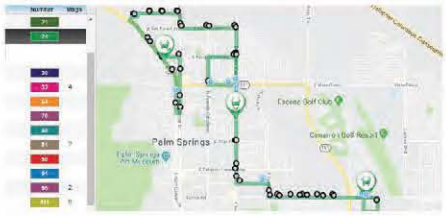
June 28, 2019

Sunline Transit Agency

Rider Survey



Final Report

Submitted by:

redhillgroup
THE POWER OF INSIGHT

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Contents

Table of Figures

Chapter 1:
Overview

Chapter 1: Overview

Project Background

SunLine Transit Agency (SunLine) is committed to excellence and actively listens to its stakeholders. As an integral part of its guiding framework, SunLine is pursing transit investments that will help enhance mobility options to the communities that it serves.

Understanding customers' satisfaction and motivations is an important component of SunLine's current initiative to "rethink and reinvigorate" transit services in the Coachella Valley. As part of the process, SunLine conducted a survey in March of 2019 with customers who ride the bus to gather their opinions on a variety of topics from customer satisfaction to electronic fare collection. A similar study was conducted in 2014 and where possible, the findings will be compared. There are two notable differences between the 2019 and 2014 studies. In 2019 the surveys were conducted as personal interviews, the current preferred methodology by the Federal Transportation Administration. In 2014, customers completed a paper survey rather than participating in an interview. The second notable difference is that the 2019 survey was conducted during the peak tourist season (March) while the 2014 study was conducted in November.

The 2019 SunLine Rider Survey project has four primary objectives:

1. Update customer profiles to support the system redesign.
2. Gather customer feedback to learn more about its riders' needs and interests.
3. Identify factors that are driving consumer satisfaction and use and to understand the expectations of its stakeholders.
4. Understand customer preferences on topics related to service improvements.

A total of 1,783 interviews were conducted in proportion to peak and off-peak ridership between March 6th and March 25th, 2019. The survey participation rate was 57 percent (similar to the 2014 rate of 55%). Survey results can be considered accurate at ± 2.2 percent at a 95 percent confidence level system-wide. A detailed discussion of the project methodology is provided in Chapter 8: Methodology. The survey instrument is located in Appendix A.

The 2019 study findings provide a current snapshot of SunLine customers to understand where they are going, how they use SunBus; and other information that will assist SunLine in matching its service and communications to the needs of the community.

Report Organization

This report consists of eight chapters which explore the demographic, behavioral and satisfaction characteristics of SunLine customers.

Study findings are viewed from the vantage point of existing conditions to develop market and product segmentation to support the development of actionable service and marketing/public outreach.

Analysis is conducted at a system-level and by key customer profiles which are defined as:

- Customers who are employed
- Students:
    - under the age of 18
    - 18 years and older
- Persons 60 years of age and older
- Length of time as a SunLine patron

These segments are not necessarily unique; for instance, a student may also be employed and a customer who is 60 years old or older may be a student. However, segmentation is useful for understanding, and strategizing approaches towards customer retention and increasing ridership.

Chapter 1: Overview

A brief background of SunLine Transit Agency and the relevance of this project to other SunLine initiatives are discussed in this section along with changes in market conditions.

Chapter 2: Executive Summary

A summary of key findings for the onboard survey and resulting recommendations are presented in this chapter.

Chapter 3: Ridership Characteristics

This chapter discusses ridership characteristics including length of time as a SunLine customer, frequency of use, fare media, trip purpose and transfer rates.

Chapter 4: Transit Dependency and Projected Future Use

Profiles of transit dependent customers are presented in this chapter as well as customers' intent to use the bus in 12 months.

Chapter 5: Satisfaction and Potential Service Improvements

This chapter presents overall customer satisfaction and satisfaction with nine different attributes. The chapter also explores customer preferences for service improvements and potential fare changes.

Chapter 6: Information and Technology

This chapter discusses internet connectivity, information sources used by customers and customers' ability to use an electronic fare payment.

Chapter 7: Demographics

Customer demographics including employment status, age household size, income and language proficiency are discussed in this section.

Chapter 8: Methodology

This chapter discusses the sampling plan, survey instrument development, conduct of survey, data review and quality assurance and data weighting.

Appendices

This section contains the survey instrument and the transfer matrix.

Data Presentation

Accompanying text references may note other comparisons not shown within the graph but that provide additional data insight.

Percentages in individual charts and tables may not total 100 percent due to rounding or when question answers capture multiple responses. In selected customer segmentation charts where percentages are small (under 4%) labels may be omitted.

For the purpose of analysis and reporting, in some cases "Don't Know," "Not Applicable"/"N/A," and declined responses were excluded when establishing a percentage base for a response.

The reader is advised that for some of the segmentation analysis beyond the system levels, statistical inferences cannot be drawn due to a small sample size. This is the case for route-level results; although route samples are relatively proportional to ridership for each route some samples may be too small for adequate statistical accuracy. Routes with samples of under 50 surveys are noted with an asterisk (*) next to the route name. Segmented results of small sample sizes, while insightful, should be considered directional and not necessarily statistically significant.

Agency Overview

SunLine Transit Agency operates the public transit system in Coachella Valley which provides fixed-route services, and curb-to-curb paratransit services for people whose disabilities prevent them from using the fixed-route service. SunLine serves more than four million passengers per year with a network that spans more than 1,100 square miles, and a service area that networks 15 local fixed-routes, one express route, and the Buzz trolley system.

Fixed-route bus services operate 363 days per year, with no service being provided on Thanksgiving and Christmas. The span of service is from approximately 4:00 a.m. to 11:30 p.m. on weekdays and 6:00 a.m. to 10:30 p.m. on weekends. Service frequency varies from 20 to 60 minutes depending on the route and time of day.

Changes in Market Conditions

Ridership growth for transit agencies nationally has stalled and in the past few years has registered significant declines. SunLine Transit ridership followed a similar pattern. However in recent months, ridership appears to be showing signs of a rebound. For FY 2019 fixed route ridership is up 1.6 percent with an up-tick in ridership recorded in the past three consecutive months. While the signs are positive, SunLine wants to better understand the factors that influence their customers' decisions on how they travel.

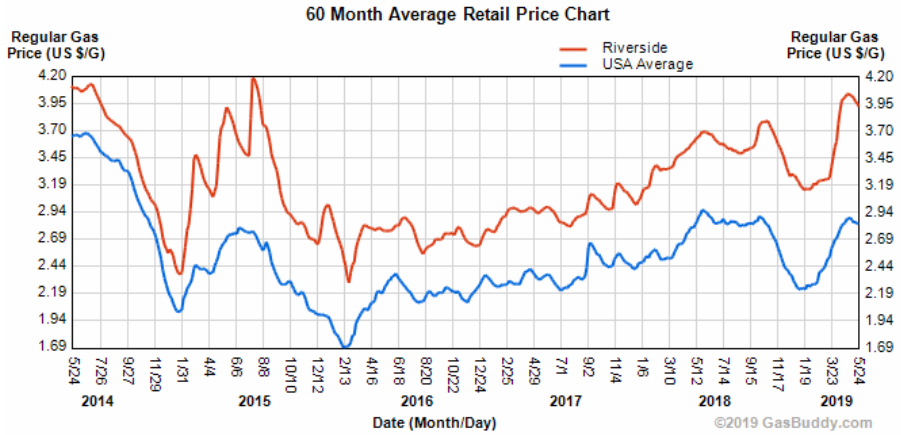
External factors outside of SunLine Transit's control have added to the challenge of maintaining ridership growth:

- The economy has rebounded and unemployment has dipped to record lows. In March 2012, unemployment in Riverside County registered 12.2 percent and preliminary numbers show that it has declined to 4.5 percent as of March 2019[1]. While increased employment can lead to opportunities to increase ridership, consumers have more money which affords them more choices.

- Economic recovery leads to new development which can add to traffic congestion and increased travel time during the construction phase and post-construction with more trips being served by the roadways.

- There has been rapid growth in the availability of transportation network companies (TNCs) like Uber and Lyft. However, a recent SCAG[2] study conducted by the UCLA Institute of Transportation Studies found little data to support the premise that this has decreased transit ridership. Based on the available data, the study concludes that most TNC related trips do not directly compete with public transit. Other research conducted by Hall, Palsson and Price in 2017[3] concluded that Uber is a complement to existing public transit services. However, this arena requires additional study, especially in terms of the longer term effect of the TNC network on transit.

- Gas prices[4] declined significantly between March 2014 and March 2016. However, in the last two years gasoline prices have crept upward to almost $4.00 per gallon. Increases in gasoline prices have traditionally stimulated transit ridership; however, this effect may be offset in part by increases in vehicle fuel efficiency and a higher level of employment.



[1] https://www.labormarketinfo.edd.ca.gov/file/lfmonth/rive$pds.pdf
[2] Falling Transit Ridership: California and Southern California, January 2018 prepared for SCAG by UCLA Institute of Transportation Studies, page 9
[3] Is Uber a Substitute or Complement for Public Transit, Johnathan Hall, Craig Palsson and Joseph Rice, October 31, 2017 http://individual.utoronto.ca/jhall/documents/Uber_and_Public_Transit.pdf
[4] https://www.gasbuddy.com/Charts

- In January 2015, the ability to obtain a driver's license became available to a segment of California residents who previously were unable to obtain one. According to data recently released by the DMV since AB60 took effect in January 2015, just over one million additional individuals have obtained a California Driver's License[5].

Significant shifts in environmental and operating conditions require an updated passenger profile to better identify the current customer base and identify emerging opportunities. To stimulate additional ridership SunLine continues to strive to better understand its existing customers and to identify potential new customers with a goal of achieving long term customer loyalty. To achieve this goal SunLine is dedicated to providing services that meet the travel needs of persons who work, live and play in the Coachella Valley.

[5] California Surpasses 1 Million Driver's Licenses for Undocumented Immigrants, Tatiana Sanchez, Mercury News, April 4, 2018

Chapter 2:

Executive Summary

Chapter 2: Executive Summary

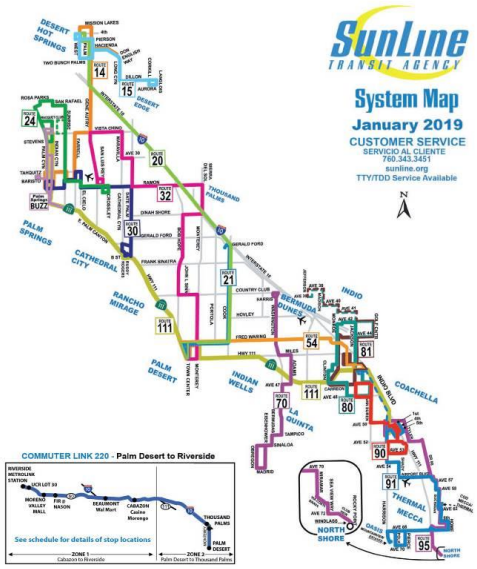
Key Findings

Customer Demographics

Just over half (51%) of customers are employed either full-time (24%) or part-time (27%) and more than one-third (36%) of customers are students either full-time (23%) or part-time (13%). It follows that a third (34%) are under 25 and the majority (66%) are under 45 years old.

Nearly half (48%) of SunLine customers identify themselves as Hispanic/Latino, and just over one quarter (28%) identify as White and 14 percent African American.

More of SunLine's customers say they speak English at home than they did in 2014 (56% vs 48%). Forty-four percent of customers speak a language other than English at home and it is most likely to be Spanish (40%). Four percent speak some other language including French, Tagalog, Portuguese, Vietnamese, and more, as well as some multilingual customers. Of those who speak another language, most say they speak English "very well" (61%) or "well" (24%).



The mean household size is 3.2, compared to 3.8 in 2014 and the majority of customers live in households with an annual income of less than $50,000 (90%). Sixty percent of customers live in households with an annual income of less than $25,000, compared to 19 percent of Riverside County residents[6]. The estimated median annual household income system-wide is $20,203, which falls below the 2019 Poverty Guidelines as released by the U.S. Department of Health and Human Services of $21,330 for households of three persons.

Length of Time as SunLine Customer

Nearly half of SunLine customers have been riding SunBus for two years or less (49%), which is higher than 2014 levels of 43 percent. Students (61%) are most likely to have been customers for two years or less while persons over 60 (54%) are most likely to have been customers for five or more years.

Riding Frequency

SunLine customers who ride the bus four days a week or more account for nearly three quarters (72%) of riders, which is virtually unchanged from 2014 (73%). Most customers (74%) also use the bus on the weekend.

The lower the annual household income of a customer, the more likely they are to be frequent riders. Three-quarters of customers who ride four or more days a week live in households with an annual income of lower than $50,000. Persons who live in households with an annual income of $10,000 or below are twice as likely to ride the bus six or more times a week as those who live in household where the annual household income is more than $50,000.

[6] U.S. Census Bureau, American Community Survey 1-year estimates. (2017) *Household Income in the Past 12 Months (In 2017 Inflation-Adjusted Dollars)* using American Factfinder.

Trip Purpose

Most SunLine customers' trips (85%) either start or end at their residence. Customers are most likely to be traveling to work (27%), school/college (24%), or on personal business (16%). Social/recreational and shopping trips account for 12 percent and 11 percent of trips, respectively.

In 2019 the proportion of customers traveling to school has increased by ten points while the proportion of riders traveling to work has decreased by eight points. This may in part be due to the perceived decreased cost of operating an automobile coupled with an improved economic environment which makes driving a choice for more individuals. Also contributing to the change is the increased proportion of customers who are 65 and over (up three points), compared to 2014.

Persons who are employed are most likely to say they use the bus to travel to work while students are most likely to make school-based trips. People over 60 have the widest variety of trip purposes.

Fare Media

Customers are almost equally likely to use a one-way/cash fare (48%) as a pass (51%) to pay their fare. Students are most likely to use a pass at more than 60 percent. This is consistent with SunLine's launch of the Haul Pass in August 2017 to provide expanded mobility options to college and university students in the Coachella Valley.

It is interesting to note that the most frequent riders are not always taking advantage of a pass. Of persons that use the bus five or more times per week, more than one third (36%) use a cash fare. This suggests that the economics of a cash outlay to purchasing a pass may be prohibitive to some.

In findings similar to 2014, by a margin of almost 2:1 customers say they would prefer no change in service over improved service with a higher fare.

Transfers

Most customers (62%) complete a one-way trip without a transfer and the proportion of customers who can make a trip without a transfer has increased seven percentage points since 2014.

Access Mode and Distance

Walking (83%) is the most common way customers get to a bus stop from home. On average, a person walks approximately 8 minutes or 0.4 miles to the bus stop. Nine percent of customers are dropped off at the bus stop and five percent use a bike.

Transit Dependency

The vast majority of SunLine's customers (85%) are transit dependent, which is unchanged from 2014. The high dependency of SunLine customers on the bus as their primary means of travel underscores the importance of SunBus enhancing regional mobility.

The top three reasons customers cite for using the bus are they do not have a car available for use (55%), do not have a driver's license (13%), or they are not able to drive (11%).

Intent to Continue to Use the Bus

To better understand potential areas of ridership vulnerability, a question was added to the 2019 study to gauge customers' intention to ride a year from now. Most customers expect to be riding with the same frequency (62%) or more often (13%) in 2020.

Approximately one quarter (26%) of SunLine's current customer base think they will ride less often. Students 18 and older (35%) and riders who are employed (33%) also have higher rates of expecting to ride less. The point of highest vulnerability is seen with riders who have been using the bus less than six months, with 45% of this group saying they will not ride as often next year. Of customers who anticipate riding less in one year, getting/having a car (66%) is the top reason cited by customers.

Customer Satisfaction

Customers were asked to rate their satisfaction on 10 attributes. Using a three-point scale of "exceed expectations," "meets expectations," and "does not meet expectations," customers rated their satisfaction on a variety of attributes including service characteristics, fares, operators, amenities, safety and overall satisfaction.

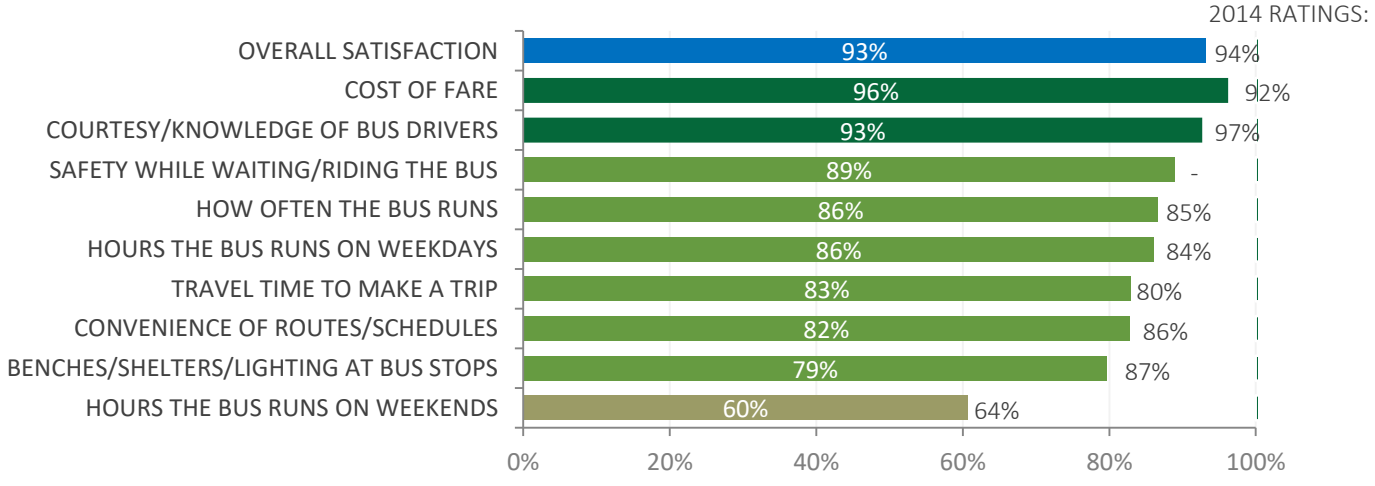
Overall satisfaction is presented at the top of Figure 1: Rider Satisfaction - Attribute Ratings. The remaining nine ratings are shown in descending order using the sum of the response options, "exceed expectations" and "meets expectation" scores to determine their placement.

Customers have a high level of satisfaction with SunLine services with 93 percent saying that overall services meet (61%) or exceed (32%) their expectations.

Customers are most satisfied with the cost of a fare (96%) followed by the courtesy and knowledge of coach operators (93%). Customers award the highest proportion of exceeds expectations ratings (41%) for coach operator courtesy and knowledge. Bus stop amenities and hours (79%) the bus runs on weekends (60%) received the lowest customer satisfaction ratings.

In a new question for 2019 customers were asked about their perceptions of safety while waiting for or riding the bus. The vast majority (89%) awarded a rating of meets expectations or higher.

Figure 1: Rider Satisfaction - Attribute Ratings



While satisfaction scores in most categories are on par with 2014, there has been a downward shift in all categories in the proportion of customers who awarded an "exceeds" score to a "meets" expectations score. There has been little change in the proportion of customers who award a not satisfied rating. The reason for the drop in satisfaction is unclear and additional research is recommended to explore the decline in customer sentiment.

Service Enhancements

Improved service frequency is the most desired service improvement. By a margin of 2:1, more frequent service (57%) is the top improvement priority for customers followed by less time to make a trip (28%).

Information and Technology

The vast majority (82%) of SunLine Transit customers have access to a smartphone or tablet with internet connection up 11 points since in 2014. More than 90 percent of students can connect to the internet compared to slightly more than half (53%) of persons 65 and older.

It follows that internet based information sources are most frequently used to find information about SunLine services. SunLine website is cited by just over one quarter (26%) of customers while 17 percent primarily use the SunLine Transit App and 11 percent use Google Transit or Google Maps. The Bus Book is used by approximately a quarter of customers (24%). The phone is used by just seven percent of customers.

Although customers have internet access, the majority (56%) say they cannot pay electronically. Thirty percent say they are able to pay electronically, and 14 percent don't know. Annual household income is directly related to customers' agreement with their ability to pay a fare by electronic means. Slightly less than one quarter (24%) of riders who have a household income of $10,000 or lower are able to pay using electronic methods, compared to 42 percent of individuals with an annual household income of at $50,000 or more.

To better understand the barriers that individuals perceive in using an electronic fare payment system, additional study may be helpful to determine how to improve adoption with all groups.

Opportunities

Retaining Student Riders

Students are a large proportion of SunLine's ridership. This cohort is made up of essentially two groups: those in secondary school who are getting their licenses for the first time, and those in higher education who are graduating and entering a new life stage. The latter group will be losing the benefits of a subsidized student pass through programs such as Haul.

As students graduate, changes in their life such as starting a new job, getting a car, or moving can change their travel habits. As a group, students are most likely to be considering not riding the bus 12 months from now. The goal is to keep this cohort engaged, at least as an occasional transit rider, with the premise that you don't have to graduate from using the bus.

The freedom that is granted with access to a driver's license and owning a car is tempting so it is essential for SunLine to engage with this rider group. Recent transit studies suggest the top three reasons that students list for considering not using transit are having a car, getting a license or thinking that they will have more money so they can make other travel choices. This new found freedom coupled with the loss of a partially or fully

subsidized transit pass, through either school tuition or parental support can diminish the perceived value of transit for this segment of customers.

Remaining engaged with recent graduates or students who are new drivers is essential to retaining this group as customers. Options that could be considered include offering an extended low-cost pass for up to one year after graduation to incentivize transit use by remaining even more competitive on price. The pass offers an opportunity to create an ongoing relationship with this student segment to promote transit use after graduation. The follow-up can be via automated text message, email, or social media and serves to remind the customer that SunLine values their patronage and to promote opportunities to use transit with the goals of retaining a portion of these customers.

Information and Technology

With an increasing proportion of customers saying they have connectivity via a cell phone or tablet, the opportunity exists to leverage technology throughout the service delivery chain from receipt of information to fare payment. The younger the rider the more likely they are to use technology to obtain information with 75 percent of students under 18 using an internet based information source. Although technology is gaining ground, there are hurdles to overcome. Most SunLine customers (82%) say they can connect to the internet but only 30 percent say they are able to pay for their fare electronically. Additional research should be conducted with groups to determine what the obstacles are that customers perceive and develop a plan to educate and inform persons of the benefits of electronic payment.

The highest proportion of riders (35%) who say they can use electronic payment are employed or students 18 and older. This suggests that the introduction of electronic fare payment be initially targeted through employment locations and to students as they transition from college to employment opportunities. Conversely seniors are least likely to say they can pay for a fare electronically (24%).

Although customer satisfaction remains high, there has been a decrease in the proportion of customers who award an exceeds rating. Ongoing customer feedback is essential to maintain ridership and technology offers and option to do so. To increase customer feedback, SunLine could develop a trip-based feedback mechanism, such as a feedback app or mobile-friendly input website. By receiving ongoing feedback, SunLine can address issues and concerns more immediately.

Aging Population

The Coachella Valley is a destination point of many tourists including a large contingency of persons who reside in Palm Springs during the winter months. These individuals are more likely to be retired and may or may not have access to an automobile or more importantly may not want to drive for all of their trips. An opportunity exists to market SunBus to this segment. This could take the form of connecting with housing communities for persons 55 and older, senior centers and other senior centric facilities along the bus network to provide information about SunLine. The message could target senior pass availability, the Buzz and using the bus to participate in community events.

Opportunities also exist to target seniors with information that is available through the internet. Sixty percent of this cohort has internet connectivity, and currently this group is the most likely to use the telephone to find information they need on SunLine services.

Service Amenities

Amenities such as bus stop shelters are important to customers and there are opportunities to increase customer satisfaction in this area. Twenty percent of customers are not currently satisfied with benches, shelter and lighting at stop and this number increases to 27 percent for persons 60 and over. Additional research with customers, especially persons 60 and over is needed to determine what is important in a bus stop amenity. Additional research is suggested to determine where deficits exist and what amenities can cost-effectively be considered to improve the customer experience.

Guaranteed Best Fare

Ensure that current customers continue to choose transit by providing a fare system that allows customers to ride as much as they need, even if they can't afford a monthly pass up front.

Recent research on transit ridership has shown that many customers pay for their trips with one-way/round-trip or daily fares, not because of the frequency of travel but because they do not have sufficient resources to pay for a full month in advance.

The 2019 SunLine Rider Study shows that 36 percent of persons who use the bus six or more times a week, pay a cash fare rather than use a pass. Of persons who ride 4 to 5 days a week 46 percent pay a cash fare rather than use a pass. This suggests that either these individuals are not aware of the benefits of a monthly pass or perhaps more likely the upfront purchase of a pass is financially challenging.

One option to address this hurdle is to offer a guaranteed low-fare or fare capping program. The concept is that customers pay their fares using some type of smartcard or smartphone that lets them pay for trips one trip or day at a time, while tracking purchases made in a given month. Once the customer pays the amount that would be required for a monthly pass, all future rides that month would be free for that customer, guaranteeing that they pay no more than the cost of a monthly pass for each month. The impact of guaranteed low-fares includes the advantages of potential increased ridership and improved social equity.

Service Enhancements

The 2019 study suggests that improving service frequency, travel time and weekend service hours are important elements of customer satisfaction. These three factors were awarded lower levels of customer satisfaction which suggests that these are important factors to address in SunLine's initiative to enhance mobility options to residents of Coachella Valley.

Increases in traffic congestion are impacting travel time in Coachella Valley. As economic growth occurs, transit operations have experienced service delays with new developments being introduced in cities across the Coachella Valley. In an effort to maintain service reliability SunLine has had to increase travel times along the 111 corridor and other corridors to ensure buses can maintain the publicly posted schedule. As SunLine increases travel times for buses from one end of the valley to the other it increase travel times for customers which can be a deterrent to riding transit for choice riders and an inconvenience for transit dependent riders. SunLine is working with local jurisdictions on a possible solution through signal synchronization and prioritization that would enhance mobility and service reliability throughout the Coachella Valley for transit riders.

The implementation of strategies to decrease travel time can lead to an improved customer experience. Strategies including fewer stops, signal synchronization, rear door boarding and the use of technology in the form of an app for fare payment have been used by transit

agencies including Minneapolis/St Paul, Houston and Seattle to achieve this goal. As an example, Metro Transit in Minneapolis/St Paul has integrated a suite of these services as part of its service improvement process and the introduction of the BRT. These include:

- Buses making fewer stops
- The ability of customers to purchase a fare before boarding
- Wider bus doors and rear boarding
- Signal prioritization

While some of these strategies may be dependent upon the introduction of BRT service, they set the stage for the future as SunLine “rethinks and reinvigorates” its service offerings.

Chapter 3:

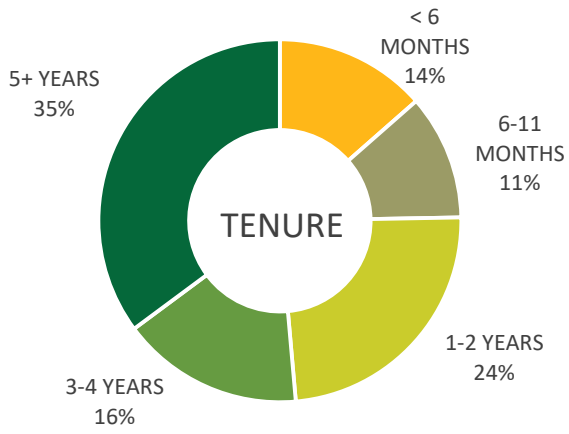
Ridership Characteristics

Chapter 3: Ridership Characteristics

This chapter discusses ridership characteristics of a SunLine customer including: length of time using SunBus (tenure), frequency of use, weekend use, trip purpose, fare media, transfers, and access mode and time to the first bus stop. Each topic is presented from two perspectives: the system as a whole and by four different market segmentations: persons who are employed, students 18 and older, students under 18 and persons who are 60 and over. Comparisons to the 2014 study and route level data is shown when relevant.

Tenure

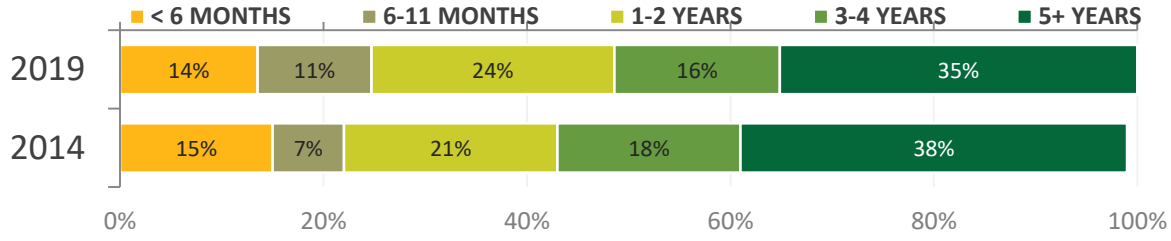
Figure 2: Length of Time Using SunLine Transit



Nearly half of SunLine riders are new customers who have been riding SunLine transit for two years or less (49%), which is higher than 2014 levels of 43 percent. The observed changes may in part be due to seasonal influx of visitors coupled with a high level of student ridership.

Customers of three years or more account for half of the ridership (51%) in 2019 compared to 56 percent in 2014.

Figure 3: Length of Time Using SunLine Transit – by Year



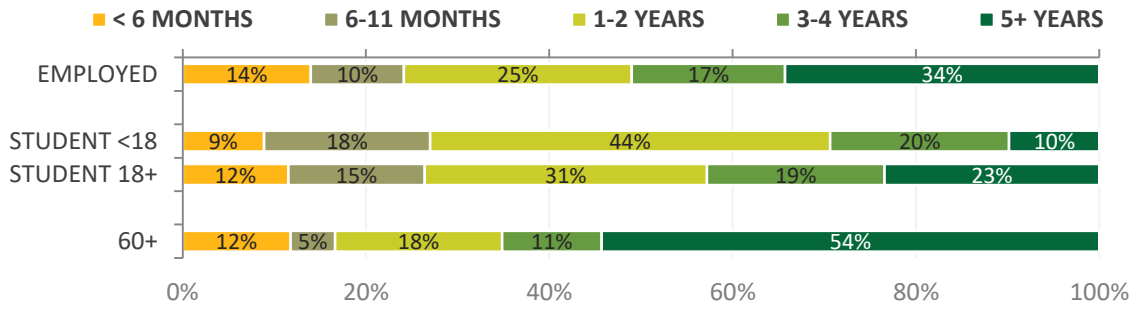
Sixty-one percent of students are new customers of two years or less, compared to 41 percent of non-students. Seventy-one percent of students under the age of 18 are new riders.

Because student ridership has a higher turnover rate than other segments this group of customers provides an opportunity for SunLine to target with ridership retention strategies.

Persons who are employed follow the system-wide average at approximately half of new riders (49%).

Of customers 60 and over more than half (54%) are likely to be long term riders of five years or more.

