

2023 WSU Pullman Transportation Survey

Transportation Services Washington State University

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To: WSU Pullman Campus Stakeholders

Subject: 2023 WSU Pullman Transportation Survey

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Abstract

WSU Transportation Services is self-sustaining for funding and annually reviews the financial situation, circumstances, and maintenance requirements for facilities. As part of this effort, stakeholders were engaged to provide input through a 2023 update survey, funded by Transportation Services, to inform decision-making. This study investigates the attitudes, opinions, and behaviors of current WSU Pullman Campus constituents regarding transportation to and from the campus during Fall 2023. Conducted within the unique setting of a land grant university in rural eastern Washington, the survey aimed to elucidate the effects of individual and sociodemographic factors on transportation choices. This study focuses on WSU Pullman campus stakeholders' perspectives with 2423 respondents included. First, stakeholder groups were identified for describing commute and campus commuter characteristics related to commuting mode, frequency of commute, distance traveled from where an individual lives to campus, zip code location, type of residence and from the area where an individual lives. Second, daily arrival and departure times to campus and modes of transportation were profiled. Third, the survey explores the usage of Spin e-bikes and e-scooters, introduced in partnership with Spin during the Summer of 2022. Last, the survey investigates reasons and motives for commute choices and attitudes about the current transportation options, services, and service improvements. Personal reasons, preferences, attitudes, beliefs, behaviors, habits, and circumstances are main factors motivating individual commute behaviors. Notably, students exhibited distinct transportation and parking preferences compared to faculty/staff. visitor and event parking considerations were not directly assessed in this survey.

Executive Summary

Overview

In 2023, Washington State University (WSU) Transportation Services funded a campus wide survey to update measures for commuting and parking for the Pullman campus. The Pullman campus is uniquely situated destination campus and research university (R01) located in rural eastern Washington. The city of Pullman has a relatively small population, and the university is one of the local area's largest employers and students comprise a significant portion of the population. This situation in the community influences transportation and commute patterns and influences the Pullman community at large. Student leaders, administrative leaders, and transportation leaders regularly seek to address contemporary mobility issues by monitoring changes in commute behaviors resulting from changes in land use, shifts in campus populations and densities, changes in commute travel patterns, changes in parking locations and availability, and other transportation and parking issues that affect the WSU Pullman campus. Data from this survey is one of the sources of information used to assess the effectiveness of transportation and commute options as well as a source for monitoring changes in commute mode choices on a periodic (biennial) basis. As the Pullman campus grows and changes, WSU Transportation Services continues to seek ways to offer convenient lower cost transportation and parking alternatives and to slow the growth in single occupant vehicle trips and growth in parking demand. Transportation Services has identified reducing "driving alone to campus" as a priority. This survey also assesses the need for additional transit services that support students and identifies services that may require additional funding for meeting future needs that require planning. Access to transit services continues to be extensively available for the Pullman campus, and WSU students, staff, and faculty can ride Pullman Transit buses by presenting their valid WSU identification when boarding the bus¹. Exploring alternative commute options remains to be a priority for finding solutions. WSU uses survey data to inform these developments. An overall goal remains to decrease the number of commuters that drive alone to and from campus. Campus parking and traffic patterns are influenced by a number of factors such as cost, convenience, parking availability, class and work schedules, commute distance, life cycle and lifestyle, and availability of convenient, low-cost alternatives to driving alone. Transportation Services is self-reliant for funding. Since 2002, Transportation Services, annually, works with the 15-member, Transportation Task Force², and the Transportation Advisory Group made up of various university groups and representatives, to review the transportation and parking system, its current efficiencies and to review financial plans for changes and improvements. WSU continues to seek innovative and best practice solutions and improvements that address current and future commuting needs for the Pullman campus. Visitor and event parking/transportation related issues were not addressed in the 2023 study.

Opinion on Transit Service Planning

1. Over a third of students favored "Add more transit service" (36.3%) and "Add more surface parking" (35.7%) as the top planning approaches for Transportation Services (TS).
2. A similar proportion of faculty/staff endorsed "Add more surface parking" (28.6%) and "Add more garage parking" (30.7%) as primary planning approaches.
3. More students prioritized "Add more surface parking" (35.7% vs. 28.6%) and "Add more transit

¹ Pullman Transit website: <https://www.pullman-wa.gov/services/transit/index.php>
Transit FAQ → Fares & Passes

² WSU Transportation Services Task Force & Transit Advisory Group: <https://transportation.wsu.edu/task-force-transportation-advisory-group/>

service" (36.3% vs. 21.0%) than faculty/staff. However, fewer students support "Add more garage parking" (17.6% vs. 30.7%), "Add more bike infrastructure" (8.1% vs. 13.0%), and "Reduce vehicle trips" (2.3% vs. 6.7%) compared to faculty/staff.

Commute Behavior

1. More than half of students (58.7) and faculty/staff (66.4%) commute to campus daily.
2. For students, less than a quarter, 22.3%, live on campus.
3. The vast majority, 88.2%, of faculty/staff indicate for a typical day they make 1 to 2 round-trip commutes to campus, and 5.6% make more than this.
4. Less than three quarters, 69.9% of students, indicate for a typical day they make 1 to 2 round-trip commutes to campus. 14.4% make more round trips than this. Approximately 15.8% do not commute.
5. Most students (95.0%) indicate that they live 5 miles or less from campus, while 61.9% of faculty/staff live ≤ 5 miles from campus.
6. A majority, 96.7%, of students have a Pullman zip code
7. Most, 62.3%, of faculty/staff, have a Pullman zip code, 14.5% have a Moscow zip code, and 16.5% indicate "Other."

Description of Area Where Stakeholders Live Relative to Campus

1. Greater than a third, 39.8%, of students are in very close proximity to or live on campus (residence hall, fraternity/sorority, or WSU-owned apartments).
2. More than half of students (56.9%) are in off-campus apartment complexes or off-campus residences in a neighborhood.
3. Approximately six out of ten faculty/staff (64.0%) live in Pullman neighborhood residences, Pullman off-campus apartments, or other Pullman areas.
4. About three out of ten faculty/staff (29.2%) live outside Pullman.

Timing of Commute, Arrival

1. For students, 8 am to 9 am is the most frequently reported hour of arrival on campus consistently from Monday to Friday (with 26.2% to 28.5% arriving on different days during this time).
2. For faculty/staff, 7 am to 8 am is the most frequently reported hour of arrival on campus consistently from Monday to Friday (with 32.5% to 33.8% arriving on different days during this time).
3. For students, more than six out of ten students arrive on campus between 7 am and 10 am on Mondays (66.8%), Tuesdays (61.6%), Wednesdays (68.4%), Thursdays (61.6%), and Fridays (65.1%).
4. For faculty/staff, nearly eight out of ten faculty/staff arrive on campus between 7 am and 10 am on Mondays (81.4%), Tuesdays (80.9%), Wednesdays (81.4%), Thursdays (79.4%), and Fridays (80.5%).
5. More than half of students (51.9%) and faculty/staff (64.6%) do not go to campus on Saturdays.
6. More than half of students (56.2%) and faculty/staff (71.6%) do not go to campus on Sundays.
7. Arrival time on campus on weekend days is spread across the hours with "after 11 am" as the most reported time.

Timing of Commute, Departure

1. Most students leave campus on weekdays in the afternoon with no predominate hour. Departure times during weekdays are evenly spread across the afternoon, from 2 pm to 6 pm.
2. Faculty/staff leave campus in a consistent pattern on weekdays, with the most concentration from 5 pm to 6 pm time (approximately 40% across weekdays).
3. On Saturdays and Sundays, 2% to 6% report departing hourly, from before 2 pm to after 9 pm to 10 pm for students that come to campus. The largest percentage reported departure time is after 10 pm for about 7% of students.
4. On Saturdays and Sundays, for faculty/staff that come to campus, 1% to 6% report departing hourly, before 2 pm to after 10 pm. The largest percentage of faculty/staff reported departing from 5 pm to 6 pm on Saturdays (6%) and Sundays (5%).

Travel Modes to Pullman Campus

1. A third of students, 32.2%, report walking is the primary way to get to campus. This is followed by 29.4% that drive alone in a vehicle and 26.4% walking to a bus stop and taking a bus.
2. Faculty/staff rely more on single occupancy vehicles (compared to students) for their commute, with most faculty/staff, 68.1%, reporting they usually drive alone in a vehicle. This is followed by carpool or rideshare at 7.7% and walking at 7.0%.
3. 27.3% of students and 5.6% of faculty/staff reported transit bus ridership as the usual way to get to campus.
4. 1.9% of students and 4.5% of faculty/staff use bicycles as their usual mode of commute to campus.
5. For students who walk, the average time to campus is approximately 15.3 minutes.
6. For faculty/staff who walk, the average time to campus destination is 24.7 minutes.
7. More than half of students (62.7%) and faculty/staff (57.6%) indicate “none” when asked how many times a week they make a stop on their way to campus.
8. 12.0% of students and 15.3% of faculty/staff report 1 to 2 times as the most frequent number of stopping on the way to campus in a typical week.
9. Compared to the frequency of making a stop on the way to campus in a week, a lower proportion of students (46.6%) and faculty/staff (29.8%) report “none” when asked about the frequency of making a stop on the way HOME from campus.
10. Greater than half (53.4%) of students report “one or more” as the number of times per week they make a stop on their way home from campus, with one time the most frequently reported (17.4%).
11. About two-thirds, 70.2%, of faculty/staff report “one or more” as the number of times per week they stop on their way home from campus, with one (20.1%) or two times (20.5%) the most frequently reported.

Reasons for Commute Mode Choice

1. Convenience, personal schedule, lowest cost, and only option are the main factors associated with commute mode choice for campus stakeholders.
2. For students, the three leading reasons (rated “Definitely a Reason”) for the way they commute to and from Pullman campus were most convenient (65.6%), lowest cost (53.6%), and your schedule (53.3%).

3. For faculty/staff, the three leading reasons (rated “Definitely a Reason”) for the way they commute to and from campus were most convenient (75.0%), other factors (68.5%), and your schedule (68.4%).

Factors Influencing Driving Alone in a Vehicle to Commute

1. Of the 15 programs or amenities presented in the survey for encouraging student commuters to not drive alone, the leading three reported as “Definitely Encouraging” were: “financial incentives” (56.1%), “need to save money” (49.7%), “available of on-campus shuttle” (42.6%) and “ability to telecommute” (39.1%).
2. Of these same 15 programs or amenities for encouraging faculty/staff commuters to not drive alone, the leading three reported as “Definitely Encouraging” were: “ability to telecommute” (41.9%), “financial incentives (28.9%), “safe, convenient bike paths and routes (23.3%)”, “need to save money” (21.7%).
3. Of those who drive alone to campus for their commute, one consideration is to understand whether driving alone is tractable and can be influenced from the stakeholder perspective. Of those 906 respondents driving alone (378 students and 528 faculty/staff), most students (60.3%) and faculty/staff (66.5%) indicate they “Somewhat/Very Much/Completely Agree” with the statement, “Nothing would alter my current choice of driving alone in a vehicle to commute to and from WSU.”
4. Just more than a third, 39.7%, of students and 33.6% of faculty/staff are more tractable regarding transportation mode choice indicating they do not agree or slightly agree with the statement “Nothing would alter my current choice of driving alone in a vehicle to commute to and from WSU.”
5. If driving alone were not an option for those that currently drive alone, the bus becomes the next most viable choice for students to commute to and from campus (39.3% of students), while faculty/staff opt for telework to be the most cited alternative option to driving alone (24.1% of faculty/staff).
6. Just less than half of students (49.5%) and greater than half of faculty/staff (59.5%) have “never” had to consider a change to driving alone to campus.
7. For both students and faculty, of the 7 factors asked in the survey, the top two factors most cited as “Very/Completely Discouraging” to driving alone to campus were 1) parking prices increase and 2) parking spaces are hard to find were (for students: 73.3% and 64.2%, respectively; for faculty/staff, 43.8% and 42.0%, respectively).
8. Parking prices increase is the most frequently selected factor that would discourage driving alone to campus for both groups, with 45.4% of students and 29.2% of faculty/staff identifying this as the primary deterrent.

Transit Use

1. 66.8% of students reported riding the bus and 33.2% say they do not ride the bus at all, while 29.0% of faculty/staff ride the bus and 71.0% do not ride the bus at all.
 - 44.7% of students and 10.6% of faculty/staff reported their frequency of riding the bus as greater than once a month.
 - Specifically, 26.7% of students reported riding "Almost daily/daily/more than once a day", whereas only 5.6% of faculty/staff fell into these categories of frequent ridership.
 - The mean number of times riding the bus one-way last week was 4.8 times for students (n=475) and 4.5 times for faculty/staff (n=59).

Rating of Transit Services

1. 64.2% of students strongly agree (as indicated by very much and completely agree) with that the transit system needs to improve and this is the statement with the highest rating of agreement among students.
2. 58.9% of faculty/staff strongly agree that the transit system does a good job serving WSU students, faculty, staff and this is the statement with the highest rating of agreement among students.
3. The most frequently rated level of satisfaction with the Pullman Transit system was “moderately satisfied” for students (45.2%) and “very satisfied” (44.3%) for faculty/staff.
4. 28.5% of students and 14.7% of faculty/staff reported being either "not at all satisfied" or "slightly satisfied."

Transit System Improvements

1. When asked about the opinions on transit use change as a result of various types of transit system improvements, the leading improvements students indicate would “Definitely Increase” their transit use were: “have more buses operate during peak commute times” (52.0%) and “extend the hours that buses operate” (51.5%).
2. The leading system improvements faculty/staff indicate would “Definitely increase” their transit use were: “have buses run along routes more frequently” (40.4%) and “extend the hours that buses operate” (38.6%).

Frustration with Aspects of Parking and Transportation

1. The top leading aspect of Pullman campus parking and transportation related frustration for individuals personally on the Pullman campus are reported as: parking rates going up for 41.9% of students and for 59.0% of faculty/staff.

Parking

1. When driving to campus, the typical location for parking is a WSU parking lot (40.9% for students and 60.7% for faculty/staff).
2. 31.7% of students and 75.7% of faculty/staff report they use an “annual zone permit” when parking on campus.
3. For those with annual permits, the most frequently used zone permit was the Green zone (35.7% of students and 46.2% of faculty/staff).
4. Of those with permits, the length of time to find a parking space in their permit zone was “One minute or two minutes” for 51.9% of students and 76.0% of faculty/staff.
5. Of those with permits, the leading one reason for purchasing their current zone was “It is close to the building where you work or attend class” with 43.7% of students and 63.1% of faculty/staff selecting this reason out of the 4 reasons offered.
6. If parking permit rates increased, 71.5% of students and 50.9% of faculty/staff indicated they would consider changing their permit zone.
 - Of those with permits and would consider change their permit zone if permit rates were to increase, a \$25 increase in permit price is the threshold for the largest proportion of respondents to consider changing their current parking zone (38.0% for students and 36.4% for faculty/staff).
7. If parking permit rates increased, 51.3% of students and 24.5% of faculty/staff indicated they

would consider not driving to campus and choosing an alternative commuting option.

- The most frequently reported amount of increase for students that would deter them from driving to campus was \$25 (29.1%) and then \$100 (24.1%). For faculty/staff, it was \$100 (26.0%) and then \$25 (25.2%).
8. Overall, students and faculty/staff are different in their use of parking products with the vast majority (84.9%) of faculty/staff relying on annual permits. Students have distributed reliance between annual permits (43.2%), WSU garage hourly parking (42.5%), and parking meters (33.4%).
 9. All 8 aspects of WSU transportation services were rated with a high degree of value, with greater than half of students and one-third of faculty giving ratings of “Very/Completely Valuable” to each aspect. Safety, information access, and customer service are highly valued.
 - Students assigned “Very/Completely Valuable” ratings most frequently to “Safe and convenient pedestrian options” (68.0%), “Safe and convenient access to public transportation” (64.4%), and “General information is easy to access online” (63.2%) for the aspects of transportation services most frequently valued.
 - Faculty/staff assigned “Very/Completely Valuable” ratings most frequently to “friendly helpful staff” (56.7%), “Payment options are available and easy to access online” (55.2%), and “General information is easy to access online” (53.0%) for aspects of transportation services most frequently valued.

Agreement with Description of Behaviors Related to Parking and Driving

1. The leading statements students “Very Much/Completely Agree” with were “I frequently drive and park on campus” (35.6%), “I automatically drive and park on campus” (27.6%), and “I don't have to consciously remember driving and parking on campus” (26.0%).
2. Faculty/staff were most likely to “Very Much/Completely Agree” with 1) “I frequently drive and park on campus” (69.1%), 2) “I automatically drive and park on campus” (58.1%), and 3) “I have been driving and parking on campus for a long time” (57.6%).

Experiences and Opinions about Spin e-bike and e-scooter program

1. Most respondents (over 60%) from both students and faculty/staff indicated low familiarity with the program. Faculty/staff showed significantly lower familiarity (78.4%) compared to students (61.4%). Only a small portion of respondents were highly familiar (16.2% of students, 8.2% of faculty/staff).
2. A notable proportion of respondents from both groups have never utilized Spin e-bikes or e-scooters for traveling around the Pullman campus. Faculty/staff, in particular, exhibit a higher rate of non-usage (96.8%) compared to students (84.9%). Conversely, a small percentage of students (3.9%) and faculty/staff (0.8%) reported using e-bikes or e-scooters at least once a week or more.
3. Among students, the top barriers to using e-bikes and e-scooters include lack of necessity (73.4%), high cost (65.5%), and distance of designated parking spaces from destinations (48.6%).
4. Faculty and staff primarily cited lack of necessity (81.7%) and other factors influencing their perceptions (67.0%), with 53.3% indicating that none of the listed factors applied to them, suggesting diverse concerns or barriers not captured by the options provided.
5. A significant proportion of both students (42.9%) and faculty/staff (61.1%) indicated they would discontinue usage if the per-minute fee increased.

6. Students showed a higher willingness to continue usage with fee increases, particularly if the fee rose by \$0.01 (18.6%).
7. Both students (62.2%) and faculty/staff (45.0%) expressed a preference for a \$0.15 decrease in the per-minute fee to encourage more usage of e-bikes or e-scooters.
8. Most students (64.8%) indicated they would use Spin e-bikes and/or e-scooters much more often if there was a free time of day, while faculty/staff (54.5%) endorsed using them somewhat more often.
9. A higher proportion of faculty/staff (22.7%) stated they would not change their usage even with a free time of day compared to students (7.1%).
10. Both students and faculty/staff identified ending a ride in a designated space away from their destination as the primary source of frustration when using e-bikes or e-scooters (42.6% of students, 45.0% of faculty/staff).
11. Price was also a significant concern for a notable portion of respondents, along with other sources of frustration not captured by the listed options.

Survey Findings

Introduction and Background

Washington State University has routinely used surveys to evaluate the circumstances of transportation, the awareness and use of transit and parking services, and the satisfaction among university students, faculty, and staff. The 2023 survey was administered using online and telephone methodologies. This study utilized a random probability survey of the population of all Washington State University undergraduate students, graduate and professional students, faculty, and staff affiliated with the Pullman campus. The 2023 research effort resulted in 2423 completed or partially completed questionnaires and interviews during the survey period: 963 (39.7%) undergraduate students, 525 (21.7%) professional and graduate students, 371 (15.3%) staff, and 564 (23.3%) faculty members. The sample error for the study overall was approximately 1.9% and the response rate was 30.3%. The study design allowed for subgroups of respondents to be categorized and further analyzed. For ease of summary and for discussion purposes, student groups of undergraduate, graduate, and professional students were aggregated to one group, **Students**. Faculty and staff were aggregated to a second group, **Faculty/Staff**.

The main survey findings are presented and summarized towards the following objectives:

1. Understand and describe specific commuting and travel behaviors.
2. Ascertain commute modes used by stakeholders.
3. Learn the reasons behind the choice of commute mode.
4. Determine the attitudes, beliefs, and opinions that influence the behavior of driving alone in a vehicle and those associated with choosing alternative modes.
5. Describe transit bus ridership in terms of the attitudes, the behaviors, and the opinions that influence transit use.
6. Describe the experiences and opinions of Spin e-bike and e-scooter users regarding their use as a transit tool on campus.
7. Describe the extent of satisfaction with transportation options available, especially Pullman Transit services.
8. Establish stakeholder opinions and priorities for campus transportation system improvements.
9. Identify attributes of parking.

In 2023, Transportation Services of Washington State University commissioned the Social and Economic Sciences Research Center (SESRC) at Washington State University to design and implement a survey of stakeholders of transportation and parking services associated with the Pullman campus. These stakeholders included 8 groups including: undergraduate students (freshmen, sophomores, junior, seniors), professional students, graduate students, staff, and faculty. The purpose of the survey and study was to gather information from students, faculty and staff regarding their opinions and experiences commuting, parking, and using the transportation system for the Pullman campus. This is an important study to update transportation and parking benchmarks and to provide information for WSU decision makers for measuring commute trips, use of transit and other alternative modes of transportation. This study also provides critical input from undergraduate students, professional and graduate students, the faculty, and the staff affiliated with the Pullman Campus towards their experiences with transportation and parking services, and opinions on needs and transportation service improvements.

Mixed Survey Mode Implementation

The Social & Economic Sciences Research Center worked together with WSU Transportation Services representatives to finalize the survey questions, the instruments, and the final survey format. The final

questionnaire had 57 main questions of which several had sub-questions. There were a base set of questions from the 2016 survey. The survey asked questions about students, faculty, staff members affiliation with Washington State University; their commute behaviors; use of the transportation system on a regular basis; commuting frequency; commute modes of use, aspects or arrival and departure to campus, parking, opinions about transit bus services; experiences with using Spin e-bikes and e-scooters; improvements and other aspects related of WSU transportation services. The questionnaire was designed to be a twenty-minute survey administered by web or by telephone. The questions between the two modes were the same with the differences limited to transition phrases and prompts in the telephone script to make it easier for the respondent to understand and answer.

The survey was pretested first, by having SESRC staff and Transportation Services staff review questionnaires. Secondly, pretesting was performed in both survey modes—internet and phone instruments. Lastly, initial responses (first two days of data collection) to the survey were reviewed for branching and question completion. The survey procedures and layout of each question were designed using TDM (Tailored Design Method³, Dillman et. A. 2014) protocols for maximizing respondent cooperation, maximizing question comprehension, and maximizing ease of navigation through the questions.

Web Survey Security

Internet access to sites at Washington State University was monitored via firewalls at the university hub and at the SESRC server to reduce undesirable access to survey pages. A unique access code was provided to each respondent that could be entered at the survey login screen in order to take the survey. The access code is no longer be available and further access to the survey using that code was denied once a survey was completed.

Data Collection

The data collection contacting WSU Pullman campus students, faculty, and staff started in early October 2023, lasted a little more than 10 weeks, and ended in Mid-December 2023. A detailed description of the data collection protocol is provided under separate cover, SESRC Data Report 24-02. Data collection procedures are described in this report. SESRC obtained the list of all faculty and staff from Cascade Herriott, Information Systems Manager from WSU's Office of Commercialization. A random sample of students were drawn from the directory and provided by Office of Registrar after submission of requests and subsequent approval to the SESRC. The e-mailings were directed to individuals identified in the original sample frame (by subgroup). As contacts were made, case information was updated with new contact information as a result of the emails, postal letter mailing, and telephone interactions. Final assignments to subgroups were based on main WSU affiliation in survey responses. WSU email addresses were used for initial email contacts unless respondents provided an alternative email. There was no incentive lottery in 2023. During email contacts and phone calls, if a named respondent indicated they had left their WSU position, were no longer a student, they had no affiliation with the Pullman campus, or they worked or attended classes remotely, they were considered out of scope and ineligible for the study. The contact for the survey included sequential email contacts and two postal letters, all of which included a web link to the survey and a unique personal access code. Only student non-respondents received postal letters and follow-up reminder telephone contacts.

³ Dillman, D.A., Smyth, J.D. and Christian, L.M. (2014) Fourth Edition, Internet, Phone, Mail, and Mixed Mode Surveys. John Wiley & Sons: Hoboken, N.J.

The WSU-SESRC takes extra care in securing and storing the survey data. Proper procedures for voluntary participation, safeguards for confidentiality, and other human subject considerations were followed in implementing this survey. All survey data were backed-up and stored on secure file servers at WSU-SESRC but are available for immediate access, for data corrections if be needed. All data was stored in locked offices and password protected computers and files. Internet access to sites at Washington State University are monitored through firewalls implemented at the university hub, and at the SESRC server to reduce undesirable access to survey pages. In addition, each survey respondent was given a unique access code that could be entered at the survey login screen in order to take the survey. Once a survey was completed, that access code was no longer available and further access to the survey using that code was denied. Further security procedures to protect survey data include separation and storage of sample and survey responses. Data from interviewing is encrypted and stored in off-site servers owned and maintained solely SESRC WSU staff.

Data entry of survey responses was accomplished by respondents using SESRC's web survey software system (DCWorks) or by survey interviewers using the Computer Assisted Interviewing System (CATI) software. The questionnaires in both systems utilized a unified design. Both systems control entry with pre-coded categorical response answer option categories for questions and open-ended question field. Telephone interviewing included staff training (covering the basics of interviewing, SESRC protocols, and project specific training) to ensure standardized interviewing, monitoring for quality control, data confidentiality, and coding consistency. Data from both systems were merged. Data records were passed through a statistical (SPSS) program to ensure that all data fields are readable, and that all fields are read in the format specified for that variable. A separate data cleaning step was also undertaken for the open-ended verbatim responses. All data analysis was completed using SPSS version 29.0.

Sample and Response Rates

The survey methodology sought to secure participation from representative samples within the population that might vary in their commute mode and use of transportation services for the WSU Pullman campus. For this study, SESRC obtained a list of 6,000 undergraduate and 1,500 graduate/professional students who were randomly drawn from the directory of Pullman campus affiliated students, through an approval process with WSU Office of the Registrar. The list of all faculty and staff was provided by Cascade Herriott, Information Systems Manager from WSU's Office of Commercialization. From these lists, random probability samples were selected of 4000 undergraduate students and approximately 1330 for each of the subgroups of graduate and professional students, faculty, and staff (classified and administrative professional). Overall, this was a survey of the current 2023 population of WSU campus members affiliated with the Pullman campus and considered stakeholders of the WSU transportation and parking services, and the transit system that services the WSU Pullman campus, Fall 2023. The 2023 population count for WSU Pullman affiliation was 15578 for undergraduate students, 2249 for Graduate/Professional students, 8275 for staff, and 1411 for faculty; overall, there were 27, 513 individuals.

The data as presented is not weighted, as a main goal for the study was to evaluate survey results by subgroups of survey respondents. A common accuracy standard for surveys is to achieve +/-5% sample error or less. The sample error for the survey results overall for the WSU Pullman campus was +/-1.9%. If an individual had more than one affiliation (e.g., they were a student and they were also working as a staff member) they were asked during the survey to classify their main affiliation.

The response rate is the ratio of completed and partially completed interviews to the total eligible survey group. The formula for calculating the response rate is provided below. This formula is considered the

industry standard for calculating response rates and complies with AAPOR Standard Definitions (American Association for Public Opinion Research) Response Rate.

For the total fielded sample, 2423 respondents completed or partially completed the survey. The response rate (RR2) for this study is 30.3%. **Table 1** provides a breakdown of response outcomes and the response rate calculation.

Table 1. Survey sample disposition summary.

Disposition Category	Numbers
Completed Interviews (I)	1934
Partially completed (P)	489
Refusal and Breakoffs (R)	188
Non-respondents/non-contacts (NC)	3650
Other (O)	3
Unknown entity/household (UH)	1631
Not eligible (UO)	105
Response Rate = $(I+P)/(I+P)+(R+NC+O)+(UH+UO)$	30.3%

Note: The detailed disposition of sample cases is provided under separate cover in SESRC data report 24-02.

Survey Mode of Response

Of those Pullman campus respondents participating in the survey, the majority elected to fully complete (79.8%) or partially complete (20.2%) the survey. The survey was offered in two modes, web survey and telephone survey. Overall, most (94.9%) stakeholders responded through the online web survey and the remaining (5.1%) by telephone interview. Only students were followed-up by telephone. About 8.3% of students responded by telephone.

Main Findings

WSU Affiliation and Demographic Characteristics

Respondents to the survey indicated their primary affiliation with WSU Pullman campus and this is shown along with other characteristics in **Table 2**. Of the categories of primary affiliation, undergraduate students comprised 42.3% of respondents and the remaining respondents were graduate and professional students (23.0%), staff (12.2%), and faculty (22.5%). In total, 65.4% of survey respondents are students and 34.6% are faculty/staff. Slightly more than half, 51.6% of respondents were female, 43.5% were male, and 4.9% indicated transgender male, transgender female, gender nonconforming, or other. The largest age category of respondents was 17-24 years of age, 41.6%. 13.0% of respondents were between 25 and 39 years and 17.5% were over 39 years of age. The majority of respondents, 67.8%, indicated they were employed. 37.2% reported full-time and 30.6% reported part-time employment and just less than a third, 27.9%, indicated they were not employed, and 4.3% indicated other.

Table 2. Characteristics of survey participants.

Demographic Characteristics	Number	%
Primary WSU Pullman Affiliation:		
Freshman	182	7.5%
Sophomore	305	12.6%
Junior	272	11.2%
Senior	266	11.0%
Grad/prof	558	23.0%
Staff	298	12.2%
Faculty	542	22.5%
Total	2423	100.0%
Gender:		
Man	837	43.5%
Woman	993	51.6%
Trans Man or Woman	21	1.1%
Gender Nonconforming	49	2.5%
Other	26	1.3%
Total	1926	100.0%
Age:		
17-24 years	805	41.6%
25-29	252	13.0%
30-39	338	17.5%
40-49	206	10.6%
50-59	183	9.5%
60-69	137	7.1%
70 years and older	14	0.7%
Total	1935	100.0%
Employment:		
Full time (35 hours or more per week)	884	37.2%
Part time (less than 34 hours per week)	726	30.6%
Not employed	664	27.9%
Something else	102	4.3%
Total	2376	100%

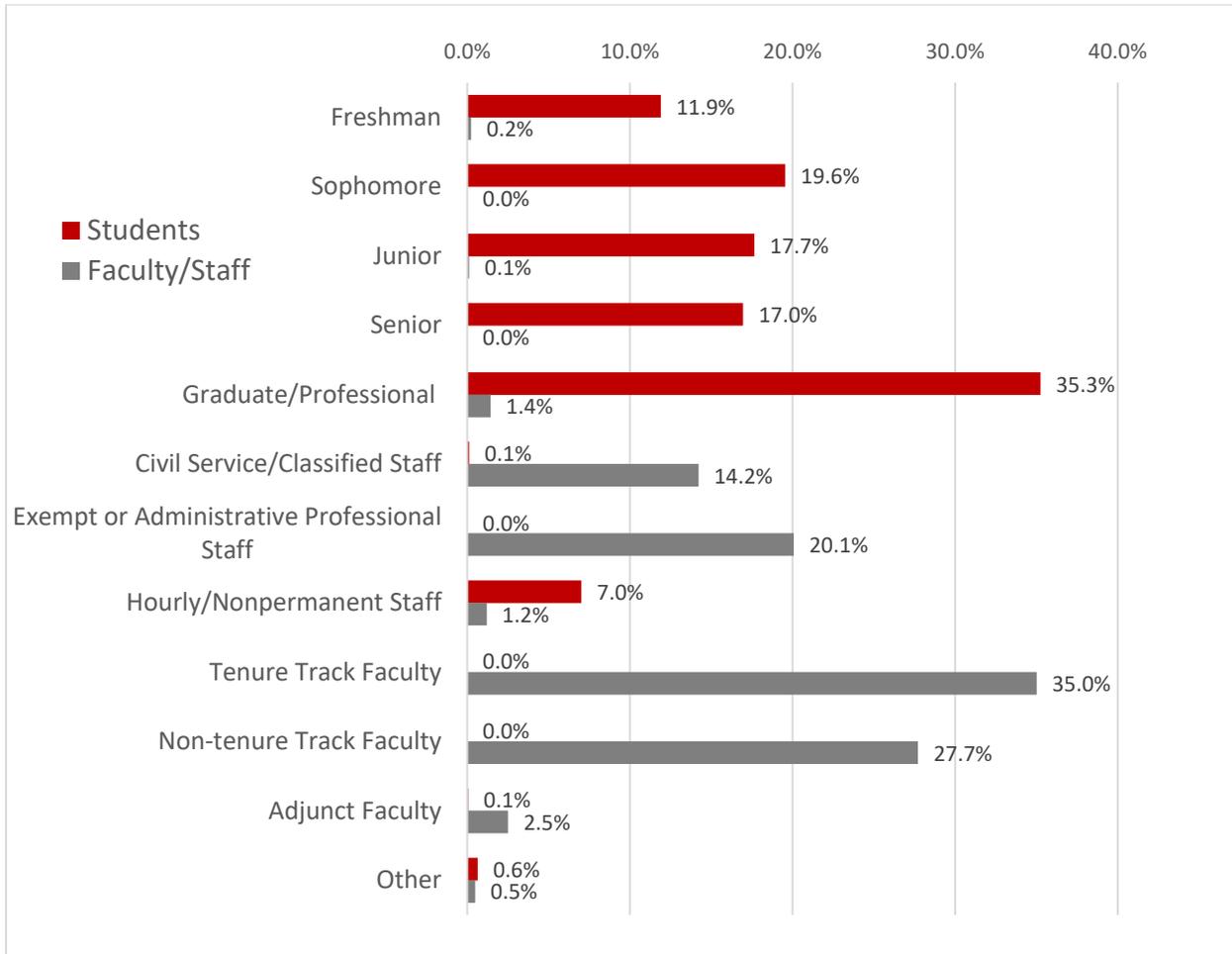
Note: Total numbers vary by question as response was voluntary.

