

SECTION 5: BICYCLE USER SURVEY

The Roanoke Valley Area Metropolitan Planning Organization (RVAMPO), in cooperation with the participating local governments, VDOT, and other stakeholders, conducted an Online bicycle user survey as a component of the *Bikeway Plan for the RVAMPO – 2012 Update* and to provide general information on bicycle use, perceptions, and preferences in the region.

5.1 Bicycle User Survey Overview

The Bicycle User Survey was conducted via the Internet from September 15 – October 23, 2009 and consisted of thirty-three (33) quantitative and open-ended questions. The survey was completed by 297 of the 307 respondents started the survey, for a 97.1% completion rate. While the survey was oriented toward cyclists, it was open to anyone interested in completing the survey, with many questions relevant to non-cyclists. Bicycle User Survey respondents were “self selecting” and do not constitute a representative (i.e., random) sample of the RVAMPO study area population. However, analysis of the survey responses is statistically valid and feedback received is invaluable to efforts to better accommodate cyclists in the region. Additionally, many of the questions provided the opportunity for respondents to provide open-ended responses and comments.

5.2 Survey Highlights

- The vast majority of respondents indicated that they were not members of a bicycle club, organization or advocacy group. Additionally, most respondents indicated having never

participated in official Bike Month activities organized by RIDE Solutions and other stakeholders each year during the month of May.

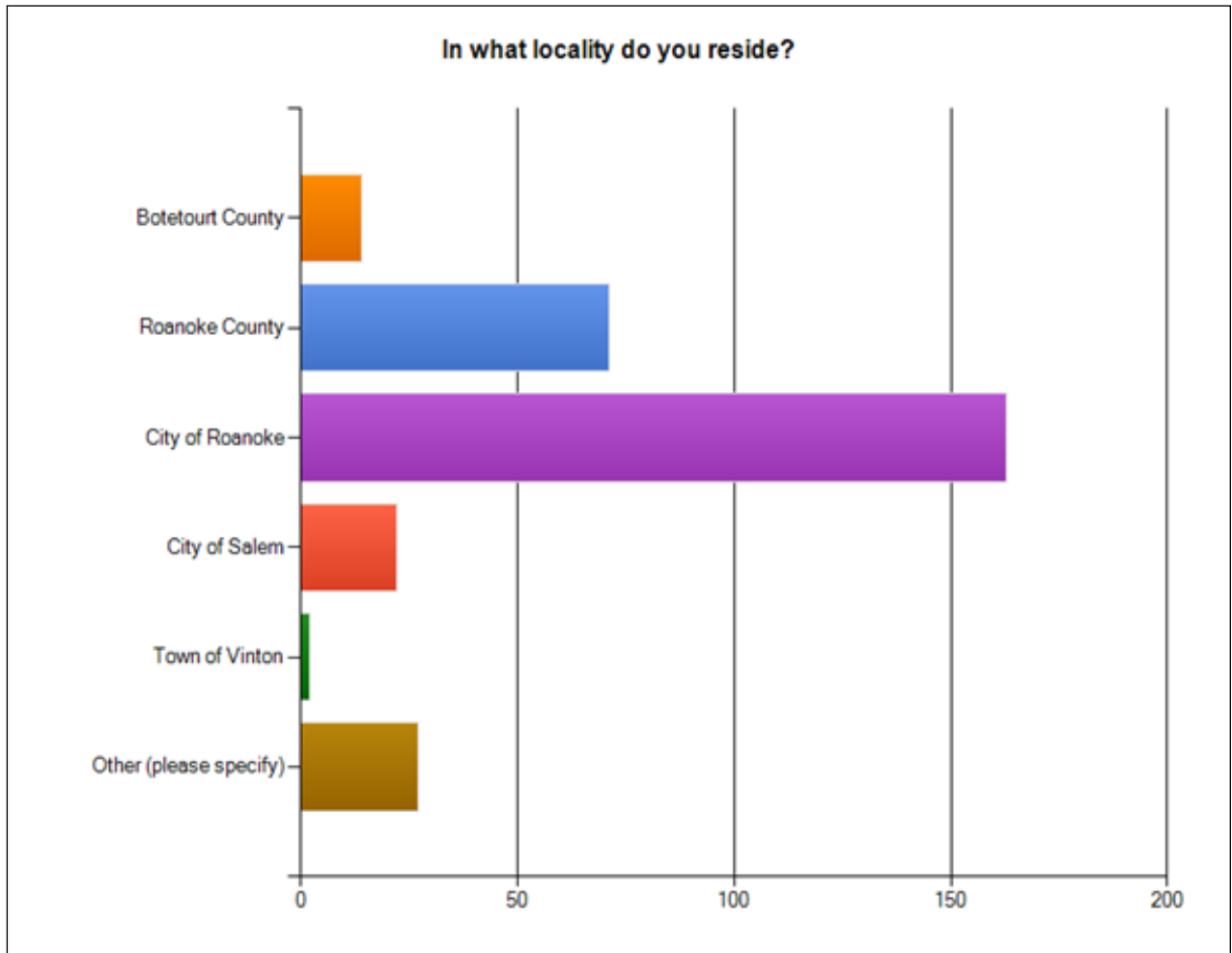
- Respondents indicated that most bicycle miles traveled (BMT) were for exercise and recreation respectively, followed by commuting, visiting friends/socializing, and shopping/errands.
- Most respondents classified themselves as “experienced” or “moderate” in terms of cycling ability regard cycling skills, knowledge of traffic laws and safety, and ability of ride on shared roadways with motorized vehicles.
- Traffic speed, traffic volume, and driver behavior were consistently cited as major impediments to cycling more often.
- Nearly all respondents indicated having another means of transportation other than a bicycle. Additionally, very few respondents indicated that they bicycled to access another mode of transportation, such as Valley Metro or a park-and-ride lot.
- The vast majority of respondents with children indicated that their child(ren) did not ride a bicycle to school.
- Overwhelmingly, respondents indicated they are willing to take a longer route to their destination(s) in order to avoid traffic and/or access a bicycle accommodation, greenway or lower traffic corridor.



5.3 Survey Question Responses

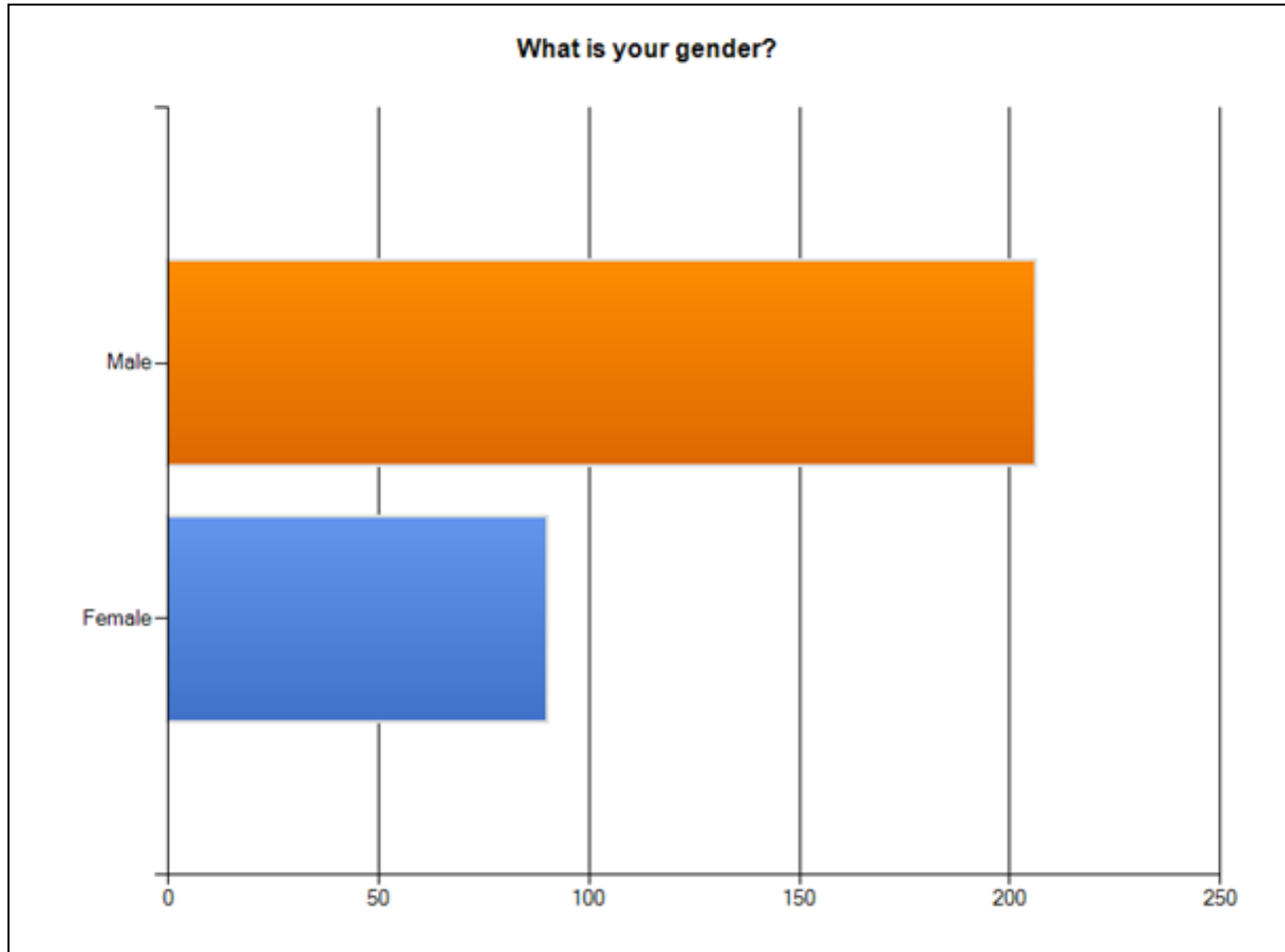
This section provides a summary of responses to the Bicycle User Survey quantitative questions, and associated graphs, charts, and tables. Responses to open-ended survey questions and all other survey respondent comments are included in Appendix I. Bicycle User Survey responses are available at www.rvarc.org/bike.





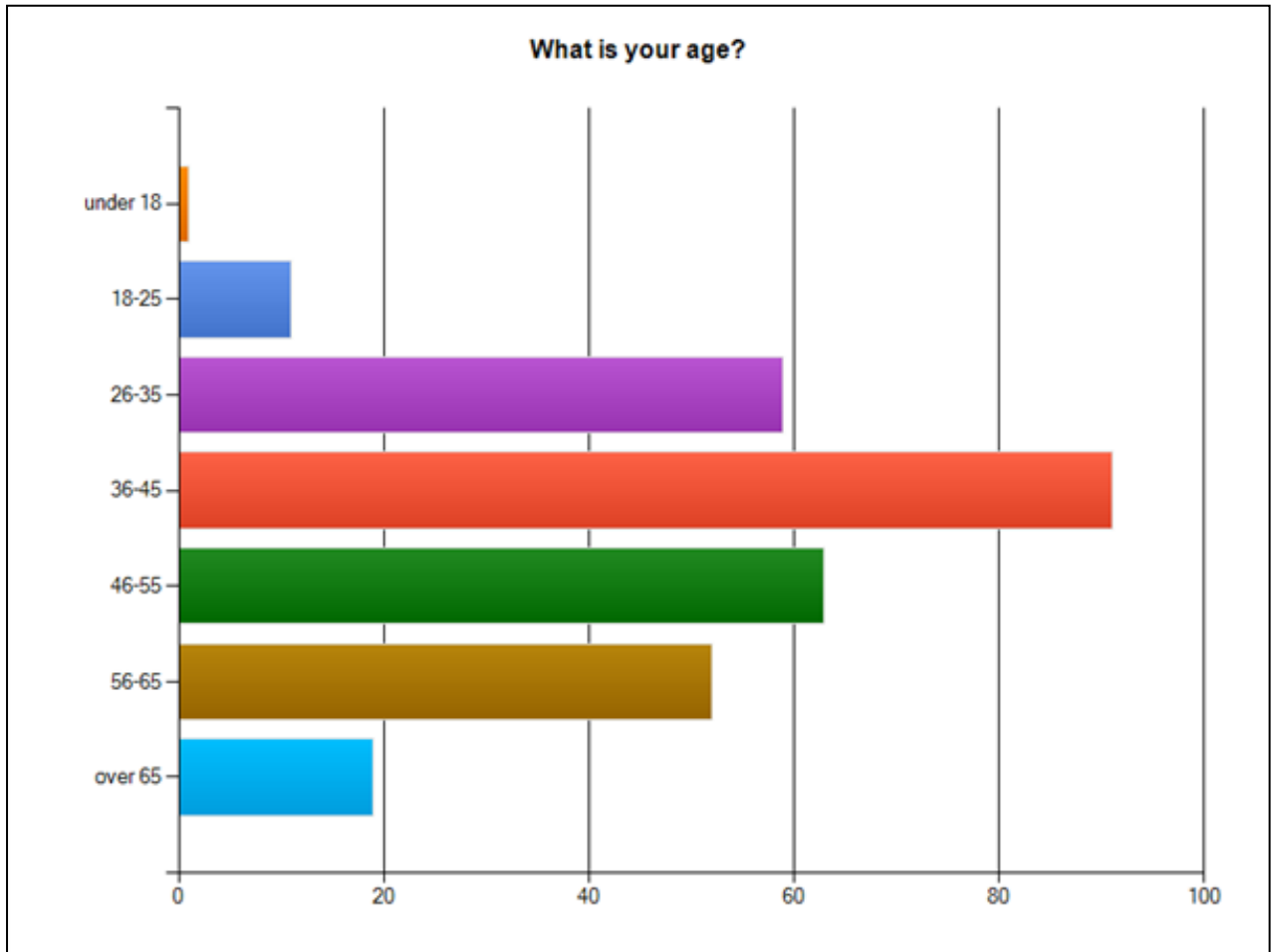
Question 1: Respondents were given the option to indicate the locality in which they reside - Botetourt County, Roanoke County, the City of Roanoke, the City of Salem, the Town of Vinton, and Other. The majority of respondents, approximately 160 individuals, identified the City of Roanoke as their home. The second most represented locality was Roanoke County, followed by Other.