Figure 4: Length of Time Using SunLine Transit – by Segment



Weekend riders are twice as likely to have been riding SunBus three or more years (59%) than people who use the bus on weekdays only (31%), which is likely a function of higher proportion trips relating to school on weekdays.

Frequency of Use

The majority of SunLine customers are frequent riders (riding four or more days per week). SunLine frequent riders account for nearly three quarters (72%) of riders. Thirty-seven percent ride six to seven days per week while 35 percent ride four to five days per week.

The proportion of frequent riders is virtually unchanged from 2014 (73%)[7].

As shown in Figure 7: Frequency of Use – by Segment, students under the age of 18 comprise the highest proportion of frequent riders (86%).

Figure 5: Frequency of Use

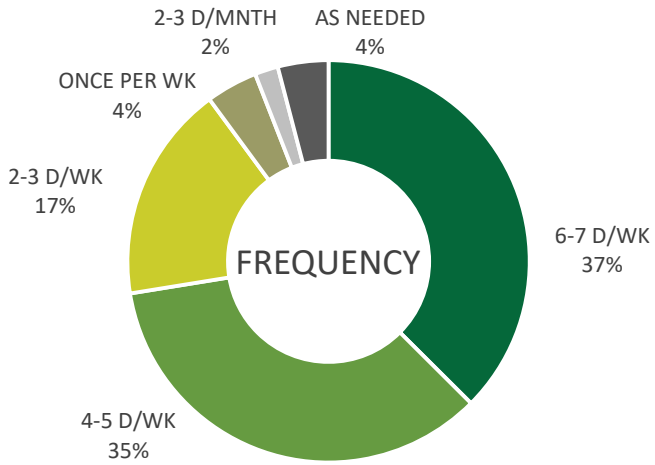
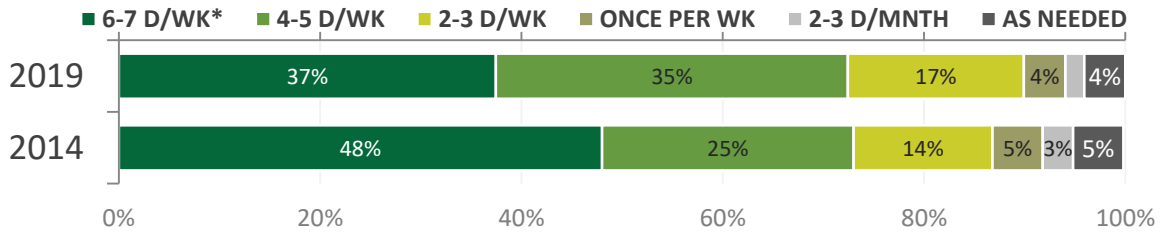


Figure 6: Frequency of Use – by Year



[7] The response option "Daily" has been updated from the 2014 study to "6-7 days per week" in the 2019 study.

Customers who have used the SunBus for six months or less have the highest proportion of riders who use the bus only when needed (16%). An opportunity may exist to encourage this new group of customers to consider SunLine services for additional trips.

Figure 7: Frequency of Use – by Segment

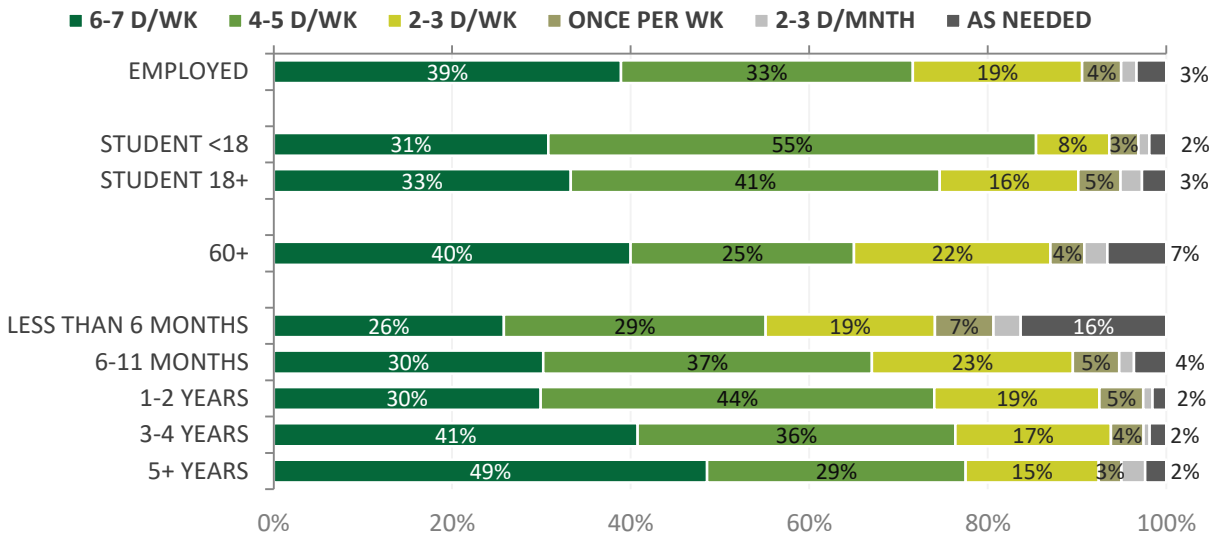
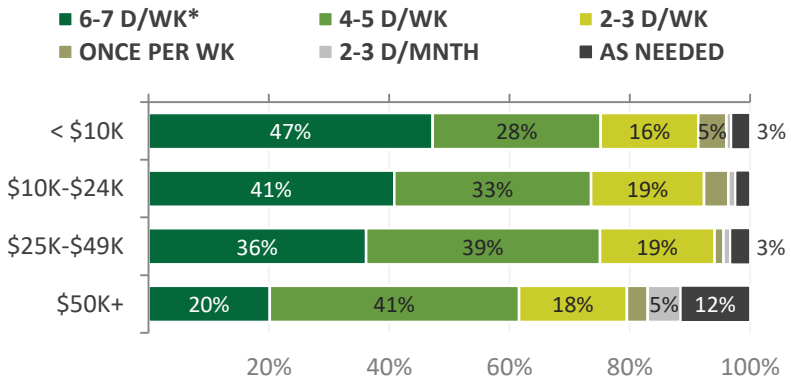


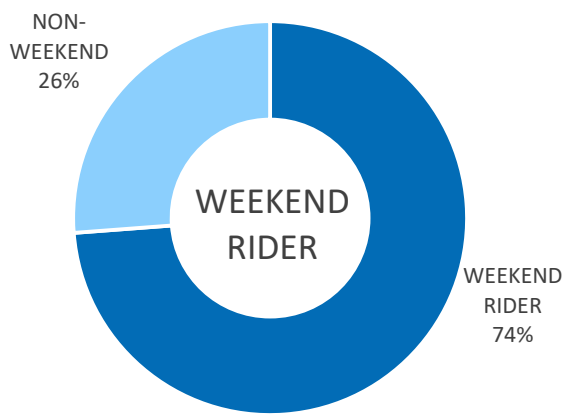
Figure 8: Frequency of Use – by Income



The lower the annual household income of a customer, the more likely they are to be frequent riders. Persons who live in households with an annual income of $10,000 or less are twice as likely to ride the bus six or more times a week as those who live in household where the annual household income is more than $50,000.

Weekend Use

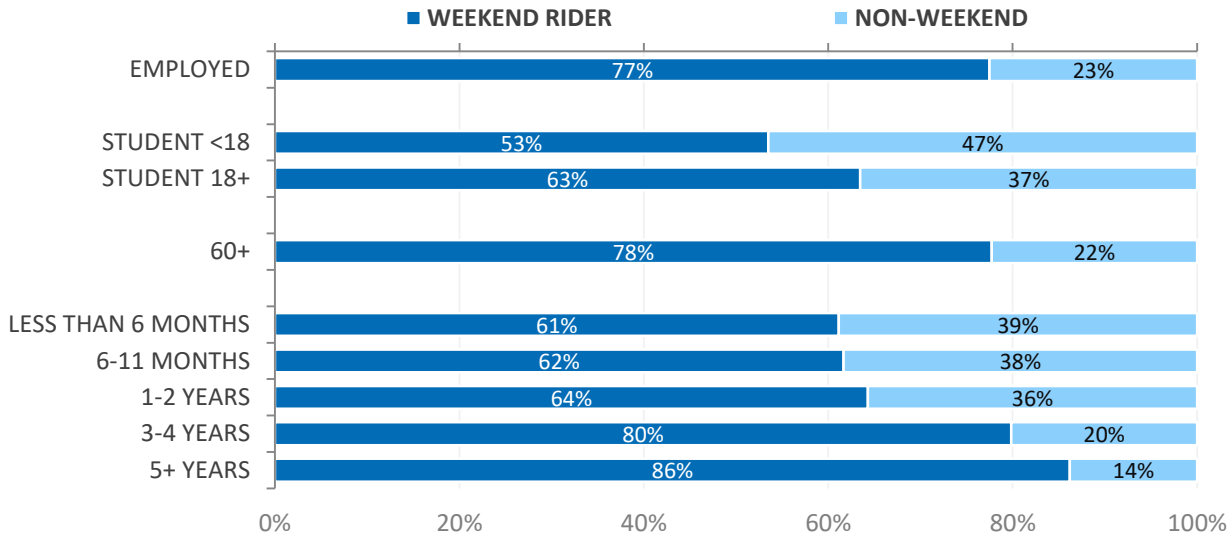
Figure 9: Weekend Ridership



Nearly three-quarters (74%) of weekday customers also ride the bus on the weekend.

Persons who are employed (77%), those 60 and over (78%), and long-term riders of 5 years or more (86%) have the highest proportions of weekend ridership. Customers who are students have a much lower proportion of weekend use (60%), suggesting that this group uses the bus primarily for school related trips.

Figure 10: Weekend Ridership – by Segment



Customers who also ride on weekends are slightly more likely to ride during off-peak periods than peak periods (77% vs 71%, respectively).

Trip Purpose

Home-Based or Non-Home-Based Trip

The vast majority (85%) of SunLine customers are on trips either to or from their homes. Fifteen percent of customers are in transit between two non-home locations. This is virtually identical to the 2014 study findings (16%).

Figure 11: Home-Based or Non-Home-Based Trip

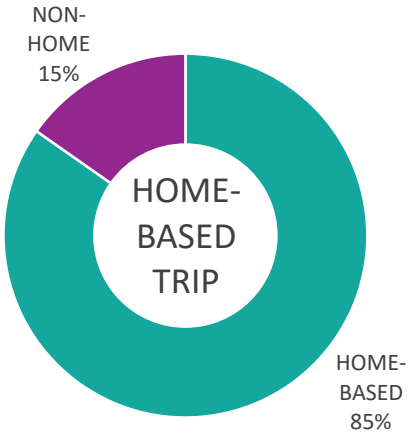
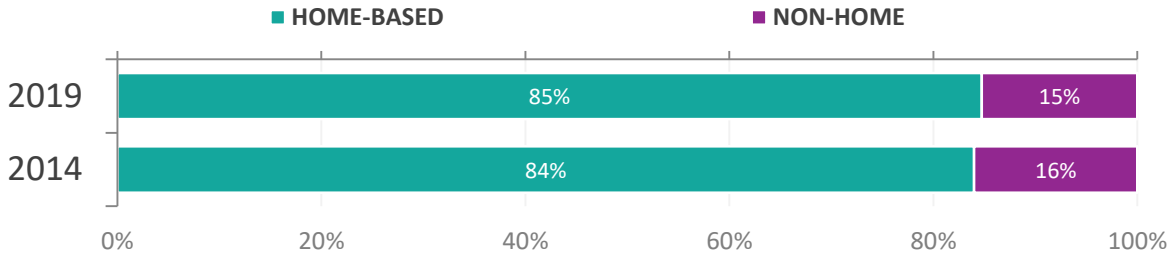
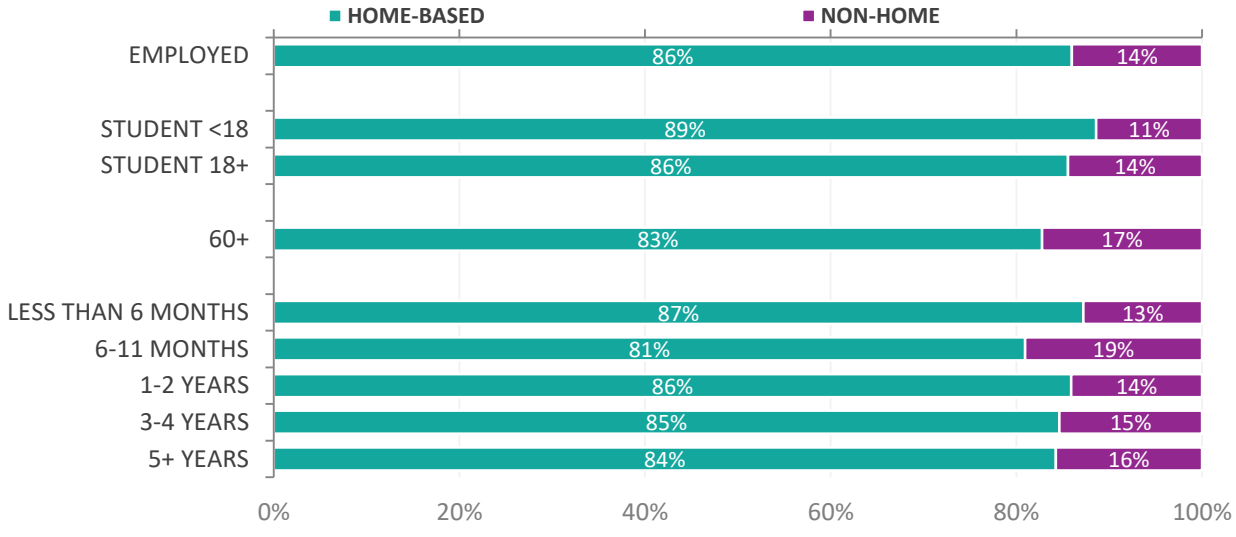


Figure 12: Home-Based Trip– by Year



Customers who are 60 and over have the highest proportion of riders to be traveling between two non-home locations (17%), whereas students under the age of 18 are least likely to be on a non-home-based trip (11%).

Figure 13: Home-Based or Non-Home-Based Trip– by Segment



Home-Based Trip Purpose

Figure 14: Home-Based Trip Purpose

The majority of customers with home-based trips are traveling to work (27%), school/college (24%), and personal business (16%). Social/recreational and shopping trips account for 12 percent and 11 percent of trips, respectively.

The largest shift of trip-purpose since the 2014 study is the ten point increase of riders traveling to school, and an eight point decrease of riders traveling to work.

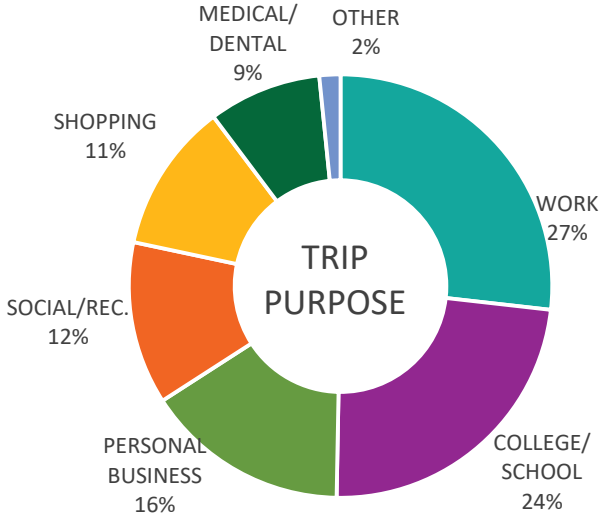
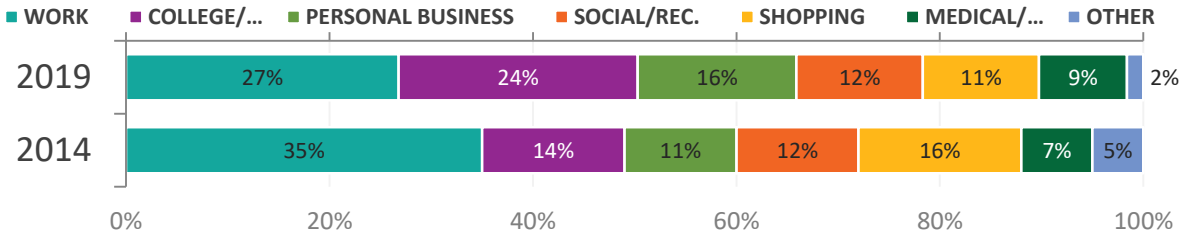


Figure 15: Home-Based Trip Purpose – by Year



As expected, customers who are students have the highest proportion of trips going to and from school, at 57 percent for those 18 and older, and 89 percent for those under 18.

Customers 60 and older have a relatively more even distribution of trip purposes compared to other segments.

Customers are almost equally likely to travel to work in the peak (28%) or off-peak (25%) periods suggesting that riders who work may not have traditional hours. However, by a difference of 11 points, riders during peak periods are more likely to be traveling to college/school (29%) than riders during off-peak periods. Riders during off-peak periods are more likely to be traveling to personal business/errands (18%) than peak riders by a difference of five points.

Figure 16: Home-Based Trip Purpose – by Segment

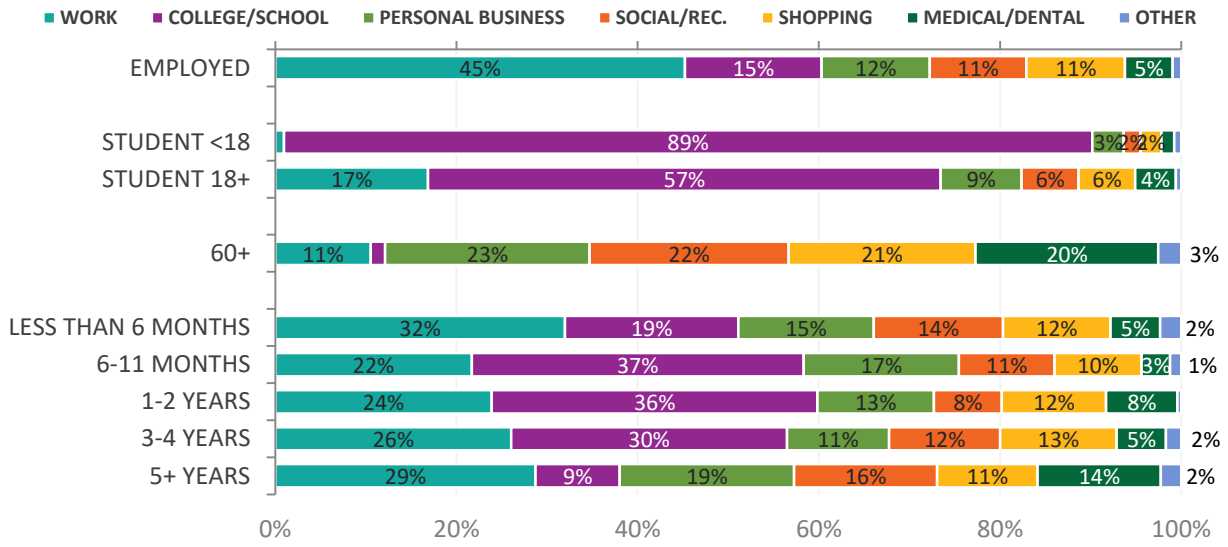
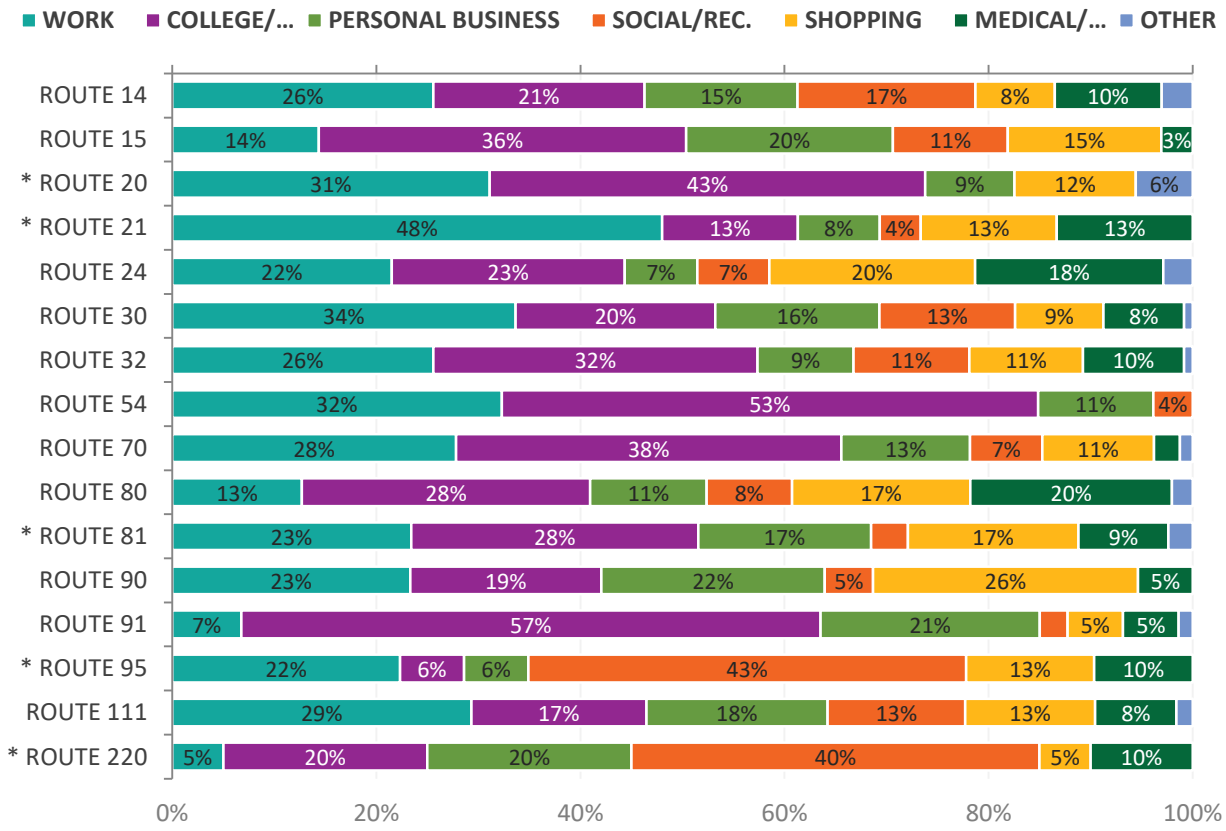


Figure 17: Home-Based Trip Purpose – by Route



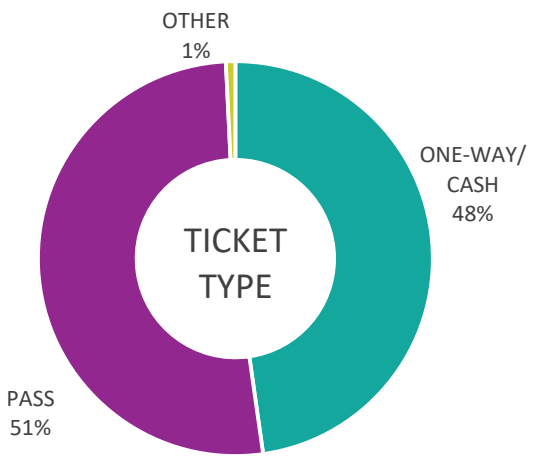
* Small sample; Segmented results should be considered directional and not statistically significant

Fare Media

Fare media is a new topic added to the 2019 study to better understand how customers pay for their ride. Use of one-way/cash fare (48%) and those who use a pass (51%) is nearly an even split. Students are more likely to use a pass (61%) than non-students (45%).

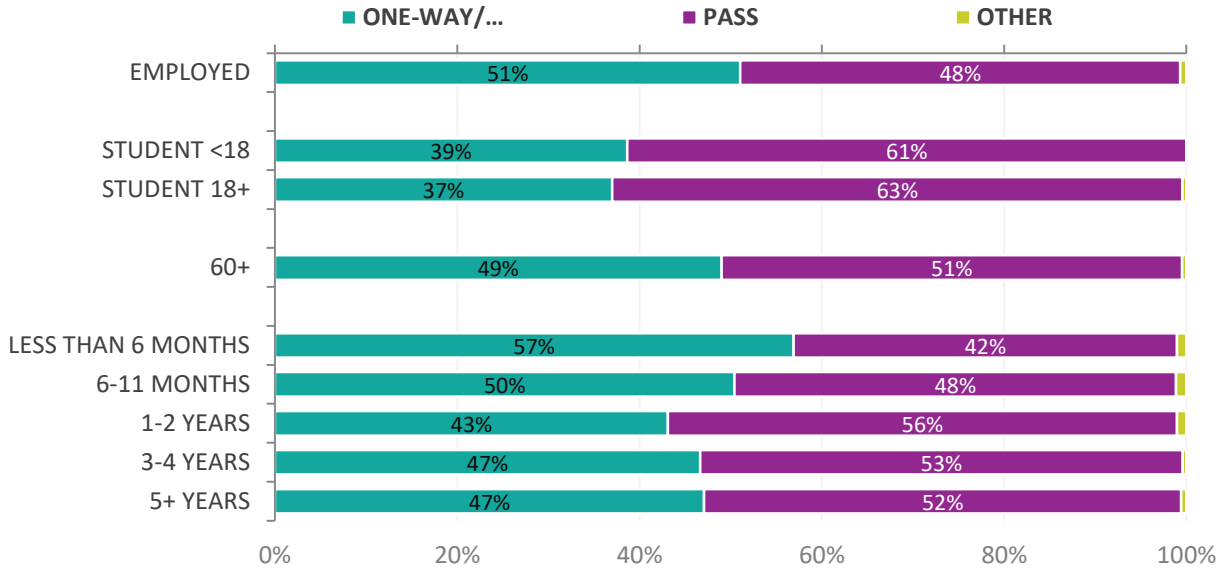
Customers who have been riding six months or less have the lowest proportion of riders using a pass (42%) which is consistent with the frequency of use by this group who is more likely than other customers to only use the bus when needed. Of customers who ride the bus four days a week or more, 41 percent use a one-way fare.

Figure 18: Ticket Type



Riders who live in households with annual household incomes of less than $50,000 are slightly more likely to use a pass (53%), than riders in households of $50,000 or more who most commonly use one-way fare (59%).

Figure 19: Ticket Type – by Segment



Customers who ride weekdays only are more likely than customers who also ride SunLine on the weekend to use a one-way fare (55% vs 42%, respectively). However, the most frequent riders are not always taking advantage of a pass. Of persons that use the bus five or more times per week, more than one third (36%) use a cash fare.

Transfers

The majority of SunBus customers complete a one-way trip without a transfer (62%). Just over one-third (35%) transfer at least once, and only three percent transfer two or more times.

The proportion of customers who can make a trip without a transfer has increased seven percentage points from 55 percent since 2014.

Figure 20: Transfers

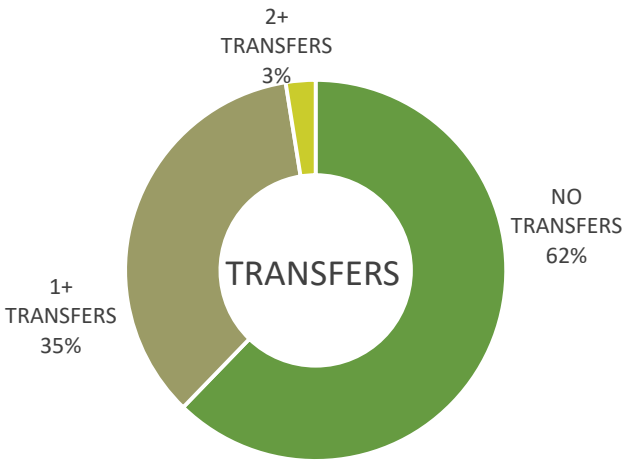


Figure 21: Transfers – by Year

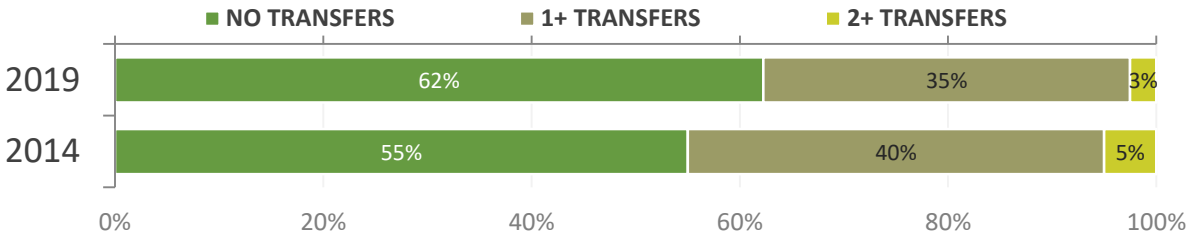
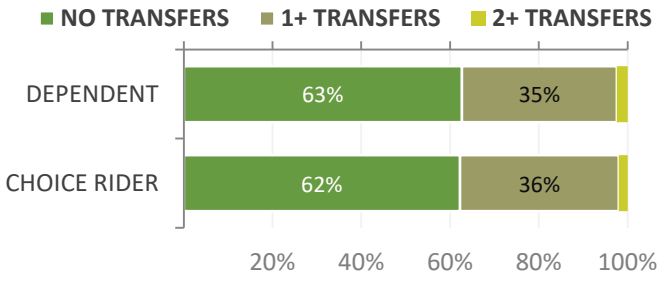


Figure 22: Transfers – by Transit Dependency

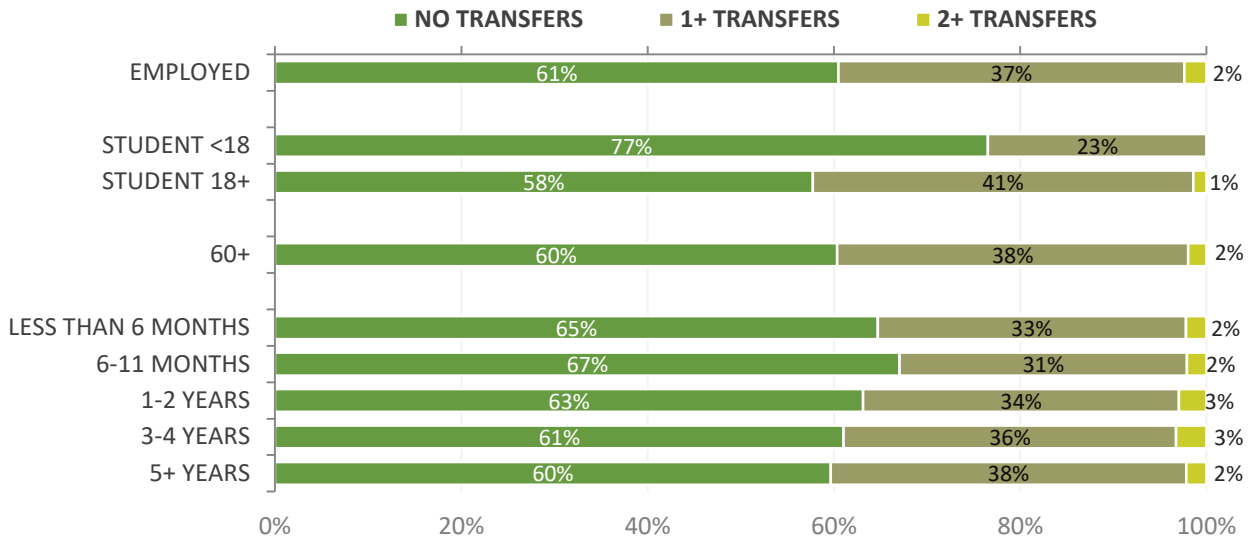


An additional analysis was conducted to determine if a difference in the number of transfers exist between persons who are transit dependent and those who are choice riders and none was observed. This may suggest that customers, regardless of whether they have other transportation alternatives available to them for a trip, have a similar tolerance for transfers.

