



Watercolor Painting used as the mailer to 7,000 addresses throughout the Pioneer Valley by Peter Kuusisto.

2023 Non-Rider Survey Report

Full Region (Northern and Southern)

May 24, 2023

Prepared under the direction of the Pioneer Valley Metropolitan Planning Organization for the Pioneer Valley Transit Authority by the Pioneer Valley Planning Commission

Funding assistance from the Pioneer Valley Transit Authority, the Massachusetts Department of Transportation, and the Federal Transit Administration

This page is intentionally blank.

Acknowledgement

PVTA would like to thank Pyramid Group, Phillips Eddison, Chicopee Walmart, UMass – Amherst, MGM Springfield, the City of Northampton, and the Town of Amherst for hosting our interns at various locations throughout the Pioneer Valley.

PVTA would also like to thank the interns for their dedication and determination throughout the project:

- Charlie Townswick
- Kareem Wedderburn
- Nicholas Vasconcellos

Executive Summary

Public transit is a customer-focused service. Therefore, PVRTA requested this study to better understand who their potential customers may be; where they live and work; and what types of services may better serve them. A total of 415 non-transit rides were surveyed in the region: 365 were completed in-person. 190 responses were completed using the paper forms provided by the surveyors. Fifty responses came from a mailing. The survey has a margin of error of $\pm 5.269\%$.

- 34% of trips surveyed included Amherst, 29% included Springfield; followed by
 - o Chicopee
 - o Holyoke
 - o Northampton
- 34% of trips surveyed were shopping trips, while 31% were work related
- 66% drove themselves and parked within a 5-minute walk of their destination
- 18% walk or bike more than 5 minutes to their destination
- 44% of trips surveyed were made almost every day
- 62% of trips are unplanned
- 43% of non-riders are familiar with bus routes and stops in the area
- Non-riders agree most with the statements:
 - o "PVRTA is a necessary public service"
 - o "I have a good impression of PVRTA"
- Non-riders disagree most with the statements:
 - o "I drove instead of taking PVRTA because buses take too long"
 - o "I drove because I don't know when the next bus will come"
- Non-riders are most undecided about the statement:
 - o "PVRTA Buses are Reliable and On time"
- 79% have a good impression of PVRTA
- 88% feel PVRTA is a necessary public service
- 50% would feel safe using PVRTA at night
- 73% would feel comfortable waiting and riding with regular bus riders
- The top reasons that non-riders say they do not take transit and drive their own car are:
 - o "Convenience"
 - o "More Comfortable"
 - o "Buses do not go where I want to go"
 - o "Bus service is not frequent enough"
- The top improvements that would make riders more inclined to use transit are:
 - o "More Destinations"
 - o "More Frequent Service"
 - o "Faster Service"
- The most requested times for additional PVRTA service are:
 - o Weekdays 7am-7pm
 - o Weekdays 5am-7am
 - o Sundays 7am-7pm
 - o Saturdays 12am-5am

- 25% of non-riders stated that they decreased trips due to the COVID pandemic, while 12% saw an increase
- 17% of non-riders decreased travel due to “Remote Work/Classes” or “Online Services”; followed by 13% stating “COVID Safety Concerns”

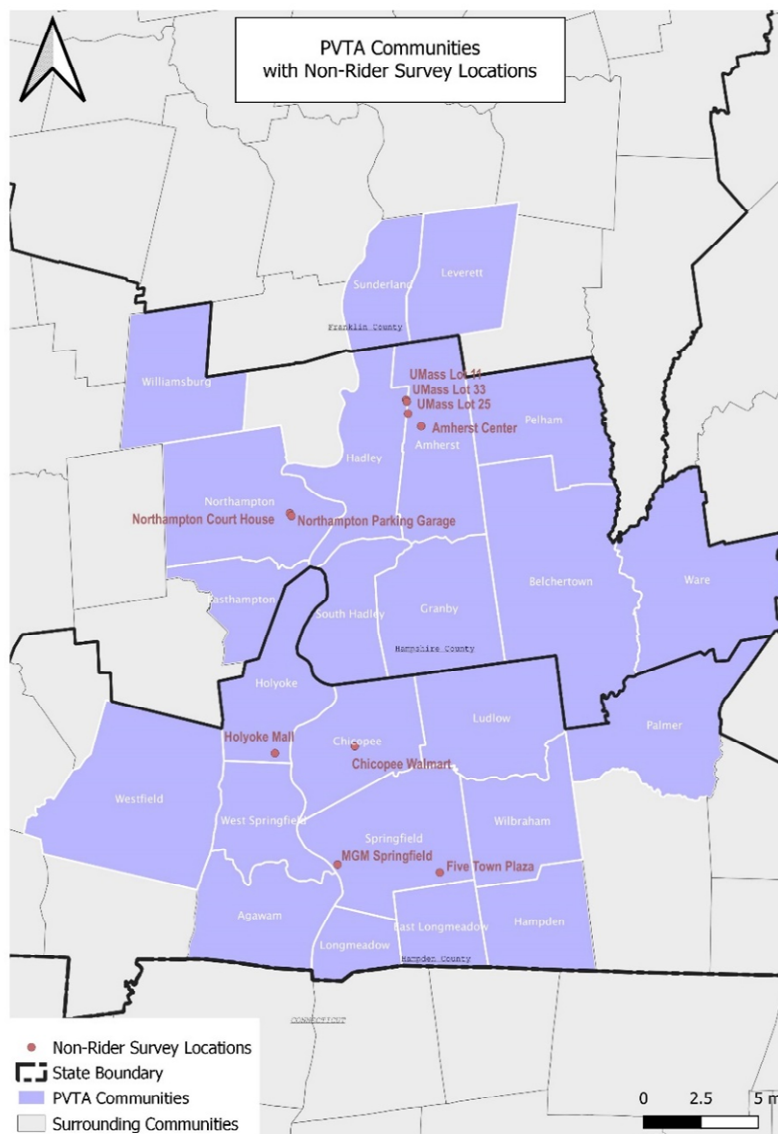
Table of Contents

Acknowledgement	3
Executive Summary.....	4
Table of Contents	6
Introduction, Goals and Survey Method.....	7
Goals	8
Survey Method.....	8
Data Comparisons	12
Types of Trips Surveyed.....	14
Origin and Destination	16
Trip Planning	17
General Awareness and Impression of PVTa	17
Changes Since the COVID Pandemic	22
Demographic Information.....	23
Travel Time	28
Safety	28
Times of the Week	29
Propensity to Ride Public Transit	31
PVTa Familiarity and Access to Information	32
Changes in Trip Frequency by Situation during the COVID Pandemic	34
Recommendations and Future Study.....	35
Appendix A: Census Demographic Comparisons	37
Appendix B: Survey Challenges	46
Appendix C: Survey Site Demographics	47
Appendix D: Paper Survey.....	51
Appendix E: Verbatim Comments	53

Introduction, Goals and Survey Method

Established in August 1974, PVTA is the largest Regional Transit Authority in Massachusetts. The geographic service area covers 627 square miles and 24 communities (rural and urban centers). PVTA's fixed route and demand response (paratransit and legacy senior van services) offer essential daily access to 582,689 residents. Fixed-route trips numbered over 6.9 million rides while demand response trips numbered over 175,000 in FY2023. PVTA oversees 191 fixed-route buses and 150 demand response vans.

Map 1: PVTA Region¹



¹ Locations were chosen based on availability and agreement with property and business owners. PVTA also sent out a 7,000-piece mailer targeting specific census blocks with similar demographics to the PVTA region as a whole.

Goals

The demographic analysis, mailing and parking lot surveys were developed to answer the following general questions for this study:

- Who is most likely to be a PVTA bus rider?
- What general impressions and levels of awareness do non-riders have of PVTA?
- How knowledgeable are non-riders about PVTA services?
- What are the main reasons that potential customers do not ride PVTA?
- What service improvements could encourage non-riders to try PVTA in the future?
- How can PVTA better communicate with its potential customers?

Analysis is offered with respect to key factors of transportation planning that typically influence a traveler's mode choice:

- Travel time
- Times of the week
- Access to PVTA Information
- Income
- Perception of Safety
- Discussion of the propensity to ride

Survey Method

The non-rider survey was conducted by Pioneer Valley Planning Commission (PVPC) staff and interns. In-person surveys were conducted at specific locations:

- University of Massachusetts
 - Lots 33, 25, and 11
- Amherst Center
- Northampton Court House
- Northampton E.J. Gare Parking Garage
- Chicopee Walmart
- Holyoke Mall
- MGM Springfield Garage
- Five Town Plaza

Interns were sent out in teams of two with a PVTA table, lanyards, surveys on clipboards, and e-tablets. Interns spent seven weeks surveying between April 6 and May 11 of 2023.

In addition to in-person surveys, PVPC sent out 7,018 large postcard flyers (cover page image) to addresses on 14 mail routes in 13 Census Block Groups that reflect similar demographics with the fewest business addresses. This method resulted in 50 responses. 41 of those responses were from those who ride the bus once a week or less.

After this extensive outreach PVPC obtained a total of 657 partial and completed survey responses. PVTA used the following question to control for non-riders:

- Question 2: How often do you ride PVRTA buses?

These are responses that stated they ride less than once a week or never/rarely. 415 partial and completed responses fit this definition. PVRTA includes all responses for every question obtained. Crosstabulations were made in cases when responses included answers to both questions referenced.

$$n = \left(\frac{Z_{\frac{\alpha}{2}} \sqrt{p(1-p)}}{W} \right)^2$$

Variables Defined

n = minimum number of surveys required per route

z = normal probabilities value based on confidence level

α = 1 – confidence level as a percentage

p = percentage of monthly ridership per route based on total monthly ridership for all southern region routes

W = margin of error

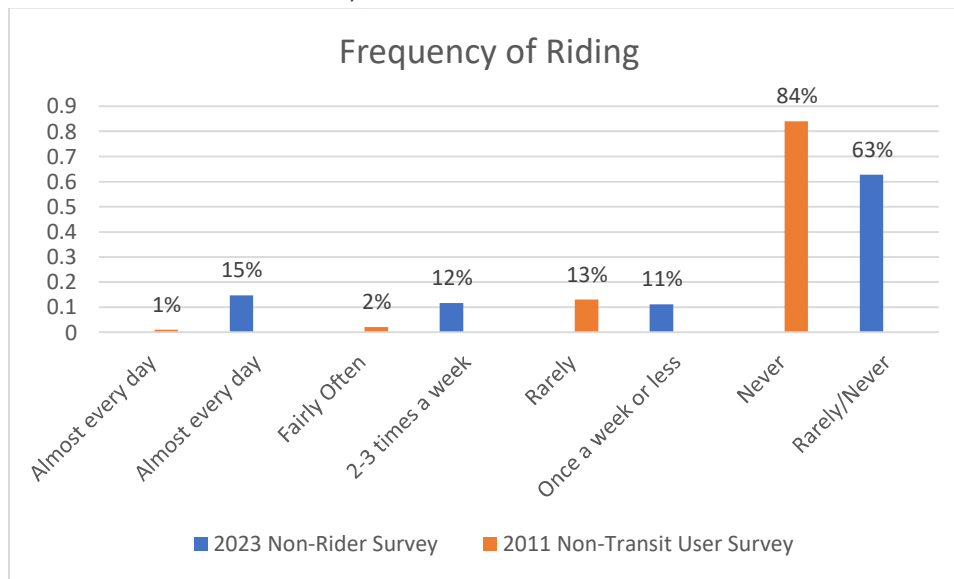
286 responses included an answer to the household income question, a demographic question assumed in many surveys to be left blank the most (this question also happened to be our final question of the survey. The question preceding household income was household size with 346 responses.

Using the number of responses that included household size and a confidence level of 95, we can consider the margin of error to be $\pm 5.269\%$.

Filtering out existing riders:

In-person surveying was conducted at common locations, which happen to coincide with stops on PVRTA routes. The previous survey included both a telephone survey and a vehicle garage-based literature drop with a mailed survey. This year's strategy increased the possibility of surveying bus riders. The 2023 Non-Rider Survey filtered out those who ride PVRTA "Almost Every Day" and "2-3 Times a Week."

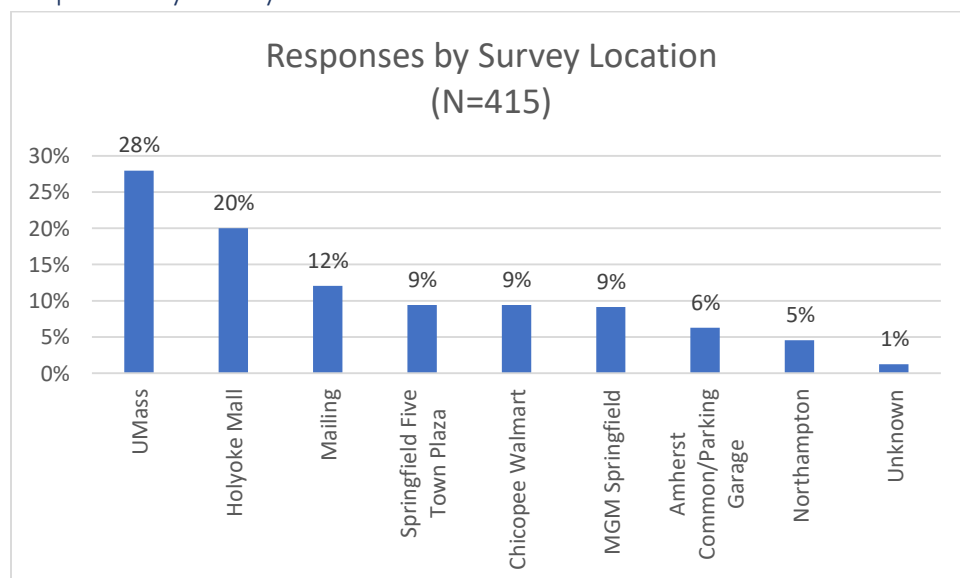
Question 2: How often do you ride PVTB buses?



The resulting dataset ("Once a week or less," and "Rarely/Never") included 415 partial and completed responses out of the total (649).

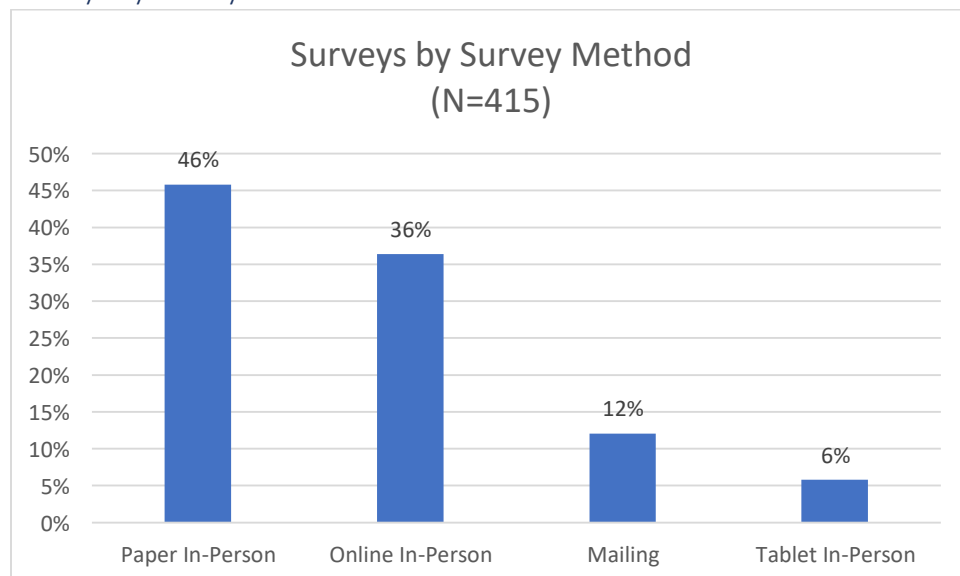
Best-Fit Responses:

Responses by Survey Location:



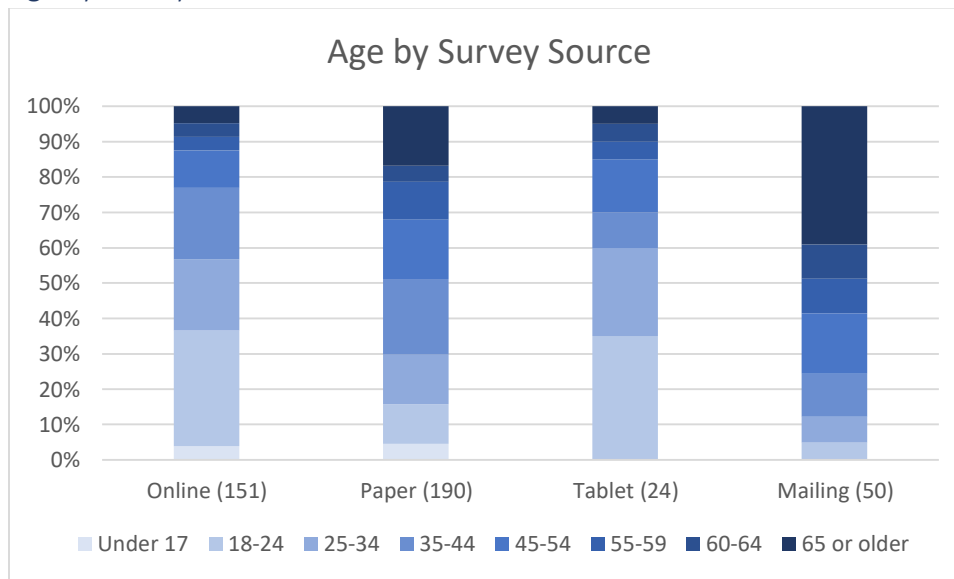
Survey locations were distributed throughout PVTa's Northern System communities (Hampshire County) and Southern System communities (Hampden County). Response rates were lower in Hampden County than Hampshire County.

Surveys by Survey Method:



Most surveys were conducted in person, either on a smartphone or using paper. The mailing included a QR code and easy URL to complete the survey online. E-Tablets were offered to those needing additional assistance either due to time or language.

Age by Survey Source



Those who completed the survey online in front of a surveyor skewed younger. Those surveyed on paper were more evenly distributed. And those surveyed by following a URL or QR code in a mailer skewed older.

Data Comparisons

The 2011 report identified data sources for comparison where appropriate. The report included a discussion of the difference between census data and Non-Transit Users.

Census and BLS Data

American Communities Survey 5-Year Estimates from 2021 are compared to the non-rider survey data within Appendix A.

Massachusetts Vehicle Census

In lieu of asking respondents, car ownership is reported as an average by community. Data is represented in Appendix A.

Previous Non-Rider Survey Findings (2011)

The 2011 survey, conducted in 2010 was performed by PVPC and included 135 randomly selected respondents by phone in the PVPC region and 282 mailed-in paper surveys canvased at four parking garages.

