [N = 127]



Those who had an unfavorable opinion of the bus as a travel option were most likely to explain their opinion by stating that the travel times are too long (25%), OCTA's bus does not travel to the areas they need to go (17%), the available times/schedules are insufficient (15%), or that riding the bus is inconvenient in general (11%). An additional 16% were unsure or offered not particular reason for having an unfavorable opinion of the bus as a travel option.

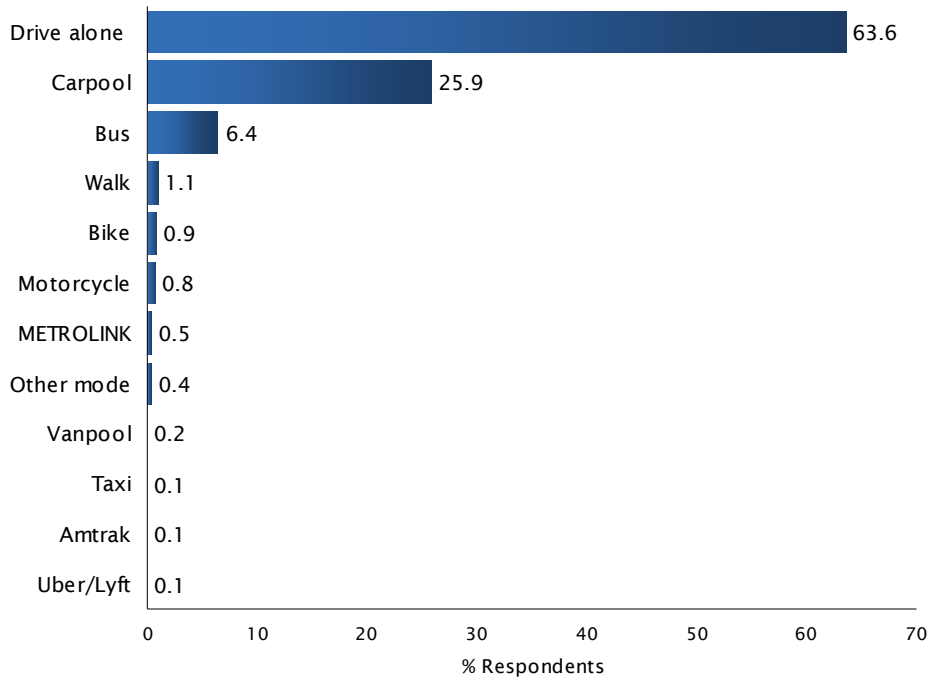
Travel Modes & Bus Use

Naturally, an individual's opinions about the OCTA bus and their potential for becoming a more frequent rider in the future can be shaped by the type of transportation they primarily use currently, as well as their past experiences riding the bus. Accordingly, the survey included several questions designed to profile respondents' primary mode choice and experiences with OCTA's bus service.

PRIMARY MODE OF TRANSPORTATION The first question in this series (Question 4) was designed to identify respondents' *primary* mode of transportation when they travel in Orange County. As shown in Figure 12, the majority (64%) of residents surveyed indicated that they primarily drive alone, whereas one-quarter typically drive with one or more passengers (26%). Overall, 6% stated that they primarily travel by bus and 1% primarily walk. No other individual transportation mode was mentioned by at least 1% of respondents.

Question 4 *What form of transportation do you use most often when traveling in Orange County?*

Figure 12 Primary Mode [n = 1,200]



Figures 13-15 on the next page show that younger individuals (under 35), those in-between jobs, Latinos and those of mixed ethnic heritage, respondents from households with annual incomes of $20,000 or less, and individuals who do not always have access to a personal vehicle were the most likely to primarily use alternative forms of transportation—including public transit, biking or walking—when traveling in Orange County.

FIGURE 13 PRIMARY MODE BY AGE & DISTRICT [N = 1,200]

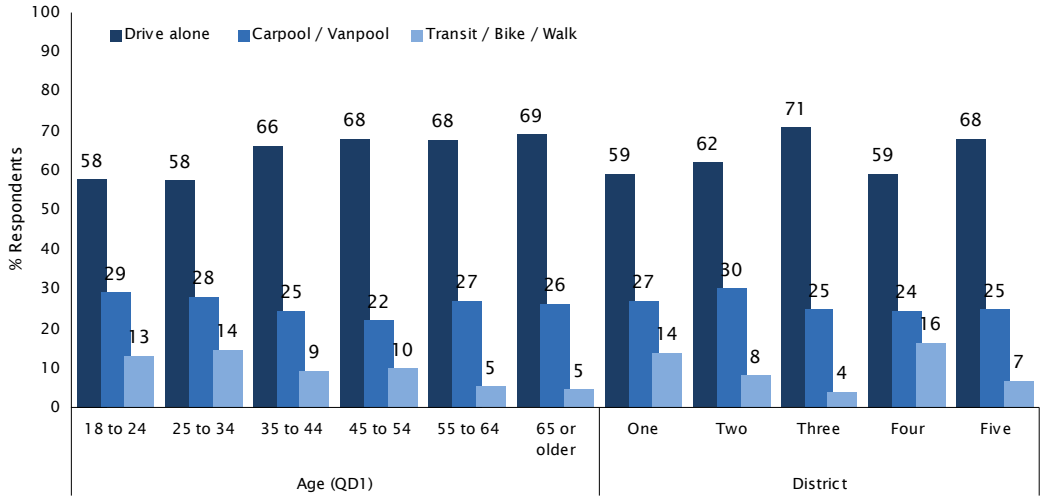


FIGURE 14 PRIMARY MODE BY EMPLOYMENT STATUS, GENDER & ETHNICITY [N = 1,200]

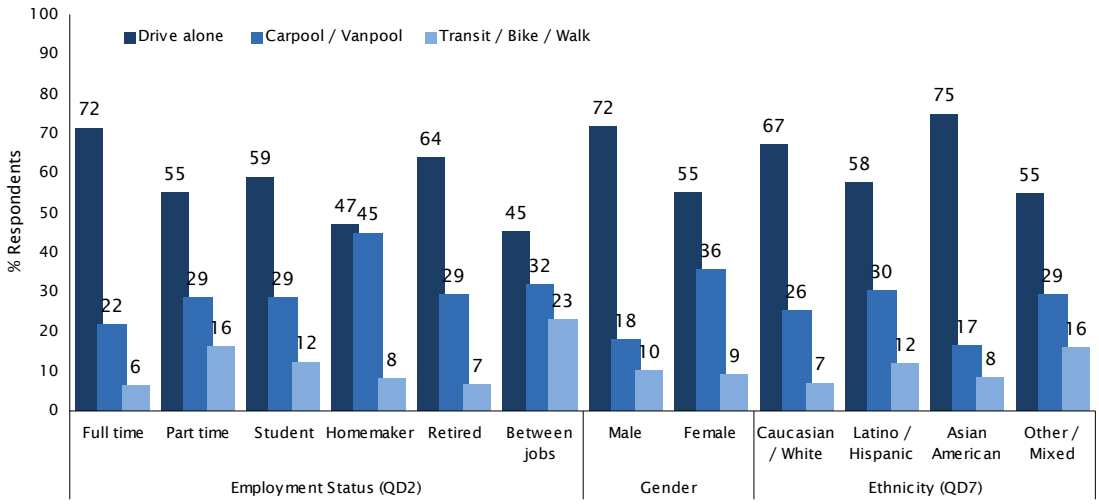
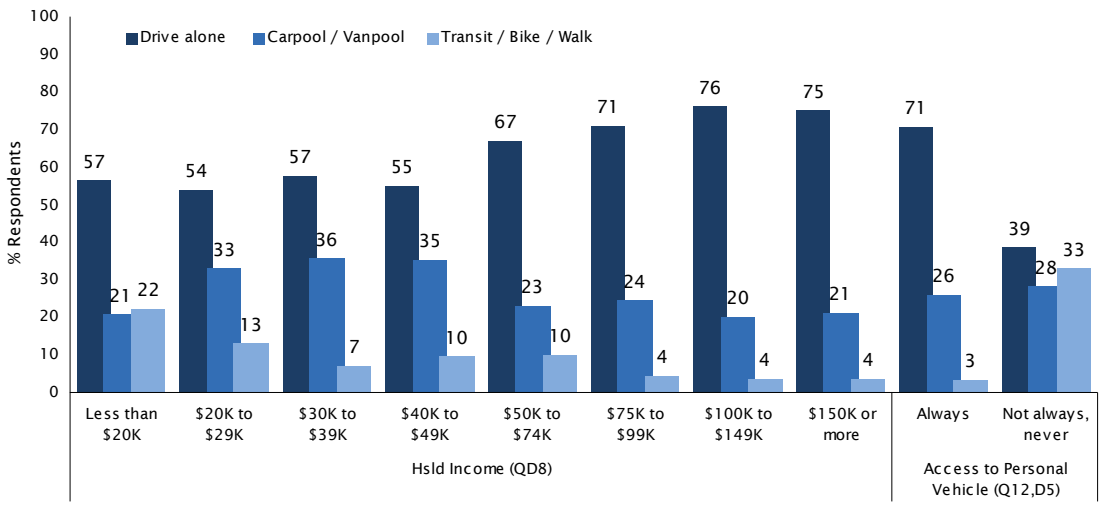


FIGURE 15 PRIMARY MODE BY HSLD INCOME & ACCESS TO PERSONAL VEHICLE [N = 1,200]

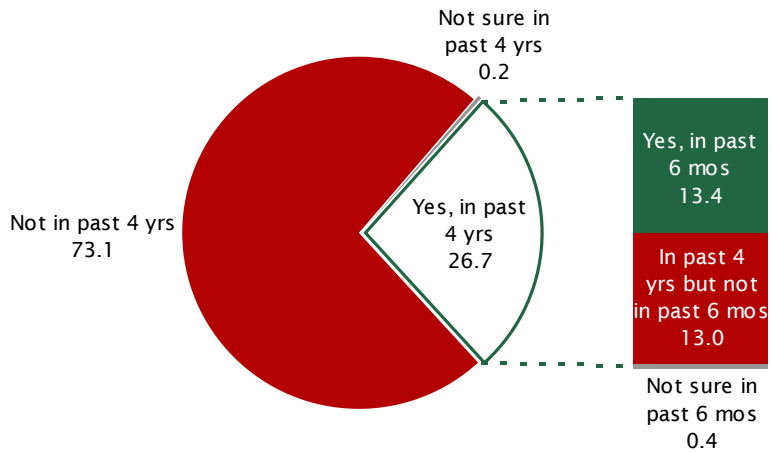


HAVE YOU RIDDEN THE BUS IN ORANGE COUNTY? Respondents were next asked if they had ridden the bus in Orange County at any point during the past four years and—if yes—had they ridden during the past six months? The answers to both questions are combined in Figure 16. Overall, nearly three-quarters (73%) of respondents indicated they had not ridden the OCTA bus at any time during the prior four year period, whereas 27% stated that they had ridden the bus. Among those who had ridden OCTA's bus during the prior four year period, approximately half (13%) indicated that they had also ridden the bus in the six months prior to the interview.

Question 5 *At any point during the past four years, have you ridden the OCTA bus when traveling in Orange County?*

Question 6 *How about during the past 6 months, have you ridden the OCTA bus when traveling in Orange County?*

FIGURE 16 OCTA BUS USAGE [N = 1,200]



FREQUENCY OF RIDING OCTA BUS Respondents who indicated that they had ridden the OCTA bus during the prior six months and/or four year periods were next asked to report on the frequency of their ridership during these periods. Figure 17 on the next page summarizes the findings in the context of all Orange County adults surveyed who provided a clear statement about their use of the bus (i.e., removing those who did not answer the necessary questions).

Overall, 8% of respondents reported riding the OCTA bus more than once per month in the six months prior to the interview, 6% rode once per month or less often, 13% had ridden the bus during the prior four years but not in the past six months, whereas 74% indicated they had not ridden the bus in the past four years. When compared to their respective counterparts, those under the age of 35, those residing in Supervisorial Districts 1 and 4, part-time employees, students, and those in-between jobs, Latinos and those of mixed ethnic heritage, individuals from households with annual incomes under $50,000, and those who do not always have access to a personal vehicle were the most frequent users of the OCTA bus (see Figures 18-20).

Question 7 *At the time when you were riding the bus in the past, how often did you ride the bus in Orange County? At least once per week, two to three times per month, once per month, or less often than once per month?*

Question 8 *During the past 6 months, how often have you ridden the bus? At least once per week, two to three times per month, once per month, or less often than once per month?*

FIGURE 17 FREQUENCY OF BUS RIDERSHIP IN PAST 4 YEARS [N = 1,192]

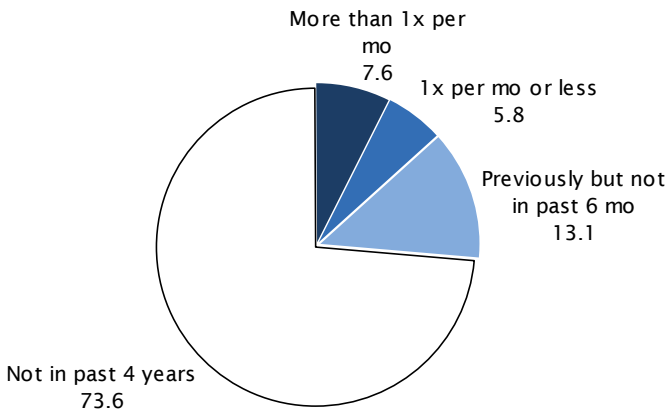


FIGURE 18 FREQUENCY OF BUS RIDERSHIP IN PAST 4 YEARS BY AGE & DISTRICT [N = 1,192]

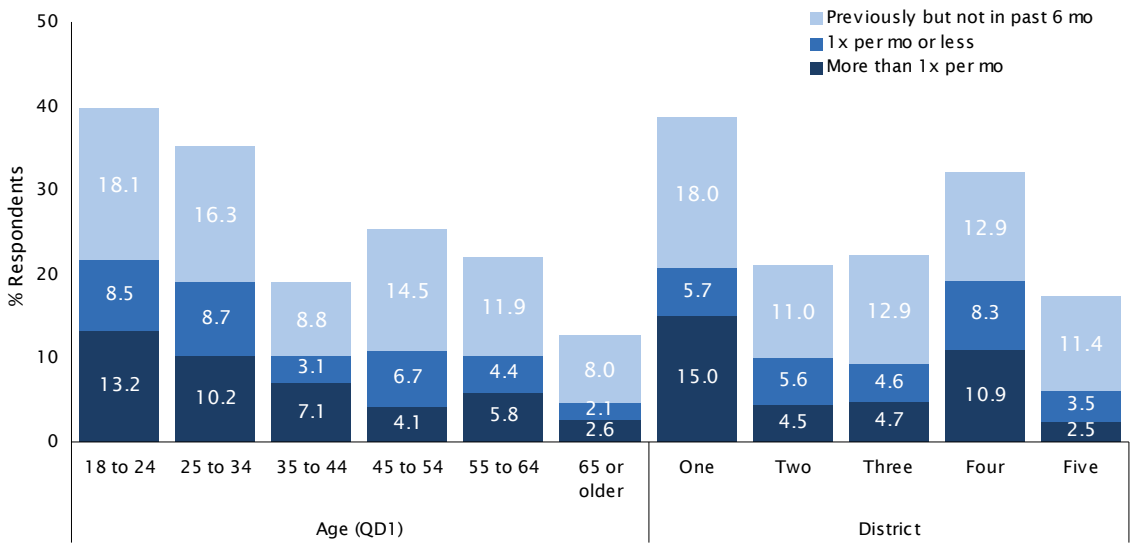


FIGURE 19 FREQUENCY OF BUS RIDERSHIP IN PAST 4 YEARS BY EMPLOYMENT STATUS, GENDER & ETHNICITY [N = 1,192]

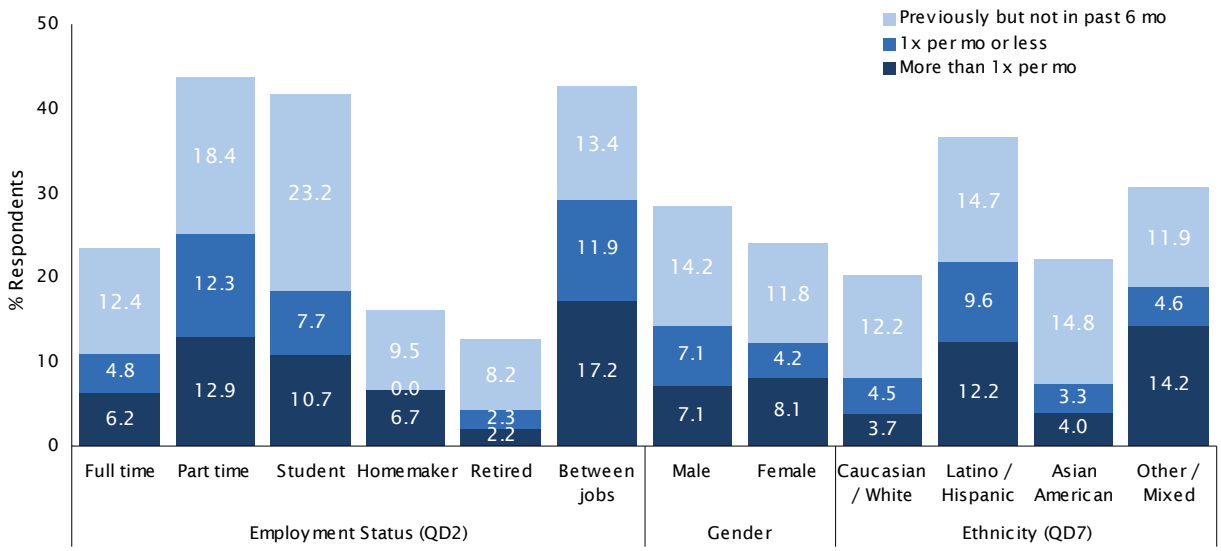
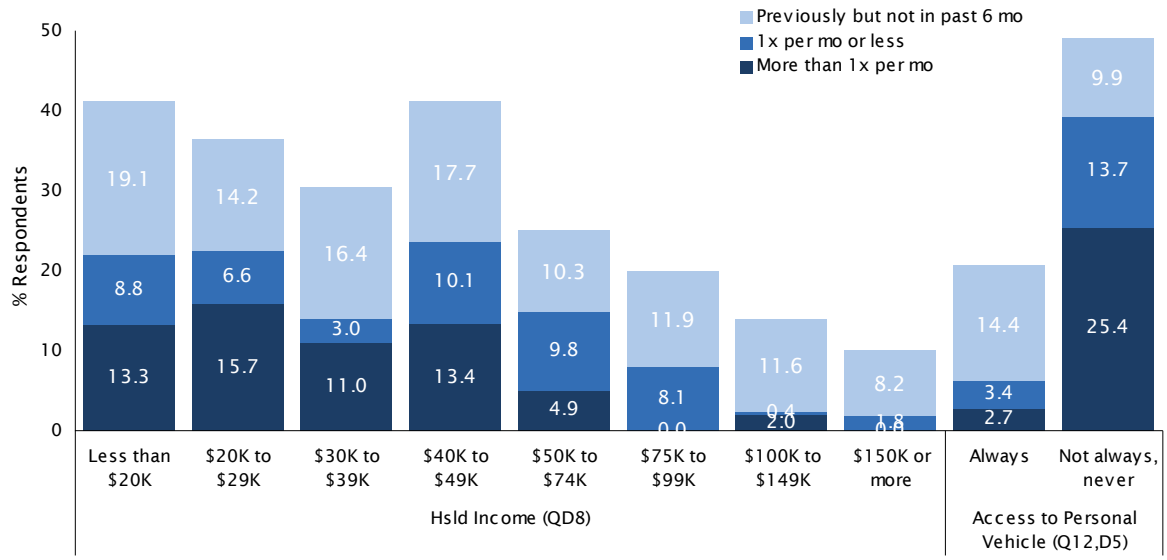


FIGURE 20 FREQUENCY OF BUS RIDERSHIP IN PAST 4 YEARS BY HSLD INCOME & ACCESS TO PERSONAL VEHICLE [N = 1,192]



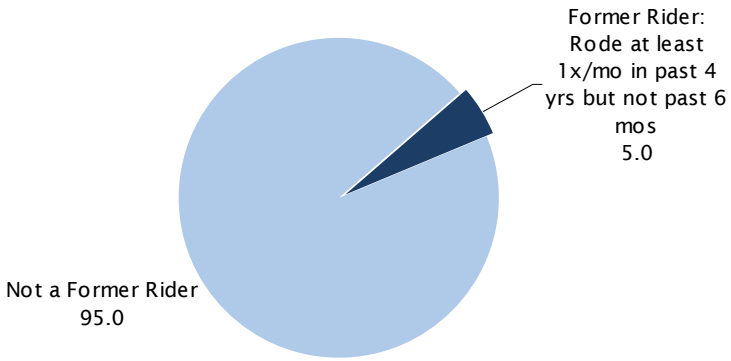
Former Bus Riders

Over the past five years, OCTA has witnessed a significant decline (15%) in ridership on the fixed-route bus system. Although some of this decline occurred shortly after an extensive service reduction in 2010, and again in 2013 after fare increases, the general pattern of decline suggests there are likely to be additional factors contributing to declining ridership. One of the primary research objectives of this study was thus to identify factors that have contributed to the declining ridership on OCTA's fixed-route bus system in recent years. This section of the report focuses on profiling the former rider population and the reasons they stopped riding OCTA's fixed-route bus service.