Students under the age of 18 (77%) are most likely to be able to complete their trip using one bus. This is also the only market segment that generally requires no more than one transfer to complete a trip. This finding likely reflects the strategic alignment of routes to K-12 schools within the service area.

Among all other market segments there is no statistical difference in transfer rates, again suggesting that customers have the same tolerance for transfers.

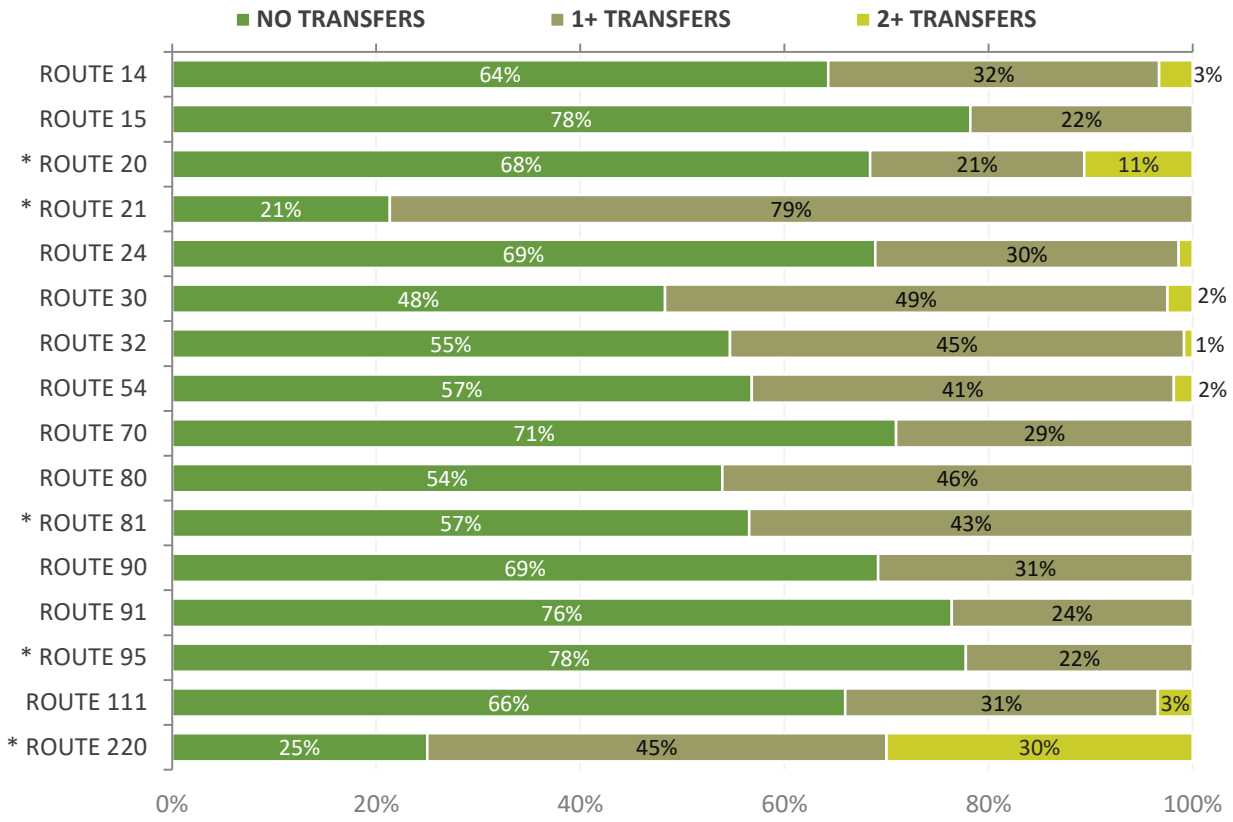
Figure 23: Transfers – by Segment



As shown in Figure 24: Transfers – by Route, customers on routes 15 and 95 have the highest rates of riders who can complete their trip using only one bus (78% each). Routes 21 (79%) and 220 (75%) have the highest rates or customers requiring one or more transfers[8].

[8] Although route samples are relatively proportional to ridership by route, some samples may be too small for adequate statistical accuracy. Routes with samples under 50 are noted with an asterisk (*) next to the route name. Segmented results of small sample sizes, while insightful, should be considered directional and not necessarily statistically significant.

Figure 24: Transfers – by Route

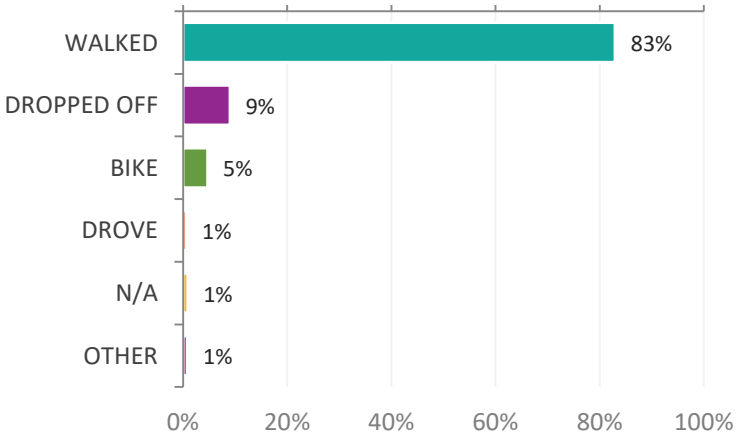


* Small sample; Segmented results should be considered directional and not statistically significant

Access Mode to First Bus Stop

Access Mode

Figure 25: Home Access Mode



Walking is the most common way to access a bus stop from home and 83 percent of SunLine customers walk to their first boarding point. Compared to 2014, walking to access first boarding point has dropped 3 points. The difference is accounted for by an increase in the proportion of individuals who are dropped off or are riding a bike. Customers who were dropped off account for 9 percent, and five percent rode a bike. All other categories account for one percent each.

Persons who are 60 and over are slightly more likely to walk (86%) to the bus stop than other customers.

Figure 26: Home Access Mode – by Year

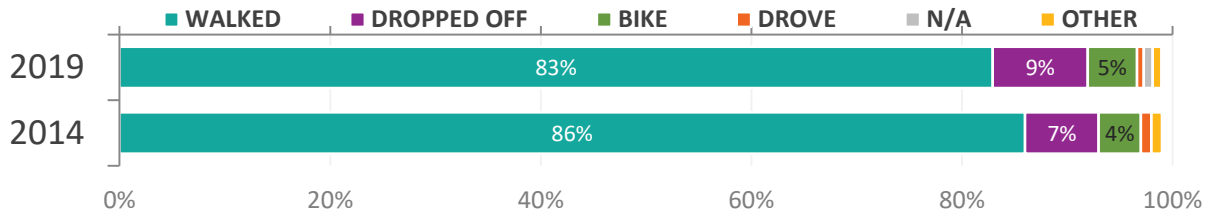
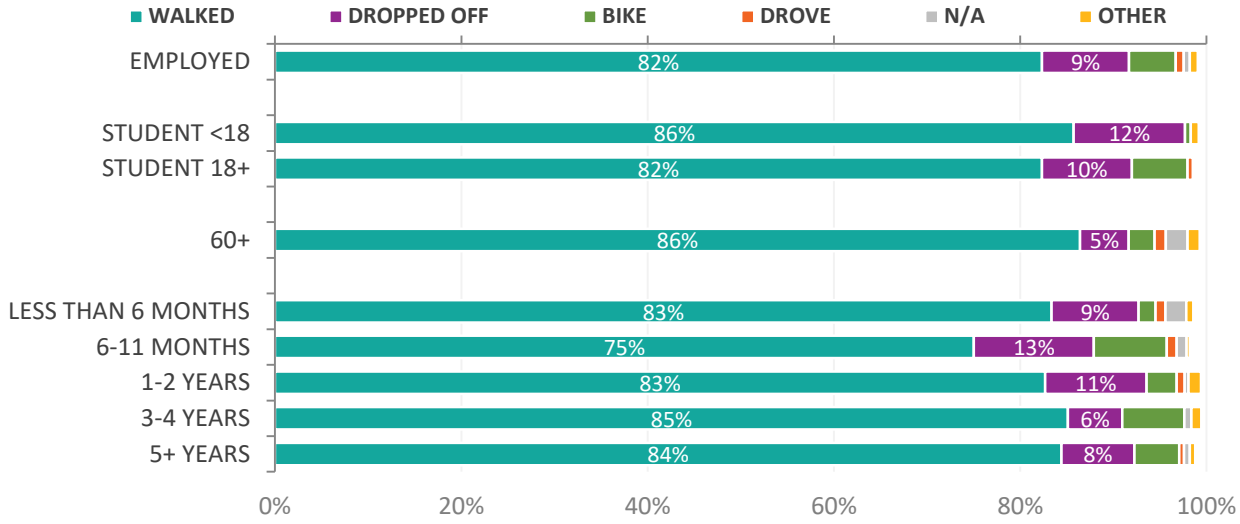


Figure 27: Home Access Mode – by Segment



Access Time to First Bus Stop

Walk Time and Non-Walk Travel Distance to Route

The mean walk time to the initial boarding point is 8.3 minutes or approximately 0.4 miles which is essentially unchanged from 2014[9]. Walk distance ranges from a high of a half-mile walk on route 54, to a low of approximately a quarter of a mile on route 91.

The average travel distance for customers who access their route using a mode other than walking is 4.4 miles.

Figure 28: Mean Walk Time to Stop From Home - by Route

ROUTE	MEAN WALK TIME (MIN.)	
	2019	2014
ROUTE 14	8.0	7.3
ROUTE 15	6.2	6.3
* ROUTE 20	9.9	-
* ROUTE 21	10.0	-
ROUTE 24	8.6	6.2
ROUTE 30	8.5	7.5
ROUTE 32	9.2	9.2
ROUTE 54	10.1	8.0
ROUTE 70	5.8	5.8
ROUTE 80	9.3	7.9
* ROUTE 81	7.2	7.8
ROUTE 90	6.9	7.5
ROUTE 91	5.6	5.4
* ROUTE 95	8.1	10.2
ROUTE 111	8.6	8.1
* ROUTE 220	8.9	10.4
OVERALL	8.3	7.6

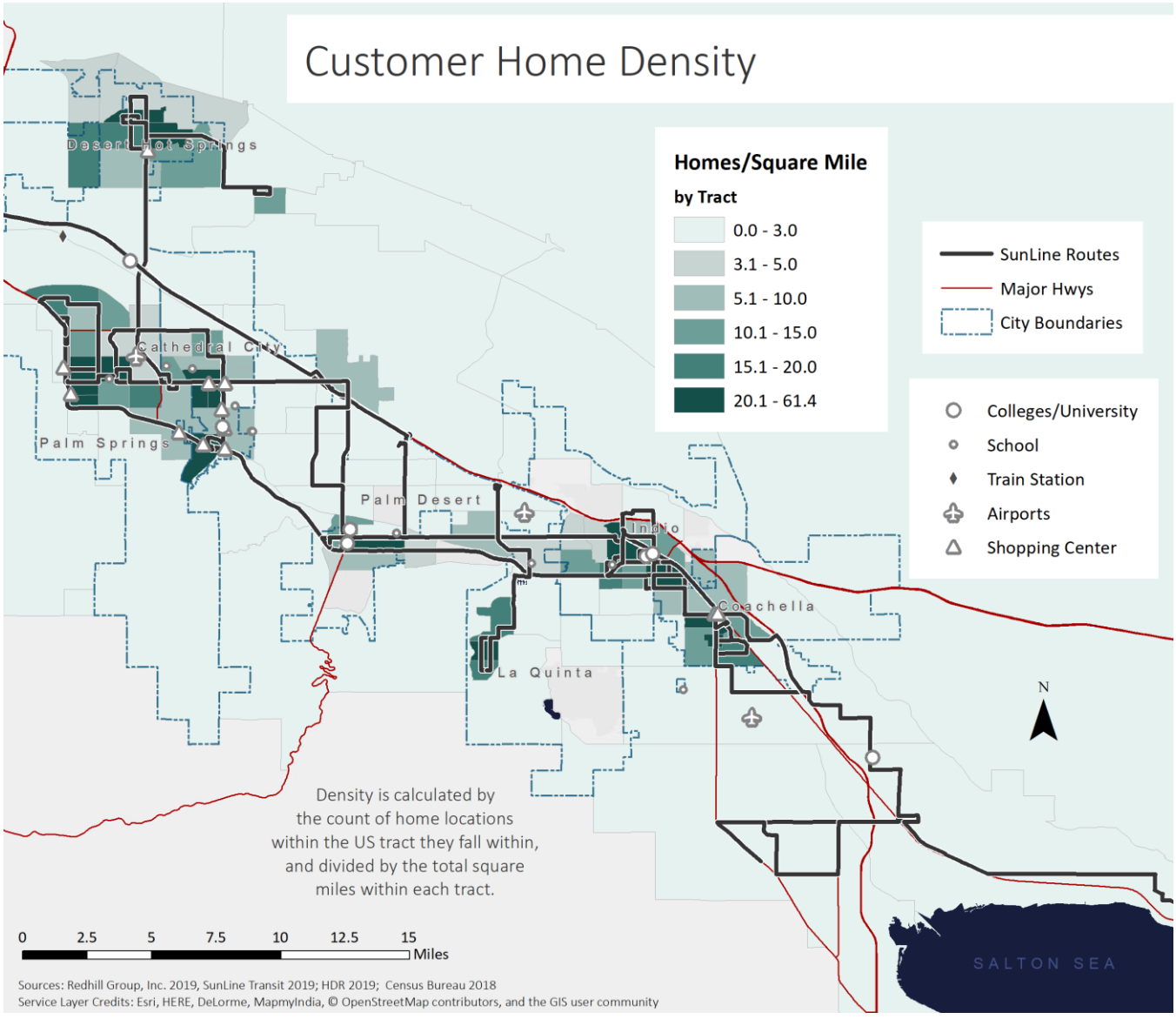
* Small sample; Segmented results should be considered directional and not statistically significant

[9] Calculation based on a person walking 1 mile in 20 minutes.

Home Density Map

The most customers' home locations were captured as an origin or destination type during the transit trip they were surveyed on. Customer home density is presented as the home count within the Census tract geography they fall within, divided by the total square miles within each tract.

Figure 29: Map - Customer Home Density



Chapter 4:

Transit Dependency & Projected Future Transit Use

Chapter 4: Transit Dependency & Projected Future Transit Use

Chapter Four presents profiles of customers who are transit dependent. This chapter also discusses customers' projected future use of SunBus. To better understand potential declines in ridership, for persons who are planning to ride SunBus less in the next year, the factors influencing the decision are explored.

Results are presented from two perspectives: the system as a whole and by market segmentations: persons who are employed, students 18 and older, students under 18 and persons who are 60 and over. Results are also displayed compared to the 2014 study and by route when relevant.

Transit Dependency

The vast majority of SunLine's customers (85%) are transit dependent, which is virtually unchanged from 2014. The high dependency of SunLine customers on the bus as their primary means of travel underlines the importance of the system to regional mobility.

Fifteen percent of customers are choice riders. There is little difference between market segments of choice-riders, with the exception of students under the age of 18 who account for only two percent of choice riders.

Figure 30: Transit Dependency

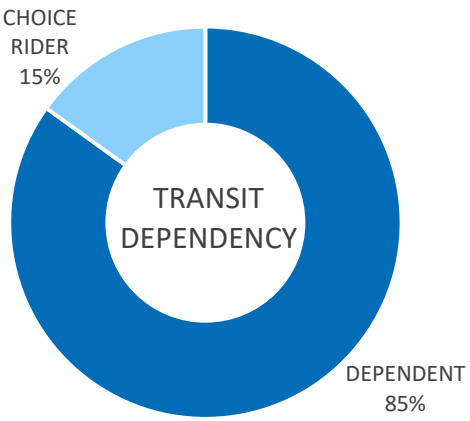
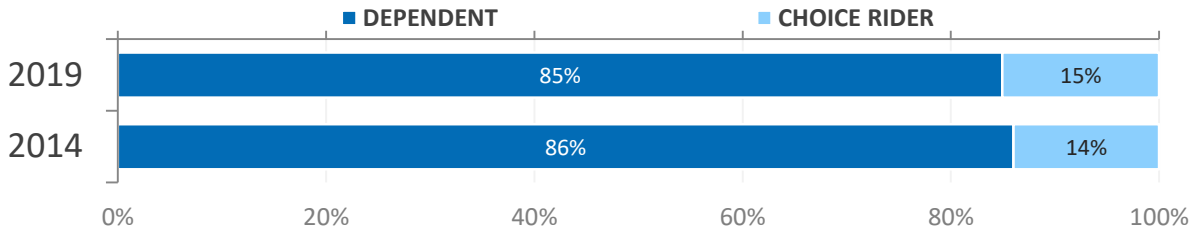
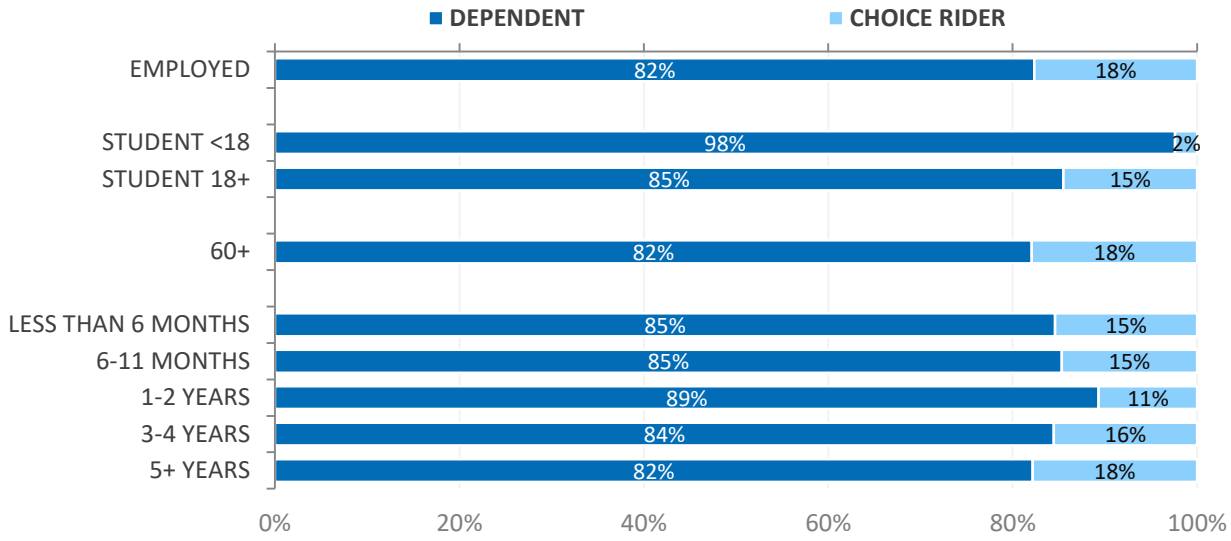


Figure 31: Transit Dependency – by Year



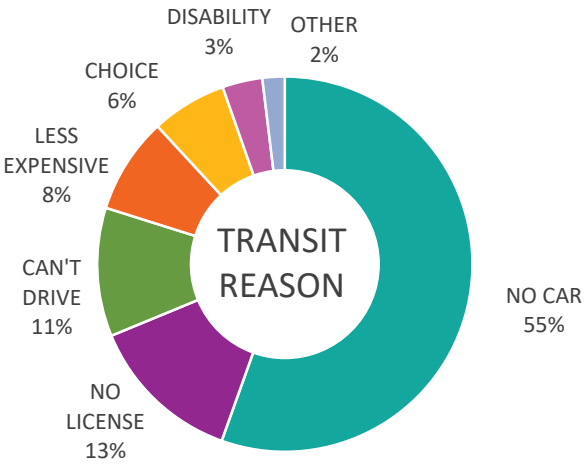
Choice riders are a market segment of interest, as this customer base is less circumstance-driven but is instead motivated by preference. Future research of this segment to refine marketing approaches and encourage ridership may be of value.

Figure 32: Transit Dependency – by Segment



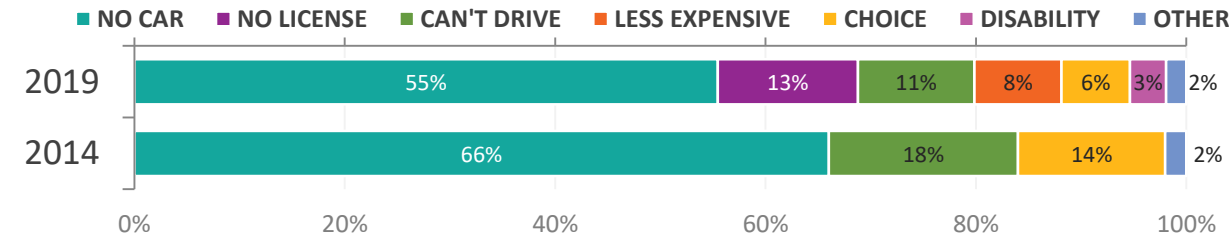
Reason for Transit Use

Figure 33: Reason for Transit Use



The majority of customers use the bus because they do not have a car available (55%). Not having a driver's license (13%) and not being able to drive (11%) are cited much less frequently as a reason for riding the bus. Choice ridership consists of those who ride because it is more affordable than driving (8%), and those who have a car but choose to use transit (6%).

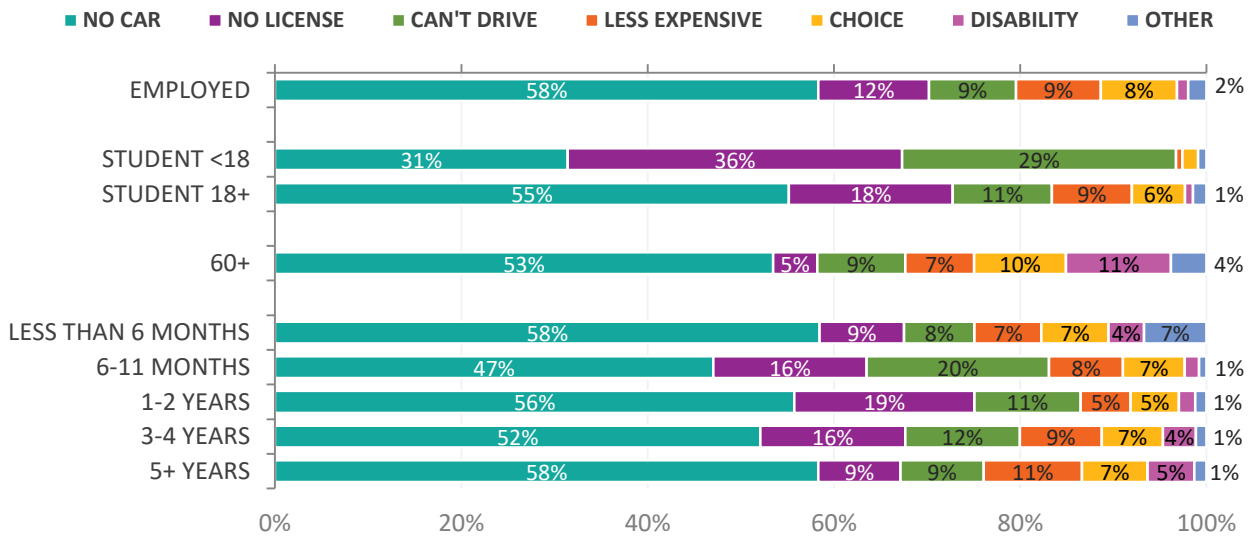
Figure 34: Reason for Transit Use – by Year



To better understand the category of "no car availability" additional response options were included in the 2019 survey. New response options include: not having a driver's license, transit being more affordable than driving, and disability prevents customer from driving. When combining response options related to vehicle accessibility (no car, no license, can't drive, and disability prevents driving), the proportion of ridership in 2019 (82%) is virtually equal to that of 2014 (84%).

Customers who are employed (58%), students 18 and over (55%), and persons 60 and over (53%) are more likely to say they do not have a car. For students under the age of 18, the most common reasons for transit dependency are relatively evenly distributed among not having a driver's license (36%), followed by no car (31%) and can't drive (29%).

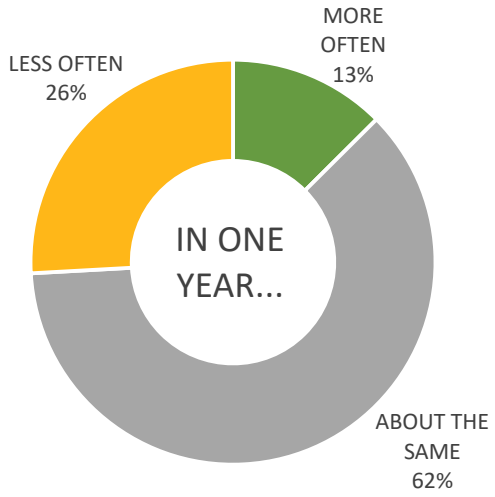
Figure 35: Reason for Transit Use – by Segment



Future Use

Intent to Ride in One Year

Figure 36: Bus Use One Year from Now



To better understand potential areas of ridership vulnerability, a new question was added to the 2019 study to gauge customers' intention to ride one year from now in 2020.

Most customers expect to be riding with the same frequency (62%) or more often (13%) in 2020. Approximately one-quarter (26%) of SunLine's current customer base think they will ride less often, however the data suggest that some market segments have a higher propensity to ride less often than others.

Customers who are most likely to consider riding less are those who have been using the bus less than three years (32%). The point of highest vulnerability is seen with riders who have been using the bus less than six months, with nearly half of this group (45%) saying they will not ride as often one year from now.

Students 18 and older (35%) and riders who are employed (33%) have high rates of customers expecting to ride less in one year.

As a customers' age increases so does the likelihood that they will ride the bus at the same level or more often in 2020. Of persons who are 60, just 17 percent expect to be riding less often in the next 12 months.