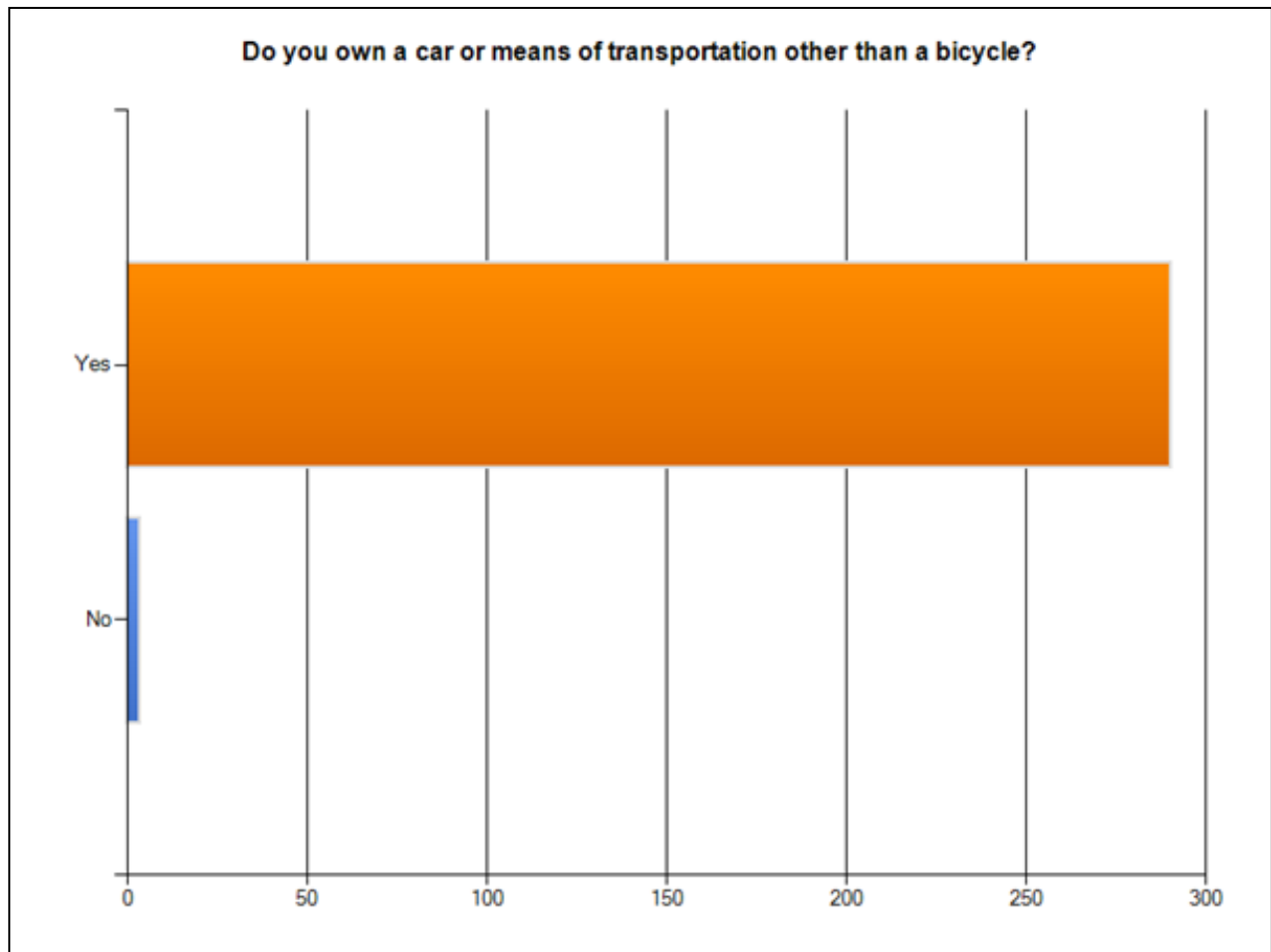
Question 2: Respondents were asked to indicate their gender. The majority of the respondents identified their gender as “male”, with considerably fewer female respondents. While the male-to-female response ratio is disproportionate compared to the overall demographics in the RVAMPO study area, it may reflect the actual male-to-female ratio in term of the number of cyclists.





Question 3: Respondents were also given the option of indicating their age by selecting one of several age cohorts. The largest respondent age cohort was 36-45, followed by the 46-55 and 26-35 age cohorts, which were roughly equal in number of respondents. However, collectively the 56 and over age cohort represents the second largest number of respondent. Given recent and projected demographic trends, in which the population is aging or “graying” as well as the greater Roanoke area being a retirement destination this age cohort will likely increase in the future as baby boomers progress in age).





Question 4: Respondents were asked whether or not they owned a means of transportation other than a bicycle, with nearly all respondents replying “Yes.” This response suggests that the use of a bicycle for various activities is very likely “optional” and that a bicycle is likely not the primary mode of transportation for these respondents.



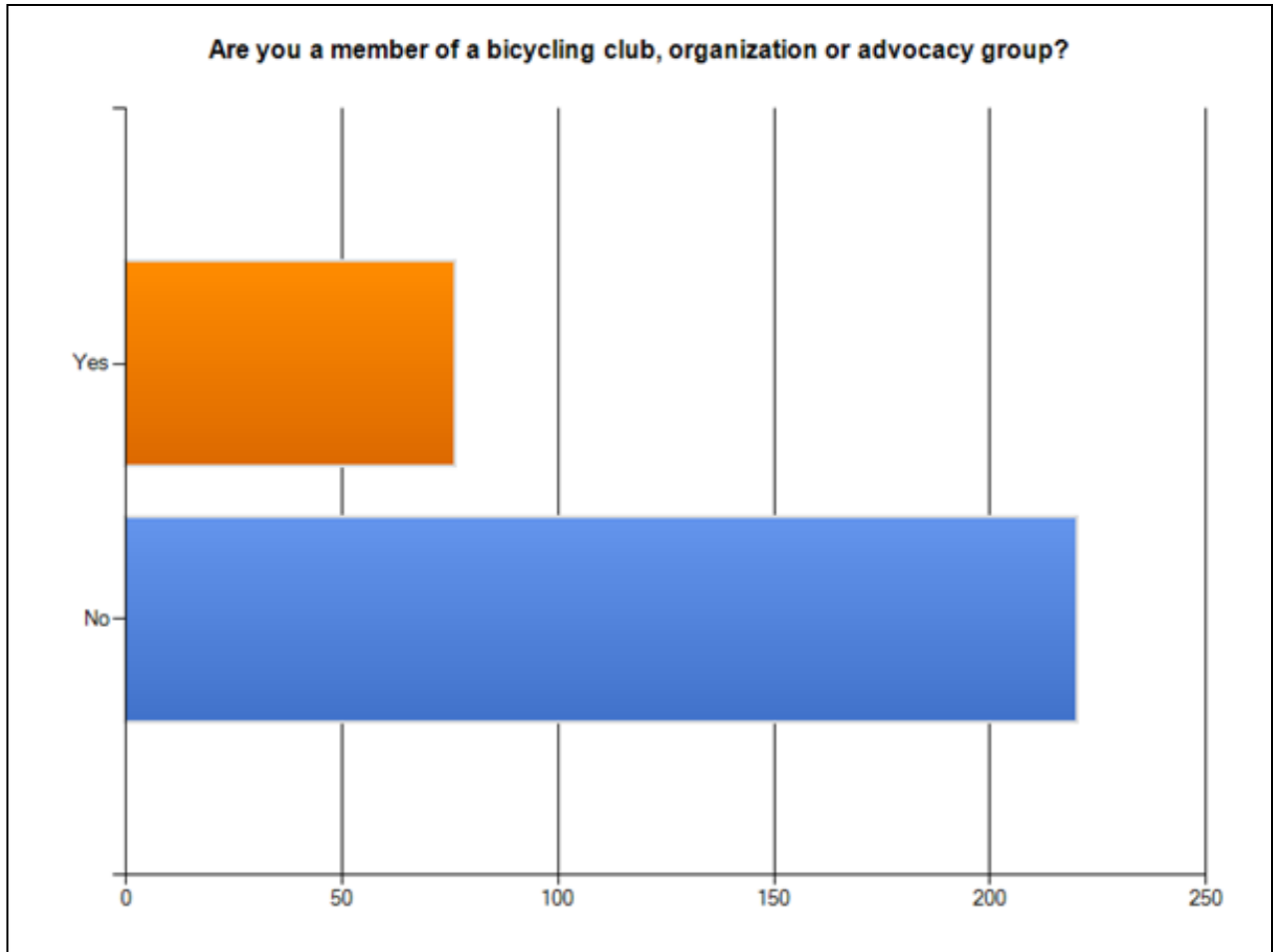
| Resident Zip Code | Response Number |
|-------------------|-----------------|
| 24015 | 72 |
| 24018 | 54 |
| 24014 | 36 |
| 24153 | 28 |
| 24019 | 18 |
| 24017 | 17 |
| 24012 | 14 |
| 24016 | 13 |
| 24013 | 8 |
| 24060 | 5 |

Question 5: Respondents were asked to identify the zip code in which they are residents. The most common zip codes included 24015, 24018, 24014, and 24153.

| Work Zip Code | Response Number |
|---------------|-----------------|
| 24153 | 40 |
| 24016 | 33 |
| 24011 | 30 |
| 24012 | 22 |
| 24018 | 22 |
| 24014 | 21 |
| 24015 | 20 |
| 24019 | 20 |
| 24017 | 11 |
| 24013 | 5 |
| 24060 | 4 |

Question 6: Respondents were asked to identify the zip code in which they work. The most common zip codes included 24153, 24016, 24011, 24012, 24018, 24014, 24015, and 24019.

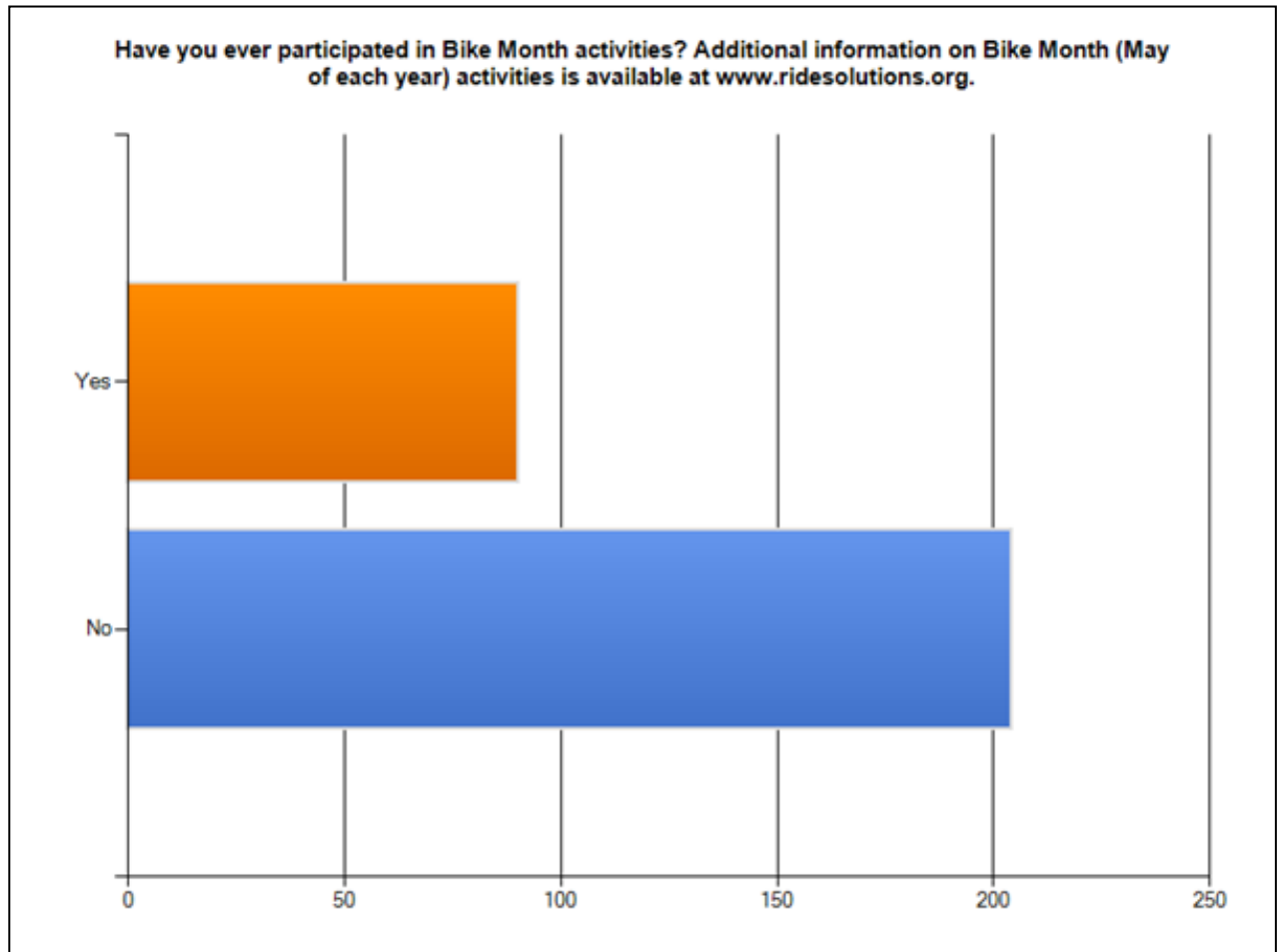




Question 7: To determine the respondents’ level of participation in “formal” bicycling-related activities they were asked to indicate membership to a bicycling club, organization, or advocacy group. The vast majority of respondents indicated that they were not members of a bicycle club, organization or advocacy group. This may indicate the Bicycle User Survey was completed by a range of stakeholders, beyond those affiliated with a bicycle clubs or organizations which generally have more recreational cyclists. Additionally, the large percentage of “unaffiliated” survey respondents represents a large cohort of stakeholders to engage in the planning process, as well as potential members of area clubs, organizations, or advocacy groups involved in promoting cycling.

