CHAPTER 4 Measuring Progress

Table of Contents

4 Measuring Progress

Measuring the Pioneer Valley Region's progress and establishing metrics is an essential tool in planning for bicycling and walking. By relating community goals to the measurable effects of transportation investments in the region, we can prioritize planning tasks effectively and adjust that work based on our success. In deciding what to measure, we look for metrics that reflect the goals of the plan, captured through public outreach.

4.1 Summary of Results from Public Outreach

This year, PVPC staff reached out to communities regarding the Pedestrian and Bicycle Plan in the period between April and June 2025. This outreach effort sought to identify challenges faced by cyclists and pedestrians, highlight areas that require improvement, and gather suggestions for enhancing safety and accessibility. Staff would then use this information to inform the planning process and address community needs. Public outreach activities included a Bicycle and Pedestrian Survey (online and paper), an online "Wiki Map" data collection tool, and a "Spin the Wheel" game presented during Bay State Bike Month in Amherst, Northampton, Springfield, UMASS-Amherst, and Westfield.

4.1.1 Spin the Wheel Game Results

The "Spin the Wheel" game activity allowed participants to prioritize investments in bicycling and walking in their community. Different types of Improvements were labeled on separate boxes as follows: Maintenance, Bike Lanes, Sidewalks, Stop Distracted Driving, Safe Crosswalks, Shared-Use Paths (Bike Paths), Bike Racks/Bike Parking, Slow Traffic, Expand Bikeshare, and Your Ideas. Participants dropped the play money they won in bills of "Million Dollars" into the improvement boxes to cast their response. The individual "Million Dollar" bills would then be counted/tallied as votes for each type of improvement requested. Voting with their money highlighted the improvement areas each community was interested in seeing. Several types of improvements were deemed essential to many of the surveyed communities. The types of improvements considered in this activity were explained to participants as described in the following table.

Table 4.1 – Choices of Bicycle and Pedestrian Improvement Projects

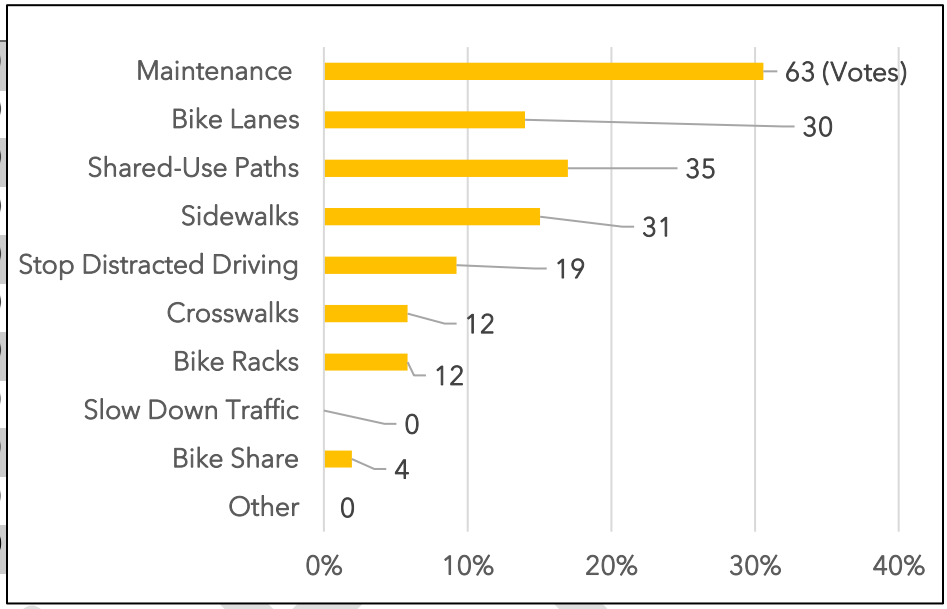
Improvement Categories	Description
Maintenance	Rehabilitating current infrastructure, while maintaining good condition infrastructure.
Bike Lanes	Adding and Improving Bike Lanes in areas with no Bike Lanes or Bike Lanes in need of improvements.
Sidewalks	Adding sidewalk connections or improving existing sidewalks accessibility and safety.
Stop Distracted Driving	Improving driver awareness through enforcement and roadway additions (Signage, rumble strip, etc.)
Safe Crosswalks	Adding crosswalks to areas in need of crosswalks and improving current crosswalks safety and accessibility.
Shared-Use Paths (Bike Paths)	Adding Shared-Use Paths in areas in need, and improving current paths accessibility, safety, and connections.
Bike Racks/Bike Parking	Providing Bike Racks/Bike Parking in areas of need, updating current Bike Parking accessibility.
Slow Down Traffic	Improving Traffic safety through slower traffic by speed limits, traffic calming (speed bumps, speed tables, etc.) and other safety measures.
Expand Bike Share	Adding Bike Share in areas with no existing bike share, improving current bike share infrastructure/system.
Your Ideas/Other	Other Improvements not listed, provided by community members.

Improvement Projects Priority Results by Community:

Votes cast during each of the five in-person outreach events were tallied and analyzed by location. These results offered a snapshot of the priorities and concerns expressed by participants at each location. By reviewing the vote tallies, one can identify the types of pedestrian and bicycle improvements that resonate most with residents of each local. Although the size of the data sample collected did not represent a statistically significant portion of community residents to provide a comprehensive view of the entire population, it offered some insight into the preferences of those who participated. These in-person public outreach events served as an essential venue for direct public input, allowing residents to share their opinions to influence the direction of future infrastructure improvements in their communities.

Figure 4.1 Amherst Votes on Pedestrian and Bicycle Improvements

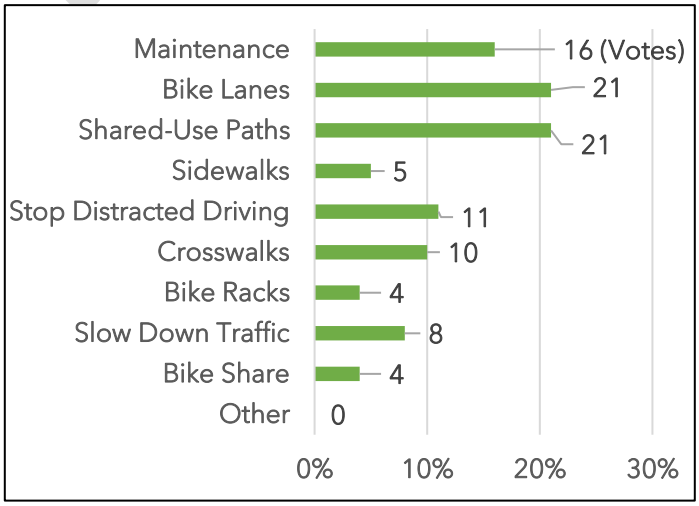
Improvement	Votes
Maintenance	63 (31%)
Bike Lanes	30 (14%)
Shared-Use Paths	35 (17%)
Sidewalks	31 (15%)
Stop Distracted Driving	19 (9%)
Crosswalks	12 (6%)
Bike Racks	12 (6%)
Slow Down Traffic	0 (0%)
Bike Share	4 (2%)
Other	0 (0%)
Amherst Total	**206 (100%)**



Out of 206 votes taken in the Town of Amherst regarding improvements to pedestrian and bicycle infrastructure, community members voted for many local improvements. The top vote at 63 was for the Maintenance category, which received 31% of votes. This high number of votes could indicate that the Amherst participants wish to focus on upkeep and rehabilitation of existing infrastructure to maintain its good condition. A few other categories received a lot of votes by community members. These were medium-ranking project categories that called for improvements in: Shared-Use Paths (17%) with 35 votes, Sidewalks (15%) with 31 votes, Bike Lanes (14%) with 30 Votes, and Stop Distracted Driving (9%) with19 votes.

Figure 4.2 Northampton Votes on Pedestrian and Bicycle Improvements

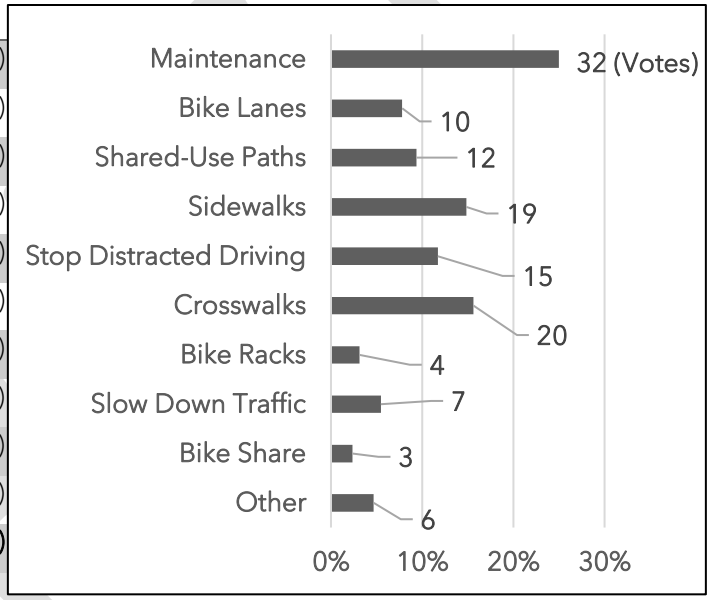
Improvement	Votes
Maintenance	16 (16%)
Bike Lanes	21 (21%)
Shared Use Path	21 (21%)
Sidewalks	5 (5%)
Distracted Driving	11 (11%)
Crosswalks	10 (10%)
Bike Racks	4 (4%)
Slow Down Traffic	8 (8%)
Bike Share	4 (4%)
Other	0 (0%)
Northampton Total	**100 (100%)**



Out of 100 votes taken in the City of Northampton regarding improvements to pedestrian and bicycle infrastructure, community members voted for many improvements. The top two categories of improvements tied at 21% of the votes with 21 votes each were for Bike Lanes and Shared-Use Paths. On-road improvements, including bike lanes, are a necessary improvement especially for roadways that connect people's homes with their desired destinations in a bike friendly community such as Northampton. Other medium ranking improvements were Maintenance (16% of votes), Stop Distracted Driving (11% of votes), and Safe Crosswalks (10% of votes).

Figure 4.3 Springfield Votes on Pedestrian and Bicycle Plan Improvements

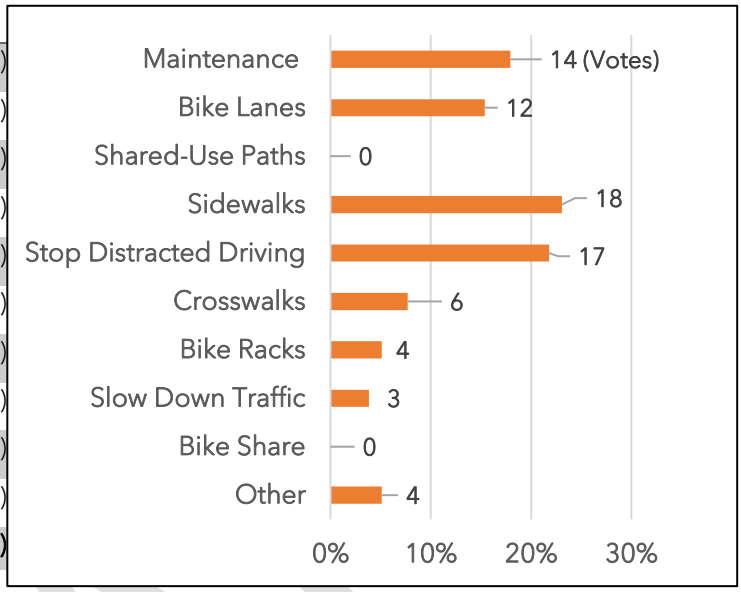
Improvement	Votes
Maintenance	32 (25%)
Bike Lanes	10 (8%)
Shared-Use Paths	12 (9%)
Sidewalks	19 (15%)
Stop Distracted Driving	15 (12%)
Safe Crosswalks	20 (16%)
Bike Racks	4 (3%)
Slow Down Traffic	7 (5%)
Bike Share	3 (2%)
Other	6 (5%)
Springfield Total	128 (100%)



Out of 128 votes taken in the City of Springfield regarding the types of improvements to pedestrian and bicycle infrastructure, participants voted for several improvements. Maintenance received top rank at 25% with 32 votes. This shows that respondents prioritized maintaining the current infrastructure. Other medium-ranking improvement types included: Safe Crosswalks at (16%) with 20 votes, Sidewalks at (15%) with 19 votes, Stop Distracted Driving at (12%) with 15 votes, Shared-Use Paths at (9%) with 12 votes, and Bike Lanes at (8%) with 10 votes.