DEFINING FORMER RIDERS

An instrumental step in this exercise was to define and identify *former riders*—individuals who previously rode the OCTA bus, but no longer do. For the purposes of this study, former riders were defined as individuals who currently reside in Orange County and had ridden the OCTA bus during the four years prior to the interview at a frequency of at least once per month, but had not ridden the bus during the six months prior to the interview.

FIGURE 21 FORMER OCTA BUS RIDER [N = 1,200]



Overall, 5% of Orange County residents met the definition of a former rider (Figure 21), although former riders tend to concentrate in certain demographic subgroups as indicated in Figures 22-24. When compared to their respective counterparts, those under 35 years of age, individuals who reside in Supervisorial District 1, students, Latinos, and individuals from households with annual incomes under $20,000 were the most likely to meet the definition of a former rider.

FIGURE 22 FORMER OCTA BUS RIDER BY AGE & DISTRICT [N = 1,200]

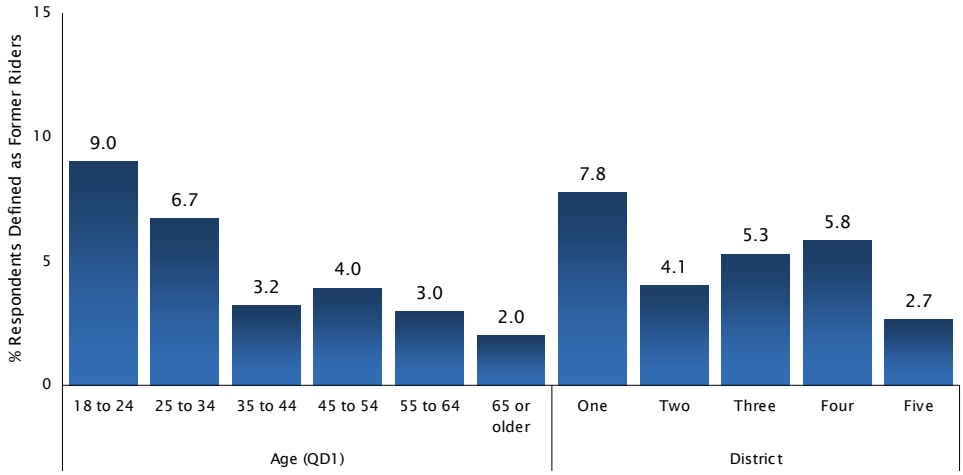


FIGURE 23 FORMER OCTA BUS RIDER BY EMPLOYMENT STATUS, GENDER & ETHNICITY [N = 1,200]

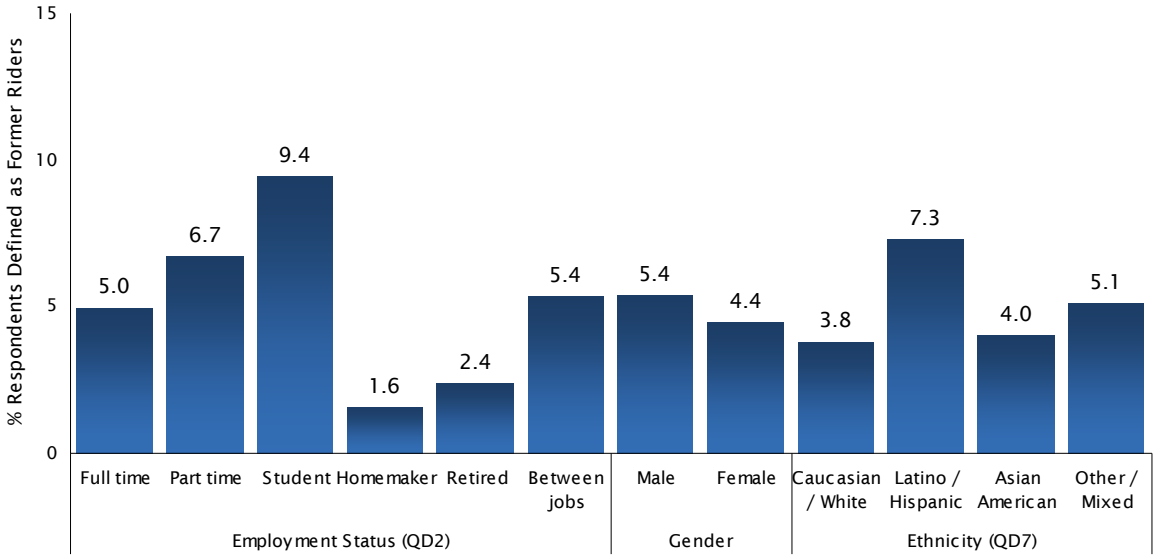
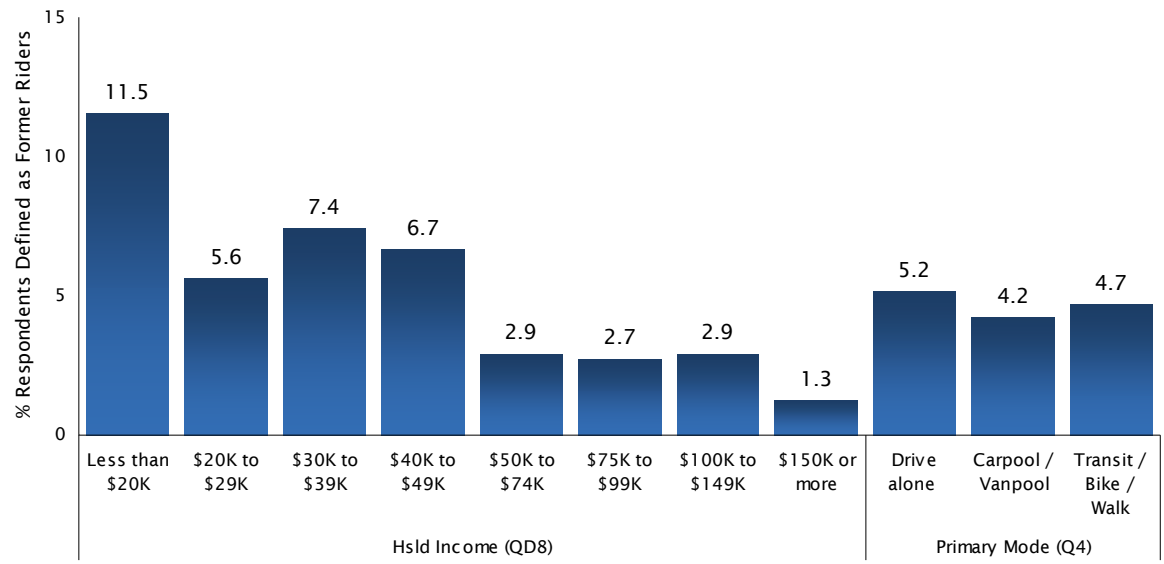


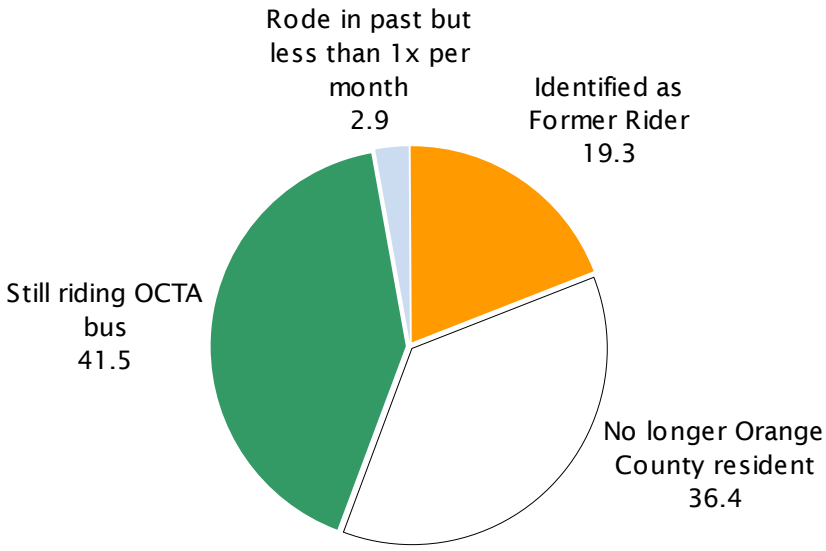
FIGURE 24 FORMER OCTA BUS RIDER BY HSLD INCOME & PRIMARY MODE [N = 1,200]



RIDERS ARE MOVING As noted above, one of the definitional requirements of a *former rider* is that they still currently reside in Orange County. This requirement was included so that the individuals included in the oversample were *choosing* to not ride the bus, rather than not riding the bus due to the fact that they moved out of Orange County. During the course of the survey, however, it became clear that one of the significant factors contributing to the loss of OCTA bus ridership is that many individuals who rode the bus in recent years no longer live in Orange County.

Figure 25 shows the disposition of 1037 screening interviews conducted by True North with individuals who had previously been surveyed while riding an OCTA bus between 2010 and 2013. Among these previous riders, 36% had subsequently moved out of Orange County, 42% were still riding the OCTA bus, 19% qualified as a former rider, and 3% did not ride the bus at least once per month in the past and thus did not qualify as a former rider for the purposes of this study.

FIGURE 25 DISPOSITION OF SCREENING INTERVIEWS WITH 1037 INDIVIDUALS WHO HAD RIDDEN OCTA BUS IN PAST



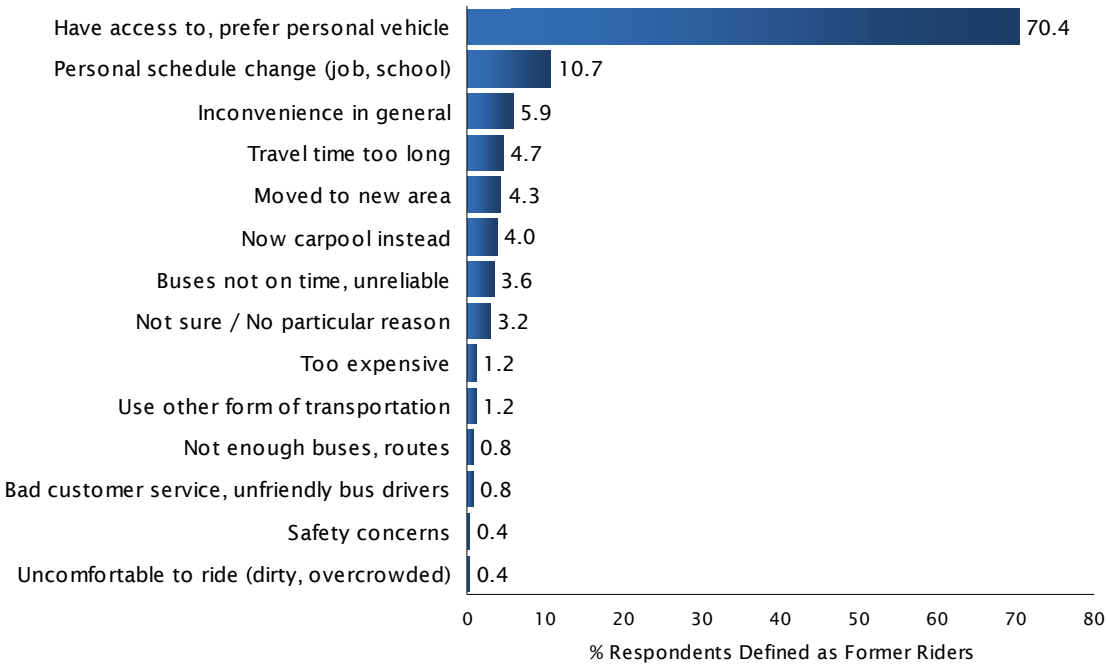
REASONS FOR WHY FORMER RIDERS STOPPED RIDING THE BUS

Individuals who qualified as former riders for the purposes of this study received several questions that focused on their past use of the bus and their reasons for no longer riding. The first question in this series simply asked the respondent to identify the *main* reason they stopped riding the bus. Question 9 was presented in an open-ended manner, thereby allowing respondents to mention any reason that came to mind without being prompted by, or restricted to, a particular list of options. True North later reviewed the verbatim responses and grouped them into the categories shown in Figure 26 on the next page.

Consistent with research that True North has performed in other regions on bus ridership, the dominant reason offered by former OCTA bus riders for why they stopped riding the bus is that they acquired access to and prefer to use a personal vehicle (70%). Other reasons included a personal work or school schedule change (11%), a perception that the bus is generally inconvenient to use (6%), and concerns about travel time being too long on the bus (5%).

Question 9 *You indicated that you used to ride the bus in Orange County, but haven't in the past six months. What was the main reason you stopped riding the bus?*

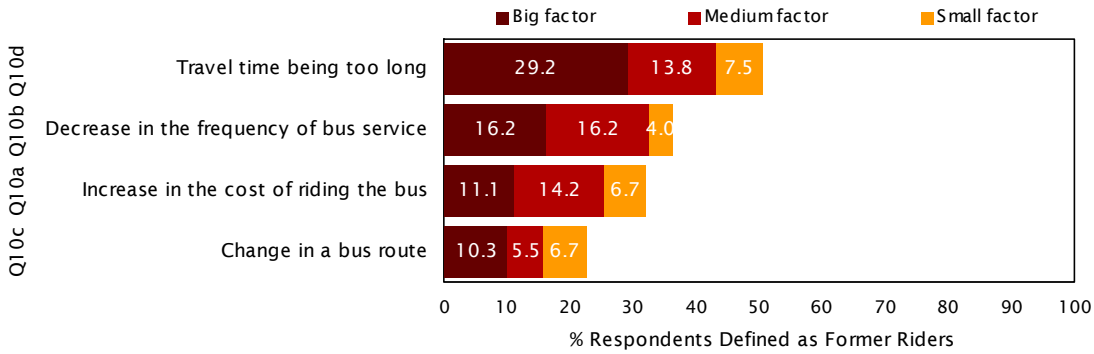
FIGURE 26 PRIMARY REASON FOR NO LONGER RIDING BUS [UNWEIGHTED N = 253]



Whereas Question 9 asked former riders in an open-ended manner to describe the *main* reason they stopped riding the bus, Question 10 inquired as to the impact that each of the items shown on the left of Figure 27 had on their decision to stop riding the bus. Overall, travel times being too long was mentioned by half (51%) as being at least a small factor in their decision to stop riding the bus, with 29% stating that it was a big factor. A decrease in the frequency of service was cited by more than one-third (36%) of former riders as at least a small reason they stopped riding the bus, with 16% indicating it was a big factor.

Question 10 *Was _____ a factor in your decision to stop riding the bus? If yes, ask: Was it a big factor, a medium factor, or a small factor?*

FIGURE 27 FACTORS IN DECISION TO STOP RIDING BUS [UNWEIGHTED N = 253]



When compared to the other factors tested, an increase in the cost of riding the bus and a change in bus routes were less prevalent factors in former riders' decisions to stop riding the bus, being mentioned by 32% and 23% of respondents, respectively, as being at least a small factor in their decision. Just one-in-ten former riders cited the cost of riding the bus (11%) and a change in a bus route (10%) as being a big factor that contributed to their no longer using the OCTA bus system.

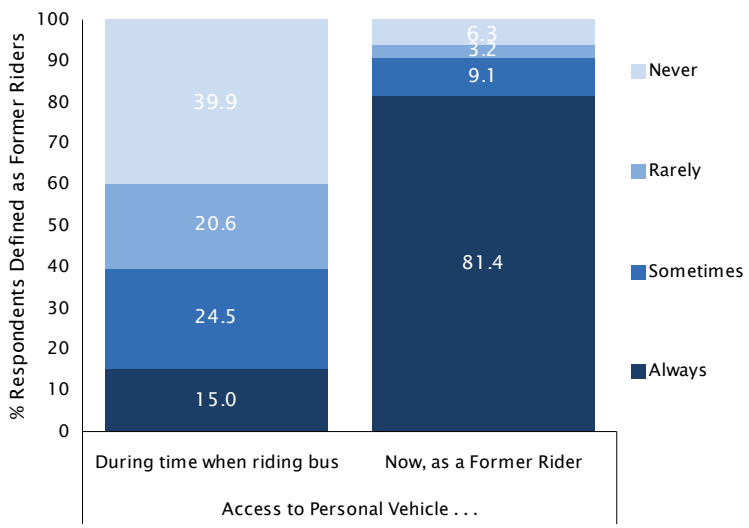
PRIOR AND CURRENT ACCESS TO A PERSONAL VEHICLE Access to a personal vehicle (or lack thereof) has traditionally been one of the strongest predictors of bus ridership. As a group, bus riders are generally far less likely to have consistent access to a personal vehicle when compared to individuals who do not ride the bus. To gauge the extent to which access to a personal vehicle may explain why former riders stopped riding the OCTA bus, Questions 11 and 12 asked respondents to describe their access to a personal vehicle at the time they were riding the bus in the past, as well as now. The stark differences are shown in Figure 28.

At the time they were riding the bus in the past, just 15% of former riders indicated that they always had access to a personal vehicle. Approximately one-quarter (25%) sometimes had access to a vehicle, 21% rarely had access to a vehicle, and 40% stated that they never had access to a personal vehicle. The situation is much different today among former riders, with 81% indicating that they now always have access to a personal vehicle, and 9% sometimes have access. Less than 10% of former OCTA bus riders rarely or never have access to a personal vehicle.