Self-Reported Affiliation(s) with WSU Pullman

The affiliation of respondents with the WSU Pullman campus is based on self-reporting to survey questions and is shown in **Figure 1** and **Table 3**. Respondents were asked to indicate those designations that matched their circumstances, and this allowed for more than one type of affiliation, if appropriate. As an example, a staff person could also be enrolled as a student or a student could be working part time as a

staff member or in a time slip position. For the 1580 undergraduate and professional/graduate students, the largest reporting class was professional/graduate students at 35.3% and the least reporting class category was freshman at 11.9%. Notably, 7.0% of student respondents also worked part time as an hourly-paid or nonpermanent employees. The largest reporting category for faculty/staff subgroup was Tenure Track Faculty at 35.0% and the least category was Hourly/Nonpermanent staff at 1.2%.

Figure 1. Percent indicating affiliations WSU Pullman campus by student or faculty/staff (Q01)



Source: 2023 WSU Pullman Transportation Survey.

Table 3. Percent of respondents indicating each type of current WSU Pullman affiliation (Q01).

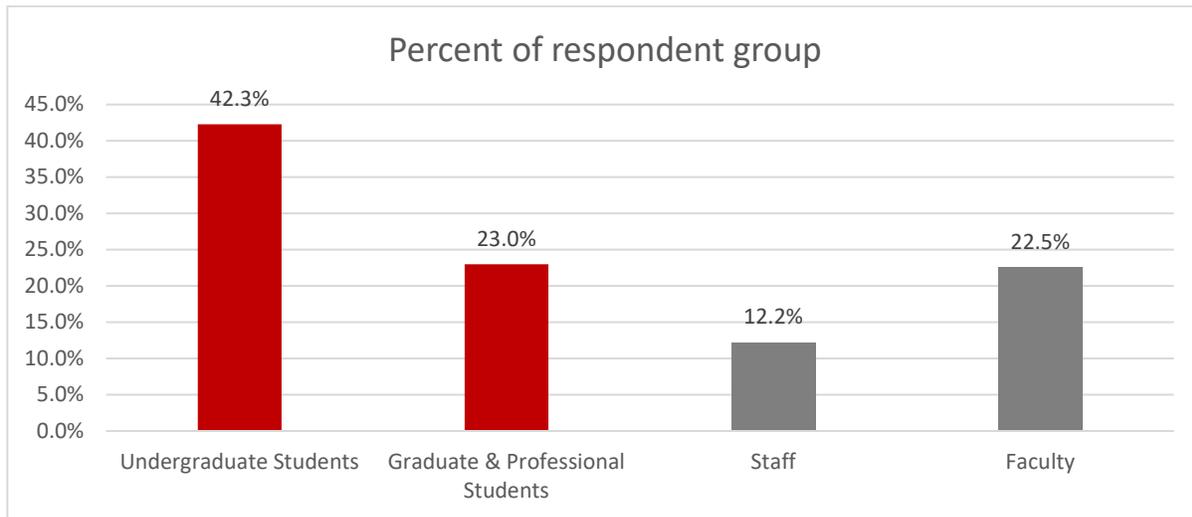
Affiliation code	Response	Students (UG/Grad/Prof)	Staff/ Faculty	X ²	df	P-value
Freshman Undergrad	Yes	11.9%	0.2%	102.70	1	<.001
	No	88.1%	99.8%			
Sophomore Undergrad	Yes	19.6%	0.0%	187.69	1	<.001
	No	80.4%	100.0%			
Junior Undergrad	Yes	17.7%	0.1%	164.32	1	<.001
	No	82.3%	99.9%			
Senior Undergrad	Yes	17.0%	0.0%	159.68	1	<.001
	No	83.0%	100.0%			
Grad-Prof	Yes	35.3%	1.4%	347.68	1	<.001
	No	64.7%	98.6%			
Civil service/Classified staff	Yes	0.1%	14.2%	228.44	1	<.001
	No	99.9%	85.8%			
Exempt/Admin Staff	Yes	0.0%	20.1%	340.82	1	<.001
	No	100.0%	79.9%			
Tenure Track Faculty	Yes	0.0%	35.0%	629.39	1	<.001
	No	100.0%	65.0%			
Non-Tenure Track Faculty	Yes	0.0%	27.7%	484.45	1	<.001
	No	100.0%	72.3%			
Adjunct Faculty	Yes	0.1%	2.5%	36.29	1	<.001
	No	99.9%	97.5%			
Hourly/Nonpermanent Staff	Yes	7.0%	1.2%	39.11	1	<.001
	No	93.0%	98.8%			
Other	Yes	0.6%	0.5%	0.23	1	.63
	No	99.4%	99.5%			
Total Number		1580	837			

Source: 2023 WSU Pullman Transportation Survey.

Consolidation of Responding Groups

For analysis and reporting, the subgroups (classes) of students were combined into “Students”. The subgroup of students includes all responding undergraduates, professional students, and graduate students. The faculty and staff are also combined and labeled faculty/staff. There were 158 respondents indicated multiple affiliations, and they were classified to Students or Faculty/Staff determined by their responses to where the majority of their hours were spent. Six respondents did not respond to the question that asked their current affiliation with WSU Pullman, so they were assigned to the appropriate group based on their information from the sample list. Of the 6 respondents, 3 were students and 3 were faculty/staff. **Figure 2** and **Table 4** display the subgroups that will be discussed and shown in this report.

Figure 2. Subgroups of respondents.



Source: 2023 WSU Pullman Transportation Survey.

Table 4. Percent of respondents combined to the subgroup UG/Grad students and Faculty/Staff.

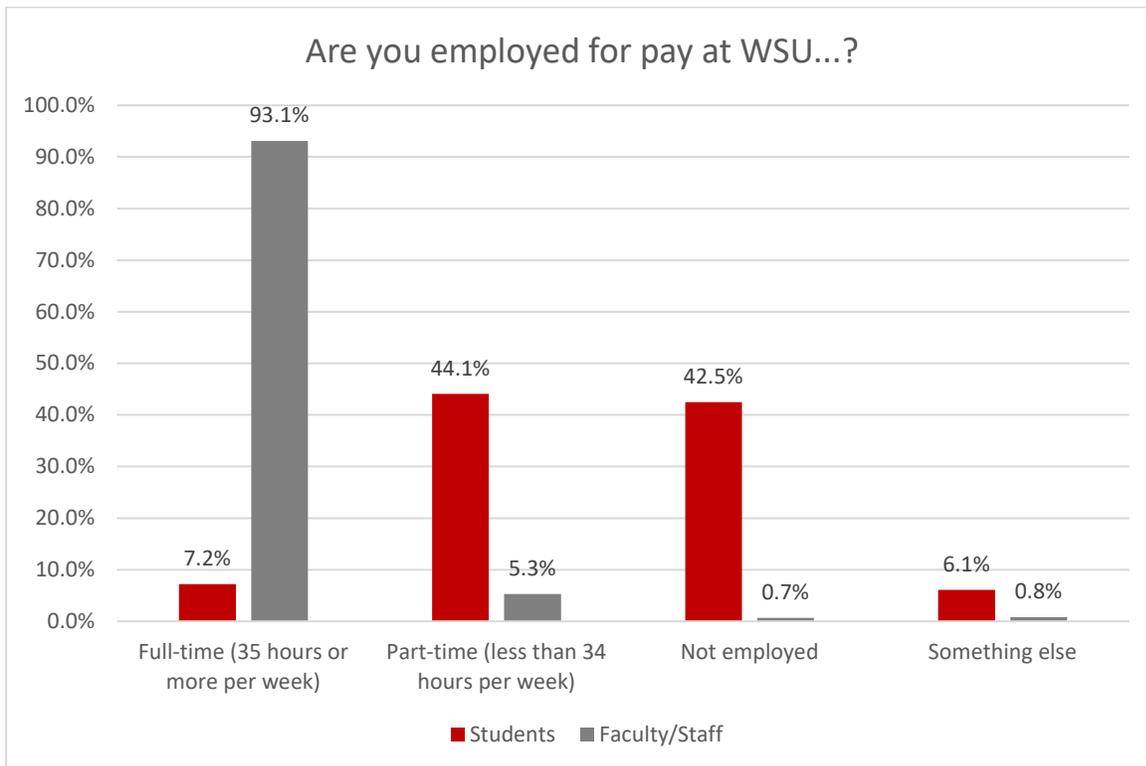
	Students (UG/Grad/Prof)	Faculty/ Staff	Overall	Number
Undergraduate Students	64.8%		42.3%	1025
Graduates & Professional Students	35.2%		23.0%	558
Staff		35.5%	12.2%	298
Faculty		64.5%	22.5%	542
	100%	100%	100%	
Total Number	1583	840	2423	2423

Source: 2023 WSU Pullman Transportation Survey.

Employment for Pay at WSU Pullman Campus

For the student subgroup (undergraduates and graduate/professional), less than half, 42.5% were not employed (**Figure 3** and **Table 5**). Approximately 7.2% of students work full time (35 hours or more per week) and 44.1% were employed part time (less than 34 hours per week). A small portion of students (6.1%) indicated some other situation with regard to employment. Staff and faculty were significantly different from students with their employment for pay at WSU. For the faculty/staff subgroup the vast majority, 93.1%, were employed full time for pay at WSU. Only a small percentage of faculty/staff (5.3%) indicated they were part-time, 0.7% were not employed, and 0.8% indicated other.

Figure 3. Employment of respondents (Q04)



Source: 2023 WSU Pullman Transportation Survey.

Table 5. Percent reporting employment status at WSU (Q04)

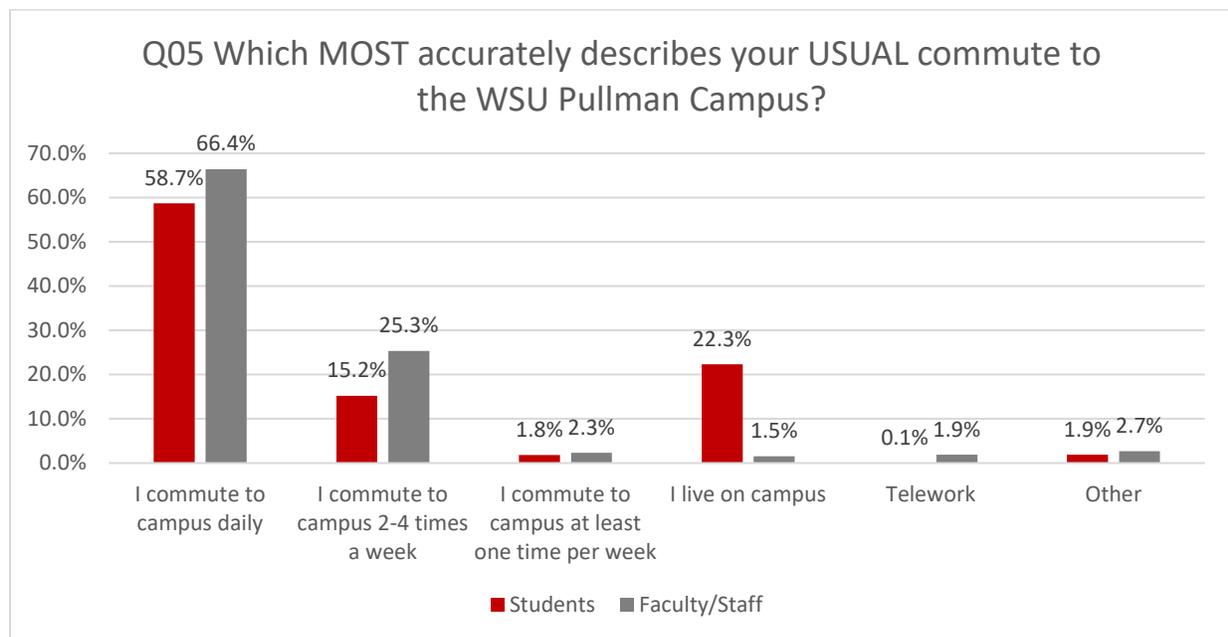
Employment Status	Students	Staff/Faculty	Total
Full-time (35 hours or more per week)	7.2%	93.1%	
Part-time (less than 34 hours per week)	44.1%	5.3%	
Not employed	42.5%	0.7%	
Other	6.1%	0.8%	
Total Column Percent	100%	100%	
Total Number	1540	827	2367

Source: 2023 WSU Pullman Transportation Survey.

Commute Behavior

Figure 4 and **Table 6** display the frequency or type of usual commute to the WSU Pullman campus. More than half, 58.7%, of the student subgroup indicated they commuted to campus daily. The next largest reporting category is “I live on campus” with 22.3% of students in this situation. Less than 2 in 10 students commutes less than daily (15.2%). The least reported category is telework for students at 0.1%. Faculty/Staff were significantly different than students with many (66.4%) commuting to campus daily and one quarter (25.3%) commuting to campus 2-4 times a week. Only a very small percentage commute less than 2-4 times per week (2.3%), live on campus (1.5%), or telework (1.9%). There is a significant difference in the frequency of their commute to campus between students and faculty/staff ($X^2(5, N=2367) = 218.76, p < .001$). More faculty/staff (66.4%) than students (58.7%) commute daily, and a higher proportion of students (22.3%) live on campus whereas this is not the situation for most faculty/staff.

Figure 4. Usual commute to WSU Pullman campus (Q05)



Source: 2023 WSU Pullman Transportation Survey.

Table 6. Percent reporting type of usual commute to WSU Pullman campus. (Q05)

	Students	Staff/ Faculty	Total	X ²	df	P value
Commute to campus daily	58.7%	66.4%				
Commute to campus 2-4 times a week	15.2%	25.3%				
Commute to campus at least one time/week	1.8%	2.3%				
Live on campus	22.3%	1.5%				
Telework	0.1%	1.9%				
Other	1.9%	2.7%				
	100.0%	100.0%				
Total			2367	218.76	5	<.001

Source: 2023 WSU Pullman Transportation Survey.

Opinion on Transportation Planning

Figure 5 and **Table 7** show the approaches that students most highly recommend for Transportation Services to pursue were “add more transit service” (36.3%) and “add more surface parking” (35.7%). For faculty/staff, the top two recommended approaches to pursue were “add more surface parking” (30.7%) and “add more surface parking” (28.6%).

Figure 5. Respondent opinions on planning approaches to pursue. (Q06).

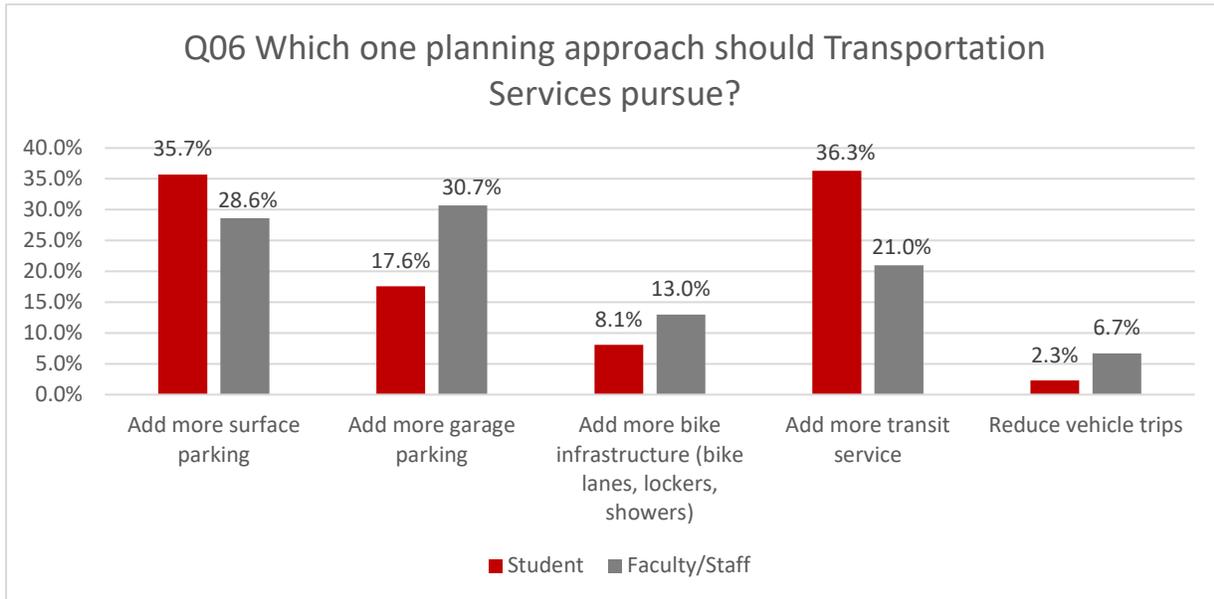


Table 7. Percent reporting the ONE planning approach Transportation Services should pursue. (Q06)

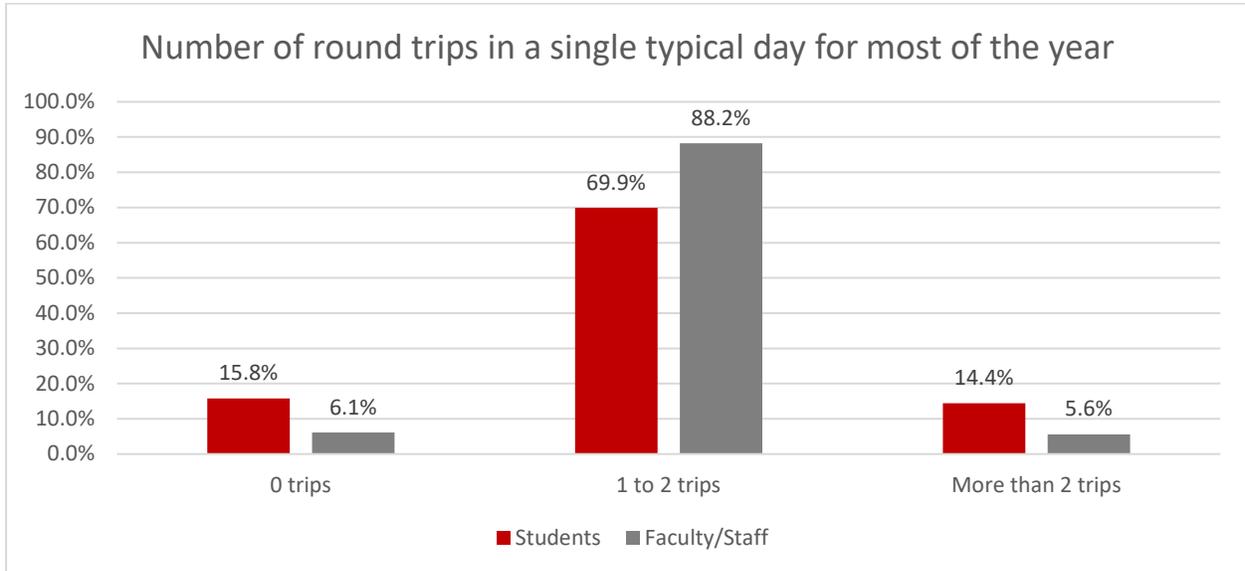
	Students	Staff/ Faculty	Total	X ²	df	P value
Add more surface parking	35.7%	28.6%	33.3%			
Add more garage parking	17.6%	30.7%	22.1%			
Add more bike infrastructure ¹	8.1%	13.0%	9.8%			
Add more transit service	36.3%	21.0%	31.0%			
Reduce vehicle trips	2.3%	6.7%	3.8%			
	100%	100%	100%			
Total	1514	787	2301	126.60	4	<.001

¹ Bike lanes, lockers, and showers. Source: 2023 WSU Pullman Transportation Survey.

Number of Round Trips

For the Pullman campus in a typical day for most of the year, the average or mean number of round trips by undergraduate and professional/graduate students was 1.74 trips per day (**Table 8**). For faculty/staff, the mean number of round trips was 1.35 per day. **Figure 6** shows the percentage of respondents reporting categories of the number of round trips made in a single day (typical day for most of the year). Most students (69.9%) and faculty/staff (88.2%) made 1 to 2 trips in a single day. Students tended to make slightly more round trips, on average, to campus than faculty/staff with a larger percentage of students reporting more than 2 trips in a single day, 14.4% compared to 5.6%, respectively.

Figure 6. Number of round trip commutes in a single typical day. (Q07)



Source: 2023 WSU Pullman Transportation Survey.

Table 8. Average number of round trip commutes to Pullman campus in a single day. (Q07)

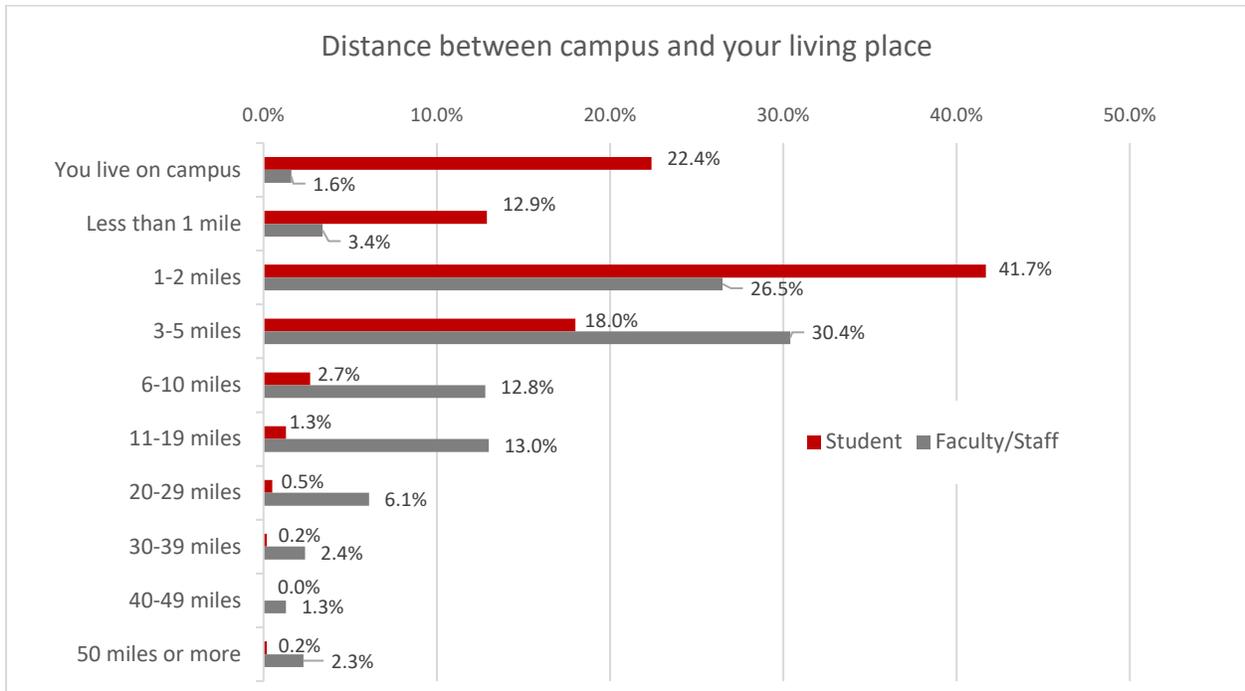
	Number	Mean	Std dev	Min	Max
Undergrad/Grad-Prof	1505	1.74	5.24	0	200
Staff/Faculty	817	1.35	0.85	0	10

Source: 2023 WSU Pullman Transportation Survey.

Distance From Campus for Commute

Information on what areas of Pullman and areas of housing are important for transit planning, determining bus stop locations, and allocating buses and their frequencies for routes. When asked how far from campus they live, just under a quarter (22.4%) of students live on campus. **Figure 7** and **Table 9** show the distribution of students and faculty/staff with their distances from where they live to campus. Compared to students, faculty/staff live farther from campus with 61.9% living ≤ 5 miles, whereas 95.0% of students live ≤ 5 miles from campus. The distance with the largest percentage of students is the 1 to 2 miles at 41.7%. The distance, 3 to 5 miles, is the most reported category for faculty/staff at 30.4%.

Figure 7. Distance respondents live from Pullman campus. (Q08)



Source: 2023 WSU Pullman Transportation Survey.

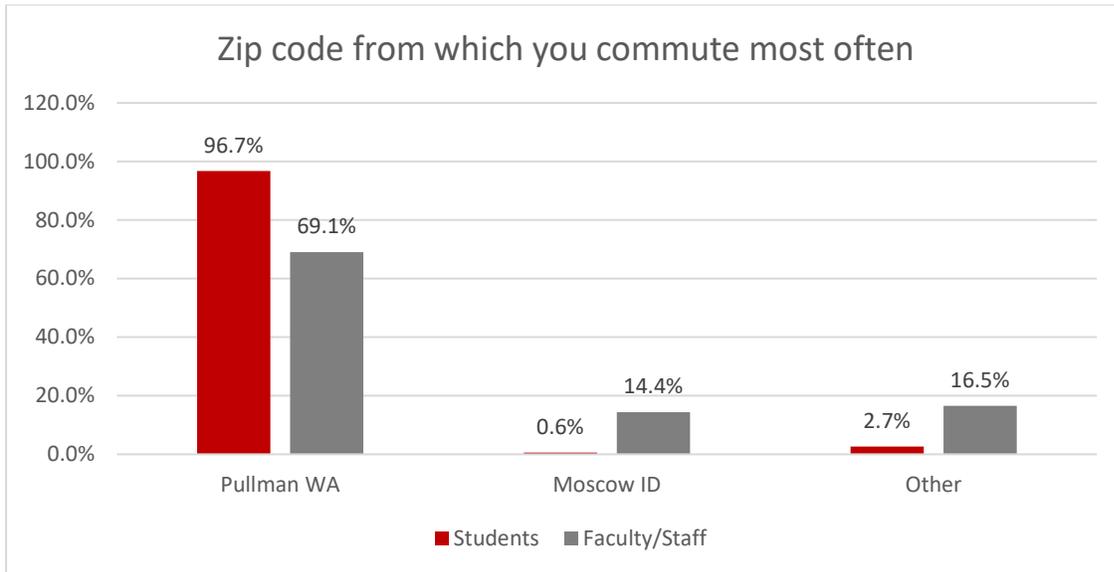
Table 9. Percentage of students and faculty/staff reporting distances they live from campus. (Q08)

	Students	Staff/ Faculty	Total	X ²	df	P value
You live on campus	22.4%	1.6%	15.1%			
Less than 1 mile	12.9%	3.4%	9.6%			
1-2 miles	41.7%	26.5%	36.4%			
3-5 miles	18.0%	30.4%	22.4%			
6-10 miles	2.7%	12.8%	6.3%			
11-19 miles	1.3%	13.0%	5.4%			
20-29 miles	0.5%	6.1%	2.4%			
30-39 miles	0.2%	2.4%	1.0%			
40-49 miles	0.0%	1.3%	0.5%			
50 miles or more	0.2%	2.3%	0.9%			
	100.0%	100.0%	100.0%			
Total Number	1509	818	2327	633.44	9	<.001

Source: 2023 WSU Pullman Transportation Survey.

Overall, students reported 96.7% within Pullman zip codes, 0.6% in Moscow zip code(s), and 2.7% reported “other” WA/ID zipcodes (**Figure 8** and **Table 10**). Faculty/staff reported Pullman zip codes at a rate of 69.1%, Moscow ID zip code at 14.4%, and “other” WA/ID zip codes at 16.5%. A larger portion of faculty/staff (30.9%) compared to students (3.3%) commute to Pullman campus from zip codes outside of Pullman.

Figure 8. Area (zipcode) from which you commute most often. (Q09)



Source: 2023 WSU Pullman Transportation Survey.

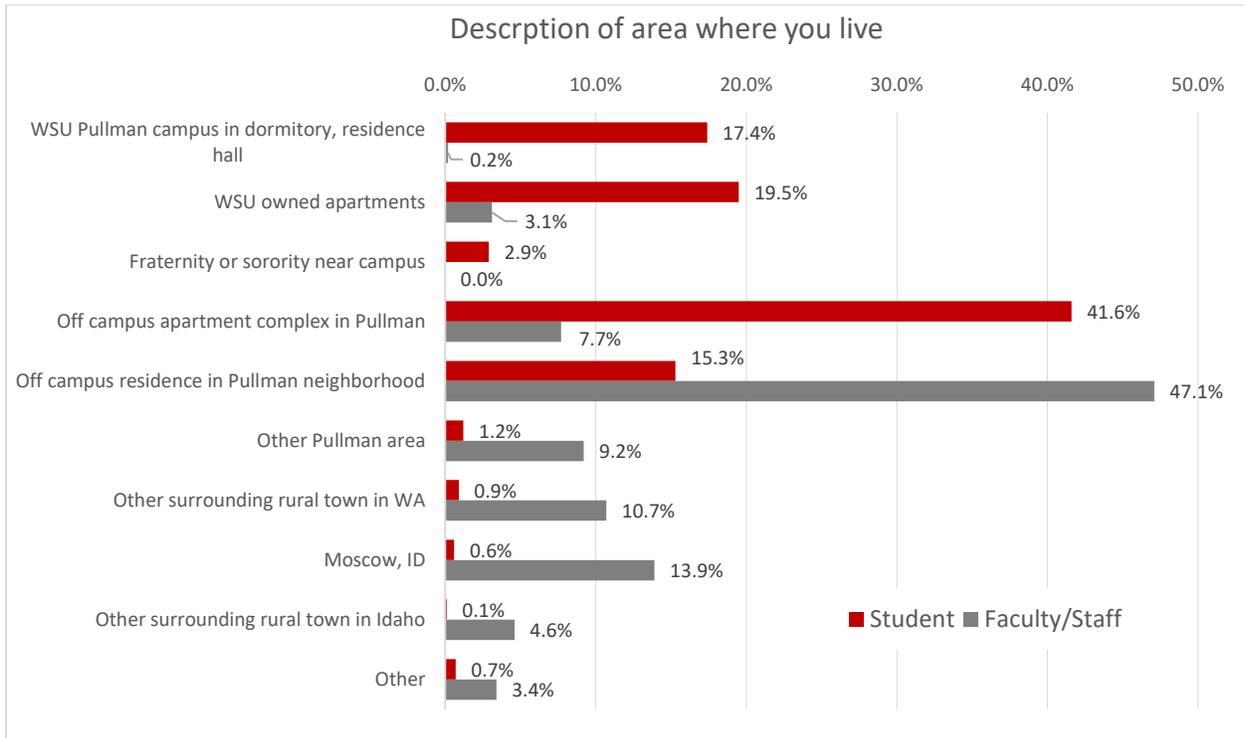
Table 10. Percent reporting a zip code from which they commute most often and the associated regional area.(Q09)

Zip code/Location	Students	Faculty/Staff
Pullman WA (99163, 99164)	96.7%	69.1%
Moscow ID (83843, 83844)	0.6%	14.4%
Other	2.7%	16.5%
Total Column Percent	100%	100%
Total Number	1501	1222

Source: 2023 WSU Pullman Transportation Survey.

Figure 9 and **Table 11** display the descriptions where respondents live. The largest percentage of students reported they live in off-campus apartment complexes (41.6%), WSU owned apartments (19.5%), and WSU dorms or residence halls (18.1%). For faculty and staff, the main descriptions where they live include off campus residence in Pullman neighborhood (47.1%), Moscow, ID (13.9%), and other surrounding rural town(s) in WA (10.7%).

Figure 9. Description of area where students and faculty/staff live. (Q10)



Source: 2023 WSU Pullman Transportation Survey.

Table 11. Percentage reporting description of area where they live. (Q10)

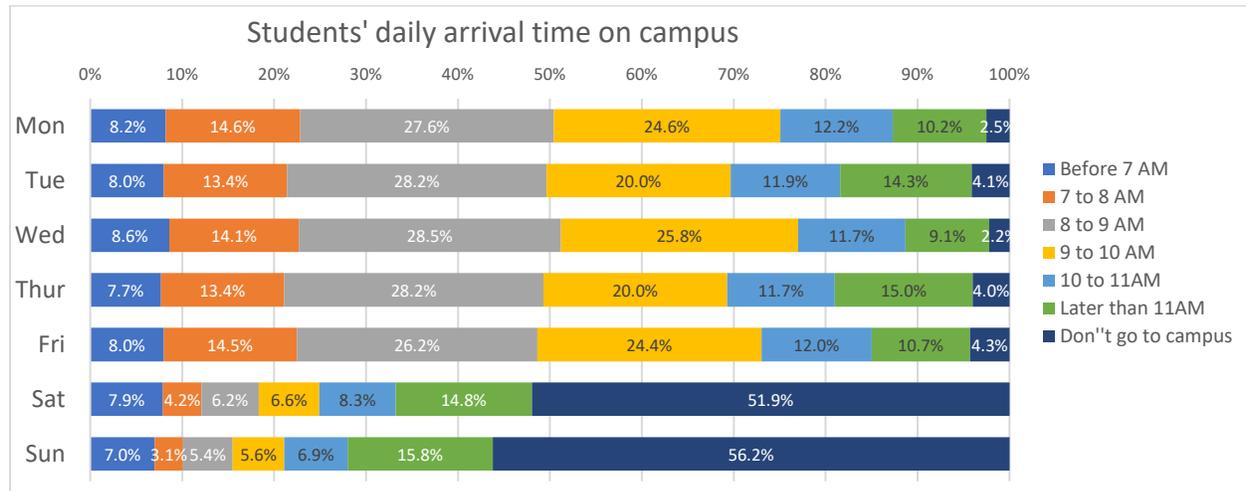
	Students	Faculty/ Staff	Total	X ²	df	P value
WSU Pullman dormitory, residence hall	17.4%	0.2%	11.3%			
WSU owned apartments	19.5%	3.1%	13.7%			
Fraternity or sorority near campus	2.9%	0.0%	1.9%			
Off campus apartment complex in Pullman	41.6%	7.7%	29.7%			
Off campus residence in Pullman neighborhood	15.3%	47.1%	26.5%			
Other Pullman area	1.2%	9.2%	4.0%			
Other surrounding rural town in WA	0.9%	10.7%	4.3%			
Moscow, ID	0.6%	13.9%	5.3%			
Other surrounding rural town in Idaho	0.1%	4.6%	1.6%			
Other	0.7%	3.4%	1.6%			
Total column percent	100.0%	100.0%	100.0%			
Total number	1498	813	2311	1135.55	9	<.001

Source: 2023 WSU Pullman Transportation Survey.

