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2021 COMPASS ONBOARD SURVEY

Final Report | April 19, 2022

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1.0 INTRODUCTION

In the fall of 2021, an onboard origin-destination (OD) survey Valley Regional Transit (VRT) fixed-route riders was conducted on behalf of Community Planning Association of Southwest Idaho (COMPASS) and VRT. One of the purposes of this study is to create a better understanding of current travel patterns on the existing transit system serving the greater Boise area. This OD survey follows FTA best practices to learn more about trip characteristics and travel behavior of transit riders. This study will inform transportation planning and refine and calibrate the regional travel demand forecast model.

The 2021 OD study was conducted as a tablet-based intercept study. The survey collected a 24% sample of average weekday ridership on fixed-route buses, 544 total responses. The following sections of this report summarize the survey methodology and results.

2.0 SAMPLING PLAN

The study team developed a sampling plan including each of VRT's fixed routes. The sampling plan identified the number of surveys to be completed for a minimum of a 10% sample on each route by direction and time of day. Surveying was conducted on Mondays through Fridays and focused on trips between 6:00 a.m. and 10:00 p.m. Specifically, the sampling plan and all survey efforts were constructed around the following four VRT-defined time periods:

- AM Peak: 6:00 a.m.-9:00 a.m.
- Midday: 9:01 a.m.-2:59p.m.
- PM Peak: 3:00 p.m.-7:00 p.m.
- Evening: 7:01 p.m. or later

As mentioned above, the OD survey sampling plan was designed to obtain a sample of 10% of average weekday boardings on each route, in line with FTA best practices. These levels were adjusted by route, time period, and direction, roughly proportional to actual ridership. For a typical onboard survey before the COVID-19 pandemic, the research team would develop a sampling plan using ridership data from one year prior to the survey period (e.g., October 2020 for an October 2021 field). Because of the unique situation as the COVID-19 pandemic evolved, the research team determined that the final sampling plan should instead be based upon ridership data from September 2021 (just before fielding) to account for ridership changes that continued throughout the pandemic period. September 2021 boardings were approximately 50% of pre-pandemic boardings. Due to the reductions in ridership during the pandemic, the research team ended up targeting a 15% sample by route to ensure a robust dataset. Overall, VRT had approximately 2,350 weekday boardings for the month of September 2021 and this formed the basis of the sampling plan. Based on these ridership numbers, Table 1 shows the survey sampling targets by route.

TABLE 1: SEPTEMBER 2021 RIDERSHIP DATA USED FOR SAMPLING GOALS

ROUTE	AVERAGE WEEKDAY RIDERSHIP	OD SAMPLING RATE	OD SURVEY TARGET	OD SURVEYS COLLECTED
1 - Harris Ranch Via Parkcenter	100	15%	15	28
2 - Broadway	207	15%	31	38
3 - Vista	254	15%	38	47
4 - Roosevelt	78	15%	12	18
5 - Emerald	213	15%	32	42
6 - Orchard	118	15%	18	24
7A - Fairview / Ustick	121	15%	18	30
7B - Fairview / Towne Square Mall	179	15%	27	32
8 - Five Mile	37	15%	6	9
8X - Five Mile Chinden Loop	37	15%	6	10
9 - State Street	305	15%	46	100
10 - Hill Road	87	15%	13	29
12 - Maple Grove	107	15%	16	22
16 - Hype Park Loop	40	15%	6	9
17 - Warm Springs	35	15%	5	11
28 - Cole Victory	107	15%	16	21
29 - Overland	155	15%	23	37
40 - Nampa / Meridian Express	44	15%	7	8
42 - Happy Day to Towne Square Mall	81	15%	12	16
43 - Caldwell Express	18	15%	3	6
45 - Boise State / CWI Express	27	15%	4	7
Total	**2,350**	**15%**	**353**	**544**

3.0 QUESTIONNAIRE DEVELOPMENT

The previous onboard surveys conducted in 2010 and 2015 formed the basis for the 2021 questionnaire. The complete questionnaire is in Appendix A: Questionnaire. The research team designed the survey as a tablet-administered personal interview. The research team used tablets that integrate with GIS software to allow for accurate real-time geocoding of survey data. The data collected for the OD survey include:

- Route surveyed on;
- Direction of travel;
- Any other transit routes used and number of transfers;
- Time of trip;
- Origin location and type;
- Boarding location;
- Alighting location;
- Destination location and type;
- Access and egress modes;
- Frequency of VRT use;
- Gender of respondent;
- Age;
- English language ability and other language spoken at home;
- Household income;
- Race and Ethnicity of respondent;
- Household Size;
- Number of individuals in household;
- Employment status;
- Disability status;
- Veteran status;
- Student status;
- Driver license status;
- Number of vehicles in household;
- Method of fare payment;
- Reason for use of transit for journey;
- Smartphone availability;
- Home location of respondent;
- Satisfaction with VRT;

4.0 SURVEY ADMINISTRATION

4.1 STAFFING, SURVEYOR TRAINING AND REMEDIATION

The job positions for this project included onboard surveyors. The role required surveyors to board buses and interact with riders. The trainings and work assignments were conducted Mondays through Fridays during the fielding period. The research team maintained a survey staff of three individuals for this effort. Two of the three interviewers were bilingual (English and Spanish).

4.2 OD SURVEY ADMINISTRATION

Survey Administration

TRAINING

Prior to fielding, survey staff were required to take part in a basic training. Due to the small survey staff required for this field, training was limited to an overview of the purpose and objectives of the survey, questionnaire content, interviewer procedures and requirements, survey logistics, how to maximize response rates (including hard-to-survey riders), and the data collection process.

ADMINISTRATION PROCEDURE

Data collection onboard VRT buses began October 4, 2021 and ended on October 28, 2021. The first two and a half weeks of October were used as a soft launch period to assess ridership and collection rates as the COVID-19 pandemic posed uncertainty around what interviewers would encounter on buses. Only one interviewer fielded during the soft launch period. Two additional interviewers were added during the remainder of the collection period.

Interviewers boarded their assigned bus and selected riders at random to participate in the survey. If a selected rider refused to participate, interviewers were instructed to approach the next rider behind the first rider selected. While conducting the interview, interviewers asked the respondent each question from the survey tablet and recorded each response provided to them by the rider. Respondents also had the opportunity to select the answers to the questions directly on the tablet during the demographic section to allow for more privacy. Interviewers had to be capable of establishing conversation in regard to the survey with bus riders and inputting rider responses. If a rider did not have the opportunity to complete the survey on board their bus, they were offered to provide their name and phone number or email to complete the survey later. If the respondent did not respond to the text within three days, a research team call center representative called and followed up with the respondent. If a respondent did not respond to the email, a follow up and final email was sent.

PERFORMANCE MONITORING

To ensure that high quality data were collected, and interviewers were conducting the OD survey in accordance with the study team's standards using real-time monitoring as described below.

The tablet PC program was designed in a manner that allowed the research team's supervisors to periodically monitor the performance of individual interviewers in real time. This included a review of response rates and the characteristics of the riders who were interviewed regarding age, gender, race, and the average length of each interview. Separately, spot checks were conducted on the location and transfer information to make sure the trips being captured were logical.

5.0 DATA PROCESSING

5.1 DATA CLEANING

Completeness of Data

To ensure that accurate and high-quality data were collected, completed surveys were reviewed by supervisors upon receipt. Supervisors then provided feedback and additional training to interviewers. Real-time review had the added benefit of calculating the number of surveys completed by time period. Additionally, it provided overall daily progress, the progress of each route, and the progress of the interviewers.

REAL-TIME GEOCODING

The addresses and intersections collected during field interviews were instantaneously geocoded with nearly 100% accuracy because the tablets were equipped with 4G/3G service and interface with Google Maps. After addresses and intersections were geocoded, the survey software marked the locations on a map, which served as a visual aid allowing interviewers to confirm accurate information was gathered.

Much of the survey data were cleaned in real-time. However, additional checking was done after surveys were completed included the following:

- Checking for valid home, origin, and destination street names, city names, and ZIP Codes;
- Ensuring the number of household occupants was greater than or equal to the number of employed members of the household;
- Ensuring the respondents who indicated that they were employed also reported that at least one member of their household was employed;
- Ensuring that transit route names and stops were consistently spelled/coded
- Ensuring that transfers to/from other transit routes were possible, with some leeway provided for riders who walk several blocks to reach their next route;
- Ensuring the time of day a survey was completed was reasonable given the published operating schedule for the route;
- Ensuring the origin and destination addresses were not the same;
- Ensuring that the boarding and alighting addresses were not the same;
- Ensuring the boarding and alighting addresses made sense for the route;
- Ensuring that the respondent did not list the same route twice;
- Checking to be sure the access/egress mode was appropriate given the distance of travel from the trip origin/destination to place where the respondent boarded/alighted transit; and
- Reviewing the total distance on transit compared to the total trip distance.

In addition, each trip was visually inspected. The key tasks that were conducted as part of this visual inspection included the following:

- Visually inspecting and examining key variables of survey trips with very short distances;
- Visually inspecting the sensibility of trips with zero transfers or three or more transfers;

- Visually inspecting the sensibility of drive access/egress trips given the distance traveled by car relative to the distance traveled by transit;
- Visually inspecting the sensibility of drive access/egress trips with more than one transfer;
- Visually inspecting sensibility of the origin-to-destination path with respect to the survey route that was used for the trip; and
- Visually inspecting the routes reported being used for the trip.

If a record passed all the visual checks and verifications listed above, the record was classified as “useable” and tagged for inclusion in the final survey database.

SECONDARY PROCESSING

The research team performed secondary quality assurance checks on the data. This secondary process included checking to see if direction was recorded correctly for each route and if number of total transfers equaled the number of additional routes listed. RSG made appropriate adjustments where necessary. Additionally, RSG reviewed data to ensure questions that incorporated logic were recorded correctly. For example, RSG examined riders that responded that they did not pay for their bus trip to validate that they were not asked the two follow-up fare questions, type of fare and level of fare.

5.2 DATA WEIGHTING/EXPANSION

The OD survey data were weighted and expanded to match boarding counts by route, direction, and time period.

VRT provided October 2021 average weekday boarding data for the weighting, to match the month in which the surveys were conducted.

The following time periods were used:

- AM peak: 6:00 a.m.-9:00 a.m.
- Midday: 9:01 a.m.-2:59 p.m.
- PM Peak: 3:00 p.m.-7:00 p.m.
- Evening: 7:01 p.m. and later

The research team weighted the sample by route at the most disaggregate level possible. Higher ridership routes, routes 5 and 9, were weighted by route segments. All other routes were aggregated to the route level due to small sample sizes and ridership for that route. For the segmented routes, segments were assigned based on a combination of appropriate geographic boundaries and to ensure there was sample in each segment at each time period.

The ridership targets, original sampling goals, unweighted survey counts, and average weights are shown in Table 2. Overall, 544 usable surveys were collected (538 and 6 of these were conducted in English and Spanish, respectively). This resulted in a 24% sample of total weekday ridership, exceeding the original sampling target by 191 surveys.

TABLE 2: WEIGHTING AND TOTAL RIDERSHIP

Average Weekday Ridership	Sampling Goal	Surveys (Unweighted/ Not expanded)	% Of Target	Surveys (Weighted/ Expanded)	Average Weight
2,250	353	544	154%	2,250	4.62

Linked Trip Weight

The weights calculated are unlinked weights, meaning that they represent all boardings on VRT buses over an average weekday. Next, a linked trip weight was calculated from the unlinked weight for all VRT routes in the system and represents the number of overall trips within the system on an average weekday. The linked weight accounts for transfers being made on a single trip. A respondent making no transfers to another route would receive a linked trip weight of 1 times their unlinked weight, while a respondent who transferred to another sampled route would have a weight of 0.5 times their unlinked weight, and so on.

Analyses conducted using the linked trip weight represent individual riders among the sampled routes and accounts for transfer activity between the routes. This weight should be applied when analyzing markets so that riders making transfers are not counted multiple times; unlinked weights should be applied when analyzing a single route.

5.3 GEOGRAPHY

For geographic analysis, the research team joined location data to geographic zones specified by COMPASS. The 23 zones within the study area are shown in Figure 1. Six of these zones are included primarily for separate external travel analysis and are deemed “out of region” for this analysis. A description of each zone is provided in Table 3.

FIGURE 1: GEOGRAPHIC ZONES

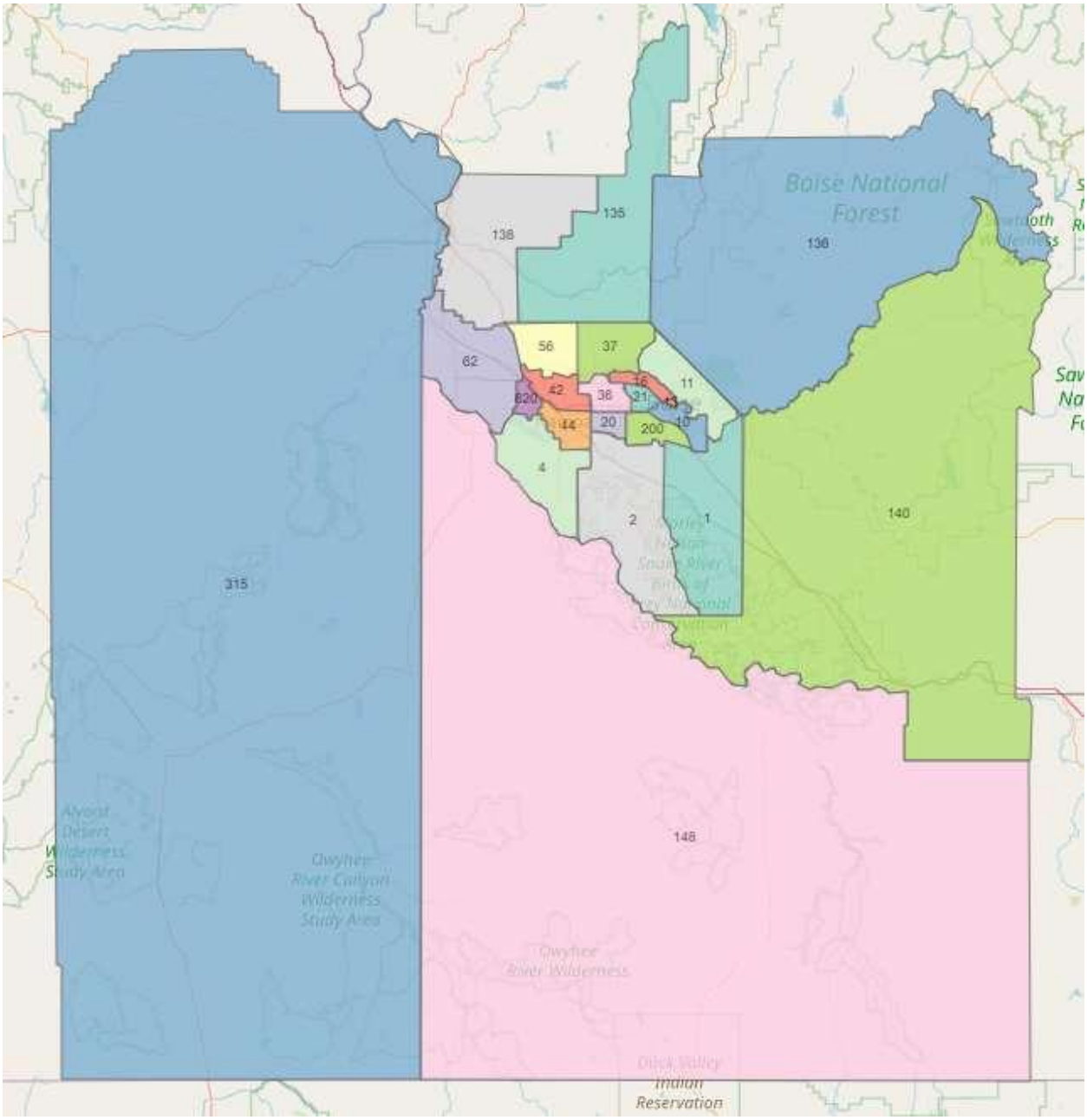


TABLE 3: ZONE DESCRIPTIONS

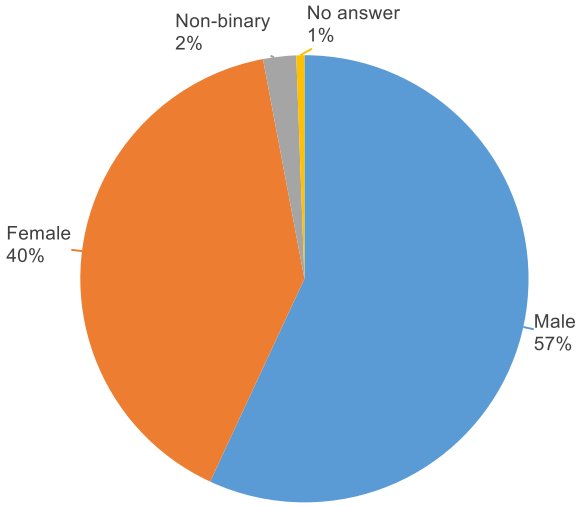
ZONE ID	ZONE NAME
1	Ada-Southeast Rural
2	Ada-Southwest Rural
4	Canyon-South Rural
10	Boise-Southeast
11	Boise-Foothills
13	Boise-Downtown
16	Boise-Northwest
200	Boise-Southwest
21	Boise-West Bench
36	Meridian-North
37	Eagle/Star
42	Nampa-North
44	Nampa-South
56	Canyon-Northeast Rural
62	Canyon-West Rural
135	External-Gem County
136	External-Boise County
138	External-Payette County
140	External-Elmore County
148	External-Owyhee County
315	Meridian South and Boise Southwest
20	Meridian-South
620	Caldwell-South

6.0 RIDER PROFILE

Below provides the characteristics of respondents using VRT fixed-route system. Figures in this section are weighted using linked trip weights.

