



Sacramento Regional Transit

Origin-Destination Survey

Final Report - March 2023

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Executive Summary

The Sacramento Regional Transit District (SacRT) is the largest transit provider serving the heart of California's capital. SacRT operates 80 fixed-route bus routes and three light rail lines covering a 440 square-mile service area throughout Sacramento County, including services in the cities of Sacramento, Citrus Heights, Elk Grove, Folsom, and Rancho Cordova. SacRT also provides Smart Ride on-demand microtransit service, and complementary ADA paratransit service.

As a recipient of federal transportation funding, SacRT is required by the Federal Transit Administration (FTA) to complete an origin-destination survey every five years. In addition to compliance with federal requirements, the survey also provides system-wide information to the agency for use in analyses related to the services we provide.

SacRT began surveying efforts on the bus system in March 2020; however, data collection ended earlier than scheduled due to the COVID-19 pandemic. SacRT was able to resume surveying on the light rail system in October 2022.

SacRT's 2023 Origin-Destination Survey Report includes the following key findings that are representative of bus and light rail travel patterns and demographics:

- **Trip purpose:** Traveling to/from 'Work' is the most predominant trip purpose on both bus and light rail. The K-12 student ridership includes more non- 'School' trips than in prior surveys, with the implementation of the RydeFree student fares.
- **Fare payment:** 'Tickets/Passes' are the highest utilized fare payment method. Although SacRT has implemented several electronic forms of payment, (i.e., ConnectCard and ZipPass), 'Cash' is still utilized by many as a fare payment method.
- **Origin-Destination, Bus:** A wide variety of origin-destination pairs can be seen within the service area, with predominant activity in trips starting in Folsom, South Sacramento and Natomas traveling to Downtown/Central City.
- **Origin-Destination, Light Rail:** Origin-destination pairs are predominant in trips either beginning or ending at the 16th Street light rail station. This station is the busiest in the system and is a major transfer point that connects two light rail lines, providing both north-south and east-west crosstown travel.
- **Transfer Rates:** Long-distance routes and high ridership routes have the highest transfer rates, with close to 50 percent of trips including a connection on several routes.
- **Demographics, Language:** Survey results indicate a lower proportion of non-English speaking respondents compared to regional census data, which may be due to the difficulty in obtaining survey responses from non-English speaking passengers.
- **Demographics, Minority:** SacRT has a higher percentage of minority passengers (67.5 percent) compared to regional census data, specifically the City of Sacramento (59.1 percent) and Sacramento County (57.9 percent). SacRT's top three minority routes include Routes 56, 82 and 87; light rail routes fall within the middle of the results at approximately 50-55 percent minority.

- Demographics, Low-Income: SacRT has a higher percentage of low-income passengers (55.5 percent) compared to regional census data, specifically the City of Sacramento (17.9 percent) and Sacramento County (16.2 percent). The large difference may be due to passenger sensitivity with the income-related question. SacRT's top three low-income routes include Routes 15, 82, and 68; light rail routes fall within the middle of the results at approximately 45-55 percent low-income.

After analyzing bus survey results, SacRT has recognized a need to repeat origin-destination surveying on the bus system to gain data in a similar timeframe as light rail. The benefits of refreshing data collection on bus routes will provide SacRT the opportunity to obtain post-pandemic results. In addition, SacRT will have the opportunity to update the survey to include Folsom and Elk Grove bus routes, as they were not included in the 2020 collection. The pause in bus surveying cut off the schedule for data collection on Folsom routes. Elk Grove bus surveys were not included because the City of Elk Grove had not yet annexed into the District, which took place in 2021.

In addition to the required origin-destination survey every five years, SacRT also conducts an annual fare survey on the entire bus and light rail system; however, the annual fare survey was also subject to a pandemic-related pause and has not been administered since 2019. The fare survey is a crucial component to fare policy and structure changes. The data is obtained to help determine and quantify fare payments by type and method, which is necessary for fare analyses, as well as determining average fares. The fare survey is also used in combination with origin-destination survey results to report fares by minority and low-income populations, which is a requirement for all Title VI fare equity analyses. SacRT plans to resume the annual fare survey in the Fall of 2023.

Reviving efforts for both the origin-destination bus survey, and the annual fare survey provides refreshed passenger data in considerations for future service and/or fare change proposals.

Introduction & Purpose

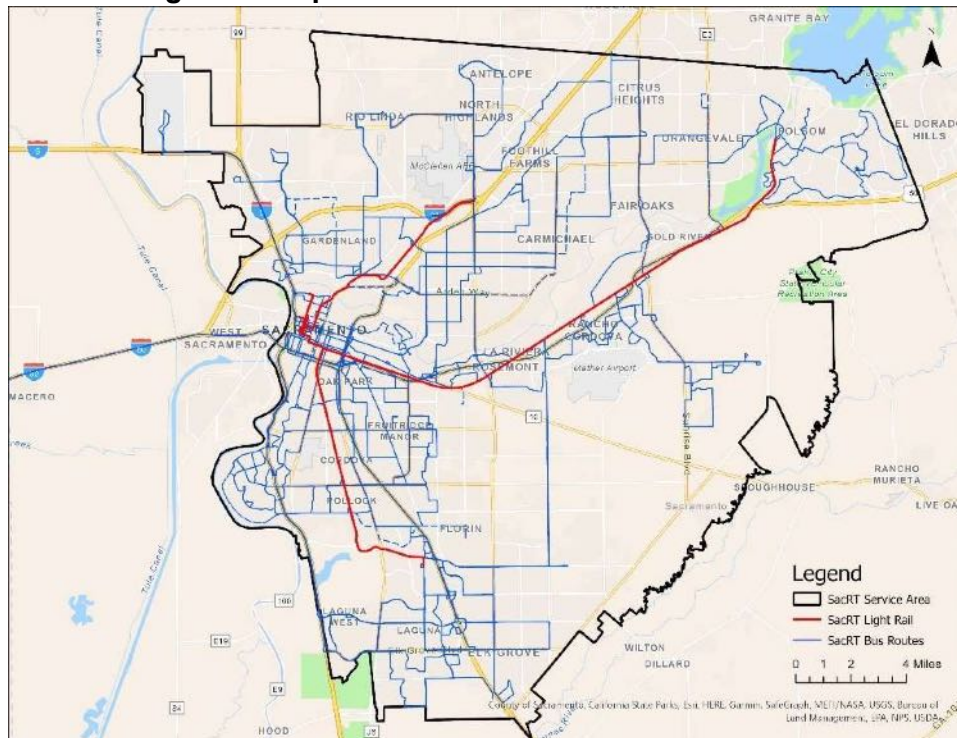
An origin-destination survey is a type of transportation survey that collects data on the travel patterns of individuals using public transit, typically between the starting point of a trip (origin) and the destination of the trip. The survey aims to identify the mode of public transit used, the purpose of the trip, the time of day, the duration of the trip, and demographic information pertaining to Sacramento Regional Transit (SacRT) riders.

The origin-destination survey is used by public transit agencies and government entities to understand the demand for public transit services, improve transit routes and services, and make informed decisions about future transit projects. By collecting origin-destination survey data on where people are traveling from and where they are going using public transit, transit planners can better understand transit ridership, identify areas where public transit infrastructure needs to be improved, and optimize public transit services.

The origin-destination survey is also a component of SacRT's triennial Title VI Program, which is a program required by the Federal Transit Administration (FTA). The Title VI Program is developed and updated every three years to ensure that no person based on race, color, or national origin is excluded from participation in, denied the benefits of, or otherwise subjected to discrimination throughout any of SacRT's products, services, or activities. The Program includes the origin-destination survey as the primary data source that identifies SacRT's rider demographics, which are used in determining service and fare equity analyses.

The origin-destination survey is conducted on SacRT service throughout the entire service area, and results provide valuable information for transit planners and policymakers. Transit planners can use the survey data to identify areas where transit service needs to be improved, adjust bus or light rail schedules where needed, and ensure SacRT is compliant with Title VI requirements.

Figure 1: Map of SacRT Service Area and Network



Methodology

Between March 7 and March 13, 2020, an origin-destination passenger survey was conducted on SacRT's fixed-route bus system, excluding bus routes in the cities of Elk Grove and Folsom. The City of Elk Grove had not yet annexed their transit service into the District, and Folsom bus routes were not sampled due to the early conclusion of bus surveys. Surveying efforts were planned at that time to continue on the light rail system; however, in response to the COVID-19 pandemic, the State of California enforced stay-at-home orders effective March 20, 2020, which halted the continuation of passenger surveys on the light rail system. As a result, surveying efforts began a second phase to complete data collection on the light rail system in October 2022, continuing through mid-December 2022.

Both bus and light rail surveys utilized a self-administered questionnaire, distributed, and collected by trained surveyors. The core questionnaire for both modes had similar questions, ranging from trip-specific information, fare information, and rider demographics and characteristics. Questionnaires were also available in several translated versions, including Spanish, Russian, Vietnamese, Chinese, Hmong, and Punjabi.

Sampling Plan

The origin-destination survey conducted on the fixed-route bus system sampled about 18 percent of weekday trips, and about 8 percent of weekend trips, yielding a total of 1,749 responses. On a route-level basis, surveyors sampled approximately 12.5 percent of total trips for each route, on average. SacRT contracted a third-party agency to conduct the bus passenger survey, which included twenty surveyors working eight hours each day covering all times of day. This robust manpower allowed surveying efforts on the bus system to be completed in six days.

Table 1. Sample Rate Breakdown for Bus

Segment	Daily Boardings	Sample Size	Sampling Rate	Max Margin of Error	Confidence Level
Bus Weekday	21,500	1,295	6.02%	2.72%	95%
Bus Saturday	10,400	248	2.38%	6.22%	95%
Bus Sunday	7,400	206	2.78%	6.83%	95%

Note: This assumes all questions were answered on every useable survey. Questions that were skipped more often will have a larger actual margin-of-error.

The light rail passenger survey was conducted in-house and sampled approximately 8.7 percent of weekday light rail ridership, and 5.8 percent of weekend light rail ridership. Based on the sampling plan at 95 percent confidence interval, the margin-of-error is 3.5 percent on weekdays, and 5.6 percent on weekends. SacRT conducted the passenger survey on light rail with surveyors working four-to-eight-hour shifts, covering all times of day. Manpower was much more limited than it had been on bus; therefore, the surveying efforts on light rail took approximately two months to complete.

Table 2. Sample Rate Breakdown for Light Rail

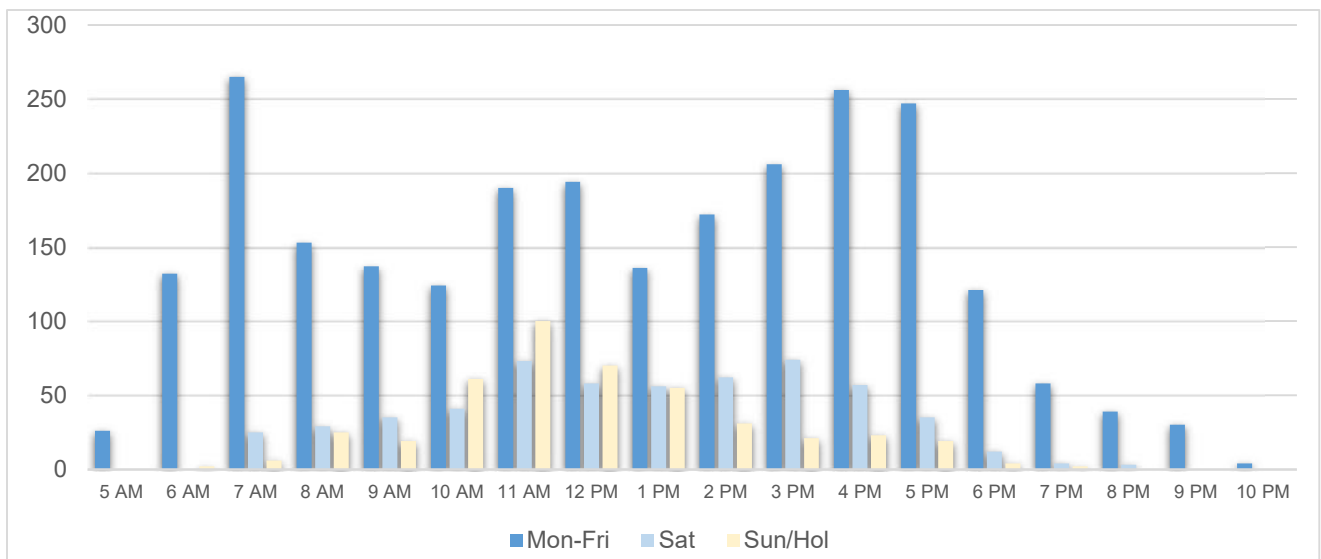
Segment	Daily Boardings	Sample Size	Sampling Rate	Max Margin of Error	Confidence Level
Gold Weekday	8,500	664	7.81%	3.80%	95%
Gold Saturday	5,500	152	2.76%	7.95%	95%
Gold Sunday	4,400	130	2.95%	8.60%	95%
Blue Weekday	8,200	727	8.87%	3.63%	95%
Blue Saturday	5,000	172	3.44%	7.47%	95%
Blue Sunday	3,400	124	3.18%	8.80%	95%

Note: This assumes all questions were answered on every useable survey. Questions that were skipped more often will have a larger actual margin-of-error.

The sampling rate was higher on the bus system because SacRT wanted to get reasonably large samples for each regular bus route. On light rail, there are only two major routes, the Blue Line and Gold Line, so not as many samples are needed to get reasonable line-by-line breakdowns. SacRT does not have a specific goal for sampling rate or margin-of-error by bus route, but generally seeks a higher sampling rate on the bus system, so route-level analyses have a reasonable margin-of-error. On the light rail system, breakdowns by line are the most common, but breakdowns by station are another common analysis, although the sampling plan was not designed to achieve a specific margin-of-error by light rail station.

Surveying was conducted seven days a week between 5 a.m. and 10 p.m. The collection of responses by time of day is shown in Figure 2.

Figure 2. Survey Responses by Time of Day



Questionnaire

Origin-destination survey questionnaires for both bus and light rail include 24 questions, and two rating sections. Images of the survey questionnaire for Bus and Light Rail are shown in Figures 3 and 4. Questionnaires were also available in six additional languages identified as “tier two” languages in the 2020 Title VI Program’s Language Assistance Plan (LAP). The LAP includes a tiered method that determines which SacRT documents are translated, and in which language.



Figure 3. Bus Survey Questionnaire



Bus Passenger Survey

RT ONLY Date _____ Survey ID # _____
 Service: MF Sa Su Direction: IB OB
 Surveyor: _____ Route _____
 Time: 1 2 3 4 5 6 7 8 9 10 11 12 AM PM

1. Where did you board **this bus**? (Address, cross street, or station)

 Ex: 1225 R St, Watt & Marconi, 29th St LR Station
2. Where were you **originally coming from** before boarding **this bus**?
 Home -or- _____
 Name of place (Ex: Sac City College)

 Address (or Cross Streets) Zip Code
3. Where will you be exiting **this bus**?

 Address, Cross Street, or LR Station
4. Where is your **final destination**?
 Home -or- _____
 Name of place (Ex: Arden Fair Mall)

 Address (or Cross Streets) Zip Code
10. What is your home zip code? _____
11. How did you get to the bus **you are on right now**?
 a. Walked entire way d. Dropped off g. Another SacRT bus
 b. Bicycle e. Carpooled h. Another non-SacRT bus or train
 c. Drove car f. Light rail
12. If you transferred, from what route? _____
13. When you get off **this bus** what will you do next?
 a. Walk to destination d. Get picked up g. Transfer to another SacRT bus
 b. Bike to destination e. Carpool h. Transfer to a non-SacRT bus or train
 c. Drive to destination f. Transfer to light rail
14. If you'll be transferring, to what route? _____
15. What is your race/ethnicity?
 a. White/Caucasian e. Alaskan/Native Amer.
 b. Black/African American f. Mixed
 c. Hispanic/Latino g. Other _____
 d. Asian/Pacific Islander
16. What is your household income?
 a. Less than \$10,000 e. \$35,000 to \$49,999
 b. \$10,000 to \$14,999 f. \$50,000 to \$74,999
 c. \$15,000 to \$24,999 g. \$75,000 to \$99,999
 d. \$25,000 to \$34,999 h. \$100,000 or more
17. How many days per week do you ride RT? 1 2 3 4 5 6 7
 Less than 1x per week

5. What is the main language you speak at home?
 a. English c. _____ e. ti ng Vi t g. त्मि
 b. Español d. _____ f. Hmong
 6. Do you speak English?
 a. Fluent b. Some English c. No English
 7. What is the purpose of this trip?
 a. Work d. Other Appointment
 b. School/College e. Shopping/Errands
 c. Medical Appointment f. Other
 8. What fare did you pay? (Circle one)
 a. \$2.50 Basic Fare h. DHA Pass
 b. \$1.25 Discount Fare i. Senior/Disabled Sticker
 c. \$7.00 Daily Pass j. SacRT Monthly Pass
 d. \$3.50 Discount Daily Pass k. Lifetime Pass (Age 75+)
 e. Los Rios l. Transfer from other agency
 f. CSUS m. Did not pay
 g. Student Sticker (K-12) n. Other _____
 9. How did you pay your fare?
 a. Cash b. Connect Card c. Zip Pass d. Ticket or pass
 18. What is your age? _____
 19. In what year did you begin riding SacRT? _____
 20. Do you have a disabled ID card from SacRT? Yes No
 21. Have you heard of SacRT's Smart Ride? Yes No
 22. Does your employer help pay for your SacRT pass? Yes No
 23. Do you work? Full-Time Part-Time No
 24. Do you have any of the following?
 a. A car you can drive Yes No d. A smart phone Yes No
 b. A credit/debit card Yes No e. An email address Yes No
 c. A cell phone Yes No f. A checking account Yes No
- Please rate the route you are on:
- | | | | | | |
|-----------------|------|---|---|---|------|
| | Poor | | | | Good |
| 25. Overall | 1 | 2 | 3 | 4 | 5 |
| 26. Reliability | 1 | 2 | 3 | 4 | 5 |
- Please rate SacRT overall:
- | | | | | | |
|---|------|---|---|---|------|
| | Poor | | | | Good |
| 27. Overall | 1 | 2 | 3 | 4 | 5 |
| 28. Friendly drivers | 1 | 2 | 3 | 4 | 5 |
| 29. Clean buses | 1 | 2 | 3 | 4 | 5 |
| 30. Clean light rail trains | 1 | 2 | 3 | 4 | 5 |
| 31. Safe light rail trains and stations | 1 | 2 | 3 | 4 | 5 |
| 32. Bus stop safety and comfort | 1 | 2 | 3 | 4 | 5 |
| 33. Customer information | 1 | 2 | 3 | 4 | 5 |

THANK YOU!

Contact: James Drake
 jdrake@sacrt.com

Figure 4. Light Rail Survey Questionnaire



Gold Line Passenger Survey

Date _____ Survey ID # _____
 Service: MF Sa Su Direction: IB OB
 Surveyor: _____ Route _____
 Time: 1 2 3 4 5 6 7 8 9 10 11 12 AM PM

1. Where did you board **this train**? (circle one station)
- | | | | |
|----------------|-------------|----------------|-----------------|
| Sac Valley | 16th Street | Power Inn | Zinfandel |
| 7th & I | 23rd Street | College Greens | Cordova |
| 8th & H | 29th Street | Watt/Manlove | Sunnise |
| 7th & Capitol | 39th Street | Starfire | Hazel |
| 8th & O | 48th Street | Tiber | Iron Point |
| Archives Plaza | 59th Street | Butterfield | Glenn |
| 13th Street | 65th Street | Mather | Historic Folsom |

2. Where were you **originally coming from** before boarding **this train**?
- Home -or- _____
 Name of place (Ex: Sac City College)

Address (or Cross Streets) _____ Zip Code _____

3. Where will you be exiting **this train**? (circle one station)
- | | | | |
|----------------|-------------|----------------|-----------------|
| Sac Valley | 16th Street | Power Inn | Zinfandel |
| 7th & I | 23rd Street | College Greens | Cordova |
| 8th & H | 29th Street | Watt/Manlove | Sunnise |
| 7th & Capitol | 39th Street | Starfire | Hazel |
| 8th & O | 48th Street | Tiber | Iron Point |
| Archives Plaza | 59th Street | Butterfield | Glenn |
| 13th Street | 65th Street | Mather | Historic Folsom |

4. Where is your **final destination**?
- Home -or- _____
 Name of place (Ex: Arden Fair Mall)

Address (or Cross Streets) _____ Zip Code _____

10. What is your home zip code? _____
11. How did you get to the train **you are on right now**?
- | | | |
|----------------------|----------------|------------------------------------|
| a. Walked entire way | d. Dropped off | g. Another SacRT train |
| b. Bicycle | e. Carpoled | h. Another non-Sac RT bus or train |
| c. Drove car | f. SacRT Bus | |

12. If you transferred, from what route? _____
13. When you get off **this train** what will you do next?
- | | | |
|-------------------------|--------------------|---|
| a. Walk to destination | d. Get picked up | g. Transfer to another light rail train |
| b. Bike to destination | e. Carpool | h. Transfer to a non-SacRT bus or train |
| c. Drive to destination | f. Transfer to bus | |

14. If you'll be transferring, to what route? _____
15. What is your race/ethnicity?
- | | |
|---------------------------|-------------------------|
| a. White/Caucasian | e. Alaskan/Native Amer. |
| b. Black/African American | f. Mixed |
| c. Hispanic/Latino | g. Other _____ |
| d. Asian/Pacific Islander | |

16. What is your household income?
- | | |
|-------------------------|-------------------------|
| a. Less than \$10,000 | e. \$35,000 to \$49,999 |
| b. \$10,000 to \$14,999 | f. \$50,000 to \$74,999 |
| c. \$15,000 to \$24,999 | g. \$75,000 to \$99,999 |
| d. \$25,000 to \$34,999 | h. \$100,000 or more |

17. How many days per week do you ride SacRT? 1 2 3 4 5 6 7
 Less than 1x per week

5. What is the main language you speak at home?
- | | | | |
|------------|------------|---------------|-----------|
| a. English | c. 中文 | e. tiếng Việt | g. नेपाली |
| b. Español | d. русский | f. Hmong | |
6. Do you speak English?
 a. Fluent b. Some English c. No English
7. What is the purpose of this trip?
 a. Work d. Other Appointment
 b. School/College e. Shopping/Errands
 c. Medical Appointment f. Other
8. What fare did you pay? (Circle one)
 a. \$2.50 Basic Fare i. Basic Monthly Pass
 b. \$1.25 Discount Fare j. Senior/Disabled Monthly Pass
 c. \$7.00 Daily Pass k. Super Senior (Age 75+)
 d. \$3.50 Discount Daily Pass l. Lifetime Pass (Age 75+)
 e. Los Rios m. Transfer from other agency
 f. CSUS n. Did not pay
 g. Ryde Free (K-12 Students) o. Other _____
 h. DHA Pass
9. How did you pay your fare?
 a. Ticket machine b. Connect Card c. Zip Pass d. Pass

(continue on back)

18. What is your age? _____
19. In what year did you begin riding SacRT? _____
20. Do you have a disabled ID card from SacRT? Yes No
21. Have you heard of SacRT's Smart Ride? Yes No
22. Does your employer help pay for your SacRT pass? Yes No
23. Do you work? Full-Time Part-Time No

24. Do you have any of the following?
- | | | | |
|------------------------|--------|-----------------------|--------|
| a. A car you can drive | Yes No | d. A smart phone | Yes No |
| b. A credit/debit card | Yes No | e. An email address | Yes No |
| c. A cell phone | Yes No | f. A checking account | Yes No |

Please rate the route you are on:

25. Overall	Poor	Good
	1 2 3 4 5	
26. Reliability	1 2 3 4 5	

Please rate SacRT overall:

27. Overall	Poor	Good
	1 2 3 4 5	
28. Friendly drivers	1 2 3 4 5	
29. Clean buses	1 2 3 4 5	
30. Clean light rail trains	1 2 3 4 5	
31. Safe light rail trains and stations	1 2 3 4 5	
32. Bus stop safety and comfort	1 2 3 4 5	
33. Customer information	1 2 3 4 5	

THANK YOU!