Questions are compared where applicable including:

- How often do you park at your most recent parking location?
- How often do you park at your most recent parking location? (Work Commute)
- How familiar are you with bus routes and stops in the area?
- Impression and necessity of PVTa Service

Previous Rider Surveys (2019 Southern System and 2022 Northern System)

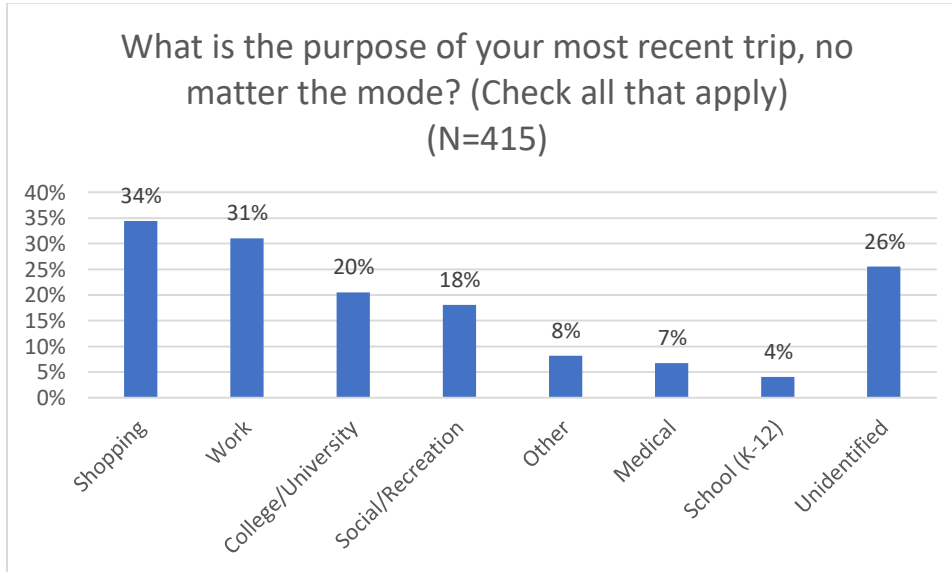
PVTA was able to compare some rider statistics to non-rider statistics. Those appropriate to this report include:

- Comparison of Bus Stop Access to Destinations vs. Parking Access to Destinations

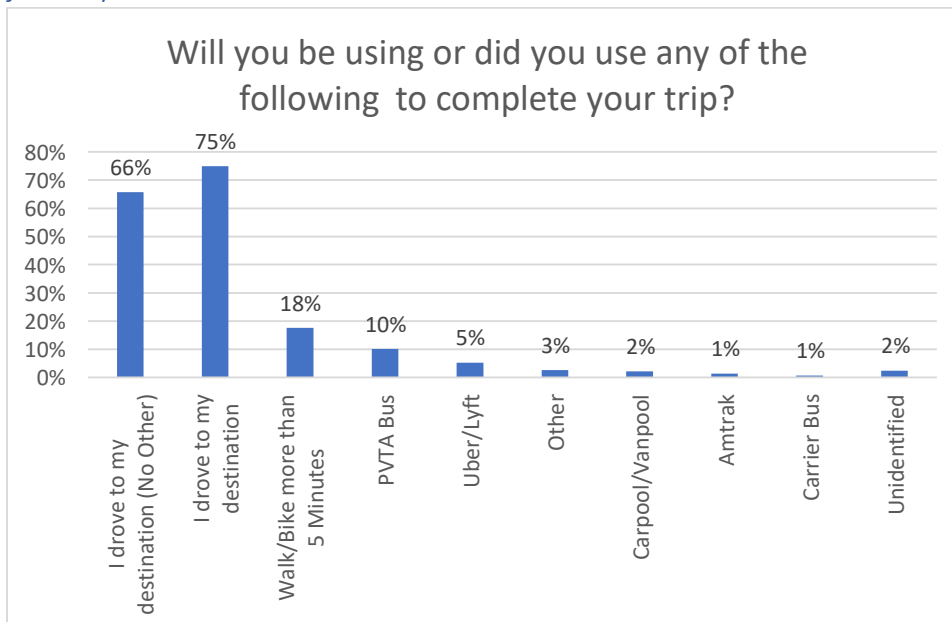
Types of Trips Surveyed

People take trips for multiple reasons. In response, this survey (as with the previous two ridership surveys) asked respondents about all the reasons for making this trip.

Question 1: What is the purpose of your most recent trip, no matter the mode?

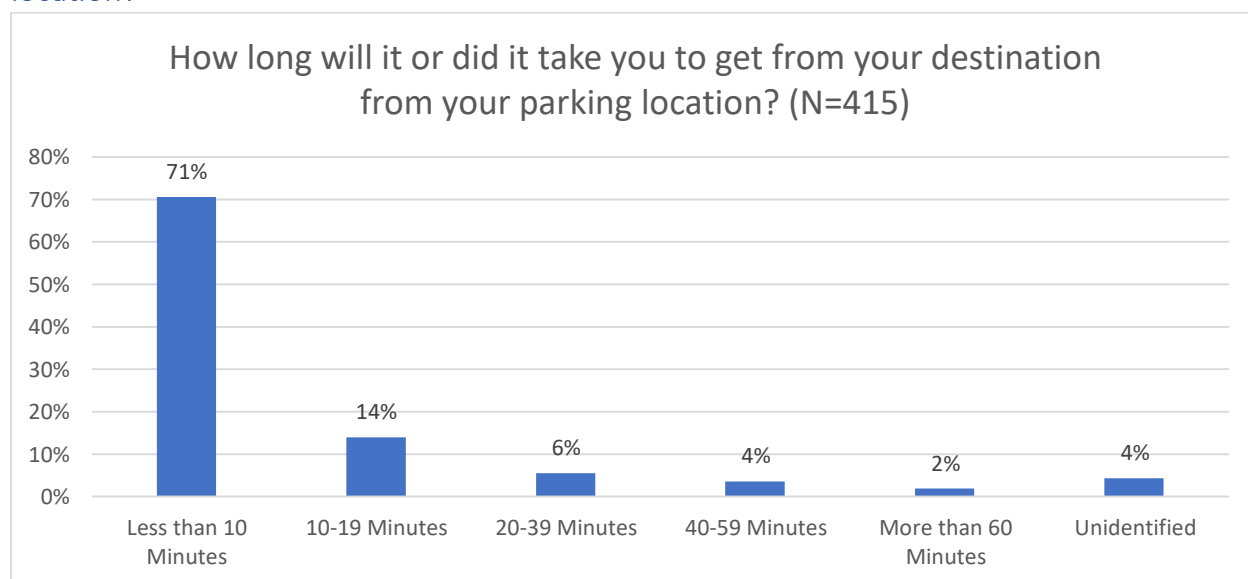


Question 4: Will you be using, or did you use any of the following to complete that journey?²



² While PVTA Bus was an option here, these were riders who expressed “never/rarely” riding the bus or riding “less than once a week.” Nearly 4 in 10 of these riders stated additionally using a residential vehicle (driving on their own car or using an Uber/Lyft ride).

Question 5: How long will it or did it take you to get to your destination from your parking location?



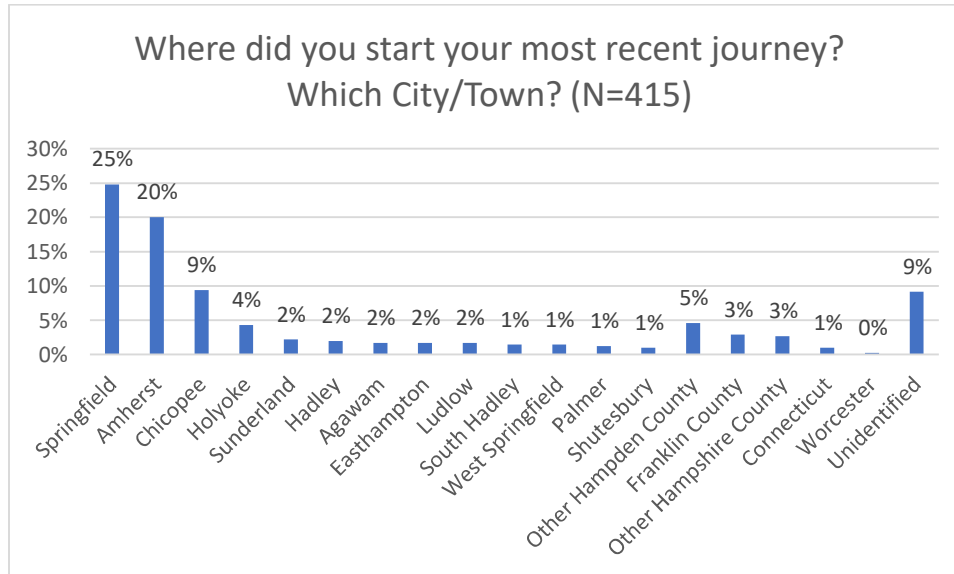
3

Question 6: How often do you park at the most recent parking location?

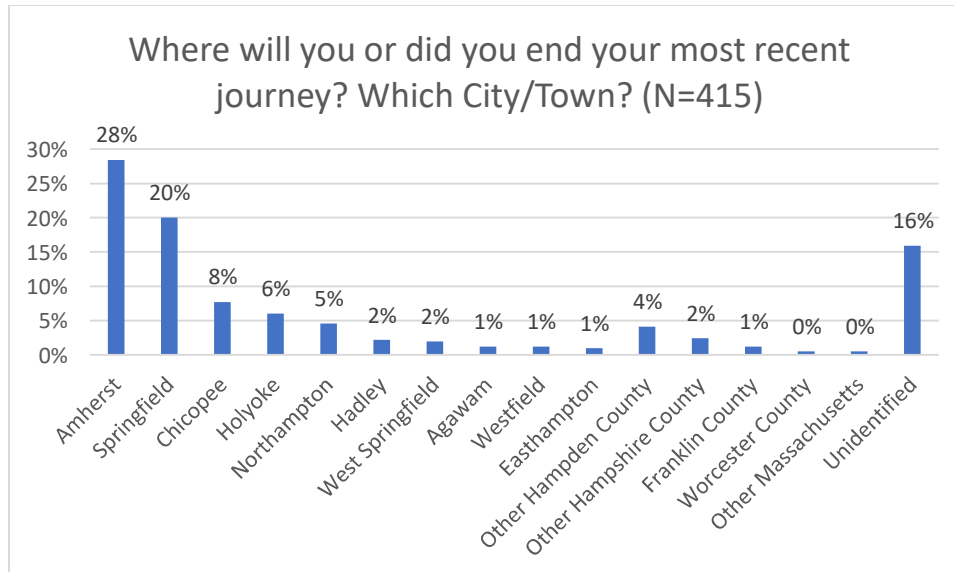


Origin and Destination

Question 3: Where did you start your most recent journey?⁴



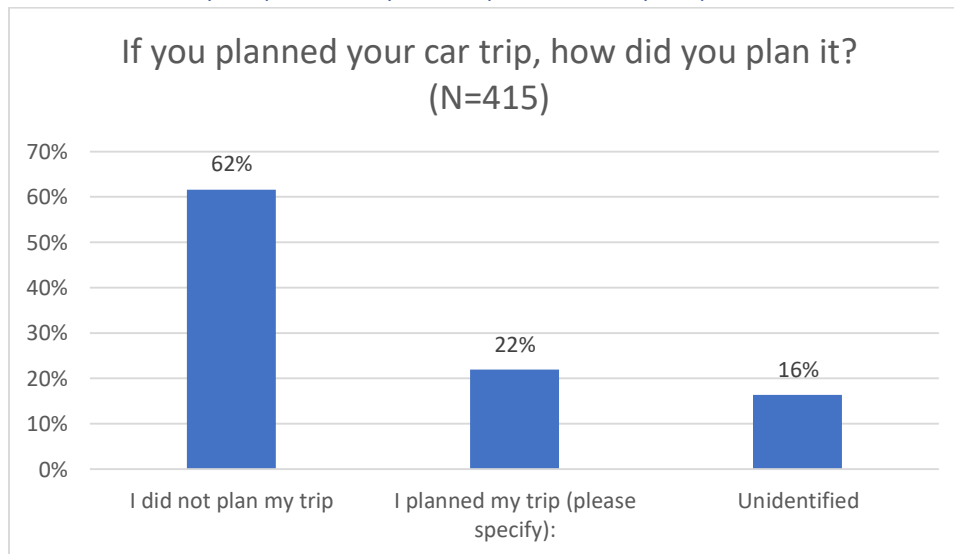
Question 7: Where will you or did you end your most recent journey?



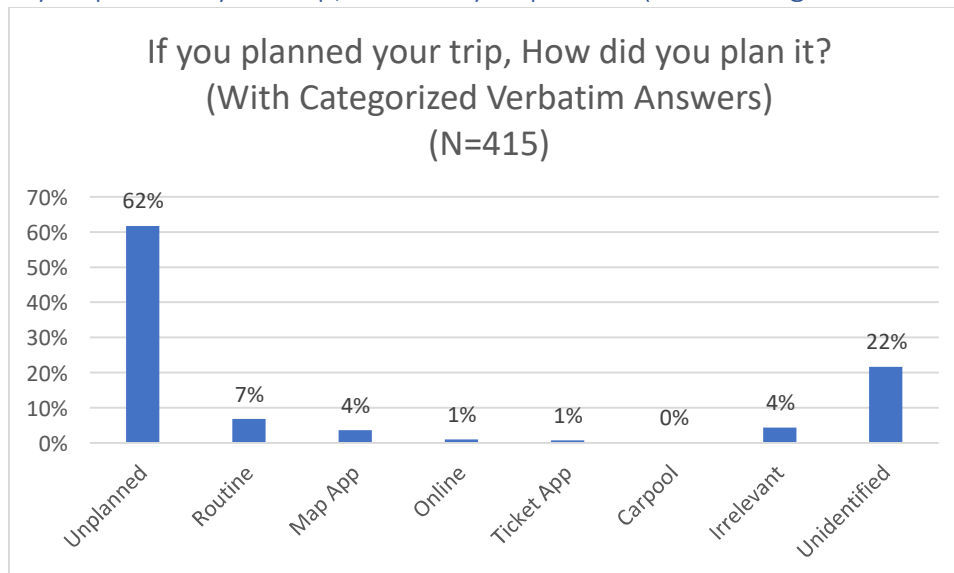
⁴ Answers with fewer than four responses are grouped by larger geographies.

Trip Planning

Question 9: If you planned your trip, how did you plan it?



If you planned your trip, how did you plan it? (With Categorized Verbatim Answers)

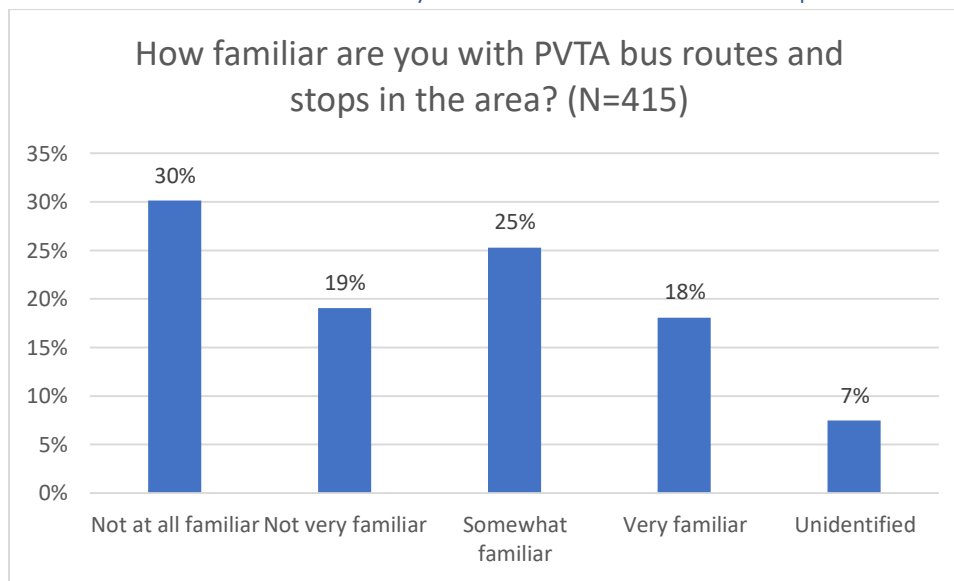


Verbatim answers describe some of the confusion that respondents felt in completing this question. Twenty-eight (28) respondents provided their routine was their plan while another eighteen (18) stated irrelevant answers. It is clear to assume that most non-transit trips are made without preplanning. Sixty-eight percent (68%) “Unplanned” and “Routine Trips” of those surveyed did not have to preplan their trip.

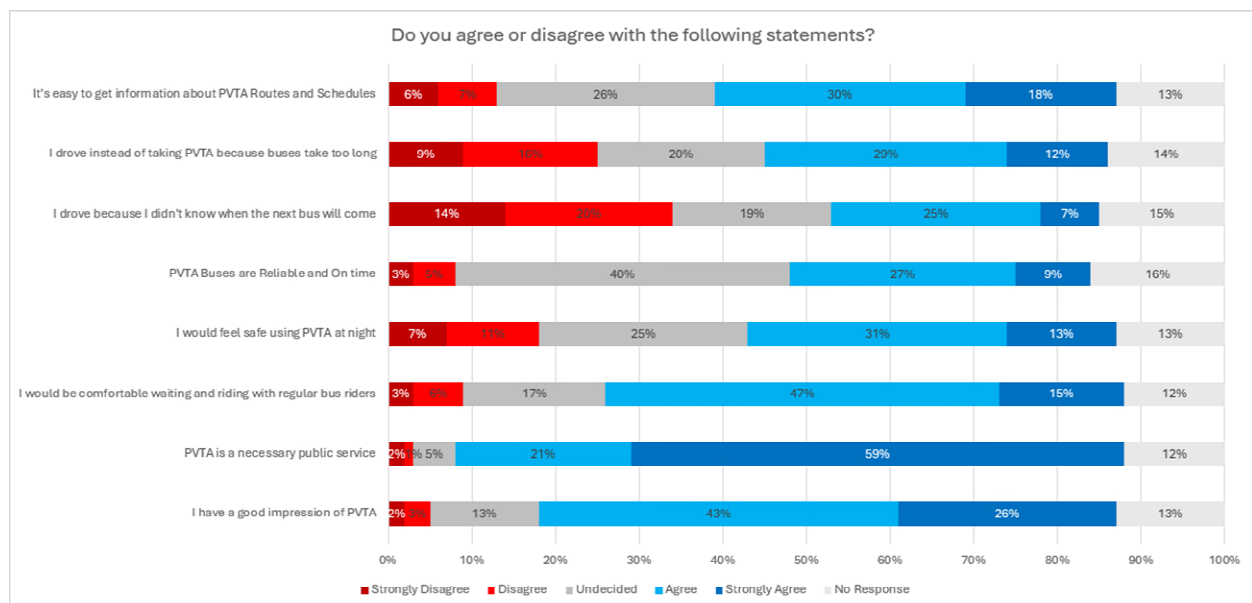
General Awareness and Impression of PVRTA

This section presents information that shows most non-riders know about PVRTA. Just 30% are not at all familiar with the routes and stops in the area.

Question 8: How familiar are you with bus routes and stops in the area?



Question 11: Impression of PVTA



The previous chart describes non-rider feelings about PVTA service. More than 70% agree or strongly agree with the following statements about service:

- I have a good impression of PVTA
- PVTA is a necessary public service, and
- I would be comfortable waiting and riding with regular bus riders.

Over 50% agree or strongly agree with the following statements:

- I would feel safe using PVTA at night, and

- It's easy to get information about PVRTA routes and schedules.