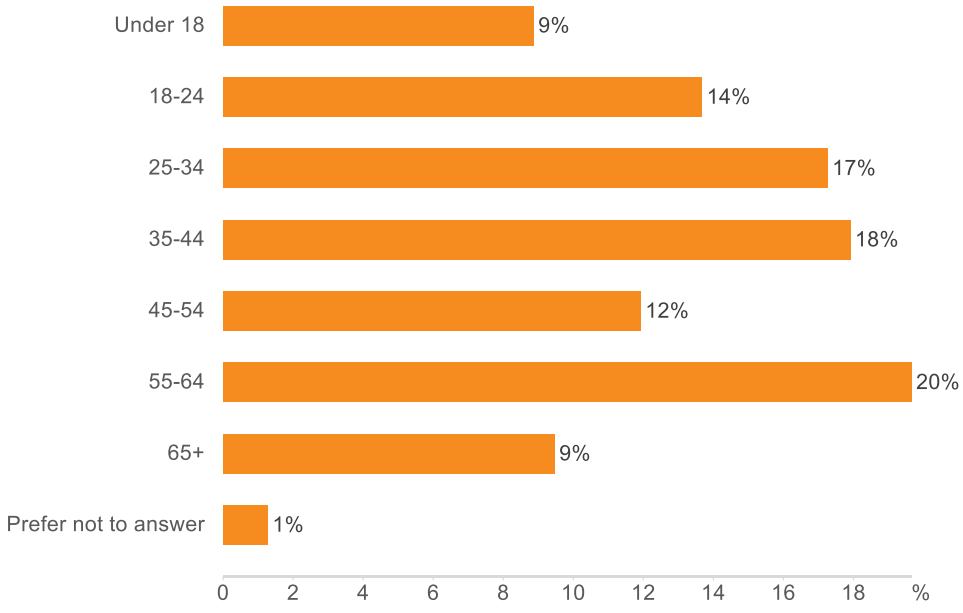
VRT respondents consist of slightly more men than women (57% vs. 40%, Figure 2). The 2020 Census reports that there are equally as many women as there are men in Ada and Canyon counties. A majority of respondents, 63%, were younger than 44 years old however the largest age cohort of respondents are aged 55 to 64 years old (Figure 3: Age).

FIGURE 2: GENDER



n = 544

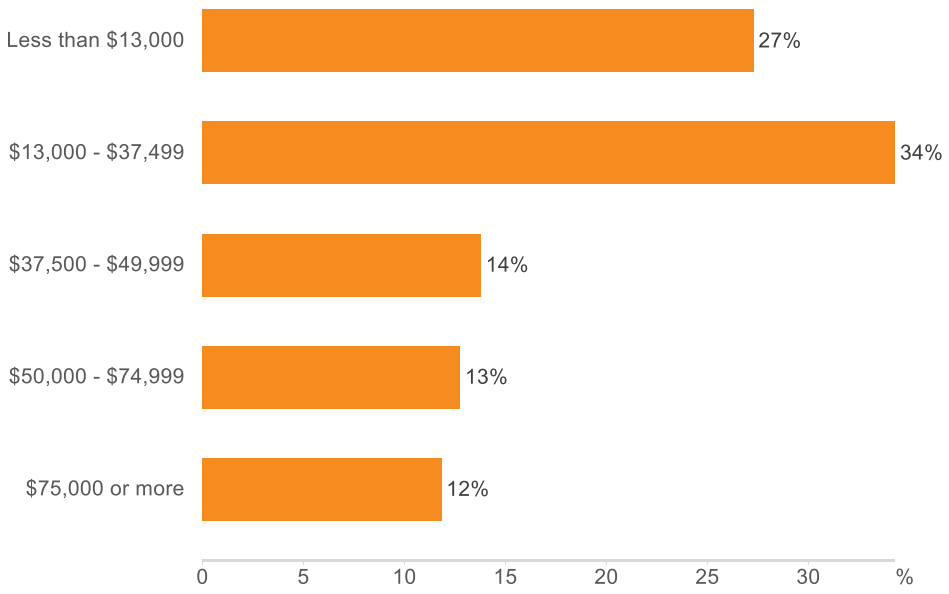
FIGURE 3: AGE



n = 544

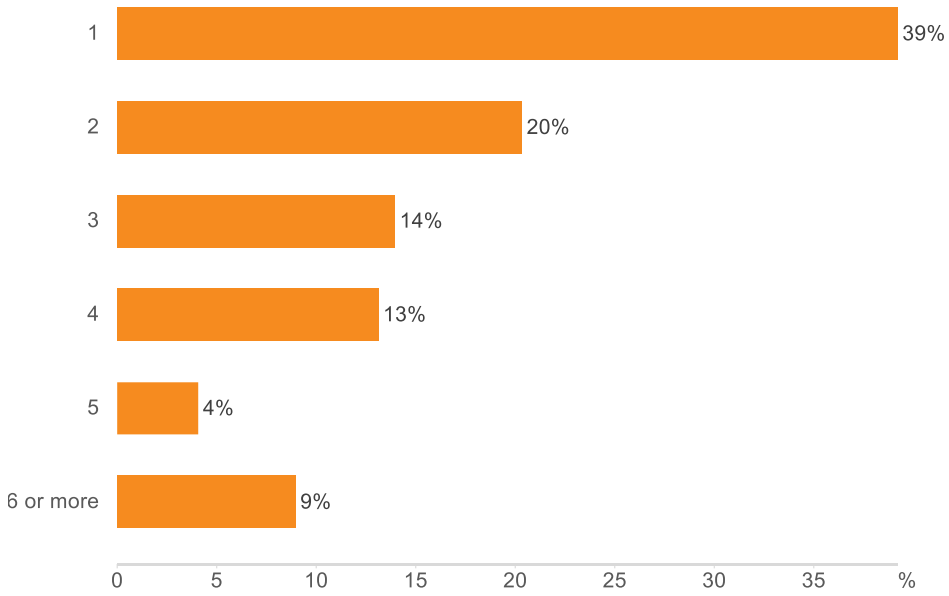
Among respondents who provided their income (22% did not provide), over 60% reported an annual household income less than $25,000 (Figure 4). Nearly 60% of respondents either live alone or with one more person (Figure 5). A large majority of VRT riders, 81%, identifies as White (Figure 6).

FIGURE 4: ANNUAL HOUSEHOLD INCOME



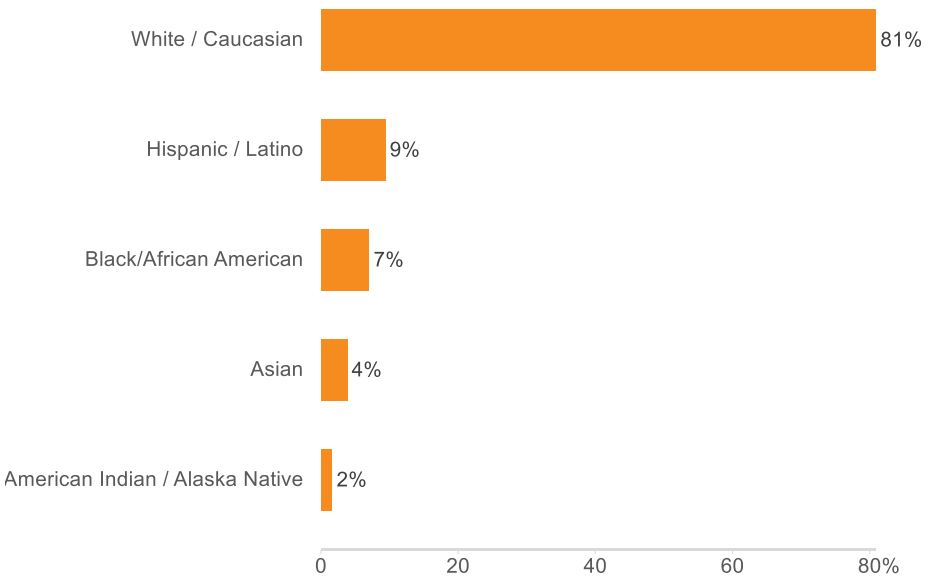
n = 422

FIGURE 5: NUMBER OF PEOPLE IN HOUSEHOLD



n = 544

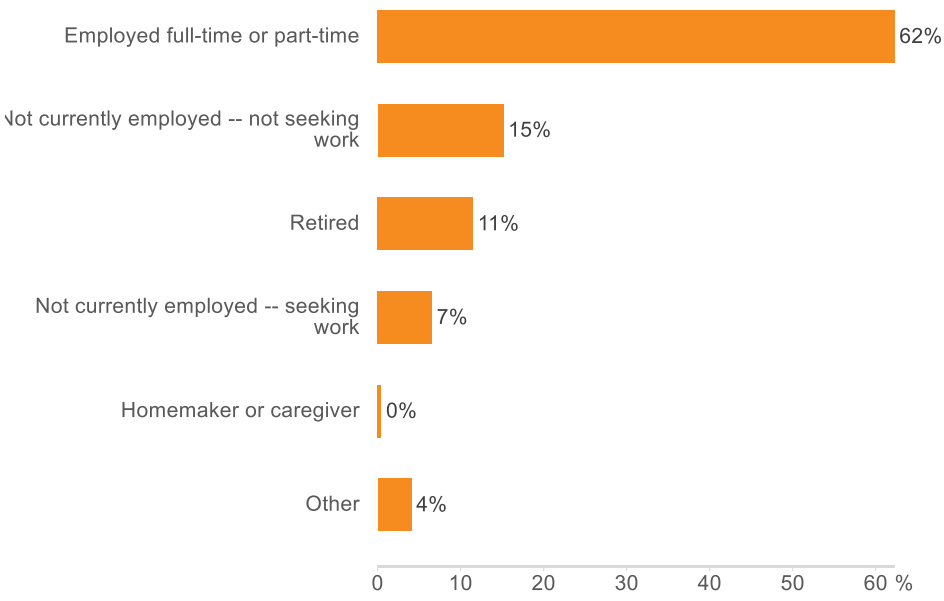
FIGURE 6: RACE



n = 544, *note: Respondents could select multiple responses and therefore the totals do not add to 100%.*

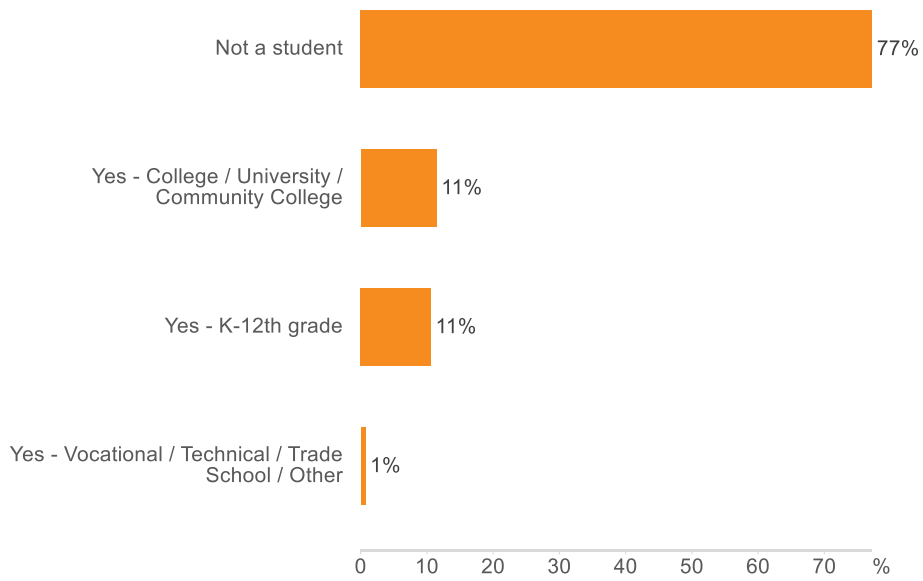
Nearly two-thirds of respondents reported working full-time or part-time, while a third, 33%, reported being unemployed or retired (Figure 7). A majority of respondents are not students (Figure 8).

FIGURE 7: EMPLOYMENT STATUS



n = 544

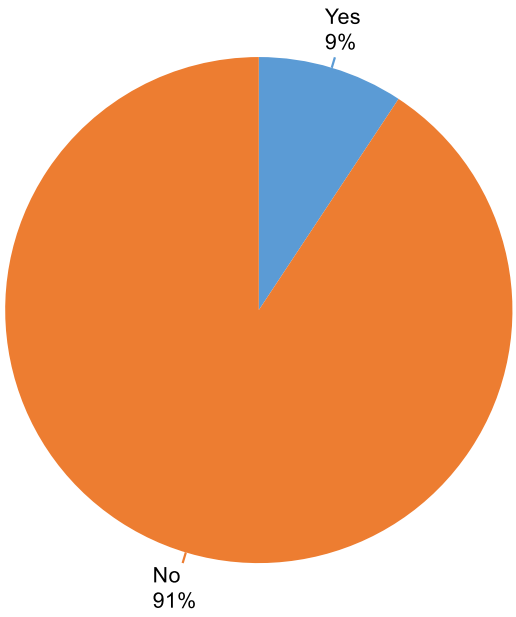
FIGURE 8: STUDENT STATUS



n = 544

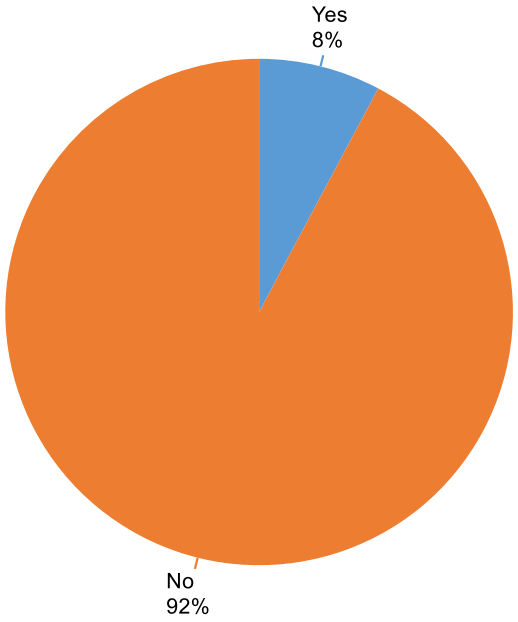
Nearly 10% of respondents reported that they require Americans with Disability Act (ADA) accommodations or have conditions that impact their ability to drive (Figure 9), and 8% of respondents reported that they are a veteran or active member of the US armed forces (Figure 10). The 2020 Census similarly reports that 9.1% of individuals, under the age of 65 years, in Ada and Canyon counties live with a disability.

FIGURE 9: DISABILITY STATUS



n = 544

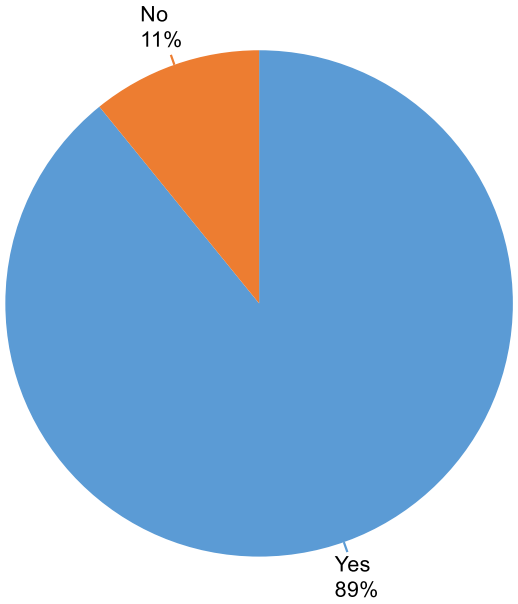
FIGURE 10: VETERAN STATUS



n = 544

A majority of respondents, 89%, reported that they have a smartphone with a data plan available for use (Figure 11).

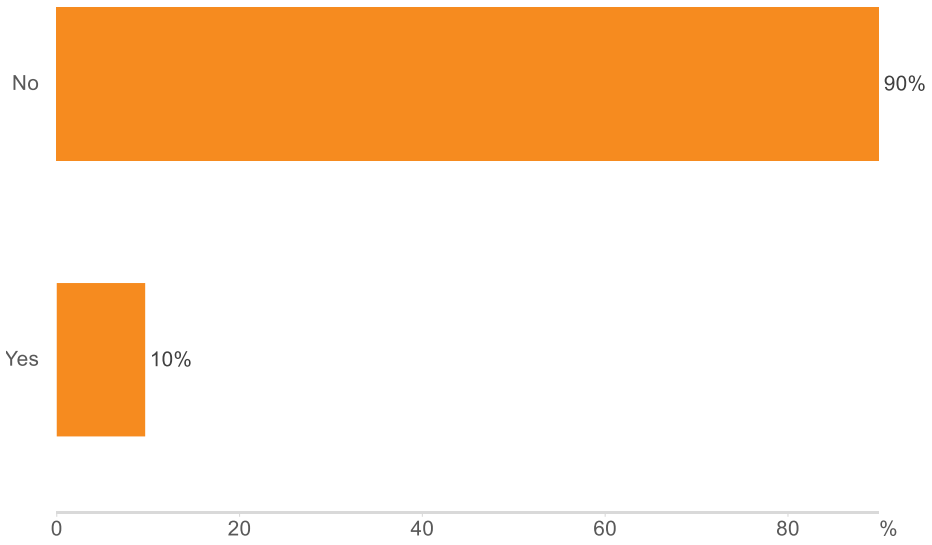
FIGURE 11: SMARTPHONE AVAILABLE



n = 544

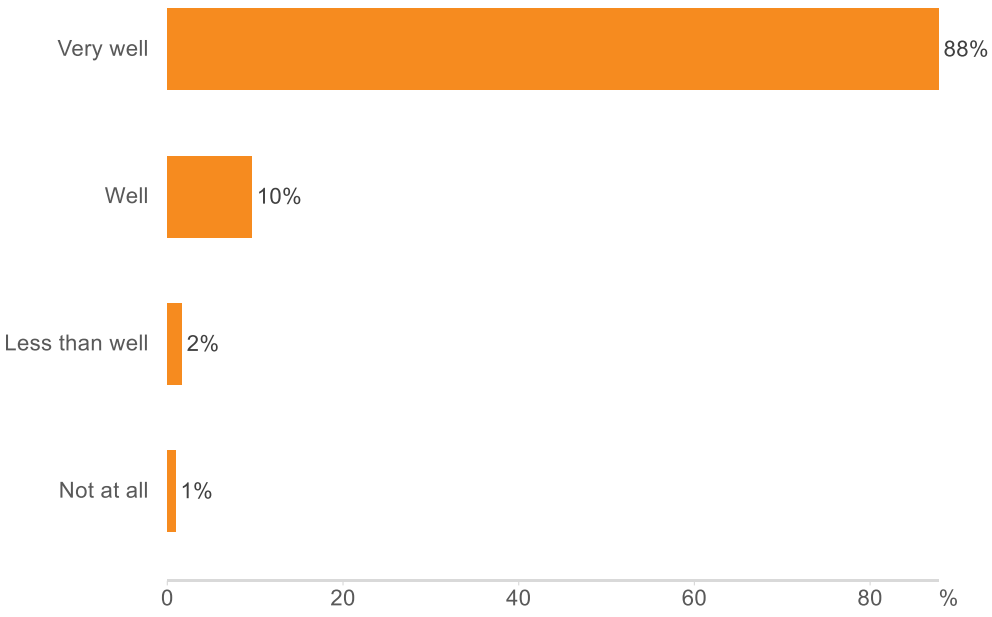
A majority, 90%, of respondents do not speak another language at home other than English (Figure 12). The 2020 Census reports that 86% of people in Ada and Canyon Counties speak English at home. Almost all, 98%, of respondents that speak a language other than English at home speak English very well or well (Figure 13). Half of the respondents that speak a language other than English at home speak Spanish (Figure 14).