Figure 4.4 UMASS Amherst Votes on Pedestrian and Bicycle Plan Improvements

Improvement	Votes
Maintenance	14 (18%)
Bike Lanes	12 (15%)
Shared-Use Paths	0 (0%)
Sidewalks	18 (23%)
Stop Distracted Driving	17 (22%)
Safe Crosswalks	6 (8%)
Bike Racks	4 (5%)
Slow Down Traffic	3 (4%)
Bike Share *	0 (0%)
Other	4 (5%)
UMass-Amherst Total	**78 (100%)**

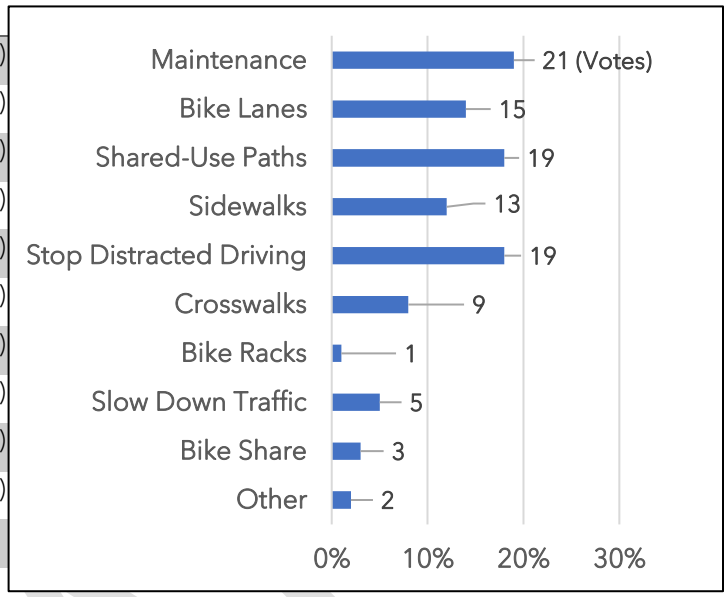


* This event location did not have Bike Share among the project categories

Out of 78 votes taken at the University of Massachusetts Amherst Campus regarding improvements needed to pedestrian and bicycle infrastructure, participants voted for several improvements to be made within the campus/Amherst area. The top two votes were for Sidewalks at (23%) with 18 votes and Stop Distracted Driving at (22%) with 17 votes. These votes indicate that improving sidewalk connectivity to keep pedestrians safely out of the roadway and implementing enforcement and other solutions to stop distracted driving are top priorities for campus community members. One can expect rural college campuses, such as UMass-Amherst, to be overwhelmingly made up of pedestrian zones, where most community members choose to walk because it is the most efficient and affordable mode of travel. Other medium ranking improvements were Maintenance at (18%) with 14 votes, Bike Lanes at (15%) with 12 votes, and Safe Crosswalks at (8%) with 6 votes.

Figure 4.5 Westfield Votes on Pedestrian and Bicycle Plan Improvements

Improvements	Votes
Maintenance	21 (19%)
Bike Lanes	15 (14%)
Shared-Use Paths	19 (18%)
Sidewalks	13 (12%)
Stop Distracted Driving	19 (18%)
Safe Crosswalks	9 (8%)
Bike Racks	1 (1%)
Slow Down Traffic	5 (5%)
Bike Share	3 (3%)
Other	3 (2%)
Westfield Total	**108 (100%)**

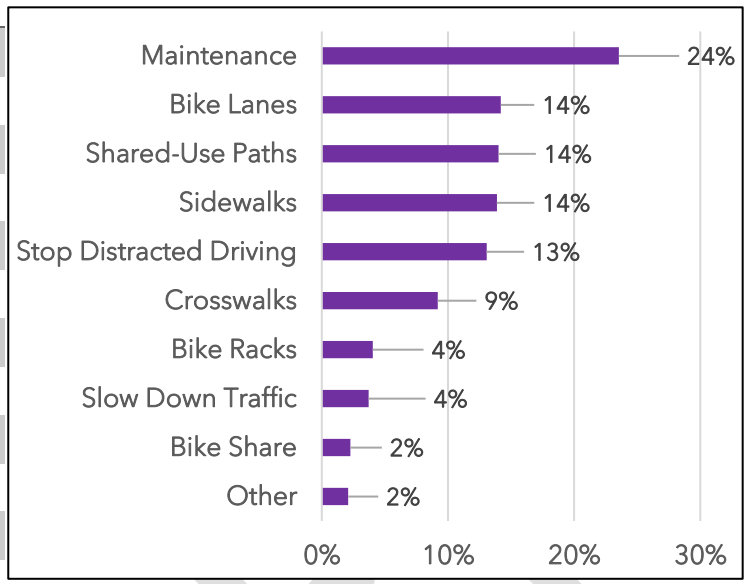


Out of 108 votes taken in the City of Westfield regarding improvements to pedestrian and bicycle infrastructure, participants voted for various improvements to be made within the city. Maintenance received the top vote at 19% with 21 votes. The prioritization of Maintenance could indicate that the surveyed community members wished to focus on maintaining the existing infrastructure in good condition. The second two high-ranking improvements tied at (18%) with 19 votes each were to Stop Distracted Driving and Shared-Use Paths. Medium ranking improvements included Bike Lanes (14%) with 15 votes), and Sidewalks at (12%) with 13 votes.

The following page contains the combined community total votes which represent regional priorities for improvements by project category. This is followed by a comparison between the various surveyed communities votes for improvement projects related to bicycles and pedestrians.

Figure 4.6 Combined Community Totals of Choices of Improvements

Improvement	Votes
Maintenance	24%
Bike Lanes	14%
Shared-Use Paths	14%
Sidewalks	14%
Stop Distracted Driving	13%
Safe Crosswalks	9%
Bike Racks	4%
Slow Down Traffic	4%
Bike Share	2%
Other	2%
Combined Totals	**620 (100%)**



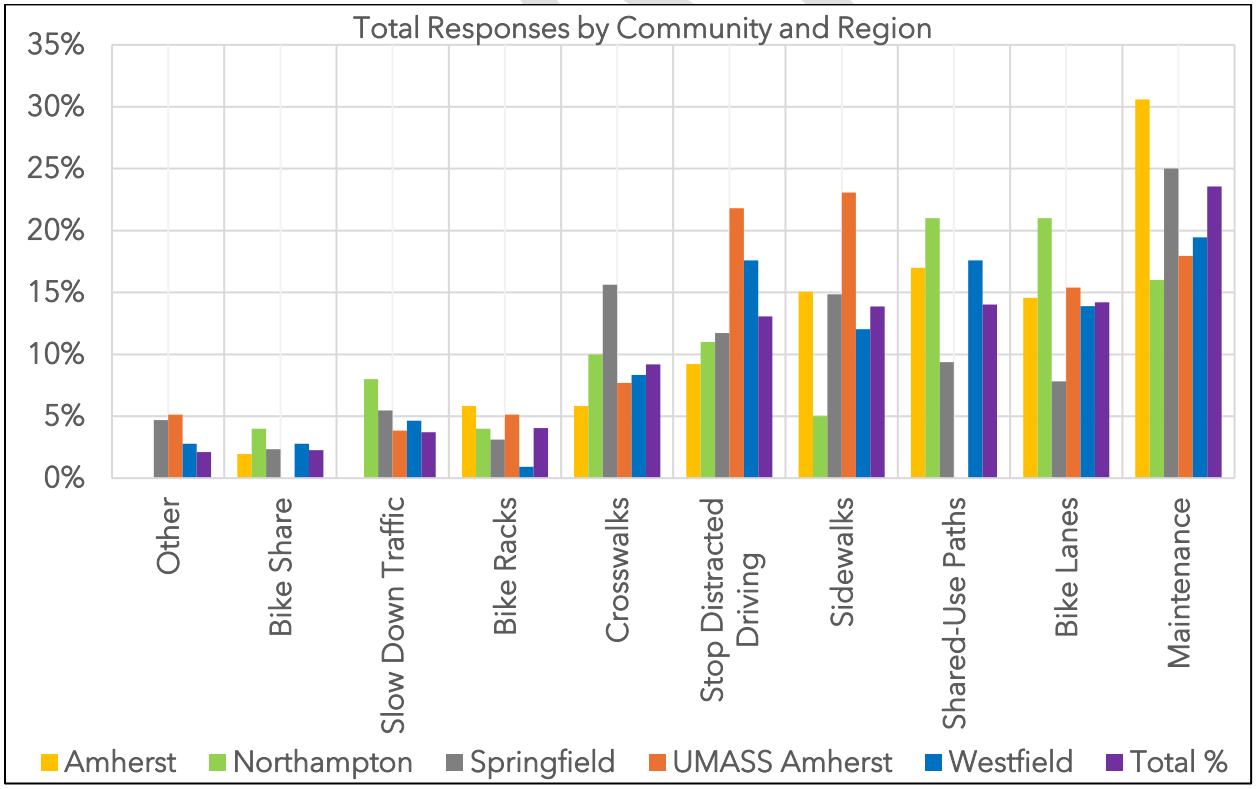
A total of 620 votes were taken for improvements to pedestrian and bicycle infrastructure at the five in-person public outreach events held in Amherst, Northampton, Springfield, Westfield, and on the UMASS-Amherst campus. Participants within the Pioneer Valley region voted for several improvements to be made within their respective locals. Their votes provided insight into the types of improvements they believed would enhance the quality of life for residents. The higher number of votes for Maintenance (24% total votes) indicates that communities within the Pioneer Valley region wished to focus on maintaining their existing good infrastructure. Medium ranking improvements that received 13% or14% of votes each included Shared-Use Paths, Safe Crosswalks, Bike Lanes, Sidewalks, and Stop Distracted Driving. It is important to note that some of these improvements can be accomplished while rehabilitating roadways for Maintenance and upkeep. Therefore, consideration for bicyclists and pedestrians should be made a standard component of any roadway project in the Pioneer Valley region.

The next page includes a table and a chart figure showing a comparison between project category votes for improvements at all five public outreach event locations. They also include the total votes per project category from all the events where the "Spin the Wheel" game was offered to engage visitors of the PVPC informational table in planning for bicycle and pedestrian improvements. The bolded percentage numbers highlight the top vote of a project category by participants at each of the community events. Participants from three communities gave Maintenance categories top vote. These were: Amherst, Springfield, and Westfield.

