

KEY TRANSPORTATION STATISTICS

From the 2018 Commuter Survey



ABSTRACT

This document is an overview of the primary results from the third biennial Virginia Tech Commuter Survey, prepared for the Board of Visitors. The survey found, for the third time, that single occupancy vehicles (SOV) remain the primary mode of transportation on campus. However, SOV usage has declined since 2016, and the number of bicyclists continues to rise. Also, alternative transportation program awareness has increased significantly from 2016. Overall, there has been a positive shift in the attitude towards alternative transportation on the Blacksburg campus.



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Introduction

The Virginia Tech Alternative Transportation Department conducted the University's first Commuter Survey in the spring of 2014. The purpose of this survey was to afford Parking and Transportation a more thorough understanding of how people commute to, from and around the Blacksburg campus. The third iteration of the survey was conducted in 2018 and was available to the campus community from February 6 to December 27.

Ultimately, 1,452 survey responses were collected, accounting for 3.4 percent of Blacksburg campus affiliates (students, faculty and staff). This number is the same percentage of representation as the first survey in 2014. Table 1 shows the breakdown between the percentage of total campus affiliates and the percentage of survey respondents.

Table 1: Comparison of the Percentage of Campus Affiliates and Survey Respondents

	Survey Respondents	Campus Affiliates
On-Campus Students	18%	22%
Off-Campus Students	51%	54%
Faculty/Staff	31%	24%

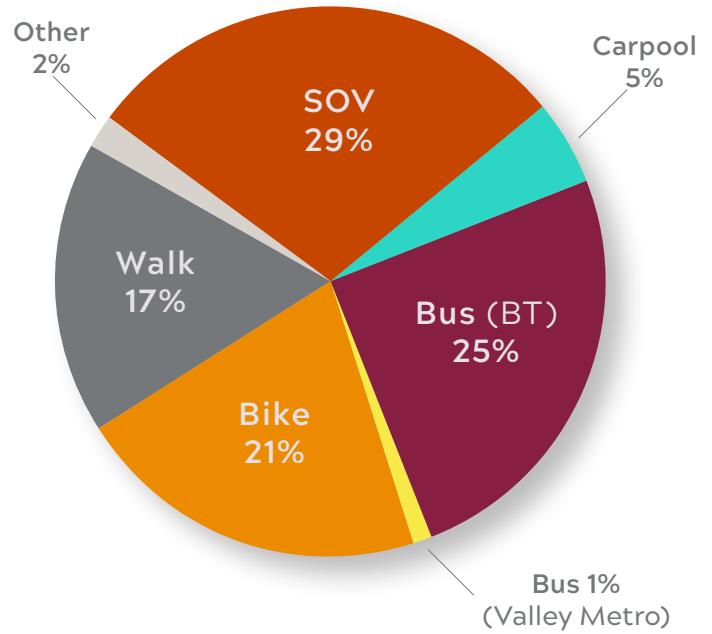
Despite the decrease in responses from the 2016 survey (2,527 participants), the breakdown of campus affiliates more accurately reflects the makeup of the campus population. For the 2018 survey, the average difference between survey representation and actual population distribution is 4.6 percent. In 2016, this average was 19 percent. The number of responses, and the accurate breakdown of campus affiliates, provides valid insights into the commuting characteristics of the Virginia Tech Blacksburg Campus.

Primary Mode Usage

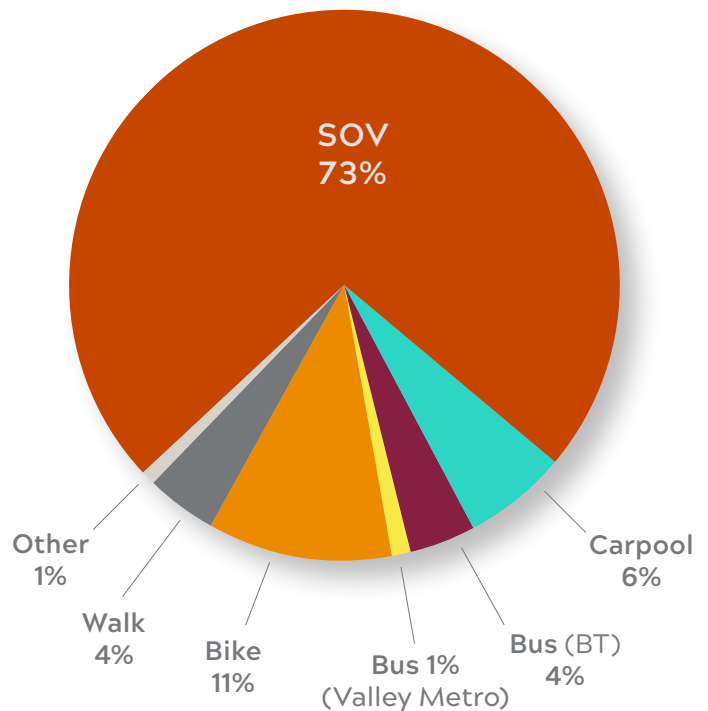
For Graphs 1 and 2, participants were asked, “What is your primary mode of transportation?” Categories equaling less than one percent were grouped into the “other” category for better visibility of results. Generally, scooters, mopeds and skateboards were grouped into this section.