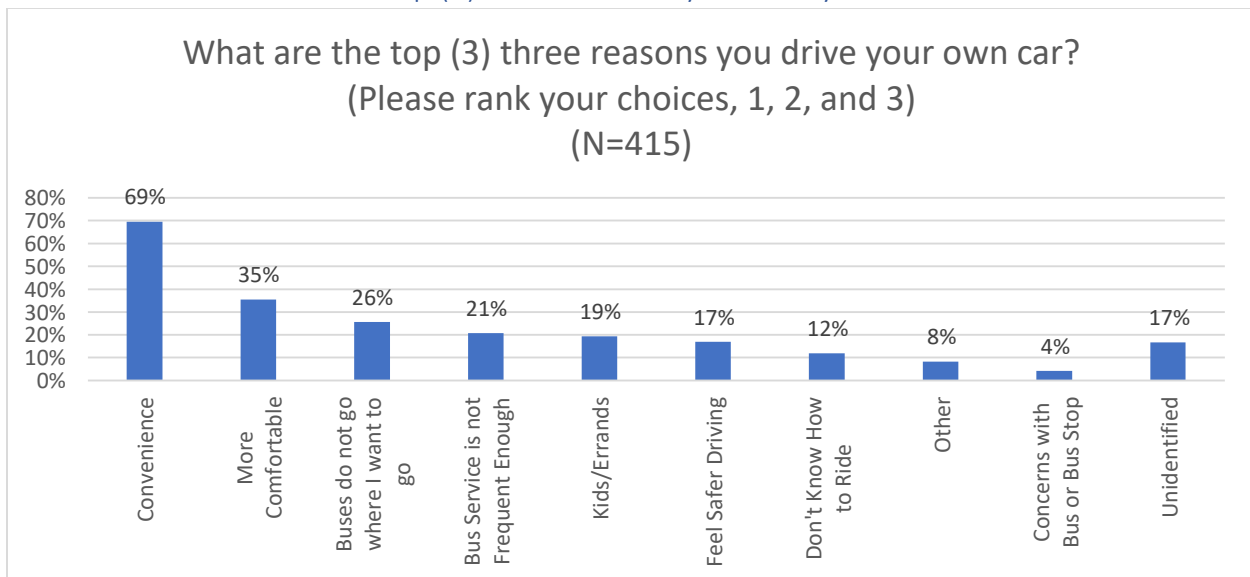
Less than 50% agree or strongly agree with the following statements:

- PVRTA buses are "Reliable and On time"
- I drove because I don't know when the next bus will come, and
- I drove instead of taking PVRTA because buses take too long.

While less than 50% agree or strongly agree to the previous statements, it should be noted that these categories have a high instance of undecided responses.

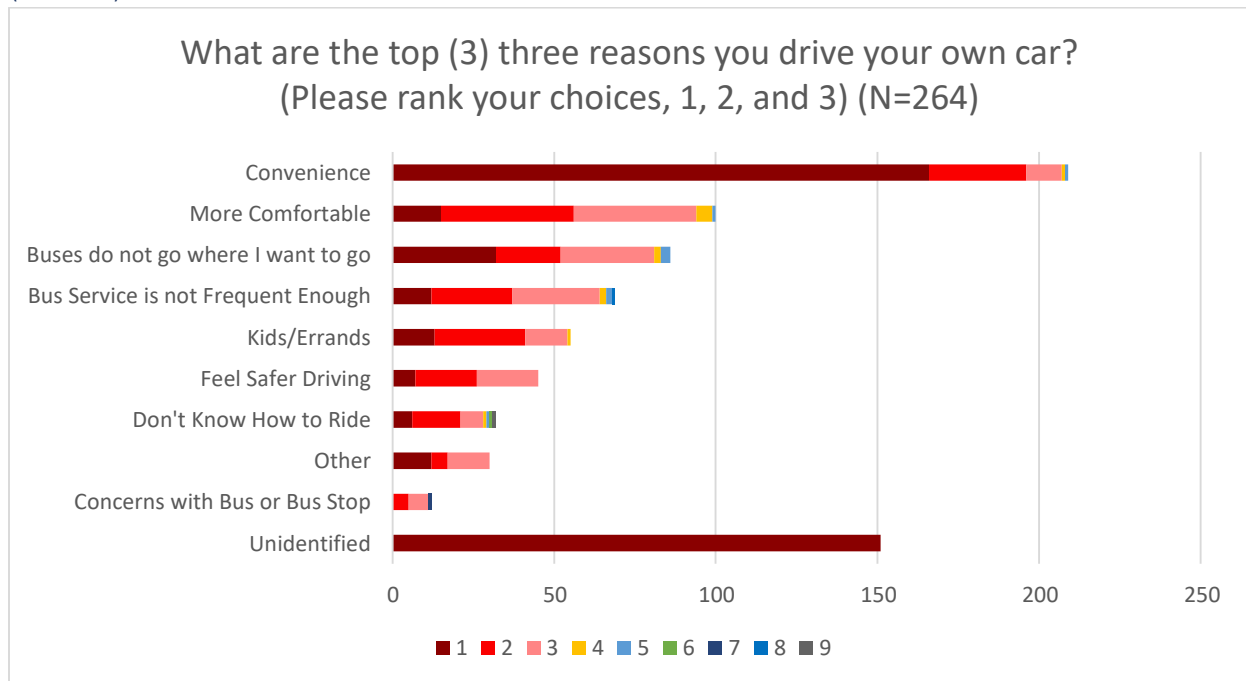
- "Reliable and On time" at 40% undecided
- "I drove because I don't know when the next bus will come" at 19%, and
- "I drove instead of taking PVRTA because buses take too long" at 20%.

Question 10: What are the top (3) three reasons you drive your own car?



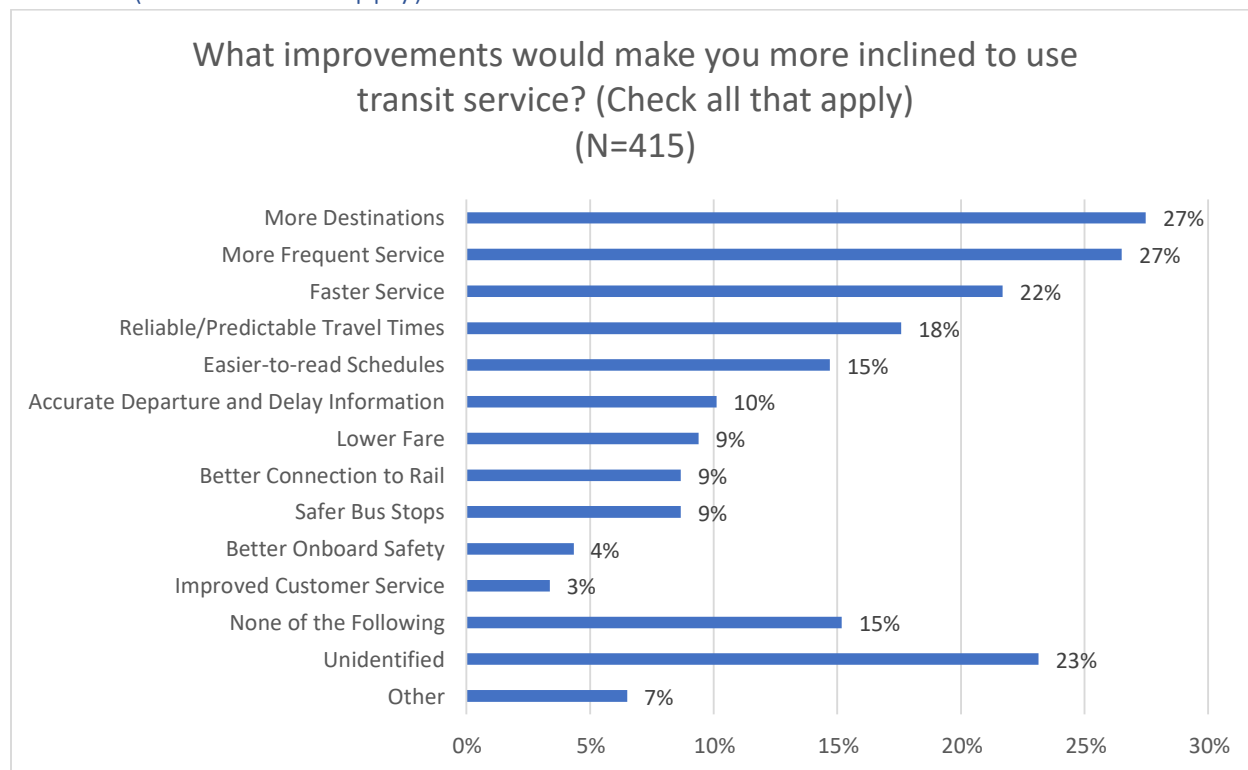
Not all survey results included compliant options. While this question asked that everyone rank their choices, some chose to identify their choice with stars, checkmarks, or other identifiers. Convenience is the most common reason non-riders give for driving their own car. Driving tends to also be associated with feeling more comfortable.

What are the top (3) three reasons you drive your own car? (Please rank your choice, 1, 2, and 3)
(Ranked)

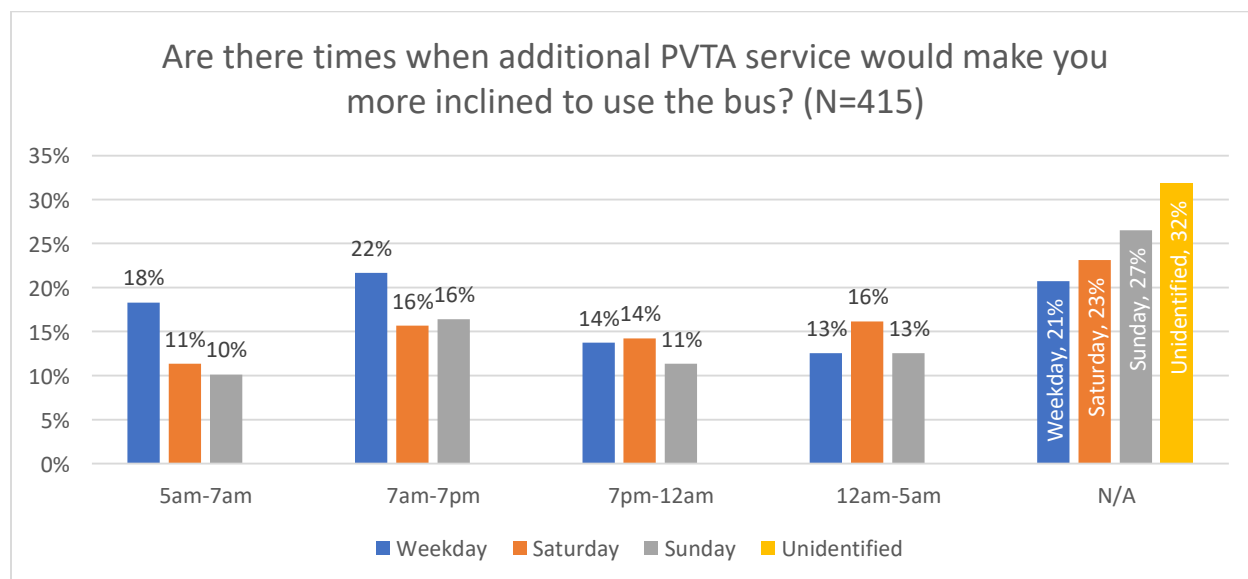


“Convenience” is comprised of multiple aspects of the travel experience. Looking beyond quantity of responses, some answers appear to be secondary to others. While “More Comfortable” is chosen the second most out of all choices, few prioritized comfort over one of the other reasons. Comfort is comprised of multiple aspects of the travel experience.

Question 13: What improvements would make you more inclined to use PVRTA bus service? (Check all that apply)

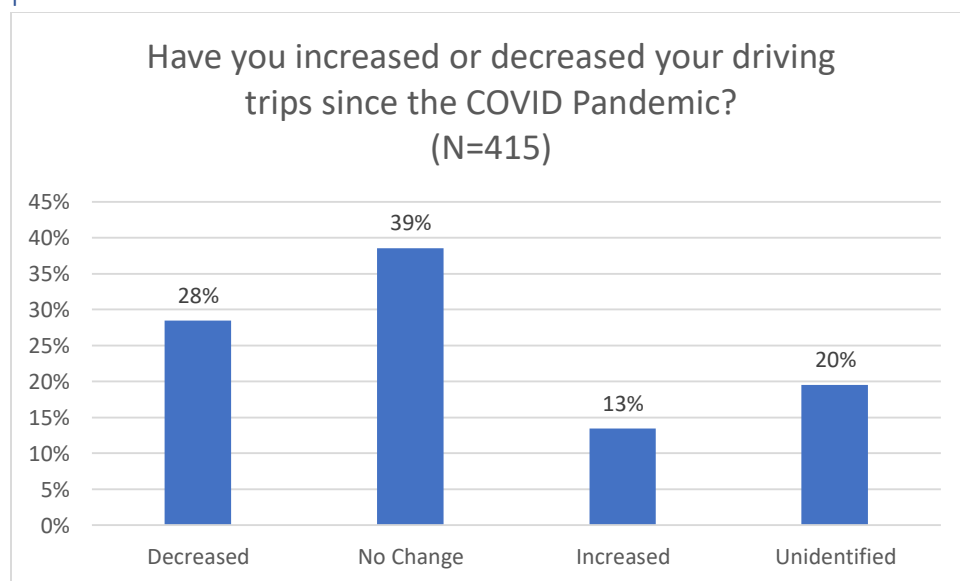


Question 12: Are there times when additional PVRTA service would make you more inclined to use the bus?



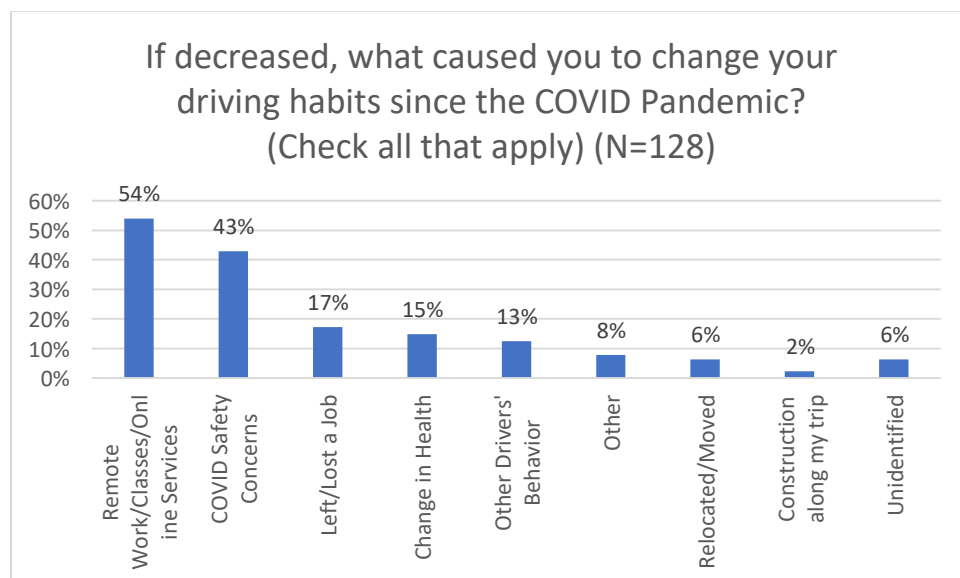
Changes Since the COVID Pandemic

Question 14: Have you increased or decreased your driving trips since the COVID pandemic?



Of non-riders, 31% indicated they had decreased trips since the COVID pandemic. Another 12% increased their trips.

Reasons Provided for Decreased Travel since the Pandemic:⁵

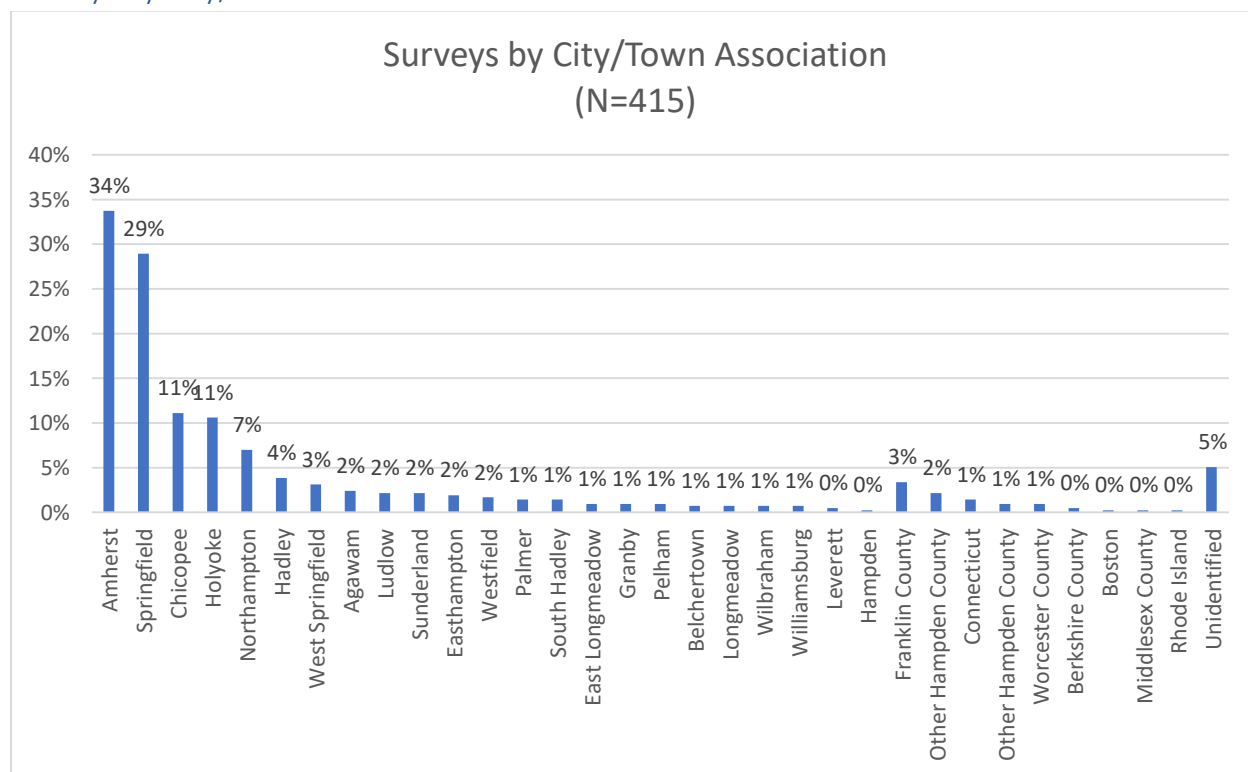


⁵ Answers are abridged for clarity. Original options include: "COVID Safety Concerns", "Other Drivers' Behavior", "Laid off/Fired/Forced Retirement", "Remote Classes", "Left a job/Retired", "Change in Health", "Relocated/Moved", "Remote Work", "Increase in Online Services", and "Construction along my trip".

Forty-five percent of those who decreased trips did so through the use of "Remote Work/Classes" or an Increase in "Online Services".

