



VIRGINIA TECH
BLACKSBURG
TRANSPORTATION
SURVEY REPORT

2024

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Introduction

Virginia Tech Sustainable Transportation launched its sixth version of the biennial Transportation Survey on February 1, 2024. It remained open until May 31, 2024. The purpose of the survey was to gain insights into and better understand the travel behaviors of Blacksburg campus affiliates. Future outreach efforts and departmental programming will be based on the analysis of the survey data.

Virginia Tech offers a variety of transportation options to help its commuters save time, money, and reduce their carbon footprint. Those options include but are not limited to: Blacksburg Transit (BT) for local trips in Blacksburg and Christiansburg; the Smart Way bus for getting to and from Roanoke; carpooling; and vanpooling (for employees only).

Survey participation was down compared to previous years. As shown in the table below, there were 429 valid responses to the 2024 Transportation Survey representing a .93% response rate. This compares to 1,740 responses to the 2022 survey representing a 4.17% response rate. There was a 61% decrease in employee responses and an 88% decrease in student responses between the 2022 and 2024 surveys. It is believed that survey fatigue and a lack of awareness contributed to the decrease in responses. To combat this, the transportation and parking surveys will be combined in the future and fall on even number years.

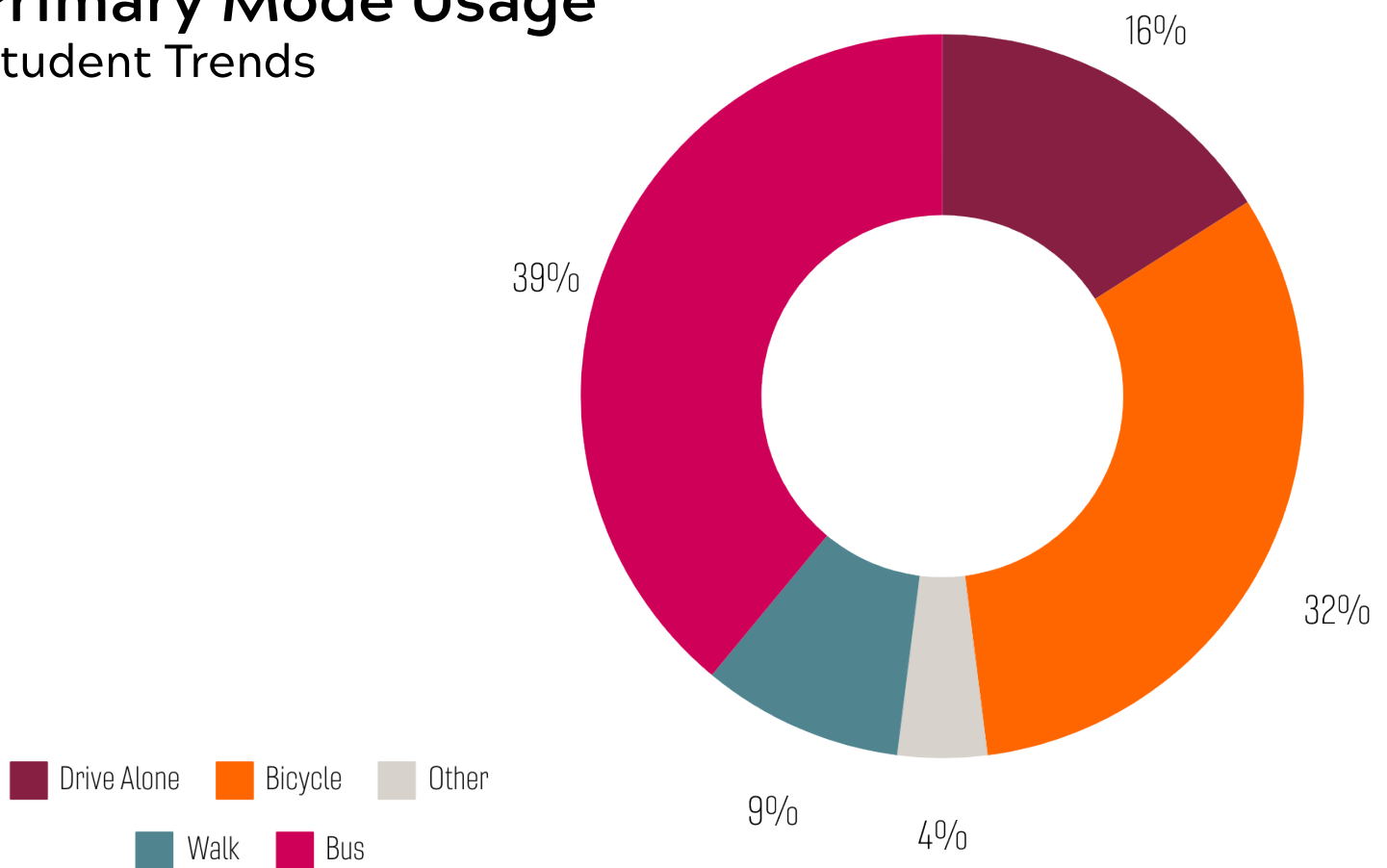
Survey Participants	Number of Participants	Total Affiliates	Response Rate
Undergraduate Students	66	30,344	.21%
Graduate Students	49	6,731	.73%
Faculty	128	5,548	2.31%
Staff	186	3,386	5.49%
Total	429	46,099	0.93%