Commute Times for WSU Pullman Campus

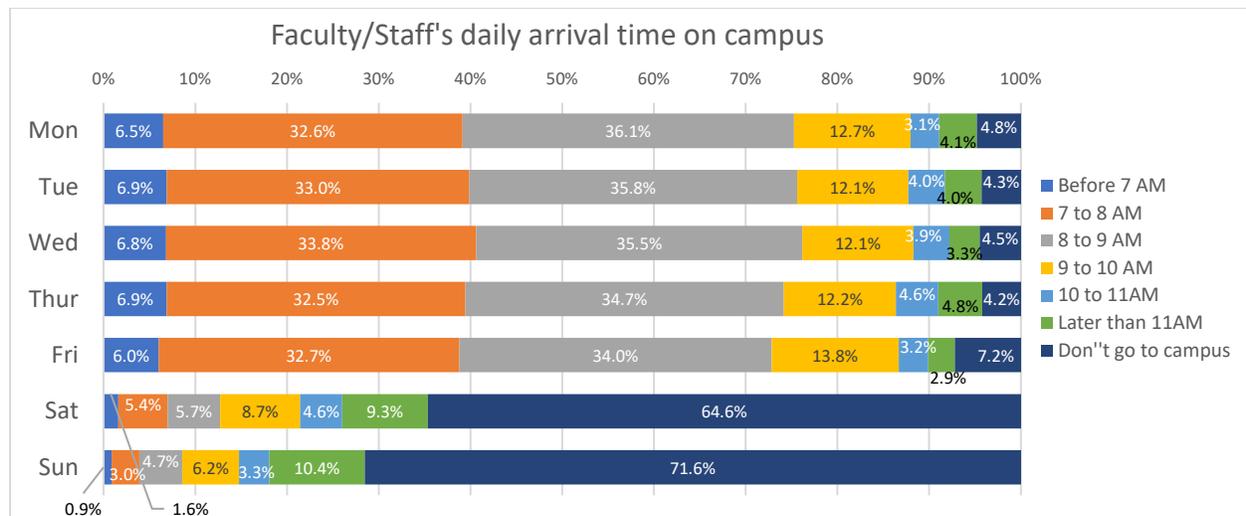
Students Arrival. As shown in **Figure 10**, for students, the peak arrival hour on campus was consistently between 8 am and 9 am throughout the week, with 26.2% to 28.5% arriving during this period. The subsequent peak hour for student arrivals on weekdays occurred between 9 am and 10 am, comprising 20.0% to 25.8% of arrivals. Collectively, nearly half or more of the students arrived on campus between 8 and 10 am on weekdays. Conversely, on weekends, over half of the students did not visit the campus. For those who did, the peak arrival time was after 11:00 am.

Figure 10. Students' usual time to arrive on Pullman campus. (Q12)



Faculty/Staff Arrival. The peak arrival hour for faculty/staff on campus also fell between 8:00 am and 9:00 am, with 34.0% to 36.1% arriving during this period (**Figure 11**). The next prominent time slot for faculty/staff was between 7 am and 8 am, comprising 32.5% to 33.8% of arrivals. Together, approximately two-thirds of faculty/staff arrived on campus between 7 to 9 am on weekdays. Around 7.2% of faculty/staff did not go to campus on Fridays, slightly higher than on other weekdays. On weekends, more faculty/staff didn't go to campus compared to students. For those who did, the peak arrival time was after 11:00 am, the same as for students.

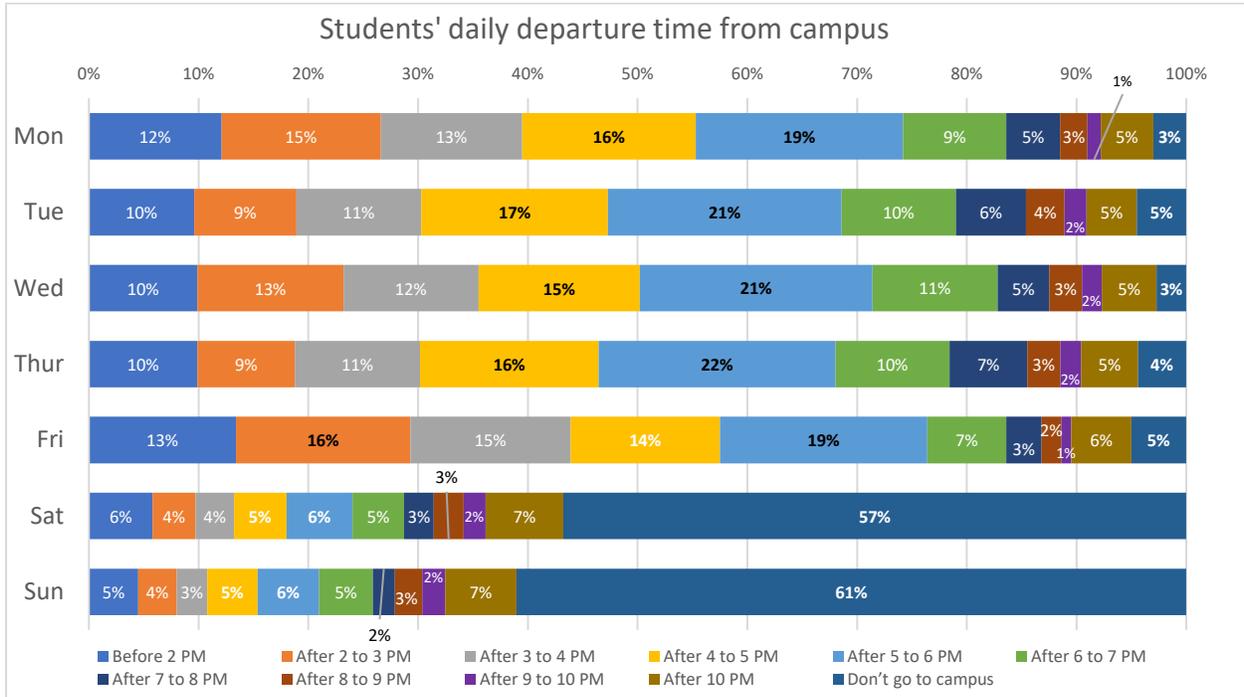
Figure 11. Faculty/Staff's usual time to arrive on Pullman campus. (Q12)



Students Departure. On weekdays, the peak departure hour for students from campus consistently occurred between 5 PM and 6 PM, with 19% to 22% departing during this period (**Figure 12**). The next significant time slot for student departures was consistently between 4 PM and 5 PM from Mondays to

Thursdays, comprising 15% to 17% of departures. On Fridays, the second most prevalent time for students to leave campus was between 2 PM and 3 PM, accounting for 16% of departures. Approximately 3% to 5% of students did not go to campus on weekdays. For students who visited campus during the weekends, slightly more departed after 10 PM compared to other time slots.

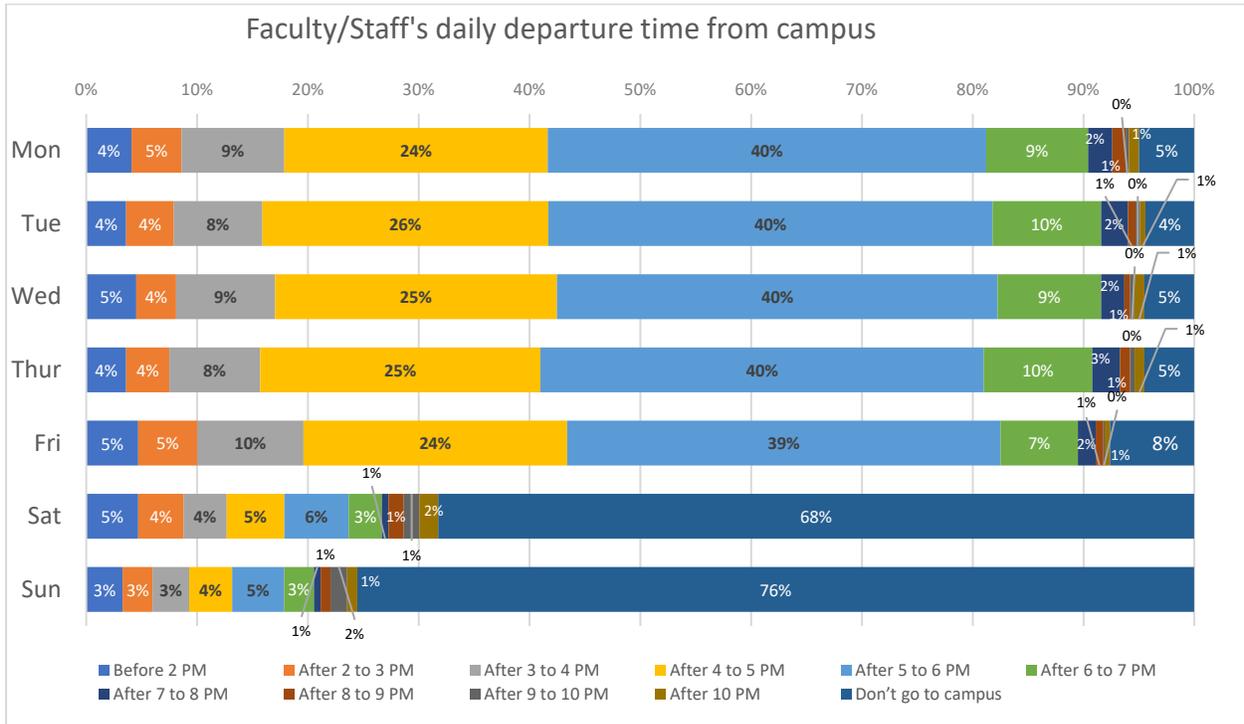
Figure 12. Students' usual time to depart Pullman campus. (Q13)



Source: 2023 WSU Pullman Transportation Survey.

Faculty/Staff Departure. The peak hour for faculty/staff to depart from campus is after 5PM to 6 PM with 39% to 40% departing at this hour from Mondays to Fridays (**Figure 13**). The next prevalent time for faculty/staff departing are after 4 PM to 5 PM (24% to 26%). A very low proportion of faculty and staff left campus after 7 PM on weekdays. About 4 to 8% of faculty/staff didn't go to campus on weekdays.

Figure 13. Faculty/Staff's usual time to depart Pullman campus. (Q13)

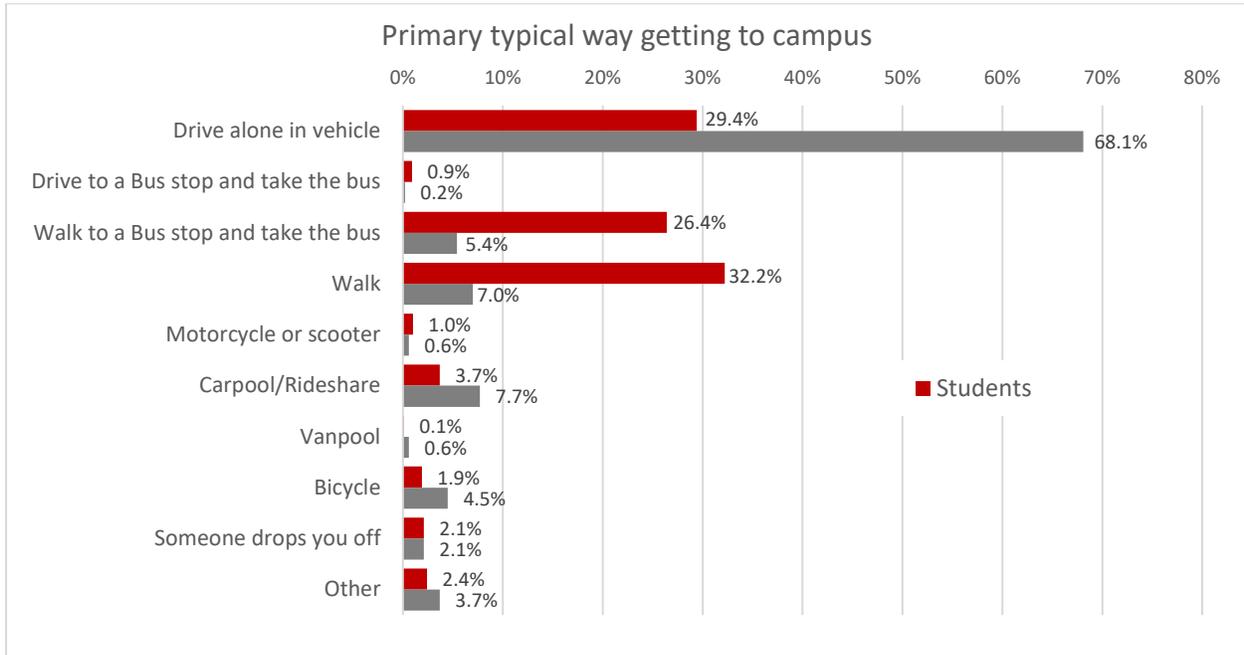


Source: 2023 WSU Pullman Transportation Survey.

Commute Mode to Pullman Campus

As shown in **Figure 14** and **Table 12**, there was a significant difference between students and faculty/staff in their typical modes of commuting to campus. Faculty/staff predominantly commuted by driving alone in a vehicle (68.1%), whereas students were more likely to walk (32.2%). Across both groups, a total of 973 individuals, accounting for 43.2% of all respondents, reported driving alone in a vehicle as their primary means of getting to campus.

Figure 14. Primary typical way to get to campus. (Q14)



Source: 2023 WSU Pullman Transportation Survey.

Table 12. Percent reporting the primary way to usually get to campus. (Q14)

	Staff/		Total	X2	df	P Value
	Students	Faculty				
Drive alone in vehicle	29.4%	68.1%	43.2%			
Drive to a Bus stop and take the bus	0.9%	0.2%	0.7%			
Walk to a Bus stop and take the bus	26.4%	5.4%	18.9%			
Walk	32.2%	7.0%	23.2%			
Motorcycle or scooter	1.0%	0.6%	0.8%			
Carpool/Rideshare	3.7%	7.7%	5.2%			
Vanpool	0.1%	0.6%	0.3%			
Bicycle	1.9%	4.5%	2.8%			
Telework	0.0%	0.0%	0.0%			
Someone drops you off	2.1%	2.1%	2.1%			
Other way get to campus	2.4%	3.7%	2.9%			
Total Column Percent	100%	100%				
Number Total	1449	803	2252	482.39	10	<.001

Source: 2023 WSU Pullman Transportation Survey.

A total of 522 respondents (466 students and 56 faculty/staff) who indicated they usually walked to campus were asked how long it takes them to get to their destination on campus. **Table 13** shows that the average time was approximately 15.3 minutes for students and 24.7 minutes for faculty/staff who walk their commute. The longest walk reported for students and faculty/staff was 60 and 45 minutes respectively to get to their destination on campus.

Table 13. Average time to walk to destination on campus. (Q15)

Category	Number	Mean	Median	Minimum	Maximum
Students	462	15.3	15.0	1	60
Faculty/Staff	55	24.7	25.0	7	45

Source: 2023 WSU Pullman Transportation Survey.

Stops on the Way

Trip chaining may be an important factor associated with vehicle commuting. Commuters not walking were asked how many times a week (Monday through Friday) they typically make a stop on their way to campus from home. For students just less than two thirds, 62.7% indicated they made no stops (**Figure 15** and **Table 14**). The next two frequencies most reported by students were: one stop (12.0%) and two stops (9.3%). Likewise, for faculty/staff, more than half, 57.6%, reported no stops on the way to campus from home. Of those faculty/staff making stops, the most reported frequencies were one stop for 15.3% and two stops for 9.4%.

Figure 15. Number of times making a stop from home to campus. (Q16)

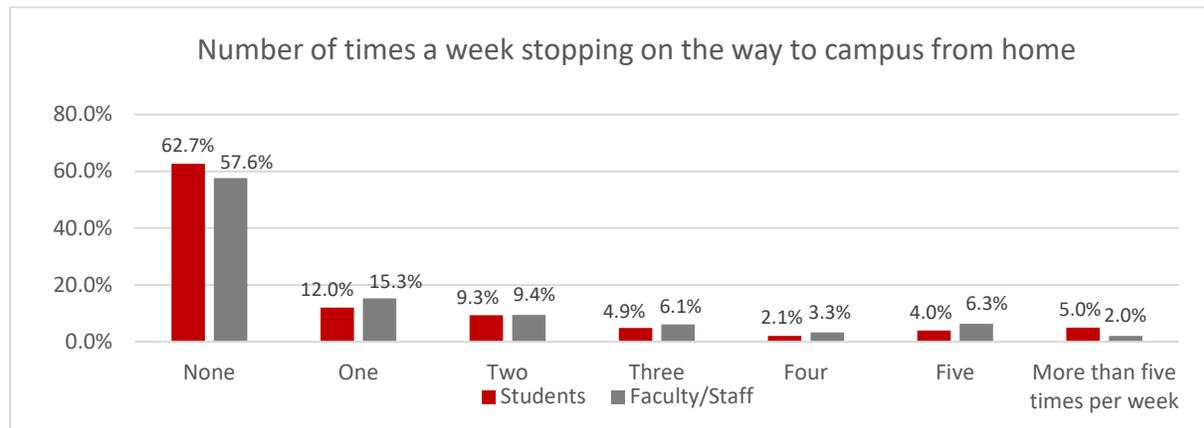


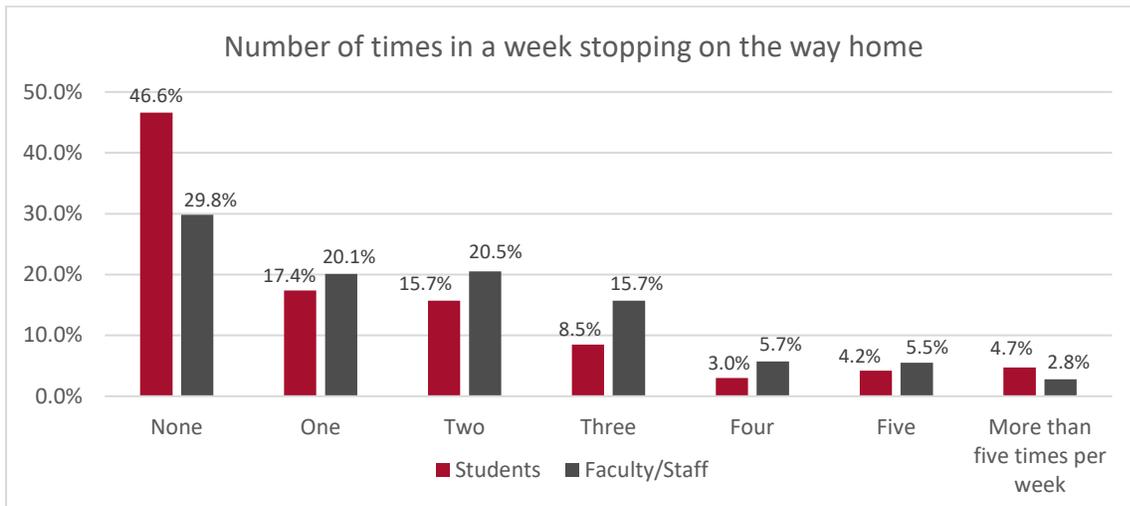
Table 14. Percent of non-walking commuters that make a stop going to campus. (Q16)

Number Stops to campus	Faculty		Total	X ²	df	P value
	Students	/Staff				
None	62.7%	57.6%	60.9%			
One	12.0%	15.3%	13.2%			
Two	9.3%	9.4%	9.3%			
Three	4.9%	6.1%	5.4%			
Four	2.1%	3.3%	2.5%			
Five	4.0%	6.3%	4.8%			
More than five per week	5.0%	2.0%	3.9%			
Total Column Percent	100.0%	100.0%	100.0%			
Total Number	1422	798	2220	27.63	6	<.001

Source: 2023 WSU Pullman Transportation Survey.

Making stops on the way home from campus is a common activity during the week for those not walking. Students and faculty/staff (**Figure 16** and **Table 15**) were more likely to make stops on the way home than on the way to campus. Commuters not walking were asked how many times a week (Monday through Friday) they typically make a stop on their way home from campus. For students just less than half, 46.6% indicated they made no stops. The next two frequencies most reported by students were: one stop (17.4%) and two stops (15.7%). Likewise, for faculty/staff, just above a quarter, 29.8%, reported no stops on the way home from campus. Of those faculty/staff making stops, the most reported frequencies were one stop for 20.1% and two stops for 20.5%. A higher number of faculty/staff than students made multiple stops (1 to 5 stops) on the way home from campus.

Figure 16. Percent reporting number of stops on way home from campus. (Q17)



Source: 2023 WSU Pullman Transportation Survey.

Table 15. Percent of non-walking commuters that make a stop on way home from campus. (Q17)

Number Stops to campus	Undergrad/ Grad-Prof	Faculty /Staff	Total	X ²	df	P value
None	46.6%	29.8%	40.5%			
One	17.4%	20.1%	18.3%			
Two	15.7%	20.5%	17.4%			
Three	8.5%	15.7%	11.1%			
Four	3.0%	5.7%	3.9%			
Five	4.2%	5.5%	4.7%			
More than five per week	4.7%	2.8%	4.0%			
Total Column Percent	100.0%	100.0%	100.0%			
Total Number	1412	796	2208	84.50	6	<.001

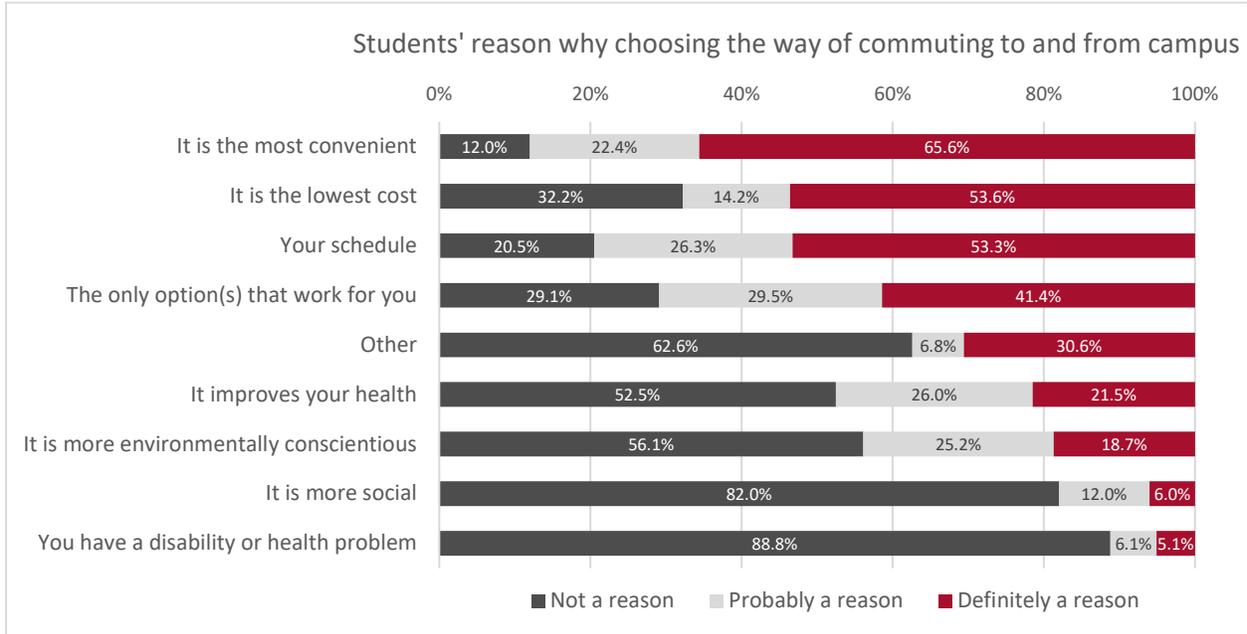
Source: 2023 WSU Pullman Transportation Survey.

Reasons for Commute Mode Choice

Respondents were asked about eight reasons for their choice of the way they commuted to campus. On all items, students when compared to faculty/staff were statistically significantly different (p values <.001) on their extent of rating each reason (**Table 16**) as: “Not a Reason”, “Probably a Reason”, and “Definitely a Reason”. The comparisons for all reasons for students were shown graphically in **Figure 17**. For students the three most prevalent ratings for their choice of way of commuting to and from campus, based on top-notch scoring as “Definitely a Reason” were: 1) Most convenient, 65.6%; 2) Lowest cost, 53.6%;

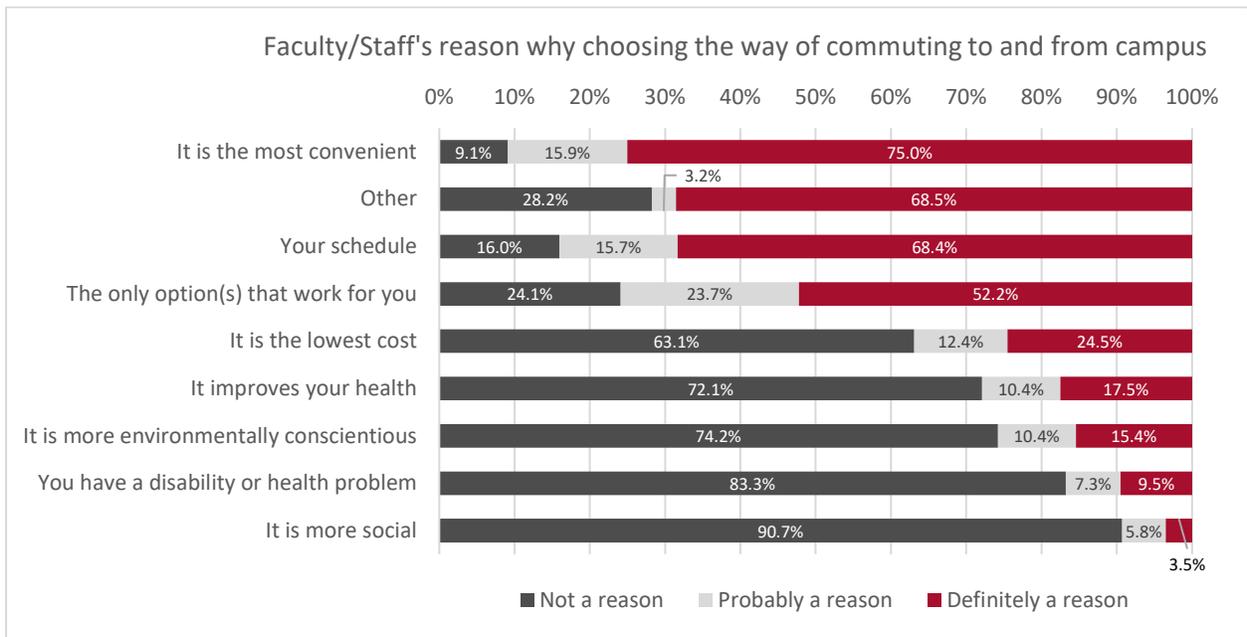
and 3) Your schedule, 53.3%. For faculty/staff, the ordered rating (**Figure 18**) of “Definitely a Reason” are overlapping with students on two of the three leading reasons in order and but varied in magnitude. For faculty/staff the leading reasons were: 1) Most convenient, 75.0%; 2) Other, 68.5%; and 3) Your schedule, 68.4%.

Figure 17. Student reasons for their way of commuting to and from campus. (Q21)



Source: 2023 WSU Pullman Transportation Survey.

Figure 18. Faculty/Staff reasons for their way of commuting to and from campus. (Q21)



Source: 2023 WSU Pullman Transportation Survey.

Table 16. Ranking of reasons for way of commuting to and from campus. (Q21)

Reasons (Q21A-I)	Undergrad/ Grad-Prof Students			Faculty/staff			df	X ²	P Value
	Not a reason	Probably a reason	Definitely a reason	Not a reason	Probably a reason	Definitely a reason			
A. Is the most convenient	12.0%	22.4%	65.6%	9.1%	15.9%	75.0%	2	20.29	<.001
B. Is the lowest cost	32.2%	14.2%	53.6%	63.1%	12.4%	24.5%	2	195.34	<.001
C. Improves your health	52.5%	26.0%	21.5%	72.1%	10.4%	17.5%	2	85.31	<.001
D. Is more social	82.0%	12.0%	6.0%	90.7%	5.8%	3.5%	2	26.52	<.001
E. Environ conscientious	56.1%	25.2%	18.7%	74.2%	10.4%	15.4%	2	74.89	<.001
F. Disability/health problem	88.8%	6.1%	5.1%	83.3%	7.3%	9.5%	2	15.10	<.001
G. Your schedule	20.5%	26.3%	53.3%	16.0%	15.7%	68.4%	2	46.26	<.001
H. Only option(s) that work for you.	29.1%	29.5%	41.4%	24.1%	23.7%	52.2%	2	20.84	<.001
I. Other	62.6%	6.8%	30.6%	28.2%	3.2%	68.5%	2	50.67	<.001

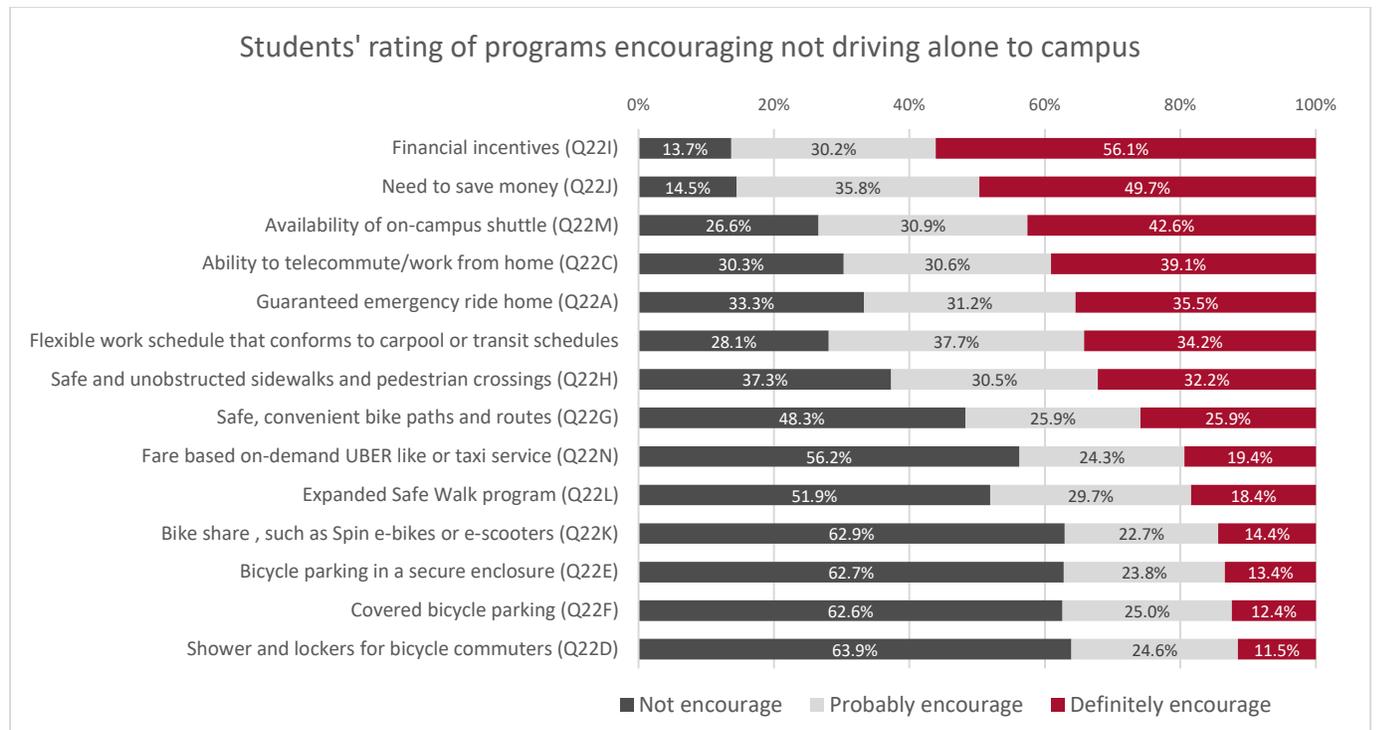
Source: 2023 WSU Pullman Transportation Survey.

Programs that Would Encourage Not Driving Alone to Campus

Fourteen programs were asked about that could encourage individuals to NOT drive alone to campus.