Contact: Sarah Poe
 SacRT Planning Department
 2811 O Street
 spoe@sacrt.com

Results

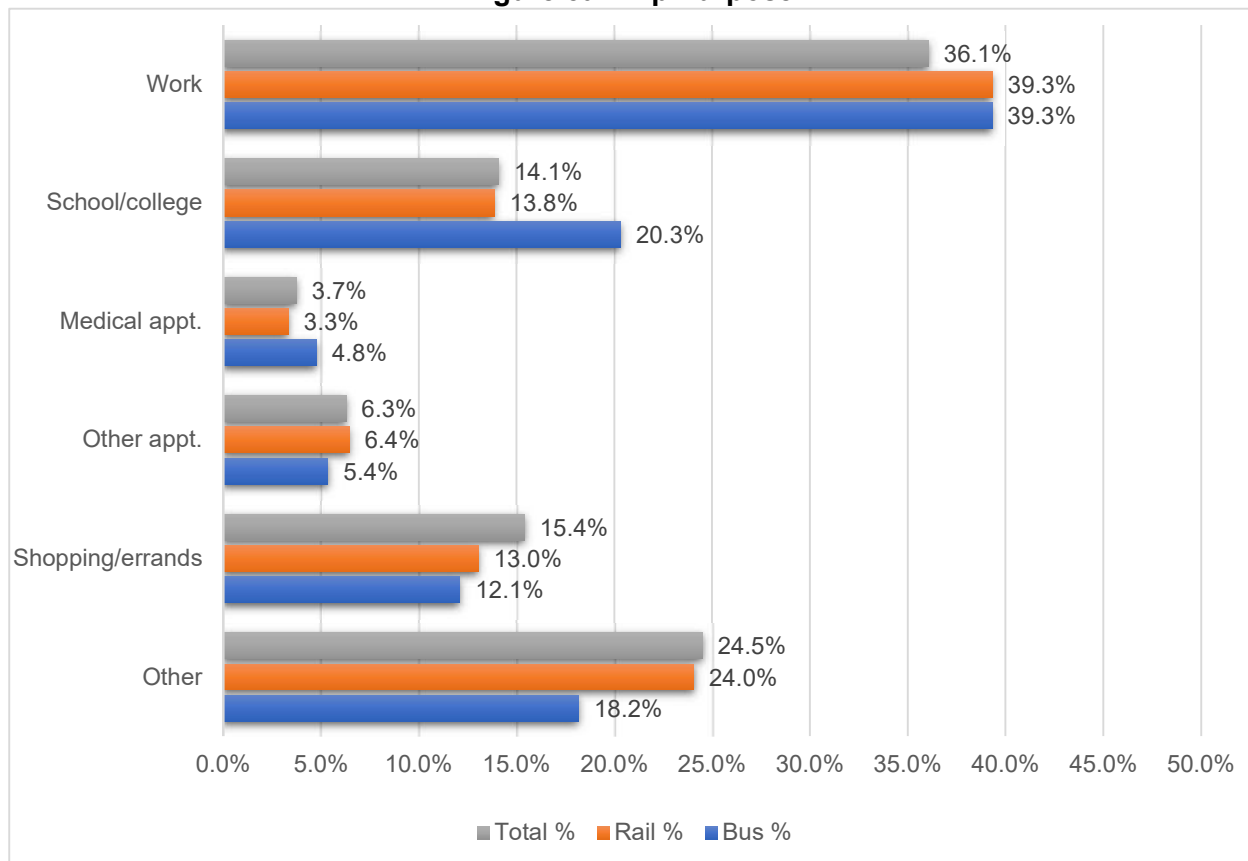
Trip Purpose:

As shown in Figure 5a, “Work” remained the most common trip purpose at 39 percent of SacRT trips, consistent with past surveys. Interestingly, this rate was the same on bus and light rail (although it should be noted that bus riders were surveyed immediately before the pandemic, while light rail riders were surveyed in late 2022). “School/college” trips were 14 percent of trips on SacRT and were more common on the bus system (20 percent) than the light rail system (14 percent).

SacRT introduced its RydeFreeRT program in October 2019, and has seen student pass ridership increase considerably; however, student pass ridership is not the same as school/college ridership, because a lot of students use their passes to make non-school trips.

Although this survey asks several questions about fare payment, due to the significant number of ways to pay a fare, the limited space on the questionnaire, limited time and attention of participants, etc., SacRT has historically conducted an additional annual survey of passenger payment to provide year-by-year precision, more breakdowns between fare types, and other details that are needed for applications such as fare changes and billing support (e.g., of transfer agreements and college pass programs). The annual fare survey was also suspended on account of the pandemic, but SacRT expects to resume surveying in Fall 2023.

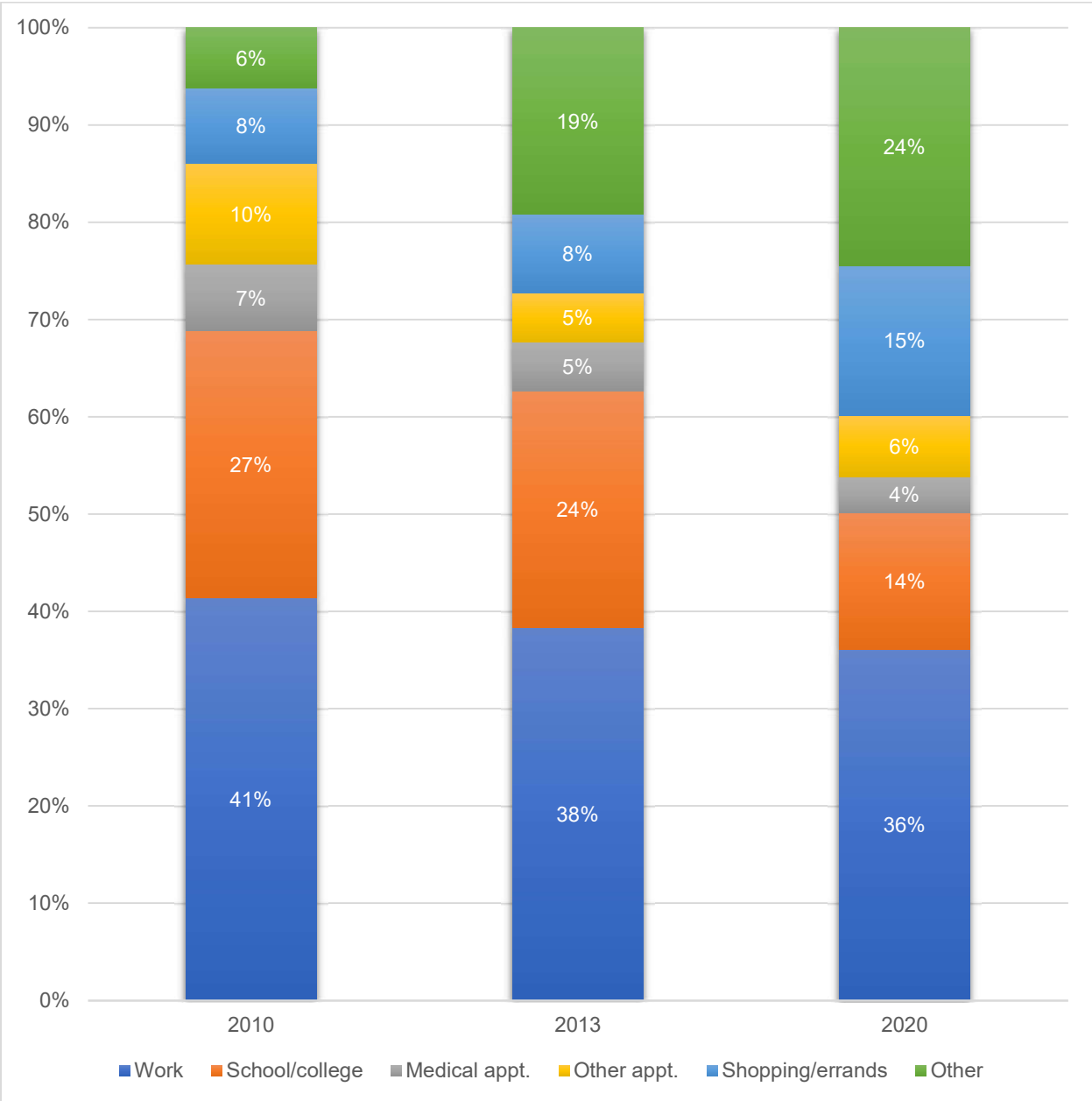
Figure 5a. Trip Purpose



Trip Purpose - Longitudinal:

In Figure 5b, the trip purpose result is compared to the results of past surveys. Work-oriented trips have stayed stable across time. The largest change over time is the percentage of riders who reported “Other” as the purpose of their transit trip. This could be indicative of people using transit for social purposes, such as meeting with their friends or relatives. In the 2013 SACOG survey, 9 percent of respondents responded with “Recreation/Friends/Family” as their trip purpose, combined here into “Other” for comparability. Future passenger surveys should include this important travel purpose.

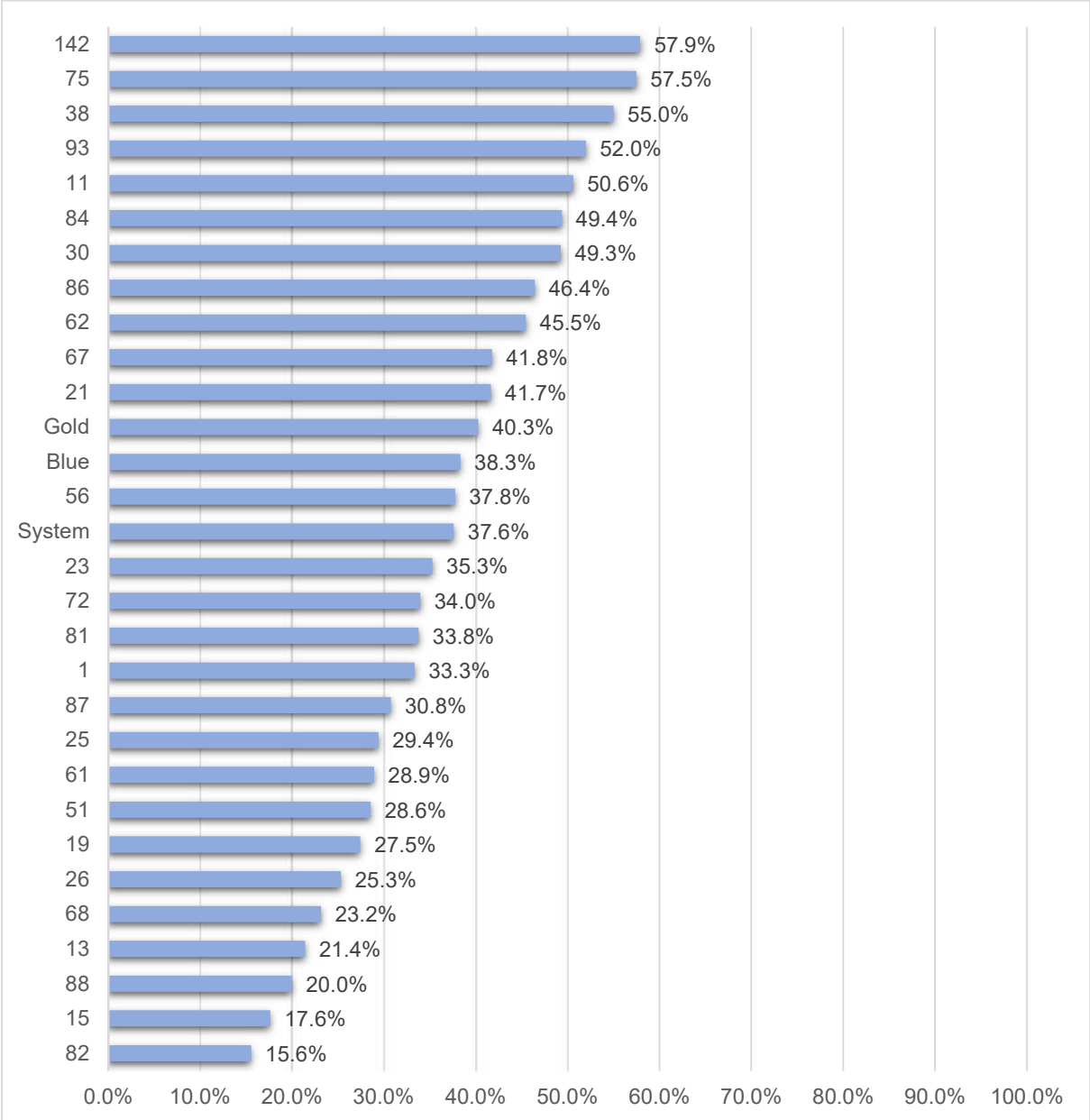
Figure 5b. Trip Purpose Over Time



Trip Purpose - by Route:

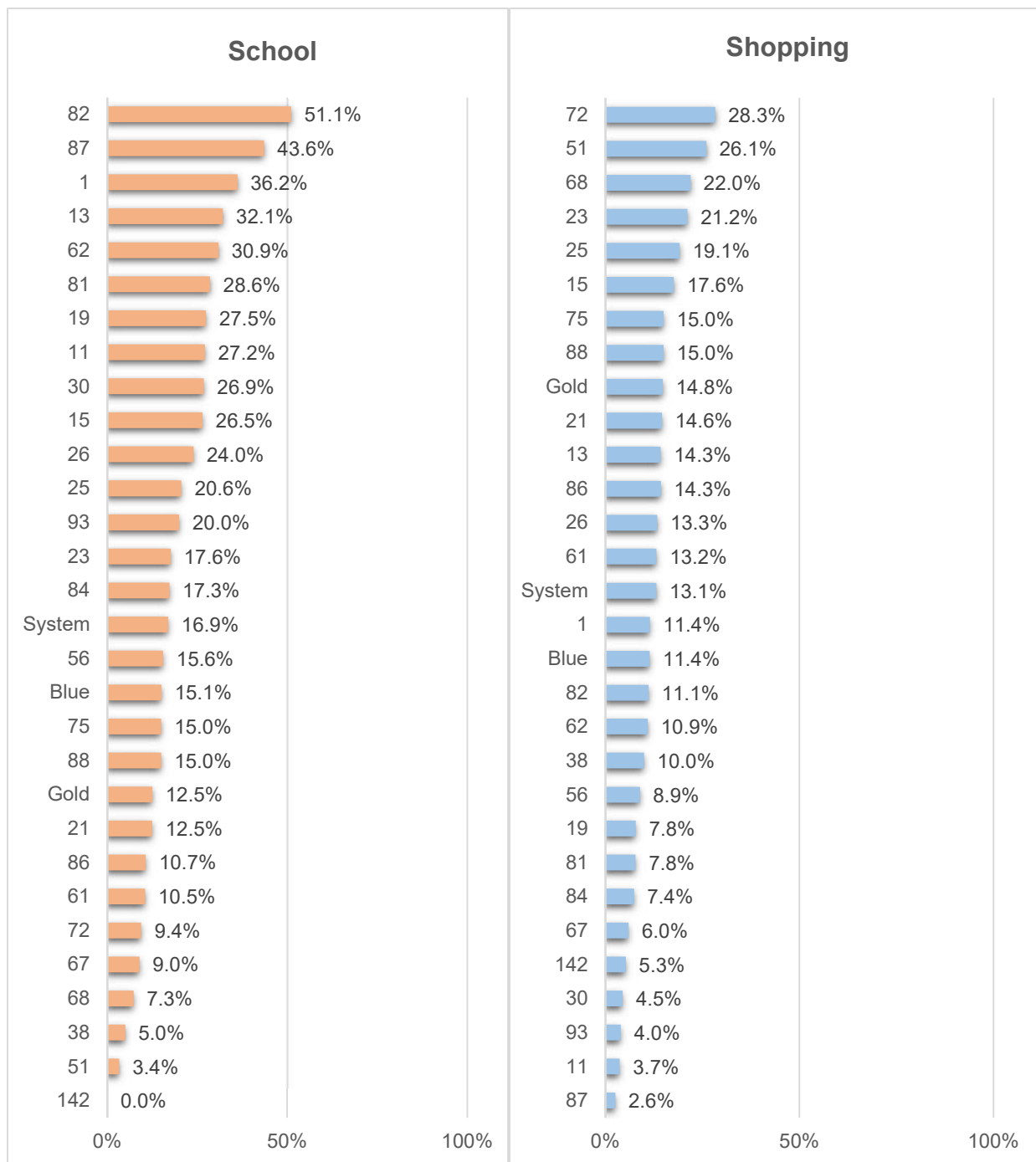
Route 142 (Airport) had the highest percentage of work trips at 57.9 percent. This might suggest that Route 142 users tend to be airport employees rather than travelers; however, it is possible that the data might be somewhat clouded, e.g., if a Route 142 rider is riding to the airport for a work trip, he or she might mark “work” on the survey. Also having a high percentage of “work” related trips, Route 75 (Mather) connects to the Veterans Affairs (VA) Medical Center, Volunteers of America Transitional Housing, and a Sacramento Works (SacWorks) jobs center. Respondents may have indicated “work” as their trip purpose to SacWorks, despite it being a destination that provides access to jobs and training, rather than a workplace itself.

Figure 5c. “Work” Trip Purpose by Route



Routes 82, 87 and 1 serve school destinations, including California State University Sacramento (CSUS), and/or American River College. Route 13 did not typically have a high number of “school” related trips; however, the route was redesigned after the SacRT Forward project in 2019, and began serving multiple schools, including Inderkum High School, Natomas Pacific Pathways High School, and the American River College Natomas Center.

Figure 5d. “School” and “Shopping” Trip Purpose by Route



Fare Payment:

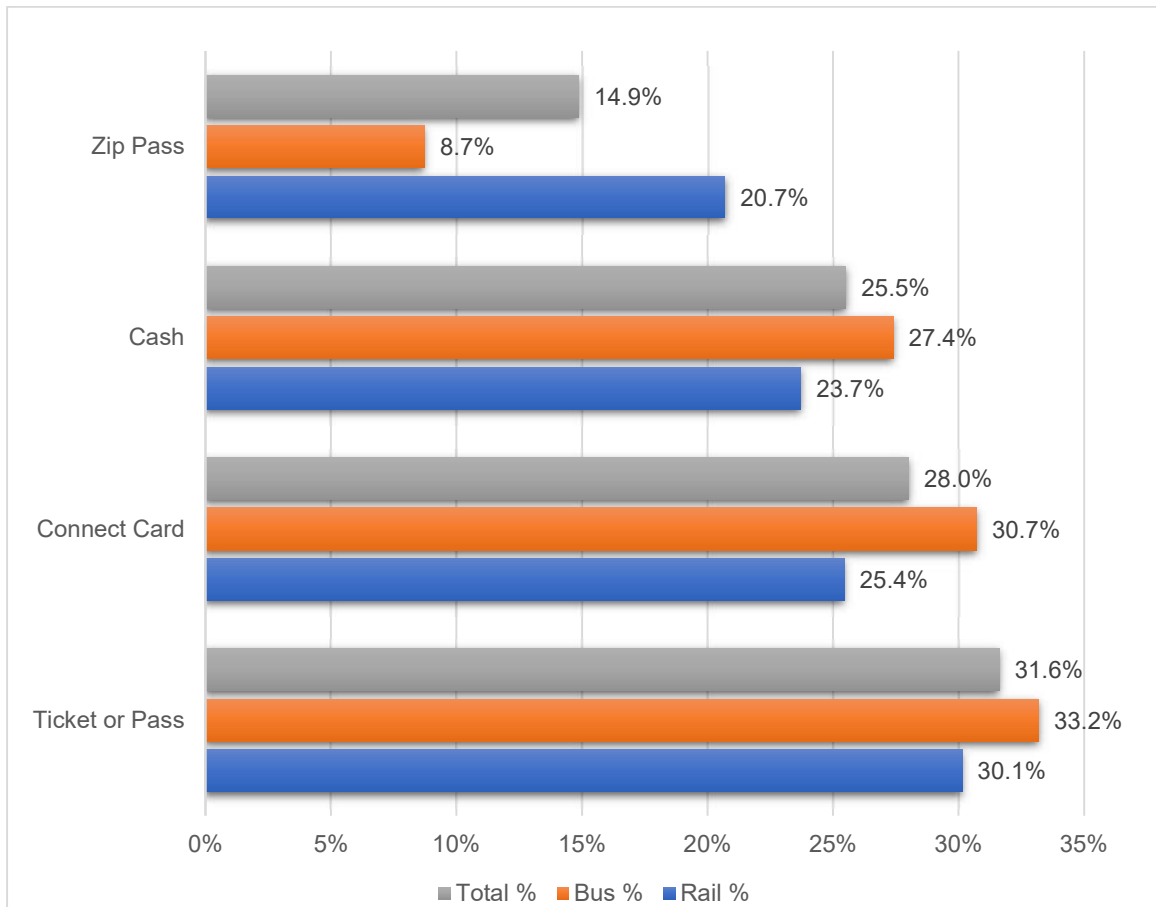
The origin-destination survey includes a question about fare payment type to capture passenger demographics by fare type, i.e., single ride fare, daily pass, monthly pass, etc.; however, utilization rates are better captured in SacRT’s annual fare survey. The fare survey will be conducted in Fall 2023, and results will include passenger fare payment by type.

Fare Payment Method:

Figure 6 represents the fare payment methods used on bus and light rail. Prepaid tickets and passes are used on approximately one in three trips. These types include all “traditional” tickets and passes, i.e., those that are validated via visual inspection and that are paid for in advance. This includes standard monthly passes as well as semester-long college passes. It also includes K-12 students who ride for free with their student ID cards, under SacRT’s Ryde Free RT program, which was introduced in October 2019.

Over the past ten years, SacRT has had two major initiatives to migrate to greater use of electronic fare payment. Connect Card was introduced in 2016 and mobile fare payment was introduced in 2018.

Figure 6. Fare Payment Method



Connect Card, like most smart cards, requires an advance purchase, from a limited number of sales outlets, which makes it less suited for new or occasional users; however, the computerized and largely automated reloading features make it attractive for regular users—from the standpoint of both the user and SacRT. Since its introduction, Connect Card use has grown to approximately 28 percent of trips. Connect Card is also accepted by regional partners, such as YoloBus, which contributes to its growth of use.