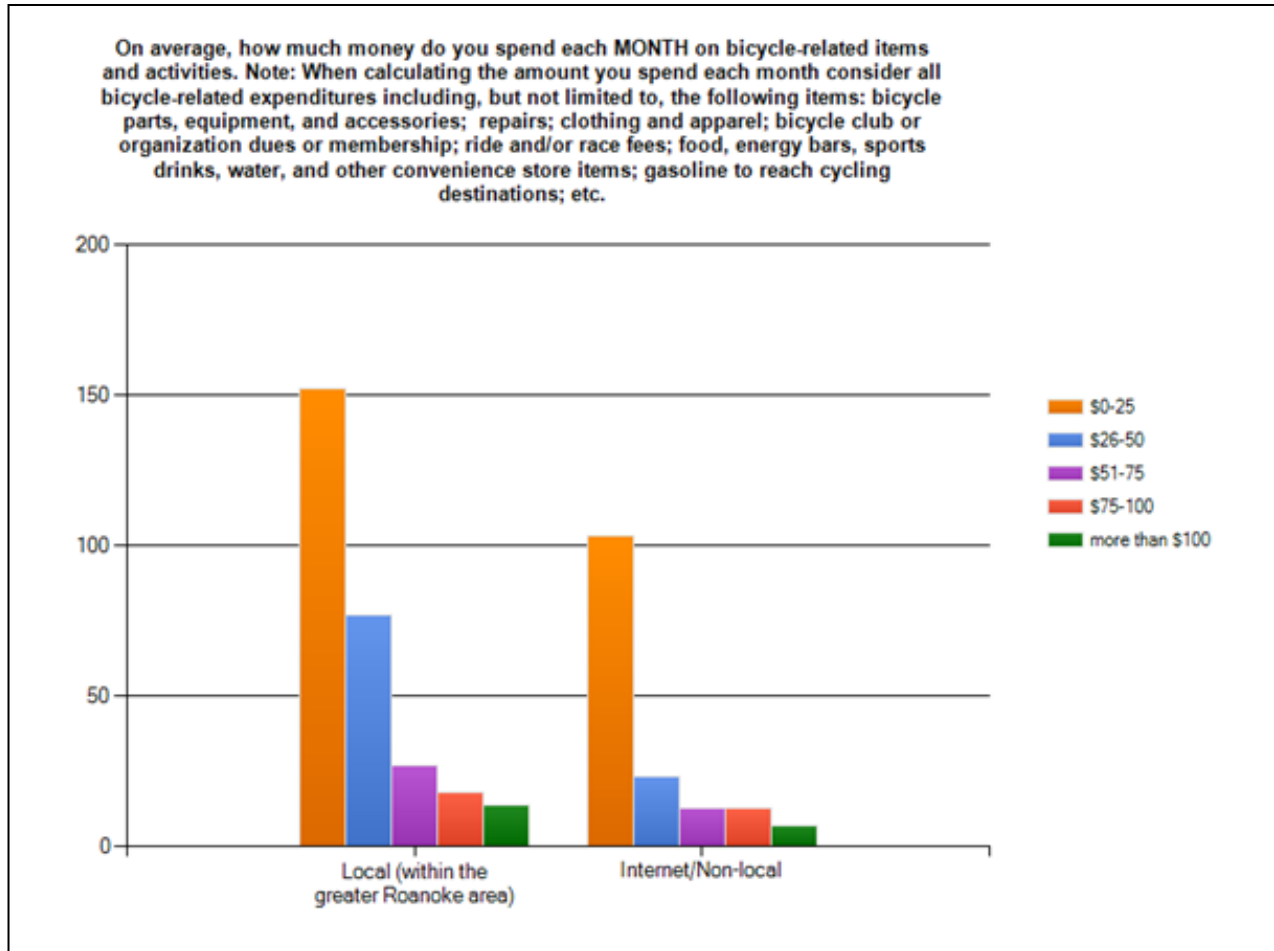
For respondents indicating membership in a bicycle-related club, organization, or advocacy groups the most common entities include the Blue Ridge Bicycle Club, International Mountain Biking Association (IMBA), League of American Bicyclists, Virginia Bicycle Federation, and the Roanoke Cycling Organization.





Question 8: Most respondents indicated having never participated in official Bike Month activities organized by RIDE Solutions and other stakeholders each year during the month of May. Similar to Question 7, this response indicated that completed by a range of stakeholders beyond what may be considered the typical bicycling community. Additionally, this indicates a potential cohort of cyclists to engage in future Bike Month activities. Additional information on Bike Month is available at RIDE Solutions and BikeRoanoke.com.

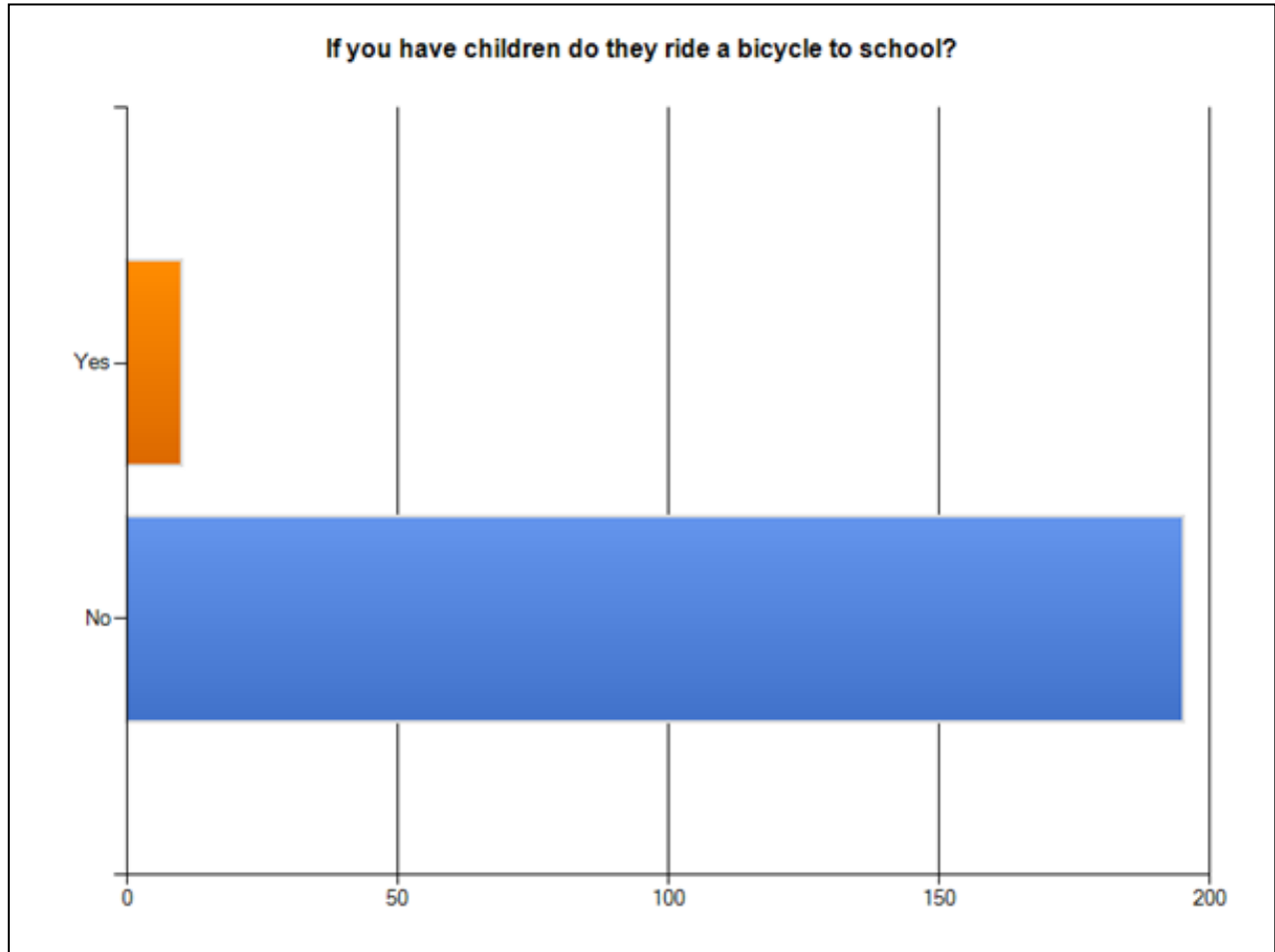




Question 9: To determine the investment in bicycle-related items and activities, respondents were asked to identify the amount they spend on such items each month and whether that money is spent locally (within the greater Roanoke area) or elsewhere. Most respondents indicated spending less than \$25 each month on bicycle-related items and activities, be it locally or non-locally/Internet.

When respondents were asked what factors would encourage to increase the amount of money you spend **LOCALLY** on bicycling-related items the most common responses included: more bicycle accommodations (on-street, greenway, etc.) in the area, which would encourage more cyclists to ride more mile, thus creating the need for more bicycle-related gear and accessories; and make accessing area bicycle shops (and other businesses) easier and safer. Increasing the number of bicycle-related events held in the area; better/more competitive pricing; increased selection (especially gear and accessories) at local bicycle shops were also commonly cited factors.

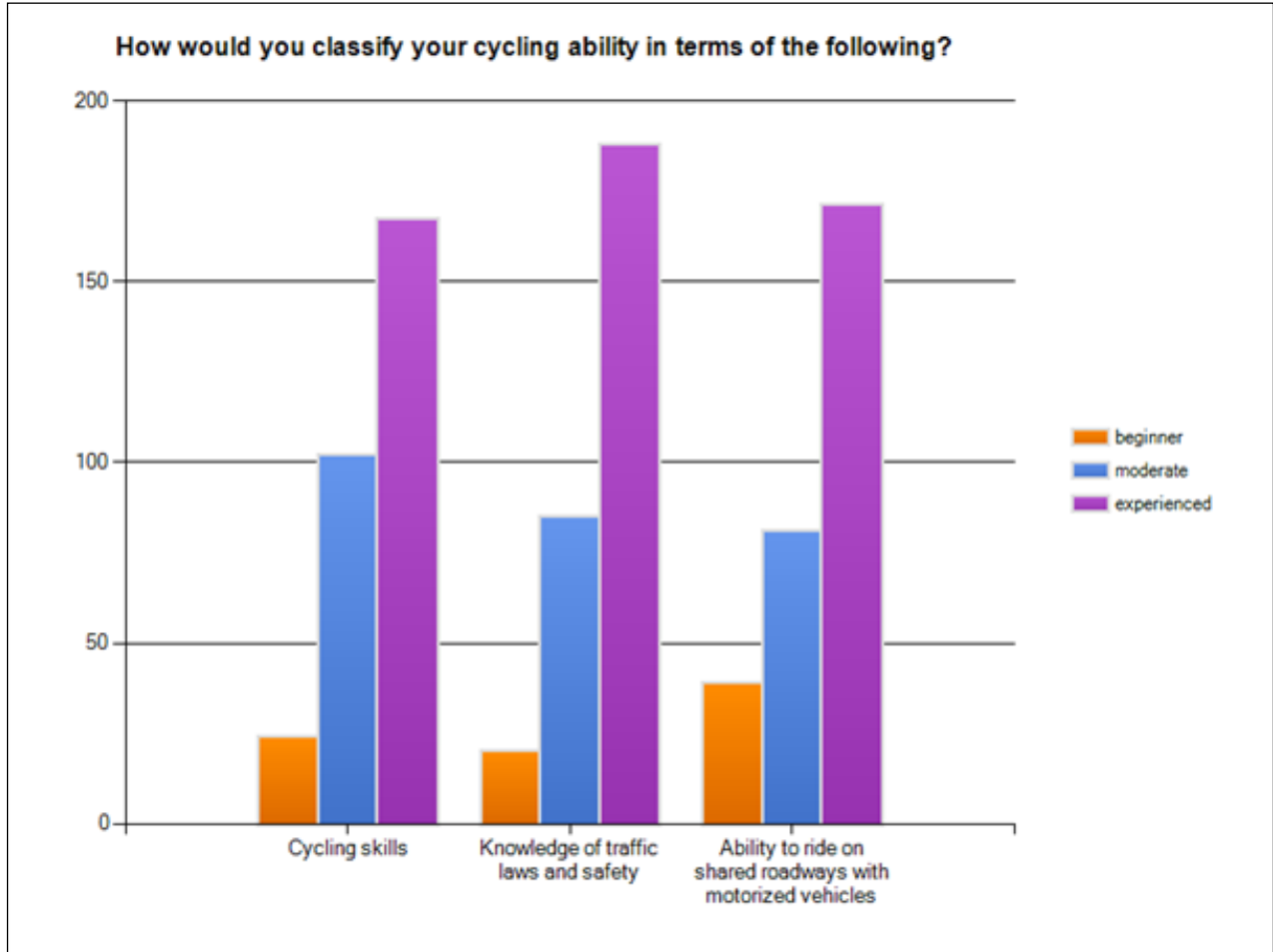




Question 10: Overwhelmingly, respondents with children indicated that their child (ren) did not ride a bicycle to school. Responses to this question are consistent with findings from surveys completed a part of area Safe Routes to School (SR2S) programs. Generally, “safety” was cited most often as the most common reason cited for children not riding a bicycle to school. However, respondents identified a range of issues that contributed to the perceived lack of safety. The most common safety issues include motor vehicle traffic/busy streets near schools; persons of questionable character; and lack of bicycle accommodations or safe routes to area schools.