Figure 37: Bus Use One Year from Now – by Segment

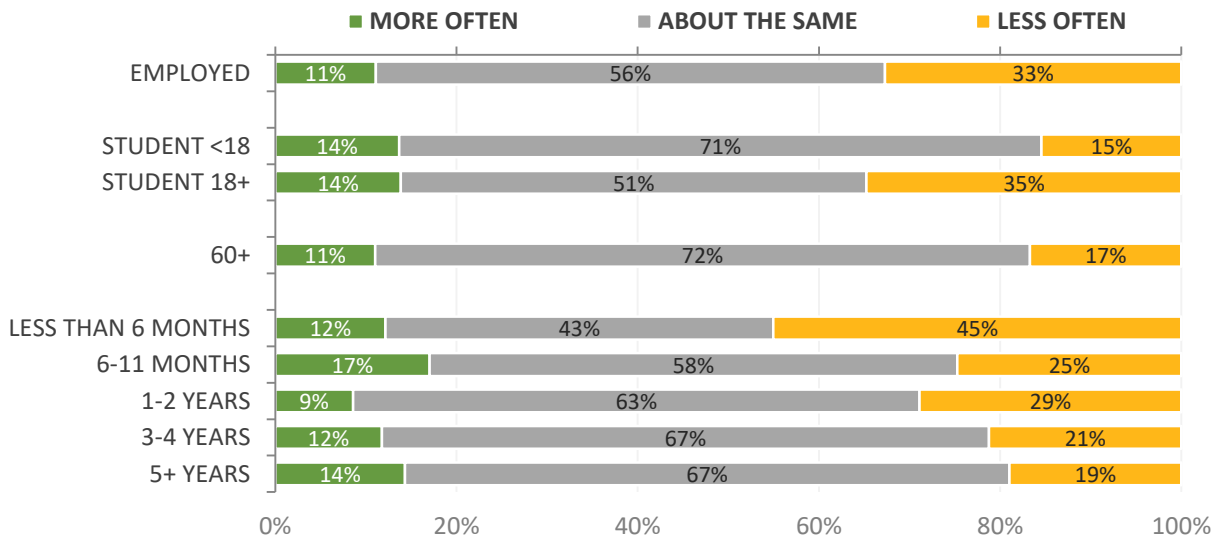
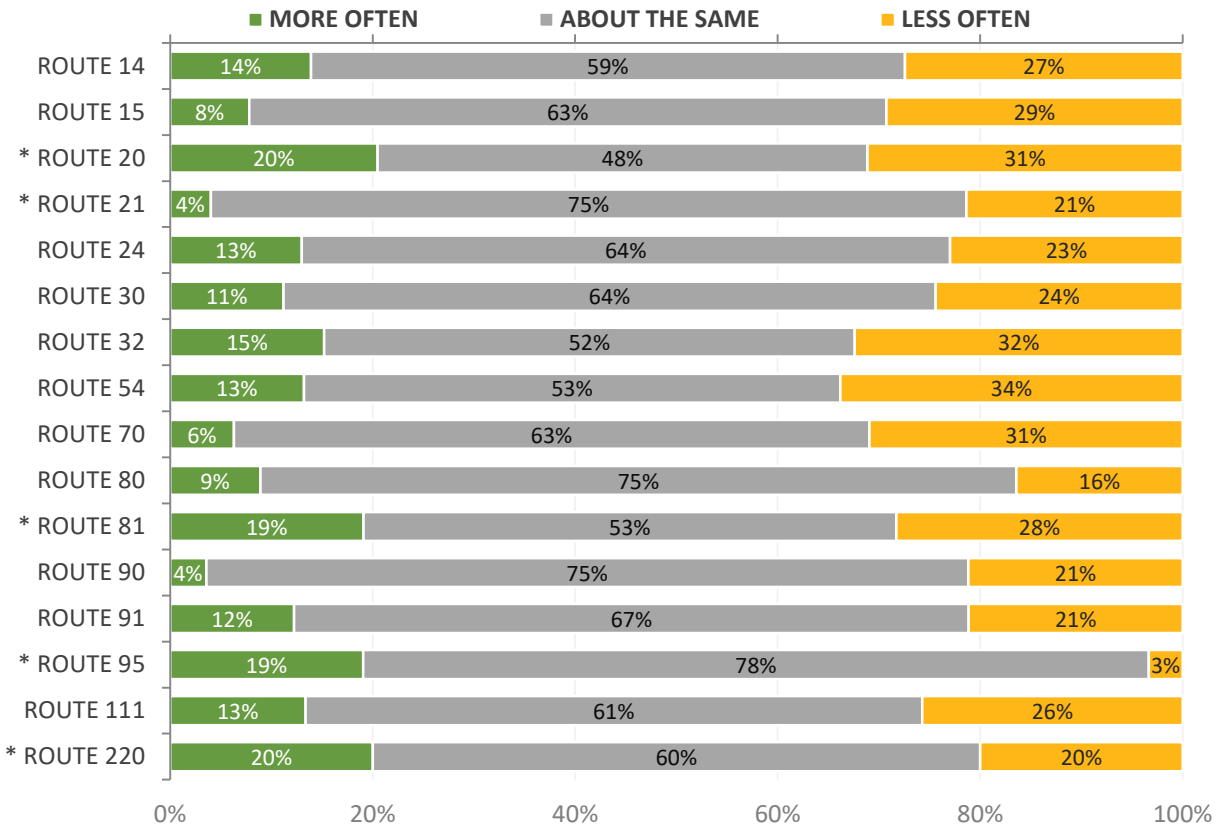


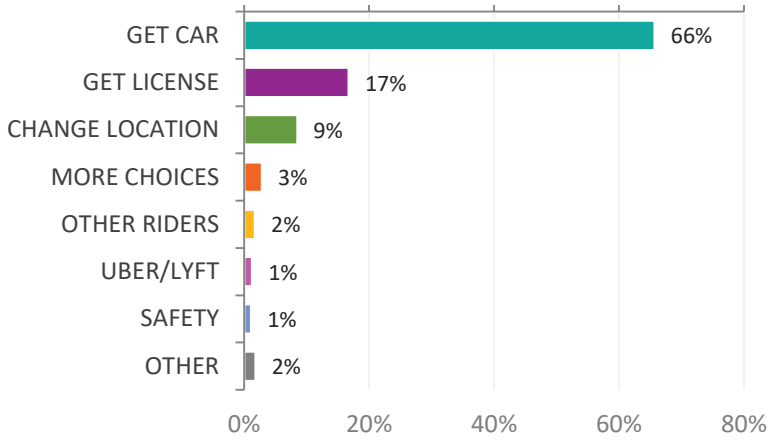
Figure 38: Bus Use One Year from Now – by Route



* Small sample; Segmented results should be considered directional and not statistically significant

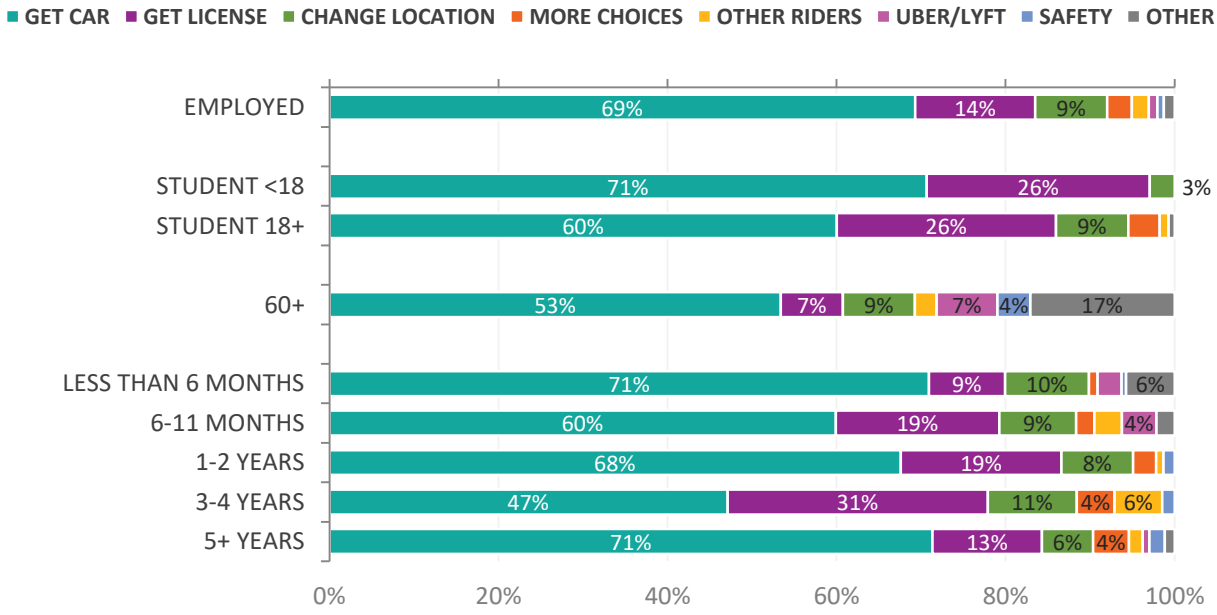
Reason for Less Use

Figure 39: Reason for Less Use



Of customers who anticipate riding less in one year, getting/having a car is the top reason cited by two-thirds (66%) of customers. This is followed by obtaining a driver's license (17%) and changing home/work/school location (9%). All other anticipated reasons fall under three percent or less.

Figure 40: Reason for Less Use – by Segment

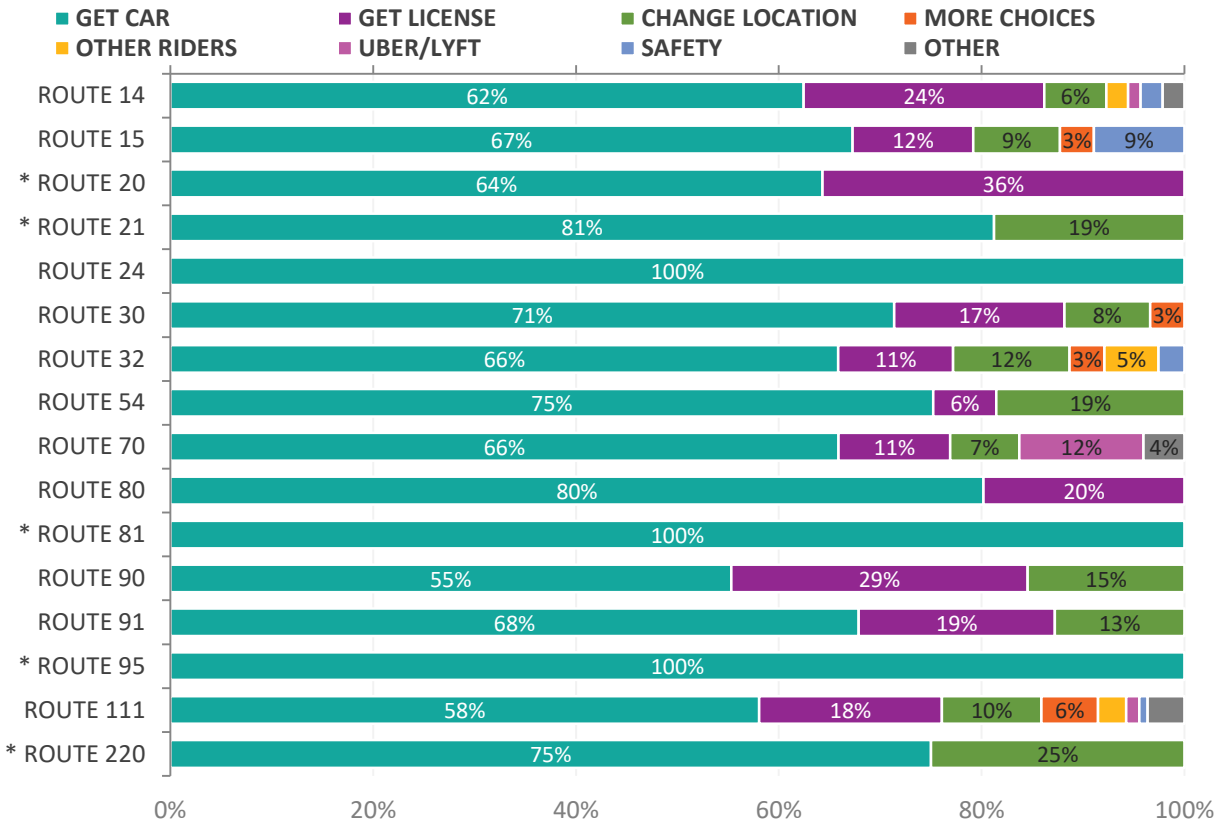


Students under the age of 18 have stronger anticipations of getting a car in one year (71%) compared to students 18 and over (60%). Both student groups have just over one-quarter (26%) of their segment planning on getting their driver's license. However, students 18 and older are more likely (9%) than their younger counterpart (3%) to anticipate changing home/work/school locations.

Customers 60 and over also most commonly cite getting a car (53%) as their primary reason for anticipated decreased transit use. However, riders under the age of 60 are more likely to cite the same reason (66%).

Dependent riders are more likely than their choice-rider counterpart to cite getting a car (69% vs 43%) and getting a driver license (18% vs 11%), while choice riders are more likely to cite a change in their home/work/school location (19% vs 7%) and expecting to have more money for more transit choices (14% vs 2%).

Figure 41: Reason for Less Use – by Route



* Small sample; Segmented results should be considered directional and not statistically significant

Chapter 5:

Satisfaction & Potential Service Improvements

Chapter 5: Satisfaction & Potential Service Improvements

Chapter Five explores customer satisfaction for SunLine services as a whole and for nine different attributes which span service delivery to facility amenities. The individual factors rated by customers are: courtesy and knowledge of coach operators, cost of a trip, convenience of routes and schedules, how often the bus runs, hours of service on both weekdays and weekends, travel time, benches/shelters/lighting at bus stops and safety while waiting and riding the bus, which is new to the 2019 survey.

This section also discusses customer preferences for three different service improvements: decreased travel time, improved service frequency and fewer transfers. Customer sentiment on fares as they relate to service enhancements is also discussed.

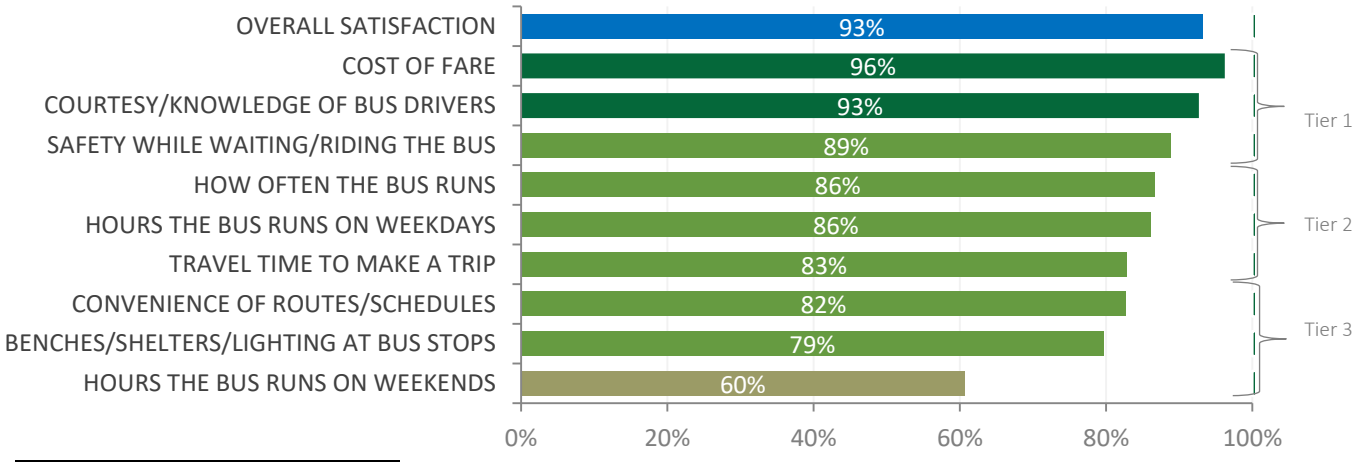
Satisfaction Attributes

Customers were asked to rate their satisfaction on 10 service attributes. Using a three-point scale of "exceed expectations," "meets expectations," and "does not meet expectations," customers rated their satisfaction on a variety of attributes including service characteristics, fares, operators, amenities, safety and overall satisfaction.

Overall satisfaction is presented at the top of Figure 42: Rider Satisfaction - Attribute Ratings. The remaining ratings are segmented into three tiers, similar to a report card type structure. The sum of the exceeds and meets expectation scores are combined to determine the attribute satisfaction rating[10]. For example, the cost of a fare received a combined satisfaction rating of 96 percent (34% exceeds expectation and 62% meets expectation) and is the attribute with the highest rating. Attributes that receive a combined exceeds expectations and meets expectations rating of 89 or more are shown in Tier 1. Attributes that score a combined rating of 83-88 percent are shown in Tier 2. Attributes that receive less than 83 percent are shown in Tier 3.

While satisfaction scores in most categories are on par with 2014, there has been a downward shift in the proportion of customers who awarded an "exceeds" score to a "meets" expectations score. This is seen in all categories, however there is little change in the percentage of customers who are not satisfied.

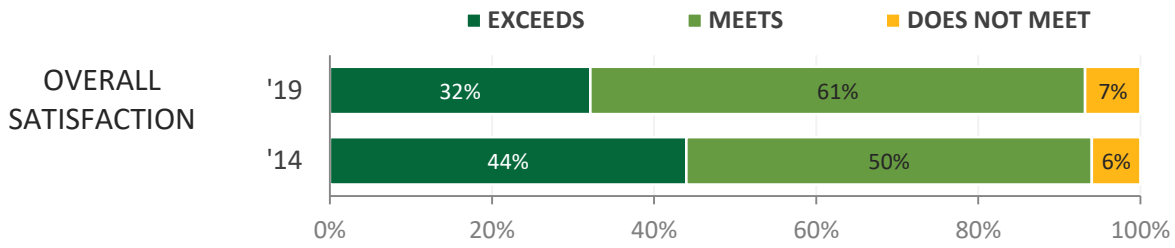
Figure 42: Rider Satisfaction - Attribute



[10] Combined ratings may differ by a percent due to rounding

Overall Satisfaction

Figure 43: Rider Satisfaction - Overall Satisfaction - by Year



Ninety three percent of customers say that their overall service of SunLine Transit meets or exceeds expectations (61% and 32%, respectively). Only seven percent are not satisfied. There is virtually no change in combined ratings since 2014 but there is a decrease of 12 points in the percentage of customers who provide an “exceeds” rating with those customers now awarding a rating of meets expectations.

As shown in Figure 45: Rider Satisfaction - Overall Satisfaction - by Route, riders on route 91 are most satisfied (97%) and just two routes 15 (86%) and 220 (89%) received combined satisfaction ratings below 90 percent.

Figure 44: Rider Satisfaction - Overall Satisfaction - by Segment

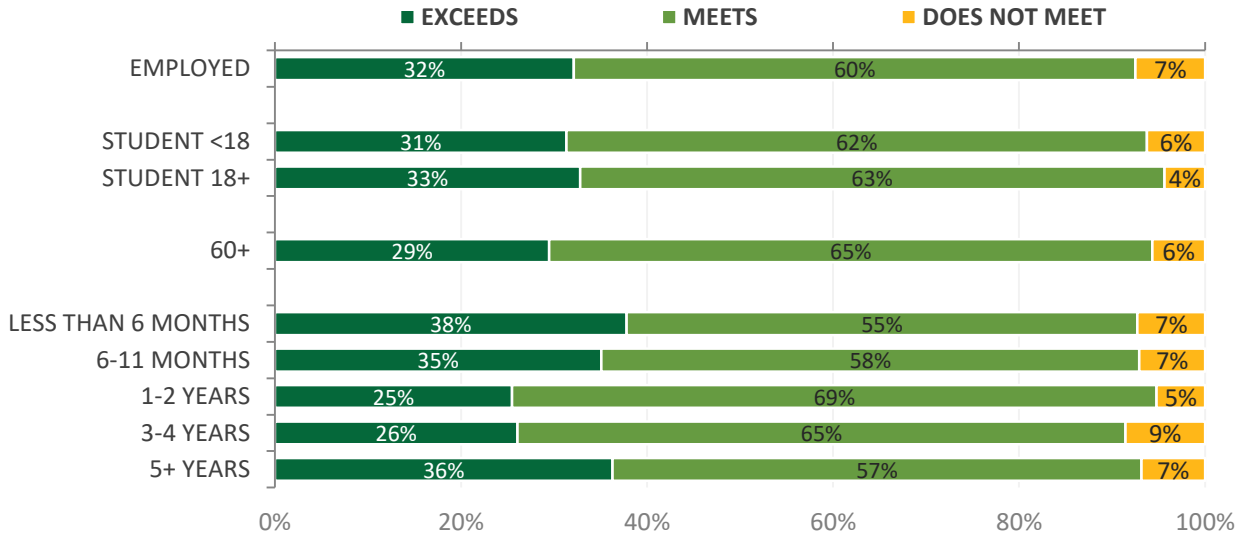
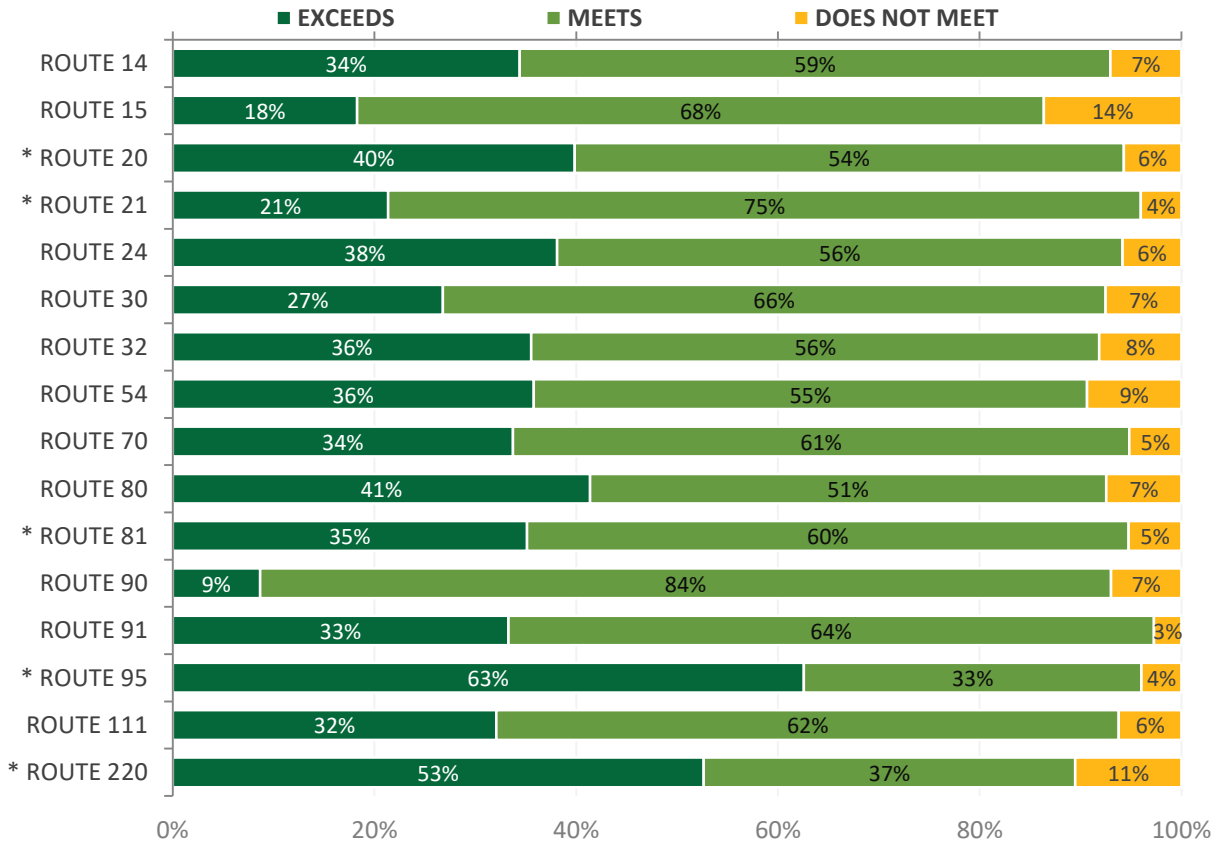


Figure 45: Rider Satisfaction - Overall Satisfaction - by Route

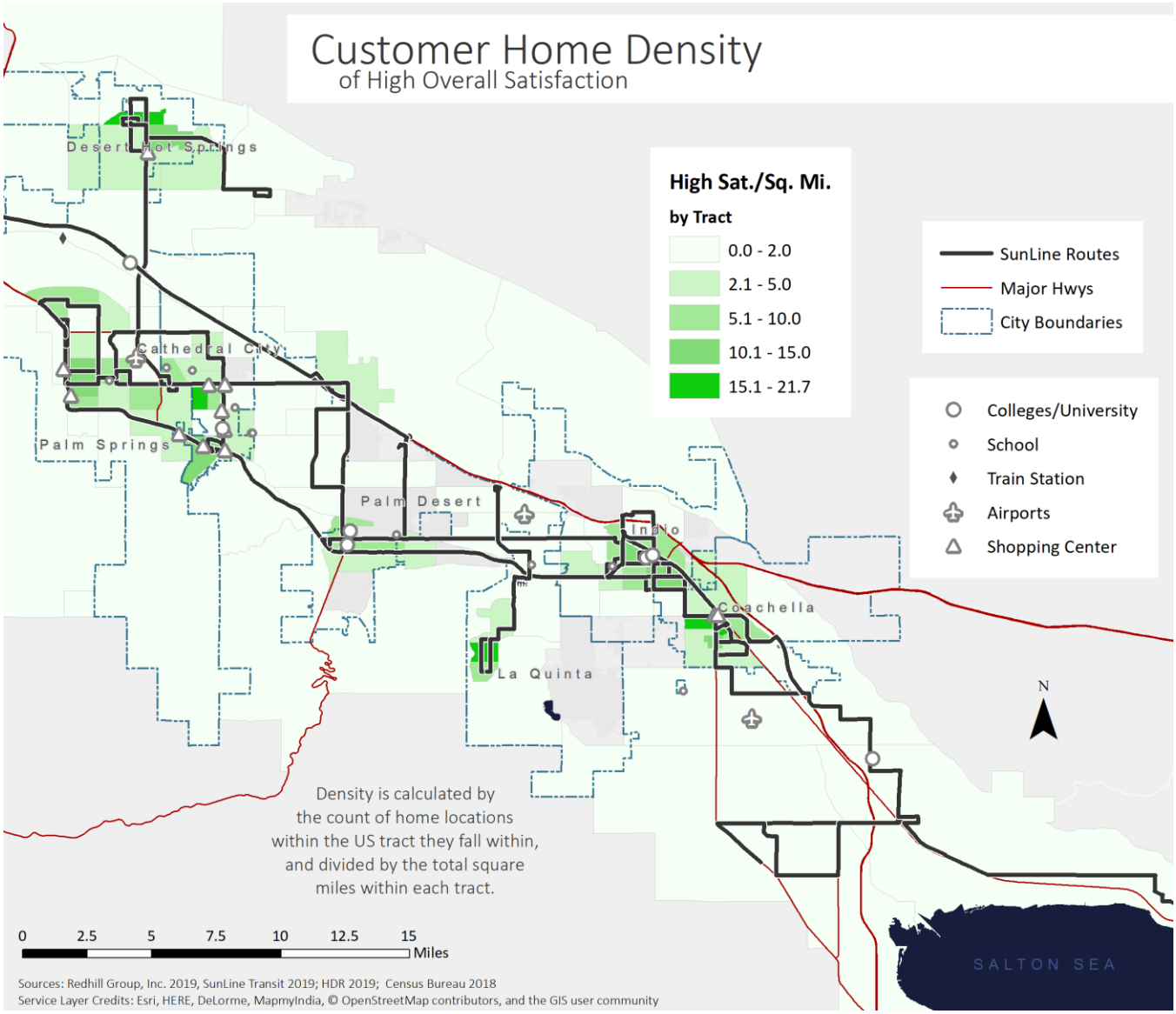


* Small sample; Segmented results should be considered directional and not statistically significant

Because riders most frequently interact with transit and bus stop from their ultimate point of origin, their home, survey results presented spatially may identify the general locations of feedback sentiment. Visualizing spatial patterns of rider feedback can provide guidance on potential future research or resource allocation into guiding location-based transit improvements.

The density of customers' home locations (to a Census tract level) who also provided a high overall service rating generally correspond to the overall home density of ridership.

Figure 46: Map - Customer Home Density of High Overall Satisfaction

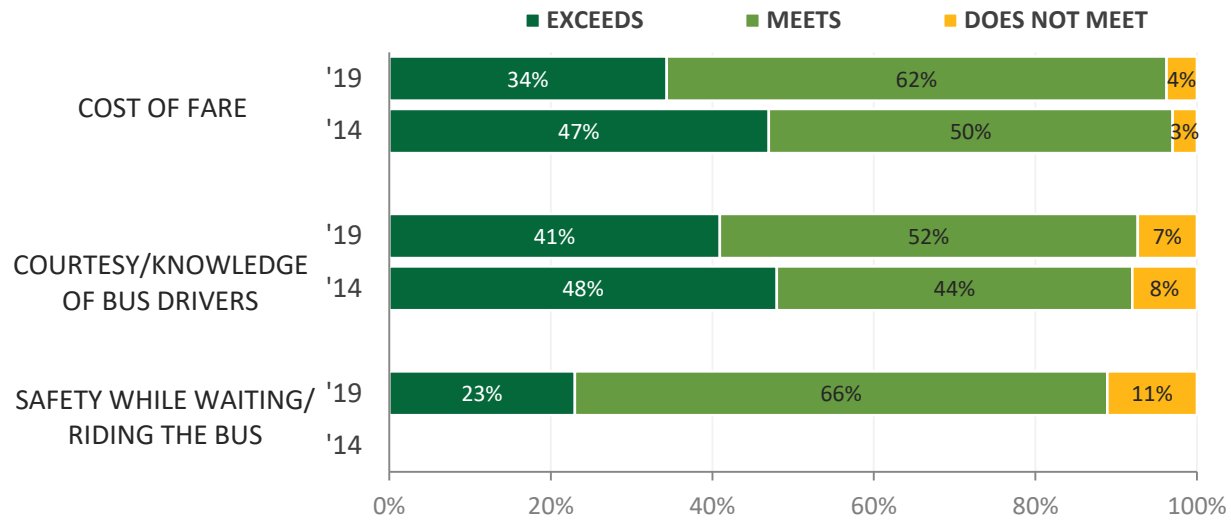


Tier One Satisfaction Attributes

Two attributes receive an "A" rating from customers. Customers are most satisfied with the cost of a fare (96%) followed by the courtesy and knowledge of the coach operators (93%). Customer satisfaction with coach operator courtesy and knowledge received the highest percentage of customers who awarded an "exceeds" expectations rating (41%). Overall ratings for these attributes are virtually unchanged however the proportion of riders providing an exceeds rating has decreased since 2014.

Saftey is a new factor in the 2019 study. The vast majority of customers (89%) feel safe when waiting or riding the bus.

