

RIDERSHIP DEMOGRAPHICS & TRAVEL PATTERNS

DATA & METHODOLOGY

Sound Transit conducted its most recent origin-destination survey on board trains and buses in the spring of 2024. We developed a sampling plan targeting representation of weekday trips including all Sound Transit Services and a selection of King County Metro and Community Transit Routes based on ridership levels. Bus routes from peer agencies were added to the survey if they were considered routes that could plausibly be replaced by the Lynnwood extension or the Federal Way link extension once these opened. Under this criterion, no Pierce Transit routes were surveyed. We conducted the survey between 6 am and 9 pm. As discussed more in the conclusion, this methodology has limitations that result in certain groups being underrepresented. However, Sound Transit attempted to correct some of this bias by weighing survey results based on known ridership patterns such as the share of boardings by mode, time of day, and segment where the respondent boarded or alighted. Weighting means that if the share of actual responses received with a certain characteristic does not match the share of known riders with that characteristic, we can multiply the responses from underrepresented groups to increase representation.

Sound Transit asked survey respondents their demographic characteristics and travel behaviors. Some of the data is summarized below for both minority and non-minority riders. While the survey targeted riders on Sound Transit and peer agencies in the region, the analysis below is limited to people who were surveyed on Sound Transit services.

Race

Sound Transit riders were 48.8% non-minority (white) and 51.2% minority (all other races) (Figure 1).

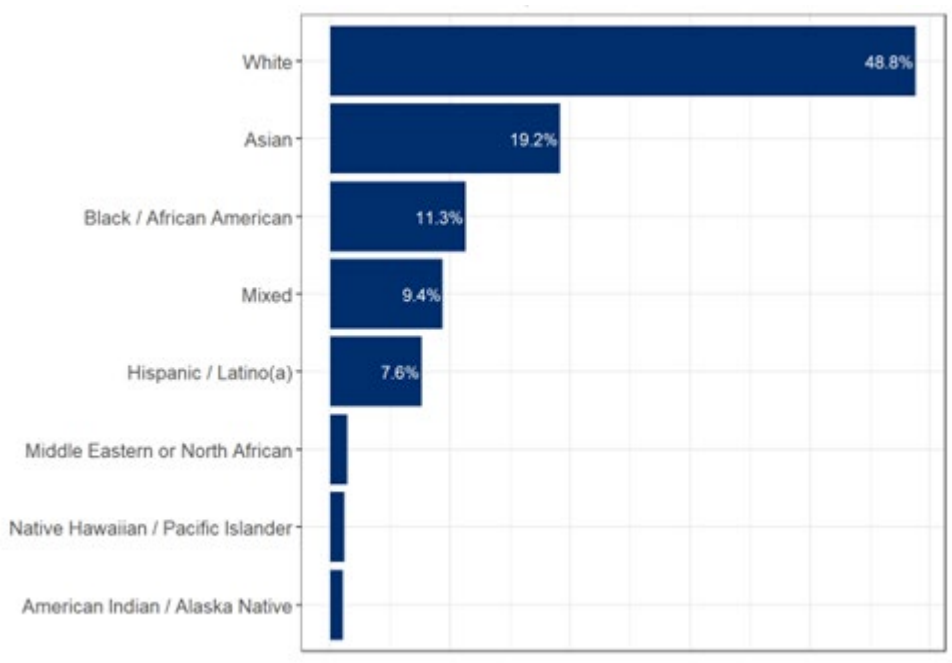


Figure 1. Sound Transit Riders by Race

Sound Transit does not collect information on the national origin of its riders.

Languages Spoken

In the 2024 OD survey, Sound Transit asked people if they spoke languages other than English (Table 1). Of these respondents, the majority spoke either Spanish or Chinese in addition to English.