Demographic Information

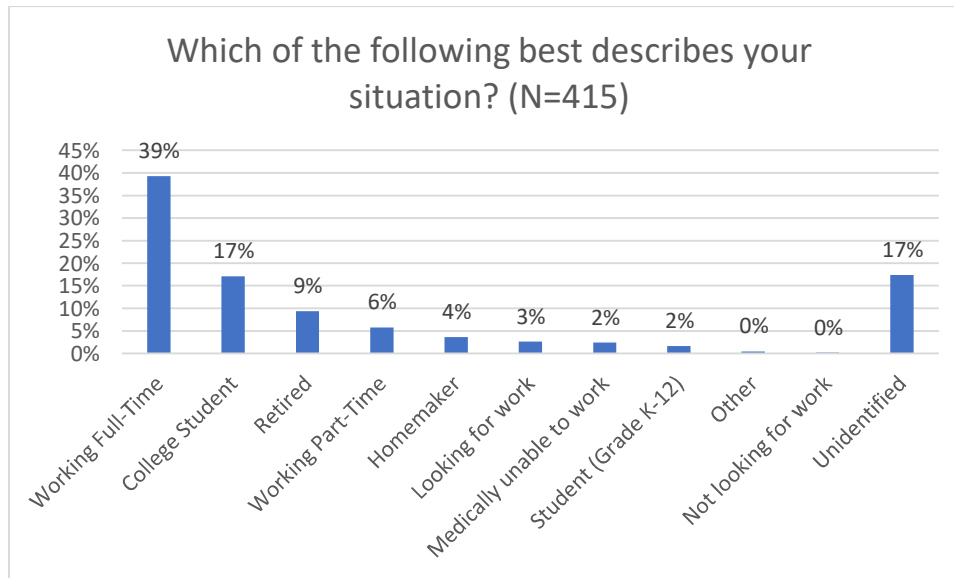
Surveys by City/Town Association⁶



Using origin and destination information we can determine the communities associated with each non-rider. Amherst and Springfield have the most travel activity out of the surveyed locations.

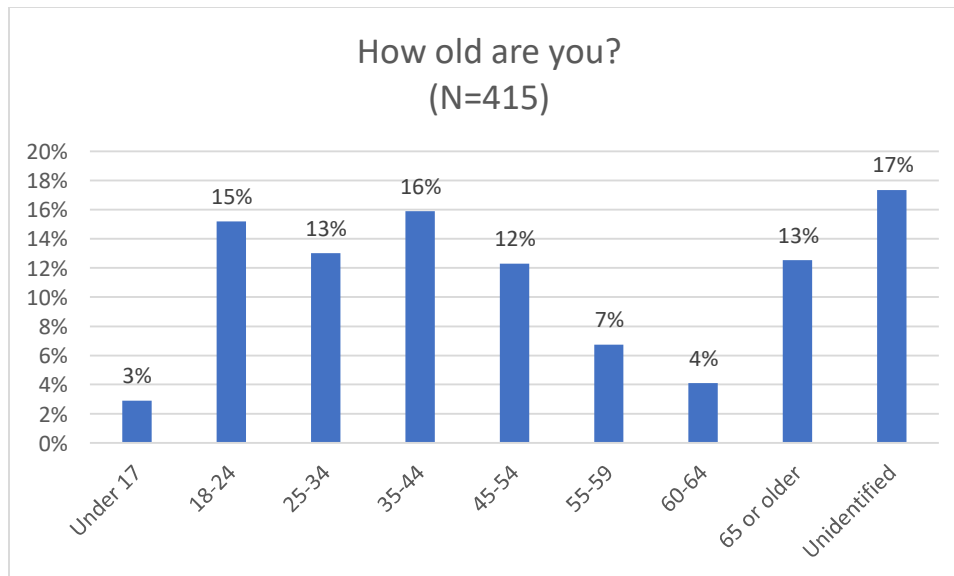
⁶ This chart displays the percent of surveys that include each city/town as either an origin, destination, or both.

Question 17: Which of the following best describes your situation?

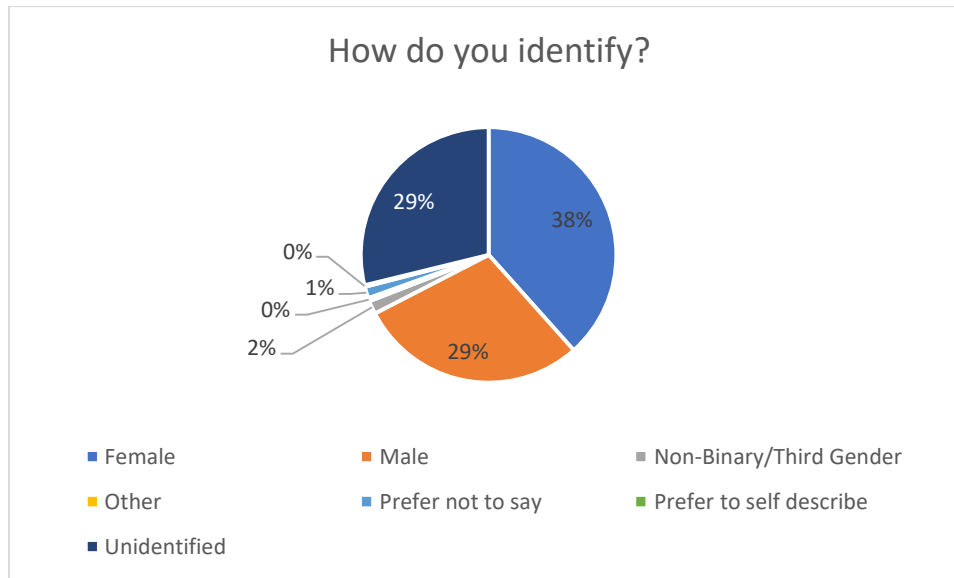


The survey identified that a plurality of respondents are “Working Full-Time”, 39%. College students make up 17% and retirees make up 9%.

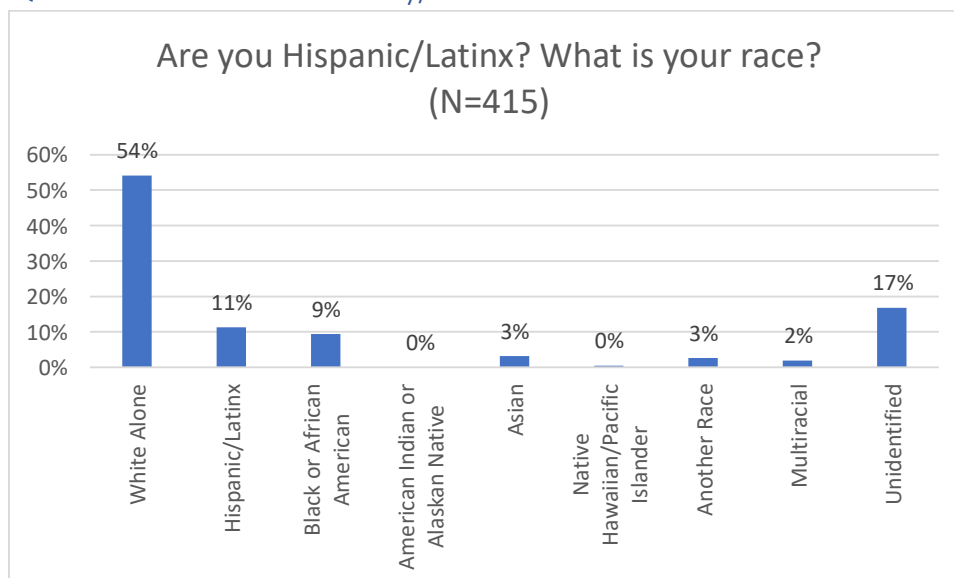
Question 18: How Old Are You?



Question 19: How do you identify? (Gender)

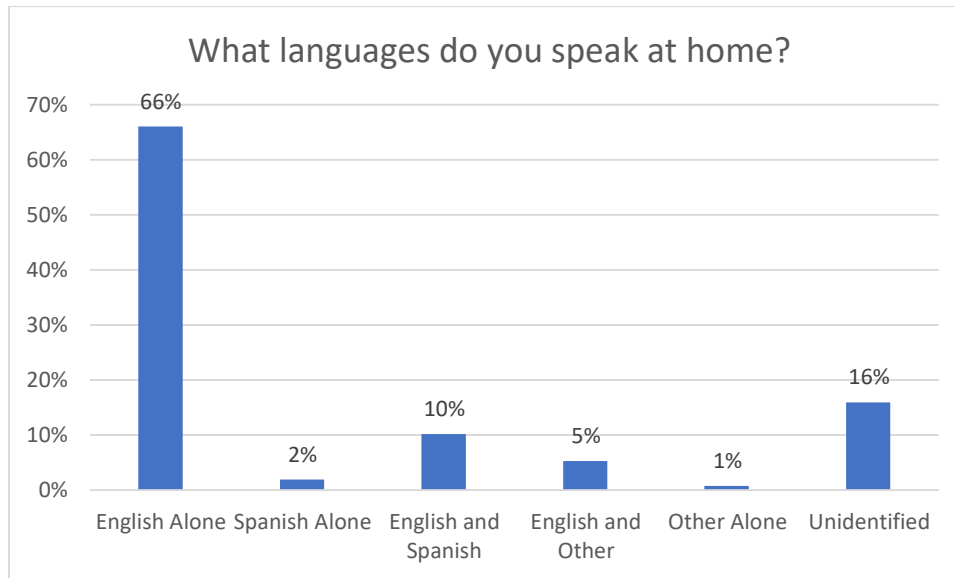


Question 20 and 21: Ethnicity/Race:

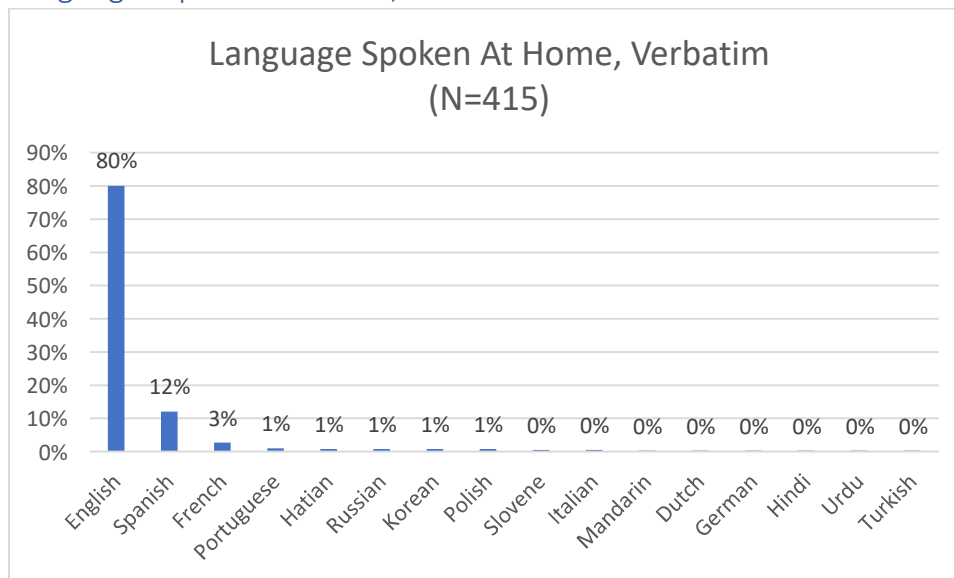


Those considered White make up the majority of non-riders with 54%. Hispanic/Latinx are 11% of the population and Black or African American are 9%.

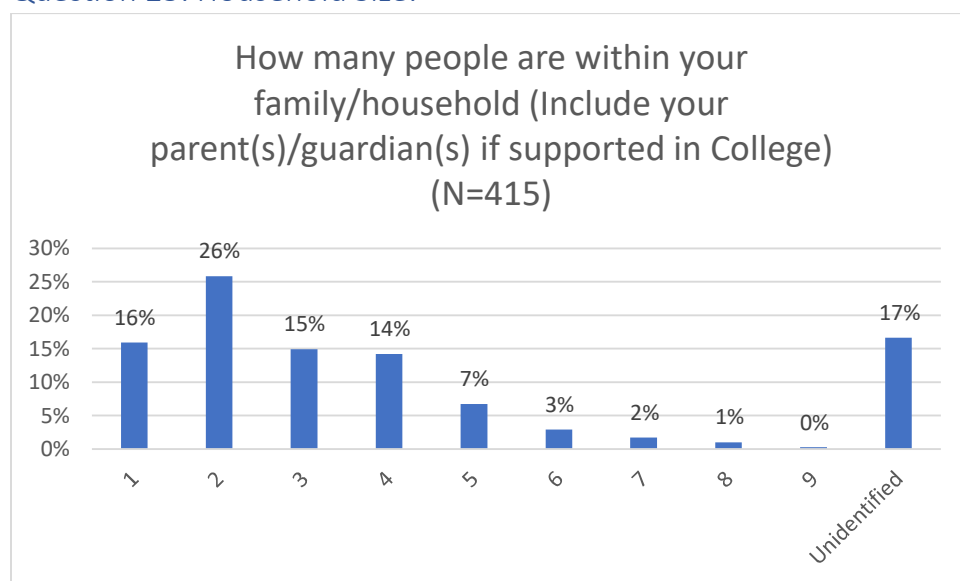
Question 22: Spoken Language at Home:



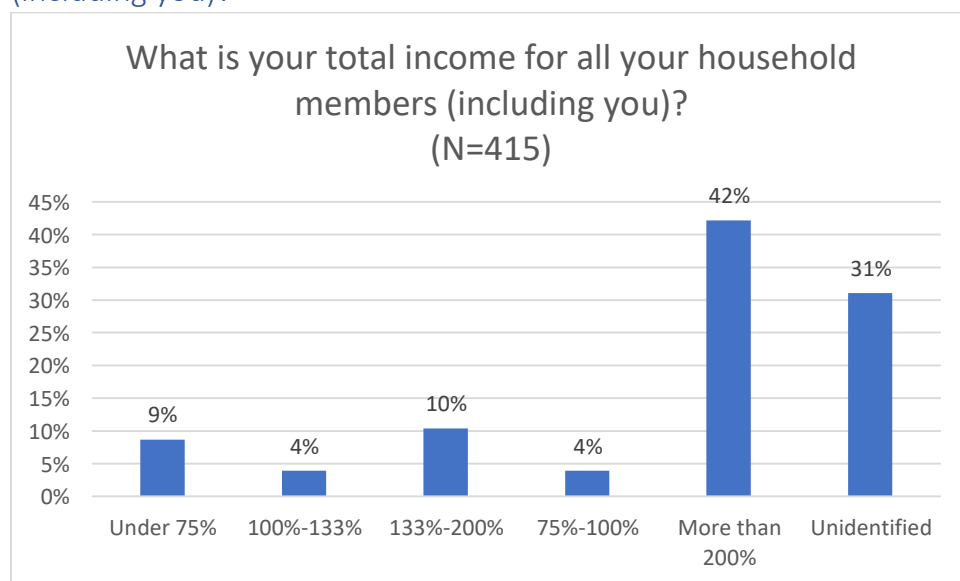
Languages Spoken at Home, Verbatim:



Question 23: Household Size:



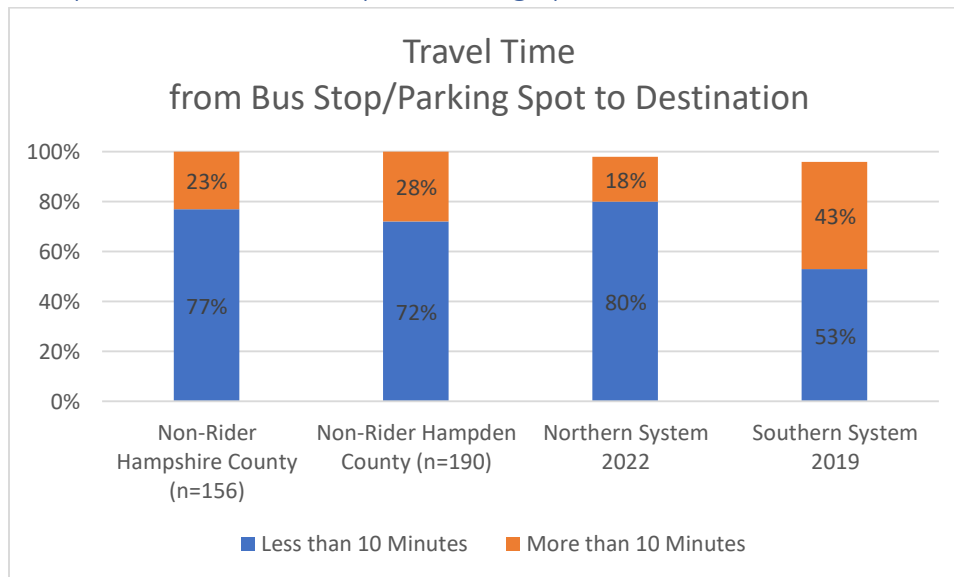
The median household size is two. Few households are larger than five. Household size is one aspect of the Federal Poverty Level calculation PVTa uses to determine low-income populations. Question 24: What is your total income from all your household members (including you)?



The FY2023 Federal Poverty Level is \$14,580 for a single individual and \$24,860 for a household of three.

Travel Time

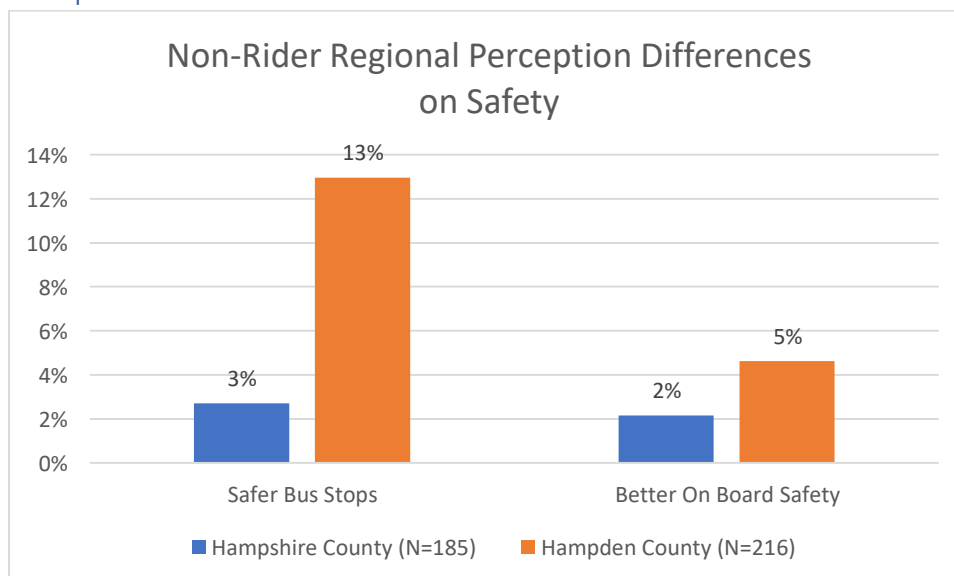
Comparison from Bus Stop or Parking Spot to Destination:



The proximity of parking spaces vs. bus stops may be an area that PVTa can compete with private vehicle travel. While PVTa's Northern System appears more competitive with non-riders in Hampshire County, PVTa's Southern System is less competitive with non-riders in Hampden County.