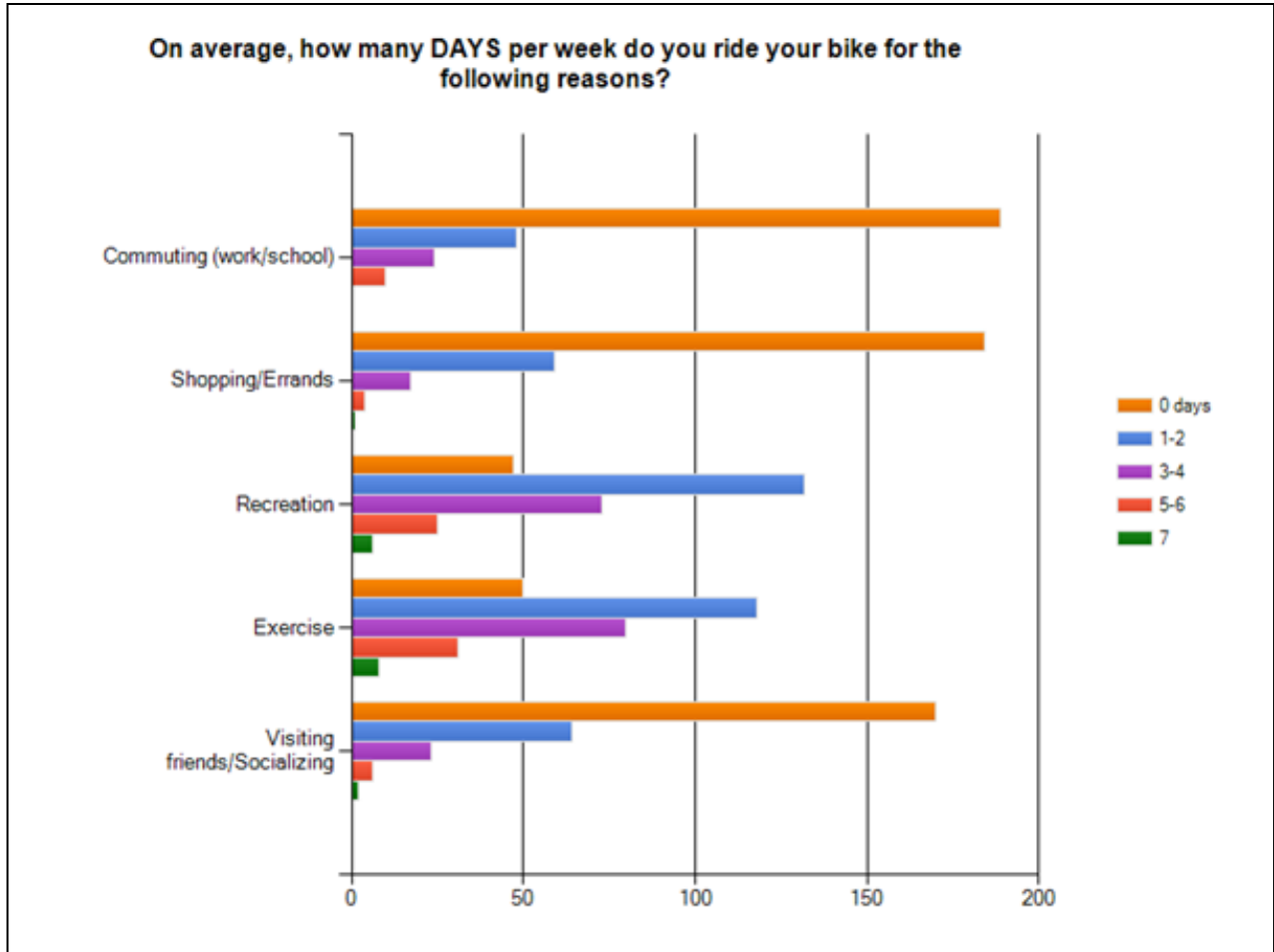
Additionally, several respondents indicated that school policy and/or administration prohibit or discourages students from bicycling to school. Distance to school was also cited as a major impediment. Survey responses, general perceptions, and administrative policies regarding biking to school may significantly influence the success and/or effectiveness of Safe Routes to School Programs with the core goal of encouraging and facilitating biking/walking to school and the associated benefits.





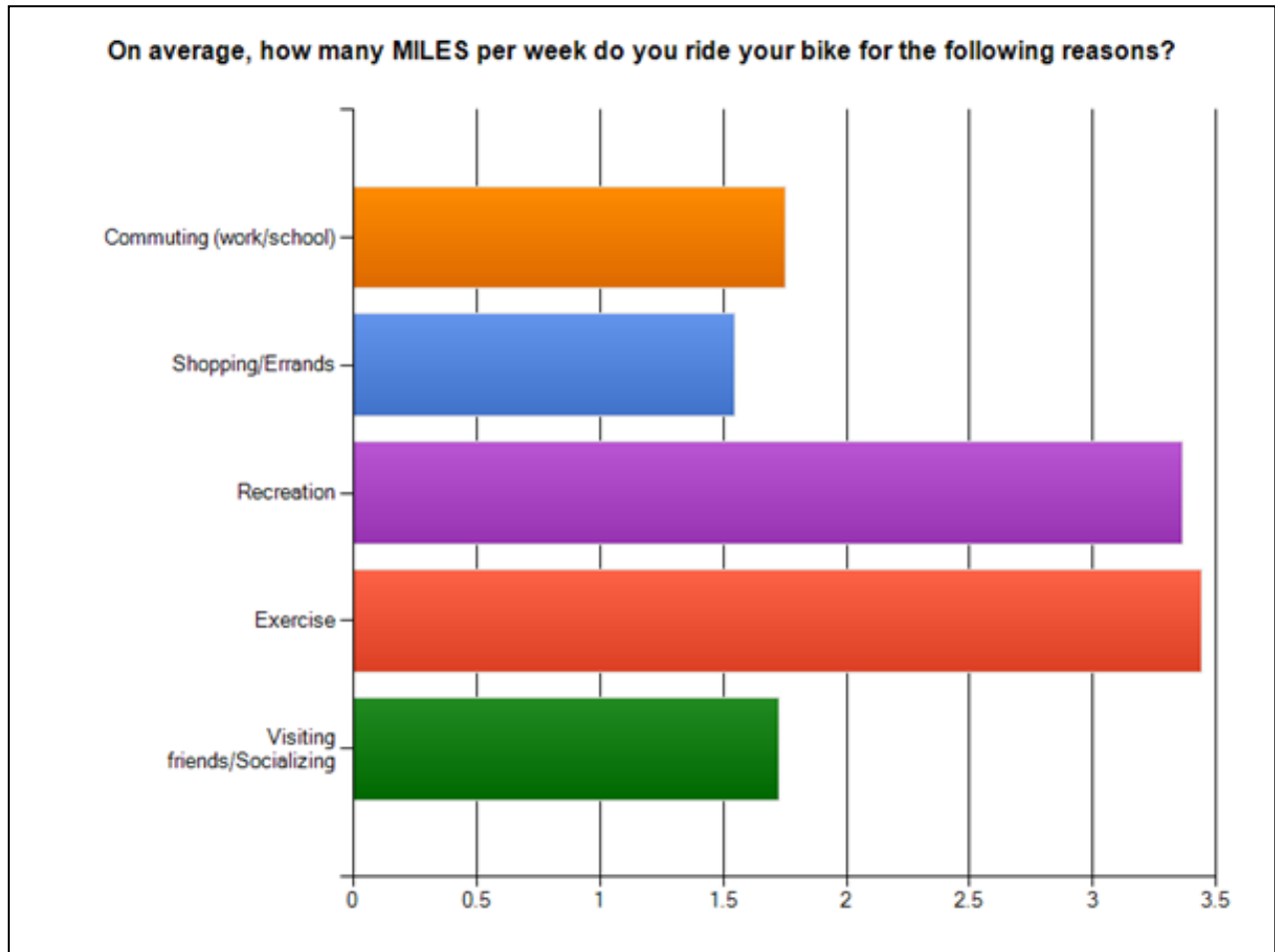
Question 11: To gauge the level of experience of the respondents, they were asked to classify their cycling ability as either “beginner,” “moderate,” or “experienced” in regard cycling skills, knowledge of traffic laws and safety, and ability of ride on shared roadways with motorized vehicles. Most of the respondents classified themselves as “experienced” in each category, with “moderate” being the next most common response.





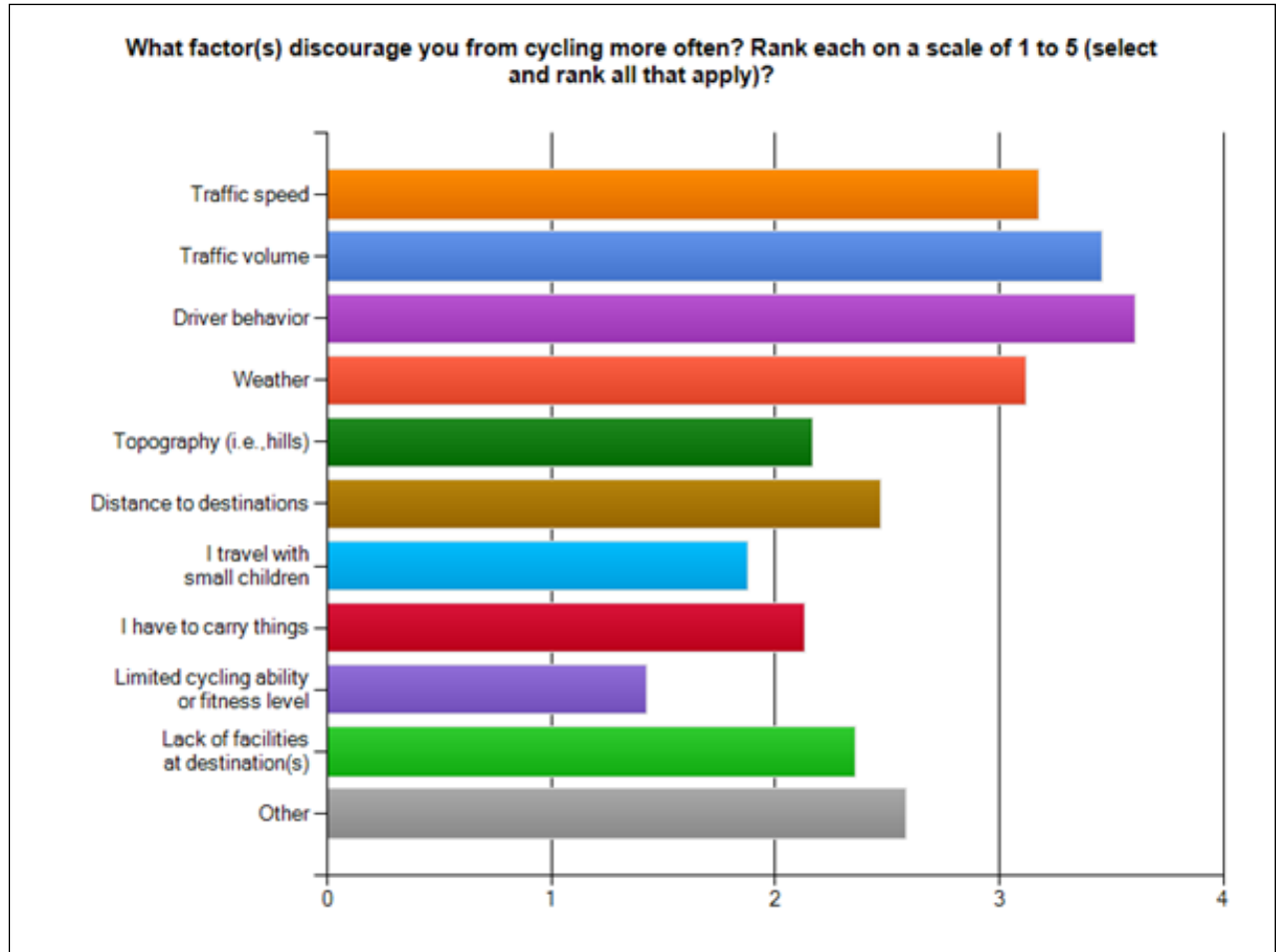
Question 12: To better understand cycling habits and characteristics, respondents were asked to indicate how often they use their bicycle for purposes such as commuting, shopping/errands, recreation, exercise, and visiting friends/socializing. Recreation and exercise were the most common activities conducted via bicycle. Additionally, responses indicate that a large number of respondents do not regularly commute, shop or visit/socialize via bicycle.





