Report for the National Park Service on

Results of the 2018 Visitor Survey and Visitor Count in the Santa Monica Mountains National Recreation Area

UCLA Luskin Center for Innovation

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For More Information and the Briefing Paper

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Table of Contents

Executive Summary

The Santa Monica Mountains National Recreation Area (SMMNRA) is a unit of the national park system and managed by the National Park Service (NPS). SMMNRA was established by Congress in 1978 to protect the scenic natural and cultural resources of the coastal Mediterranean ecosystem and to preserve public health benefits offered by the natural setting. It is a valuable education and recreation resource for surrounding communities in Los Angeles and Ventura Counties. To further enhance SMMNRA's contribution to public recreation in the region, NPS periodically authorizes research regarding the public's use of SMMNRA. The purposes of the 2018 SMMNRA visitor survey and count, the results of which are the focus of this report, are to inform NPS's strategic allocation of resources at park trailheads, evaluate changes in visitor use at park trailheads last surveyed in 2002, and to provide a benchmark for additional trailheads that may be constructed in the future.

Visitor Demographics

Compared to 2002, results from the 2018 assessment show that surveyed visitors are still predominantly white, higher income, highly educated, childless, repeat visitors who largely engage in hiking. The average age and percent of respondents with college degrees was nearly identical across survey years. There was evidence of a change in the makeup of survey respondents by race/ethnicity. In particular, the percentage of survey participants in 2018 increased for all non-White races/ethnicities from 2002, with a near doubling of the percentage of Hispanic/Latino visitors who responded to the survey. There was also a rise in female respondents, making the gender balance of the survey more equal than in 2002.

Several changes in visitation patterns of respondents were also observed compared to the 2002 survey. More respondents visited with a group of both family and friends in 2018, with fewer visiting in a group of only family or only friends. Survey participants predominantly came from single person households in 2018, representing a large jump in the proportion of this housing type from 2002. The recent assessment showed a drop in the percentage of households with children, though similar to 2002 in that the majority of surveyed visitors still had no children and arrived in small groups. Visiting the trailhead in large groups was uncommon, with over 70% of respondents in groups of 1-2 people.

While most survey respondents continued to be repeat visitors, the 2018 survey showed a slight increase in first-time visitors since 2002. The percent of trail users who had not regularly visited their selected trail went up slightly. These results suggest a growing awareness of and access to the trails. Visiting in the summer and spring months, as well as on weekends and weekday mornings, were the most popular seasons and times to go to the park. It would be important for NPS to consider how to accommodate visitors at these peak times on the trail.

Access

Most surveyed visitors learned about the trailhead from family, friends, or acquaintances, and nearly half already knew the route to their chosen trailhead. The average travel time to reach the trailhead was about 34 minutes, which is nearly 6 minutes more than the average respondent traveled in 2002. Across survey years, respondents overwhelmingly reached the trails by automobile (i.e., car, truck, SUV, or van). However, almost twice as many survey participants arrived by walking or jogging in 2018, suggesting an increase in local visits to the trails.

The vast majority of visitors came from Los Angeles County and Ventura County (78% and 19% of southern California visitors respectively), highlighting the importance of SMMNRA as a local natural destination for southern California residents. Moreover, analysis finds that nearly 74% of all ZIP codes across Los Angeles County and Ventura County had at least 1 survey respondent, demonstrating the wide catchment of the SMMNRA. The park also provides access for a range of visitors, although the travel expenditure analysis (see Ch 5) shows that all non-White[1] visitors, as well as low-income visitors, spent more in travel time and costs to reach the park. The lowest-income respondents (less than $50,000 a year) had an average cost of $24 and 90 minutes compared to $16 and 54 minutes for respondents earning over $150,000 a year. Non-White respondents also spent 38% more time traveling to the trailheads on average than non-Hispanic Whites (81 and 59 minutes respectively).

Economic Valuation

Economic valuation of access to the SMMNRA was estimated by calculating travel cost expenditures and travel time based on respondent ZIP codes and trailhead location. The average respondent traveled 35 miles to and from the park with an average economic value of $18.59 (range from $0 to $183.35). The average travel cost was higher for Western than Eastern trailheads, certain activities such as camping and swimming, and for younger visitors (costs decrease across the three age categories from 18-49 to 41-64 and 65+). Compared to non-Hispanic Whites, all non-White respondents had longer travel times and higher travel

[1] For the purposes of statistical analysis throughout the report, two separate questions regarding race and ethnicity were combined and recoded in two ways. First, the answers to Question 35, "Are you Hispanic or Latino? (Select one)," and Question 36, "What is your race? (Select all that apply)," were recoded in the following ways: 1) Non-Hispanic White, 2) Non-Hispanic Black or African American, 3) Non-Hispanic Asian, 4) Non-Hispanic American Indian or Alaskan Native, 5) Non-Hispanic Native Hawaiian or other Pacific Islander, 6) Non-Hispanic Other, 7) Non-Hispanic Multiracial (if respondent selected more than 1 race), and 8) All Hispanic or Latino respondents combined (including Hispanic White, Hispanic Asian, etc.). Next, these 8 categories were further recoded to reflect 2 separate categories, including 1) Non-Hispanic White, and 2) all non-White respondents combined. The non-White category includes Non-Hispanic Black, Asian, American Indian or Alaskan Native, Native Hawaiian or other Pacific Islander, Other, and Multiracial respondents, as well as all Hispanic or Latino respondents.

expenditures. Furthermore, travel expenditures and travel time decreased with increasing household income. In addition to demonstrating access value through how much visitors were willing to pay and time spent traveling, 62% of respondents answered that they would be willing to financially contribute to future park upkeep. This answer was positively associated with income, with some respondents stating they would be willing to contribute more to park upkeep if they had higher incomes.

Activities

According to the visitor use survey and visitor count results, hiking remains by far the most common activity for people visiting SMMNRA and has continued to grow since 2002. The 2018 survey finds over 80% of respondents engaged in hiking. All other types of activities, except for sunbathing, dog walking and photography, saw a decrease in engagement. The most commonly reported activities on the survey overall are hiking, sightseeing, and photography.[2,3] Activities engaged in by survey respondents differed by gender, age, and race/ethnicity. These statistically significant differences are detailed within the report and suggest that trail planning and upgrades should consider differing needs and preferences across demographics. Most visits, however, were relatively short, with 70% of surveyed visitors only spending between 1 and 2 hours in the park. On average, respondents spent a longer time in SMMNRA during weekday mornings and on weekends.

Amenities and Trail Choice Considerations

A general pattern emerged in the types of amenities used and valued by survey respondents in SMMNRA. Highly used amenities included parking, overlooks and viewpoints, bathrooms, and trash cans. While parking was the most commonly used amenity (and also the most commonly cited reason for why respondents would avoid visiting or returning to a trail), it was not among the amenities most popularly listed for improvement or addition. This may be due to the fact that parking is already sufficiently available at trails as opposed to other amenities. In particular, bathrooms were the most frequently cited amenity in need of improvement or addition to trailheads. Drinking fountains, trash cans, trailhead maps, and cell service were the other most commonly cited amenities which respondents wanted to see improved or added.

[2] Sightseeing and photography were likely broadly interpreted by visitors, leading to higher numbers than jogging, mountain biking, or dog-walking activities. "Photography" likely was interpreted by visitors as "taking pictures", versus professional or hobby-related photography by visitors coming to specifically photograph sunsets, wildlife, flowers, etc., with higher-end equipment. “Sightseeing” may have been interpreted as planning to stop by an overlook or viewpoint while engaging in another activity, such as hiking, rather than a specific excursion to a sightseeing location, such as Western Town at Paramount Ranch or the M*A*S*H set at Malibu Creek State Park.

[3] Respondents could select up to 3 activites they engaged in (or planned to engage in) while using the trail, thus these results are non-exclusive. A respondent might have simultaneously hiked, walked their dog, and taken photographs.

Cellular and internet service are increasingly desired by visitors to parks and other locations. This is no exception in SMMNRA. At present, the actual provision for cellular service in SMMNRA is somewhat low; less than 20% of visitors had full access and less than 33% had some access within the park. Nearly a quarter of visitors had no cellular access, and around one-third were not sure if they had access. More than half of respondents who desired better cell service reported safety and access to emergency services as reasons for improving telecommunications access.

Safety is, in fact, a very important concern among visitors to SMMNRA; it ranked as one of the three highest valued reasons certain trails were selected by respondents. The most valued aspects of the trails were cleanliness, level of trail quality, and safety. The fourth aspect was avoiding crowds, followed by costs associated with parking and travel. These concerns are at the forefront of visitors' minds. Safety and feeling welcome were of higher importance for women than for men, though these specific concerns did not vary widely across age, education, or household income groups. Survey participants did, however, prioritize different considerations for different trails. This suggests that SMMNRA trailheads provide different user experiences which visitors select based on their differing preferences and needs. Recognizing these differences in the kinds of use at trailheads and continuing to tailor them to the needs of visitors will be important to NPS moving forward. The overarching emphasis among respondents on the importance of parking, safety, and cost were reiterated in responses to a question about why they would choose to leave a trail or not return. The top reasons given were: limited or no available parking, entrance fees[4], and safety.

Views Toward SMMNRA

Despite requesting improvements to or additions of certain amenities at different trailheads, surveyed visitors overall had very positive experiences at SMMNRA. When asked if they would recommend SMMNRA or their particular trailhead on a scale of 1 to 9, the average rating for each was around 8. More than 80% of respondents gave a top score of 8 or 9 for SMMNRA and gave an 8 or 9 for their visited trailhead. Meanwhile, respondents also recognized the two overarching missions of SMMNRA. When asked the most important reason for protecting the SMMNRA, the top option selected was for plant and animal habitat, followed by both habitat and recreation values, and then recreation value alone. Thus, visitors highly value SMMNRA for both the important role it plays in protecting a unique ecosystem in southern California and the personal recreation opportunities it provides.

[4] None of the trailheads in SMMNRA charge entry fees; trails operated by California State Parks and most trails operated by Mountains Recreation Conservation Authority (MRCA) charge parking fees. A few NPS sites assess camping fees at the campgrounds. Respondents likely misinterpreted parking or camping fees as entrance fees.

Conclusion

Overall, our findings suggest SMMNRA is a heavily trafficked recreational resource that continues to grow in popularity. While visitor demographics indicate the population continues to be on average wealthier, whiter, and more highly educated than Los Angeles as a whole, the diversity of respondents was higher than during the 2002 assessment.

Facility improvements can continue to be made; in particular, NPS can consider the preferences for recreational uses and amenities of different types of visitors (across age, race, gender, and income) which are detailed in this report. It will be important for NPS to balance the needs of diverse visitors to SMMNRA and to accommodate a growing visitor population.

Survey participants consistently reported the importance of safety, cleanliness, and trail quality in addition to the importance of parking availability and restrooms. These are meaningful considerations for all trailheads as trail use and resource allocation plans are adopted. Certain changes, such as additional trash cans and drinking fountains, are also likely to improve the visitor experience for many trail users.

NPS can continue to build on their success in reaching a wider audience for the SMMNRA. Despite an increase in first-time visitors and in the diversity of visitors in survey responses compared to 2002, further outreach to lower income, people of color, youth, and other under-represented populations in the Los Angeles region will be significant moving forward. Overall, SMMNRA provides a unique and valuable user experience, with an overwhelming majority of surveyed visitors reporting that they would recommend the trails to others. SMMNRA is a popular, highly valued recreation amenity for the Los Angeles region which visitors also recognize is dually important for wildlife and habitat protection. NPS should consider the results of this survey in future trail planning efforts to understand the growing and diverse demographics of park visitors which has significantly changed since the 2002 survey.

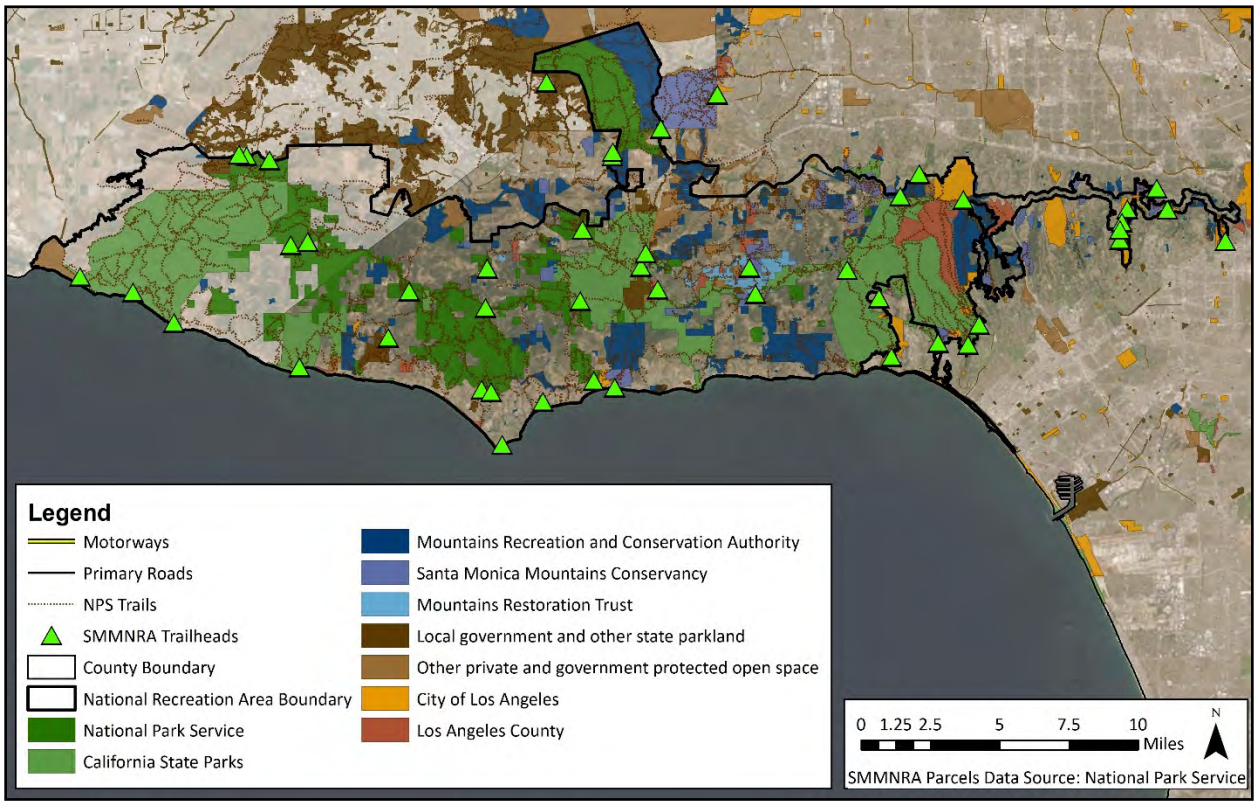
Introduction

The Santa Monica Mountains National Recreation Area (SMMNRA) is a vital asset to protecting the nation's Mediterranean ecosystem. It is also a valuable resource for surrounding communities in Los Angeles and Ventura Counties (see Figure I-1 for visual overview of the park and surrounding area).

In 1978, Congress established SMMNRA as a "cooperative effort to preserve the scenic, natural and historic, as well as public health values of the Santa Monica Mountains" (NPS 2002, 34). The mission statement of SMMNRA, created in 1997, is "to protect and enhance, on a sustainable basis, one of the world's last remaining examples of a Mediterranean ecosystem and to maintain the area's unique natural, cultural, and scenic resources, unimpaired for future generations. The SMMNRA is to provide an inter-linking system of parklands and open spaces that offer compatible recreation and education opportunities that are accessible to a diverse public. This is accomplished by an innovative federal, state, local, and private partnership that enhances the region's quality of life and provides a model for other parks challenged by urbanization" (NPS 2002, 36).

Approximately 60% of land use in the 153,785-acre SMMNRA is public parks and protected open space. The National Park Service (NPS), California State Parks, Santa Monica Mountains Conservancy, and Mountains Recreation Conservation Authority are the four agencies that manage the majority of public lands within SMMNRA (NPS 2002, 3). NPS oversees SMMNRA but currently has direct responsibility for only about 15% of the land within SMMNRA (NPS 2002, 28). California State Parks manages eight State Park units within SMMNRA, covering 36,180 acres. The main role of Santa Monica Mountains Conservancy is to acquire and transfer the land to the appropriate land management agencies (NPS 2002, 33). Other county and city agencies also manage parks and protected open space in SMMNRA (See Figure I-1).

Figure I-1: SMMNRA Trailheads and Agencies Responsible for Park Management

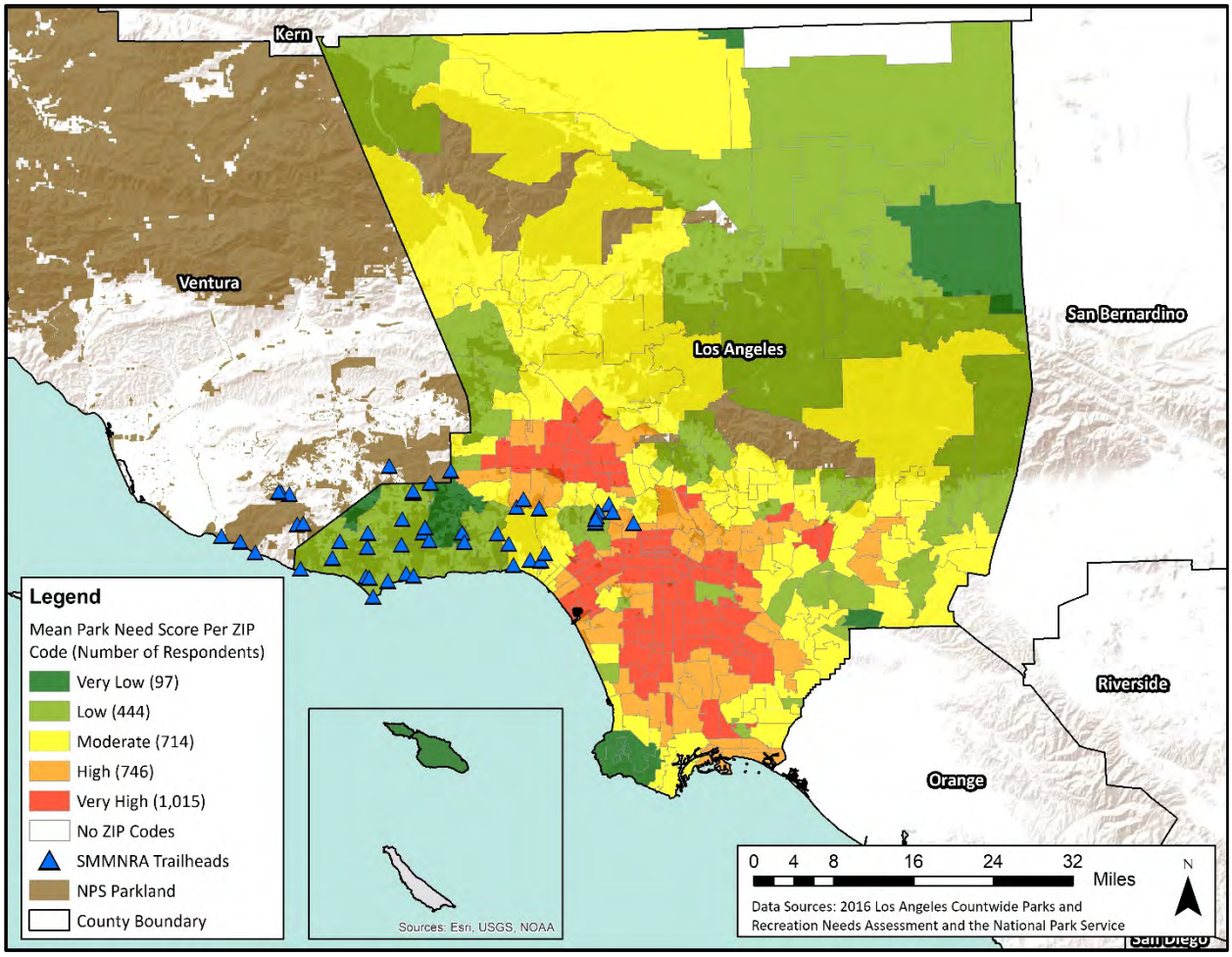


To further enhance the area's contribution to the region, the National Park Service periodically studies recreational use in SMMNRA. The purpose of the 2018 SMMNRA visitor survey and count, the results of which are the focus of this report, was to inform NPS' strategic allocation of resources at park trailheads by evaluating changes in park visitor use at sites last surveyed in 2002 and providing a benchmark for additional future trailhead sites. The new survey studied many of the same user characteristics as in 2002, such as user demographics, visitation and recreational activity patterns, attitudes toward the Santa Monica Mountains, and access to the SMMNRA. Additionally, the 2018 survey collected information regarding user valuation of park amenities and potential trailhead improvements. In conjunction with the 2016 Los Angeles County Parks and Recreation Needs Assessment, the results of the 2018 visitor use survey can be used in future trail planning efforts, as well as efforts by SMMNRA's governing agencies to maintain and increase park access for a growing and diverse demographic of park visitors.[5]

[5] In March 2015, the Los Angeles County Board of Supervisors approved a motion to undertake a countywide Comprehensive Parks and Recreation Needs Assessment which resulted in the assessment data depicted here. The Parks Needs Assessment was completed and the results were published in 2016. The assessment inventoried over 3,000 park and open space facilities and nearly 9,500 amenities to measure park land (acres per 1,000 residents), park access (number of residents who live within one-half mile from a park), and park pressure (park size in relation to surrounding population density). These three factors were used to determine the final park need score (from 1=Very Low Need, to 5=Very High Need). To view the report and downloadable data, visit: https://lacountyparkneeds.org.

See Figure I-2 for an overview of SMMNRA trailheads and the 2016 Parks and Recreation Needs Scores for L.A. County.

Figure I-2. SMMNRA Trailheads and Los Angeles County Parks Needs Assessment



Report Organization

The remainder of the report is organized into nine chapters. Chapter 1 describes the methodology used to create and analyze data from the 2018 survey, non-response count, and visitor count. Chapter 2 details survey limitations and respondent profile of the survey, non-response count, and visitor count. Chapters 3-9 summarize key findings based on the survey and detail the changes or similarities in park use and visitor characteristics since the 2002 survey time frame. Finally, the conclusion summarizes the key findings of survey analysis, and contains policy recommendations for trail management and for further research.

Chapter 1. Methodology
Chapter 2. Survey Limitations and Respondent Profile
Chapter 3. General visitor demographics and characteristics
Chapter 4. How visitors plan their visit to the park
Chapter 5. Economic valuation of the park, based on travel and willingness to contribute
Chapter 6. Activities engaged in while on-site
Chapter 7. Amenities used and potential available on-site improvements and additions
Chapter 8. Visitation patterns, attitudes, valuation of SMMNRA
Chapter 9. Trailhead Comparison
Chapter 10. Conclusion

1 Survey Methodology

Past SMMNRA Surveys

A total of five surveys have been conducted within the SMMNRA since 1980. The first survey was conducted in the winter and spring of 1980, examining recreation use in the region and addressing park visitation, use, and conflict of use within the region (Lee, 1980; Wolch et al. 2003). The second survey, conducted in 1981, was based on 132 personal interviews with key organizations; the study analyzed recreational use among minority groups, including those in need of ADA accessible infrastructure (2002 survey). The third report was published in May of 1993 and analyzed visitors to the Topanga Banjo and Fiddle Contest and general visitors to nine specific sites in SMMNRA; all visitors took the same survey (Littlejohn 1993). In 2000, ORCA Consulting conducted the fourth survey which included questions regarding visitor information and the use of a proposed shuttle bus system (Wolch et al. 2003).

The last robust visitor use survey of SMMNRA was conducted in 2002 by the University of Southern California Sustainable Cities Program. The purpose was to understand visitor use of SMMNRA and to use the results to develop an interagency trail management plan for SMMNRA. Surveys and counts were conducted at 33 trailheads within SMMNRA. The survey period occurred over two weekends (July 13-14 and July 20-21, 2002) and two weekdays (July 16 and 18, 2002). Information obtained from the survey included demographics, recreational user activities, distance traveled to trail site, visitor safety issues, visitor attitudes toward SMMNRA, conflicts between user groups, and frequency of trail use. Overall, 12,388 people were counted during the 2002 survey period. Of the 1,228 visitors (10% of total count) who were asked to complete a survey, 82% responded. With 7% of the collected data being unusable, a total of 912 surveys were analyzed, representing about 7% of the total visitors counted.

As a result of the 2002 analysis, several recommendations were made: increasing outreach to under-represented users, such as people of color and low-income groups; developing a more robust public transit service; developing a code of conduct to reduce user conflict; providing park signs and brochures in Spanish, Mandarin, and Farsi; managing parks while considering the needs of the elderly and minority user groups; implementing an animal waste management program; and conducting further research on anecdotal reports about criminal behavior at trailheads (NPS, 2002, iv).

The most recent study of park use was a visitor count in 2014 conducted by NPS. No survey was administered at this time, and count analysis results were only presented internally. The purpose of the 2014 count was to study the public's use of the SMMNRA trailheads. The study sought to compare current levels of use with the 2002 count. Information collected included user types and corresponding trailheads used, and the total number of users and levels of use at trailheads. Counts were conducted at 45 sites, including all sites from the 2002 count (except Tapia Park), over three weekends in August and September of 2014.

2018 Survey Design

The 2018 survey was developed in consultation with NPS staff. Some questions were taken directly from the 2002 survey. Changes were made based on feedback from UCLA pre-testing of the survey. The survey was then submitted to, and approved by, the U.S. Office of Management and Budget. Additionally, it was reviewed and approved through the UCLA Institutional Review Board process. The same survey was administered at all 45 park trailheads.[6] See Chapter 1 Appendix for a copy of the complete survey instrument.

The survey sought to capture information on the following broad categories which are further discussed below: visitor characteristics, visitor trip planning, visitor activities, trailhead use analysis, and visitor valuation of SMMNRA. Additionally, survey administrators recorded basic information on visitors who declined to take the survey (such as group size, number of pets, etc.) in a non-response form. Survey administrators also counted all people who visited the trailhead and recorded their observed recreational activity.

Visitor Characteristics

One purpose of the survey was to understand visitor demographics. The survey asked questions about the respondent's age, race/ethnicity, gender, household composition, income, highest level of educational attainment, and the number of children under 18 living in the household. The survey also asked for the language(s) spoken at home. For survey takers who were at the trailhead with a larger group of people, information on the group type, number of people in each group, and number of pets was collected.

[6] While the survey was administered at 45 trailheads, usable survey responses were only collected from 43 trailheads. No survey responses were collected from the Cheeseboro Canyon/Simi Hills Outer Parking Lot and Rancho Sierra Vista Wendy Trailhead locations. Visitor count data was collected at all 45 trailheads.

Visitor Trip Planning

The 2018 survey also sought to identify how visitors planned their trip to SMMNRA. Respondents were asked how they learned about the trailhead, whether they had trouble finding the trailhead, where they lived (ZIP code and closest major intersection), the type of transportation they used to arrive at the trailhead, time spent traveling to the park, and how much they paid for parking. The questionnaire also asked respondents to list any additional trails that they considered visiting, and why they chose to visit one trail over another. To understand some of the barriers to trail use, the survey had respondents list the reasons they did not complete a planned activity and any factors that prevented people from visiting a particular trailhead more than once.

Visitor Activities

Respondents were asked a series of questions regarding the activities they engaged in at the park, how long they spent at the park, and if it was their first visit to SMMNRA. Activities were categorized into physically active recreation (i.e., walking, jogging, walking dogs, riding horses, passive recreation) and less or non-mobile recreation (bird watching, communing with nature, painting, picnicking, sunbathing, photographing). The survey also collected information on amenities that were used and any amenities that respondents felt needed improvement or should be added at a particular trailhead. Lastly, the survey asked if the visitor had internet access at the trail or trailhead, and reasons to have internet access.

Trailhead Use Analysis

The survey asked respondents to list all trailheads respondents had visited and the approximate days and times of the visits. Respondents were also asked to identify the frequency of their visits to a particular trailhead they had visited repeatedly within the past year.

Visitor Value of SMMNRA

Several questions were asked to understand perceptions about SMMNRA and attitudes toward conservation and recreational uses in SMMNRA. They were asked the most important reason to protect SMMNRA. Respondents were also asked if they recommended SMMNRA and the particular trailhead to others, and why.

Non-Response Form

The purpose of using a non-response form is to capture characteristics of visitors who refused to take the survey. The non-response data will be compared with the respondent data to determine if there was a bias in the respondents sampled, based on types of activities engaged in by each (for example see Table 2-4). Non-response data was limited but may identify characteristics unique to non-respondents. The non-response form included the following data: time of visit, total group size of the non-respondents, number of males and females in the group, if children under 18 years of age (and animals) were present, activity in which the visitors seemed to engage, and any other observations. See Appendix 1b for the non-response form.

Visitor Count Data

Data for visitor counts were also collected simultaneously with the 2018 survey and non-response data. The purpose of visitor counts was to gather information on the total number of users and levels of use at a variety of trailheads and to check the accuracy of the proportions of user types tallied from the visitor survey[7]. Visitor counts were also used to identify levels of recreational use types and which trailheads the different user types tend to use. Data collected on visitor counts include the number of trail users returning from the trail (morning shift) and leaving for the trail (evening shift), type of activity visitors engaged in, presence of pets, and whether or not visitors were through-travelers (people who are passing through the trailhead to get to another trailhead or destination). See Appendix 1c for the visitor count form.

Instrument Administration Procedures

The survey instrument was an 8-page, on-site questionnaire with 41 questions. Surveys were administered by a combination of NPS staff (the largest group), UCLA students, UCLA Luskin Center for Innovation staff, and volunteers from these three communities and other local organizations. Survey distribution was conducted at 45 trailheads that included all well-known, primary entrances into parks, as well as entrances selected to represent the diversity of environmental settings (e.g. coastal versus inland locations, or wildland versus urban settings), entrance use levels and types of users, and facility levels of trailheads throughout SMMNRA. The survey took place on four days in June of 2018: June 16 (Saturday), June 21 (Thursday), June 24 (Sunday), and June 27 (Wednesday). Each day featured two survey shifts—one in the morning (8:00AM-1:00PM) and one in the evening (4:00-8:00PM). The number of surveys distributed was left to the discretion of the survey administrator.

[7] Some user types may have been less likely to stop and take a survey (e.g. horseback riders, mountain bikers)—the visitor count data served as a check on whether the survey respondents were representative of the user types that visited during survey days.

Usually, two survey administrators were stationed at each trailhead: one administrator distributed surveys and recorded non-respondent data, while the second administrator counted visitors. During limited surveyor availability or at low-trafficked trailheads and/or shift times, only one survey administrator was stationed at a trailhead and was responsible for distributing surveys, recording non-responses, and counting visitors.

Survey administrators responsible for distributing the questionnaire were instructed to greet respondents randomly from the visitor stream, whether these visitors were entering or returning from the trail. Administrators were trained on avoiding bias when selecting potential respondents to approach and were provided a sample standardized greeting. They were instructed to ask the next person they saw after finishing with the previous respondent and to alternate between asking the first and last person in groups. Most administrators stood directly at or near the entrance to the trail or trails departing from the trailhead.

Potential respondents were advised on the nature and purpose of the survey and were told responses were voluntary and anonymous. Respondents were not paid to take the survey but were provided with incentives for participation, including a raffle ticket for an REI store coupon, sunglasses, or an adhesive cell phone wallet. There were different incentives at the various trailhead sites based on availability, though all incentives were of equivalent value. Those who agreed to take the survey did so on-site. Respondents returned completed surveys to the administering staff upon completion of the questionnaire. The survey was expected to be completed in 10 minutes. If a visitor declined to take the survey, the survey administrator was instructed to record the non-respondent and their characteristics in the non-response form.

After each shift, survey administrators were instructed to email a shift report to the project manager with totals for the number of completed surveys, non-respondents, visitor count totals, and (when applicable) miscellaneous shift comments. The number of incomplete surveys was to be reported, too. Surveys were identified as “incomplete” if respondents stopped halfway or decided to withdraw from the study.

In total, three main types of data were collected at the majority of the 45 trailheads. The first type of data were survey responses which were entered on questionnaires. T he second type of data were non-respondent characteristics. The third type of data were visitor counts. There was a small number of incomplete surveys determined from shift reports.

Data Entry

Surveys were returned to UCLA and the data was entered from the surveys by UCLA staff into an Excel spreadsheet. Each survey was assigned a unique identifier number and put in a separate row. Potential answers were arrayed in columns. Responses were standardized whenever possible. Each question and/or potential answer received a variable with a different name which could either be in binomial (1/0 for yes/no, female/male, etc.) or ordinal scale, or as a string variable for write-in responses. Some subsequent variables generated from original survey responses, such as those analyzed in the geospatial and distance traveled analyses, were in a continuous numeric format. Once all surveys were coded, statistical software was used as a quality assurance and control method to identify and recode any data entry errors.

Statistical Analysis

The software package used to conduct statistical analysis was Stata/IC(R) Version 15.1. Stata is commonly used in research fields such as public health, public policy, social sciences, and epidemiology. This software was chosen because it can combine and manage large datasets and variables. Since survey responses are coded in both numeric and string form, Stata is used because it allows analysis for different types of variables. The software was also able to generate simple frequency tables of survey responses; another advantage was its ability to serve as a quality assurance and control method by quickly identifying and correcting data entry errors prior to survey analysis (see "Data Entry" section above). Lastly, Stata enabled statistical analysis, including the following:

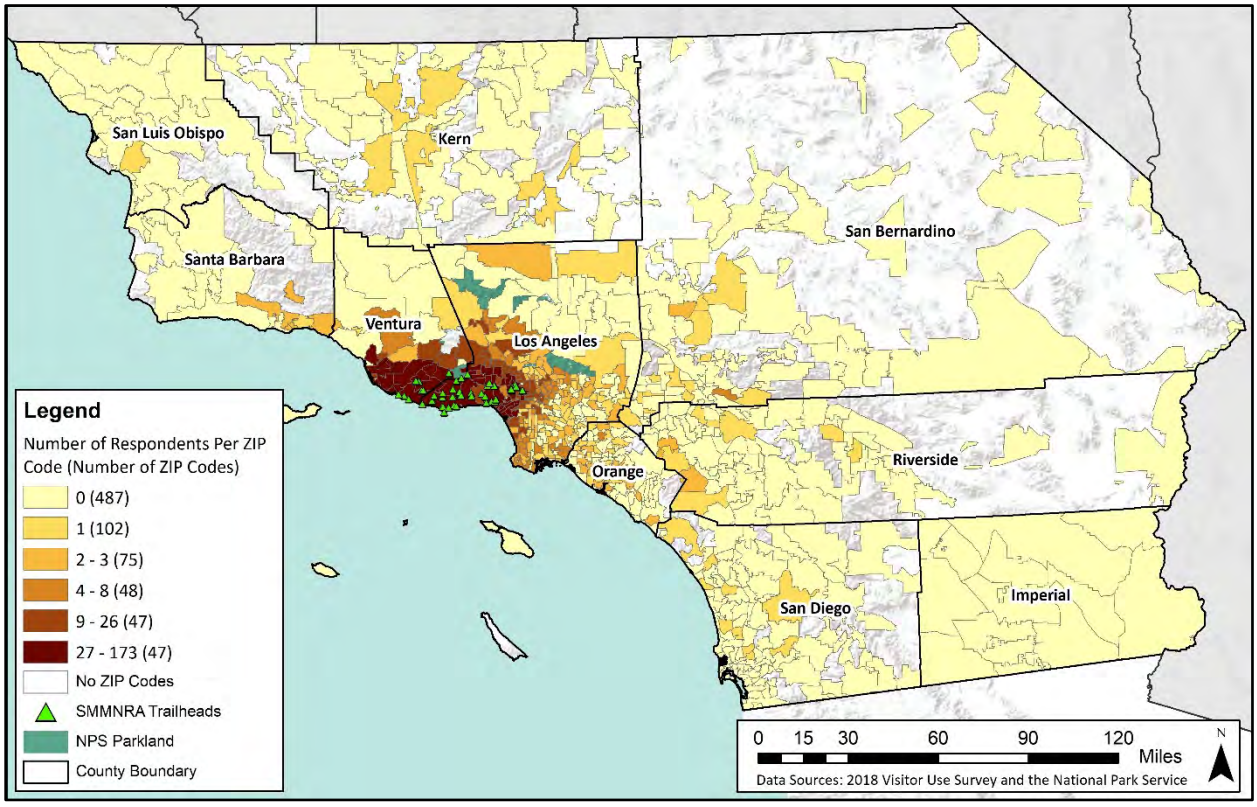
- Adjusted Wald tests with adjusted Bonferroni p-values: to compare mean values of survey responses across all combinations of demographic and geographic stratifying variables.
- Two sample t-tests: to compare proportions of visitor types and demographics between 2002 and 2018 survey results.
- Chi-squared tests: to determine if observed frequencies and expected frequencies between two variables were statistically significant.

Geospatial Analysis

Geospatial analysis was performed using ArcGIS Desktop Version 10.6. To conduct the geospatial analyses on the survey data, each respondent was first geocoded to their "home" location. Geocoding refers to the process of assigning geographic coordinates and other locational attributes to data for display and analysis in ArcGIS. To protect the privacy of the respondent, the survey did not ask for an exact home address. Rather, it asked participants to identify their ZIP code and the major intersection closest to their home. Due to the variability in quality of intersection data, ZIP codes centroids were used to represent the home location of respondents. The analysis was limited to respondents who might make a round-trip visit to the

park in a single day; all out-of-town visitors were excluded (i.e., respondents from other countries, states, or northern California counties) (Figure 1-1).