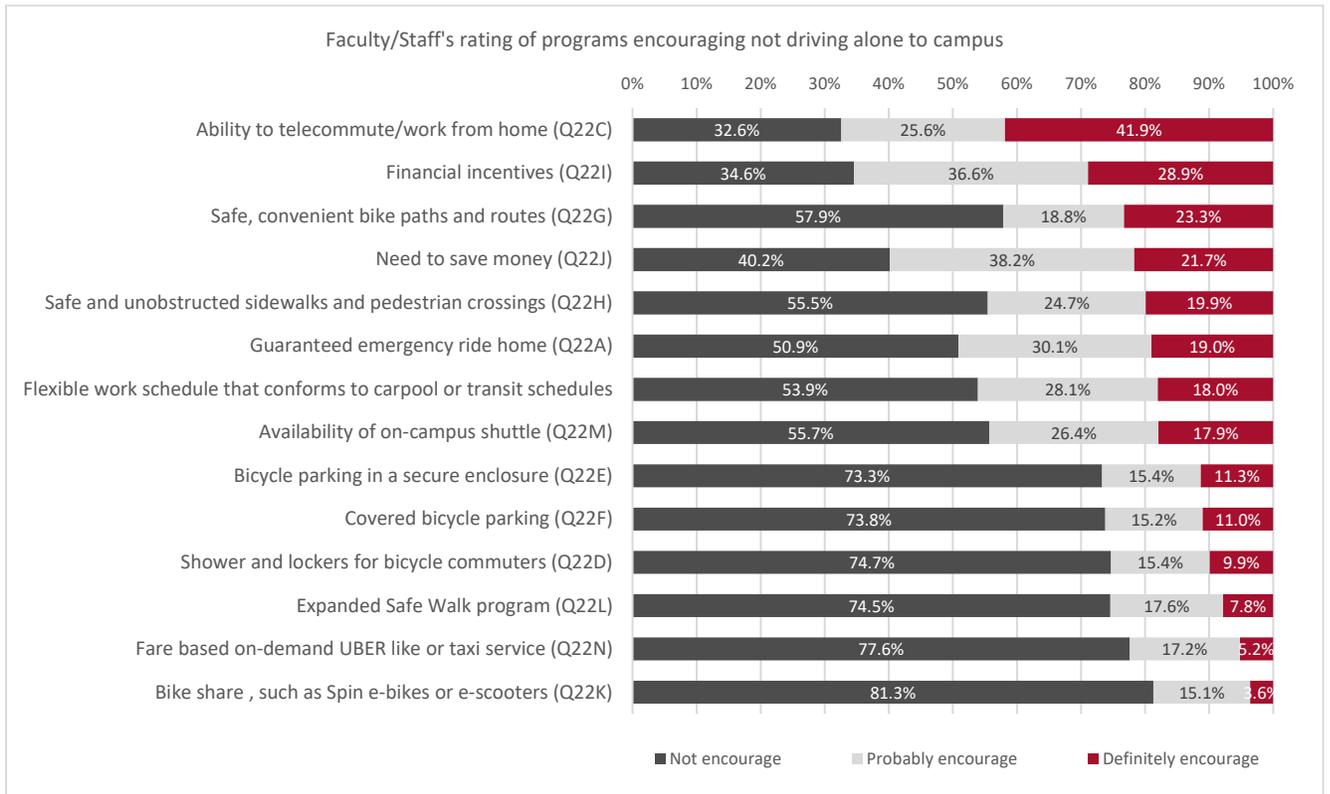
Figure 19 and **Figure 20** displayed for students and faculty/staff respectively the ordered ranking (of the programs based on students’ rating of “Definitely Encourage.” Students were significantly statistically different from Faculty/Staff on ratings of 13 of the 14 programs (**Table 17**). For students, the leading four programs to “Definitely Encourage” not driving alone to campus were: 1) financial incentives (56.1%); 2) need to save money (49.7%); 3) availability of on-campus shuttle (42.6%), and 4) ability to telecommute (39.1%). For faculty/staff, the leading four reasons that would “Definitely Encourage” included: 1) ability to telecommute (41.9%); 2) financial incentives (28.9%); 3) Safe, convenient bike paths and routes (23.3%); and 4) Need to save money (21.7%).

Figure 19. Student rating of programs to encourage not driving alone to campus. (Q22)



Source: 2023 WSU Pullman Transportation Survey.

Figure 20. Faculty/staff ratings to encourage not driving alone to campus. (Q22)



Source: 2023 WSU Pullman Transportation Survey.

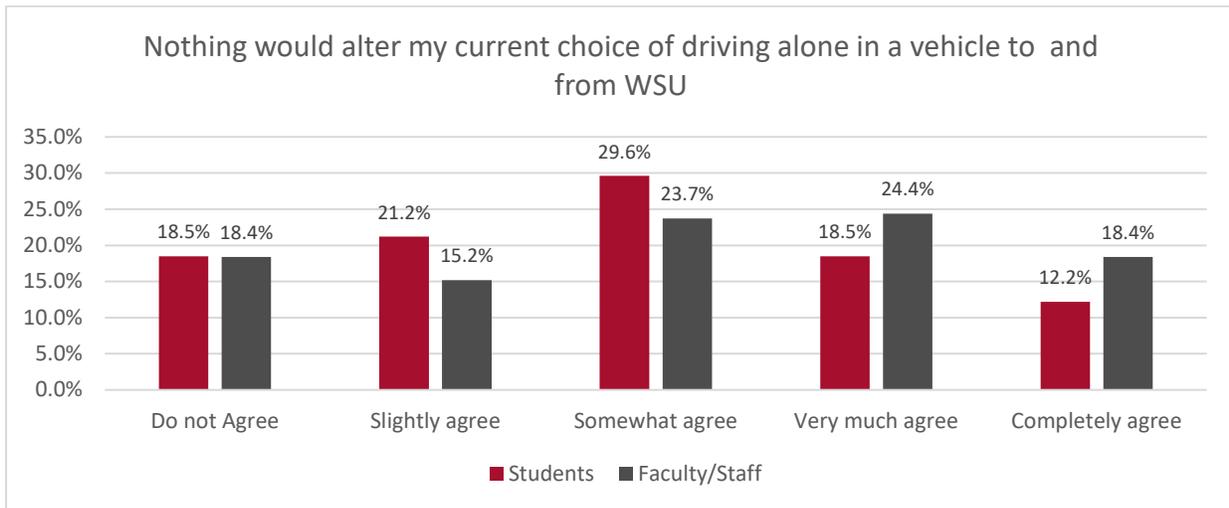
Table 17. Comparisons of students and faculty/staff on programs to encourage to not drive alone to campus. (Q22).

	Students			Staff/Faculty			df	X ²	P value
	Not Encourage	Probably Encourage	Definitely Encourage	Not Encourage	Probably Encourage	Definitely Encourage			
Guaranteed emergency ride home (Q22A)	33.3%	31.2%	35.5%	50.9%	30.1%	19.0%	2	37.91	<.001*
Flexible work schedule that conforms to vanpool, carpool, or transit schedules (Q22B)	28.1%	37.7%	34.2%	53.9%	28.1%	18.0%	2	62.80	<.001*
Ability to telecommute/work from home (Q22C)	30.3%	30.6%	39.1%	32.6%	25.6%	41.9%	2	2.69	.26
Shower and lockers for bicycle commuters (Q22D)	63.9%	24.6%	11.5%	74.7%	15.4%	9.9%	2	13.18	.001*
Bicycle parking in a secure enclosure (Q22E)	62.7%	23.8%	13.4%	73.3%	15.4%	11.3%	2	12.20	.002*
Covered bicycle parking (Q22F)	62.6%	25.0%	12.4%	73.8%	15.2%	11.0%	2	14.44	<.001*
Safe, convenient bike paths and routes (Q22G)	48.3%	25.9%	25.9%	57.9%	18.8%	23.3%	2	8.92	.012*
Safe and unobstructed sidewalks and pedestrian crossings (Q22H)	37.3%	30.5%	32.2%	55.5%	24.7%	19.9%	2	29.59	<.001*
Financial incentives (Q22I)	13.7%	30.2%	56.1%	34.6%	36.6%	28.9%	2	75.80	<.001*
Need to save money (Q22J)	14.5%	35.8%	49.7%	40.2%	38.2%	21.7%	2	95.47	<.001*
Bike share, such as Spin e-bikes or e-scooters (Q22K)	62.9%	22.7%	14.4%	81.3%	15.1%	3.6%	2	45.03	<.001*
Expanded Safe Walk program (Q22L)	51.9%	29.7%	18.4%	74.5%	17.6%	7.8%	2	48.28	<.001*
Availability of on-campus shuttle (Q22M)	26.6%	30.9%	42.6%	55.7%	26.4%	17.9%	2	86.24	<.001*
Fare based on-demand UBER like or taxi service (Q22N)	56.2%	24.3%	19.4%	77.6%	17.2%	5.2%	2	55.06	<.001*

Source: 2023 WSU Pullman Transportation Survey. Note : Bonferroni correction was used to account for multiple comparisons performed simultaneously for all the 14 programs to lower the overall false positive error rate, so * P value \leq .035 was considered statistically significant for each individual comparison.

Students and faculty/staff who reported driving alone in a vehicle (n=973, **Table 12, Q14**) were further asked to indicate how much they would agree with the following statement; “Nothing would alter my current choice of driving alone in a vehicle commuting to and from WSU.” As shown in **Table 18**, the agreement level with the statement was significantly different between students and faculty/staff. While both students and faculty/staff have similar levels of disagreement with the statement (18.5% vs. 18.4%), faculty/staff tend to show a higher level of agreement across the board, especially in the categories of "very much agree" and "completely agree" (**Figure 21** and **Table 18**). Students, on the other hand, show slightly higher levels of agreement in the categories of "slightly agree" and "somewhat agree." The results suggested that more faculty/staff than students were strongly committed to their choice of driving alone.

Figure 21. Level of agreement with statement concerning driving alone to WSU. (Q23)



Source: 2023 WSU Pullman Transportation Survey.

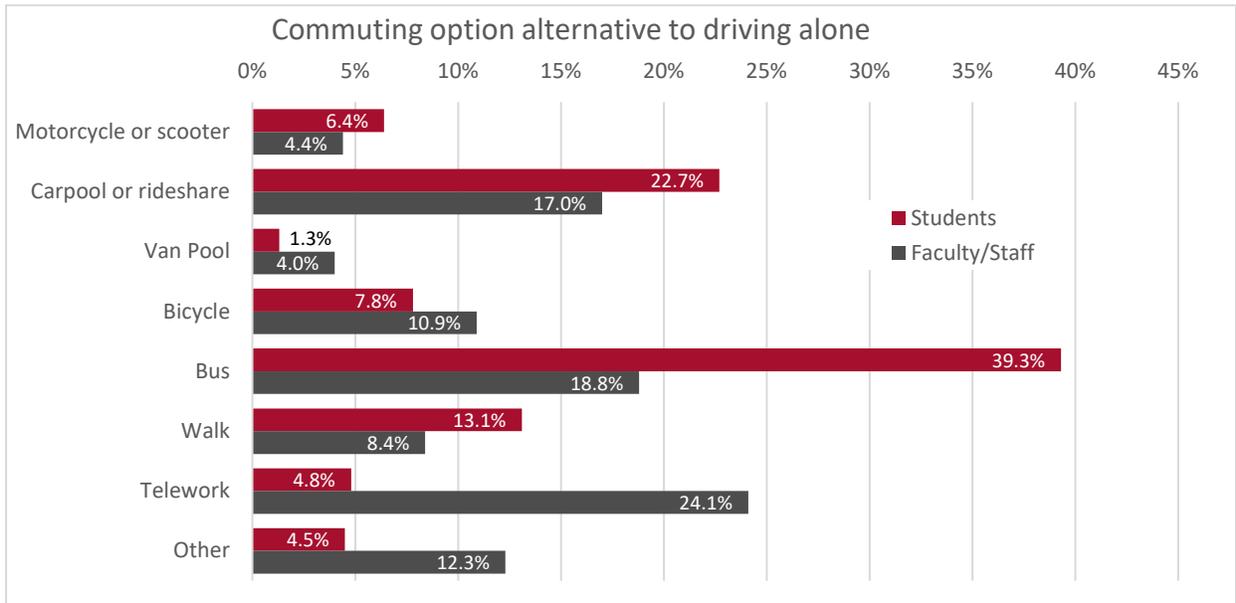
Table 18. Percentage of students and faculty/staff rating levels of agreement with “nothing would alter my current choice of driving alone in a vehicle commuting to and from WSU.” (Q23)

	Students	Staff/Faculty	Total	X ²	df	P value
Do not Agree	18.5%	18.4%	18.4%			
Slightly Agree	21.2%	15.2%	17.7%			
Somewhat Agree	29.6%	23.7%	26.2%			
Very Much Agree	18.5%	24.4%	22.0%			
Completely Agree	12.2%	18.4%	15.8%			
Total	100.0%	100.0%	100.0%			
Number Total	378	528	906	16.37	4	0.003

Source: 2023 WSU Pullman Transportation Survey. Note. Statistical significance if p < .05.

Students and faculty/staff were asked the hypothetical situation “If driving alone was not an option, what would be your choice for an alternative commute option to get to campus?” Students are significantly different from faculty/staff in their choices for alternatives (**Table 19**, $X^2(7, N = 896) = 116.14, p < .001$), with more students chose bus than faculty/staff (39.3% vs. 18.8%) (**Figure 22** and **Table 19**). Faculty/staff were more likely to choose telework (24.1%).

Figure 22. Alternatives to driving alone, if driving alone to WSU was not an option (Q24)



Source: 2023 WSU Pullman Transportation Survey.

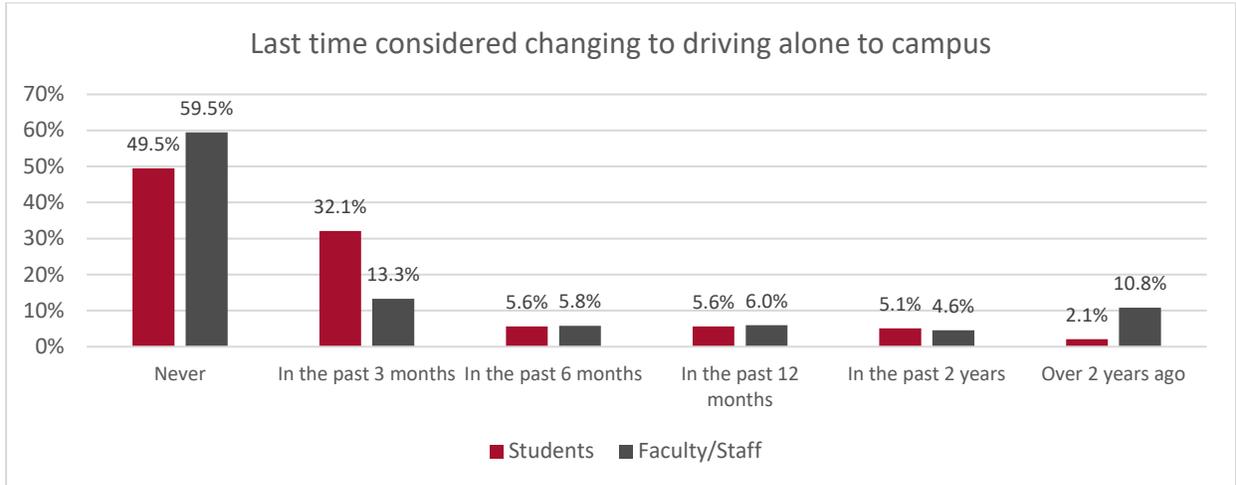
Table 19. Percent selecting alternative commute modes to get to campus if driving was not an option. (Q24)

	Students	Faculty /Staff	Total	X ²	df	P value
Motorcycle or scooter	6.4%	4.4%	5.2%			
Carpool or rideshare	22.7%	17.0%	19.4%			
Van Pool	1.3%	4.0%	2.9%			
Bicycle	7.8%	10.9%	9.6%			
Bus	39.3%	18.8%	27.3%			
Walk	13.1%	8.4%	10.4%			
Telework	4.8%	24.1%	16.1%			
Other	4.5%	12.3%	9.0%			
Total	100.0%	100.0%	100.0%			
Number Total	374	522	896	116.14	7	<.001

Source: 2023 WSU Pullman Transportation Survey.

Generally, respondents to the survey did not think about a need to changing the behavior of driving alone to campus (Figure 23 and Table 20). Approximately half of students (49.5%) and faculty/staff (59.5%) have not felt they had to consider a change to driving alone to campus. Of these that had thought about this, the most frequently reported time period was in the last three months for both groups, with more than a quarter of students (32.1%) and 13.3% of faculty/staff.

Figure 23. When was the last time you felt you had to consider a change to driving alone to campus. (Q25)



Source: 2023 WSU Pullman Transportation Survey.

Table 20. Percent reporting “when was the last time you felt you had to consider a change to driving alone to campus.” (Q25)

	Students	Staff/ Faculty	Total	X ²	df	P value
Never	49.5%	59.5%	55.3%			
In the past 3 months	32.1%	13.3%	21.2%			
In the past 6 months	5.6%	5.8%	5.7%			
In the past 12 months	5.6%	6.0%	5.8%			
In the past 2 years	5.1%	4.6%	4.8%			
More than in the past 2 years	2.1%	10.8%	7.2%			
Total	100%	100%	100%			
Number Total	374	518	892	62.94	5	<.001

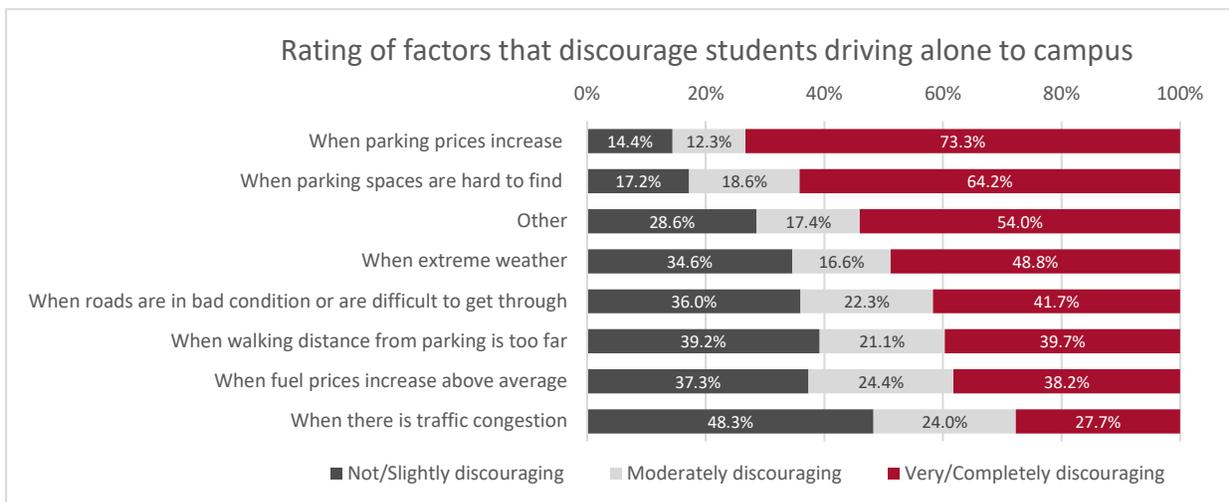
Source: 2023 WSU Pullman Transportation Survey.

Students and faculty/staff were asked to individually rate each factor regarding its discouragement towards commuting alone to campus by driving. The results were shown in **Figures 24, Figure 25, and Table 21.**

The top four factors deemed "Very/Completely discouraging" for commuting alone in a vehicle were identical among students and faculty/staff but in a slightly different order and percentage. For students, the top four factors were: 1) when parking prices increase (73.3%), 2) when parking spaces are hard to find (64.0%), 3) other factors (54.0%), and 4) when extreme weather (48.8%). For faculty/staff, the top four factors were: 1) when parking prices increase (43.8%), 2) when parking spaces are hard to find (42.0%), 3) when extreme weather (35.6%), and 4) other factors (33.3%).

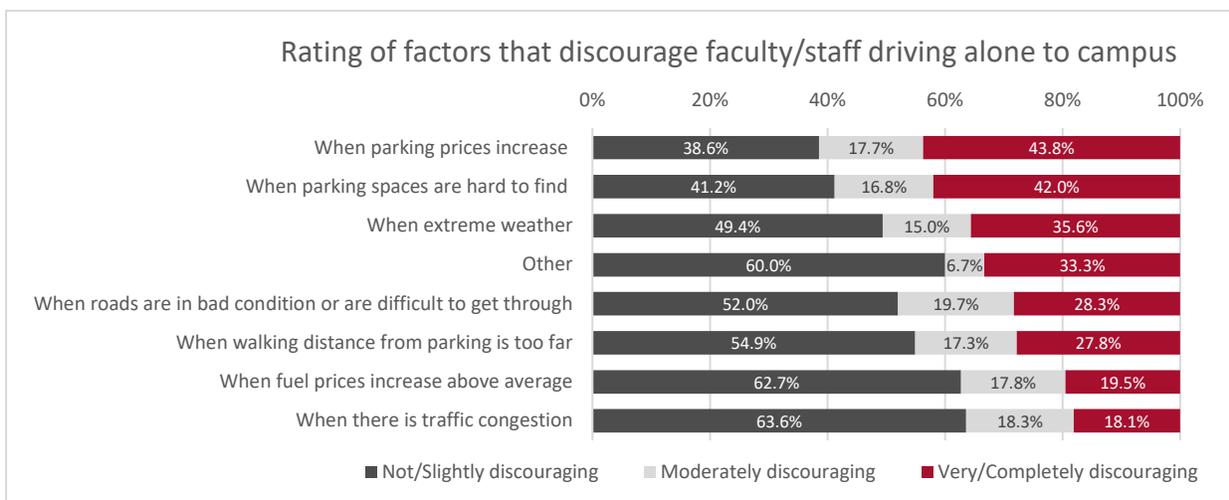
The least discouraging factor for students, rated as "Not/Slightly Discouraging," was "traffic congestion" (48.3%) and 63.6% of faculty/staff rated it similarly.

Figure 24. Students' rating of factors discouraging driving alone to campus. (Q26)



Source: 2023 WSU Pullman Transportation Survey.

Figure 25. Faculty/staff's rating of factors discouraging driving alone to campus. (Q26)



Source: 2023 WSU Pullman Transportation Survey.

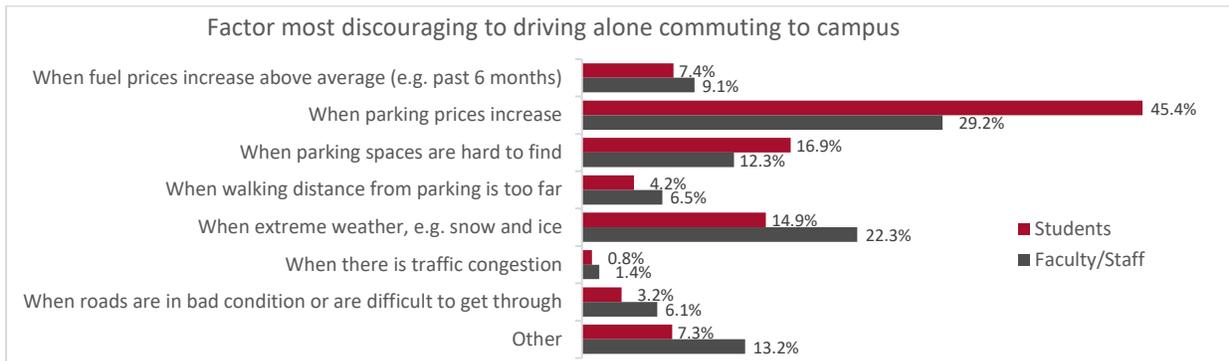
Table 21. Percent of students and faculty/staff reporting factors as discouraging to their driving alone commuting to campus. (Q26)

	Not/Slightly discouraging	Moderately discouraging	Very/ Completely discouraging	Row Percent Total	Total Number
Students					
When fuel prices increase above average	37.3%	24.4%	38.2%	100%	1215
When parking prices increase	14.4%	12.3%	73.3%	100%	1219
When parking spaces are hard to find	17.2%	18.6%	64.2%	100%	1204
When walking distance from parking is too far	39.2%	21.1%	39.7%	100%	1200
When extreme weather	34.6%	16.6%	48.8%	100%	1204
When there is traffic congestion	48.3%	24.0%	27.7%	100%	1191
When roads are in bad condition or are difficult to get through	36.0%	22.3%	41.7%	100%	1191
Other	48.3%	24.0%	27.7%	100%	161
Faculty/Staff					
When fuel prices increase above average	62.7%	17.8%	19.5%	100%	734
When parking prices increase	38.6%	17.7%	43.8%	100%	734
When parking spaces are hard to find	41.2%	16.8%	42.0%	100%	728
When walking distance from parking is too far	54.9%	17.3%	27.8%	100%	730
When extreme weather	49.4%	15.0%	35.6%	100%	728
When there is traffic congestion	63.6%	18.3%	18.1%	100%	726
When roads are in bad condition or are difficult to get through	52.0%	19.7%	28.3%	100%	727
Other	60.0%	6.7%	33.3%	100%	75

Source: 2023 WSU Pullman Transportation Survey.

Afterwards, all respondents were prompted to consider the aforementioned factors and select the one factor they found "Most Discouraging" towards commuting alone in a vehicle to campus. This subsequent rating (Q27) paralleled the previous single-item ratings (Q26). Notably, students and faculty/staff demonstrated significant differences in their ratings of factors ($X^2=86.21$, $P<.001$), as depicted in **Figure 26** and **Table 22**. For students, the primary factors "most discouraging" for driving alone to campus were: 1) increases in parking prices (45.4%), 2) difficulty finding parking spaces (16.9%), and 3) extreme weather conditions, such as snow and ice (14.9%). In contrast, faculty/staff's leading factors were more closely clustered for selection: 1) increases in parking prices (29.2%), 2) extreme weather (22.3%), and 3) difficulty finding parking spaces (20.5%)

Figure 26. Students and Faculty/Staff: Which ONE factor would most discourage driving alone commuting to campus. (Q27)



Source: 2023 WSU Pullman Transportation Survey.

Table 22. Percent of students and faculty/staff selecting the one factor as most discouraging to driving alone to campus. (Q27)

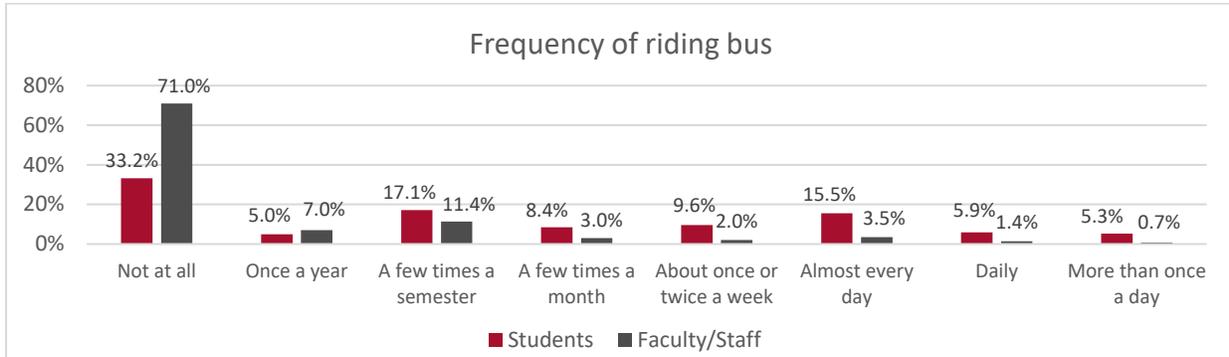
Students	Faculty/		Total	X ²	df	P value
	Students	Staff				
When fuel prices increase above average	7.4%	9.1%	8.0%			
When parking prices increase	45.4%	29.2%	39.5%			
When parking spaces are hard to find	16.9%	12.3%	15.2%			
When walking distance from parking is too far	4.2%	6.5%	5.0%			
When extreme weather	14.9%	22.3%	17.6%			
When there is traffic congestion	0.8%	1.4%	1.0%			
When roads are in bad condition or are difficult to get through	3.2%	6.1%	4.2%			
Other	7.3%	13.2%	9.4%			
Total Column Percent	100%	100%	100%			
Total Number	1276	726	2002	86.21	7	<.001

Source: 2023 WSU Pullman Transportation Survey.

Transit Use and Ratings

There are significant differences between students and faculty/staff in their bus riding frequencies ($X^2=335.61$, $p<.001$), as illustrated in **Figure 27** and **Table 23**. The data reveal that most students (66.8%) reported riding the bus, while just under a third (33.2%) stated "Not at All". Conversely, nearly three quarters (71.0%) of faculty/staff reported "Not at All" as their frequency for riding the bus to campus. Bus ridership is distributed across various categories for both groups. Specifically, 26.7% of students reported riding "Almost daily/daily/more than once a day", whereas only 5.6% of faculty/staff fell into these categories of frequent ridership.

Figure 27. How often students and faculty/staff ride the bus. (Q28)



Source: 2023 WSU Pullman Transportation Survey.

Table 23. Percent of students and faculty/staff reporting how often they ride the bus. (Q28)

	Students	Staff/ Faculty	Total	X^2	df	P value
Not at all	33.2%	71.0%	47.1%			
Once a year	5.0%	7.0%	5.7%			
A few times a semester	17.1%	11.4%	15.0%			
A few times a month	8.4%	3.0%	6.4%			
About once or twice a week	9.6%	2.0%	6.8%			
Almost every day	15.5%	3.5%	11.1%			
Daily	5.9%	1.4%	4.3%			
More than once a day	5.3%	0.7%	3.6%			
Total	100%	100%	100%			
Number Total	1312	761	2073	335.61	7	<.001

Source: 2023 WSU Pullman Transportation Survey.

Respondents who reported riding the bus at least about once or twice a week were then queried about the number of one-way trips they took on the bus last week. On average, students reported 4.8 one-way trips, while faculty/staff reported an average of 4.5 one-way trips (**Table 24**).

Table 24. Average number of times using the bus one way last week (Monday to Sunday) (Q30).

Group	Number	Mean	Median	Range	
				Minimum	Maximum
Students	475	4.8	4	0	30
Staff/Faculty	59	4.5	4	0	22

Main Reason for Not Currently Using the Transit System

Respondents that don't currently use or use the transit system less than once or twice a week were asked the main reason why [they] don't use the Pullman transit system more often. 1455 individuals gave comments. **Table 25** shows a random sample of comments and these comments have not been edited. Frequently mentioned issues include: inconvenience, wait times, crowded/full buses, number of buses on specific routes and bus frequencies, bus times, nearest stops to where they live are far, not liking to ride buses, liking to ride but buses full, have own car or prefer alternative transit mode (e.g., bikes, scooters, or carpools), walking is faster, more convenient, and healthier, Transit apps issues, bus time inconsistency/unreliability, lack of familiarity with buses/routes/stops, making multiple stops on the way or have too many trips on a typical day, bus schedule does not align with class or work schedule, Apartmentland Express route changed, have a disability, car sick issues, bus does not come to area where they live, concern over exposure to germs and infections, the need to transport children or other family, and the need of fast commuting.

Table 25. Random sample of comments: reasons for not using transit (Q29)

Q29	I have a car. It would be more cost effective but I don't know how to use it. And my car works for my schedule.
Q29	I prefer to walk because I can leave and arrive at a place whenever I want/need to without having to wait for a bus or other transit system. I also have my own car so I can go directly to my destination
Q29	I have my own car now and it makes trips faster because I don't have to wait for the bus and can work around my own hours.
Q29	My scooter often gets me places without needing to wait for the bus. However, I like to use the bus when it's rainy out.
Q29	Because I share a ride with a friend. Some days they don't go to class, so I take the bus
Q29	I don't know where it picks up near me and sometimes I like to make stop on my way back or leave school when I want. But It would be nice to have a more biking friendly area like Moscow.
Q29	Rude drivers, poor driving, and inconvenience of times
Q29	I have to bring large objects on the bus. It's hard to track down a bus. One time, I made eye contact with the bus driver, and they drove right by me. I missed a class because of this.
Q29	Unreliable timing, commute is too long, and closest stops uncovered w/o seating and gets covered in snow
Q29	Routes are confusing and hard to plan. Bus schedules don't fit my needs. It's full of strangers.
Q29	Their isn't to my knowledge a bus that runs from Moscow to pullman at a convenient time.
Q29	Doesn't go to Albion. I walk everywhere I need to within Pullman.
Q29	The transit system isn't convenient enough, if there were better ways to know when a bus was coming and going other than the app that does not work very well and has a confusing system and UI. Then a bus may be more convenient, also the fact that the busses take nearly 20 minutes to circle back around to a stop discourages me to ride the bus.
Q29	it takes too long to get to campus, and there is not a convenient bus stop where I live
Q29	The stops and times that the bus runs does not coincide with my class schedule.
Q29	It does not work for my schedule.
Q29	With my schedule it is hard to get to and leave places on time if I was taking the bus
Q29	It doesn't work with my schedule because I have to go from and back to campus multiple times a day
Q29	The ride back to my neighborhood takes too long. About 45 minutes with all the route stops and 10 minute break stop for driver when the drive by myself is less than 10 minutes.

Q29	It doesn't run in a way that meets my schedule. Doesn't open early enough or go home late enough
Q29	There isn't a bus stop over near where I live (the hills housing) (there is a shuttle that can take you to and from campus, but it fills up extremely quickly, the hours do not work very well for me, and they are pretty inconsistent, I would much prefer if there was a public bus stop near my apartments.
Q29	The routes drop me off too far from class, and I'm scared the bus will leave without me if it's too full.
Q29	Convenience and timing. I go to class, then work on campus and also workout in the same campus visit. I also bring lunch. A lot to carry and also want to be on time with no hassles.
Q29	I need very flexible and reliable transportation that takes the least amount of time. I live somewhat close to a bus stop but it would still subtract multiple hours from my day if I rely on it.
Q29	It is long walking distance, takes a while to get to my destination, crowded and is hard for time management.
Q29	It's easier to walk than to take the bus because walking is the same distance the bus would take me at.
Q29	My house is relatively close walking distance so it takes the same amount of time.
Q29	No bus stop in front of my apartment. By the time I walk to the bus stop and take the bus it will have been roughly the same amount of time as me walking to campus.
Q29	They changed the route of the Apartmentland Express so that it takes much longer to get from my apartment to campus
Q29	The transit route is very very inconvenient for people living at University Crossing
Q29	I am injured and have an acute medical issue.
Q29	Need to drive my own car to be available in case of my son's health emergency.
Q29	Our family has work and medical needs that require fast commuting. To be able to maintain a safe and healthy family while working for WSU it requires I have the ability to have a vehicle. It's hard not to resent WSU Transportation who's main focus is fundraising - which I've had their administration [Names] tell me directly.
Q29	I am on a tight schedule with work and family commitments. In addition I need a vehicle to get things off campus for work to prepare for events, seminars, visitors, etc. I also feel I need a vehicle to take care of my dogs daily at lunch as well as be ready for my children as needed if something comes up.
Q29	the bus system is geared toward students starting class at 10 min after the hour & in the evening well after time to get off, so I'm either extremely early to work and then have to work late to catch the evening bus or I'm late to work and then have to get off extremely late. Please note, it takes almost the same amount of time for me to drive, walk or take the bus as there are no direct routes from my house to campus.
Q29	Because the bus service is very inconvenient, the bus randomly come and randomly become out of service, does only one way loop (if there is the same bus route but goes the other way, it'll be so convenient and I would use it) and bus routes are poorly designed (loops); the loop is so long to get to the destination (it took me an hour to get back home from grocery store by bus, which takes 5 minutes if I use a car, that is why I purchased a car) , We do not have any public transportation service from the Pullman regional airport (extremely inconvenient to those with no car), the bus terminal hub is located at the place where nobody goes, which make it dysfunctional for entire bus transportation service in Pullman; the terminal hub should be located at the place where the flow of people meet. WSU is one of the educational institution that has inexpensive tuition and many people from low income family come and they rely heavily on public transportation just because not enough money to provide a car to their kid;

however, the public transportation is inconvenient in here (thus inconvenient to live in Pullman); I would transfer or not decide to come to WSU

Q29 Currently, the transit system does not offer frequent or late enough service for it to be a viable option for me. I work in the hospital, and I need to be on campus by 8 am or sometimes earlier. When I have looked up the options for a bus route near my house that will get me to my work by 8 am, the only option is to leave my house at 6:40 am, which does not work for me. Additionally, I get off work at unpredictable times and often late in the day, so it is difficult to ensure that I could make the bus at a certain time in the evening every day to get home at a reasonable time. When I've worked a ten hour shift in the hospital, the last thing I want to do is wait for the bus for an hour. As far as I know, most people who work in the teaching hospital get a parking permit and drive alone, for similar reasons. There is not another great option for most of us.