Zip Pass, as a smartphone-based mobile payment app, requires more steps for the user than Connect Card (e.g., loading an app, making a credit card payment, activating a fare) but because it does not require advance purchase (i.e., it can be downloaded to a phone while waiting for a bus) it is more attractive and better suited to new and occasional riders (e.g., someone attending a Sacramento Kings basketball game or a visitor from out of town). Zip Pass use has grown to 15 percent of trips. Zip Pass use is notably more common on light rail (21 percent) than on the bus system (9 percent). This may be because customers attempt to ride without paying a fare and then purchasing or activating a fare on Zip Pass only if they see a ticket inspector.



Cash boardings make up about one in four SacRT boardings, which is very similar to historical levels. Cash boardings include light rail tickets purchased with cash or credit card from light rail ticket machines immediately prior to riding, as opposed to paper tickets that are pre-purchased from a sales outlet. Despite significant adoption of electronic fares, cash boardings have not decreased significantly from historical levels. Many passengers may still be accustomed to using cash payments and view it as an easier way to pay rather than learn a new electronic method.

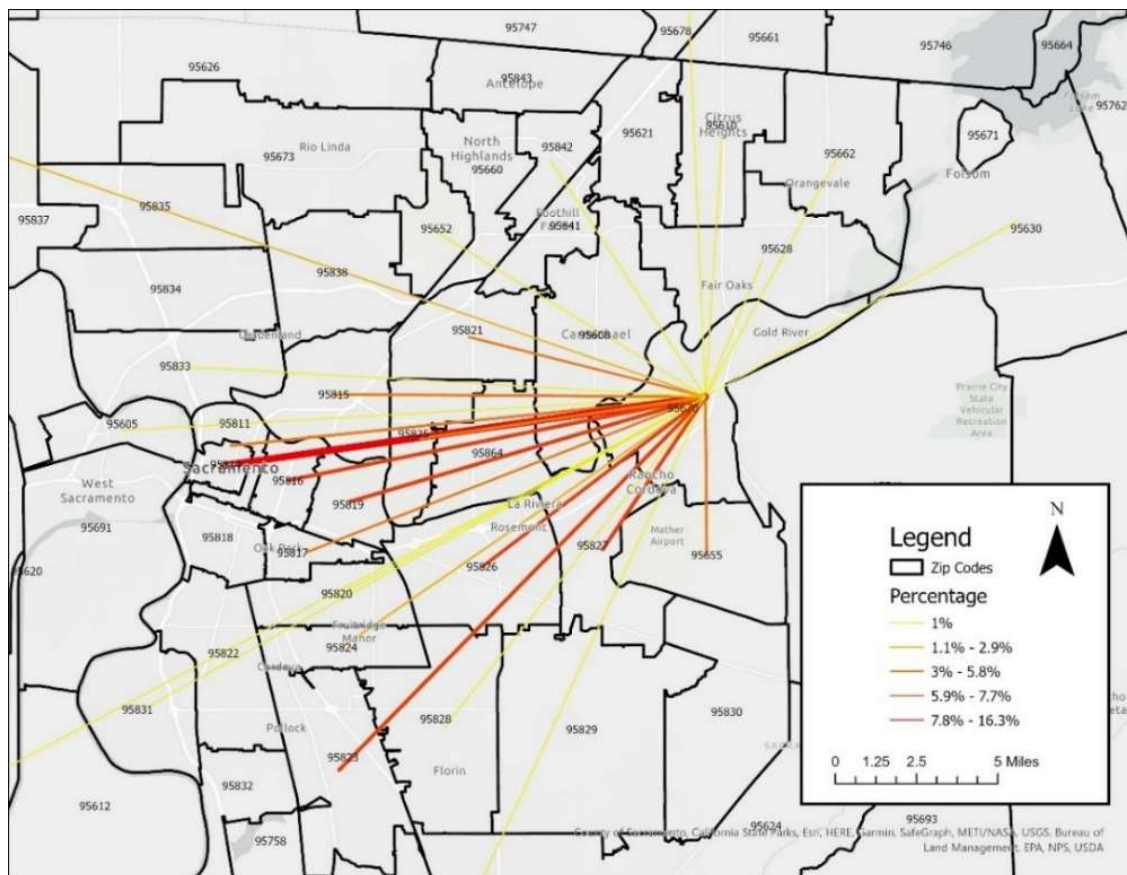
Origin-Destination - Bus:

SacRT's ridership volumes by bus stop and by station are obtained from Automatic Passenger Counter (APC) devices that are mounted at all doors on buses and light rail vehicles; however, APCs cannot detect which passenger is boarding or disembarking at locations, so the data does not provide passenger origin-destination pairs. Connect Card data does provide boarding location for each unique cardholder; however, Connect Card is used for less than one in three passenger trips. For these reasons, a traditional origin-destination survey continues to be the best source of trip-pair data.

The origin-destination survey has some inherent difficulties in recording passenger origins and destinations because most passengers do not know the address of their origin and destination. This is borne out in the survey, where only 60 percent of respondents provided a zip code, or provided enough of the address to determine a zip code. Additionally, zip codes cover large areas and passengers who have origins and destinations within the same zip code are not captured in this data. Approximately 30 percent of respondents report trips within the same zip code.

In general, the origin and destination pairs are disparate because of the dispersed land-use patterns in the Sacramento region. Figure 7 shows a map of the origin and destination zip code pairs of passengers originating in zip code 95670, located in the City of Rancho Cordova.

Figure 7. Origin-Destination - Zip Code 95670



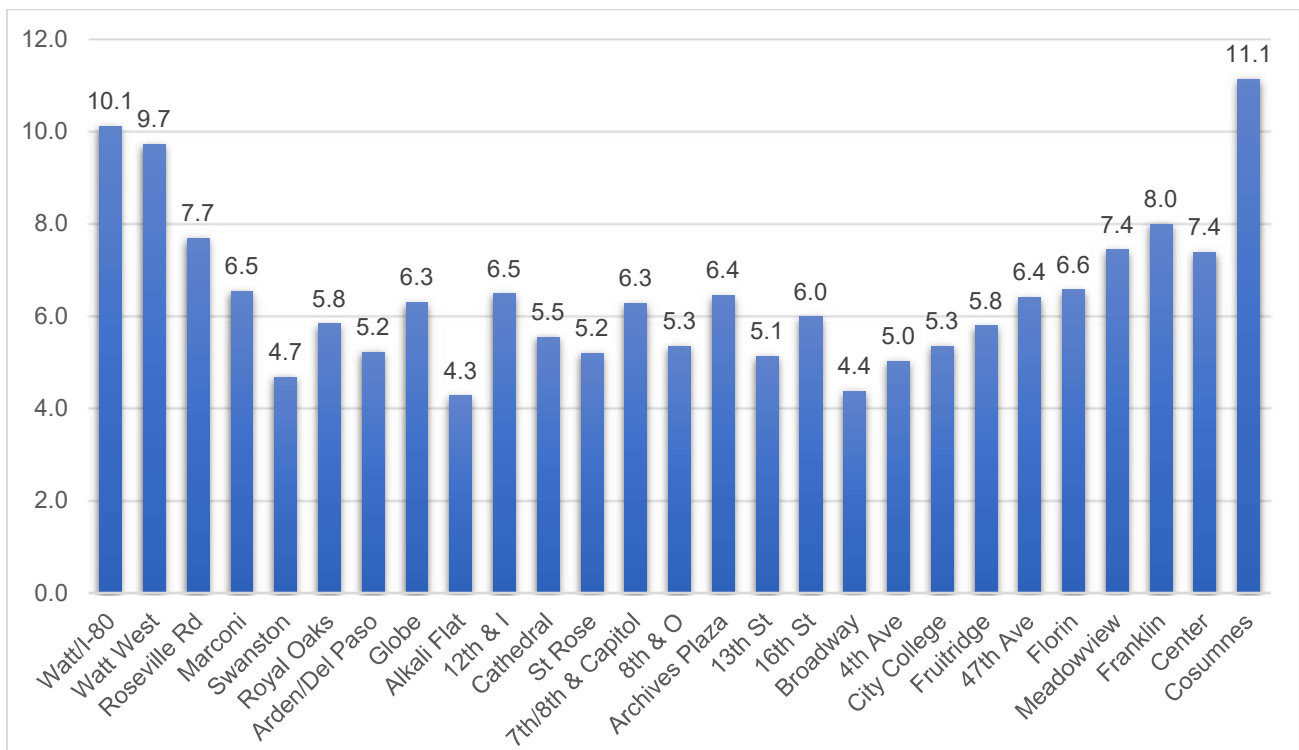
The map shows varied travel patterns of passengers traveling on bus routes from Rancho Cordova, with a plurality of trips citing Downtown as the destination. Additionally, there is a noticeable lack of travel north to Folsom or Citrus Heights from Rancho Cordova; however, this does not suggest there is no demand for service to those locations, it is simply a measure of how current passengers use these routes. Additional origin-destination zip code pairs are included in Appendix A.



Figure 8b shows the average trip distance originating or ending at a Blue Line station. The average trip distance for a Blue line passenger is 6.8 miles. CRC and Watt/I-80 stations stand out as stations with the highest average trip distances, both with higher than 10 miles. This illustrates how trips to/from downtown Sacramento dominate the trips from these far ends of the Blue line. These trips could be transferred to the Gold line or other buses, in addition to destinations in downtown Sacramento. The other South Sacramento stations such as Center Parkway, Meadowview, and Florin show much lower trip distances in comparison, demonstrating the variety of origins and destinations that riders travel to from these stations.

A caveat with trip distance information is that surveys typically took more than the time between adjacent stations, meaning trips that were only between adjacent or very close stations are typically not represented in this data. Surveyors reported that rail respondents would decline the survey if their trip was ending soon and felt they did not have enough time. This could skew respondent results to indicate longer average trip lengths; however, this would mostly impact stations close to downtown Sacramento, since distance between stations is very low in the area, only exasperating the pattern of outer stations having significantly higher average trip lengths.

Figure 8b. Blue Line Average Trip Distance by Station (mi)

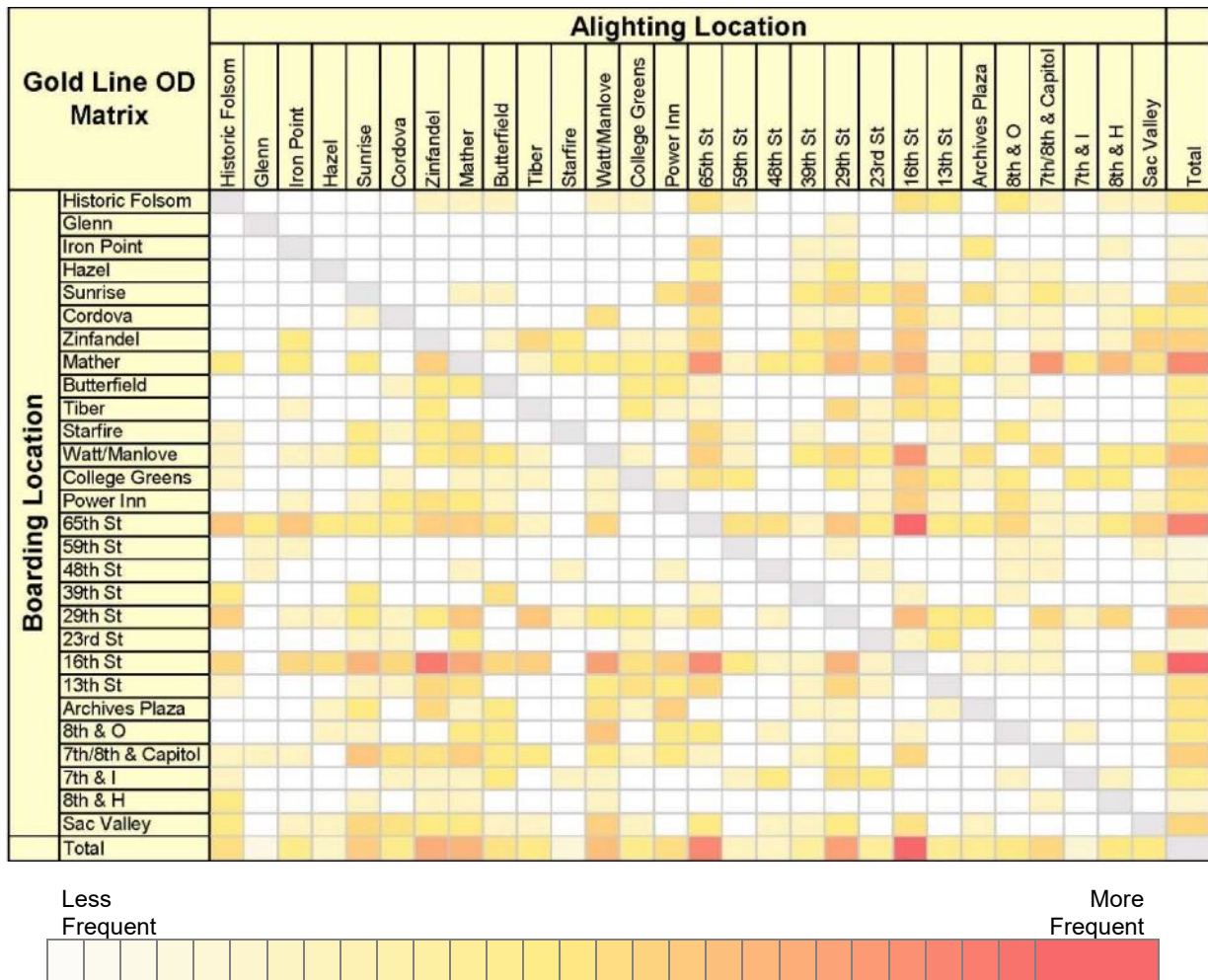


The Gold line provides east-west service between downtown Sacramento and the cities of Rancho Cordova and Folsom. The Gold line terminus downtown is located at the Sacramento Valley Station, and the terminus in the eastbound direction is located at the Historic Folsom station, in the City of Folsom.

The passenger survey results in Figure 9a show many boardings occurring at Mather, Watt/Manlove, 65th Street, 29th Street, and 16th Street stations. Many alightings are also seen at some of the same locations, including Zinfandel, Mather, Watt/Manlove, 65th Street, 29th Street, and 16th Street stations. Frequent activities at these stations are due to their location and where they are in proximity to schools, employment, and other transit services. Many of these locations are transfer points in the system where riders can transfer to other light rail trains and bus routes.

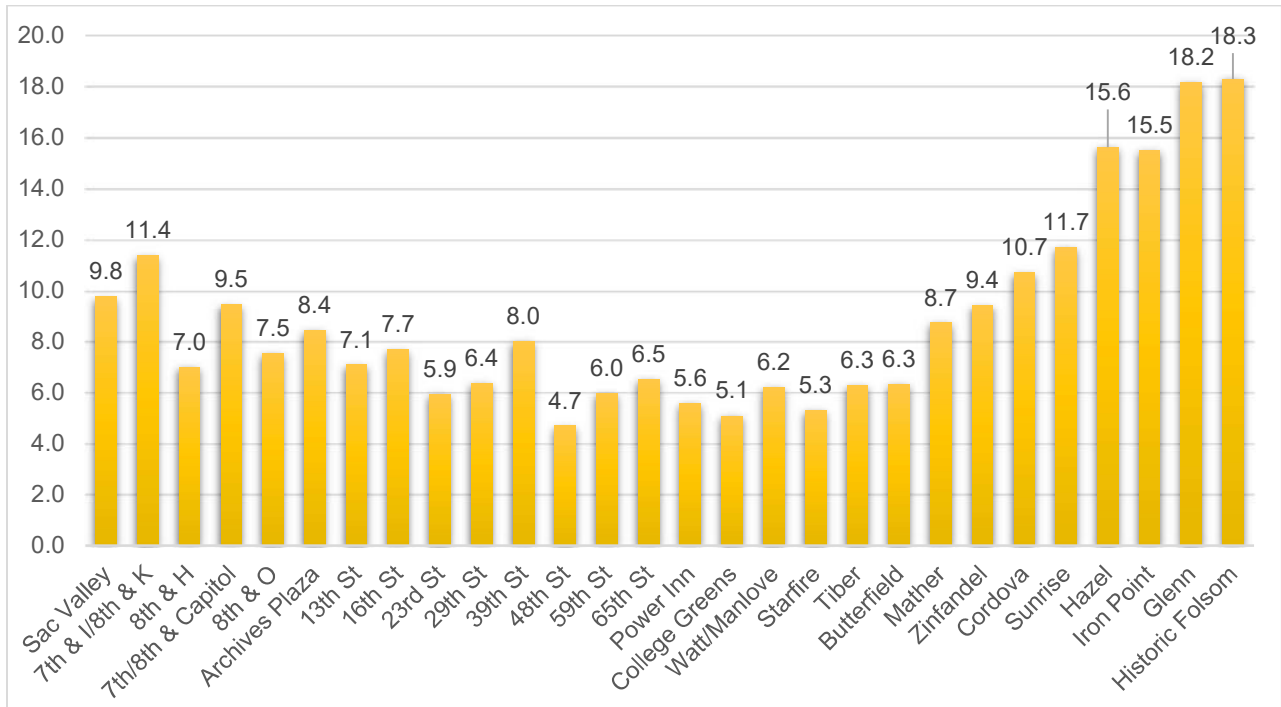
Frequent trip patterns on Gold line include trips that begin at 65th Street station and travel downtown to 16th Street station. Additionally, frequent Gold line trips that begin at Watt/Manlove station also travel downtown to 16th Street station. Many passengers that disembark the Gold line train at 16th Street are most likely transferring to a Blue line train. Passengers that board at 16th Street are seen traveling to Zinfandel, Watt/Manlove, and 65th Street stations.

Figure 9a. Gold Line Origin-Destination Matrix



Based on the origin and destination information, the average trip for a Gold line passenger is 8.1 miles. The average trip distance by station (Figure 9b) for the Gold line reinforces the significant distances the Folsom light rail extension (Hazel, Iron Point, Glenn, and Historic Folsom) covers in comparison to the rest of the system. The average distance traveled to/from the stations around 65th Street station are lower than average, indicating shorter trips dominate the trips taken starting or ending near CSUS.

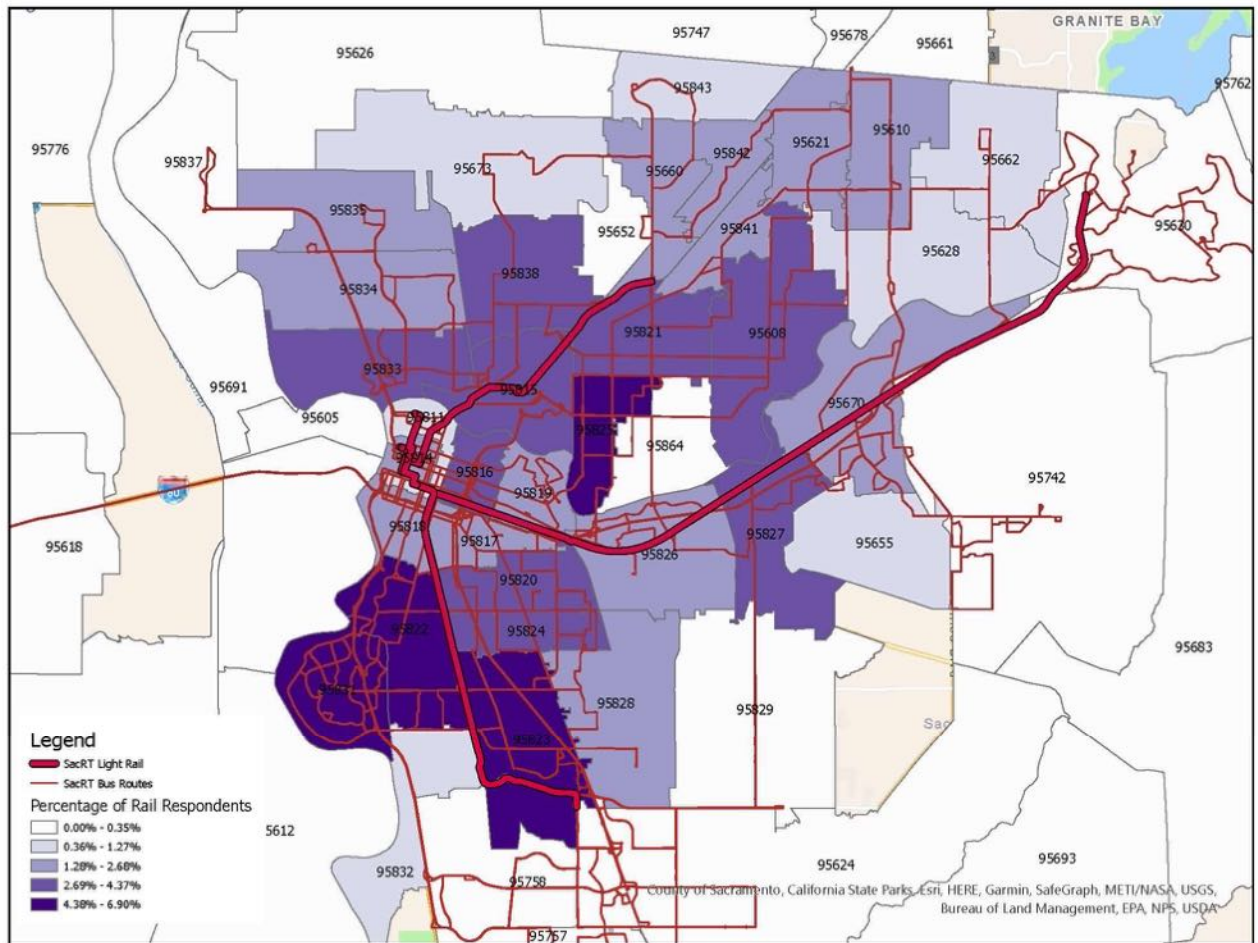
Figure 9b. Gold Line Average Trip Distance by Station



Home Zip Code - Light Rail:

Figure 11 depicts where light rail respondents reside, with darker shaded areas including a higher percentage of riders, and lighter shaded areas including a lower percentage of riders. Many rail respondents predominately reside in the South Sacramento region, including South Land Park, Florin, Meadowview, and Greenhaven-Pocket areas, and in the northern Sacramento region of Arden and Alta-Arden. Other areas that include a high number of respondents reside in Midtown, South Natomas, Del Paso Heights, Carmichael, Rosemont, Oak Park, and Fruitridge.