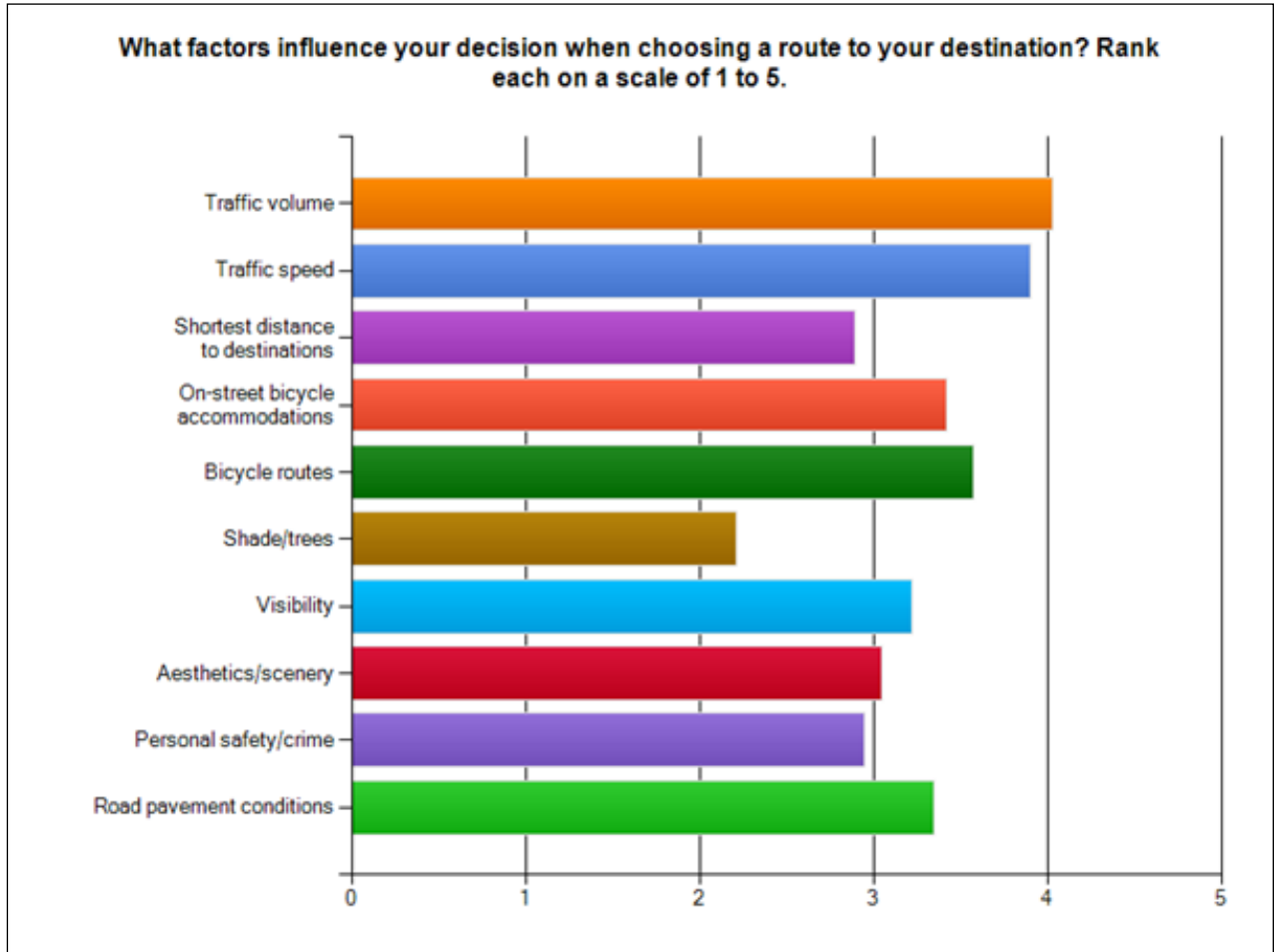
Question 13: respondents were asked how many miles they ride their bike for each activity noted in Question 12 - commuting, shopping/errands, recreation, exercise, and visiting friends/socializing. Most bicycle mile traveled (BMT) were for exercise and recreation respectively, followed by commuting, visiting friends/socializing, and shopping/errands. While responses to Question 12 indicate commuting, visiting friends/socializing, and shopping/errands were not commonly cited reasons for bicycle, Question 13 responses indicate that the distance traveled for these reasons (less than 2 miles) is easily within cycling distance.





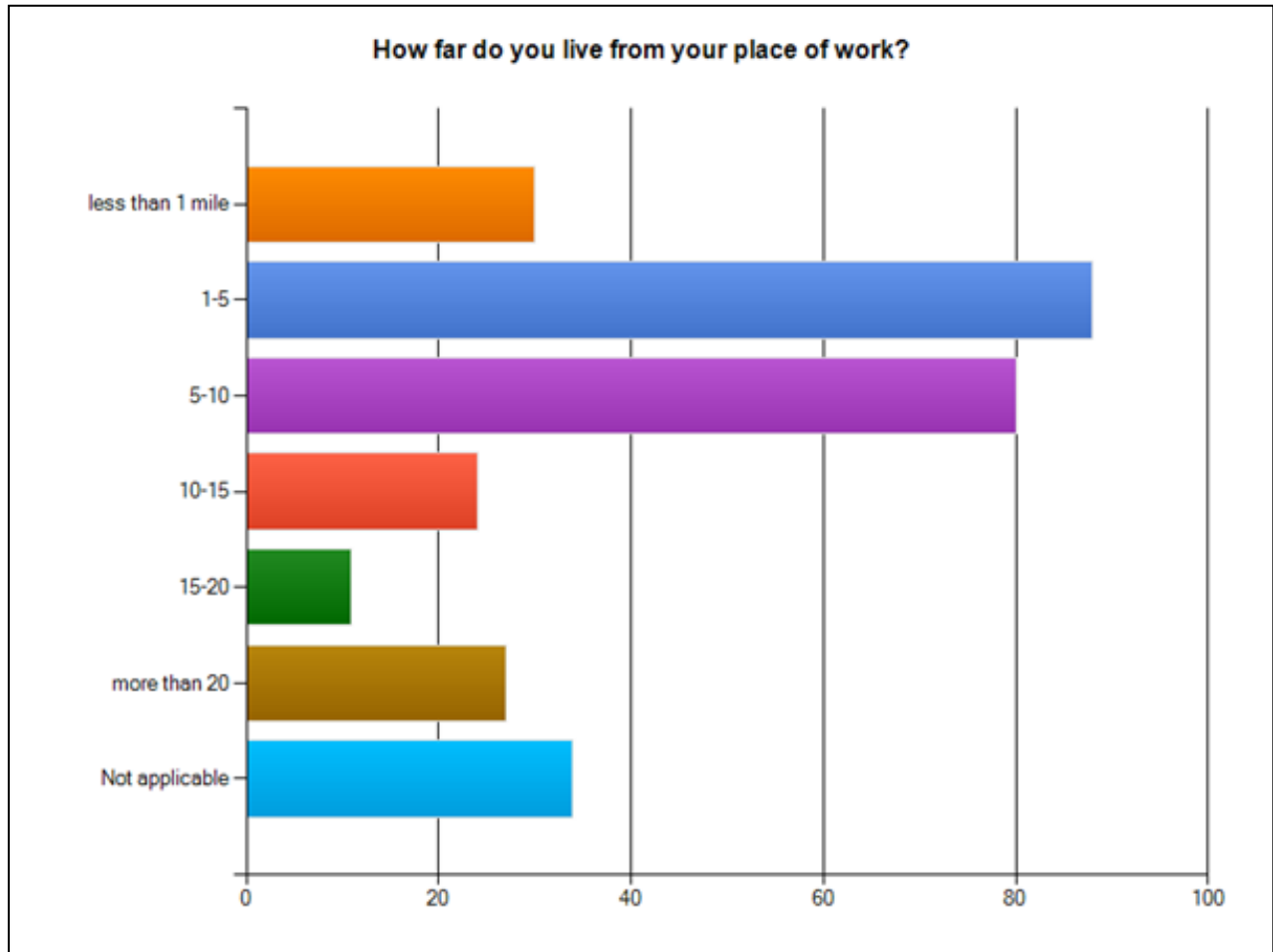
Question 14: Respondents were asked to identify which factor(s) discourage them from cycling more often. Respondents ranked each factor on a scale of 1 to 5, with 5 indicated in most prominent factor. The most commonly cited factors include driver behavior, traffic volume, traffic speed, and weather. Factors such as traffic volume and traffic speed can be addressed through development of alternate routes on lower traffic corridors and/or neighborhood streets. However, to be effective and utilized route development should include a combination of signage, pavement markings, and wayfinding and information along the route. Additionally, topographic challenges can also potentially be mitigated through proper route selection.





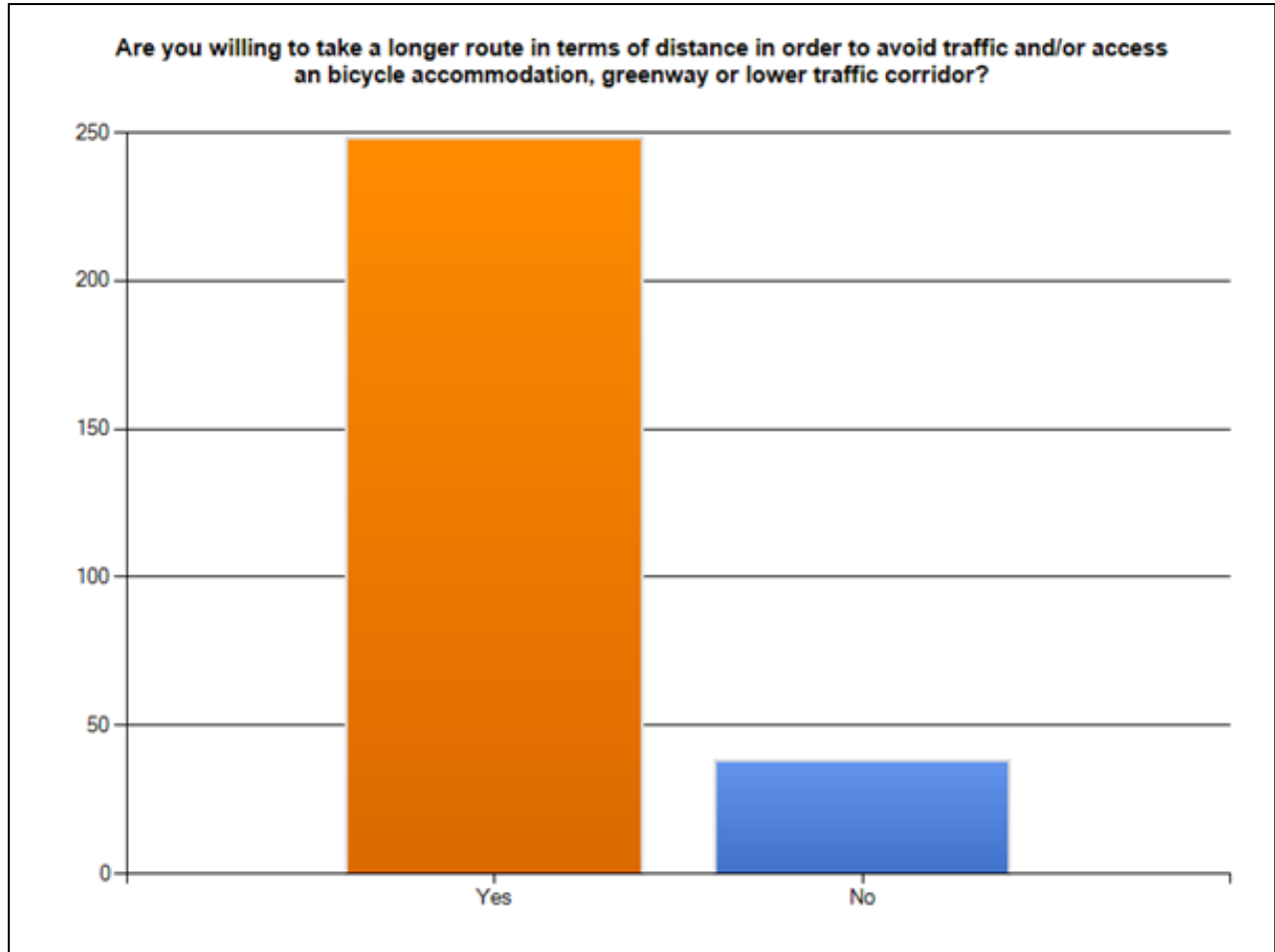
Question 15: To better understand why cyclists chose some routes over others to reach their destinations, respondents were asked to identify which factors influenced their decision and rank them on a scale of 1 to 5. As with Question 14, traffic volume and traffic speed were cited as major factors. The presence bicycle routes, on-street accommodations, and road pavement conditions also commonly cited factors. Apart from shade/trees, shortest distance to destination was the least commonly cited factors influencing route selection. This response correlates with responses from Questions 17 in which the vast majority of cyclists indicated willingness to take a longer route in terms of distance in order to avoid traffic and/or access a bicycle accommodation, greenway or lower traffic/neighborhood corridor.