Figure 47: Rider Satisfaction - Tier One - by Year



There are no significant differences in ratings among different market segments

Figure 48: Rider Satisfaction - Tier One – Cost of Fare – by Segment

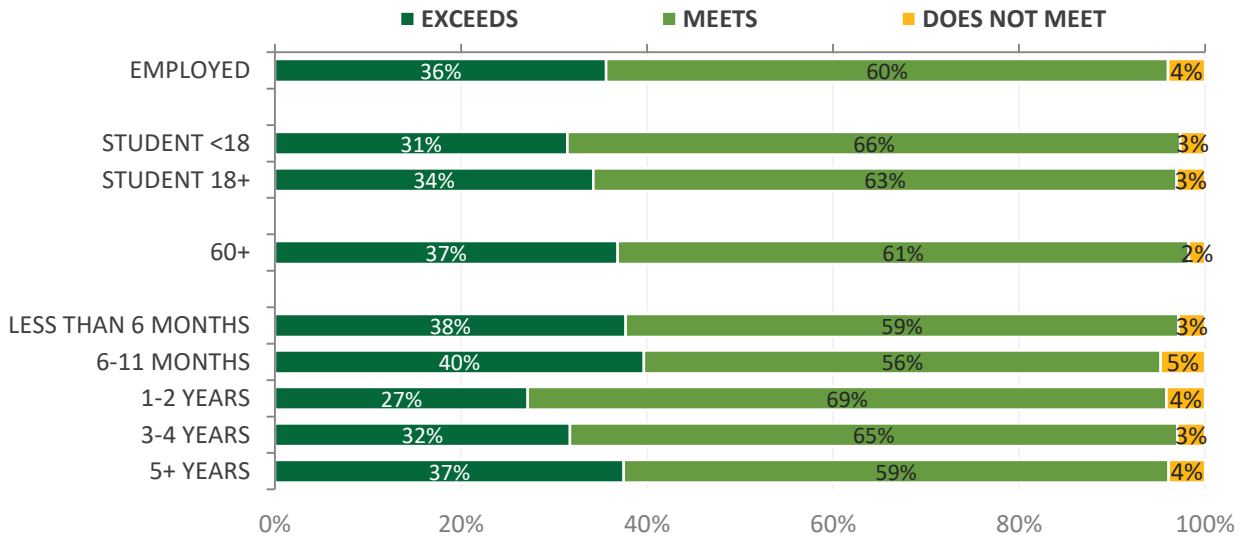


Figure 49: Rider Satisfaction - Tier One - Coach Operator Knowledge and Courtesy – by Segment

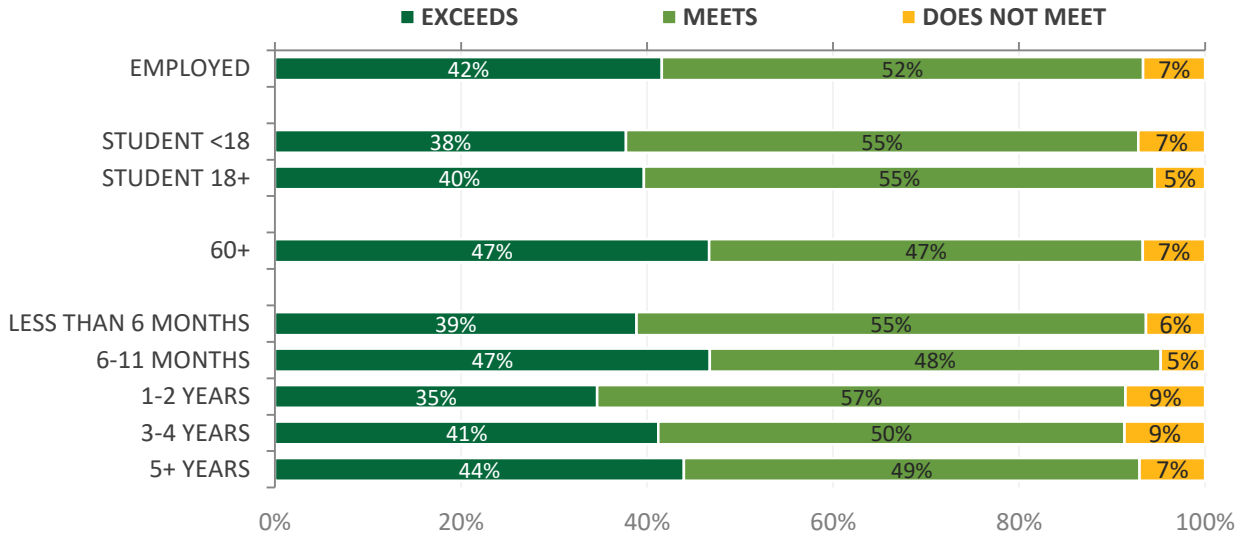
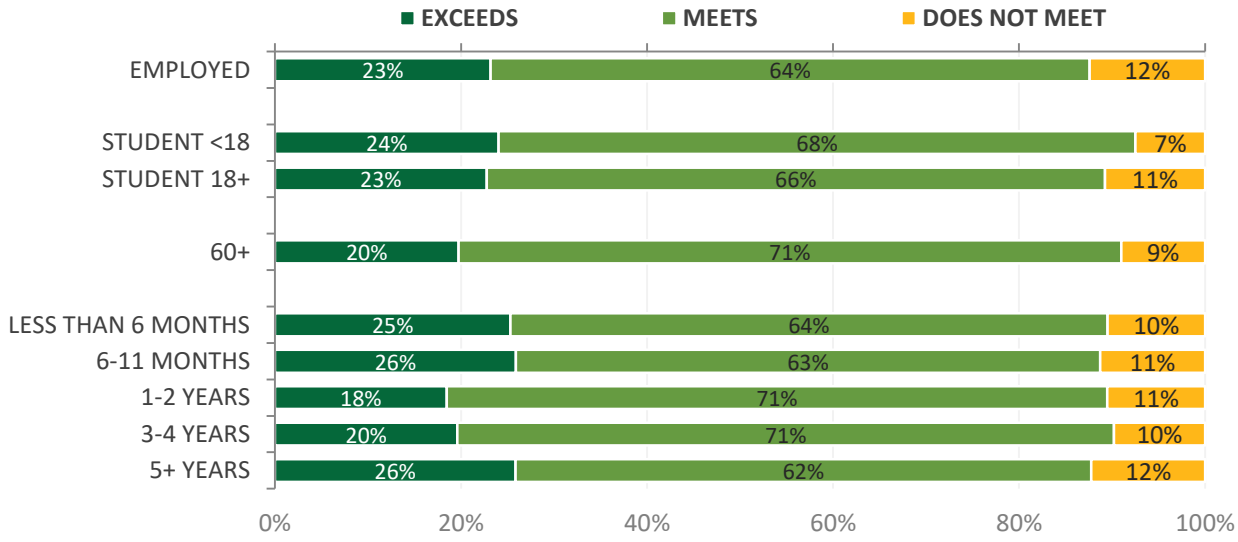


Figure 50: Rider Satisfaction - Tier One – Safety While Waiting/Riding the Bus – by Segment

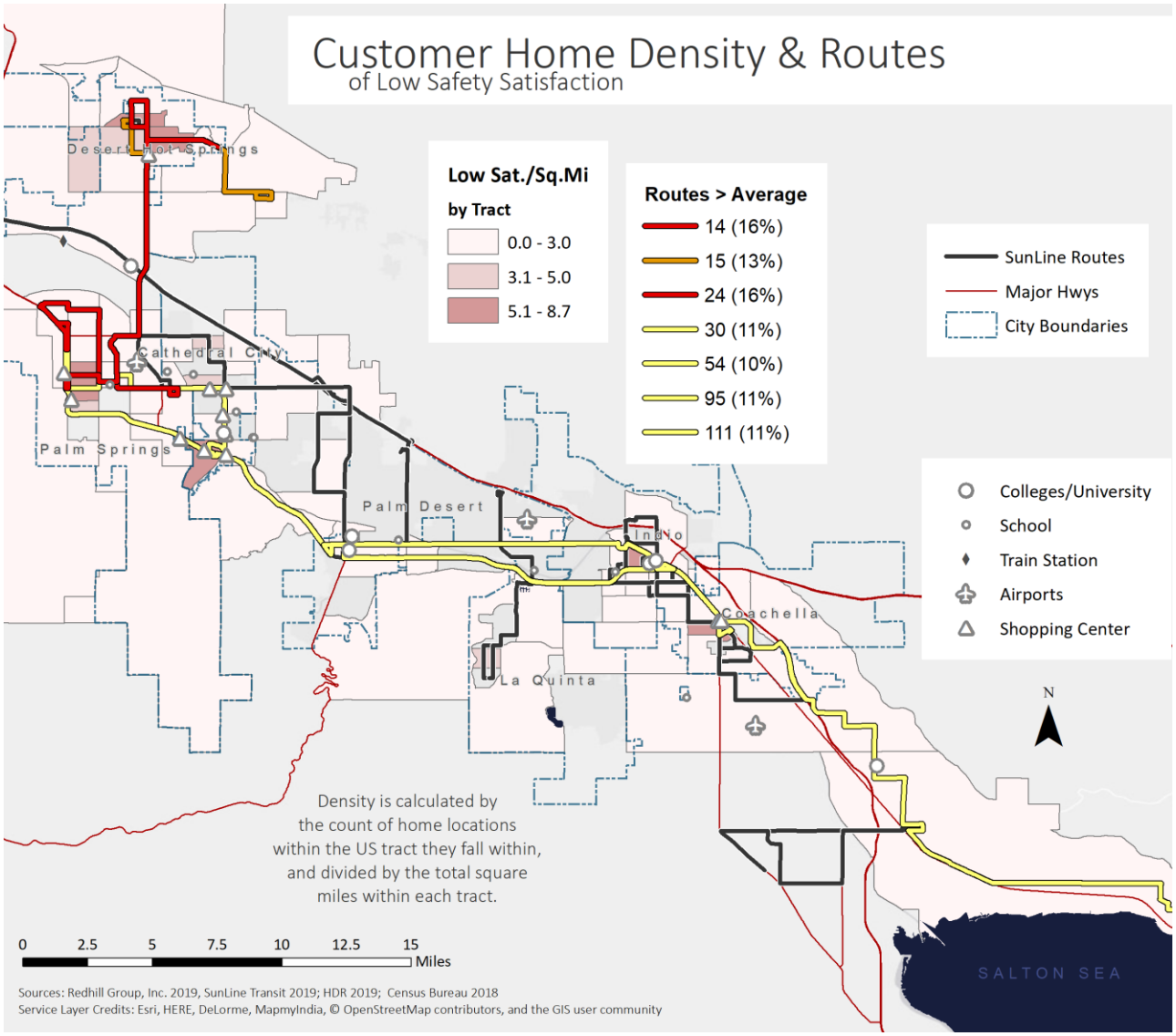


Low Safety Satisfaction by Home Density

Visualizing the density of riders' homes who also provided a low safety rating also generally correspond to the overall home density of ridership.

Routes which have a low safety rating that is higher than the individual route average[11] are also highlighted. To better understand these concerns additional research is needed.

Figure 51: Map - Customer Home Density of Low Safety Satisfaction

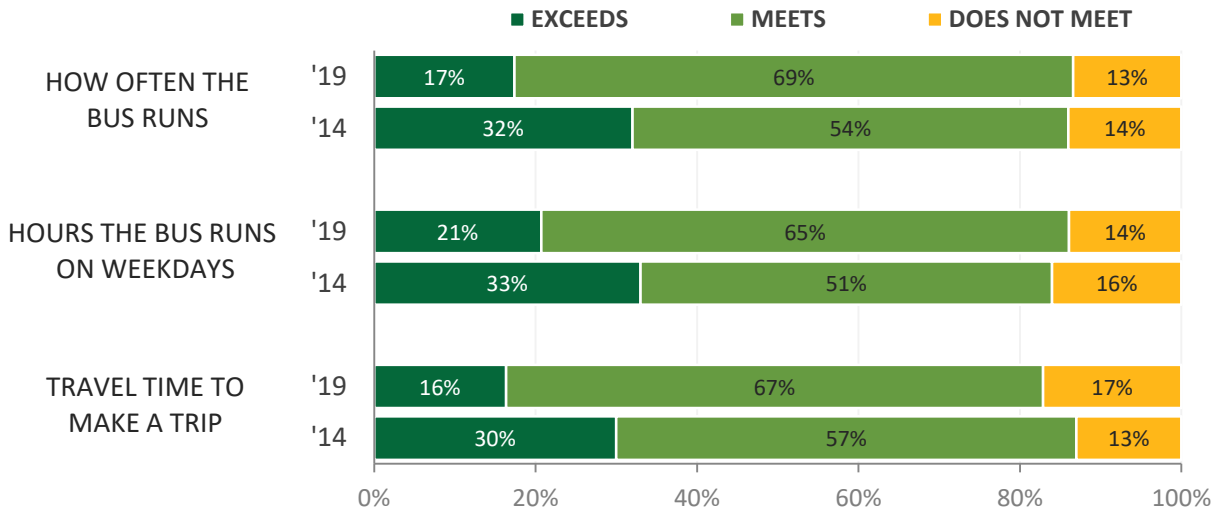


[11] The average rating among routes of "does not meet expectations" is nine percent.

Tier Two Satisfaction Attributes

Attributes that fall in the second tier receive a combined exceeds and meets rating of 83 to 88 and includes how often the bus runs (86%), hours the bus runs on weekdays (86%), and travel time to make a trip (83%). Although overall ratings are on par with 2014, in all instances there is a dip in the proportion of individuals who awarded high ratings. All of these ratings can be considered as a "B".

Figure 52: Rider Satisfaction - Tier Two - by Year



Eighty-six percent of customers are satisfied with how often the bus runs, and 13 percent say it does not meet their expectations. Although these satisfaction proportions are identical to 2014, this attribute category experienced the largest drop (15 points) of riders, whose expectations were exceeded, dropping to 17 percent from 32 percent in 2014.

Hours the bus runs on weekdays meets (65%) or exceeds (21%) the expectations of 86 percent of riders. Customers during peak periods are more likely (23%) than off-peak riders (18%) to state weekday hours exceed expectations.

Riders have an 83 percent satisfaction level with travel time to make a trip and 17 percent who say it does not meet their expectations. This category shows the second largest decrease of riders whose expectations are exceeded, from 30 percent in 2014 to 16 percent in 2019, and largest increase (4 points) of riders whose expectations are not met from 13 percent in 2014.

Figure 53: Rider Satisfaction - Tier Two - How Often the Bus Runs - by Segment

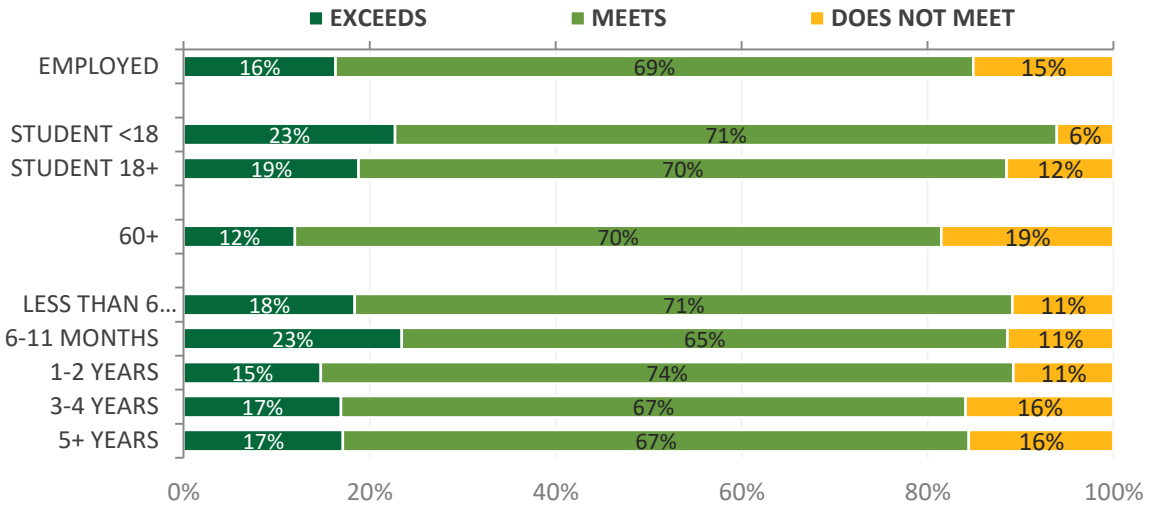


Figure 54: Rider Satisfaction - Tier Two – Hours the Bus Runs on Weekdays – by Segment

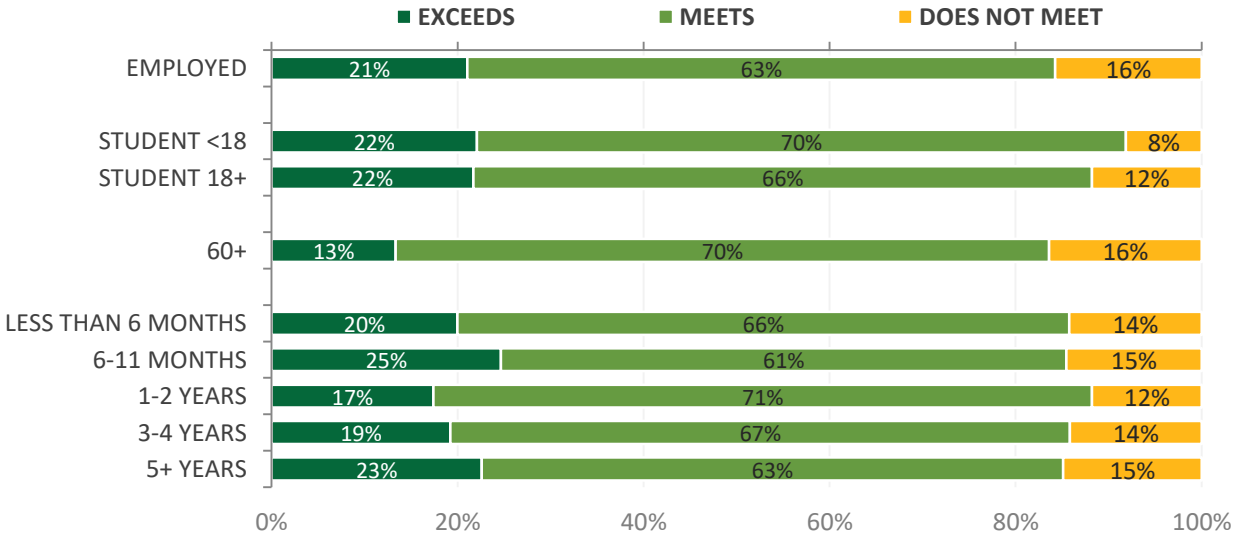
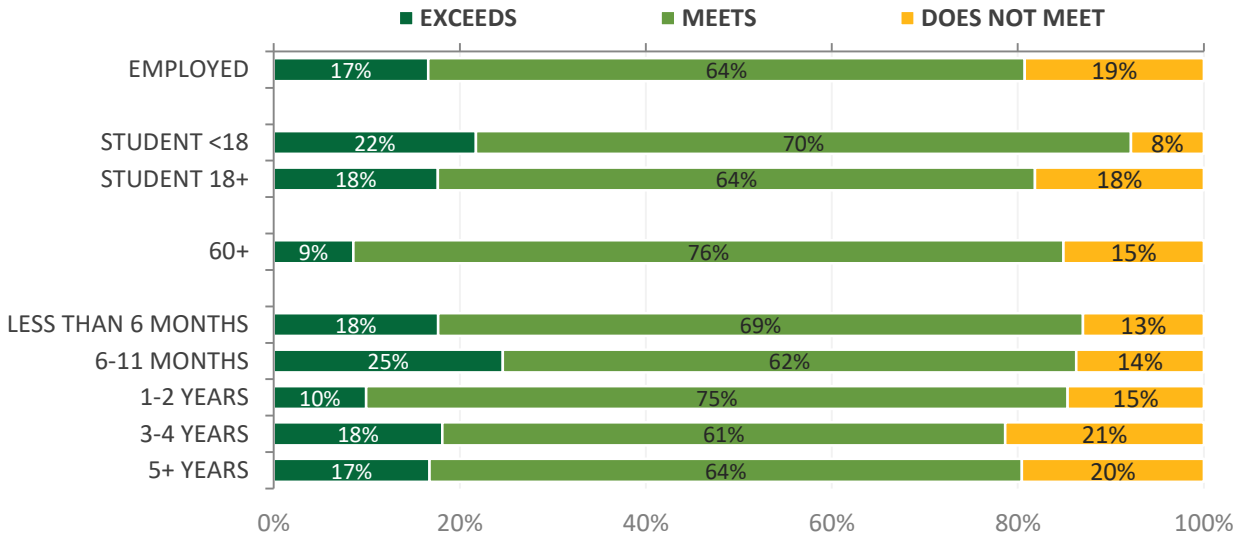


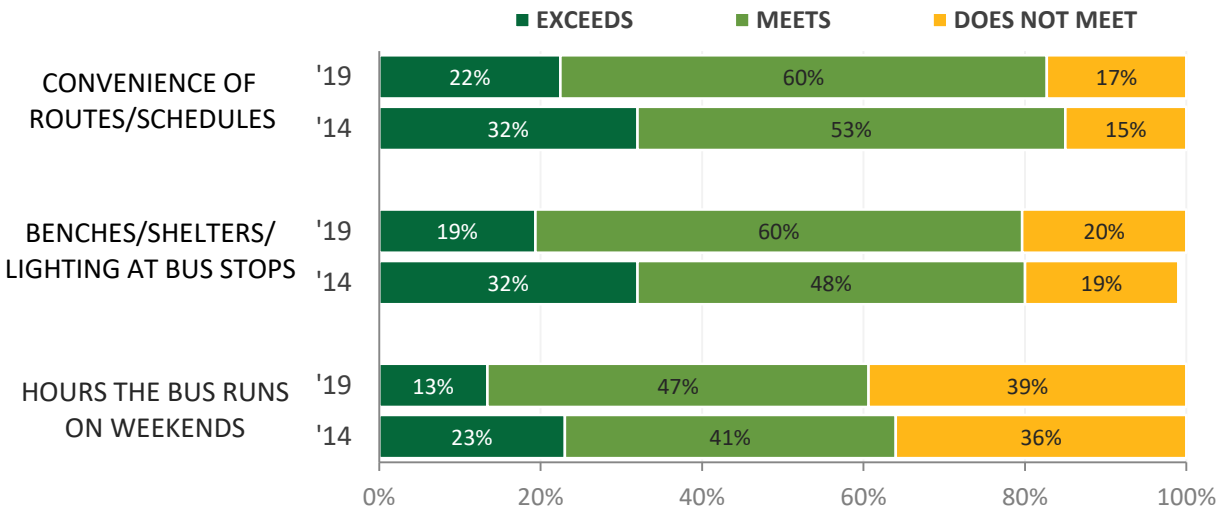
Figure 55: Rider Satisfaction - Tier Two - Travel Time - by Segment



Tier Three Satisfaction Attributes

Three satisfaction attributes received a score of lower than 83. Riders are less satisfied with the convenience of routes/schedules (82%), bus stop amenities (79%), and hours the bus runs on weekend (60%). Similar to 2014, weekend hours received the lowest customer satisfaction score. These are all areas of opportunity for improvement in the eyes of the customer. Also falling into this category is bus stop amenities.

Figure 56: Rider Satisfaction - Tier Three - by Year

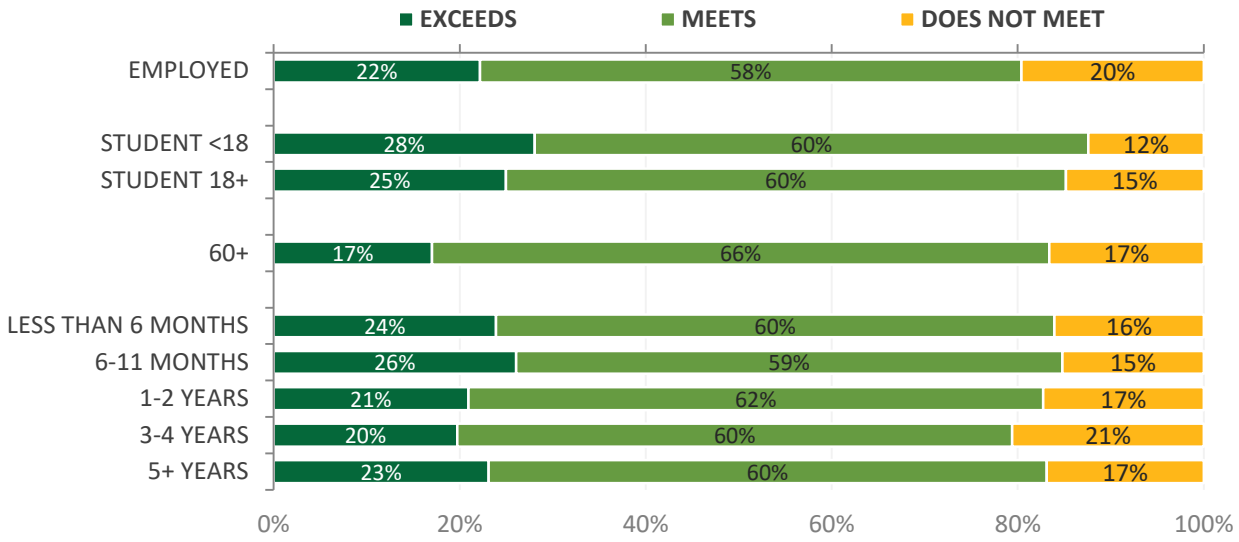


The majority of customers are satisfied with the convenience of routes/schedules meeting or exceeding their expectations (82%).

At 79 percent satisfaction, benches/shelters/lighting at bus stops exceed or meet customers' expectations (19% and 60%, respectively). Customers who also ride the bus on weekends are more likely (22%) than weekday riders (16%) to say benches/shelters/lighting do not meet their expectations, which is likely influenced by the frequency with which weekend riders use the bus.

Of persons 60 and older, 27 percent are not satisfied with bus stop amenities suggesting that as the age of a customer increases there are more demands for bus stop amenities.

Figure 57: Rider Satisfaction - Tier Three - Convenience of Routes/Schedules – by Segment



Customers are least satisfied with the hours the bus runs on weekends. This factor received a satisfaction rating of 60 percent with only 13 percent who say it exceeds expectations. Thirty-nine percent say it does not meet expectations, which is a three point increase from 2014.

Figure 58: Rider Satisfaction - Tier Three – Benches Shelters/Lighting at Stops – by Segment

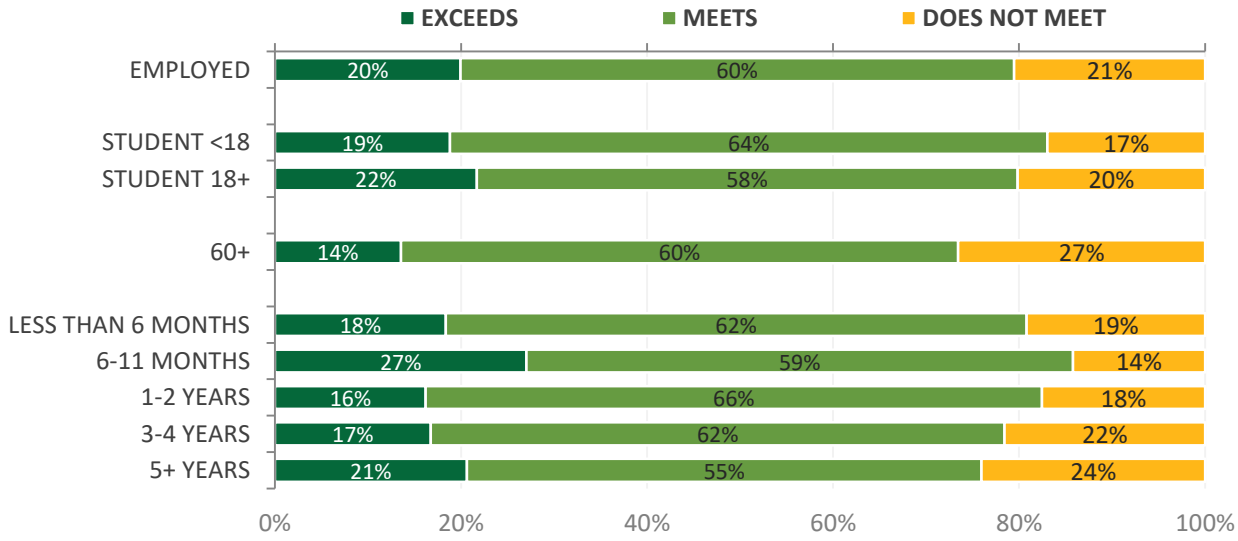
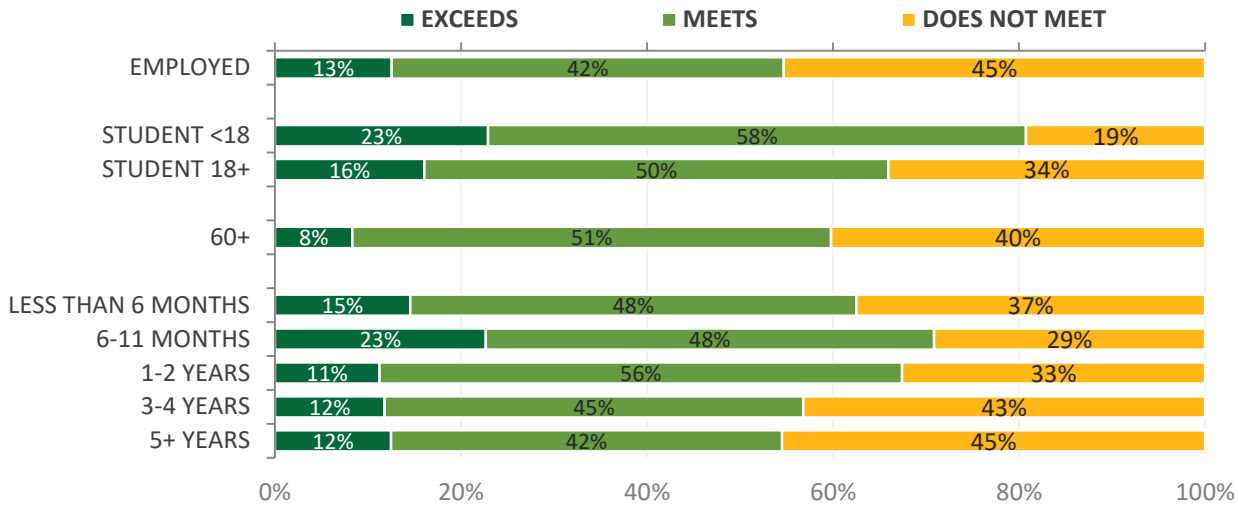
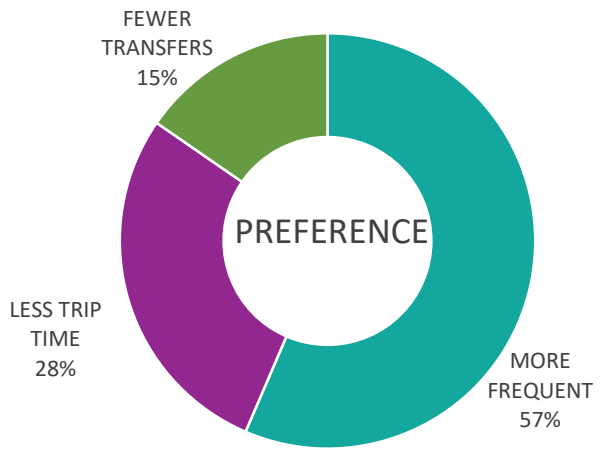


Figure 59: Rider Satisfaction - Tier Three – Hours Bus Runs on Weekends - by Segment



Service Improvement Priorities

Figure 60: Potential Improvement Option Preference



Customers were provided with three service improvement options (time, transfers and frequency) and asked to select the one that was most important to them.

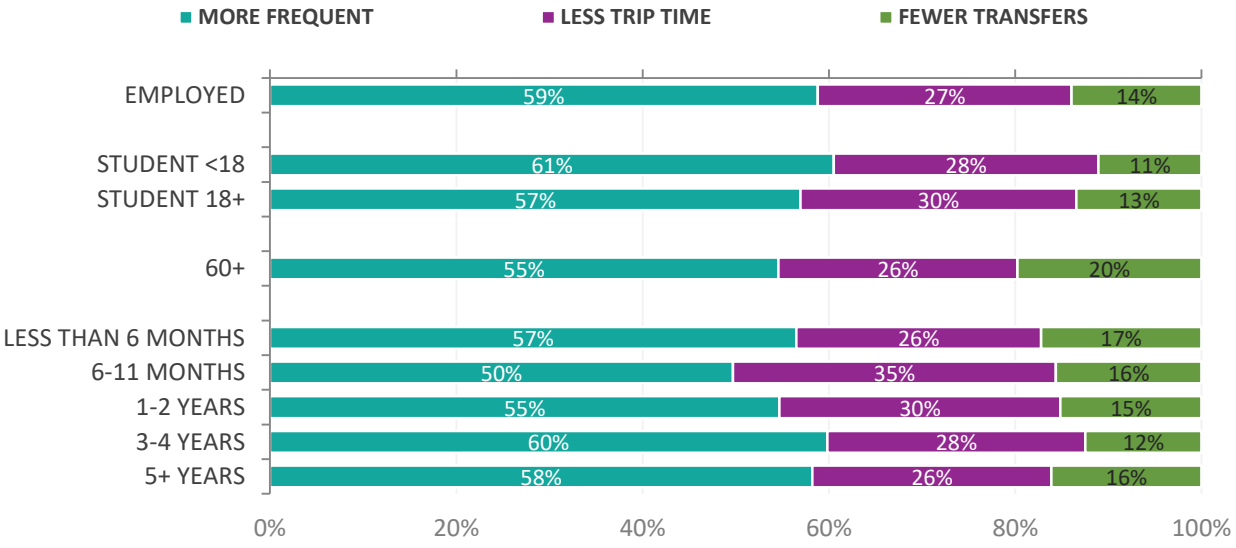
Customers were asked to choose among the following phrases:

1. It took less time to make your trip
2. You could make your trip with fewer transfers
3. The buses ran more frequently

By a margin of 2:1, more frequent service (57%) is the top improvement priority for customers followed by less time to make a trip (28%).