Figure 11. Home Zip Code, Light Rail



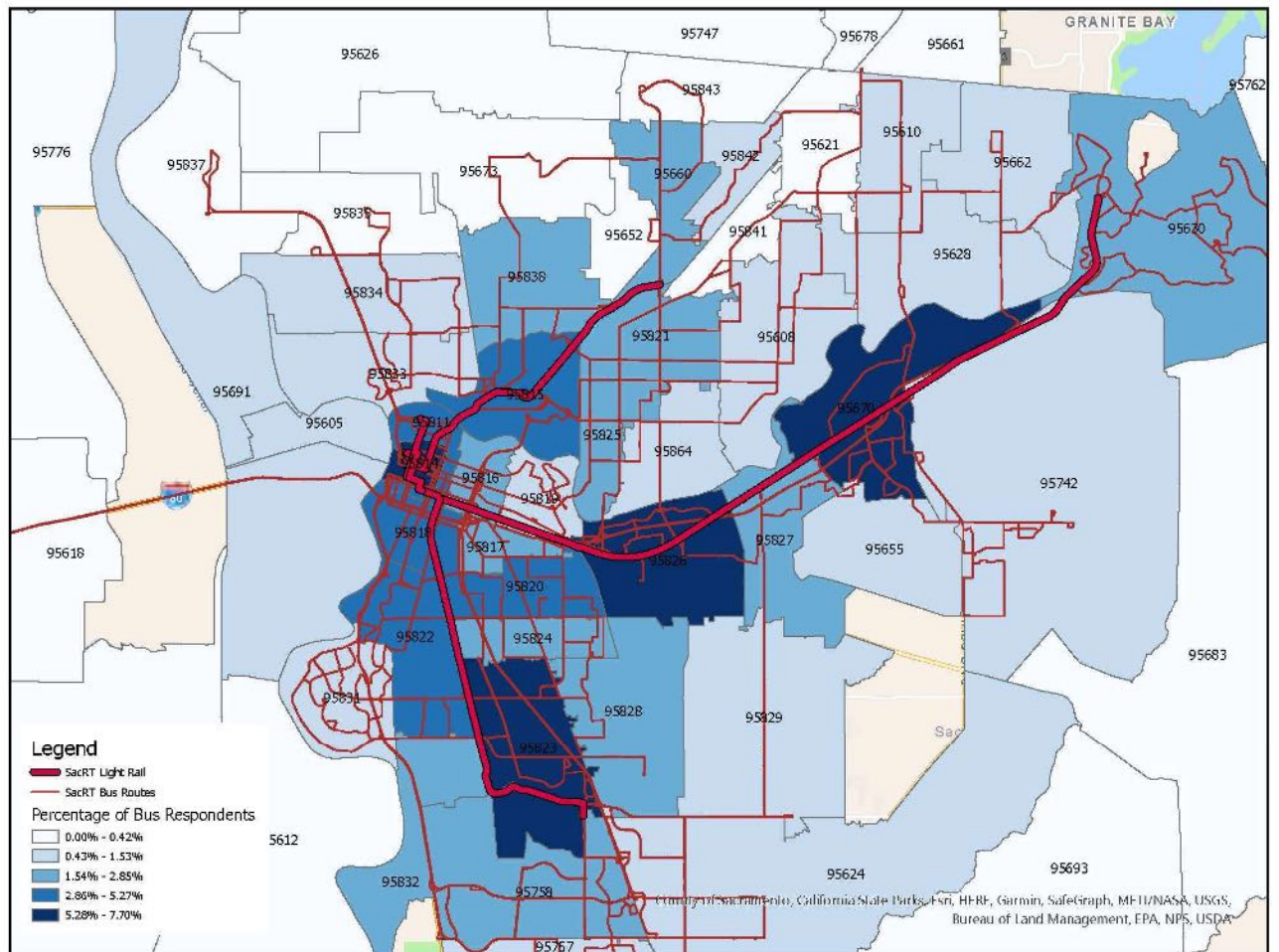
Home Zip Code - Bus:

Figure 12 depicts where bus respondents reside, with darker shaded areas including a higher percentage of riders, and lighter shaded areas including a lower percentage of riders. Many bus respondents predominately reside in Downtown and Central City, Rancho Cordova, College Town-Rosemont, and in the South Sacramento region of Florin Road, Mack Road and Valley Hi.

Other areas that include a high number of respondents reside in Arden-Arcade, Land Park, South Land Park, Florin, and Oak Park.

Note that Folsom bus routes were not surveyed due to an earlier-than-anticipated survey end date (pandemic-related). Also note that Elk Grove bus routes were not surveyed, as the bus surveying took place in 2020, before Elk Grove was annexed into SacRT.

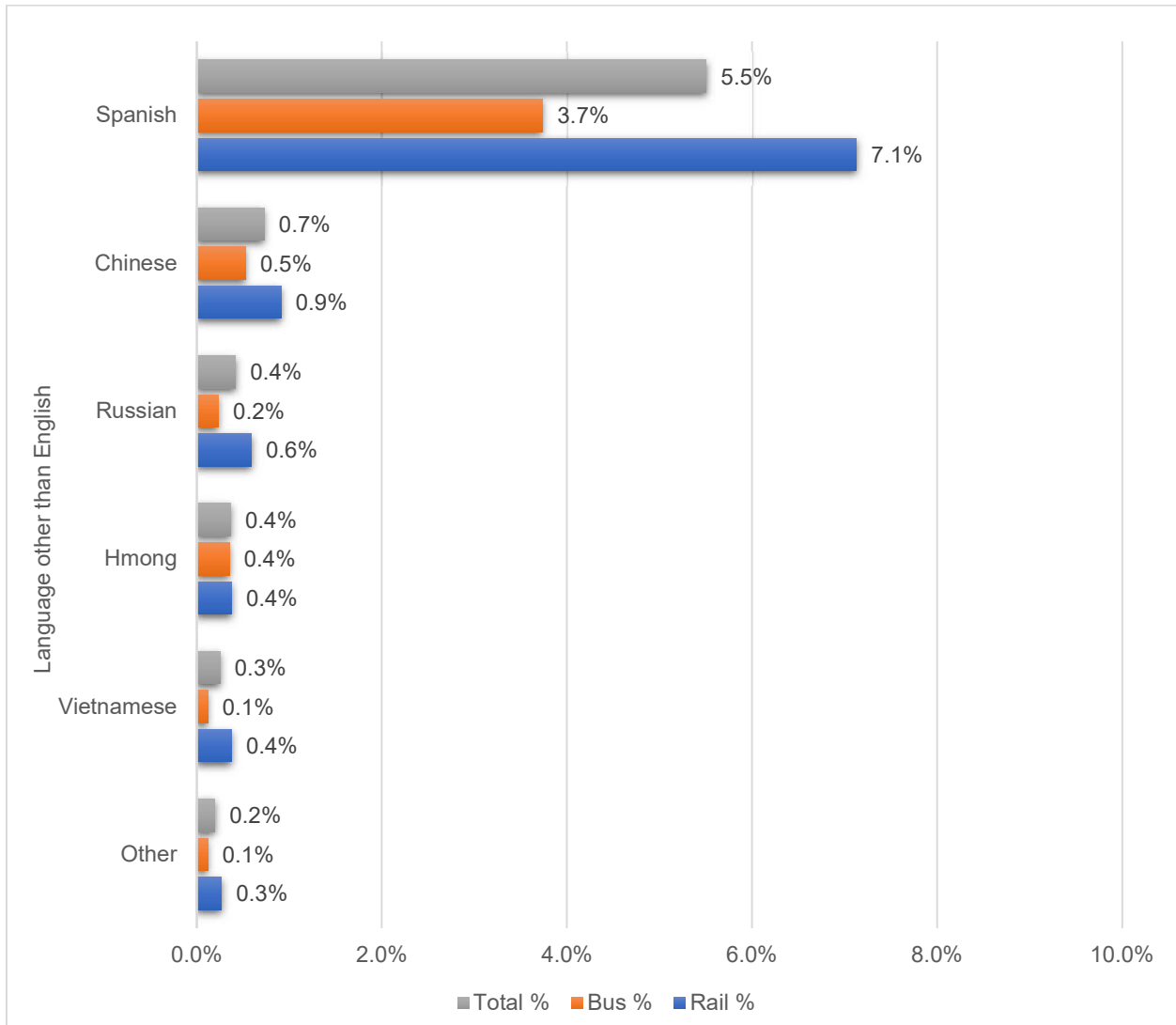
Figure 12. Home Zip Code, Bus



Demographics - Language:

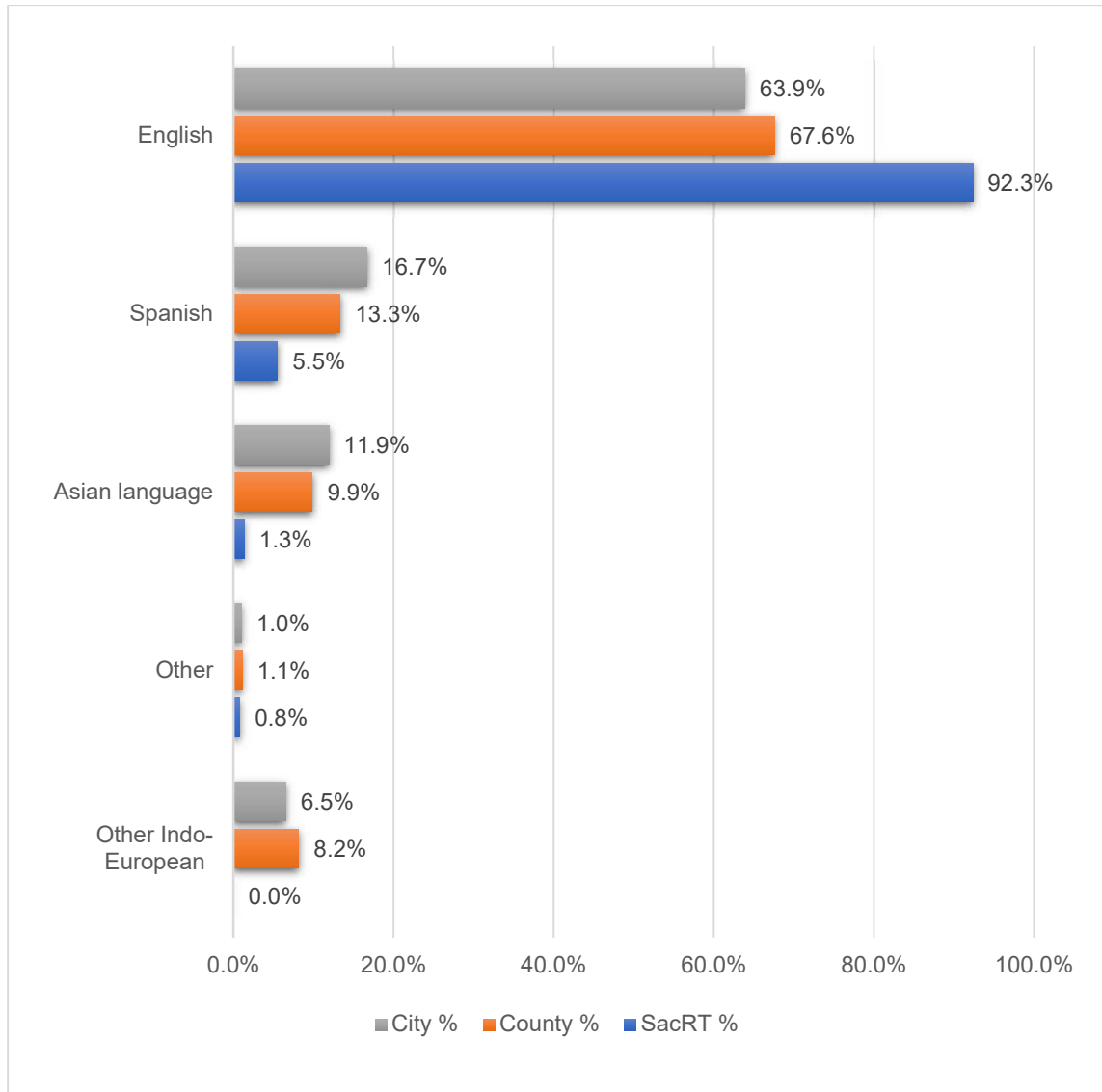
Survey responses to “main language spoken at home” reveals English for 94.8 percent of bus respondents and 90.1 percent of rail respondents. Other languages that are represented in the passenger survey (Figure 13) include Spanish, Chinese, Russian, Hmong and Vietnamese. Light rail survey respondents had a higher number of non-English speaking passengers than bus survey respondents.

Figure 13. Non-English Language Spoken at Home



Although the survey was provided in multiple languages, there were some observed difficulties in getting responses from passengers who spoke a language other than English. Surveyors reported that passengers did not expect to have a survey in their language; therefore, they did not request one. Surveyors typically did not offer a survey in a different language unless the passenger requested one as to not make assumptions about the passenger. This may explain the difference in language spoken at home between the region and SacRT survey respondents (Figure 14).

Figure 14. Language Spoken at Home – Compared to Region



Source: City and County data from U.S. Census Bureau.

Demographics - Age:

Survey respondents are represented by a wide range of ages, with an equitable number of survey responses among most age groups (shown in Figure 15a). The K-12 student (under 18) age group was more prevalent on bus, with about 10.7 percent of respondents. In October 2019, SacRT implemented the “RydeFreeRT” fare program, which provides free transit for K-12 students any day and time during regular SacRT service hours. Since implementation, school trips did not grow considerably; however, student ridership may increase for trips other than to/from school. Surveyors reported difficulty getting responses from younger riders, despite observing many high-school age riders around school closing times. This may explain the low percentage of under 18 respondents.

Figure 15a. Age of Respondents

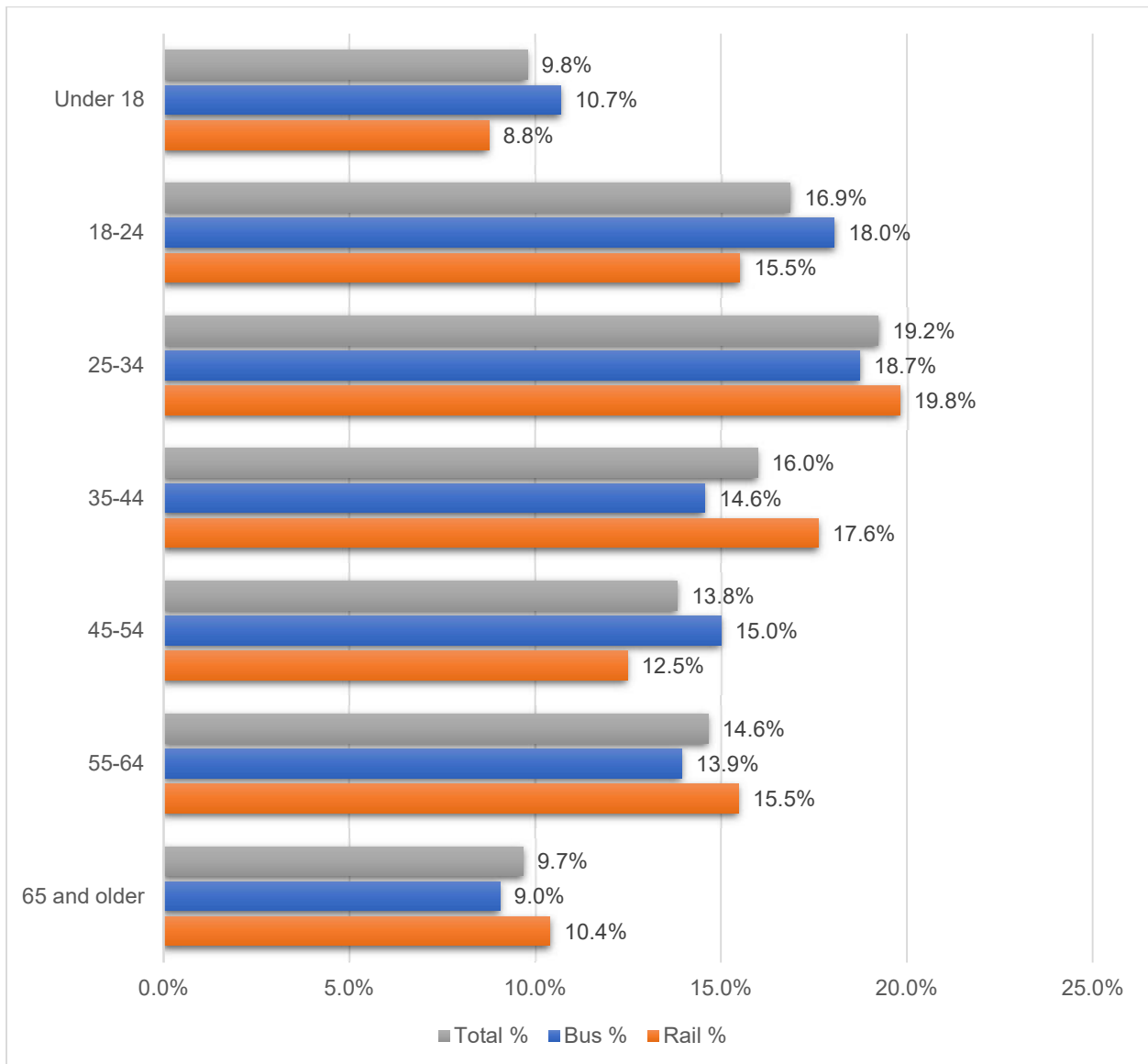
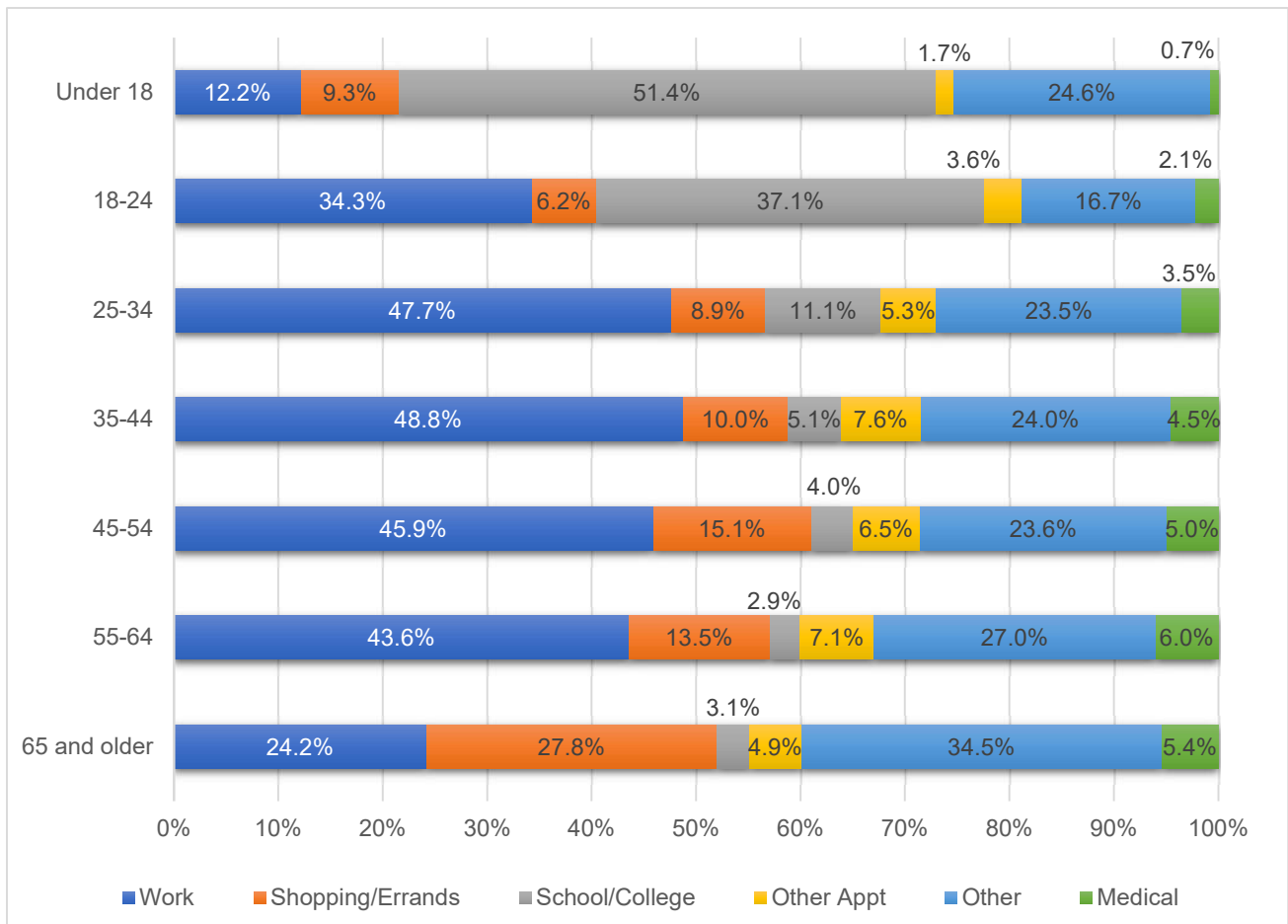


Figure 15b shows the reported trip purpose by age as expected; the trip purpose of respondents under the age of 24 is dominated by “School/College”. However, there is a significant percentage of riders of all ages riding SacRT for “Other” purposes, potentially indicating leisure or entertainment-related trips. A large proportion of 65 and older riders are using SacRT for “Shopping/Errands”, as well as “Other” trips.

Figure 15b. Trip Purpose by Age



Title VI Demographics:

SacRT’s Title VI Program determines minority and low-income populations within the service area, which assists the agency in making equitable service and fare changes. Table 3 includes the breakdown of minority and low-income populations determined in the 2023 Program update.

Minority persons are defined as persons identifying as American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino, or Native Hawaiian or other Pacific Islander.

Low-income persons are defined by SacRT for this survey report as persons in households earning less than \$25,000 per year.

Table 3. Title VI Demographics

	SacRT Riders	SacRT Service Area
% Minority	67.5%	56.7%
% Low-Income	55.5%	20.0%

Demographics - Minority:

Survey respondents are 67.5 percent minority and 32.5 percent non-minority (Figure 16). Besides the “Non-Hispanic White” respondents, the “Black/African American” respondents are the next largest group, with 29.8 percent responses on bus, and 27.5 percent responses on light rail. “Hispanic/Latino” respondents include 17.9 percent responses on bus and 15.2 percent responses on light rail (Figure 17).