Question 11 *Thinking back to the period of time when you were riding the bus in Orange County, did you always, sometimes, rarely or never have access to a personal vehicle during this period?*

Question 12 *How about now? Do you always, sometimes, rarely or never have access to a personal vehicle?*

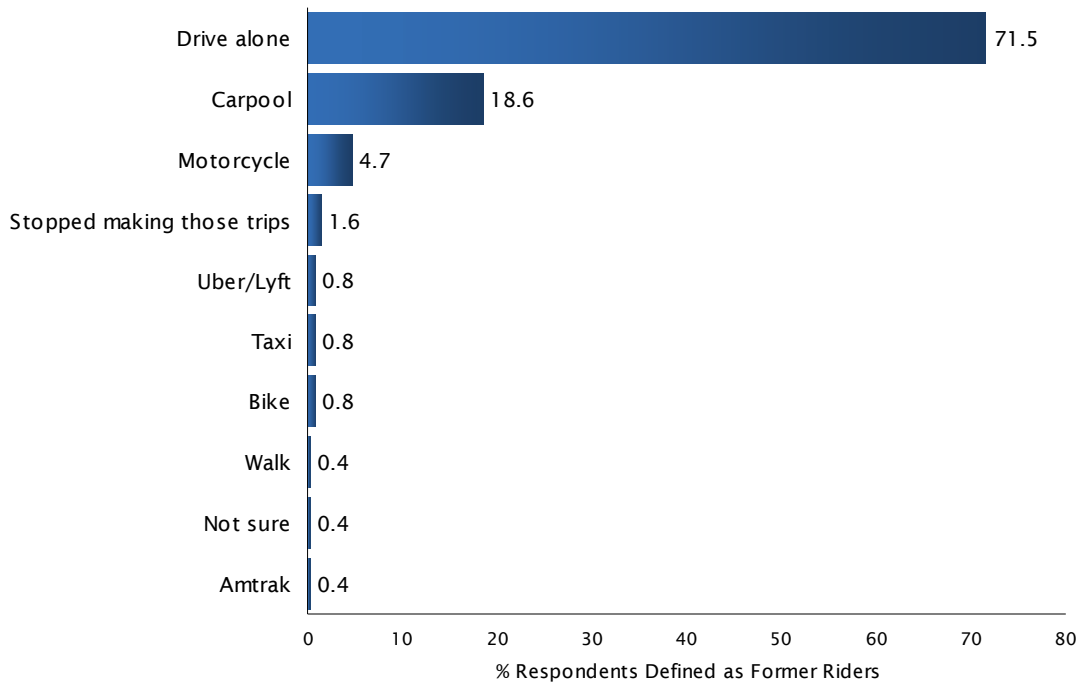
FIGURE 28 ACCESS TO VEHICLE DURING TIME WHEN RIDING BUS & CURRENTLY [UNWEIGHTED N = 253]



MODES USED FOR TRIPS PREVIOUSLY MADE BY BUS The final question in this series targeted specifically to former riders asked what form of transportation they started to use for trips that they previously made by bus. Consistent with the dramatic change in access to a personal vehicle illustrated in Figure 28 on the prior page, nearly all former riders reported that they now make these trips using a personal vehicle—either driving alone (72%), in a carpool (19%), or using a motorcycle (5%). Approximately 2% indicated that they stopped making the trips for which they used to ride the bus, whereas 3% mentioned some other mode including Uber/Lyft, Taxi, bike, walk or Amtrak (Figure 29).

Question 13 *When you stopped riding the bus, what form of transportation did you start using for trips that you previously made by bus?*

FIGURE 29 MODE USED INSTEAD OF BUS [UNWEIGHTED N = 253]



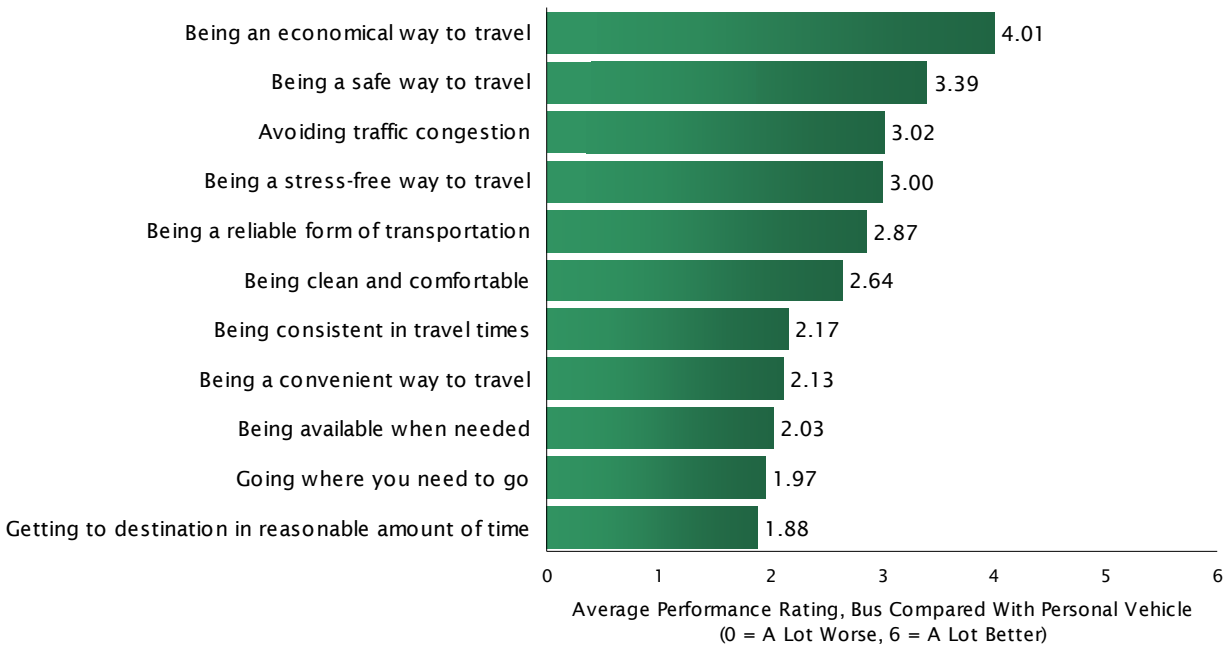
Comparative Performance & Perceptions

Having profiled respondents' familiarity with OCTA's bus service and the frequency with which they had ridden the bus in the past year, the survey next turned to measuring their perceptions of the bus' performance relative to a personal vehicle. In other words, how competitive is the bus with a personal vehicle in satisfying a variety of travel requirements/conditions.

To gather this information, respondents were presented with each of the performance criteria shown on the left of Figure 30 and simply asked whether the bus performs better, worse, or about the same as a personal vehicle on each criteria. Respondents who offered better or worse were then asked to clarify the degree to which the bus' performance was better or worse using a scale of a lot, somewhat, or slightly better/worse. To ease the comparative analysis, the responses are converted to a mean score in Figure 23 using the six point scale shown at the bottom of the figure, where 0 represents an average score of a lot worse, 3 represents about the same, and 6 represents an average score of a lot better.

Question 14 *When compared to a personal vehicle, would you say the bus is better, worse or about the same at _____?*

Figure 30 Performance Rating of Bus Compared With Personal Vehicle [n = 1,200]



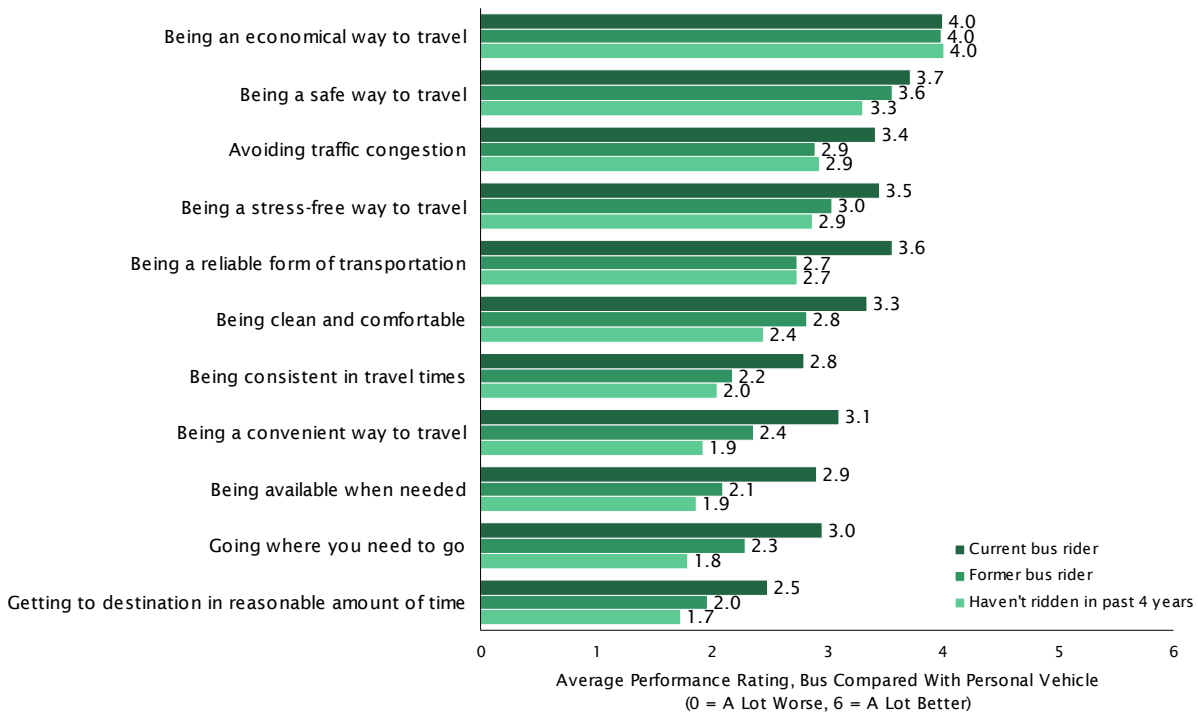
Overall, Orange County adults reported favorable comparative rankings for the bus on two of the performance dimensions tested. The bus was perceived to outperform a personal vehicle by the largest margin on being an economical way to travel (4.01) and being a safe way to travel (3.39).

The OCTA bus and a personal vehicle were rated similarly, on average, with respect to avoiding traffic congestion (3.02), being a stress-free way to travel (3.00), and being a reliable form of transportation (2.87).

On the remaining performance dimensions, however, the bus was viewed as underperforming a personal vehicle. When compared to a personal vehicle, the largest performance gaps were found with respect to getting to a destination in a reasonable time (1.88), going where needed (1.97), being available when needed (2.03), and being a convenient way to travel (2.13). The bus also received a lower average score for being clean and comfortable (2.64) when compared to a personal vehicle.

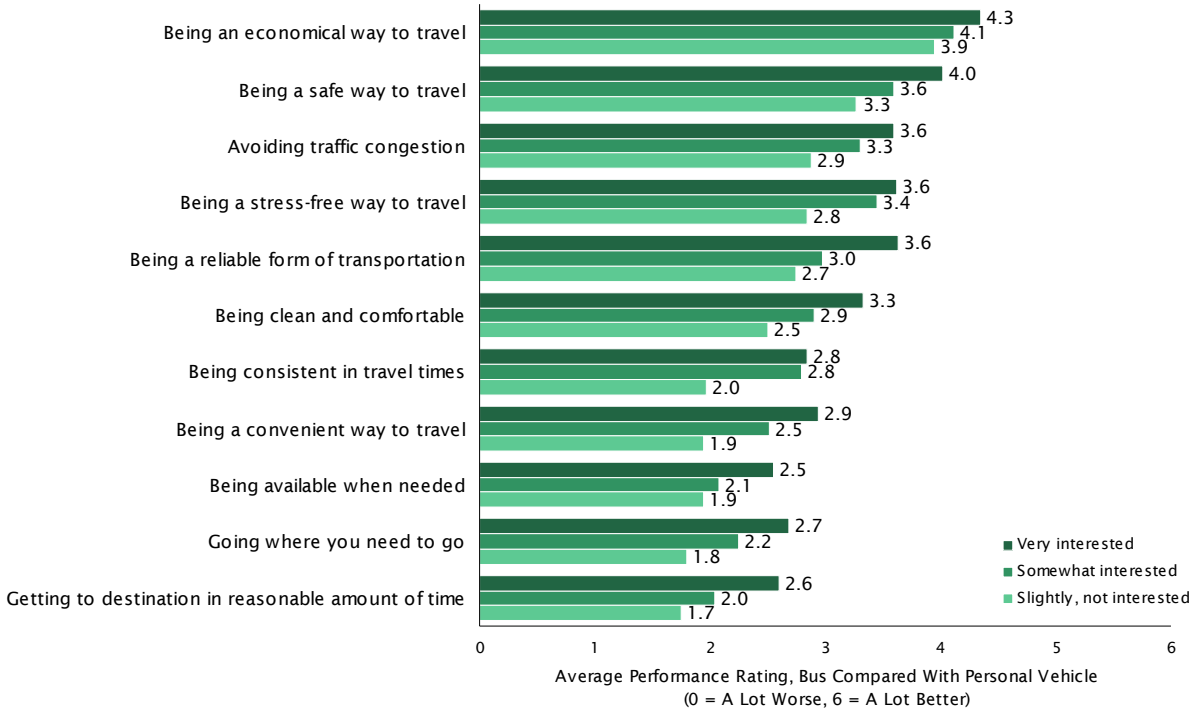
For the interested reader, Figure 31 shows how the average comparative rating for the OCTA bus on each performance dimension varied according to whether the respondent was a current bus rider, a former bus rider, or had not ridden the bus in the four years prior to the survey. When compared to their respective counterparts, current bus riders were far more apt to view the bus as outperforming a personal vehicle with respect to travel reliability and being clean and comfortable. Current riders also viewed the bus as being comparable to a personal vehicle with respect to being consistent in travel time, being convenient, being available when needed, and getting to a destination within a reasonable amount of time, whereas non-riders and former riders viewed the bus as substantially under-performing a personal vehicle on these dimensions.

FIGURE 31 PERFORMANCE RATING OF BUS COMPARED WITH PERSONAL VEHICLE BY BUS RIDER STATUS [N = 1,200]



In a manner similar to that described above, Figure 32 shows how the average comparative rating for the OCTA bus on each performance dimension varied according to whether the respondent reported being very interested, somewhat interested, or slightly/not interested in riding the bus in the future. Those who were very interested in riding the bus were substantially more likely than their counterparts to view the bus as outperforming a personal vehicle with respect to it being a reliable form of transportation and being clean and comfortable. They were also more likely to see the bus as being fairly comparable to a personal vehicle on being a convenient way to travel, going where they need to go, and getting to a destination in a reasonable amount of time.

FIGURE 32 PERFORMANCE RATING OF BUS COMPARED WITH PERSONAL VEHICLE BY INTEREST IN INCREASING FREQUENCY OF RIDERSHIP [N = 1,200]



Interest in Riding Bus

Up to this point, the survey focused on respondents' familiarity with OCTA's bus service, their past travel behaviors, as well as their perceptions of how the bus performs relative to a personal vehicle. Former bus riders were also queried about their reasons for no longer riding the bus.

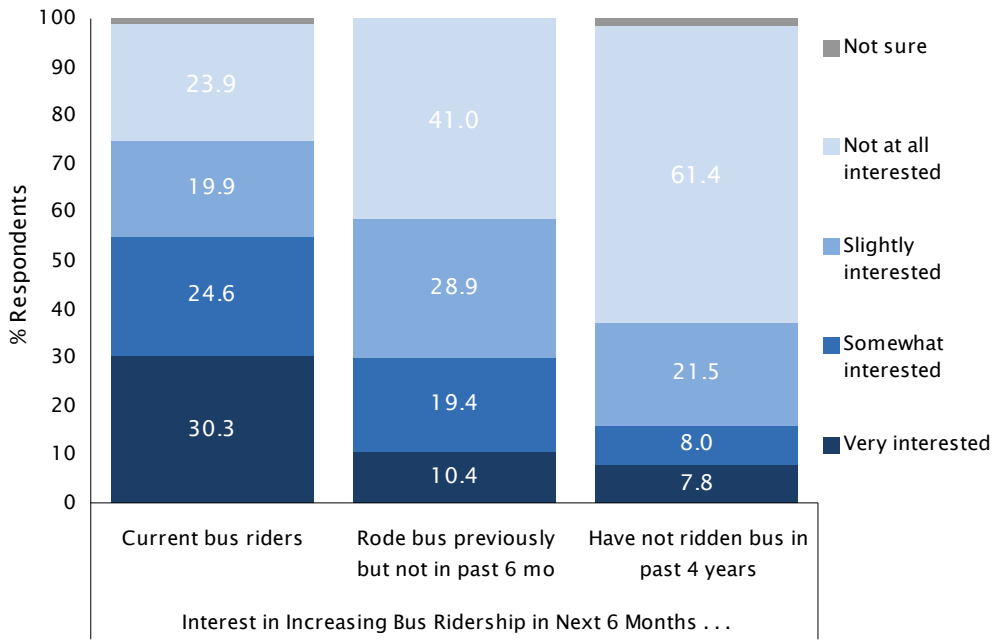
Having addressed the aforementioned topics, the survey transitioned to exploring the latent or *potential* market for the bus. That is, measuring the potential for bringing new riders onto the OCTA bus system, identifying barriers or obstacles that may prevent those who are interested in riding the bus from acting on these interests, and identifying operational improvements that could spur additional ridership.

INTEREST IN INCREASING BUS USE The first questions in this series simply asked respondents to describe their interest in riding the bus for some of the trips they take in Orange County or—if currently an OCTA bus rider—in increasing the frequency with which they ride the bus.

Question 15 *How interested are you in increasing the frequency with which you ride the bus in Orange County? Would you say you are very interested, somewhat interested, slightly interested, or not at all interested?*

Question 17 *How interested are you in riding the bus for some of the trips you take in Orange County? Would you say you are very interested, somewhat interested, slightly interested, or not at all interested?*

Figure 33 Interest in Increasing Bus Ridership in Next 6 Months by Bus Rider Status [n = 1,200]



Among current OCTA bus riders, 30% were very interested in increasing the frequency with which they ride the OCTA bus, 25% were somewhat interested, 20% were slightly interested, whereas the remainder were not interested in increasing their frequency of bus ridership (24%) or were unsure (1%). Among former OCTA bus riders (middle column), 10% were very interested in using the OCTA bus for some of the trips they make in Orange County, 19% were somewhat interested, 29% were slightly interested, whereas 41% were not interested in riding the bus. Finally, Orange County residents who had not ridden the OCTA bus in the four years prior to the interview expressed the least overall interest in riding the bus. Among this group, 8% were very interested in riding the bus for some of the trips they take in Orange County, 8% were somewhat interested, 22% were slightly interested, whereas 61% indicated they were not at all interested in riding the OCTA bus.

Figures 34-37 show how interest in riding the OCTA bus more often varied across subgroups of Orange County residents. When compared to their respective counterparts, interest was greatest among younger residents (under 35), residents of Supervisorial District 1, students, those with mixed ethnic heritage, individuals from households with annual incomes less than $50,000, those who do not always have access to a personal vehicle, individuals who currently ride the bus at least once per month, people already very familiar with the OCTA bus system, and those who primarily use alternative modes of transportation when traveling in Orange County (public transit, walking or biking).