FIGURE 12: ANOTHER LANGUAGE AT HOME



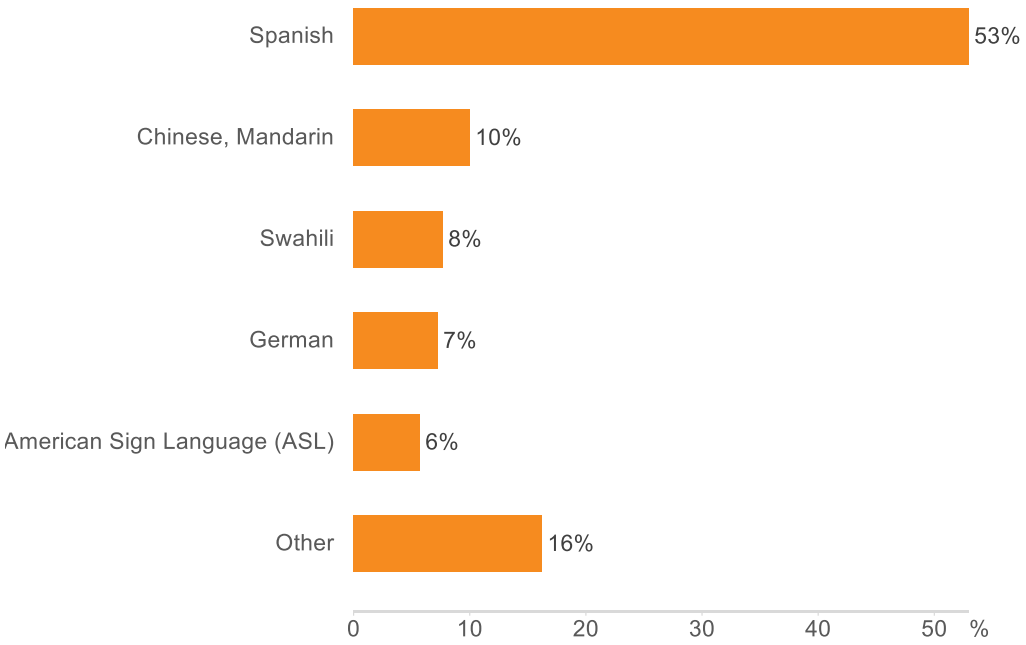
n = 544

FIGURE 13: ENGLISH SPEAKING ABILITY



n = 55

FIGURE 14: LANGUAGE SPOKEN AT HOME OTHER THAN ENGLISH



n = 55

7.0 TRIP PROFILE

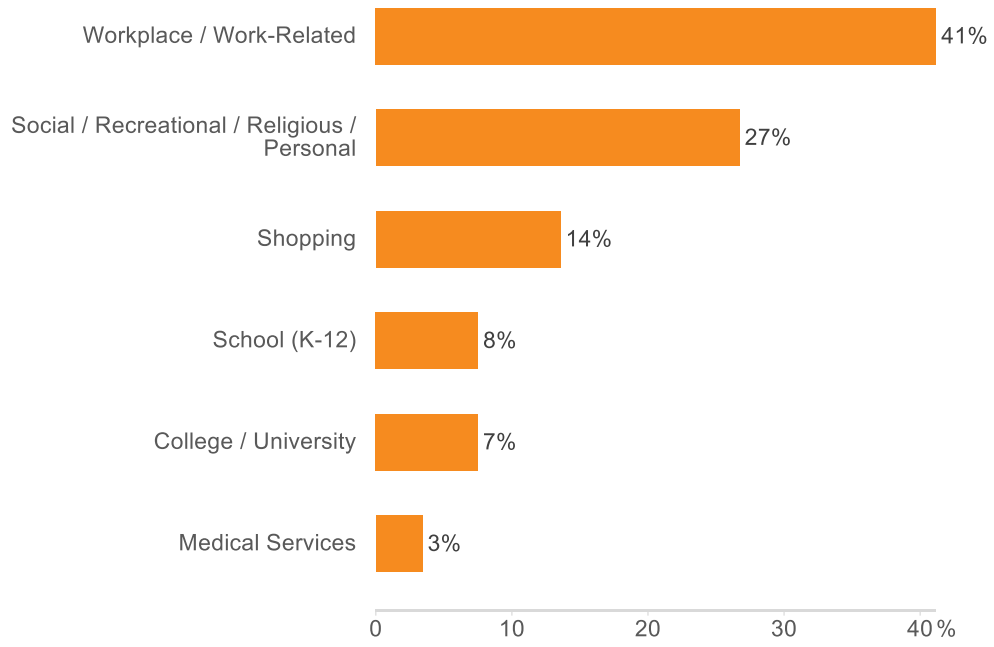
Below provides the nature of the respondents' trips. Results remain weighted using linked trip weights.

7.1 TRIP PURPOSE

Trip purpose was inferred by origin and destination type. In other words, in addition to the origin and destination addresses, riders were also asked about the type of the origin and destination, such as whether it was home, work, school, etc. From these answers, the trip purpose was inferred.

Work/work-related trips make up 41% of the respondents' trips. Another 41% of trips were for social / recreational / religious / personal and shopping purposes (Figure 15).

FIGURE 15: TRIP PURPOSE

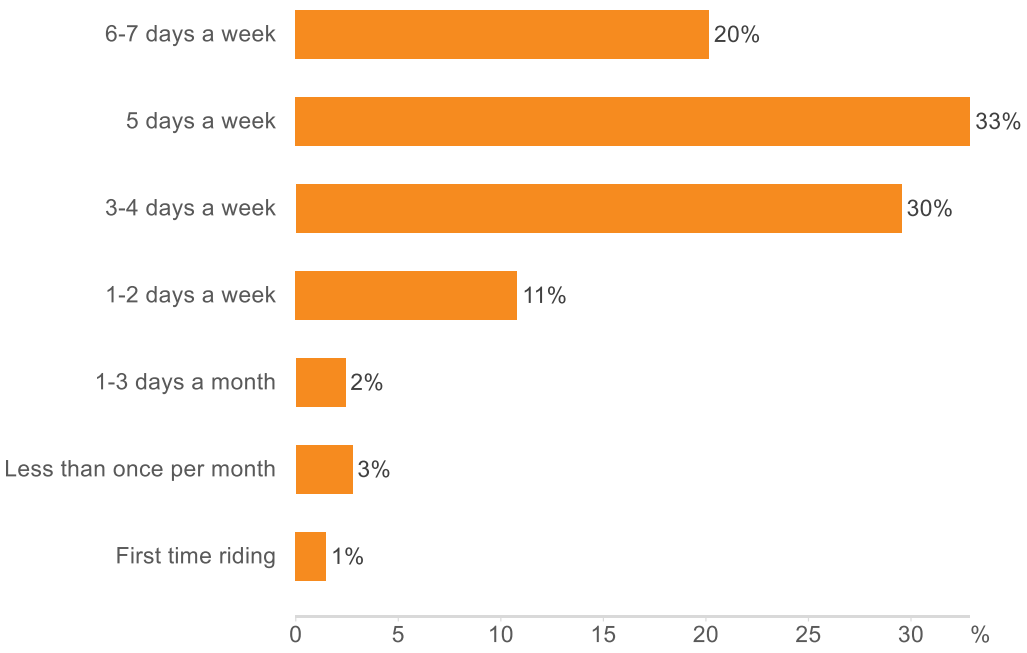


n = 544

7.2 TRIP FREQUENCY

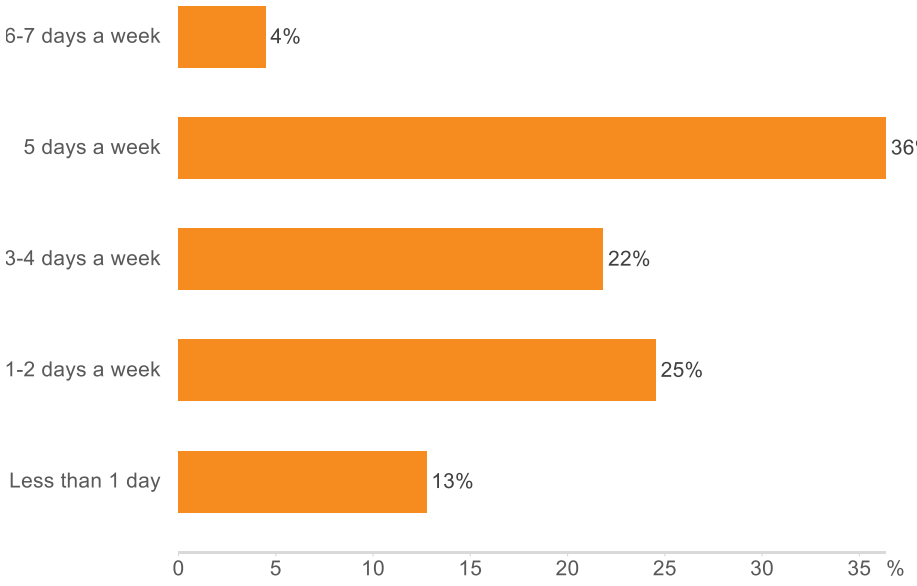
A majority of respondents, 53%, use transit more than five days per week, and an overwhelming majority, 96% use transit at least once per week (Figure 16). Forty percent of respondents make the same trip 5 times a week or more (Figure 17).

FIGURE 16: VRT USE FREQUENCY



n = 544

FIGURE 17: TRIP FREQUENCY

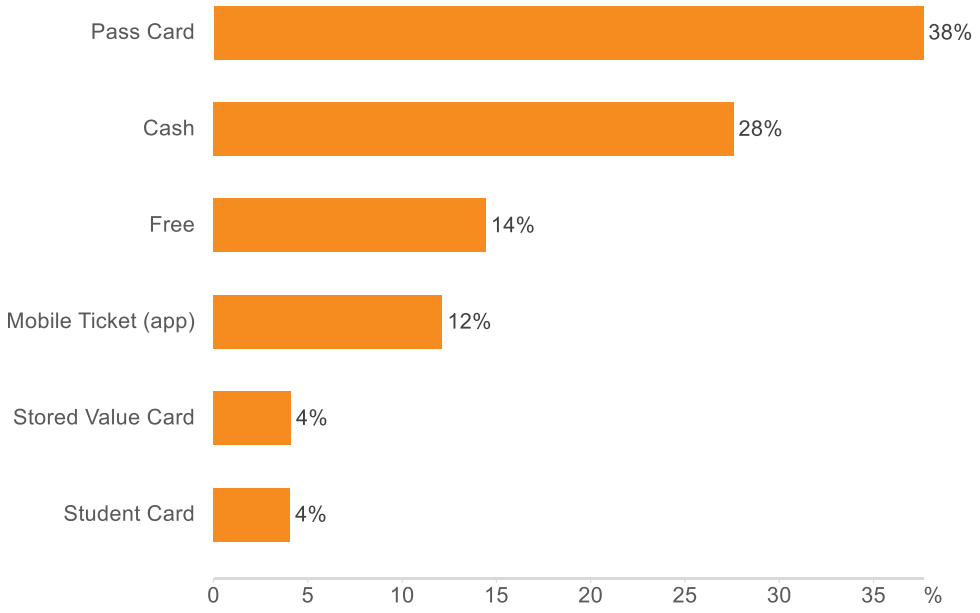


n = 544

7.3 FARE PAYMENT

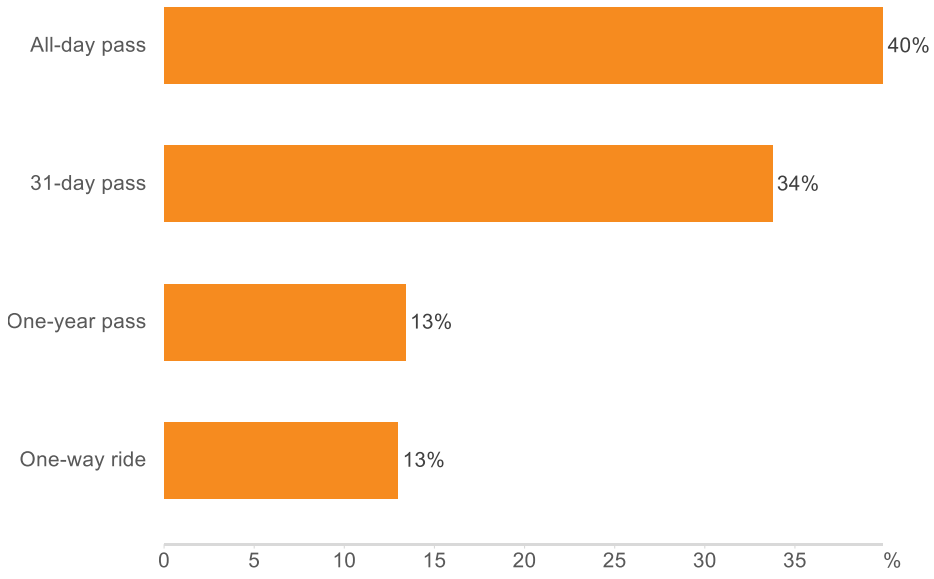
The most popular fare payment method among respondents was a pass card or cash (38% and 28% respectively) (Figure 18). Of respondents who paid for their ride, 40% used an all-day pass (Figure 19).

FIGURE 18: FARE PAYMENT METHOD



n = 544

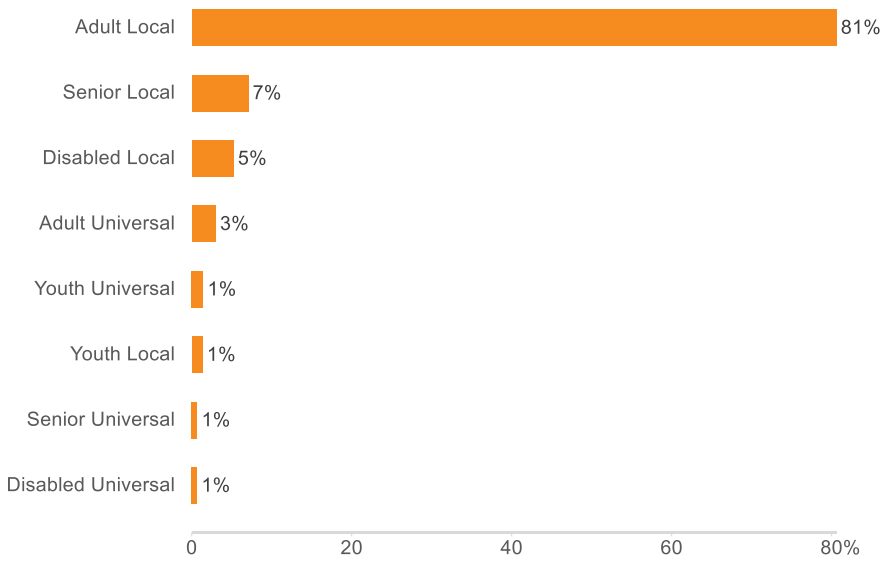
FIGURE 19: TYPE OF FARE



n = 460

Over 80% of respondents who pay for their fare pay the Adult Local fare (Figure 20).

FIGURE 20: LEVEL OF FARE

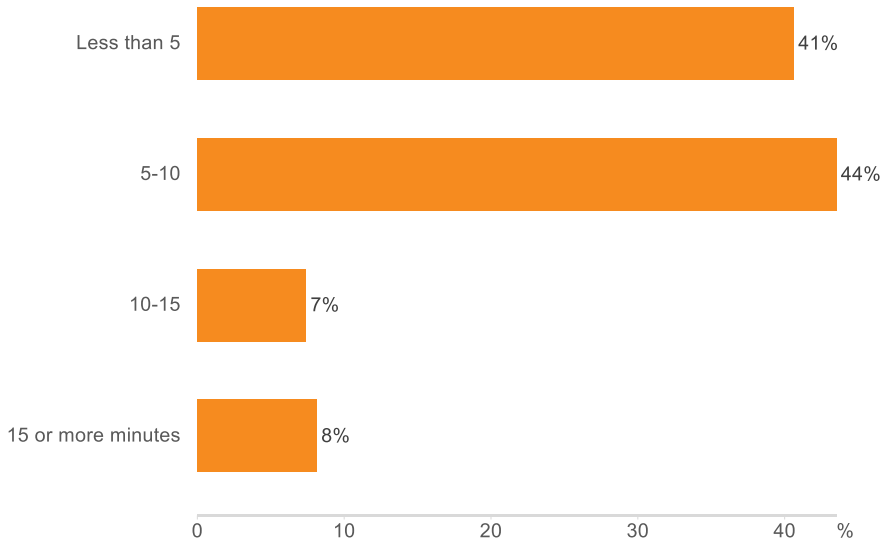


n = 460

7.4 WAIT TIME

Eighty-five percent of respondents wait less than ten minutes for the bus. Only 15% of respondents reported waiting more than 10 minutes (Figure 21).

FIGURE 21: WAIT TIME

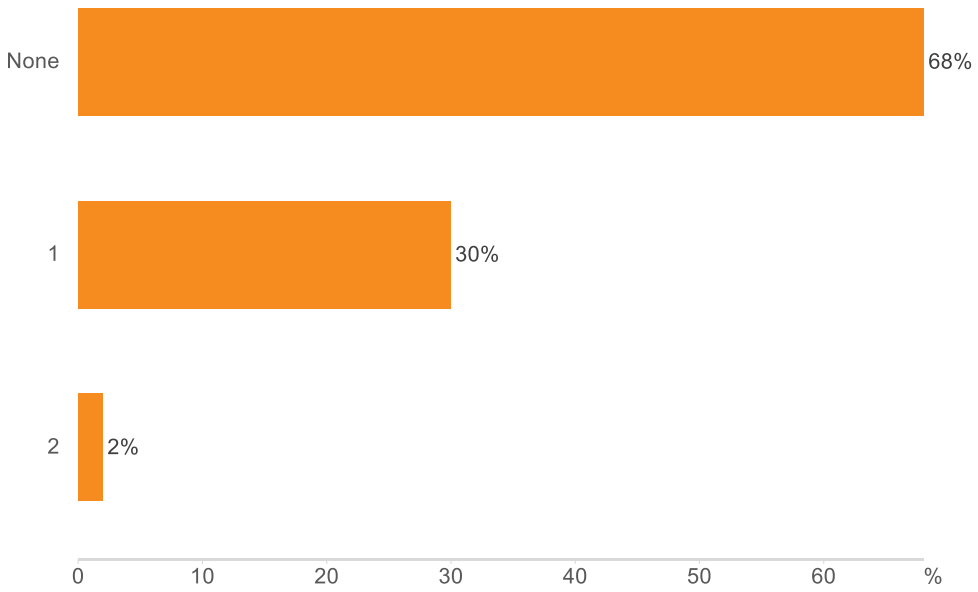


n = 544

7.5 TRANSFERS

Nearly 70% of respondents required no transfer and fewer than 2% of respondents required more than one transfer (Figure 22).