Table 4.2 Bicycle and Pedestrian Improvement Projects Chosen by Community

Improvement	Amherst	Northampton	Springfield	UMASS Amherst	Westfield	Combined Total
Other	0%	0%	5%	5%	3%	2%
Bike Share	2%	4%	2%	0%	3%	2%
Slow Down Traffic	0%	8%	5%	4%	5%	4%
Bike Racks	6%	4%	3%	5%	1%	4%
Safe Crosswalks	6%	10%	16%	8%	8%	9%
Stop Distracted Driving	9%	11%	12%	**22%**	**18%**	13%
Sidewalks	15%	5%	15%	**23%**	12%	14%
Shared-Use Paths	17%	**21%**	9%	0%	**18%**	14%
Bike Lanes	15%	**21%**	8%	15%	14%	14%
Maintenance	**31%**	16%	**25%**	18%	**19%**	**24%**
Total	100%	100%	100%	100%	100%	100%

Figure 4.7 Choices of Bicycle and Pedestrian Improvement Projects by Community



At each community event, participants voted for improvements they would like to see included in the Pedestrian and Bicycle Plan. The Maintenance category received many

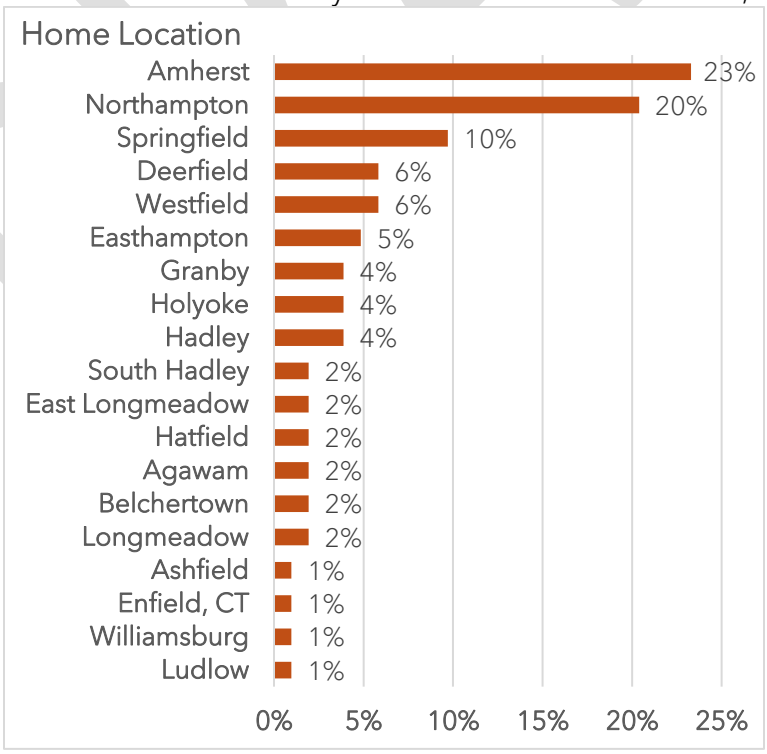
votes at each of the community events. It is important to recognize that other improvements, such as Bike Lanes and sidewalks, also received a fair share of votes. This would indicate that people were interested in upgrading the existing roadway infrastructure to accommodate Pedestrians and Bicyclists. In Northampton, the majority of votes were received by the categories of Bike Lanes and Shared-Use Paths, while Sidewalks received a lower number of votes. This may indicate that the community could have a higher priority for expanding the accommodation of bicyclists compared to the existing pedestrian infrastructure, which is already adequate.

4.1.2 Bicycle and Pedestrian Travel Survey Results

During the public outreach period, PVPC conducted a Bicycle and Pedestrian Survey to assess the active travel habits and needs of residents of the Pioneer Valley region. This survey was made available in paper format at community public outreach events as well as in digital form online on the website page dedicated to the plan. The following is a listing of the questions asked in this survey questionnaire and a summary of the answers received. A tally of answers received by participants for each of the questions follows, accompanied by charts that assist in visualizing the distribution of answers. A total of 103 survey responses were received. The survey sample size is not statistically significant, yet it offers a glimpse into the active travel habits of the residents of the Pioneer Valley region.

Figure 4.8 Respondents' Home Location

Question 1. Where do you live? Question 2. If other, where do you live?

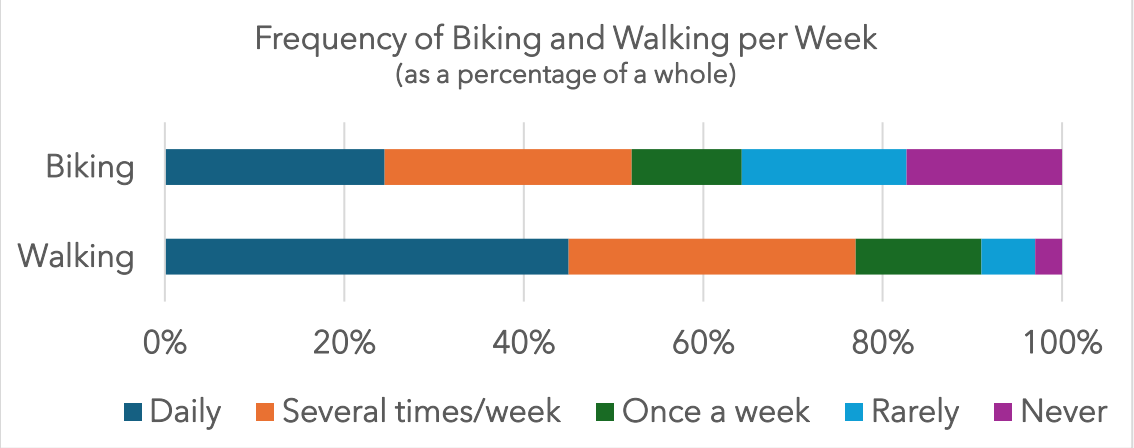


The first two questions were about home location. A respondent was able to select any of the 43 communities in the region or write in an answer for another community outside the Pioneer region that is comprised of Hampshire and Hampden counties. Three respondents did not indicate their home location. The chart figure above shows the percentage of responded from different communities around the Pioneer Valley and surrounding areas. The greatest number of respondents to this survey resided in the communities of Amherst and Northampton, 43% combined. The largest community in the valley, Springfield, had only 10% respondents. The majority of respondents were from upper valley Hampshire County at 63%, whereas 26% came from Hampden County. It is interesting to note that 7% were from Franklin County.

Figure 4.9 Frequency of Walking and Biking

Question 3: How often do you travel by each mode?

	Daily	Several times per week	Once a week	Rarely	Never
Walking	**45%**	32%	14%	6%	3%
Biking	24%	**28%**	12%	18%	17%

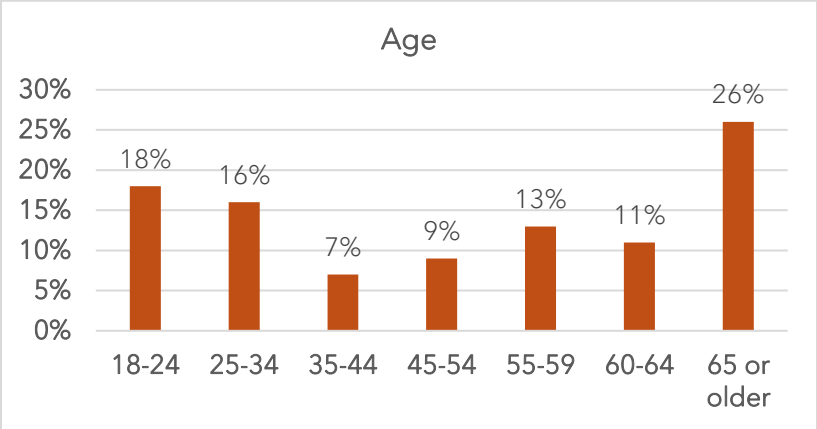


Almost half of respondents walked daily, whereas a quarter of respondents biked daily. About a third of all respondents either biked or walked several times per week. The survey data shows that most respondents had active travel habits. This is to be expected as many of the in-person outreach events were conducted at bike-friendly and outdoor pedestrian zone events. However, 17% or respondents said they never biked.

Figure 4.10 Respondents' Age Groups

Question 4: How old are you?

Age range	Percentage of respondents
18-24	18%
25-34	16%
35-44	7%
45-54	9%
55-59	13%
60-64	11%
65 or older	26%



A quarter of respondents, 26%, were 65 years or older. Those under the age of 35 capture a third of the sample, at 34%. Those between 35 and 65 years of age make up the remaining 40% of the sample.

Table 4.3 Respondents' Gender

Question 5: How do you identify?

Male	49%
Female	44%
Non-Binary/Third Gender	5%
Prefer not to say	3%

There were slightly more male respondents than female respondents in the sample. Bicycling offers people both a way to be physically active and an environmentally friendly mode of transportation. Many trips are short enough to be considered "bikeable" or "walkable," yet significant barriers remain. These barriers are not experienced equally. Inequities, including those related to gender, shape how individuals engage with bicycling and walking.

Gender differences in perceptions of safety are often influenced less by an individual's skills or abilities and more by external factors. Societal expectations and norms—internalized over time and reinforced by the behavior of other road users—contribute to lower reported feelings of safety among those who identify as women.

At the same time, it is important to recognize the complexity of gender identities and norms, and the limitations of framing safety perceptions through a binary comparison between "men" and "women." Such simplifications risk reinforcing stereotypes. Our own gender identities and walking and cycling experiences influence the ways we interpret and understand these cultural and subjective experiences.

Table 4.4 Respondents' Race

Question 6: What is your race and/or ethnicity?

Race	Percentage of respondents
White	90%
Asian	9%
Black or African American	2%
Middle Eastern or North African	1%
Hispanic or Latino	1%
Another Race	1%
American Indian or Alaskan Native	0%
Native Hawaiian or Other Pacific Islander	0%

Most respondents identified as white, at 90%. Out of those who identify as white, 4.3% also identify as another race. Note: respondents could select more than one race, therefore percentages sum to over 100 percent. The non-wight categories combined total 14% and represent the percentage of participating people of color.

Respondents were also asked about their purposes for taking trips by foot and by bike. They were able to select more than one destination. The choices were work, shopping, medical appointments, social activity, exercise, grade school, and college or university. Respondents were also given an "other" option where they could write in another destination. The most frequent write-in responses to the question "What is the purpose of your trip when you travel by foot?" were dog-walking and exposure to nature. Write-ins for the same question about cycling received responses like 'enjoyment', 'unwinding', and 'fun'.

In both cases, a third of the active travel trip purposes were for exercise at 30% by foot and 31% by bike. Social activities came second in both instances with 20% of trip by bike and 23% of trips by foot. One fifth of active trips were for the purpose of shopping at 19% of trips by bike and 18% of trips by foot. Another fifth of active trips were for the purpose of work or going to college/university when commute trip purposes are combined. A detailed cross-tabulation analysis of the various common trip purposes by respondents using active mode of transport such as biking and walking are included in the appendix.

Looking at the following figures one could see that half of non-motorized trips were leisure trips, whereas commute trips comprised a fifth walking or biking trips. Shopping and medical trips combined reached close to quarter of active trips purposes. This shows the significance of walking and biking in respondents' everyday lives for both necessary activities and their overall well-being.