Figure 1-1. Number of Respondents, by ZIP Code (Southern California Region)



Using the Census Bureau's 2018 ZIP code tabulation areas, each respondent (represented by their unique survey identifier) was geocoded to the centroid point of his/her reported ZIP code. Additional geographic information appended in the geocoding process included the county and county supervisorial district of each respondent, as well as the percent of the ZIP code containing disadvantaged community (DAC) census tracts. The City of Los Angeles Area Planning Commission boundaries and the Countywide Parks and Recreation Needs Assessment were also geocoded for respondents from Los Angeles. Additionally, NPS provided data for Ventura and Los Angeles counties on the Every Kid in the Park Program. See Table 1-1 for a summary of ArcGIS shapefiles used to perform geospatial analyses.

Certain boundaries of analysis were at a larger spatial resolution than the original data. For example, supervisorial districts contain multiple ZIP codes, census tracts, or neighborhoods. Neighborhoods are comprised of several ZIP codes and tracts, and ZIP codes encompass many whole or partial census tracts. The DAC score (1 if a DAC, 0 if non-DAC) was assessed at the census tract level, while the park need score (1=low need, 5=high need) was assessed at the neighborhood scale. Since ZIP codes are the unit of analysis for respondents, DAC status and park needs were calculated at the ZIP code level using weighted proportional ratios. For percent DAC of the ZIP code, the area (in square miles) of each census tract falling within the ZIP code was multiplied by the DAC score. These weighted tract areas were then summed, and the summation was divided by the total area of the ZIP code. A similar method was replicated to get the mean park need score at the ZIP code level, using the Intersect, Dissolve, and Join functions of ArcGIS.

It should be noted that the mean percent DAC and park needs scores are presented only for ZIP codes with respondents, and the results should not be interpreted as representative of all ZIP codes within the stratifying spatial boundary (City of L.A. APC, L.A. County Supervisorial District, County, etc.). Futhermore, ZIP codes were assigned the APC and Supervisorial District in which the ZIP code centroid falls, so there may some slight over- or under-estimation of Disadvantaged Community (DAC) status or mean park needs score (in cases where a ZIP code falls across two districts, but the centroid is located in one district versus the other).

Table 1-1. Summary of Data Inputs for Geospatial Analyses

Name	Data Type	Geography	Source	Year
Trailheads	Point	SMMNRA	National Park Service	2014
ZIP Code Tabulation Areas	Polygon	Southern CA	TIGER/Line – Census Bureau	2018
Roads	Polyline	Southern CA	Open Street Maps	2017
Counties	Polygon	Southern CA	TIGER/Line – Census Bureau	2018
Disadvantaged Communities	Polygon	Census Tracts in Southern CA	California Air Resources Board	2018
Parks and Recreation Needs Assessment	Polygon	L.A. County	Placeworks	2016
Supervisorial District	Polygon	Southern CA	Southern California Association of Governments	2017
Area Planning Commission	Polygon	City of Los Angeles	Los Angeles Department of City Planning	2018
Every Kid in the Park	Polygon	ZIP Codes in L.A. & Ventura Counties	National Park Service	2017-2018

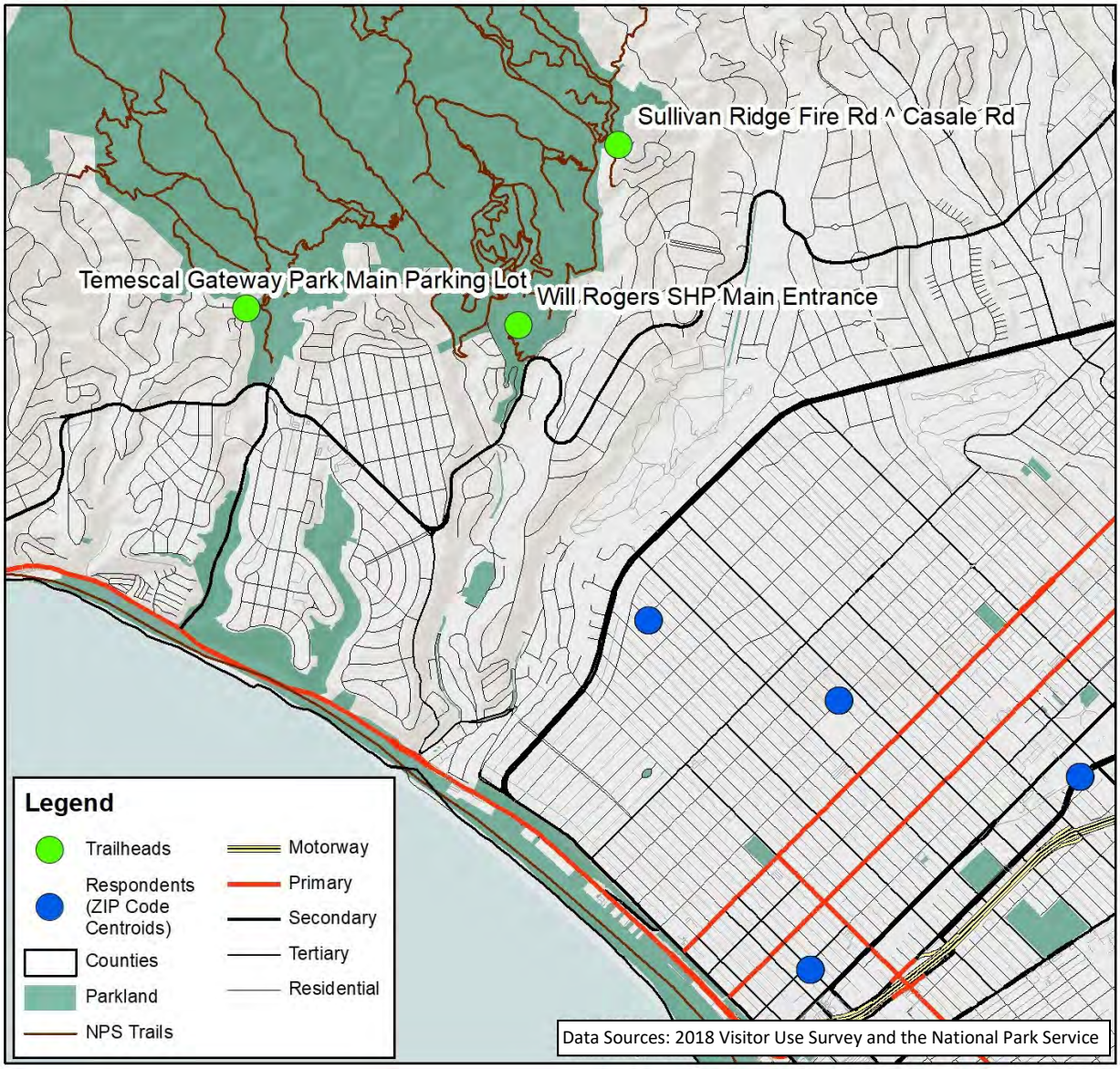
One of the integral geospatial analyses of the report assessed the round-trip distance each respondent traveled to visit the SMMNRA (see Chapter 5 for results). To estimate this, the network analysis function of ArcToolbox was used to calculate the one-way distance respondents traveled from their homes (ZIP code centroid) to the trailhead where the surveys were administered. The basis of the network was a comprehensive shapefile containing 26 classes of roads, tracks, and paths (Open Street Map 2017) condensed into 5 classes of hierarchical nature (Table 1-2). The main assumption was made that each respondent would travel the least-distance route, and that route would favor the roads in ascending hierarchy order. In other words, respondents would travel along motorways and primary roads (Hierarchy Class=1) for as long as possible before turning onto a secondary or tertiary road (Heirarchy Class=2). The network dataset also accounted for one-way streets (such as motorways) and turn-restrictions when calculating distance traveled.

Table 1-2. Classification of Road Types for Network Dataset

Hierarchy Class	OSM Road Feature Classes
1	Motorway, motorway link, trunk, trunk link, primary, primary link
2	Secondary, secondary link, tertiary
3	Residential, living street, unclassified
4	Service, track, track grade (1-5), unknown
5	Pedestrian, bridleway, cycleway, footway, path, steps

The network dataset was built with three main inputs, including the roads polyline layer, the geocoded respondents point layer, and the NPS trailheads point layer (Figure 1-2). After building the network, an Origin-Destination Cost Matrix was performed with the network dataset. The origin of each trip was the respondent's home ZIP code centroid, the destination was the trailhead visited, and the accumulation field was distance (miles). Solving the OD Cost Matrix with these parameters resulted in estimates for one-way distance traveled for N=3,897 respondents. Calculating the round-trip distance traveled required multiplying these estimates by a factor of 2.

Figure 1-2. Detailed View of Network Analysis Layers



2 Survey Limitations and Respondent Profile

Sources of Data

In total, five sources of data were used in this analysis. The first three data sources are the completed surveys, non-response forms, and visitor counts which were collected during the 2018 survey period detailed above. The 2002 survey data is also referenced, which was retrieved from the 2002 survey report, along with 2014 visitor count data, which was collected and analyzed internally by NPS. All data source(s) used are listed under each table and figure in this report.

Limitations of the 2018 Survey, Non-Response Forms, and Visitor Counts

There are several limitations to the 2018 visitor survey, non-response, and visitor count data which bear mentioning prior to discussion of the survey results. First, there were deviations from the sampling plan for both visitor surveys and counts. Due to scheduling issues, three sites did not have data from the intended date for Saturday (June 16): Point Dume, Stunt Ranch, and Zuma Canyon (Bonsall) Trailheads. Surveys were instead distributed on the following Saturday (June 23). Conducting the survey on a different day may have resulted in a different set (and number) of visitors. Additionally, survey data and visitor counts from six shifts were either not collected or lost.

In some cases, survey administrators did not distribute surveys or record non-respondents throughout the entirety of their shift.[8] Survey and count sampling quantity and quality also varied depending on the survey administrator, visitor counter, and variation in use of the trailhead. The 200+ survey administrators involved a mix of paid SMMNRA staff and UCLA researchers and unpaid volunteers. Especially amongst volunteers, some were likely more enthusiastic than others in soliciting survey responses. Thus, survey responses are not

[8] Reasons for this include: Volunteers for several shifts arrived late; only in some cases was there another volunteer on site who had survey materials and was able to cover the other person's tasks. In several shifts, one volunteer was tasked to do both visitor counts and administer surveys; having two tasks may have limited survey distribution. Many volunteers ran out of survey materials before their shift ended and lost the opportunity to survey more visitors during their shift. Some were able to print extra copies halfway and return to their shift, but not all volunteers were able to do so. Due to health and safety issues, some volunteers had to leave their shift earlier than intended.

necessarily representative of the traffic a particular site may have received. It is possible certain volunteers were more accurate than others in observing and recording non-respondents, and counters with previous experience were able to record visitor types with more precision. It is also possible that, by chance or potential bias, questionnaires were distributed disproportionately more to one demographic group or recreational user type than actually visited that entrance during the shift. However, visitor count data can be used to check proportions of user types tallied from the survey questionnaire. Overall, original survey and count data contain a margin of human error and range in quality.

Several limitations of the survey instrument and visitor count protocol were identified post-deployment. Due to the wording and structure of the survey, certain questions may have been misinterpreted by respondents.[9] The same survey instrument was used at all trailheads despite different use designations at which some respondents expressed confusion (e.g., there were options to select an activity that wasn't available at that trailhead). A notable number of respondents (and non-respondents) complained about the length of the survey. This may affect the quality of responses in later portions of the survey. If respondents wished to answer a Spanish survey, survey administrators were instructed to ask the respondent to fill out the English version and to use the Spanish version as a guide. The directions were confusing to survey administrators and respondents. Some people followed the directions, while others filled out the Spanish version. To attempt to capture all Spanish survey respondents, answers written in Spanish or answers written on a Spanish survey were coded as Spanish respondents. Another data limitation was the number of incomplete surveys (N=235 out of 4,381). These were determined by shift reports submitted by the survey administrators, though not all administrators submitted their reports. Additionally, survey administrators may have counted surveys as "incomplete" if not all questions were answered (i.e., if a respondent skipped a few questions, as opposed to stopping halfway through or withdrawing from the survey). Regarding the non-response data, it is important to note that not all administrators included the non-

[9] In particular, Questions 11a-c asked about amenities and had the same answer format but were asking different questions. Question 11b should only include answers that were selected in question 11a. Question 11c should only include answers for amenities that were not at the trailhead and not selected for in questions 11a or 11b. Because of this confusion, many people did not answer these questions correctly. There was also no "not available" option for Questions 11a-c. Respondents voiced their confusion about what to do if they didn't use certain amenities and/or didn't care for the subject. Another issue was that there was no "other" option for several questions, such Question 1. Many visitors had noted that they have been going there for years. Thus, people may have written in options that were not present in the original questionnaire. For Question 34, "College" was the highest level of education listed as a response option. Many visitors asked to have a "college and above" option. People may have written a response and/or selected "college" as their answer, but these responses were all coded as "College". For Question 14 regarding having internet access at the trailhead, visitors commented that having this amenity would vary depending on the cell company provider. Visitors also commonly marked "alone" under group type that they came with to SMMNRA (Question 18) but actually wrote down more than one person when describing members in the group to SMMNRA (Question 20). Because Question 20 did not explicitly say whether to include or exclude the gender and age of the respondent, there is no way of knowing if respondents identified themselves in this question.

response forms when they returned their materials. Some survey administrators found the directions to fill out non-response forms to be unclear or confusing, which may have led to either over- or under-counting of the non-response sample in the survey.

The visitor count data should be used as a check-and-balance with the questionnaire data. The visitor count protocol involved counting visitors returning from the trail during morning shifts and heading on to the trail during evening shifts. This was designed to address limitations on recruiting survey administrators, the lower use in the hot middle of the day, and to avoid double-counting visitors (i.e. when both leaving to and returning from the trail). Instructions were also given on how to tally groups and visitors that passed through a site, rather than began and/or ended their outing at the trailhead. There are two limitations in this protocol that may result in sources of error. Cooler parks and parks where a water feature was the destination tended to have visitors coming in the middle of the day, between morning and evening shifts. Some visitors may have arrived in the morning and stayed in the park beyond the 1:00 p.m. end of the morning shift and thus would not be counted. Secondly, trailheads with multiple parking lots or far-separated trail entrances may have been under- or over-counted, owing to a shortage of survey administrators, their unfamiliarity with a trailhead's unique access patterns, and difficulties rectifying pass-through visitors heading only across a parking lot to reach their actual parking location. NPS project managers responsible for tallying the visitor count form information took these issues into consideration when compiling results.

Finally, visitors expressed concern about issues that were not included in the survey analysis. These may prove useful to include in future trail use surveys of the SMMNRA. The most frequently unaddressed themes included:

- Dealing with horse and pet excrement (Will Rogers); dog excrement and dogs (Caballero Canyon, Wilacre Park, and other sites)
- Concerns about hazards, including animal control, poison oak on trails, adequate trail width, and trail visibility (to avoid snakes, etc.)
- Pedestrian and cyclist safety on the trails, including pedestrian-bicyclist conflicts
- Fellow trail user behavior, especially playing loud music or smoking
- At some of the more developed trails (e.g. Wilacre Park and Runyon Canyon) some trail users commented they were unhappy with the asphalt paving of the trail, and that they had preferred the more ‘natural’ dirt trail that was originally there.

Results from Each Survey Question

All frequency statistics for each survey question are shown in tabular form (where applicable) in Chapter 2a Appendix. Statistics by activity group for each question are shown in tabular form (where applicable) in Chapter 2b Appendix. Since some survey respondents did not fill out the entire survey, sample sizes vary depending on the question. A thematic and detailed discussion of key survey results is found in the following chapters. In each chapter, demographic and visitor characteristics were analyzed by age, gender, languages spoken at home, race and ethnicity, income, education, and household structure.

Respondent Universe and Response Rate

Survey administrators approached 7,258 park visitors to potentially take the survey. To calculate the response rate, the sum of respondents and non-respondents was divided by the total number of park visitors approached (Sample Total) (Table 2-1). As previously stated, survey administrators were instructed to approach the next individual or group they saw after the previous respondent finished the survey, and to alternate between approaching the first and last person in a group. If the approached individual or group member declined to take the survey, the survey administrator recorded the observed gender and activity of the non-respondent, as well as the size of the group in the non-response form.[10] This resulted in 2,833 non-respondents (the number of individuals or group members who declined the survey), with an observed total of 6,171 people (the number of individuals and group members present when a person declined to take the survey) (Table 2-1).

Of the 7,258 park visitors asked to participate, 61% agreed to take the survey (Table 1). Out of a total of 4,425 surveys, there were 4,381 surveys with usable data. Although the response rate of this survey is lower than the 2002 version (80%), over four times the number of surveys were collected in 2018 versus in 2002 owing to a different distribution methodology applied in 2018.

Table 2-1: Survey Response Rate

	N.	Pct.
Total Respondents	4,425	61.0%
Surveys with Usable Data	4,381	60.4%
Surveys with Unusable Data	44	0.6%
Total Non-Respondents	2,833	39.0%
Individual Non-Respondents	1,097	15.1%
Non-Respondents in Groups of 2 or More	1,736	23.9%
Total Visitors Approached	7,258	100.0%

[10] The group sizes of non-respondents ranged from 1 to 100, with an average group size of about 2.2. Almost 80% of non-respondents were in groups of 1 (alone) or 2 people.

As expected, the majority of surveys (62%) were completed during the weekend days. The breakdown of surveys (by shift and date) is presented in Table 2-2.

Table 2-2: Number of Respondents, by Survey Date and Shift

	Morning Shift (8AM - 1PM)		Evening Shift (4PM - 8PM)		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Weekend	1,699	65.0%	1,007	57.0%	2,706	61.8%
Saturday 6/16/2018	771	29.5%	464	26.3%	1,235	28.2%
Sunday 6/24/2018	928	35.5%	543	30.7%	1,471	33.6%
Weekday	916	35.0%	759	43.0%	1,675	38.2%
Thursday 6/21/2018	424	16.2%	372	21.1%	796	18.2%
Wednesday 6/27/2018	492	18.8%	387	21.9%	879	20.1%
Sample Total	2,615	100.0%	1,766	100.0%	4,381	100.0%

Aside from observed non-responses, not all surveys were filled out completely. Surveys were identified as "incomplete" if respondents stopped halfway or decided to withdraw from the study. Based on the available shift reports, more weekend surveys were identified as incomplete than weekday. Out of 4,381 total surveys, about 5% of collected surveys were incomplete (Table 2-3). It should also be noted that many respondents skipped certain questions or may not have wanted to answer them (like more sensitive demographic or socioeconomic questions). While all available survey data was analyzed regardless of the survey's level of completion, this results in different Sample Totals when questions are examined across various sociodemographic and geographic stratifying variables.

Table 2-3: Number of Incomplete Surveys, by Survey Date

	N. (Incomplete)	N. (Sample Total)	Pct. Incomplete
Weekend	159	2,706	5.9%
Saturday 6/16/2018	86	1,235	7.0%
Sunday 6/24/2018	73	1,471	5.0%
Weekday	76	1,675	4.5%
Thursday 6/21/2018	40	796	5.0%
Wednesday 6/27/2018	36	879	4.1%
Sample Total	235	4,381	5.4%

Trail Use Activities (User Types)

Survey administrators recorded the observed activities of non-respondents, and these totals were added to the activities reported by surveytakers. User types were also the focus of the visitor count. While it is not likely for the survey administrator to proportionately distribute surveys consistent with actual user type proportions, the visitor count was intended to capture all users and their activity. Hence, survey results and visitor count results for user types are provided to present a more complete picture of user type proportions.

Table 2-4 shows that survey respondents were predominantly hikers (85%), followed by sightseers (51%) and photographers (24%). In comparison, survey results indicate the most popular activities for non-respondents included hiking (69%), dog walking (10%), and mountain biking (9%). Joggers, bikers, and equestrians may have been more likely to decline taking the survey; survey administrators noted that these visitors often went by too quickly or were wearing headphones, or did not want to dismount their horse. Moreover, non-respondent activities were observed by the survey administrator at the trailhead entrances as compared to survey takers answering which activities they planned to engage in. This may have affected non-response activity counts as certain activities (i.e., bird watching, camping, painting, photography, picnicking, sightseeing, sunbathing, or swimming) may have been more difficult for survey administrators or visitor counters to ascertain than others.

Table 2-4: Number of Respondents and Non-Respondents, by Activity

	Respondents		Non-Respondents	
	N.	Pct.	N	Pct.
Bird Watching	585	13.4%	2	0.1%
Camping	192	4.4%	7	0.2%
Hiking	3,741	85.4%	1,950	68.8%
Horseback Riding	117	2.7%	26	0.9%
Jogging	885	20.2%	175	6.2%
Mountain Biking	580	13.2%	241	8.5%
Painting/Crafts	119	2.7%	1	0.0%
Photographing	1,066	24.3%	20	0.7%
Picnicking	318	7.3%	9	0.3%
Rock Climbing	355	8.1%	175	6.2%
Sightseeing	2,210	50.4%	32	1.1%
Sunbathing	364	8.3%	0	0.0%
Wading/Swimming	279	6.4%	9	0.3%
Walking dog(s)[1]	796	18.2%	289	10.2%
Other	296	6.8%	20	0.7%
Sample Total[2]	4,381		2,833	

1. Includes hikers and joggers with dogs
2. Respondents could select multiple activities; percentages add up to greater than 100%.

Hikrs dominated the list of activities, along with other user types visiting on-foot (e.g. joggers, rock climbers, dog-walkers, etc.). Mountain bikers were the 3rd most observed user type in the visitor count. Certain activities are prohibited or more popular at certain sites, so a by-site analysis might indicate different trends than overall (e.g. more dog-walkers at pet friendly sites, more swimmers on trails with streams or swimming holes, or more mountain bikers on certain trails). Sightseers may be under-represented in the survey results because they may have been less willing to spend time at the trailhead or have language barriers, and therefore were less able to take the time to complete the survey. Additionally, equestrians may be under-represented, as it was reported by survey administrators that equestrians were reluctant to dismount and were concerned about control of their horse while taking the survey. Many people wanted to talk to surveyors, but not take the survey. A major complaint from survey takers was that the questionnaire was too long, which was a deterrent for many people who had time constraints or simply did not want to take the time to complete the survey.

Survey administrators reported that people who noted they were very frequent (sometimes daily) visitors to the trail or lived nearby were most likely to express interest in completing the survey, as opposed to first-time visitors or non-residents visiting and unlikely to repeat their visit. This anecdotal evidence is further supported by the geospatial analysis in Chapter 3, which shows a higher number of respondents traveled from ZIP codes closest to SMMNRA trailheads (see "Geographic Characteristics," Table 3-8). Overall, the survey data may over-represent local users as opposed to first-time visitors, especially those from out of town.

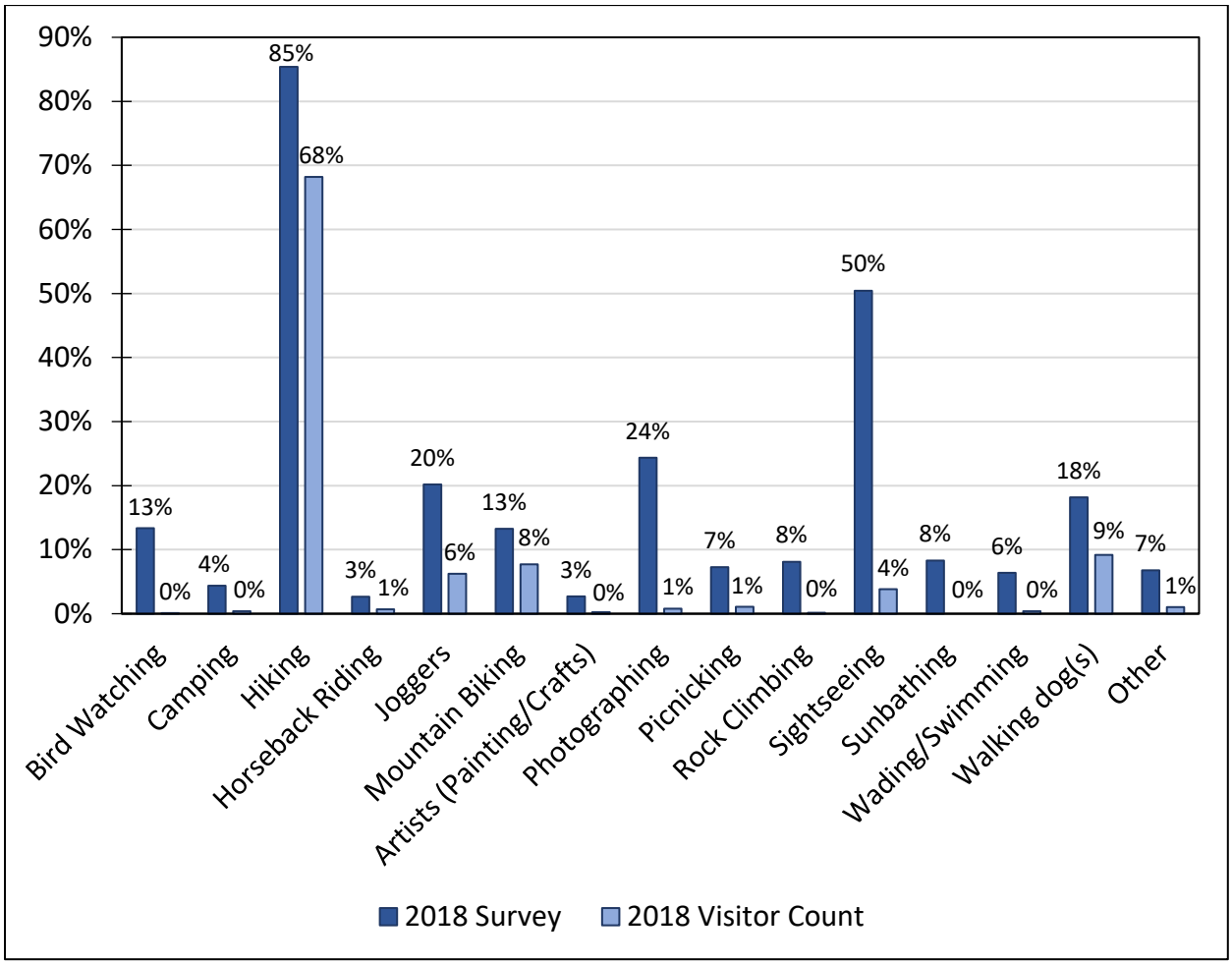
The visitor count results confirm the general trends found among survey respondents in terms of the most common activities (Table 2-5; Figure 2-1). Hiking and dog walking were observed as the most common activities in visitor counts. Many of the activities appear less frequently in the visitor count than in the survey results, which could be due to several factors. Perhaps most important, visitor counts only tallied visitors as engaging in a single, observable activity, while the survey allowed respondents to select several activities they planned to engage in at the trailhead. Similar to the limitations of the non-response form, it was challenging to identify intended activities during visitor counts. For example, those performing visitor counts may have marked visitors as hikers that were walking into the trail, when they actually intended to perform other primary activies such as photography or jogging. This misidentification or misobservation may have affected the activity totals in the visitor count, as certain activities (i.e., bird watching, camping, painting, photography, picnicking, sightseeing, sunbathing, or swimming) were more difficult for visitor counters to ascertain than others.

Table 2-5: Visitor Count Data, by Activity

	N.	Pct.
Bird Watching	33	0.1%
Camping	153	0.4%
Hiking	25,569	68.2%
Horseback Riding	252	0.7%
Joggers	2,348	6.3%
Mountain Biking	2,897	7.7%
Artists (Painting/Crafts)	100	0.3%
Photographing	292	0.8%
Picnicking	398	1.1%
Rock Climbing	55	0.1%
Sightseeing	1,440	3.8%
Sunbathing	0	0.0%
Wading/Swimming	141	0.4%
Walking dog(s)	3,439	9.2%
Other	380	1.0%
Sample Total	37,497	100.0%

As seen in Figure 2-1, higher frequencies of survey respondents engaged in every activity category when compared to the trail use activities observed in the visitor count. For the numerous reasons discussed above, the 2018 survey results provide a better picture picture of the proportions of visitors who engage in these 15 activities at SMMNRA trailheads. Though not quite representative of user type activites, the visitor count data is useful for interpreting the amount of visitors frequenting each trailhead.

Figure 2-1: Survey Data and Visitor Count Data Comparison, by Activity



3 Demographics of Visitors to SMMNRA Trailheads

SMMNRA offers nature and green space to one of the nation's largest and most diverse metropolitan areas, Los Angeles. Los Angeles ranks ninth among the world's urban areas and second in the U.S. in terms of the number of residents. Moreover, according to U.S. Census data from 2013-2017, 37.6% of the population in greater Los Angeles were foreign-born (U.S. Census Bureau 2017).

SMMNRA is deemed an 'urban protected area', areas which have distinct qualities in terms of visitor demographics, importance, and vulnerability when compared to rural protected areas (Trzyna et al. 2014). A 'protected area', though not recognized internationally, is a "clearly defined area with long-term nature conservation efforts and encompasses ecosystem services and cultural values" (Trzyna et al. 2014). Protected areas adjacent to urban areas are distinct for several reasons. For one, they tend to receive large numbers of visitors, many of whom visit frequently or daily and often lack access to or experience with wilder forms of nature. Visitors also may come from more diverse ethnic and economic backgrounds than visitors who visit remote protected areas.

More broadly, research finds the demographics of visitors within parks across the United States has changed over time. Some studies also show changes in visitor demographics. Cole (1996) found that compared to 1964, the average visitor is older (35-40) and more educated (40-50% with some graduate post-baccalaureate study). There has been an increase in percentage of female visitors from 20% to 34% since 1990, and the proportion of visitors who had visited multiple wilderness areas increased (Cole 1996). Other more subtle trends included more individual visitors, fewer organized groups, shorter stays, and smaller groups, which also mirrored the visitor trends found in the 2002 SMMNRA survey (Cole 1996; USC, 2002). Since these earlier surveys, social-media driven group outings, such as Meetup.com, have risen in popularity which may alter the trend of declines in organized groups found in the late 1990's and early 2000's (Lai 2013).

More recently, evidence shows an increasing number of baby boomer visitors (those born between 1946 and 1964), a decrease in younger visitors (aged 16 to 30), and an expected increase in overall visitation rates. Despite the traditional observation of decline in park use with age, some argue that the baby boomer generation is a growing group of visitors who increasingly use national parks. Wilson (2015) concluded that many baby boomers visit

national parks, even though the average visitor is from 'Generation X' (defined by the Pew Research Center as those aged 34-49) (Taylor and Gao 2014). Baby boomer visitors also have various outdoor interests and are more active and engaged in outdoor recreation activities than general visitors. Multiple national parks reported increase in average age for visitors (Keen and Dorell 2002). Visitor data from seven major parks showed that visitors between 16 and 30 fell by 5%, while baby boomers aged 48 to 66 increased by 8% in the past 20 years (Nagourney 2013).

Under the NPS System Plan developed in 2017, the agency has ongoing goals for improving engagement of urban communities and attracting new and diverse visitors (NPS, 2017). NPS has acknowledged that the growth of visitation to the national park system does not reflect the changing and growing diversity of the country's demographics, and it realizes the need to adapt to increasing urbanization. One of the goals in the System Plan (Goal # 3: Embrace New Conservation Roles) is to promote and expand existing partnerships and develop long-term, sustainable relationships with diverse community members and partners (NPS, 2017). Some actions include extending public outreach and engagement with diverse communities and demographics in the nation. While conducting external outreach, NPS also aims to better train its staff to effectively work with a diverse society.

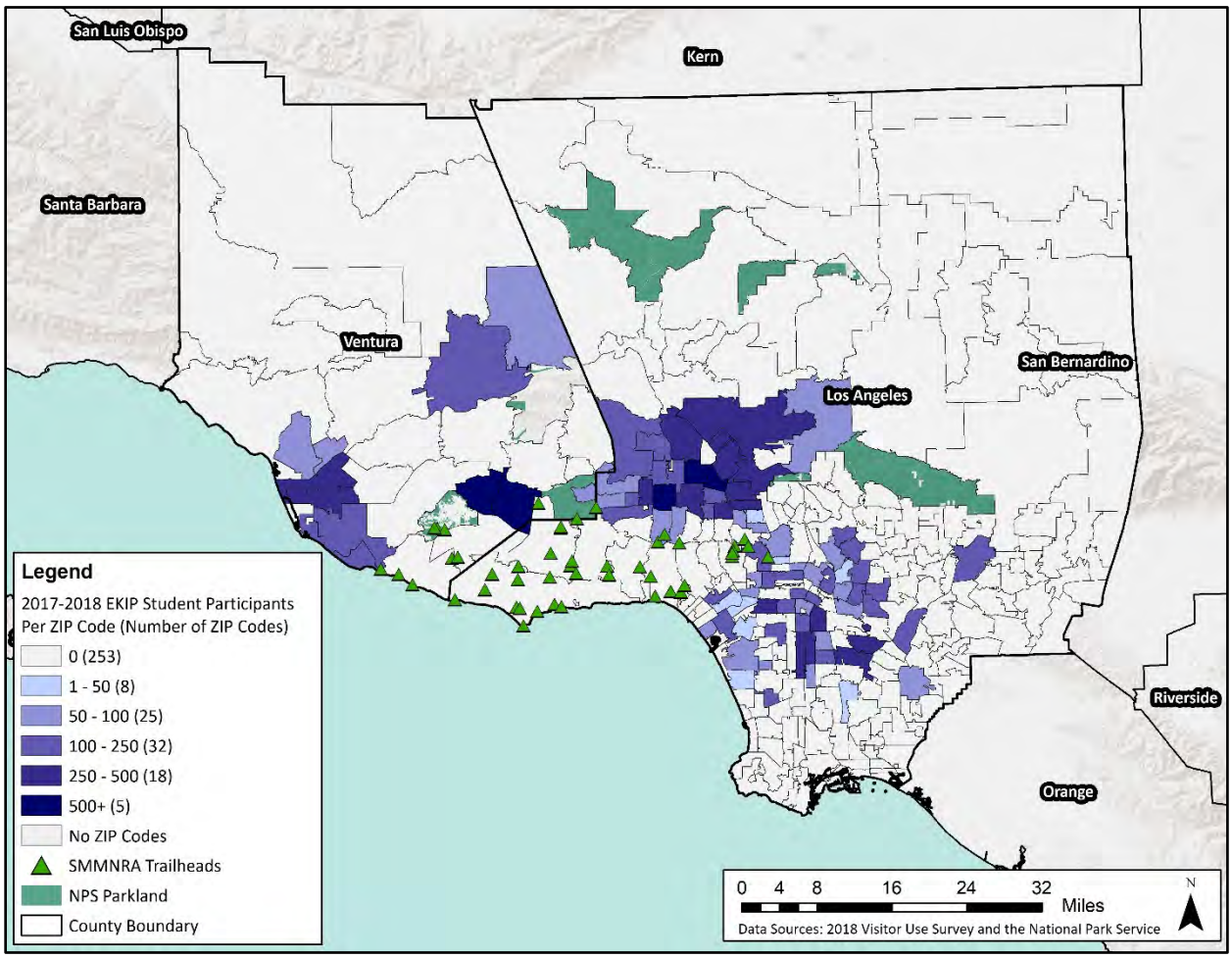
Another goal (Goal #4: Bring Parks to People) calls for better engagement and integration of NPS resources with urban communities. Currently, about 95% of all national park sites fall outside of a 50-mile radius of the 20 most-populated U.S. cities. Increasing urbanization may change this picture, considering there are 133 NPS park or recreation areas within 50 miles of these 20 cities, resulting in 31.9% of the U.S. population who are "within a short drive" of an NPS unit. SMMNRA is an urban recreation area, with portions of the recreation area located directly within the City of Los Angeles (NPS, 2017). NPS hopes to expand on interpretation, education and other opportunities in SMMNRA for diverse urban populations, as well as beyond urban areas.

NPS may need to address the lack of public transportation (which urban residents heavily rely on) to access NPS recreation areas (NPS, 2017). This concern is already included in NPS plans and has been explored, as seen in the "Parklink Shuttle" pilot project which ran for three years to provide public transportation within the park. NPS has also increased visitation to the park through the Every Kid in the Park program, which provides free transportation for school-aged children from more diverse, and often lower-income communities[11] (Figure 3-1). Lastly, to reach out to visitors of all backgrounds, NPS also aims to adapt to recent technological changes in order to connect and engage with the younger population. As found in the literature review,

[11] Every Kid in the Park (EKIP) is available to schools receiving Title 1 funding in Los Angeles and Ventura counties. Title 1 are federal funds awarded from the Department of Education to public schools in the United States with high numbers or percentages of children from low-income families (Institute on Education Sciences, 2019). For more information on the EKIP program, visit: https://www.nps.gov/samo/learn/education/classrooms/ekip.htm.

concerns exist about a lack of visitor diversity in national parks and whether adequate access to recreation and natural areas is provided for all people. Survey data on visitor demographics can help NPS work to address these concerns.