Table 1: Survey Response Rate

The total number of Virginia Tech faculty and staff includes employees with primary affiliation at all Virginia Tech locations. Faculty and staff data specific to the Blacksburg campus is not currently available. That said, this still represents a very low response rate, especially compared with previous surveys. The undergraduate and graduate students, combined, make up just over a quarter of the survey participants (26.8%) with graduate students having a lower total but higher response rate. Faculty and staff members make up 73% of the survey participants. Postdocs and faculty emeriti were counted as faculty, not staff. At a 95% confidence level, this sample size has a 4.7% margin of error.

Primary Mode Usage

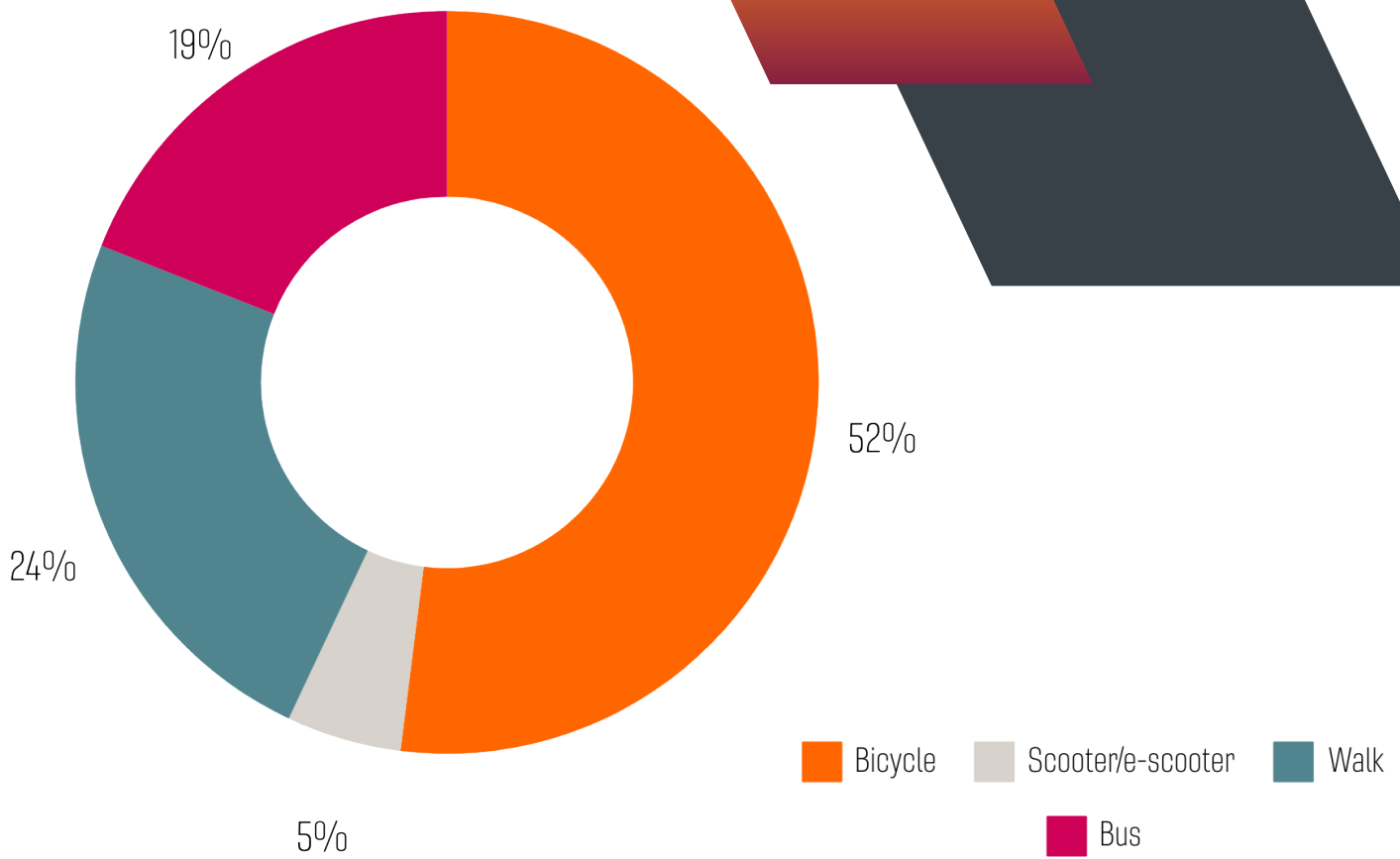
Student Trends



Graph 1: Primary Transportation Mode, Off-Campus Students

The graph shows that students living off campus tended to use the bus, whether Blacksburg Transit or Smart Way/Smart Way Express, in opposition to other modes of transportation as their primary means of going to/from campus. Popular modes also include biking, driving alone, and walking. Every choice that came in at less than 2% was grouped together in the “other” category. These modes included getting dropped off in someone else's car, carpooling/vanpooling, and taking a motorcycle/moped. Scooters and skateboards were presented as an option but were not chosen by any of the students as a primary mode of transport to campus.