Figure 4.11 Walking Trip Purpose

Question 7. What is the purpose of your trip when you walk? (Check all that apply)

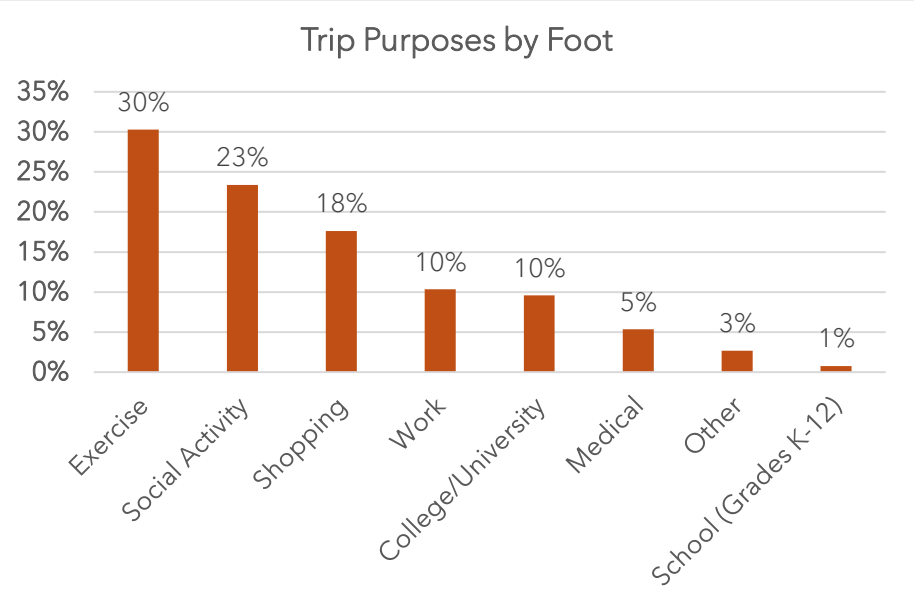
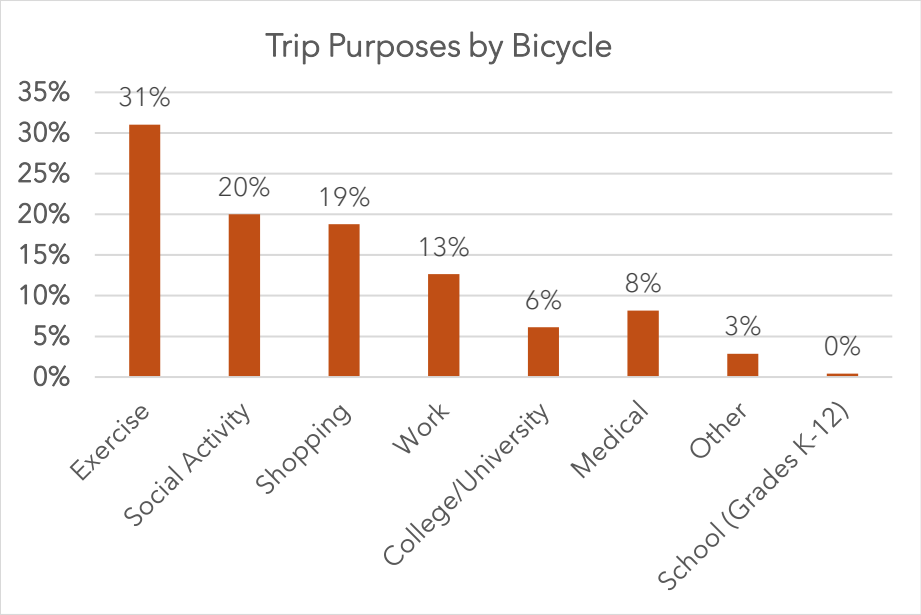


Figure 4.12 Biking Trip Purpose

Question 8. What is the purpose of your trip when you travel by bike? (Check all that apply)



Respondents were then asked about their usual methods for planning their walking and biking trips. Respondents had the opportunity to choose more than one answer for this question. A third of responses to the question about how they planned their walking trips were for "I use map apps" and another third of choices were for the "Other" category. Most respondents who chose "Other" said that they did not plan, or

that they know their routes well enough so that they do not need to plan. When the same question was asked about how they planned their biking trips, respondents' most frequent responses were tied between "I use online maps" and "I use map Apps," at 34% of responses each. Combined, these two categories add up to 68% or two thirds of respondents relying on digital mapping tools to plan their biking trips.

Figure 4.13 Method of Planning Walk Trips

Question 9. How do you usually plan your walking trips?

I use map Apps	32%
Other	32%
I use online maps	26%
I use wayfinding or street signs	19%
I use a paper map	2%

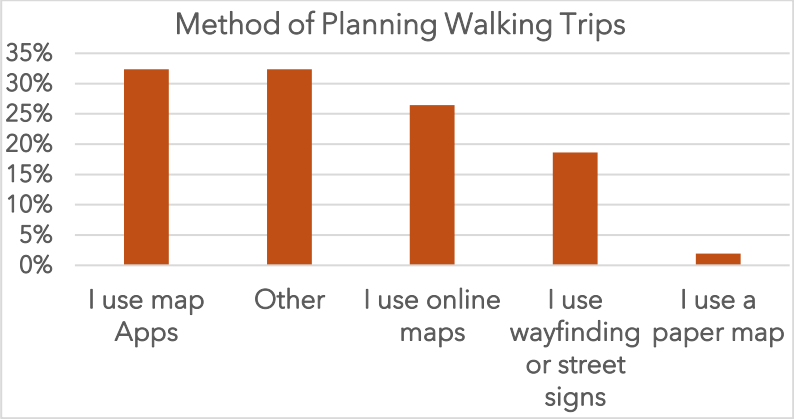


Figure 4.14 Method of Planning Bike Trips

Question 10. How do you usually plan your biking trips?

I use online maps	34%
I use map Apps	34%
Other	26%
I use wayfinding or street signs	15%
I use a paper map	5%

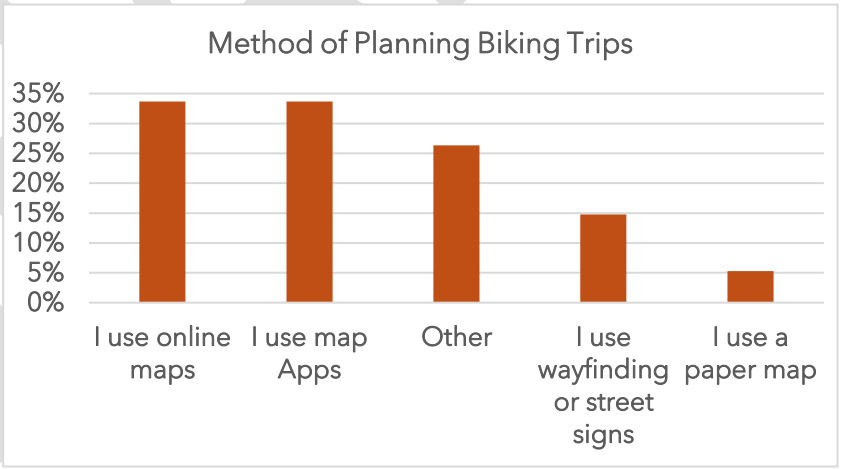
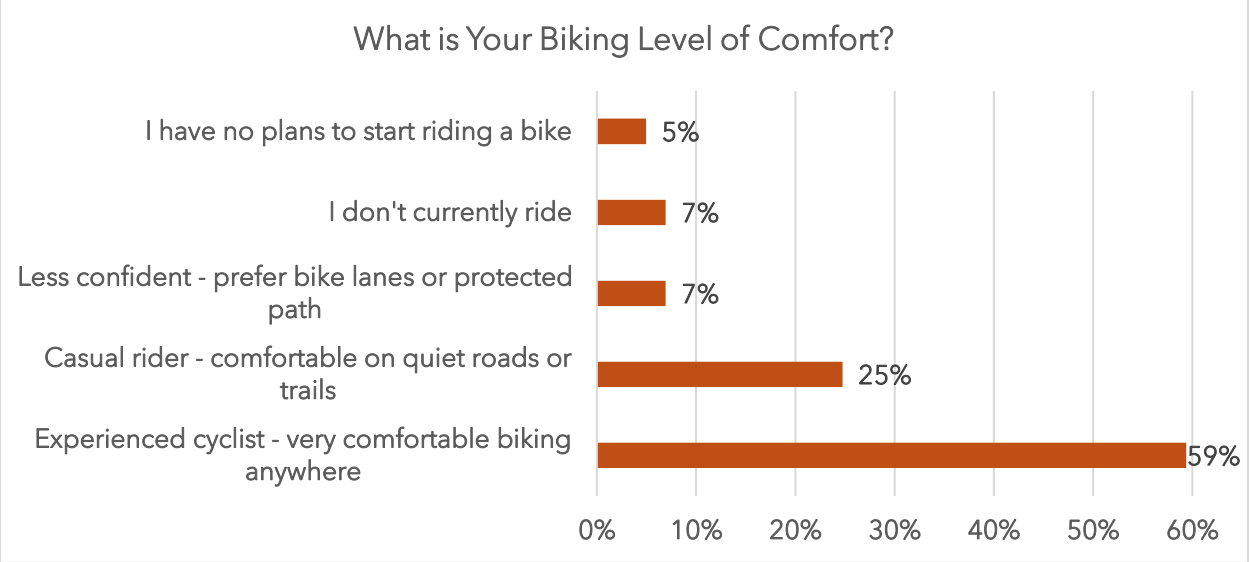


Figure 4.15 Biking Skill Level

Question 11. What is your biking level of comfort?