Figure 3-1. Total EKIP Participation across LA County ZIP Codes



A study by Byrne et al. found that people of color do not use the SMMNRA[12] at the same rates as white residents of Los Angeles (Byrne et al. 2009). In fact, most SMMNRA visitors in the 2002 survey were white, male, affluent, home owners, and lived near the park. Nearly 86% of those surveyed in 2002 had a college degree, and less than 1% did not have a high school diploma or GED. People of color traveled further to reach the park, were less likely to be repeat visitors, and were less inclined to use park resources (Byrne et al. 2009).

Historically, the profile of SMMNRA visitors has not reflected the diversity of Los Angeles. In the 2002 survey report, 72% of survey respondents identified as White, followed by 6% who

[12] Issues of diversity persist beyond SMMNRA and throughout the National Park System. There continues to be public criticism that between 2008 and 2009, of those who visited the national park system, only about 20% were non-White and 9% were Hispanic (Johnson 2013, Taylor et al. 2011). 1 in 5 park visitors is non-White, and only 1 in 10 is Hispanic.

identified as Asian, and 2% as African American or Black. Most were born in the United States (77%), while 17% were born from other countries, including 2% of Mexican origin. For those not born in the U.S., the average duration of residence in the country was 20 years. More males (59%) responded to the survey. The vast majority (85%) of visitors were in the middle-income bracket (earning $50,000 to $75,000 per year), and about 63% of respondents owned a home.

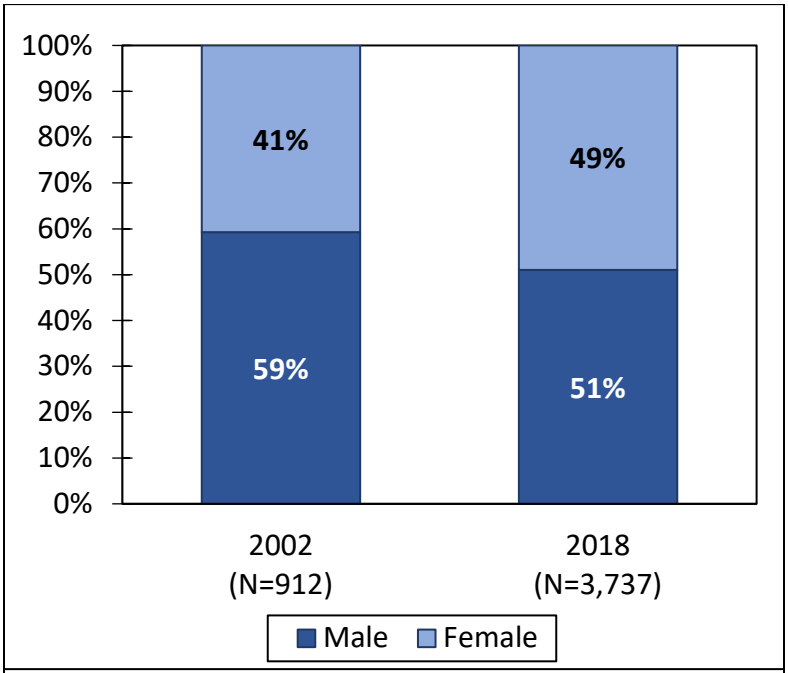
A 2009 peer-reviewed study, based on the 2002 SMMNRA survey report, sought to identify any ethno-racial differences, or gaps, in SMMNRA use and whether these differences were due to accessibility, other sociodemographic characteristics, cultural preferences, or attitudes towards the park (Byrne et al. 2009). Green space has been found to be inequitably distributed in urban areas, where people of color have poor access to parks and are also more likely to experience health problems. The Byrne et al. research used an environmental justice lens to discuss inequitable accessibility to parks. While much of the environmental justice movement focuses on environmental harm, Byrne et al. and other researchers have used an Environmental Justice (EJ) framework to explore the disproportionate access to the environmental benefits—that being green space accessibility—as seen with the visitor demographic patterns researchers found from the 2002 survey. Byrne et al. (2009) suggested soci-spatial characteristics may explain why disproportionately fewer people of color visited urban national parks, with people of color having to travel further to visit the park than the affluent, white residents of nearby neighborhoods.

To assess progress toward the goals of achieving a diversity of visitors to SMMNRA and increasing access for all kinds of visitors, the 2018 survey collected demographic information including gender, age, educational level, race and ethnicity, language(s) spoken at home, household income level, household and family structure, and geographic characteristics. Results are compared to the 2002 survey findings and U.S. census data where applicable.

Gender

To understand the demographics of SMMNRA visitors, the first characteristic analyzed was the gender of respondents. There was a nearly even split in the proportion of male (51%) and female (49%) respondents, while 2013-2017 American Community Survey (ACS) estimates foundboth Los Angeles County and Ventura County had only slightly more females (49.3% and 49.5% respectively) than males (ACS, 2017a; ACS, 2017b). Figure 3-2 shows how the proportion of males and females compare between the 2002 and 2018 surveys. The recent survey has a smaller difference in the number of male and female respondents, indicating a more equal gender representation among survey takers. Furthermore, the difference in proportions of male and female respondents between the 2002 and 2018 surveys is statistically significant at the 99% confidence level.

Figure 3-2. Gender of Respondents, by Survey Year



1. The difference in proportions is statistically significant at P<0.001.

Age

The average age of all respondents was about 42 years old (Table 3-1). The age statistics of the 2018 survey are similar to those of the 2002 survey, where the average age was about 41 years old. For comparison, the median age in Los Angeles County was 36 years, and 37.5 years in Ventura County, based on 2013-2017 ACS data (ACS, 2017a; ACS, 2017b). For statistical analyses in later chapters, age was further categorized into three groups: youngest (18 to 40 years), middle-aged (41-64 years), and oldest (65 years and older). Roughly half of the respondents (52%) were 18 to 40 years old, compared to 41% between 41 and 64 years, and about 7% over the age of 65 (N=3,734).

Table 3-1. Age of Respondents (18+ Years), by Survey Year

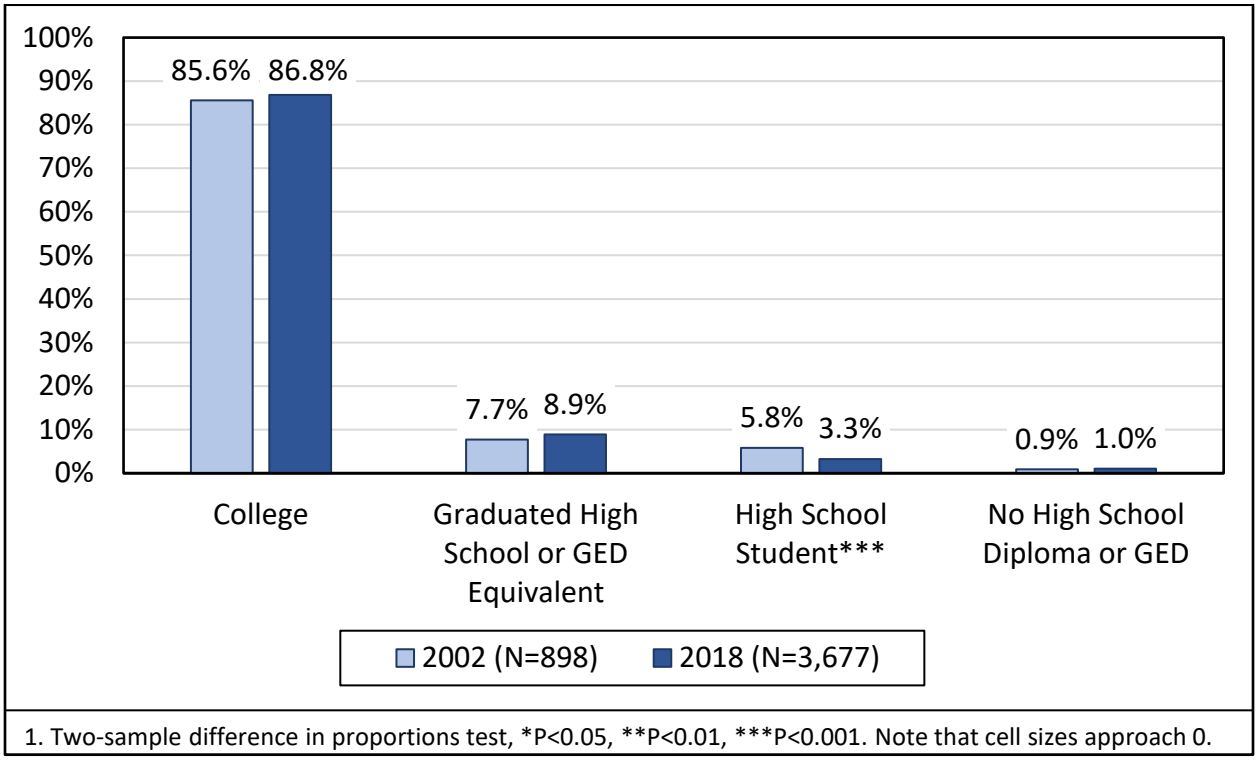
	2002	2018
N.	912	3,734
Mean	40.8	41.7
Median	40.0	40.0
Std. Dev.	12.0	15.0
Min	18.0	18.0
Max	83.0	91.0

Education

Educational attainment was another demographic characteristic assessed and compared to the 2002 survey results (Figure 3-3). Respondents were asked to select the highest level of education they had completed or achieved, including either current high school student, no high school diploma, high school graduate, or college graduate. Overwhelmingly, respondents reported they had achieved a college-level education (87%), which is dramatically higher than the L.A. City average, where only 33% of residents have a bachelor's degree (college-educated) (U.S. Census 2017).

In general, there are no major differences in educational level across visitor types; the majority of visitors had a college level education. The educational attainment of visitors in 2002 versus 2018 was also compared, but there were few notable differences over time. The majority of respondents in 2002 (85.6%) also had a college level education, although slightly more respondents in 2002 were high school students (5.8% versus 3.3% in 2018).

Figure 3-3. Educational Attainment of Respondents, by Survey Year



1. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Race and Ethnicity

Respondents were asked the race and ethnicity with which they identify. Though these were posed as two separate questions, the results were recoded to reflect respondents who were non-Hispanic by race categories as well as those who were Hispanic or Latino alone. Table 3-2 shows that the majority of respondents were non-Hispanic White (63%), followed by Hispanic or Latino (21%), and non-Hispanic Asian (7%). Overall, the visitor population was more likely to be White and less likely to be Hispanic or African-American than the overall population of the Los Angeles Metropolitan Area. The proportion of Asian visitors was similar to the general population. The proportion of those identifying as "other" or two or more races was also higher than the general population residing nearby.

Table 3-2. Race and Ethnicity of Respondents

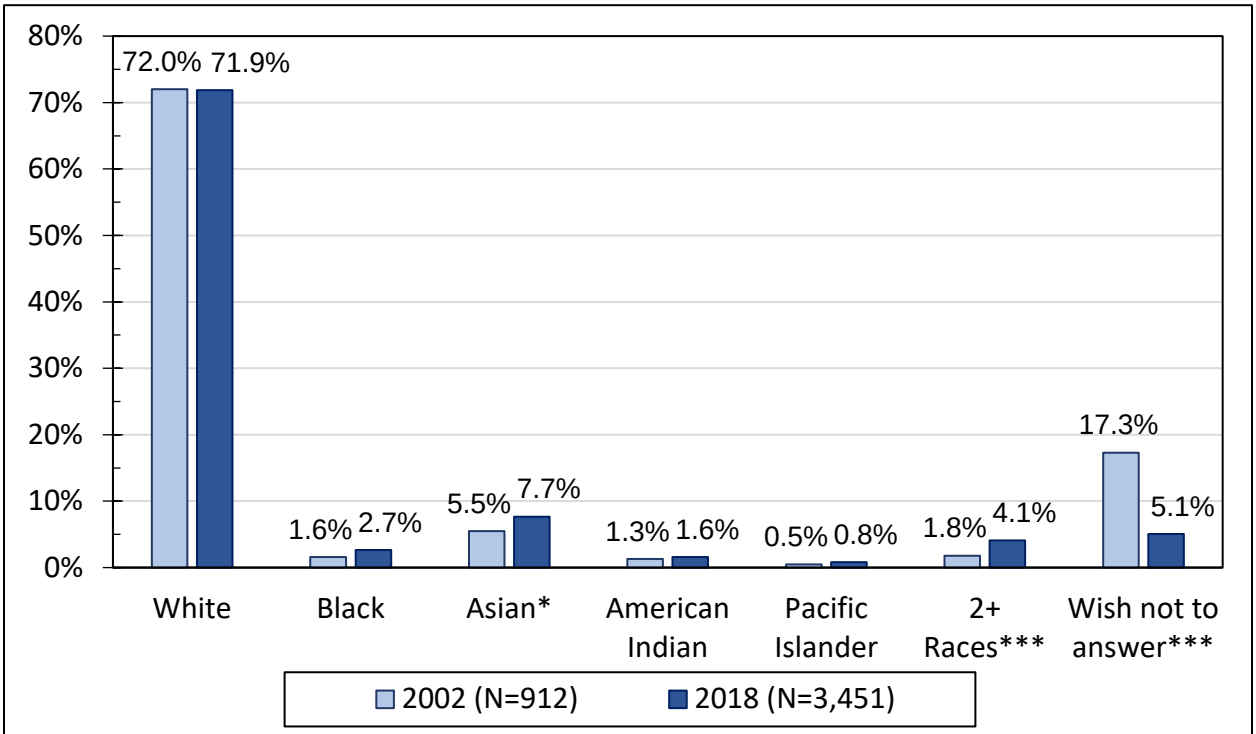
		N.	Pct.
Non-Hispanic	White	2,255	63.0%
	Black	84	2.3%
	Asian	258	7.2%
	American Indian or Alaskan	36	1.0%
	Hawaiian or Pac. Islander	19	0.5%
	Other	76	2.1%
	2+ Races	95	2.7%
Hispanic or Latino		754	21.1%
Sample Total		3,577	100%

Results indicate that the proportion of visitors by race or ethnicity has changed since 2002. The 2002 survey did not distinguish between non-Hispanic and Hispanic differences within racial groups, so for the purposes of a direct comparison, the categories used in 2002 were replicated. Notably, the proportion of Hispanic or Latino survey takers increased from just 12% in 2002 to over 21% in 2018. This 9% difference is statistically significant at the 99.9% confidence level.

There are also small but statistically significant increases in the racial diversity of respondents in the 2018 survey, particularly for those who self-identify as Asian or Multi-racial. Figure 3-4 shows the proportion of survey respondents who are Black, American Indian or Native Alaskan, and Native Hawaiian or Pacific Islander also increased since 2002, though these differences are not statistically significant. However, White respondents were the most common among both surveys, with a less than 0.1% difference between survey years.

In comparison to 2018 surveyed respondents, the race-ethnicity distribution for City of Los Angeles residents is strikingly different. Based on American Community Survey estimates in 2017, L.A. is 52% White, 12% Asian, 9% Black, and 49% Hispanic or Latino.

Figure 3-4. Race of Respondents, by Survey Year



1. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Languages Spoken at Home

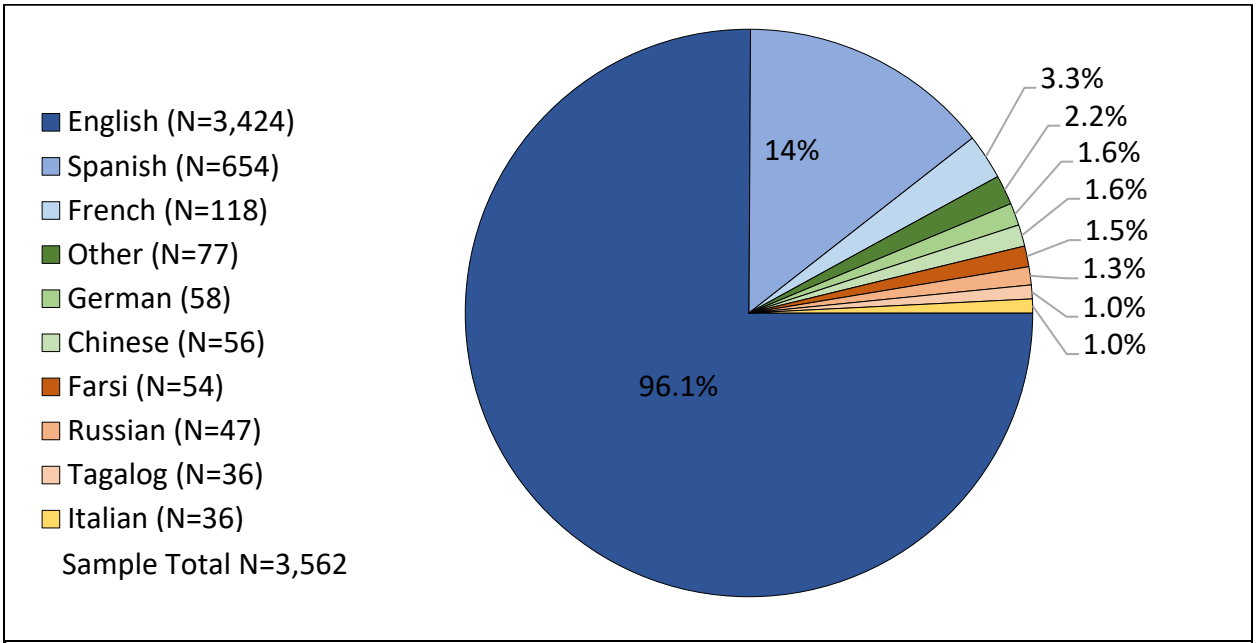
To further assess visitor demographic characteristics, the number and types of languages spoken at home were analyzed. Respondents could write in up to 3 languages that are spoken in their home, and it was assumed that the respondent knew how to speak the number of languages listed. While 71% of those surveyed only spoke one language at home, nearly a quarter reported being bilingual (Table 3-3). While the comparison between nativity and language spoken at home is imperfect, the high degree of monolingual households in the 2018 survey suggests a lower percentage of foreign-born respondents than in the general Los Angeles (L.A.) population, as was also found in the 2002 survey. A higher percentage of City of Los Angeles residents from 2013-2017 were born outside of the U.S. (37.6%) compared to the 17% of respondents surveyed in the 2002 (U.S. Census Bureau, 2017).

Table 3-3. Number of Languages Spoken at Home

	N.	Pct.
1	2,531	71.1%
2	870	24.4%
3+	161	4.5%
Sample Total	3,562	100.0%

Among the respondents who identified at least one language spoken at home, 96% of respondents spoke English in the household, and about 18% spoke Spanish. While there was a total of 22 unique languages recorded among the 3,562 respondents who answered the language question, Figure 3-5 shows the top ten languages spoken in the home.

Figure 3-5: Types of Languages Spoken at Home



1. Less than 1%: Hebrew, Armenian, Korean, Portuguese, Japanese, Polish, Dutch, Swedish, Vietnamese, Arabic, Hindi, Norwegian.
2. Respondents could write in up to 3 languages, so percentages add up to greater than 100%.

The 2002 version of the survey only reports the 5 most common languages spoken at home, including English, Spanish, Farsi, French, German, and Other. These proportions are compared to the 2018 survey where possible in Table 3-4, and indicate the differences which are statistically significant. For instance, English, Spanish, and French speaking respondents were more represented in the 2018 survey.

Table 3-4. Languages Spoken at Home, by Survey Year

	2002		2018	
	N.	Pct.	N.	Pct.
English***	789	86.5%	3,424	96.1%
Spanish***	71	7.8%	654	18.4%
Farsi	16	1.8%	54	1.5%
French**	12	1.3%	118	3.3%
German	7	0.8%	58	1.6%
Other***	50	5.5%	77	2.2%
Sample Total[1]	912		3,562	

1. Respondents could write down multiple languages, so percentages add up to greater than 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Income

In addition to other background information, visitors were asked to identify a range for their annual income. There were eight categorical options which ranged from less than $25,000 to greater than $200,000. Out of 4,381 respondents who took the survey, about 83% filled out this section (N=3,634). However, there was only usable income data for 2,915 respondents (or 67% of the total sample) due to a large number of respondents selecting the "Do not wish to answer" box. The eight income categories were condensed into four income groups for statistical analyses in later chapters. Table 3-5 shows the number of respondents in each income bracket, as well as the four condensed income groups.

The median income bracket of visitors who disclosed their household income was between $75,001 and $100,000 per year, substantially more than the 2018 Los Angeles County median income of around $61,000 (U.S. Census Bureau 2018). Moreover, the greatest modal percentage of visitors (among those who disclosed their income) earned greater than $200,000 (18%), suggesting that the income distribution of respondents was right-skewed due to the large number of high reported incomes.

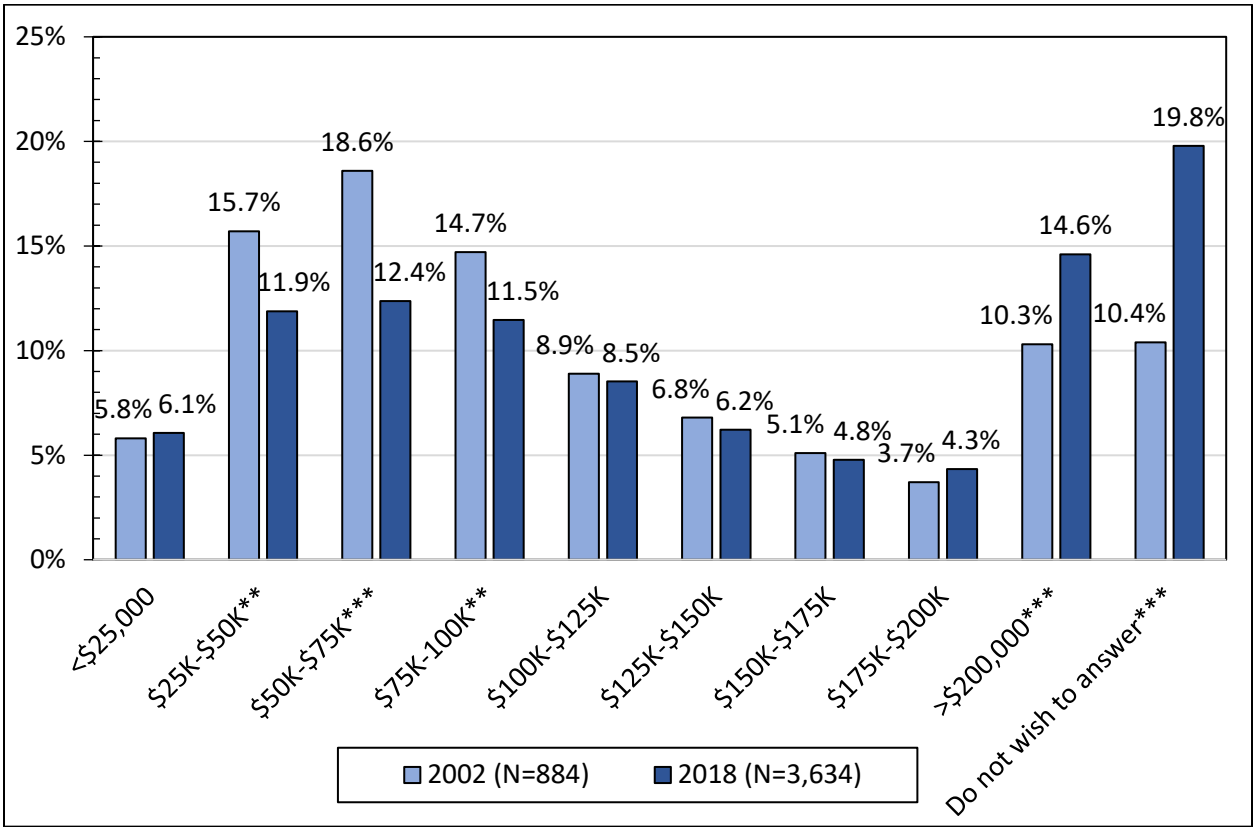
Table 3-5. Annual Household Income of Respondents

	N.	Pct.
<$50,000	651	22%
Less than $25,000	221	8%
$25,001 - $50,000	430	15%
$50,000 to $100,000	865	30%
$50,001 - $75,000	448	15%
$75,001 - $100,000	417	14%
$100,000 to $150,000	538	18%
$100,001-$125,000	312	11%
$125,001-$150,000	226	8%
>$150,000	861	30%
$150,001 - $175,000	174	6%
$175,001 - $200,000	157	5%
More than $200,000	530	18%
Sample Total	2,915	100%

When household incomes of respondents in 2002 are juxtaposed with the recent survey (Figure 3-6), results show the proportion of respondents as a share of the total sample decreased across all income categories between $25,000 and $175,000. The percentage of visitors who earn more than $200,000 per year increased from about 10% to 15%, and this difference is statistically significant at the 99.9% confidence interval.

Over time, SMMNRA may have attracted more higher-income individuals and fewer middle and lower-income individuals. However, the percentage of visitors who did not wish to disclose income information also significantly increased from 10% in 2002 to 20% in 2018 ($p<0.001$), suggesting that income information may have become more of a sensitive subject during the 2018 survey period.

Figure 3-6. Annual Household Income of Respondents, by Survey Year



1. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Household Structure

To understand household characteristics, the survey first asked respondents to list the number of children under the age of 18 in their household. Of the 3,676 people who answered the question, 76% did not have children under 18 at home. This represents a 5% increase from the 2002 results, where about 71% of the 909 respondents were childless. This difference in proportions is statistically significant at the 99.9% confidence level.

Question 33 then asked respondents "What are the ages, gender (the gender to which they mostly identify), and relationships to you of the people that live with you in your household?", in order to identify trends in household structure. Respondents were classified into six household types based on this information: single (living alone), friends/unrelated adults, couple without children under 18 years, single parent with children under 18 years, couple with children under 18, and multi-generational/extended familial household. The most common

housing structure was living in a single (living alone) household (59%), followed by couples living without children (19%) (Table 3-6).[13]

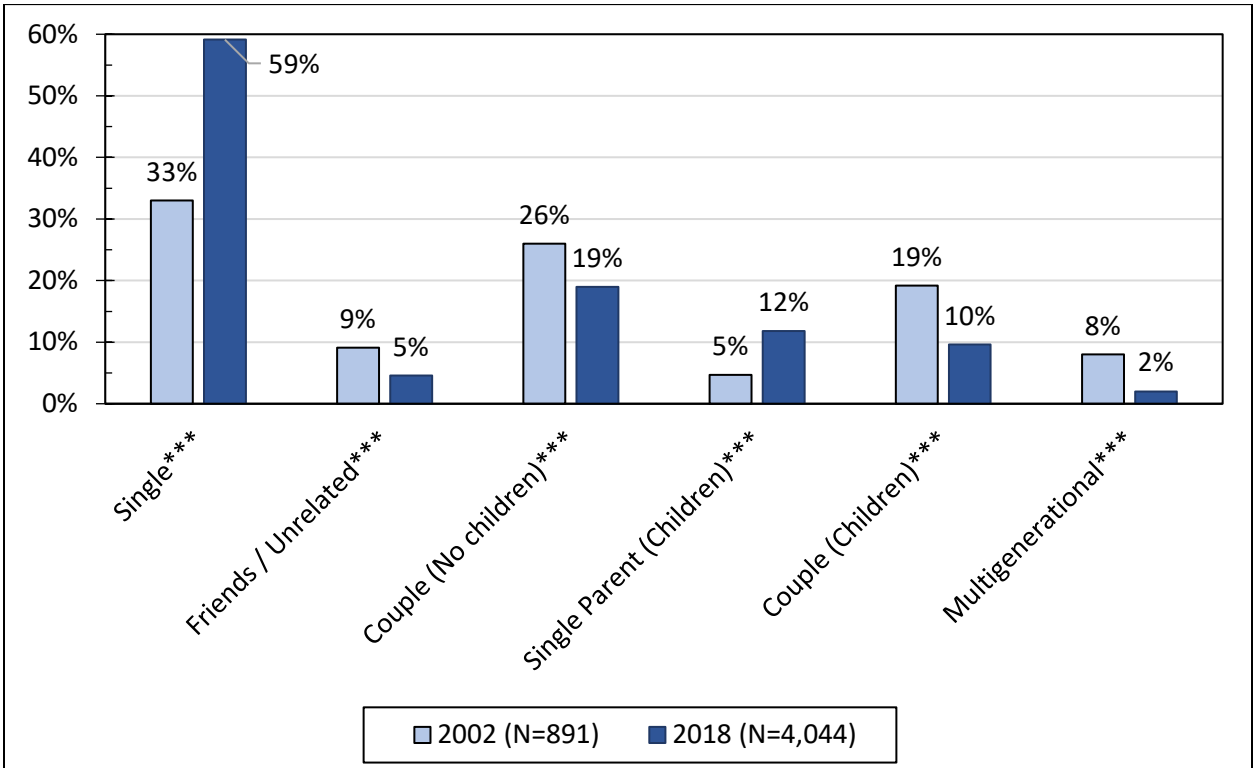
Table 3-6. Household Type of Respondents

	N.	Pct.
Single	2,391	59%
Friends/unrelated adults	185	5%
Couple without children under 18	768	19%
Single parent with children under 18	478	12%
Couple with children under 18	389	10%
Multigenerational/extended familial household	81	2%
Sample Total[1]	4,044	
1. Respondents fall into multiple types of households, so percentages add to greater than 100%.		

When comparing the household structure of visitors from 2002 versus 2018, results indicate that percentages of visitors in all household types changed significantly since 2002 (Figure 3-7). In particular, visitors from single-person households appear to have increased significantly. However, it is important to note that, for the 2018 survey, household type was determined based on responses to Question 33, which was then recoded to reflect the same categories of the corresponding question in the 2002 survey.

[13] It was assumed that respondents who did not answer Question 33 live alone.

Figure 3-7. Household Type of Respondents, by Survey Year



1. Respondents fall into multiple types of households in the 2018 survey, so percentages do not add to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Group Characteristics

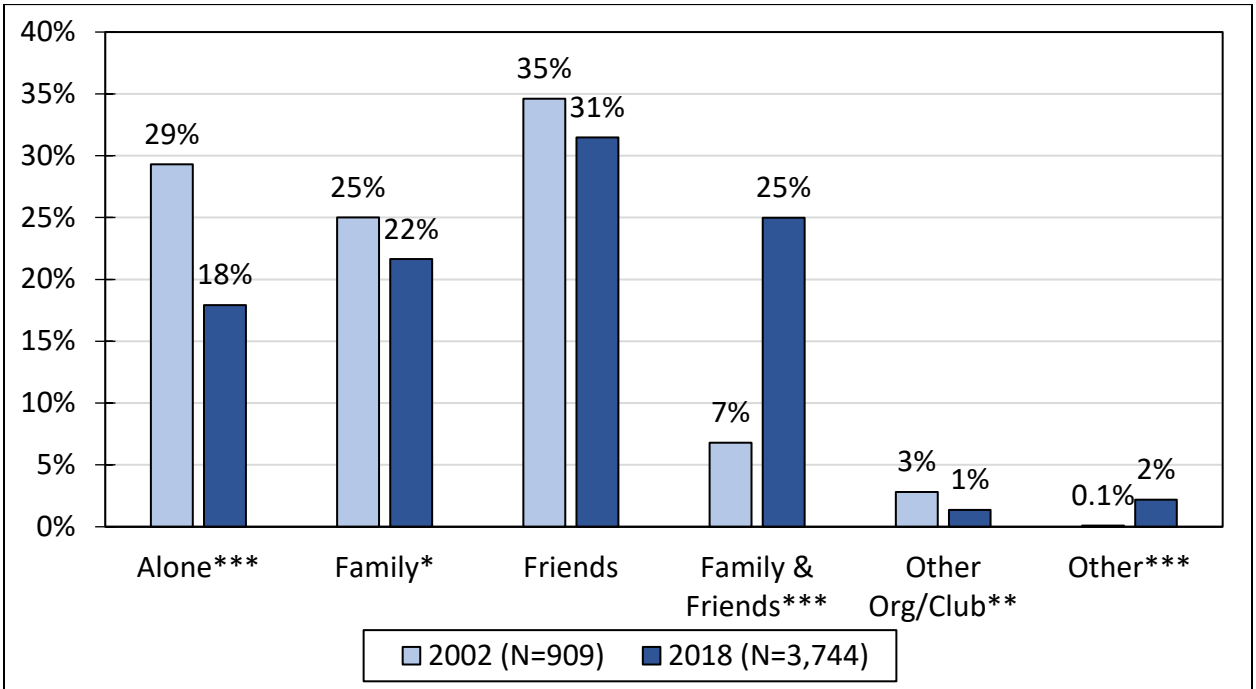
The 2018 survey asked several questions about the additional people and/or animals that respondents visited the trailhead with. Respondents could select between nine different group types, such as family, friends, organizations, or clubs, as well as write in the type of group they were visiting with. As shown in Table 3-7, there was a split between those who came to SMMNRA alone (18%), with family members (22%), or with both family and friends (25%). The largest share of respondents were at the trail with friends (32%). Fewer than 3% of respondents indicated they were at the trail with another group type.

Table 3-7. Group Type of Respondents

	N.	Pct.
Alone	671	17.9%
Family	810	21.6%
Friends	1,179	31.5%
Family & Friends	935	25.0%
Religious Org	4	0.1%
Youth Club	6	0.2%
Educational	6	0.2%
Other Org/Club	51	1.4%
Other	82	2.2%
Sample Total	3,744	100%

When comparing the group type of respondents between survey years, results show more people came with a group of both family and friends in 2018 (Figure 3-8). This statistically significant difference was a more than three-fold increase from 2002 (N=62 in 2002 versus N=935 in 2018). For all other group types except "Other" and "Family and Friends," there were fewer respondents in 2018 than in 2002. This could be due to the large amount of people who selected the "Other" option on the survey but did not provide additional information (i.e., did not write in a group type), confusion about the question, and the coding process. For example, several respondents marked that they came to the park alone as their group type, but listed more than 1 person when reporting the size of their group. Some of these respondents may have answered the question in terms of how they traveled to the park (alone) even though they then joined up with friends or a group at the trailhead. Cases where the respondent reported the ages/genders of the people in their group, but did not answer the type of group they were in were coded as "Other." If a respondent did not answer either question, no assumptions were made and they were not included in the analysis of group type or group size.

Figure 3-8. Group Types of Respondents, by Survey Year



1. Two-sample difference in proportions tests, *P<0.05, **P<0.01, ***P<0.001
1. Group types with <1% of respondents were excluded, including Religious Organizations, Youth Clubs, and Educational Groups.

After reporting the type of group they were with, respondents filled in the ages and genders of the people in their group. This information determined group sizes (N=3,558), which was the sum of the respondent plus all people they listed in the question. The highest proportion of respondents reported visiting the trailhead in a group of three (41%), followed by a group of one (visiting alone) (19%), of two (14%), and four (13%). Less than 7% (N=242) of survey takers were in a group of 6 or more.

Analysis across the two survey periods showed slightly different mean group sizes of respondents. Table 3-8 shows that the average group size decreased from 3.2 to 3.0 people from 2002 to 2018. For the 2018 survey analysis, there was a different structure for determining the number of participants in a group. The 2002 survey provided a blank space to write in the number of people in the group, while the 2018 survey asked respondents to list the ages and genders of up to 15 group participants. The maximum number of people in a respondent's group in 2018 could be 16, under the assumption the respondent counts as a member of the group.

Table 3-8. Summary Statistics for Group Size of Respondents, by Survey Year

	2002	2018
N	910	3,558
Mean	3.2	3.0
Median	2.0	3.0
Std. Dev.	10.7	1.7
Min	0	1.0
Max	300.0	16.0

The presence of pets in visitor groups was also assessed. Over 16% of surveyed visitors were at the trailhead with at least 1 pet present. About 15% of respondents indicated that there were dogs in their group, while less than 1% were visiting the trail with one or more horses. Among groups with horses, the average number of horses in a group was 3 (Range=1 to 17) (Table 3-9). Moreover, Table 3-10 shows that respondents who were at the trailhead by themselves were significantly less likely to have a pet with them than respondents in a group of friends, family, family and friends, or another group type (99% confidence level or above). Among visitor groups with pets present, the average number of pets was 1.4 (N=666).

Table 3-9. Number of Pets Per Group

	Dogs	Horses
N.	648	24
Mean	1.4	2.6
Median	1	1.5
Std. Dev.	1.4	3.31
Min	1	1
Max	29	17
1. N=visitors who indicated at least 1 pet in their group. 2. Excludes an outlier observation of 200 horses.		

Table 3-10. Number of Pets, by Group Type

	Respondents With Pets				Sample Total			
	N.	Mean	S.D.	Pct.	N.	Mean	S.D.	Pct.
Alone	136	1.50	2.48	20.3%	671	0.30	1.27	100%
Family	139	1.40	1.44	17.2%	810	0.24	0.80	100%
Friends	133	1.38	0.82	11.3%	1,179	0.16	0.52	100%
Family & Friends	181	1.48	1.23	19.4%	935	0.29	0.79	100%
Religious Org	1	1.00	.	25.0%	4	0.25	0.50	100%
Youth Club	1	1.00	.	16.7%	6	0.17	0.41	100%
Educational	1	1.00	.	16.7%	6	0.17	0.41	100%
	Respondents With Pets				Sample Total			
	N.	Mean	S.D.	Pct.	N.	Mean	S.D.	Pct.
Other org/club	3	2.33	2.31	5.9%	51	0.14	0.72	100%
Other	14	1.14	0.36	17.1%	82	0.20	0.46	100%
Sample Total	609	1.44	1.57	16.3%	3,744	0.23	0.83	100%

1. Respondents With Pets: The difference in mean number of pets is statistically significant at P<0.01 or below between Family and Religious, Family and Youth Club, Family and Educational, Friends and Religious, Friends and Youth Club, Friends and Educational, Famly/Friends and Religious, Family/Friends and Youth Club, and Family/Friends and Educational.
2. Sample Total: The difference in mean number of pets is statistically significant at P<0.05 or below between Alone and Friends, and Friends and Family/Friends.