Customers who are 60 and older are more likely (20%) than younger customers (14%) to prefer fewer transfers, which may relate to mobility factors that are more prevalent with this segment of customers.

Figure 61: Potential Improvement Option Preference – by Segment



Persons who ride the bus at least one day a week are most likely to want more frequent service. Persons who ride the bus less than once a week are almost equally likely to mention more frequent service (45%) and less trip time (43%).

Data suggest that improved service frequency has the most appeal to all groups and that improving travel time could be a factor in increasing transit use for those who are currently riding the bus less than once a week.

As expected, customers who mention fewer transfers are those who use two or more transfers to complete their trip (36%). Customers who do not require a transfer and those who make just one transfer are less likely to select this option at (14% and 16%, respectively).

Figure 62: Potential Improvement Preference – by Ridership Frequency

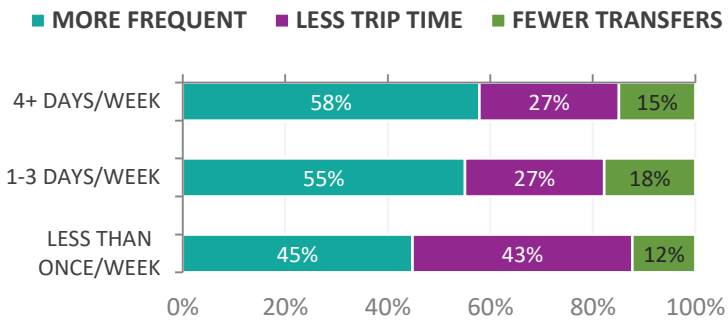
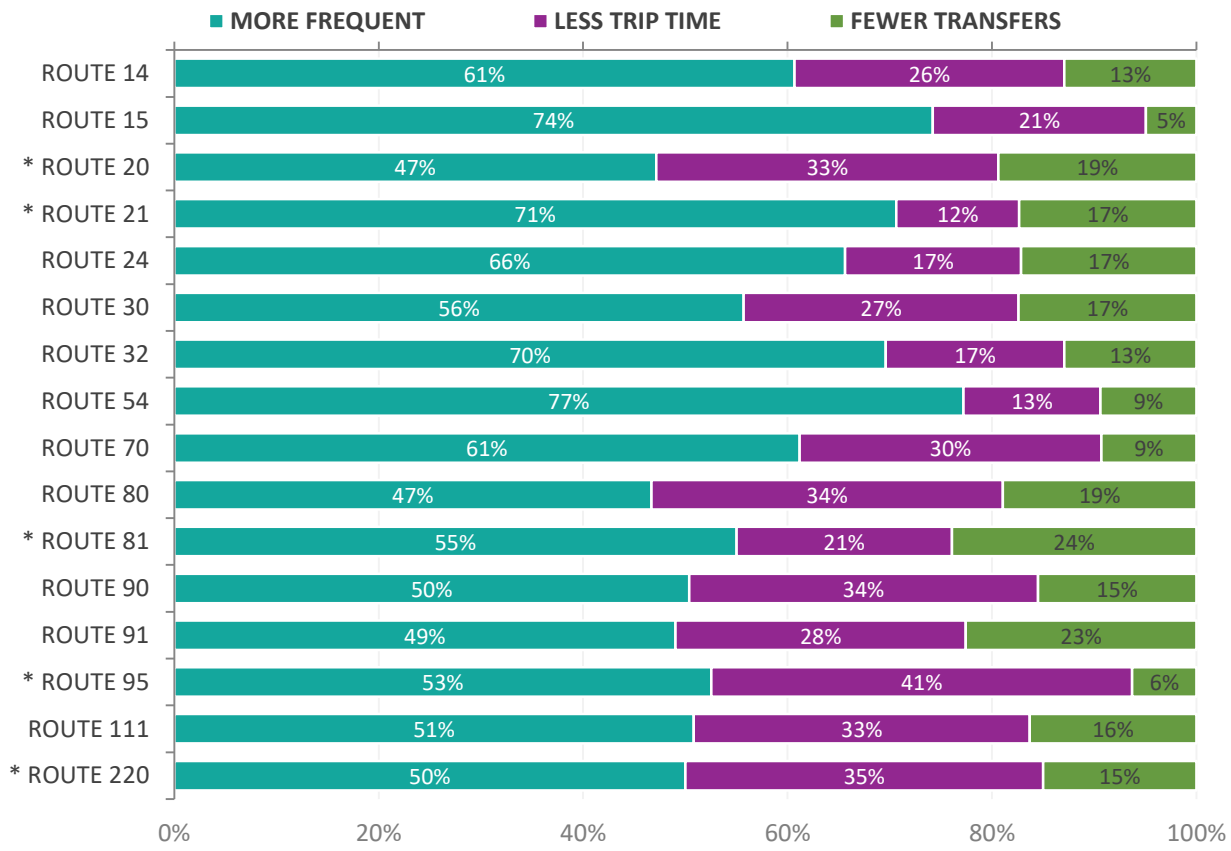


Figure 63: Potential Improvement Option Preference – by Route



* Small sample; Segmented results should be considered directional and not statistically significant

Although sample sizes for the routes are not large enough to be statistically valid, customers who completed the survey on route 54 are most likely to want more frequent service (77%). Shorter trip time is most strongly supported by customers on route 95 (41%). Customers on route 81 and route 91 were the highest supporters of fewer transfers (24% and 23%, respectively).

Fare Change versus Enhanced Service

Customers were offered two statements relating to potential fare changes and asked to select the statement with which they most agreed.

1. I would be willing to pay a higher fare if SunLine could improve bus services
2. I would prefer no change in bus service

By a margin of almost 2:1 customers selected no change in service over improved service with a higher fare.

The findings are unchanged from 2014.

Figure 64: Fares and Service Expansion

Figure 65: Fares and Service Expansion – by Year

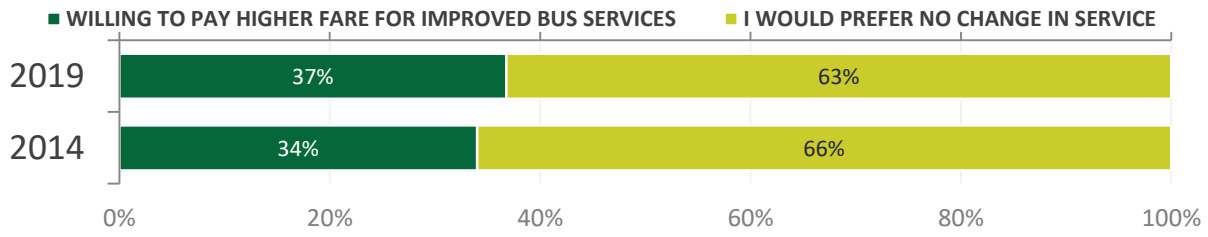
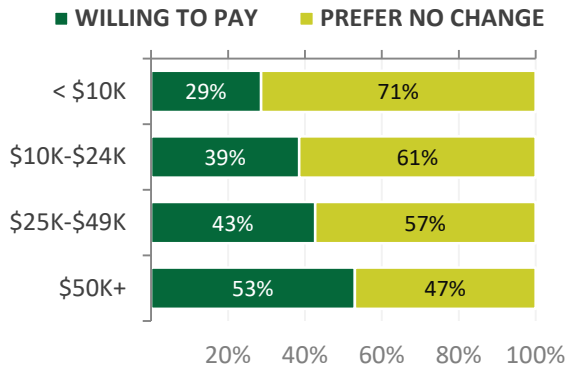
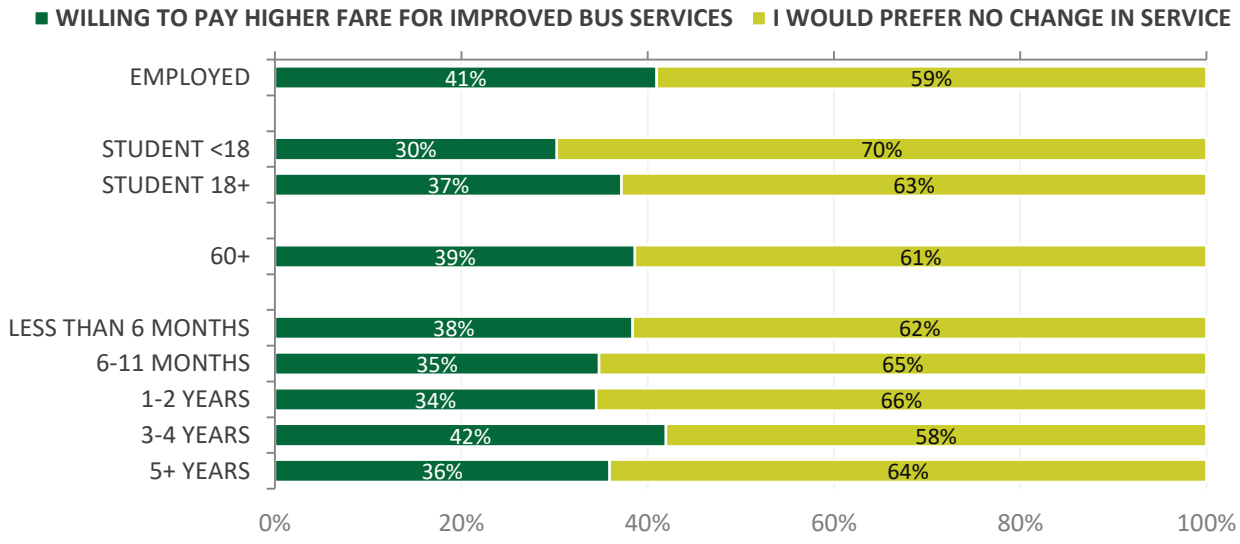


Figure 66: Fares and Service Expansion – by Household Income



In findings similar to the 2014 study, annual household income is directly related to customers' agreement with increasing fares to improve service. Just over one quarter (29%) of customers who live in a household with an annual income of $10,000 or less want a fare increase. Persons in households with an annual income of $50,000 or more are slightly more likely (53%) to be willing to pay for more as they are to prefer no change (47%).

Figure 67: Fares and Service Expansion – by Segment



Customers who are employed (41%) are more likely than those who are not employed (33%) to be willing to pay more for more service. Customers who ride the bus on weekends are also more likely (38%) than weekday only riders (32%) to indicate a willingness to pay a higher fare for service improvements.

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Chapter 6:

Information & Technology

Chapter 6: Information and Technology

Chapter Six discusses the prevalence of internet connectivity among SunLine customers and the sources they use to find information they need about SunLine services. This section also looks at the ability of current customers to use an electronic fare payment system. Results are presented from two perspectives: the system as a whole and by market segmentations: persons who are employed, students 18 and older, students under 18 and persons who are 60 and over.

Device Ownership and Connectivity

The vast majority (82%) of SunLine Transit customers have access to a smartphone or tablet with internet connection up 11 points since in 2014. According to the Pew Research Center data 81 percent of adults in the US have a smartphone[12].

Of all groups, students are most likely to have a smart phone while persons over 60 are least likely to be connected. More than 90 percent of students can connect to the internet. In contrast, customers least likely to have a device with internet connection are riders 60 and over (40%), and specifically those who are 65 and over (47%).

Figure 68: Device Ownership and Connectivity

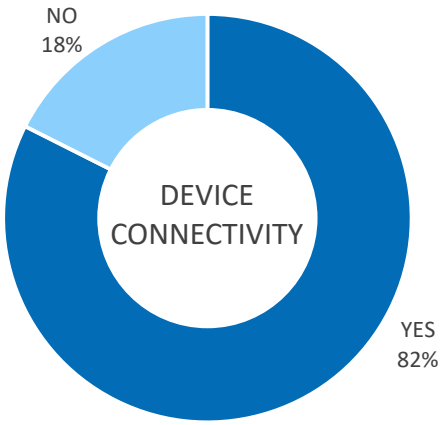
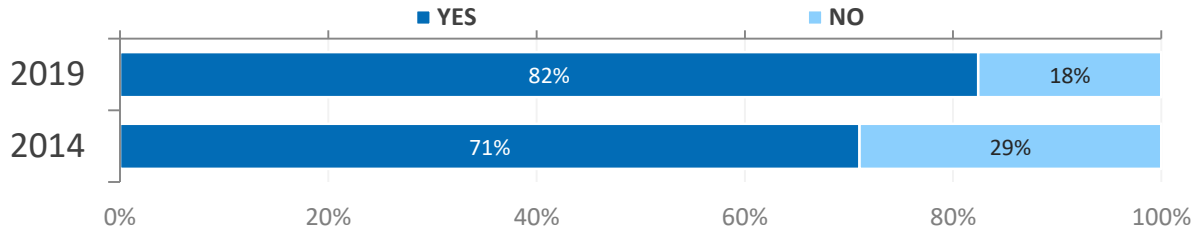


Figure 69: Device Ownership and Connectivity – by Year

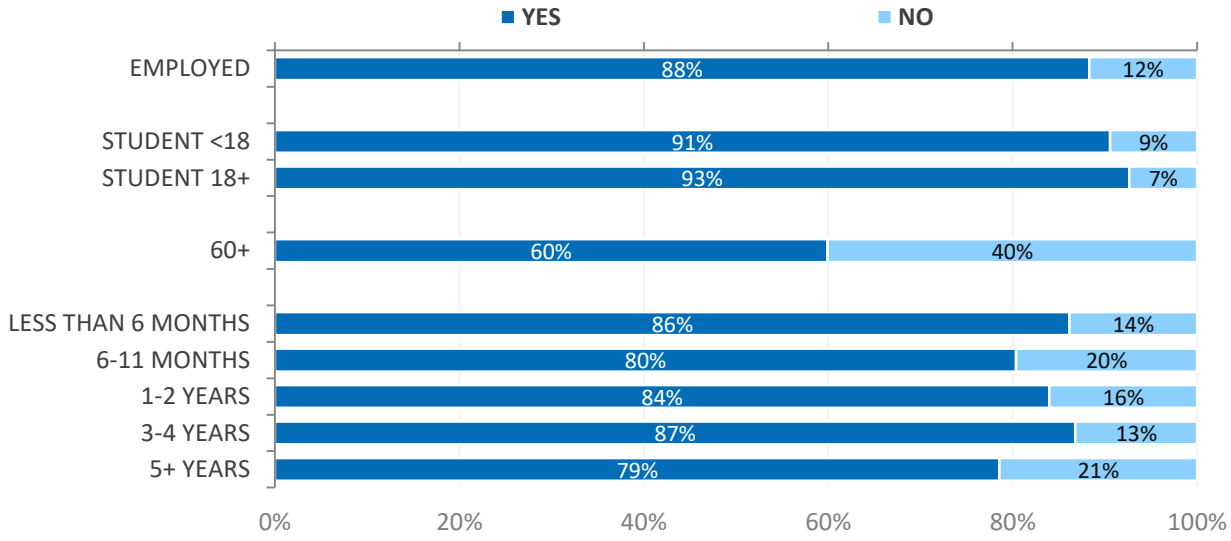


Among household income categories, riders who live in households with an annual income of $10,000 or less also have a higher proportion of riders without device connectivity (23%).

Device connectivity is an important factor in the adoption of fare related technologies in addition to how customers access information about SunLine Transit services.

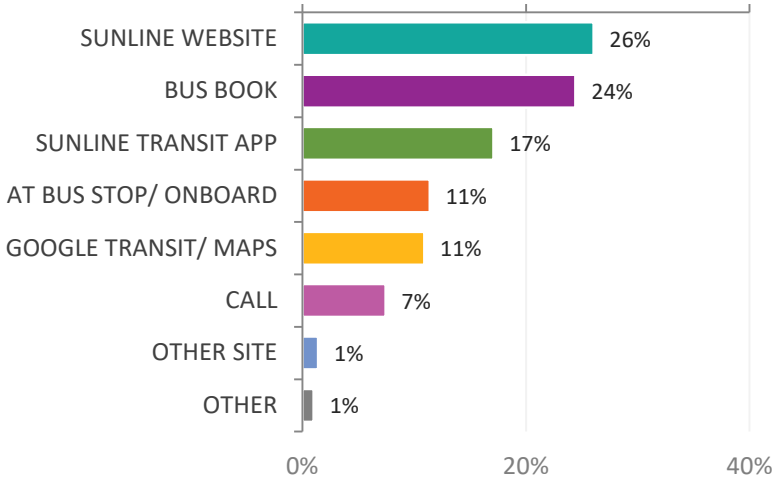
[12] https://www.pewglobal.org/2019/02/05/smartphone-ownership-is-growing-rapidly-around-the-world-but-not-always-equally/pg_global-technology-use-2018_2019-02-05_0-01/

Figure 70: Device Ownership and Connectivity – by Segment



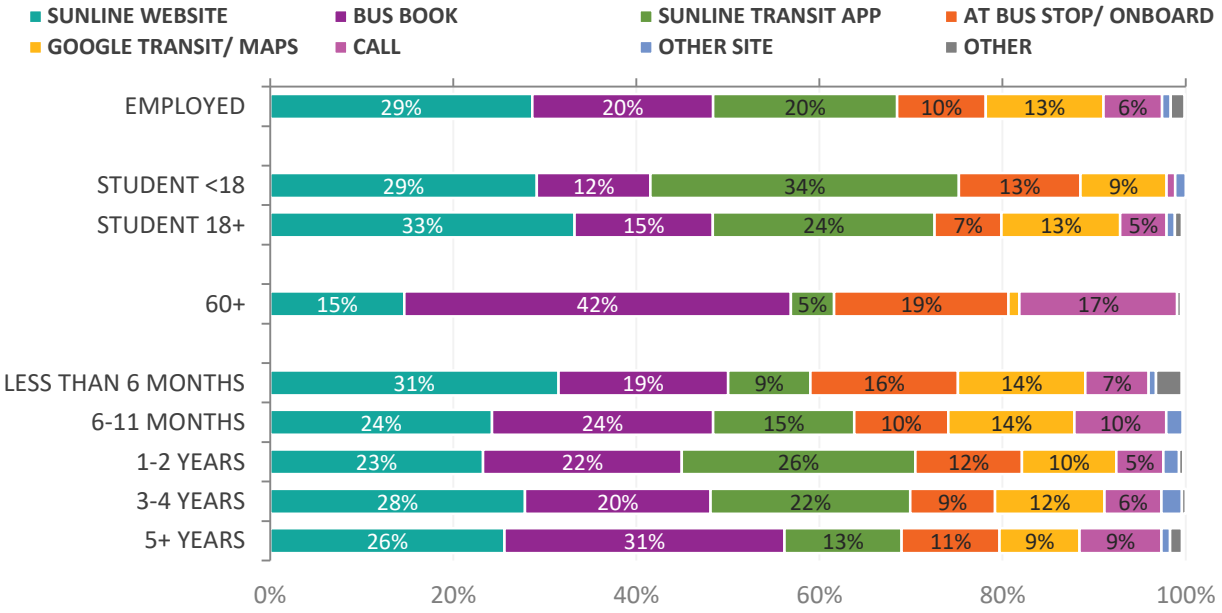
Information Sources

Figure 71: Information Sources



Internet related sources of information are used by more than half of customers to find out about SunLine Transit services. Of these sources the SunLine website is cited by just over one-quarter (26%) of customers while 17 percent primarily use the SunLine Transit App and 11 percent use Google Transit or Google Maps. The Bus Book is used by approximately a quarter of customers (24%). Age is a key determinant in the information source used by the customer.

Figure 72: Information Sources – by Segment



Internet-based information sources are highly favored by students with more than 70 percent of this group relying on the internet for transit information. Students are more likely to use the SunLine App than other groups and for students under 18 it is the most commonly mentioned information source at 34 percent.

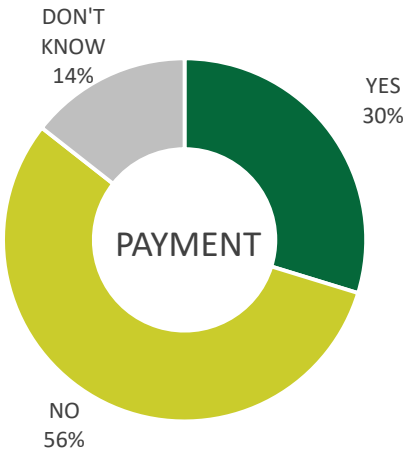
The use of internet as an information source for transit declines with the age of the rider with approximately 20 percent of persons over 60 using web-based information. Persons who are over 60 are more likely to rely on traditional information sources such as the Bus Book (42%), bus stop signage (19%) or placing a phone call (17%).

Electronic Fare Payment

A new question added to the 2019 study asks about the customers' ability to pay for fare electronically using a debit or credit card.

The majority (56%) of customers say they cannot pay electronically. Thirty percent say they are able to pay electronically, and 14 percent don't know.

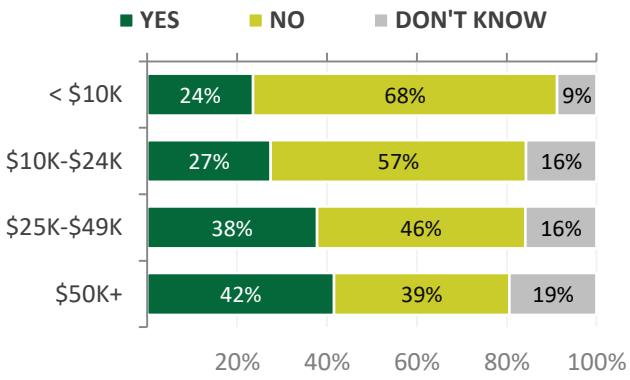
Figure 73: Electronic Payment



Annual household income is directly related to customers' agreement with the ability to pay for fares using electronic means. Slightly less than one-quarter (24%) of riders who have a household income of $10,000 or less are able to pay using electronic methods, compared to 42 percent of individuals with an annual household income of at $50,000 or more.

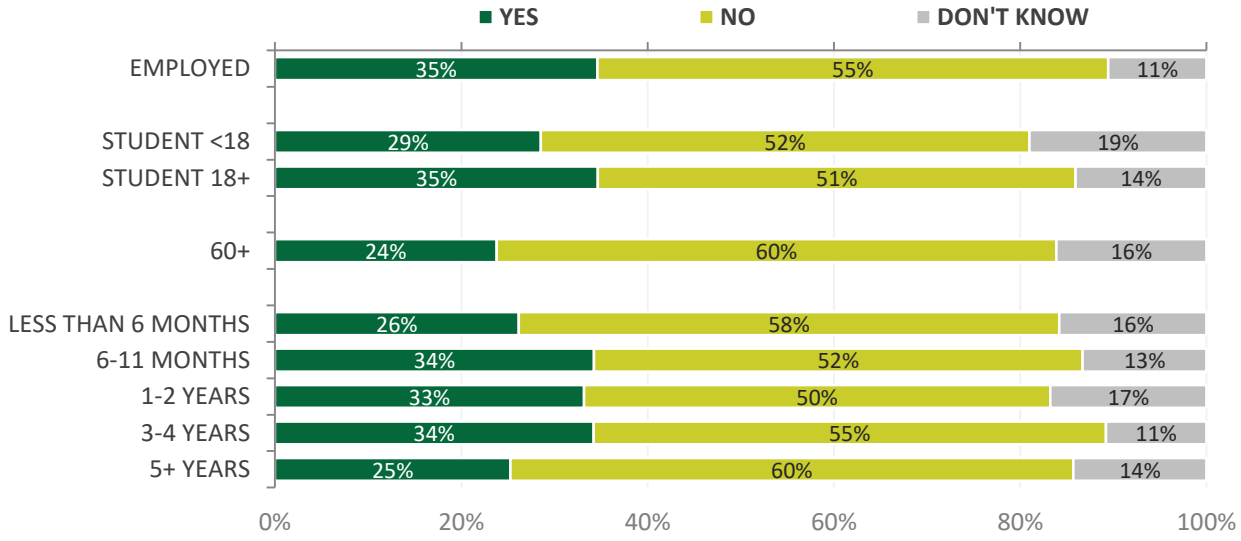
This finding suggests that when a movement toward smart cards is made, options to accommodate the proportion of the population that may be underbanked will be an important part of the acceptance process. The opportunity to use cash to recharge a smartcard in readily accessible and convenient locations such as bus stops and transit centers will enhance the use of smart cards by those who may not have a bank account or enough funds to pay for more than a ride at any given time.

Figure 74: Electronic Payment- by Household Income



Persons who are employed are most likely to say that they can use electronic payment. Over one-third (35%) of customers who are employed are able to pay electronically, compared to one-quarter of those who are not employed.

Figure 75: Electronic Payment- by Segment



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Chapter 7:

Demographics

Chapter 7: Demographics

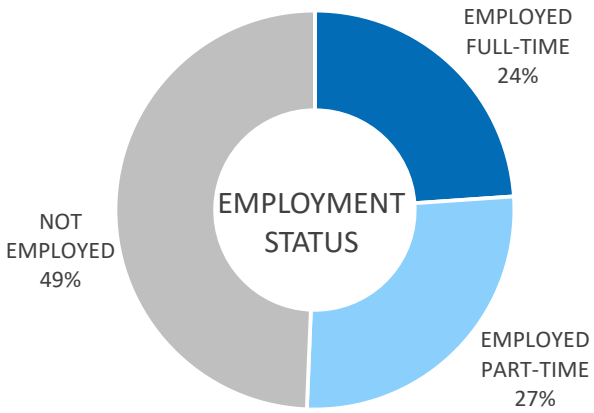
Customer demographics including employment and student status, age, household size, income and languages spoken at home and English language proficiency, ethnicity and gender are presented in this section.

Employment Status

A question regarding employment status was added to the 2019 study. Just over half (51%) of customers are employed either full-time (24%) or part-time (27%). Forty-nine percent are not employed.

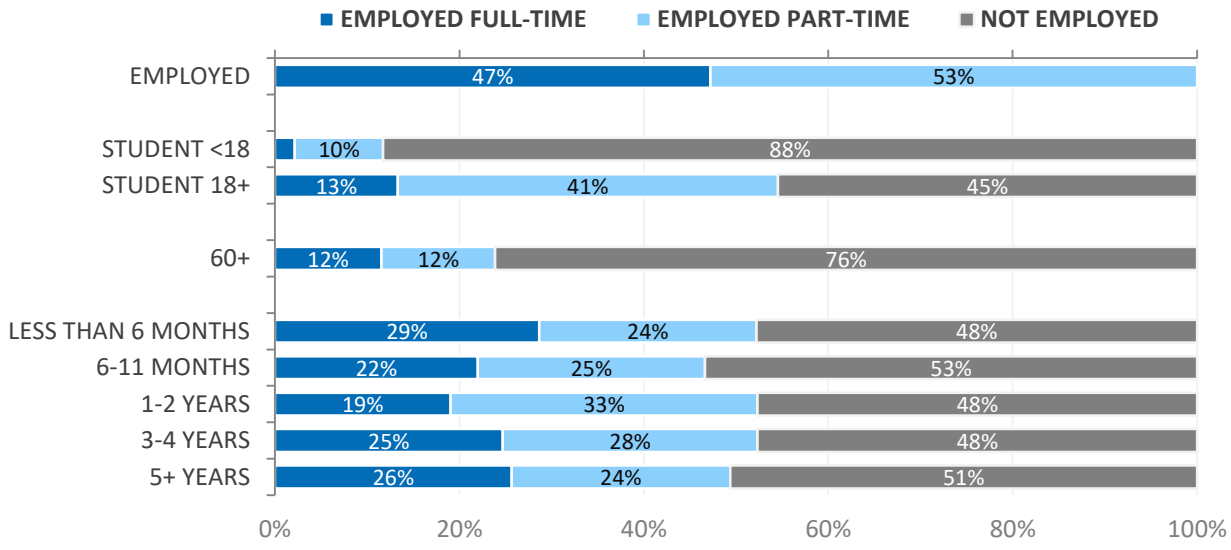
Customers under the age of 55 have a higher proportion of riders who are employed (56%) compared to riders 55 and over (30%).

Figure 76: Employment Status



The majority of students under the age of 18 (88%) and customers 60 and over (76%) are not employed.

Figure 77: Employment Status - by Segment



Student Status

Student status is also a new question in 2019 to enrich market segmentation. More than one-third (36%) of customers are students either full-time (23%) or part-time (13%). Younger riders are more likely to be students with 58 percent of riders under the age of 35 identifying as a student. Just eight percent of riders who are 35 and older are students.

Figure 78: Student Status

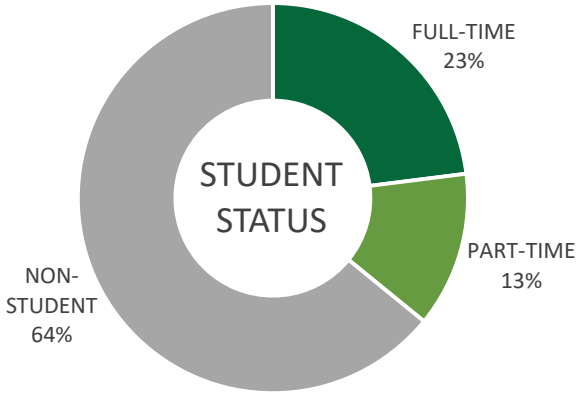
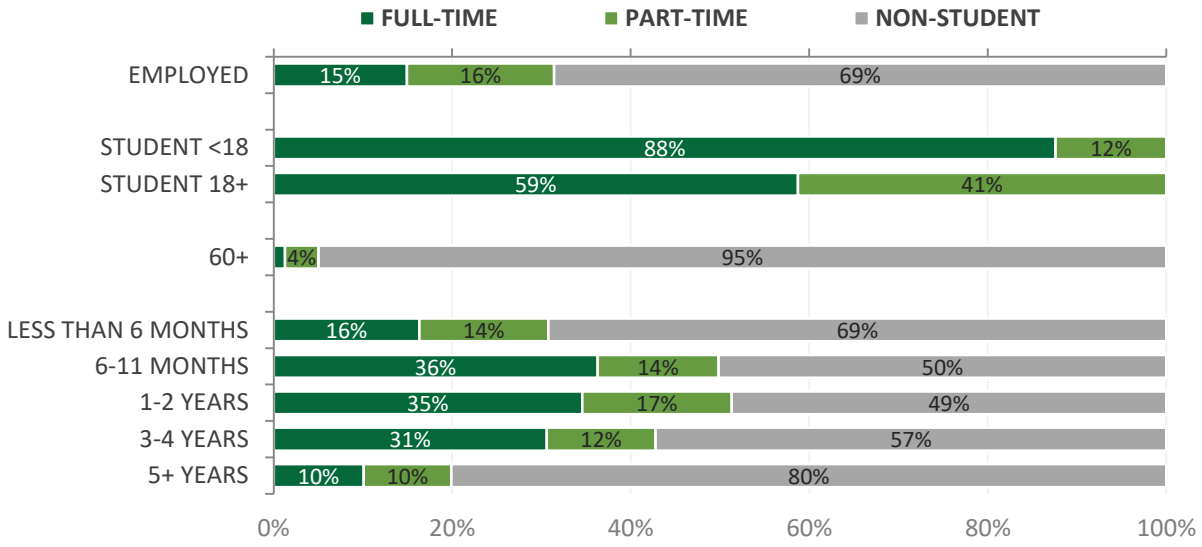
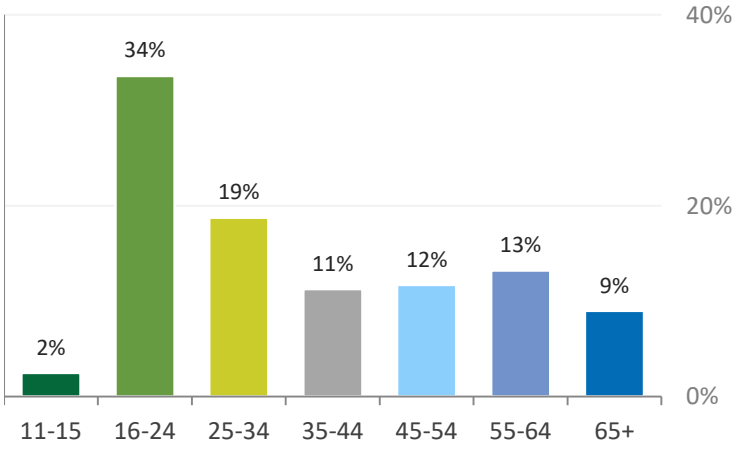


Figure 79: Student Status - by Segment



Age

Figure 80: Age



Over half (55%) of SunLine customers are under the age of 35. Since 2014, ridership under the age of 35 has decreased four points from 59 percent. The proportion of riders who are 55 and older increased six points since 2014, from 16 percent to 22 percent in 2019.