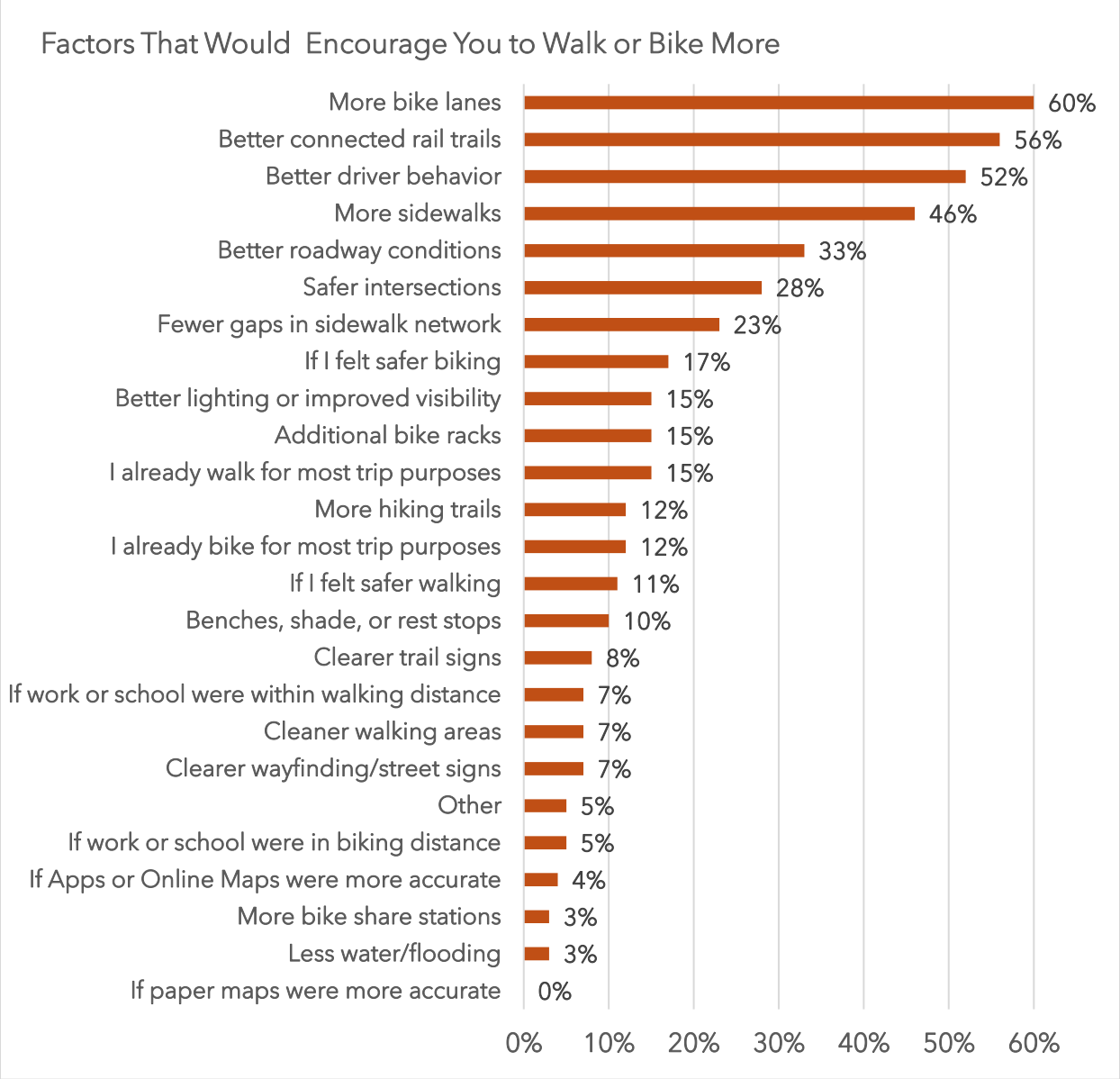
Experienced cyclist - very comfortable biking anywhere	59%
Casual rider - comfortable on quiet roads or trails	25%
Less confident - prefer bike lanes or protected path	7%
I don't currently ride	7%
I have no plans to start riding a bike	5%



Respondents were asked about their level of comfort while riding a bicycle. About two thirds of respondents, at 59%, reported that they were experienced and feel very comfortable riding a bike in any setting. A quarter of respondents reported being casual riders at 25%, while 12% did not ride at all. Given that several of the in-person public outreach events were conducted at some of the popular Bike Month events, it is no surprise that 84% of respondents were skilled cyclists as indicated by the answers received.

Figure 4.16 Improvements that Would Encourage Active Trips

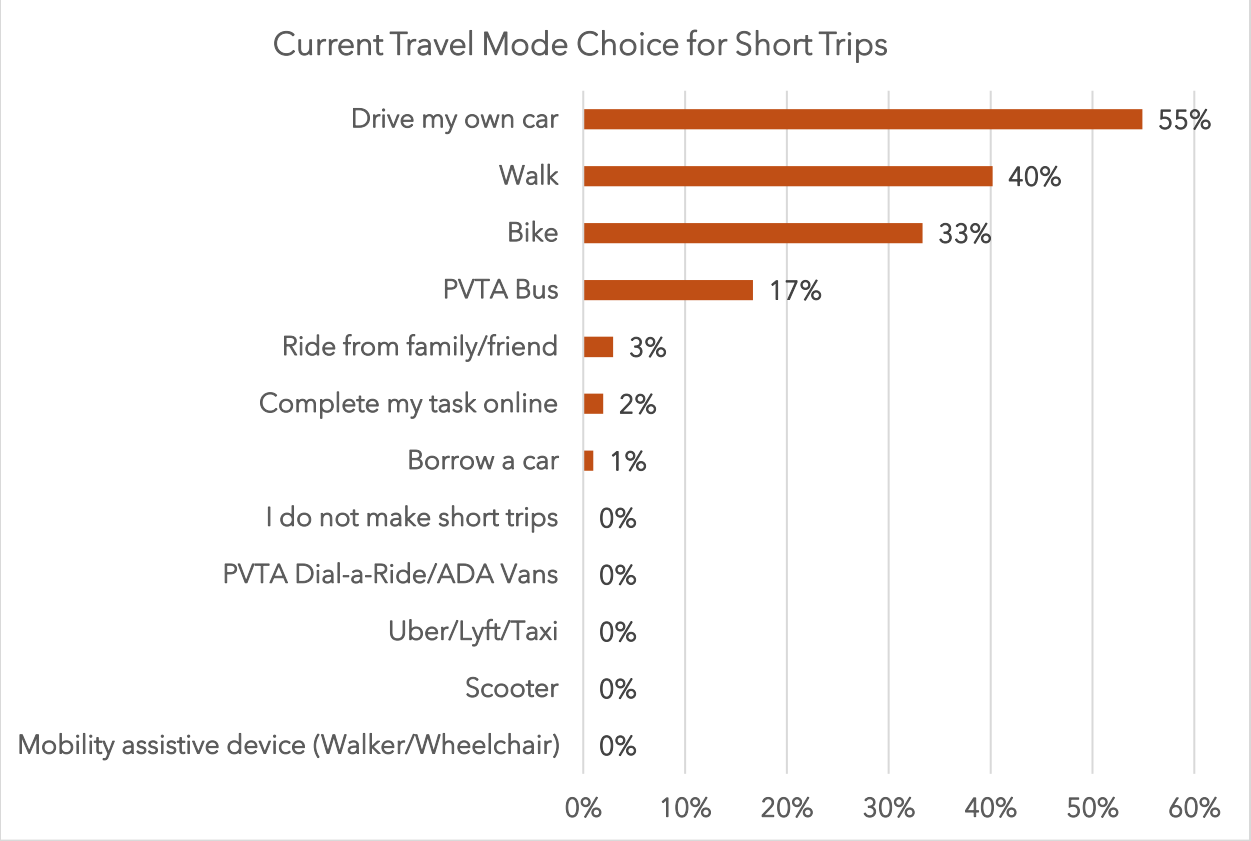
Question 12. Would you walk or bike more often if any of the following were true?



When asked about improvements that would encourage the respondents to walk or bike more frequently, they were given 24 possible options to select from, with multiple selections allowed. One of these options was an "Other" option. The results of this question show that more bike lanes and better trail connectivity are the most important factors to the surveyed population. Concerned about safety, many respondents also cited roadway conditions and driver behavior as reasons they were not comfortable walking or biking more often. Pedestrians would like to see more sidewalk connectivity in their communities. The most popular write-in response was 'more free time'. A complete list of response percentages is shown in the bar-chart Figure above.

Figure 4.17 Travel Mode Choice for Short Trips

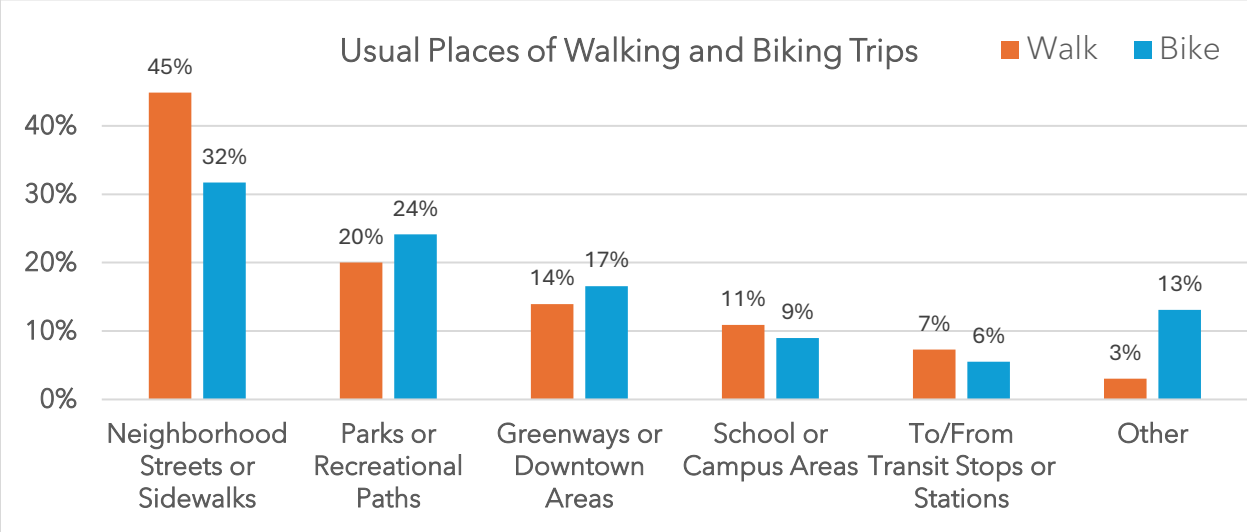
Question 13. How do you currently get to nearby destinations?



This question pertains to users' current mode of choice for most short trips. When asked 'How do you currently get to nearby destinations', over 50 percent mention driving their own car as one way that they get around. Walking and biking are also popular modes among the respondents surveyed.

Figure 4.18 Common Places for Walking and Biking

Question 14. Where do you usually walk?
Question 15. Where do you usually bike?