Comparing the number of pets across the two survey years, the average number of pets brought by respondents decreased from 0.5 in 2002 to 0.2 in 2018 (Table 3-11). This difference in means is statistically significant at the 99.9% confidence level. However, in both survey periods, the average number of pets remained under one. There may be error in this finding because some trailheads do not allow dogs/pets; more surveys handed out at trailheads that do not allow dogs could have reduced the number of pets reported.

Table 3-11. Number of Pets Per Group, by Survey Year

	2002	2018
N.	395	4,381
Mean***	0.5	0.2
Median	0	0
Std. Dev.	0.9	0.8
Min	0	0
Max	7	29

1. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Geographic Characteristics

To better understand the geography of respondents, several factors were analyzed. The distribution of surveyed visitors varied across counties and ZIP codes within southern California, as well as among neighborhood regions and supervisorial districts in Los Angeles County. The methods for geocoding and conducting geospatial analysis for survey participants are explained in greater detail in the Chapter 1 "Geospatial Analysis" subsection.

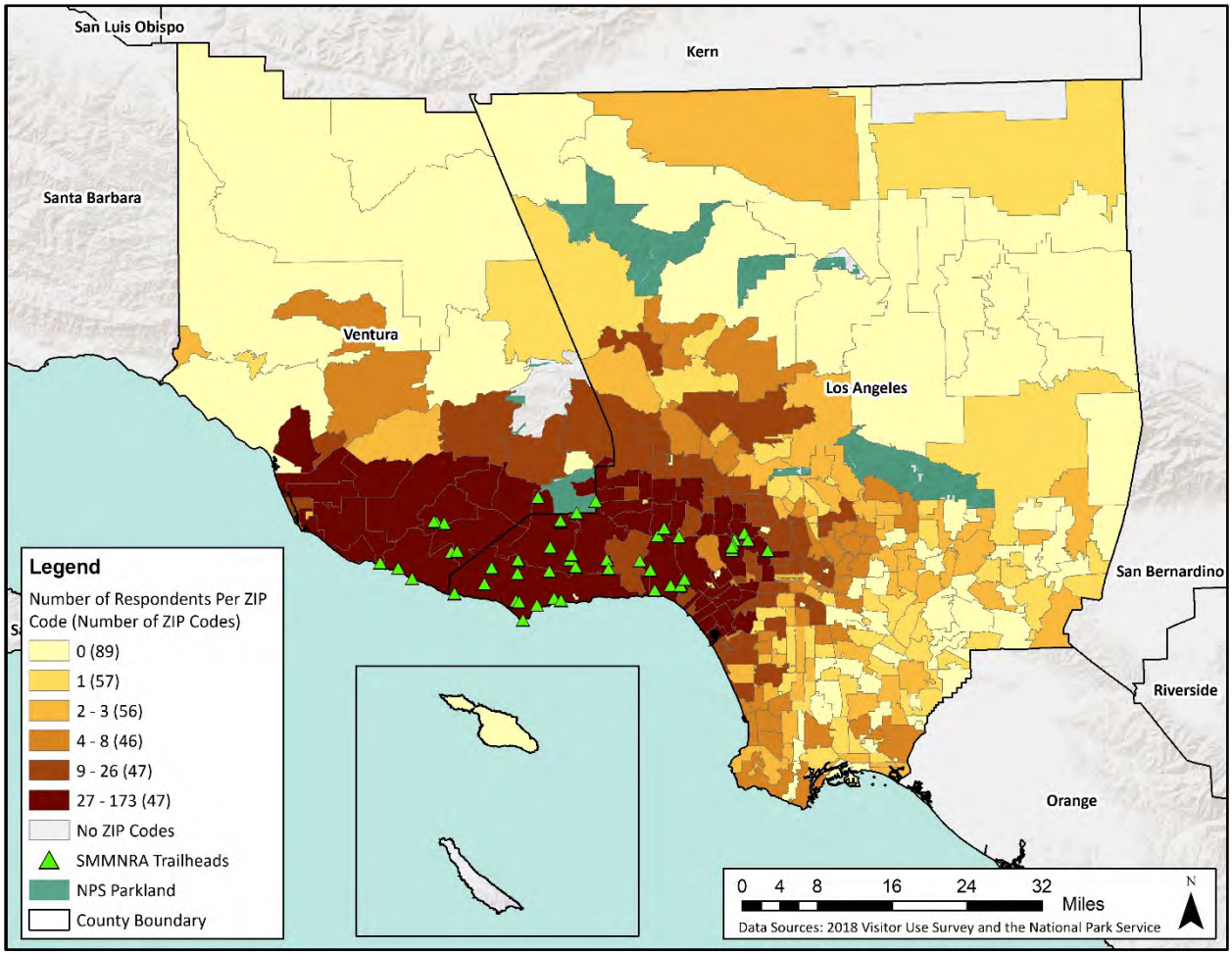
ZIP Code Analysis

The vast majority of respondents hailed from Los Angeles County (78%) and Ventura County (19%), with the remaining 3% traveling from Orange County, San Bernardino County, and other counties (Table 3-12). As seen in Figure A3-1 and Figure 3-8, the ZIP codes closest to SMMNRA trailheads had the highest number of surveyed visitors. While fewer respondents traveled to the SMMNRA from ZIP codes in eastern, northern, and southern regions of Los Angeles County, or from the northern and western regions of Ventura County, nearly 74% of all ZIP codes in L.A. and Ventura counties had at least 1 survey respondent. This demonstrates the wide catchment the SMMNRA has in drawing visitors to its unique trails and amenities.

Table 3-12. Number of Respondents, by County (Southern California Region)

County	N.	Pct.
Kern	4	0.1%
Los Angeles	3,034	77.9%
Orange	54	1.4%
Riverside	12	0.3%
San Bernardino	18	0.5%
San Diego	10	0.3%
San Luis Obispo	1	0.0%
Santa Barbara	14	0.4%
Ventura	750	19.2%
Sample Avg.	3,897	100.0%

Figure 3-8. Number of Respondents, by ZIP Code (Los Angeles and Ventura Counties)



Several other geographic characteristics were analyzed as part of the ZIP code analysis, including the disadvantaged community (DAC) designation and mean park need score of ZIP codes in Los Angeles and Ventura counties. Analysis of these two characteristics at different scales provides a more nuanced view of how the SMMNRA benefits visitors from particularly park-poor neighborhoods or communities that are disproportionately burdened by pollution.

Disadvantaged Community Analysis

In California, disadvantaged communities are identified by the California Environmental Protection Agency (CalEPA) as the top 25% most impacted census tracts in CalEnviroScreen 3.0 (CARB, 2018). CalEnviroScreen is a science-based mapping tool that helps identify communities that are 1) most affected by multiple sources of pollution, and are 2) especially vulnerable to the effects of pollution (OEHHA, 2017).[14] The score measures the relative pollution burdens

[14] Exposure and environmental effects from multiple sources of pollution are assessed by the tool, including ozone, particulate matter (PM2.5), diesel particulate matter, drinking water contaminants, pesticide use, toxic releases from facilities, traffic density, cleanup sites, groundwater threats, hazardous waste generators and facilities, impaired water bodies, and solid waste sites and facilities. CalEnviroScreen was developed by the Office of Environmental Health Hazard (OEHHA) and the California Environmental Protection Agency. For more information, visit: https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30.

and vulnerabilities in one census tract compared to others (OEHHA, 2017). DAC status is assessed at the census tract scale, yet the scale of analysis for survey results is at the ZIP code level. The area of the ZIP code made up of DAC census tracts was calculated, and expressed as "Percent DAC" (see Chapter 1 "Geospatial Analysis" for the methodology).

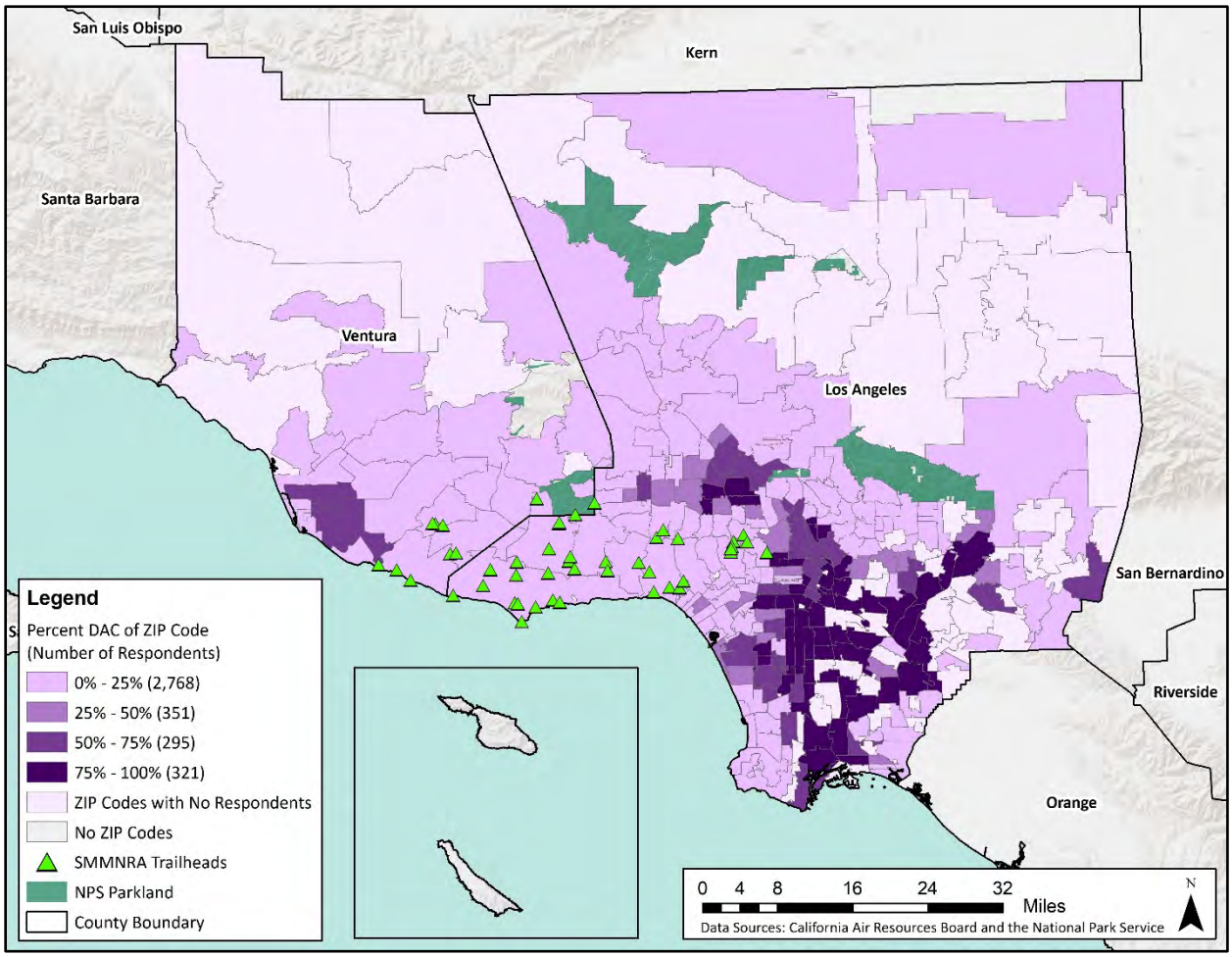
Across all counties in Southern California, the average survey respondent traveled from a ZIP code with an area made up 17% of DAC census tracts (Table 3-13). ZIP codes in Los Angeles County included a higher percentage of DAC tracts (19%) than both Orange County (14%) and Ventura County (8%). The number of respondents from other counties was small, which may explain why the percent of DAC tracts within those ZIP codes was higher than for Los Angeles County. As shown in Figure 3-9, ZIP codes with the highest percentage of DAC tracts (75%-100%) were predominantly located in Los Angeles County. It should be noted that these maps only show the percent of DAC tracts within ZIP codes which had survey participants, not the percent of DAC tracts within all ZIP codes in southern California.

Table 3-13. Percent of DAC Tracts Based on Respondent's ZIP Code, by County (Southern California Region)

	N.	Mean	S.D.
Kern	4	55.4%	26.6%
Los Angeles	3,016	19.2%	31.1%
Orange	52	13.6%	17.8%
Riverside	11	26.7%	26.4%
San Bernardino	18	26.0%	28.7%
San Diego	10	0.0%	0.0%
San Luis Obispo	1	0.0%	.
Santa Barbara	9	0.0%	.
Ventura	719	8.0%	19.4%
Sample Avg.	3,840	17.0%	29.4%

1. The difference in mean percent DAC of ZIP code is statistically significant at $P<0.05$ between Kern and L.A., Kern and Orange, Kern and San Diego, Kern and San Luis Obispo, Kern and Santa Barbara, Kern and Ventura, L.A. and San Diego, L.A. and San Luis Obispo, L.A. and Santa Barbara, L.A. and Ventura, Orange and San Diego, Orange and San Luis Obispo, Orange and Santa Barbara, Riverside and San Diego, Riverside and San Luis Obispo, Riverside and Santa Barbara, San Bernardino and San Diego, San Bernardino and San Luis Obispo, San Bernardino and Santa Barbara, San Bernardino and Ventura, San Diego and Ventura, San Luis Obispo and Ventura, and Santa Barbara and Ventura. Note that cell sizes approach 0.

Figure 3-9. Percent DAC Tracts Based on Respondent's ZIP Code (Los Angeles and Ventura Counties)



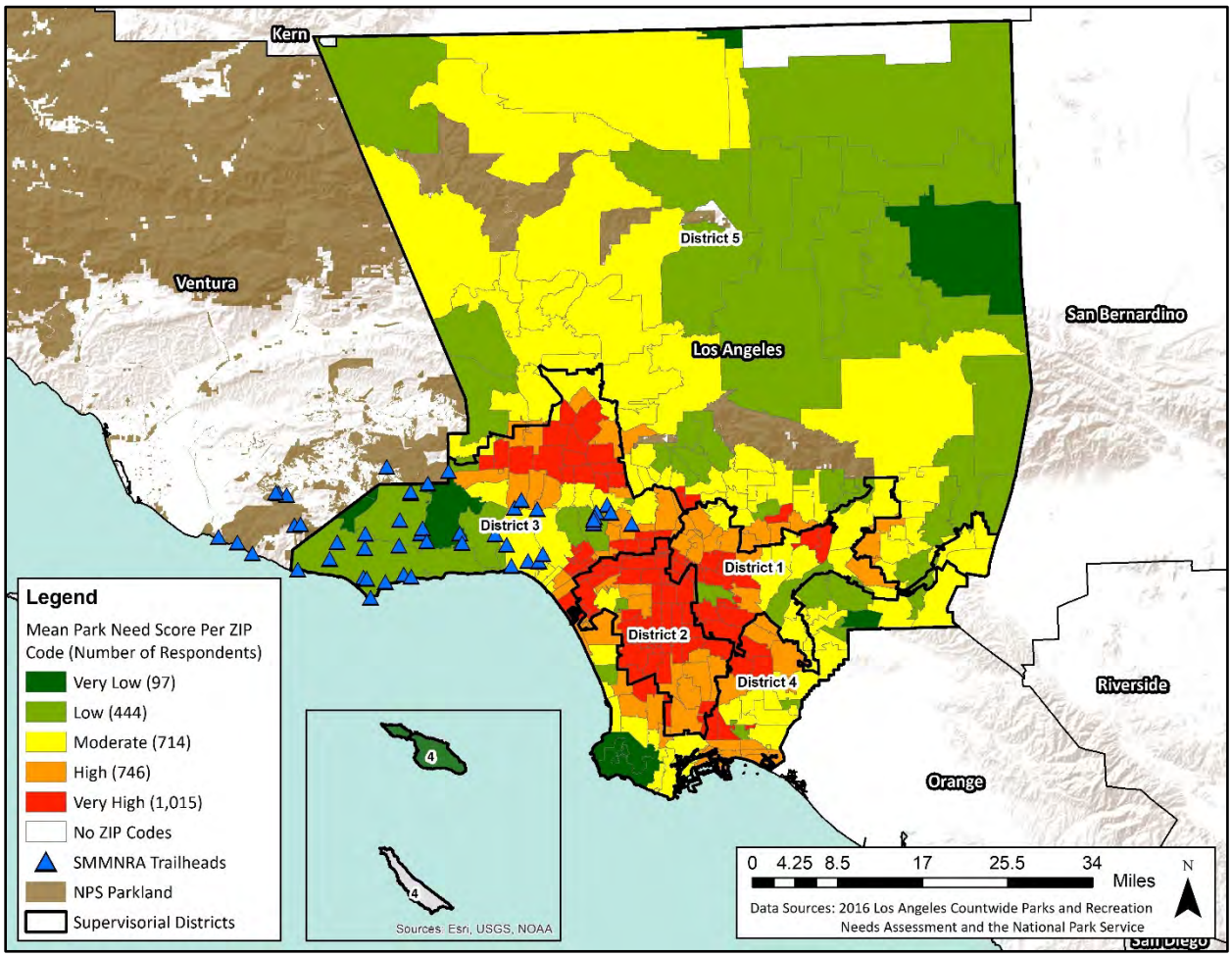
Mean Park Need Score Analysis

The mean "park need score" was assessed across L.A. County Supervisorial Districts, as well as the City of Los Angeles Area Planning Commission zones. The mean park need score was derived from the 2016 Los Angeles Countwide Parks and Recreation Needs Assessment. [15] The assessment inventoried over 3,000 park and open space facilities and nearly 9,500 amenities to measure park land (acres per 1,000 residents), park access (number of residents who live within one-half mile from a park), and park pressure (park size in relation to surrounding population density). These three factors were used to determine the final park need score (from 1=Very Low Need, to 5=Very High Need). For example, locations with a combination of few available park acres, away from existing parks, and with a high population density have a greater need for parks than areas with many available park acres, close to existing parks, and with low population density (Placeworks 2016, 2-47).

[15] Data on park need obtained from the 2016 Los Angeles Countywide Comprehensive Parks & Recreation Needs Assessment. To view the report and downloadable data, please see: https://lacountyparkneeds.org.

Figure 3-10 shows the average park need score for ZIP codes in Los Angeles County, along with the boundaries for the county supervisorial districts. While the original park need score was assigned as an integer value between 1 (Very Low) and 5 (Very High), the values show in Figure 3-10 represent the mean park need score of several spatial units, and thus the scale for assessment is Very Low (<=1.0), Low (1.01 – 2.0), Moderate (2.01 – 3.0), High (3.01 – 4.0), or Very High (>4.0). While District 2 has both a high number and spatial concentration of ZIP codes with Very High park need, others (such as District 3) have a more equal mix and distribution of Low and High park need across ZIP codes.

Figure 3-10. Mean Park Need Score, by ZIP Code and Supervisorial District



Of particular interest are areas where ZIP codes with High or Very High park need overlap with ZIP codes with a high percentage of DAC tracts. It is also important to analyze the districts from which respondents most commonly visited the trailheads. For example, it can be seen in Table 3-14 that the fewest respondents (N=121) traveled from Supervisorial District 1 to the SMMNRA at the time of the survey. Moreover, the respondents from District 1 traveled from highly disadvantaged ZIP codes (71% DAC tracts on average) with High park need score (mean 3.8). Respondents from District 2 were from ZIP codes with moderately high mean percent DAC tracts (41%), and these ZIP codes had Very High park need on average (4.4). Although the respondents from District 3 visited from ZIP codes with a lower mean percent DAC tracts (13.6%), the mean park need score of these ZIP codes was still Moderate-High for the N=2,138 surveyed visitors.

Fewer respondents visited from ZIP codes in District 1, District 2, District 4, and District 5 compared to District 3. This is unsurprising, given that the ZIP codes in Supervisorial District 3 are closest to the SMMNRA and trailheads. However, these results are not necessarily reflective of overall park visitation trends from these districts (Table 3-14). Figure 3-10 reaffirms that the SMMNRA served a high proportion of respondents from park-poor ZIP codes and supervisorial districts in Los Angeles County; 34% of respondents traveled from ZIP codes with the highest park need (Very High) and almost 25% traveled from High Need ZIP codes.

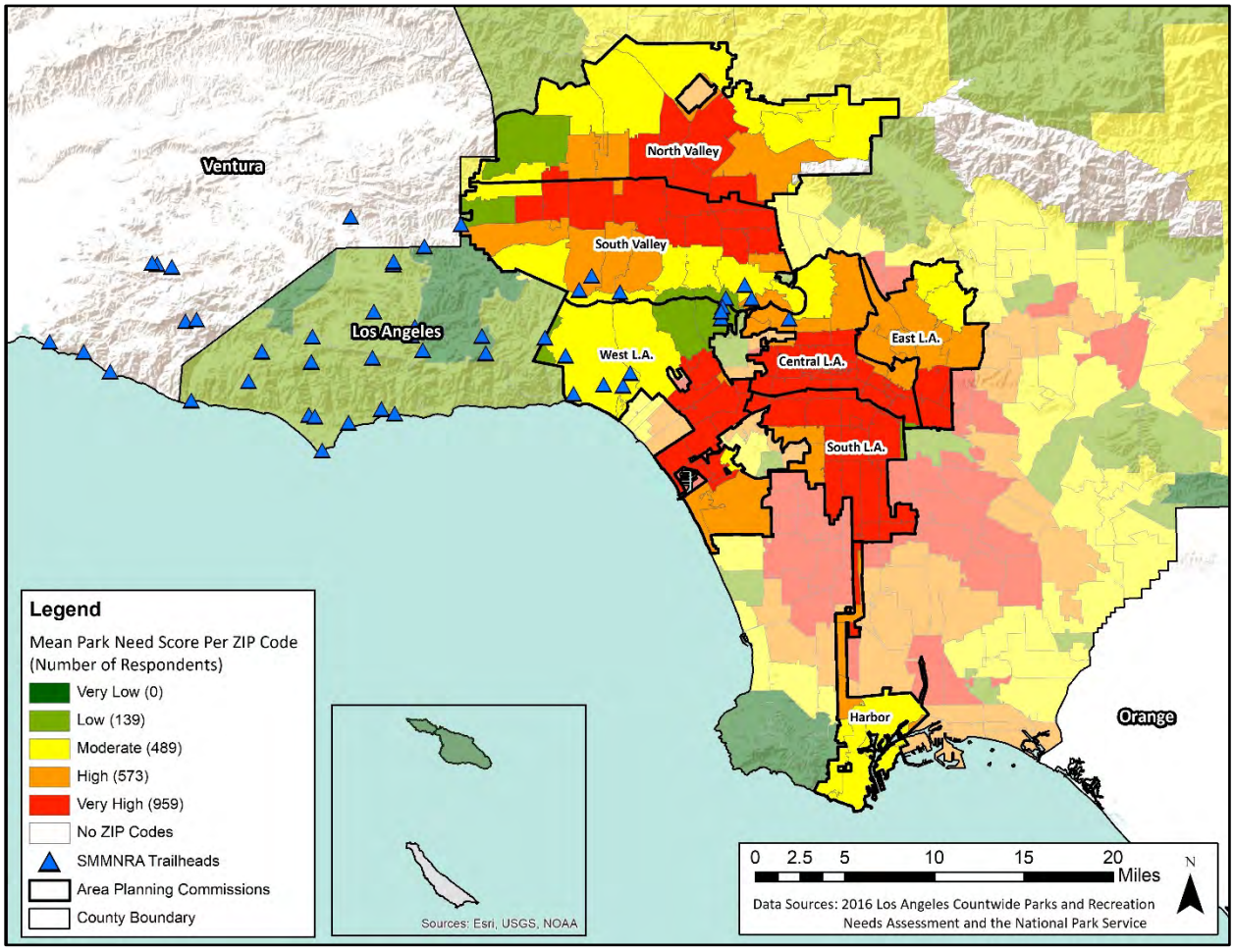
Table 3-14. Percent DAC and Mean Park Need Score of Respondent's ZIP Code, by Los Angeles County Supervisorial District

	Percent DAC of ZIP Code			Mean Park Need Score of ZIP Code			
	N.	Mean	S.D.	N.	Mean	Description	S.D.
District 1	121	71.2%	26.2%	121	3.8	HIGH	0.9
District 2	345	41.0%	40.4%	345	4.4	VERY HIGH	0.7
District 3	2,138	13.6%	25.7%	2,138	3.0	MODERATE	1.2
District 4	160	21.2%	30.9%	160	3.2	HIGH	1.0
District 5	252	11.0%	23.6%	252	2.5	MODERATE	0.7
Sample Avg.	3,016	19.2%	31.1%	3,016	3.2	HIGH	1.2

1. The difference in mean percent DAC is statistically significant at P<0.01 or below between all combinations of supervisorial districts, except between District 3 and District 5.
2. The difference in mean park needs score is statistically significant at P<0.05 or below between all combinations of supervisorial districts.

The final boundary for spatial analysis was conducted on L.A. neighborhood regions, delineated by the 7 City of Los Angeles Area Planning Commission (APC) zones. As mentioned above, all 321 respondents from highly disadvantaged ZIP codes (containing 75% - 100% DAC census tracts) were from L.A. County (Figure 3-10). Specifically, participants from south L.A. traveled from ZIP codes with the highest percentage of DAC census tracts (89%), which were also the most park-poor ZIP codes (mean park need score of 4.6/5) (Figure 3-11). Table 3-15 shows visitors from the L.A. Harbor region hailed from ZIP codes with a high percent of DAC census tracts (74%), though statistical significance could not be determined due to small cell sizes (N=7).

Figure 3-11. Mean Park Need Score, by ZIP Code and City of Los Angeles Area Planning Commission Region



The neighborhood regions closest to SMMNRA trailheads had the lowest percentage of DAC tracts on average, including West L.A. (5%), North Valley (18%), and South Valley (19%) (Table 3-15; Figure 3-11). Even these neighborhood regions had relatively high park need scores (3.9 in West L.A., 3.5 in North Valley, and 3.4 in South Valley). This is due, in part, because the APC zones encompass ZIP codes across the spectrum of park need scores (see Figure 3-10). Further spatial concentrations of high park needs ZIP codes can be seen within neighborhood boundaries (Figure 3-11). There appear to be a similar number of respondents who hailed from Central L.A. (N=463) and West L.A. (N=456), though regions such as South L.A. (N=73), East L.A. (N=65), and Harbor (N=7) were less represented in the visitor use survey results.

Table 3-15. Percent DAC and Mean Park Need Score of Respondent's ZIP Code, by City of Los Angeles Area Planning Commission Region

	Percent DAC of ZIP Code			Mean Park Need Score of ZIP Code			
	N.	Mean	S.D.	N.	Mean	Description	S.D.
Central L.A.	463	30.4%	36.6%	463	3.9	HIGH	0.7
East L.A.	65	58.7%	31.0%	65	3.4	HIGH	0.6
Harbor	7	74.3%	17.3%	7	3.0	MODERATE	0.1
North Valley	146	18.1%	24.8%	146	3.5	HIGH	1.0
South L.A.	73	88.7%	16.4%	73	4.6	VERY HIGH	0.7
South Valley	781	19.8%	28.0%	781	3.4	HIGH	1.0
West L.A.	456	5.4%	14.0%	456	3.9	HIGH	1.0
Sample Avg.	1,991	22.8%	32.4%	1,991	3.6	HIGH	0.9

1. The difference in mean percent DAC is statistically significant at P<0.001 between all combinations of APC regions, except between East and Harbor, Harbor and South, nor North Valley and South Valley.
2. The difference in mean park need scores is statistically significant at P<0.001 between all combinations of APC region, except between Central and West, East and North Valley, East and South Valley, nor North Valley and South Valley.

4 Planning and Travel to SMMNRA for Different Visitor Types

The SMMNRA Long Range Interpretive Plan 2011-2012 (LRIP) cites the need to accommodate various visitor types who may have different goals for their visit. The document indicates that many regular visitors arrive with planned, specific activities, while others, especially first-timers, come as casual visitors with non-specific goals. In order to plan for different types of visitors at SMMNRA, NPS organized potential goals for park visitors into experiential (do), cognitive (learn), emotional (feel), and behavioral (change behavior) categories. NPS also categorized visitors into various characteristics such as regular visitors, day trippers, commercial users, cultural heritage tourists, and 'virtual' visitors who only visit via the NPS website tours.

The LRIP also surveyed non-visitors and identified their reasons for not visiting the park, including safety concerns, lack of access or transportation, and lack of awareness. Additionally, NPS noted issues with park accessibility, especially the challenges posed by inconsistencies in parking information shown in web mapping services such as Google Maps versus the California State Parks sources. The LRIP provides cost- and time-effective recommendations for creating a recreation area that can accommodate different types of visitors, attract new visitors, and troubleshoot issues that hinder successful park experiences. A goal of the NPS is integrating new and emerging technologies to plan for SMMNRA visitors that more closely reflect the shifting demographics and public dynamics of Los Angeles and Ventura Counties.

Previous studies have shown that information-gathering methods for planning park visits may vary by demographic group. Different racial and ethnic groups exhibit different ways of finding parks and use different pieces of information to inform their visits. Baas et al. found that both Mexico-born and U.S.-born Hispanics preferred to use informal channels of communication (via word of mouth) (1993). On the other hand, more African Americans were found to use city or local parks instead of regional parks such as SMMNRA, while Whites preferred to use regional parks (Floyd, 1999). Korean and Hispanic subjects were also more likely to report that the availability of information in their language, presence of others in their own ethnic group, and the presence of staff knowing their customs were important park characteristics (Ho et al. 2005).

Additionally, compared to all other ethnic groups, African Americans were significantly more likely to value ethnic sensitivity/representation at the park, followed by Korean, Hispanic, and Chinese and White respondents; the Japanese were the least likely to place importance ethnic concerns (Ho et al. 2005). Ho et al. (2005) noted the importance for African Americans, in particular, may be due to the longstanding discrimination against African Americans in the U.S. To address different needs among different groups, Floyd (1999) recommends park management document any forms of discrimination experienced at the park and their impact on national park use, evaluate attitudes towards national parks, and identify communication issues experienced among racial and ethnic minorities.

Accordingly, the 2018 survey sought to understand how visitors plan their visit to SMMNRA and factors that influence their decisions to go to a particular trail. In this chapter, the following themes emerging from 2018 survey results are discussed: how visitors learned about the trailhead, sources used to navigate to the park, if visitors had trouble finding the park, travel time, mode of transport to SMMNRA, decisions for selecting a trail, and reasons why visitors did not do planned activities.

Learning About the Trailhead

The first question of the survey asked respondents how they learned about the trail or trailhead they were visiting on the day they participated in the survey. Table 4-1 shows that the predominant conduit for knowledge about the trail was friends, family, and/or acquaintances (62%), followed by "Other" sources (29%). Some of the common write-in responses within the "Other" category included living near the trail and websites such as Alltrails.com and Google. Crowd-sourced online trail information sites such as Alltrails, Yelp, Modernhiker were the main "Other" information source. A total of 486 of the 1,266 "Other" responses (38%) reported using these sites. There were no noteworthy differences in how survey participants learned about SMMNRA trails across income or race/ethnicity.

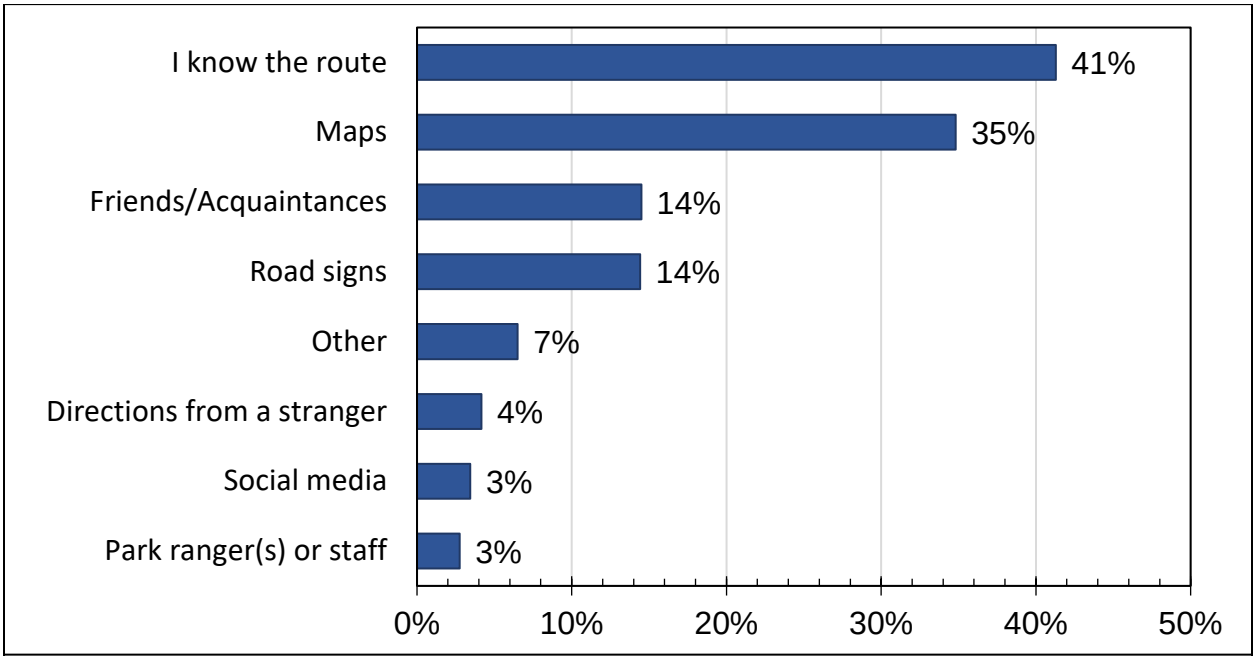
Table 4-1. How Respondents Learned About the Trail(head)

	N.	Pct.
Friends, family, or acquaintances	2,731	62.3%
Guidebook	118	2.7%
Agency website	100	2.3%
Instagram	96	2.2%
Facebook	92	2.1%
Newspaper	19	0.4%
Twitter	15	0.3%
Other	1,266	28.9%
Uncategorized	431	9.8%
Live(d) nearby	280	6.4%
Google	177	4.0%
Alltrails.com	167	3.8%
Drove by	62	1.4%
Google Maps	57	1.3%
	N.	Pct.
Yelp	42	1.0%
Modernhiker.com	20	0.5%
Hikespeak.com	23	0.5%
TV show	7	0.2%
Sample Total	4,381	N/A
1. Respondents could select more than 1 category, so the percentages do not add up to 100%.		

Navigation to the Trailhead

Respondents relied on a variety of strategies to navigate to the trailheads (Figure 4-1). Many of surveyed visitors reported that they already knew the route (41%), indicating familiarity with the SMMNRA. Almost 35% used digital or paper maps, while the proportion of those who received directions from friends or acquaintances or followed road signs was about 14% each. Respondents could select multiple navigation strategies, and therefore responses are non-exclusive.

Figure 4-1. Strategies Used to Navigate to SMMNRA Trailhead(s)



1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Previous studies have suggested that differences in navigation strategies across race/ethnicity may be important. Non-Hispanic White (46%) and Other (45%) respondents were the most likely to already know the route to the trailhead, while non-Hispanic Multiracial (53%) and Asian respondents (45%) were more likely to use digital or paper maps as their navigation strategy (Table A4-4). Relatively few survey participants across all racial and ethnic groups relied on asking a park ranger or a stranger, or using social media for directions, suggesting these strategies are underutilized, more difficult to use, or unreliable when navigating to SMMNRA trailhead(s). Moreover, there were statistically significant differences in navigation strategies when non-Hispanic White respondents were compared to all non-White respondents. Non-White visitors were more likely to utilize maps, social media, road signs, or ask a stranger to navigate to the park, while non-Hispanic Whites were more likely to report knowing the route already (Table 4-2).

Table 4-2. Strategies Used to Navigate to SMMNRA Trailhead(s), by Race/Ethnicity (White/Non-White)

	White		Non-White		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Maps**	758	33.6%	513	38.8%	1,271	35.5%
Social media**	64	2.8%	59	4.5%	123	3.4%
Road signs***	287	12.7%	245	18.5%	532	14.9%
Friends/Acquaintances	317	14.1%	213	16.1%	530	14.8%
Stranger***	62	2.7%	77	5.8%	139	3.9%
Park ranger/staff	61	2.7%	44	3.3%	105	2.9%
I know the route***	1,048	46.5%	418	31.6%	1,466	41.0%
Other	164	7.3%	76	5.7%	240	6.7%
Sample Total	2,255		1,322		3,577	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Considering other sociodemographic differences, women used maps and friends or acquaintances more frequently, while men claimed to already know the route at higher rates (Table A4-1). Respondents between 18 and 40 years old used maps, road signs, and asked strangers more often, and those who were over the age of 41 were much more likely to already know the route (Table A4-2). There are significant relationships between income and certain navigation approaches, with lower income visitors (<$50,000 a year) using maps and road signs at higher rates than those in higher income categories (95% confidence level). Inversely, higher income respondents (>$150,000 a year) were more likely to already know the route to the trailhead (Table A4-5).