Safety

What improvements would make you more inclined to use public transit? By Hampden vs. Hampshire Counties

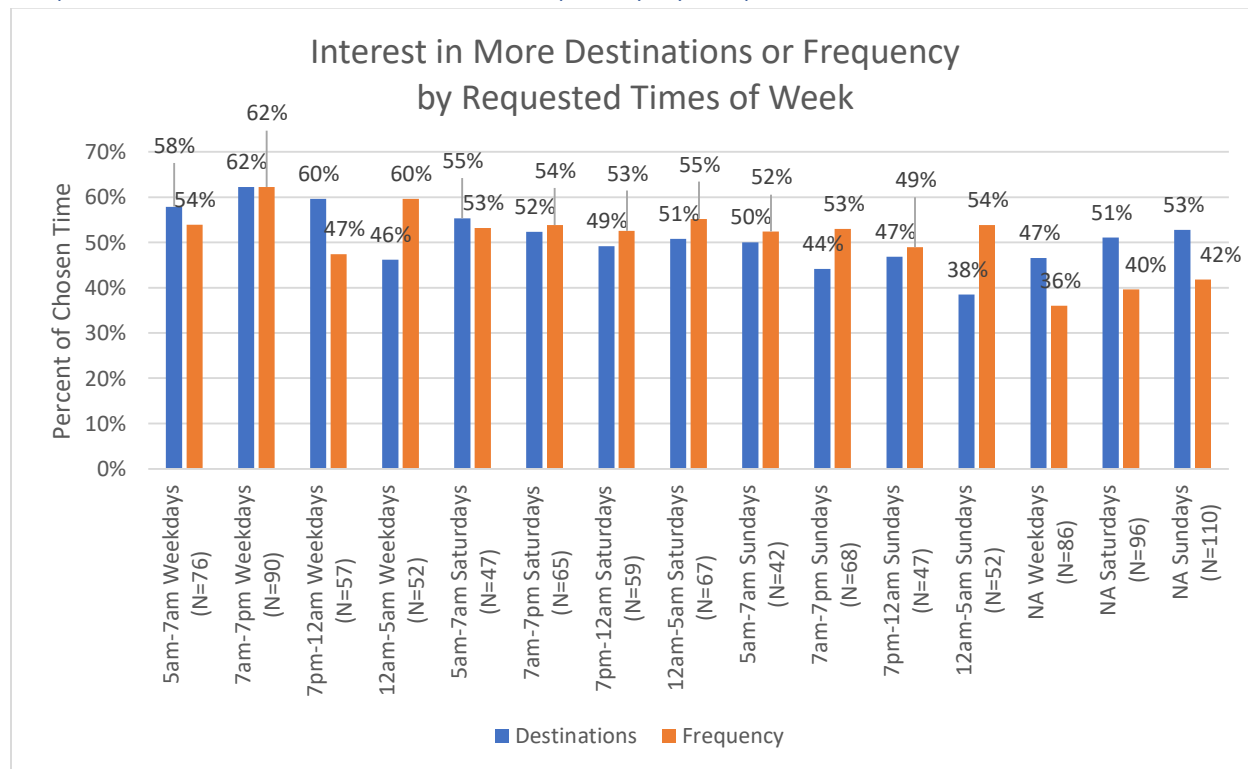


The regional differences in the perception of bus stop safety are statistically significant with this issue being a greater concern for Hampden County. Better "On-Board Safety" trends in a similar direction;

however, not statistically significant. Where safety is a concern, passengers feel safer onboard the bus than outside it.

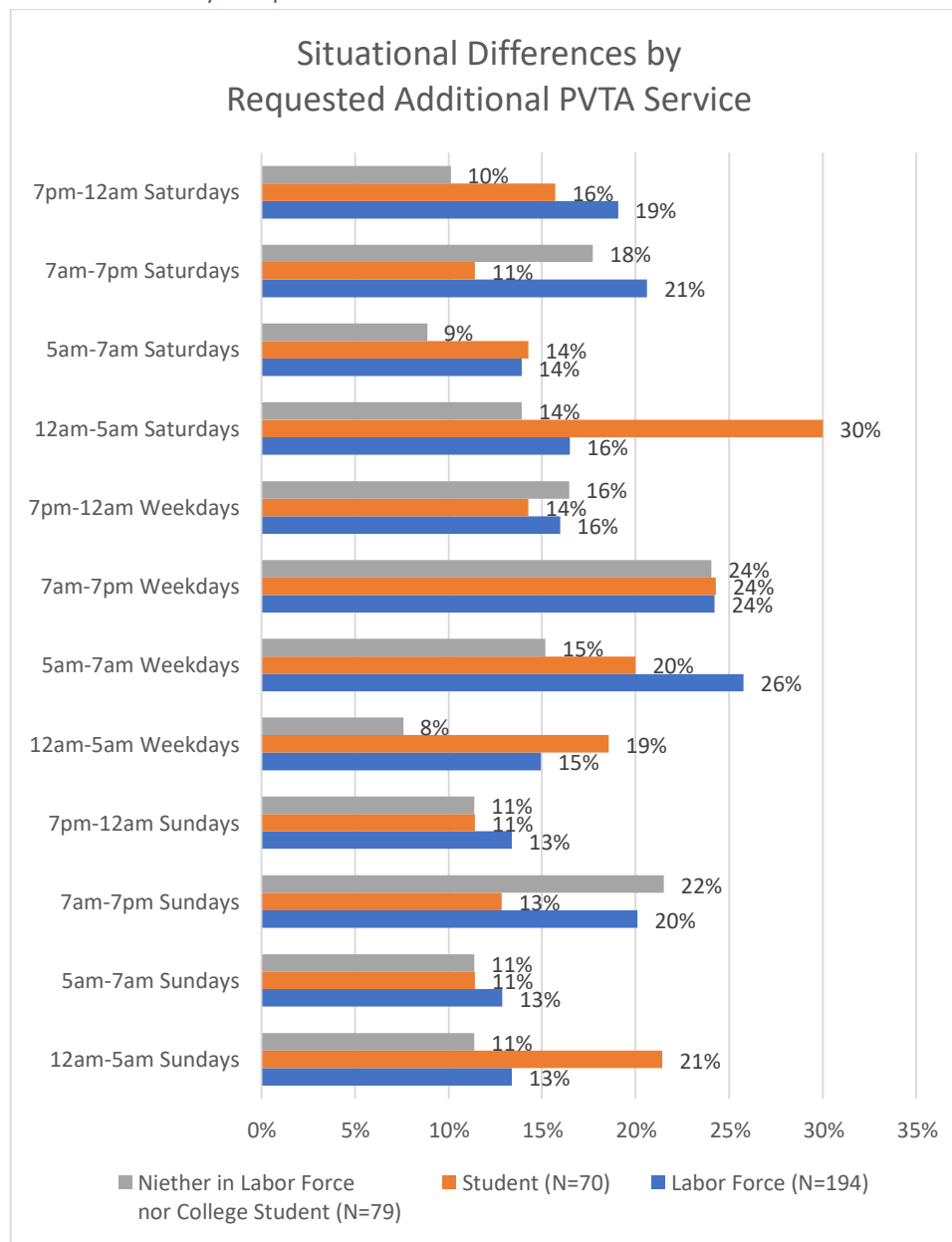
Times of the Week

Requests for More Destination and Frequency by Requests for Additional Service Times



Sixty-two percent (62%) of those requesting 7am-7pm also requested more destinations within the survey (Questions 10 and 13). The same percentage has been met by those requesting additional frequency for the same time period.

Situational Differences by Requested Additional PVTa Service

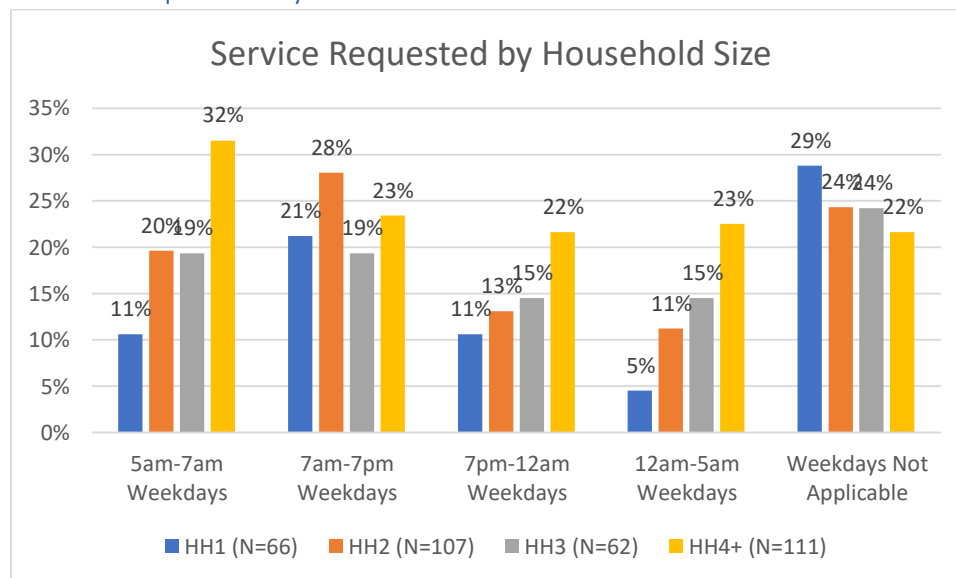


Based on a non-rider's situation, there is statistically significant evidence to suggest the following:

Time of Week	Greater Preference	Lesser Preference
12am-5am Weekdays	College Students	Neither Labor Force/College
5am-7am Weekdays	Labor Force	Neither Labor Force/College
12am-5am Saturdays	College Students	Labor Force and Neither Labor Force/College
7pm-12am Saturdays	Labor Force	Neither Labor Force/College

Understanding the situation of those requesting specific days and times of the week may point to preferences in the types of service being requested.

Service Requested by Household Size



Larger households tended to request additional service with greater span throughout the day while smaller households tend to be more interested in weekday daytime hours. Early commuting hours and evening service hours are requested by larger households most often.

Propensity to Ride Public Transit

Of those answering, “What improvements would make you more inclined to use public transit? Sixty-three (63) responses were for “None of the Following.” That subpopulation can be considered as having the lowest propensity to ride public transit. The average variance between this group and the greater population for each demographic question (Age, Gender, Working/Living Situation, Income and Race) was not statistically significant and can therefore conclude that non-riders without a propensity to ride have no apparent demographic difference from non-riders with a propensity to ride.

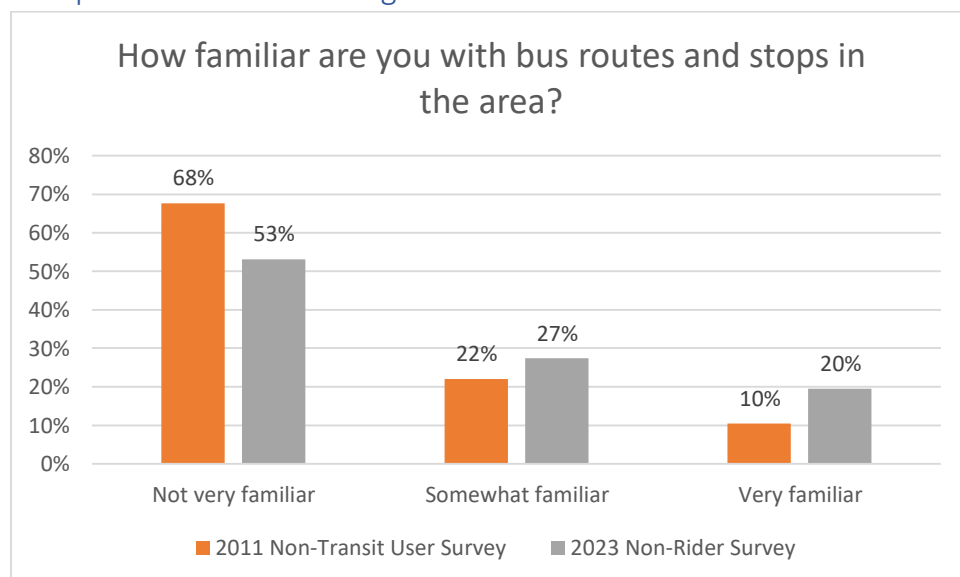
Improvements Requested by Demographic Compared to All Non-Riders⁷

Demographic	Average Variance by Chosen Answer
Age	2.77%
Gender	1.21%
Working/Living Situation	2.52%
Income	1.19%
Race	2.98%

⁷ The average variance is derived from the percentage difference between all non-rider responses and those who chose “none of the following” for the question “What improvements would make you more

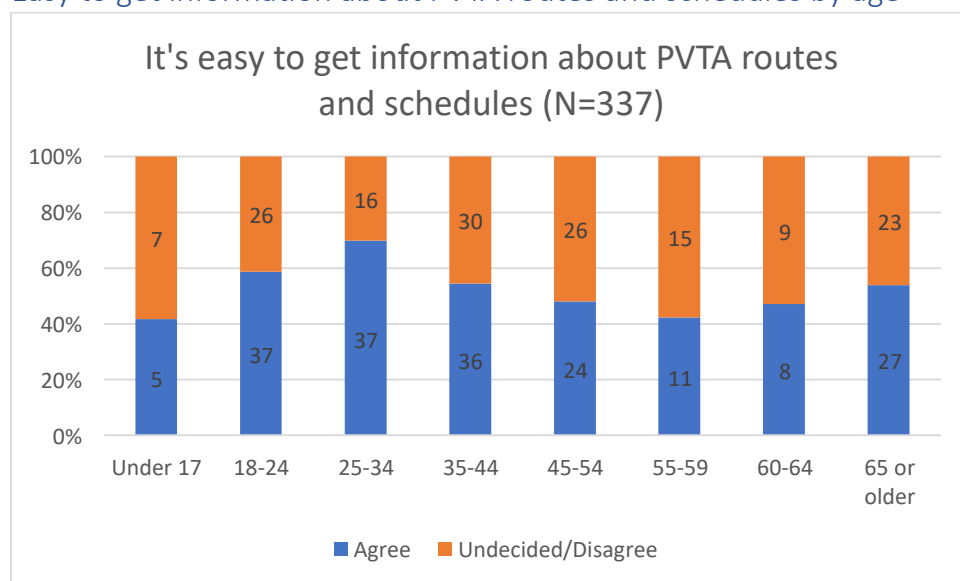
PVTA Familiarity and Access to Information

Comparison of Name Recognition 2011 vs. 2023



Joining “Not at all familiar” with “Not very familiar” in the 2023 survey, the results are then compared to the 2011 survey. There is a 15% growth in familiarity with routes and stops in the area.

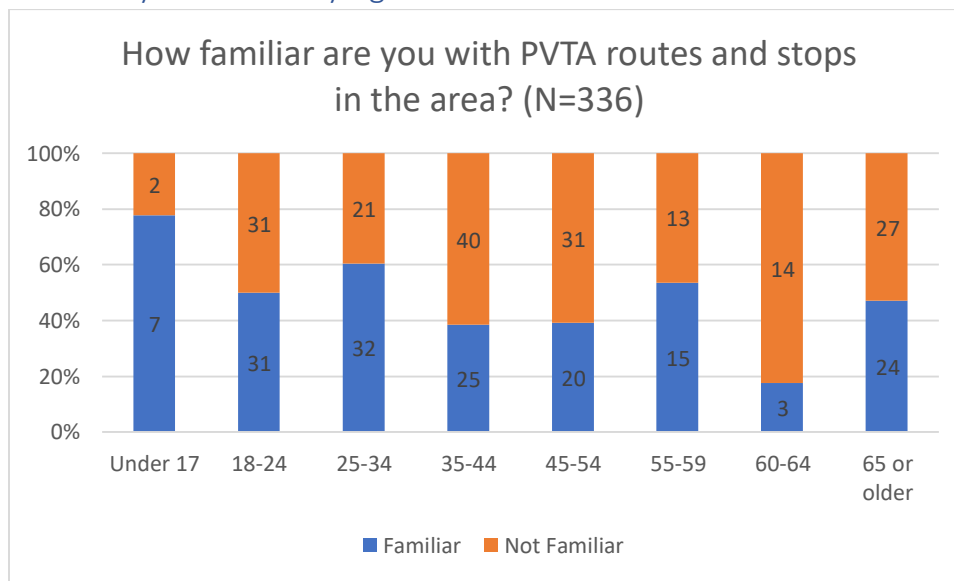
Easy to get information about PVTA routes and schedules by age



This chart suggests those between 45 and 64 years old find it most difficult to use or find information provided by PVTA.

inclined to use transit service?” An average of the absolute value variance was taken for all responses to each demographic question.

Familiarity with PVRTA by Age

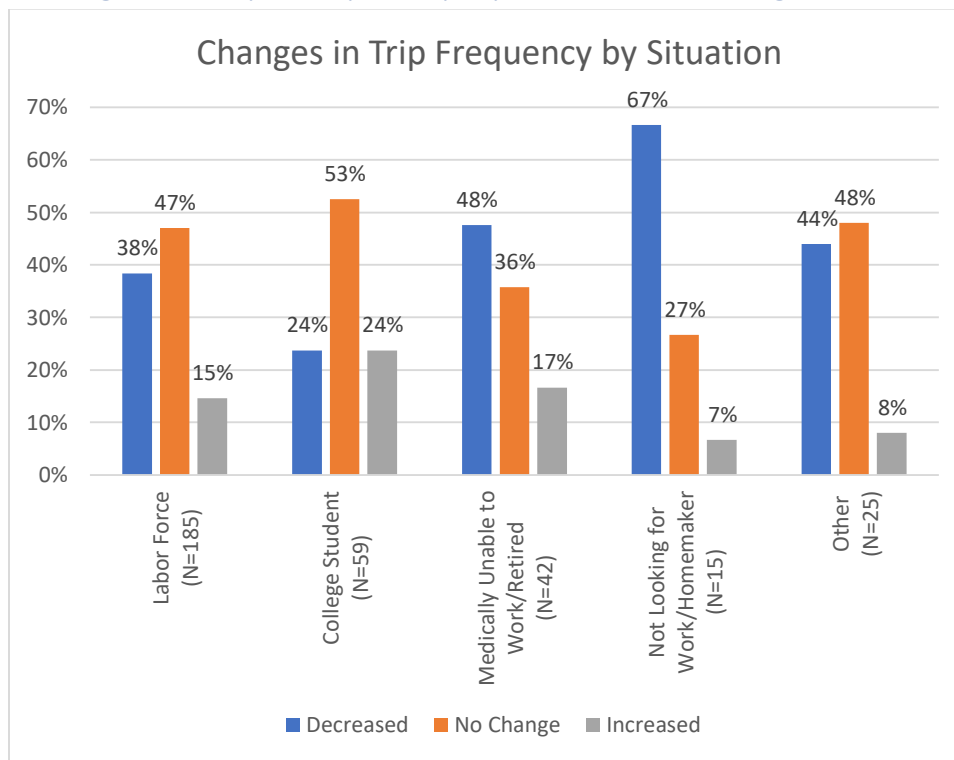


This chart appears to also suggest difficulty reaching those between the ages of 35 and 54 as well as 60 and 64 years old. It is interesting to note that while there is an age gap to familiarity of the PVRTA system, a gender gap is not present.

Ages 35-64 Familiarity of the PVRTA system by Gender

	Not Familiar	Familiar
Female (N=87)	62%	38%
Male (N=65)	58%	40%

Changes in Trip Frequency by Situation during the COVID Pandemic⁸



While those in the labor force (working full-time, part-time and looking for work) represented the most people who decreased trips during the pandemic, those not looking for work/homemakers and medically unable to work were more likely to decrease their trip frequency. College students were most likely not to change their trip habits.

⁸ Individual situations are grouped by potentially similar trip patterns.