Figure 16. Minority

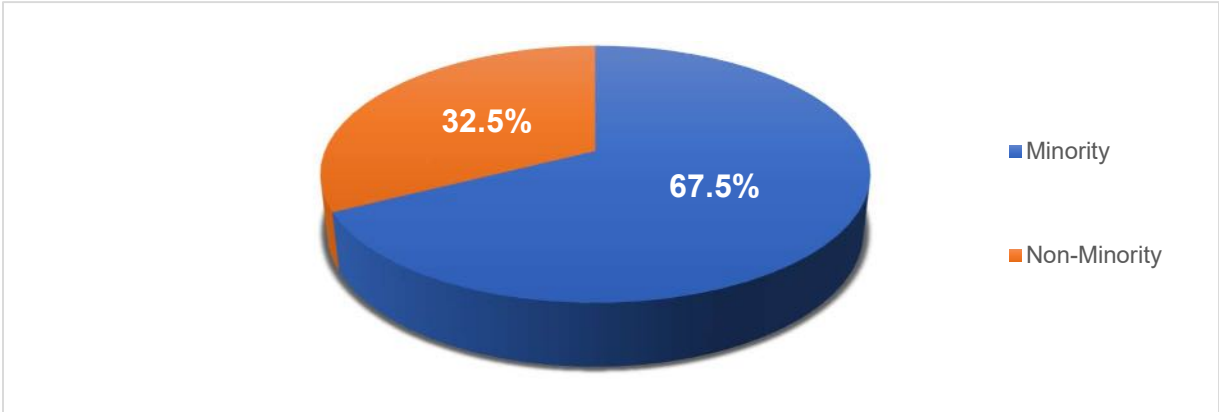
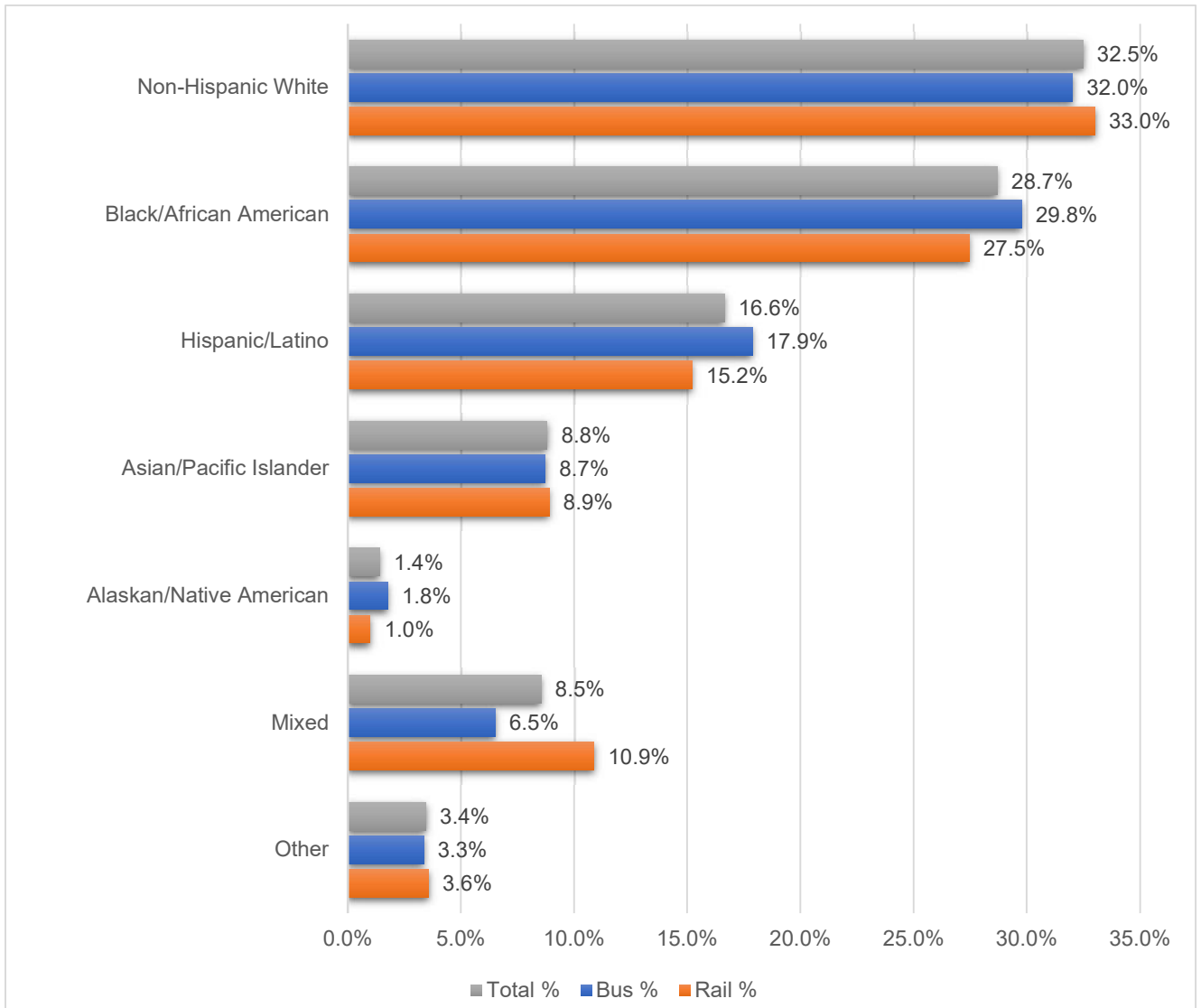
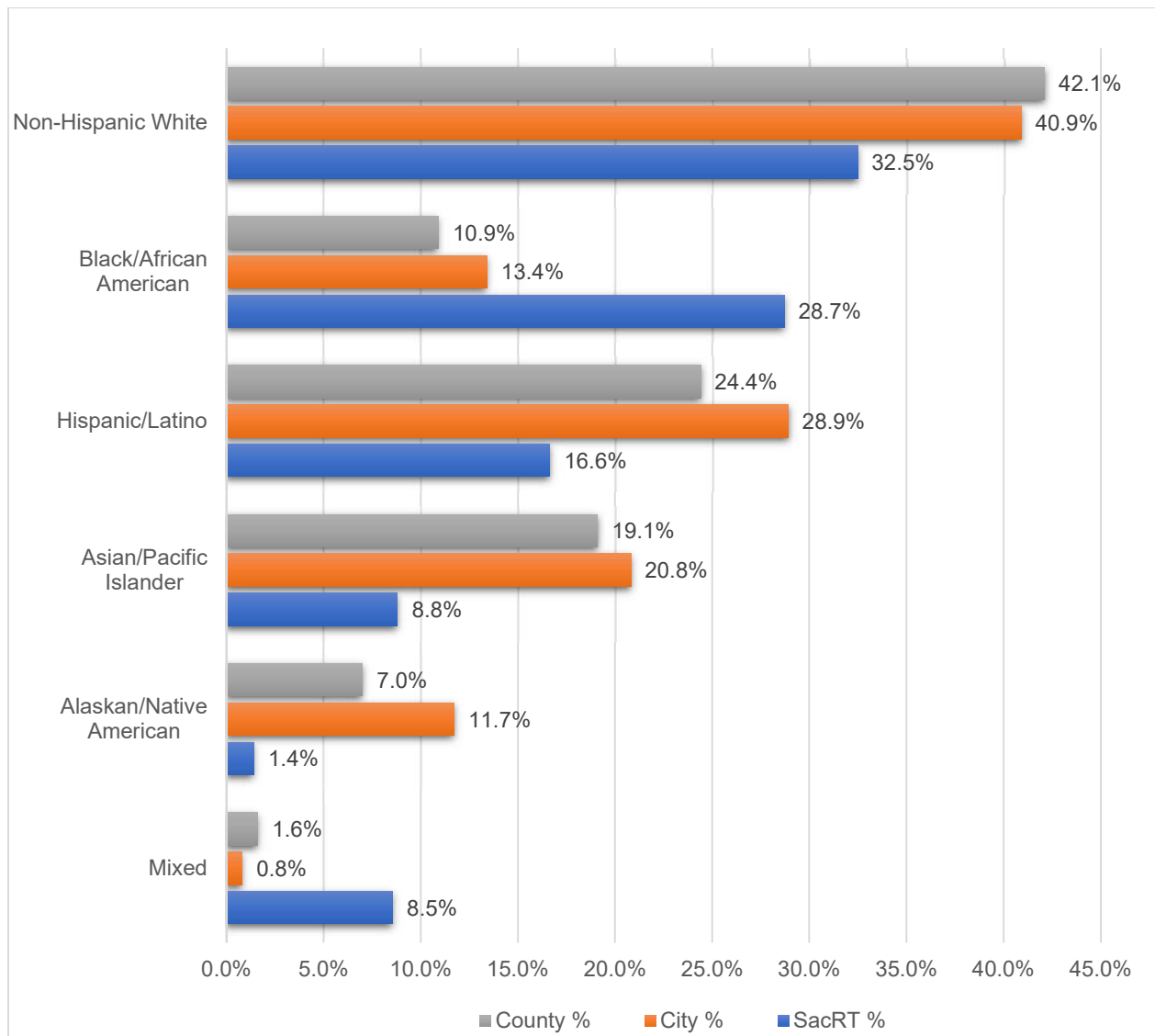


Figure 17. Race/Ethnicity



When systemwide results are compared with regional results, SacRT survey respondents are reportedly lower than the City of Sacramento and Sacramento County for “White”, and higher than the City of Sacramento and Sacramento County for “Black/African American” (Figure 18). SacRT survey respondents make up a lower percentage of total respondents than the region for Hispanic/Latino, Asian/Pacific Islander, or Alaskan/Native American. Given that there may be a higher percentage of non-English speakers among the Hispanic/Latino or Asian/Pacific Islander communities, the lower percentage on SacRT may be due to a limited number of non-English speaking survey respondents, as described in the Demographics – Language section.

Figure 18. Race/Ethnicity – Compared to Region



Source: 2020 US Census

Table 4 includes the minority percent comparisons among SacRT riders, the SacRT service area, and the City and County of Sacramento.

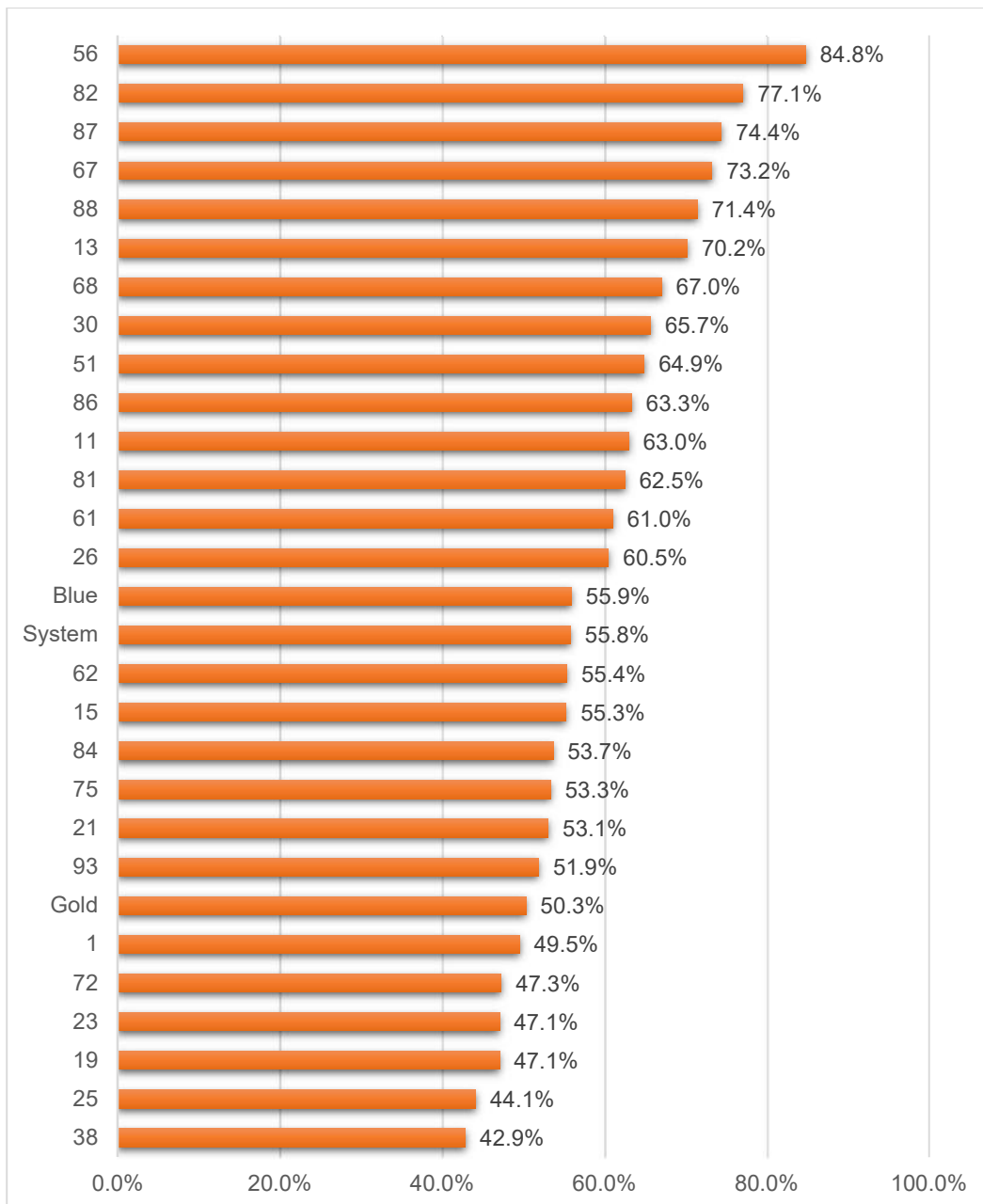
Table 4. Percent Minority Comparisons

	% Minority
SacRT Riders	67.5%
SacRT Bus Riders	68.0%
SacRT LRT Riders	67.0%
SacRT Service Area	57.0%
City of Sacramento	59.1%
Sacramento County	57.9%



Figure 19 shows the non-commuter/school routes with minority percentages. Route 56 reported the highest percent minority, at 84.8 percent of responses. Route 56 operates in South Sacramento, between Greenhaven/Pocket, to Cosumnes River College, via Meadowview Road and Mack Road. Route 38 reported the lowest percent minority, at 42.9 percent of responses. Route 38 operates in Downtown Sacramento and East Sacramento, between Sacramento Valley Station and the University/65th Street light rail station. The Blue line reported approximately 55.9 percent minority responses and the Gold line reported approximately 50.3 percent minority responses.

Figure 19. Percent Minority – By Route



Demographics - Income:

Survey respondents are 55.5 percent low-income and 44.5 percent non-low-income (Figure 20). As shown in Figure 21, the household income of most survey respondents falls within the lowest annual income range (under \$10,000), at 31.5 percent of bus responses, and 29.3 percent of rail responses. The highest annual income range (\$100,000 or more) saw a higher percentage of rail respondents with 10.1 percent of responses, than bus at 6.4 percent of responses.

Figure 20. Percentage of Respondents – Low Income

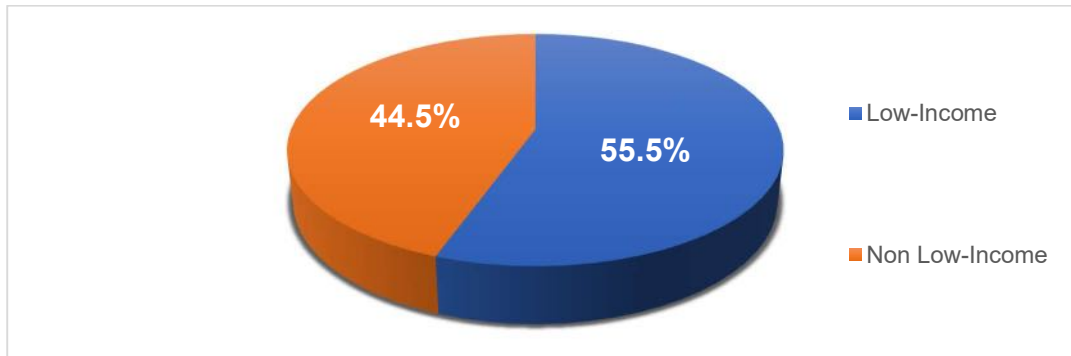
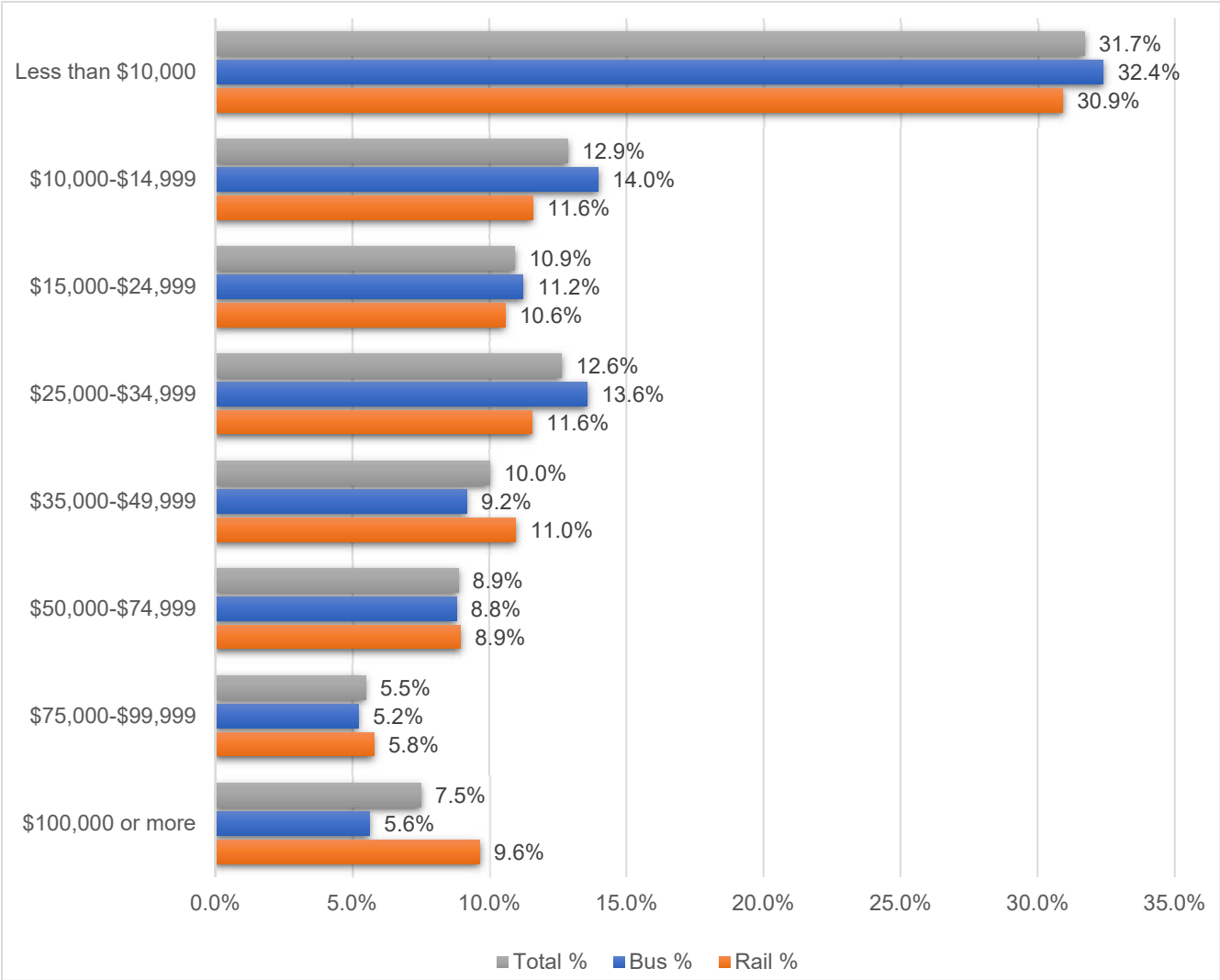
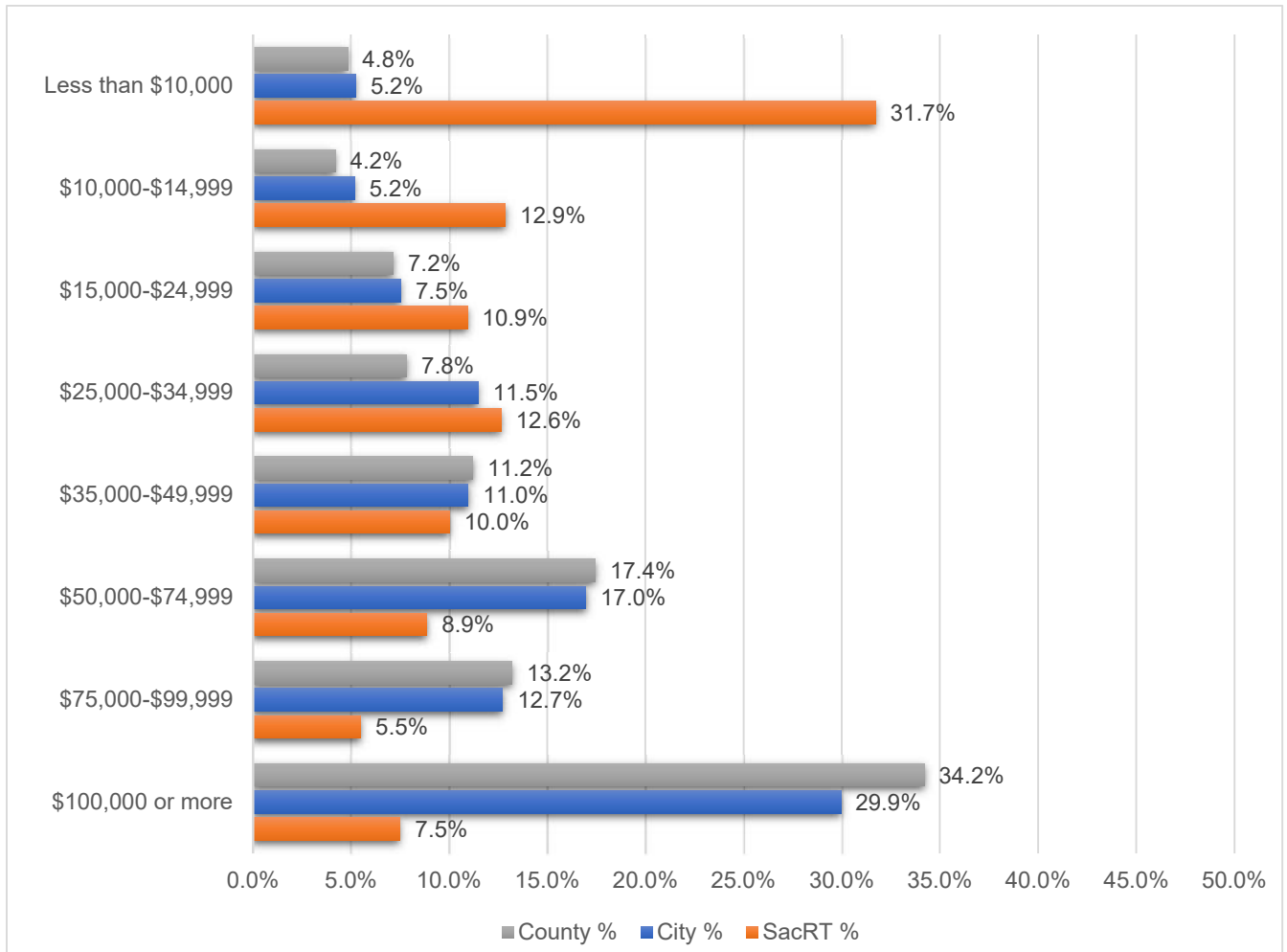


Figure 21. Household Income



Surveyors reported that passengers are typically sensitive to income-related questions; therefore, many choose not to provide an answer. This may explain the difference in income status between the region and SacRT surveyed passengers (Figure 22). When systemwide results are compared with regional results, SacRT survey respondents are reportedly higher than the City of Sacramento and Sacramento County for lower income ranges, and lower than the City of Sacramento and Sacramento County for higher income ranges. That data reflects that lower income households make up most of SacRT survey respondents.