Figure 81: Age - by Year

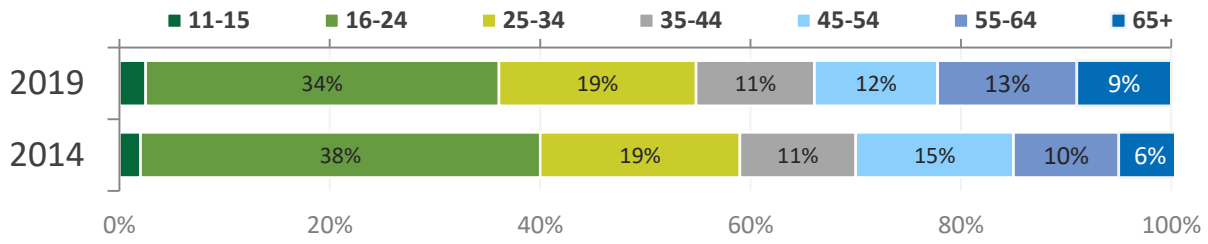
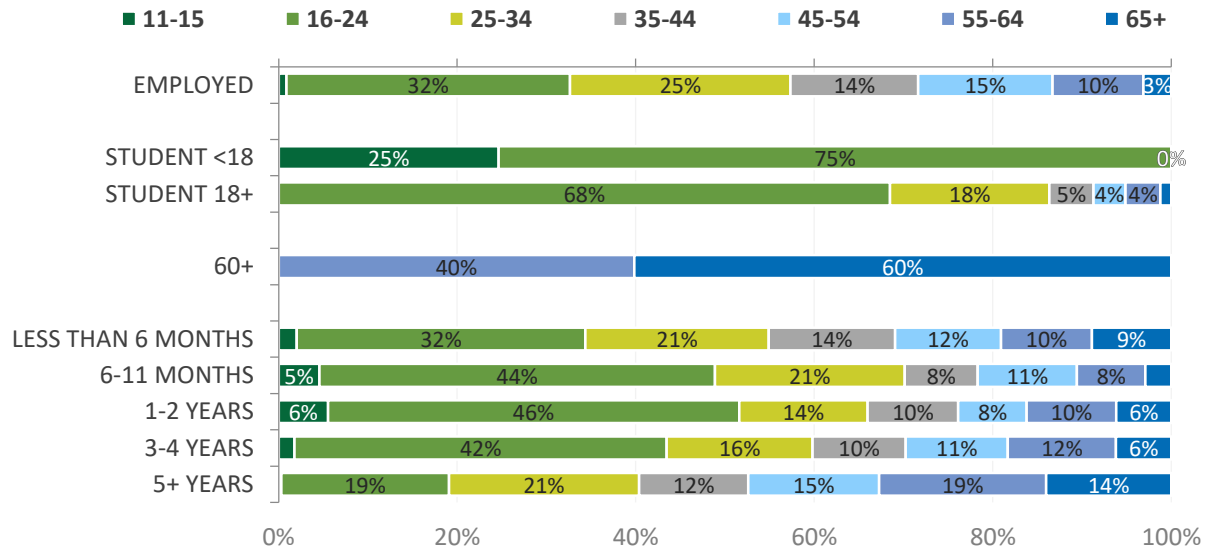


Figure 82: Age - by Segment



Mean Age by Route

The average age for SunLine Transit riders is 36.9 years up from 35.4 in 2014. By route, ages range from a low of 27.7 on route 54, to a high of 47.3 on route 95.

Figure 83: Mean Age - by Route

ROUTE	MEAN AGE	
	2019	2014
ROUTE 14	37.1	35.4
ROUTE 15	33.6	40.6
* ROUTE 20	30.7	-
* ROUTE 21	35.8	-
ROUTE 24	41.9	36.5
ROUTE 30	38.6	36.8
ROUTE 32	35.9	35.7
ROUTE 54	27.7	31.5
ROUTE 70	31.4	29.3
ROUTE 80	37.9	38.1
* ROUTE 81	38.2	37.4
ROUTE 90	37.9	31.4
ROUTE 91	29.8	29.8
* ROUTE 95	47.3	39.9
ROUTE 111	37.5	35.6
* ROUTE 220	35.2	30.2
OVERALL	36.9	35.4

* Small sample; Segmented results should be considered directional and not statistically significant

Language Spoken at Home

Forty-four percent of customers speak a language other than English at home. Forty percent speak Spanish and four percent speak some other language. Other languages identified as being spoken at home include French, Tagalog, Portuguese, Vietnamese, and more, as well as some multilingual customers.

Since 2014, there has been an eight point increase of riders who only speak English at home, and a seven point decrease in riders who speak Spanish at home. The proportion of riders who speak another language other than Spanish and English at home is virtually unchanged.

Figure 84: Language Other Than English at Home

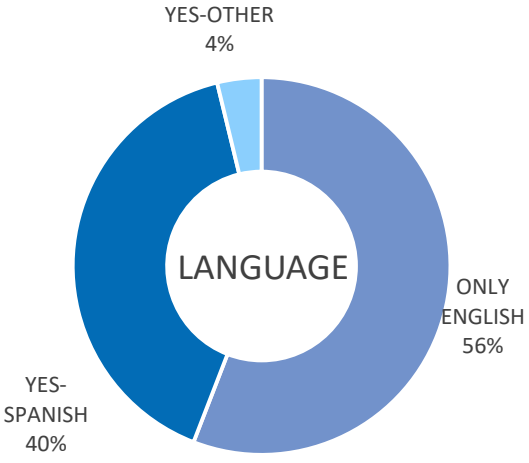


Figure 85: Language Other Than English at Home - by Year

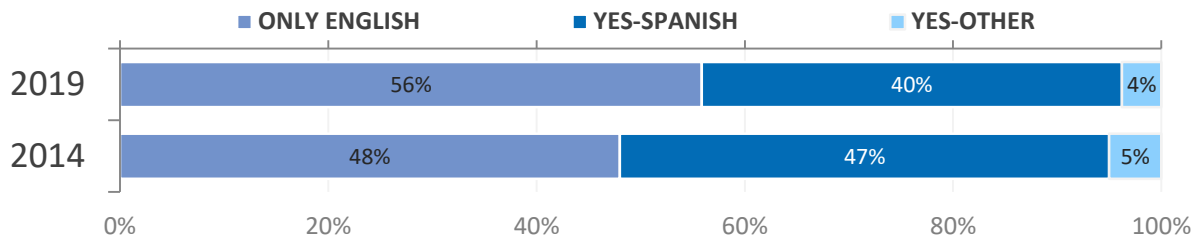
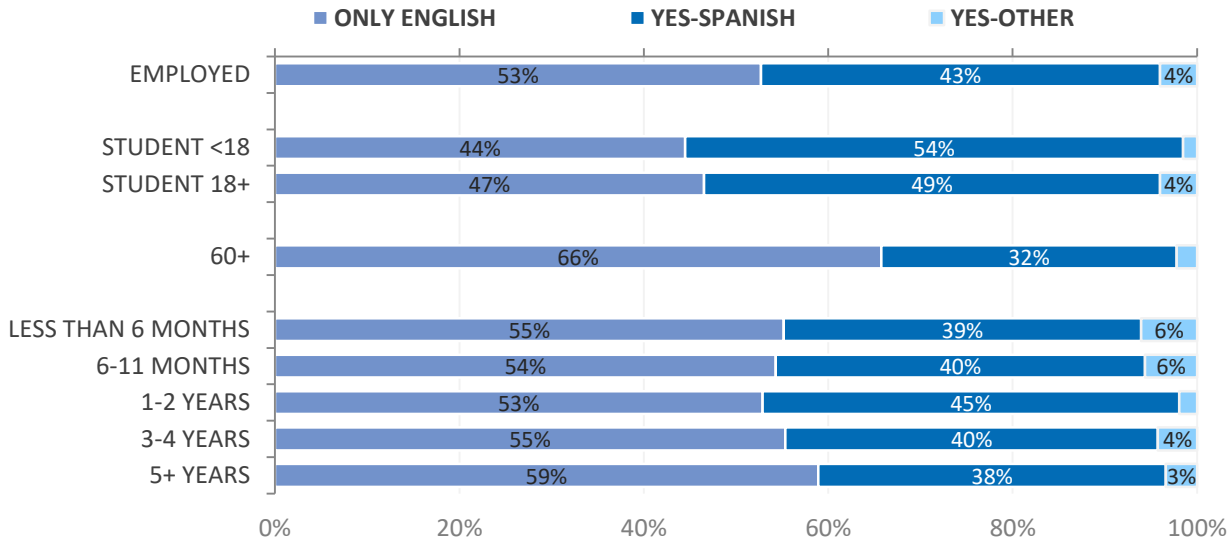
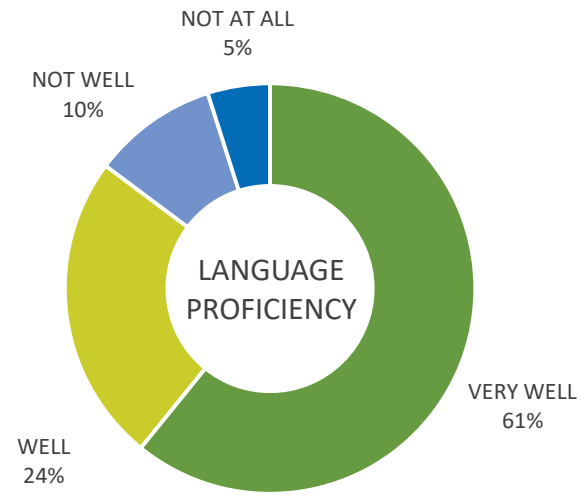


Figure 86: Language Other Than English at Home - by Segment



Language Proficiency

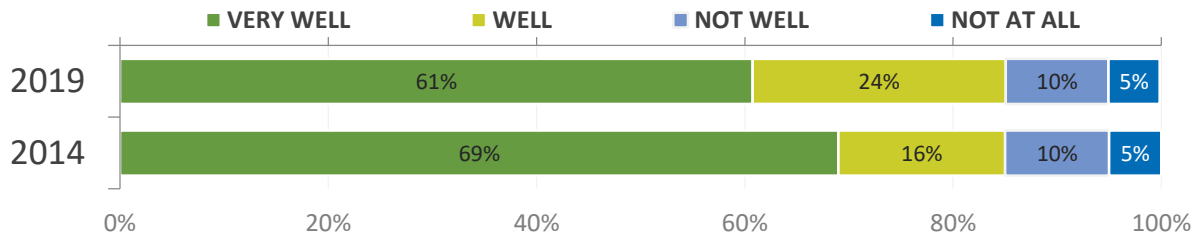
Figure 87: Language Proficiency



Of those who speak another language, the vast majority speaks English “very well” (61%) or “well” (24%). Ten percent say they speak English “not well” and five percent do not speak English at all.

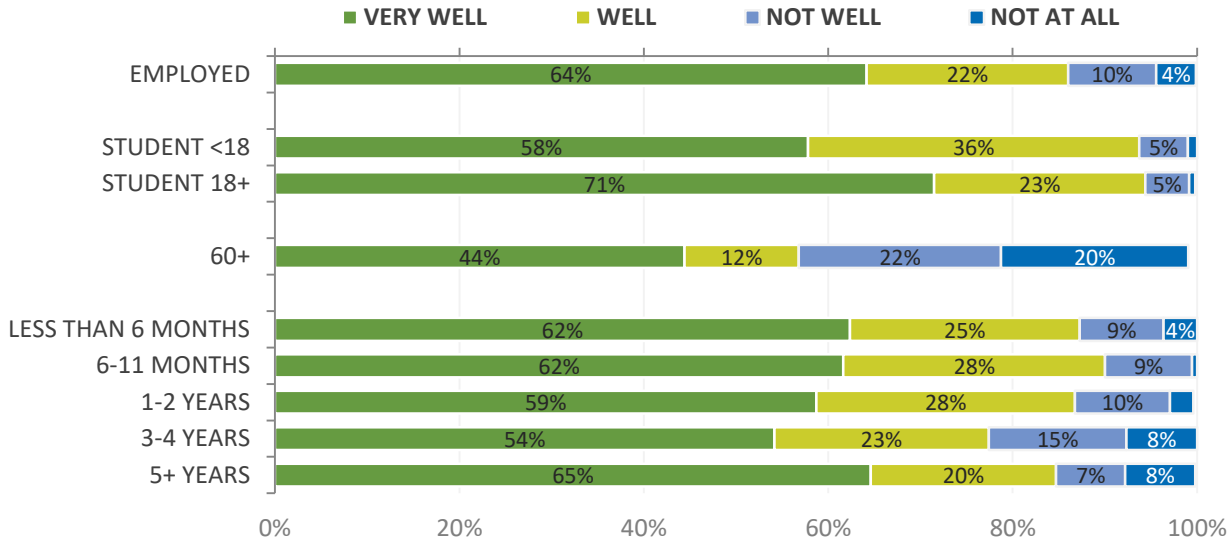
The proportion of riders who speak English “not well” or “not at all” is unchanged from 2014.

Figure 88: Language Proficiency – by Year



Customers who are 60 and over have the highest proportion of riders who speak English "not well" or "not at all" (42%).

Figure 89: Language Proficiency – by Segment



Ethnicity

Nearly half (48%) of SunLine customers identify themselves as Hispanic/Latino, and just over one quarter (28%) identify as White and 14 percent African American.

Figure 90: Ethnicity

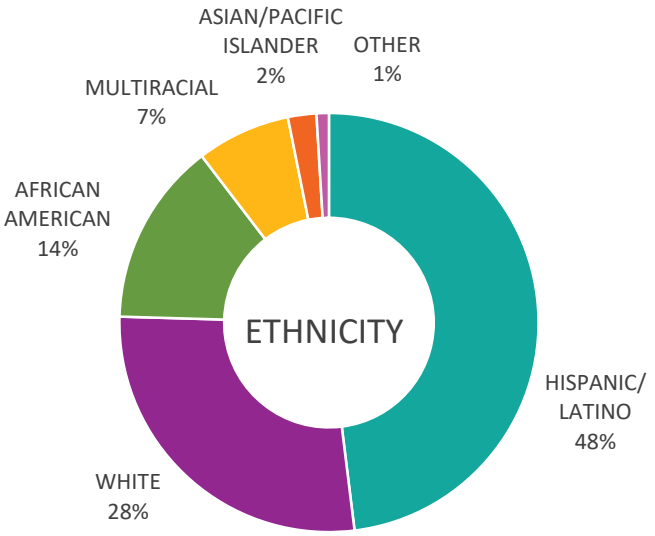
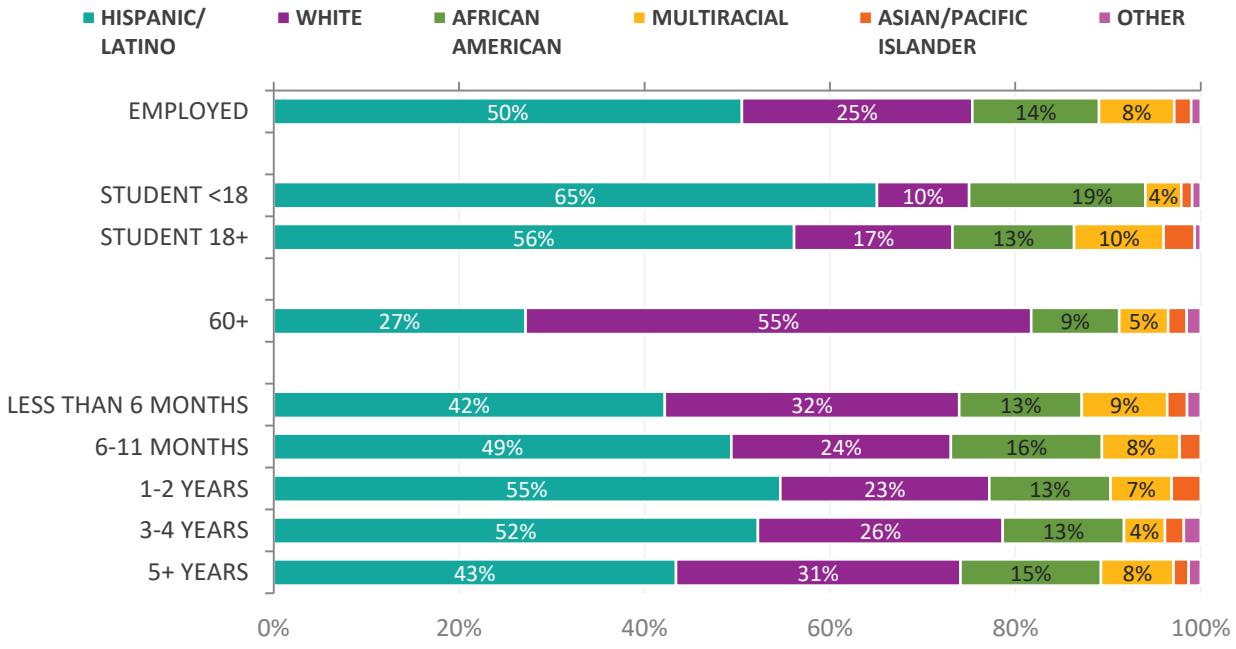


Figure 91: Ethnicity – by Segment



Household Size

The majority of SunLine customers live in households of three people or less (61%). The mean household size is 3.2, compared to 3.8 in 2014.

A larger proportion of customers are living in smaller households compared to 2014. There is a ten point increase of riders in households of three or less since the previous study, which is offset by a nine point drop of larger households.

Figure 92: Household Size

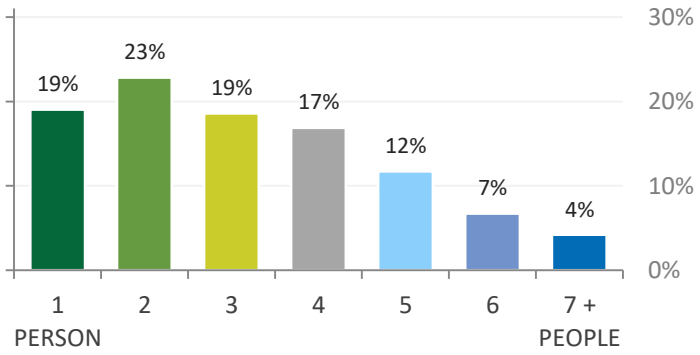
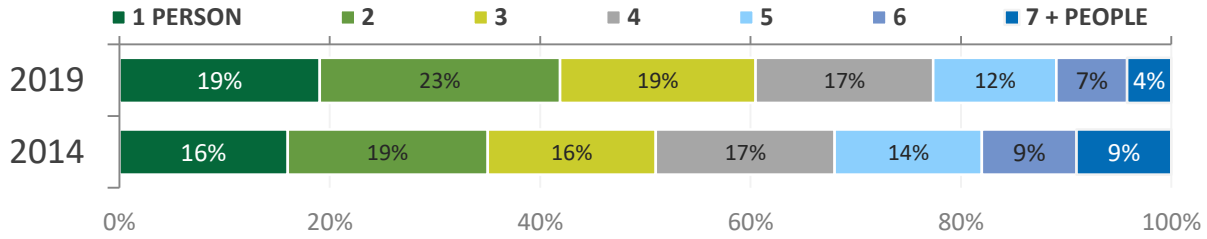


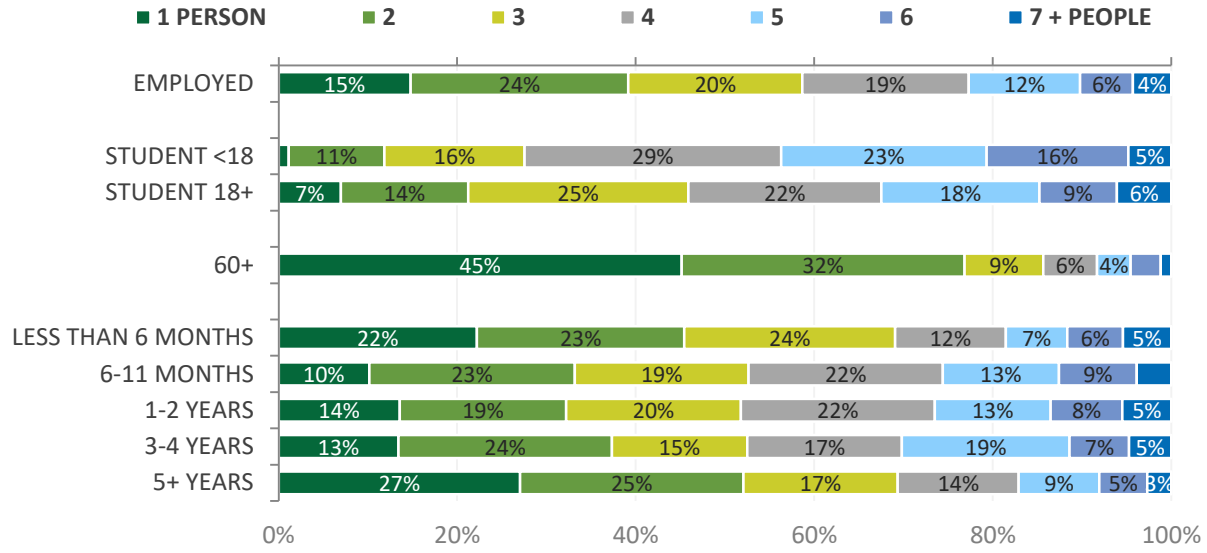
Figure 93: Household Size – by Year



Customers who are students have the largest proportion of larger household sizes. Seventy-three percent of students under 18 live in households of four or more, and 55 percent of students 18 and older.

Riders who are 60 and over have the highest proportion of smaller household sizes, with 86 percent in households of three or less.

Figure 94: Household Size – by Segment



Annual Household Income

The majority of customers live in households with an annual income of less than $50,000 (90%). Sixty percent of customers live in households with an annual income of less than $25,000, compared to 19 percent of Riverside County residents[13]. The estimated median household income system-wide is $20,203, which falls below the 2019 Poverty Guidelines as released by the U.S. Department of Health and Human Services of $21,330 for households of three persons.

Household income has experienced a notable uptick from the previous study. There is a 16 point increase of customers in households with an annual income of $25,000 or more which offsets the decline of 16 points in households earning less than $10,000.

Figure 95: Household Income

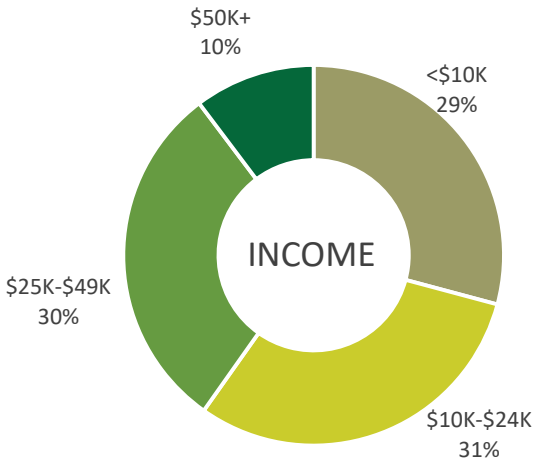


Figure 96: Household Income – by Year

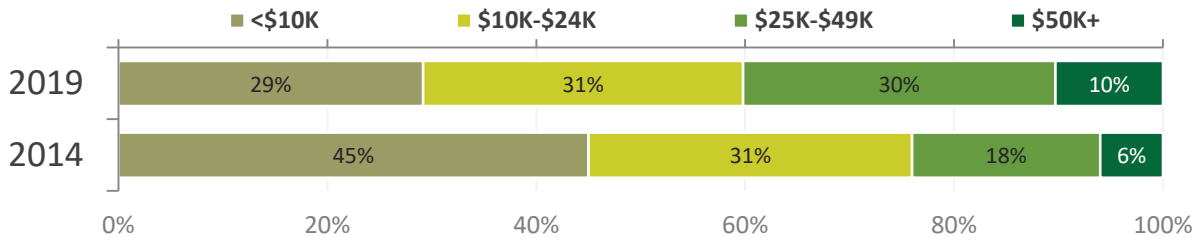
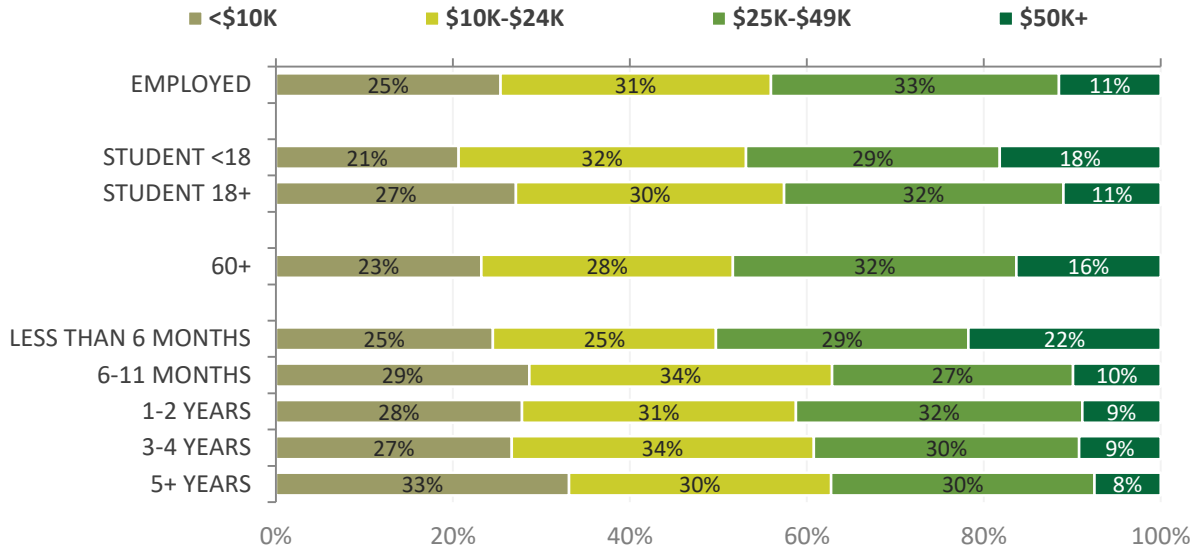


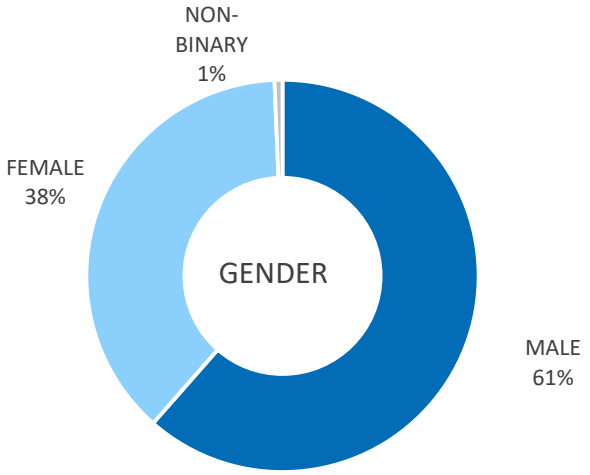
Figure 97: Household Income – by Segment



[13] U.S. Census Bureau, American Community Survey 1-year estimates. (2017) *Household Income in the Past 12 Months (In 2017 Inflation-Adjusted Dollars)* using American Factfinder.

Gender

Figure 98: Gender



Sixty one percent of customers are male, 38 percent are female, and one percent is non-binary. Non-binary is a new response category added to the 2019 study.

The majority of customers in 2014 were also male (55%), however men as a proportion of overall riders increased by six points from 2014.