Recommendations and Future Study

Recommendation	Supporting Information
Invest in new routes that reach new destinations	Twenty-seven percent (27%) of all surveyed believe more destinations would make them more inclined to use PVTa services. Ninety (90) responses (22% of all surveyed, a plurality) identified 7am-7pm on weekdays as a time in need of additional service. Of those requesting more service from 7am-7pm, 62% (56 responses) also believe more destinations would make them more inclined to use public transit. The combined requests for more destinations and service during daytime hours points to a request to connect destinations differently or adding new destinations to the system during peak service times.
Invest in more frequent service	Twenty-seven percent (27%) also believe that more frequent service would make them more inclined to use PVTa services. 62% (56 responses) of those requesting 7am-7pm service on weekdays also requested more frequent service. 62% of trips surveyed were “unplanned”. More frequent service can allow for greater access to “opportunity trips” or trips made in the moment. This points to increasing frequency during peak service times.
Review bus stop locations in proximity to destinations in Hampden County	In Hampshire County, dominated by local downtowns and colleges, the more popular destinations are closer to main street bus stops than available periphery parking. This is not the case in Hampden County. Comparing non-riders’ and bus riders’ access to destinations, 72% of Hampden County non-riders park within 10 minutes of their destination. 53% of bus riders alight within 10 minutes of their destination. Hampshire County saw no statistical difference between non-riders and bus riders.
Improve marketing efforts to adults aged 35-64 years	Market more specific services provided by PVTa to the region. Based on “How familiar are you with bus routes and stops in the area?” just 30% are “not at all familiar.” Familiarity grew 15% since 2011, which assumes greater name recognition of PVTa. To expand on the growth in familiarity of routes and stops, PVTa should focus on marketing specific routes and services to individual communities.

	Reviewing the ages of those who are familiar with PVTA routes and stops and reviewing the ages of those who agree vs. disagree with the statement that “it is easy to get information about PVTA routes and schedules” those with the lowest knowledge of the system are between ages 35-64. Because all adults aged 35-64 years likely have the same propensity to ride (established by “What improvements would make you more inclined to use PVTA bus service?”) it is important to focus on this group as a whole because PVTA is less known to them.
Address the bus stop safety disparity in Hampden County	There is a need to focus on safety at bus stops within the Southern System. The survey found 13% of those answering in Hampden County felt improvements to bus stop safety would make them more inclined to use public transit. In comparison, this number is 3% for Hampshire County.
Extend overnight service, emphasizing college student trips	Consider adding new overnight trips for college students based on the situational differences of those requesting overnight services on weekdays and weekends. Thirty percent (30%) of all college student respondents requested overnight services on Saturdays.
Consider extended service in the mornings (5am-7am) for commuters	Those in the labor force request access to early morning commuting hours that may be a deciding factor in using public transit.

Future Study

Study Concept	Survey Evidence
Car Ownership	Survey residents by region, town, or neighborhood to determine areas with less car ownership. This was not included in the 2023 Non-Rider Survey.
Competition with Online Services	Study the impact that online services have on Public Transit demand. Forty-five percent (45%) of those who said they decreased driving trips (and 17% of all non-riders surveyed) did so because of remote work, remote classes, or an increase in online services. This may indicate a change in trip purpose and riding habits.

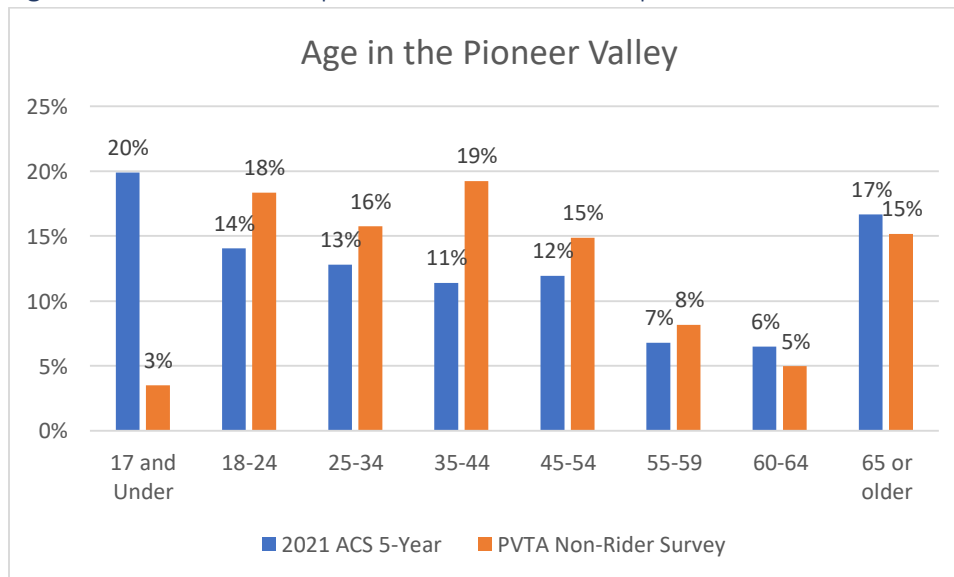
Appendix A: Census Demographic Comparisons

In comparison to the 2011 Non-Transit User Survey, this report also compares survey results to Census Data. While 2021 5-Year American Communities Survey estimates describe the residential population, the survey responses describe the demographics of those making trips (daily or otherwise).

Age:

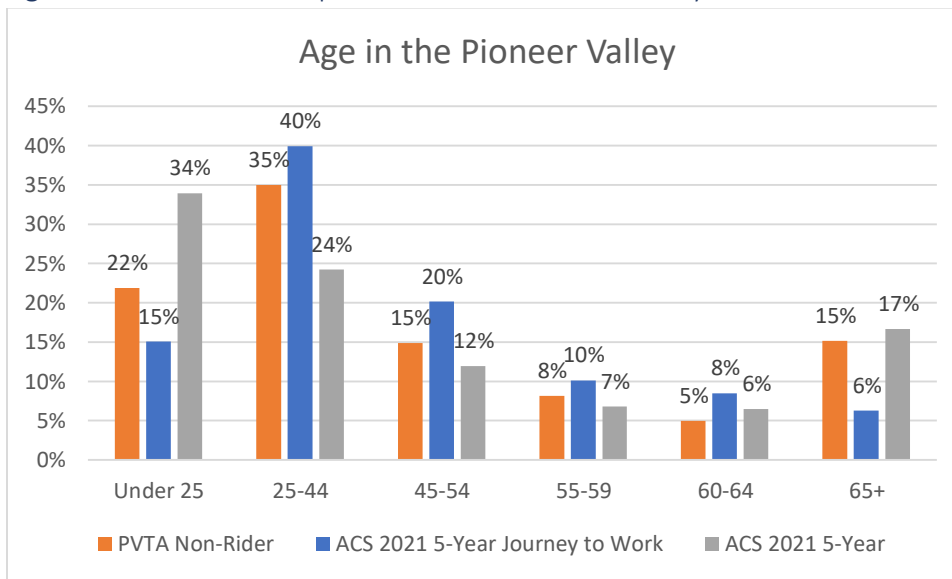
Responses came from ages across the board. Those 17 and under were likely under surveyed due to commonly known issues related to surveying minors⁹.

Ages of Non-Riders Compared to 2021 Census Population:



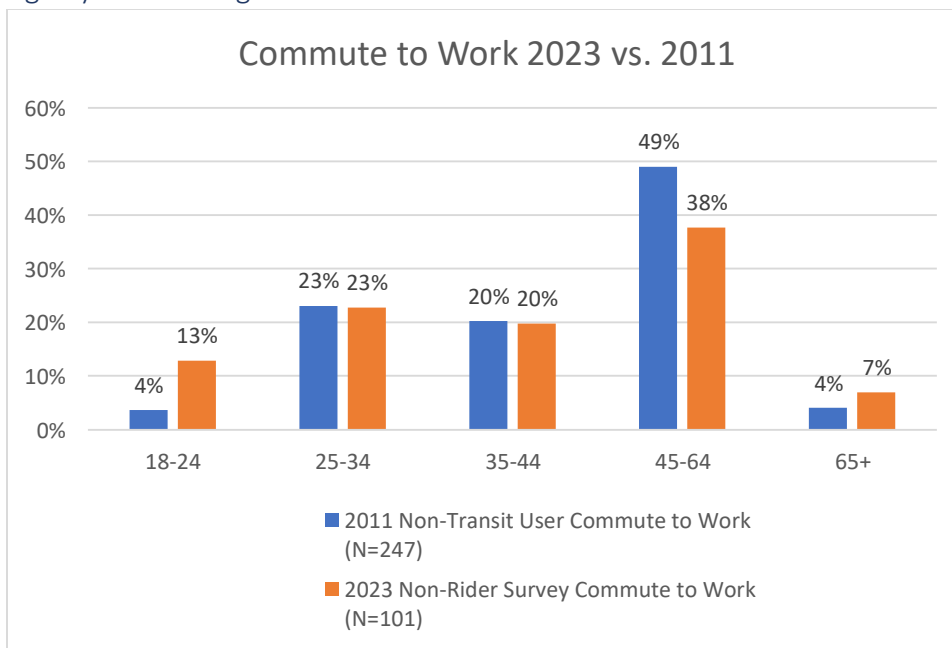
⁹ For additional details, PEW Research Center put together an article on the troubles with surveying minors ([The challenges of conducting surveys of youth | Pew Research Center](#), by Amanda Lenhart, visited July 3, 2023, published June 21, 2021).

Ages of Non-Riders Compared to 2021 Census Journey to Work:

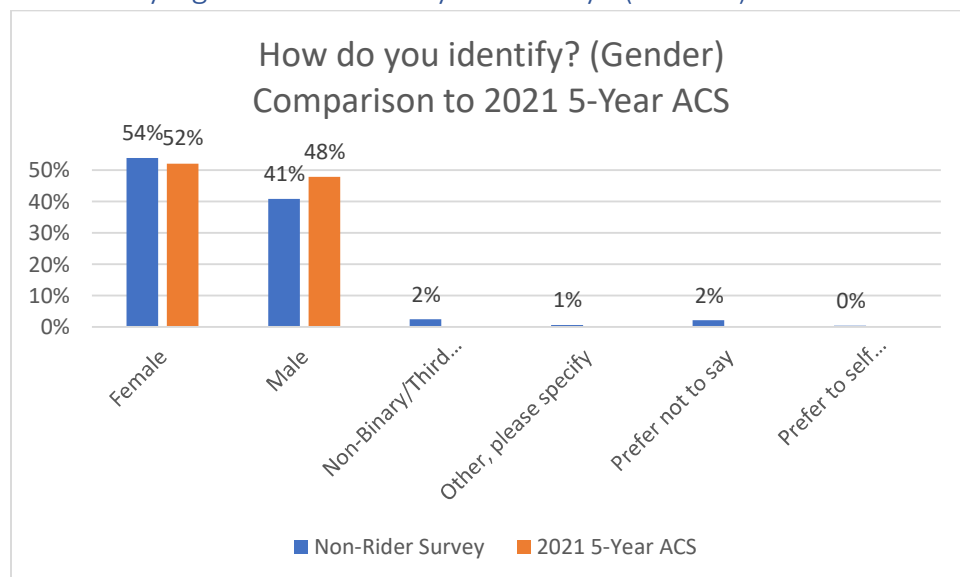


In a comparison of ACS 2021 5-Year population data to ACS 2021 5-Year Journey to Work (excluding transit), non-rider survey responses appear more aligned with Journey-to-work Census data.

Age by Commuting for Work:

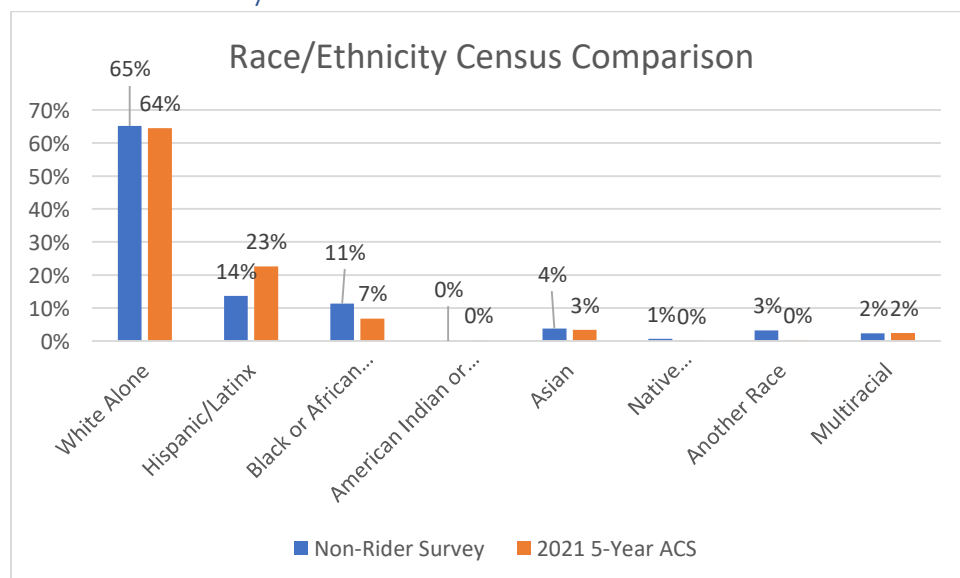


While 45-64 year olds make up a smaller portion of commuters in 2023 compared to 2011 and while 18-24 year olds make up a larger portion of commuters, the data is not statistically significant. How do you identify? (Gender)



Census tracks gender as a binary “Male/Female” question under the umbrella term sex. The more inclusive question asked on the non-rider survey shows ~ 5% of responses not represented by the Census definitions. There are more non-riders who identify as Female than who identify as Male, consistent with national population statistics.

Race and Ethnicity:



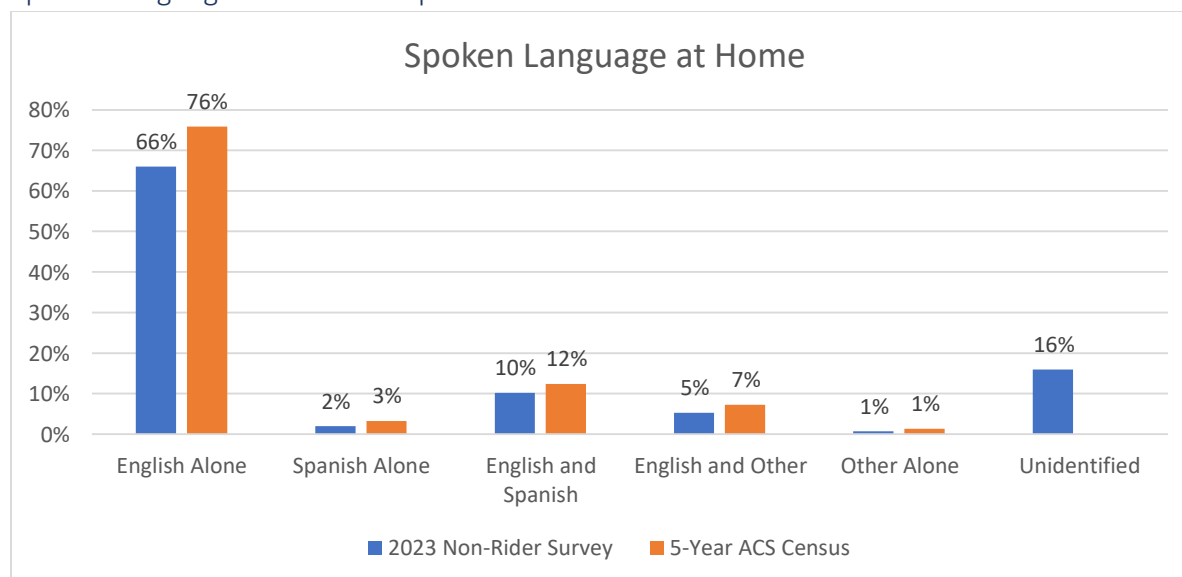
While White Alone results appear comparable, our survey reported fewer Hispanic/Latinx non-rider but more Black or African American non-riders.

Language:

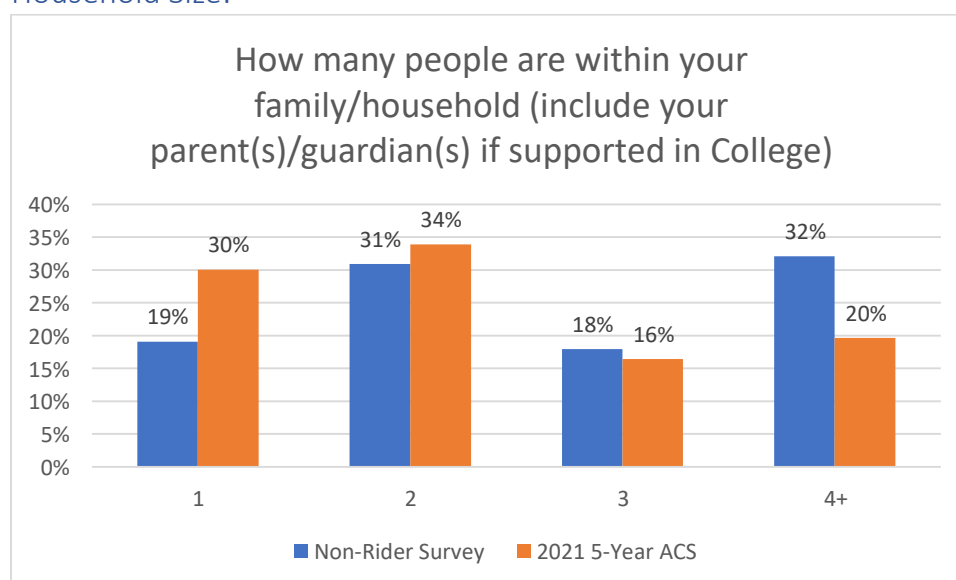
While just 57% of responses were from English Alone speakers, there were a considerable number who left this question blank (27%).

The surveyor interns and staff gathering responses spoke fluent English and Spanish and an elementary level of Portuguese and Catalan to engage with each population. Surveys were offered via paper (in English and Spanish), on e-tablets (English and Spanish) and online (offered in the language set on the individual's mobile device).

Spoken Language at Home Compared to 2021 Census:



Household Size:



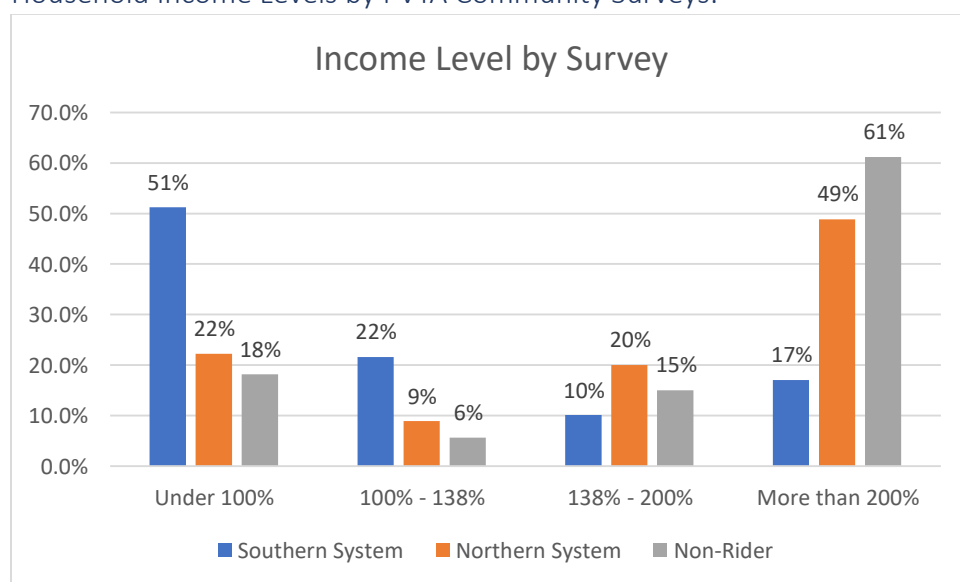
Larger households are overrepresented in this survey, which could point to larger households making more trips than their smaller counterparts.