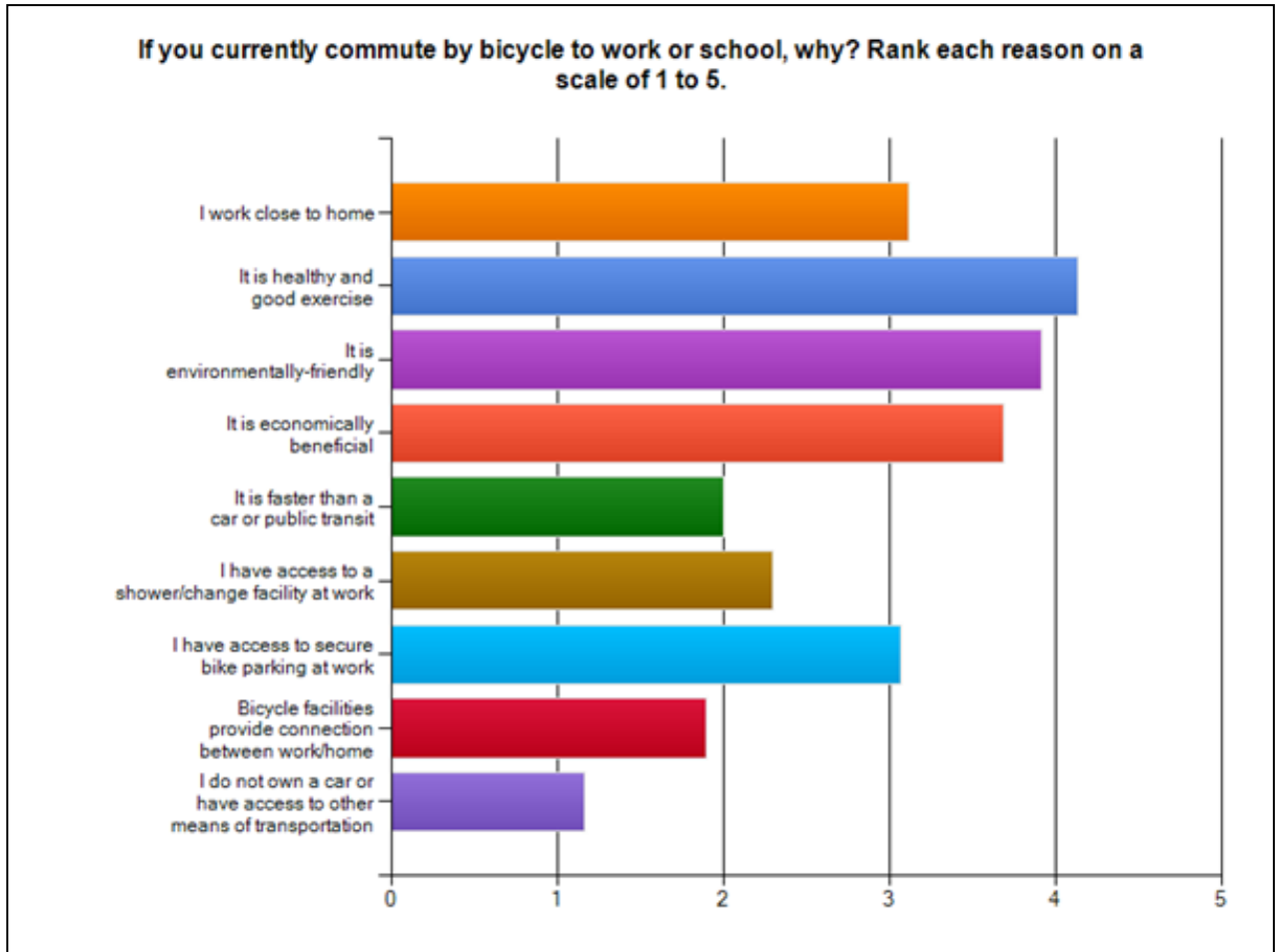
Questions 16: Respondents were asked to indicate how far they lived from their place of employment. The majority of respondents indicated living within 1-5 miles from work, a distance that can potentially be easily traveled by bicycle, followed by 5-10 miles. The next most common responses were not applicable, suggesting a number of respondents were retired, less than one mile. A significant number of respondents indicated living more than 10 miles from their place of employment, which is consistent with commuting patterns and indicative of recent development patterns and metropolitan growth (i.e., suburban sprawl).





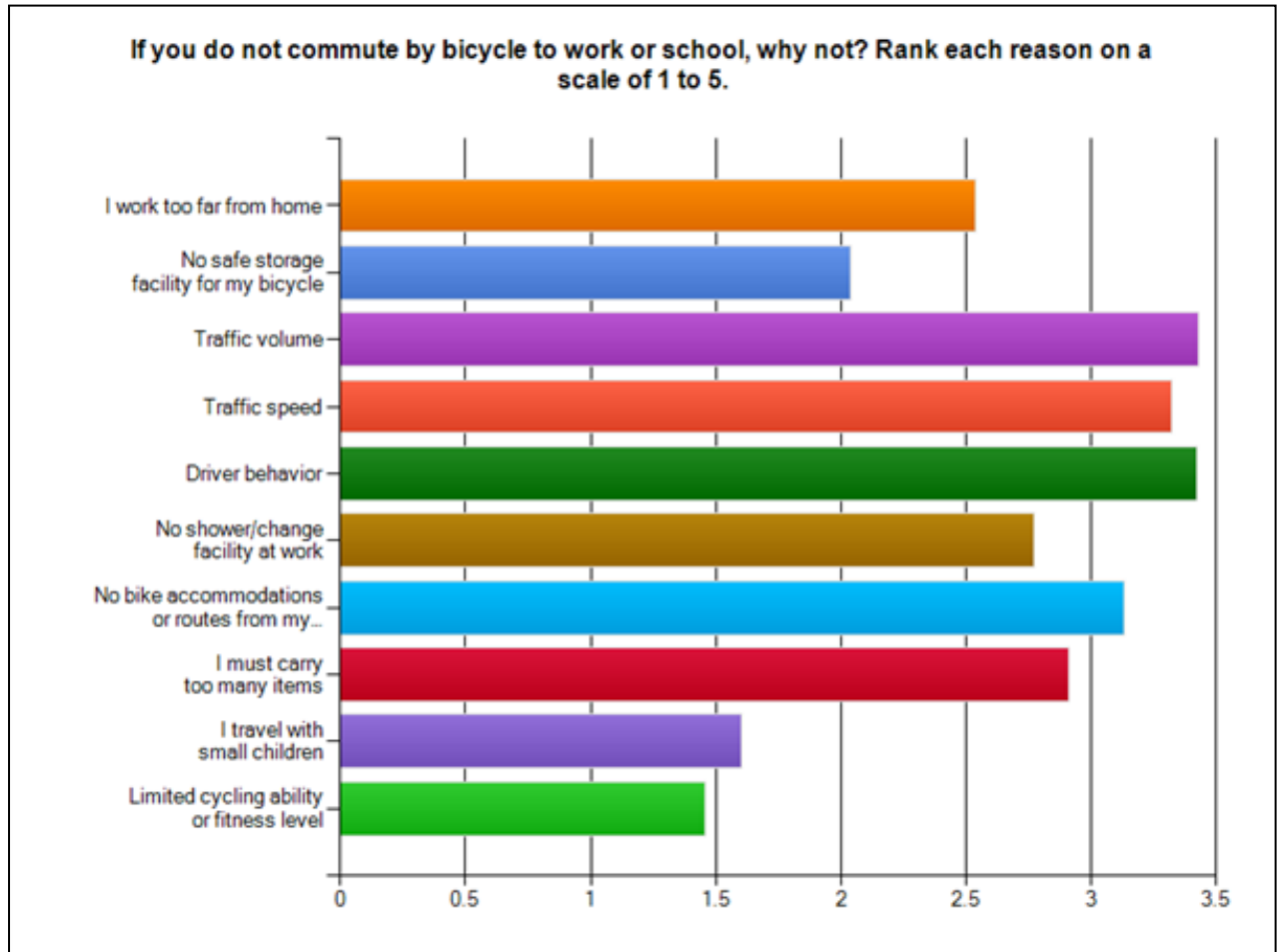
Question 17: Overwhelmingly, respondents indicated willingness to take a longer route in terms of distance in order to avoid traffic and/or access a bicycle accommodation, greenway or lower traffic corridors. As previously noted, this response correlates well with responses to Questions 15 in which respondents indicated that “shortest distance to destination” was not a primary factor in route selection. This willingness is important in allowing for flexibility in alternative route development that utilize lower traffic corridors or neighborhood street which may not represent to most direct route or shortest distance to a specific location. Examples include the RIDE Solutions “Bike to Work” routes that, when practicable, avoid major arterial and other high traffic corridors in favor of lower traffic corridors, neighborhood street or existing on-street accommodation. Additionally, the Interactive Bicycle Accommodations Map provides information on all bicycle accommodation in the MPO study area.





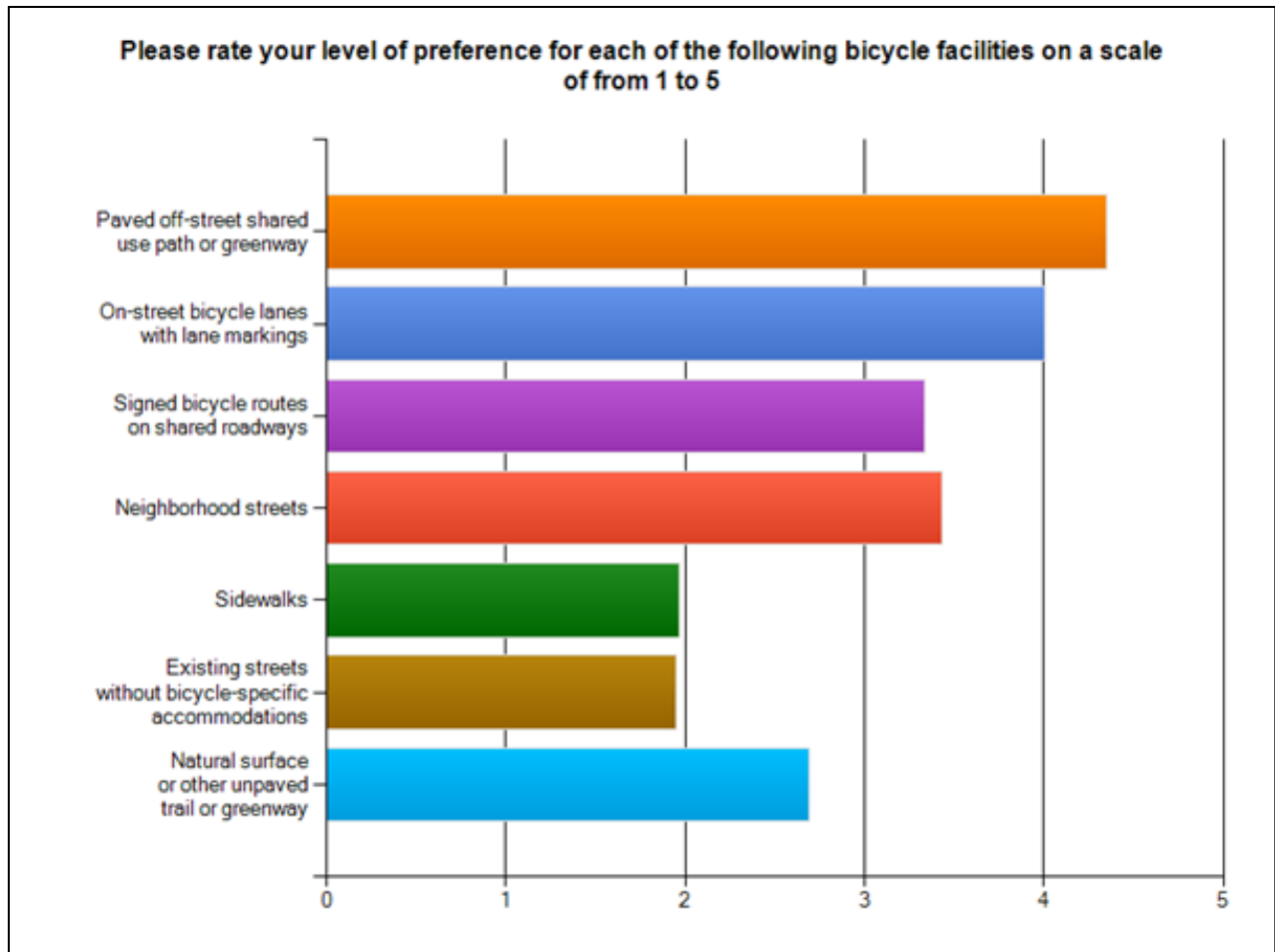
Question 18: To understand what factors influence a person’s decision to commute by bicycle to work or school, respondents who currently commute by bicycle were asked to rank the reasons for their decision on a scale of 1 to 5. Similar to responses in Question, health/exercise was the most commonly cited reasons for bicycle commuting, followed closely by environmental and economic reasons. Working close to home (i.e., short distance) and access to secure bicycle parking at work were also commonly cited factors impacted current bicycle commuters. Consistent with responses from Question, not owning a car or access to other means of transportation was least important reason why currently bicycle commuters do so.