Figure 22. Household Income – Compared to Region



Source: 2020 US Census

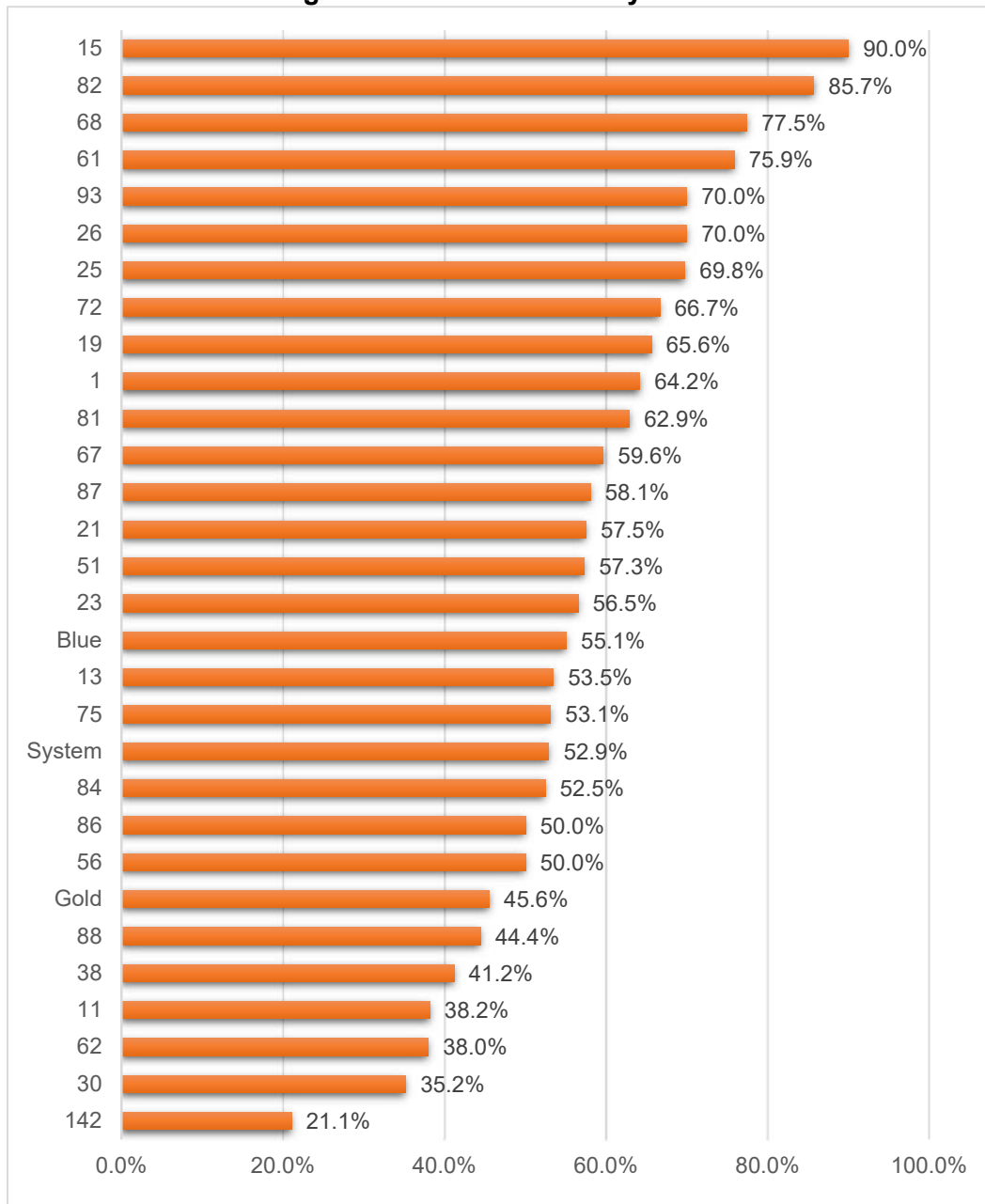
Low-income percent comparisons among SacRT riders, the SacRT service area, and the City and County are listed in Table 5.

Table 5. Percent Low-Income Comparisons

% Low-Income	
SacRT Riders	55.5%
SacRT Bus Riders	57.6%
SacRT LRT Riders	53.1%
SacRT Service Area	20.0%
City of Sacramento	17.9%
Sacramento County	16.2%

Figure 23 shows the percent low-income of survey respondents by route. Route 15 reported the highest percent low-income, at 90 percent responses. Route 15 operates in North Sacramento between the Watt/I-80 light rail station and the Arden Del Paso light rail station, through Del Paso Heights, which is a Disadvantaged Community according to CalEnviroScreen (SB535) 4.0. Route 142 reported the lowest percent low-income, at 21.1 percent responses. Route 142 operates in downtown Sacramento to the Sacramento International Airport, via Interstate 5. Ridership on the Airport route reflects mostly choice riders, rather than transit-dependent riders. The Blue Line reported approximately 55.1 percent low-income responses and the Gold line reported approximately 45.6 percent low-income responses.

Figure 23. Low-Income – By Route



Demographics - By Fare Type:

Demographic splits by fare type are obtained through the origin-destination survey questionnaire and are listed in Tables 6 and 7. This data is combined with data collected in SacRT's annual fare survey to calculate average fares by type, which is a necessary component in conducting equity analyses when fare changes are proposed.

Table 6. Minority and Low-Income by Fare Type

Fare Type	% Minority	% Low-Income
\$2.50 Single Ride	65.0%	44.6%
\$1.25 Senr/Disb Single Ride	62.8%	68.2%
\$7.00 Daily Pass	73.3%	65.3%
\$3.50 Senr/Disb Daily Pass	70.2%	75.0%
Los Rios	69.7%	60.3%
CSUS	77.4%	51.7%
Ryde Free (K-12)	76.8%	60.5%
DHA Pass	61.4%	73.5%
Basic Monthly Pass	63.0%	42.5%
Senior/Disabled Monthly Pass	51.6%	33.0%
Super Senior (Age 75+)	33.3%	55.6%
Lifetime Pass (Age 75+)	33.3%	33.3%
Transfer from other agency	72.7%	45.5%
Did not pay	68.8%	57.0%
Other	34.8%	29.2%
SacRT Average	67.5%	55.5%

Note: many fare types are available in multiple formats (e.g., cash, Connect Card, Zip Pass).

Table 7. Minority and Low-Income by Fare Method

Fare Method	% Minority	% Low Income
Ticket Machine/Cash	68.5%	65.4%
Connect Card	55.0%	34.4%
Zip Pass	70.2%	44.6%
Traditional Paper Ticket or Pass	67.1%	61.7%

Minority and low-income riders underutilize SacRT's electronic forms of payment (i.e., Connect Card and Zip Pass), especially Connect Card. Low-income populations are more likely than average to use cash or traditional paper forms of prepayment.

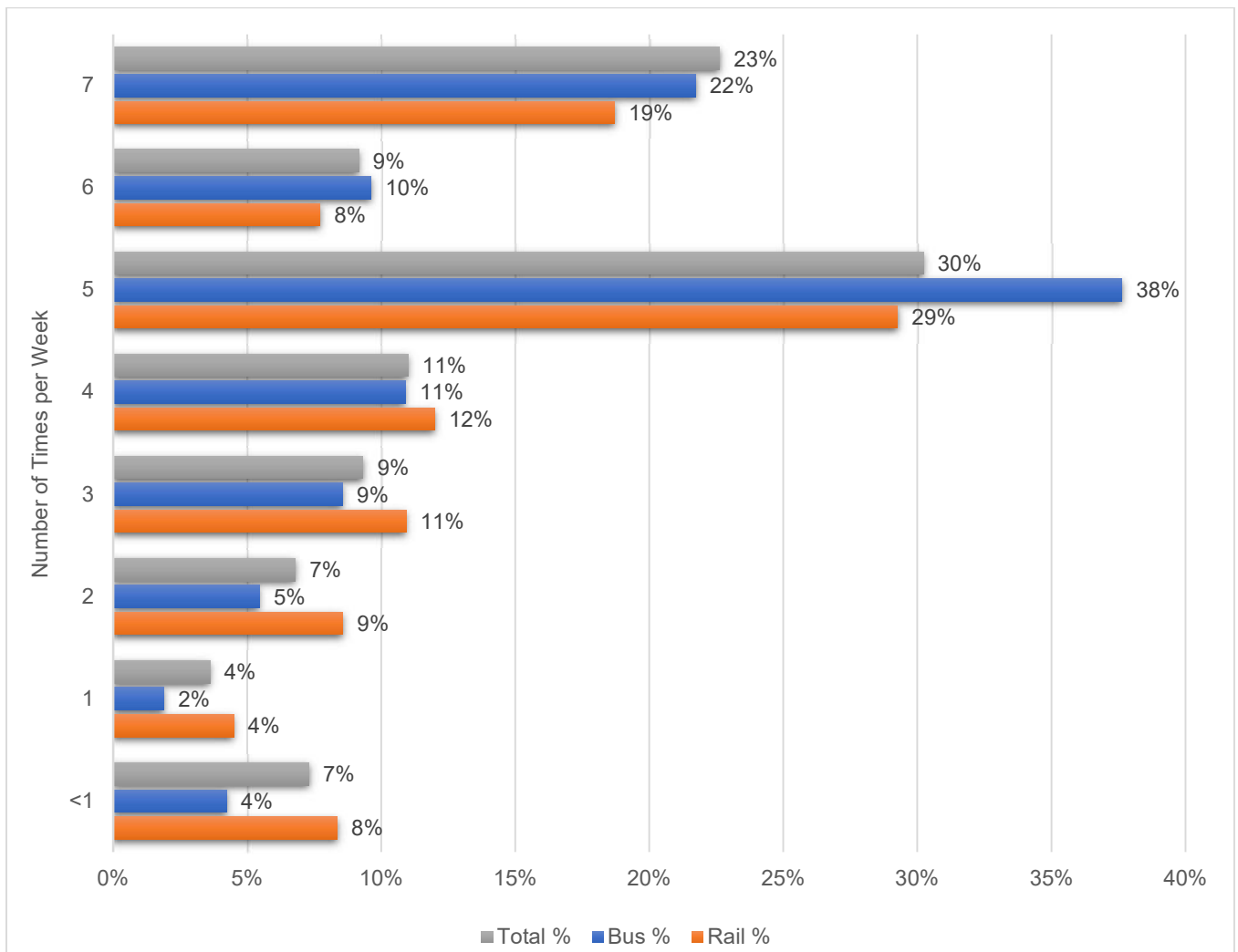
Minority and low-income average fares are determined by SacRT's annual fare survey, which provides ridership figures for each multi-use pass or fare type. The annual fare survey has not been updated since 2019 due to the pandemic but will be resumed in Fall 2023. The ridership

figures by fare type determined by the fare survey will be combined with the demographic splits by fare type from this origin-destination survey to find and update the average fare paid by minority and low-income populations systemwide.

Frequency of Use:

Passengers were surveyed about how many days per week they use SacRT services. Most passengers typically ride the bus or rail five times a week, which aligns with the typical workweek. Bus riders are more likely to ride more often than 5 times a week than rail riders, who are more likely than bus riders to ride less than 5 times a week. This suggests that improving service on weekends would generally benefit more bus riders; 22 percent of whom ride SacRT seven days a week.

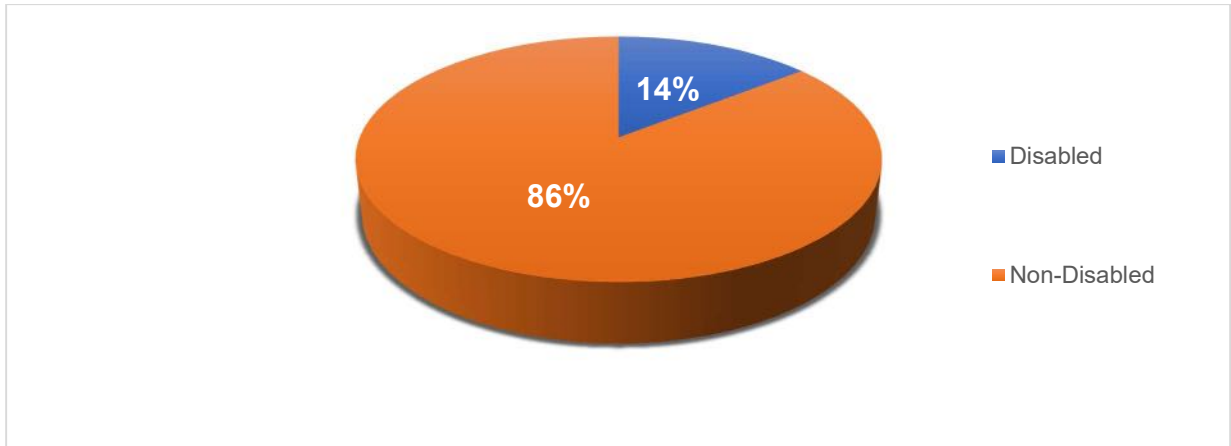
Figure 24: Frequency of Use by Mode



Disability:

As shown in Figure 25, 14 percent of survey respondents indicated that they have a disability and 86 percent of respondents indicated that they do not have a disability. Note that this is a survey conducted on fixed-route services only, i.e., SacRT Go ADA paratransit service was not included in this survey.

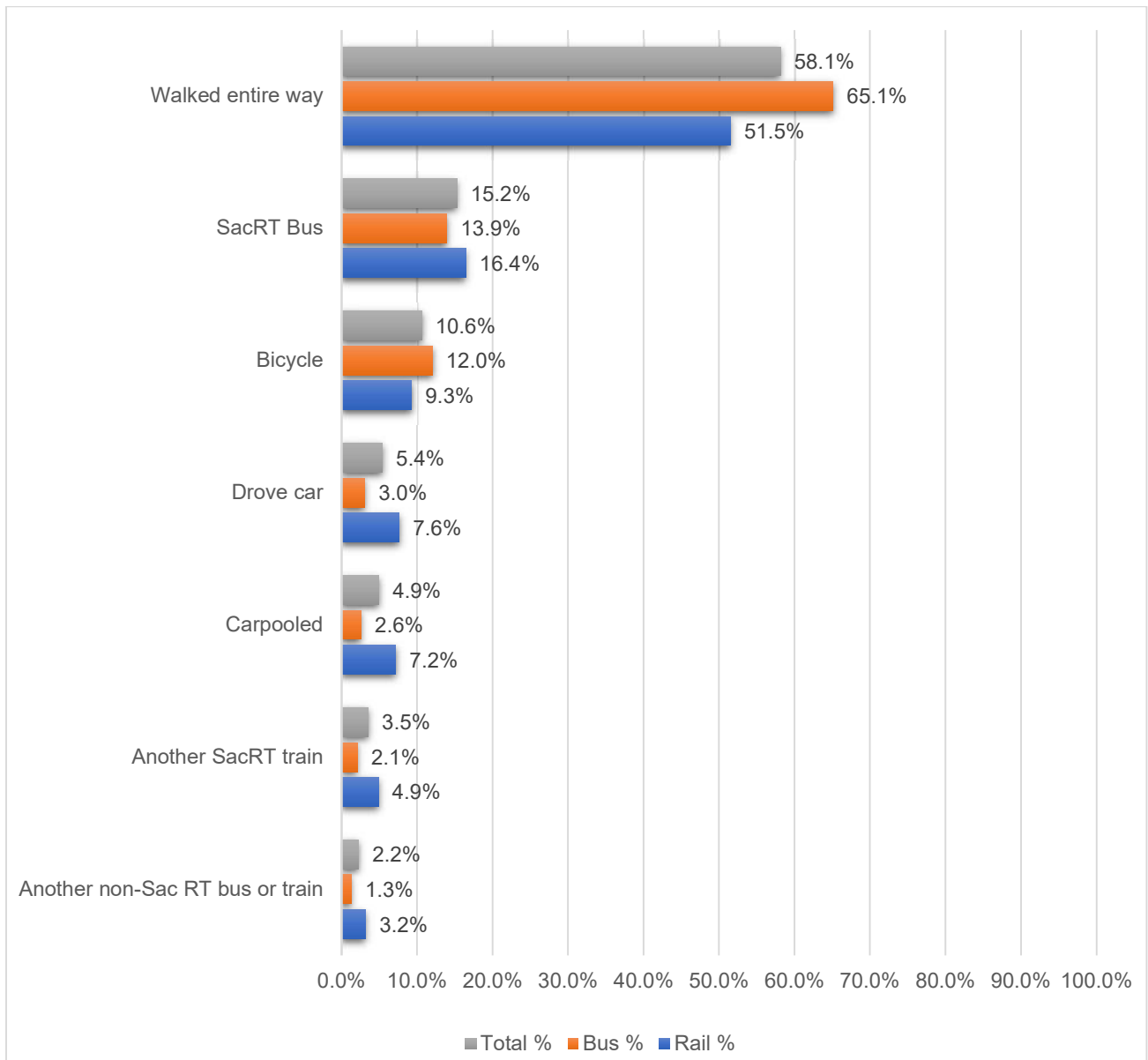
Figure 25. Disability



Access, Boarding and Alighting:

Respondents' mode of access to transit can be seen in Figure 26. Most survey respondents walk to or from their bus stop or station. 65.1 percent of bus responses include walking as their mode of access, and 51.5 percent of light rail responses include walking as their mode of access. In addition to walking, respondents are also seen accessing bus and light rail services via another SacRT mode of service, mostly from buses. The rate of passengers who ride their bike to and from SacRT services is higher than expected, with Park-and-ride accounting for 7.6 percent of light rail boardings and alightings and 3.0 percent of bus boardings and alightings, respectively. SacRT does not operate any park-and-ride lots for bus service, but some passengers may be driving to nearby a commuter bus stop and riding the bus.

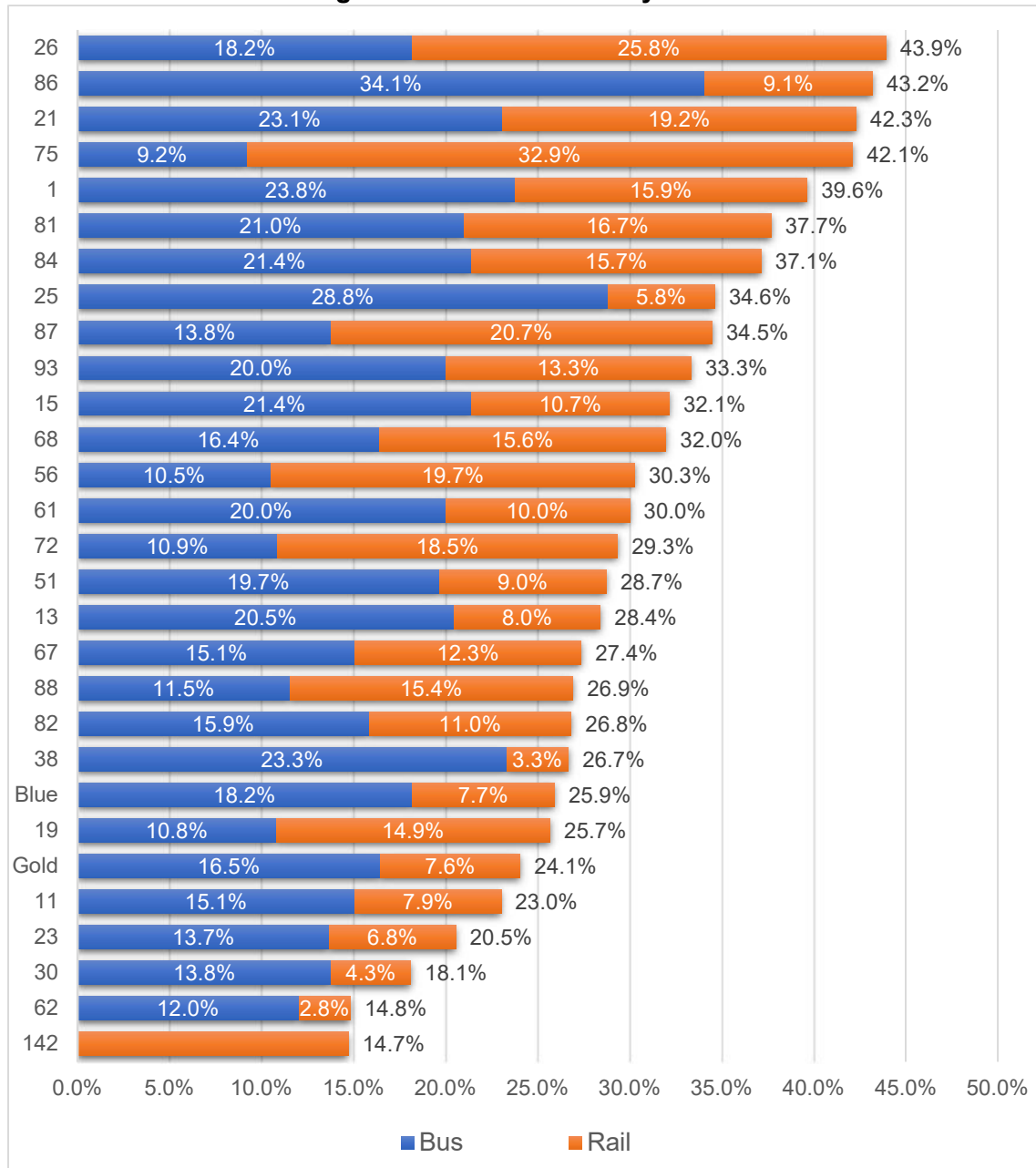
Figure 26. Mode of Access



Transfer Rates - SacRT

Routes with high transfer rates feed other bus and light rail routes and make them more usable. Service improvements to routes such as these will have outsized benefits, by attracting riders not only to the route itself, but to connecting routes. This effect is more pronounced on longer routes and routes with high ridership. This is the logic behind the "high frequency grid" approach to network design, and similar concepts. In Figure 27, the access and egress connections of several routes are almost 50 percent from SacRT bus or rail.

Figure 27. Transfer Rate by Route



Note: Bus Transfers do not include other agencies. Because of the smaller route-level sample size, this chart is only meant for comparing the order of magnitude of transfer rates between routes.

Route 142 serves the Sacramento International Airport via downtown, and is notable for having very few transfers, despite being situated downtown at the central hub of the SacRT system. The data suggests that Route 142 is being used primarily by downtown residents walking to the bus, or persons dropped off downtown to catch the bus to the airport.

Route 26, 86, 81, and 21 all serve as circumferential routes that connect the various radius routes coming out of the central hub of the SacRT system. Their high transfer rates are to be expected, given the number of bus routes and rail lines they intersect.

Route 1 has a lower-than-expected transfer rate to/from light rail, despite the route serving as a bus feeder onto the Blue Line. Passengers may be transferring to/from it as it acts as a higher frequency trunk for local area residents to reach key destinations on the route, such as American River College and Sunrise Mall.

Routes 67 and 68 are parallel routes with the same terminals, but Route 68 has a higher transfer rate for both bus and light rail. The higher bus transfer rate may be a result of the bus connections at Florin Town Center, a major terminus for multiple bus routes, such as Routes 51 and 61. The higher light rail transfer rate may be due to the route serving areas that are less redundant with the Blue line.