If there was more frequent service or transit service that went later (like to 8pm), it might be an option for me. However, the way the parking system works at WSU, if I miss the bus or need to take the car for a day, it is time-consuming/expensive to get a parking permit...so at this point it's easiest to just get a parking permit for the year. Similarly, even on days when I don't need to be on campus, I often need to make a stop at the hospital (for usually an hour or two), and for those times, there isn't an affordable short-term option that is close to the hospital.

Q29 I get car-sick and feel ill on buses. It is also more convenient to drive as I am on my own schedule.

Q29 I have a disability and my ability to walk is limited, I can't access transit near my home or building at the distance I need to walk, additionally, I generally drive to the pharmacy and pick up my medications or supplies in the same trip going to or from campus. It would multiple extra hours to my day to be dependent solely on public transit.

Q29 I have a brain injury that makes riding the bus difficult. I get nauseous and fatigued.

Q29 disabilities/walking distances and concern over exposure to illnesses on mass transit

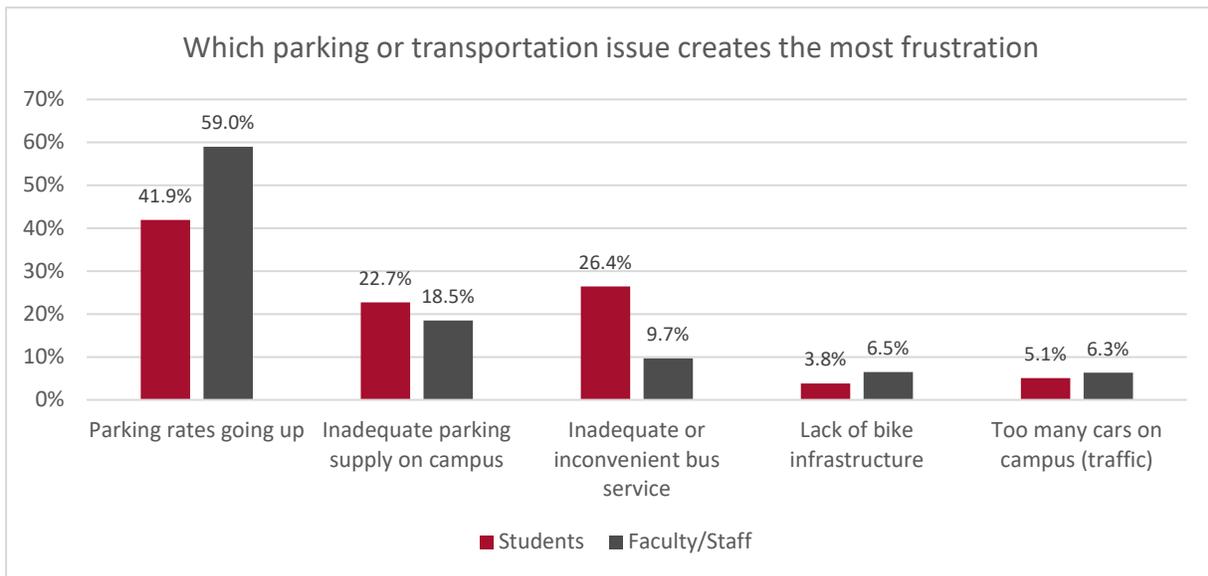
Q29 Each time I try the transit system it fails me. I am unable to get to work on time, without leaving at least an hour earlier than I would like to. Furthermore, the buses don't go to my part of Pullman after 5:00 -- and many days I do not leave campus until well after 7:00 or 8:00 pm. Cycling is not possible due to my joints, and the distance I live.

Source: 2023 WSU Pullman Transportation Survey.

Frustrations with Aspects of Parking or Transportation

As depicted in **Figure 28** and **Table 26**, respondents were asked to identify the ONE parking or transportation-related issue that causes them the most frustration. The top three frustrations were consistent between students and faculty/staff, albeit in a slightly different order of prevalence. Among students, the top three frustrations were as follows: 1) parking rates increasing (41.9%), 2) inadequate or inconvenient bus service (26.4%), and 3) inadequate parking supply on campus (22.7%). For faculty and staff, the primary frustration was parking rates increasing (59.0%), followed by inadequate parking supply on campus (18.5%), and inadequate or inconvenient bus service (9.7%). While both students and faculty/staff shared the concern about parking rates increasing, students placed relatively more emphasis on inadequate or inconvenient bus service compared to faculty/staff.

Figure 28. Frustrations with aspects of parking and transportation. (Q31)



Source: 2023 WSU Pullman Transportation Survey.

Table 26. Percent reporting aspects of parking and transportation create the most frustration on the Pullman Campus. (Q31)

	Students	Staff/ Faculty	Total
Parking rates going up	41.9%	59.0%	48.2%
Inadequate parking supply on campus	22.7%	18.5%	21.2%
Inadequate or inconvenient bus service	26.4%	9.7%	20.3%
Lack of bike infrastructure	3.8%	6.5%	4.8%
Too many cars on campus (traffic)	5.1%	6.3%	5.6%
	100.0%	100.0%	100.0%
Total Number	1302	752	2054

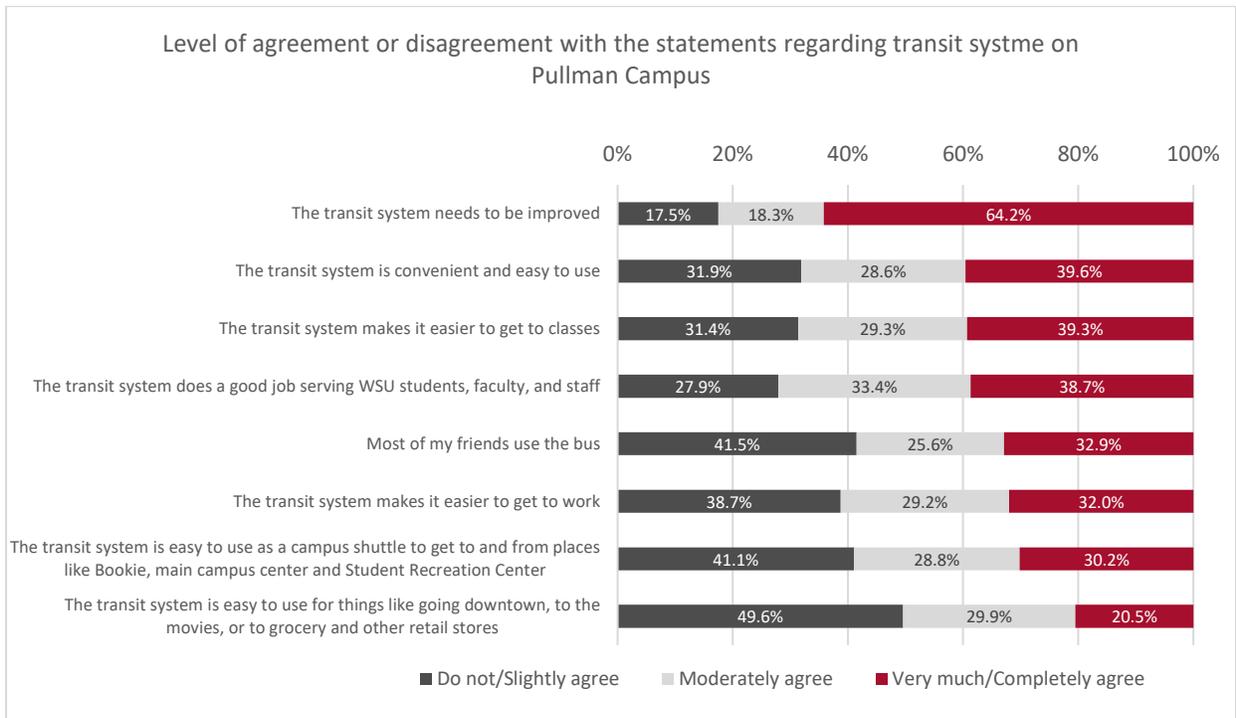
Source: 2023 WSU Pullman Transportation Survey.

Figure 29 illustrates the level of agreement among students regarding statements about transit services on the Pullman campus, while **Figure 30** displays the corresponding agreement among faculty/staff. **Table 27** provides a comprehensive overview of combined student and faculty/staff perspectives on various aspects of transit. Students and faculty/staff expressed mixed viewpoints regarding the transit system serving the Pullman campus.

Among students, a significant majority (64.2%) strongly agreed with the statement "The transit system needs improvement." However, notable percentages of students (39.6% and 39.3%) expressed strong agreement with the statements "The transit system is convenient and easy to use" and "The transit system makes it easier to get to classes," respectively.

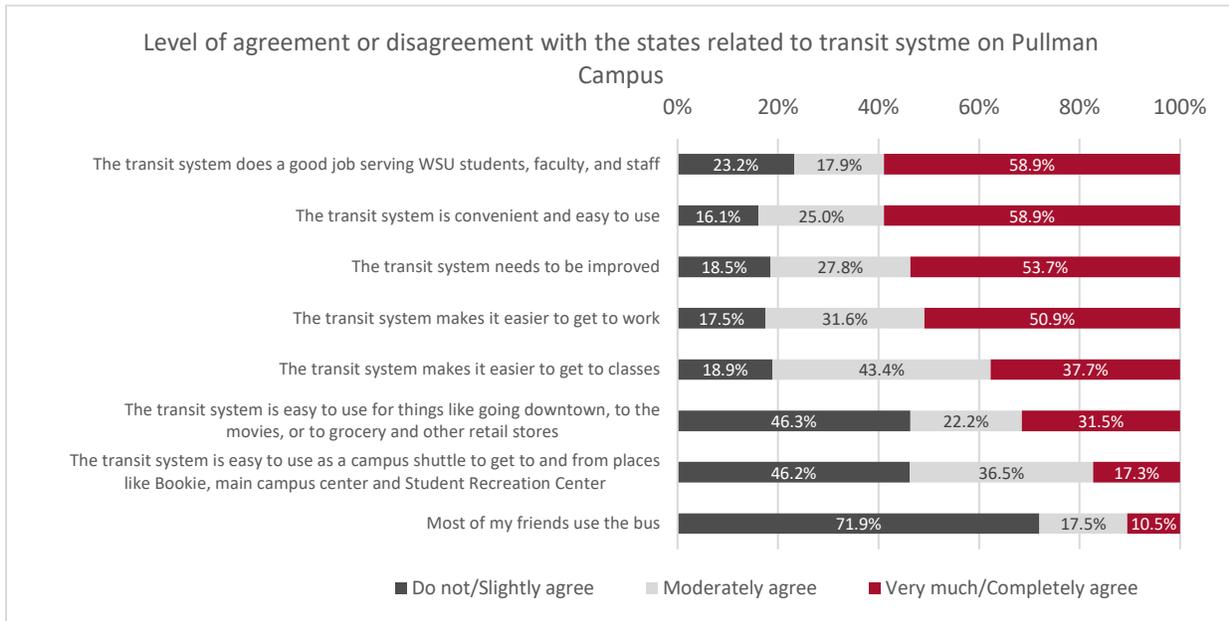
Faculty/staff showed strong agreement with statements such as "The transit system does a good job serving WSU students, faculty, and staff" and "The transit system is convenient and easy to use" (both at 58.9%). Furthermore, over half of faculty/staff (53.7%) strongly agreed with the statement "The transit system needs improvement."

Figure 29. Students' level of agreement to the statements regarding transit services. (Q32)



Source: 2023 WSU Pullman Transportation Survey.

Figure 30. Faculty/staff’s level of agreement to the statements regarding transit services. (Q32)



Source: 2023 WSU Pullman Transportation Survey.

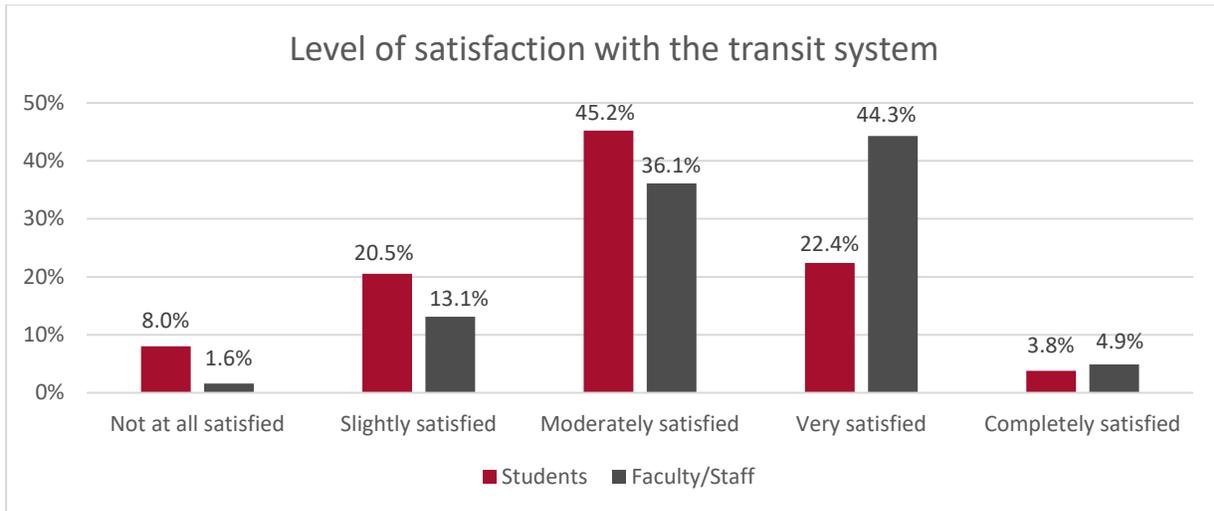
Table 27. Percent of students and faculty/staff rating extent of agreement with various statements on aspects of transit and transportation services. (Q32)

	Do not/ Slightly Agree	Moderately Agree	Very Much/ Completely Agree
Students			
The transit system needs to be improved	17.5%	18.3%	64.2%
The transit system is convenient and easy to use	31.9%	28.6%	39.6%
The transit system makes it easier to get to classes	31.4%	29.3%	39.3%
The transit system does a good job serving WSU students, faculty, and staff	27.9%	33.4%	38.7%
Most of my friends use the bus	41.5%	25.6%	32.9%
The transit system makes it easier to get to work	38.7%	29.2%	32.0%
The transit system is easy to use as a campus shuttle to get to and from places like Bookie, main campus center and Student Recreation Center	41.1%	28.8%	30.2%
The transit system is easy to use for things like going downtown, to the movies, or to grocery and other retail stores	49.6%	29.9%	20.5%
Faculty/Staff			
The transit system does a good job serving WSU students, faculty, and staff	23.2%	17.9%	58.9%
The transit system is convenient and easy to use	16.1%	25.0%	58.9%
The transit system needs to be improved	18.5%	27.8%	53.7%
The transit system makes it easier to get to work	17.5%	31.6%	50.9%
The transit system makes it easier to get to classes	18.9%	43.4%	37.7%
The transit system is easy to use for things like going downtown, to the movies, or to grocery and other retail stores	46.3%	22.2%	31.5%
The transit system is easy to use as a campus shuttle to get to and from places like Bookie, main campus center and Student Recreation Center	46.2%	36.5%	17.3%
Most of my friends use the bus	71.9%	17.5%	10.5%

Source: 2023 WSU Pullman Transportation Survey.

As shown in **Figure 31** and **Table 28**, the most frequently rated level of satisfaction with the Pullman Transit system was “moderately satisfied” for students (45.2%) and “very satisfied” (44.3%) for faculty/staff. Approximately four out of ten individuals in each group assigned these respective ratings. Conversely, a higher proportion of students (28.5%) compared to faculty/staff (14.7%) reported being either "not at all satisfied" or "slightly satisfied."

Figure 31. Percent of stakeholder satisfaction with Pullman Transit system serving WSU. (Q33).



Source: 2023 WSU Pullman Transportation Survey.

Table 28. Percent of stakeholder groups reporting satisfaction with Pullman Transit System serving WSU. (Q33)

	Students	Staff/ Faculty	Total	X ²	df	P value
Not at All Satisfied	8.0%	1.6%	7.3%			
Slightly Satisfied	20.5%	13.1%	19.7%			
Moderately Satisfied	45.2%	36.1%	44.2%			
Very Satisfied	22.4%	44.3%	24.9%			
Completely Satisfied	3.8%	4.9%	3.9%			
Total	100.0%	100.0%	100.0%			
Number Total	473	61	534	16.09	4	.003

Source: 2023 WSU Pullman Transportation Survey. (numbers are rounded). Note. Statistical significance is defined as p-value < .05.

Those respondents who indicated “not at all satisfied” or “slightly satisfied” with the transit system serving WSU (Q33) were given the opportunity to provide reasons for their dissatisfaction. A total of 120 individuals gave open responses. **Table 29** (Q34) is a random sample of comments (verbatim). Based on the provided comments, several common themes and issues with the transit system serving the Pullman campus can be identified:

- **Inadequate Infrastructure:** Many users complain about the lack of proper infrastructure such as sheltered bus stops which lead to discomfort during inclement weather as well as inadequate lighting which raises safety concerns for commuters during late hours.
- **Poor App and Information Accuracy:** The transit app is frequently described as unreliable, glitchy, and inaccurate, leading to missed buses and lateness to classes or work.
- **Long Wait Times and Inconsistent Schedules:** Users report long wait times between buses, inconsistency in bus arrival times, and frequent changes in bus routes and schedules, causing inconvenience and difficulty in planning commutes. Lack of communication regarding schedule changes exacerbates this issue.
- **Limited Service Hours:** Complaints include buses not running early enough, ending too early, and insufficient weekend service, particularly for those with non-traditional schedules or late-night activities. Adjustments to accommodate a wider range of schedules are suggested.
- **Inconvenient Routes and Transfers:** Users express dissatisfaction with bus routes that are not direct, requiring multiple transfers and increasing commute times, especially from apartment complexes to campus.
- **Overcrowding and Capacity Issues:** Buses are described as overcrowded during peak times, leading to missed buses and late arrivals to destinations.
- **Accessibility:** Issues with accessibility are raised, including limited service for disabled individuals and inconvenience for those with unique schedules or needs.
- **Need for Expansion and Improvement:** There is a consensus among riders for the need to expand routes, increase the number of buses, and redesign existing routes to better serve the community's needs, especially during peak times and in areas with high demand.
- **Frequency and Reliability:** Riders emphasize the importance of frequent and reliable service, with many indicating that buses should run at least every 15 minutes to be considered a viable option.
- **Limited Coverage:** Some areas, particularly on-campus apartments and Lawson Gardens, lack sufficient bus service, making it challenging for residents to access transportation.

In summary, the common themes revolve around the need for better infrastructure, improved reliability and accuracy of information, increased service hours and frequency, more direct routes, and better accommodation of diverse user needs.

Table 29. Random sample of comments related to dissatisfaction with Pullman Transit System. (Q34)

Q34	The infrastructure isn't great. Yes the buses run for a good amount of time, but the infrastructure isn't great the app is terrible, some of the postings are inaccurate and up until a month ago they didn't run where I needed them to.
-----	---

Q34	just the location of the stops, the times that it takes for them to come. i understand it's a smaller city but with the amount of residents you'd think there'd be a little more accessible bus locations.
Q34	Theres not much available transportation. Not having a car is harder to find and takes time. If you miss the bus you miss it.
Q34	it needs to run later because cougar safe rides have never answered a call for me before (i call weekly) the bus shoud run till 11:00pm becaus emost shifts for work end at 10:30
Q34	The bus doesn't go to my apartment, so sometimes after I work I'm left to walk home from campus at night which takes me about an hour.
Q34	The schedule is inconsistent, the app is horrible and inaccurate with the bus, the bus drivers will sometimes drive by the stops, buses take a lot of time
Q34	Once you have taken the chief Joseph village stop out of apartment land express it is very difficult to get to and from school. I am extremely worried about the winter weather coming because I will not feel safe with no bus stops near me.
Q34	The times are always off, the bus drivers are sometimes very rough, and mostly the bus stops are not frequent enough and it makes hard to get to places on time
Q34	They remove convenient bus stops, that made me take the bus much less often.
Q34	Not accurate or updated schedules traffic Congestion making it dangerous and scary to ride or use the transit system.
Q34	There are very few stops that are actually on campus, and large walks from those stops to get to any other building. There should be a weekend bus that drives to Moscow for students who live or work there, since the city is so close.
Q34	Since the recent bus route change for Apartment land it no longer stops at chief joseph, forcing residents to walk uphill to a nearby bus stop only to be turned down by full buses or forced to wait for long periods of times due to the now increased amount of time added to the route as well as residents. We currently leave our apartment 40 minutes before we have to be on campus to accommodate for the buses and even so are still sometimes late to class due to the walk and inadequate amount of buses available.
Q34	Not on time, inconsistent. and routes don't service places people would like
Q34	There is not a stop outside of the apartment I live in anymore. I live in Chief Joseph and there used to be a stop right in front of the apartment complex but there no longer is one. This makes it inconvenient, especially when Chief Joseph is a WSU apartment and should have a bus that stops by it.
Q34	"The app is really dissatisfying, I wish it was more accurate and less glitchy and laggy.
Q34	There should be more bus stops and efficient systems to get to different parts of campus. I find myself walking 45 minutes to campus rather than taking the bus because i get to class in the same amount of time."
Q34	Buses aren't running early enough for me to use them to go to training. Many times, the bus schedule is unreliable and the bus is always 10-15 minutes late. It's difficult to take the bus between classes as there's no guarantee it will be on time
Q34	The app and the website for the Pullman bus system is inaccurate, unreliable, and has cause me to be late to several of my classes. Frequently the bus tracker will let me see where other buses are on their route but the paradise bus will go grey like its inactive but come 15 min past its regularly scheduled time. The actual app itself is useless and messy, it does not allow you to see where the buses are on their current route. WWU has a much better transit system compared to here (WSU) actual effort needs to be put into fixing these problems on the app and or website.

-
- Q34 "Specifically for the bus:
Ususally there was a voice announcing the stops and the screen showed the name of the stop. Now almost every time I've gotten on the bus, more often than not neither are in service which makes it so much harder to know when the next stop is and where it is, especially if it's my first time taking that bus route."
-
- Q34 Bus intervals are too long, it can be barely faster than walking, and neighborhoods around town are not that integrated into the bus system. Cars are obviously the perceived primary mode of transport.
-
- Q34 I am dissatisfied with the transit system because I feel like it does not keep in mind students who need to commute to and from campus multiple times a day. Also, there are inadequate bus stops for people who don't live right next to one. If there were more bus stops or even bus stops in more centralized locations then it would be easier for EVERYONE to get to campus, not just those who live right by a stop. Also it makes no sense why there are only 1-2 campus route busses running at once, when students are constantly trying to get around campus. Especially in the winter months this causes problems.
-
- Q34 Not enough buses and bus routes. I remember there used to be a Coug A and Coug B buses for apartment land, those were the most convenient. That way we dont have to walk all the way to beasley to catch a bus. Instead we can take it from anywhere on campus.
-
- Q34 The transit system doesn't serve the typical 9am-5pm shift on the weekends. The current weekend bus schedule is inconvenient for those with something like a 9-5 work schedule. Also the buses don't run frequently enough.
-
- Q34 There isn't as many buses for apartment land/they are inconsistent with the amount of buses. The bus stop at Beasley is to far to get to class within the 10 min range inbetween classes
-
- Q34 I am not totally dissatisfied but I think will be a good idea to proportionate some bus lines open at a later time until 12:00am
-
- Q34 Too few buses, and wait time between each buses takes too long
-
- Q34 The app never works, like update the software from beacon to whatever is the newest software, make it more readily available and accessible like how seattle transit is or even spokane for that matter. Buses never show up, they don't go past 10pm. On top of all this the bus stops don't even have proper shelter to protect form elements. Buses should also have different options to use like to access, aside from id, purchase ticket online/ tap card and such
-
- Q34 Trying to get from apartment land to my classes at the Spark or EEME building is inconvenient because the bus drops you off at Beasley instead of somewhere closer.
-
- Q34 Too long between each bus , not fast enough , the route is inefficient , stop is too far
-
- Q34 Lack of bus stops. We have to wait for at least 20 min waiting for a bus from campus to home
-
- Q34 "Bus stop locations are often inconvenient, and often times have inadequate shelter.
-
- Q34 I find it unacceptable that I have to transfer from the apartment land express to the campus route, in order to get to my job."
-
- Q34 Wait time in between routes, routes are never consistent, few options to travel to work, don't travel fall outside of main areas, never on time.
-
- Q34 There are not enough buses and the route has expanded which makes it take forever (would be resolved with more buses). It is supposed to take 6 minutes in between each bus, but it regularly takes longer. This semester alone, I have also been passed three times by a bus because it was full, which really pisses me off since I already leave my apartment nearly an hour before class (which I feel is ridiculous to travel a mile or two) and this is daily time I could be focusing on my academics. Leaving so early and still being late to class doesn't feel fair. I feel like I avoid the bus sometimes and I just skip class because I don't wanna deal with the service. With that being said, the drivers are always really kind and I appreciate everything that they do, my issue is with the system.
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- Q34 My main issue with WSU transit is that they only run one Wheat bus on the weekends so if you are grocery shopping in the snow or cold, you have to wait about 30 - 40 minutes for that one bus to come back around. There also isn't a bus route that goes to and from the Pullman-Moscow Regional Airport so if you don't have a ride, you are dependent on college cabs or Uber/Lyft which don't come by that often. So these are the things that need to be improved in my opinion.
-
- Q34 I miss the Crimson and Grey bus routes. Now since there is one bus for apartment land the bus is often crowded to the point where the driver has to skip a stop. Also, the buses often times arrive right after each other. One arrives and one pulls up right behind it waiting. I often times miss the bus this way because while I'm walking to the bus stop multiple busses pull up and then drive off. This is why I switched to driving.
-
- Q34 The entire transit system needs to be overhauled. The fact the buses run on loops makes a trip on the bus to class less than a 10 minute ride but 40 minutes back home. There should be a dedicated transit center on campus to adjust for rising traffic in Pullman. This should be done in the flat parking lot outside of the CUE. Students from out of state have to drive their cars to campus because most don't believe in the transit system being something they can rely on. Also, how is there no bus to the airport, there should be a route in time for the new airport terminal opening. Additionally, there could be a seasonal bus route to Palouse Ridge Golf course or the airport route could stop there on the way.
-
- Q34 It's inconsistent. Some days the bus will be there at 7:07 and some days it won't be there until 7:21. It causes a lot of stress with timing and either being way to early and waiting in the cold or missing the bus and having to drive anyway to be to class on time. Driving myself is the most convenient way for me and my schedule but parking prices are outrageous and I can't afford it. I find myself waisting time on the bus either waiting to get on or waiting for my stop and that is time I could really use elsewhere. The drivers are always nice though so that's a positive.
-
- Q34 The buses are always late and there are many unexpected cancellations. There is also a lot of time between buses where I can usually walk to my destination before the bus gets there. It would also be nice to have more buses run on the weekend to campus.
-
- Q34 Can become unreliable. During snowfall last year I was left stranded with no way to get home except for walking over a mile in snow. The transit app rarely works and does not always give accurate information. During construction I was left with no option for using the transit system and was forced to drive onto campus and pay for parking.
-
- Q34 Long cycle times of all routes except ApartmentLand and Campus to some extent, and these are the routes I use least. All routes I use go same direction except Paradise, so it's not easy to take the bus conveniently between places. I'm most dissatisfied with the city and university's lack of priority on transit and bike infrastructure: Pullman has D-rank traffic efficiency which won't be improved by Project Downtown. To improve efficiency and make it easier to exist around town, more cars need to be off the road; more cars are off the road when other transit options are more convenient, cheaper, and available. Improving transit will make it easier for those who /need/ to drive to do so, and easier for everyone else to avoid driving. Driving is a chore that no one accutually wants to do unless it's a hobby, people just want to get to where they want to go in the easiest, fastest, cheapest way possible.
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- Q34 The timing ends too late. A lot of high walking distances and no commute to neighboring towns like Colfax or Moscow routinely
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- Q34 "Me and thousands more ride the bus Apartmentland Express in order to get to campus in the morning, but it is ALWAYS too crowded and sometimes full, today October 9, 2023, me and other 14-20 people waited 18-20 minutes for a bus, many busses passed but were all full. Most of us were late to class because of this, if we wait earlier its the same, we need more busses during 8-10 am. Apartmentland Express's route could significantly save time and reduce this
-

	inconvenience by slightly change its route, for example, when its coming from picking up students from Apartmentland, it should go straight instead of going around Beasley Coliseum, it lacks a stop but this could be fix by simply switching its stop to the other side, this is inefficient when it comes to time and fuel consumption.
Q34	There are no busses running before 6am. Also, the frequency on weekends is terrible. This is a university town but definitely not created for students. Specifically the international who do not have a car
Q34	The bus schedule often changes, for example the Apartment land route will start running at 7.30am but I need to be on campus before that. Also, the stops at downtown and surrounding are not really convenient and the waiting time is so long.
Q34	The buses are always late, overcrowded, and too infrequent. One bus every hour for a stop is unacceptable and makes planning trips difficult.
Q34	The apartment land route is not a direct route to campus. The transfer adds way too much time on top of it being hard to catch the bus after the first bus. Going to downtown is a nightmare because it requires 3 buses to get there now. I rarely been downtown using the transit system since the bus routes have significantly changed in 2021. If I need to go downtown, I will usually walk or Uber. If I'm convenient at a bus stop, maybe I will go to downtown. Making the travel from my location in Apartment Land is not only painful for going to campus but also anywhere else in the city.
Q34	The bus service needs more buses later and to better serve the graduate student. The bus app used to be amazing and simple and now it is bloated and unreliable.
Q34	I have to get up much earlier and be ready earlier because of how the bus schedules run. I usually get very motion sick on the buses; air flow could really be improved. Buses do not run late enough; I have to pay for parking on Thursday evenings because my class ends at 7pm. The new campus route and apartmentland express combination is completely inane; it should not take two buses to get anywhere on campus, let alone around the corner.
Q34	Since the pandemic, bus services have reduced in frequency and many former routes like the Gray Express have been discontinued. The transit app is often glitchy and doesn't update the bus location and timing accurately. Buses are only available once every half hour or even hour at my location and missing the bus even by a few minutes means an additional 20 minutes of commute for me. I always walk home from campus, but on days with inclement weather it would be preferable to have buses available later in the day as well (there is a lot of demand for this, especially from women I know who are concerned about their safety when walking home after dark). There are not enough routes, and the routes we have are infrequent and don't sync to offer greater frequency.
Q34	There used to be bus routes in a nd out of apartment land, now they're nowhere. with winter approaching, i dont know how i'll get to campus.
Q34	"1. The current bus route is a nightmare. 2. No shelter for most of the bus stops. 3. Empty buses are running in the apartment land route. 4. Not enough options after 6 pm."
Q34	"The area where I live gets terrible service. One bus every 45 mins. It is a waste of time to have to wait so long on campus, or have to arrive too early on campus on my way there because otherwise I will be late. The ride is also too long, as the bus stops at the transfer station for too long. Also, recently, it was decided that, if the weather is bad (snowy/icy) my area will NOT be serviced.
Q34	In summary, the main issue seems to be that you assume that all students have an alternative way of getting to campus. As a disabled person, I do not. What am I supposed to do when my area is not serviced? Even when it is, it is incredibly inconvenient."