**OFF-CAMPUS
STUDENTS**



Graph 2: Primary Transportation Mode, On-Campus Students

Graph 2, however, shows a different tendency for students living on campus. Since these participants reside on campus, they were asked about their primary mode for getting to/from other campus destinations. Over half of student participants living on campus said they prefer to bike. Almost a quarter said they walk from destination to destination, while 19% chose to take the bus. The remaining participants (5%) use a scooter/e-scooter to travel around campus. Options for driving alone, carpooling, getting dropped off, motorcycles/mopeds, and skateboards were given but not selected by students.

ON-CAMPUS STUDENTS

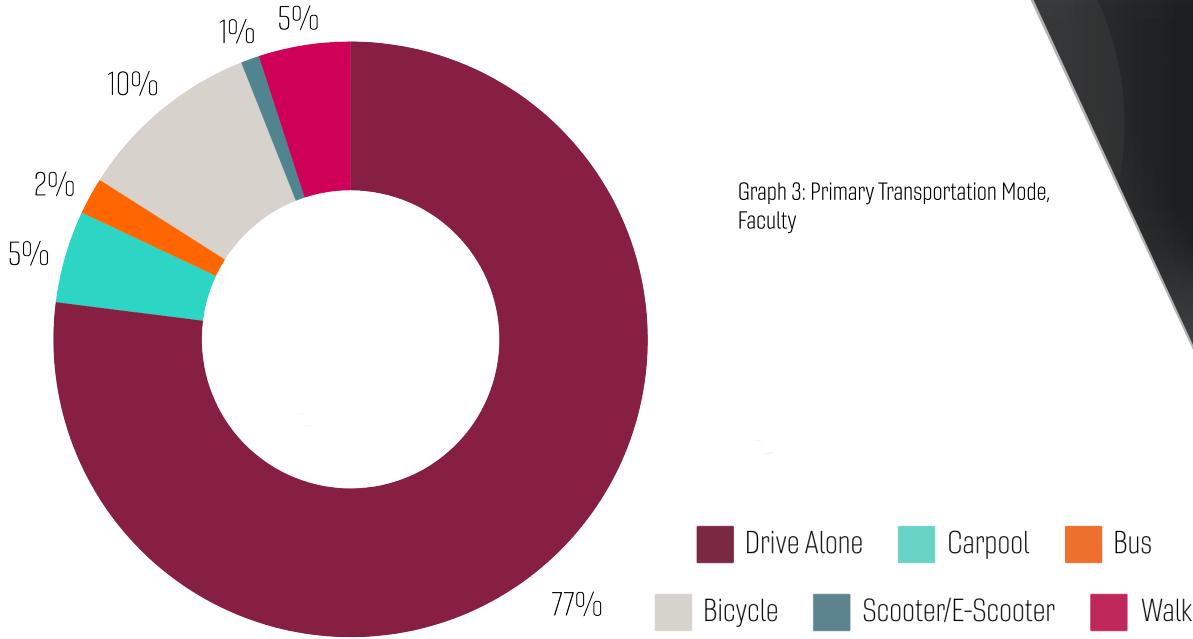
With the opening of the Transit Center in the summer of 2024, and the addition of the Campus Shuttle route with seven and a half minute frequency, it is anticipated that more on-campus students will utilize Blacksburg Transit to get across campus. In fact, this is a trend that staff are already noticing. Six additional stops opened along Kent and Washington streets, making it much more convenient for on-campus students to hop on a bus and get to the academic core of campus.

