



TRANSPORTATION SERVICES



CONTENTS

- 3 Introduction
- 5 Primary Mode Usage
- 6 Perception of Mode Use Compared to Mode Use Reality
- 7 Respondent Awareness of Alternative Transportation Programs
- 8 Changes in Primary Mode Usage from 2014 to 2020
- 9 Conclusion

INTRODUCTION

Virginia Tech's biennial Commuter Survey provides insights into Blacksburg campus affiliates' travel behaviors. The fourth version of this survey, administered by the Alternative Transportation Department, launched on January 2, 2020 and remained open until December 18, 2020. The Alternative Transportation Department intends to adjust outreach efforts and programming based on analysis of the survey data.

On March 13, 2020, shortly after the survey launched, nearly all of campus closed down and transitioned to virtual instruction and remote working in response to COVID-19. The university remained in this state until early August 2020, just before the start of the fall semester. While the survey was still available for responses during this time, very few responses were collected. Transportation modes of all affiliates drastically changed or were eliminated altogether. Students were sent home, most faculty and staff began teleworking, and all affiliates stopped commuting as they normally would. Since the survey asked questions in present tense, responses received after March 13 were vastly different than they likely otherwise would have been. This altered both the survey response rate and data collected.

As a result, data from this survey show a different trend from previous surveys. There was a dramatic decrease in the number of responses when compared to previous versions. The 2018 Commuter Survey had 1,452 participants, while the 2020 version only garnered an initial 691 participants. After the data was cleaned up, 20 responses were removed due to no listed affiliation with Virginia Tech; participants who provided this answer for their affiliation were not allowed to answer any more questions, providing no data. An additional 42 responses were removed because the participants only answered the affiliation question, resulting in only 629 valid responses.



Comparison of the Percentage of Campus Affiliates and Survey Respondents

SURVEY PARTICIPANTS	NUMBER OF PARTICIPANTS	TOTAL AFFILIATES	RESPONSE RATE
Faculty	154	5,002	3.1%
Staff	210	3,566	5.9%
Students	265	37,010	0.7%
Total	629	45,578	1.4%

FIGURE 1

As Figure 1 details, the responses represent 1.4% of all Virginia Tech affiliates associated with the Blacksburg campus. It should be noted that the total number of Virginia Tech faculty and staff includes employees with primary affiliation at other Virginia Tech locations. Data specific to the Blacksburg campus is not currently available. That being said, this still represents a very low response rate, especially compared with previous surveys.

Faculty members make up 24% of the survey participants; staff make up 33%; and students make up 42%. This compares to 11%; 8%; and 81% of total campus affiliates, respectively. At a 95% confidence level, this sample size has a 4% margin of error.

With the majority of the Virginia Tech community no longer residing or commuting to campus because of COVID-19, the responses should be viewed with the understanding that they are likely atypical of their commuting behaviors outside a pandemic environment. At least 3,100 faculty and staff had a telework agreement in place for the 2020 fall semester. This compares to just 113 telework agreements in early 2020. Furthermore, data from Blacksburg Transit shows that their ridership is down roughly 83% when compared to the previous year.

PRIMARY MODE USAGE

In Figure 2, both on-campus and off-campus students showed similar tendencies with their chosen primary mode of transportation by relying on single-occupancy vehicles (SOVs) over all other modes of transportation. Bicycling, riding BT, and walking round out the top four. Every option beyond that came in at less than 2%. The "Other" category includes skateboarding and riding a motorcycle.

Faculty and staff overwhelmingly chose SOVs as their primary mode of transportation (Figure 2). All other options came in at less than 10%. They are nearly twice as likely to use an SOV as students. The "Other" category includes riding a motorcycle and moped. It stands to reason that the Alternative Transportation Department could benefit from focusing more on campus employees moving forward. Highlighting the cost savings associated with carpooling, riding transit, bicycling, and walking may help convince some to make the switch from an SOV.