Language	Percentage of ST riders who speak second language (%)
Spanish	27.6%
Chinese, Mandarin	8.7%
Hindi	7%
Vietnamese	5.8%
Chinese	4.9%
Korean	3.6%
Tagalog	3.5%
French	3.4%
Japanese	3.3%
Russian	2.5%

Table 1. Languages spoken by Sound Transit Riders

English Proficiency

Minority riders were more likely than non-minority riders to speak another language at home and have limited English proficiency (defined as speaking less than “very well”), although the majority of both groups spoke only English at home or were proficient in English (Figure 2).

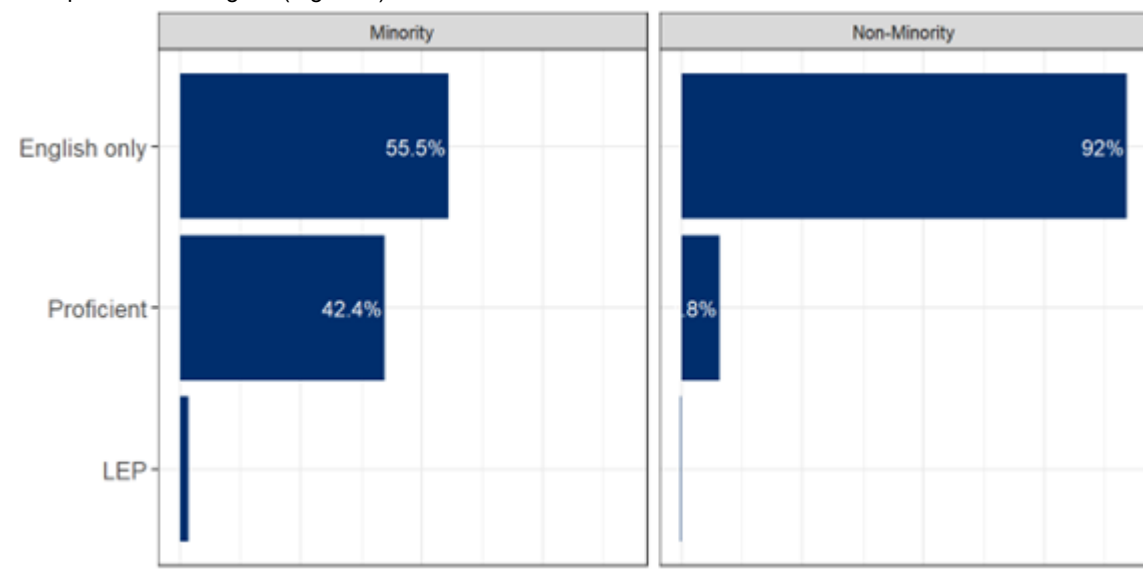


Figure 2. English Proficiency by Minority Status

Total Distance Travelled

The survey asked for the location of the trip origins and destinations. Based on this information, Sound Transit estimated the total distance that riders planned to travel one-way on the journey they were on when surveyed (Figure 3). Minority and non-

Minority riders had similar patterns in the total distance they planned to travel. Most people in either group were traveling less than 15 miles total.