FACULTY AND STAFF TRENDS

PRIMARY MODE OF TRANSPORTATION

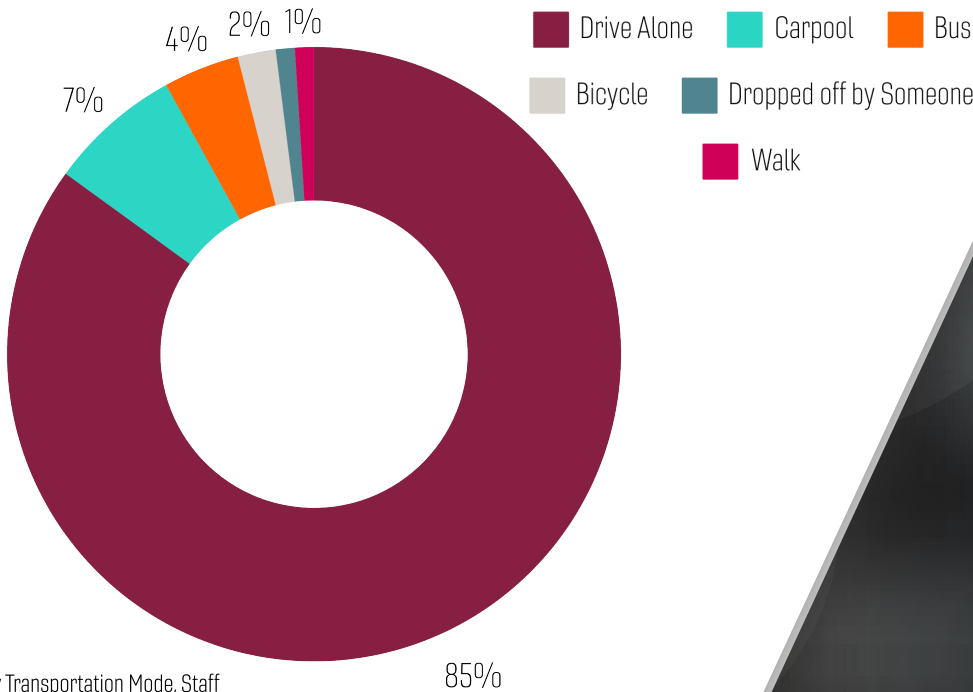
Faculty and staff members have continued to overwhelmingly drive alone as their main mode of transportation and were about five times more likely than off-campus students to do so. Aside from driving alone, carpooling/vanpooling, cycling, walking, and riding the bus were other modes selected by employees. Choices presented but not picked by any employees included skateboard and motorcycle/moped.

FACULTY



Staff members were more likely to drive alone as their primary mode than faculty members, as well as more likely to carpool/vanpool. Whereas faculty members were more likely to choose a more active mode of transportation such as bicycling or walking.