Q34	"Buses always full in the morning (my highest record: six buses pass through the stop for being full)
Q34	The route is weird and create troubles. It takes me 30 mins to walk to campus, but it also takes 30 mins to campus by bus. I take bus to school just because I want to save some energy in the morning. Since there's merely no difference, I usually walk home instead of taking the bus. In addition, because of the route design, it takes 30 mins to go to walmart by bus but it takes an hour to go home."
Q34	"Buses don't run through campus as they used to be. After students get off from the Beasley Coliseum, we will have to walk to places we want to be due to the schedules of apartment land buses do not match with campus routes. What is the point that having campus routes but they do not make students transit communications easier and actually harder?!"
Q34	Buses also ends extremely early. Sometimes labs ends at 6 or even later, it is extremely difficult for students who don't have cars to get back home even."
Q34	The reduction in bus services and frequency of the buses has been frustrating. In addition the increase in parking prices and inability to find parking during the week as a student is very challenging.
Q34	The app for the busses is confusing and hard to navigate so missing a bus is common. There are also few routes that get me home in a timely manner and or to work/class when i need to be there, without being super early.
Q34	I have to take 2 buses from my apartment (in apartment land) to campus (ETRL or Sloan). It is very inconvenient as often times the total duration is 1 hour as I might have to wait 15-20 mins for each bus.
Q34	Commuting to Sloan Hall from Apartland needs to transfer. The transfer from Apartland Express to Campus route takes a long time. Also, the apartland express takes a long time from the apartment to the beasley (i.e., the loop is too long and needs to be divided into different routes like gray and crimson).
Q34	We need more buses. We should merge the Apartmentland and Campus service. Changing buses on the way to campus makes it inconvenient.
Q34	The buses take way too long to come around and are unpredictable because the bus app is terrible .The more convenient apartment buses stop too early. The wheat and lentil should run until at least midnight. It's hard to get downtown from my apartment during the weekday/before wheat and lentil.
Q34	The apartmentland express buses stop running right after I finish working. Additionally, there is only one bus running for the last couple hours so it takes a long time to wait for the bus and the bus ends up being very full, which is unsafe.
Q34	The routes serving apartment land area are pathetic. Since 2020 the stops and buses on these routes have been reduced. This makes no sense, considering how large the population of students is in the apartment land area relative to the rest of Pullman (and it will only increase in the coming years). Additionally, we are forced to get off the bus at beasley coliseum, which is far from the rest of campus where most classes and workplaces are located. It's a 15 minute walk to the other side of campus. There is a campus route bus that picks up nearby beasley, but the buses rarely arrive at the same time that the apartmentland bus drops off, and often buses will drive away as students chase after them trying to get to the campus route stop, running across the street and risking accidents trying to make the bus before it leaves. There is constantly a massive line of students waiting for the buses by Beasley which demonstrates just how inefficient and poorly designed the system is. What this all amounts to is an insanely inconvenient and useless service, that does not save students any time from just walking to campus from the apartmentland area. This only gets worse during the winter months, in which Pullman experiences significantly low temperatures and a large amount of snow/ice. There is no covered stop by Beasley to protect from the elements, and several of the other new stops on

	the route also do not have covered shelters. Often one bus will be running the route and students have to wait outside for 20+ minutes in dangerously low temperatures. Walking is not a safe option during ice and freezing temperatures, so the bus can be the only transportation option for some. It's also unacceptable that buses don't operate during later evening hours, or late at night, when there are already extremely limited options for ride share services in Pullman. The transit system as it was in 2019 was fantastic. It would take people from apartment land directly through campus on two different routes. There were shelters at nearly every stop for cold weather. It worked very well. If it is a question of a lack of funding for Pullman transit, then I ask, why does WSU Transportation Services collect such exorbitantly high parking tickets? Why does WSU actively charge extreme amounts for students and staff to park on campus? Where is that money going? Could some of that funding not be used to improve the transit system and decrease the amount of cars commuting to campus?
Q34	Need to change bus multiple times to go to campus from housing
Q34	When I arrived Pullman in 2019, the bus frequency was great! Now it is the worst. I need more buses
Q34	Needing multiple stops to commute to my building on campus. The fairway stop causes a lot of pedestrian traffic crossing stadium way. The bus app is often inaccurate.
Q34	Currently, i have to take two buses to come from university housing to wegner hall. And there is no bus service after work (5 PM) from campus to home. Furthermore, The wait time for bus service is extremely long.
Q34	No transit service near my office building-PACCAR. Have to walk 12 minutes from the nearest bus stop.
Q34	"1. There are too few buses. Buses should run more often. 2. Please extend the operation time to 5 a.m.-11 p.m. 3. Even so, there are many bus lines that don't run on weekends. It's so hard to live in Pullman because there's no transportation."
Q34	"1. The time of classes we have is not reflected in the bus hours. I had a class in winter that finished at 8:45, and I had only 5 minutes to walk a long distance in ice and snow to arrive at the bust stop, or I would miss the bus. 2. Bus stops are not considered for HUMAN BEINGS! In very cold and hot climate here, there is no proper shelter for people waiting for he bus, and there are no seats! We don't even have the basic things we need to call it a bus stop. 3. Even the way you are asking students for their opinions is not working! 47 questions, each of them with 5, 6 options! How many do you think will answer it? The format of most questions needs changes."
Q34	"need more buses on apartment land route in evenings . 4pm to 6pm . since there is a lot of wait. I prefer to walk from campus rather than take a bus. need gray and crimson routes back. otherwise the route is too long using single apartment land."
Q34	There are not enough busses to handle the crowds from 7-9am and 4-7pm. They do not late enough for students who need to stay later. The bus rides are too long. With the expansion into apartment lands the bus takes me about 45 minutes, which is just as long as my walk. It should be fasted and more convenient. Currently it is not. The apartment land route needs to be separated into two bus routes.
Q34	"Buses do not always follow the app route; there is no connection with google app routes which makes a lot of students skip the buses/ wait in the wrong place
Q34	The routes keep changing every single semester or even month which is incredibly confusing especially for new comers and foreign students."

Q34 "As a graduate student, my schedule is unique and often requires me to stay in the lab late at night. It would be beneficial if there were a bus route to Moscow, Idaho, for me and many other students. This would enable us to access grocery stores, participate in social activities, and even consider taking additional classes there.

One of the main issues is the infrequent schedule, especially during evenings after 6 p.m. and on weekends. If I miss a bus during these times, I'm left waiting nearly an hour for the next one. This is not only inconvenient but also poses challenges during adverse weather conditions. Waiting for the bus in the rain or snow is far from ideal.

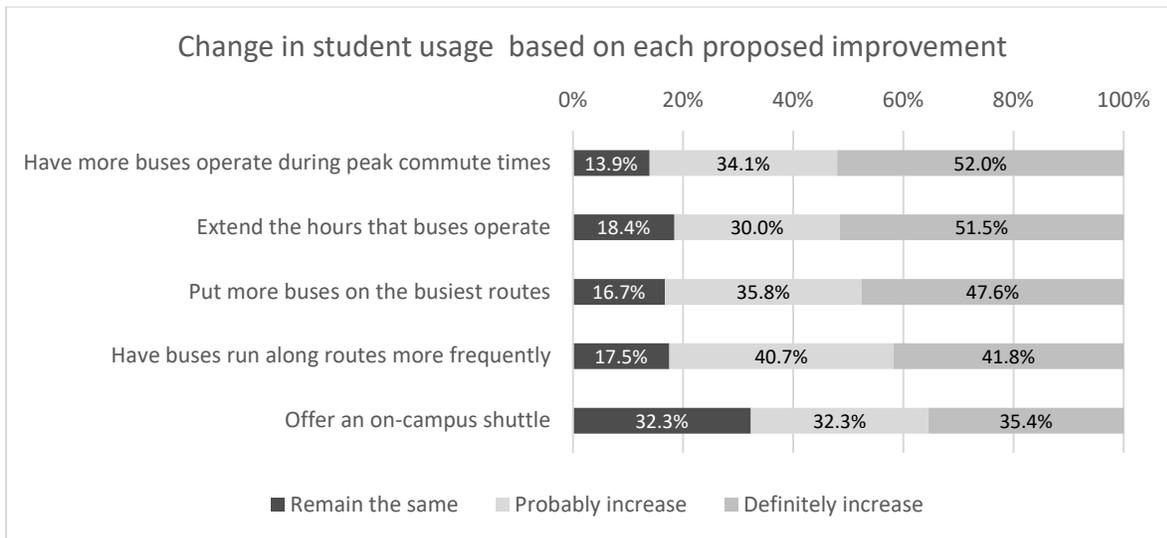
Furthermore, during extended breaks like summer and winter vacations, bus services to my location are sparse or sometimes even non-existent. This has often left me stranded, unable to access essential items. It's disheartening to feel neglected as a graduate student when our contributions to the university are immense.

Lastly, I've noticed a disparity in the transit system's priorities. On game days, many buses seem to be catering to the event, yet the need for evening buses for students like myself remains unaddressed. I hope these concerns can be considered in future transit planning to accommodate better the diverse needs of the university's student body."

Source: 2023 WSU Pullman Transportation Survey.

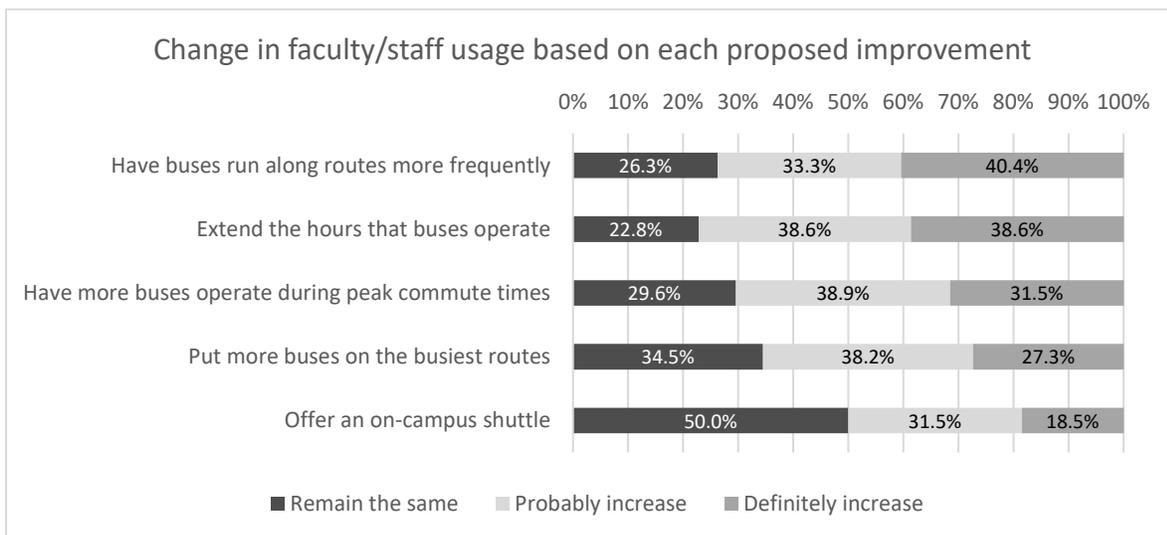
All respondents were queried about various potential improvements to transit services and how each change would affect their transit usage. **Figures 32 and 33**, along with **Table 30**, present the selections regarding transit use for each proposed improvement. Among students, the top three improvements that would most likely increase transit usage were: “have more buses operate during peak commute times” (52.0%), “extend the hours that buses operate” (51.5%), and “put more buses on the busiest routes” (47.6%). Conversely, among faculty/staff, the top three improvements that would affect their transit usage were: “have buses run along routes more frequently” (40.4%), “extend the hours that buses operate” (38.6%), and “have more buses operate during peak commute times” (31.5%). **Table 30** shows that students significantly differ from faculty/staff in their transit usage preferences across all proposed changes.

Figure 32. Change in student use of transit services based on types of improvements. (Q35)



Source: 2023 WSU Pullman Transportation Survey.

Figure 33. Change in faculty/staff use of transit services for various improvements. (Q35)



Source: 2023 WSU Pullman Transportation Survey.

Table 30. Percent reporting their change in use of the transit system for specific types of improvements, rank ordered on student rating of “Definitely Increase”. (Q35)

Proposed Improvement	Students			Faculty/ Staff			Total	X ²	df	P value
	Remain the same	Probably increase	Definitely increase	Remain the same	Probably increase	Definitely increase				
Have buses run along routes more frequently (Q35A)	17.5%	40.7%	41.8%	26.3%	33.3%	40.4%	514	2.84	2	.241
Extend the hours that buses operate (Q35B)	18.4%	30.0%	51.5%	22.8%	38.6%	38.6%	513	3.40	2	.182
Offer an on-campus shuttle (Q35C)	32.3%	32.3%	35.4%	50.0%	31.5%	18.5%	500	8.53	2	.014
Put more buses on the busiest routes (Q35D)	16.7%	35.8%	47.6%	34.5%	38.2%	27.3%	505	12.94	2	.002
Have more buses operate during peak commute times (Q35E)	13.9%	34.1%	52.0%	29.6%	38.9%	31.5%	506	12.00	2	.002

Source: 2023 WSU Pullman Transportation Survey.

Respondents were asked to elaborate any other improvements in the transit service they would like to see. A selected list of the comments are shown in **Table 31 (Q36)**. Here are the summary of the commonly proposed changes by the 300 respondents who provided their comments:

- **Suggestions for bus routes and schedules:** Some respondents provided specific suggestions for route adjustments, such as adding more stops at key locations, re-routing existing lines for better efficiency, and introducing reverse routes for convenience. The most common mentioned bus routes include Apartment Land Express, Blue Route, Wheat Route, Lentil Route, Silver Route, Paradise Route, Loop Route, and Community Service Route. Some respondents hope to bring back Crimson and Gray Route, add buses to Moscow (outside of Pullman), and add buses to the Pullman-Moscow Regional Airport.
- **Intercampus Transit:** A few respondents expressed interest in implementing a transit system between different campuses, such as WSU campuses, to facilitate easier travel for students and staff.
- **Improving Reliability:** There were numerous mentions of improving the reliability of the bus service, including adherence to schedules, accurate tracking of buses through apps, and minimizing delays. Many respondents emphasized the necessity of enhancing the PTBusBeacon app.
- **Increasing Frequency:** There were requests for more frequent bus service, particularly during peak hours, to reduce overcrowding, shorten wait times, and improve overall efficiency.
- **Extending Service Hours:** Many respondents expressed a desire for bus service to operate later into the evenings, especially on weekends, to accommodate students with late classes, extracurricular activities, or work commitments.
- **Expanding Coverage:** Respondents frequently requested expanded bus routes to cover more areas, including off-campus apartment complexes, residential neighborhoods, and key destinations like grocery stores, downtown areas, and other campuses.
- **Enhancing Accessibility:** Several respondents highlighted the need for better accessibility features on buses, including accommodations for individuals with disabilities, improved safety measures at bus stops, and easier navigation for all passengers.
- **Better Communication:** Many respondents emphasized the importance of clear and timely communication regarding changes in bus schedules, route adjustments, or service disruptions. Improvements to bus apps and websites were also suggested to provide more accurate and up-to-date information to passengers.
- **Infrastructure Improvements:** Several respondents mentioned the need for infrastructure improvements, such as installing more covered bus shelters, benches, and bike racks at stops to enhance passenger comfort and convenience.

Table 31. Random sample of comments related to specific improvements in the Pullman transit service (Q36)

Q36	Apartment land Express needs more buses during peak times of day
Q36	Make the apartment land express bus go back the other way. (Pine ridge first stop)
Q36	The apartment land express route, through my years at WSU, has gotten progressively worse. It used to actually be the apartment land express. However, it has shifted from an express route to an all encompassing apartment loop. My first semester at WSU I could hop on the bus and reliably get all the way to Beasley within 10 minutes. My second semester, I could reliably get a seat on the bus and get to Beasley within 15 minutes - because of the expansion of the route. Now, fast forwarding to present day I can once again get to Beasley within 10 minutes (now that construction is done) but I never get a seat on the bus. The route is always so busy and I'm essentially the very last stop on the line for pickups. On the way home, you can get a seat if you're lucky to time it right. However, because you're the end of the line for drop offs, you have a long wait. Mainly, if there is any construction in the coming years, please be more cognizant of people that might be affected. My commute to campus and back turned into 30+ minutes each way due to being at the outskirts of apartment land. This caused me to increase my driving to campus and spend money on parking that I would have rather not spent.
Q36	Some bus routes need to change. For example, the last stop of Apartment Land Express on campus is too far from my department. Most of the time, it is hard to catch up with the transferred bus on time and go to class on time!
Q36	Apartment land express should make a loop with Campus loop too.
Q36	1. The Apartment Land Express does a good job but it is difficult to reach places deep inside Grimes way, like the Paccar. So, I have to walk for about 10-15 min to get to my regular location. It would be better if the Apartment Land route extends to Gesa Field at the least. 2. Sundays are usually uncomfortable due to the early closure of bus routes, especially during this cold period. Extending the bus times on Sundays would help many of us students who work on Sundays.
Q36	I would like to see longer hours for the bus routs. I am a graduate student and I sometimes have to work long hours. When I use the bus in the winter, there were some days where me and some other employees/students were left to walk home in the snow when the busses ended. Extending the apartment land express to a later time like 8 pm would be much appreciated.
Q36	Blue Route - offer more stops on Terre View and bring back the Clay Court stop. There are no bus stops beyond Dillon, which effectively cuts off the entire Terre View neighborhood from Dillon all the way down to Kamiak Elementary. It would also be helpful if there were any buses on Greyhound Way beyond the Aquatics Center to reach into that neighborhood. Having to wait 39 minutes between pick-ups also makes it very inconvenient and difficult to use on a daily basis. We need more buses and more frequent pick-up times, especially Monday through Friday during peak commuting times. With the decrease of parking available on campus (such as with the new engineering building taking away yet another parking lot), we need to provide better bus service so that more people choose that form of transportation.
Q36	I think the only improvement would be more buses, usually i hacve to go on the blue route on stardays, i have to go downtown where the jack and the bus is, i have to go really early and it often take and hour or an hour and a half for a bus to come
Q36	Extend the time on Blue Route
Q36	Please provide buses more frequently, perhaps every 20 minutes rather than every 30-40 min. Also for buses going on campus, you might consider the start time of classes, which

are usually at ten minutes after the hour-having a bus scheduled to arrive on campus at 9:15 is less favorable than a bus that arrives at 9, or even 9:05 and another bus that comes at 9:50 or so. Additionally, I live on Kenny Dr and the Blue route which takes me home from campus stops about 1/4 mile from my house, but it is still a considerably steep walk downhill - and I am disabled, which is why I take the bus. I am concerned about my commute home during the winter. If there is any way to have a bus stop closer to the Rosauers, coming from campus, that would be greatly appreciated. I know this is probably very expensive, but it would be great if the buses had outlets or charging ports. My commute can be up to half an hour and especially at the end of my day-this can be when my phone dies. Overall, you guys are doing great and I'm very grateful for this robust system that has been set up.

Q36 I would happily take the blue route to AND from my home everyday, but it only loops in one direction. This route would be perfect if it had a bus looping it both directions. To clarify, taking the blue bus FROM my home is great because it gets me to campus within 10 minutes. Taking the blue bus TO my home is a no go because the route has to go all the way through town to get back to my home, which takes ~45 minutes on a good day.

Q36 I would appreciate a more frequent blue route.

Q36 Increase the number of BLUE route buses

Q36 The Bus Beacon GPS tracking system is not reliable. I've had trouble with the Loop and Blue routes either not showing or showing, but not being correct (it jumps around so is impossible to know where the bus really is).
Lab classes often run until 10pm. When labs go the whole time, the bus service is no longer available for students to get home. Extending the routes to leave campus for their final route a little after 10pm would allow students more flexibility in scheduling their lab classes (which can be hard to get into).

Q36 I would like to see the evening service of the Blue Route increase. Sometimes I work on campus until 8:30 p.m. for evening workshops, which is well past the current end time for this route.

Q36 Have more consistency for Apartmentland route and wheat route, especially in the mornings on Tuesday's and Thursdays (around 7)

Q36 It will be great to have increase wheat routes to all day operations or at least in the morning from 8-11 am and 4-8 pm. The apartment land routes will really help the students and the community to have a easier life IF they are passing through the campus, like after Beasley collision make a stop to the stadium and Troy hall, etc

Q36 I would like to see and 24 hour transit option put into place or at least see the wheat route in service later in the night, as many buildings on campus (e.g. the chinook) do not close until 10:30 and the workers are not released until after that.

Q36 + Lentil and Wheat Route during weekdays: If the buses wait more at campus stops, especially during cold weather, it would be an extreme improvement. The current waiting time is too low, and if you miss the bus, you have to wait for almost an hour.

+ Some of the routes have changed this semester, such as the ApartmentLand Express, which has made them less convenient to use. It would be helpful to add more stops in the route.

+ Consider adding new routes or merging existing ones to better connect residential areas outside the campus to more locations within the campus. This could replace the current single stop near the edge of the campus. For instance, the Community Express route during breaks is more efficient than most of the daily routes during the semester in connecting residential areas to most places inside the campus (without the need to switch buses).

-
- Q36 I would like to see that Wheat and Lentil routes run at 6.30pm again on weekdays. Right now, it started at 7pm or so and it is definitely not very convenient and it will already be dark by that time especially since it is fall-winter time.
-
- Q36 the hours of loop and lentil route, if those increased that would be great.
-
- Q36 I would like to see a return to direct routes that run directly from Apartmentland to stops on campus, with a greater number of buses running so that buses are reliably available.
- I would also like to see better late and weekend services - at the least, longer hours for the Wheat and Lentil routes. Pullman has an epidemic of drunk drivers, and the absolute lack of public transit or even taxi or rideshare options past 10:00 is surely a major factor.
-
- Q36 I think the weekend service could be improved. The Wheat and Lentil routes running only once an hour makes them tough to use. I have also noticed drivers will close their routes early (for example, the app says the bus is on its final route, but a bus driver will not pick up riders) on weekend nights.
Otherwise, I have coworkers who start at 5:15AM who say they would use the bus if it ran early enough to get them to work on time.
-
- Q36 The silver route should operate more often because it's the fastest route that I can take to go to grocery and should have it on the weekend routine as well.
-
- Q36 Silver Route should operate more frequently in the morning so that it can accommodate middle schoolers. I have a couple of them who suffer so much in the hands of the driver because they drive behind each other in the morning (7:45 am). Whereas, an interval of 10-20 minutes difference will make a whole lot of difference for the students.
- Apartment Landing should also operate more frequently in the morning. This will allow student to get to class early.
- Apartment Landing should be operated in such a way that people would be catered for based on the part of town where they reside. All riders should not be treated as if they live in the same area.
-
- Q36 The Silver route needs run on Tuesdays and Thursdays schedule. They still run on the hour, when they should run on the half hour for classes.
-
- Q36 The silver route seems to always be late
-
- Q36 Combining the apartmentland express and the Campus route would be great for people who live in that area. Also, more routes really are needed to make going downtown easier. Bus routes should also go until midnight of Fridays and Saturdays so that students without cars can participate more in the local economy of Pullman.
-
- Q36 Merge the ApartmentLand and Campus routes
-
- Q36 Campus route- More busses running
Apartmentland express: more stops or make use of stops already there.
-
- Q36 More campus route busses!! It is so sad when I watch the campus bus pass me, and know that I realistically have to then walk all the way across campus to class instead of riding the bus.
-
- Q36 On campus routes need to be increased, changing the bus rides to campus because sometimes we wait about 20 minutes or more and it is impacting the time we get to our classes. Because sometimes we need to move from place to place on campus.
-
- Q36 More than a single bus on the "Campus Route" will be appreciated. The closing hours of the Apartment Express and Campus Route should be extended.
The Apartment Express new Route system has bus stops too far from people's houses, it's not convenient.
-

	Lentil and wheat should start earlier and close later on weekends. Finally, the packing price on campus is too high for an average person to afford.
Q36	Campus route lasting till 10pm
Q36	More busses running along campus route and Apartmentland. On days where there are only one or two busses the apartmentland busses get full which makes it so I have to wait multiple cycles for a bus to have room. Which impacts my ability to get to class on time.
Q36	More busses on the campus route, possibly a bus lane through campus to make the bus more appealing. Apartment land route should also run later in the day. The main reason I'm unable to take the bus is because my job finishes at 6pm after the last bus leaves campus for the day. I would definitely use the bus more if this were to change.
Q36	Extend the times on the apartment land route to later, add more busses to the campus route because it is always full and a long time to wait for it
Q36	Communicate schedule shifts with routes, or just run the routes according to the posted schedule. Paradise route is the route I take to, and from, work every M-F.
Q36	Paradise route from WSU should be split into two separate lines. Walking is faster than riding the bus from WSU to home. And need smaller buses that operate more frequently. I expect this will require autonomous buses to be affordable
Q36	It would be nice if the loop route went closer to the Student Recreation center, or if there was a bus that went closer.
Q36	Often waiting 10-20 minutes for a late bus at any time of day or any route; mostly for Paradise or Loop routes 3-6pm. I'm disabled and it's painful to stand that long with all my books in my bag after a long day. This is to day, increased punctuality and/or bus frequency would be greatly appreciated.
Q36	I ride the loop to campus as it is quick and convenient. Pick-up is close to my residence and drop-off is close to my building. Unfortunately, there is no convenient route for going home. It would be great to add a loop route that travels in the opposite direction in the evening.
Q36	Please go back to the same route for Apartmentland Express as the summer bus service (Community Service Express).
Q36	If lentil or wheat could run in the summer and winter break evenings when wsu school is not in session that would be awesome. Like many lab researchers, I work odd hours sometimes and need to get home after 6pm when the last buses have stopped running. There are still people who go to work, grocery store, and other places when the undergrad classes are not in session so it's annoying that the busses don't run after 6pm during community service hours.
Q36	It would be great to bring the community service bus transition again because the route it uses is more convenient
Q36	We used to have two different tours (crimson and gray, I guess) which made the trips much shorter than the current combined path.
Q36	Have more buses and change the routes back to crimson and gray
Q36	We preferred when the bus route was crimson and gray
Q36	Offer a better variety of routes to different locations. Please consider a shuttle to moscow as well.
Q36	There should be a full-time running bus service on Sunday. Currently, it ends at 5.00 pm, which is a big issue for people without personal vehicles. Besides, if there were a shuttle service from Pullman to Moscow, it would hugely help the community.
Q36	Have a bus that travels from Pullman to Moscow on weekends. The city is close and has more retail opportunities than pullman. It makes it easier for students who work or live in Moscow to commute to and from campus

Q36	Bring back the Moscow - Pullman bus. It would improve the life of many students who need to do grocery shopping or go to some doctor's specialists that are not in Pullman. Think more of the students who don't own a car.
Q36	Honestly, a bus to Moscow would be very convenient.
Q36	WE NEED A ROUTE TO MOSCOW
Q36	Inbound and outbound routes would be nice, it would ease congestion and be more convenient. Busses running later into the night would also be nice, and a bus to Moscow would be extremely appreciated.
Q36	Not super personal to me but a lot of my friends would benefit from a bus route to Moscow
Q36	If it's possible, I think the bus should go to Moscow on the weekends from 10am-8pm
Q36	Please return the bus route that goes from Pullman to Moscow. It would be very beneficial to all residents of this town to have affordable transportation there—even if the bus to and back isn't super frequent. Also, if possible, consider adding a bus stop that can take people from Brandi Way right to downtown. The other busses that would get me there take too long to loop back to the downtown area from where it'd pick me up.
Q36	I would like to see an improvement in the number of hours Apartment Land operates, especially if it could be extended to 7:30 p.m. Also, it would be easier to go for groceries and shopping if the buses ply Moscow(Idaho), probably during weekends.
Q36	Transit options out of Pullman are minimal. There are not enough convenient options to get to Moscow.
Q36	Re-route the "apartmentland express". The number of "campus" routes should be at par with the "apartmentland express". If not, the "community express" should service all year round. If possible, wheat and lentil can start servicing at 9 AM on weekends. If there is a possibility to introduce bus services to/from the airport for the early morning departure and late night arrival.
Q36	Please please please organize a shuttle that runs from campus to the airport every hour. It's so hard to manage a ride to the airport during week days and during holidays. I have heard many times students requested for that. This is a very pressing concern. Thanks a lot for giving your attention to this issue.
Q36	It would be very helpful for students, those without vehicles most especially, to have a bus route to and from the Pullman airport at least once or twice a day, or before flight departure and after arrivals. If I am not mistaken there are just a handful flights coming from and arriving in Pullman anyway, so it might not be a big ask.
Q36	More route availability to grocery stores, later and more frequent routes to downtown area during peak times where students are likely to be drinking, most of green 5 being unavailable around a home game is INSANE for what people pay for those parking passes (e.g., clearing out of lot before 5 pm or whatever), PULLMAN AIRPORT ROUTE (College cabs to and from is like \$30 per way now)
Q36	Route to the airport
Q36	Transit system between WSU campuses.
Q36	Improve PTBusBeacon app
Q36	"Bus App Reliability: The bus app often malfunctions, especially during breaks. It's vital for the app to be consistently functional and accurate. Regular updates and maintenance are needed, especially during holiday seasons when schedules vary.
Q36	Backup for App Downtimes: When the app is down, alternative systems like SMS alerts for registered users or a dedicated hotline for bus timings should be available.

- Q36 Extended Hours for Night Students: We need buses every 30 minutes until midnight on weekdays, connecting the main campus, labs, and student housing.
- Q36 Weekend Moscow, Idaho Service: Buses should run every hour from 9 am to 10 pm on weekends for shopping, social activities, and other needs in Moscow, Idaho.
- Q36 Break Services: During summer and winter breaks, essential services with buses in the morning, midday, and evening are necessary.
- Q36 Sheltered Bus Stops: Due to the region's weather, shelters at bus stops are crucial to protect waiting students from rain and snow.
- Q36 Peak Hour Frequency: Buses should run more frequently between 5 pm to 7 pm to cater to students ending their day"
- Q36 The website/app will grey out bus routes that are actively running making it unclear if I can take the bus in/when it will be arriving. I specifically have this issue with the Paradise route in the mornings.
- Q36 Ultimately, I think the application could be MUCH more user friendly. It frequently doesn't update you on times when busses arrive, and is also very clunky when trying to navigate and finding the best bus route you need in order to get home
- Q36 A little bit of work could be done to improve the accuracy, timing and stuff for the WSU bus app. It's inaccurate a lot of the time.
- Q36 The app sucks, there should be more technological improvements to make it run smoother and more accurate. The app is glitchy and laggy, sometimes unreliable. I feel the layout of the app could be much easier to navigate. There can even be a feature added that shows you directions of how to get to really popular places via taking the bus. I used to use the Maps app, but the bus schedule is severely inaccurate. I think that that will be the best improvement on the transit system. To update the app that allows you to get directions to places. The bus schedule should be posted for each route that includes the weekends. The bus should run later for the safety of women on campus. It is really scary to walk home for an hour in the dark in a place that has many crimes. The bus should start early on the weekends, at least an hour earlier.
- Q36 Having all routes have printed times on the stop so people know when the bus will be there without being dependent on the app.
- Q36 Need a better app and tracking of the buses.
- Q36 probably a better app with a more detail schedule and routing system
- Q36 The pullman bus make an app and it isn't that accurate and half the time it doesn't work. It can say the bus will arrive in 5 minutes and it doesn't arrive for another 15 minutes, it's a big difference.
- Q36 PTbus beacon app doesn't work every time, making me miss the paradise bus route a lot. The tracking doesn't work sometimes, other times it doesn't say when the bus stops next, and others it doesn't even show certain routes as existing. This makes it very easy to miss the bus and subsequently, my classes, as map apps don't always show accurate times.
- Q36 Improve the app as there were many times I miss the bus or gave up on the busses because the app did not work (GPS of bus, and time of bus routes to bus stops, the app does not load). Sometimes I think the update made it worse.
- Q36 Improving the accuracy of the bus application/website, especially with its live bus map and ETA for all routes.

Source: 2023 WSU Pullman Transportation Survey.

Respondents were asked to indicate the two nearest cross streets to where they live in Pullman. Just more than half of respondents reported at least one cross street. All reported streets were aggregated across street one and street two. A total of 1117 respondents provided responses. **Table 32** shows the 12 cross streets most frequently cited, accounting for 33.2% of the responses.

Table 32. Top 12 cross streets most frequently cited (Q40)

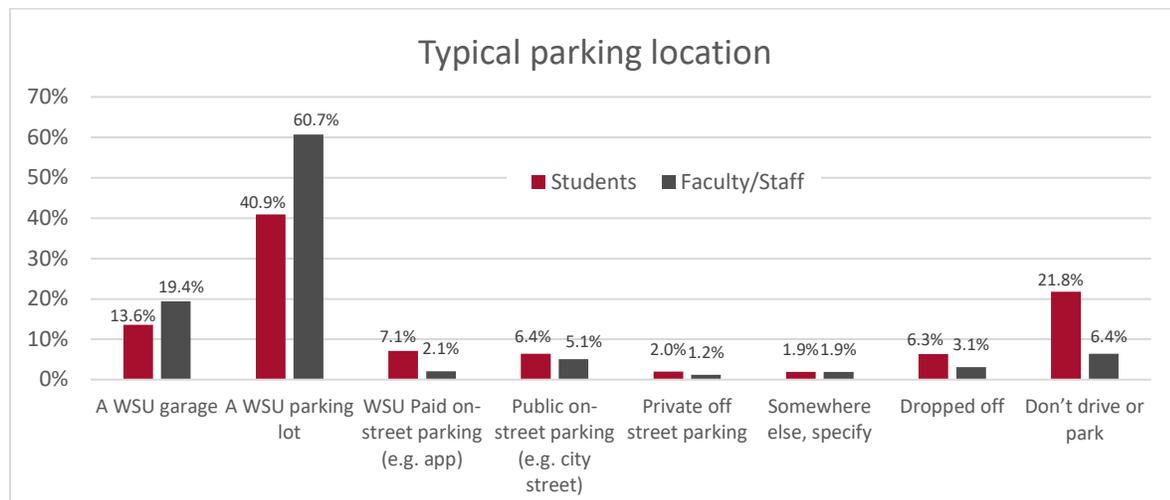
Cross Street	Frequency	Percent
Merman Dr & Terre View Dr	88	7.9
Merman Dr & Valley Rd	47	4.2
Brandi Way & Terre View Dr	41	3.7
Merman Dr & Westwood Dr	35	3.1
Brandi Way & Valley Rd	29	2.6
Grand Ave & Terre View Dr	27	2.4
Stadium Way & Valley Rd	23	2.1
North Fairway Rd & Terre View Dr	20	1.8
Forest Way & Olympia Ave	18	1.6
Grand Ave & Stadium Way	16	1.4
Crestview St & Grand Ave	14	1.3
Nevada St & Stadium Way	12	1.1

Source: 2023 WSU Pullman Transportation Survey.

Parking

Student respondents and faculty/staff showed significant differences in their typical parking locations on campus, as indicated in **Table 33**. **Figure 34** reveals that most faculty/staff (60.7%) prefer parking in a WSU parking lot, whereas slightly over a third of students (40.9%) opt for this choice. The next most common parking option for both groups is a WSU garage, with percentages of 13.6% for students and 19.4% for faculty/staff. Additionally, approximately a quarter of students (21.8%) do not drive or park on campus whereas only 6.4% of faculty/staff do not drive or park.