Trouble Finding the Park

After identifying how respondents learned about and navigated to the park, trouble finding a particular trailhead was analyzed. The vast majority of visitors (95%) reported that they had no trouble finding their SMMNRA destination. Among those who did have trouble, there were no clear differences across gender or education.

However, there were slight differences depending on the age, race and ethnicity, and income of the respondent. A higher proportion of visitors aged 18 to 40 years old (6.3%) had trouble compared to middle age (3.2%) or older (1.4%) respondents (Table A4-7). More than 6% of non-Hispanic Black, Multi-racial, and Hispanic or Latino participants reported they had trouble finding the park (Table A4-9), and higher rates of non-White respondents had difficulty (6.4%) compared to non-Hispanic Whites (3.6%) (99.9% confidence level) (Table A4-10).

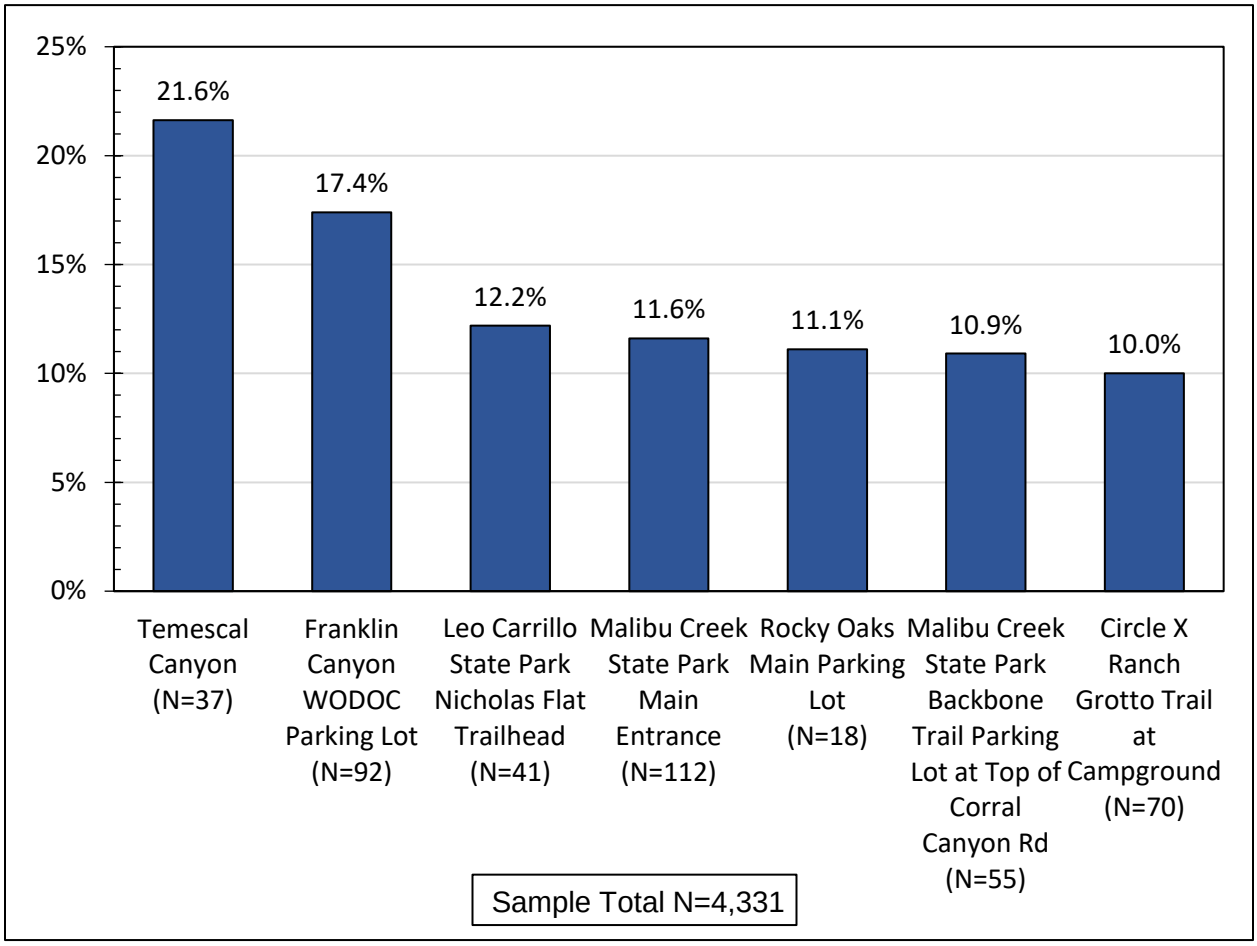
Furthermore, there seems to be a slight, inverse relationship between income and difficulty finding the trailhead (Table 4-3). Lower income respondents had more trouble (8%) than those in middle-income (5%) and higher-income (3%) brackets. The relationship between income and trouble finding the trailhead is statistically significant at the 99.9% confidence level.

Table 4-3. Trouble Finding Trailhead(s), by Income

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
<$50K	594	92.4%	49	7.6%	643	100.0%
$50K-$100K	817	95.2%	41	4.8%	858	100.0%
$100K-$150K	509	95.3%	25	4.7%	534	100.0%
>$150K	829	97.3%	23	2.7%	852	100.0%
Sample Total	2,749	95.2%	138	4.8%	2,887	100.0%
1. There is a statistically significant relationship between the two variables at P<0.001.						

Next, particular trailheads that were difficult to find were identified among the subset of respondents who indicated they had trouble finding their SMMNRA destination. A trailhead was identified as "hard-to-find" if more than 10% of respondents at a particular location had trouble finding it. Figure 4-2 shows the seven locations that meet this criteria, with Temescal Canyon ranked as the most difficult trailhead to find. Refer to Appendix 4 for a complete list of the proportion of visitors who had trouble finding the trailhead at each survey location.

Figure 4-2. Proportion of Respondents Who Had Trouble Finding Trailhead(s), by Trailhead



Travel Time to Trailhead(s)

Another component of planning trips to SMMNRA is the amount of time needed to get to the park. The survey asked participants the approximate number of hours and minutes it took them to travel from their home to the trailhead. Travel time ranged from 0 minutes to 6 hours and 30 minutes (N=3,877), and it took 25 minutes or less to arrive at the trailhead for about half of the respondents (Table 4-4). In general, 80% of survey participants spent less than one hour traveling to the park, indicating that a majority of SMMNRA visitors are local residents or others living in the greater Los Angeles metropolitan area. Compared to the 2002 survey, it appears that respondents spent an average of 6 more minutes travelling to the SMMNRA in 2018. However, once respondents were at the park, the average time spent in the park remained about 2.5 hours in both survey years.

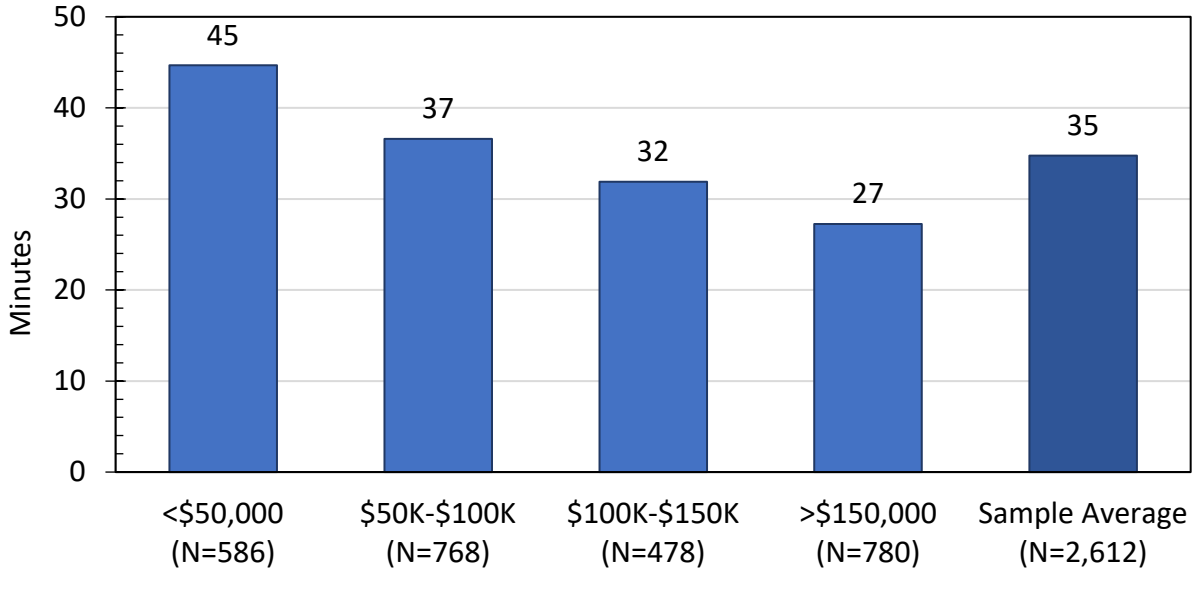
Table 4-4. Summary Statistics for Travel Time to SMMNRA Trailhead(s), by Survey Year

	2002	2018
N.	858	3,877
Mean***	27.9	33.9
Median	20	25
Std. Dev.	24.8	31.7
Min	1	0
Max	180	390

1. Two-sample difference in means test, *P<0.05, **P<0.01, ***P<0.001.

Figure 4-3 and Table 4-5 show the relationship between mean travel time, household income, and race and ethnicity. There is a statistically significant and inverse relationship between travel time and income. For example, respondents earning less than $50,000 spent over 45 minutes traveling to the trailhead, while those earning more than $150,000 spent an average of 27 minutes in their commute to the SMMNRA trailhead. This pattern suggests that people with greater household incomes tend to live closer to the park, which may make it more convenient to make frequent or repeat visits.

Figure 4-3. Mean Travel Time to SMMNRA Trailhead(s), by Income



1. The differences in mean travel time across all combinations of income groups are statistically significant at P<0.05.

While mean travel time varied according to the racial and ethnic groups respondents identified with (Table A4-14), the difference in minutes traveled was only statistically significant between non-Hispanic Whites and all non-White respondents combined (95% confidence level or above). As shown in Table 4-5, non-White visitors spent nearly 11 additional minutes (41 minutes) traveling to the park than non-Hispanic Whites (30 minutes). It appears that travel time is less of a barrier for affluent and non-minority visitors. Furthermore, surveyed visitors in the youngest age category (18 – 40 years) spent 12 more minutes traveling to the park than those 41 – 64 years old, and 17 more minutes than those 65 or older (Table A4-12).

Table 4-5. Mean Travel Time to SMMNRA Trailhead(s), by Race/Ethnicity (White/non-White)

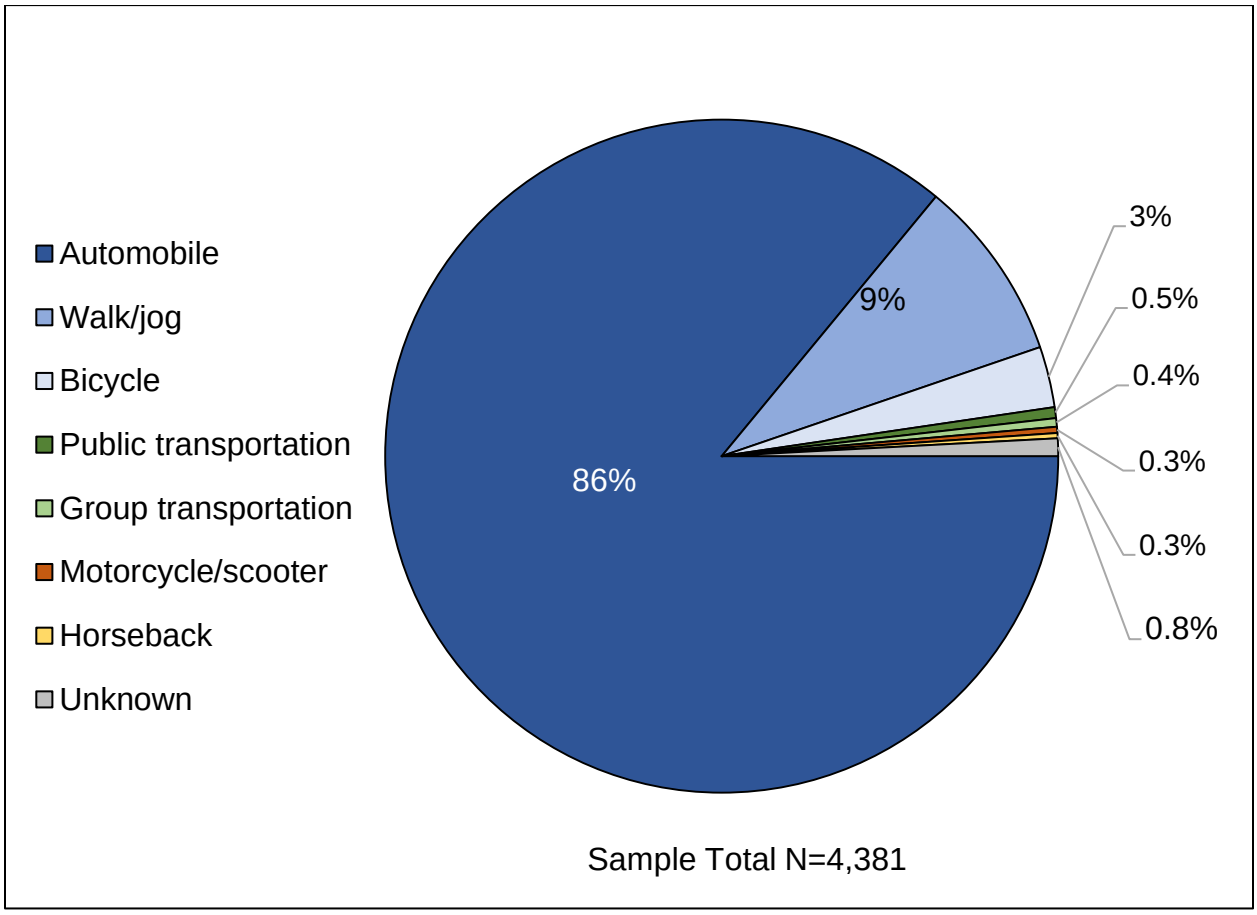
	N.	Mean	S.D.
Non-Hispanic White	2,005	29.8	28.0
Non-White	1,190	40.6	36.1
Sample Avg.	3,195	33.9	31.7
1. The difference in mean travel time is statistically significant at P<0.001.			

Common Modes of Transport to SMMNRA

In addition to a question about travel time, survey participants were asked how they traveled to the trail. Examining this variable reveals the most common modes of transportation used by a typical SMMNRA visitor. Overwhelmingly, respondents reported driving to the trailhead (86%), followed by walking or jogging (9%) and biking (3%) (Figure 4-4). Less than 3% of survey participants took public transportation, or other modes such as horseback, motorcycle, or scooter.

Travel time is related to the mode of transport used to get to SMMNRA. Those who used motorized vehicles (such as cars, SUVs, and trucks) to arrive were expected to have taken longer to travel to the park, while those who walked, jogged, biked or on horseback were expected to take less time. The results support these hypotheses (see Appendix 4, Table A4-15).

Figure 4-4. Mode of Transportation to SMMNRA Trailhead(s)



There were no major differences in mode of transport across education, but there were significant trends based on the reported gender, age, race/ethnicity, and income of the respondent (95% confidence level or above). Those who were more likely to arrive at the trailhead in an automobile included female, youngest age group (18 – 40 years), and non-White respondents. Males were much more likely bike to the trailhead (5% versus less than 1% of females) (Table A4-16). Given that nearly 75% of mountain bikers who participated in the survey identified as male (N=367) versus female (N=123), this finding makes intuitive sense. Respondents between 41 and 64 years old and those over 65 years old were more likely to arrive by bicycle, as well as by foot (walking/jogging) than younger respondents (Table A4-17). By contrast, surveyed visitors in the youngest age group, 18 to 40 years old, were much more likely to travel via automobile (94%) compared to middle age (85%) or older visitors (77%).

Higher proportions of non-Hispanic White visitors biked, walked, or jogged than all other racial and ethnic groups combined (Table 4-6). Though the cell sizes are small, there appears to be a statistically significant difference in the proportion of visitors who took public transportation, with non-White respondents using it at higher rates than non-Hispanic Whites. Overall, about 23% of surveyed trailheads were accessed by public transportation. The most common trailhead accessed via this mode was Runyon Canyon (N=12), followed by Escondido Canyon Winding Way Trailhead (N=2) and Topanga State Park Los Leones Trailhead (N=2).[16] Finally, while the number of visitors arriving by automobile slightly decreased as income increased, the frequency of those who biked, walked, or jogged to the trailhead was higher among higher income respondents (Table A4-20).

Table 4-6. Mode of Transportation to SMMNRA Trailheads, by Race/Ethnicity (White/Non-White)

	White		Non-White		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Automobile**	1,924	85.3%	1,171	88.6%	3,101	86.7%
Public transportation**	6	0.3%	13	1.0%	19	0.5%
Group transportation	8	0.4%	8	0.6%	16	0.4%
Motorcycle/scooter	6	0.3%	2	0.2%	8	0.2%
Bicycle***	79	3.5%	21	1.6%	100	2.8%
Walk/jog*	215	9.5%	94	7.1%	309	8.6%
Horseback	7	0.3%	2	0.2%	9	0.3%
Other	10	0.4%	5	0.4%	15	0.4%
Sample Total	2,255	100.0%	1,322	100.0%	3,577	100.0%
1. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.						

To assess trends over time, Table 4-7 analyzes changes in the mode of transport respondents took to get to the park between 2002 and 2018. There was a decrease in the percentage who came by car, truck, SUV, or van from 2002 (90%) to 2018 (86%). Furthermore, there were nearly two times as many respondents arriving on foot in 2018 than in 2002.[17] The low percentage of public transit visitors across both survey years indicates that accessibility via public transportation is either limited, inconvenient, or not a preferred travel mode.

[16] Additionally, at least 1 respondent reported taking public transportation to the following SMMNRA locations: Malibu Creek State Park Main Entrance, Paramount Ranch Main Parking Lost (Western Town Entrance), Point Mugu State Park Big Sycamore Canyon Trailhead, Solstice Canyon, Temescal Gateway Park, Top of Reseda Boulevard Main Parking Lot, and Zuma/Trancas Canyons Kanan Road Backbone Trail Trailhead.

[17] It should be noted that roughly 33% of the visitors who walked/jogged to the trailhead were surveyed at Runyon Canyon (N=127 out of N=384), which has high rates of foot traffic given its status as a hiker-only, urban-immersed park. It appears the proportion of respondents walking/jogging to the trailhead would have increased from 2002 to 2018 even if the Runyon Canyon visitors weren't included in the analysis (4.8% compared to 5.9%).

Table 4-7. Mode of Transportation to SMMNRA Trailhead(s), by Survey Year

	2002		2018	
	N.	Pct.	N.	Pct.
Automobile**	819	89.8%	3,767	86.0%
Public transportation*	0	0.0%	23	0.5%
Group transportation	1	0.1%	18	0.4%
Motorcycle/scooter	4	0.4%	13	0.3%
Bicycle	33	3.6%	128	2.9%
Walk/jog***	44	4.8%	384	8.8%
Horseback***	9	1.0%	11	0.3%
Other/Unknown*	2	0.2%	37	0.8%
Sample Total	912	100.0%	4,381	100.0%

1. Responses including using rideshare services (i.e., Lyft, Uber) were categorized as "Automobile."
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001

5 Distance Traveled Analysis and Implicit Valuation of Park Visits

In the realm of broader human leisure research, observed benefits from park access can indicate the value of access to parks. Recurrent themes in the literature regarding park benefits include public health, economic, environmental, and social benefits and travel costs (Gies, 2006; Poudyal et al., 2009; Harnik et al. 2017). Travel costs and willingness to financially contribute to parks can serve as indicators of value among visitors (Lockwood & Tracy, 1995; Herath & Kennedy, 2004). Travel cost was used to assess visitors' valuation of the SMMNRA.

Distance Traveled

The first step in assessing how visitors value access to the SMMNRA was to calculate the distance each respondent traveled to and from the park. Distance traveled was then used to estimate aggregate travel expenditures for each respondent, which included the cost of fuel, vehicle wear and tear, depreciation, and parking fees. To protect the privacy of the respondent, the survey did not ask for an exact home address. Rather, it asked participants to identify their ZIP code and the major intersection closest to their home. Due to the variability in quality of intersection data, ZIP codes centroids were used to represent the home location of respondents. The results presented in this section represent the estimated round-trip mileage that respondents traveled from their home zip code to their destination trailhead.

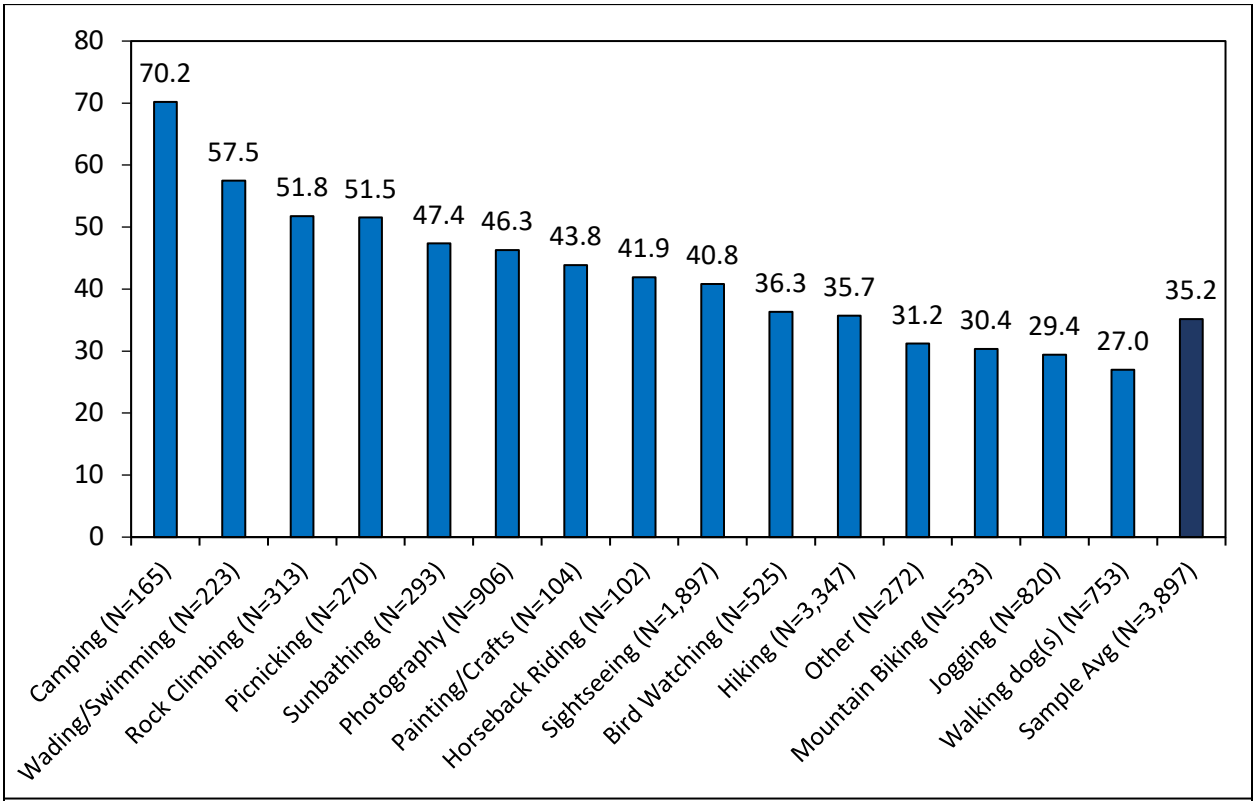
Respondents traveled about 35 miles to and from the park, on average (N=3,897). As shown in Table 5-1 and Figure 5-1, round-trip mileage differed depending on the mode of transportation and the activity that surveyed visitors engaged in. Those who arrived in cars, motorcycles or scooters, or via group transportation traveled more miles than the sample average. Unsurprisingly, respondents who arrived by foot, hoof, or wheel traveled significantly fewer miles round-trip than those who took automobiles or motorcycles (95% confidence level or above).

Table 5-1. Mean Round-Trip Miles Traveled, by Mode of Transportation

	N.	Mean.	S.D.
Automobile	3,394	37.8	38.1
Public transportation	14	30.7	30.9
Group transportation	8	61.3	55.3
Motorcycle/Scooter	9	48.5	36.4
Bicycle	113	16.9	14.2
Walk/Jog	339	14.4	25.6
Horseback	9	23.6	14.6
	N.	Mean	S.D.
Unknown	11	37.5	44.6
Sample Avg.	3,897	35.2	37.4
1. The difference in mean miles traveled is statistically significant at P<0.05 or below between Autmobile and Bicycle, Automobile and Walk/Jog, Automobile and Horseback, Motorcycle and Bicycle, and Motorcycle and Walk/Jog.			

Visitors who were camping at SMMNRA campgrounds traveled the furthest (70 miles round trip), perhaps reflecting a willingness to travel a longer one-way distance if they don't have to return home in the same day. Visitors who engaged in wading or swimming, rock climbing, and picnicking also traveled more than 50 miles round-trip, on average. In contrast, respondents who walked dogs, jogged, mountain biked, or engaged in other activities traveled fewer round-trip miles than the sample average of 35 miles. This is likely due to living in close proximity to the trailhead, and may be positively correlated with income as well. As the previous mode of travel results (Ch. 4) highlighted, respondents who walked, jogged, or biked to the trailhead had the shortest travel times, and were more likely to engage in these travel modes if they had higher household incomes.

Figure 5-1. Mean Round-Trip Miles Traveled, by Activity



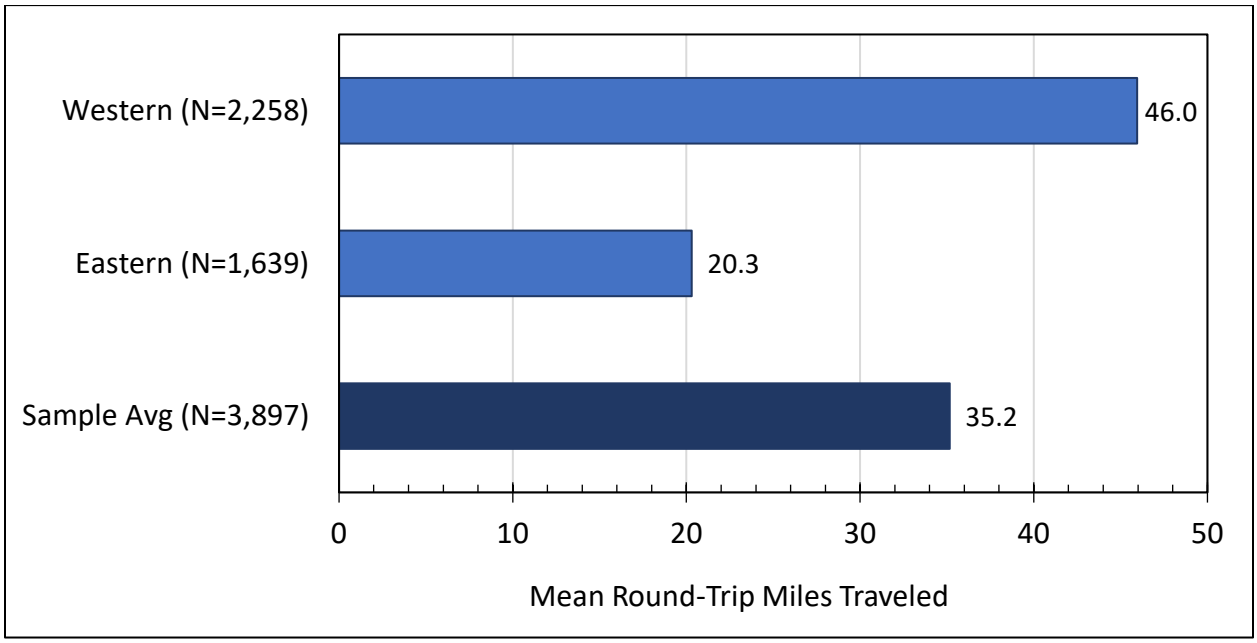
1. Respondents could select more than 1 category, so the N's do not add up to the Sample Total.

There were clear differences in round-trip mileage traveled across the 43 surveyed trailheads (Table A5-2). For instance, visitors to Leo Carrillo State Park Nicholas Flat Trailhead (95.2 miles) and Circle X Ranch Grotto Trail (92.6 miles)[18] traveled the furthest distances, while visitors to Wilacre Park (11.9) and Franklin Canyon Hastain Trailhead (11.9) had the shortest round-trip distances. In terms of western and eastern designation, respondents traveled more than twice as far (46 miles) to reach western trailheads than eastern ones (20 miles) (Figure 5-2).

Though the subsamples were too small in many cases to determine statistical significance, there were significant differences in distance traveled between non-Hispanic White and all non-White visitors across certain trailheads (Table A5-3). Non-White respondents who were surveyed at Charmlee Wilderness Park, Runyon Canyon, Solstice Canyon, Topanga State Park Los Leones Trailhead, Topanga State Park Sullivan Ridge Fire Road, Topanga State Park Santa Ynes Trailhead, Zuma Canyon Bonsall Trailhead, and Zuma Ridge Busch Trailhead had higher round-trip mileages than non-Hispanic Whites (95% confidence level or above). Only at Upper Las Virgenes Canyon (Las Virgenes Road North) did non-Hispanic White visitors travel further round-trip (18.6 miles) than non-White visitors (11.5 miles).

[18] Both of these sites are adjacent to campgrounds, which likely explains the longer average distances for visitors to these two sites.

Figure 5-2. Mean Round-Trip Miles Traveled, by Eastern vs. Western Trailheads



The distance traveled to visit the SMMNRA varied significantly across sociodemographic characteristics, including age, race and ethnicity, and income (95 % confidence interval or above). Respondents between 18 and 40 years old traveled more miles (43) than those 41 to 64 years old (29 miles) or those over the age of 65 (22 miles) (Table A5-5). In terms of race and ethnicity, non-Hispanic White visitors had a lower round-trip mileage (32 miles) than both non-Hispanic Asian and Hispanic/Latino visitors (more than 42 miles) (Table A5-7). Comparing respondents by race and ethnicity, non-White visitors traveled nearly 10 miles more on average than non-Hispanic Whites to get to and from the park (Table A5-8). Finally, Table 5-2 shows there is a clear, inverse relationship between distance traveled and income. Respondents in the lowest income category (less than $50,000 per year) traveled nearly 15 miles more than those in the highest income bracket (more than $150,000 per year).

Table 5-2. Mean Round-Trip Miles Traveled, by Income

	N.	Mean	S.D.
<$50K	587	44.9	41.6
$50K-$100K	754	37.8	36.0
$100K-$150K	491	35.3	38.5
>$150K	795	30.0	35.6
Sample Avg.	2,627	36.6	38.0
1. The difference in mean miles traveled is statistically significant at P<0.05 or below between all combinations of income groups, except between $50-$100K and $100-$150K.			

Aggregate Economic Value of Park Visits

The total economic value of visiting the SMMNRA can be estimated using the mileages calculated above to sum respondents' travel and parking expenditures. The first part of this equation, the amount of money spent on fuel and transportation to the park, depended on the mode of transportation and the distance traveled by respondents. As detailed in Chapter 4 of this report, the dominant mode of transportation was automobiles, followed by walking or jogging, bicycles, unknown, public transportation, group transportation, motorcycles or scooters, and horseback. Respondents who arrived by foot, wheel, or hoof were assumed to have no monetary travel costs. A total travel expenditure of $3.50 was assumed for those who took public transportation, which is the cost of L.A. Metro's round-trip bus fare.[19] No assumptions for travel-related expenditures could be made for respondents for whom the mode of travel was unknown (N=37), and these visitors were excluded from the analysis.

The value of respondents' trips from their homes (ZIP code centroid) to the trailhead was estimated for respondents who arrived at the park by automobile, group transportation, or by motorcycle. This entailed multiplying the total round-trip distance traveled by the Internal Revenue Service's standard mileage reimbursement rate. In 2018, the reimbursement rate was $0.545 per mile for automobiles and motorcycles alike (Internal Revenue Service). For N=7 respondents who arrived via group transportation, the value of reimbursable travel costs was divided by the number of people in the respondent's group (if they reported their group size). This travel-related expenditure could be calculated for N=3,957 survey respondents (mean=$17.81, range=$0.00 to $181.25).

Second, respondents' self-reported camping and parking costs, when applicable, were added to travel expenditures. The majority of surveyed visitors had no parking costs (90%), and only N=428 paid for parking. A total of N=3 respondents paid a camping fee ($10.00) which was added to their costs.[20] For N=25 respondents who indicated that they paid for parking but did not write in the amount, the applicable parking fees were added based on the trailhead they visited ($5.00 - $12.00).[21] This resulted in an estimate for the total economic value of park access for N=3,855 surveyed visitors (mean=$18.56, range=$0.00 to $183.35).

[19] All respondents who took public transportation were from Los Angeles County. None were over the age of 62, and thus would not have paid a discounted Senior fare.

[20] Respondents who reported paying camping fees were visiting the Point Mugu State Park Chumash Trailhead, where the fee is $10. More information on camping fees for the SMMNRA can be found at: https://www.nps.gov/samo/planyourvisit/fees.htm.

[21] More information on parking fees for specific SMMNRA trailheads can be found at: https://www.nps.gov/samo/planyourvisit/feesandreservations.htm.

The results of the aggregated travel costs, along with respondents' self-reported travel times (which lowers the subsample to N=3,629), are presented below. While travel time is related to distance, and distance is the main driver of the value of access, instances do occur where mean travel time diverges from the overall trends related to cumulative travel expenditures.

Respondents hailing from ZIP codes in Los Angeles and Ventura had similar aggregate travel expenditures, at $17.14 and $15.39 respectively (Table A5-9). Though sample sizes were too small to determine statistical significance in most cases, Table 5-3 shows that visitors who arrived by automobile had a higher mean economic value of access ($21.36) than those who took public transportation ($5.21), biked ($0.00), walked or jogged ($0.00), or rode a horse ($0.00) (95% confidence level or above). Taking round-trip travel time into consideration, there is a clear trade-off for those who took public transportation—this mode had the lowest combined travel costs with the highest travel time. Among non-motorized modes of transportation, the economic value of access was the same across the board ($0.00), yet those who biked spent the most time traveling to the park (69 minutes), compared to those who walked or jogged (43 minutes) or those who arrived on horseback (35 minutes).

Table 5-3. Aggregate Value of Access and Travel Time to Trailhead, by Mode of Transportation

	Aggregate Value of Access			Round Trip Travel Time		
	N.	Mean	S.D.	N.	Mean	S.D.
Automobile	3,146	$21.36	$21.21	3,146	69.5	61.7
Public transportation	14	$5.21	$4.36	14	107.1	70.0
Group transportation	7	$16.26	$10.71	7	59.4	21.8
Motorcycle/Scooter	8	$23.66	$19.27	8	75.0	55.0
Bicycle	115	$0.00	$0.00	115	68.7	89.9
Walk/Jog	331	$0.00	$0.00	331	42.9	57.2
Horseback	8	$0.00	$0.00	8	34.8	$44.84
Sample Avg.	3,629	$18.66	$21.06	3,629	67.1	62.8

1. The difference in mean aggreagate value of access is statistically significant at P<0.05 or below between all combinations of modes, except between Automobile and Group Transportation, Automobile and Motorcycle, Group Transportation and Motorcycle, Bicycle and Walk/Jog, Bicycle and Horseback, and Walk/Jog and Horseback.
2. The difference in mean travel time is statistically significant at P<0.05 or below between Automobile and Walk/Jog, Public Transportation and Walk/Jog, Public Transportation and Horseback, and Bicycle and Walk/Jog.