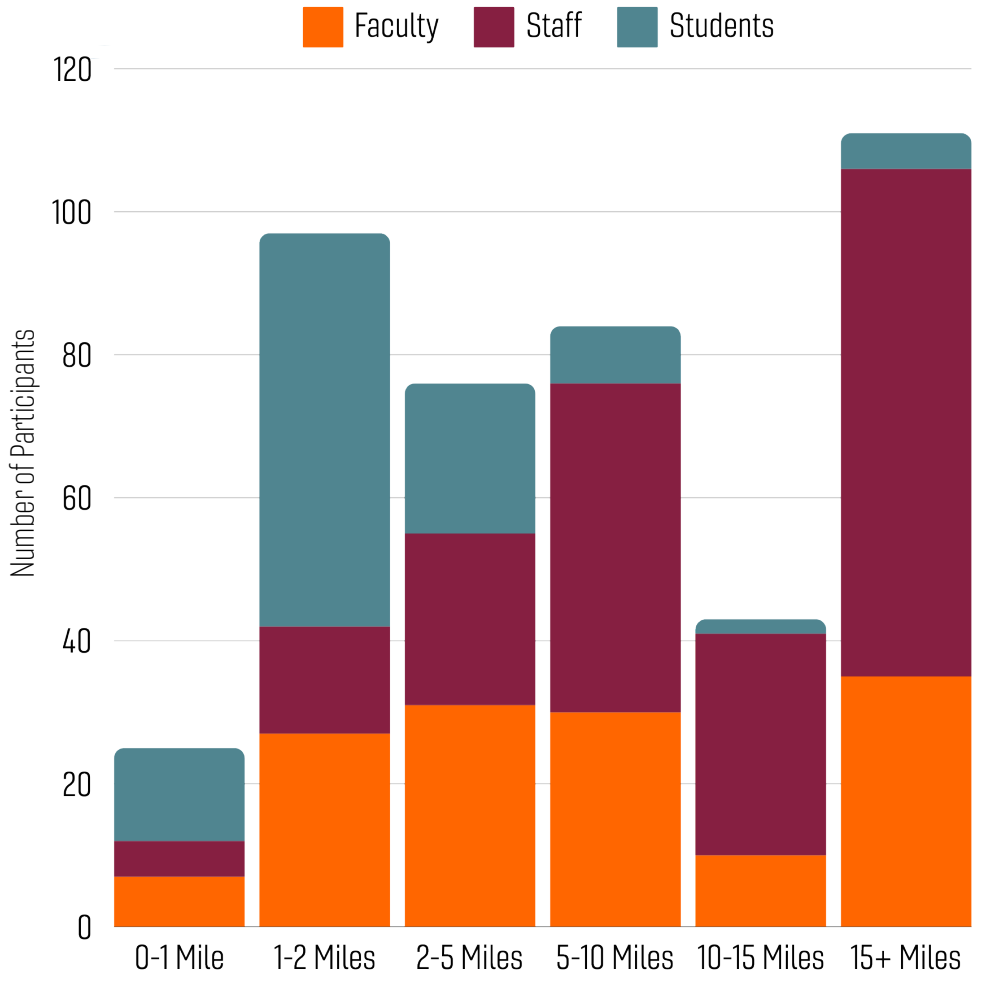
STAFF



PRIMARY MODE OF TRANSPORTATION

This may be due to staff members having to commute longer distances than faculty and students. Seventy-seven percent of staff member participants indicated commuting farther than five miles to and from campus, with half of those commuting distances farther than 15 miles. Compare this to 25% of faculty who also indicated commuting farther than 15 miles to and from campus.

Most (63%) faculty member participants indicated commuting between 1-10 miles, with about an equal spread between people traveling 1-2, 2-5, and 5-10 miles. Students were more likely than employees to commute even shorter distances to and from campus, with a majority (85.6%) of those living off campus commuting less than five miles, and more than half (65.4%) of those were commuting less than two miles.

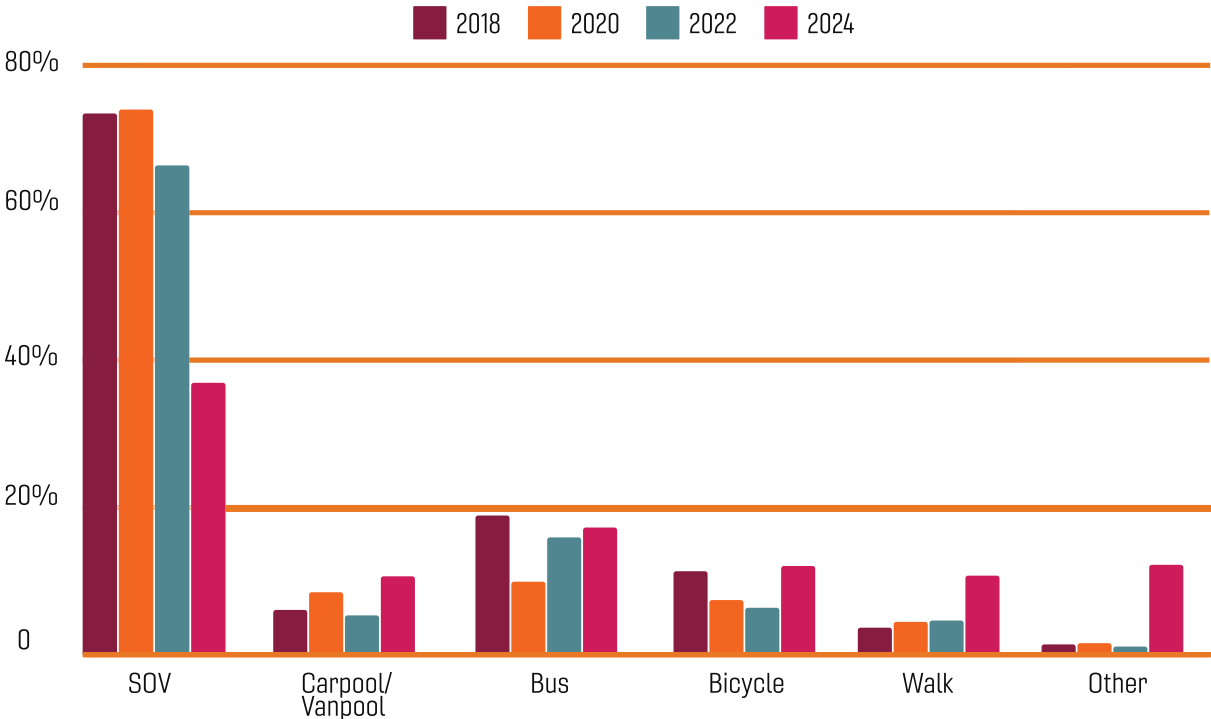


Graph 5: Average commute distance from home to campus.