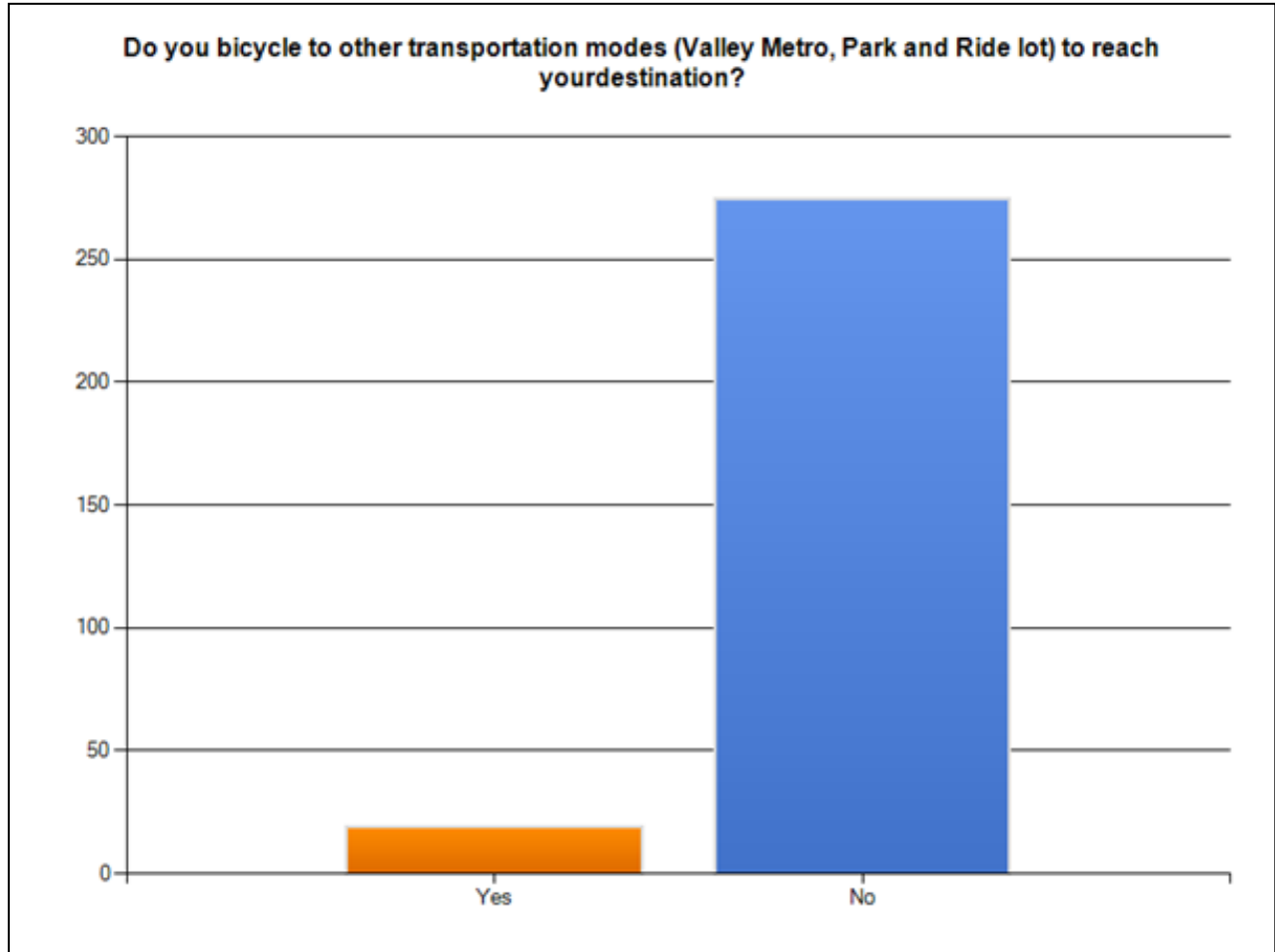
Question 19: Respondents who do not currently commute by bicycle were asked to rank the reasons why they do not do so on a scale of 1 to 5. The most common responses included traffic volume, driver behavior, and traffic speed. Other common responses include lack of bicycle accommodations on cyclists route to destination, need to carry many items, and lack of shower/change facilities at work. As previously noted, development of bicycle routes that utilize lower traffic corridors would address traffic volume and traffic speed.





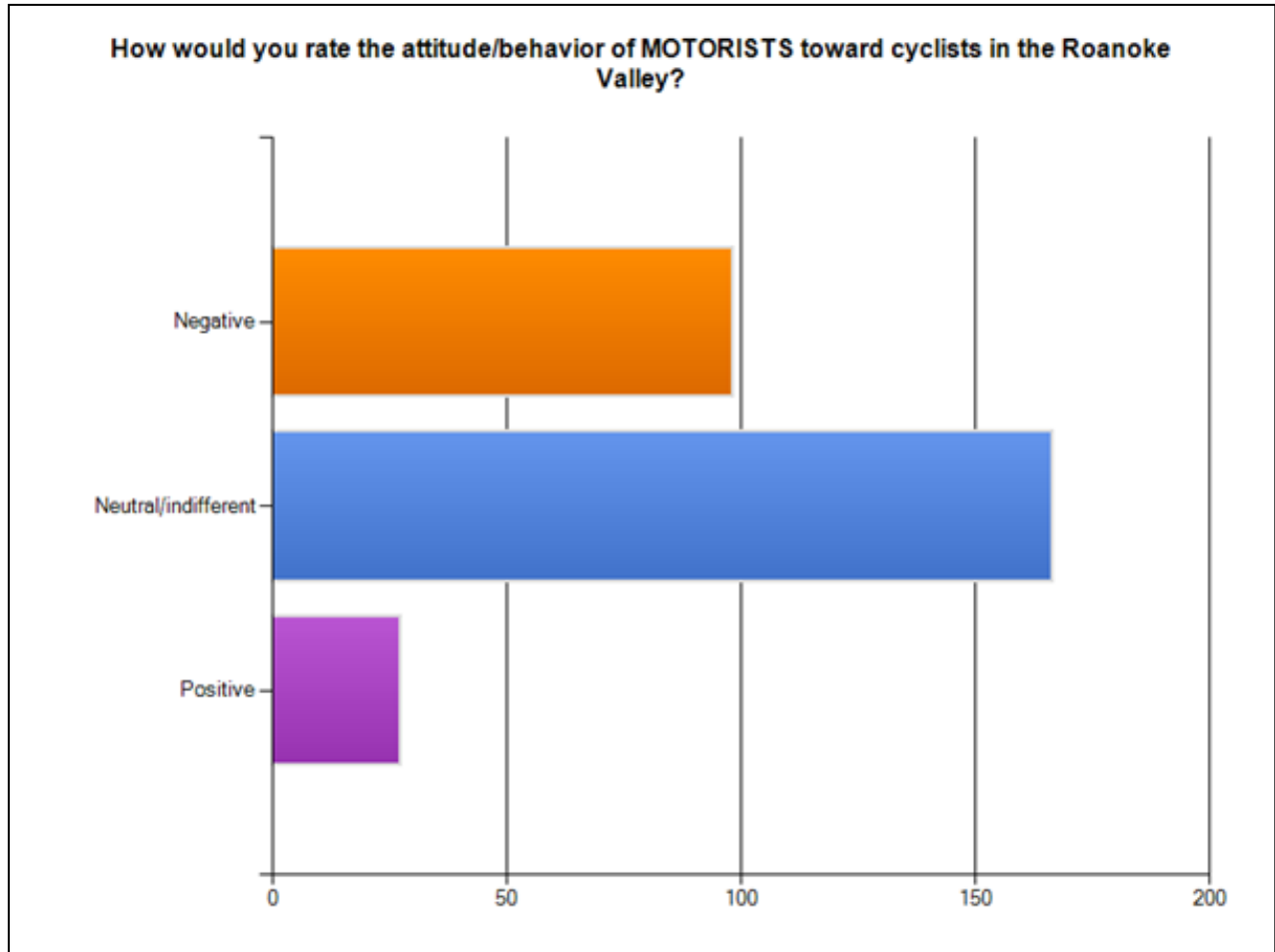
Question 20: Respondents ranked bicycle facilities on a scale of 1 to 5 according to preference. The most preferred facility was paved off-street shared use path or greenway, followed by on-street bicycle lanes with lane markings. Additionally, neighborhood streets and signed bicycle routes were also preferred bicycle accommodations. Utilization of neighborhood streets and signed bicycle routes, were practicable, are often cost-effective approaches to better accommodating cyclists in that the lower traffic corridor is the actual “accommodation.” Additionally, ancillary accommodation such as signage, wayfinding and pavement markings are much less expensive than roadway reconstruction.





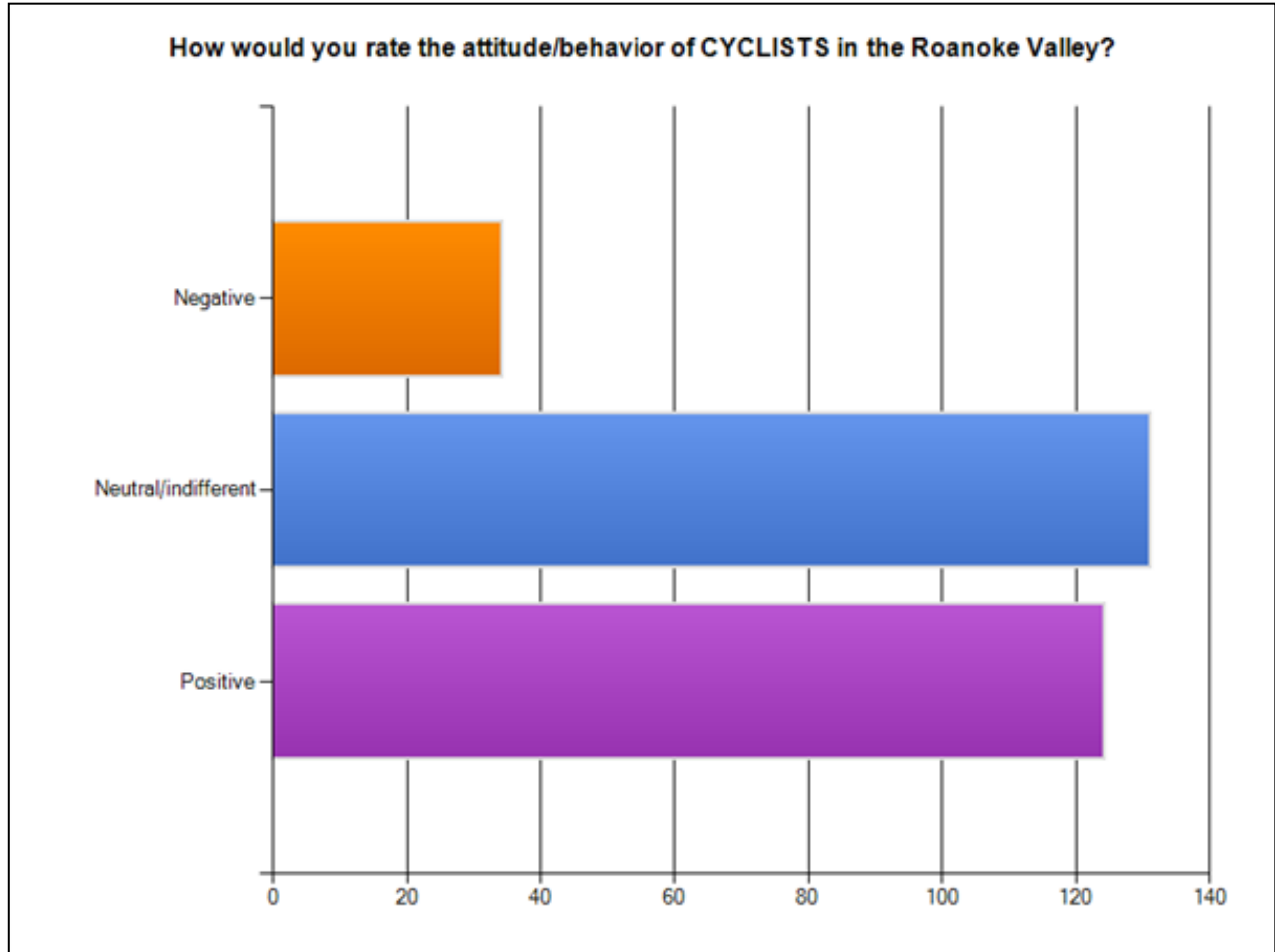
Question 21. Very few respondents indicated that they bicycled to access another mode of transportation, such as Valley Metro or a park-and-ride lot. However, multimodalism (i.e., using more than one mode of transportation for a trip) can increase mobility and extend the distance a cyclist can travel. Many Valley Metro buses are equipped with front-mounted racks with a two bicycle capacity. All Smartway Commuter buses are equipped with front-mounted racks with a two-bike capacity, with additional bicycle storage in the underneath compartments.