FIGURE 22: TOTAL NUMBER OF TRANSFERS

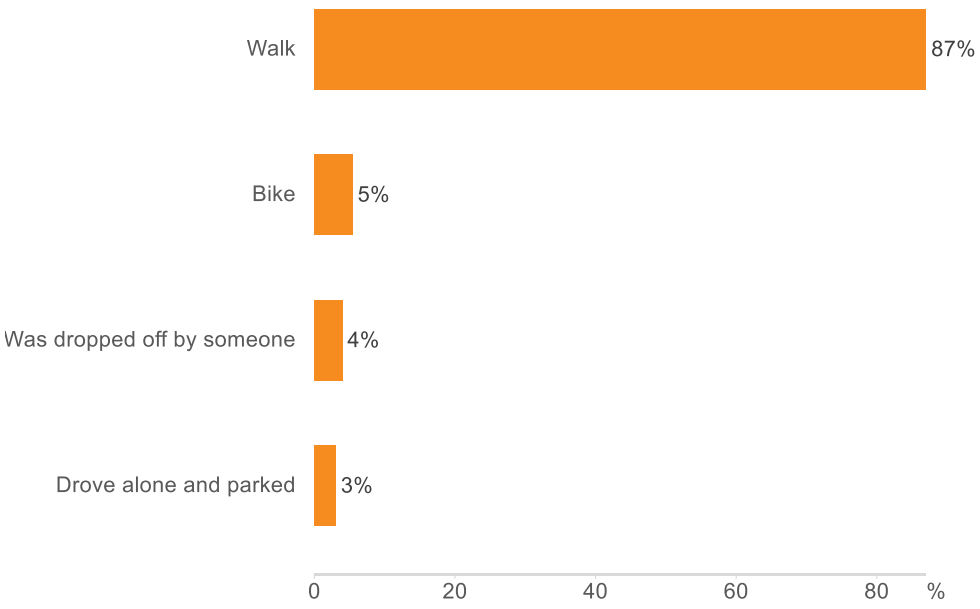


n = 544

7.6 ACCESS AND EGRESS MODE

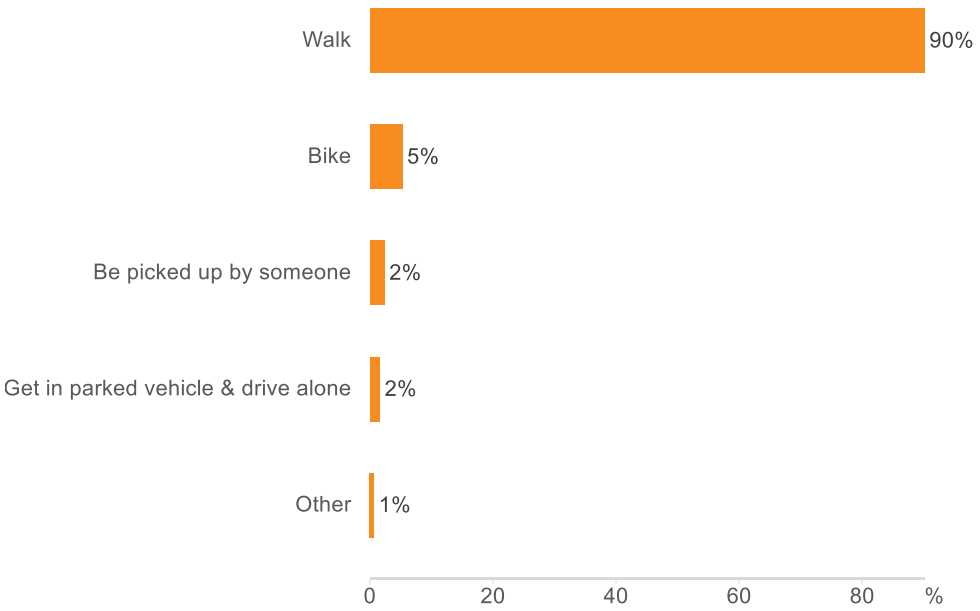
Most respondents access transit by walking to the stop (87%) (Figure 23). After alighting the bus, a slighter higher percentage of respondents walk to their destination (90%) (Figure 24).

FIGURE 23: ACCESS MODE



n = 544

FIGURE 24: EGRESS MODE



n = 544

Respondents traveling from their home to K-12 school are the most likely to report accessing transit by being dropped off by someone and the least likely to access transit on their way to their destination by walking (Table 4). Respondents who are using transit for medical services are most likely to access or egress transit in a way other than walking, biking, driving, or being dropped off/picked up (

Table 5).

TABLE 4: ACCESS MODE BY DESTINATION TYPE

	WORK / WORK RELATED	SOCIAL / RECREATIONAL/ RELIGIOUS / PERSONAL	SHOPPING	SCHOOL (K-12)	COLLEGE / UNIVERSITY	MEDICAL SERVICES
Walk	85%	92%	90%	78%	84%	88%
Bike	7%	5%	7%	5%	1%	0%
Was dropped off by someone	3%	3%	3%	18%	2%	0%
Drove alone and parked	5%	0%	0%	0%	13%	0%
Other	0%	0%	0%	0%	0%	12%

n = 544

TABLE 5: EGRESS MODE BY ORIGIN TYPE

	WORK / WORK RELATED	SOCIAL / RECREATIONAL/ RELIGIOUS / PERSONAL	SHOPPING	SCHOOL (K-12)	COLLEGE / UNIVERSITY	MEDICAL SERVICES
Walk	88%	91%	95%	92%	91%	88%
Bike	6%	7%	5%	5%	1%	0%
Be picked up by someone	3%	3%	0%	4%	4%	0%
Get in parked vehicle & drive alone	3%	0%	0%	0%	4%	0%
Other	1%	0%	0%	0%	0%	12%

n = 544

8.0 EQUITY ANALYSIS

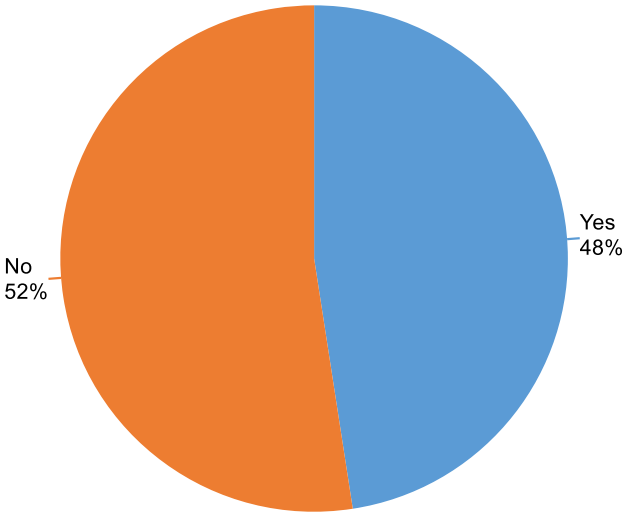
This section provides details on choice ridership, income, and race. Results remain weighted using linked trip weights.

8.1 CHOICE RIDERSHIP

Respondents considered “choice” riders indicated they could have taken a car for the same trip. Conversely, respondents who could not use a vehicle for their trip are considered “dependent” riders.

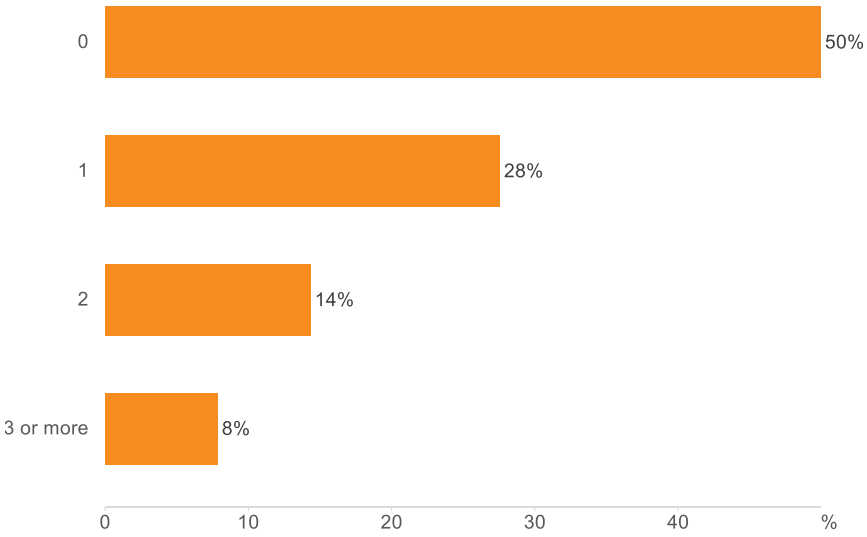
Almost half, 48%, of respondents do not currently possess a driver’s license (Figure 25). Similarly, half of respondents do not own a car (Figure 26).

FIGURE 25: DRIVER'S LICENSE



n=544

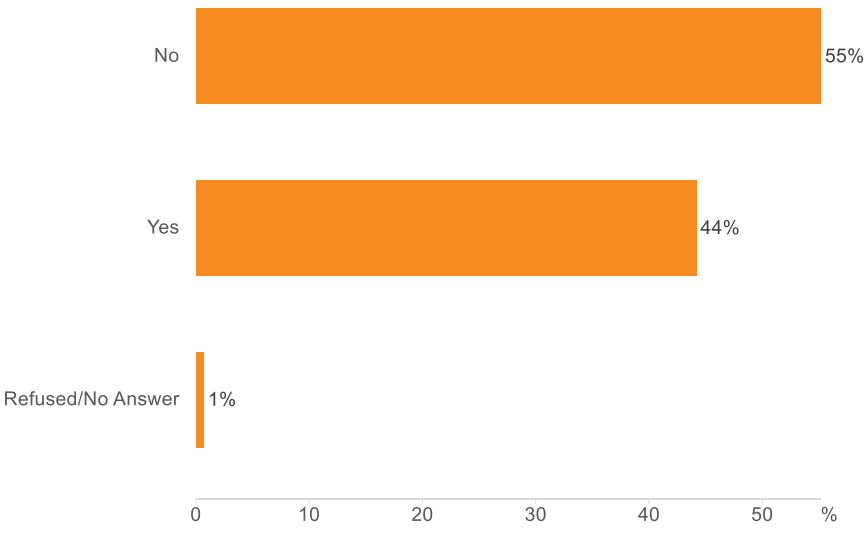
FIGURE 26: NUMBER OF VEHICLES IN HOUSEHOLD



n = 544

A majority, 55%, of respondents could be considered “dependent” riders, as they did not have access to a vehicle for their transit trip (Figure 27).

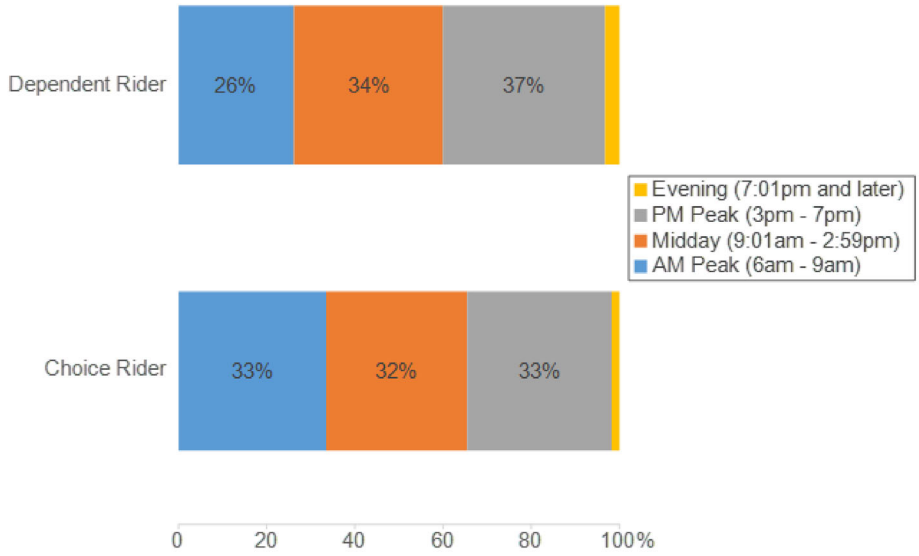
FIGURE 27: COULD USE A VEHICLE FOR THIS TRIP



n = 276

Choice and dependent riders are similarly likely to ride in any of the four time periods (Figure 28).

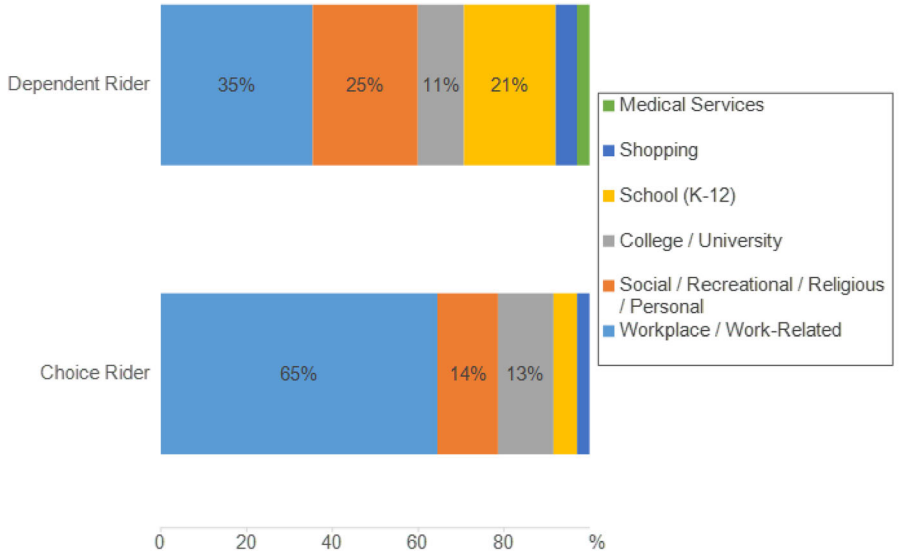
FIGURE 28: CHOICE RIDERSHIP BY TIME PERIOD OF BOARDING



n = 276

Choice riders are far more likely to use transit to commute to work than dependent riders. Dependent riders are more likely than choice riders to make discretionary trips or school trips (reflecting variance in the profile of dependent riders, e.g., school children). Only dependent riders made transit trips for medical purposes (Figure 29).

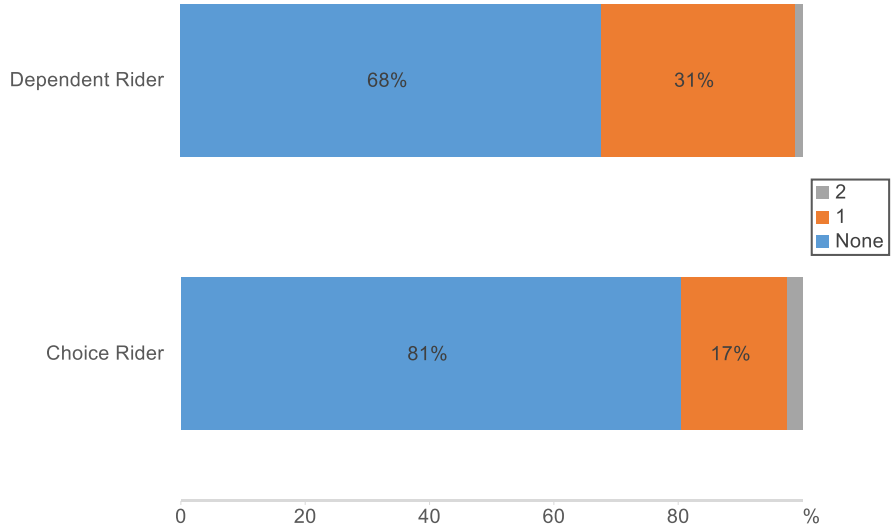
FIGURE 29: CHOICE RIDERSHIP BY TRIP PURPOSE



n = 276

Dependent riders are more likely than choice riders to require transfers on their trip (Figure 30).

FIGURE 30: CHOICE RIDERSHIP BY TOTAL NUMBER OF TRANSFERS

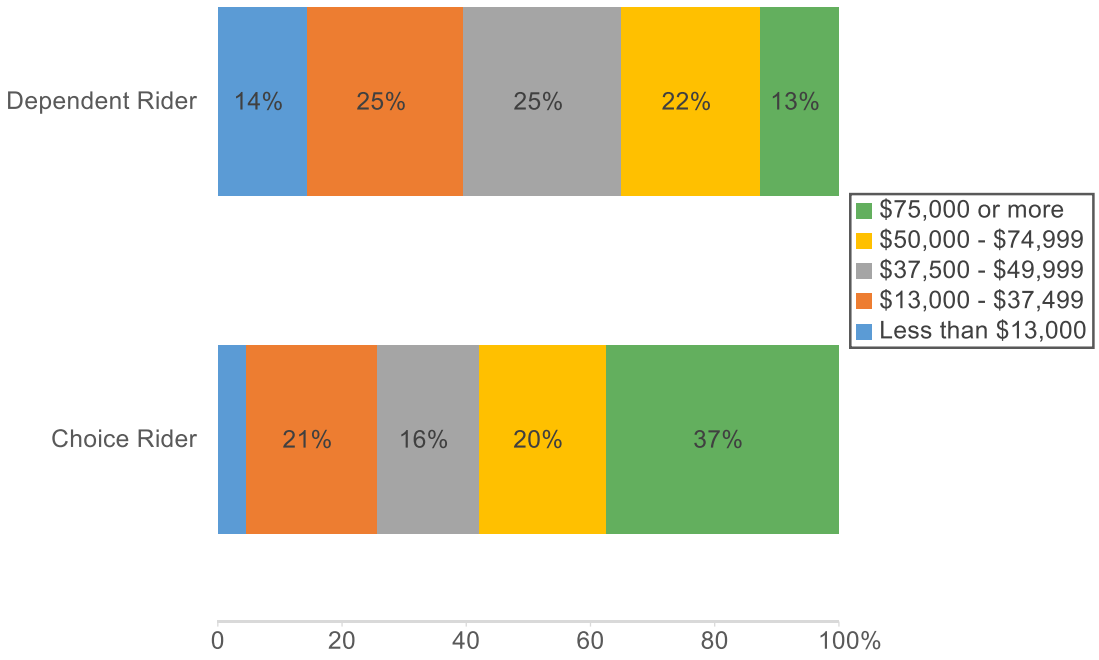


n = 276

8.2 INCOME

Choice riders are more likely amongst respondents to report a higher total annual household income than dependent riders. Over half, 57%, of choice riders have annual household income of more than $50,000 a year, while only 35% of dependent riders report annual household income of more than $50,000 a year (Figure 31).