FIGURE 34 INTEREST IN INCREASING BUS RIDERSHIP IN NEXT 6 MONTHS BY AGE & DISTRICT [N = 1,200]

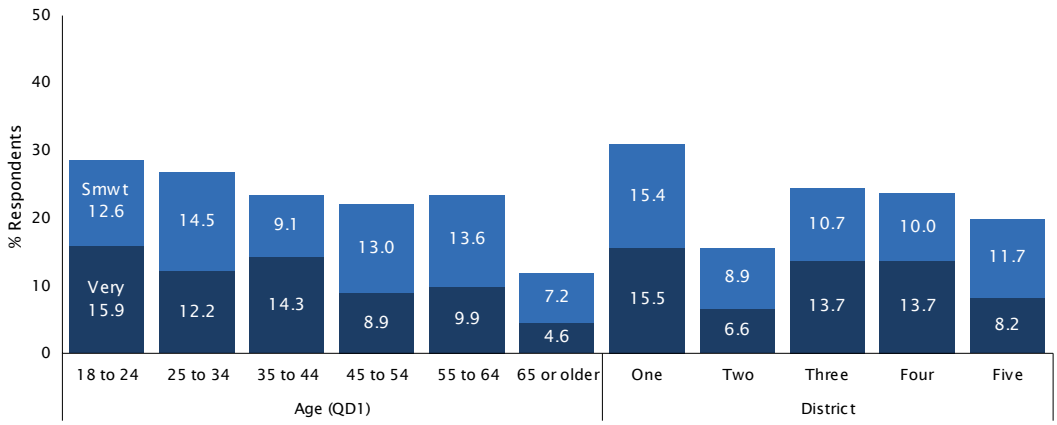


FIGURE 35 INTEREST IN INCREASING BUS RIDERSHIP IN NEXT 6 MONTHS BY EMPLOYMENT STATUS, GENDER & ETHNICITY [N = 1,200]

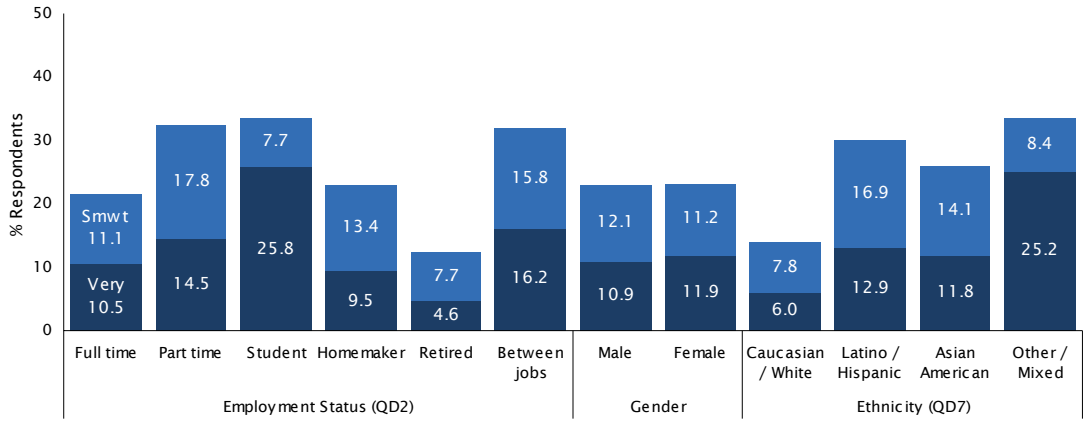


FIGURE 36 INTEREST IN INCREASING BUS RIDERSHIP IN NEXT 6 MONTHS BY HSLD INCOME & ACCESS TO PERSONAL VEHICLE [N = 1,200]

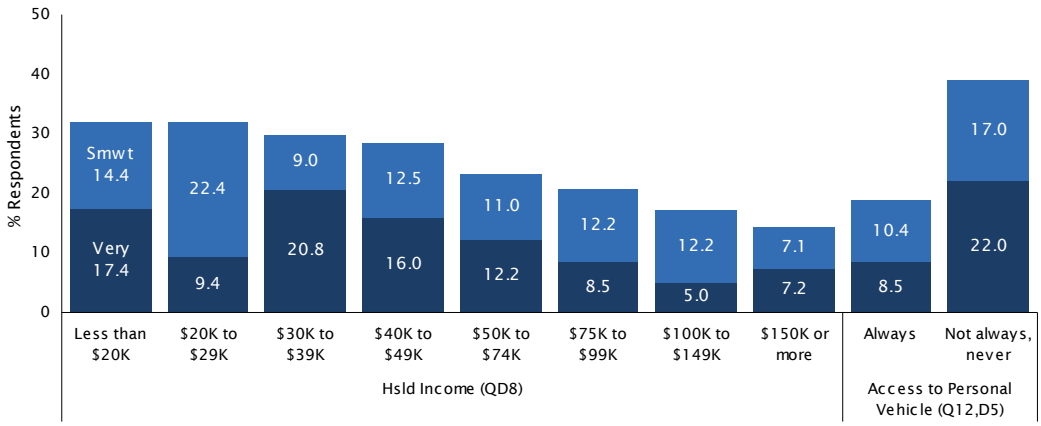
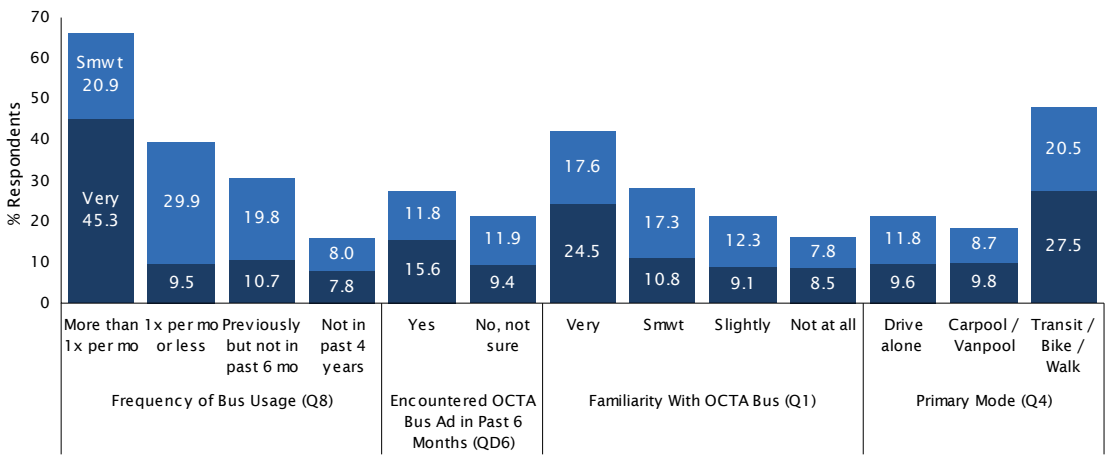


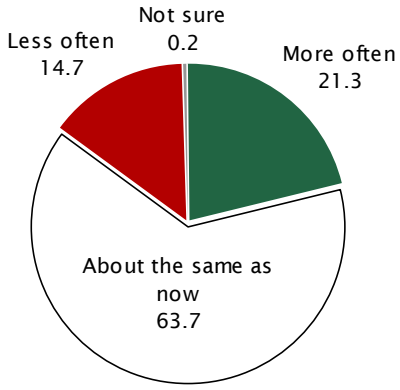
FIGURE 37 INTEREST IN INCREASING BUS RIDERSHIP IN NEXT 6 MONTHS BY FREQUENCY OF BUS USAGE, ENCOUNTERED OCTA BUS AD IN PAST 6 MONTHS, FAMILIARITY WITH OCTA BUS & PRIMARY MODE [N = 1,200]



EXPECTED CHANGE IN BUS RIDERSHIP Having gauged respondents' *interest* in riding the bus more frequently, the survey next asked whether—realistically—they anticipated that in the next six months they would actually ride the bus more often, less often, or at about the same frequency as they do currently. Among current riders, 64% expected to ride the bus at the same frequency as they do now, 21% anticipated riding more frequently during this period, whereas 15% expected to ride less often (see Figure 38). Among former riders and those who had not ridden the OCTA bus during the past four years (Figure 39), 85% did not anticipate riding the OCTA bus for any trips they take in Orange County, whereas 15% expected that they would ride the OCTA bus during the next six months.

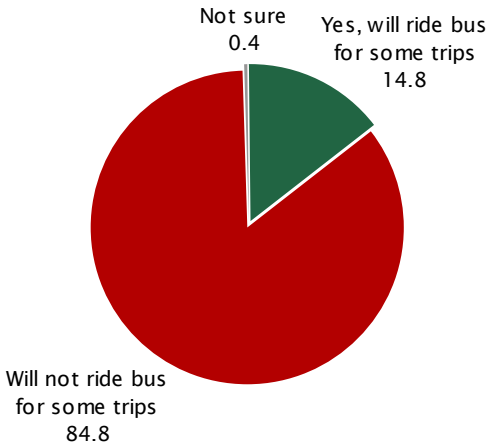
Question 16 *Realistically, in the next six months do you think you will ride the bus more often, less often, or about the same frequency as you do now?*

FIGURE 38 FREQUENCY OF RIDERSHIP IN NEXT 6 MONTHS AMONG CURRENT RIDERS [N = 160]



Question 18 *Realistically, in the next six months do you think you will start riding the bus for some of the trips you take in Orange County?*

FIGURE 39 RIDE BUS FOR SOME TRIPS IN NEXT 6 MONTHS [N = 1,040]

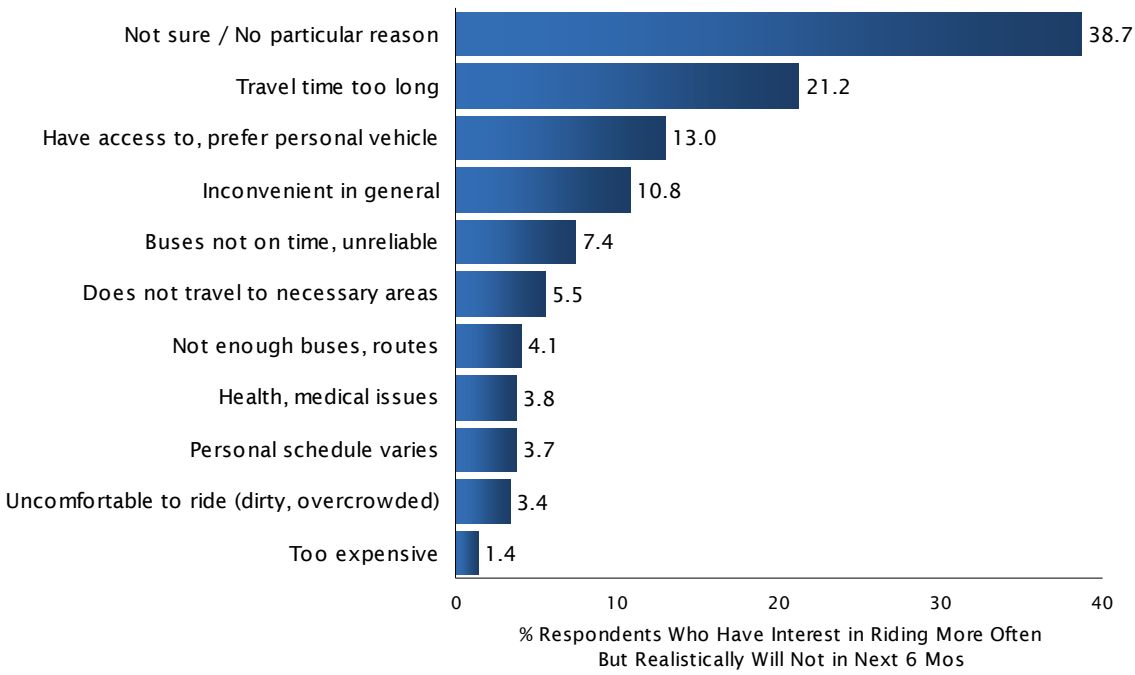


OBSTACLES TO RIDING BUS MORE OFTEN The next question in this series was posed to respondents who reported being at least slightly interested in riding the bus more frequently (Questions 15 & 17), but confided that—realistically—they did not expect to increase their frequency of ridership in the next six months (Questions 16 & 18). Question 12 simply asked these respondents to identify the reasons or obstacles that will keep them from riding the bus more often. This question was administered in an open-ended manner, which allowed respondents to mention any reason that came to mind without being prompted by—or restricted to—a particular list of options. True North later reviewed the verbatim responses and grouped them into the categories shown below in Figure 40.

Approximately 39% of respondents were not sure or mentioned that there was no particular reason/obstacle preventing them from riding the bus more often. Among the specific obstacles that were identified, the most common were that the travel times when riding the bus are too long (21%), they have access to and prefer a personal vehicle (13%), a perception that the bus is generally inconvenient (11%), concerns about the reliability of the bus/being on time (7%), and a perception that the bus does not travel to the areas they need to go (6%).

Question 19 *Are there specific reasons or obstacles that will keep you from riding the bus more often than you do now? If yes, ask: Please briefly describe them to me.*

FIGURE 40 REASONS FOR NOT RIDING BUS MORE OFTEN [N = 388]



CHANGES THAT WOULD INCREASE RIDERSHIP Regardless of their stated interest in riding OCTA's fixed-route bus system in its current form, all respondents were next asked if there were any *changes* that can be made to bus services in Orange County that would result in them riding the bus more often than they do now. Question 20 was presented in an open-ended manner, which allowed respondents to mention any change or improvement that came to mind

without being prompted by, or restricted to, a particular list of options. True North later reviewed the verbatim responses and grouped them into the categories shown in Figure 41.

Approximately 62% of respondents indicated that there were no changes to bus services in Orange County that came to mind that would cause them to ride the bus more frequently in the future. Among those that did mention an improvement that would cause them to increase their ridership, the most common changes were providing additional buses/increasing frequency of service (13%), providing additional direct routes/express routes (9%), providing additional bus stops that are closer to their origins/destinations (5%), reducing travel time (4%), and improving reliability/timeliness of service (3%). No other single improvement was mentioned by at least 3% of respondents.

Question 20 *Realistically, are there any changes that can be made to bus services in Orange County that would result in you riding the bus more often than you do currently?*

FIGURE 41 CHANGES NEEDED TO RIDE BUS MORE OFTEN [N = 1,200]

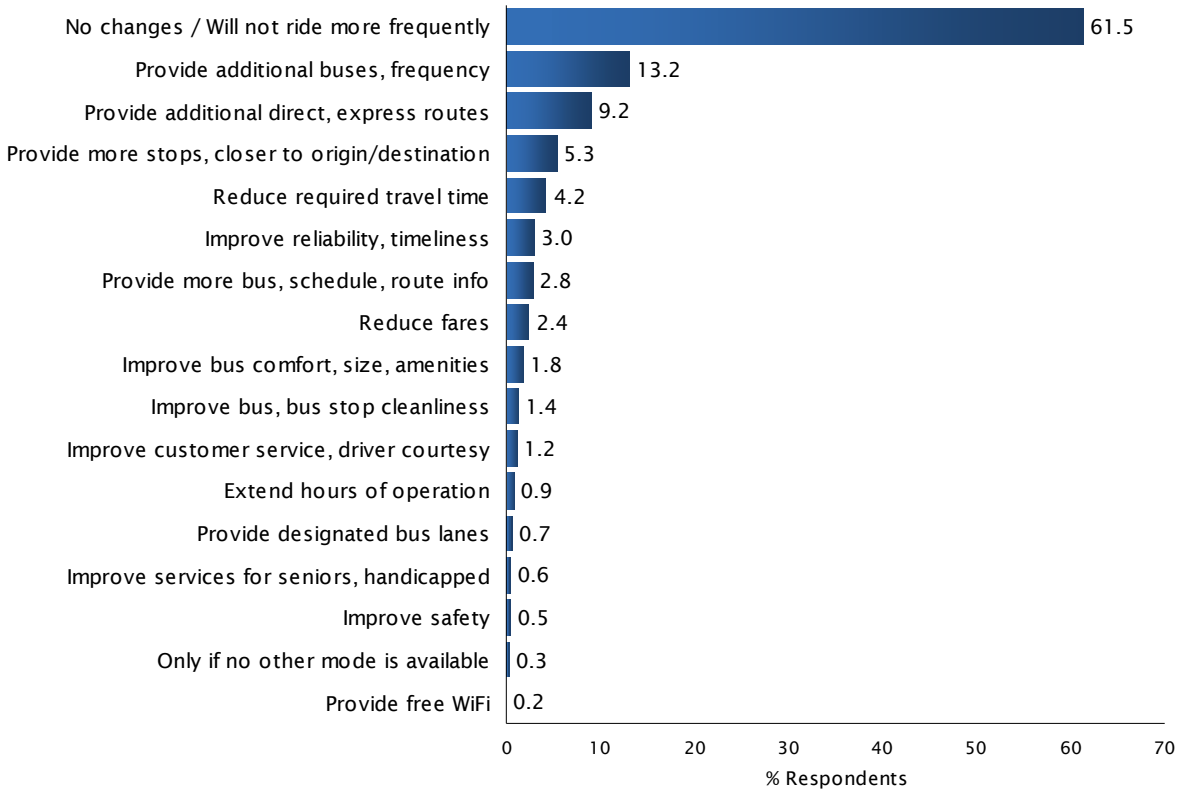
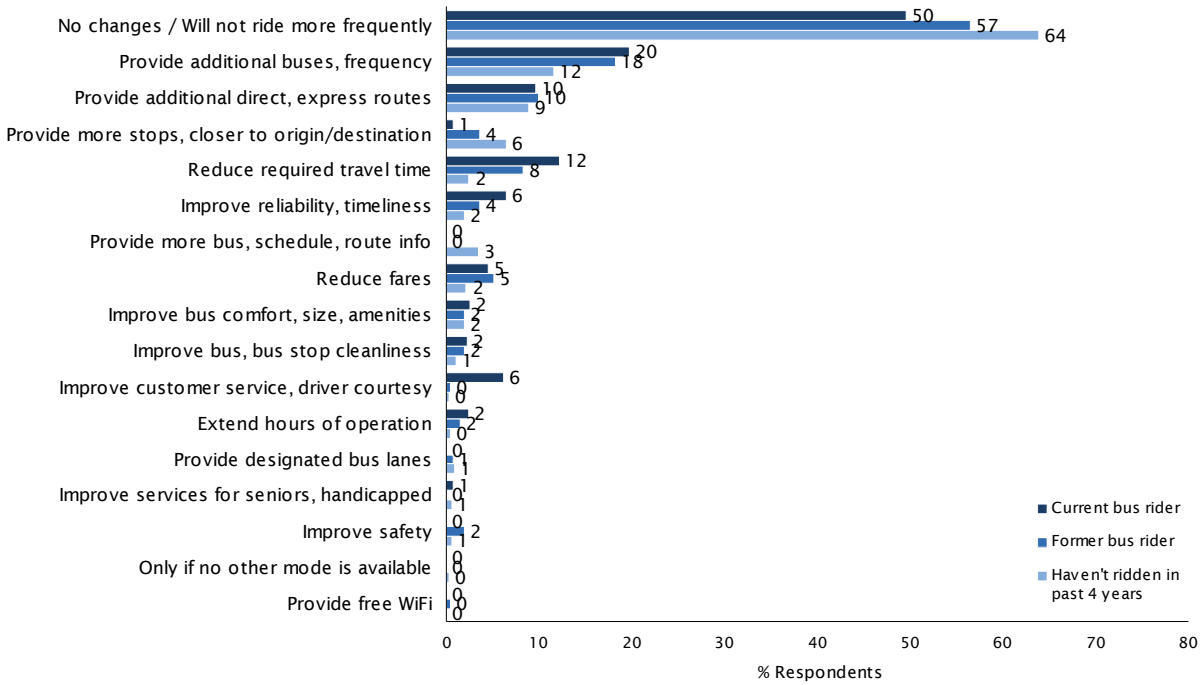


Figure 42 shows how the responses to Question 20 varied according to the person's ridership status. In general, current riders were the most likely to cite improvements that would increase their frequency of ridership, followed by former riders. Nearly two-thirds of those who had not ridden the bus in the past four years (non-riders), meanwhile, indicated that there were no changes that came to mind that would cause them to ride the bus more often than they do currently.

FIGURE 42 CHANGES NEEDED TO RIDE BUS MORE OFTEN BY BUS RIDER STATUS [N = 1,200]



Whereas Question 20 asked respondents in an *open-ended* manner to describe any changes that came to mind that would increase their frequency of bus ridership, Question 21 presented each of the specific improvements shown on the left of Figure 43 and asked respondents whether this type of change would cause them to ride the bus more often than they do now. Overall, the most compelling improvements were providing a neighborhood bus service that would pick riders up at a place and time of their choosing (37% definitely ride more often), the ability to reach destinations without having to transfer buses (37%), a mobile app with information about the timing and status of buses in real-time (31%), and more direct routes with fewer stops (29%).