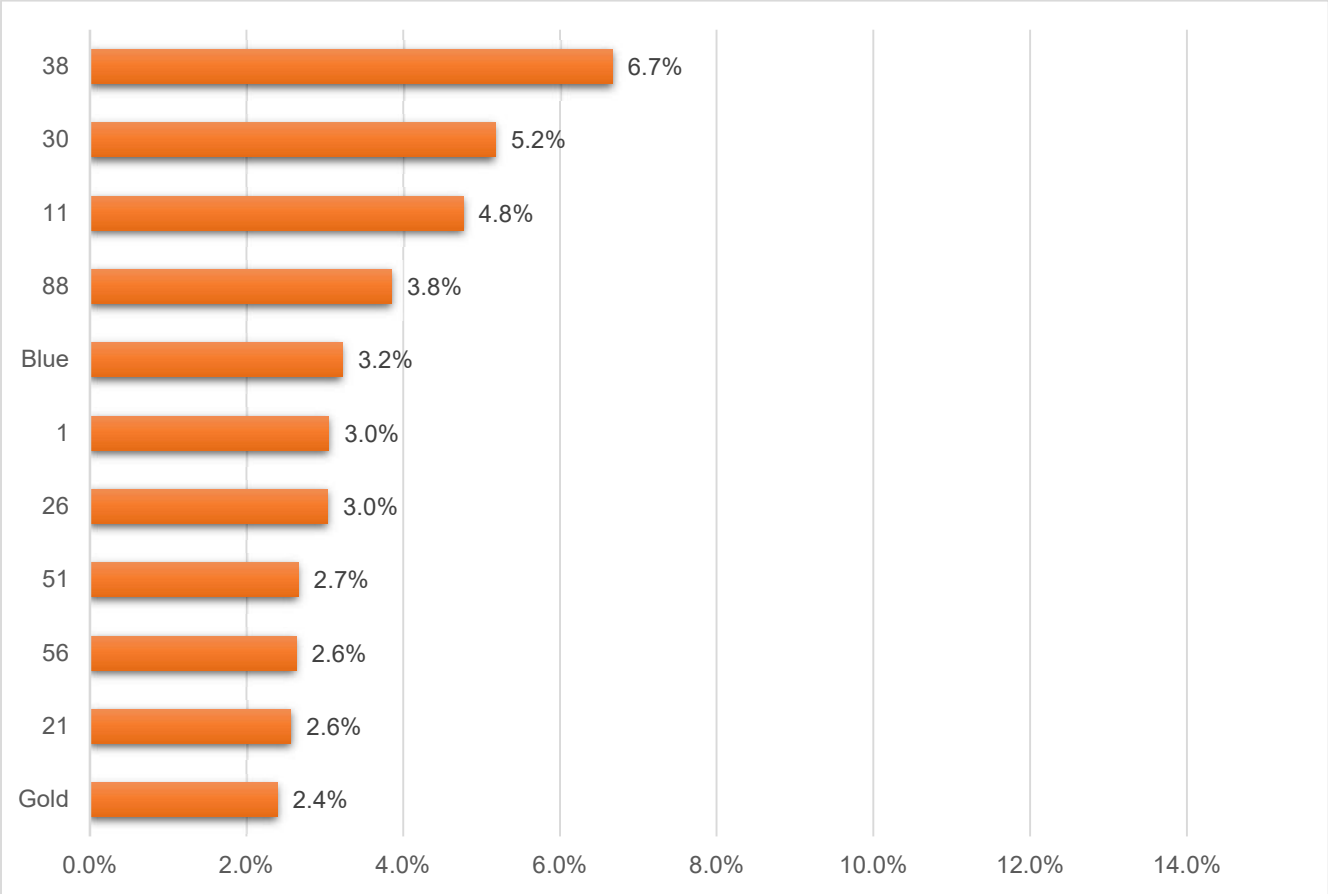
Radial routes such as Routes 62, 11, and 23 that generally travel long distances towards downtown Sacramento see relatively low transfer rates, suggesting that a majority of passengers are traveling locally along the route.



Transfer Rates - Non-SacRT:

A small but significant percentage of SacRT riders transfer to another transit agency. Figure 28 shows the routes that have the highest transfer rates to other agencies. Routes 38 and 30 connect CSUS and UC Davis Health center to downtown Sacramento, where they can make transfers to YoloBus or Capitol Corridor, which serves the larger Sacramento region. Several Route 30 passengers reported YoloBus as the agency they transfer to and from. Route 56 connects with many Elk Grove routes. Although SacRT now owns and manages transit service in Elk Grove, many passengers still perceive Elk Grove bus routes to be a “non-SacRT” agency.

Figure 28. Routes With High Transfer Rates To/From Non-SacRT Agencies



Note: All other routes have transfer rates less than 2% and are excluded from this chart. Because of the smaller route-level sample size, this chart is only meant for comparing the order of magnitude of transfer rates between routes.

Overall, the most common non-SacRT routes that riders are transferring to/from are:

1. YoloBus Intercity 42A/42B
2. YoloBus West Sac Routes (37, 40, 41)
3. Amtrak/Capitol Corridor

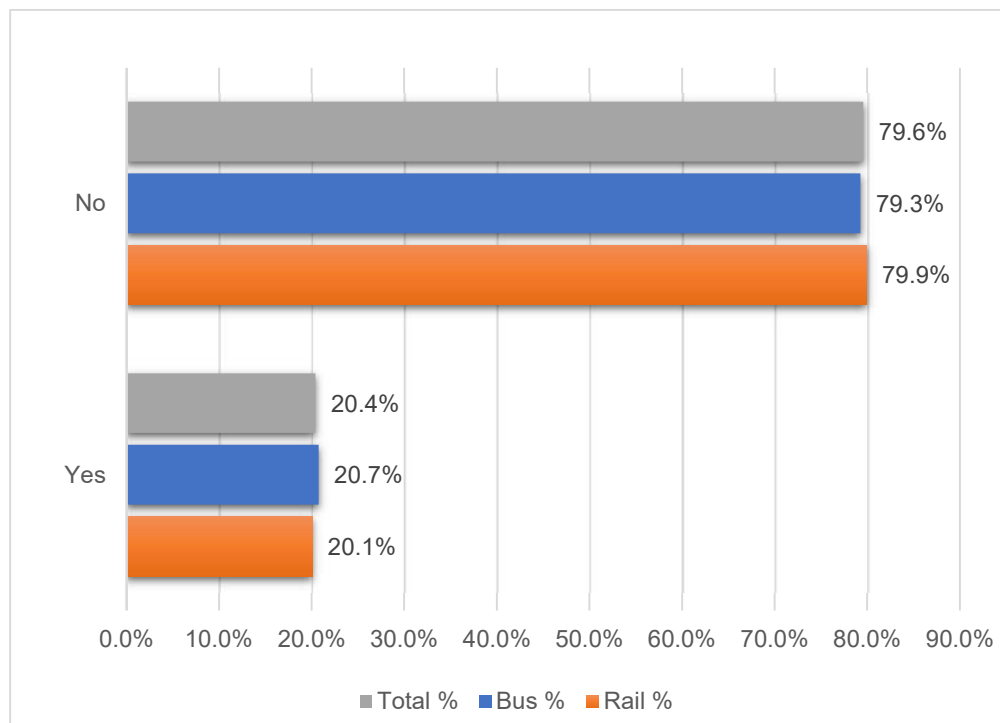
SmaRT Ride Knowledge:

Approximately 50 percent of all survey respondents reported knowledge of SacRT's SmaRT Ride service. The respondents represented an equitable representation across all transit modes, ethnicities, and income status. SmaRT Ride is SacRT's microtransit service, which operates as an on-demand transportation mode where trips are requested via phone reservationist or smartphone application. Given that the service began in 2018 and only half of survey respondents know about the service, more work could be done to raise awareness of SmaRT Ride service.

Employer Subsidy:

Many major employers, such as the State of California, and others help subsidize their employees' purchase of full price tickets and passes. SacRT is not involved in these decisions; however, subsidizing fares does make the system more affordable for many customers. Employer subsidies such as this do not factor into Title VI analyses because they are employer-implemented programs, but they can be important to consider. Survey respondents are asked whether their employer subsidizes their SacRT fares; 79.3 percent of responses on bus, and 79.9 percent of responses on light rail indicated that their employer does not.

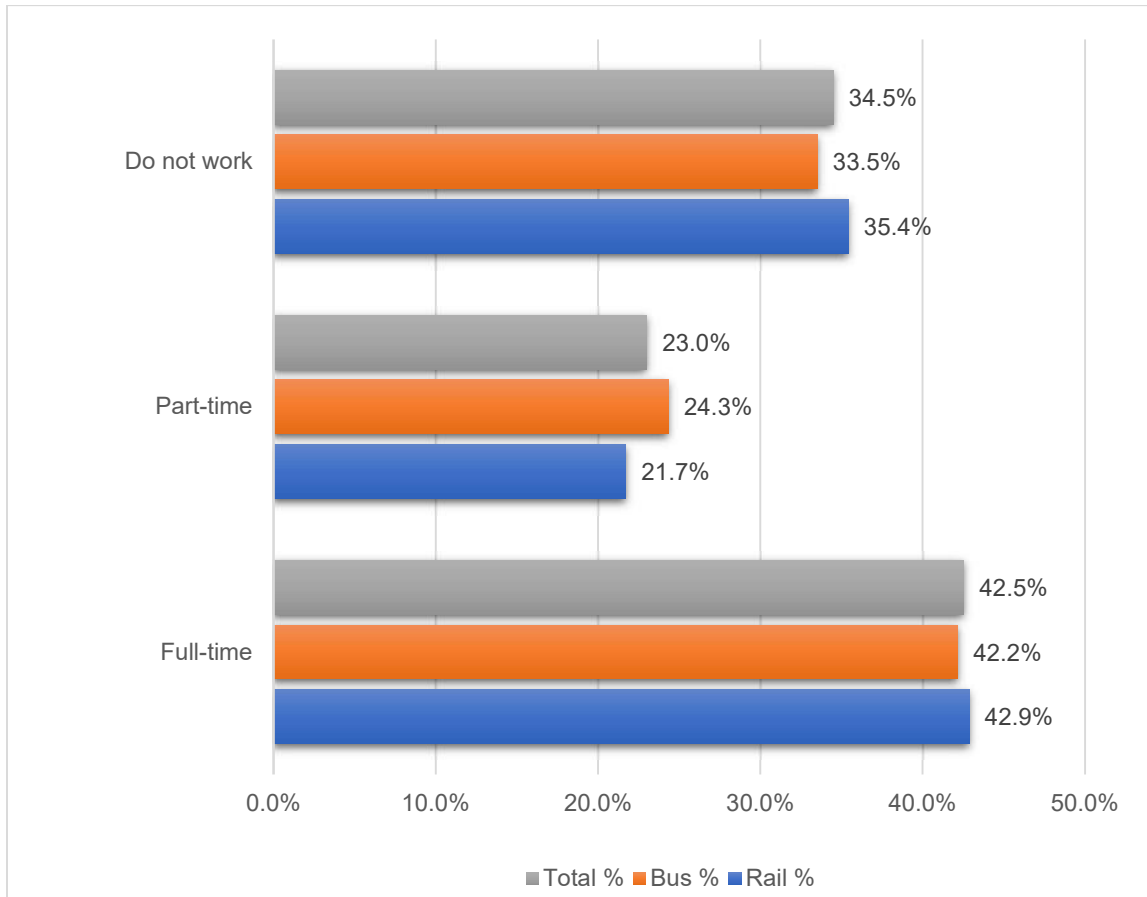
Figure 29. Employer Subsidy



Employment:

Survey respondents are asked for their employment status, whether they work full-time, part-time, or not at all. 42.2 percent of bus respondents and 42.9 percent of light respondents indicated that they are employed full-time. Besides full-time employment, most other respondents replied no employment at all. Details are included in Figure 30. This is a much higher rate of unemployment than the service area, but it may be attributed to the 55 percent of student ridership responding they “Do not work”, and only 6 percent responding as working “Full-time”.

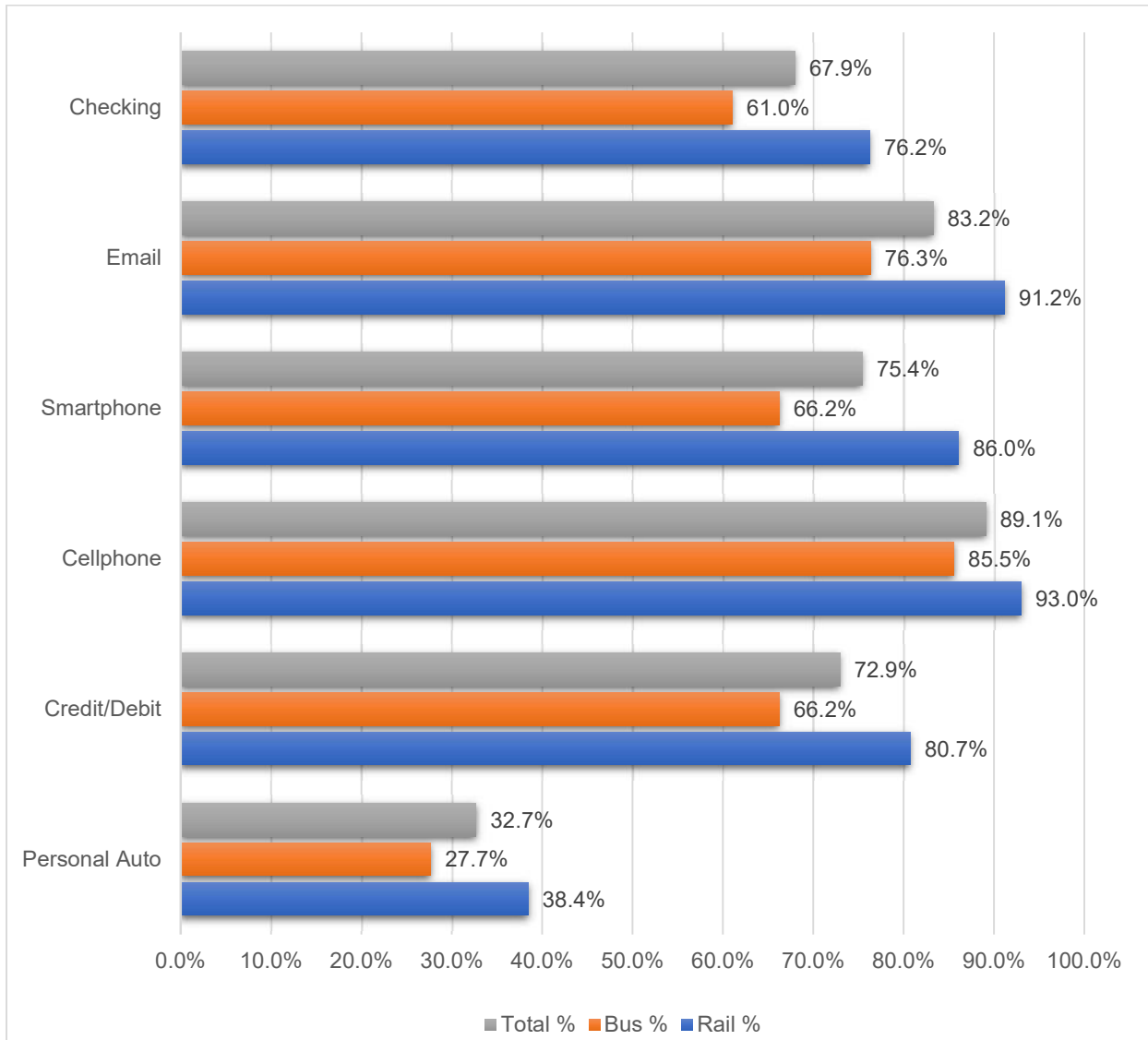
Figure 30. Employment Status



Personal Characteristics:

Origin-destination surveys included questions pertaining to respondents' ownership of the items listed in Figure 31. Cell phone and email ownership are the top two items most owned by respondents on both bus and light rail. Personal automobile was the item owned by the least number of survey respondents, with 27.7 percent owners on bus, and 38.4 percent owners on light rail.

Figure 31. Personal Characteristics



Automobile availability is often taken as a proxy for transit dependency. Approximately one in three SacRT passengers do not have access to an automobile. In the 2013 SACOG origin-destination survey, passengers were asked if they had a driver's license and owned a car. While this is not equivalent to asking if passengers had a personal automobile they could drive, this can

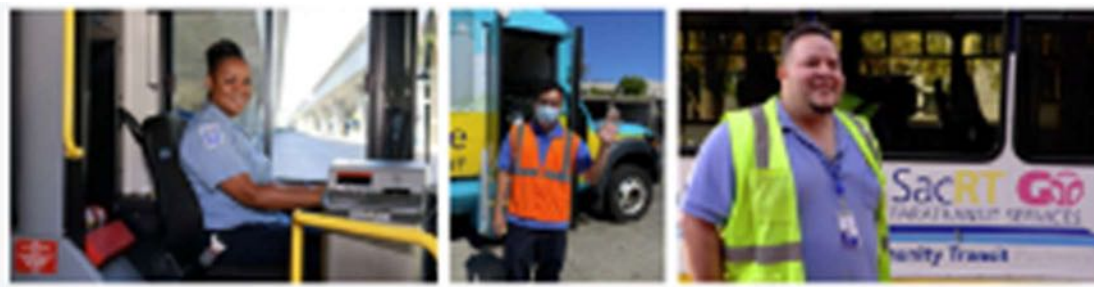
be used to compare if automobile availability has changed. In 2013, 21 percent of SacRT passengers had a driver's license, while in 2023, 32.7 percent of passengers have access to a personal automobile.

When the last complete origin-destination survey was conducted on SacRT in 2010, smart phones had only been on the market for 1-2 years, and unavailability of a smart phone was widely perceived as a barrier to access the system for disadvantaged populations. Over the past 13 years, smartphone ownership has grown and surpassed availability of a checking account as well as a credit/debit card. Low-income persons are still 15 percent less likely to own a smart phone than non-low-income persons.

Table 8. Personal Characteristics – % of Minority and Low-Income

	Personal Auto	Credit/Debit	Smartphone	Checking
% of Low Income	15.6%	63.0%	72.8%	57.6%
% of Non-Low Income	51.7%	87.5%	88.2%	84.8%
% of Minority	30.0%	69.6%	77.7%	64.1%
% of Non-Minority	35.7%	78.2%	83.0%	75.2%

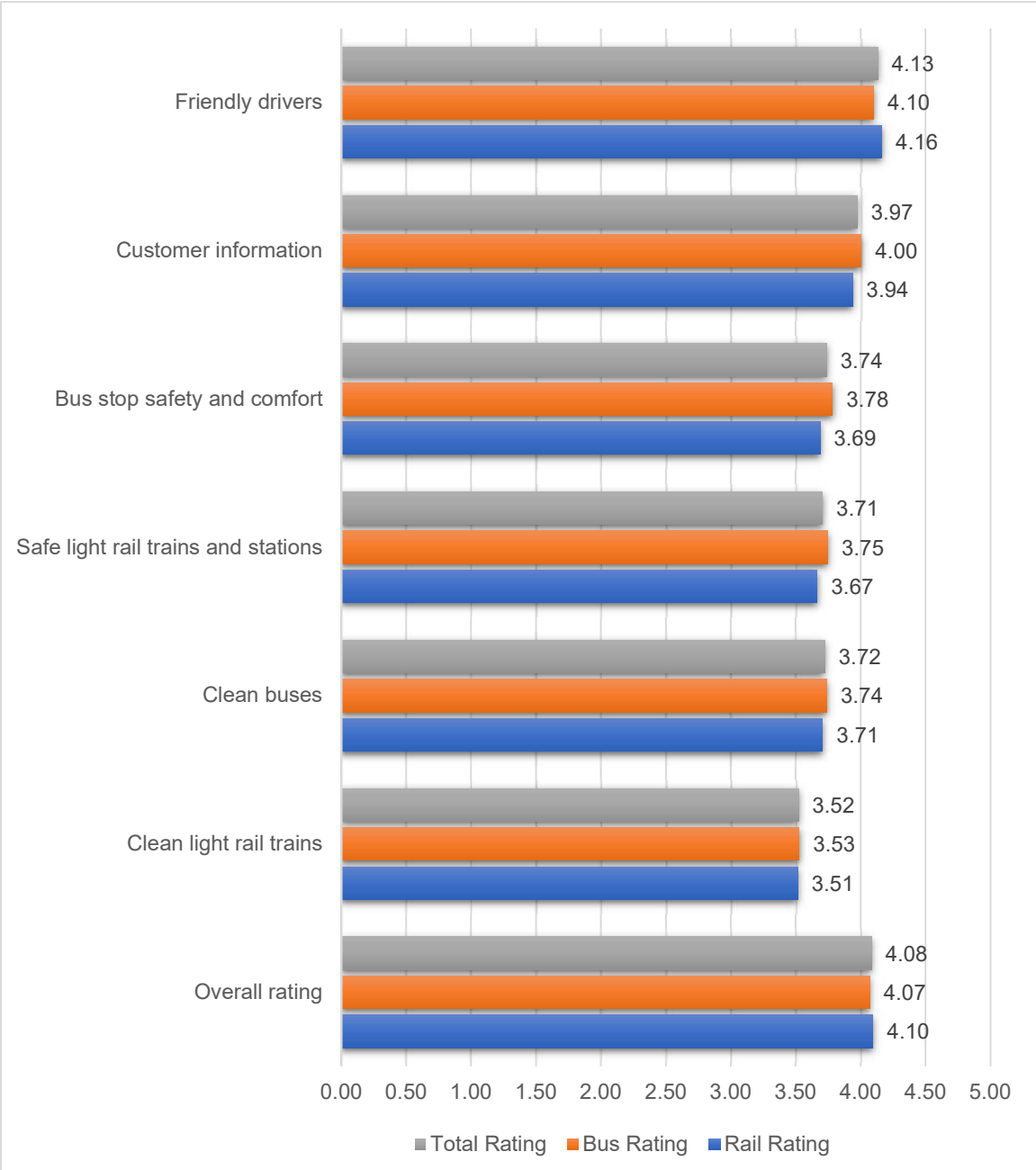
For marketing and customer information purposes, cell phone and smart phone ownership is now as common as email, so text messages, apps, and similar services are probably at least equally viable or relevant for reaching existing and potential customers.



Service Ratings:

Origin-destination surveys included a rating section, where respondents can rate the system on a variety of different topics. The rating system is assigning a number, one through five, with one being 'poor' and five being 'good' to each of the factors listed in Figure 32. Light rail cleanliness stands out as lowly rated, even more so than bus cleanliness. Out of all the ratings, the most consistent response was the friendliness of SacRT operators. There were no statistically significant differences between bus respondents and light rail respondents in any of the ratings.

Figure 32. Ratings by Mode



The route specific ratings in Table 9 have few outliers with particularly low ratings. Routes 13, 21, and 29 are rated the lowest for reliability, which corroborates with the low-average on-time performance of 67.8 percent, 78.7 percent, and 70.9 percent, respectively. Some routes have high on-time performance, with a low rating for reliability, such as Route 72. Routes 38, 56, 142, and commuter routes have high ratings, near or above 4.5. Overall, this information demonstrates that some passengers may not perceive a route to be unreliable regardless of on-time performance, and other passengers' perception may greatly improve with better on-time performance.