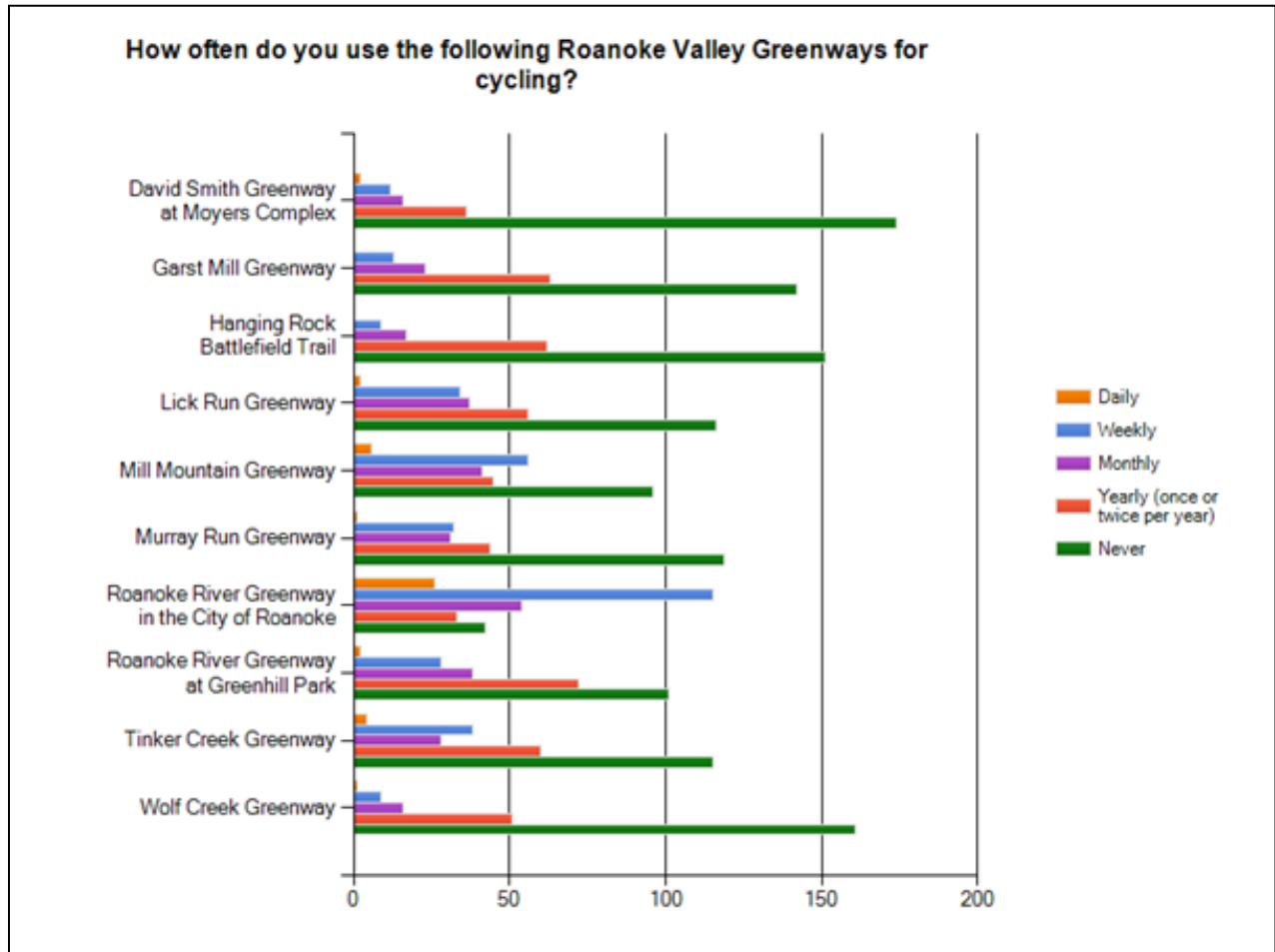
Question 22: In rating the attitude/behavior of MOTORIST toward cyclists in the area, neutral/indifferent was by far the most common response. However, a significant percentage of respondents rated driver behavior as negative. A relatively small number of respondents rated motorist attitude/behavior as positive. Beyond engineering approaches, increased public outreach, motorist (and cyclist) education, and other strategies can effectively address driver attitude/behavior, as well as cyclists’ perception of motorists’ intentions. Additionally, as an increased number of cyclists begin using the transportation network (i.e., critical mass) drivers will become more accustomed to interacting will cyclists and sharing the road. Question 22 also provided the opportunity for respondents to provide open ended comments regarding motorist behavior and provide considerable insight into cyclist perception of motorist behavior. All comments received are provided in Appendix I.





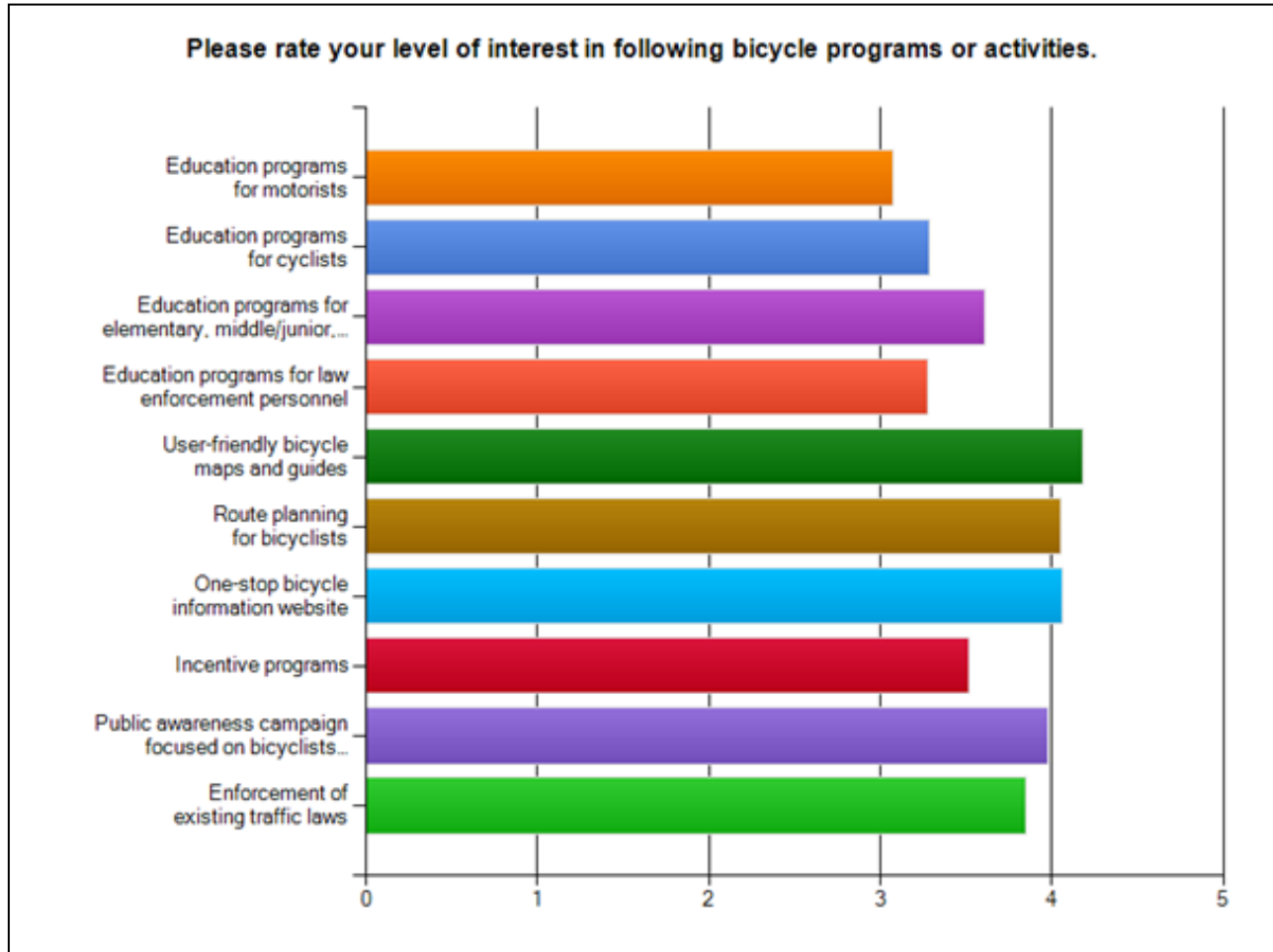
Question 23: In rating the attitude/behavior of CYCLISTS in the area, neutral/indifferent was again the common response, followed very closely by positive. In contrast to Question 22, relatively few respondents rated cyclists' behavior as negative. Question 23 also provided the opportunity for respondents to provide open ended comments regarding cyclist attitude/behavior. All comments received are provided in Appendix I.





Question 28: Respondents were asked to indicate which (and how often) area greenways are used for cycling. The Roanoke River Greenway (City of Roanoke) was most often cycled greenway followed, respectively, by Mill Mountain Greenway, and Tinker Creek Greenway. In terms of how often respondents use area greenways for cycling, never was the most common response for all area greenways, with the exception of the Roanoke River Greenway (City of Roanoke). Question 28 also provided the opportunity for respondents to provide open ended comments regarding the use of greenway for cycling. The most commonly cited reason for not using area greenways for cycling is the lack of interconnection among area greenways. All comments received are provided in Appendix I.

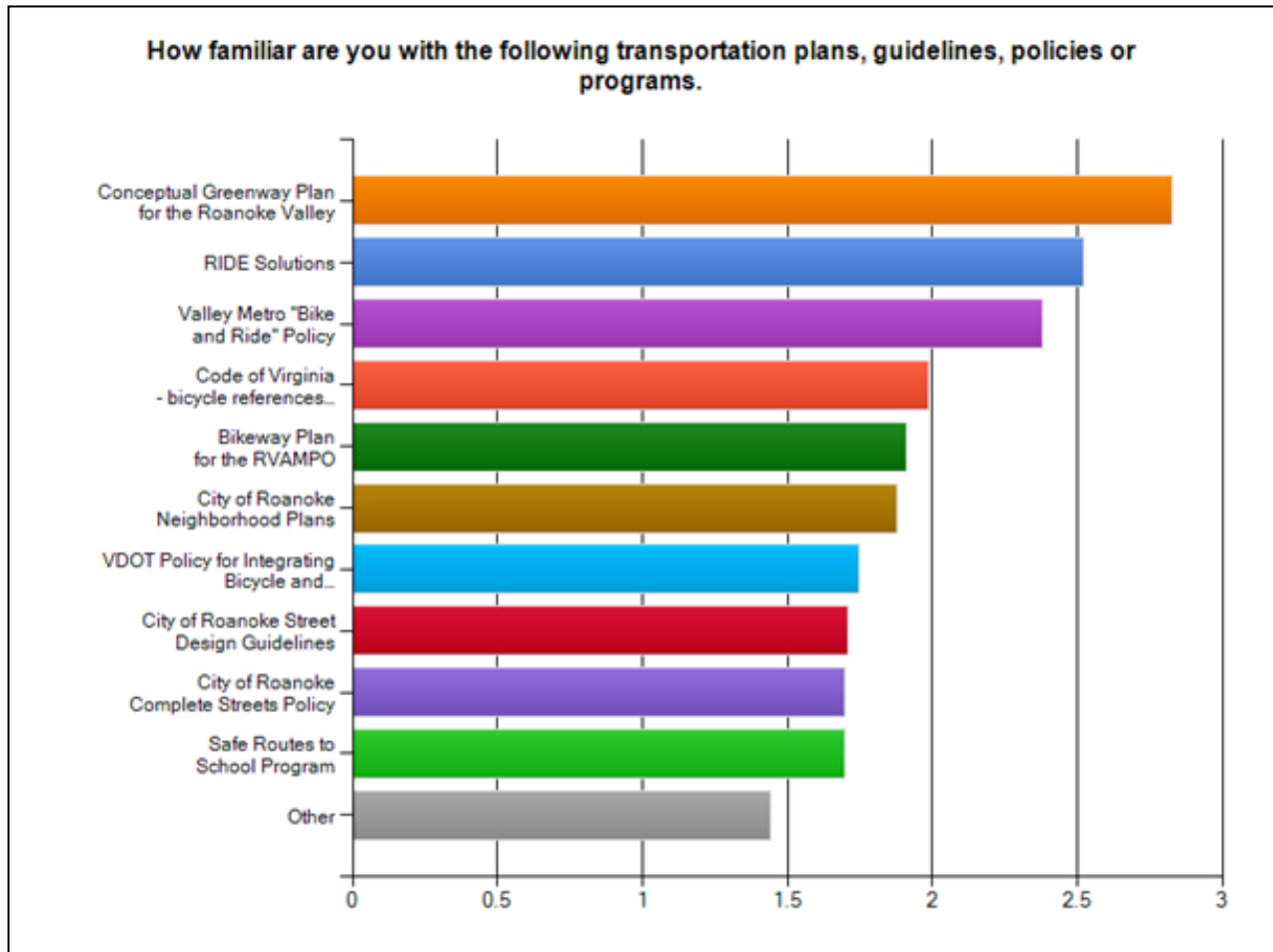




Question 31: Respondents were asked to rate their level of interest in a variety of bicycle-related programs and activities. Respondents indicated a high level of interest in all programs with the top responses user-friendly bicycle maps and guides; one-stop bicycle information website; route planning for bicyclists; and public awareness campaign(s) were the highest rates, respectively. Enforcement of existing traffic laws was also highly rated. Interestingly, although driver behavior was consistently cited as a major impediment to cycling, education programs for motorists ranked lowest in terms of level of interest among all listed programs.

In general, the referenced programs and activities are relatively inexpensive approaches to improving cycling conditions in the area. Additionally, many referenced resources are already available or in development. Existing bicycling resources are discussed in Sections 2 and 3 of this document.





Question 32: The most recognized bicycle-related “planning” resource is the Conceptual Greenway Plan for the Roanoke Valley, followed by RIDE Solutions, and Valley Metro’s “Bike and Ride” policy. Sections 2 and 3 of this document provides an overview of many of the plans, guidelines, policies, and programs that guide and facilitate development of a regional transportation network that accommodates and encourages bicycling as an alternative mode of travel.