Changes in Primary Mode Usage from 2018-2024, All Affiliates



Graph 6 illustrates the changes in primary mode during the previous eight years these biennial surveys were conducted. It is worth noting that results from 2020 to 2022 may be skewed due to the university’s response to the coronavirus disease 2019 (COVID-19), which included the campus shutting down in 2020 and transitioning to virtual instruction and remote work. By fall of 2021, most classes had resumed an in-person format. However, many people were still choosing not to ride public transportation during the 2022 iteration of this survey. Now that we are four years removed from the start of COVID-19, we are seeing a return to pre-COVID travel patterns.



Graph 6: Change in Primary Transportation Mode from 2018-2024

While the percentage of people driving alone has seen an overall declining trend, including a significant decrease from about 66% in 2022 to about 37% in 2024, it remains the top mode choice for Virginia Tech affiliates. Despite the significant decrease in the drive alone rate from 2022 to 2024, actual parking permit sales show that the number of people who drove alone in 2024 was nearly the same as the number of people who drove alone in 2020. Driving alone has increased slightly among students and is still holding above 70% for faculty and staff, which appears consistent throughout previous survey results despite the varying sample sizes.

The results from this survey found a significant increase in the “other” category, from 1% in 2022 to 12% in 2024. This may be because of the plethora of options available other than driving alone, carpooling, walking, bicycling, and riding the bus. Choices included getting dropped off by someone (8%), using a moped/motorcycle (2%), scooters/ e-scooters (1%), skateboarding (0.5%), and unspecified other (0.5%). While it was known for years that people had been getting dropped off by someone as a means of traveling to campus, this was the first year it was offered as an answer option in the survey. Staff will continue to monitor this trend moving forward because pick up/drop off activity can really add to the traffic congestion problem during class changes.

Public transit usage among survey participants has stayed about the same since the last survey, with usage going up 1.3% in the last 2 years. Despite this, BT ridership is still lower than in 2018. This aligns with BT ridership data and is mostly due to pandemic-related impacts (virtual learning, social distancing and BT staffing shortages). With the Transit Center becoming operational in June 2024, and BT making changes to all its routes, it is anticipated that more people will utilize public transportation the next time this survey is conducted.

Despite an increased awareness of carpooling/vanpooling among affiliates, this mode was declining over the past four years. Interestingly, in 2020, there was a slight rebound in carpooling/vanpooling. However, this decline continued to occur into 2022 despite participants indicating they are aware of this travel option. In 2024, carpooling is slightly on the upswing, with a 5.3% increase in people indicating that they carpool/ vanpool to work or school.

There has also been a slight upward trend in bicycling among campus affiliates from 6% of participants bicycling in 2022 to 12% bicycling in 2024. This change has brought bicycle riding percentages closer to their high in 2018, where 11% of survey takers stated that they rode bikes. There was also an interesting change that occurred from the previous survey years, where bicycling had been increasing among students and decreasing among faculty and staff members. The 2022 survey showed bicycling decreasing among students and increasing among faculty and staff, particularly with faculty members. Now, this year brought back the older trends, where there has been a significant increase of students biking while faculty and staff have decreased. Walking has also been on a steep upward trend since 2018, with an overall 6% increase since the last survey period.