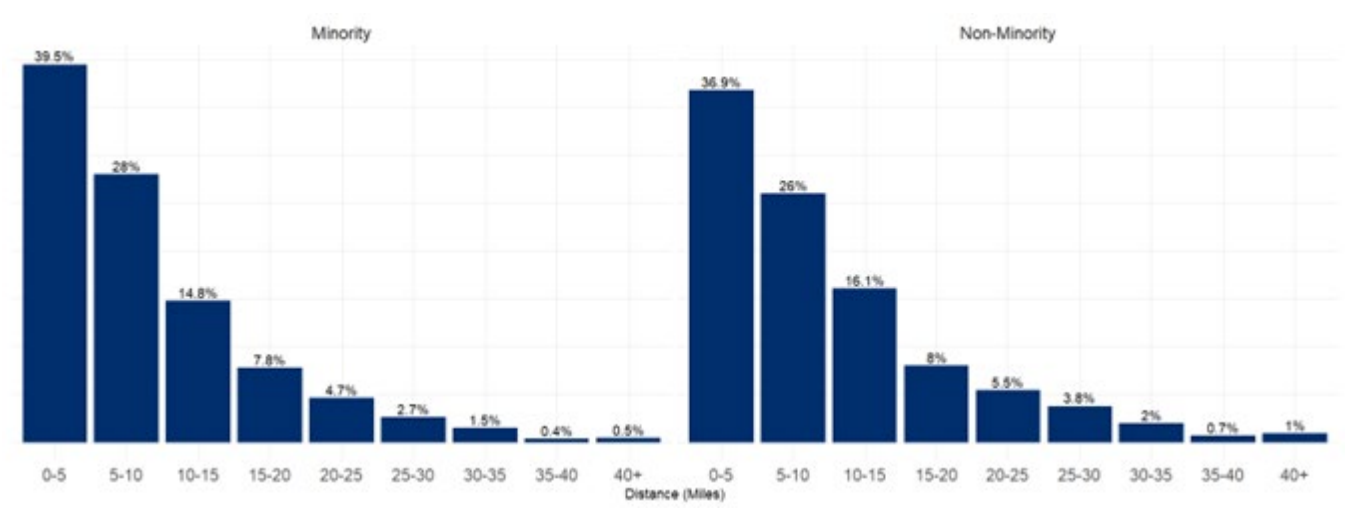


Figure 3. Trip Distance Distribution by Minority Status

Trip Purpose

Non-minority riders and minority riders are equally likely to use Sound Transit for commuting purposes. On the other hand, minority riders were slightly more likely to use transit to travel to education and childcare. Non-minority riders are more likely to use transit for recreation (Figure 4).

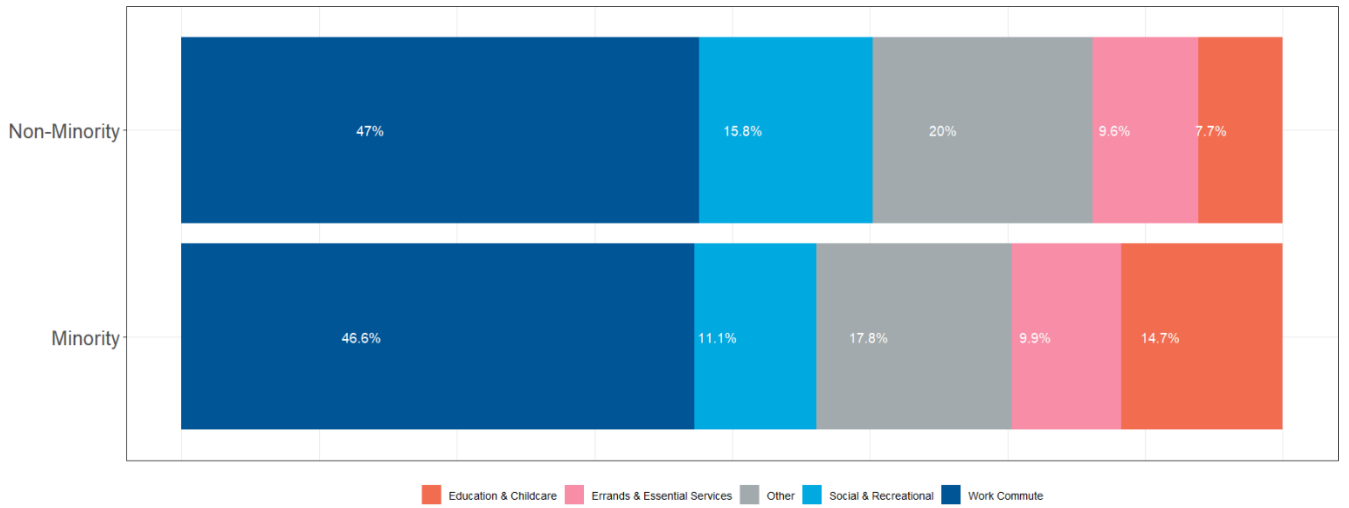


Figure 4. Trip Purpose by Minority Status

Income

Minorities were more likely to earn less than non-minorities. This is reflective of income inequality in the region and the country (Figure 5).