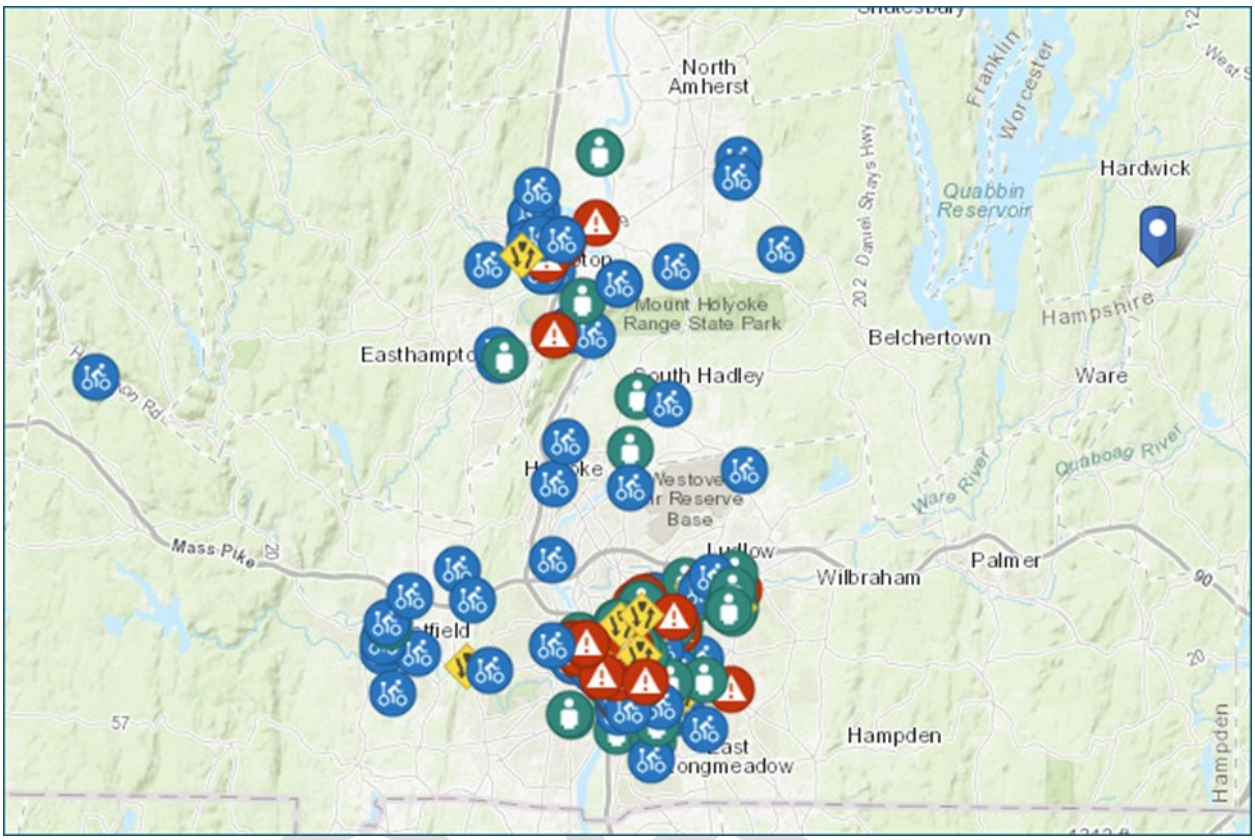


The preceding two questions were designed to identify popular destinations for walking or cycling. There was no write-in option for these questions. The majority of respondents reported that walking on neighborhood streets or sidewalks was their usual choice for active travel by bike at 32% and by foot at 45% of the choices selected. While most respondents chose multiple answers to the question about where they usually walk, respondents were less likely to select various answers for the question about their usual biking locations. It is expected that the people would select safer areas of slower traffic speeds and less vehicular conflicts for biking such as neighborhood streets/sidewalks, or parks and recreational paths, which were 32%, 24%, and 17% of the selected options respectively. A considerable number of responses, at 13%, were received with many write ins of other places respondents usually biked. A detailed discussion of these response can be found in the report Appendix.

4.1.3 Online "Wiki Map" Data Collection Tool Results

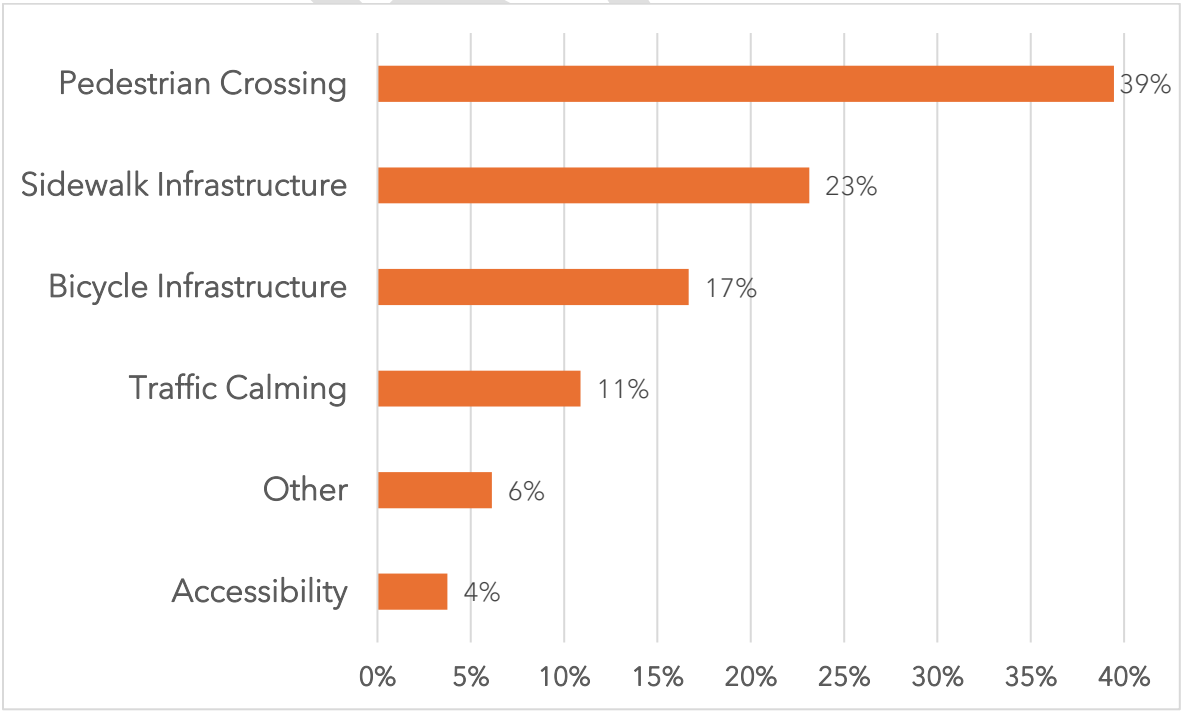
Users of the Wiki Map data collection tool suggested many improvements. A total of 294 public input entries were received. The areas of concern entered through the online form, were categorized into five major types: pedestrian crossings, sidewalk infrastructure, bicycle infrastructure, traffic calming, and accessibility. A total of 39% of data entries referred to pedestrian crossings. These responses accounted for 116 out of 294 responses from all five categories of concern. Connectivity between existing sidewalks and crosswalks was frequently mentioned as an area needing improvement. This included access to schools and parks; where 12% of responses mentioned connectivity or safety around a school area was a concern.

Figure 4.20 Online Crowdsourcing Data Collection Tool "Wiki Map"



Link Online to Wiki Map: [Wiki Map PV Regional Bicycle and Pedestrian Plan 2025]

Figure 4.21 Feedback Categories of via the Online Wiki Map



Many of the comments mentioning sidewalk infrastructure advocated for the installation of a new sidewalk in a busy area where current sidewalks are inadequate. Other responses mentioned improving accessibility through curb cuts and bump-outs for visibility. Some remarked about the poor physical condition of the sidewalks. There were overlaps between this category and the traffic calming category, with respondents mentioning that sidewalk radii and bump-outs can serve as traffic calming measures for vehicles. Those whose comments fit into the "other" category mention wayfinding signage, adding new school zones, walking school bus routes, and visibility issues at intersections. The variety of comments received is vast in nature and pertains to many different locations in the Pioneer Valley, both urban and rural.

Upon request, the complete data set of suggested improvements gathered can be parsed by community. The online map can be used as a reference by professional staff and elected officials to incorporate the needed changes identified into their community plans and future projects. The public input data identifies areas where suggested improvements were needed to enable people to safely walk, bike, or use a wheelchair to get to school, work, shop, or recreate. These suggestions can be incorporated into priorities for future initiatives.

4.2 Performance Measures

Performance measures monitor and track performance over time and assess the effectiveness of projects and strategies in meeting the national goal areas. In the Pioneer Valley region, performance-based planning methods have been used in the development of the Transportation Evaluation Criteria to prioritize the programing of projects as part of the Regional Transportation Improvement Program.

Public input was used to establish metrics that target improving bicycling and walking. These evaluation metrics include the physical environment, such as sidewalks and bike lanes, as well as safety statistics, levels of activity, and relevant policies. Performance measures could also include health and economic development data markers.

As the MPO plans, funds, and implements projects that enhance walking and bicycling in the Pioneer Valley region, we need to objectively prioritize investments within our given funding constraints. Investments must yield the most significant benefit or impact for people residing in the region. This plan aims to have the performance metrics discussed here revisited every four years in coordination with updates to the Regional Transportation Plan.

4.2.1 Miles of Bicycle Facilities

The number of miles of bicycle facilities is the first performance measure chosen in this plan. This measure quantifies the total length, in miles, of all bicycle infrastructure within a designated geographic area. It includes various facility types such as bike lanes, separated bike lanes, and shared-use paths. It aims to monitor growth over time.

Table 4.6 On-Road Bicycle Facility Mileage in the Pioneer Valley

On-road Bicycle Facility	Communities	Length (in miles)
Suffield Street Bike Lanes	Agawam	2
Shoemaker Ln. Bike Lanes	Agawam	2.6
S Westfield Street Bike Lanes	Agawam	1.2
Feeding Hills Center Bike Lanes	Agawam	0.3
Walnut Street Bike Lanes	Agawam	0.4
Amherst Bike Route	Amherst	1
Five College Bikeway	Amherst	6
South Pleasant Street Bike Lanes	Amherst	0.3
Chicopee Street Bike Lanes	Chicopee	0.7
116 Five College Bike Lane Extension	Granby/South Hadley	0.3
Dwight Street Bike Lanes	Holyoke	0.5
Hampden Street Bike Lanes	Holyoke	0.6
Lower Westfield Rd. Bike Lanes	Holyoke	0.4
Route 5 Bike Lanes	Holyoke/Northampton	8
Converse Street Bike Lanes	Longmeadow	2
Dwight Road Bike Lanes	Longmeadow	0.1
MBW Trail	Monson, Brimfield, Wales	17
Elm Street Bike Lanes	Northampton	0.8
South Street Bike Lanes	Northampton	1.1
Fort Pleasant Avenue Bike Lanes	Springfield	0.5
Main Street Bike Lanes	Springfield	0.8
State Street Bike Lane	Springfield	0.1
Chestnut Street Bike Lanes	Springfield	1
Main Street Bike Lanes	Springfield	1.1
Wason Avenue Bike Lanes	Springfield	0.4
Bradley Rd/Breckwood Blvd Bike Lanes	Springfield	2.6
Plumtree Road Bike Lanes	Springfield	3.1
South Branch Parkway Bike Lanes	Springfield	0.8
Roosevelt Avenue Bike Lanes	Springfield	1
Saint James Boulevard Bike Lanes	Springfield	0.9
East Street Bike Lanes	Springfield	0.6
Oak Street Bike Lanes	Springfield	1.3
Riverdale Street Bike Lane	West Springfield	0.5
Franklin Street Bike Lanes	Westfield	0.8
E Main Street Bike Lanes	Westfield	0.7
Boston Road Bike Lanes	Wilbraham	1.7
Total Mileage		63.2

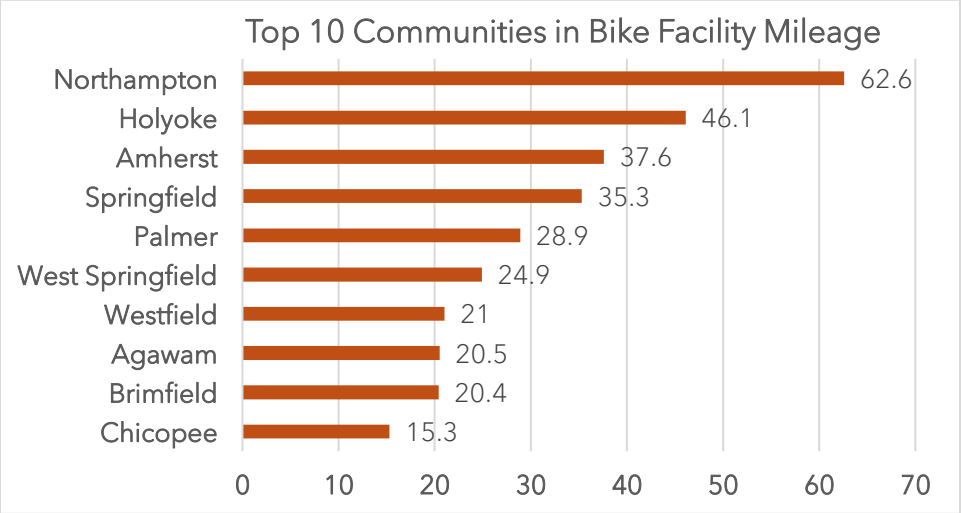
Table 4.7 Off-Road Bicycle Facility Mileage in the Pioneer Valley