5

CHANGES IN PRIMARY MODE USAGE FROM 2014 TO 2020

Figure 3 illustrates the changes in primary mode during the previous six years these surveys were conducted. In the 2014 and 2016 iterations of the survey, participants were allowed up to two choices when selecting their primary mode. However, in the 2018 and 2020 surveys they could only select one. This update to the survey design needs to be taken into account when drawing conclusions about changes in primary mode.

While SOV usage has declined from a high of 85% in 2016, this remains the overwhelming top choice for Virginia Tech affiliates' primary mode of transportation. SOV usage has increased among students and is holding above 75% for faculty and staff, which appears consistent throughout the previous survey results.

One big change to note is the dramatic decline of public transit usage, which has dropped 65% since 2014. It should be noted that prior to fiscal year 2020 (July 2019 - June 2020) Blacksburg Transit was seeing steady growth in annual ridership, which contradicts the results of this survey. There are also declines in bicycling, carpooling, and walking, although the last two appear to have rebounded slightly in 2020.

Carpooling has declined by half, despite survey responses indicating a high awareness of this mode option. Two hundred eighty-five (285) participants responded that this option was available to them; however, only 21 carpooled, a 10% decrease from 2014. While bicycle usage has increased for students, likely due to the increase in bicycle racks and other infrastructure, it has declined for faculty and staff. This is likely due to the new telework and virtual class environment.



Change Primary Mode of Transportation from 2014 to 2020

6



TRAVEL INSIGHTS



Obstacles to Alternative Transportation Use

FIGURE 4

As shown in Figure 4, the top two concerns preventing all affiliates from using a transportation mode other than driving alone include the length of trip/time it takes and weather. Faculty and staff also listed responsibilities outside of work, distance to the nearest bus stop, and bus pick-up/drop-off times as top concerns. Students were also concerned with bus pick-up/drop-off times, but their next-highest concerns

were safety and a lack of infrastructure. Write-ins for the other category primarily revolved around concerns with COVID-19, particularly in terms of utilizing public transportation.

Sharing data that supports the use of alternative transportation modes shortening overall trip lengths (eliminating time spent looking for parking and walking to one's final destination), as well as cost savings, may help improve these numbers. More/safer infrastructure could also encourage students (and employees to a lesser extent) to bicycle, walk and ride transit more often.



AWARENESS OF ALTERNATIVE TRANSPORTATION PROGRAMS

One of the last survey questions participants were asked was about their awareness of programs/ services offered by the Alternative Transportation Department. At least half of the participants are aware of six of the 11 programs/services, even if they did not utilize them. As Figure 5 illustrates, the Smart Way Express bus is the most recognized program on campus, followed by the carpool permit and bicycle Fix-It Stations. Despite having eight hubs on campus and four more in the region, Roam New River Valley bike share is one of the lesser-known services (44% of participants). RIDE Solutions is only known by 25% of participants, but in many ways it is one of the most important services. The Alternative Transportation Department will use this data to make sure it is adequately promoting all the services/programs that are offered.



Participant Awareness of Alternative Transportation Programs

While program awareness was not measured in the 2014 survey, from 2016 to 2020, each of the programs had increased awareness 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 more alternative transportation events could help increase awareness of these programs even more. Overall, participants responded positively about knowing about Alternative Transportation programs. However, it seems that with the current situation with COVID-19 the majority of those still commuting prefer to use their personal vehicles, leaving alternative options underutilized.

8



CONCLUSION

With the onset of COVID-19, social distancing measures and other mandatory safety orders were put in place and Virginia Tech had to shut down campus for the majority of 2020. This led to virtual learning and teleworking, reducing the need for many people to commute. Utilization of all transportation modes dropped drastically. When travel started picking up again, most people relied on their personal vehicles, opting to drive alone rather than share space with others.

Overall, participants seem to be aware of the variety of options available for alternative transportation. Over the past six years students have opted to ride transit and bicycle more often, with a corresponding drop in SOV usage. Focusing on continuing this trend will further decrease SOV use. Reaching out to faculty and staff to increase their knowledge of alternative transportation options, and constructing more and safer infrastructure for bicyclists, transit riders, and pedestrians should help to sway more people towards alternative transportation options.

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