For all demographics, single-occupancy vehicles (SOV) are the primary mode, with bicycling as the next highest. However, students are more likely to use alternative modes of transportation, as they rely on Blacksburg Transit and bicycling almost as much as SOVs. When looking at the data for faculty and staff members, there is a significant drop in alternative transportation mode share. They are more than twice as likely to use an SOV than a student. It stands to reason that the Alternative Transportation Department could benefit from focusing more on campus employees moving forward. Perhaps bicycling and walking are not viable alternatives for much of the faculty and staff, as many of them live further away from campus than students. Highlighting the cost savings of carpooling or taking public transportation may help convince some to make the switch from an SOV.

Graph 1: Primary Mode of Transportation for Students



Graph 2: Primary Mode of Transportation for Faculty and Staff

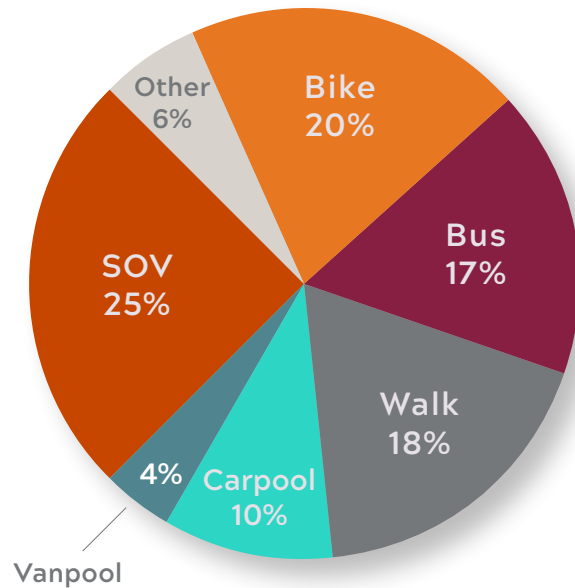


Perception of Mode Use Compared to Mode Use Reality

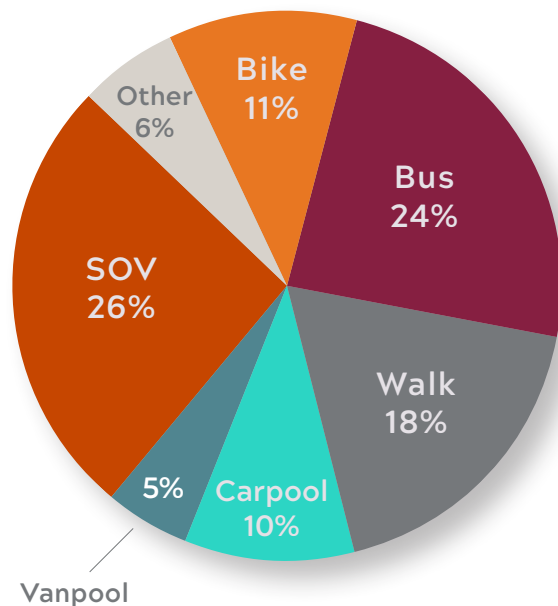
For this section, survey participants were asked two questions: “What percentage of campus-related travel do you use for each of the following modes,” and “What percentage of campus-related travel do you think takes place using each of the following modes?” Participants used a percentage slider scale for their answers. Due to limitations of the survey instrument, and to make completion of the survey easier, the sum of individual percentages did not have to equal 100. All responses for each transportation mode were averaged. The average percentages for each mode were scaled to 100 percent using the sum of the unscaled averages.

The results, Graphs 3 and 4, show that respondents guessed five out of seven modes of travel within one percentage point of their actual use. Of the two that varied greatly, bicycling was underestimated and bus usage was overestimated. This could be due to the difference in vehicle size between buses and bicycles; one is more likely to notice a change from five to ten buses over a change from five to ten bicyclists. However, the general similarity between the perception of mode use versus actual mode use could symbolize a positive shift in awareness of commuting methods.