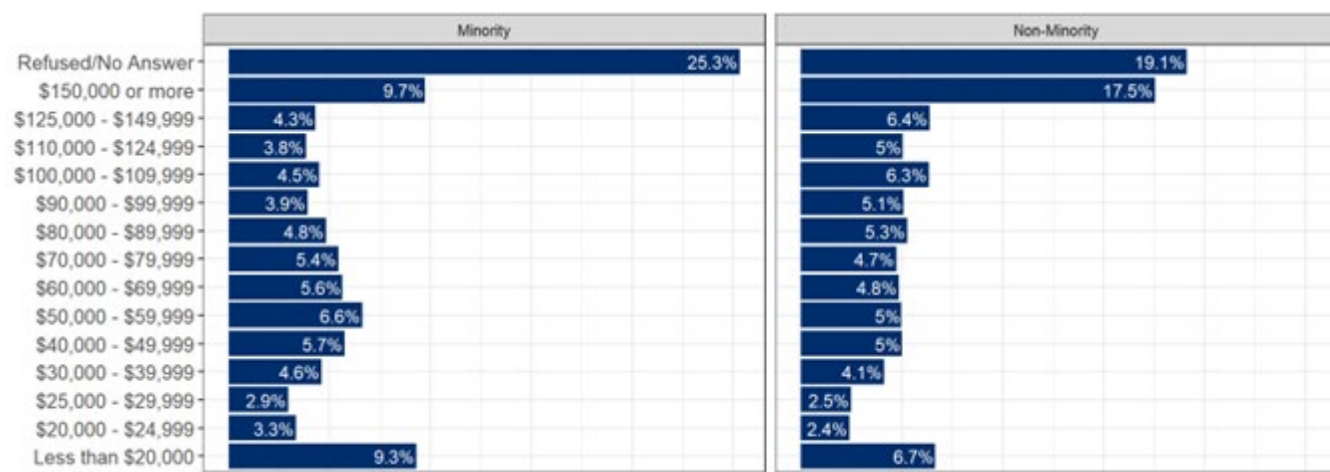


Figure 5. Income Category by Minority Status

Conclusion

The data show that Sound Transit ridership is diverse, with minority riders generally more likely than non-minority riders to be dependent on transit for activities like childcare and education, have lower incomes, and speak other languages.

This survey data used in this analysis has limitations. In any survey, there is a margin of error that represents uncertainty we have when attempting to generalize the characteristics of a sample to an entire population. Additionally, though this survey was available in multiple languages, research on survey methodology shows that Limited English Proficient respondents may still be less likely to complete a survey because it is more difficult to interact with the surveyor, request the language they need, or understand the benefit of completing a survey. Finally, the sample was developed to capture representative trips rather than people which may also lead to certain groups being underrepresented.

Another limitation is that the survey was conducted on weekdays only from 6 am – 9 pm. Thus, riders on weekends or other times of day are not well represented. these riders are more likely to be minorities and be LEP. Studies and rider surveys consistently show that weekend and off-peak transit users are more likely to be minorities, as they are overrepresented in shift-based, essential jobs with nontraditional hours and often lack access to a personal vehicle. As a result, transit service cuts outside the 6 a.m.–9 p.m. window disproportionately impact these communities. Finally, on-board surveys can tend to underrepresent riders who are making short trips, as these riders may feel they don't have the time to complete the survey.

Future surveys can bridge this gap by surveying on a broader schedule. Surveyors could also prepare better outreach materials in other languages to increase the chance that a LEP rider would understand what the survey is for and choose to participate. Sound Transit staff will use this data with caution and understand these caveats when reporting these statistics.