Off-Road Bicycle Facilities	Communities	Length (in miles)
CT. River Riverwalk and Bikeway	Agawam	1.7
School Street Bikeway	Agawam	0.1
Agawam High School Path	Agawam	0.2
Agawam Center Bike Paths	Agawam/West Springfield	0.6
Amherst Bikeway (Route 116)	Amherst	3.5
UMass Connector Bikeway	Amherst	1.9
East Hadley Road Sidepath	Amherst	
Route 116 Sidepath	Amherst	
Norwottuck Belchertown Extension	Amherst/Belchertown	1.2
CT Riverwwalk and Bikeway	Chicopee	2.4
Chicopee Center Canal Walk	Chicopee	0.2
Redstone Rail Trail	East Longmeadow	1.6
Manhan Rail Trail	Easthampton	4.2
Holyoke Canalwalk	Holyoke	0.3
Springfield (Ludlow) Reservoir Trail	Ludlow	3.1
Ludlow Mills Riverwalk	Ludlow	
New Haven and Northampton Canal Rail Trail	Northampton	2.1
MassCentral Rail Trail	Northampton	2.5
Rocky Hill Trail	Northampton	0.5
Norwottuck Damon Road to Woodmont	Northampton	0.8
Norwottuck Look Park Extension to Grove St	Northampton	2
Northampton Canal/MassCentral Rail Trail	Northampton	1
Tunnel MassCentral Manhan Rail Trail	Northampton	0.1
Norwottuck Rail Trail	Northampton/Hadley/Amherst	8.5
CT. River Riverwalk and Bikeway	Springfield	3.7
CT. River Riverwalk and Bikeway	West Springfield	1.5
Westfield Riverwalk	Westfield	2
Western Ave. Shared Use Path	Westfield	1.3
Columbia Greenway Rail Trail	Westfield/Southwick	9.3
Total Mileage		56.3

Measure: Miles of shared-use path and bike lanes.

RTP Performance Target = Increase total regional bike facility mileage by 10% by 2030 over 2020 mileage.

Figure 4.22 Top 10 Communities in Total Bike Facility Mileage



4.2.2 Miles of Pedestrian Facilities

The second performance measure is the number of pedestrian facility miles. This measure quantifies the total length, in miles, of sidewalk within the Pioneer Valley Region.

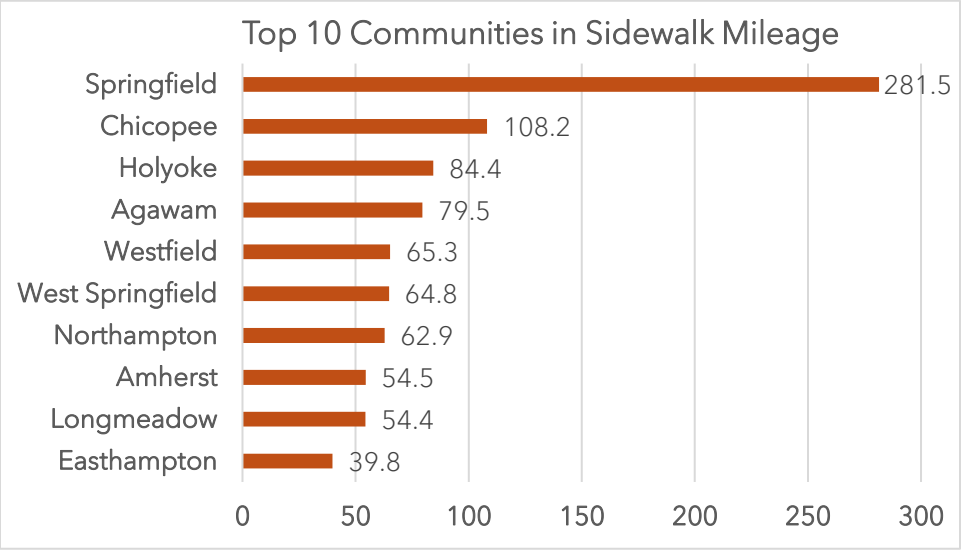
Table 4.8 Sidewalk Mileage in the Pioneer Valley

	2018
Any roadway mileage with at least one side with sidewalks	1043 miles

Measure: Miles of Sidewalks.

RTP Performance Target = Increase total regional sidewalk mileage by 10% by 2030 over 2018 mileage.

Figure 4.23 Top 10 Communities in Total Sidewalk Mileage



4.2.3 Volume of Pedestrian and Bicycle Usage

The third performance measure concerns the volume of bicyclists and pedestrians using transportation facilities in the region. This measure captures the number of pedestrians and bicyclists within a specific area over a period. It provides insights into usage patterns and demand. By refining these counting measures over time, PVPC can better monitor usage and support a more equitable and efficient pedestrian and bicycle network. Each year, the Joint Transportation Bicycle, Pedestrian, and Complete Streets Subcommittee makes recommendations for count locations on shared-use paths and on bike lanes throughout the Pioneer Valley Region.

Volume Metrics include:

- Demonstrate an overall increase in the use of regional shared-use paths through UPWP counts on shared-use paths.
- UPWP task to count at least five shared-use paths.
- UPWP task: Count at least three bike lanes in coordination with the JTC subcommittee.
- Conduct counts of bicycle and pedestrian users as part of UPWP studies.

Table 4.9 Shared-Use Path Annualized Count Volume

Shared Use Path	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Agawam, CT Riverwalk Bikeway	X	X	X	X	29,629	X	X	49,755	0	X	X	44,340	X
Brimfield, Grand Trunk Titanic Army Corp	X	X	X	X	X	X	X	48,723	X	X	X	X	X
Chicopee, Sidepath	X	X	X	X	X	X	X	X	X	X	X	4,147	2,790
East Longmeadow, Redstone Rail Trail	X	X	X	X	196,852	107,059	132,556	184,725	178,778	X	165,710	172,307	160,082
Easthampton, Manhan Eastworks	X	X	X	X	X	X	X	X	46,458	97,743	4,494	X	X
Easthampton, Manhan Ferry Street - New	X	X	X	X	X	X	X	X	X	X	X	207,035	176,117
Easthampton, Manhan Ferry Street - Old	X	X	X	133,517	X	115,861	135,551	X	X	261,523	118,800	X	X
Easthampton, Manhan Union St	X	X	X	X	X	X	X	184,371	X	X	X	X	X
Hadley, Norwottuck Trail	X	X	X	190,015	175,885	154,122	176,853	196,377	X	X	X	X	X
Ludlow, Mills Riverwalk	X	X	X	X	X	X	X	72,908	60,055	56,563	X	86,824	X
Holyoke, Mount Tom Accessible Trail	X	X	X	X	X	X	X	X	X	32,089	21,218	X	X
Northampton, Mass Central Leeds Look Park	X	X	X	X	X	49,435	43,280	98,495	47,062	41,306	X	53,472	56,370
Southwick, Rail Trail - Sam West Road	X	X	X	X	X	X	X	X	X	X	X	70,093	55,161
Springfield, Riverwalk - Brightwood	19,953	25,218	X	X	X	X	X	12,852	X	X	X	32,361	30,667
Springfield, Riverwalk - Boathouse	28,918	36,661	X	X	X	X	X	37,723	36,282	19,546	17,791	21,135	X
Springfield, Riverwalk - Depot - New	41,795	81,557	X	X	X	X	X	X	X	X	X	X	X
Springfield, Riverwalk - Depot - Old	79,952	X	X	X	X	X	X	X	X	X	X	X	X
Ware, Accessible Trail EQLT Mass Central	X	X	X	X	X	X	X	16,714	X	X	X	X	X
West Springfield, CT River Walk & Bikeway	X	X	X	X	X	X	X	53,976	X	25,527	20,518	13,355	X
Williamsburg, Mill River Greenway Mass Central	X	X	X	X	X	X	X	44,527	X	25,126	22,837	X	X

4.2.4 Institutional Integration of Bicycling and Walking

The fourth measure assesses the institutional integration of non-motorized modes of travel. This measure captures the extent to which walking and bicycling are incorporated or normalized as part of established activities and tasks. It is concerned with whether the concerns of bicyclists and pedestrians understood and communicated in policies and in the planning, design, and construction of our neighborhoods and communities. Metrics of this performance measure include:

- Communities that are participating in the Complete Streets Program.
- Percent of PVPC work program tasks that address bicycling and walking, where appropriate.
- Safe Routes to School participating Elementary and High Schools
- Bay State Bike Month Participation

4.2.5 Safety of Bicyclists and Pedestrians

The fifth performance measure focuses on the safety of bicyclists and pedestrians. There are two components to this measure. There first is the regional adopted statewide safety targets and the second is a regional safety performance measure to be developed part of a future Regional Safety Action Plan to be funded by Safe Streets for All grant awarded recently to PVPC. These two efforts will be discussed in the following two sections.

Statewide Targets for Non-Motorized Fatalities and Serious Injuries:

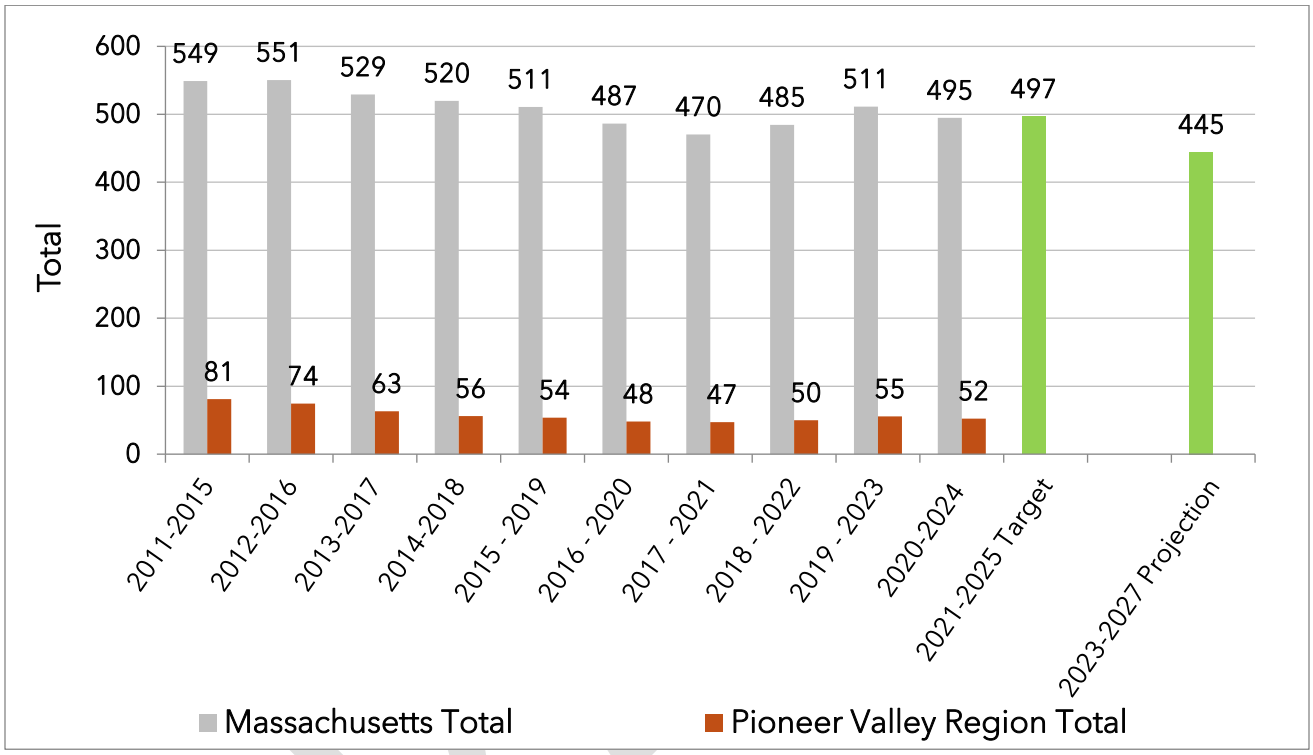
The Pioneer Valley MPO has chosen to adopt the statewide safety performance measure targets set by MassDOT. Although MassDOT emphasizes that the state's goal is zero fatalities and serious injuries, the targets presented here are not "goals" but realistic targets considering the events of the last 4+ years. The Secretary of Transportation and Highway Division Administrator for MassDOT approved the targets, recognizing that MassDOT must demonstrate short-term incremental steps to achieve the Commonwealth's goal. In setting these targets, MassDOT has followed FHWA guidelines by using statewide crash data and Highway Performance Monitoring System (HPMS) data for vehicle miles traveled (VMT) to calculate 5-year, rolling average trend lines for all FHWA-defined safety measures.