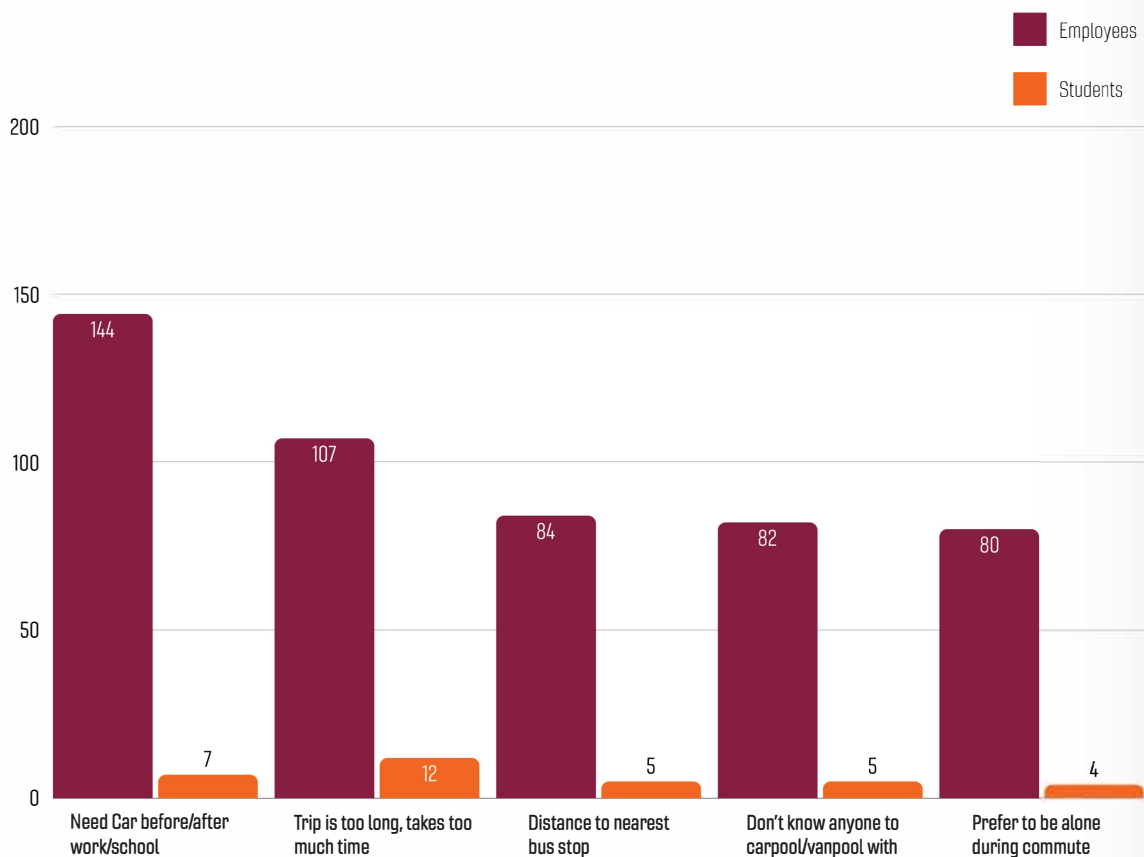


Travel Insights

Barriers to Sustainable Transportation Use

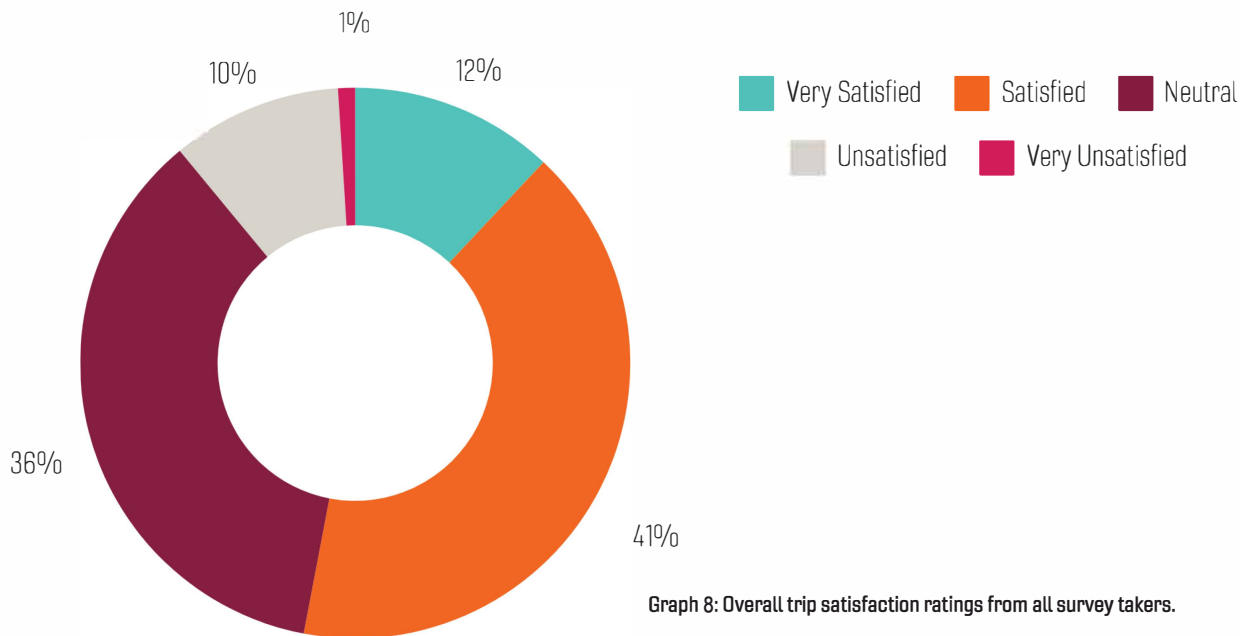
As Graph 7 shows, the top three concerns preventing all affiliates from using more sustainable transportation modes include needing a car before/after work/school, trip length/time, and distance to the nearest bus stop. When breaking it down by affiliate groups, the employees were in line with the top five barriers overall, while the students had a few differences in their top five. While the students' top two agreed with the combined results (trips are too long/time consuming and they need their car before/after work/school), they also included weather, lack of infrastructure, and distance to the nearest bus stop as their top concerns.