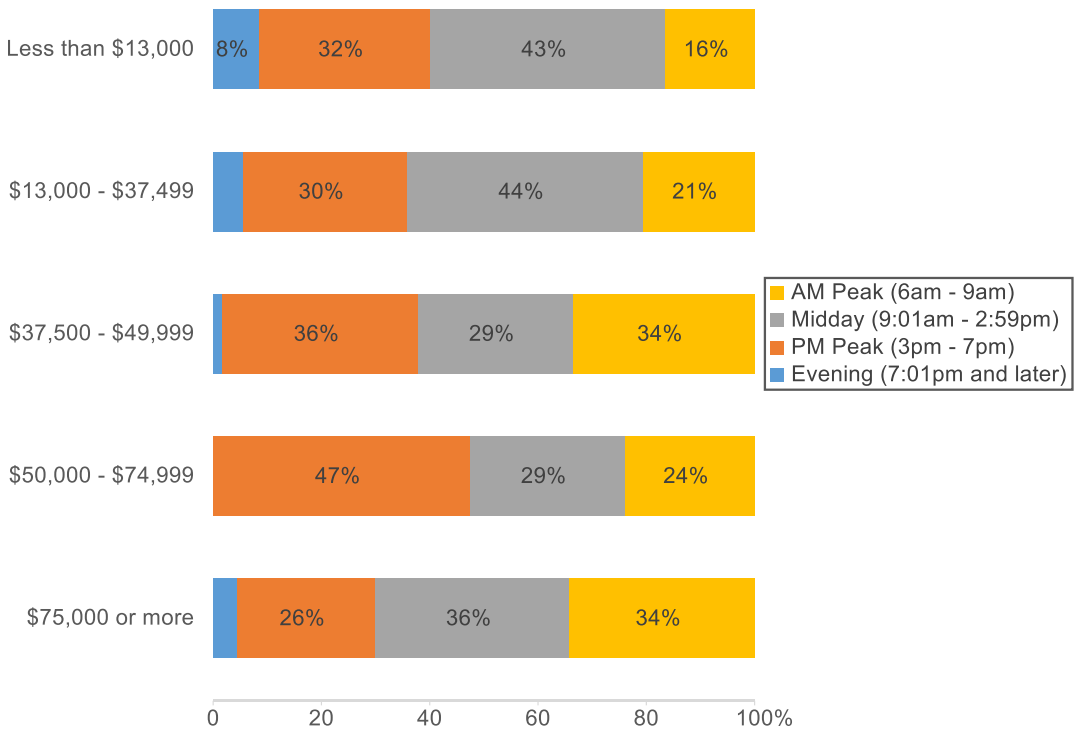
FIGURE 31: CHOICE RIDERSHIP BY INCOME



n = 203

Respondents who report annual household income of less than $37,499 are more likely to use the VRT fixed-route system in the evening than higher income respondents (Figure 32).

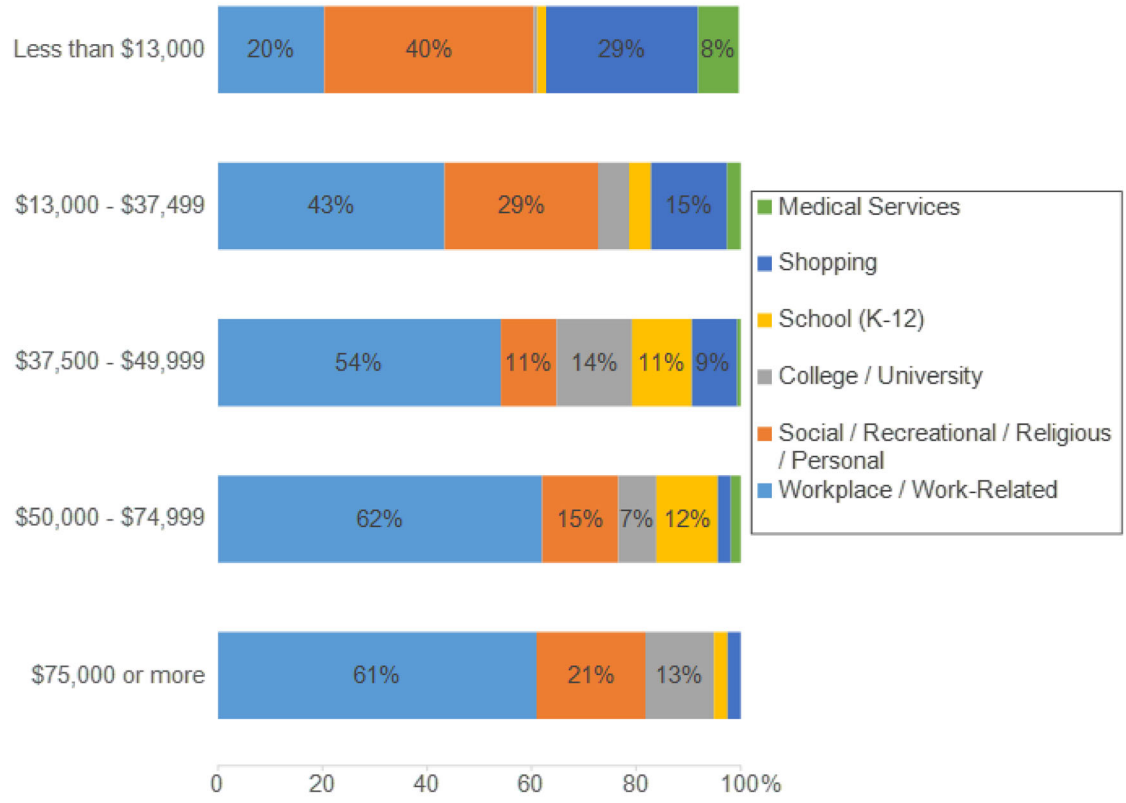
FIGURE 32: TIME PERIOD OF BOARDING BY INCOME



n = 422

Respondents who make more than $37,500 a year are more likely to be making a work-related trip than those who make less than $37,500 (Figure 33).

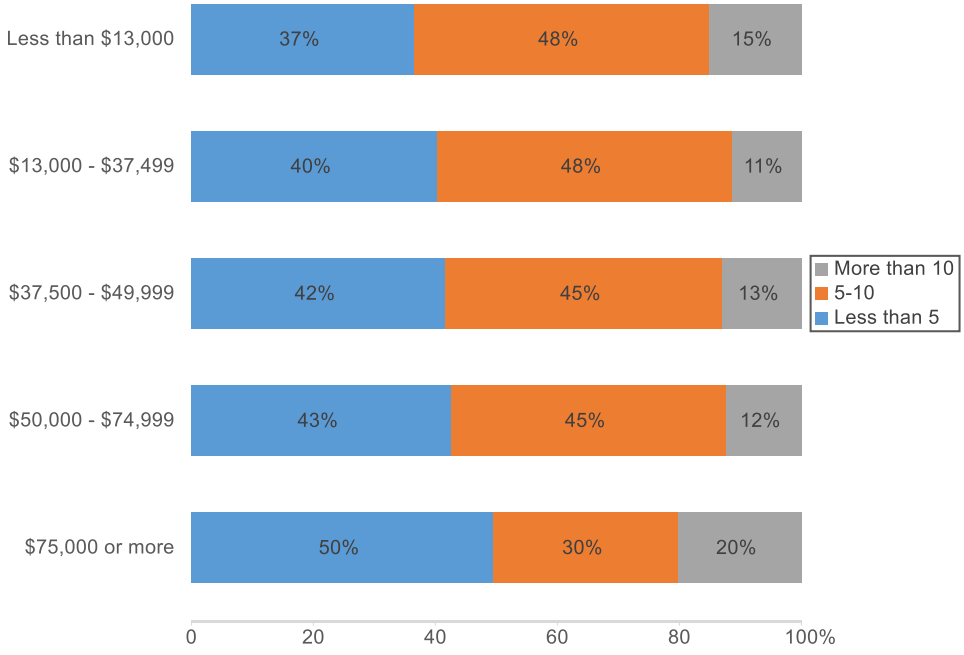
FIGURE 33: TRIP PURPOSE BY INCOME



n = 422

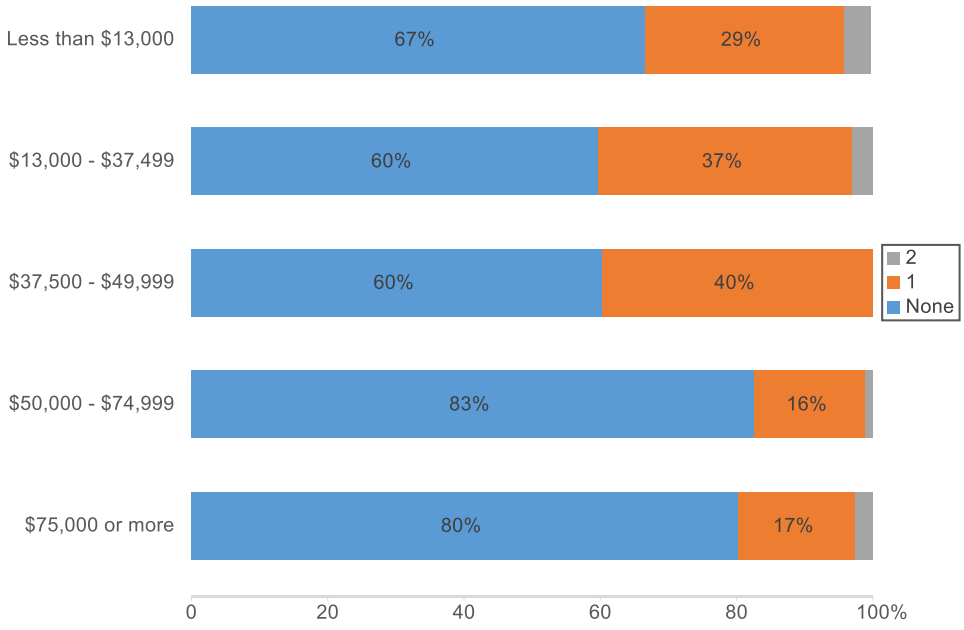
Respondent wait time for their bus does not differ significantly across different income groups (Figure 34). Respondents that report an annual household income of less than $50,000 a year are more likely to have to make a transfer compared to respondents than make more than $50,000 a year (Figure 35).

FIGURE 34: WAIT TIME BY INCOME



n = 419

FIGURE 35: TOTAL NUMBER OF TRANSFERS BY INCOME

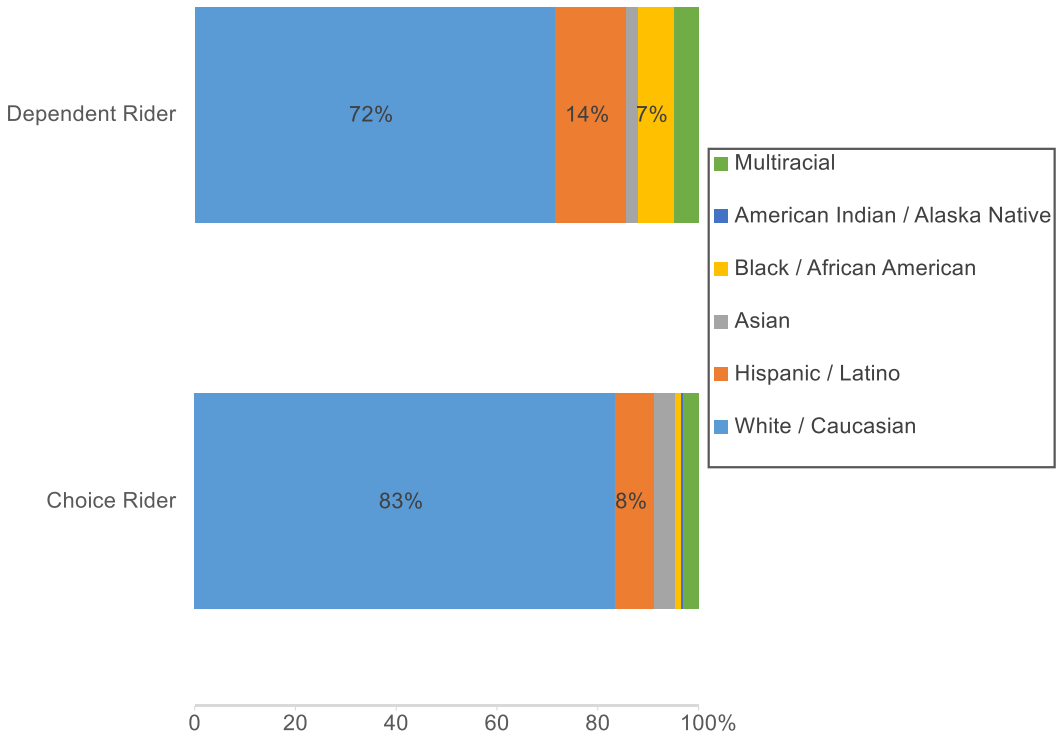


n = 422

8.3 RACE

Dependent riders are more likely than choice riders to identify as a race other than White alone (Figure 36).

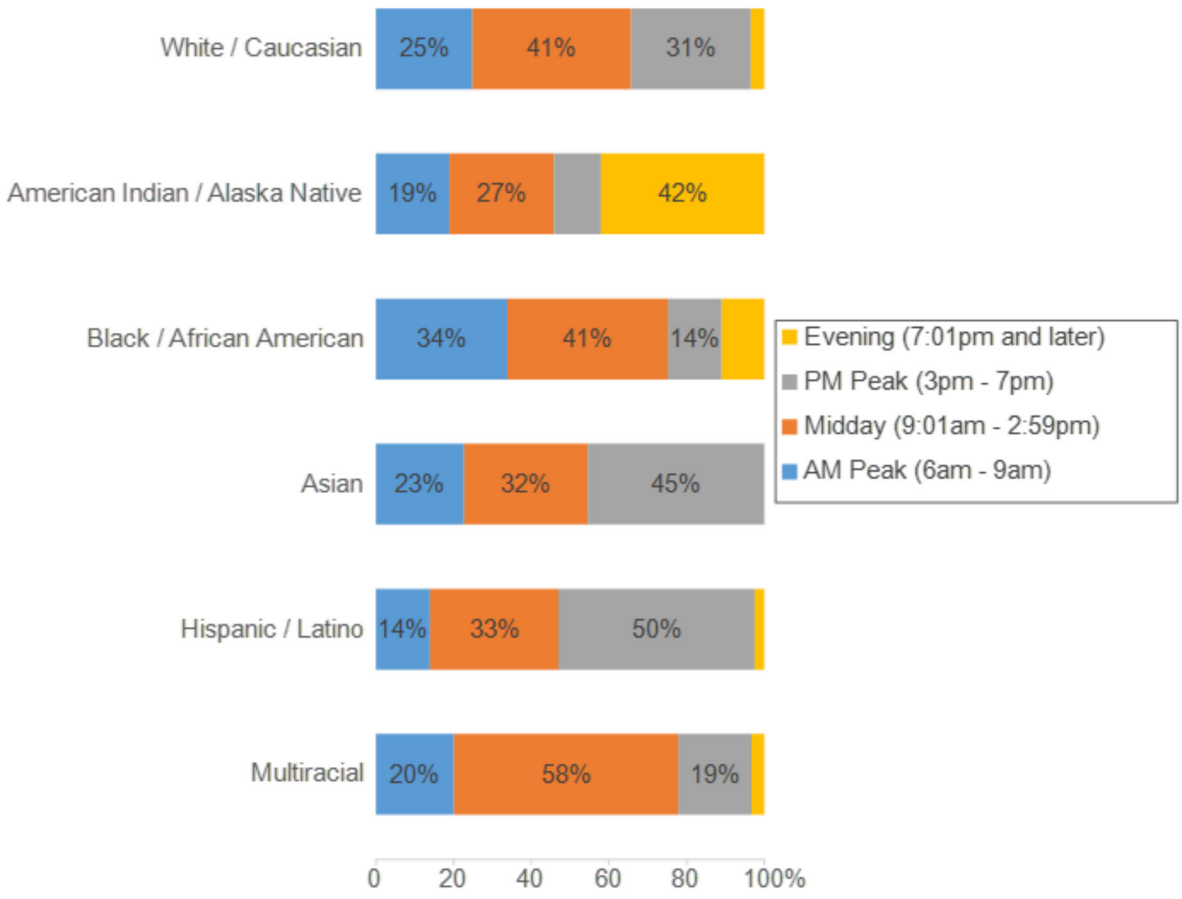
FIGURE 36: CHOICE RIDERSHIP BY RACE



n = 276

Respondents that identify as white alone are slightly less likely to ride in the evening than respondents of any of the other race. Conversely, respondents that identify as American Indian / Alaska Native or Black / African American are more likely to ride in the evening than respondents of any other race (Figure 37).

FIGURE 37: TIME PERIOD OF BOARDING BY RACE



n = 544

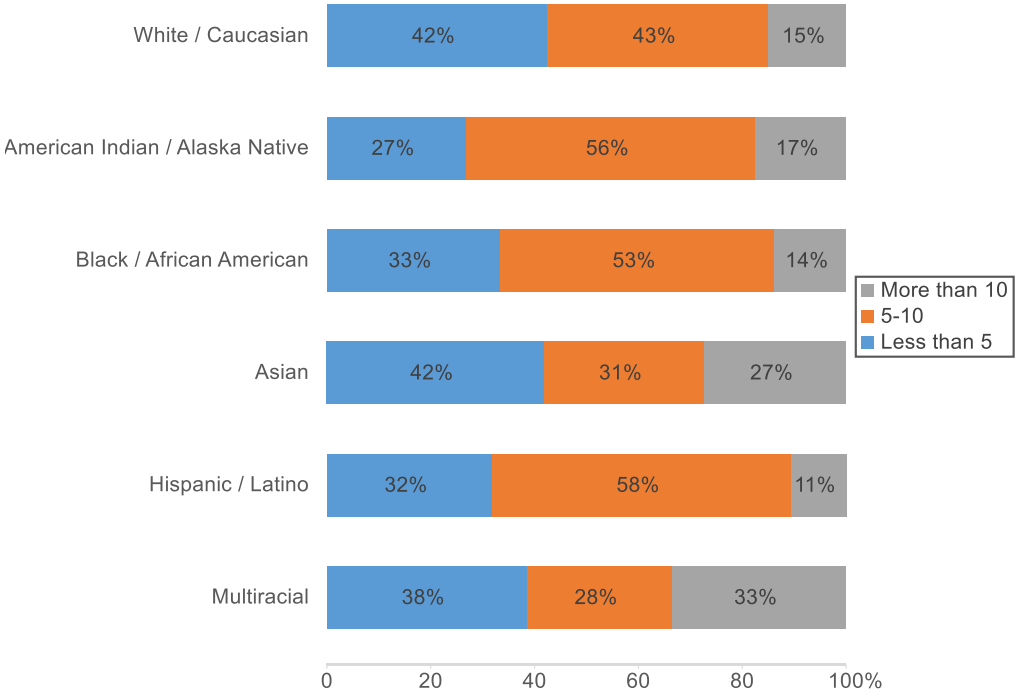
Respondents that identify as White / Caucasian, Hispanic / Latino, or Black / African American are similarly likely to make work-related trips. Respondents that identify as Black / African American or Hispanic / Latino alone are more likely than respondents of other races to commute to K-12 school via VRT (Figure 38).