Graph 3: Actual Campus-Related Travel

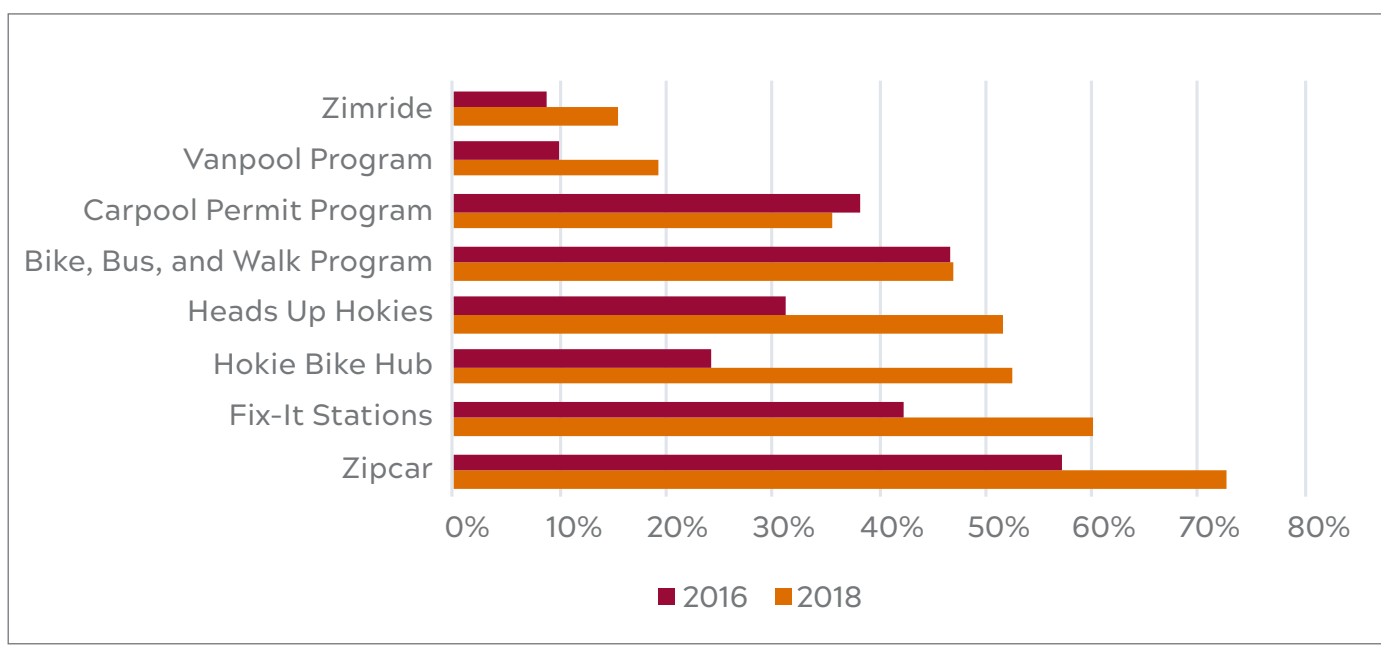


Graph 4: Perception of Campus-Related Travel



Respondent Awareness of Alternative Transportation Programs

Graph 5: Awareness of Alternative Transportation Programs in 2016 and 2018



One of the last questions participants were asked was, “Which of these Alternative Transportation Programs have you heard of?” They were prompted to check all that applied. As Graph 5 illustrates, Zipcar continues to be the most recognized program on campus. This could be attributed to the high-traffic locations and the distinct branding of the parking spaces. In fact, the four most-recognized programs all have physical locations or branding on campus. Moving forward, outreach efforts for alternative transportation programs should consider including physical advertising on campus.