Increasing the frequency of bus service (26%), placing bus stops closer to destinations so it requires less walking (30%), and reducing bus fares (28%) were also mentioned by at least one-in-four respondents as improvements that would definitely cause them to ride the bus more often.

At the other end of the spectrum, at least one-in-five respondents indicated that improved benches and shelters at bus stops (22%), more parking available at transit stations (20%), expanding the hours of bus service earlier/later in the day (23%), making WiFi available on buses (24%), and the ability to purchase a ticket with a mobile device (25%) would definitely cause them to ride the OCTA bus more frequently than they do currently.

Although the percentage of respondents who found each improvement to be a reason to ride the bus more frequently varied by ridership status (see Figure 44) and market segment (see Figure 45), the relative ranking of the various improvements was generally similar.

Question 21 *Realistically, if _____, would you ride the bus more often than you do now? Get answer, then ask: Would that be definitely (yes/no) or probably (yes/no)?*

FIGURE 43 IMPACT OF BUS IMPROVEMENTS ON FREQUENCY OF BUS RIDERSHIP [N = 1,200]

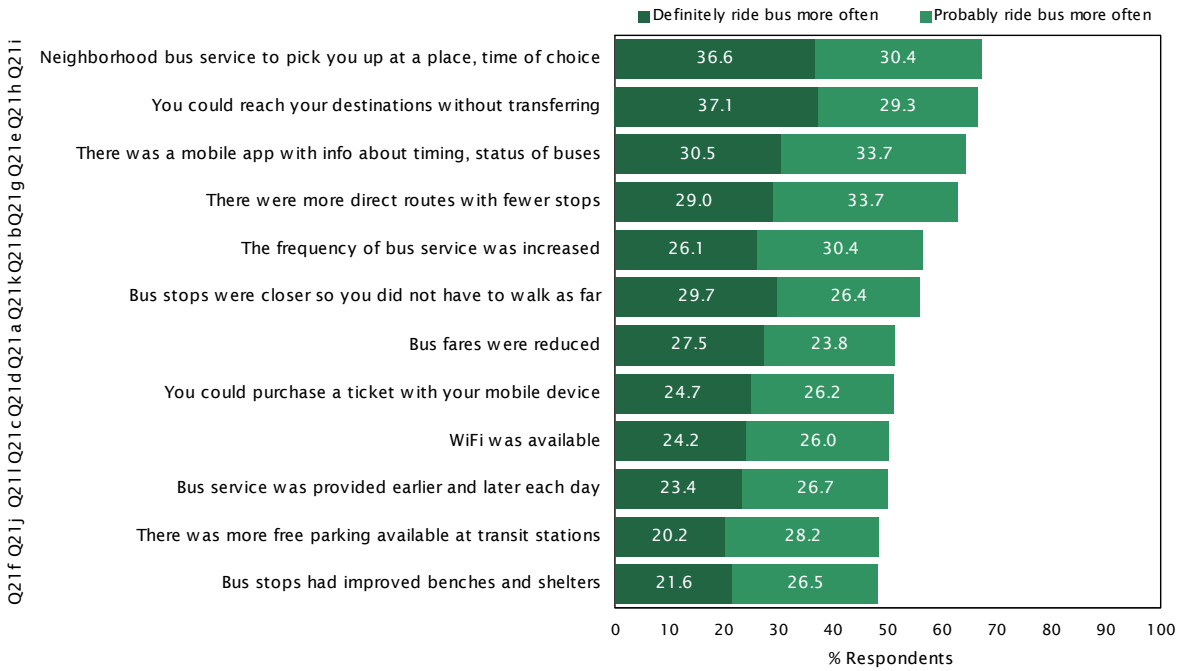


FIGURE 44 IMPACT OF BUS IMPROVEMENTS ON FREQUENCY OF BUS RIDERSHIP BY RIDERSHIP STATUS [N = 1,200]

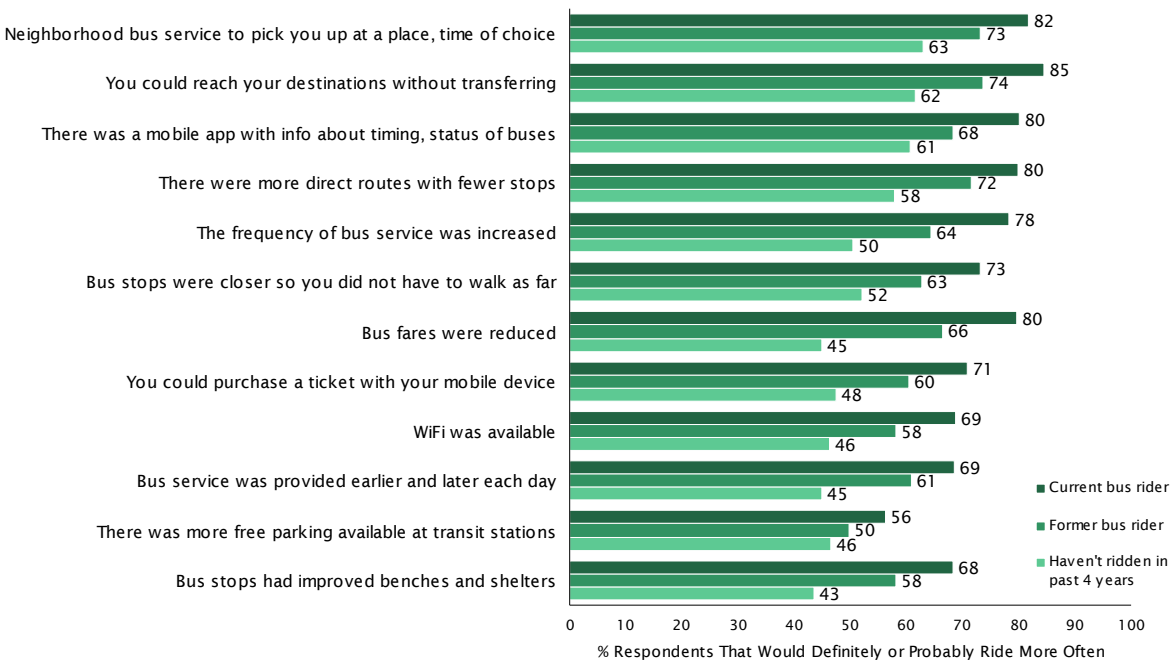
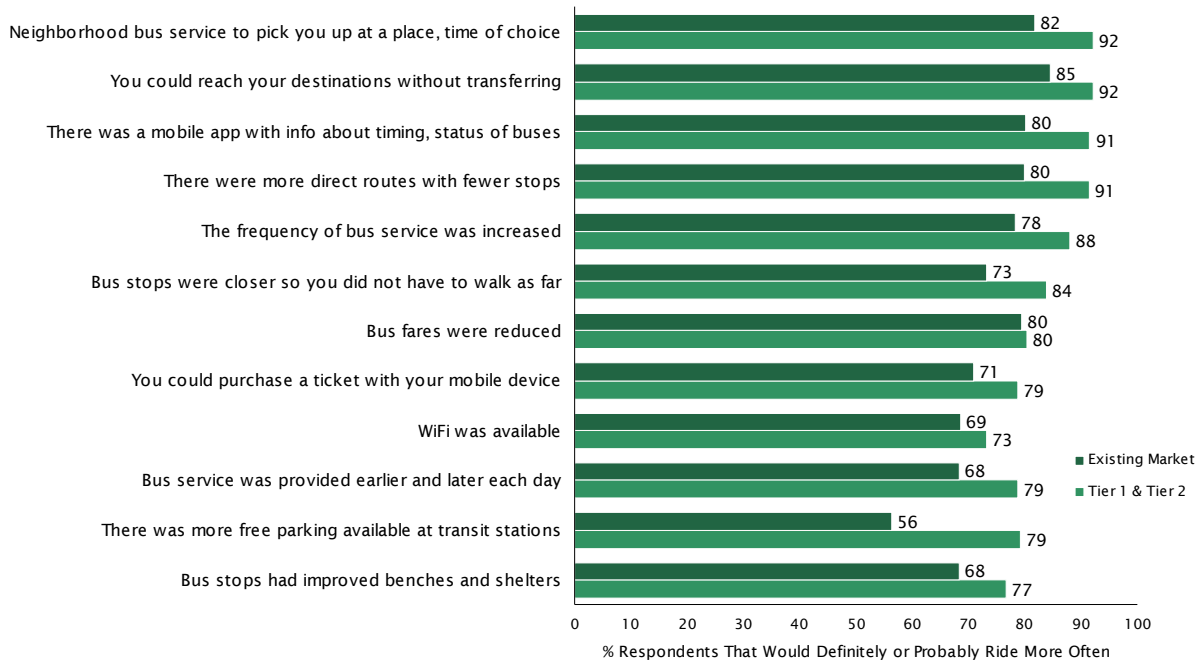


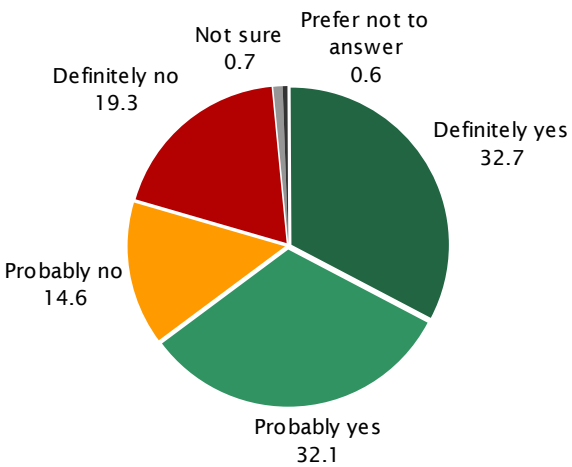
FIGURE 45 IMPACT OF BUS IMPROVEMENTS ON FREQUENCY OF BUS RIDERSHIP BY EXISTING & TARGET MARKETS [N = 463]



IMPACT OF FULL SUITE OF IMPROVEMENTS The next question in this series was designed to assess the impact that a full suite of improvements, offered in concert, would have on residents' likelihood of riding the bus in the future. After presenting respondents with the list of improvements tested in Question 21, Question 22 asked respondents whether they would ride the bus more often than they do now if *all* of the improvements were made? Figure 46 presents the results in the context of *all* respondents, including those who had previously indicated that no changes came to mind that would cause them to ride the bus more often in the future.

Question 22 *What if all of the improvements I just mentioned were made? Realistically, would you ride the bus more often than you do now?*

FIGURE 46 RIDE BUS MORE OFTEN IF ALL IMPROVEMENTS WERE MADE [N = 1,200]



Overall, one-third (33%) of Orange County residents indicated that they would definitely ride the bus more often in the future if the full suite of improvements mentioned in Question 21 were made to OCTA's bus service, and an additional 32% indicated they would probably do so. The remaining respondents indicated they would not ride the bus more often in the future even if the improvements were made (34%) or were unsure (1%).

Figures 47-50 show how the percentage of respondents who indicated they would definitely ride the bus more often in the future (if the full suite of service improvements were made) varied across key subgroups. When compared to their respective counterparts, those between 25 and 34 years of age, residents of Supervisorial District 1, Latinos and individuals with mixed ethnic heritage, individuals from households with annual incomes under $50,000, those who do not always have access to a personal vehicle, residents who currently ride the bus at least once per month, those who are already very familiar with OCTA's bus service, and individuals who primarily bike, walk or use public transit when traveling in Orange County were the most likely to anticipate increasing their ridership in response to the full suite of bus service improvements.

FIGURE 47 RIDE BUS MORE OFTEN IF ALL IMPROVEMENTS WERE MADE BY AGE & DISTRICT [N = 1,200]

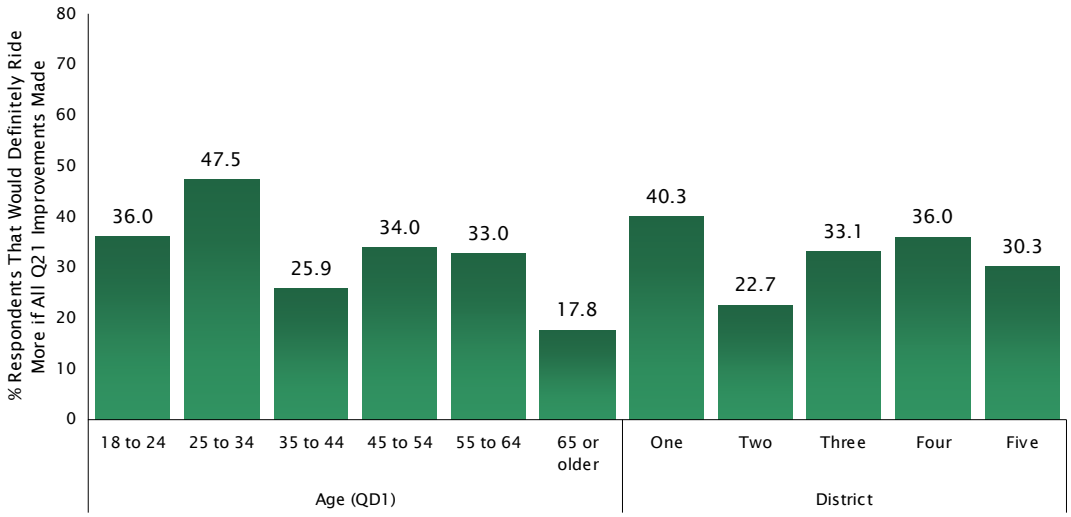


FIGURE 48 RIDE BUS MORE OFTEN IF ALL IMPROVEMENTS WERE MADE BY EMPLOYMENT STATUS, GENDER & ETHNICITY [N = 1,200]

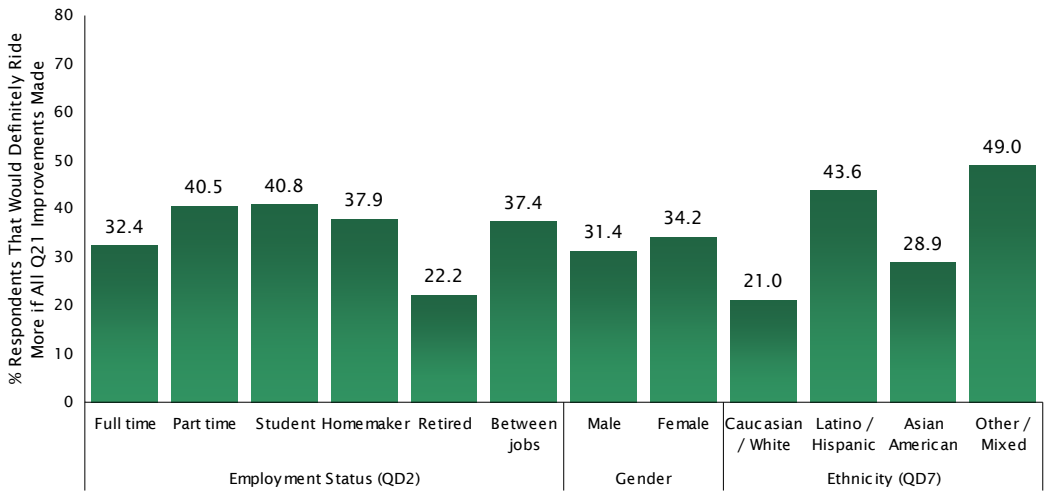


FIGURE 49 RIDE BUS MORE OFTEN IF ALL IMPROVEMENTS WERE MADE BY HSLD INCOME & ACCESS TO PERSONAL VEHICLE [N = 1,200]

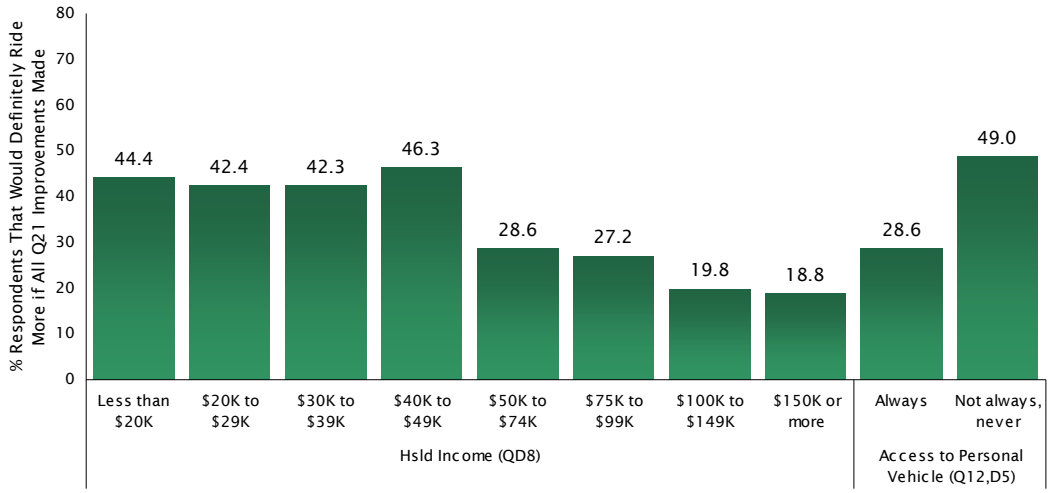
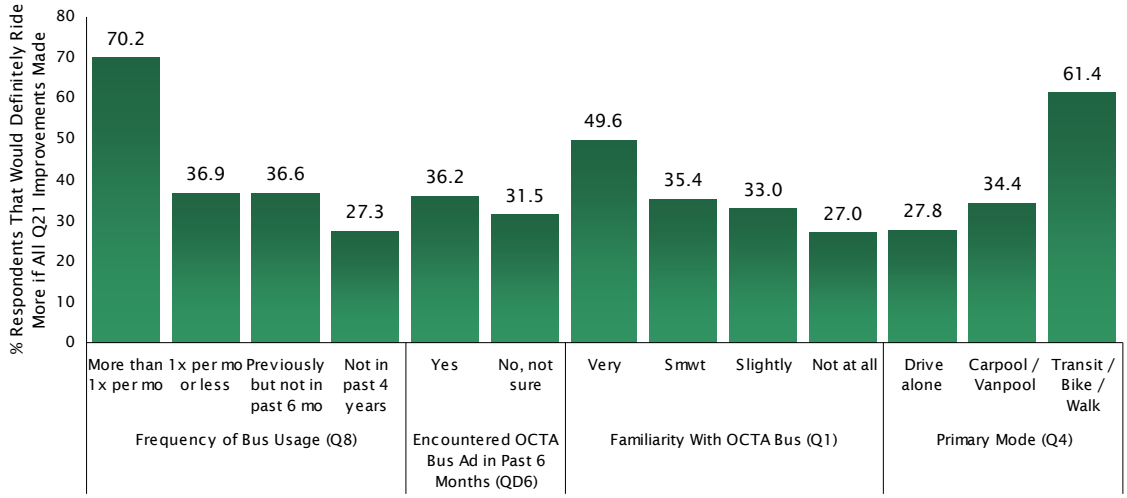


FIGURE 50 RIDE BUS MORE OFTEN IF ALL IMPROVEMENTS WERE MADE BY FREQUENCY OF BUS USAGE, ENCOUNTERED OCTA BUS AD IN PAST 6 MONTHS, FAMILIARITY WITH OCTA BUS & PRIMARY MODE [N = 1,200]



TYPES OF FUTURE BUS TRIPS The final substantive questions of the survey were posed only to respondents who indicated that they anticipated riding the bus more often in the future in response to OCTA making the full suite of improvements tested in Question 21. Figure 51 on the next page shows that among the different types of trips tested, these respondents indicated they would be most likely to use the bus for social and recreational trips (68%), as well as commuting to/from work (67%) or school (63%). Approximately half of those administered Question 23 indicated they would be likely to use the bus for medical appointments (56%) and shopping trips (54%).