FIGURE 38: TRIP PURPOSE BY RACE

n = 544

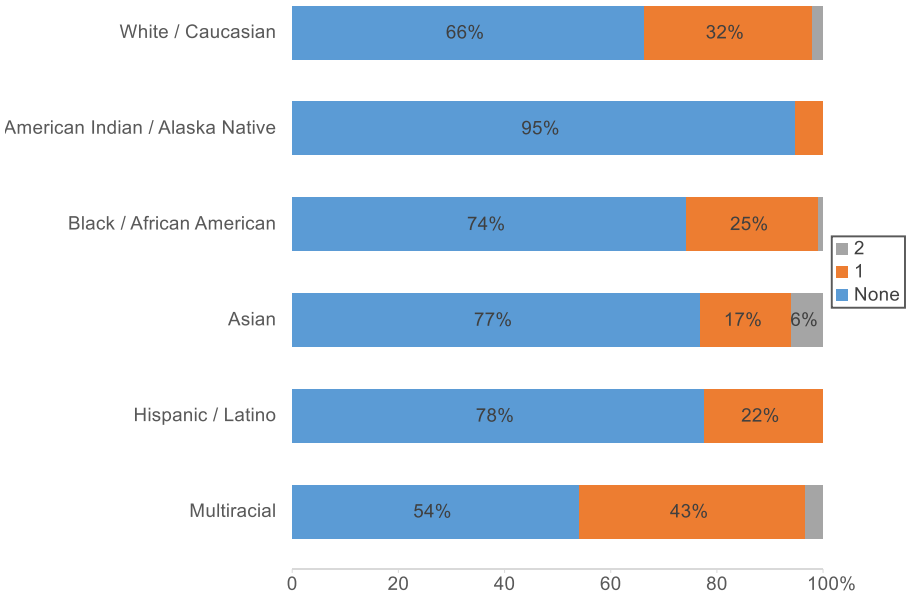
Respondents who identify as White are more likely to wait less than five minutes for their bus than other respondents (Figure 39). American Indian / Alaska Natives alone and Hispanic / Latino alone respondents are most likely to have only one or no transfers during their trip (Figure 40).

FIGURE 39: WAIT TIME BY RACE



n = 541

FIGURE 40: TOTAL NUMBER OF TRANSFERS BY RACE



n = 544

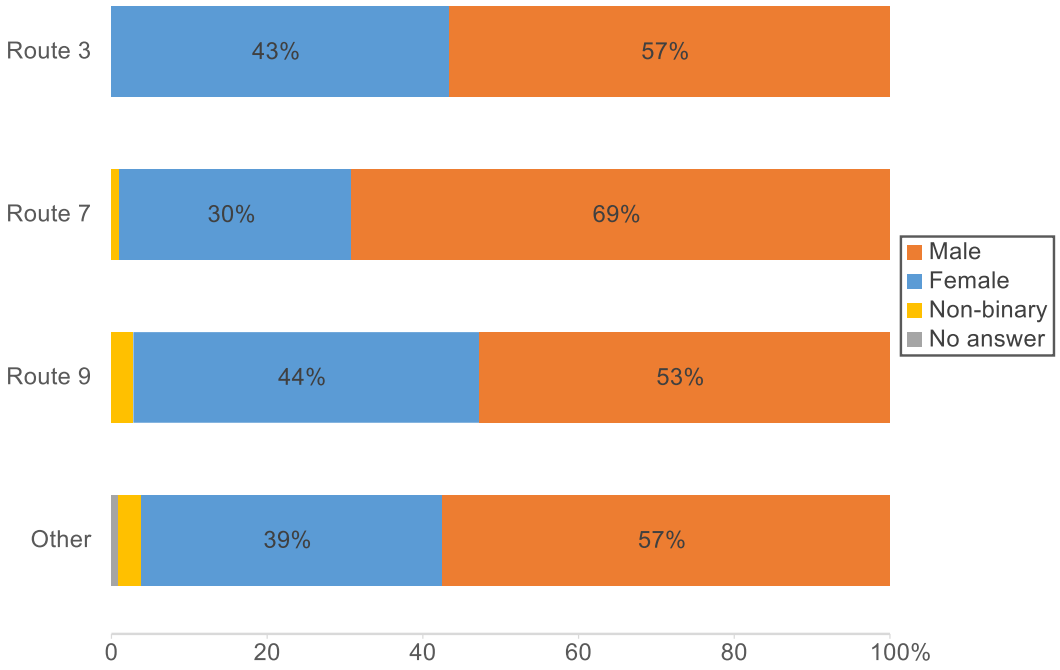
9.0 PROFILE BY ROUTE

Below we present results examining VRT's highest ridership routes: 3 (Vista), 9 (State Street), and a combination of Route 7A (Fairview / Ustick) and 7B (Fairview / Towne Square Mall). "Other" is a combination of all other VRT routes. Results presented below are weighted using unlinked trip weights.

9.1 DEMOGRAPHICS

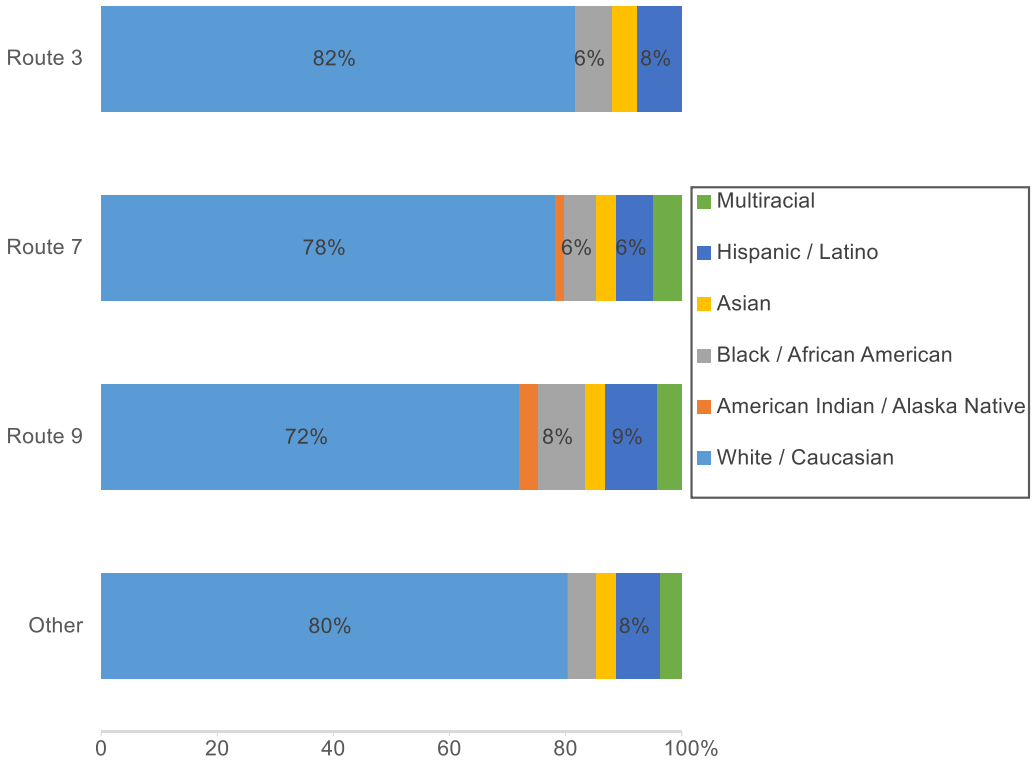
Nearly 70% of respondents on Routes 7A/B are male, far higher than on other routes (Figure 41). Race was roughly similar across routes, but Route 9 showed the largest percentage of non-White only respondents (Figure 42).

FIGURE 41: GENDER BY ROUTE



n = 544

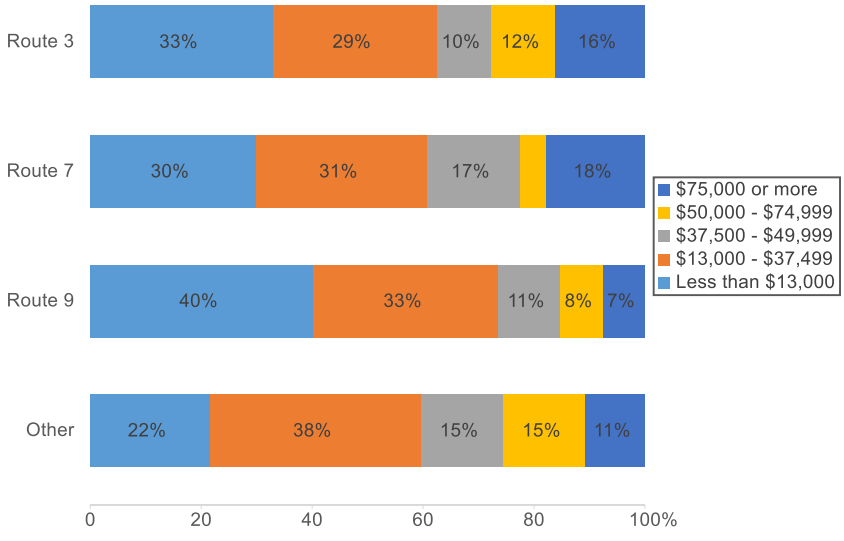
FIGURE 42: RACE BY ROUTE



n = 544

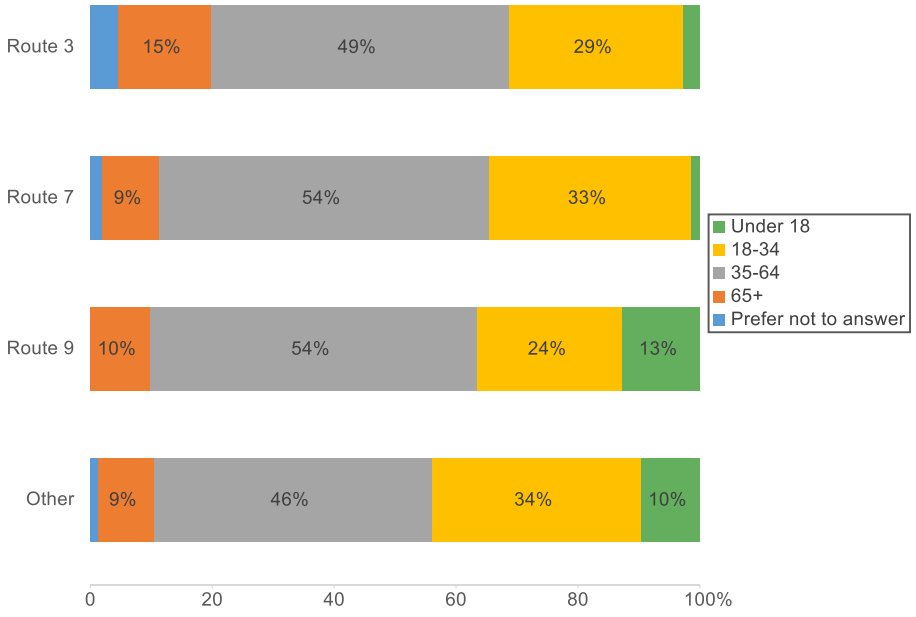
Over 60% of respondents on Routes 3 and 7 make less than $37,499 a year, while over 70% of respondents on Route 9 make less than $37,499 (Figure 43). Route 9 is slightly more likely to service those under the age of 18 than Routes 3 and 7, while Route 9 is slightly more likely to service those over the age of 65 than Routes 7 and 9 (Figure 44).

FIGURE 43: INCOME BY ROUTE



n = 422

FIGURE 44: AGE BY ROUTE

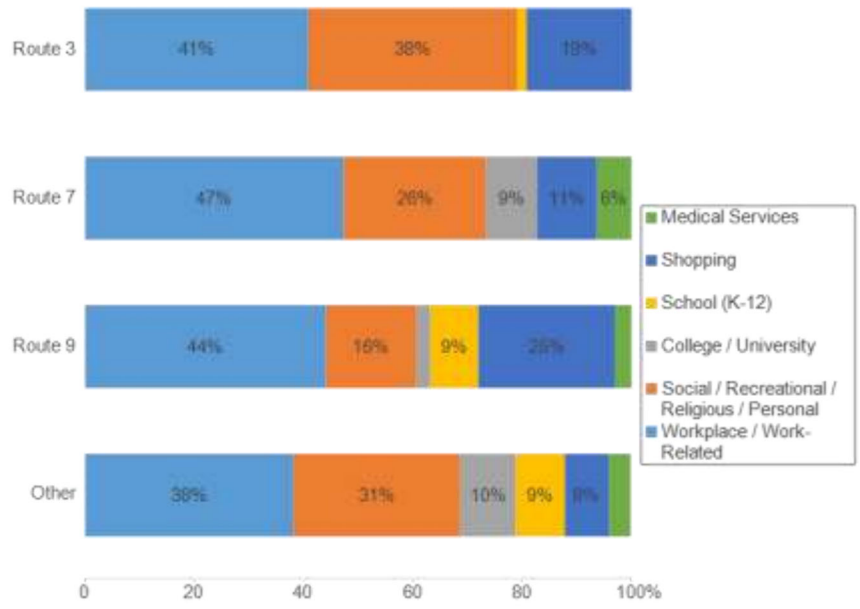


n = 544

9.2 TRIP PROFILE

Respondents are most likely to use Route 3 to access social / recreational / religious / personal locations compared to other routes. Respondents make work or a work-related trips at similar rates whether they are on Route 3, 7, or 9 (Figure 45).

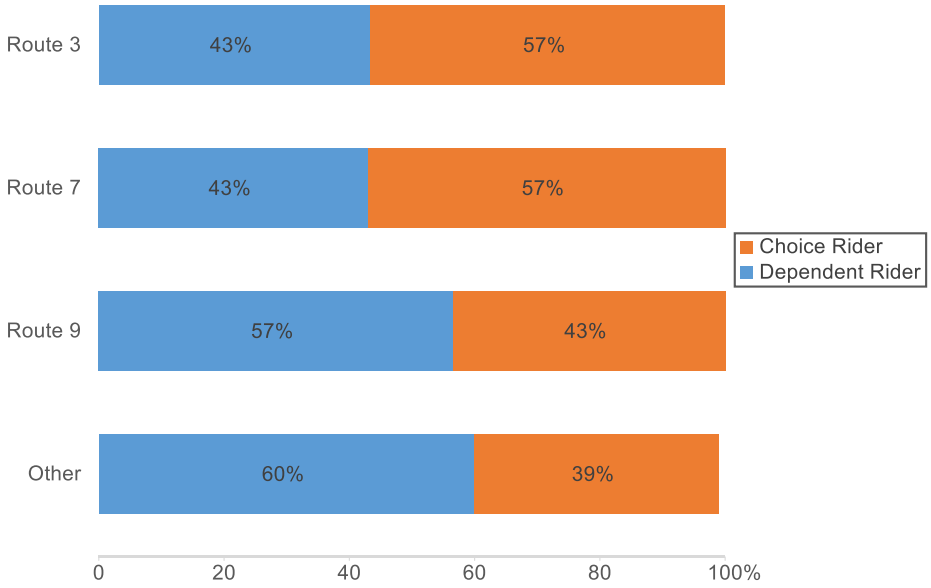
FIGURE 45: PURPOSE BY ROUTE



n = 544

Compared to respondents on Routes 3 and 7, respondents on Route 9 are the most likely to be dependent riders. The distribution of choice and dependent riders are the same on Routes 3 and 7(Figure 46).

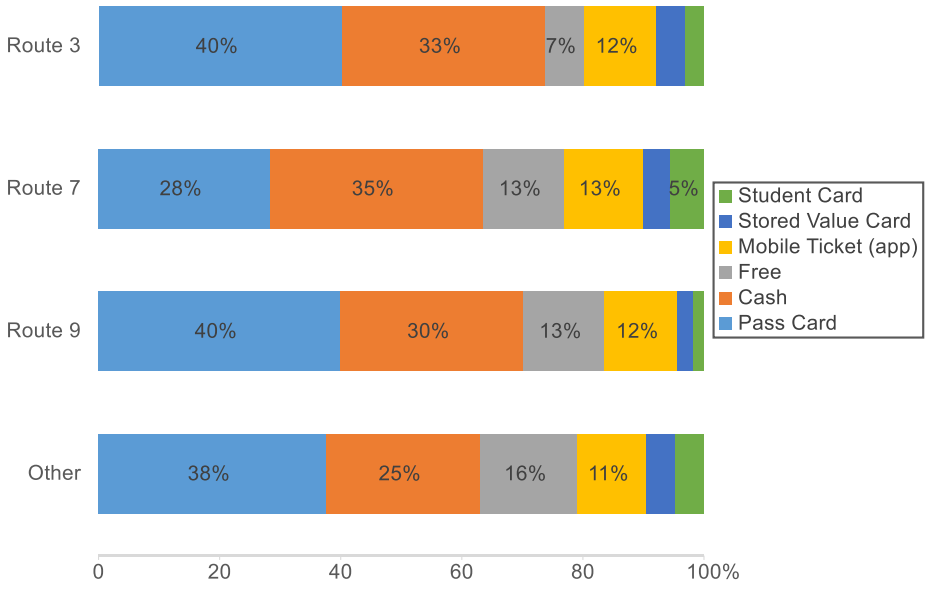
FIGURE 46: CHOICE RIDERSHIP BY ROUTE



n = 276

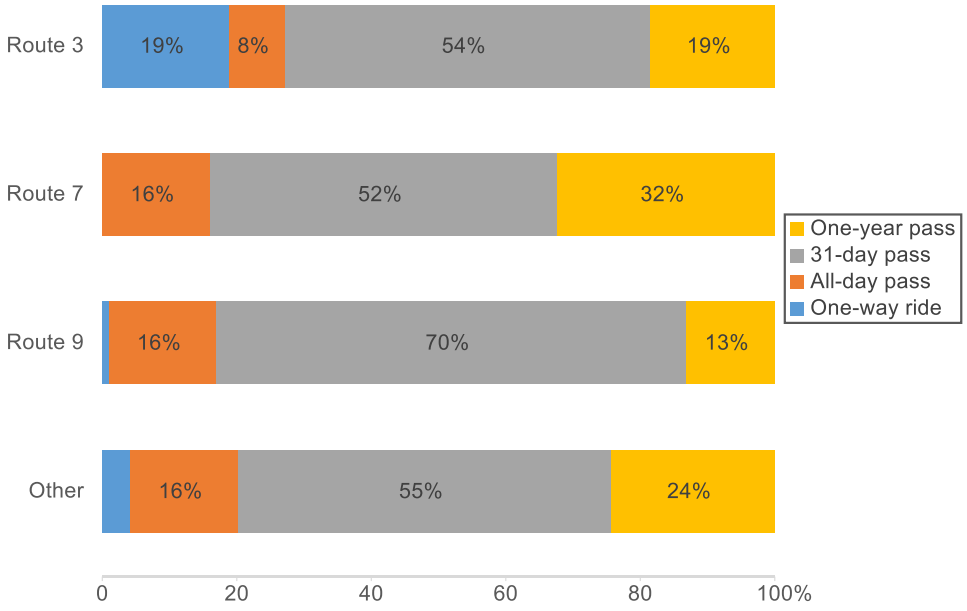
Respondents on Route 7 are less likely to pay their fare using a pass card than respondents on the other routes (Figure 47). Respondents of Route 3 are significantly more likely to pay for a one-way ride instead of a pass compared to respondents on the other routes. Respondents of Route 7 are significantly more likely to pay for their one-way ride using a one-year pass compared to the other routes (Figure 48).