Table 9. Ratings by Route

Route	Route Overall Rating	Route Reliability Rating	On-Time Performance (Dec22)
1 Greenback	4.26	4.27	88.7%
11 Natomas/Land Park	4.30	4.12	76.2%
13 Natomas/Arden	4.13	3.96	67.8%
15 Del Paso Heights	4.41	4.43	90.3%
19 Rio Linda	4.22	4.24	75.1%
21 Sunrise	4.00	3.95	78.7%
23 El Camino	4.38	4.25	71.2%
25 Marconi	4.40	4.13	80.2%
26 Fulton	4.36	4.36	80.4%
30 J Street	4.37	4.27	87.0%
38 Tahoe Park	4.73	4.47	81.2%
51 Stockton/Broadway	4.26	4.15	85.9%
56 Meadowview	4.68	4.45	78.6%
61 Fruitridge	4.36	4.20	78.5%
62 Freeport	4.48	4.23	81.7%
67 Franklin	4.42	4.27	79.7%
68 Oak Park	4.24	4.14	87.1%
72 Rosemont	4.14	4.05	93.0%
75 Mather	4.43	4.36	93.4%
81 Butterfield	4.23	4.25	83.0%
82 Northrop/Morse	4.23	4.16	84.2%
84 Watt	4.26	4.19	81.2%
86 Grand	4.36	4.22	84.1%
87 Howe	4.53	4.44	83.9%
88 West El Camino	4.56	4.45	76.9%
93 Hillsdale	4.20	4.00	70.9%
142 Airport	4.68	4.61	95.9%
Commuter Average	4.99	4.75	71.5%
Blue	4.20	4.26	97.7%
Gold	4.23	4.11	96.9%
System Average	4.19	4.27	82.7%

Figure A2. Origin-Destination - Zip Code 95814

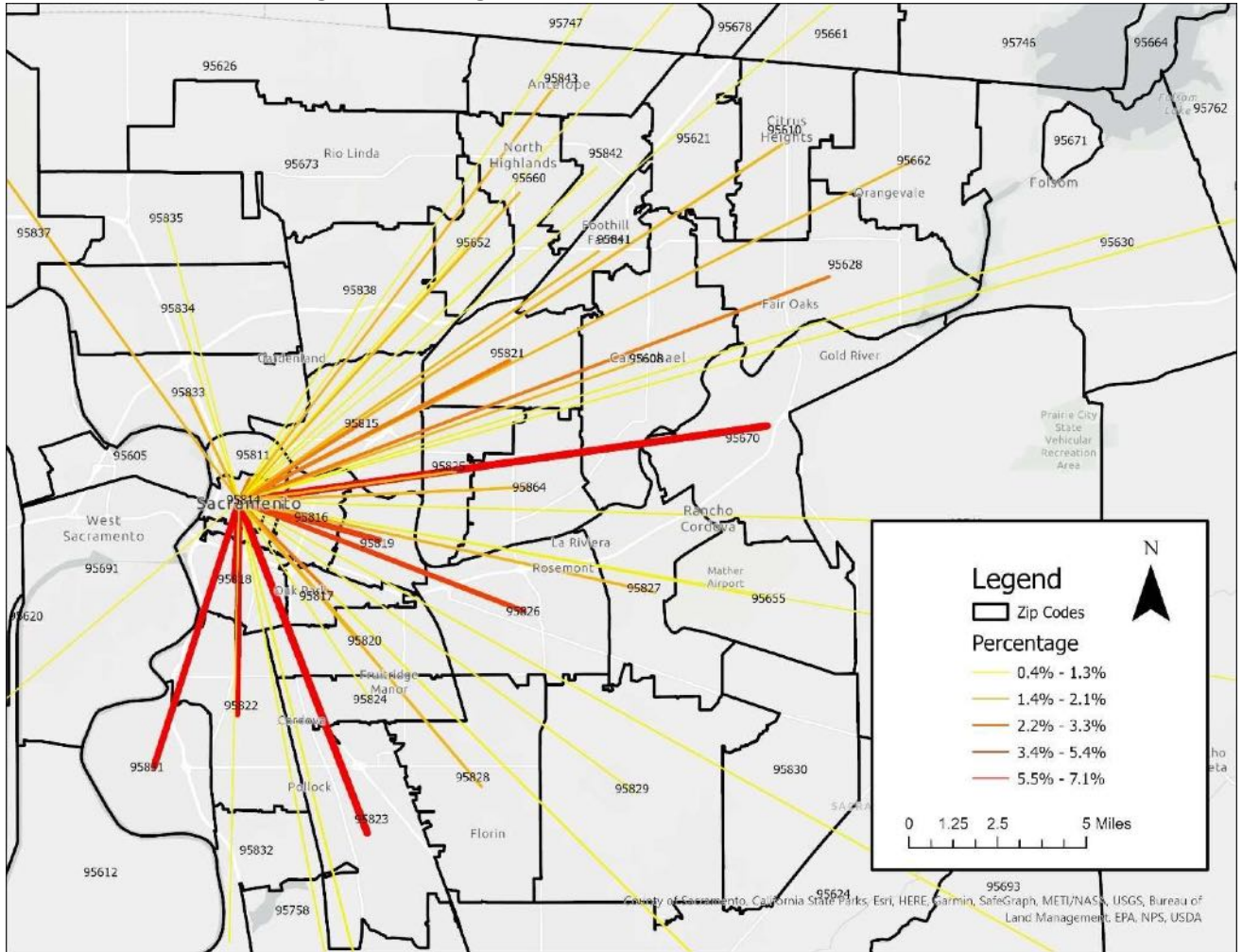


Figure A3. Origin-Destination - Zip Code 95823

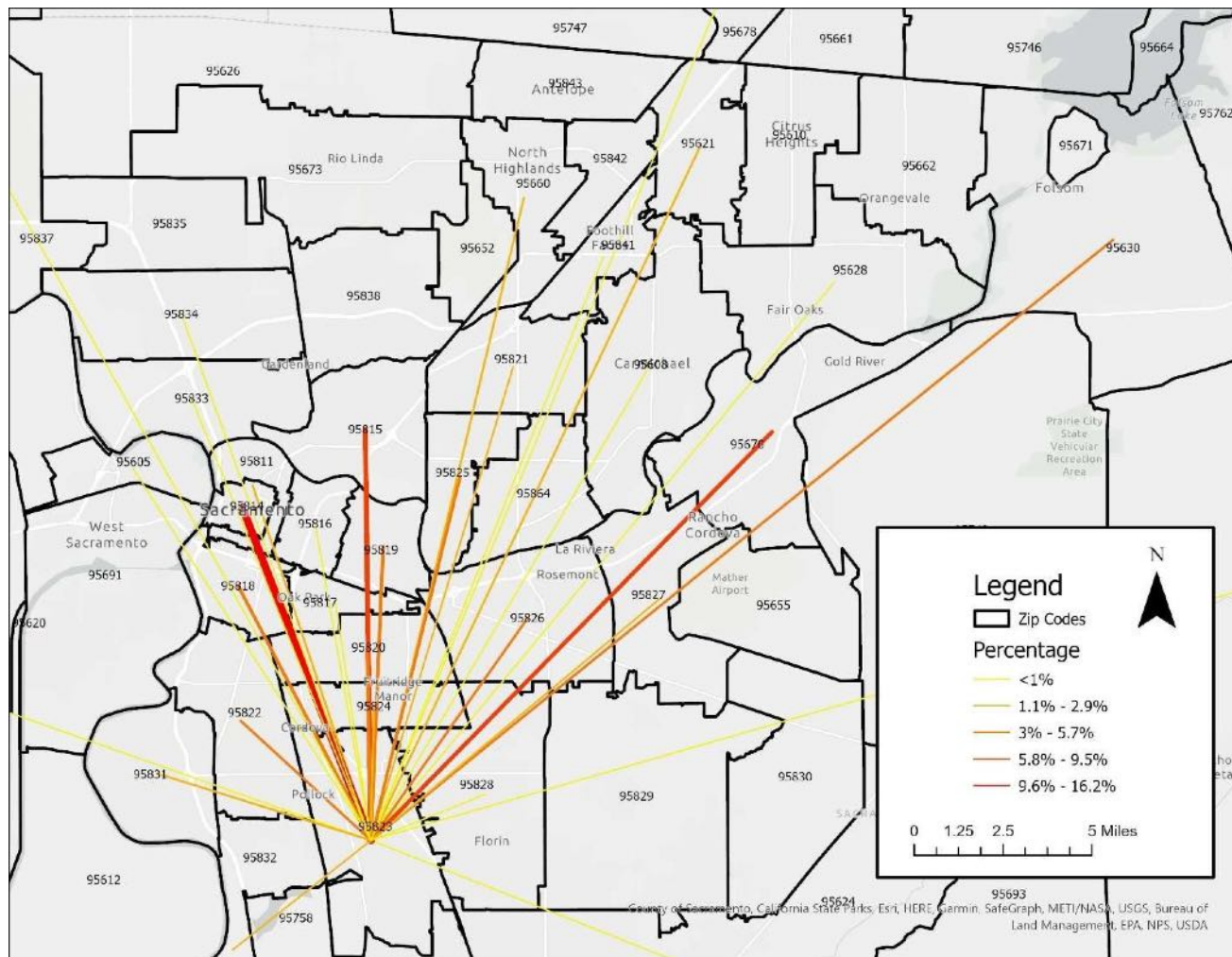


Figure A4. Origin-Destination - Zip Code 95825

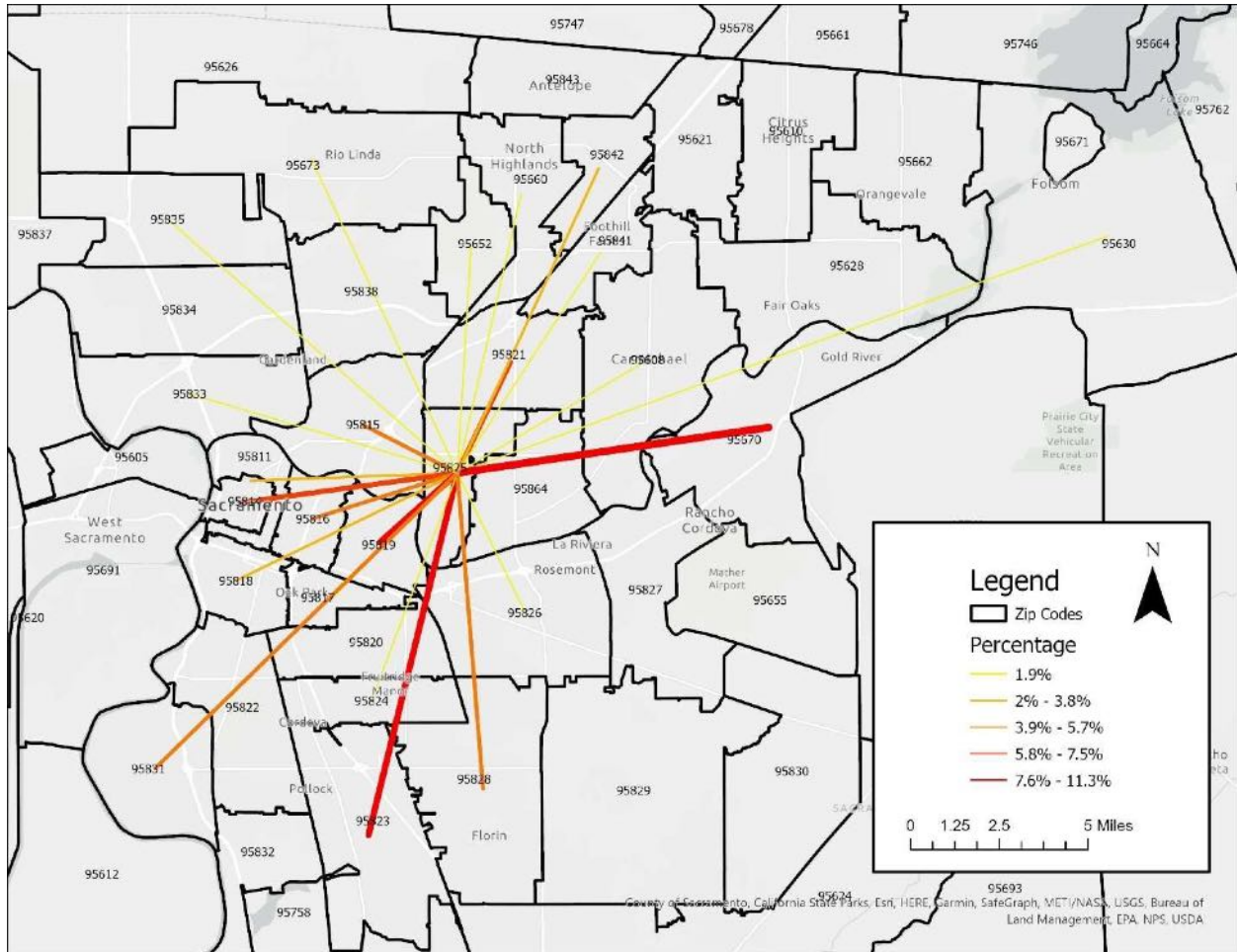


Figure A5. Origin-Destination - Zip Code 95815

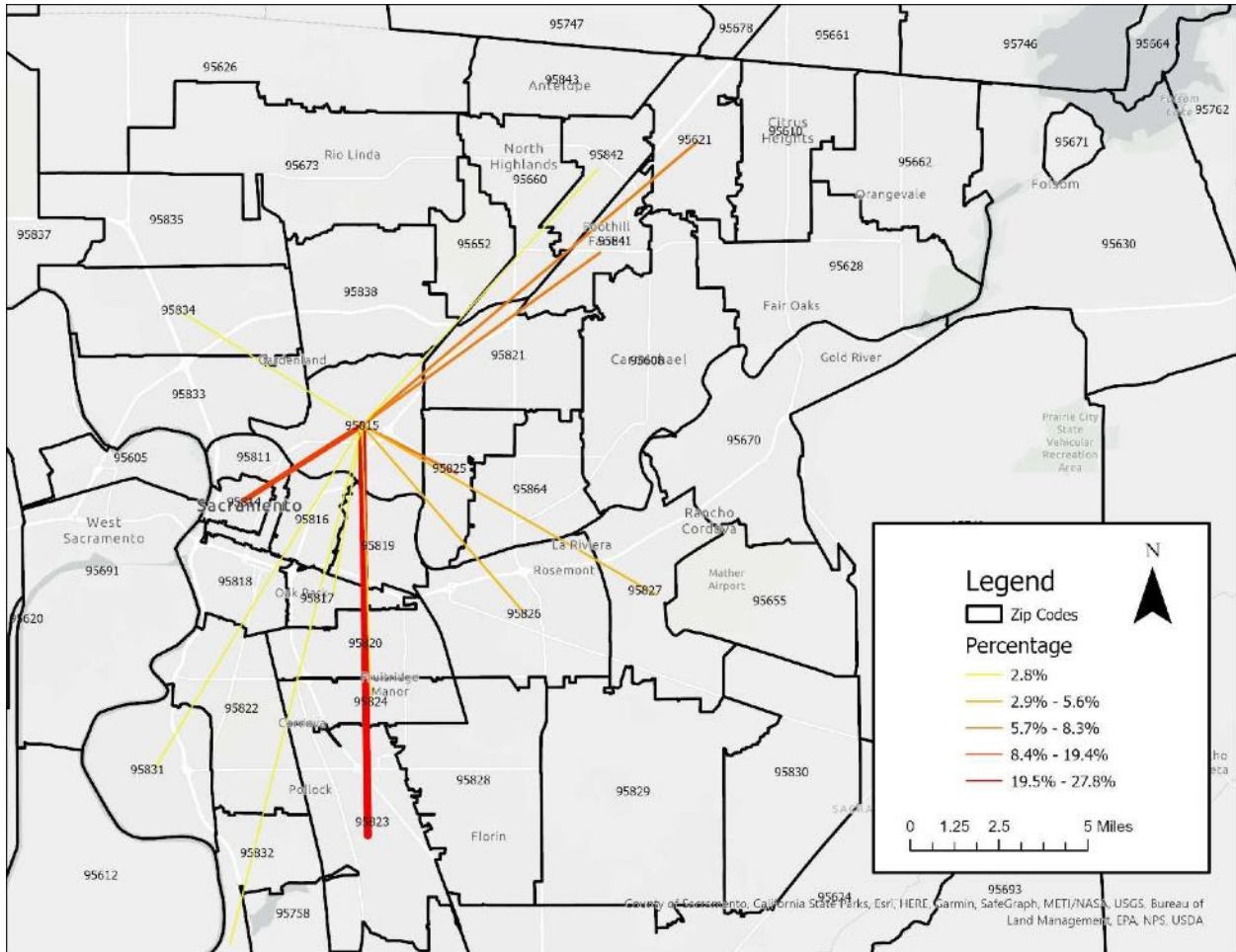


Figure A8. Origin-Destination - Zip Code 95833

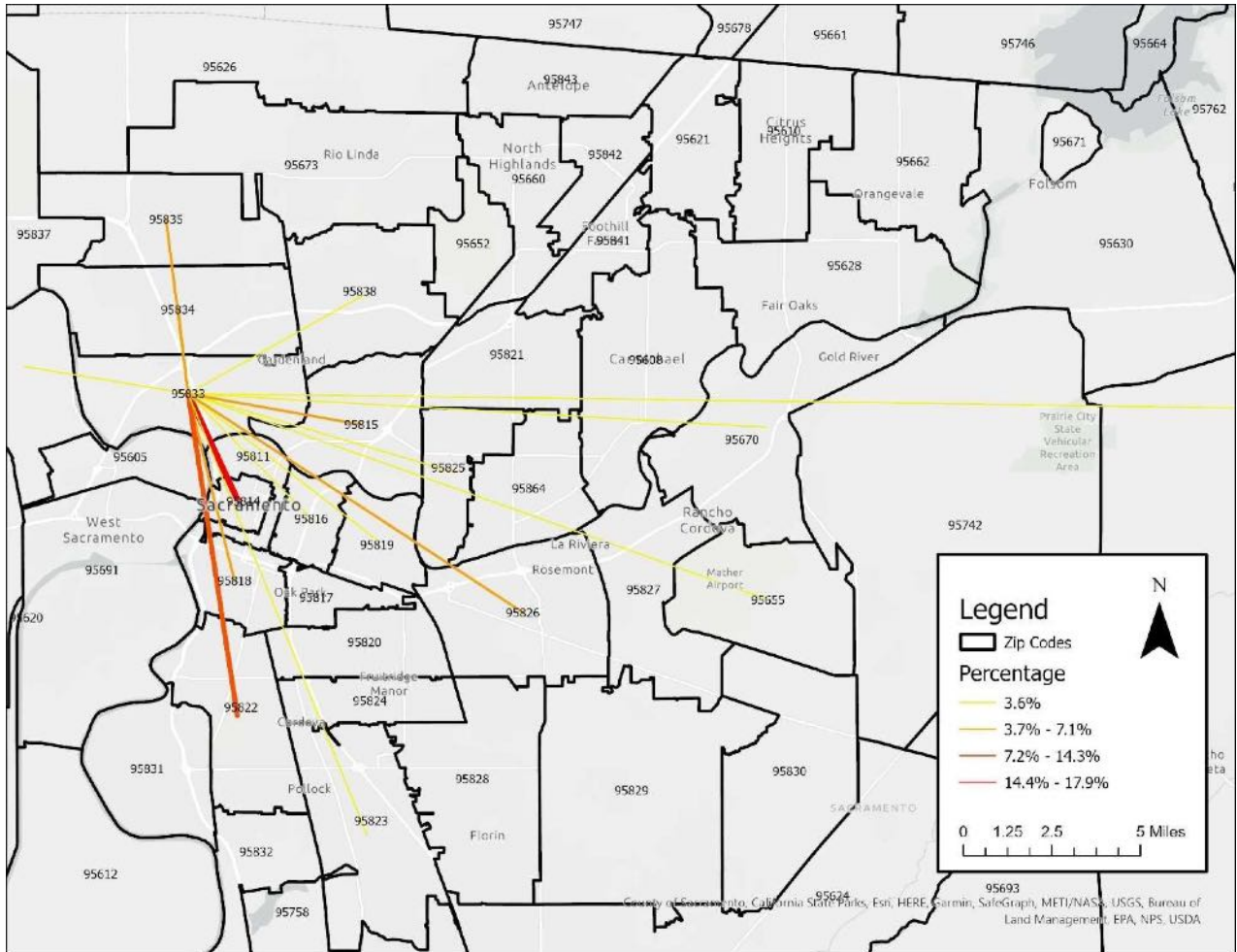


Figure A9. Origin-Destination - Zip Code 95818

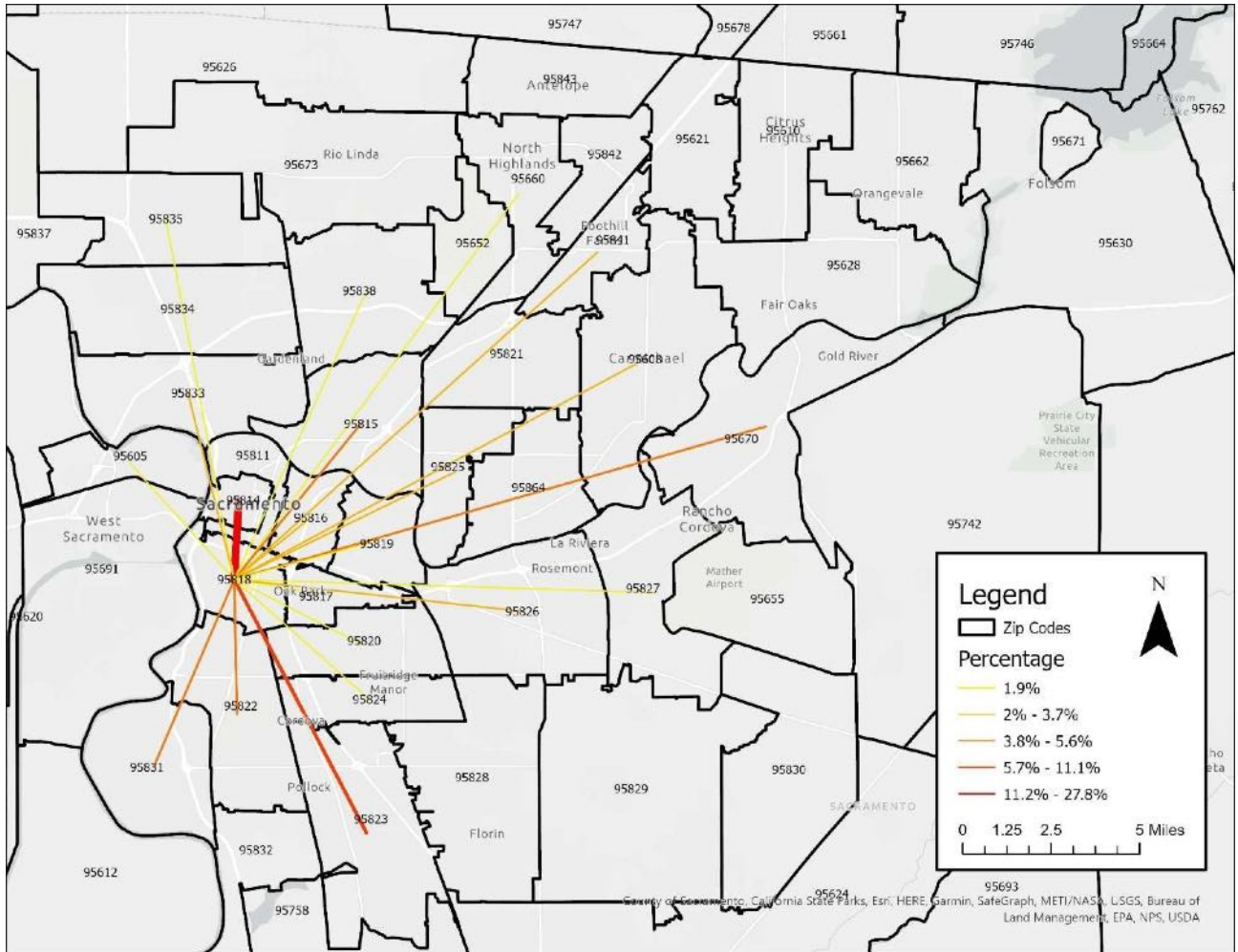


Figure A10. Origin-Destination - Zip Code 95819