The MPO is intently concerned and focused on reducing these fatalities and serious injuries. In 2024, the MPO adopted a Vision Zero Policy, recognizing the need to reduce injuries. The MPO has also introduced the Vulnerable Road Users Safety task to the UPWP and incorporated bicycle and pedestrian injuries into the Pioneer Valley Regional Safety Compass.

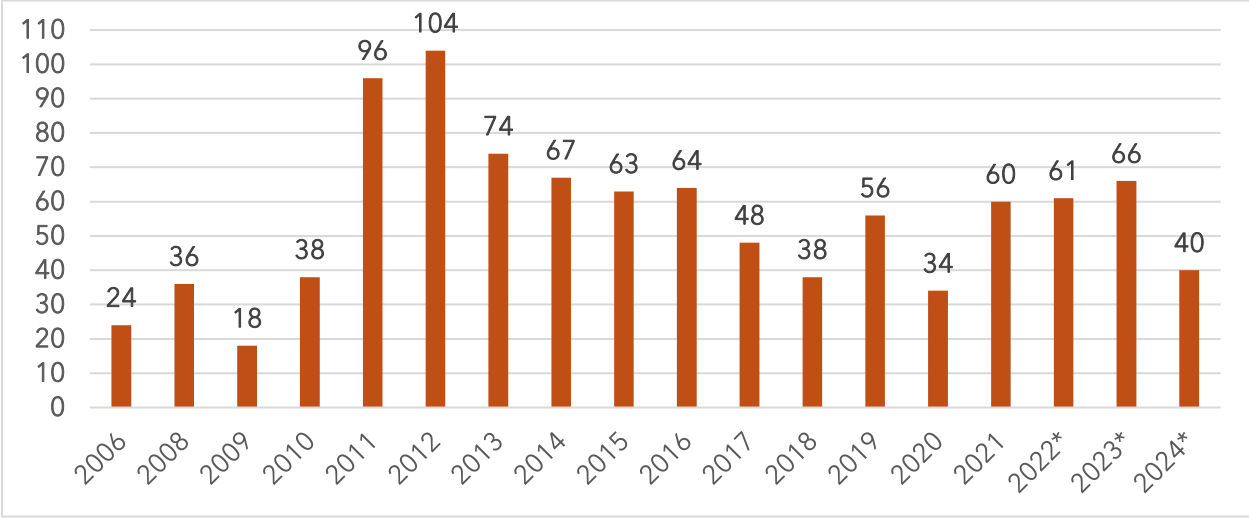
The following two Figures show the five-year averages and the annual counts of non-motorized fatal crashes. The first chart compares fatalities in the state with fatalities in the Pioneer Valley region. The historic trend line shows a decline in fatalities followed by an increase then another decline and is targeted for another decrease into the future as represented by the bright green bars. The grey bars reflect the statewide

numbers and the deep orange bars represent the regional numbers of the 5-year averages. The next bar-chart shows the historic line of variable change in number of regional non-motorized annual fatalities from 2006 to 2024.

4.24 Five-Year Averages of Non-Motorized Fatalities in Region and State



4.25 Annual Non-Motorized Fatalities and Serious Injuries in the Pioneer Valley Region



* What does the asterisk represent?

Safe Streets for All (SS4A) performance measures:

The PVPC received funding as part of the federal Safer Streets and Roads for All program to develop a regional safety action plan and demonstration project for the Pioneer Valley Region. The final component of this work will be to create and track a series of regional safety performance measures. The performance measures will build on the content of the Regional Safety Action Plan and provide supporting information to evaluate the effectiveness of the plan in improving roadway safety by significantly reducing and eliminating roadway fatalities and serious injuries across all users. The MPO will update these performance measures annually in coordination with the JTC. Once finalized, the performance measures will be incorporated into future updates to the RTP.

4.2.6 Aspirational Metrics for Bicycling and Walking

Finally, there were many more potential metrics identified during the preparation of this regional bicycle and pedestrian plan. People from across the Pioneer Valley Region shared a long list of desires, challenges, needs, and opportunities during public outreach. Not every concern can be defined as a metric that can be effectively measured at this time. These additional needs for monitoring performance are included as aspirational metrics that should be added where possible. It may be beneficial to add these measures to smaller studies in the future, or as technologies and methods for gathering data improve.

- Collect and measure bicycle and pedestrian volume counts from traffic signal detection equipment. Many of the new signalized intersections use technology that captures bicyclists and pedestrians. Currently, the Morgan Sullivan bridge between Agawam and West Springfield, and a signal on Memorial Drive in Chicopee, are the only two signals that directly provide volume data to the MassDOT MS-2 online count database. However, many signalized intersections could provide this valuable data in the future using existing technology. This effort would require coordination with communities.
- Collaborate with communities to monitor participation levels among Valley Bike users in bikeshare programs. As data collection improves, collaborate with the vendor to develop an online resource for tracking usage.
- Monitor Vehicle Speeds – Speeding is a contributing factor in many fatal and serious injury crashes. Technologies that allow municipalities to monitor vehicles that run red lights or exceed posted speed limits can improve traffic enforcement. Many States, including Rhode Island and Connecticut, have laws on the books to facilitate data collection. Additionally, GPS data from vehicles and passengers (Probe data) can identify speed issues as these problems emerge and provide local officials with a helpful tool when implementing traffic calming initiatives.

- Monitor speeds on shared-use paths. Hi-speed differentials between bicyclists and pedestrians can exacerbate conflicts on shared-use paths. Moderating speeds in high-conflict areas can create a less stressful travel experience for pedestrians.
- Identify the number of communities that have completed ADA Transition Plans.
- Measure the economic benefit of the regional bicycle and pedestrian network. A 2021 study by MassTrails showed how shared-use paths generate increased economic output in jobs and tax revenue. The total number of jobs, the total economic output to the communities, and the total taxes generated (federal, state, and local) are presented in Table 4.9 below is taken from the "Impact of Shared Use Paths" study. Full report can be accessed at: https://www.mass.gov/doc/masstrails-shared-use-path-impacts-study/download

Table 4.10 Summary of Estimated Impacts

Shard Use Path Name	Minuteman	Northern Strand	MCRT-Norwottuck	Cape Cod
JOBS CREATED OR SUSTAINED	26	4	20	99
TOTAL ECONOMIC IMPACT	$2.6M	$378K	$1.8M	$9.2M
STATE/LOCAL TAXES COLLECTED	$363K	$49K	$250K	$1.5M

Note: Above numbers are based on surveys from one city along each trail

- Create a measure of the health impact of the Pioneer Valley Region's investment in bicycling and walking. As an example, a 2021 study by Mass Trails measured the impact of four shared-use paths on encouraging users to increase their levels of physical activity. Users saved between $700 and $1,300 annually on healthcare. The four paths saved a total of $2.8 million in annual healthcare expenditure based on user counts. The shared-use paths also contribute to reducing commuter-based GHG emissions and air pollution. The same study found that in just four months, GHG emissions and air pollution reductions translated into $23,000 in cost savings on an average weekday and approximately $3,600 on a weekend day. Active commuters contributed $2 million in environmental savings during that time.
- Measure of network completeness and connectivity: the extent to which the transportation network supports walking and biking. The measure of pedestrians/bicyclists access to businesses, community resources, and/or job opportunities: Destinations for this analysis includes schools, parks, retail sites, grocery stores, medical centers, businesses (with a threshold for employment),

Valley Bike stations, PVTA bus stops, senior centers, colleges, shared use paths, parks, farmer's markets, town hall, hospitals and other health facilities, libraries, tourist destinations and high-density residential locations. Access to destinations is measured in travel time (20 minutes for ½ mile). (Network distance does not account for the safety or comfort of a route) Metrics include:

  - Percent of residences within a ½-mile walking distance or 2-mile biking distance to specific key destinations, such as parks or elementary schools.
  - Percent of residences within a ½-mile walking distance or 2-mile biking distance to specific key destinations along a completed pedestrian or bicycle facility.
  - Percent of the network complete for pedestrians and bicyclists within ½ mile and 2 miles, respectively of each designated destination.
  - Number of destinations that can be accessed within a ½ mile along a walking network from a given point on the network.
  - Number of destinations within 3 miles along a bicycling network from a given point on the network.
  - Percentage of roadway miles with complete sidewalks or bike facilities on both sides.
  - Proportion of planned pedestrian and bicycle infrastructure that has been constructed.

- Measure of Access for Disadvantaged Populations: This measure evaluates how the pedestrian and bicycle infrastructure serve vulnerable populations, including low-income, minority, senior, and disabled groups. PVPC currently identifies these populations for the Title VI program, the TIP and RTP. This effort would take the existing network of bicycle and pedestrian facilities and use a spatial analysis (map) to analyze the distribution of these resources. The effort involves:
  - Percentage of disadvantaged populations within walking or biking distance to a shared-use path.
  - Percent of transportation-disadvantaged population within a ½-mile walking distance or 2-mile biking distance to a transit stop

4.3 Recurring Assessments and Overall Performance Assessment

The Bicycle and Pedestrian Plan is frequently updated every 10 years. The metrics will typically be updated every 4 years and coincide with updates to the Pioneer Valley Regional Transportation Plan.

Table 4.11 Performance Measures Metrics

Performance Measure Metrics	Current Baseline	Proposed by 2030
Shared-Use Paths Bike Lanes Total Miles of Bicycle facilities	56.3 miles 63.2 miles 119.5 miles	 131.45 miles (10% increase)
Miles of Pedestrian facilities	1043 miles	1,147.00 miles (10% increase)
Shared-Use Path Volume Counts	5 per year	5 per year
Bike Lane Counts	3 per year	3 per year
Institutional Integration of Bicycling and Walking: • Complete Streets Participation • UPWP Tasks Address Bicycling and Walking • Safe Routes to School participation • Bay State Bike Month Participation	 23 100% 147 10	 26 100% 162 11
Bicyclists and Pedestrians Fatalities/Serious Injuries	(fatality numbers in section 4.2.5 figures)	Zero