FIGURE 47: FARE PAYMENT METHOD BY ROUTE



n = 544

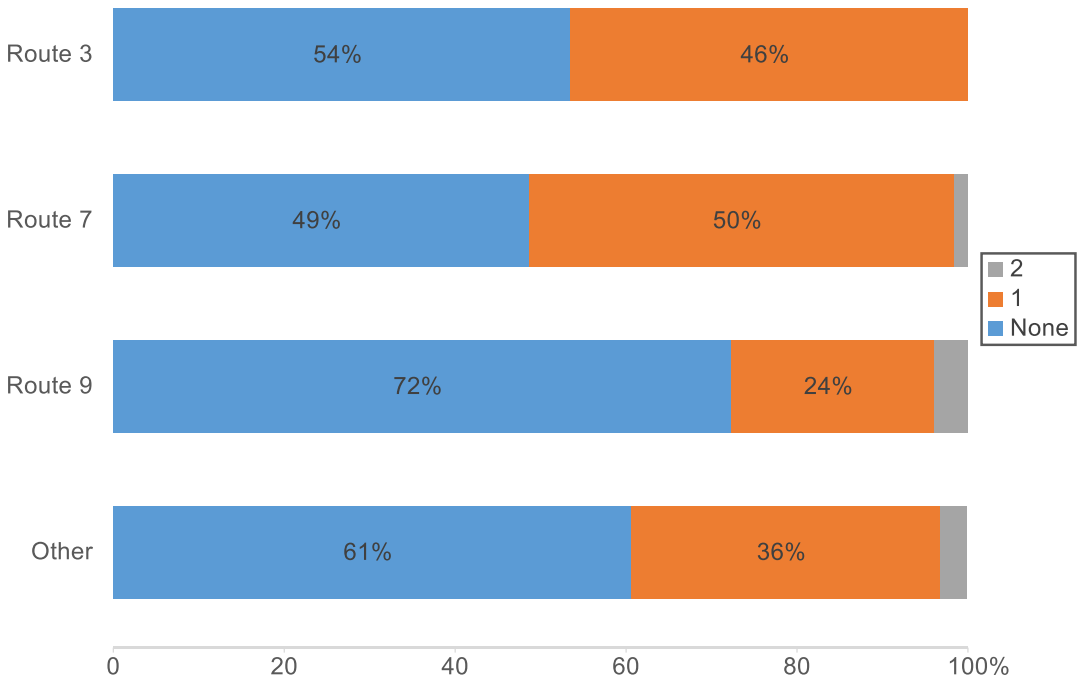
FIGURE 48: TYPE OF FARE BY ROUTE



n = 272

Route 9 has the fewest transfers by roughly 20% compared to the Route 3 or Route 7. Route 3 respondents report having zero or one transfer (Figure 49).

FIGURE 49: TOTAL NUMBER OF TRANSFERS BY ROUTE

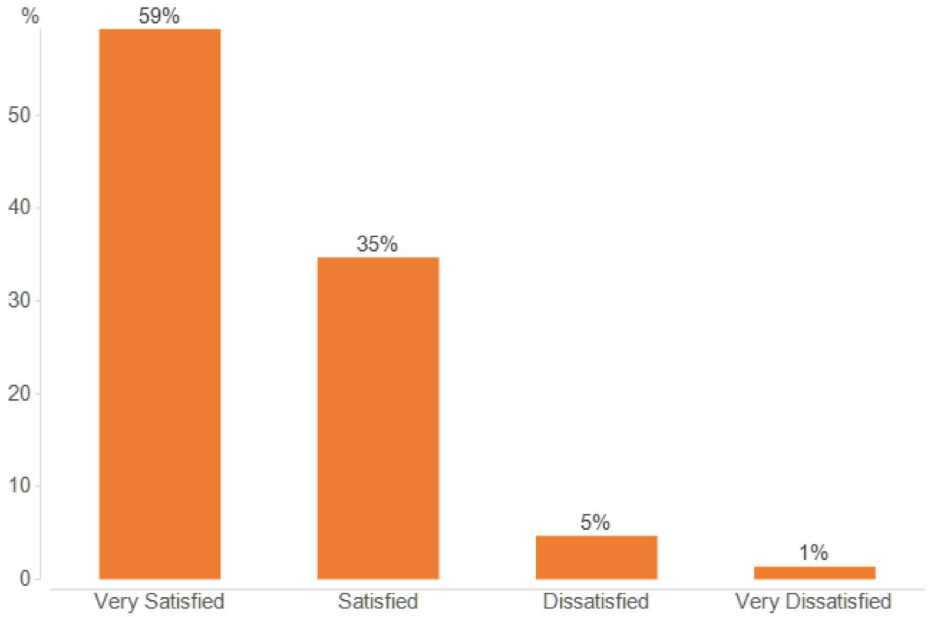


n = 544

10.0 SATISFACTION

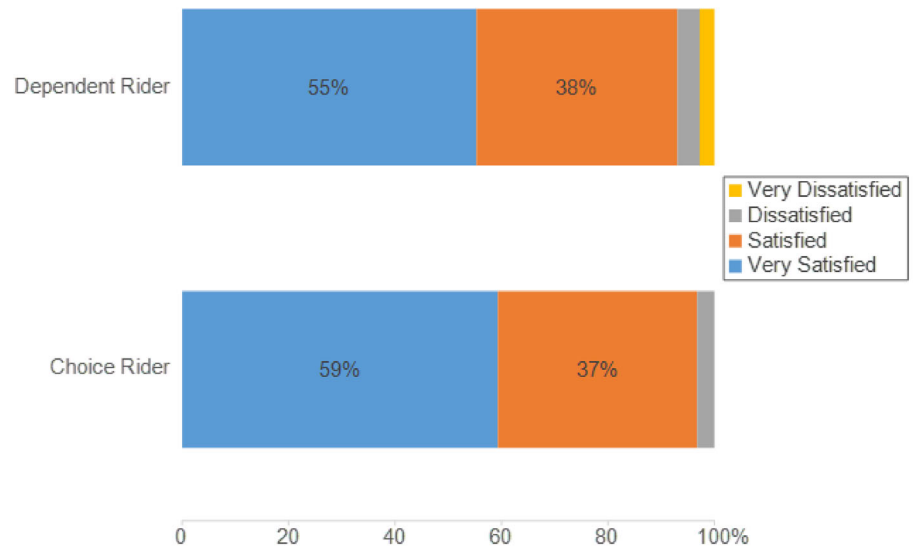
Respondents were asked their overall satisfaction level with VRT service. In total, 94% of respondents indicated they were either satisfied or very satisfied with VRT (Figure 50). Choice riders indicated they were slightly more satisfied with VRT than dependent riders (Figure 51).

FIGURE 50: OVERALL SATISFACTION WITH VRT



n=544

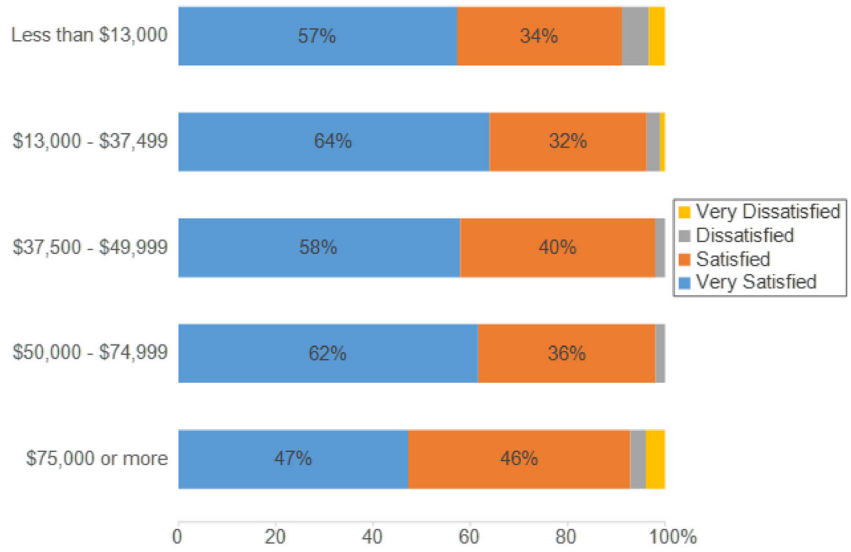
FIGURE 51: SATISFACTION BY RIDER TYPE



n=544

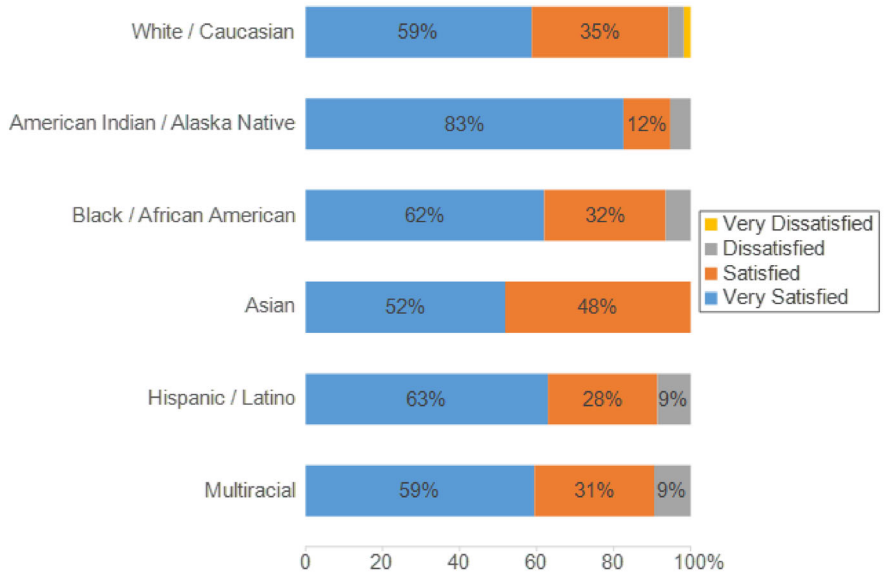
Satisfaction did not vary greatly by income, but respondents with over $75,000 annual household income were least likely to indicate they were very satisfied with VRT (Figure 52). Hispanic / Latino and multiracial respondents were most likely to indicate dissatisfaction with VRT amongst all races (Figure 53).

FIGURE 52: SATISFACTION BY ANNUAL HOUSEHOLD INCOME



n=422

FIGURE 53: SATISFACTION BY RACE

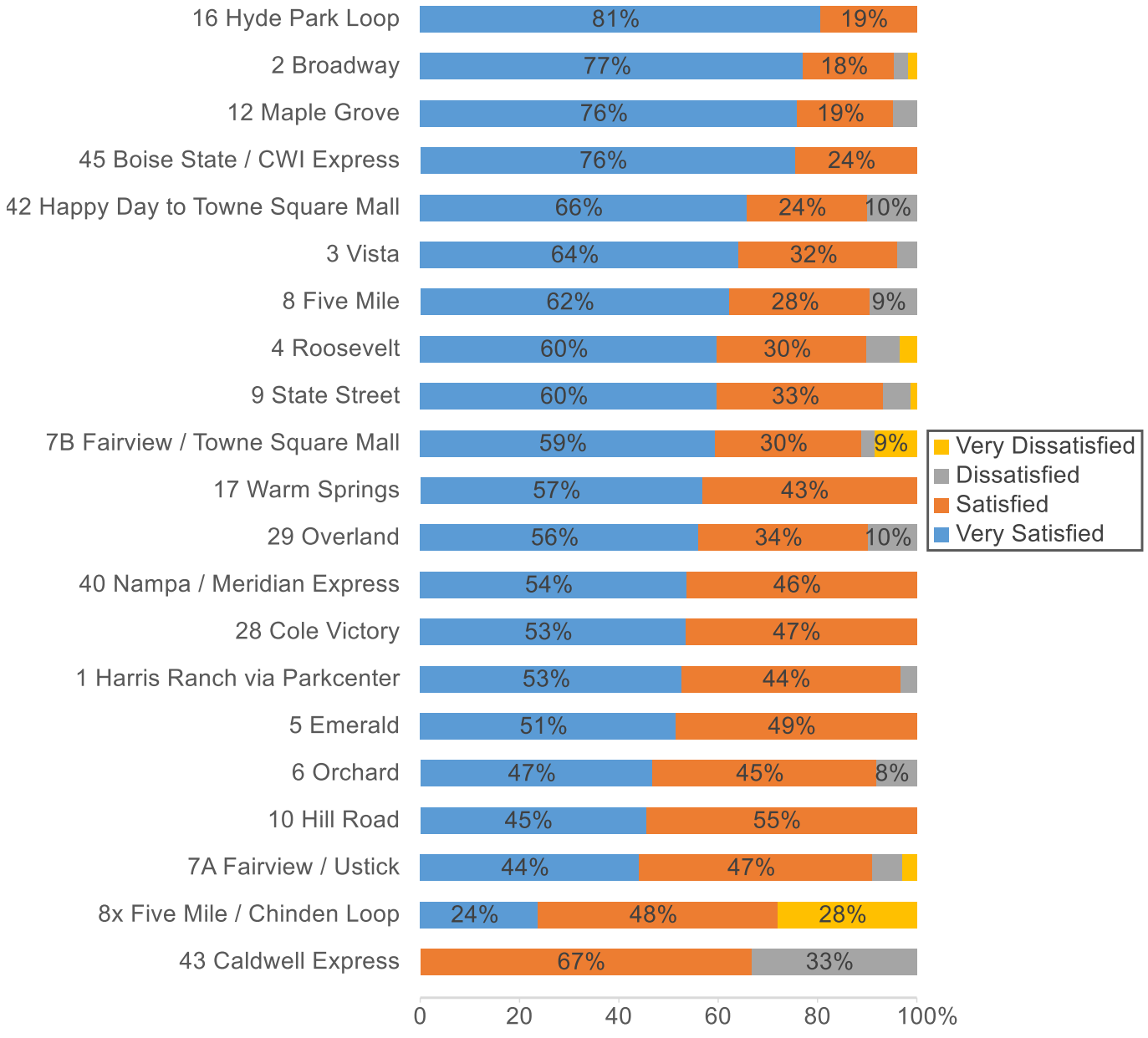


n=544

The sample showed wide variation in satisfaction by route. It should be noted for this analysis that sample sizes at the route level are very small for many routes, indicating less statistical reliability. We recommend focusing on higher ridership routes for any major analysis of this data.

All respondents sampled on the Hyde Park Loop indicated they were satisfied, with 81% indicating they were very satisfied. Conversely only 67% of respondents sampled on the Caldwell Express indicated they were satisfied, with no one indicating they were very satisfied (Figure 54). Amongst higher-ridership routes, Route 3 saw relatively high satisfaction whereas Route 9 and Routes 7A/B saw relatively lower satisfaction.

FIGURE 54: SATISFACTION BY ROUTE



n=544

11.0 PRODUCTION-ATTRACTION ANALYSIS

The two maps below illustrate trip production and attraction by zone. The production end of a respondent's trip is considered to be the home end of their trip or, if not a home-based trip, the origin location. Conversely the attraction end of a respondent's trips is considered to be the non-home end of their trip or, if not a home-based trip, the destination location. Production and attraction allow for a better representation of trip flows than origin and destination alone.

Figure 55 shows that trip production is observed at significant rates from zones throughout the Boise and Nampa service corridor, with the highest rates observed in the population centers of Boise, specifically downtown Boise. Figure 56 shows that trip attractions are more confined to these core population and job centers in the region.