When compared to existing riders, individuals in the target market segments were somewhat less likely to anticipate using the bus for all trip types, but especially work commutes, doctor appointments, and shopping trips (see Figure 52).

Question 23 *How likely would you be to use the bus: _____? Would you be very likely, somewhat likely, or not likely?*

FIGURE 51 LIKELIHOOD OF USING BUS FOR SPECIFIC TRIPS/DESTINATIONS [N = 778]

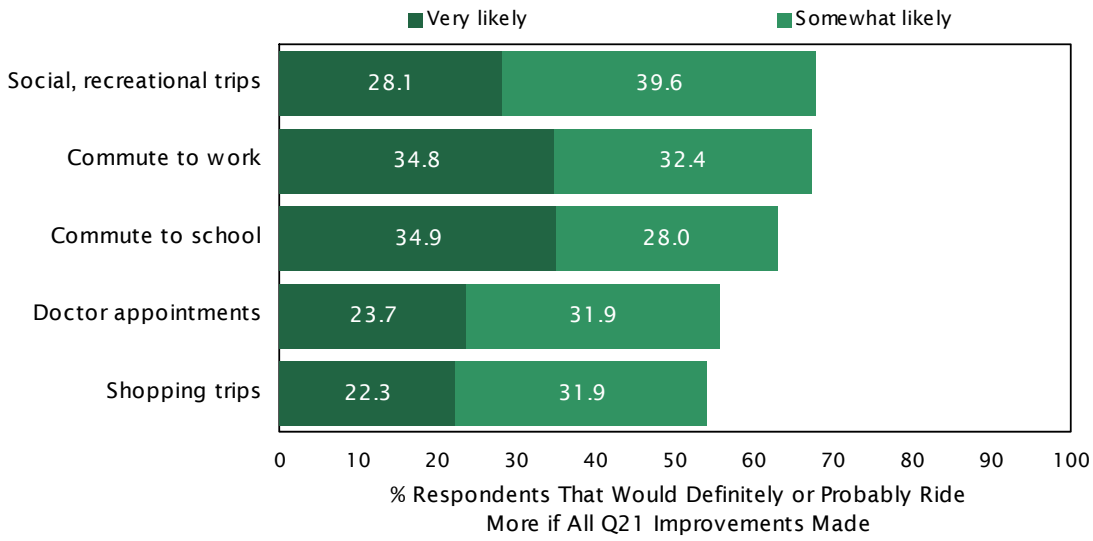
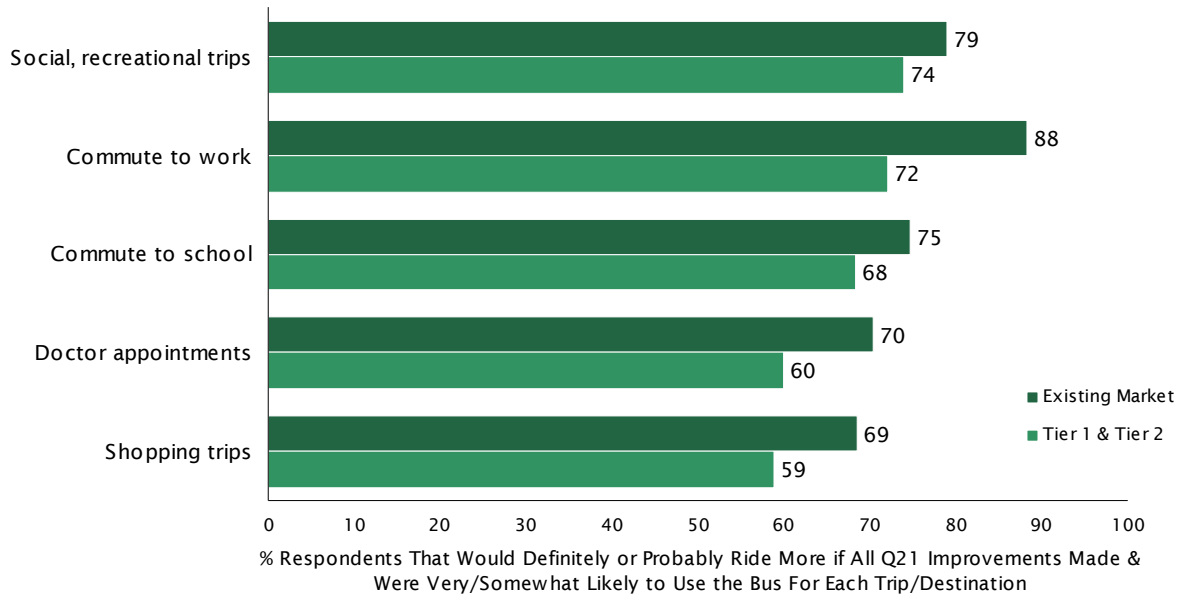


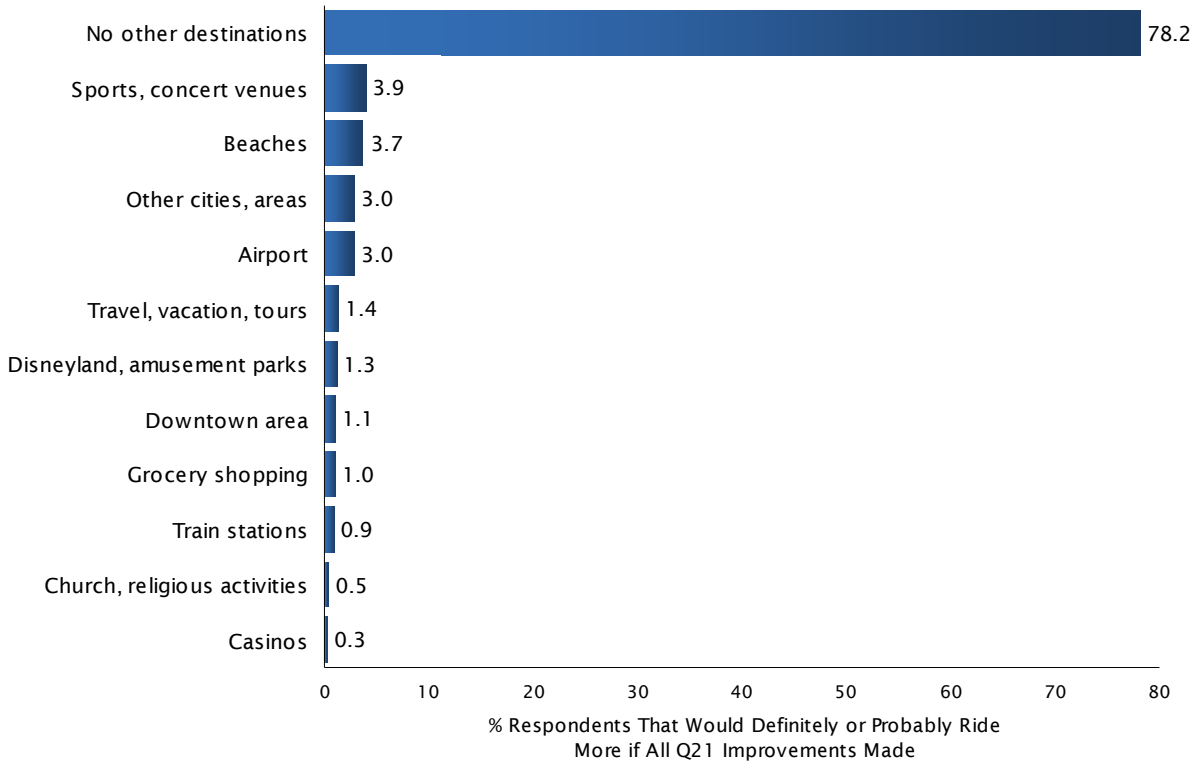
FIGURE 52 LIKELIHOOD OF USING BUS FOR SPECIFIC TRIPS/DESTINATIONS BY EXISTING & TARGET MARKETS [N = 463]



When provided an open-ended opportunity to mention other types of trips for which they would be very likely to use the bus (see Figure 53), most (78%) indicated there were no additional destinations/trip types for which they would be very likely to use the bus in the future. Among the specific destinations offered, sports/concert venues (4%), beaches (4%), other cities (3%), and the airport (3%) were the most frequently mentioned.

Question 24 *Is there another destination or type of trip I didn't mention previously for which you'd be very likely to use the bus? If yes, ask: Please briefly describe it to me.*

FIGURE 53 ADDITIONAL TRIPS/DESTINATIONS DESIRED FOR BUS TRAVEL [N = 778]

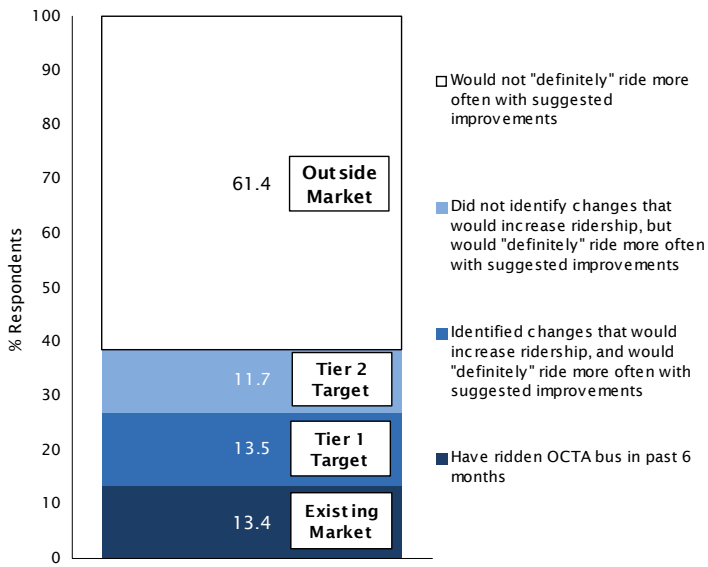


Market Tiers & Size

One of the primary goals of this study was to profile the potential market for OCTA's fixed-route bus service among Orange County residents, many of whom (as detailed previously in this report) have little or no familiarity with the bus. Rather than assume that *all* residents are potential riders, we operated from the premise that the market is comprised of tiers (layers)—with some residents sharing criteria that make them very good targets, others sharing criteria that make them moderately good targets, and still others that are realistically not within the potential OCTA bus market.

A respondent's position in the OCTA bus market was based on several criteria, including whether they currently ride the OCTA bus, were able to suggest an improvement that would cause them to start riding the bus (increase ridership), and their stated likelihood of riding the bus if OCTA were to implement the full suite of service improvements noted in Question 21 (see *Changes that Would Increase Ridership* on page 37). These three variables were combined to establish the layers shown in Figure 54.

Figure 54 Targets For Increasing Bus Ridership [n = 1,200]



Existing Market The existing market consists of individuals who reported riding the OCTA bus in the past six months, although not necessarily as their primary mode of transportation. Although currently riding the bus, these 13% of Orange County residents should not be overlooked from a marketing perspective given that many have an opportunity to increase the *frequency* with which they ride the bus.

Tier 1 Targets The most promising *potential* riders are those who—although not currently riding the bus—were able to suggest changes that would cause them to increase their bus ridership, and also indicated that they would *definitely* ride the bus if OCTA were to implement the suite of service improvements noted in Question 21. Tier 1 Targets represent 14% of the adult population in Orange County.

Tier 2 Targets Second-tier targets are individuals who don't currently ride the bus and were unable to suggest a change that would cause them to ride the bus more often in the future, but did state they would definitely ride the bus if OCTA were to implement the suite of service improvements noted in Question 21. Tier 2 Targets represent 12% of the adult population in Orange County.

Outside Market Approximately 61% of Orange County adults were classified as being outside the OCTA bus market based on their not being a current rider and their weak/lack of interest in riding the bus in the future even if OCTA were to implement the suite of service improvements noted in Question 21.

PROPENSITY TO BE IN THE EXISTING MARKET OR TARGET GROUPS

Figures 55-58 show how the propensity to be in the Existing Market, Tier 1 Target, or Tier 2 Target groups varied by characteristics including age, Supervisorial District, employment status, gender, ethnicity, household income, access to a personal vehicle, familiarity with OCTA bus services, and distance between the respondent's home and work/school location. When compared to their respective counterparts, those under 35 years of age, residents of Supervisorial District 1, part-time employees and those currently in between jobs, those who live in households with annual family incomes under $50,000, individuals who do not always have access to a personal vehicle, those already very familiar with OCTA's bus service, and those with comparatively short commutes of 3 to 10 miles were the most likely to be *at least* a Tier 2 Target.

FIGURE 55 EXISTING MARKET AND TOP TIER TARGET MARKETS FOR INCREASING BUS RIDERSHIP BY AGE & DISTRICT [N = 1,200]

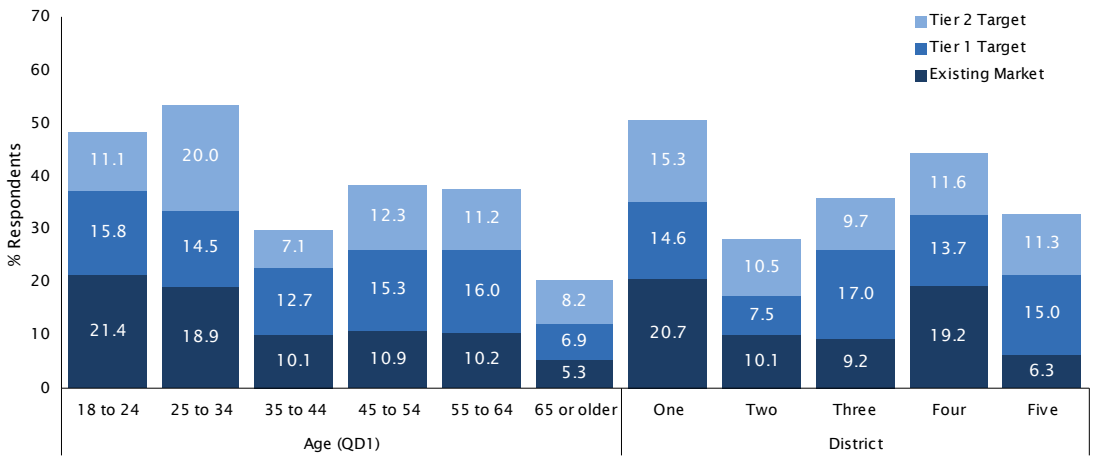


FIGURE 56 EXISTING MARKET AND TOP TIER TARGET MARKETS FOR INCREASING BUS RIDERSHIP BY EMPLOYMENT STATUS, GENDER & ETHNICITY [N = 1,200]

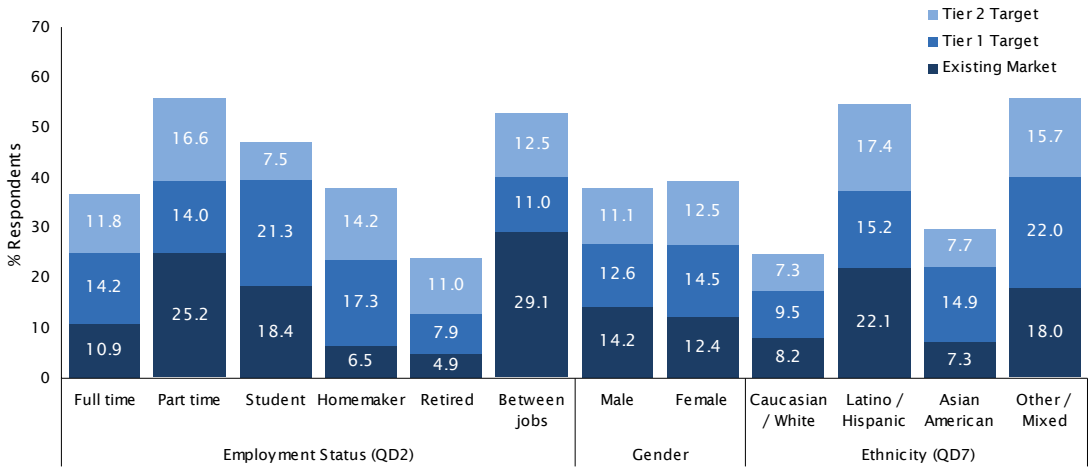


FIGURE 57 EXISTING MARKET AND TOP TIER TARGET MARKETS FOR INCREASING BUS RIDERSHIP BY HSLD INCOME & ACCESS TO PERSONAL VEHICLE [N = 1,200]

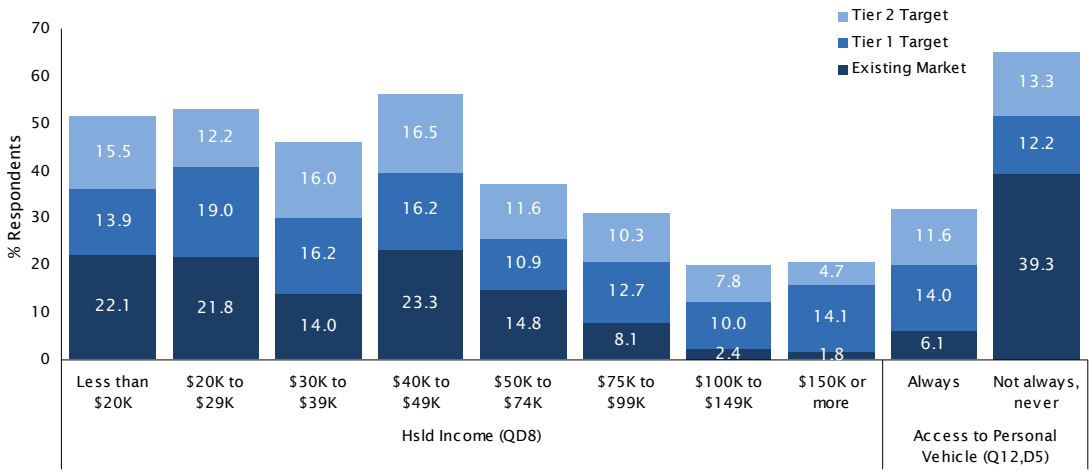
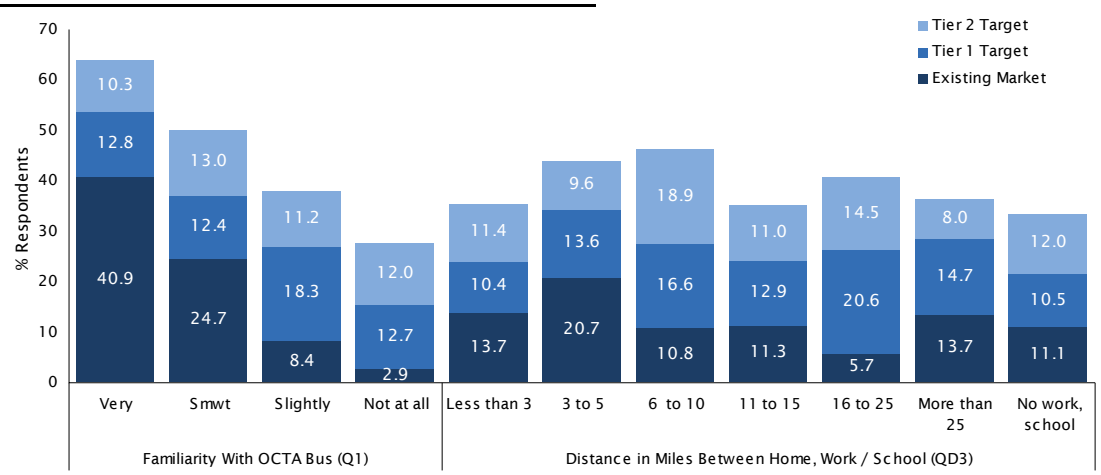


FIGURE 58 EXISTING MARKET AND TOP TIER TARGET MARKETS FOR INCREASING BUS RIDERSHIP BY FAMILIARITY WITH OCTA BUS & DISTANCE IN MILES BETWEEN HOME, WORK/SCHOOL [N = 1,200]



TARGET PROFILES Whereas Figures 55-58 display the percentage within each subgroup that were Tier 1 Targets, Tier 2 Targets, or part of the Existing Market, Figures 59-63 reverse the analysis to profile the demographic composition of each market level. The figures present the percentage of each market level (Existing Market, Tier 1 and Tier 2) that is accounted for by a particular subgroup. Thus, for example, the Existing Market consists of 32% between 18 to 24 years of age, 27% between 25 and 34, 14% between 35 to 44, 11% between 45 to 54, 11% between 55 and 64, and 6% that are 65 years of age or older.