Figure 34. Typical Choice of Parking. (Q41)



Source: 2023 WSU Pullman Transportation Survey.

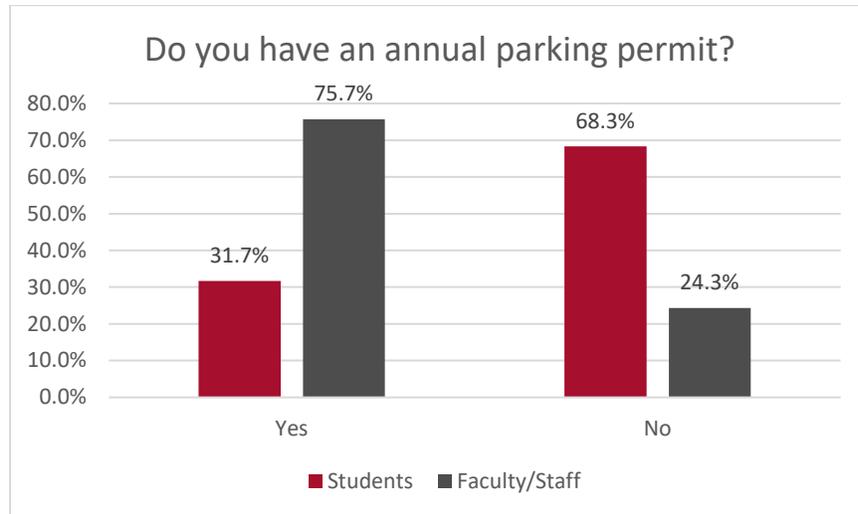
Table 33. Percent of student and faculty/staff indicating where they typically park. (Q41)

	Students	Staff/ Faculty	Total	X ²	df	P Value
A WSU garage	13.6%	19.4%	15.8%			
A WSU parking lot	40.9%	60.7%	48.4%			
WSU Paid on-street parking (e.g. meter)	7.1%	2.1%	5.2%			
Public on-street parking (e.g. city street)	6.4%	5.1%	5.9%			
Private off street parking	2.0%	1.2%	1.7%			
Somewhere else (specify)	1.9%	1.9%	1.9%			
Dropped off	6.3%	3.1%	5.1%			
Don't drive or park	21.8%	6.4%	16.0%			
Column percent	100%	100%	100%			
Total Number	1220	746	1966	150.35	7	<.0001

Source: 2023 WSU Pullman Transportation Survey.

All respondents were asked about their possession of an annual parking permit (**Figure 35** and **Table 34**). Notably, there was a significant disparity between students and faculty/staff regarding the percentage of having a parking permit, with 31.7% of students and 75.7% of faculty/staff confirming their possession of permits. Collectively, a total of 853 respondents or 50.1% reported having an annual parking permits (**Table 34**), and these respondents were subsequently asked which zone parking permit they purchase (Q41B). The details were displayed in **Figure 36** and **Table 35**.

Figure 35. Percent reporting having an annual parking permit. (Q41A)



Source: 2023 WSU Pullman Transportation Survey.

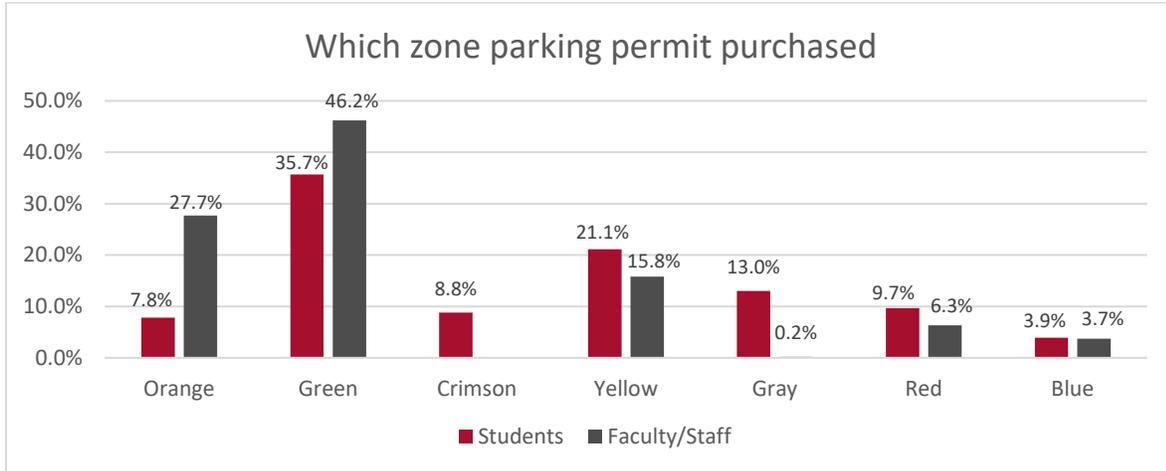
Table 34. Percent reporting use of annual zone parking permit. (Q41A)

	Students	Staff/Faculty	Total	X ²	df	P value
Yes	31.7%	75.7%	50.1%			
No	68.3%	24.3%	49.9%			
Column Total	100%	100%	100%			
Number Total	993	711	1704	320.07	1	<.0001

Source: 2023 WSU Pullman Transportation Survey.

One aspect of interest in this study is to evaluate parking changes, particularly concerning the pressure on transportation services to provide sufficient parking to meet user demand. Approximately 42.4% or 358 individuals from both groups indicated purchasing green zone permits, making it the most purchased zone permit. **Figure 36** illustrates the percentage of respondents in both groups who reported owning zone permits. **Table 35** highlights a significant difference in the types of zone permits purchased between students and faculty/staff, with a higher proportion of faculty/staff possessing orange or green permits, while more students purchased Crimson, Yellow, or Gray zone permits.

Figure 36. Zone parking permit purchase. (Q41B)



Source: 2023 WSU Pullman Transportation Survey.

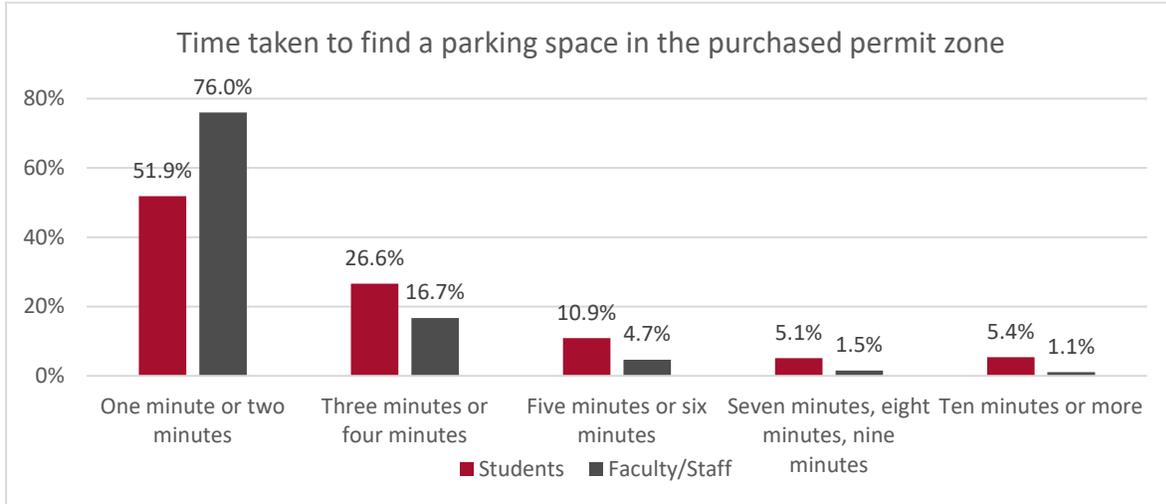
Table 35. Percent of annual zone permits purchased on Pullman Campus (Q41B)

	Students	Staff/ Faculty	Total	X ²	df	P value
Orange	7.8%	27.7%	20.5%			
Green	35.7%	46.2%	42.4%			
Crimson	8.8%	0.0%	3.2%			
Yellow	21.1%	15.8%	17.8%			
Gray	13.0%	0.2%	4.9%			
Red	9.7%	6.3%	7.6%			
Blue	3.9%	3.7%	3.8%			
Total Column Percent	100.0%	100.0%	100.0%			
Total Number	308	537	845	162.39	6	<.0001

Source: 2023 WSU Pullman Transportation Survey.

Among those with purchased permits, 51.9% of students and 76.0% of faculty/staff report that it takes one to two minutes to find a parking space in their permit zone (**Figure 37**). On average, students take 8.5 minutes and faculty/staff take 5.8 minutes to walk to their final destination, according to respondents.

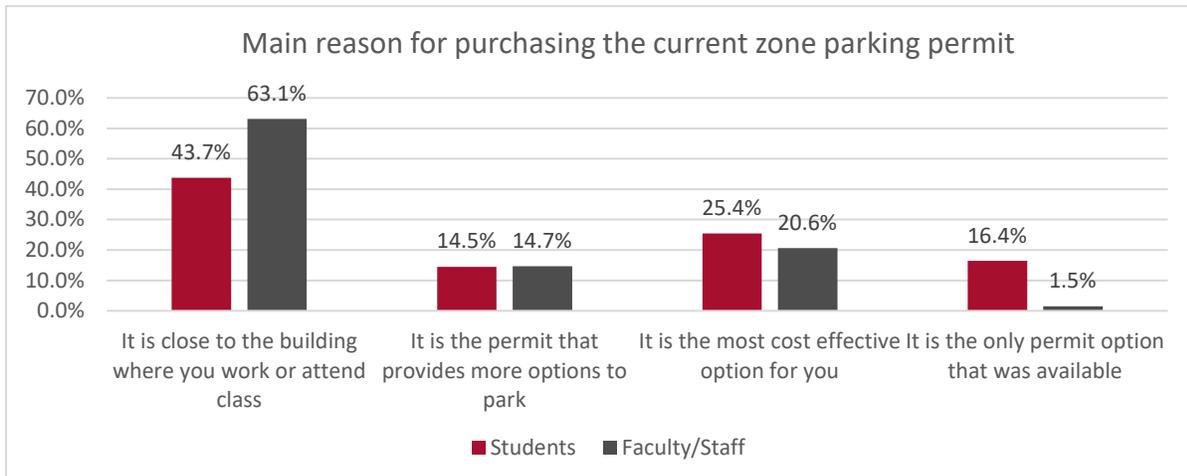
Figure 37. Length of time taken to find a parking space in permit zone (Q41C)



Source: 2023 WSU Pullman Transportation Survey.

Respondents were asked the ONE reason why they purchased their current Zone parking permit. As shown in **Figure 38** and **Table 36**, the most predominant reason selected was “it is close to the building where you work or attend class, with 43.7% of students and 63.1% of faculty/staff reporting this reason. The most important reason for 33.1% of students and 18.8% of faculty/satff was “it is the most cost effective option for you”. Table 34 provides responses for all reasons, and shows that students were significantly different than faculty/staff for the reason why they purchased their current zone permit.

Figure 38. Reasons for purchasing zone parking permit. (Q42B)



Source: 2023 WSU Pullman Transportation Survey.

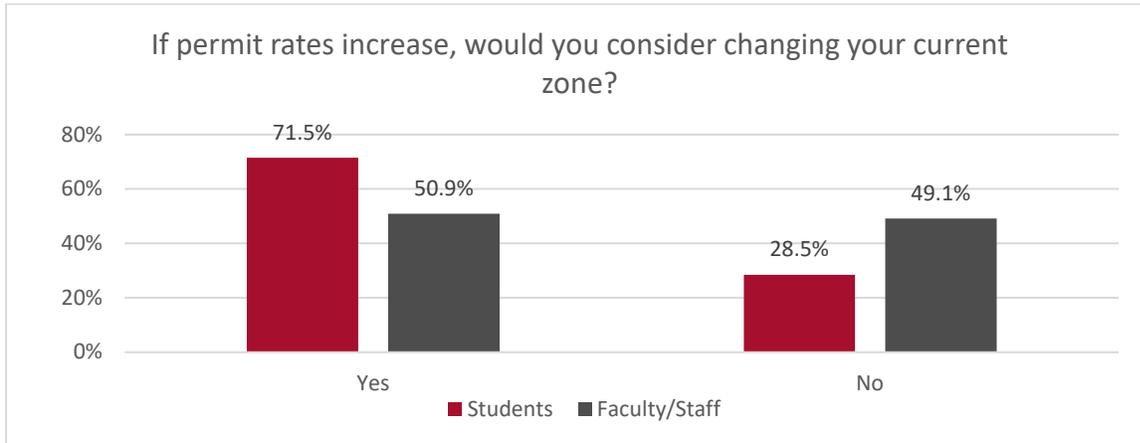
Table 36. Percent reporting the main reason for purchasing the current zone parking permit (Q42B)

Reason	Staff/		Total	X ²	df	P value
	Students	Faculty				
It is close to the building where you work or attend class	43.7%	63.1%	56.0%			
It is the permit that provides more options to park	14.5%	14.7%	14.6%			
It is the most cost effective option for you	25.4%	20.6%	22.4%			
It is the only permit option that was available	16.4%	1.5%	7.0%			
Total column percent	100.0%	100.0%	100.0%			
Total Number	311	529	840	77.00	3	<.0001

Source: 2023 WSU Pullman Transportation Survey.

Respondents were asked if parking permit rates increased would they consider changing their current permit zone. As shown in **Figure 39**, 71.5% of students and 50.9% of faculty/staff indicated affirmatively, “Yes”. Students and faculty/staff were significantly different in this response ($X^2 = 34.17, p < .0001$), with a higher proportion of students said yes compared to faculty/staff.

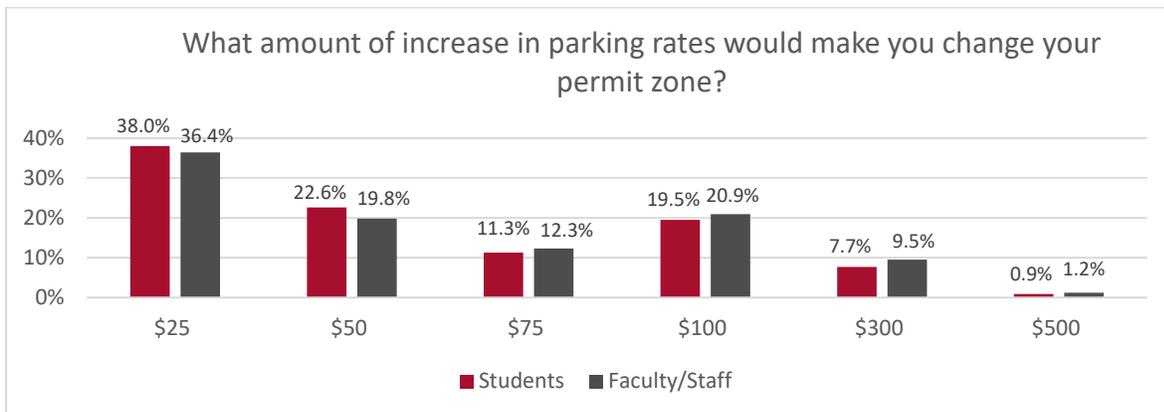
Figure 39. Percent considering changing their current zone if permit rates were to increase. (Q42C)



Source: 2023 WSU Pullman Transportation Survey.

Respondents who would consider changing their current zone parking permit due to increased rates were asked about the amount of increase that would prompt them to switch zones. They chose from six offered amounts (\$25, \$50, \$75, \$100, \$300, and \$500). Figure 40 demonstrates that students and faculty/staff show similar responses to the amount of increase in parking rates, with a consistent trend across rate changes. According to **Figure 40** and **Table 37**, a \$25 increase in permit price is the threshold for the largest proportion of respondents to consider changing their current parking zone (38.0% for students and 36.4% for faculty/staff). Over half of all respondents (58.2%) indicate that a permit price increase of \$50 or less would lead to a zone change. Additionally, for more than a quarter of all respondents (30.0%), a permit price increase of \$100 or more would be necessary to consider changing permit zones.

Figure 40. Percent reporting that \$ dollar amount increase in parking rate would make people change their current permit zone (Q42D)



Source: 2023 WSU Pullman Transportation Survey.

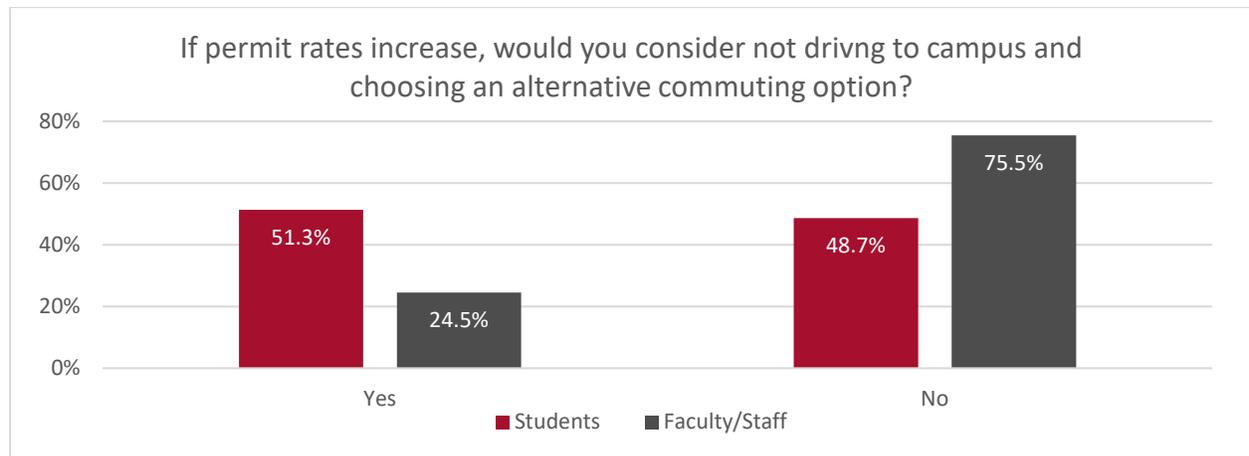
Table 37. Percent of respondents reporting permit price increase that would make them consider changing their current zone parking permit (Q42D)

Permit Price increase for zone	Students	Staff/ Faculty	Total	X ²	df	P value
\$25	38.0%	36.4%	37.1%			
\$50	22.6%	19.8%	21.1%			
\$75	11.3%	12.3%	11.8%			
\$100	19.5%	20.9%	20.3%			
\$300	7.7%	9.5%	8.6%			
\$500	0.9%	1.2%	1.1%			
Total column percent	100.0%	100.0%	100.0%			
Total Number	221	253	474	1.29	5	.94

Source: 2023 WSU Pullman Transportation Survey.

When asked about giving up driving and choosing an alternative commuting option, students were significantly more likely than faculty/staff to respond affirmatively ($X^2=62.6$, $p<.0001$), 51.3% versus 24.5% (Figure 41).

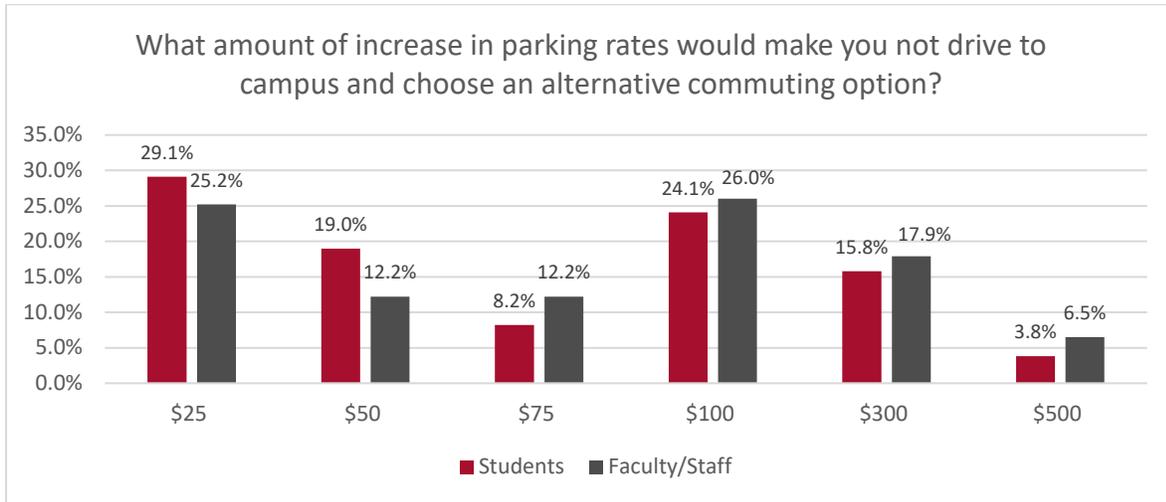
Figure 41. Percent reporting consideration for not driving to campus (Q42E)



Source: 2023 WSU Pullman Transportation Survey.

Respondents who answered 'yes' to the previous question (Q42E) were subsequently asked to report the amount of increase in parking rates that would lead them to choose an alternative commuting option instead of driving to campus. There was no significant difference in the reported amount of increase between students and faculty/staff ($X^2=4.77$, $p=.44$), as shown in **Table 38**. The most frequently reported amount of increase for students that would deter them from driving to campus was \$25 (29.1%, **Figure 42**). For faculty/staff, it was \$100 (26.0%, **Figure 42**).

Figure 42. Percent reporting which amount of increase in parking rates would make them not drive to campus (Q42F).



Source: 2023 WSU Pullman Transportation Survey.

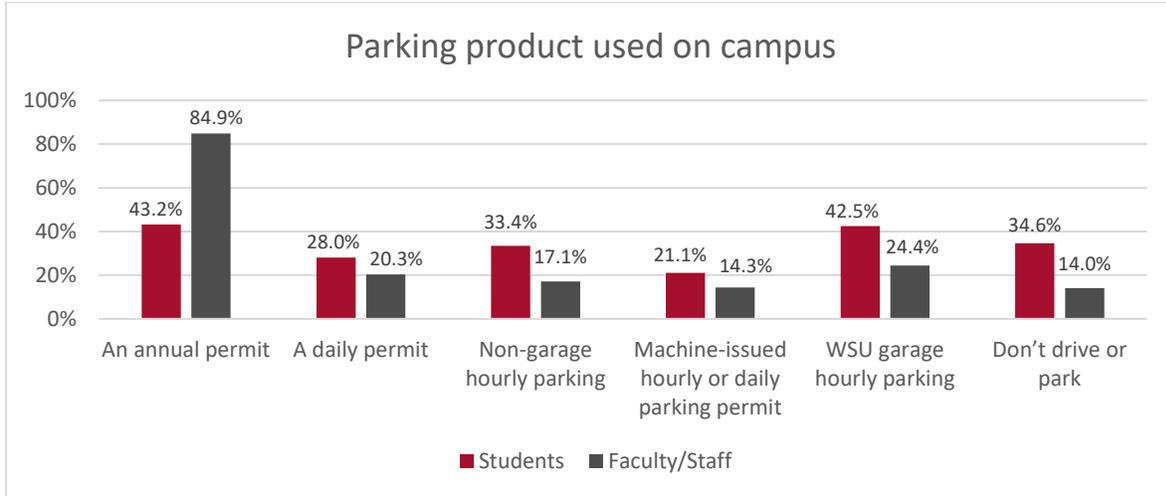
Table 38. Percent of respondents reporting price (\$) increase amount that would make them not drive to campus. (Q42F)

Permit Price increase for zone	Staff/		Total	X ²	df	P value
	Students	Faculty				
\$25	29.1%	25.2%	27.4%			
\$50	19.0%	12.2%	16.0%			
\$75	8.2%	12.2%	10.0%			
\$100	24.1%	26.0%	24.9%			
\$300	15.8%	17.9%	16.7%			
\$500	3.8%	6.5%	5.0%			
Total column percent	100.0%	100.0%	100.0%			
Total Number	158	123	281	4.77	5	.44

Source: 2023 WSU Pullman Transportation Survey.

Figure 43 and **Table 39** provide an overview of the parking products used by students and staff/faculty at the Pullman campus. Overall, there are significant differences in parking products used between students and staff/faculty across all parking products surveyed (**Table 39**). A significant difference exists in the usage of annual permits, with a much higher proportion among staff/faculty (84.9%) compared to students (43.2%). Conversely, other parking products are more frequently used by students than by faculty/staff. The top three products other than annual permits among students are WSU garage-hourly parking (42.5%), parking meters (33.4%), and daily permits (28.0%). Across both groups, the most commonly utilized parking products are annual permits (n=892, 61.5%) and WSU garage-hourly parking (n=433, 35.6%).

Figure 43. Percent reporting parking products used on campus. (Q43)



Source: 2023 WSU Pullman Transportation Survey.

Table 39. Percent reporting parking products used (Q43)

Parking Product	Students		Staff/ Faculty		Total		X ²	df	P value*
	Count	%	Count	%	Count	%			
Annual permit	351	43.2	541	84.9	892	61.5	263.05	1	<.0001
Daily permit	215	28.0	94	20.3	309	25.1	9.29	1	0.002
Parking meter	253	33.4	77	17.1	330	27.4	37.55	1	<.0001
Machine-issued hourly or daily parking permit	156	21.1	65	14.3	221	18.5	8.44	1	.004
WSU Garage-hourly parking	319	42.5	114	24.4	433	35.6	41.24	1	<.0001
Don't drive or park on campus	234	34.6	49	14.0	283	27.6	49.38	1	<.0001

Source: 2023 WSU Pullman Transportation Survey. * Statistical significance is considered if p value ≤ .008 (0.05/6=0.0083)

Valuation of WSU Transportation Services

Students and faculty/staff were asked how valuable various aspects of transportation services were to them. **Figure 44**, **Figure 45**, and **Table 40** show the ordered ratings of services for students and faculty/staff. The aspects of service were ordered based on the highest rating of “Very/Completely Valuable” for students. The most “Very/Completely Valuable” rated services by students were: “Safe and convenient pedestrian options” (68.0%), “Safe and convenient access to public transportation” (64.4%), and “General information is easy to access online” (63.2%). Faculty/staff are slightly different in their top valuable options, with the most “Very/Completely Valuable” rated services were: “Friendly helpful staff (56.7%); “Payment options are available and easy to access online” (55.2%), and “General information is easy to access online” (53.0%).

Figure 44. Percent of students reporting how valuable aspects of Transportation Services to them (Q44A)

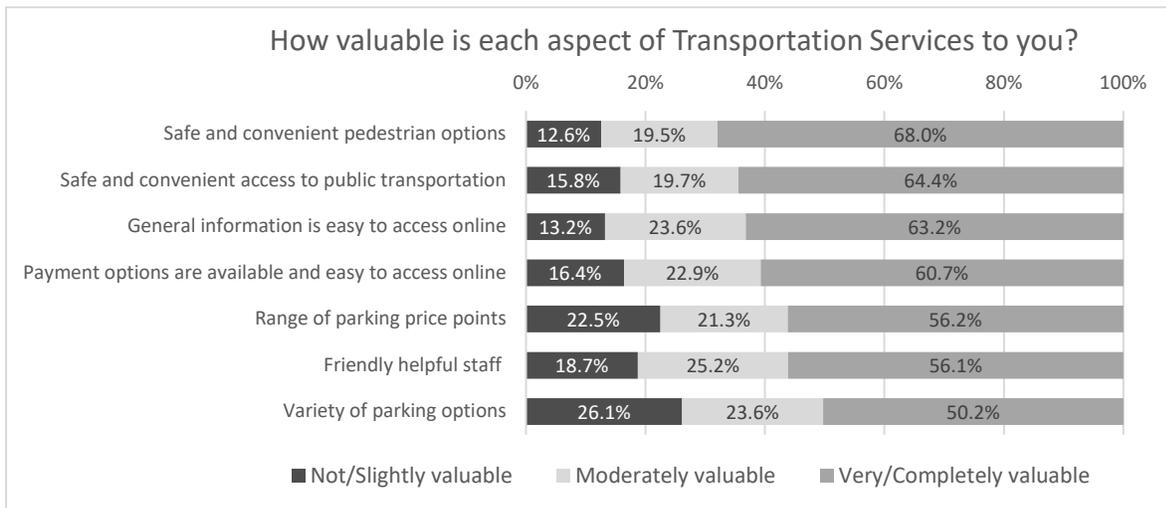
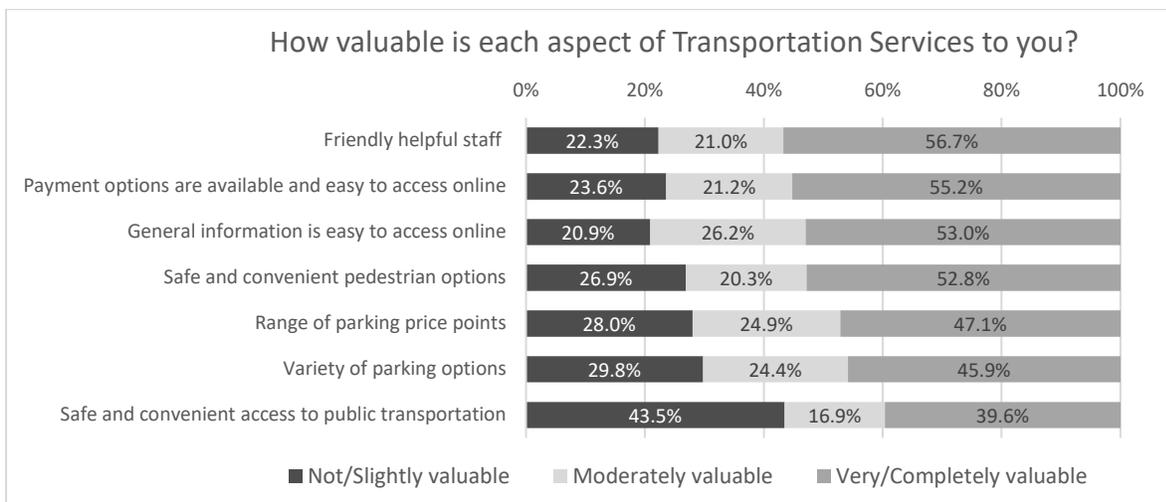


Figure 45. Percent of faculty/staff reporting how valuable aspects of Transportation Services to them (Q44A)



Source: 2023 WSU Pullman Transportation Survey.

Table 40 displays a side-by-side item “Very/Completely Valuable” comparison for students and faculty/staff on ordered ratings of the value of transportation services. Students and faculty/staff are significantly different on six of eight services ($p \leq .625$).

Table 40. Percent rating the value of various aspects of Transportation Services for the Pullman campus (Q44A)

Aspect of Transportation Services	Students				Faculty/Staff				X ²	df	P value
	Not/Slightly valuable	Moderately valuable	Very/Completely valuable	N	Not/Slightly valuable	Moderately valuable	Very/Completely valuable	N			
Safe and convenient pedestrian options	12.6%	19.5%	68.0%	1126	26.9%	20.3%	52.8%	674	89.51	4	<.0001*
Safe and convenient access to public transportation	15.8%	19.7%	64.4%	1131	43.5%	16.9%	39.6%	680	202.05	4	<.0001*
General information is easy to access online	13.2%	23.6%	63.2%	1106	20.9%	26.2%	53.0%	676	35.65	4	<.0001*
Payment options are available and easy to access online	16.4%	22.9%	60.7%	1118	23.6%	21.2%	55.2%	683	23.26	4	<.0001*
Range of parking price points	22.5%	21.3%	56.2%	1115	28.0%	24.9%	47.1%	683	27.34	4	<.0001*
Friendly helpful staff	18.7%	25.2%	56.1%	1132	22.3%	21.0%	56.7%	690	10.11	4	.039
Variety of parking options	26.1%	23.6%	50.2%	1126	29.8%	24.4%	45.9%	685	6.79	4	.147
Safe and convenient bicycle parking	38.0%	27.2%	34.8%	1110	55.3%	15.9%	28.7%	678	82.71	4	<.0001*

Source: 2023 WSU Pullman Transportation Survey. * Statistical significance is considered if $p < .00625$ (0.5/8).

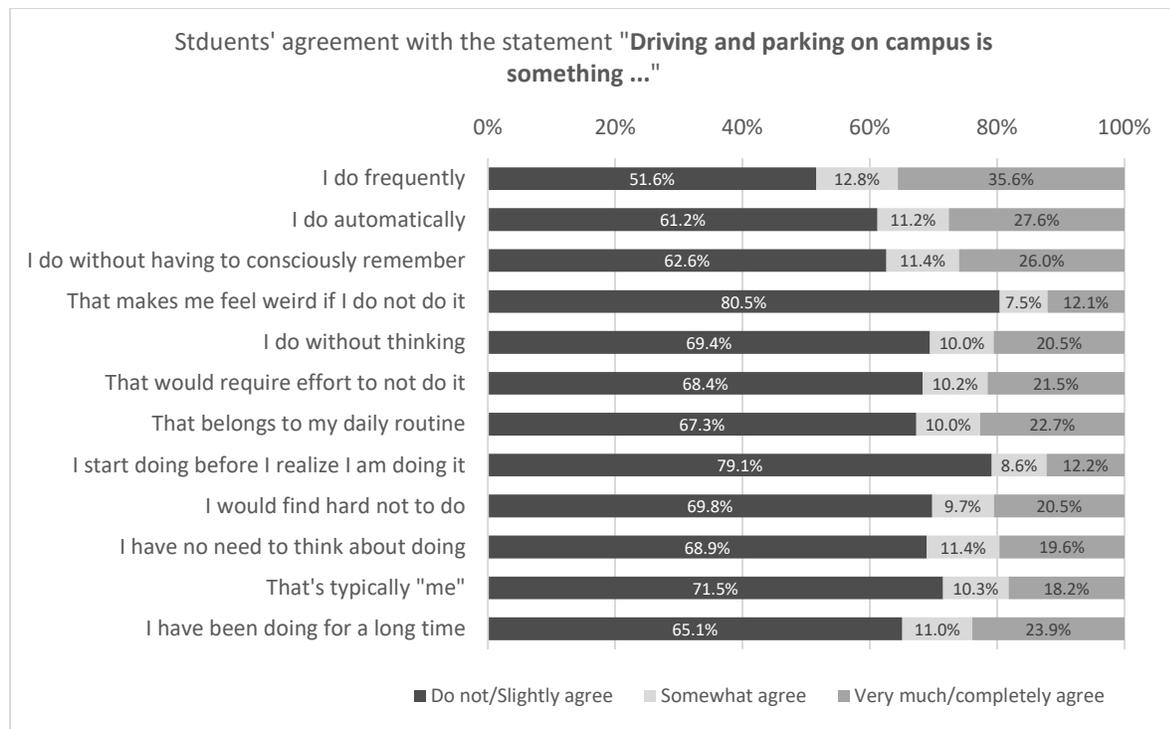
Agreement with Descriptions of Driving and Parking Behaviors On Campus

Respondents were surveyed about their perceptions of driving and parking behaviors on campus, as shown in **Figure 46** and **Figure 47**. Among students, the leading statements they most frequently "very much/completely agreed" with were: 1) "I frequently drive and park on campus" (35.6%), 2) "I automatically drive and park on campus" (27.6%), and 3) "I don't have to consciously remember driving and parking on campus" (26.0%).