Write-ins for the other category primarily revolved around issues regarding family schedules/school-aged children, having variable schedules that make carpooling difficult, lack of reliable public transportation options/timing, and health.



Graph 7: Top Five Barriers to Using Sustainable Transportation Modes More Often

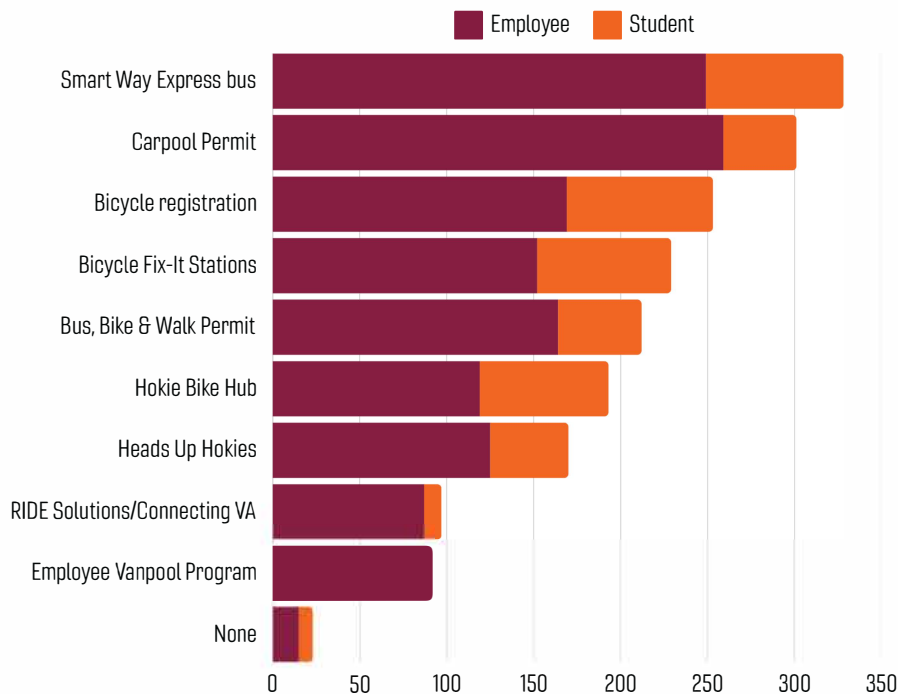
Travel Satisfaction



Graph 8: Overall trip satisfaction ratings from all survey takers.

Overall, when asked if satisfied with trips to and from campus, 53% of respondents indicated that they were satisfied/very satisfied with their experience. 36% were neutral on the matter, and 11% were unsatisfied/very unsatisfied. While most survey takers seem satisfied with their current commute, transportation systems are always growing and evolving to improve in the future.

When it comes to trips from one campus destination to another, 36% of survey takers were satisfied/very satisfied, 40% were neutral, and 24% were unsatisfied/very unsatisfied. It is not clear why people chose their answers. In the creation of this survey, there was not an option to explain why an answer was chosen. Future surveys will include this feature so more can be gleaned from participants' travel satisfaction.



Graph 9: Sustainable Transportation Program Awareness



Most survey participants were aware of at least one sustainable transportation program offered at Virginia Tech. Most commonly, people are aware of the Smart Way bus option. Programs that may need to be advertised more are RIDE Solutions/Connecting VA, which helps people find carpooling groups, and Heads Up Hokies, which teaches and encourages using proper safety measures when traveling.

Employee vanpool was not given as an option for students that took the survey, since it is not a service offered to students. Still, it was not known by a lot of employees compared to their awareness of other programs. As such, the Sustainable Transportation department could look more into expanding advertising of the program. Increasing education for ride sharing programs could encourage more employee participation, which could eliminate some of the concerns regarding scheduling. Increase in participation could lead to more flexible riding schedules to choose from.

Conclusion

Overall, participants seem to be aware of the variety of options available for sustainable transportation. Over the past ten years, students have opted to ride public transportation, walk, and bike more often, with a corresponding drop in those driving alone. Reaching out to faculty and staff to increase their knowledge of transportation options, and constructing more and safer infrastructure for bicyclists, public transportation riders, and pedestrians should help to sway more people towards sustainable transportation options.