The figures make it comparatively easy to identify distinguishing characteristics of each market level, as well as characteristics that don't have any distinguishing power. Access to a personal vehicle, for example, is a strong predictor of whether one is in the Existing Market, but does little to distinguish among the Tier 1 Target, Tier 2 Target, or Outside Market groups. Overall, age, ethnicity, household income, and access to a personal vehicle are the variables that best distinguish the market layers.

FIGURE 59 TARGETS FOR INCREASING BUS RIDERSHIP BY AGE [N = 1,200]

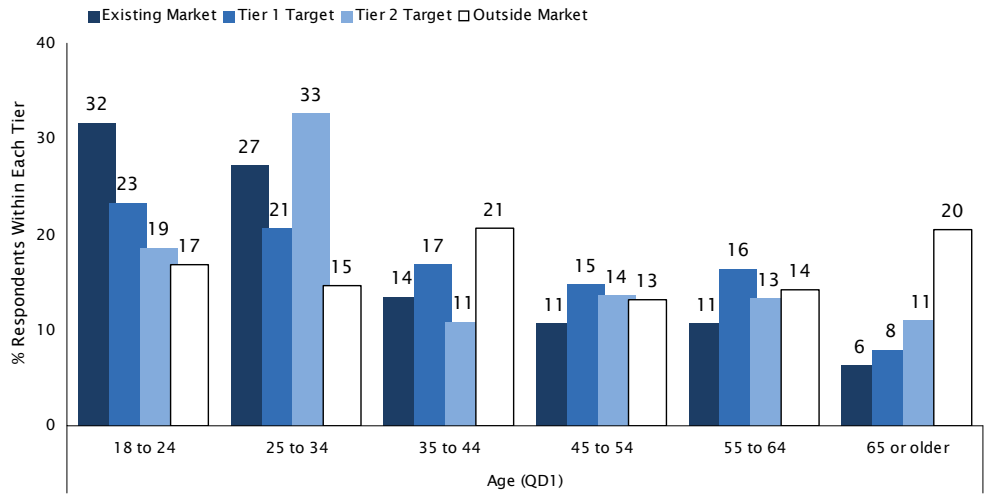


FIGURE 60 TARGETS FOR INCREASING BUS RIDERSHIP BY ACCESS TO PERSONAL VEHICLE & EMPLOYMENT STATUS [N = 1,200]

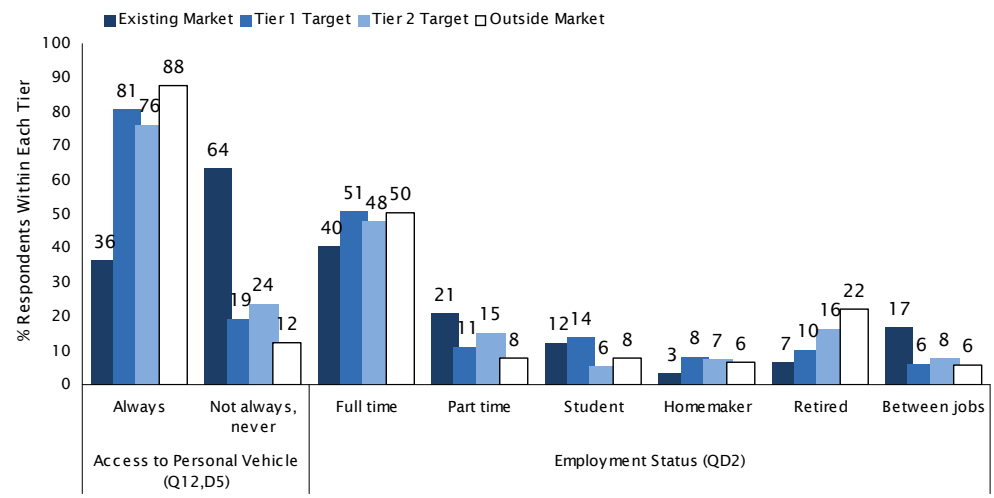


FIGURE 61 TARGETS FOR INCREASING BUS RIDERSHIP BY ETHNICITY & GENDER [N = 1,200]

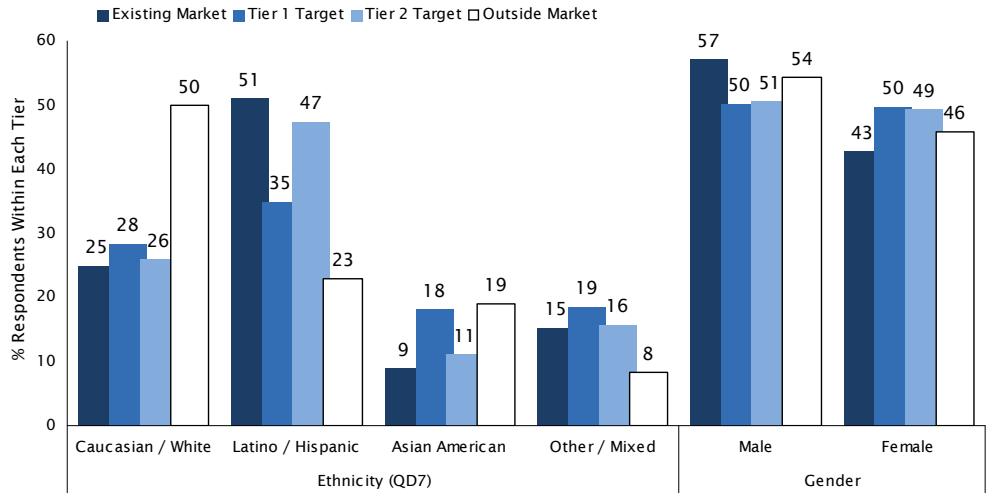


FIGURE 62 TARGETS FOR INCREASING BUS RIDERSHIP BY HSLD INCOME [N = 1,200]

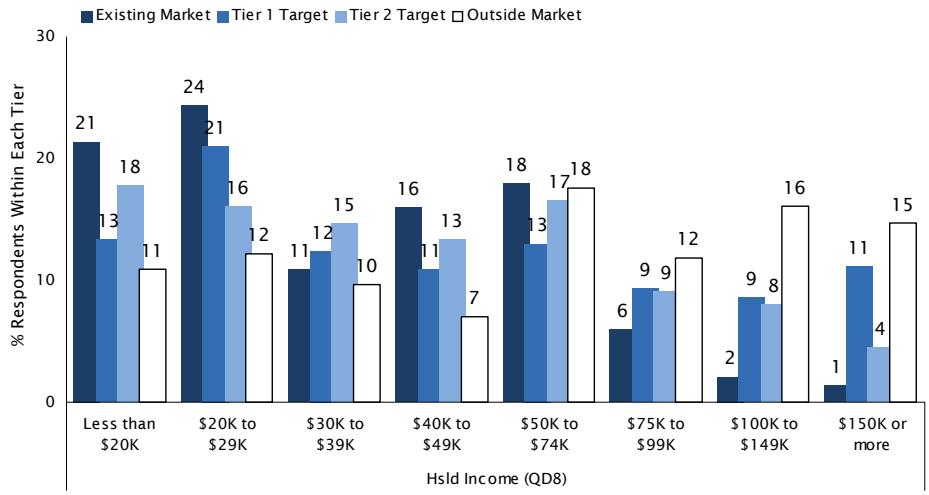
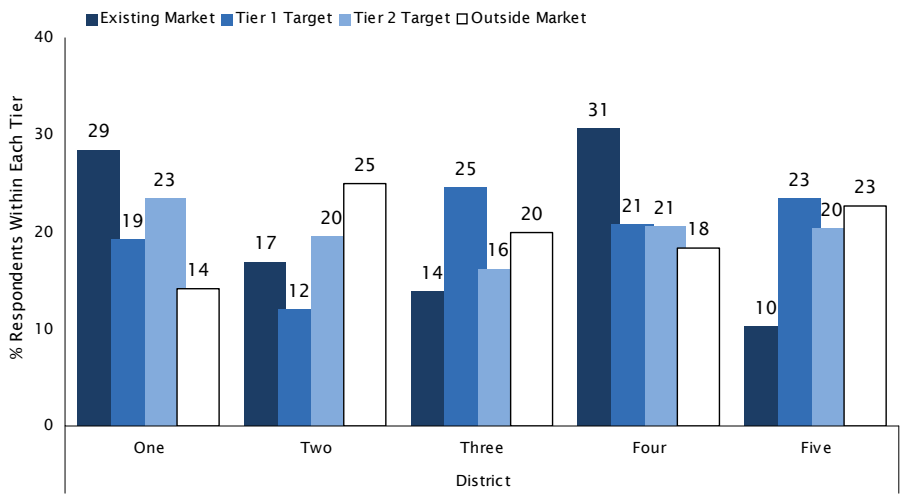


FIGURE 63 TARGETS FOR INCREASING BUS RIDERSHIP BY DISTRICT [N = 1,200]



BACKGROUND & DEMOGRAPHICS

TABLE 1 DEMOGRAPHICS OF SAMPLE [N = 1,200]

	Overall	Former Riders
Total Respondents	*1200*	*253*
Age (QD1)		
18 to 24	19.5	35.6
25 to 34	18.9	25.7
35 to 44	17.7	11.5
45 to 54	12.9	10.3
55 to 64	13.7	8.3
65 or older	15.4	6.3
Prefer not to answer	1.9	2.4
Employment Status (QD2)		
Full time	47.2	47.4
Part time	10.5	14.2
Student	8.5	16.2
Homemaker	6.1	2.0
Retired	17.1	8.3
Between jobs	7.3	7.9
Prefer not to answer	3.2	4.0
Distance in Miles Between Home, Work / School (QD3)		
Less than 3	9.3	7.9
3 to 5	13.3	15.4
6 to 10	13.2	16.6
11 to 15	8.8	15.4
16 to 25	8.5	9.5
More than 25	8.8	7.9
No work, school	30.6	18.2
Prefer not to answer	7.4	9.1
Ethnicity (QD7)		
Caucasian / White	39.5	30.4
Latino / Hispanic	30.2	44.7
Asian American	16.0	13.0
Other / Mixed	11.1	11.5
Prefer not to answer	3.1	0.4
Hsld Income (QD8)		
Less than $20K	11.2	26.1
$20K to $29K	12.9	14.6
$30K to $39K	9.0	13.4
$40K to $49K	7.9	10.7
$50K to $74K	14.0	8.3
$75K to $99K	8.6	4.7
$100K to $149K	10.1	5.9
$150K or more	9.3	2.4
Prefer not to answer	17.0	13.8
District		
One	18.6	29.2
Two	22.6	18.6
Three	20.3	21.7
Four	21.5	25.3
Five	21.9	11.9
Former Bus Rider (Q6,7)		
Yes	5.0	100.0
No	95.0	0.0

Table 1 presents the key demographic and background information that was collected during the survey. The table shows the profile of all Orange County adults surveyed in the Overall column, as well as the profile of Former Riders in the far right column. Because of the probability-based sampling methodologies used in creating the sample, the results shown in the Overall column are representative of the universe of Orange County adults.

Although the primary motivation for collecting the background and demographic information was to provide a better insight into how the results of the substantive questions of the survey vary by demographic characteristics (see crosstabulations in Appendix A for a full breakdown of each question), the information is also valuable for understanding the current profile of Orange County's adult population.

METHODOLOGY

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 Stella Lin, Ellen Burton, CEO Darrell Johnson, as well as other OCTA staff to develop a questionnaire that covered the topics of interest and avoided the many possible sources of systematic measurement error, including position-order effects, wording effects, response-category effects, scaling effects and priming. Several questions included multiple individual items. Because asking the items in a set order can lead to a systematic position bias, the items were asked in a random order for each respondent.

Some of the questions asked in this study were presented only to a subset of respondents. For example, only respondents who indicated that they were at least slightly familiar with OCTA's bus service (Question 1) were asked whether they have a favorable or unfavorable opinion of the OCTA bus as a travel option (Question 2). The questionnaire included with this report (see *Questionnaire & Toplines* on page 56) identifies the skip patterns that were used during the interview to ensure that each respondent received the appropriate questions.

PROGRAMMING, PRE-TEST & TRANSLATION 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. The integrity of the questionnaire was pretested internally by True North and by dialing into random homes in Orange County prior to formally beginning the survey. Once finalized, the survey was professionally translated into Spanish and Vietnamese to give respondents the option of participating in these languages as well as English. The survey was also programmed into a password-protected online survey application hosted by True North to allow respondents who preferred to participate online the option to do so.

SAMPLING For the primary sample, households within Orange County were chosen using a combination of random digit dial (RDD) sampling for land lines, as well as a random sample of geo-targeted mobile phone numbers with account addresses in Orange County. An RDD sample is drawn by first selecting all of the active phone exchanges (first three digits in a seven digit phone number) and working blocks that service the area. After estimating the number of listed households within each phone exchange that are located within the area, a sample of randomly selected phone numbers is generated with the number of phone numbers per exchange being proportional to the estimated number of households within each exchange in the area. This method ensures that both listed and unlisted households are included in the sample. It also ensures that new residents and new developments have an opportunity to participate in the study, which is not true if the sample were based on a telephone directory.

Although the RDD method is widely used for community surveys, the method also has several known limitations that must be adjusted for to ensure representative data. Research has shown, for example, that individuals with certain demographic profiles (e.g., older women) are more

likely to be at home and are more likely to answer the phone even when other members of the household are available. If this tendency is not adjusted for, the RDD sampling method will produce a survey that is biased in favor of women—particularly older women. To adjust for this behavioral tendency, the survey included a screening question which initially asked to speak to the youngest male available in the home. If a male was not available, then the interviewer was instructed to speak to the youngest female currently available. This protocol was followed—to the extent needed—to ensure a representative sample. In addition to following this protocol, the sample demographics were monitored as the interviewing proceeded to make sure they were within certain tolerances.

Oversample of Former Bus Riders As noted in the *Introduction*, one of the goals of this study was to speak with former bus riders to better understand the reasons underlying the decline in bus ridership in recent years. It was also anticipated, however, that the natural percentage of former riders in the Orange County population would be small, meaning that the subsample of former riders within the aforementioned proportional sample of Orange County adults would be insufficient to generate statistically reliable results. Accordingly, the study also employed a strategic oversample of former bus riders drawn from a random sample of individuals who had previously been surveyed while riding an OCTA bus between 2010 and 2013. Screening questions were used to identify individuals in this group that qualified as a former rider as defined in this study (see *Former Bus Riders* on page 24), which brought the total number of former riders surveyed who still reside in Orange County up to 253.

STATISTICAL MARGIN OF ERROR

By using a probability-based sample and monitoring the sample characteristics as data collection proceeded, True North ensured that the sample was representative of adult residents in Orange County. The results of the survey can thus be used to estimate the opinions of *all* adult residents in the County. Because not all adult residents 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 1200 respondents for a particular question and what would have been found if all of the estimated 2,423,694 adult residents[3] had been interviewed.

For example, in estimating the percentage of Orange County adult residents who are very familiar with OCTA bus services (Question 1) and removing the strategic oversample of former riders,[4] 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:

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

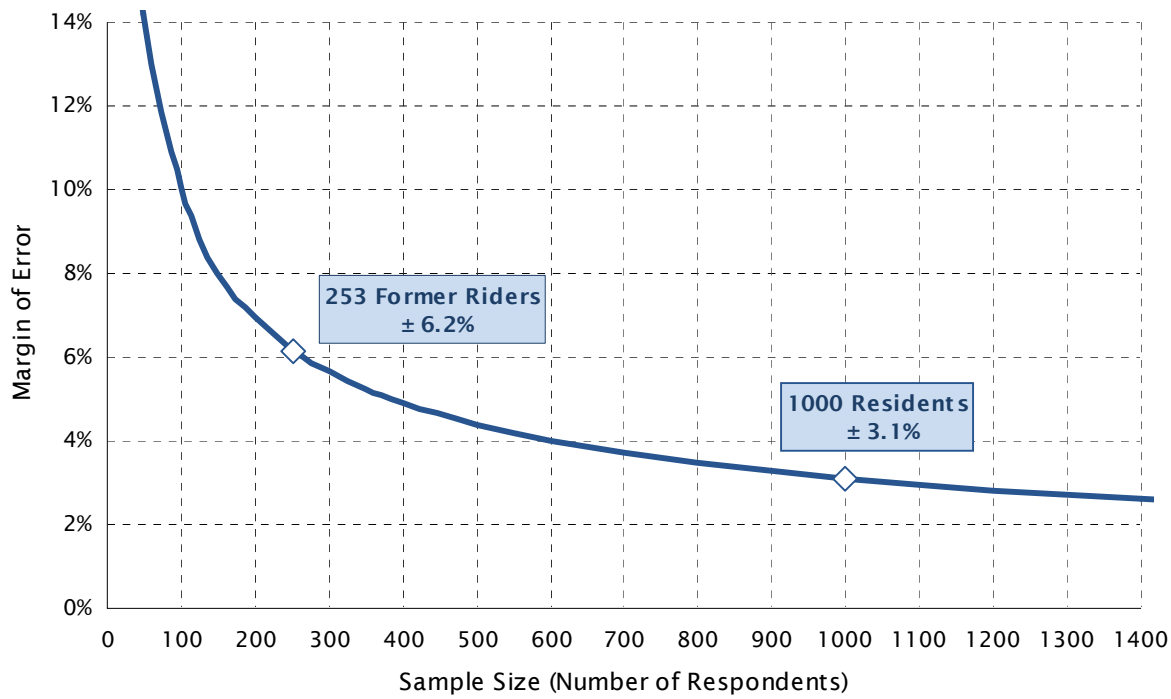
where $\hat{p}$ is the proportion of survey respondents who reported being very familiar with OCTA's bus service (0.15 for 15% in this example), N is the population size of all adult residents

3. Based on California Department of Finance population projections, January 2015, and Census age distribution estimates from 2013.
4. Because 200 of the 1200 total interviews constituted an oversample of a particular subgroup, it is not appropriate to include the oversample in the total sample size for the purposes of calculating the statistical margin of error among Orange County adults as a whole. However, the oversample does greatly improve the overall statistical reliability of the results within the former rider subgroup.

(2,423,694), n is the sample size that received the question (1000), 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 ± 2.2%. This means that with 15% of survey respondents indicating they were very familiar with OCTA's bus service, we can be 95% confident that the actual percentage of all adult residents in the County who are very familiar with OCTA's bus service is between 13% and 17%.

Figure 64 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 general sample of 1000 Orange County residents, the maximum margin of error is ± 3.1%. For the subsample of former riders, the maximum margin of error is ± 6.2%.

FIGURE 64 MAXIMUM MARGIN OF ERROR DUE TO SAMPLING



Within this report, figures and tables show how responses to certain questions varied by subgroups such as employment status, Supervisorial District, and ridership status. Figure 64 above is thus useful for understanding how the maximum margin of error for a percentage estimate will grow as the number of individuals asked a question (or in a particular subgroup) shrinks. Because the margin of error grows exponentially as the sample size decreases, the reader should use caution when generalizing and interpreting the results for small subgroups.