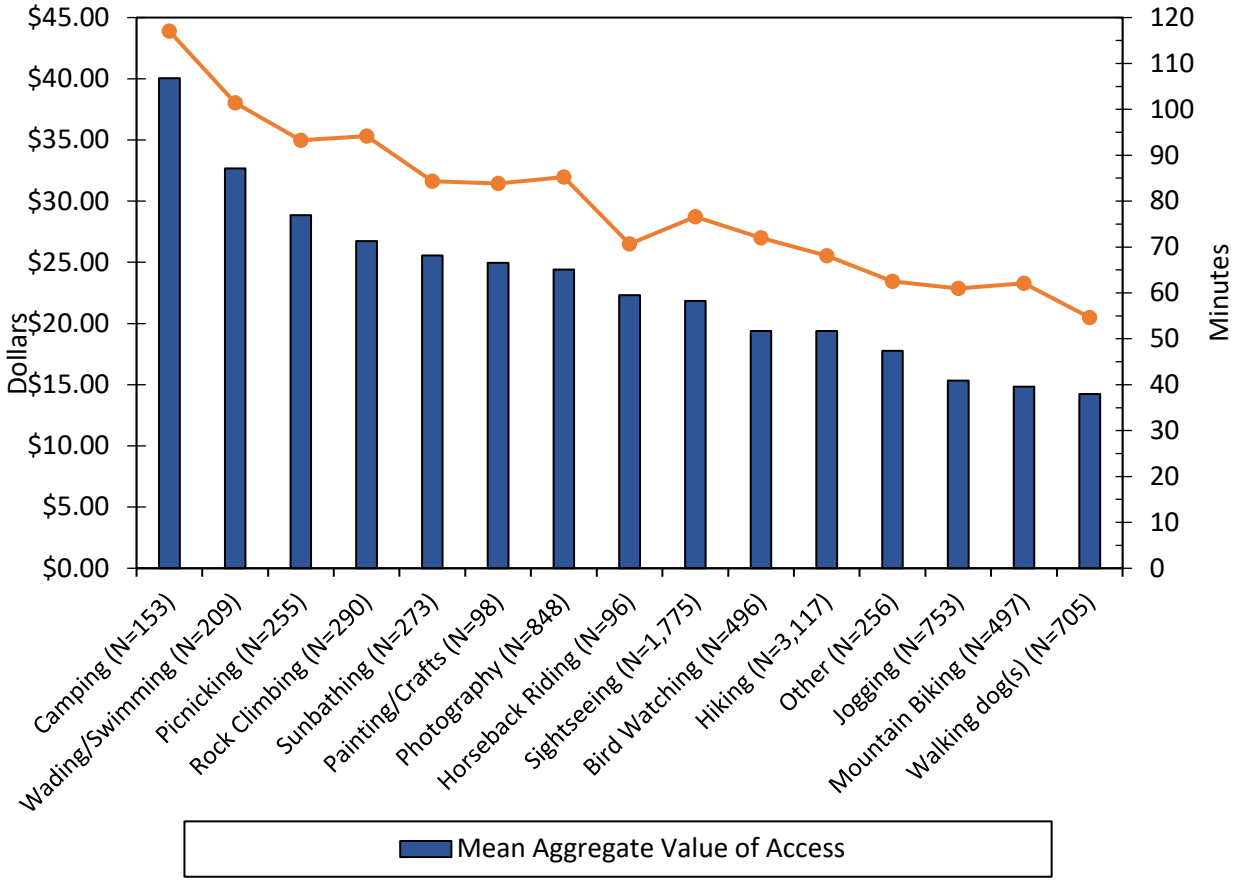
Figure 5-3 shows a willingness among survey participants to spend significantly more time and money traveling to engage in certain activities at the SMMNRA over others, particularly camping and wading or swimming. There is a mostly linear, positive relationship between total access value and round-trip travel time. Namely, activities with higher aggregate travel expenditures are associated with higher travel times. However, visitors who rock-climbed or mountain biked spent more time traveling to the SMMNRA than the overall average suggests, while those who rode horses spent much less time traveling than the trend suggests. These

divergences are mainly explained by differences in the modes of transportation by these activities, and the mean travel times associated with varying modes.

As shown in Figure 5-3, mountain bikers had higher round-trip travel times than joggers, while both activities had similar access values ($14.85). This is due to a much higher share of mountain bikers arriving to the trailhead via bicycle (19%) than those who planned to jog (1%), and the higher travel time associated with biking (69 minutes) versus walking or jogging (43 minutes) as the mode of transportation.

Surveyed visitors who planned to engage in horseback riding had similar aggregate travel expenditures ($22.32) to sightseers ($21.75), yet spent about 6 minutes less traveling to the trailhead on average. While a high share of horseback riders (82%) arrived at the trailhead via automobile, unsurprisingly, a higher proportion arrived on horseback (8%) than respondents who planned to engage in other activities, for example sightseeing (0.2%). As shown in Table 5-3, horseback riding as the mode of transportation is associated with the lowest mean travel time.

Figure 5-3. Aggregate Value of Access and Travel Time to Trailhead, by Activity



1. Respondents could select more than 1 category, so the N's do not add up to the Sample Total.

The economic value of park access and mean travel times varied by trailhead and by the eastern versus western location of the trailhead. Similar to the round-trip mileage results, Leo Carillo State Park Nicholas Flat Trailhead ($52.96) and Circle X Ranch Grotto Trail ($45.82) had the highest aggregate transportation expenditures, as well as the highest round-trip travel times (152 minutes and 127 minutes, respectively) (Table A5-10). The trailheads with the lowest access value and mean travel time differed from the mileage results. Runyon Canyon ($5.20) and Fryman Canyon Nancy Pohl Overlook ($5.87) had the lowest aggregate travel costs, while Upper Las Virgenes Canyon Victory Trailhead (30 minutes) and Fryman Canyon Nancy Pohl Overlook (31 minutes) had the lowest round-trip travel times. Table 5-4 shows how, in general, trailheads located west of Topanga Canyon Boulevard had a higher economic value of access and travel time ($24.41 and 76 minutes) than trailheads east of the highway ($10.73 and 55 minutes).

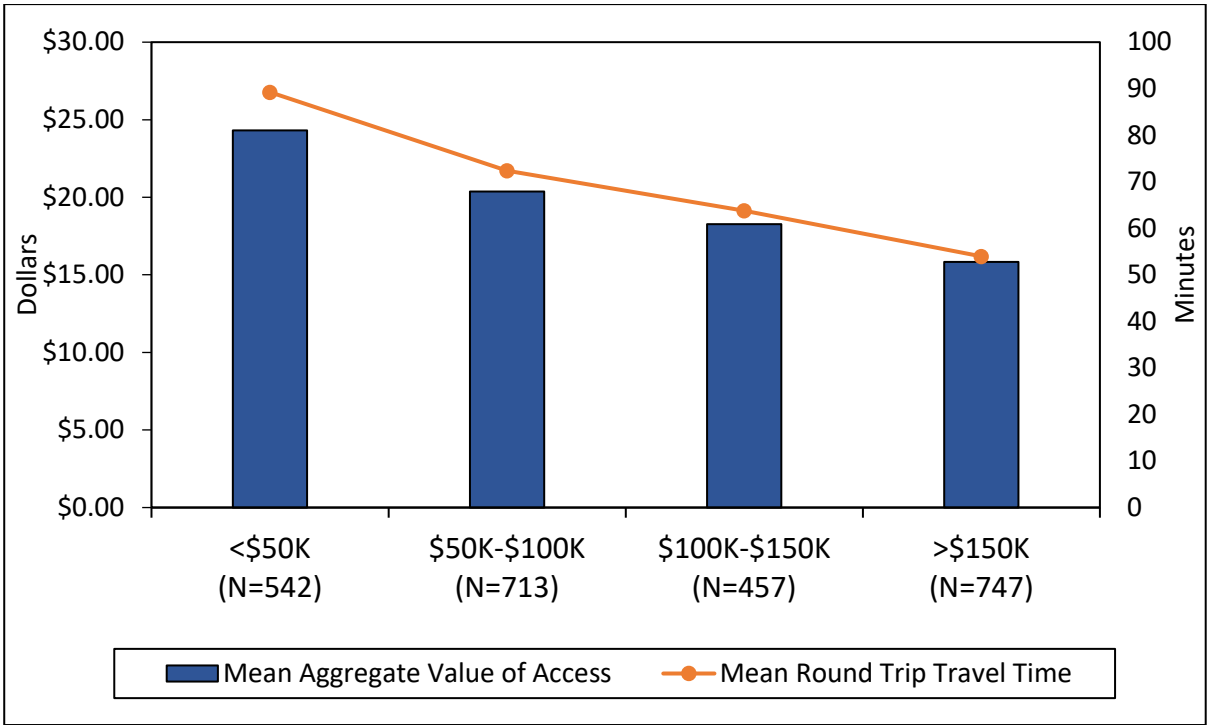
Table 5-4. Aggregate Value of Access and Travel Time to Trailhead, by Eastern vs. Western Trailheads

	Aggregate Value of Access			Round Trip Travel Time		
	N.	Mean	S.D.	N.	Mean	S.D.
Western	2,093	$24.41	$23.95	2,093	76.0	65.5
Eastern	1,536	$10.73	$12.41	1,536	55.0	56.7
Sample Avg.	3,629	$18.62	$21.02	3,629	67.1	62.8
1. The difference in mean aggregate value of access is statistically significant at P<0.001. 2. The difference in mean travel time is statistically significant at P<0.001.						

There were also statistically significant differences across certain sociodemographic variables (95% confidence level or above). For one, female respondents had a higher aggregate valuation of park access ($19.47) than males ($17.81), though minutes traveled remained constant across gender (Table A5-11). There was an inverse relationship between cumulative access value with travel time and both age and income. Surveyed visitors in the youngest age group (18 to 40 years) spent significantly more in combined transportation costs and travel time ($22.99 and 81 minutes) than middle age ($15.10 and 55 minutes) or visitors over the age of 65 ($9.97 and 45 minutes) (Table A5-12).

Respondents in the lowest income category had the highest costs associated with park access ($24.30) and spent the most time traveling to the trailheads (90 minutes) (Figure 5-4). By contrast, respondents earning more than $150,000 a year spent on average the least time and money traveling to the park ($15.83 and 54 minutes). This demonstrates that the lowest income households are disproportionately expending more resources, both monetary and non-monetary (time), in order to visit the SMMNRA.

Figure 5-4. Aggregate Value of Access and Travel Time to Trailhead, by Income



1. The difference in mean amounts is statistically significant at P<0.05 or below between all combinations of income groups, except between $50-100K and $100-150K.
2. The difference in mean travel time is statistically significant at P<0.05 or below between all combinations of income groups.

Wide variation exists in the aggregate value of park access and travel time across race and ethnicity (Table 5-5). Though some sub-samples are too small to determine statistical significance (i.e., American Indian or Native Alaskan, Native Hawaiian or Pacific Islander), it appears that non-Hispanic White and Other respondents had the lowest cumulative travel expenditures ($16.65 and $16.96), though non-Hispanic White respondents traveled about 16 fewer minutes to reach the trailhead than Other respondents. On the other hand, mean access value was highest for visitors who were non-Hispanic American Indian ($29.25) and Hispanic or Latino ($23.22). The average round-trip travel time for these groups was also relatively high, at 71 minutes and 84 minutes, respectively. When comparing all non-Hispanic White respondents to all other respondents (all non-White respondents combined, including Hispanic/Latino respondents), the aggregate value of park access was more than $5 higher for non-White visitors ($22.35) than for non-Hispanic White visitors ($16.65) (Table A5-14). Non-White respondents also spent nearly 38% more time traveling to the trailhead (81 minutes) than non-Hispanic Whites (59 minutes).

Table 5-5. Aggregate Transportation Expenditures and Travel Time to Trailhead, by Race/Ethnicity

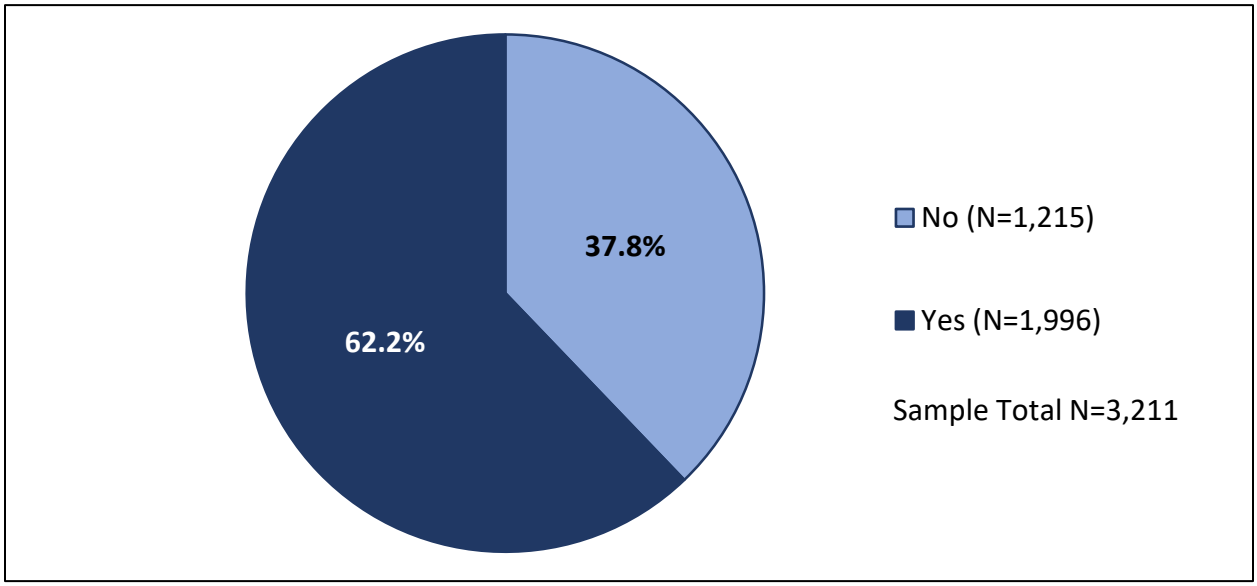
		Aggregate Value of Access			Round Trip Travel Time		
		N.	Mean	S.D.	N.	Mean	S.D.
Non-Hispanic	White	1,888	$16.65	$19.86	1,888	58.8	56.2
	Black	67	$17.69	$18.43	67	69.1	60.7
	Asian	223	$22.64	$21.06	223	81.6	67.7
	Am. Indian	30	$29.25	$42.33	30	70.7	75.4
	Pac. Islander	18	$20.36	$15.66	18	88.9	63.3
	Other	63	$16.96	$19.48	63	75.0	74.1
	2+ Races	80	$20.60	$17.92	80	72.2	50.9
Hispanic/Latino		639	$23.22	$23.63	639	84.2	77.2
Sample Avg.		3,008	$18.77	$21.22	3,008	67.1	63.6

1. The difference in mean travel exenditures is statistically significant at P<0.05 or below between White and Asian, White and Hispanic, and Other and Hispanic.
2. The difference in mean travel time is statistically significant at P<0.05 or below between White and Asian, and White and Hispanic.

Willingness to Financially Contribute to the SMMNRA

In addition to estimating the total economic valuation of park access, value was assessed in survey answers related to direct monetary contribution to the SMMNRA. The survey asked whether respondents were willing to financially contribute to the future upkeep and provision of services at the trailhead and trail. More than 62% of surveyed visitors said they would donate money to support upkeep of the SMMNRA (Figure 5-5). Of those who said "No," many reported the belief that they already contributed to park upkeep through their state and local taxes (26% of the N=60 respondents who provided a written response to this question). Another common explanation was not being able to afford a financial contribution, but expressing a willingness to contribute if their personal or household incomes were higher. Finally, some respondents indicated they were willing to contribute their time through volunteering rather than contribute a monetary amount.

Figure 5-5. Willingess to Financially Contribute to Future Park Upkeep



There were statistically significant differences in willingness to financially contribute across sociodemographic characteristics (95% confidence level or above). Respondents who self-identified as male, were over the age of 41, or were college-educated were more willing to financially contribute to future park upkeep (Table A5-15; Table A5-16; Table A5-17). Though willingness varied across race and ethnicity, significantly higher rates of non-Hispanic White participants (65%) would contribute money to future upkeep than all non-White participants combined (58%) (Table A5-18; Table A5-19). Unsurprisingly, Table 5-6 shows a clearly positive relationship between potential monetary contribution and household income. Higher income households are more willing to contribute financially than lower income households.

Table 5-6. Willingness to Financially Contribute to Future Park Upkeep and Service Provision, by Income level

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
<$50K	279	47.9%	344	59.0%	583	100.0%
$50K-$100K	295	38.9%	464	61.1%	759	100.0%
$100K-$150K	168	35.5%	305	64.5%	473	100.0%
>$150K	202	26.9%	549	73.1%	751	100.0%
Sample Total	944	36.8%	1,622	63.2%	2,566	100.0%
1. There is a statistically significant relationship between the two variables at P<0.001.						

6 Activities and Time Spent in SMMNRA for Different Visitor Types

Available literature suggests a variety of factors influence people's preferences for certain parks, whether or not they visit parks, and the activities they engage in once at the site. For instance, activity preferences may depend on a visitor's level of expertise in a specific activity. A study analyzing trail user preferences and motivation for visiting Alabama State Parks found that visitors with higher levels of expertise wanted more specialized experiences with a higher specificity of amenities (Crain 2014). Demographic factors may affect the type of activities people partake in at parks. For example, Kaczynski et al. (2013) analyzed visitors to four diverse parks in Kansas City, Missouri, and discovered male adults were more active in open spaces than female adults.

Past research has shown different ethno-racial groups prefer different park activities. Kaczynski et al. (2013) found that non-White youth were more active on paved trails compared to non-Hispanic White youth in Kansas City, and non-Hispanic White adults were more active on paved trails compared to non-White adults (Kaczynski et al. 2013). Baas et al. (1993) studied recreation in the Mecca Hills of the Mojave desert and reported that Hispanics were more inclined to partake in group-oriented sports and go picnicking, while Whites preferred hiking and walking. Floyd (1999) hypothesized the importance Hispanic households place on nuclear and extended family influenced observable differences. Byrne et al. (2009), based on the 2002 SMMNRA survey results, found that surveyed White respondents were more likely to go to the park for solitude, to see wildlife, or to enjoy scenery, and Asians more likely to visit for adventure sports. There were also ethno-racial dominated activities: most equestrians were White, while swimmers and picnickers were most likely Hispanic or Latino (Byrne et al. 2009).

This chapter analyzes the activities that respondents reported engaging in when visiting the SMMNRA. Activities are assessed by demographic and socioeconomic characteristics as well as by active versus passive forms of park use. Finally, trends in the amount of time spent in the park are explored. These results provide a comprehensive view of the types of visitors that prefer certain activities over others, which can help inform future park planning.

Active and Passive Forms of Park Use

To understand the overall forms of park use at SMMNRA, recreational use activities were classified as either active or passive, and then compared. The common planning reference to "active" versus "passive" recreation entails the presence of specialized facilities or equipment for active recreation versus the absence of specialized facilities for passive recreational. However, for the purposes of the 2018 survey (and the 2002 survey), "active" versus "passive" recreational activities were grouped into those involving aerobic exercise and covering distances or activities that are sedentary. The groupings were originally established in the 2002 survey: Active recreational uses include walking, jogging, mountain biking, rock climbing, wading and swimming, dog walking, and riding horses. Passive recreation includes sightseeing, camping, bird watching, painting or crafts, picnicking, sunbathing, and photography (Table 6-1).

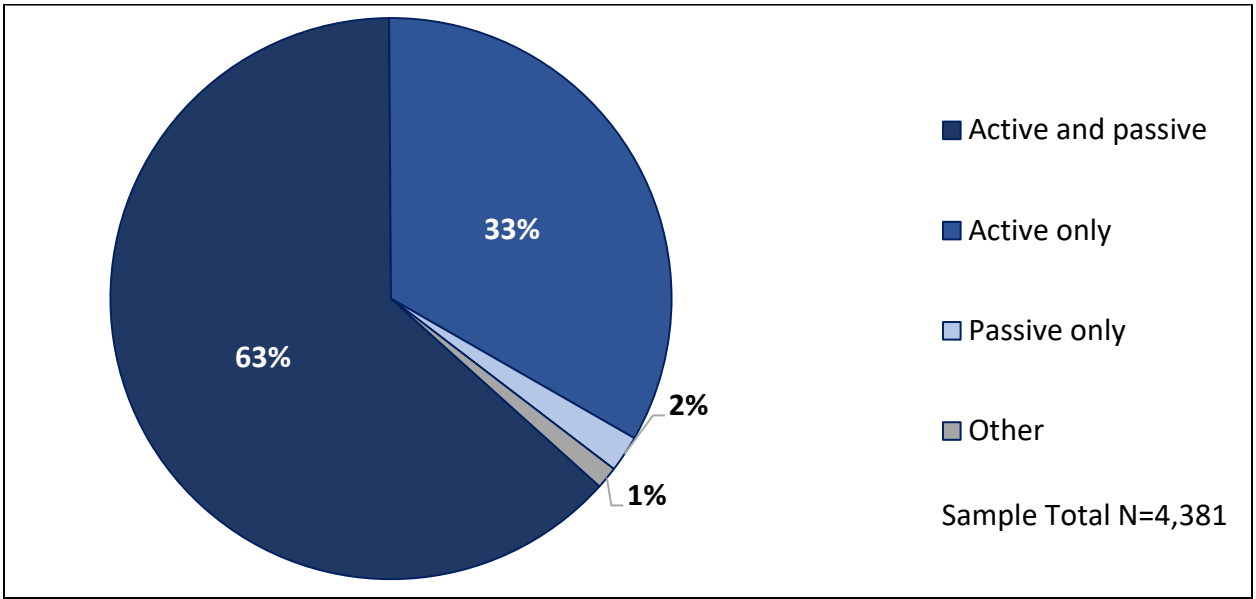
In the 2018 survey, respondents were asked to select up to three activities they planned to engage in while at the park. The selected recreational activities were classified based on the active and passive categories originally defined in the 2002 survey. Despite some observed differences in individual activity patterns, overall 2018 activity uses and their demographics were similar to those found in 2002. For instance, both the 2002 and 2018 surveys found hiking and sightseeing to be by far the most common activity on trails. Figure 6-1 shows that the majority of respondents (63%) engaged in a mix of both active and passive activities, and very few (N=92) respondents engaged solely in passive recreation.

Table 6-1. Forms of Park Use Categorization

	N.	Pct.
Active		
Hiking	3741	85.4%
Horseback Riding	117	2.7%
Jogging	885	20.2%
Mountain biking	580	13.2%
Rock climbing	355	8.1%
Wading/Swimming	279	6.4%
Walking dog(s)	796	18.2%
Passive		
Bird watching	585	13.4%
Camping	192	4.4%
Painting/Crafts	119	2.7%
Photography	1066	24.3%
Picnicking	318	7.3%
Sightseeing	2210	50.4%
Sunbathing	364	8.3%
Other	296	6.8%
Sample Total	4,381	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Figure 6-1. Active and Passive Forms of Park Use



1. Other refers to respondents who marked "Other" on the survey and/or wrote in an activity which was unable to be coded as active or passive.

Active and passive forms of park use vary by demographic factors. As shown in Table 6-2, forms of park use differed significantly by age group. In general, the proportion of visitors engaging in both active and passive activities decreased with increasing age. However, the proportion of active-only visitors increased with age. Regarding gender, slightly more females than males engaged in both active and passive activities (67% v. 62%), though females were more likely to engage in active recreation at a lower rate than males (27% v. 35%) (Table A6-1).

Table 6-2. Active and Passive Forms of Park Use, by Age of Respondent

	18 - 40 Years		41 - 64 Years		65+ Years		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Active and passive	1,434	74%	854	56%	135	48%	2,423	65%
Active only	435	23%	642	42%	131	47%	1,208	32%
Passive only	42	2%	22	1%	9	3%	73	2%
Other	15	1%	10	1%	5	2%	30	1%
Sample Total	1,926	100%	1,528	100%	280	100%	3,734	100%

1. There is a statistically significant relationship between the two variables at P<0.001.

Active and passive forms of park use varied across race and ethnicity and income. Non-Hispanic Whites were more likely than Asians and Hispanic/Latino respondents to pursue active recreation only (35% vs 25% and 28%, respectively) (Table A6-3). When all non-White respondents were compared to non-Hispanic Whites, there were statistically significant differences at the 99.9% confidence level. Higher proportions of non-White visitors engaged in both active and passive activities (70%) than non-Hispanic Whites (62%), while more White respondents (35%) engaged in only active recreation than non-White visitors (27%) (Table A6-4). Finally, Table 6-3 shows a significant relationship between income and forms of park use (99.9% confidence level). We find that engagement in both active and passive recreation decreases as income increases, but engagement in active recreation alone increases as income increases.

Table 6-3. Active and Passive Forms of Park Use, by Income

	<$50K		$50K - $100K		$100K - $150K		>$150K		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Active and passive	482	74.0%	589	68.1%	362	67.3%	493	57.3%	1,926	66.1%
Active only	146	22.4%	253	29.2%	166	30.9%	342	39.7%	907	31.1%
Passive only	17	2.6%	14	1.6%	8	1.5%	17	2.0%	56	1.9%
Other	6	0.9%	9	1.0%	2	0.4%	9	1.0%	26	0.9%
Sample Total	651	100.0%	865	100.0%	538	100.0%	861	100.0%	2,915	100.0%

1. Other refers to respondents who marked "Other" on the survey and/or wrote in an activity which was unable to be coded as active or passive.
2. There is a statistically significant relationship between the two variables at P<0.001.

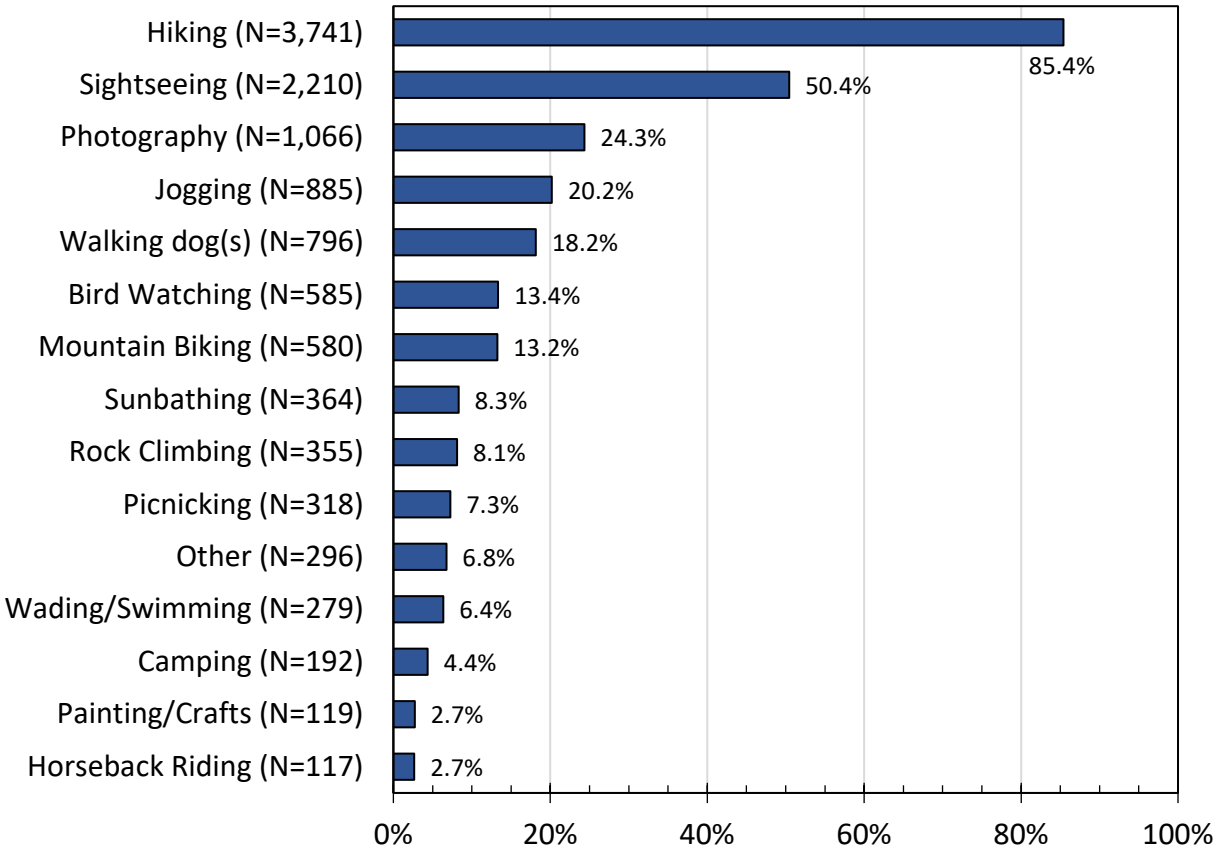
All Activities Engaged In At the Park

In addition to active and passive forms of recreation, this section assesses the relative importance placed on certain activities. These results were analyzed by age, gender, race and ethnicity, income, and education, and were compared to the 2002 survey results where applicable. As mentioned above, respondents could select up to three activities they planned to engage in while at the park, and had the option to rank them by level of importance (least important, moderately important, and most important).[22] Tables stratifying the level of importance of the activity with socioeconomic and demographic variables were omitted because the results reiterated the same trends shown by the broader sample of selected activities. In other words, the activities ranked "most important" also had the highest proportion of respondents engaging in them when importance ranking was omitted, while those ranked "least important" had the fewest respondents engaging in them.

Overwhelmingly, survey participants indicated plans to hike (85%), followed by sightseeing (50%), and photography (24%). The least common activities were painting and crafts, and horseback riding (3% for each activity) (Figure 6-2). As discussed in the section entitled "Respondent universe and respondent rate," since respondents were able to choose multiple categories for trail use activity, percentages of engaged activities add up to greater than 100%.

[22] While the original question asked respondents to rank three activities on a scale of 1-3, many respondents instead just marked their answers with no indication of preference. In this case, the answer was coded as "4", which indicated that the activity was marked but unranked.

Figure 6-2. All Activities Engaged In At SMMNRA

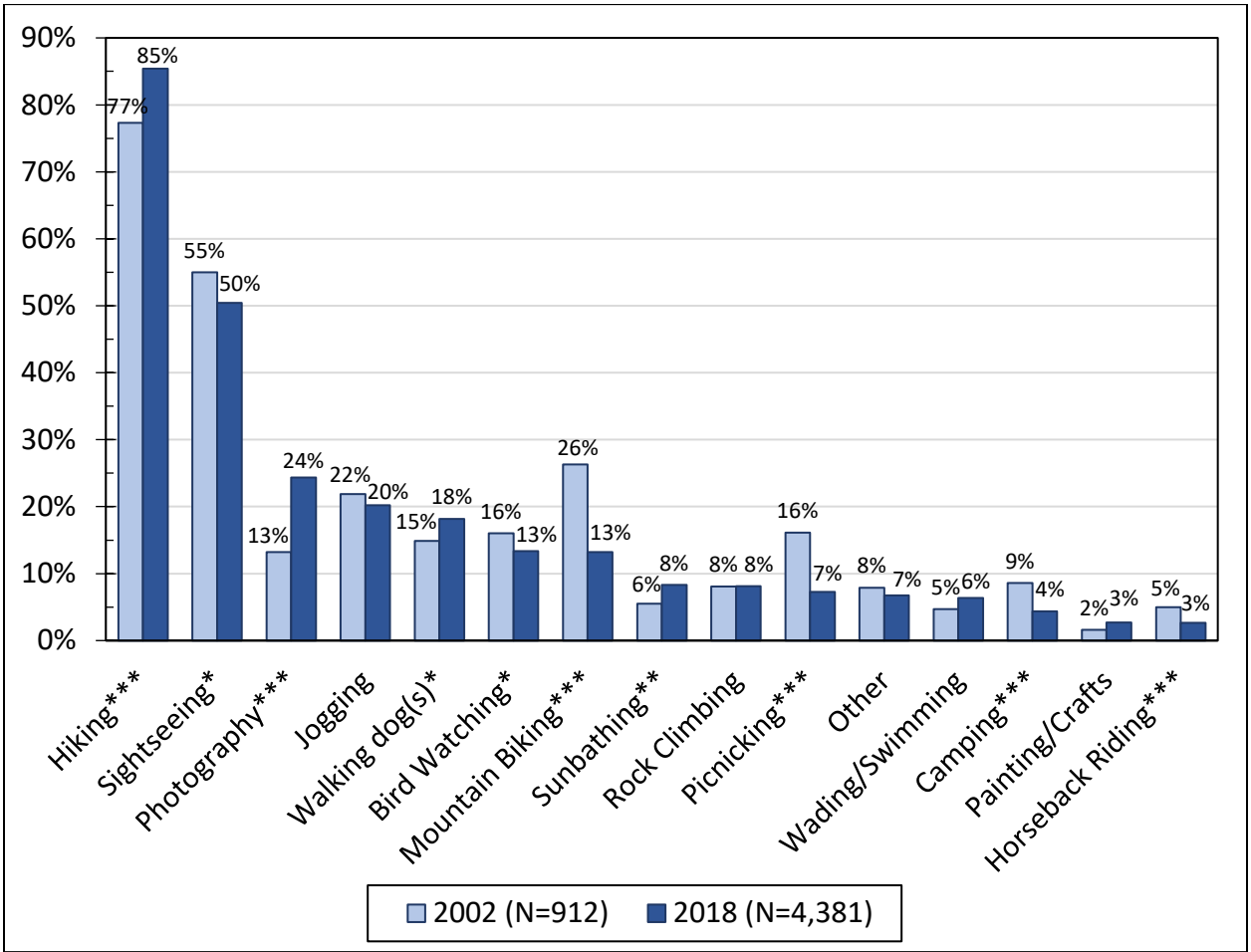


1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

The 2018 SMMNRA study aimed to determine how the activities and visitor characteristics of survey respondents changed since 2002. As shown in Figure 6-3, the proportion of 2018 respondents engaging in sightseeing, bird watching, mountain biking, picnicking, camping, and horseback riding decreased since 2002, and these differences were statistically significant[23]. In contrast, activities such as hiking, photography, dog walking, and sunbathing saw a statistically significant increase compared to the 2002 survey. In both years, hiking and sightseeing remained the two most popular activities in the park.

[23] As an overall statistic this may obscure site-specific changes. By-site analysis could identify if the proportion of users in certain activities such as mountain biking increased at certain sites compared to others.

Figure 6-3. All Activities Engaged in at SMMNRA, by Survey Year



1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001

To further understand the visitor profile of different activities, each activity was analyzed by various socioeconomic and demographic characteristics of the survey respondents. Participants in the youngest age group were more likely to engage in hiking, camping, jogging, photography, sightseeing, sunbathing, and swimming, while those in the oldest age group engaged in "other" activities at a higher rate.[24] Birdwatching, horseback riding, painting and crafts, picnicking, and dog walking had roughly similar proportions of younger, middle-age, and older respondents (Table A6-6). Likewise, activities did not differ widely across education levels, mainly due to the fact that the most survey participants were college-educated (87%) (Table A6-7).

[24] "Other" activities included any written responses under the "Other" box in Question 8, "From the list below, which three activities have you engaged in today or plan to engage in today?" Some common written responses included going to the beach, exercising or working out, meditating, observing nature and flora/fauna identification, writing, and visiting or spending time with family and friends.

Activities also varied by gender and race/ethnicity. Male-dominated activities included jogging, mountain biking, and rock climbing, while females were more likely to hike and walk dogs at statistically significant rates (Table A6-5). The remaining 10 activities did not have statistically significant differences in engagement between males and females. In terms of race and ethnicity, Table 6-4 shows that non-Hispanic Black, Asian, Multiracial, and Hispanic respondents reported hiking at higher rates than the sample-wide average. Furthermore, higher proportions of non-White respondents reported camping, jogging, photography, rock climbing, sightseeing, and sunbathing than non-Hispanic Whites (at the 95% confidence level or above) (Table A6-8). Despite non-Hispanic White respondents being the most common survey participant (72% of all respondents), the only activities they appear to engage in at higher rates than other racial and ethnic groups are mountain biking and dog walking. Bird watching, horseback riding, painting and crafts, picnicking, swimming, and "other" activities do not seem to vary widely among race/ethnicity (Table 6-4; Table A6-8).