Figure 99: Gender – by Year

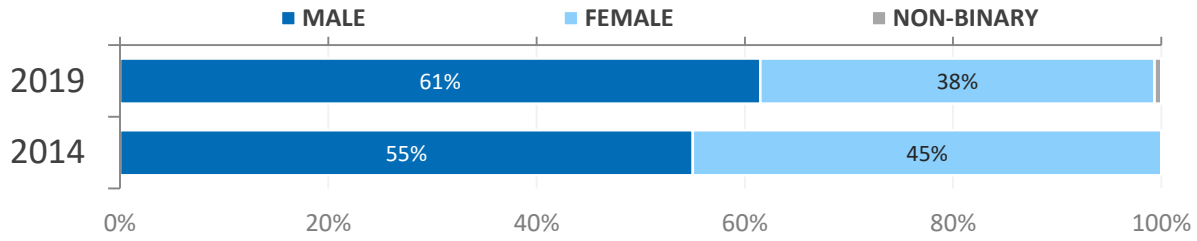
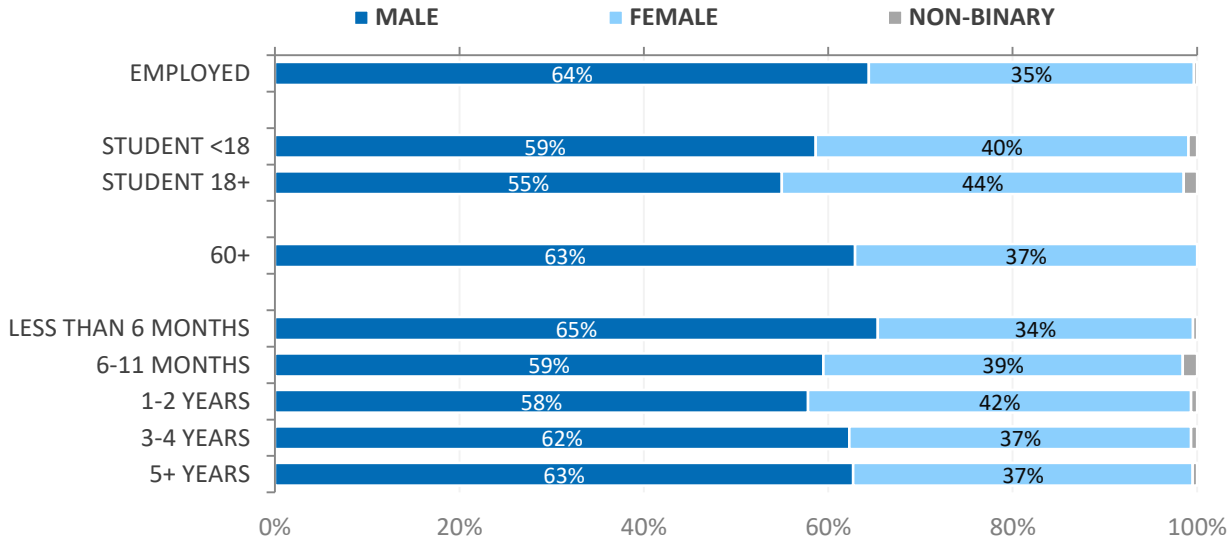


Figure 100: Gender – by Segment



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Chapter 8:

Methodology

Chapter 8: Methodology

This chapter discusses the sampling plan, survey instrument development, conduct of survey, data review and quality assurance and data weighting.

Sampling Plan

The sampling plan was designed to result in a minimum of 1,650 completed surveys from weekday riders, which allow sufficient sample for daypart segmentation (peak and off-peak) within ± 5% statistical accuracy at 95% confidence level. The ridership data used to build the sampling plan is provided by SunLine Transit Agency which consists of the average weekday APC Counts by route from November 2018 of 15,761 boardings.

Weekday quotas are divided into peak and off-peak segments based on the following APC count time periods:

1. Peak
    - AM Peak – 6:00 a.m. to 8:59 a.m.
    - PM Peak – 2:00 p.m. to 5:59 p.m.
2. Off-Peak
    - Before 6:00 a.m.
    - 9:00 a.m. to 1:59 p.m.
    - After 6:00 p.m.

Separate quotas were established for each route for weekdays and divided into peak and off-peak ridership in proportion to boardings during these time periods.

The average weekday ridership is grouped into the following table using the respective route and daypart category.

Figure 101: APC (Counts) by Route - November 2018

APC (Counts) by Route - November 2018					
Route	Ridership	AM Peak	PM Peak	Off Peak	Total
14	2,459	468	783	1,208	2,459
15	473	104	159	210	473
20	149	53	33	63	149
21	56	0	31	25	56
24	637	122	241	274	637
30	2,529	431	837	1,261	2,529
32	959	181	308	470	959
54	328	85	104	139	328
70	672	157	239	276	672
80	598	127	145	326	598
81	241	63	61	118	241
90	271	50	62	159	271
91	527	127	120	280	527
95	103	14	24	65	103
111	5,683	921	1,821	2,941	5,683
220	76	38	38	0	76
Total	**15,761**	**2,939**	**5,008**	**7,814**	**15,761**

Figure 102: APC (Percent) by Route - November 2018

APC (Percent) by Route - November 2018					
Route	Ridership	AM Peak	PM Peak	Off Peak	Total
14	2,459	3%	5%	8%	16%
15	473	1%	1%	1%	3%
20	149	0%	0%	0%	1%
21	56	0%	0%	0%	0%
24	637	1%	2%	2%	4%
30	2,529	3%	5%	8%	16%
32	959	1%	2%	3%	6%
54	328	1%	1%	1%	2%
70	672	1%	2%	2%	4%
80	598	1%	1%	2%	4%
81	241	0%	0%	1%	2%
90	271	0%	0%	1%	2%
91	527	1%	1%	2%	3%
95	103	0%	0%	0%	1%
111	5,683	6%	12%	19%	36%
220	76	0%	0%	0%	0%
Total	**15,761**	**19%**	**32%**	**50%**	**100%**

Figure 103: Distribution of Target Sample

Distribution of Target Sample				
Route	AM Peak	PM Peak	Off Peak	Total
14	49	82	126	257
15	11	17	22	50
20	6	3	7	16
21	0	3	3	6
24	13	25	29	67
30	45	88	132	265
32	19	32	49	100
54	9	11	15	34
70	16	25	29	70
80	13	15	34	63
81	7	6	12	25
90	5	7	17	28
91	13	13	29	55
95	1	3	7	11
111	96	191	308	595
220	4	4	0	8
Total	**308**	**524**	**818**	**1,650**

The target sample is distributed using the proportion of the average weekday ridership within each route and daypart combination to produce the sampling plan.

Figure 104: Sampling Plan by Route

Sampling Plan by Route	
Route	Target
14	257
15	50
20	16
21	6
24	67
30	265
32	100
54	34
70	70
80	63
81	25
90	28
91	55
95	11
111	595
220	8
Sum	**1,650**

The actual data collection was developed to achieve a reasonable distribution of target sample by route while balancing the overall collected surveys by peak and off peak. Overall, the 1,650 total surveys yields a statistical precision of ± 2.3% at 95% confidence interval. Each daypart segmentation yields a statistical accuracy of ± 3.2% within the 95% confidence level.

Figure 105: Sampling Plan by Daypart

Sampling Plan by Daypart		
Daypart	Target	Accuracy
Peak	832	± 3.2%
Off Peak	818	± 3.2%
Total	**1,650**	**± 2.3%**

Survey Instrument Development

The 2019 survey instrument was developed in a collaboration with SunLine Transit that used the 2014 rider survey as a base and included some additional questions. Questions were developed to capture the opinions and feedback of riders as well as to gather data required under the Federal Transit Administration Title VI requirements. The survey was available in both English and Spanish. The final survey instruments can be found in the Appendix A: Survey Instrument.

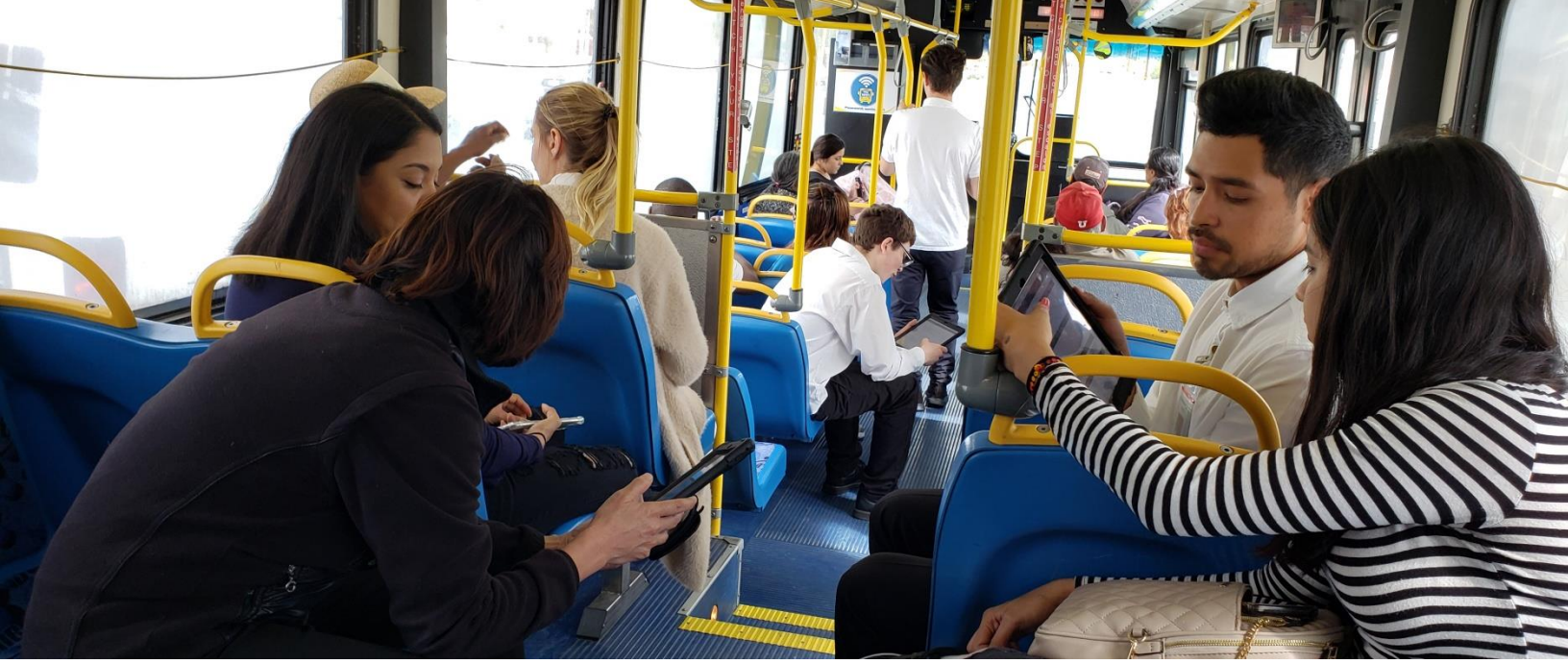
Conduct of Survey

Survey Administration

Redhill Group developed a suite of communication pieces for SunLine Transit Agency for both customer and operations staff to help improve respondent participation. The communications materials included a Notice to Patrons, Notice to Drivers and other Agency staff and a bus card in addition to suggested text for the SunLine website to inform passengers about the onboard survey.

Survey interviews were conducted with customers on all weekday routes as specified in the sampling plan. School trippers and Buzz services not surveyed.

The opportunity to be eligible for a drawing of one of two $100 Amazon gift cards, or one of five monthly passes was provided as an incentive for individuals to participate in the survey.



The 2019 study was conducted as a personal interview using a tablet, instead of a self-administered paper survey (as was done in 2014). A survey link was offered to customers who were unable to complete the survey on the trip they were making.

The tablet survey included a web-based map for field interviewers to immediately search and geocode riders' origin and destination points while the rider was still in transit between those points. Non-geographic data with built-in data validation was also captured during the trip within the tablet survey form.

Interviews were primarily conducted on weekdays between March 6th and March 25th, 2019, in relative proportion to daily route ridership and by daypart. Interviewers boarded buses and offered surveys in English and Spanish to every eligible boarding passenger on the trip. All customers that appeared to be a minimum age of 14 or older and non-employees of SunLine or were traveling independently were offered a survey.

Pre-test

Before full-scale data collection efforts, pretests were conducted to determine if the tablet survey instrument was functioning appropriately and that respondents understood the survey instrument wording prior to full-scale data collection effort.

Redhill conducted two levels of pretesting of the survey instrument. The first stage was conducted internally prior to entering the field to ensure that the survey flowed well and that all of the skip patterns were operating correctly. The second level of pretesting was with Sunline customers who were riding the bus to verify that:

- the survey flowed well in the survey environment,
- all mapping functions captured the desired points,
- customers consistently understand all questions, and
- the time to complete the survey allowed customers to finish the survey during their trip.

The pretest was conducted with four internal Redhill staff on routes 14 and 30 between 10:30 a.m. and 3:00 p.m. on Monday, February 25. Surveys were conducted in English and Spanish.

The minimum sample size for the pretest was 20 surveys that contained both geocodable origin/destination information and 80 percent of all questions answered. A total of 31 surveys were completed, three of which were completed in Spanish. All surveys were reviewed for completeness and logic and all origin–destination

information from the pre-test surveys was evaluated to ensure that the survey would produce a dataset that could be geocoded.

The survey instrument worked well and all skip patterns functioned correctly. Respondents generally understood the survey questions and were able to complete the survey during their trip. All mapping functions worked effectively.

Staffing and Training

Surveyors were recruited locally and all candidates were pre-screened, interviewed and tested.

A crew of 21 interviewers was selected for the project. Interviewers were required to participate in six hours of training which included classroom and field segments prior to collecting surveys in the field. Classroom training included instruction about the various aspects of the project and the tasks: safety, technical and non-technical information was explained, including project goals and the significance of the survey. The training also covered procedures and techniques for collecting the surveys, bus operations, transit terminology and practices. Field training included mastering the necessary daily procedures, learning how to catch the correct bus, demonstrating onboard procedures such as approaching passengers, completing survey and shift wrap-up procedures.

The crew was managed by field supervisors who were highly skilled in transit data collection routines and had significant field experience with similar projects

Participation Rates

Over 3,000 riders were approached. Forty-three percent of approaches resulted in refusals[14] and a correspondingly, 57 percent of customers were willing to participate. Participation rates are similar to those of 2014, where 55 percent of customers were willing to participate.

The vast majority of collected surveys (97%) were complete. Incomplete surveys are defined as having less than 80 percent of all core questions answered, or not containing both origin and destination information.

Figure 106: Participation Rates

		Approach Outcome		Willing Participants	
	Approached	Refused	Willing	Incomplete	Complete
Counts	3,221	1,381	1,840	57	1,783
%	100%	43%	57%	3%	97%

Data Review, Coding, and Geocoding

All data was reviewed for logic and consistency, and open ended responses were cleaned and coded. For example, numeric open-ended responses are assessed for their validity if they are outside the anticipated range. We also compare responses within each survey to ensure that they are internally consistent.

[14] As boardings are a count of individuals who enter the bus, and not a count of unique individuals, refusals also Include customers who may have already completed the onboard survey.

Spatial data was also programmatically flagged and manually reviewed for logical progression by in-house GIS department staff who were familiar with the SunLine Transit Agency routes, the study region, and connecting transit agencies. Origin and destination and all transfer routes in relation to the route on which the survey was collected to establish a logical trip progression. If the data could not be validated the survey was eliminated from the final dataset and considered incomplete.

Once the points for a trip were captured, the GIS staff conducted a final review of the spatial data for a complete trip to confirm the logical progression of the information collected. A secondary review of all geocoded data was conducted by a GIS supervisor to ensure integrity of the final data set. The geocoded data set was provided as part of the final data file to SunLine Transit Agency.

Weighting

Following data collection, weights were calculated based on the ridership data counts for each sampling frame target and appended to the survey record. Weighting ensures that the final data collection results balance all passengers surveyed in relationship to the established sampling plan frame and to prevent under or over-representation of the results.

These weights were used to generate cross-tabulations of the final data set. Percentages in individual charts and tables may not exactly total 100 percent due to rounding or a question allowing multiple responses.

Weights are calculated in a two-step process. First, data of the total number of boarding passengers for each route and sampling tier are established based on boarding counts provided by SunLine Transit (which was also used in sampling plan development). In the second step, for each route/tier combination, the total number of boarding passengers is divided by the total number of completed surveys for that segment to produce the weight. Multiplying the number of completed surveys by the corresponding weight produces results that are in proportion to the number of total boarding passengers by route and tier.

Figure 107: Statistical Accuracy

Sampling Plan by Daypart		
Daypart	Target	Accuracy
Peak	832	± 3.2%
Off Peak	818	± 3.2%
Total	**1,650**	**± 2.3%**

Collection Accuracy			
Daypart	Ridership	Collected	Accuracy
Peak	7,947	832	± 3.2%
Off Peak	7,814	951	± 3.0%
Total	**15,761**	**1,783**	**± 2.2%**

Appendices

Appendices

Appendix A: Survey Instrument

Survey Metadata

[Data collected prior to survey being initiated with a rider:]

- **Surveyor initials**
- **Route**
- **Direction**
- **Date stamp**
- **Time stamp/Daypart**
- **Approach disposition (refusal, email survey, initiated survey onboard)**

Trip Characteristics

Intro page: The following questions are in regards to the bus trip that you were offered this rider survey on.

1. **Did you TRANSFER FROM ANOTHER ROUTE TO CONNECT to this bus route?**
   a. No
   b. Yes
      i. **Agency**
         1. SunLine Transit
         2. Morongo Basin Transit Authority
         3. OmniTrans
         4. PASS Transit
         5. Riverside Transit Authority
         6. Other: _____
         7. Don't Know
      ii. **Route #** *[list of other local agencies' routes will be presented when relevant; only SunLine routes currently shown below]*
         1. Commuter Link 220
         2. Route 14
         3. Route 15
         4. Route 20
         5. Route 21
         6. Route 24
         7. Route 30
         8. Route 32
         9. Route 54
         10. Route 70
         11. Route 80
         12. Route 80 Tripper
         13. Route 81
         14. Route 81 Tripper

15. Route 90
16. Route 91
17. Route 95
18. Route 111
19. Palm Springs BUZZ
20. Other: _____
21. Don't Know

2. **Will you TRANSFER AFTER THIS ROUTE to another route?**
   a. No
   b. Yes
      i. Agency
         1. SunLine Transit
         2. Morongo Basin Transit Authority
         3. OmniTrans
         4. PASS Transit
         5. Riverside Transit Authority
         6. Other: _____
         7. Don't Know

      i. **Route #** *[list of other local agencies' routes will be presented when relevant; only SunLine routes currently shown below]*
         1. Commuter Link 220
         2. Route 14
         3. Route 15
         4. Route 20
         5. Route 21
         6. Route 24
         7. Route 30
         8. Route 32
         9. Route 54
         10. Route 70
         11. Route 80
         12. Route 80 Tripper
         13. Route 81
         14. Route 81 Tripper
         15. Route 90
         16. Route 91
         17. Route 95
         18. Route 111
         19. Palm Springs BUZZ
         20. Other: _____
         21. Don't Know

3. **Where did you JUST COME FROM? (check only ONE)**
    b. From Work/work-related
    c. From Home
    d. From Medical/dental
    e. From College/school; name:_____
    f. From Recreation/social visit/entertainment
    g. From Shopping; name: _____
    h. From Personal business/errands
    i. From Other: Where? _____

4. **WHERE is that place you JUST CAME FROM*? (the intersection, address, or name of non-residential place) (using the map search bar below [which will be displayed in the final tablet survey], please find that location and make sure the green flag marks the point of where it is)***
    a. [location searched on map]

5. **Where are you GOING NOW? *(Final destination of your trip) (check only ONE)***
    a. To Work/work-related
    b. To Home
    c. To Medical/dental
    d. To College/school; name:_____
    e. To Recreation/social visit/entertainment
    f. To Shopping; name: _____
    g. To Personal business/errands
    h. To Other: Where? _____

6. **WHERE is that place you are GOING TO NOW? *(the intersection, address, or name of non-residential place) using the map search bar below [which will be displayed in the final tablet survey], please find that location and make sure the checkered flag marks the point of where it is)***
    a. [location searched on map]

7. **What type of TICKET are you using today?**
    i. One-way/cash fare
    ii. Pass
    iii. Other:

8. **[NEW] Are you able to pay for your pass or ticket electronically using a credit card or debit card?**
    a. Yes
    b. No
    c. Don't Know

9. **How did you get <u>FROM HOME</u> TO YOUR FIRST BUS STOP today? *(when you <u>first</u> left your home for your trip today) (check only ONE)***
    a. Walked; how many minutes?_____
    b. Rode my bicycle; how many miles?_____

c. Someone gave me a ride; how many miles?_____
d. Used a wheelchair; how many minutes?_____
e. Used a scooter; how many minutes?_____
f. Drove my car; how many miles?_____
g. Uber/Lyft
h. Did not come from home today
i. Other; please specify:_____

Riding Characteristics

10. How often do you ride SunLine?

a. 6-7 days/*week*
b. 4-5 days/*week*
c. 2-3 days/*week*
d. Once per *week*
e. 2-3 days/*month*
f. Only when no other option

11. Do you ever ride SunLine Transit on Saturday or Sunday?

a. Yes
b. No

12. How long have you been riding SunLine?

a. Less than 6 months
b. 6 - 11 months
c. 1 - 2 years
d. 3 - 4 years
e. 5 years +

13. What is the main reason you use the bus? *(check ONE)*

a. Can't drive
b. Don't have a car
c. Don't have a driver's license
d. Disability prevents from driving
e. Choose to use transit (have car)
f. Transit is less expensive / more affordable than driving
g. Other: _____

Satisfaction & Competition

[Intro to section] For each of the following attributes please tell me if Sunline Transit, exceeds, meets or does not meet your expectations.

14. Please rate SunLine on each of the following:

a. How often the bus runs
b. Hours the bus runs on weekdays
c. Hours the bus runs on weekends
d. Amount of travel time (time it take to make a trip)
e. Convenience of routes / schedules
f. Availability of benches, shelters and lighting at bus stops
g. Courtesy / knowledge of bus drivers
h. Cost of fare
i. Safety while waiting/riding the bus
j. Overall satisfaction with SunLine bus service

15. ONE YEAR FROM NOW, do you think you will ride SunLine Transit…

a. More Often
b. About the Same
c. Less often

i. What is the main reason you think you will ride LESS often? (Check only one)

a. I will have a car
b. Getting Driver's license
c. Change in home, job or school location
d. Plan to use Uber/Lyft
e. Safety concerns
f. Behavior or Hygiene of other riders
g. I expect to have more money to make other transit choices
h. Other: _____

16. Which of the following statements do you agree with most?

a. I would be willing to pay a higher fare if SunLine could improve bus services
b. I would prefer no change in service

17. Which of the following three potential improvements is MOST IMPORTANT to you? [response order to be randomized]

a. It took less time to make your trip
b. You could make your trip with fewer transfers
c. The buses ran more frequently

Information Access

18. IF YOU NEED INFORMATION about SunLine, what is your main source? *(check only ONE)*

a. SunLine website
b. SunLine Bus Book
c. Call SunLine
d. Other website
e. At bus stop/onboard

f. Google Transit/Maps
g. Government building/other public facility
h. SunLine Transit App
i. Other: _____

19. **DO YOU HAVE A SMARTPHONE OR TABLET that you can use to ACCESS THE INTERNET?**
    a. Yes
    b. No

Demographics & Rider Profile

20. **Are you currently employed either part-time or fulltime**
    a. Yes- Full-time
    b. Yes- Part-time
    c. No
21. **Are you currently either a fulltime or part time student**
    a. Yes – Full-time
    b. Yes – Part-time
    c. No

22. **What is your HOME ZIP CODE? ___ ___ ___ ___ ___**

23. **Which of the following do you identify with:** *[data required for Title VI]*
    a. African American
    b. Asian/Pacific Islander
    c. Hispanic/Latino
    d. White
    e. Multiracial
    f. Other: _____

24. **Do you speak a language other than English at home?** *[data required for Title VI]*
    a. No
    b. Yes-Spanish
    c. Yes-Other: _____

        i. **If yes, how well do you speak English?** *[data required for Title VI]*
            1. Very well
            2. Well
            3. Not well
            4. Not at all

25. **In what YEAR were you born? ___ ___ ___ ___** *(ex: 1988) data required for Title VI]*

26. **Including you, how many people live in your home?** *[data required for Title VI]*

a. 1 person
b. 2 people
c. 3 people
d. 4 people
e. 5 people
f. 6 people
g. 7 or more; how many?

27. What is your approximate household income? *[data required for Title VI]*

a. Under $10,000
b. $10,000-$24,999
c. $25,000-$49,999
d. $50,000 or more

28. Gender identity:

a. Male
b. Female
c. Non-binary
d. Prefer not to answer

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Appendix B: Transfer Matrix by Route (Weekday Only)

Some riders are unsure of the agency or route they transferred to or from. Because of this, the 2019 study included the option "Don't Know" as both an agency option as well as a route option. Said categories are presented in this section as "D/K."

SURVEY ROUTE	TRANSFER AGENCY	ROUTE	COUNT		PERCENT	
			TRANSFER BEFORE	TRANSFER AFTER	TRANSFER BEFORE	TRANSFER AFTER
ROUTE 14	SunLine	15	4	11	27%	73%
		24	6	3	67%	33%
		30	16	7	70%	30%
		32	5	10	33%	67%
		111	20	19	51%	49%
		220	0	1	0%	100%
		TOTAL	51	51	50%	50%

SURVEY ROUTE	TRANSFER AGENCY	ROUTE	COUNT		PERCENT	
			TRANSFER BEFORE	TRANSFER AFTER	TRANSFER BEFORE	TRANSFER AFTER
ROUTE 15	SunLine	14	8	9	47%	53%
		20		2	0%	100%
		TOTAL	8	11	42%	58%

SURVEY ROUTE	TRANSFER AGENCY	ROUTE	COUNT		PERCENT	
			TRANSFER BEFORE	TRANSFER AFTER	TRANSFER BEFORE	TRANSFER AFTER
ROUTE 20	SunLine	14	3	1	75%	25%
		15	0	1	0%	100%
		54	0	1	0%	100%
		32	1		100%	0%
		111	3	5	38%	63%
		TOTAL	7	8	47%	53%

SURVEY ROUTE	TRANSFER AGENCY	ROUTE	COUNT		PERCENT	
			TRANSFER BEFORE	TRANSFER AFTER	TRANSFER BEFORE	TRANSFER AFTER
ROUTE 21	SunLine	32	1	0	70%	30%
		111	7	5	58%	42%
		TOTAL	8	5	62%	38%

SURVEY ROUTE	TRANSFER AGENCY	ROUTE	COUNT		PERCENT	
			TRANSFER BEFORE	TRANSFER AFTER	TRANSFER BEFORE	TRANSFER AFTER
ROUTE 24	SunLine	14	1	1	50%	50%
		30	5	4	56%	44%
		32	1	1	50%	50%
		111	1	9	10%	90%
		TOTAL	8	15	35%	65%

SURVEY ROUTE	TRANSFER AGENCY	ROUTE	COUNT		PERCENT	
			TRANSFER BEFORE	TRANSFER AFTER	TRANSFER BEFORE	TRANSFER AFTER
ROUTE 30	SunLine	14	12	18	40%	60%
		24	8	2	80%	20%
		32	6	7	46%	54%
		111	41	35	54%	46%
		Buzz	1	0	100%	0%
		D/K	0	1	0%	100%
		TOTAL	68	63	52%	48%

SURVEY ROUTE	TRANSFER AGENCY	ROUTE	COUNT		PERCENT	
			TRANSFER BEFORE	TRANSFER AFTER	TRANSFER BEFORE	TRANSFER AFTER
ROUTE 32	SunLine	14	7	10	41%	59%
		15	1	0	100%	0%
		20	0	1	0%	100%
		24	1	2	33%	67%
		30	5	6	45%	55%
		54	1	0	100%	0%
		111	9	9	50%	50%
		TOTAL	24	28	46%	54%

SURVEY ROUTE	TRANSFER AGENCY	ROUTE	COUNT		PERCENT	
			TRANSFER BEFORE	TRANSFER AFTER	TRANSFER BEFORE	TRANSFER AFTER
ROUTE 54	SunLine	20	1	2	33%	67%
		21	1	1	50%	50%
		32	0	2	0%	100%
		70	1	1	50%	50%
		80	0	5	0%	100%
		81	0	1	0%	100%
		111	3	6	33%	67%
		TOTAL	6	18	25%	75%

SURVEY ROUTE	TRANSFER AGENCY	ROUTE	COUNT		PERCENT	
			TRANSFER BEFORE	TRANSFER AFTER	TRANSFER BEFORE	TRANSFER AFTER
ROUTE 70	SunLine	54	2	1	70%	30%
		111	7	11	39%	61%
		TOTAL	9	12	43%	57%

SURVEY ROUTE	TRANSFER AGENCY	ROUTE	COUNT		PERCENT	
			TRANSFER BEFORE	TRANSFER AFTER	TRANSFER BEFORE	TRANSFER AFTER
ROUTE 80	SunLine	54	3	0	100%	0%
		90	2	2	50%	50%
		91	0	1	0%	100%
		111	6	12	33%	67%
		TOTAL	11	15	42%	58%

SURVEY ROUTE	TRANSFER AGENCY	ROUTE	COUNT		PERCENT	
			TRANSFER BEFORE	TRANSFER AFTER	TRANSFER BEFORE	TRANSFER AFTER
ROUTE 81	SunLine	54	1	1	50%	50%
		90	1	0	100%	0%
		91	3	1	75%	25%
		111	3	5	38%	63%
		TOTAL	8	7	53%	47%

SURVEY ROUTE	TRANSFER AGENCY	ROUTE	COUNT		PERCENT	
			TRANSFER BEFORE	TRANSFER AFTER	TRANSFER BEFORE	TRANSFER AFTER
ROUTE 90	SunLine	80	0	3	0%	100%
		91	2	1	67%	33%
		111	3	10	23%	77%
		D/K	0	1	0%	100%
		TOTAL	5	15	25%	75%

SURVEY ROUTE	TRANSFER AGENCY	ROUTE	COUNT		PERCENT	
			TRANSFER BEFORE	TRANSFER AFTER	TRANSFER BEFORE	TRANSFER AFTER
ROUTE 91	SunLine	90	0	1	70%	30%
		111	3	8	27%	73%
		TOTAL	3	9	25%	75%

SURVEY ROUTE	TRANSFER AGENCY	ROUTE	COUNT		PERCENT	
			TRANSFER BEFORE	TRANSFER AFTER	TRANSFER BEFORE	TRANSFER AFTER
ROUTE 95	SunLine	91	0	1	70%	30%
		111	0	6	0%	100%
		TOTAL	0	7	0%	100%

SURVEY ROUTE	TRANSFER AGENCY	ROUTE	COUNT		PERCENT	
			TRANSFER BEFORE	TRANSFER AFTER	TRANSFER BEFORE	TRANSFER AFTER
ROUTE 111	SunLine	14	20	14	59%	41%
		20	2	0	100%	0%
		21	3	1	75%	25%
		24	6	4	60%	40%
		30	25	25	50%	50%
		32	4	10	29%	71%
		54	5	6	45%	55%
		70	18	21	46%	54%
		80	4	12	25%	75%
		81	1	2	33%	67%
		90	6	3	67%	33%
		91	7	9	44%	56%
		95	0	1	0%	100%
		220	1	0	100%	0%
		Buzz	0	1	0%	100%
	D/K	D/K	0	1	0%	100%
		TOTAL	102	110	48%	52%

SURVEY ROUTE	TRANSFER AGENCY	ROUTE	COUNT		PERCENT	
			TRANSFER BEFORE	TRANSFER AFTER	TRANSFER BEFORE	TRANSFER AFTER
ROUTE 220	SunLine	111	2	4	33%	67%
		32	0	2	0%	100%
	RTA	1	1	1	50%	50%
		18	2	0	100%	0%
		19	2	2	50%	50%
		D/K	0	1	0%	100%
	Omnitrans	215	0	2	0%	100%
	Other	D/K	1	1	50%	50%
		TOTAL	8	13	38%	62%