Income Level:

A household's income level determines their ability to afford a personal vehicle. Personal vehicles have a large one-time cost followed by regular maintenance. Cars also need parking spaces when not in use (both at their origin and destination), which increases their overall cost. Bus trips are an alternative offered for a small monthly fee, or in parts of the PVRTA system, at no cost (prepaid through an association or employer).

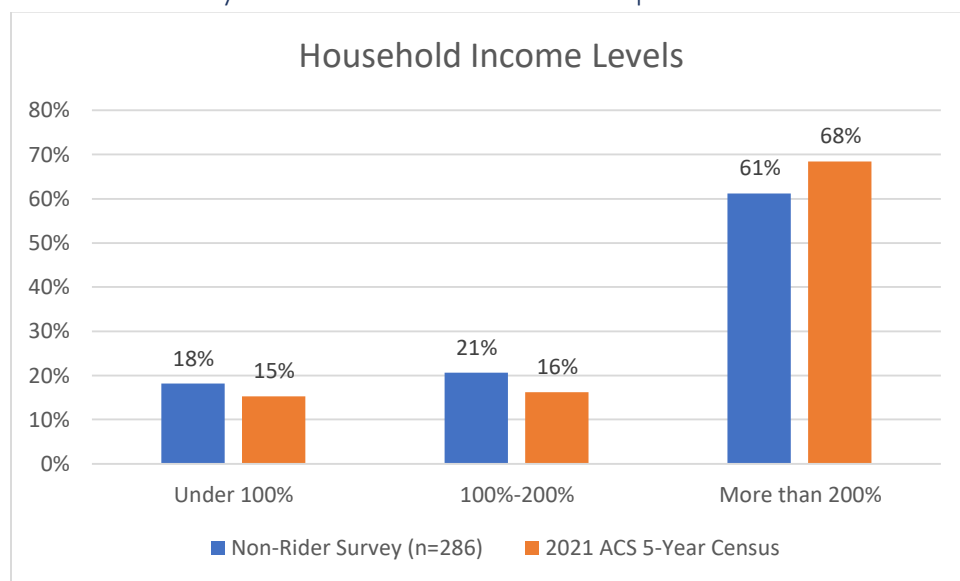
A review of the past two rider surveys along with the non-rider survey show that household income levels in Hampden County are much less for bus riders than the PVRTA region as a whole. Incomes for those surveyed more closely match the bus ridership in Hampshire County (when adjusting data for those who "preferred not say" or left the income question blank).

Household Income Levels by PVRTA Community Surveys:



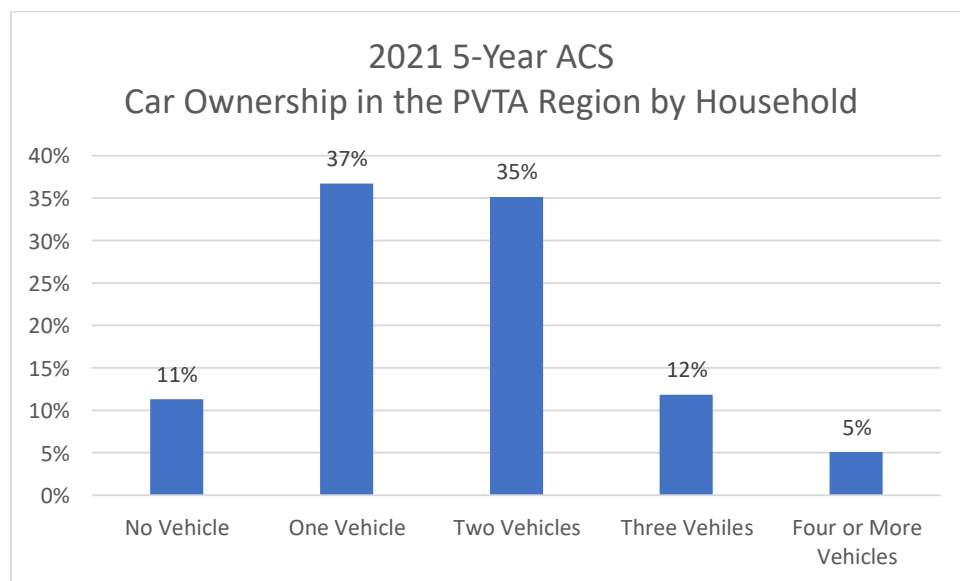
A comparison of incomes reported on the Non-Rider Survey to the 2021 5-Year ACS Census data for the PVRTA region shows that the sample is nearly within the margin of error of the data established by this survey.

Non-Rider Survey Household Income Levels Compared to Census:



Car Ownership

Car ownership is a major indicator of transit trips. Because a question on car ownership was not included in the latest non-rider survey, U.S. Census data and MassDOT data is displayed.



The American Community Survey by Census determined 11% of households living in the Pioneer Valley do not own a vehicle.

Car Ownership by Population

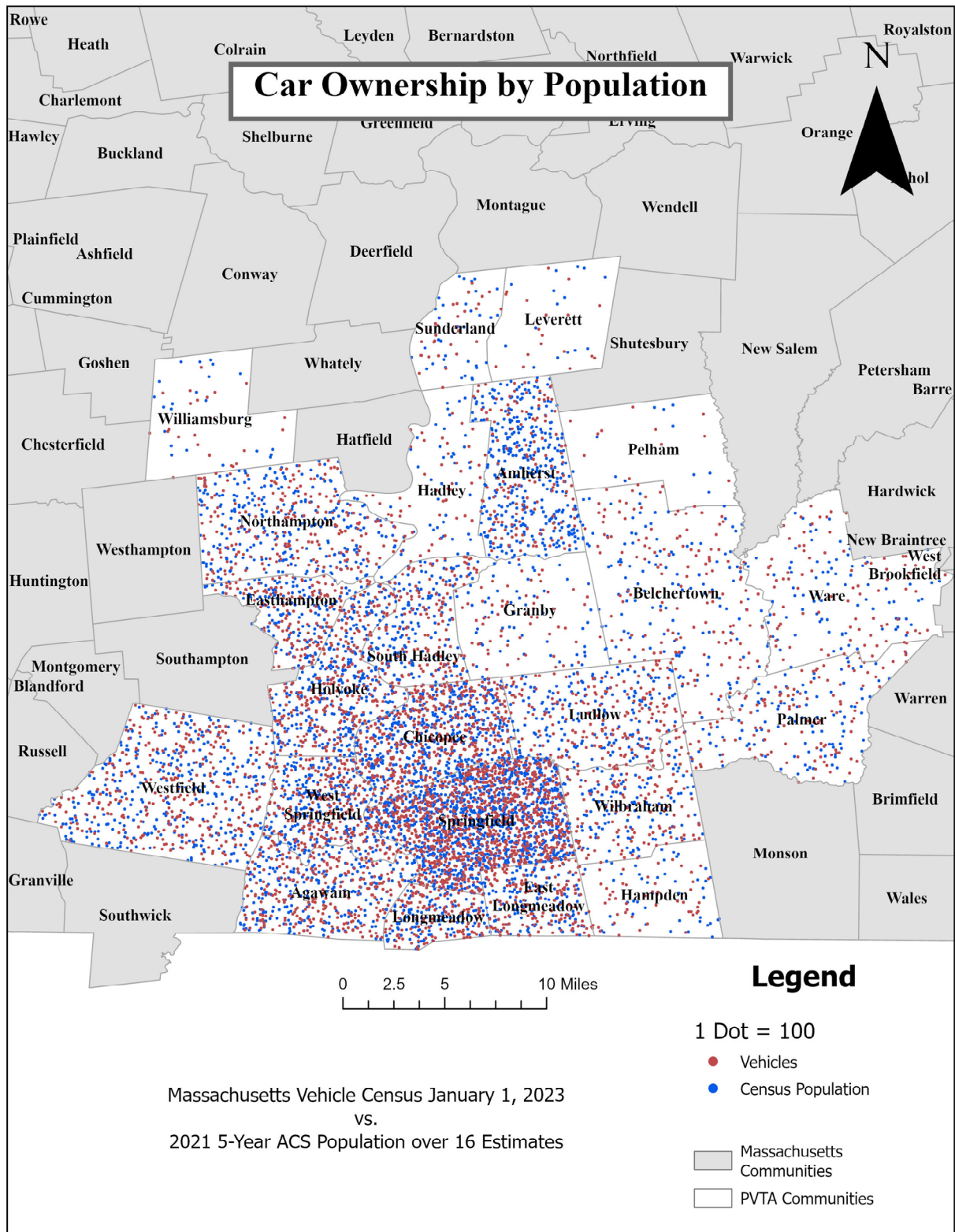
MassDOT provides a Massachusetts Vehicle Census (updated Jan. 1, 2023). That data is combined with 2021 5-Year ACS data and displayed below as data and a dot density map. Communities with fewer

vehicles per person signalize a higher possibility of mode shift. Communities with lower car ownership generally already have more fixed-route transit access.

On Amherst, the University of Massachusetts – Enrollment at UMass was nearly stagnant from 1977 (23,953 students¹⁰) to 2002 (23,332 students). As of 2023 UMass has 31,810 enrolled students, a 36% growth over 20 years. Most students do not have access to their own vehicles.

<i>Community</i>	<i>Vehicles per Population</i>
<i>Leverett</i>	1.17
<i>Belchertown</i>	1.15
<i>Hampden</i>	1.15
<i>Wilbraham</i>	1.14
<i>Granby</i>	1.13
<i>Hadley</i>	1.13
<i>East Longmeadow</i>	1.12
<i>Palmer</i>	1.1
<i>Williamsburg</i>	1.1
<i>Agawam</i>	1.05
<i>Pelham</i>	1.05
<i>Ware</i>	1.04
<i>Longmeadow</i>	1.03
<i>Ludlow</i>	1.03
<i>West Springfield</i>	1
<i>Easthampton</i>	0.99
<i>Westfield</i>	0.95
<i>Chicopee</i>	0.93
<i>Sunderland</i>	0.88
<i>South Hadley</i>	0.87
<i>Northampton</i>	0.81
<i>Holyoke</i>	0.8
<i>Springfield</i>	0.77
<i>Amherst</i>	0.38

¹⁰ “Headcount Student Majors, Fall 1977-Fall 2023 By Degree Program Level and Sex – Fact Sheet”, October 2, 2023. Accessed October 30, 2023, https://www.umass.edu/uair/sites/default/files/publications/factsheets/enrollment/FS_en_03.pdf.



Appendix B: Survey Challenges

The most recent 2011 non-rider survey was conducted through phone calling and distribution of flyers at multiple parking lots and garage locations. Phone calling has since become cost prohibitive as the use of land-line phones has transitioned to mobile phones. Interactions at parking garages have also changed. Parking garages tended to staff parking attendants who would take garage fare. This system has now become automated using phone app systems with no interaction at the entrance or exit.

Every Door Direct Mail (EDDM) and tabling at common sidewalks and entryways were used to decrease concerns from previous methods. The mailing utilized the image on the cover of this report. EDDM allows for choosing specific mail routes. USPS provides an estimated number of residential and business addresses along each route within a GIS map. This allowed PVPC to match routes to Census blocks that closely match PVTA region demographics and filter out mail routes saturated by businesses.

Static survey locations and times pose their own challenges. Surveying multiple days at the same location will bring in repeat residents. There is diminishing return to each location over time. Table locations were also negotiated with the individual businesses or site managers.

Rather than blanketing the region, individual locations were surveyed. Locations had to be chosen to emulate common trips in the Pioneer Valley. These were located in more populated areas. Rural trip types are therefore underrepresented and not all potential trip origins and destinations are represented.

Static times also limited the types of responses received. Responses were therefore based on trips completed rather than by each person. People completing more trips are more likely to be surveyed while those completing no or fewer trips are less likely to be surveyed. Responses are therefore proportional to trips rather than individuals. The trips surveyed may not fully represent or may overrepresent regional population demographics.

Previous system rider survey results are also trip based as they were completed in a finite time period while on specific bus routes.

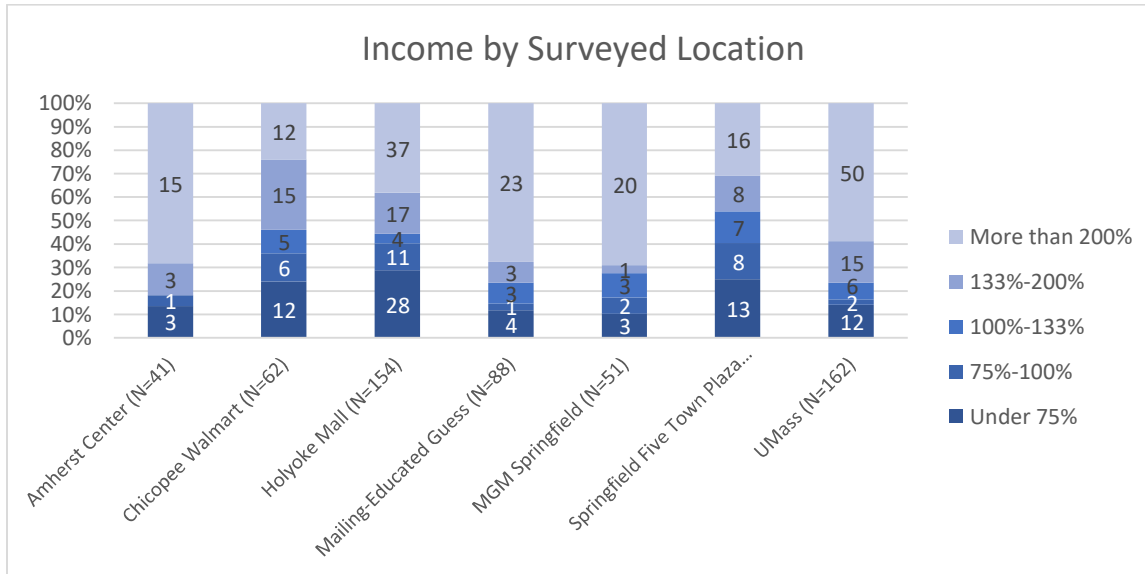
Intern recruitment was also troubled by an overall shift in labor availability. Typically, students are chosen as interns to conduct surveys during the school year for credit or payment as reimbursement for time and labor. The COVID Pandemic sharply increased the rate of seniors leaving the workforce. The adage being those nearing retirement chose to retire early. This caused an increase in better opportunities for the younger generation. Intern interest noticeably decreased this year.

From the results of this survey, of those who answered “Question 14 and 14 b. Have you increased or decreased your driving trips since the pandemic?,” nearly 40% reported a decrease in driving trips

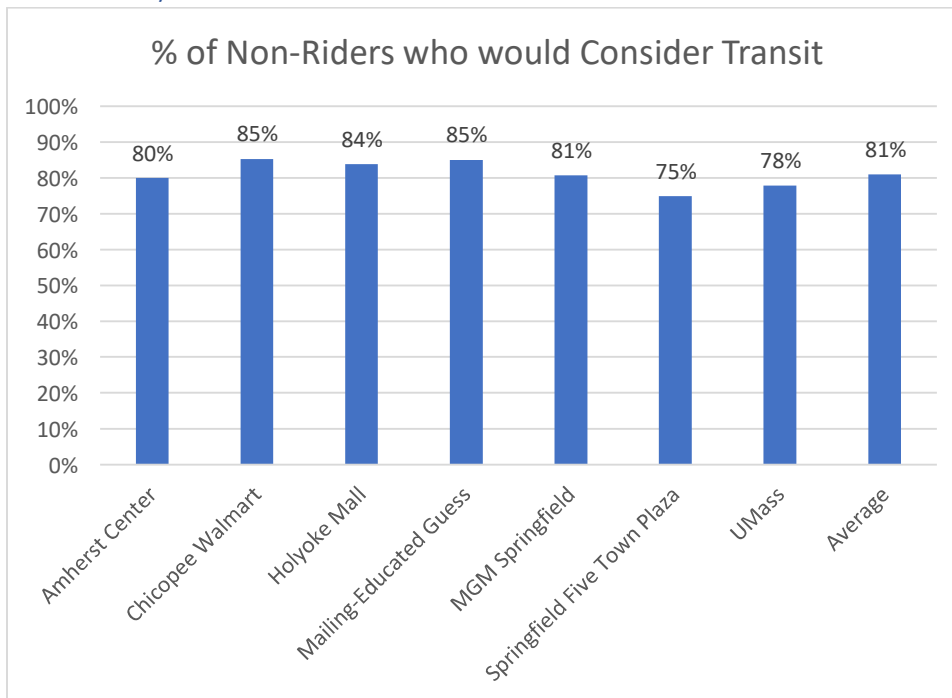
To increase the viability of any individual question, this survey includes all responses with answers to any question.

Appendix C: Survey Site Demographics

Survey by location:

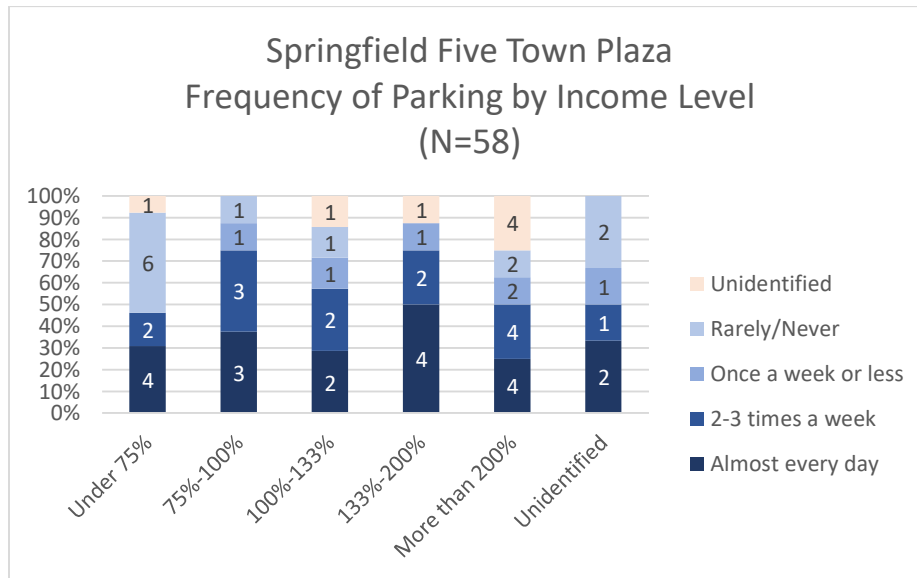


Non-Riders who would feel more inclined to use transit if improvements were made to the PVTA System

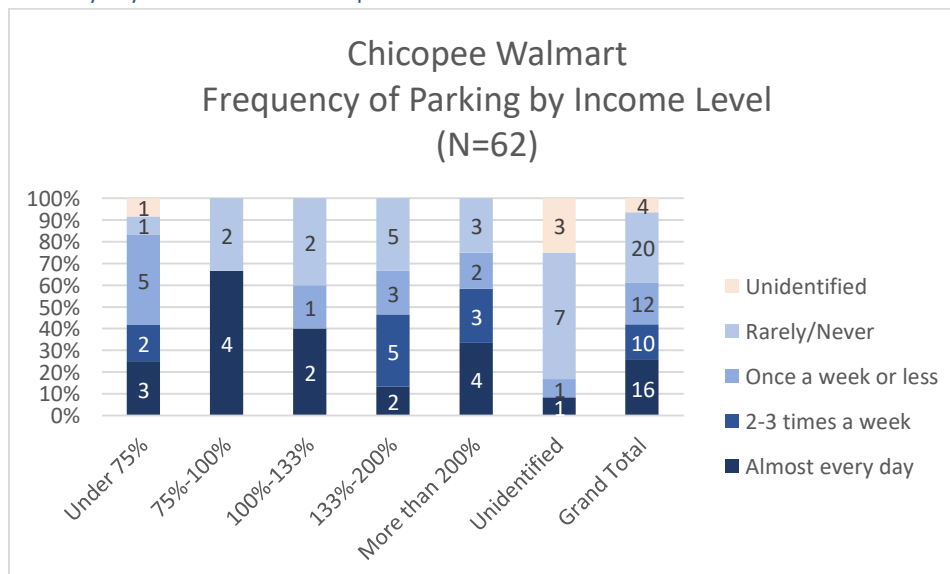


This is the inverse of responses that checked “none of the following” to the question “Are there any improvements that would make you more inclined to use public transit?” The percentages shown describe non-riders who have some propensity to ride public transit.