DATA COLLECTION The primary method of data collection for this study was telephone interviewing. Interviews were conducted in English, Spanish and Vietnamese during weekday evenings (5:30PM to 9PM) and on weekends (10AM to 5PM) between June 2 and June 25, 2015. 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. The interviews averaged

17 minutes in length. Respondents who preferred to participate in the survey online were allowed to do so using a password-protected website designed and hosted by True North Research.

DATA PROCESSING & WEIGHTING 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. The final data were also weighted to adjust for the strategic oversample of former riders and to adjust for minor discrepancies in age, ethnicity, and Supervisorial District.

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.

Section 1: Introduction to Study
Hi, my name is _____, and I'm calling on behalf of TNR, an independent public opinion research firm. We're conducting a survey about important issues in Orange County and I'd like to get your opinions.
If needed: This is a survey about important issues in your community. I'm NOT trying to sell anything and I won't ask for a donation. *If needed:* The survey should take about 12 minutes to complete. *If needed:* If now is not a convenient time, can you let me know a better time so I can call back? You can also take our survey online if you prefer. *If the person asks who is sponsoring the survey, explain:* For statistical purposes, I can't reveal the sponsor of the survey at the beginning of this interview, but I will tell you at the end. *If needed:* You can also take the survey online at <<insert URL>>. *Provide PIN.*

Section 2: Screener for Inclusion in the Study			
For statistical reasons, I would like to speak to the youngest adult male currently at home who is at least 18 years of age. *If there is no male currently at home that is at least 18 years of age, then ask:* Ok, then I'd like to speak to the youngest female currently at home who is at least 18 years of age. *If there is no adult currently available, then ask for a callback time.* *NOTE: Adjust this screener as needed to match sample quotas on gender & age* *Offer web option if prefer online.*			
SC1	To begin, what is the ZIP code at your residence? *Read ZIP code back to them to confirm correct.*		
			Data on file
SC2	*Record which area the ZIP code falls into. If the respondent provided a ZIP code that does not appear in one of the areas below, terminate the interview.*		
	1	District 1	19%
	2	District 2	23%
	3	District 3	20%
	4	District 4	21%
	5	District 5	22%

Section 3: Familiarity & General Opinion of Bus Service				
To begin, I'd like to ask you a few questions about transit services in Orange County.				
Q1	How familiar would you say you are with OCTA's (Oh-See-Tee-Ay's) bus service in Orange County? Would you say you are very familiar, somewhat familiar, slightly familiar, or not at all familiar?			
	1	Very familiar	15%	*Ask Q2*
	2	Somewhat familiar	17%	*Ask Q2*
	3	Slightly familiar	17%	*Ask Q2*
	4	Not at all familiar	50%	*Skip to Q4*
	99	Prefer not to answer	1%	*Skip to Q4*
Q2	In general, would you say you have a favorable or unfavorable opinion of the OCTA (Oh-See-Tee-Ay) bus as a travel option for you? *Get answer, then ask:* Would that be very (favorable/unfavorable) or somewhat (favorable/unfavorable)?			
	1	Very favorable	29%	*Skip to Q4*
	2	Somewhat favorable	38%	*Skip to Q4*
	3	Somewhat unfavorable	16%	*Ask Q3*
	4	Very unfavorable	6%	*Ask Q3*
	98	Not sure	11%	*Skip to Q4*
	99	Prefer not to answer	0%	*Skip to Q4*
Q3	Is there a particular reason why you have an unfavorable opinion of the bus as a travel option for you in Orange County? *If yes, ask:* What is the reason? *Probe:* Any other reasons? Verbatim responses recorded and later grouped into categories shown below.			
	Travel time too long		25%	
	Does not travel to necessary areas		17%	
	Not sure / No particular reason		16%	
	Available times, schedules are insufficient		15%	
	Inconvenient in general		10%	
	Buses not on time, unreliable		6%	
	Have access to, prefer personal vehicle		4%	
	Uncomfortable to ride (dirty, overcrowded)		4%	
	Safety concerns		3%	
	Too expensive		3%	
	Inconvenient connection between buses		2%	
	Bad customer service, unfriendly bus drivers		1%	

Section 4: Travel Modes & Bus Use				
Next, I'd like to know about the types of transportation you use when traveling in Orange County.				
Q4	What form of transportation do you use most often when traveling in Orange County? *If they say **drive, car**, etc. ask:* Do you most often drive by yourself or with other people in the vehicle? *If they say **train**, ask:* Do you ride METROLINK or Amtrak most often?			
	1	Drive alone (auto/truck/van/SUV)	63%	
	2	Carpool/drive with other people	26%	
	3	Vanpool	0%	
	4	Bus	6%	
	5	METROLINK (train/commuter rail)	0%	
	6	Amtrak (train)	0%	
	7	Motorcycle/Moped/Motorized Scooter	1%	
	8	Bike	1%	
	9	Walk/Run	1%	
	10	Uber or Lyft	0%	
	11	Taxi	0%	
	12	Other	0%	
	99	Not sure / Prefer not to answer	1%	
Q5	At any point during the past **four years**, have you ridden the OCTA (Oh-See-Tee-Ay) Bus when traveling in Orange County?			
	1	Yes	27%	*Ask Q6*
	2	No	73%	*Skip to Q14*
	98	Not sure	0%	*Skip to Q14*
	99	Prefer not to answer	0%	*Skip to Q14*
Q6	How about during the past **6 months**, have you ridden the OCTA (Oh-See-Tee-Ay) Bus when traveling in Orange County?			
	1	Yes	50%	
	2	No	49%	
	98	Not sure	1%	
	99	Prefer not to answer	0%	

Only ask Q7 if Q5 = 1 AND Q6 = (2,98,99).			
Q7	At the time when you were riding the bus in the past, how often did you ride the bus in Orange County? At least once per week, two to three times per month, once per month, or less often than once per month?		
	1	At least once per week	26%
	2	Two to three times per month	9%
	3	Once per month	5%
	4	Less often than once per month	56%
	99	Prefer not to answer	4%
Only ask Q8 if Q6 = 1.			
Q8	During the past **6 months**, how often have you ridden the bus? At least once per week, two to three times per month, once per month, or less often than once per month?		
	1	At least once per week	32%
	2	Two to three times per month	25%
	3	Once per month	20%
	4	Less often than once per month	22%
	99	Prefer not to answer	1%

Section 5: Former Bus Riders		
Only ask questions in this section if Q5 = 1 AND Q6 = 2 AND Q7 = (1,2,3).		
Q9	You indicated that you used to ride the bus in Orange County, but haven't in the past six months. What was the **main** reason you stopped riding the bus? *Probe:* Any other reasons why you stopped riding the bus? *If they say 'not convenient', probe as to specific reasons it's not convenient.* Verbatim responses recorded and later grouped into categories shown below.	
	Have access to, prefer personal vehicle	70%
	Personal schedule change (job, school)	11%
	Inconvenient in general	6%
	Travel time too long	5%
	Now carpool instead	4%
	Moved to new area	4%
	Buses not on time, unreliable	4%
	Not sure / No particular reason	3%
	Use other form of transportation	1%
	Bad customer service, unfriendly bus drivers	1%
	Not enough buses, routes	1%
	Too expensive	1%

Q10	Was _____ a factor in your decision to stop riding the bus? *If yes, ask:* Was it a big factor, a medium factor, or a small factor?					
	Randomize	Big Factor	Medium Factor	Small Factor	No/Not a Factor	Prefer not to answer
A	An increase in the **cost** of riding the bus	11%	14%	7%	67%	1%
B	A decrease in the **frequency** of bus service	16%	16%	4%	62%	2%
C	A change in a bus **route**	10%	6%	7%	76%	2%
D	**Travel time** being too long	29%	14%	8%	48%	2%

Q11	Thinking back to the period of time when you were riding the bus in Orange County, did you always, sometimes, rarely or never have access to a personal vehicle during this period?		
	1	Always	15%
	2	Sometimes	25%
	3	Rarely	21%
	4	Never	40%
	99	Prefer not to answer	0%
Q12	How about now? Do you always, sometimes, rarely or never have access to a personal vehicle?		
	1	Always	81%
	2	Sometimes	9%
	3	Rarely	3%
	4	Never	6%
	99	Prefer not to answer	0%
Q13	When you stopped riding the bus, what form of transportation did you start using for trips that you previously made by bus? *If they say **drive, car**, etc. ask:* Did you most often drive by yourself or with other people in the vehicle?		
	1	Drive alone (auto/truck/van/SUV)	72%
	2	Carpool/drive with other people	19%
	3	Vanpool	0%
	4	METROLINK (train/commuter rail)	0%
	5	Amtrak (train)	0%
	6	Motorcycle/Moped/Motorized Scooter	0%
	7	Bike	5%
	8	Walk/Run	1%
	9	Uber or Lyft	0%
	10	Taxi	1%

	11	Other	1%
	12	None / Stopped making those trips	2%
	99	Not sure / Prefer not to answer	0%

Section 6: Comparative Performance & Perceptions

Next, I'd like you to compare the bus's performance to a personal vehicle in a number of different areas. Even if you haven't ridden the bus before, I'd like to know your perceptions.

Q14 When compared to a personal vehicle, would you say the **bus** is better, worse or about the same at _____? *If better or worse, ask:* Would that be a lot (better/worse), somewhat (better/worse), or slightly (better/worse)?

	Randomize	A lot Better	Somewhat better	Slightly better	About the same	Slightly worse	Somewhat worse	A lot worse	No opinion	Prefer not to answer
A	Being a **reliable** form of transportation	8%	8%	6%	45%	9%	9%	11%	3%	1%
B	Being **consistent** in terms of the time it takes to travel from one point to another	5%	3%	5%	32%	14%	12%	23%	5%	1%
C	Getting to a destination in a reasonable amount of **time**	6%	3%	4%	25%	15%	16%	29%	3%	1%
D	Going **where** you need to go	5%	3%	3%	29%	13%	14%	27%	5%	1%
E	Being a **safe** way to travel	13%	12%	7%	46%	7%	5%	6%	4%	0%
F	Being an **economical** way to travel	22%	19%	12%	26%	5%	3%	4%	7%	1%
G	Avoiding **traffic** congestion	10%	9%	7%	45%	6%	6%	11%	5%	1%
H	Being **clean** and **comfortable**	9%	5%	4%	36%	11%	11%	13%	10%	1%
I	Being **available** when needed	7%	4%	5%	23%	13%	14%	28%	5%	1%
J	Being a **stress-free** way to travel	12%	12%	8%	32%	9%	9%	14%	4%	1%
K	Being a **convenient** way to travel	7%	5%	3%	29%	14%	13%	25%	4%	1%

Section 7: Interest in Riding Bus

Ask Q15 & Q16 if Q6 = 1.

Q15 How interested are you in <u>increasing</u> the frequency with which you ride the bus in Orange County? Would you say you are very interested, somewhat interested, slightly interested, or not at all interested?

	1	Very interested	30%
	2	Somewhat interested	25%
	3	Slightly interested	20%
	4	Not at all interested	24%
	98	Not sure	1%
	99	Prefer not to answer	0%

Q16	Realistically, in the next six months do you think you will ride the bus more often, less often, or about the same frequency as you do now?		
	1	More often	21%
	2	Less often	15%
	3	About the same as now	64%
	98	Not sure	0%
	99	Prefer not to answer	0%
Ask Q17 & Q18 if Q6 = (2,98,99) OR Q5 = (2,98,99).			
Q17	How interested are you in riding the bus for some of the trips you take in Orange County? Would you say you are very interested, somewhat interested, slightly interested, or not at all interested?		
	1	Very interested	8%
	2	Somewhat interested	10%
	3	Slightly interested	23%
	4	Not at all interested	58%
	98	Not sure	1%
	99	Prefer not to answer	1%
Q18	Realistically, in the next six months do you think you will start riding the bus for some of the trips you take in Orange County?		
	1	Yes	15%
	2	No	85%
	98	Not sure	0%
	99	Prefer not to answer	0%
Ask Q19 if [Q15 = (1,2,3) AND Q16 = (2,3,98)] OR [Q17 = (1,2,3) AND Q18 = (2,98)].			
Q19	Are there specific reasons or obstacles that will keep you from riding the bus more often than you do now? *If yes, ask:* Please briefly describe them to me. *Multiple Responses Allowed.* Verbatim responses recorded and later grouped into categories shown below.		
	Not sure / No particular reason		39%
	Travel time too long		21%
	Have access to, prefer personal vehicle		13%
	Inconvenient in general		11%
	Buses not on time, unreliable		7%
	Does not travel to necessary areas		6%
	Health, medical issues		4%
	Not enough buses, routes		4%
	Personal schedule varies		4%
	Uncomfortable to ride (dirty, overcrowded)		3%

	Ask Q20 & Q21 of All Respondents.	
Q20	Realistically, are there any changes that can be made to bus services in Orange County that would result in you riding the bus **more** often than you do currently? *If yes, ask:* Please describe the changes. Verbatim responses recorded and later grouped into categories shown below.	
	No changes / Will not ride more frequently	61%
	Provide additional buses, frequency	13%
	Provide additional direct, express routes	9%
	Provide more stops, closer to origin/destination	5%
	Reduce required travel time	4%
	Improve reliability, timeliness	3%
	Provide more bus, schedule, route info	3%
	Reduce fares	2%
	Improve bus comfort, size, amenities	2%
	Improve safety	1%
	Improve bus, bus stop cleanliness	1%
	Extend hours of operation	1%
	Improve customer service, driver courtesy	1%
	Provide designated bus lanes	1%
	Improve services for seniors, handicapped	1%

Q21 Realistically, if _____, would you ride the bus more often than you do now? *Get answer, then ask:* Would that be definitely (yes/no) or probably (yes/no)?

	Randomize	Definitely Yes	Probably Yes	Probably No	Definitely No	Prefer not to answer
A	Bus **fares** were reduced	27%	24%	19%	26%	4%
B	The **frequency** of bus service was increased	26%	30%	17%	24%	3%
C	**Wifi** was available	24%	26%	17%	28%	4%
D	You could purchase a ticket with your **mobile** device	25%	26%	17%	29%	3%
E	There was a **mobile app** with information about the timing and status of buses in real-time	31%	34%	13%	21%	2%
F	Bus stops had improved **benches and shelters**	22%	26%	22%	27%	2%
G	There were more **direct routes** with fewer stops	29%	34%	14%	21%	2%
H	You could reach your destinations without having to **transfer** buses	37%	29%	11%	20%	2%
I	There was a neighborhood bus service that would pick you up at a place and time of **your** choosing	37%	30%	13%	18%	2%

J	There was more **free parking** available at transit stations	20%	28%	21%	27%	4%
K	Bus **stops were closer** so you did not have to walk as far	30%	26%	20%	22%	2%
L	Bus service was provided **earlier and later** each day	23%	27%	19%	28%	3%

Q22	What if **all** of the improvements I just mentioned were made? Realistically, would you ride the bus more often than you do now? *Get answer, then ask:* Would that be definitely (yes/no) or probably (yes/no)?			
	1	Definitely yes	33%	*Ask Q23*
	2	Probably yes	32%	*Ask Q23*
	3	Probably no	15%	*Skip to D1*
	4	Definitely no	19%	*Skip to D1*
	98	Not sure	1%	*Skip to D1*
	99	Prefer not to answer	1%	*Skip to D1*

Q23	How likely would you be to use the bus: _____? Would you be very likely, somewhat likely, or not likely?					
	Randomize	Very likely	Somewhat likely	Not likely	Not sure	Prefer not to answer
A	To commute to work	35%	32%	30%	1%	2%
B	To commute to school	35%	28%	32%	2%	4%
C	For shopping trips	22%	32%	45%	0%	0%
D	To go to a doctor's appointment	24%	32%	43%	1%	1%
E	For social and recreational trips	28%	40%	32%	0%	0%

Q24	Is there another destination or type of trip I didn't mention previously for which you'd be very likely to use the bus? *If yes, ask:* Please briefly describe it to me. Verbatim responses recorded and later grouped into categories shown below.	
	No other destinations	78%
	Sports, concert venues	4%
	Beaches	4%
	Airport	3%
	Other cities, areas	3%
	Travel, vacation, tours	1%
	Grocery shopping	1%
	Disneyland, amusement parks	1%
	Train stations	1%
	Downtown area	1%

Section 8: Background & Demographics				
Thank you so much for your participation. I have just a few background questions for statistical purposes.				
D1	In what year were you born? Year recoded and later grouped into categories shown below.			
	18 to 24		20%	
	25 to 34		19%	
	35 to 44		18%	
	45 to 54		13%	
	55 to 64		14%	
	65 or older		15%	
	Prefer not to answer		2%	
D2	Which of the following best describes your employment status? Would you say you are employed full-time, part-time, a student, a homemaker, retired, or are you in-between jobs right now? *If they work and go to school, ask them to choose the category that best describes them: worker or student.*			
	1	Employed full-time	47%	*Ask D3*
	2	Employed part-time	11%	*Ask D3*
	3	Student	9%	*Ask D3*
	4	Homemaker	6%	*Skip to D7*
	5	Retired	17%	*Skip to D7*
	6	In-between jobs	7%	*Skip to D7*
	99	Refused	3%	*Skip to D7*
D3	In miles, what is the approximate distance between your home and your <place of work/school>? *If respondent Not sure, ask them to estimate.*			
	Less than 3		14%	
	3 to 5		20%	
	6 to 10		20%	
	11 to 15		13%	
	16 to 25		13%	
	26 to 40		8%	
	More than 40		5%	
	Prefer not to answer		6%	

D4	What is the city where you <work/go to school>? Verbatim responses recorded and later grouped into categories shown below.	
	Irvine	14%
	Anaheim	9%
	Santa Ana	9%
	Costa Mesa	6%
	Fullerton	6%
	Newport Beach	5%
	Garden Grove	3%
	Huntington Beach	3%
	Long Beach	3%
	Mission Viejo	3%
	Orange City	3%
	Brea	2%
	Los Angeles	2%
	Lake Forest	2%
	San Clemente	2%
	Rancho Santa Margarita	2%
	Aliso Viejo	1%
	Buena Park	1%
	Cypress	1%
	Dana Point	1%
	Laguna Beach	1%
	San Juan Capistrano	1%
	Seal Beach	1%
	Stanton	1%
	Tustin	1%
	Westminster	1%
	Yorba Linda	1%
	Laguna Niguel	1%
	Whittier	1%
	Other City (unique responses)	9%

Ask D5 if respondent did not receive Q12.			
D5	Do you always, sometimes, rarely or never have access to a personal vehicle?		
	1	Always	76%
	2	Sometimes	11%
	3	Rarely	3%
	4	Never	7%
	99	Prefer not to answer	3%
D6	During the past six months, do you recall seeing, hearing or reading an advertisement for OCTA's (Oh-See-Tee-Ay's) bus service?		
	1	Yes	28%
	2	No	68%
	98	Not sure	2%
	99	Prefer not to answer	2%
D7	What ethnic group do you consider yourself a part of or feel closest to*? Read list if respondent hesitates*		
	1	Caucasian/White	40%
	2	Latino/Hispanic	30%
	3	African-American/Black	3%
	4	American Indian or Alaskan Native	1%
	5	**Asian** -- Korean, Japanese, Chinese, Vietnamese, Filipino or other Asian	16%
	6	Pacific Islander	1%
	7	Middle Eastern	2%
	8	Mixed Heritage	4%
	98	Other	1%
	99	Prefer not to answer	3%
D8	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	11%
	2	$20,000 to less than $30,000	13%
	3	$30,000 to less than $40,000	9%
	4	$40,000 to less than $50,000	8%
	5	$50,000 to less than $60,000	6%
	6	$60,000 to less than $75,000	8%
	7	$75,000 to less than $100,000	9%

	8	$100,000 to less than $150,000	10%
	9	$150,000 to less than $200,000	4%
	10	$200,000 or more	5%
	98	Not sure	2%
	99	Prefer not to answer	15%

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

Post Interview Items			
S1	Gender		
	1	Male	54%
	2	Female	46%