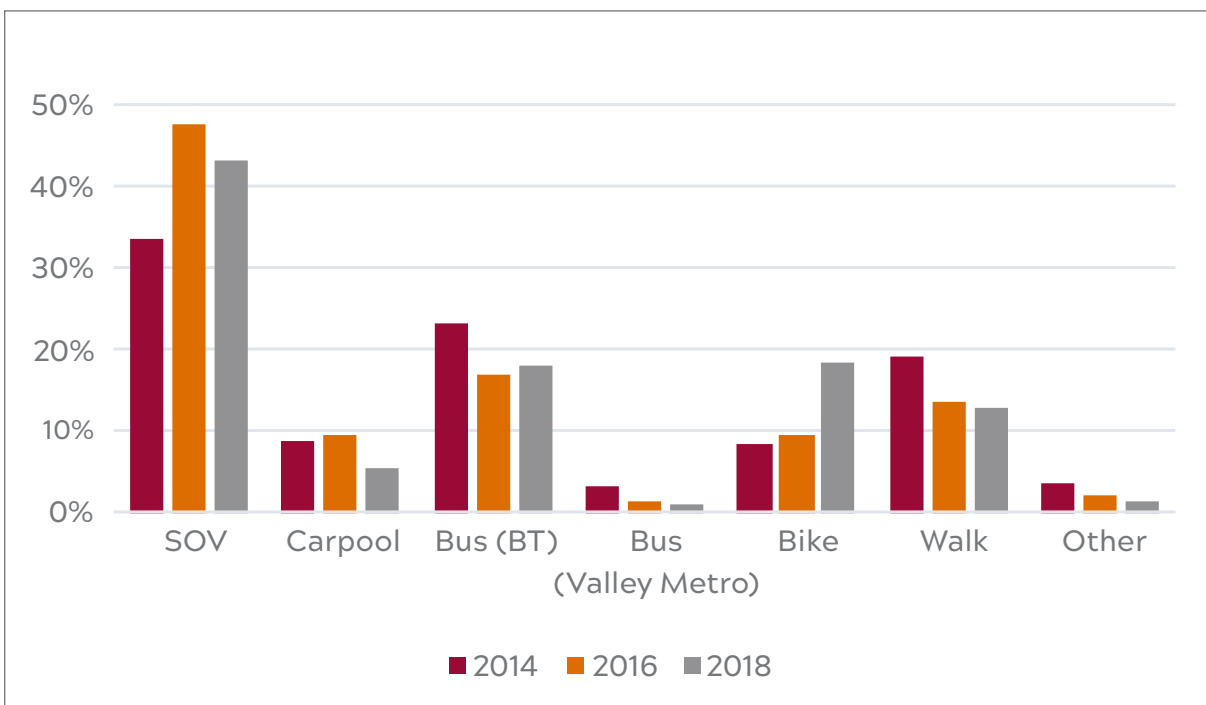
While program awareness was not measured in the 2014 survey, from 2016 to 2018 it increased by an average of 11.9 percent overall. Since 2016, the Alternative Transportation Department has implemented a revised social media strategy and a number of new events have been added alongside the ones already taking place. Exploring other methods of advertising such as digital ad campaigns and/or more alternative transportation-specific events could help increase awareness of these programs.

Changes in Primary Mode Usage from 2014 to 2018

Graph 6 illustrates the changes in primary mode usage during the three years this survey was conducted. As with previous graphs, categories equaling less than one percent (scooters, mopeds and skateboards) were grouped into the “other” category for better visibility of results. In past iterations of the survey (2014 and 2016), participants were allowed up to two choices when selecting their primary mode. In the 2018 survey, they were only allowed to select one. As a result, it’s hard to draw many conclusions when comparing all three years of the survey.

The biggest change to note is the growth in bicycle usage, which has doubled since 2014. Blacksburg Transit usage, although it has dropped since 2014, has increased since 2016. Unfortunately SOV usage is still up over the 2014 percentage, and carpooling and walking have decreased. In the future, the Alternative Transportation Department needs to heavily market towards this target audience.






Graph 6: Change in Primary Mode of Transportation from 2014 to 2018



Conclusion

When looking at national, state and local averages, Virginia Tech still has a much higher mode share for bicycling, walking and public transportation. Data from the U.S. Census Bureau, Table 2, indicates that a mere .6 percent, 2.7 percent and 5.1 percent of the United States population bikes, walks and takes public transportation to work, respectively. This number jumps to 2.5 percent for bicycling and 9.1 percent for walking and public transportation when you look at the census tracts that encompass the Town of Blacksburg and the immediate surrounding area. However, it is still seven times lower than the percentage our survey indicated for Virginia Tech affiliates who bike (18.3 percent), 3.7 percentage points lower than those who primarily walk (12.8 percent) and half the percentage who take public transportation (18.9 percent).

Table 2: Comparison of 2013-2017 American Community Survey 5-Year Estimates for Means of Transportation to Work and the 2018 Commuter Survey Results

Location	 Bicycling	 Walking	 Public Transportation	 Carpooling	 Driving Alone
United States	0.6%	2.7%	5.1%	9.2%	76.4%
Commonwealth of Virginia	04%	2.4%	4.4%	9.3%	77.3%
Census Tracts 201, 202.01, 202.02, 203, 204, 205, 206, and 207	2.5%	9.1%	9.1%	6.8%	65.5%
2018 Commuter Survey	18.3%	12.8%	18.9%	5.34%	43.1%

The numbers for carpooling are not as positive, as they show that Virginia Tech affiliates carpool about half as much as the national and state averages. However, given that the SOV percentage is significantly less than the national and state averages, it appears that Virginia Tech affiliates are less likely to travel by car, whether alone or with other people. Although there is room for improvement, Virginia Tech’s mode share for alternative transportation is better than the national and state averages.

Overall, the numbers from Virginia Tech’s 2018 Commuter Survey indicate good attitudes towards alternative transportation modes. This is likely due to the fact that there is a well-established culture for bicycling, walking and taking public transportation. Seizing on this momentum in the upcoming years will be key as the University looks to construct classrooms and other facilities in lieu of parking spaces.