Faculty and staff exhibited significantly different responses from students, although their patterns of response were similar, with larger proportions (greater than 50%) indicating a greater extent of agreement. The top three statements with the highest "very much/complete agreement" were: 1) "I frequently drive and park on campus" (69.1%), 2) "I automatically drive and park on campus" (58.1%), and 3) "I have been driving and parking on campus for a long time" (57.6%).

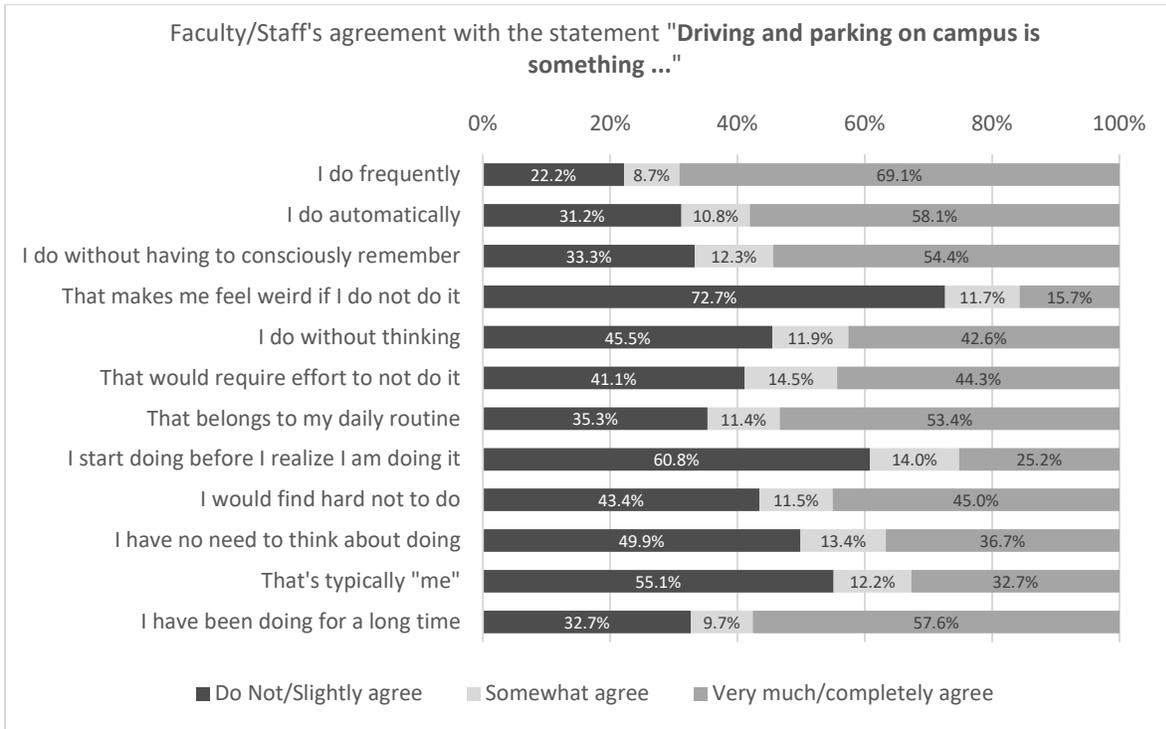
These responses regarding parking and driving behaviors on campus suggest that for some, these activities are routine and verging on habitual. The results indicate that these habitual aspects of behavior were more pronounced among faculty and staff.

Figure 46. Students' agreement with the statements regarding driving and parking on campus (Q44B)



Source: 2023 WSU Pullman Transportation Survey.

Figure 47. Faculty/staff's agreement with the statements regarding driving and parking on campus (Q44B)



Source: 2023 WSU Pullman Transportation Survey.

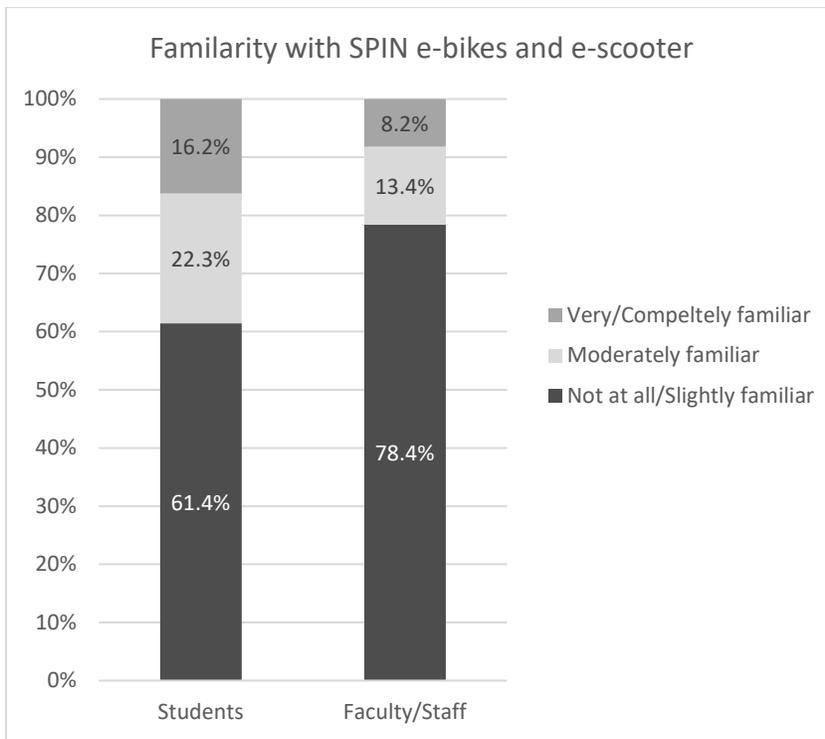
Spin e-bikes and e-scooters program

WSU Pullman has collaborated with Spin to introduce shared e-bikes and e-scooters on the Pullman campus since the summer of 2022 to promote sustainable transportation options and enhance overall campus mobility. As a result, 8 new questions were added to the 2023 survey to gauge experiences and opinions regarding the Spin e-bikes and e-scooters program.

All respondents were initially asked about their familiarity with the newly launched Spin e-bikes and e-scooters program. **Figure 48** illustrates that most respondents (greater than 60%) from both groups indicated a lower level of familiarity (not at all/slightly familiar) with this shared e-bike and e-scooter program. There is a significant difference in the familiarity with e-bikes and e-scooters between students and faculty/staff ($X^2(4, N = 2036) = 68.12, p < .001$). A higher proportion of faculty/staff (78.4%) reported a lower level of familiarity compared to students (61.4%). Only 16.2% of students and 8.2% of faculty/staff were very/completely familiar with the program.

The data indicates a significant need for more familiarity with the Spin e-bikes and e-scooters program among students and faculty/staff. Policies to increase awareness through targeted communication campaigns and informational sessions could familiarize the campus community with the program's offerings and benefits.

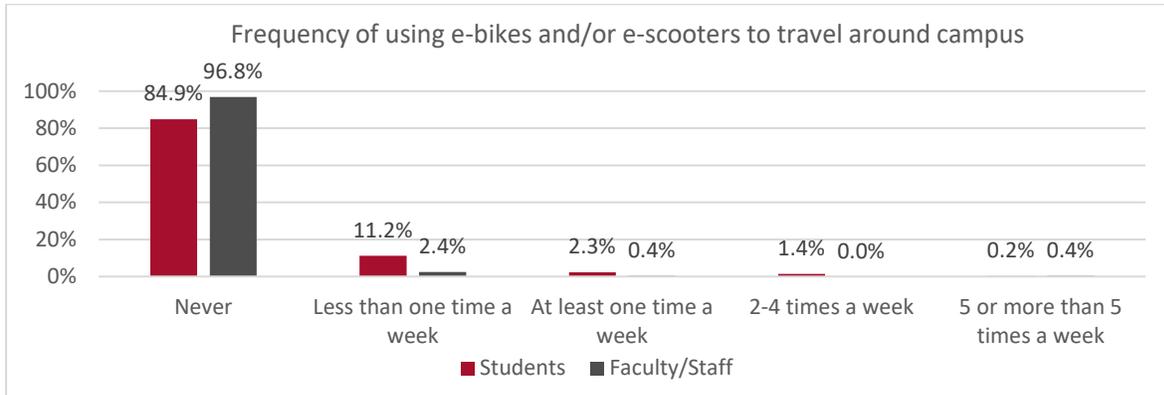
Figure 48. Familiarity levels with Spin e-bikes and e-scooters among students and faculty/staff (Q37)



Source: 2023 WSU Pullman Transportation Survey.

There is a significant disparity in the usage frequency of Spin e-bikes and e-scooters between students and faculty/staff ($X^2(4, N = 2033) = 75.42, p < .001$). As shown in **Figure 49**, many respondents from both groups have never used e-bikes or e-scooters for travel around the Pullman campus. A higher proportion of faculty/staff (96.8%) reported never using them compared to students (84.9%). Approximately 3.9% of students and 0.8% of faculty/staff have used e-bikes or e-scooters at least once a week or more. With a high proportion of respondents reporting never having used e-bikes or e-scooters on campus, there is a need to promote usage through initiatives like discounted memberships, convenient docking stations, or designated lanes for safer travel.

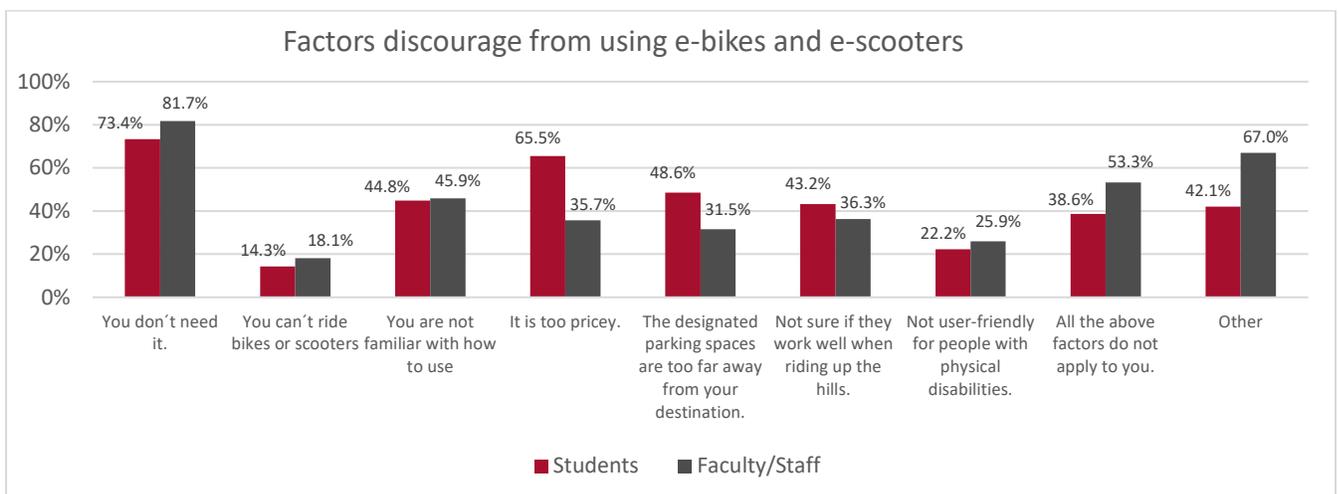
Figure 49. Frequency of using SPIN shared e-bikes and e-scooters among students and faculty/staff (Q38A)



Source: 2023 WSU Pullman Transportation Survey.

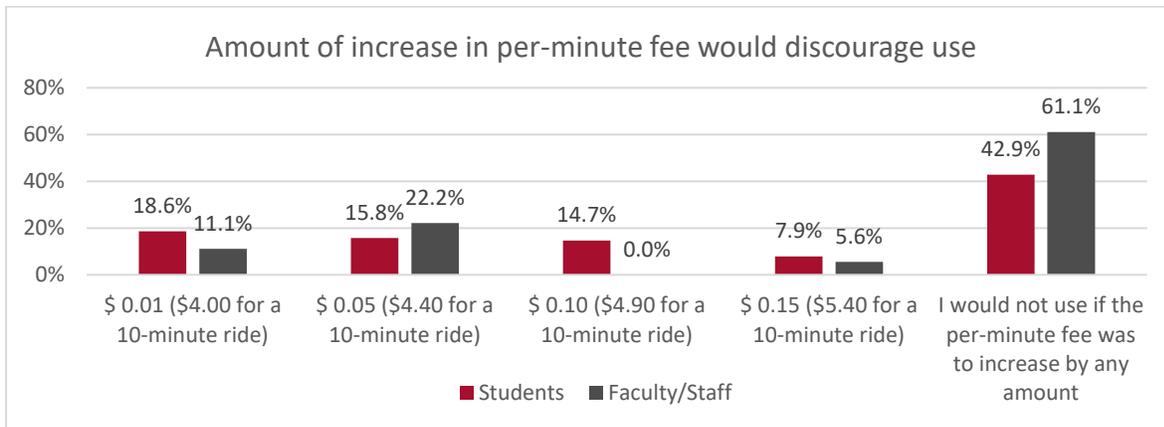
Those respondents who had never used e-bikes or e-scooters were asked what factors were discouraging them from using e-bikes or e-scooters. **Figure 50** highlights disparities in perceptions and barriers to using e-bikes and e-scooters between students and faculty/staff. Among students, the top three frequently cited barriers were: 1) Lack of necessity (73.4%), 2) High cost (65.5%), and 3) Distance of designated parking spaces from destinations (48.6%). For faculty and staff, the majority indicated a lack of necessity (81.7%), 67.0% reported other factors influencing their perceptions, and 53.3% indicated that none of the listed factors applied to them. These findings suggest that faculty and staff have diverse concerns or barriers not captured by the listed options.

Figure 50. Perceptions and barriers to using e-bikes and e-scooters among Students and Faculty/Staff (Q38B)



Respondents who have used Spin e-bikes or e-scooters were surveyed regarding the per-minute fee increase that would discourage their usage. **Figure 51** illustrates the percentage of students and faculty/staff endorsing specific fee increases. Approximately 76 students (42.9%) and 11 faculty/staff (61.1%) indicated they would discontinue usage if the fee increased. Specifically, 57.1% of students would continue usage if the fee rose by \$0.01 to \$0.15 (resulting in a \$4 to \$5.4 charge for a 10-minute ride). Conversely, a lower proportion of faculty/staff (38.9%) would be willing to pay more for using e-bikes or e-scooters.

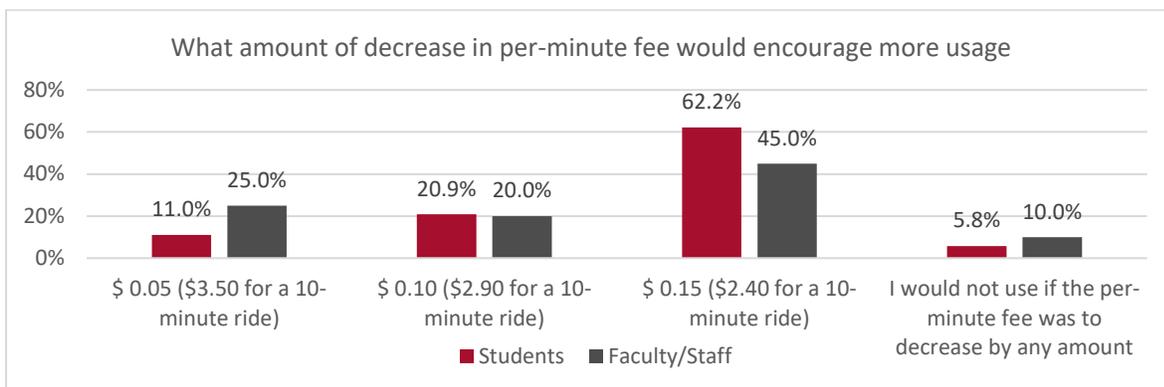
Figure 51. Percent of students and faculty/staff would discontinue using e-bikes or e-scooters given the following amounts of increase in per-minute fee (Q39A)



Source: 2023 WSU Pullman Transportation Survey.

As shown in Figure 52, when asked about the amount of decrease in the per-minute fee that would encourage more usage of e-bikes or e-scooters, the most popular choice was a \$0.15 decrease in the per-minute fee (resulting in \$2.40 for a 10-minute ride), with 62.2% of students and 45.0% of faculty/staff indicating they would do so. A substantial proportion of respondents, particularly students, expressed willingness to increase their usage if the per-minute fee were to decrease. This indicates that lower pricing could potentially incentivize more individuals to use e-bikes or e-scooters, thereby promoting sustainable transportation options on campus.

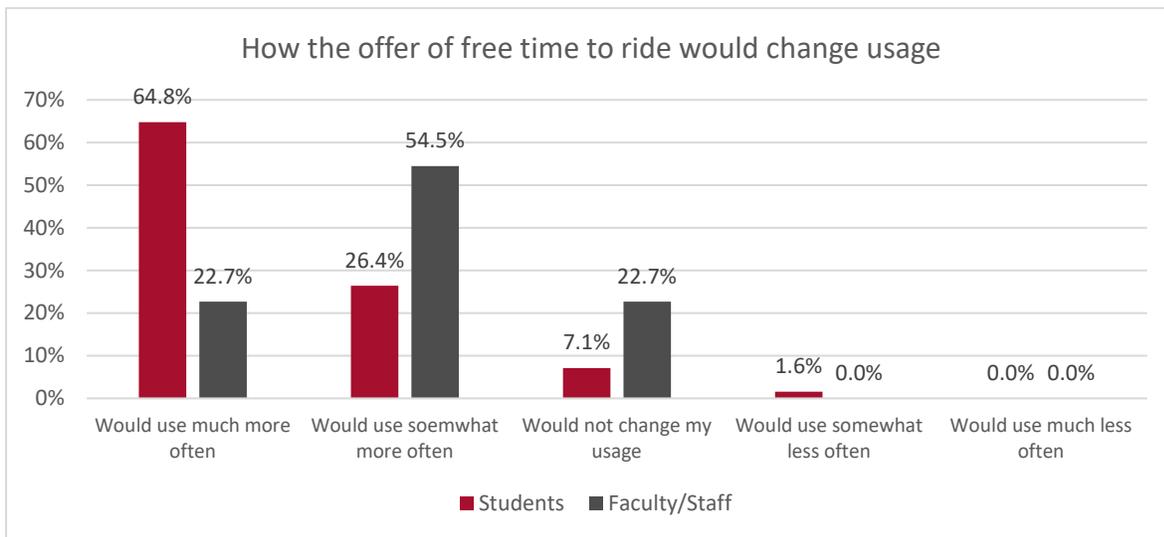
Figure 52. Percent of students and faculty/staff would use e-bikes or e-scooters more often given the following amounts of decrease in per-minute fee (Q39B)



Source: 2023 WSU Pullman Transportation Survey.

Figure 53 presents the percentage of responses from both students and faculty/staff regarding the potential impact of a free time of day on their usage of Spin e-Bikes and/or e-Scooters. There is a significant difference in the impact between students and faculty/staff ($X^2(3, N=204) = 16.83, p < .001$). Most students (64.8%) indicated they would use Spin e-bikes and/or e-scooters much more often if there was a free time of day, while most faculty (54.5%) endorsed "would use somewhat more often." A higher proportion of faculty/staff (22.7%) stated they would not change their usage even if there was a free time of day, compared to students (7.1%).

Figure 53. Impact of free time of day on usage of Spin e-bikes or e-scooters (Q39C)



Source: 2023 WSU Pullman Transportation Survey.

A total of 144 respondents (125 students and 19 faculty/staff) provided their comments regarding what specific improvements in the SPIN e-bike and e-scooter system would encourage more usage. **Table 41** presents a random selection of the comments. Based on the comments provided, several common themes emerge regarding specific improvements that would encourage more frequent usage of Spin e-bikes and e-scooters:

- **Affordability:** Many respondents expressed concerns about the high cost of using e-bikes and e-scooters, suggesting that lower prices or reduced fees would incentivize more frequent usage.
- **Availability and Accessibility:** Numerous comments mentioned the need for more parking spots, stations, or designated areas for e-bikes and e-scooters, particularly in convenient locations such as near campus apartments or frequently visited areas. Some respondents also highlighted the importance of having more options for leaving and picking up e-bikes and e-scooters.
- **Improved Infrastructure:** Several respondents called for improvements in bike lanes, safer routes, and better pavement conditions to facilitate easier and safer use of e-bikes and e-scooters on campus and around town.
- **Reliability and Maintenance:** Issues related to the reliability of the e-bikes and e-scooters, including connectivity problems, frequent breakdowns, and the need for better maintenance, were also commonly mentioned.
- **Communication and Information:** Many respondents expressed a desire for clearer communication about usage rates, available parking spots, system updates, and policies related to e-bikes and e-scooters.

- **Integration with Existing Systems:** Some respondents suggested integrating e-bikes and e-scooters with existing transportation systems or campus infrastructure, such as allowing usage in on-campus residence halls/apartments or providing more options for off-campus usage.
- **Regulation and Safety:** Concerns about safety, including the need for safer routes, better adherence to traffic laws, and clarification on where e-bikes and e-scooters should be ridden, were also mentioned.
- **Convenience:** Improvements in convenience, such as easier parking recognition, smoother app functionality, and more user-friendly interfaces, were cited as factors that would encourage more frequent usage.
- **Promotional Offers and Free Rides:** Some respondents suggested offering promotional offers, free rides, or discounts to incentivize more usage, particularly during certain times of the day or for specific user groups.

Overall, addressing these themes could lead to enhancements in the Spin e-bikes and e-scooter system, making it more appealing, accessible, and user-friendly for both students and faculty/staff.

Table 41. Random sample of comments related to specific improvements in the Spin e-bikes and e-scooter system (Q39D)

Q39D	they were cheaper
Q39D	the online interface. when i want to walk my scooter or bike it won't let me lock it and it charges me a lot more. and when i want to get help the online system for customer support is not good so a big improvement on that is good. im sure they keep data on how long it takes but one time i was charged \$14 for a 40 minute ride when i stopped and locked it a lot earlier.
Q39D	The connection issues it has, sometimes it takes a while for it to let me end the ride.
Q39D	Mostly I feel the spin cycles are a bit pricey and expensive, I feel if there was a one-time fee on the University account then probably everyone might start using the spin cycles a bit more often.
Q39D	more radius for where you can go with them
Q39D	More places to park them
Q39D	more parking spots
Q39D	more drop-off locations for them.
Q39D	More battery
Q39D	Location, like where they are all located.
Q39D	if there was more of them on campus
Q39D	I mean you guys have been doing a good job on that, there's not much to improve. Last year it was a lot worse, this year has been a lot better and all of them are usually charged.
Q39D	I just like to walk. there is nothing against the bike or scooter.
Q39D	I guess the most frequent problem i have, is when i go to park the bike in the right spot and it doesnt register and charges me again.
Q39D	More convenient parking placement near classes
Q39D	More "about" information.
Q39D	Free Access
Q39D	Availability/Convenience. I don't see a lot around
Q39D	You think e-bikes and scooters are the answer, that's highly discriminatory, there is a very small window on human body types, athletic ability, and balance that would benefit from this program. What a ridiculous idea, yeah lets put more young athletic people, who think they are invincible, on unregulated, motorized vehicles that can go 25 miles

	and hour into a vehicle congested area where students barely adhere to crossing laws when on foot! More parking (paid for by parking) including lots, shuttles and garages, is the only way to ethically and realistically deal with parking issues on campus, and improve the daily lives of your coworkers and students to which you should be in service, not a cause for their afflictions and misery.
Q39D	When I used an e-scooter it costed me about 7 bucks per mile. It wasn't charged per minute. If they were cheaper i'd use them more often.
Q39D	We were told at Experience WSU that we got 4 free hours of usage. This has not been the case at all.
Q39D	Too expensive. Potentially unsafe. Not enough places to park them.
Q39D	Time of day when they are free
Q39D	They shouldn't be so expensive. Transportation should be accessible ALWAYS.
Q39D	These aren't reliable transportation for commuting given lack of availability, inconsistent locations, and weather hazards. If there was a terminal on both ends of the Chipman trail, I might occasionally use these to commute during warm weather and busy times like game-day Fridays.
Q39D	There should have been more parking spots for these e-bikes. Like one should be there near the WSU family housing (Steptoe Apartments) and near the VCEA buildings
Q39D	There needs to be lockers outdoors or an indoor storage spot for bringing your own EV to school vs have to carry it with you all around.
Q39D	There is no Spin e-Bike or Scooter pickup/dropoff at apartmentland which completely defeats the point :(
Q39D	The system costs too much given we already pay a transportation fee. I know the fee use to cover the Coug Bikes before they were shut down so some consideration should be given to spin bikes and scooter
Q39D	The scooters are always broken or need to be charged, and there is no convenient parking spot for them near my apartment.
Q39D	the limited parking makes the use of them more of an inconvenience if you aren't going near any of the parking, this also discourages students from using them because they then don't really save any time.
Q39D	The geomap. I don't need to get around campus much, but I would use them to get to and from campus.
Q39D	the cost
Q39D	The app hardly works, not enough parking areas for the scooters.
Q39D	The ability to go home and back during the day. My home is well outside the "go zone"
Q39D	That you could use them off campus and that there were more parking spots. The way it's now it's really inconvenient and it's not worth it to rent
Q39D	Scooters often don't register the location of approved parking spaces, there are also not enough approved parking spaces for all the various locations on campus.
Q39D	Safer on the roads, it is scary to ride when the roads are busy.
Q39D	Right now, they are pretty costly. A fee reduction would certainly encourage me to use them more often
Q39D	Ride connectivity issues, more parking bays, access across town and not just campus
Q39D	Reduce the rate and have designated routes
Q39D	Pricing
Q39D	price reduction
Q39D	price
Q39D	Please drop them is designated spots. I commute to campus on my own bike daily but always have to move either an e-bike or e-scooter out of the bike rack just to lock up my

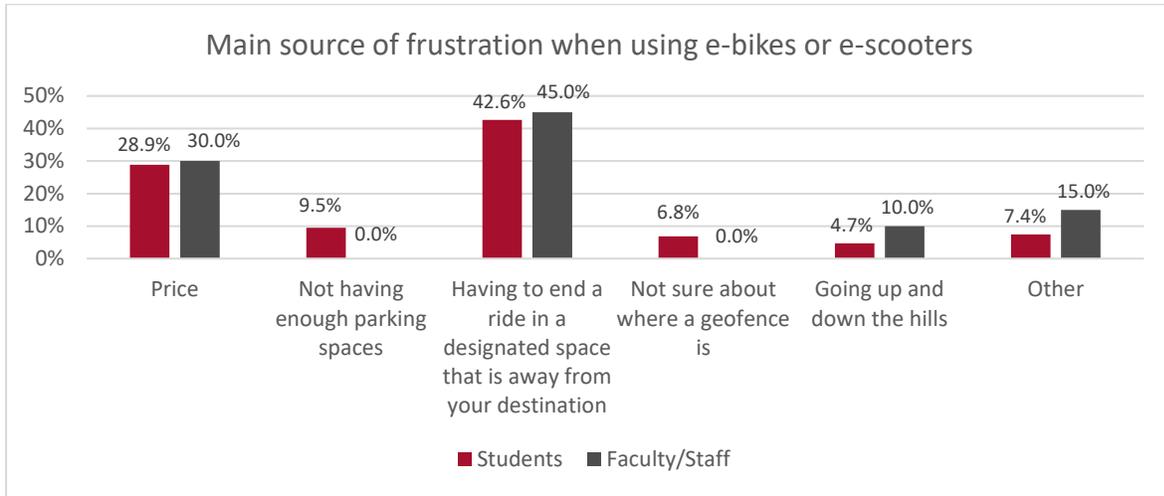
	bike. PLEASE drop the e-bikes or e-scooters outside of the bike racks as they take up spaces for bikes that need to be locked!
Q39D	Placement at OR NEAR the ON CAMPUS APARTMENTS
Q39D	Not much, I use them at night when I get off work and have to park very far from my dorm and its cold.
Q39D	No unlock fee or less expensive fees. Maybe a student pass like blank free rides per month or something.
Q39D	Need to be able to leave campus.
Q39D	N/A I like them and they can come in clutch
Q39D	My parking is a bit of a walk, as it's at the bottom of the hill behind Dana and Sloan. Currently, the only spin "parking area" is all the way over at the wsu visitor center, which is a bit of a time waste for me to walk all the way over there, get a scooter, and drive back. If there was a parking area closer to the yellow 3 parking, I would be much more inclined to use them. Another major issue I have with the scooters is the lack of paths that take you to campus from where I park. I could either take a path that gets me up the hill that involves carrying the scooter up many levels of stairs, or I could have to try to get it up the hill on the west side of college ave, which is way too steep for the electric scooters to make it up, and I end up having to carry it up the hill anyways. Something that would majorly incentivize me to use the scooters more would be if there was a nicely paved, scooter friendly path without stairs or sharp inclines that could take you from spring street park to the center of campus, or, if there currently is a route that works, if it was better marked and easier to find. Finally, some clarification regarding whether people should use the spin scooters on roads or on paths would be greatly appreciated by me, as I am always unsure whether I should use the road or I should use the sidewalk. Thank you so much for all the work you do and I hope my input is meaningful to you guys in some way!
Q39D	More stations especially close to apartments. And less price
Q39D	Bike lanes please
Q39D	More spots to leave and end the ride.
Q39D	More safe bike lanes to use
Q39D	more public knowledge on where to find available scooters and bikes, and on where to find scooters when they aren't returned to specific return spots
Q39D	More places to park them and pick them up!
Q39D	More places to park them
Q39D	More parking stations, and possibly the ability to go off campus for a short period of time
Q39D	more parking stations for the vehicles
Q39D	More parking spots for them
Q39D	more parking spots for the scooters
Q39D	More parking locations and better pavement on stadium way and around campus. The potholes are dangerous on scooters!
Q39D	more parking locations
Q39D	More parking areas. If I use the scooter or bike i still have to walk quite a ways once i park
Q39D	More parking
Q39D	More on the south side of campus
Q39D	more of them and cheaper. able to go further
Q39D	More locations to PARK. This is important!! Hard to use when you have to park it away from where you want to be!!!

Q39D	More locations and somebody to move them. I go to Owens a lot but if I want to grab a scooter after and I walk to Southside, most of the time the scooters are all gone or they are piled up at the cub or by the soccer fields. I think a stop at the spark would be great
Q39D	More locations
Q39D	more information to faculty and staff about use and rates
Q39D	More hubs around campus, and making them not allowed on the sidewalks due to the issues they cause
Q39D	More convenient parking placement near classes
Q39D	More "about" information.
Q39D	Making them cheaper would be nice
Q39D	making sure they are full battery
Q39D	Making a station near student housing
Q39D	Make them cost less, make sure there were enough for people to use if Costco did go down
Q39D	Make it so the scooters can make it up on campus hills.
Q39D	Lower the cost & expand the allowable area.
Q39D	add more areas where you can park them. Specifically by Beasley near where my car is parked. ability to park at intended destinations
Q39D	Lower fares or more number of scooters
Q39D	Love them on campus! Students and faculty ride them!
Q39D	Location on where to find the Spin e-bikes or e-scooters to use them
Q39D	less cost and more supply since the they are not that many on campus
Q39D	Just having more places around campus
Q39D	If we were given 30 minutes to an hour (or more) free to ride per day.
Q39D	If there were more places to park in more convenient places.
Q39D	If there were more designated spaces for them throughout campus
Q39D	If the fees were partially included in tuition such as the printer fee.
Q39D	If I wanted a bike on campus, I would just keep one on campus. Those bikes are super heavy.
Q39D	If having a student account got you x amounts of free ride time a day
Q39D	Allow them to be used in the on campus residence halls/apartments.
Q39D	I would like to see them in more places on campus. I really only see them around the Cub
Q39D	I think the only thing that I have much frustration with is the parking feature. Sometimes the places I want to park are restricted at that time, or when I try to park the vehicle/app doesn't recognize that at all so it takes a longer time to park than intended which has consequences such as being late for class.
Q39D	A added option to have a pre loaded amount charged for tuition

Source: 2023 WSU Pullman Transportation Survey.

Figure 54 presents the percentage of responses from both students and faculty/staff regarding the primary source of frustration when using Spin e-Bikes and/or e-Scooters. The most common source of frustration for both students and faculty/staff is having to end a ride in a designated space that is away from their destination, with 42.6% of students and 45.0% of faculty/staff indicating this as the primary issue. Price is a significant concern for a notable portion of respondents, with 28.9% of students and 30.0% of faculty/staff identifying it as the main source of frustration. A notable proportion of respondents selected "Other," indicating that there are additional sources of frustration not captured by the listed options.

Figure 54. Percentage of students and faculty/staff indicating the main factor causing their frustration in using e-bikes or e-scooters (Q39E)



Source: 2023 WSU Pullman Transportation Survey.