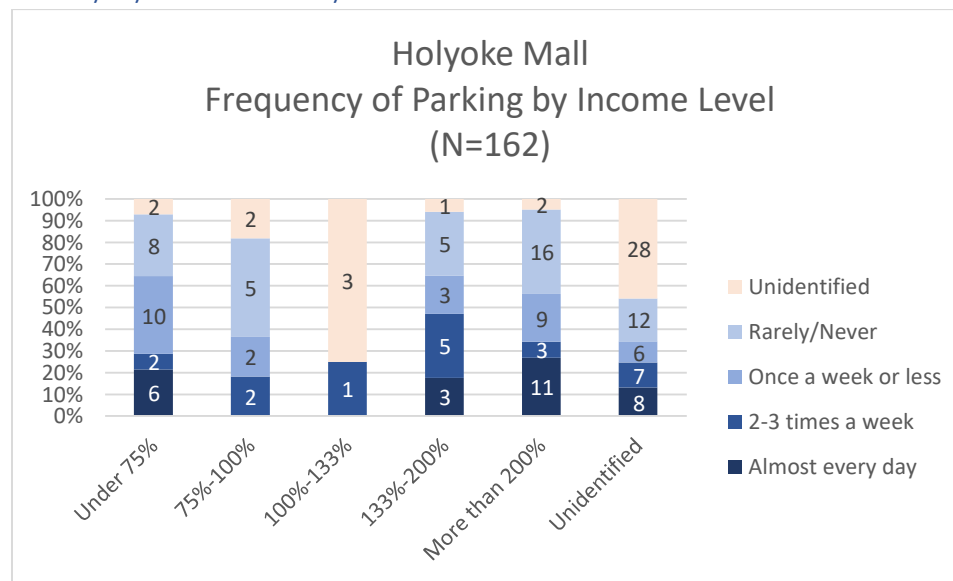
Survey by location: Five Town Plaza



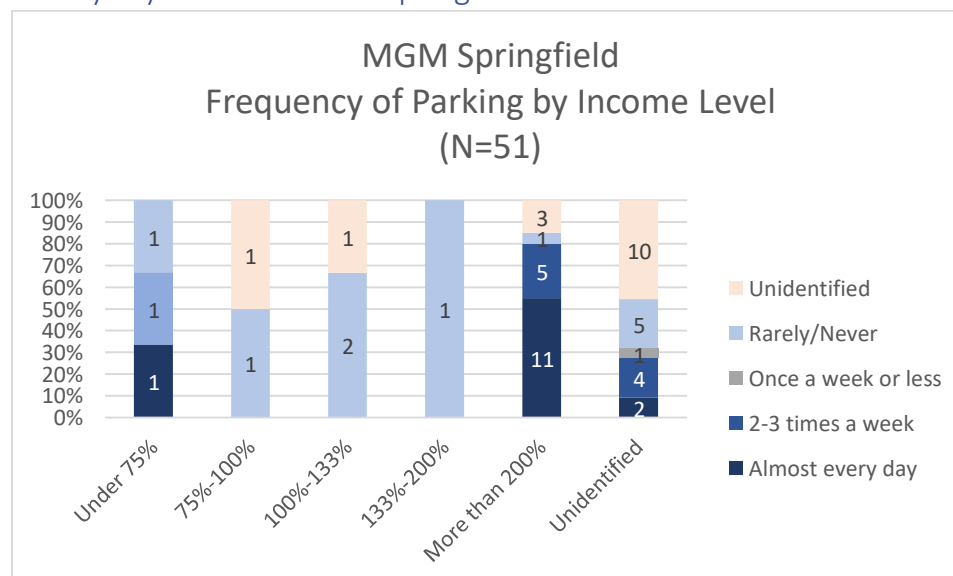
Survey by location: Chicopee Walmart



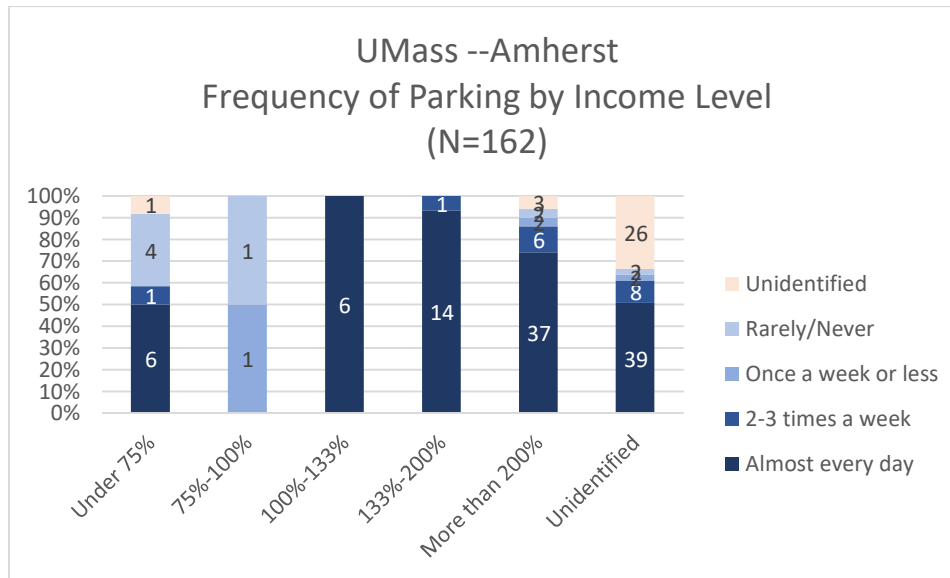
Survey by location: Holyoke Mall



Surveys by location: MGM Springfield



Surveys by Location: UMass-Amherst



Appendix D: Paper Survey

☐ UMass ☐ Northampton ☐ Amherst Common/Parking Garage ☐ Springfield Parking Garage ☐ Holyoke Mall

2023 Transportation Survey

1. What is the purpose of your trip today? (Check all that apply)					
☐ Work		☐ Medical		☐ School (Grades K-12)	
☐ Shopping		☐ Social/Recreation		☐ College/University	
☐ Other: _____					
2. How often do you ride PVTA buses?					
☐ Rarely/Never		☐ Once a week or less		☐ 2-3 times a week	
☐ Almost every day					
3. Where did you start your most recent journey? (Please answer both)					
Building/Cross Streets/Complex: _____				Town/City: _____	
4. Will you be using or did you use any of the following to complete that journey? (Check all that apply)					
☐ I drove to my destination		☐ PVTA Bus		☐ Carpool/Vanpool	
☐ Walk/Bike more than 5 Minutes		☐ Carrier Bus		☐ Other: _____	
☐ Uber/Lyft		☐ Amtrak			
5. How long will it take you to get to your destination from your parking spot? (Please choose (1) one)			6. How often do you park at this location?		
☐ Less than 10 Minutes			☐ Almost every day		
☐ 10-19 Minutes			☐ 2-3 times a week		
☐ 20-39 Minutes			☐ Once a week or less		
☐ 40-59 Minutes			☐ Rarely/Never		
☐ More than 60 Minutes					
7. Where will you end your journey today? (Please answer both)					
Building/Cross Streets/Complex: _____				Town/City: _____	
8. How familiar are you with PVTA bus routes and stops in this area?					
☐ Very familiar		☐ Somewhat familiar		☐ Not very familiar	
☐ Not at all familiar					
9. If you planned your car trip, how did you plan it? ☐ I did not plan my trip					
☐ I planned my trip (please specify): _____					
10. What are the top (3) three reasons you drive your own car? (Please rank your choices 1, 2, and 3)					
☐ Convenience/Saves Time		☐ Feel safer driving		☐ Bus Service is <u>not</u> frequent enough	
☐ Don't Know How to Ride the Bus		☐ Concerns with Bus or Bus Stop Safety		☐ Buses do <u>not</u> go where I want to go	
☐ Driving my Kids/Errands		☐ More Comfortable		☐ Other (Please specify): _____	
11. Please tell us if you Agree, Disagree, or feel Undecided about the following statements.					
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
A. It's easy to get information about PVTA routes and schedules.	☐	☐	☐	☐	☐
B. I drove instead of taking PVTA because buses take too long.	☐	☐	☐	☐	☐
C. I drove because I don't know when the next bus will come.	☐	☐	☐	☐	☐
D. PVTA buses are reliable and on time.	☐	☐	☐	☐	☐
E. I would feel safe using PVTA at night.	☐	☐	☐	☐	☐
F. I would be comfortable waiting and riding with regular PVTA bus riders.	☐	☐	☐	☐	☐
G. PVTA is a necessary public service.	☐	☐	☐	☐	☐
H. I have a good impression of PVTA.	☐	☐	☐	☐	☐

12. Are there times when additional PVRTA service would make you more inclined to use the bus? (Check all that apply)

	Weekdays	Saturdays	Sundays		Weekdays	Saturdays	Sundays
5 AM—7 AM	☐	☐	☐	7 PM—12 AM	☐	☐	☐
7 AM—7 PM	☐	☐	☐	12 AM—5 AM	☐	☐	☐

13. What improvements would make you more inclined to use transit service? (Check all that apply)

- | | | | |
|--|---|---|--|
| ☐ None of the Following | ☐ Faster Service | ☐ Easier-to-read Schedules | ☐ Improved Customer Service |
| ☐ More Frequent Service | ☐ Accurate Departure and Delay Information | ☐ Lower Fare | ☐ Better Connection to Rail |
| ☐ Reliable/Predictable Travel Times | ☐ More Destinations | ☐ Safer Bus Stops | ☐ Other: _____ |
| | ☐ Better Onboard Safety | | |

14. Have you increased or decreased your driving trips since the COVID Pandemic? ☐ Increased ☐ Decreased ☐ No Change

14. b. If decreased, what caused you to change your riding habits since COVID? (Check all that apply)

- | | | |
|---|--|--|
| ☐ COVID Safety Concerns | ☐ Left a Job/Retired | ☐ Remote Work |
| ☐ Other Drivers' Behavior | ☐ Change in Health | ☐ Increase in Online Services |
| ☐ Laid off/Fired/Forced Retirement | ☐ Relocated/Moved | ☐ Construction along my trip |
| ☐ Remote Classes | ☐ Other/Comments: _____ | |

15. Are there places you wish you could get by public transit? _____

16. Do you have any additional comments you would like to make? _____

17. Which of the following best describes your situation? (Please choose (1) one)

- | | | | |
|--|---|---|---------------------------------------|
| ☐ College Student | ☐ Homemaker | ☐ Looking for Work | ☐ Other: _____ |
| ☐ Working Part-Time | ☐ Medically Unable to Work | ☐ Not Looking for Work | |
| ☐ Working Full-Time | ☐ Student (Grade K-12) | ☐ Retired | |

18. How old are you?

- | | | |
|-----------------------------------|--------------------------------|--------------------------------------|
| ☐ Under 17 | ☐ 35-44 | ☐ 60-64 |
| ☐ 18-24 | ☐ 45-54 | ☐ 65 or older |
| ☐ 25-34 | ☐ 55-59 | |

19. How do you identify?

- | | |
|--|--|
| ☐ Female | ☐ Prefer to self describe |
| ☐ Male | ☐ Prefer not to say |
| ☐ Non-Binary/Third Gender | ☐ Other: _____ |

20. Are you Hispanic or Latinx? ☐ Yes ☐ No

21. What is your race? (Check all that apply)

- ☐ White
- ☐ Black or African American
- ☐ American Indian or Alaskan Native
- ☐ Asian
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ Another race: _____

22. What languages do you speak at home? (Check all that apply)

- | | |
|-------------------------------------|--|
| ☐ English | ☐ French |
| ☐ Portuguese | ☐ Vietnamese |
| ☐ Mandarin | ☐ Russian |
| ☐ Cantonese | ☐ Spanish |
| ☐ Haitian | ☐ Another language: _____ |

23. How many people are in your family/household? (Please include your parent(s)/guardian(s) if supported in college)

- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ More than 8: _____

24. What is the total income of all members within your household (including you)? (Please choose (1) one)

- | | | | |
|--|--|--|--|
| ☐ Under \$11,000 | ☐ \$25,500 - \$30,000 | ☐ \$45,000 - \$50,000 | ☐ \$90,000 - \$110,000 |
| ☐ \$11,000 - \$14,500 | ☐ \$30,000 - \$35,000 | ☐ \$50,000 - \$60,000 | ☐ \$110,000 - \$130,000 |
| ☐ \$14,500 - \$19,000 | ☐ \$35,000 - \$40,000 | ☐ \$60,000 - \$70,000 | ☐ \$130,000 - \$150,000 |
| ☐ \$19,000 - \$25,500 | ☐ \$40,000 - \$45,000 | ☐ \$70,000 - \$90,000 | ☐ More than \$150,000 |

Appendix E: Verbatim Comments

I would like to have a bus stop/pickup at the Stop and Shop on Boston Road rather than carrying bags out to Boston Rd
Additional Minibus service for female riders (ie. Elderly Bus), sanitation (stricter), App Update
Bus stop in Allen Park Rd
Bus stops seem very unsafe.
change the color/graphics of the Elc. Buses PVTA bus Schedules in Stores
Even though I don't use it, I'm a big supporter of public transportation. I mostly walk when going to destinations within SPRINGFIELD or drive. I work in Northampton and commute there every day.
Faster, cheaper train travel
Faster, Safer Service
Grateful for what you guys do, thank you
Have not the need for the bus. To be able to Live like I do now.
Having reliable service during Summer or spring break is important for me
I am an older individual and I do not have a cell phone. I am able to use a computer -but- was disappointed in your survey that some older individuals do not have acces to a computer and therefore would be LOCKED OUT of giving you any feedback on these questions.
I am not aware of bus stops near me, or of price.
I appreciate the bus and think it's an important public service. I don't use it as much as I'd like because of the additional time it takes when things are busy. I appreciate being able to get close to my house on the bus (old Belcher town Rd) when possible.
I believe public transportation is very necessary....if we still had trolleys...now that would be convient...ha ha but true
I cannot make any comments to something that I don't know - never take the bus
I do not use transit
I don't know how to easily get to Northampton or the Route 9 malls from North Amherst
I drive myself to work for convenience. Public transportation does not complete my trip home
I go every day to health club but no bus service
I like the bus for long trips without many stops. I like the beach trips in the summer.
I live too far away to ride the bus
I live where there is no bus stops at bluebird acres in Chicopee, MA. If there was a bus near New Lombard or Bluebird Acres I would use it when I did not have enough gas money.
I love services
I love the bus! i wish PVTA were fare-free like FRTA. also, wish there was more space for bikes on the bus.
I love the Express from Northampton to Springfield! I suppose If it was more frequent id take it more
I own a car, so I don't use the bus service, but I like having the option of taking a bus just in case. I used the bus almost exclusively when I was a student and getting to work was a challenge, especially on Sunday. Catering to people with lower income and retail jobs is essential - so thank you! That's when I needed public transit the most.
I prefer to direct to location trips for efficiency, but it's been inconvenient to every other person taking public transit.
I recently found out about the R29 Amherst - Holyoke route and it's great to have a direct bus line connecting these locations!
I should probably learn more about PVTA after seeing this survey.

I strongly support bus service for some people its definitely needed
I think everyone should have access to transportation cause everyone does not have a vehicle
I think PVRTA has excellent service almost all the time. But for the graduate student who lives with us and doesn't drive, the reduced holiday schedules are a problem. If it were easy and fast, I would happily use PVRTA to get to the train station in Northampton, but that's only a few times per year.
I used the bus regularly before moving to the outskirts of Northampton. Now, service is too difficult to come by.
I'd use pvrta if I could make it work.
I'm a former Smith student; I used the PVRTA occasionally then and had a good impression of it. I have since moved back to the area and have not used the PVRTA, as I now have my own car. I don't understand what is meant by the question about whether I planned my last car trip.
It is a great service you provide the community and has given my children the freedom to use the system, which works for them, but not so much for the main drivers in our home.
It's tough to be all things to all people. Pita is a good solid effort.
Janet S in customer service is fantastic!! Whenever I have had a question I am always able to email her and she responds quickly. I had a chance to meet her because I had to renew my pvrta ID and she is great.
Just thank you for taking the time to do this for us little people
later service
Make the busses free and run them more often.
More night rides to Holyoke
More rain shield stop and get ons
More trains
more vans smaller vehicles
Most recent: Bus Trip
My job makes taking public transportation impossible. I go to many different and far cities and towns. The destinations are far from public transport stops.
N maple st seriously needs a bus stop
N/A
NA
No
No
No not really
No.
No.
None
None to note.
nope
Nope :)
Not at this time
Please expand PVRTA coverage into Shutesbury. Our residents are completely shut out of your essential service.
Please increase the frequency of B17 and start it on Sundays too along with later during the day on the weekdays.
Please prioritize service to lower income communities when students are not in school

Public transportation is an essential service and essential to improving equity and quality of life. I lived for a time in Germany as a teenager and was able to travel from a small rural town to a large city in a matter of hours using public transit entirely. That is the dream. increased access to public transport is connected to better outcomes for the environment as well as the economy and standard of living. This is a crucial service that should have significant investment. I would also travel around the state more if I could use public transit; I dislike driving in traffic and late at night.
Route 20 in West Springfield needs to be safer to cross near bus stops.
Stricter rules, safety concerns
Thank you for collecting feedback. I don't spend too much time learning about pvta because I have a vehicle but I'm appreciative the services exist and I would use if needed.
The bus doesn't go near intersection of southeast St and Bay Road in Amherst, Otherwise I would use the bus to commute to work at UMass
The intercity bus service is splendid.
The new service to Worcester is a good idea, but it doesn't run on Tuesday or Wednesday, which are the days I need it! A bus from Amherst to Orange or Gardner could allow connections to the Wachusett commuter rail stop.
This stuff is important for the environment :)
This survey made me consider taking the bus since I live on a bus route
Travel nurse, never been here before
UMass workday starts 7:30-8:30AM, so having the first bus on a line arrive later makes it inaccessible for employees. Public parking near some bus stops would also be helpful so we could at least use the bus for a portion of our commute.
We are on 1 bus route and it is time-consuming to switch buses to go to most of our destinations.
Where I live no buses
Would consider taking it if it was a regular schedule, comparative to drive times and picked up close to my home. Took this survey because the survey team at Holyoke mall on 4.13 was very personable. A credit to pvta.
Yes When will you be fully clean and electric?
Yes. It should be a system after midnight pay at the door before enter the pvta so the driver do deal with drunks.