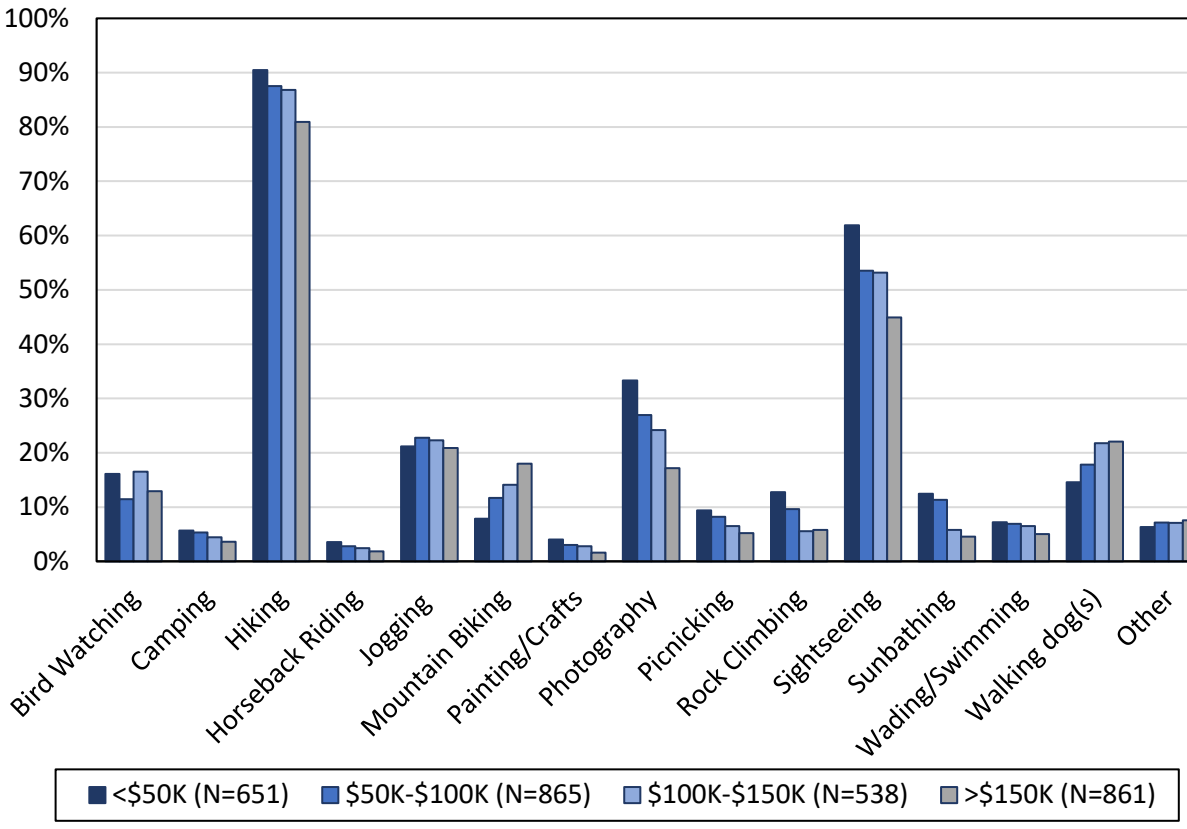
Table 6-4. All Activities Engaged in at SMMNRA, by Race/Ethnicity

	Non-Hispanic														Hispanic or Latino		Sample Total	
	White		Black		Asian		Am. Indian		Pac. Islander		Other		2+ Races					
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.				
Bird Watching	304	13%	16	19%	24	9%	4	11%	4	21%	11	14%	17	18%	110	15%	490	14%
Camping	87	4%	8	10%	13	5%	4	11%	1	5%	4	5%	8	8%	41	5%	166	5%
Hiking	1,901	84%	76	90%	224	87%	30	83%	16	84%	66	87%	85	89%	682	90%	3,080	86%
Horseback Riding	63	3%	5	6%	6	2%	2	6%	1	5%	1	1%	5	5%	19	3%	102	3%
Jogging	409	18%	34	40%	37	14%	10	28%	5	26%	11	14%	29	31%	204	27%	739	21%
Mountain Biking	333	15%	11	13%	28	11%	4	11%	1	5%	6	8%	11	12%	80	11%	474	13%
Painting/ Crafts	58	3%	5	6%	8	3%	1	3%	1	5%	1	1%	7	7%	19	3%	100	3%
Photography	495	22%	30	36%	84	33%	8	22%	6	32%	19	25%	27	28%	225	30%	894	25%
Picnicking	153	7%	10	12%	26	10%	5	14%	3	16%	2	3%	9	9%	56	7%	264	7%
	Non-Hispanic														Hispanic or Latino		Sample Total	
	White		Black		Asian		Am. Indian		Pac. Islander		Other		2+ Races					
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.				
Rock Climbing	157	7%	14	17%	26	10%	2	6%	1	5%	7	9%	8	8%	91	12%	306	9%
Sightseeing	1,081	48%	51	61%	166	64%	15	42%	13	68%	37	49%	56	59%	434	58%	1,853	52%
Sunbathing	173	8%	12	14%	18	7%	2	6%	2	11%	12	16%	14	15%	73	10%	306	9%
Wading/ Swimming	134	6%	9	11%	12	5%	2	6%	2	11%	5	7%	13	14%	44	6%	221	6%
Walking dog(s)	459	20%	12	14%	35	14%	5	14%	3	16%	14	18%	22	23%	115	15%	665	19%
Other	169	7%	5	6%	18	7%	3	8%	1	5%	9	12%	4	4%	37	5%	246	7%
Sample Total	2,255		84		258		36		19		76		95		754		3,577	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Many activity trends also exhibit a clear relationship with household income (Figure 6-4). The original 10 income brackets in the survey were condensed to four income groups (ranging from less than $50,000 to $150,000 or more) to facilitate the analysis of this relationship. Activities such as camping, hiking, photography, picnicking, rock climbing, sightseeing, sunbathing, and swimming have an inverse relationship with income, meaning that lower income respondents were more likely to engage in these activities compared to higher income respondents. Mountain biking and dog walking were positively associated with income, with higher income respondents engaging in these activities at higher rates than lower income respondents. Income does not seem to be a major determinant in whether visitors engage in bird watching, horseback riding, jogging, painting and crafts, or "other" activities, though it should be noted that some of these activites have small subsample sizes, which may obscure trends.

Figure 6-4. All Activities Engaged in at SMMNRA, by Income



1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

It is important to note that the survey asked respondents whether they had a physical condition which could interfere with their ability to recreate or influence their choice of recreational activities. About 93% of all surveyed visitors indicated they had no physical condition, such as a disability, which might influence their decision. Among the 7% that did have some sort of physical barrier, some common write-in answers included arthritis and issues with knee or hip joints, lower back pain, recovery from surgeries or procedures, or recovery from other injuries. Participants who answered “Yes” were more likely to engage in bird watching, photography, picnicking, sunbathing, dog walking, and other activities than those who answered "No" (Table A6-9).

Time Spent in the Park

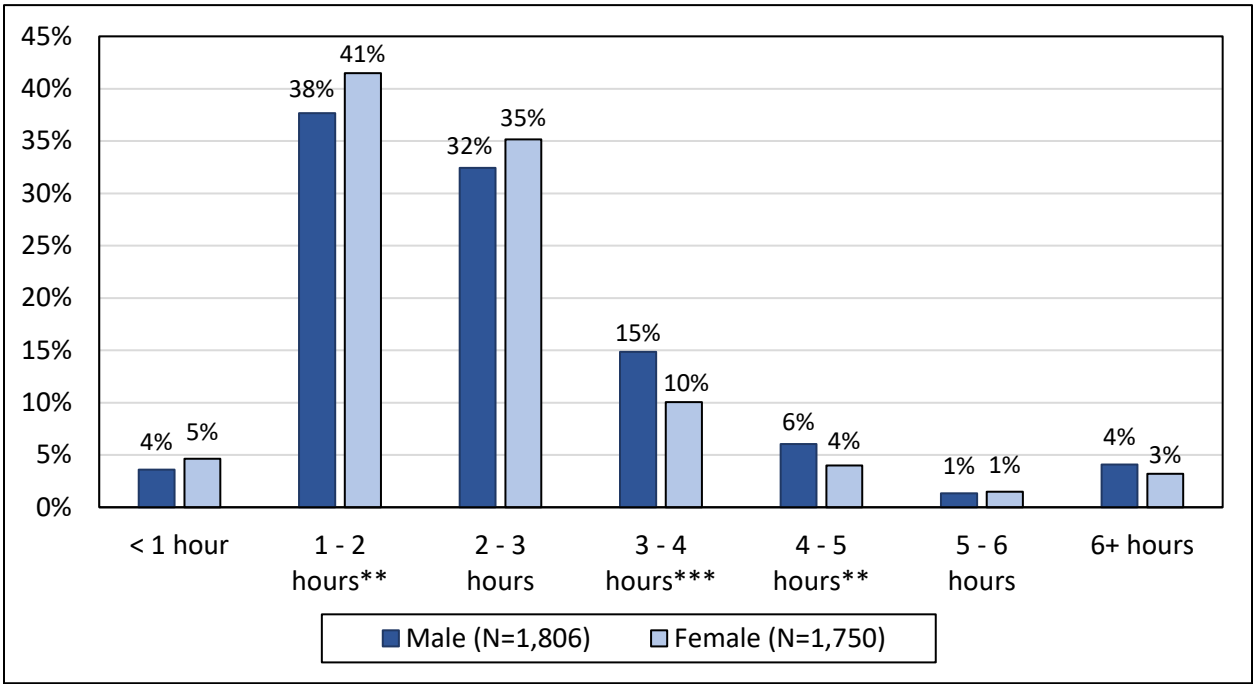
The amount of time spent in the SMMNRA is an important component to further understand the reported activities of survey respondents. Surveyed visitors remained in the park for an average of 151 minutes, or about 2.5 hours. The average reported time spent in the park was remarkably consistent between 2002 and 2018 (Table 6-5).

Table 6-5. Time (Hours) Spent in SMMNRA, by Survey Year

	2002	2018
N.	833	3,996
Mean	2.5	2.5
Median	2	2
Std. Dev.	2.6	5.5
Min	0	0
Max	24	168

Time spent in the park significantly varied by gender, with males more likely to report 3 or more hours at the SMMNRA than females (Figure 6-5). Furthermore, while there is a statistically significant relationship between the age and time spent, as well as between education and time spent, the direction of the relationship is not linear. It appears that middle age respondents were more likely to spend between 0 and 2 hours at the park, younger respondents were more likely to spend between 3 and 5 hours, and older respondents between 5 and 6 or more hours (Table A6-10 and Table A6-11).

Figure 6-5. Time (Hours) Spent in SMMNRA, by Gender



1. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001

Time spent in the park did not vary significantly by race or ethnicity (Table A6-12), and the proportions of non-Hispanic White respondents compared to all non-White respondents were commensurate across time categories (Table A6-13). Income does not appear to be a factor in whether survey participants spent less than an hour, or 3 or more hours in the park. However, Table 6-6 shows that higher income respondents were more likely to spend between 1 and 2 hours, while those with lower household incomes were more likely to spend between 2 and 3 hours. These results may be correlated with the distance surveyed visitors had to travel to reach the trailhead (i.e., higher-income respondents live closer to the park and may visit more frequently for fewer hours than respondents who had to travel further to reach the park).

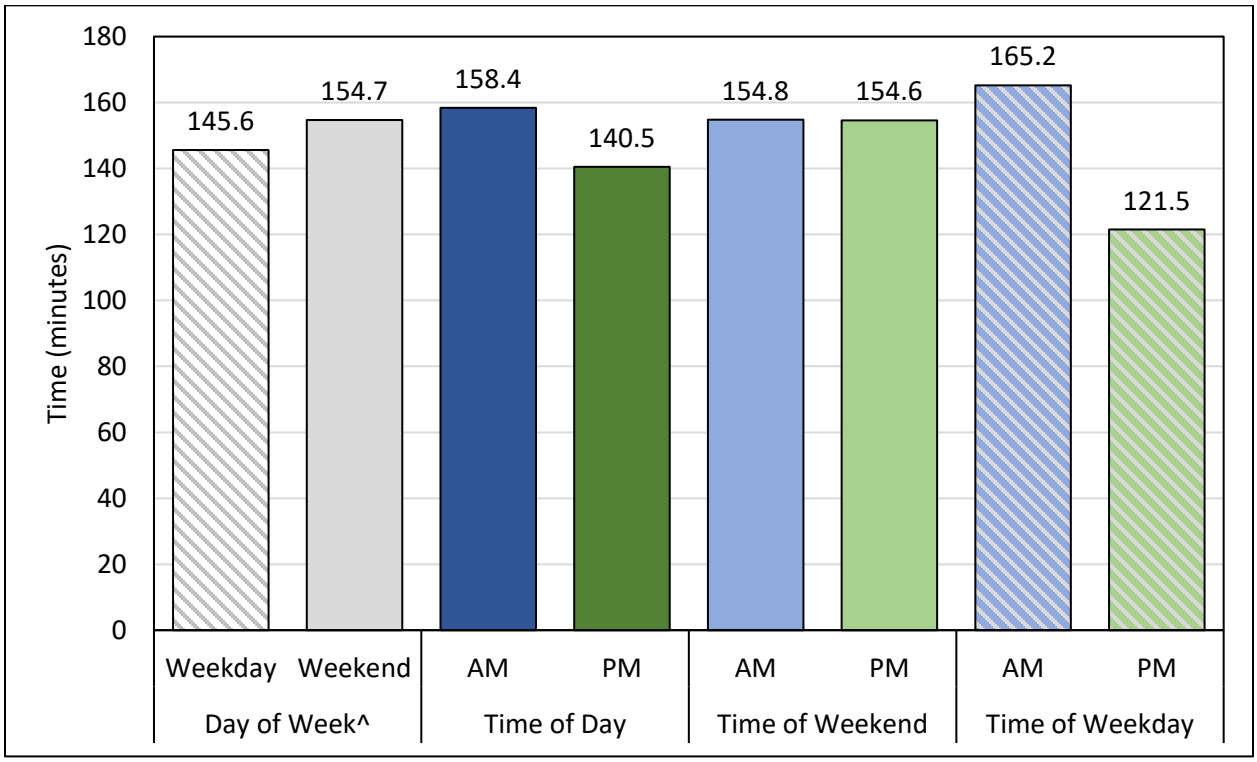
Table 6-6. Time (Hours) Spent at SMMNRA, by Income

	<$50K		$50K-$100K		$100K-$150K		>$150K		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
< 1 hour	26	4%	28	3%	21	4%	37	4%	112	4%
1 - 2 hours	196	32%	308	37%	203	39%	370	45%	1,077	39%
2 - 3 hours	229	37%	312	38%	178	34%	247	30%	966	35%
3 - 4 hours	87	14%	93	11%	61	12%	98	12%	339	12%
4 - 5 hours	41	7%	35	4%	29	6%	35	4%	140	5%
5 - 6 hours	12	2%	11	1%	8	2%	10	1%	41	1%
6+ hours	24	4%	40	5%	16	3%	32	4%	112	4%
Sample Total	615	100%	827	100%	516	100%	829	100%	2,787	100%

1. There is a statistically significant relationship between the two variables at P<0.01.

Finally, the amount of time spent in the park was analyzed by day and time of visitation (Figure 6-6). Overall, respondents spent on average about 17 more minutes in the park in the morning than in the afternoon, and about 9 more minutes on the weekend than on a weekday. Participants surveyed during a weekday morning reported spending nearly 36% more time in the park (165 minutes) than in the afternoon (122 minutes), while those surveyed on a weekend spent an average of 155 minutes at the park regardless of time of day. These results look very similar to the 2002 survey, which found an average of 2 hours spent on the trails. In 2002, mornings (63.8% of respondents) and weekends (72.5% of respondents) were the most popular visit times, which matches the longer visits found amongst 2018 respondents.

Figure 6-6. Time (Minutes) Spent in SMMNRA, by Day and Time of Week



7 Amenity Use and Preferences

Similar to research on park activities, past research suggests that park visitors vary in their use of and preferences for park amenities. For example, a study on the New River Trail in western Virginia found that the three most important aspects of the trail to users were safety, public access, and avoiding conflict with other users (Bowker et al. 2004). Respondents stated water quality, water quantity, and outdoor attractions as the most important features besides the trail (Bowker et al. 2004). Distance was the main barrier to participants using a state park in Alabama, followed by the number of trails offered, trail maintenance, and facility conditions (Crain 2014). Overall, safety and security were the biggest factors in respondents' decision-making process. Low-cost trail enhancements, such as more frequent maintenance, park maps, and additional trash cans may improve visitors' park experience (Crain 2014).

Several studies have also shown that different ethnic groups place importance on different park characteristics and have different perceptions of parks. Baas et al. (1993) identified different preferences and needs among Hispanic/Latino versus White visitors to Mecca Hills near the Mojave Desert. U.S.-born Hispanics valued a safe area as the most important amenity at the park, whereas Mexican-born Hispanics and U.S.-born Whites most valued a clean, non-littered area. Additionally, Ho et al. (2005) administered a survey in Atlanta and Philadelphia and found White and Hispanic respondents placed higher importance on the presence of wildlife compared to other ethnic groups. African Americans and Hispanics gave the highest ratings of importance to the presence of recreational facilities, while Japanese respondents reported the lowest mean scores for having amenities. Furthermore, when compared to Asian respondents, White, Hispanic, and African American responents were less likely to agree with the following negative perceptions of parks: unnecessary tax burdens, increasing littering, and attracting undesirable animals and birds (Ho et al. 2005).

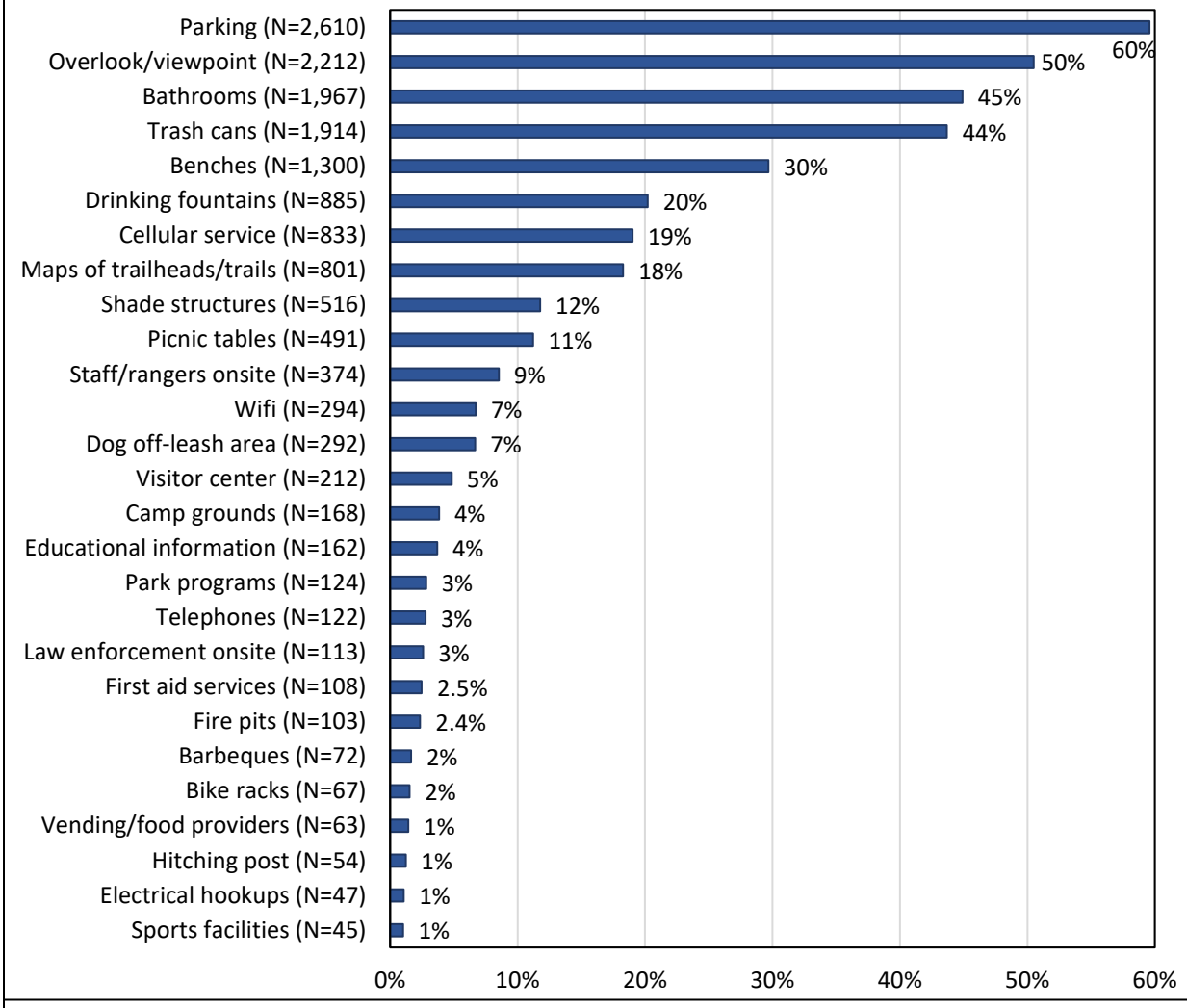
Another study showed the influence of age on recreational trail preferences. Arnberger and Eder (2011) found the elderly placed more importance on litter and activity type, while younger visitors valued trail environment and trail type. For all ages, visitor crowding and litter greatly determined trail preferences despite particular trail preferences that differed by age group.

This section identifies the amenities that visitors use while at SMMNRA, and their demographic correlates. Analysis of the amenities that surveyed visitors want improved and added is included. Lastly, this chapter discusses the specific amenity of internet usage and the value of internet access at the park.

Current Amenity Use

The 2018 survey first asked respondents whether they had any trouble learning about the features and amenities that the trailhead and trail offered. Nearly 94% of surveyed visitors had no trouble (N=3,516). Next, the survey asked respondents to select any or all amenities that they used or planned to use during their visit to the SMMNRA trailhead. Figure 6-1 shows the number of respondents who reported using one or more of the 27 amenities listed on the survey. The most-used amenities were parking (60%), overlooks or viewpoints (50%), bathrooms (45%) and trash cans (44%). By contrast, less than 2% of surveyed visitors reported utilizing barbeques, bike racks, vending machines or food providers, hitching posts, electrical hookups, or sports facilities.

Figure 6-1. Amenities Used by Survey Respondents



1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Male and female respondents used amenities at different rates, and the overall trend shows that women were more likely to use amenities than men (Table A7-1). For example, two-sample proportions tests of statistical significance show female respondents used parking, bathrooms, benches, overlooks or viewpoints, park-hosted programs, trash cans, in-person staff or rangers, shade structures, sports facilities, Wi-Fi, dog off-leash areas, maps of trailheads and trails, and educational information at higher rates than males (95% confidence level or above).

There appears to be a negative linear relationship between certain amenities and respondent age, where younger survey participants (18 to 40 years) used parking, trash cans, cell service, picnic tables, off-leash dog areas, and Wi-Fi at the highest rates, followed by middle age (41 to 64 years) and older participants (over 65 years) (Table A7-2). Middle age respondents did not use amenities at significantly higher rates than any other age group, but older participants reported using bathrooms, on-site staff and rangers, visitor centers, educational information or interpretive services, and park (or other entity) programming more than other age groups.

In terms of educational attainment, amenity use was varied, but no discernable patterns were present. Higher proportions of college-educated respondents used parking and trail maps, while those with a high school degree or GED used trash cans, bathrooms, cell service, drinking fountains, picnic tables, and shade structures more often than others (Table A7-3). However, these higher proportions may be due to the small subsample size of respondents who were high school students (N=120), did not graduate high school (N=37), or had a high school-level education (N=327), compared to college-educated visitors (N=3,193).

While there were slight differences in the proportions of surveyed visitors that used amenities based on race and ethnicity, the highest proportions of respondents in each racial or ethnic group corresponds to the sample-wide trend of emphasis on parking, overlooks and viewpoints, bathrooms, trash cans, and benches as the most-used amenities (Table A7-4). There were, however, statistically significant differences in amenity use among all non-White respondents compared to non-Hispanic White respondents, with non-White participants more likely to use almost every amenity (Table A7-5).

Income was also a factor in the use of certain amenities. Table 7-1 shows respondents earning less than $50,000 a year were more likely to use overlooks and viewpoints, bathrooms, trash cans, benches, drinking fountains, maps of trails and trailheads, cell service, picnic tables, shade structures, on-site staff and rangers, and telephones than those in higher income groups.

Table 7-1. Amenities Used by Respondents, by Income

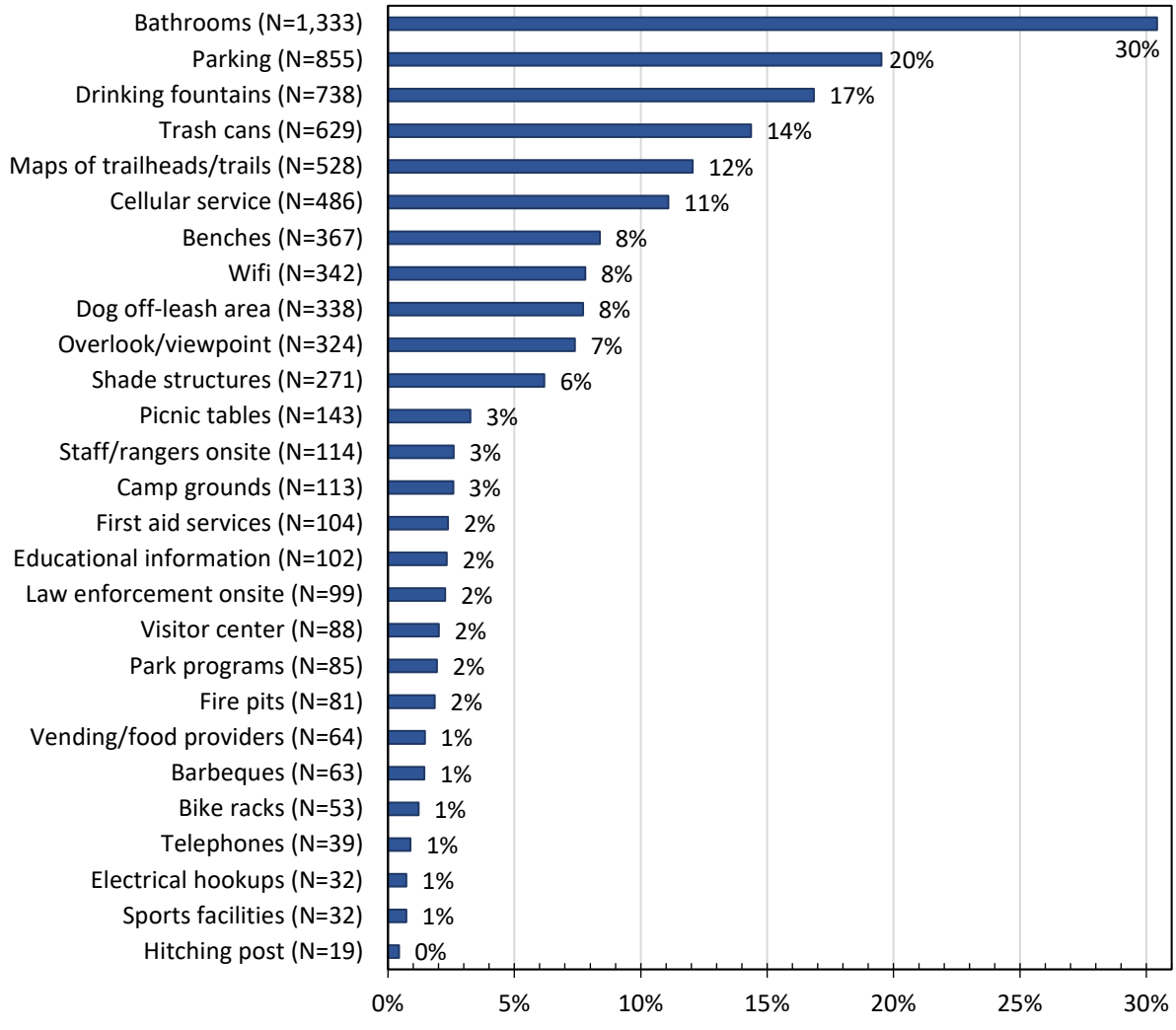
	<$50K		$50K-$100K		$100K-$150K		>$150K		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques*	19	3%	17	2%	7	1%	8	1%	51	2%
Bathrooms*	321	49%	424	49%	241	45%	364	42%	1,350	46%
Benches**	223	34%	268	31%	133	25%	262	30%	886	30%
Bike racks	12	2%	15	2%	7	1%	11	1%	45	2%
Campgrounds	28	4%	45	5%	24	4%	24	3%	121	4%
Cellular service*	149	23%	181	21%	96	18%	148	17%	574	20%
Dog off-leash area	51	8%	56	6%	35	7%	59	7%	201	7%
Drinking fountains*	150	23%	192	22%	96	18%	159	18%	597	20%
Educational information	29	4%	39	5%	12	2%	27	3%	107	4%
Electrical hookups**	13	2%	12	1%	2	0%	4	0%	31	1%
Fire pits	18	3%	27	3%	14	3%	16	2%	75	3%
First aid services**	18	3%	30	3%	11	2%	7	1%	66	2%
Hitching post	10	2%	13	2%	1	0%	7	1%	31	1%
Law enforcement onsite	19	3%	27	3%	12	2%	11	1%	69	2%
Maps of trailheads/trails**	150	23%	191	22%	110	20%	141	16%	592	20%
Overlook/viewpoint***	360	55%	485	56%	278	52%	407	47%	1,530	52%
Park programs	24	4%	32	4%	10	2%	24	3%	90	3%
Parking	421	65%	514	59%	328	61%	529	61%	1,792	61%
Picnic tables**	101	16%	99	11%	55	10%	87	10%	342	12%
Shade structures***	98	15%	110	13%	55	10%	75	9%	338	12%
Sports facilities*	11	2%	11	1%	2	0%	4	0%	28	1%
Staff/rangers onsite*	71	11%	81	9%	54	10%	58	7%	264	9%
Telephones***	34	5%	21	2%	10	2%	10	1%	75	3%
Trash cans*	309	47%	417	48%	218	41%	370	43%	1,314	45%
Vending/food providers*	18	3%	14	2%	6	1%	7	1%	45	2%
Visitor center	42	6%	37	4%	25	5%	36	4%	140	5%
Wi-Fi	49	8%	57	7%	35	7%	47	5%	188	6%
Sample Total	651		865		538		861		2,915	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Chi-square test for independence, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Improving Existing Amenities

After the survey asked about current amenity use among visitors, a question asked respondents to select two amenities that, if improved, would positively impact their park experience[25]. While the most highly used amenity was parking (60%), just 20% of respondents desired improvements to existing parking. Rather, the highest share of respondents (30%) wanted bathrooms to be improved within the SMMNRA (Figure 7-2). Other amenities to be improved included drinking fountains, trash cans, and maps of trailheads and trails (Figure 7-2).

Figure 7-2. Amenities that Respondents Want Improved



1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

[25] Some confusion may have resulted from the similar wording of questions on amenities. One question asked what existing amenities at the trailhead respondents would like improved while the next asked which amenities were not at the trailhead that they would like to see added. Since the answer options were the same for both, some respondents may have misunderstood and answered both questions the same.

With the exception of bathrooms, male and female respondents desired improvements to exisiting amenities at equal rates. Nearly 36% of women believed bathrooms should be improved compared to 27% of men, and this difference in proportions (9%) is statistically significant at the 99.9% confidence level (Table A7-6). Respondents in the youngest age group (18 to 40 years old) were significantly more likely to prefer improvements in parking, trash cans, cellular service, Wi-Fi connectivity, and overlooks and viewpoints than middle age (41 to 64 years) or older (65 or more years) respondents (Table A7-7). Participants over the age of 65 wanted improvements made to on-site law enforcement, staff, and park rangers more than other age groups.

More high school students, high school graduates, and GED obtainees preferred improvements to bathrooms, trash cans, benches, and Wi-Fi than college-educated individuals, while more college-educated respondents wanted better maps of trails and trailheads (Table A7-8). Preference for improvements to amenities varied across race and ethnicity, but each racial and ethnic subgroup matched the general trend for the whole sample. Namely, that respondents selected bathrooms, parking, drinking fountains, and trash cans as the top 4 amenities that needed improvement (Table A7-9). Among the amenities with statistically significant differences in proportions, non-White participants selected amenities for improvement at higher rates than non-Hispanic Whites for all amenities except maps of trailheads/trails and dog off-leash areas (Table A7-10).

There is a statistically significant, negative linear relationship between income and certain amenities that respondents want to be improved. As shown in Table 7-2, surveyed visitors earning less than $50,000 a year were more likely to want improvements to bathrooms, parking, trash cans, Wi-Fi connectivity, and first aid services than visitors in higher income groups. Inversely, higher income participants wanted improvements to dog off-leash areas at higher rates than those in lower income groups.

Table 7-2. Amenities that Respondents Want Improved, by Income

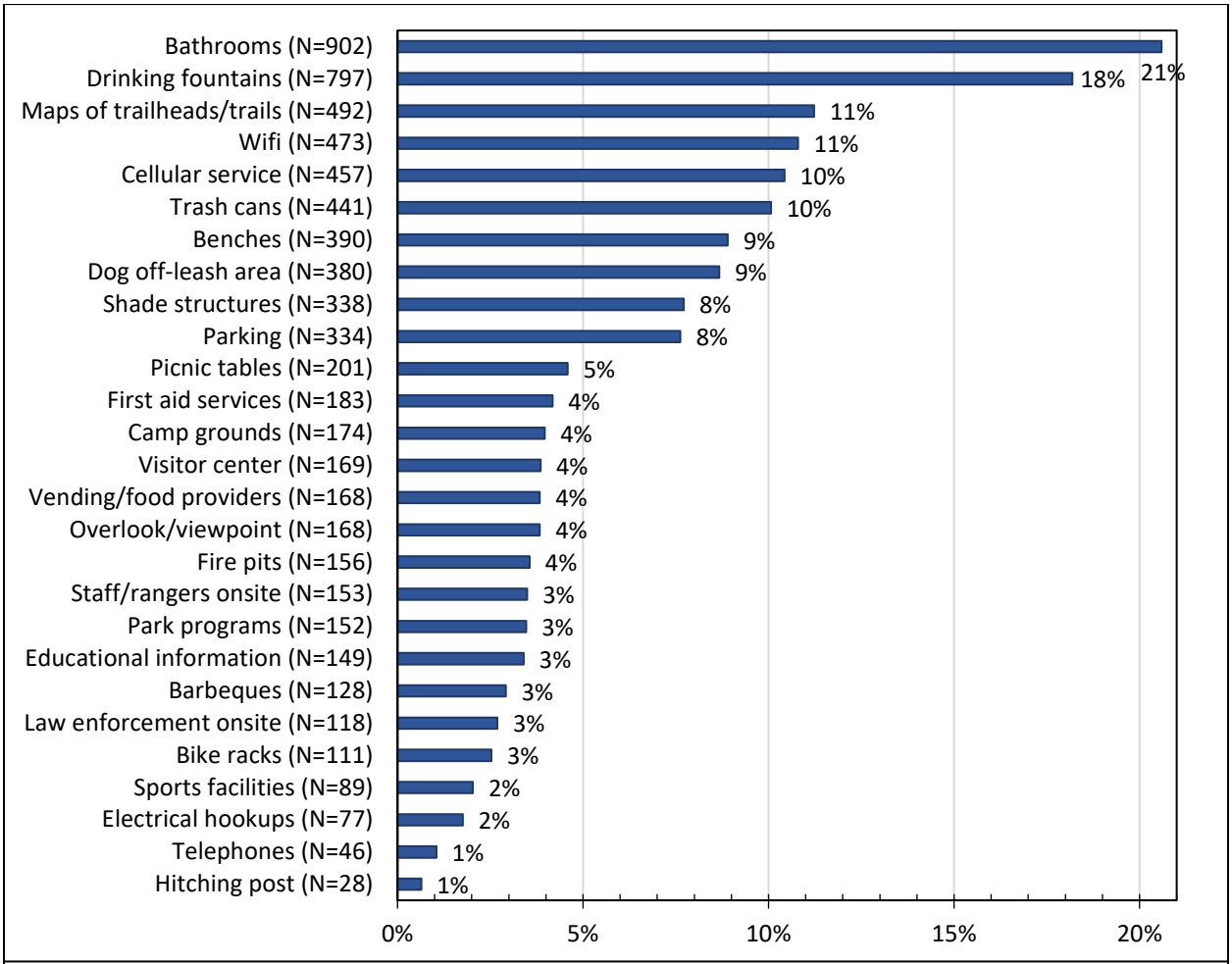
	<$50K		$50K-$100K		$100K-$150K		>$150K		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques	13	2.0%	14	1.6%	3	0.6%	7	0.8%	37	1.3%
Bathrooms*	233	35.8%	271	31.3%	162	30.1%	248	28.8%	914	31.4%
Benches	61	9.4%	69	8.0%	43	8.0%	58	6.7%	231	7.9%
Bike racks*	14	2.2%	6	0.7%	2	0.4%	9	1.0%	31	1.1%
Campgrounds	25	3.8%	18	2.1%	15	2.8%	16	1.9%	74	2.5%
Cellular service	85	13.1%	92	10.6%	50	9.3%	88	10.2%	315	10.8%
Dog off-leash area***	37	5.7%	69	8.0%	38	7.1%	101	11.7%	245	8.4%
Drinking fountains	125	19.2%	155	17.9%	93	17.3%	142	16.5%	515	17.7%
Educational information	15	2.3%	25	2.9%	15	2.8%	18	2.1%	73	2.5%
Electrical hookups**	11	1.7%	4	0.5%	2	0.4%	3	0.3%	20	0.7%
Fire pits*	16	2.5%	20	2.3%	5	0.9%	9	1.0%	50	1.7%
First aid services*	22	3.4%	23	2.7%	10	1.9%	10	1.2%	65	2.2%
Hitching post	5	0.8%	2	0.2%	3	0.6%	2	0.2%	12	0.4%
Law enforcement onsite	16	2.5%	18	2.1%	11	2.0%	21	2.4%	66	2.3%
Maps of trailheads/trails	73	11.2%	105	12.1%	71	13.2%	132	15.3%	381	13.1%
Overlook/viewpoint	58	8.9%	50	5.8%	42	7.8%	58	6.7%	208	7.1%
Park programs	17	2.6%	14	1.6%	7	1.3%	19	2.2%	57	2.0%
Parking*	147	22.6%	183	21.2%	109	20.3%	145	16.8%	584	20.0%
	<$50K		$50K-$100K		$100K-$150K		>$150K		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Picnic tables	20	3.1%	25	2.9%	16	3.0%	29	3.4%	90	3.1%
Shade structures	50	7.7%	47	5.4%	45	8.4%	48	5.6%	190	6.5%
Sports facilities	9	1.4%	5	0.6%	4	0.7%	3	0.3%	21	0.7%
Staff/rangers onsite	18	2.8%	19	2.2%	17	3.2%	23	2.7%	77	2.6%
Telephones*	10	1.5%	6	0.7%	1	0.2%	3	0.3%	20	0.7%
Trash cans*	120	18.4%	120	13.9%	78	14.5%	114	13.2%	432	14.8%
Vending/food providers**	18	2.8%	14	1.6%	4	0.7%	7	0.8%	43	1.5%
Visitor center	11	1.7%	19	2.2%	13	2.4%	16	1.9%	59	2.0%
Wi-Fi*	67	10.3%	65	7.5%	35	6.5%	56	6.5%	223	7.7%
Sample Total	651		865		538		861		2,915	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Chi-square test for independence, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Adding New Amenities

The final amenity related survey question asked respondents what new amenities they wanted added to the trailhead. The answers might refer to an amenity that was absent at a site, or an existing amenity at a site that could benefit from addition or expansion. The most common answers regarding amenity enhancements included bathrooms (21%), drinking fountains (18%), maps of trailheads and trails (11%), and Wi-Fi connectivity (11%) (Figure 7-3).