FIGURE 55: TRIP PRODUCTION MAP BY ZONE

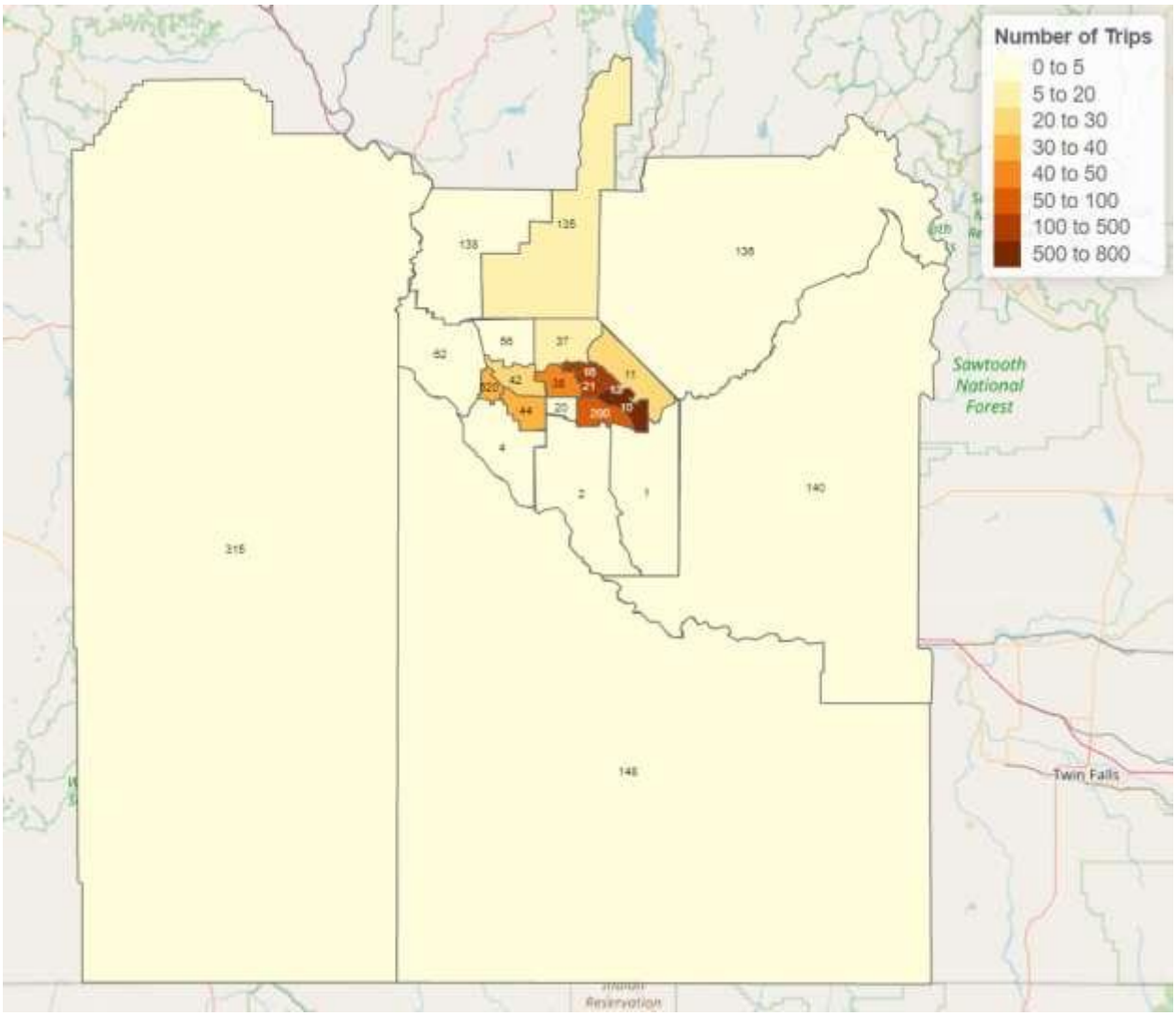
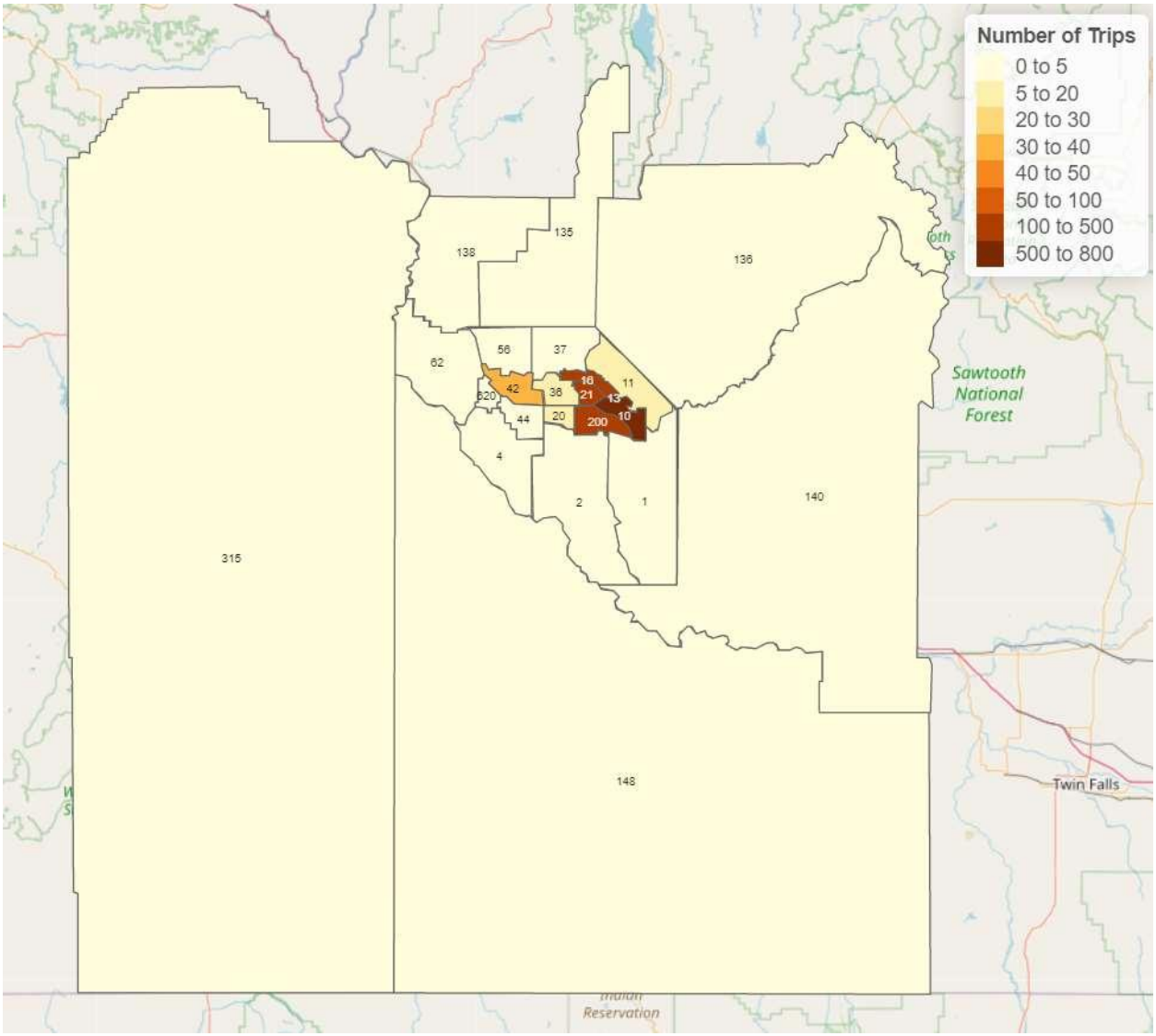


FIGURE 56: TRIP ATTRACTION MAP BY ZONE



The charts and table below detail trip production and attraction by zone (weighted and expanded). The geographical unit is again zone, which can be referenced in Figure 1 and Table 3: Zone DescriptionsTable 3. Figure 57 and Figure 58 show that Boise is the largest production and attraction zone in the VRT service area. Table 6 shows the largest ten production-attraction zone pairs amongst VRT riders. The top ten pairs encompass nearly half of all trips. Travel between zones of Boise accounts for all of these trips.

FIGURE 57: TRIP PRODUCTION BY ZONE

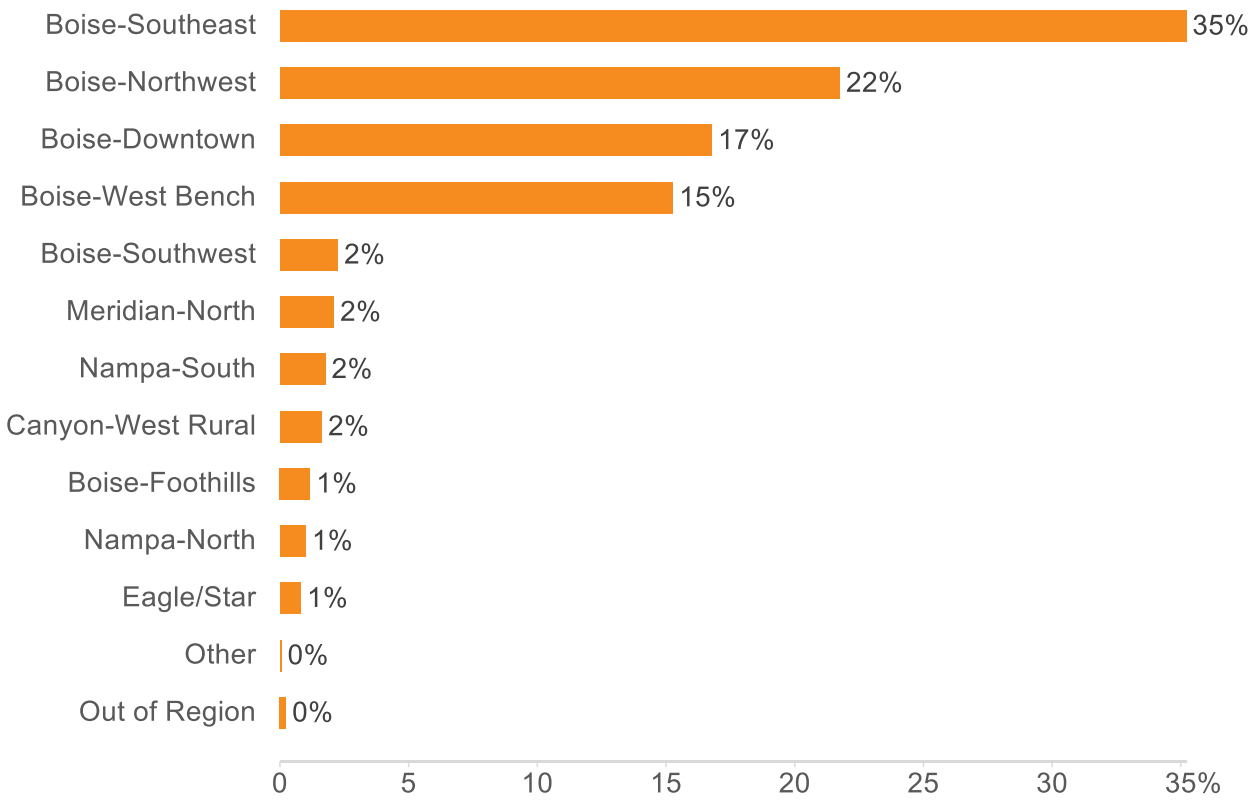


FIGURE 58: TRIP ATTRACTION BY ZONE

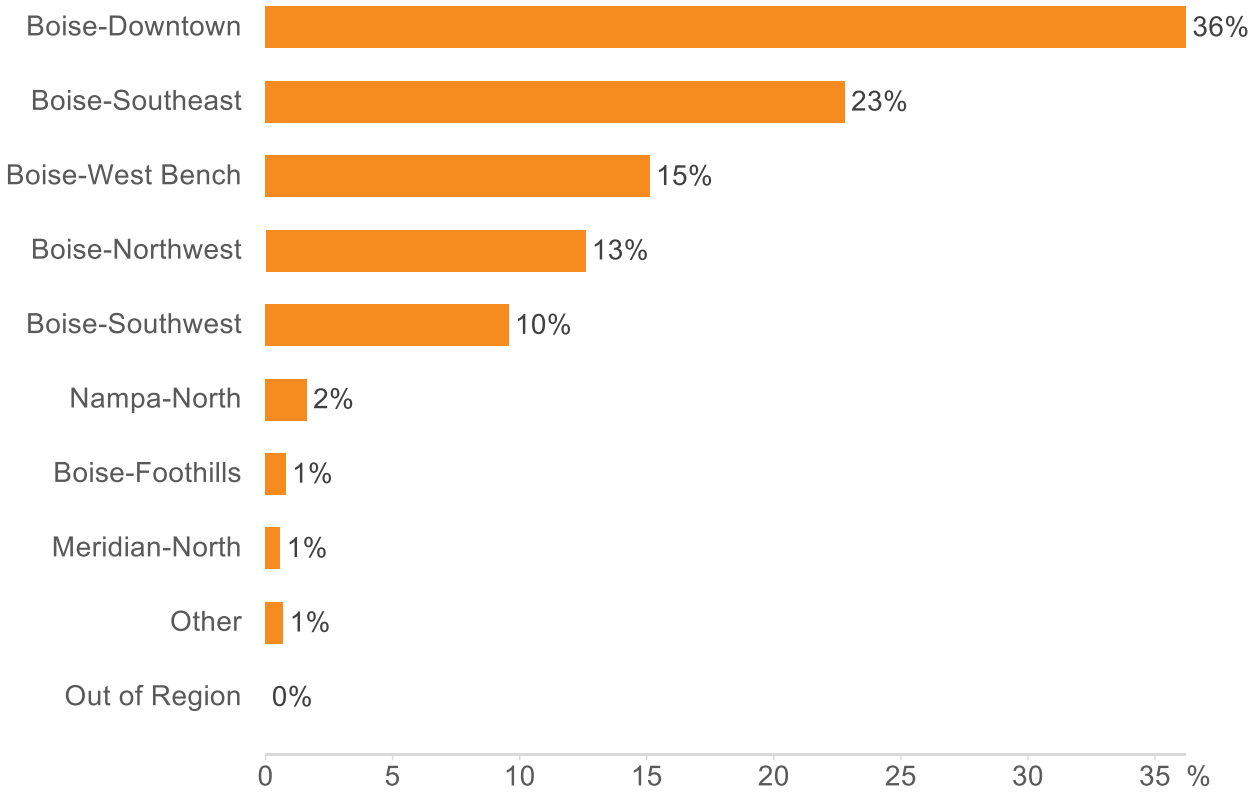


TABLE 6: LARGEST VRT PRODUCTION-ATTRACTION ZONE PAIRS

RANK	PRODUCTION ZONE	ATTRACTION ZONE	% OF ALL TRIPS
1	Boise-Southeast	Boise-Downtown	15.2%
2	Boise-Northwest	Boise-Downtown	9.6%
3	Boise-Southeast	Boise-Southeast	8.5%
4	Boise-West Bench	Boise-Downtown	5.3%
5	Boise-Downtown	Boise-Southeast	4.7%
6	Boise-Northwest	Boise-Northwest	4.7%
7	Boise-Southeast	Boise-West Bench	4.7%
8	Boise-Downtown	Boise-West Bench	4.5%
9	Boise-Northwest	Boise-Southeast	3.4%
10	Boise-Southeast	Boise-Southwest	3.1%

12.0 APPENDIX A: QUESTIONNAIRE

VRT 2021 Transit On Board Survey

Please take a few minutes to be counted as we plan the future of your transit system.

All personal information will be kept strictly confidential and **WILL NOT** be shared or sold.

What is your HOME ADDRESS (please be specific, ex: 123 W. Main St):
*(If you are visiting the Boise area, please list the **hotel name** or address where you are staying)*

Street Address _____ City _____ State _____ Zip Code _____

COMING FROM?

1. **What type of place are you COMING FROM NOW?**
(the starting place for your one-way trip)
O Work or Work-Related
O Social / Recreational / Religious / Personal
O Medical Services
O Shopping
O College / University (students only)
O School K-12 (students only)
O Your **HOME** → *Go to Question #4*
O Other: _____

2. **What is the NAME of the place you are coming from now?**
_____

3. **What is the EXACT ADDRESS of this place? (OR Intersection if you do not know the exact address:)**
_____
City: _____ State: _____ Zip: _____

4. **How did you GET FROM your origin (the place in Question #1) TO THE VERY FIRST bus you used for this one-way trip?**
O Walk O Wheelchair
O Bike
O Was dropped off by someone
O Drove alone and parked
O Drove or rode with others and parked
O E-scooter (Bird, Lime, etc.)
O Rideshare (Uber, Lyft, etc.)
O Taxi
O Other_____

4a. Where did you board the first bus / you used for this one-way trip
(Nearest intersection / Park-n-Ride lot):
_____

5. **Where did you get ON this bus?** Please provide the nearest intersection / Park-n-Ride lot:
_____

GOING TO?

6. **What type of place are you GOING TO NOW?**
(the ending place for your one-way trip)
O Work or Work-Related
O Social / Recreational / Religious / Personal
O Medical Services
O Shopping
O College / University (students only)
O School K-12 (students only)
O Your **HOME** → *Go to Question #9*
O Other: _____

7. **What is the NAME of the place you are going to now?**
_____

8. **What is the EXACT ADDRESS of this place? (OR Intersection if you do not know the exact address:)**
_____
City: _____ State: _____ Zip: _____

9. **How will you GET TO your destination (listed in Question #6) after you get off the LAST bus you will use for this one-way trip?**
O Walk O Wheelchair
O Bike
O Be picked up by someone
O Get in a parked vehicle & drive alone
O Get in a parked vehicle & drive/ride w/others
O E-scooter (Bird, Lime, etc.)
O Rideshare (Uber, Lyft, etc.)
O Taxi
O Other_____

9a. Where will you get off the last bus you are using for this one-way trip (Nearest intersection / Park-n-Ride lot):
_____

10. **Where will you get OFF this bus?** Please provide the nearest intersection / Park-n-Ride lot:
_____

11a. Did you transfer FROM another bus BEFORE getting on this bus? O Yes O No

11b. Will you transfer TO another bus AFTER getting off this bus? O Yes O No

11c. Please list the BUS ROUTES in the exact order you use them for this one-way trip

START → [ ] → [ ] → [ ] → [ ] → END

1st Route 2nd Route 3rd Route 4th Route

Continue

MORE ABOUT YOUR TRIP AND USE OF VRT

12. How long did you wait for this bus (in minutes)? _____ minutes

13. Will you (or did you) make this same trip in exactly the opposite direction today? O No O Yes
13a. [If 13 is Yes] At what time did/will you leave for this trip in the opposite direction? ____:____ am/pm)

14. How did you pay for this bus trip?
O Cash O Mobile Ticket (app) O Pass Card O Stored Value Card
O Free **[skip to 15]** O Other_____

14a. What type of fare was this?
O One-way ride O All-day pass O 31-day pass **[show only for Mobile Ticket or Pass Card]**
O One-year pass **[show only for Mobile Ticket or Pass Card]**

14b. What fare level did you pay?
O Adult Local O Disabled Local O Senior Local O Youth Local
O Adult Universal O Disabled Universal O Senior Universal O Youth Universal

15. How many days a week do you make this trip?
O 6-7 days a week O 5 days a week O 3-4 days a week O 1-2 days a week
O Less than 1 day

16. How often do you ride a VRT bus?
O 6-7 days a week O 5 days a week O 3-4 days a week O 1-2 days a week
O 1-3 day a month O Less than once per month O First time riding

17. Do you have a smartphone with a data plan *(e.g. iPhone, Android / Windows Phone, etc.)*? O Yes O No

18. Overall how satisfied are you with the quality and level of service offered by VRT/ValleyRide?

Very Dissatisfied (1) **Very Satisfied (10)**
O O O O O O O O O O

ABOUT YOU AND YOUR HOUSEHOLD

19. How many vehicles (cars, trucks, or motorcycles) are available to your household? _____ vehicles
19a. [If 19 is more than NONE] Could you have used one of these vehicles for this trip? OYes ONo

20. Do you have a valid driver's license? O Yes O No

21. Do you require Americans with Disability Act (ADA) accommodations OR have a condition that impacts you from driving? O Yes O No

22. Including YOU, how many people live in your household? _____ people

23. What is your employment status? ***(check the one response that BEST describes you)***
O Employed full-time or part-time O Not currently employed – seeking work O Retired
O Homemaker or caregiver O Not currently employed – not seeking work
O Other: _____

24. What is your student status? ***(check the one response that BEST describes you)***
O Not a student O Yes – College / University / Community College
O Yes – K - 12th grade O Yes – Vocational / Technical / Trade school / Other

25. Are you a veteran or active member of the US armed forces?
O Yes O No

26. What year were you born? _____year

27. What is your gender?
O Male O Female O Non-binary O Other: _____ O Prefer not to answer

28. What is your race / ethnicity? ***(check all that apply)***
□ Asian □ Black/African American □ Hispanic/Latino
□ Native American □ White □ Other: _____

29. Do you speak a language other than English at home? O No O Yes – Which language? _____
29a. [If Yes] How well do you speak English?
O Very well O Well O Less than well O Not at all

30. Which of the following BEST describes your TOTAL ANNUAL HOUSEHOLD INCOME in 2020?
O Less than $13,000 O $25,000 - $37,499 O $50,000 - $74,999
O $13,000 - $24,999 O $37,500 - $49,999 O $75,000 or more

31. Are you willing to participate in future VRT surveys and may we email/text you?
O No O Yes – Email: _____ Phone number: _____

Thank you for your help!

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