Figure 7-3. Amenities that Respondents Want Added



1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Overall, little variation in desired amenity enhancements existed between genders, except that female participants were more likely than male participants to request additional trash cans, off-leash dog areas, and park programming (95% confidence level or above) (Table A7-11). Desired amenities varied according to education, but no clear trends were apparent between education level and amenities (Table A7-12). Likewise, different rates of respondents wanted certain amenities added depending on household income. Considering the amenities with a statistically significant relationship with income, there appears to be a negative linear association between certain amenities and income. Surveyed visitors earning less than $50,000 a year wanted additional fire pits, first aid services, sports facilities, and trash cans at higher rates than those in higher income groups (Table A7-14).

Among statistically significant results (at the 95% confidence level or above), there is a negative linear relationship between age and desired amenities. Respondents in the younger age group (18 to 40 years) wanted additional barbeques, campgrounds, cellular service, fire pits, first aid services, overlooks and viewpoints, parking, sports facilities, trash cans, vending machines and

food providers, and Wi-Fi connectivity at higher rates than middle age (41 to 64 years) or older (65+ years) respondents (Table 7-3). However, middle-aged participants were more likely to desire additional law enforcement on-site than those in younger or older age groups.

Table 7-3. Amenities that Respondents Want Added, by Age

	18 - 40 Years		41 - 64 Years		65+ Years		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques***	86	4.5%	24	1.6%	1	0.4%	111	3.0%
Bathrooms	432	22.4%	304	19.9%	51	18.2%	787	21.1%
Benches	175	9.1%	149	9.8%	27	9.6%	351	9.4%
Bike racks	54	2.8%	41	2.7%	4	1.4%	99	2.7%
Campgrounds***	108	5.6%	40	2.6%	4	1.4%	152	4.1%
Cellular service**	242	12.6%	143	9.4%	23	8.2%	408	10.9%
Dog off-leash areas*	199	10.3%	133	8.7%	17	6.1%	349	9.3%
Drinking fountains	359	18.6%	292	19.1%	43	15.4%	694	18.6%
Educational information	79	4.1%	46	3.0%	13	4.6%	138	3.7%
Electrical hookups	42	2.2%	25	1.6%	3	1.1%	70	1.9%
Fire pits***	106	5.5%	33	2.2%	0	0.0%	139	3.7%
First aid services***	115	6.0%	44	2.9%	5	1.8%	164	4.4%
Hitching post	14	0.7%	11	0.7%	1	0.4%	26	0.7%
Law enforcement onsite**	38	2.0%	61	4.0%	9	3.2%	108	2.9%
Maps of trailheads/trails	236	12.3%	168	11.0%	40	14.3%	444	11.9%
Overlook/viewpoint*	94	4.9%	52	3.4%	7	2.5%	153	4.1%
Park programs	74	3.8%	57	3.7%	11	3.9%	142	3.8%
Parking**	174	9.0%	103	6.7%	12	4.3%	289	7.7%
Picnic tables	98	5.1%	74	4.8%	8	2.9%	180	4.8%
Shade structures	180	9.3%	142	9.3%	22	7.9%	344	9.2%
Sports facilities***	72	3.7%	12	0.8%	0	0.0%	84	2.2%
Staff/rangers onsite	57	3.0%	66	4.3%	11	3.9%	134	3.6%
Telephones	26	1.3%	13	0.9%	1	0.4%	40	1.1%
Trash cans***	234	12.1%	127	8.3%	18	6.4%	379	10.1%
Vending/food providers***	104	5.4%	44	2.9%	6	2.1%	154	4.1%
Visitor center	95	4.9%	53	3.5%	10	3.6%	158	4.2%
Wi-Fi **	243	12.6%	146	9.6%	24	8.6%	413	11.1%
Sample Total	1,926		1,528		280		3,734	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Chi-square test for independence, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Some differences in desired amenities also depended on the identified race and ethnicity of repondents, although discerning trends from direct comparisons across the 8 racial/ethnic groups was difficult due to the small subsample sizes of non-Hispanic Black (N=84), American Indian or Native Alaskan (N=36), Native Hawaiian or Pacific Islander (N=19), Other (N=76), and Multiracial (N=95) respondents. However, there are statistically significant relationships between bathrooms, campgrounds, cellular service, electrical hookups, first aid services, onsite

law enforcement, overlooks and viewpoints, parking, sports facilities, trash cans, vending machines and food providers, visitor centers, and Wi-Fi connectivity across race/ethnicity (Table A7-13). Furthermore, Table 7-4 shows that the differences in proportions of the above-mentioned amenities are statistically significant when all non-White respondents are compared to non-Hispanic White respondents. Namely, non-White survey participants report wanting these amenities added to the SMMNRA at higher rates than non-Hispanic White respondents.

Table 7-4. Amenities that Respondents Want Added, by Race/Ethnicity (White/Non-White).

	White		Non-White		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques	61	2.7%	50	3.8%	111	3.1%
Bathrooms***	425	18.8%	332	25.1%	757	21.2%
Benches	193	8.6%	136	10.3%	329	9.2%
Bike racks	57	2.5%	38	2.9%	95	2.7%
Campgrounds***	72	3.2%	74	5.6%	146	4.1%
Cellular service**	226	10.0%	179	13.5%	405	11.3%
Dog off-leash areas	225	10.0%	114	8.6%	339	9.5%
Drinking fountains	419	18.6%	243	18.4%	662	18.5%
Educational information	75	3.3%	54	4.1%	129	3.6%
Electrical hookups***	28	1.2%	37	2.8%	65	1.8%
Fire pits*	71	3.1%	61	4.6%	132	3.7%
First aid services***	65	2.9%	88	6.7%	153	4.3%
Hitching post	16	0.7%	9	0.7%	25	0.7%
Law enforcement onsite*	52	2.3%	49	3.7%	101	2.8%
Maps of trailheads/trails	283	12.5%	142	10.7%	425	11.9%
Overlook/viewpoint**	76	3.4%	72	5.4%	148	4.1%
Park programs	83	3.7%	52	3.9%	135	3.8%
Parking***	130	5.8%	143	10.8%	273	7.6%
Picnic tables	101	4.5%	73	5.5%	174	4.9%
Shade structures	191	8.5%	129	9.8%	320	8.9%
Sports facilities**	38	1.7%	42	3.2%	80	2.2%
Staff/rangers onsite	70	3.1%	52	3.9%	122	3.4%
Telephones	20	0.9%	19	1.4%	39	1.1%
	White		Non-White		Sample Total	
	N.	Pct.	N.	N.	Pct.	N.
Trash cans***	187	8.3%	182	13.8%	369	10.3%
Vending/food providers***	69	3.1%	80	6.1%	149	4.2%
Visitor center***	71	3.1%	80	6.1%	151	4.2%
Wi-Fi***	205	9.1%	198	15.0%	403	11.3%
Sample Total	2,255		1,322		3,577	

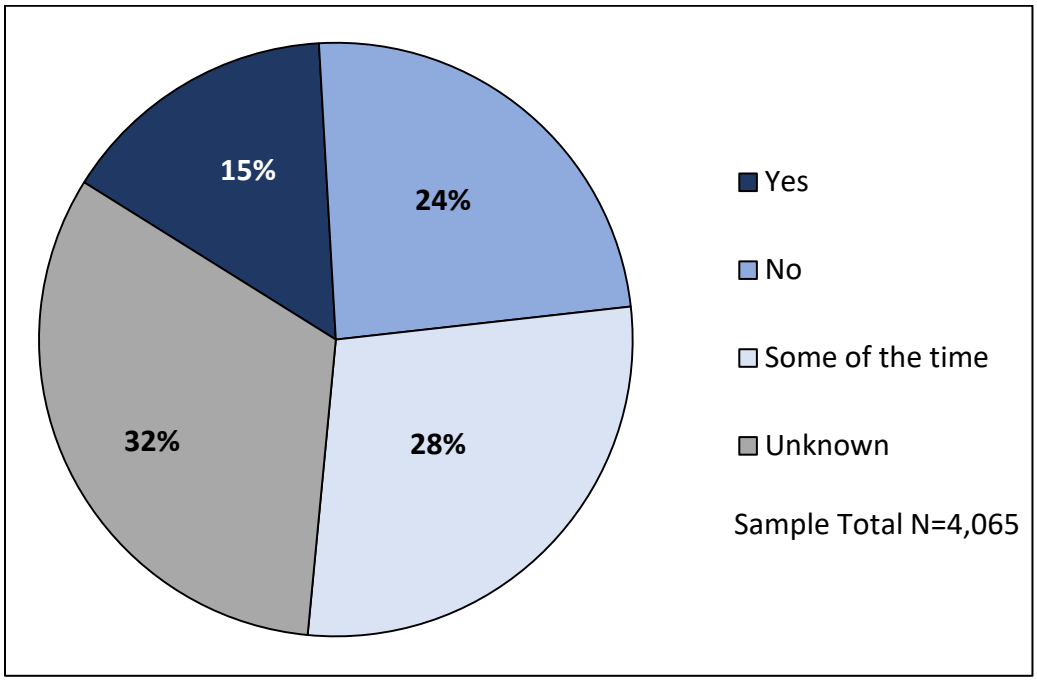
1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample test of proportions *P<0.05, **P<0.01, ***P<0.001.

Internet Access and Usage

Respondents commonly answered that the ability to use the internet via Wi-Fi connectivity was a desired amenity to add at SMMNRA trailheads. This is new since the 2002 survey. In the 2018 survey, however, Wi-Fi service was a top answer as both an amenity used and an amenity that could be improved, warranting a more in-depth analysis of this specific amenity.

The 2018 survey included a question about whether respondents had internet access during their visit to SMMNRA. There were four possible responses: "Yes," "No," "Some of the time," and "I don't know." About a third of respondents (32%) did not know if they had internet access at the trail, while 24% had no access. About 43% of respondents were able to connect to the internet at least some of the time they were in the park.

Figure 7-4. Proportion of Respondents with Internet Access at the Trailhead/Trail



Trailheads providing the most and least internet access were identified from the survey. Respondents who were unsure if the trailhead had internet access were excluded from this analysis. The Rocky Oaks trailhead provided the greatest internet access (57%), followed by China Flat (56%) and Fryman Canyon (52%). On the other hand, 71% of the survey participants at Solstice Canyon had no internet access, followed by Circle X Ranch Grotto Trail (67%) and Escondido Canyon Trail (65%) (Table A7-15).

Respondents were also asked why they would find it valuable to have internet access at the trailhead or along the trail. The most popular reason to use the internet was access to emergency medical services (57%), followed by communication with other members of their

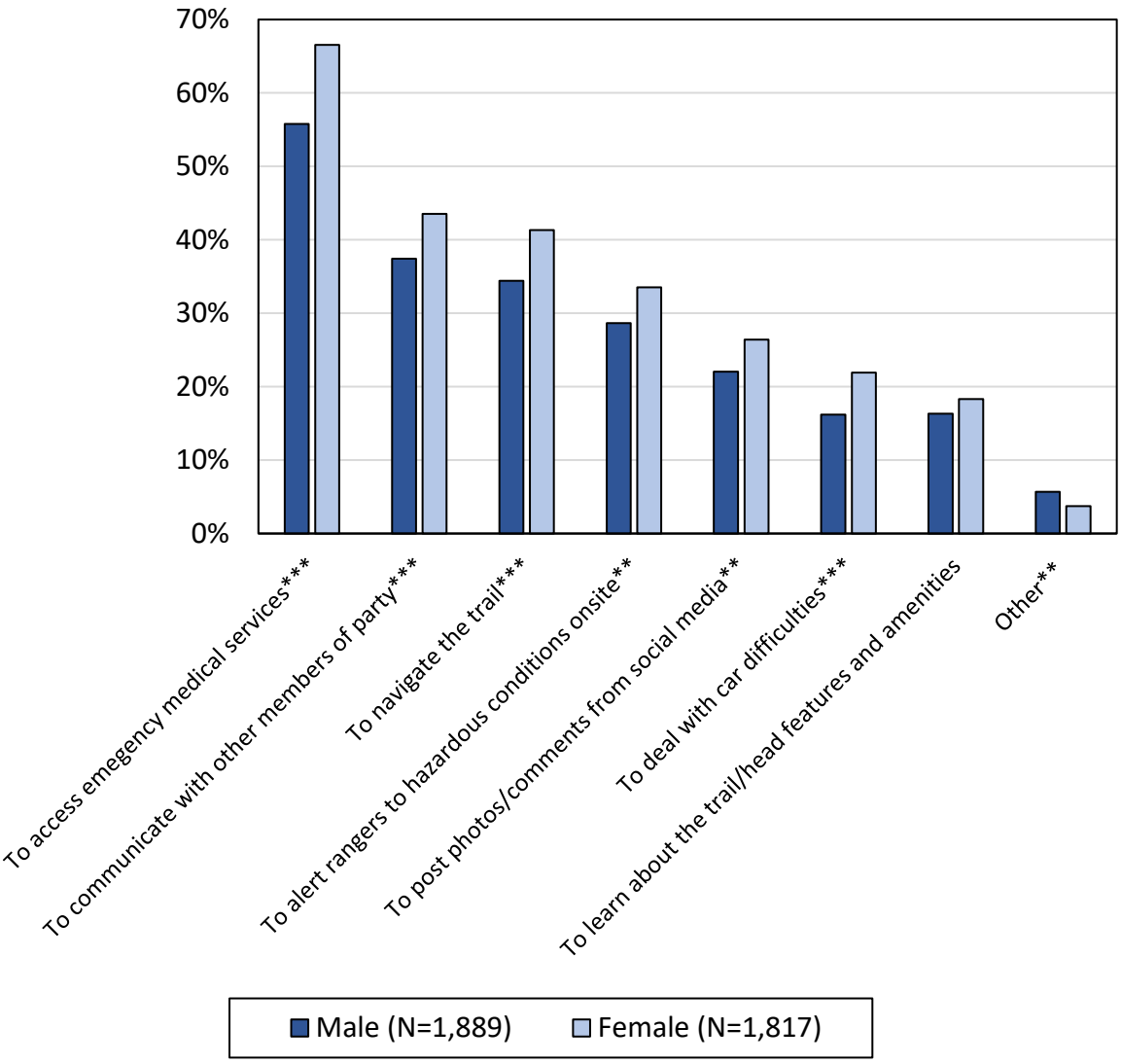
party (38%) and trail navigation (36%). Other less common reasons were posting photos or comments from the trip to social media (23%), dealing with car difficulties (18%), and learning about the trail and trailhead features and amenities (16%) (Table 7-5).

Table 7-5. Reasons Why Internet Access is Valuable

	N.	Pct.
To access emergency medical services	2,499	57.0%
To communicate with other members of party	1,676	38.3%
To navigate the trail	1,551	35.4%
To alert rangers to hazardous conditions onsite	1,276	29.1%
To post photos/comments from social media	985	22.5%
To deal with car difficulties	794	18.1%
To learn about the trail/head features and amenities	712	16.3%
Other	199	4.5%
Sample Total	4,381	100.0%

The value of internet access was analyzed by socioeconomic and demographic characteristics. Female respondents selected reasons in which internet access would be valuable on the trail at higher rates than men for all categories (except "Other). This difference in proportions was statistically significant at the 99% confidence level or above (Figure 7-5). Moreover, there is a statistically significant and negative linear relationship between the reasons that internet access would be valuable and age. Respondents in the younger age group (18 to 40 years) were more likely than middle age and older respondents to indicate internet access was valuable to communicate with other members of their party, deal with car difficulties, post photos or comments on social media, navigate the trail, and learn about the trail or trailhead features or amenities (Table A7-16).

Figure 7-5. Reasons Why Internet Access is Valuable, by Gender



1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

The value of internet access varied across education, race and ethnicity, and income. High-school graduates or GED obtainees were more likely to indicate internet was valuable to access emergency medical services and communicate with other party members, while higher proportions of college-educated respondents would use it to navigate the trail. Current high school students were more likely to find it valuable in alerting rangers to hazardous conditions on-site, and to learn about the features and amenities of the trail or trailhead (Table A7-17).

Though no clear trends of the value of internet access were observed over the detailed breakdown of racial and ethnic groups (Table A7-18), there are statistically significant differences in the proportions of non-Hispanic White and non-White respondents. Non-White survey participants selected all reasons that internet access would be valuable at higher rates than non-Hispanic White participants, except for the options of accessing medical services and "Other" (Table A7-19).

Furthermore, surveyed visitors earning less than $50,000 a year were the most likely to indicate that internet access would be valuable for communicating with other party members, navigating the trail, alerting rangers to hazardous conditions, using social media, dealing with car difficulties, and learning about the features and amenities of the trailhead. However, the relationship between the value of internet access and income was not linear (Table A7-20).

Awareness of SMMNRA Governance and Responsibilities

There were two additional questions related to amenity use and preference. The results for these questions indicate the perception and awareness (or lack thereof) that respondents have for the governance structure and division of responsibilities across the SMMNRA. First, the survey asked respondents to select the entities they would contact if they needed to report litter, potentially hazardous conditions, vandalism, etc., from a list of 10 different governance entities. The highest share of surveyed visitors (35%) would contact the National Park Service, followed by 27% who reported not knowing who to contact, and 19% who would contact California State Parks.

Table 7-6. If you needed to report litter, potentially hazardous conditions, vandalism, etc., which of the following entities would you contact?

	N.	Pct.
National Park Service	1,550	35.4%
Don't Know	1,207	27.6%
California State Parks	834	19.0%
Santa Monica Mountains Conservancy	461	10.5%
City of Los Angeles	284	6.5%
Santa Monica Mountains Fund	232	5.3%
Mountains Recreation and Conservation Authority (MRCA)	221	5.0%
City of Santa Monica	191	4.4%
Other	146	3.3%
Neighborhood Councils	78	1.8%
Sample Total	4,381	
1. Respondents could select more than 1 entity, so percentages do not add to 100%.		

Second, visitors were asked who they think funds the upkeep and maintenance of the trailhead or trail they were surveyed at. The results were strikingly similar to the previous question, in that highest share of respondents believed that NPS (32%), California State Parks (30%) and the Santa Monica Mountains Conservancy (20%) were the primary entities responsible for trailhead upkeep and maintenance. Fewer respondents were unsure of the the agency or organization in charge of trail upkeep and maintenance (N=890) compared to the agency or organization they should contact if they needed to report problems or issues at the trailhead (N=1,207).

Respondents were generally able to identify the correct governing entity for trailheads owned by the National Park Service, California State Parks, and the Mountains Recreation and Conservation Authority. Table 7-7 shows that surveyed visitors largely underestimated the trailheads governed by Santa Monica Mountains Conservancy, and greatly overestimated those owned and operated by the City of Los Angeles. It should be noted that respondents could select up to 3 choices for the agency or organization they believed was responsible for the upkeep and maintenance of the trailhead they were surveyed at, and that the answer categories for this question did not completely align with the actual owner of the trailhead. The respondent's answer and the governing entity of the trailhead were compared where applicable.

Table 7-7. Who do you think funds the upkeep and maintenance of this trailhead and trail?

	Respondent's Answer		Actual Owner	
	N.	Pct.	N.	Pct.
National Park Service	1,410	32.2%	1,388	31.7%
California State Parks**	1,305	29.8%	1,173	26.8%
Don't Know	890	20.3%	N/A	N/A
Santa Monica Mountains Conservancy***	888	20.3%	560	12.8%
Santa Monica Mountains Fund	793	18.1%	N/A	N/A
City of Los Angeles***	408	9.3%	674	15.4%
Mountains Recreation and Conservation Authority (MRCA)*	312	7.1%	265	6.0%
City of Santa Monica	280	6.4%	N/A	N/A
Local Residents	199	4.5%	N/A	N/A
Neighborhood Councils	117	2.7%	N/A	N/A
Other***	97	2.2%	321	7.3%
Sample Total	4,381		4,381	100.0%

1. Respondents could select more than 1 options, so percentages do not add to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001

8 Frequency of Visits, Factors Influencing Visitation, and Park Recommendations

Since the Wilderness Act of 1964 was approved by Congress, the number of recreation visitor days in national wilderness areas, a subset of which include NPS parks, has increased from 3 million in 1965 to 17 million in 1994. During the same time, the acreage of designated wilderness areas increased (Cole 1996).[26] Since the 1980s-1990s, studies have disagreed on whether visitors to U.S. recreation areas has increased or decreased. Pergams and Zaradic (2006) claim that the decline of per capita visits to U.S. national parks since 1988 relates to a cultural shift away from the appreciation of nature towards "videophilia", or electronic media. An increasing popularity of electronic media recreation choices combined with the increasing cost of motor vehicle travel may lead to a decrease in future per capita national park visits (Pergams and Zaradic 2006). To test if this phenomenon was present in natural recreation areas beyond just the U.S. National Park Service, the same authors conducted a follow-up study using four classes of nature participation variables. Results showed a similar overall shift away from nature-based recreation in the U.S. and comparable countries (Pergams and Zaradic 2007).

Other studies focused on this period show different results. Cole (1996) analyzed visitor use data from four agencies—including NPS, the U.S. Forest Service, U.S. Fish and Wildlife Service, and Bureau of Land Management—to identify trends in wilderness area recreation use. The study identified that recreation use of individual wilderness areas increased and accelerated in the 1990s. Another study analyzed Americans' outdoor recreation activities from the federally-conducted National Survey on Recreation and the Environment (Cordell 2008). The study concluded that from 2000 to 2007, the number of people who participated in more than one outdoor activity grew by 4.4%, from 208 to 217 million. Cordell (2008) acknowledged a minor decrease in visits to national parks in 2000, but visitation rates remained stable since. Despite this observation, the study concluded that, overall, the nation's interest in nature and nature-based recreation continues to grow, particularly in the observation and study of nature (Cordell 2008). The gasoline price increase observed at the time may have reduced trips to more distant

[26] Recreational use of the original areas created in 1965 increased between 3 million recreation visitor-days to 5.5 million in 1994

destinations but could also have increased visits to local parks, state parks, and federal lands near urban areas (such as SMMNRA) (Cordell 2008). While no peer reviewed studies have yet documented this phenomenon, there may also be a positive impact of app-based social media on park use.

Given evidence of changing park visitation over time, this chapter will review the 2018 survey results for more recent visitation trends to the SMMNRA. The subsequent sections analyze whether respondents were first-time visitors, whether they normally visited a particular trailhead, and the seasonal and temporal aspects of visitation. Additionally, this chapter includes an analysis of respondents' recommendations for the park and motivations for park protection.

Visitation Trends

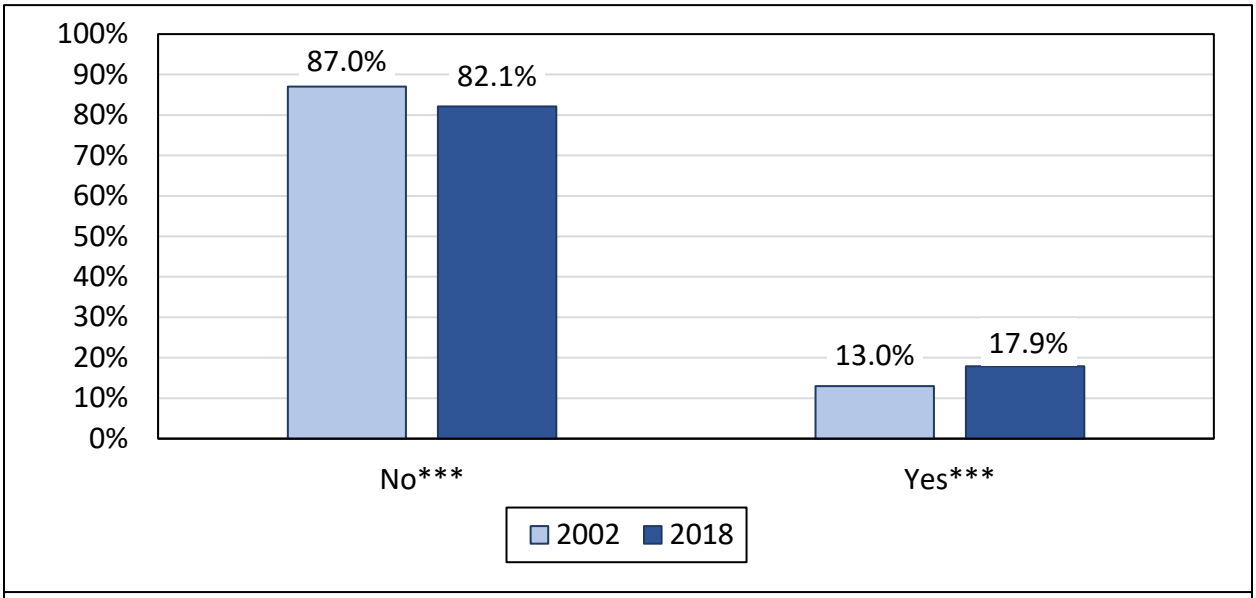
Understanding visitor trends and changes over time can assist in park management and resource allocation. The 2018 survey asked respondents to indicate if they had visited the SMMNRA in the past, or if this was their first time at the park. Figure 8-1 shows that while the majority of respondents were repeat visitors across survey years, the rate of first-time visitors increased by about 5% from 2002 to 2018.

Visitation for first time and repeat visitors also varied significantly across activities (95% confidence level or above). Respondents who engaged in hiking, sightseeing, photography, sunbathing, rock climbing, picnicking, wading and swimming, camping, painting and crafts, and horseback riding were more likely to be first-time visitors. Survey participants who reported jogging, walking dogs, mountain biking, or all "other" activities were more likely to be repeat visitors (Table A8-1).

Respondents were also asked whether they normally visited the trailhead they were surveyed at when in the SMMNRA. Though there was a slight decrease in the proportion of respondents who normally visited a particular trailhead from 2002 (71%) to 2018 (69%), the difference was not statistically significant (Table A8-2).

There were, however, significant differences across activities (95% confidence level or above). Higher rates of joggers, dog walkers, and mountain bikers were surveyed at a trailhead they normally use, while hikers, sightseers, photographers, sunbathers, rock climbers, picnickers, swimmers, and campers were more likely to be at a trailhead they did not normally visit (Table 8-1).

Figure 8-1. First-Time Visitors, by Survey Year



1. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.

Table 8-1. All Activities Engaged in at SMMNRA, by "Normally Visit the Trailhead" (Where Survey Was Administered)

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	155	14.4%	316	13.5%	471	13.8%
Camping**	61	5.7%	80	3.4%	141	4.1%
Hiking***	955	88.8%	1,966	83.8%	2,921	85.4%
Horseback Riding	33	3.1%	59	2.5%	92	2.7%
Jogging***	176	16.4%	550	23.4%	726	21.2%
Mountain Biking***	117	10.9%	368	15.7%	485	14.2%
Painting/Crafts	36	3.3%	52	2.2%	88	2.6%
Photography***	341	31.7%	441	18.8%	782	22.9%
Picnicking***	103	9.6%	140	6.0%	243	7.1%
Rock Climbing**	106	9.9%	164	7.0%	270	7.9%
Sightseeing***	643	59.8%	1,002	42.7%	1,645	48.1%
Sunbathing**	106	9.9%	165	7.0%	271	7.9%
Wading/Swimming***	85	7.9%	118	5.0%	203	5.9%
Walking dog(s)**	175	16.3%	473	20.2%	648	18.9%
Other	64	6.0%	183	7.8%	247	7.2%
Sample Total	1,075		2,347		3,422	

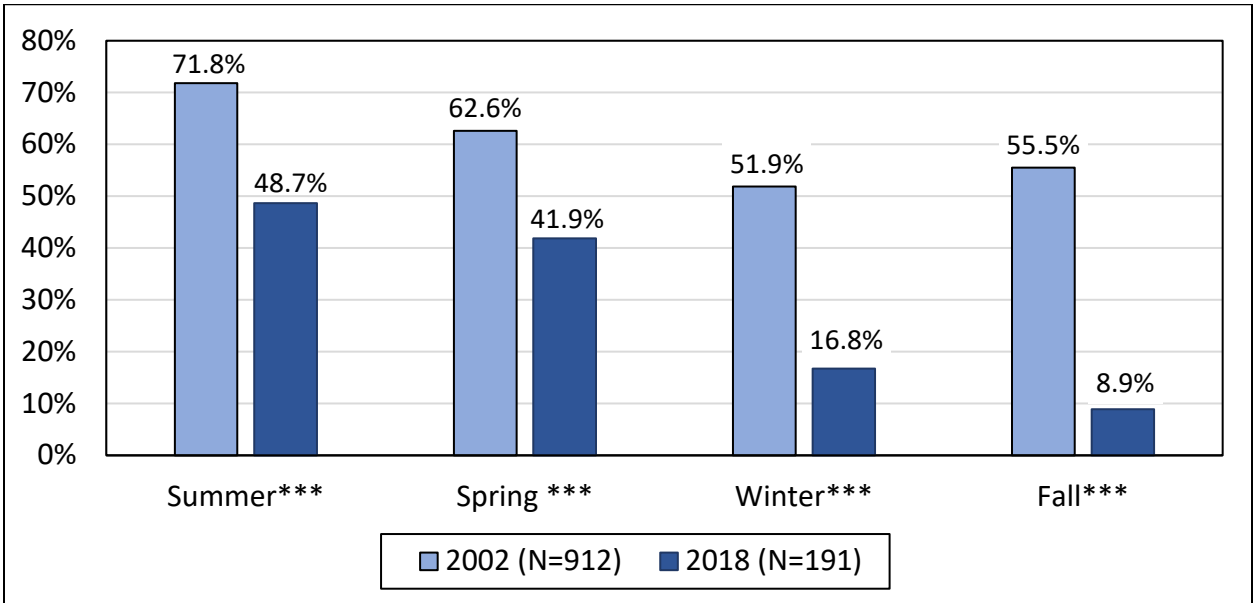
1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001

Most Popular Time to Visit the Park

The most popular times to visit the park were futher explored, as the density of visitors affects park management decisions. The survey asked participants to list the trailheads they had frequented in the past year, including the date, day of week, and time of visit.[27,28] To analyze the seasonality of visitation, dates were grouped accordingly: Winter (December, January, and February), Spring (March, April, and May), Summer (June, July, August), Fall (September, October, November). Only 191 visitors responded with at least one date. Survey participants could write in up to 6 answers, so the percentages do not add up to 100%. The most popular season to visit the SMMNRA was Summer (49%), followed by Spring (42%) and Winter (17%). Fall was the least popular season to visit (9%) (Figure 8-2).

As seen in Figure 8-2, the proportion of visitors fell across every season from 2018 to 2002. This may partly be due to the small sample size of the 2018 survey (N=191) compared to 2002 (N=912). The difference in the question format across survey years could be a factor as well; the 2002 survey asked respondents to write down the seasons they normally visit the SMMNRA, while in 2018 the survey asked respondents to record the dates they visited trailheads in the past year. Many respondents left the date of previous visits blank, most likely because they could not remember the date (though they may have remembered the general season if they had been prompted).

Figure 8-2. Most Popular Season to Visit SMMNRA, by Survey Year



1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001

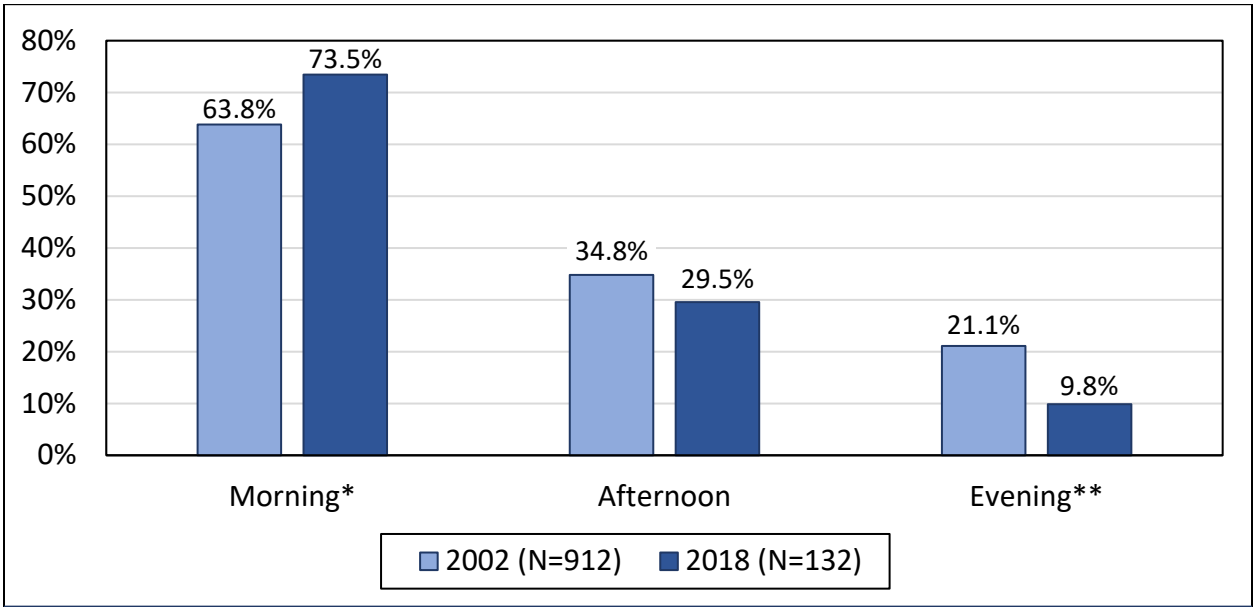
[27] Question 24: Have you visited any trailhead repeatedly in the last year? If not, which other trails have you visited in the last year? And when did you last visit?

[28] It is assumed that the responses written for Question 24 include trails within and outside of SMMNRA.

Fewer respondents reported information on the day of the week or time of day when listing the trailheads they had visited within the past year. Among respondents that did record the day of the week (N=139), about 75% of respondents made trips to the SMMNRA on the weekend, as opposed to about 37% made on a weekday (Table A8-3). While the amount of weekend visitors remained about the same across survey years, there was a roughly 11% increase in the proportion of weekday visitors from 2002 (26%) to 2018 (37%) (99% confidence level).

Additionally, survey participants visited the SMMNRA in the morning much more frequently than in the afternoon or evening in the past year (Figure 8-3).[29] Figure 8-3 shows that morning visitation increased (10%) while evening visitation decreased (11%) across survey years, and the amount of afternoon visitors remained about the same (95% confidence level or above).

Figure 8-3. Most Popular Time of Day to Visit SMMNRA, by Survey Year



1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001

Comparing the results of previous park visits to the date and time that respondents filled out the survey showed similar trends. Namely, people were more likely to visit the SMMNRA on the weekend and in the morning. For example, about 62% of respondents were surveyed on a weekend (N=2,706) compared to 75% who reported visiting on a weekend in the past year (Table A8-4). The majority of participants were also surveyed in the morning (60%) versus the 73% who reported visiting in the morning in the past year (Table A8-5).

[29] The 2002 survey asked respondents to mark the time of day they normally visit the SMMNRA from three options: morning, afternoon, or evening. The 2018 survey asked respondents to write in the time of day they visited the SMMNRA in the past year. For the purposes of direct comparison, and in the absence of the hour-cut offs for the 2002 survey, these written-in times were categorized as morning if they were between 5:00 AM and 11:59 AM, as afternoon if they were between 12:00 PM and 4:59 PM, and as evening if they were later than 5:00 PM.

Some notable differences emerged in activities when analyzed by the day of the week and time of day of survey administration. As seen in Table 8-2, respondents were more likely to hike, photograph, walk dogs, rock climb, and picnic during the weekend, but more likely to jog and sunbathe on a weekday (95% confidence level or above). Finally, visitors surveyed in the evening reported they engaged or planned to engage in sightseeing, sunbathing, and rock climbing at higher rates than those surveyed in the morning (95% confidence level) (Table A8-6). The remaining activities did not have statistically significant differences in the proportions of visitors across day of the week or time of day (Table 8-1; Table A8-6).

Table 8-2. All Activities Engaged in at SMMNRA, by Day of Visit (2018 Survey Date)

	Weekday		Weekend		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	232	13.9%	353	13.0%	585	13.4%
Camping	67	4.0%	125	4.6%	192	4.4%
Hiking*	1,407	84.0%	2,334	86.3%	3,741	85.4%
Horseback Riding	48	2.9%	69	2.5%	117	2.7%
Jogging***	386	23.0%	499	18.4%	885	20.2%
Mountain Biking	237	14.1%	343	12.7%	580	13.2%
Painting/Crafts	47	2.8%	72	2.7%	119	2.7%
Photography*	378	22.6%	688	25.4%	1,066	24.3%
Picnicking**	100	6.0%	218	8.1%	318	7.3%
Rock Climbing**	110	6.6%	245	9.1%	355	8.1%
Sightseeing	824	49.2%	1,386	51.2%	2,210	50.4%
Sunbathing**	164	9.8%	200	7.4%	364	8.3%
Wading/Swimming	104	6.2%	175	6.5%	279	6.4%
Walking dog(s)*	278	16.6%	518	19.1%	796	18.2%
Other	98	5.9%	198	7.3%	296	6.8%
Sample Total	1,675		2,706		4,381	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001

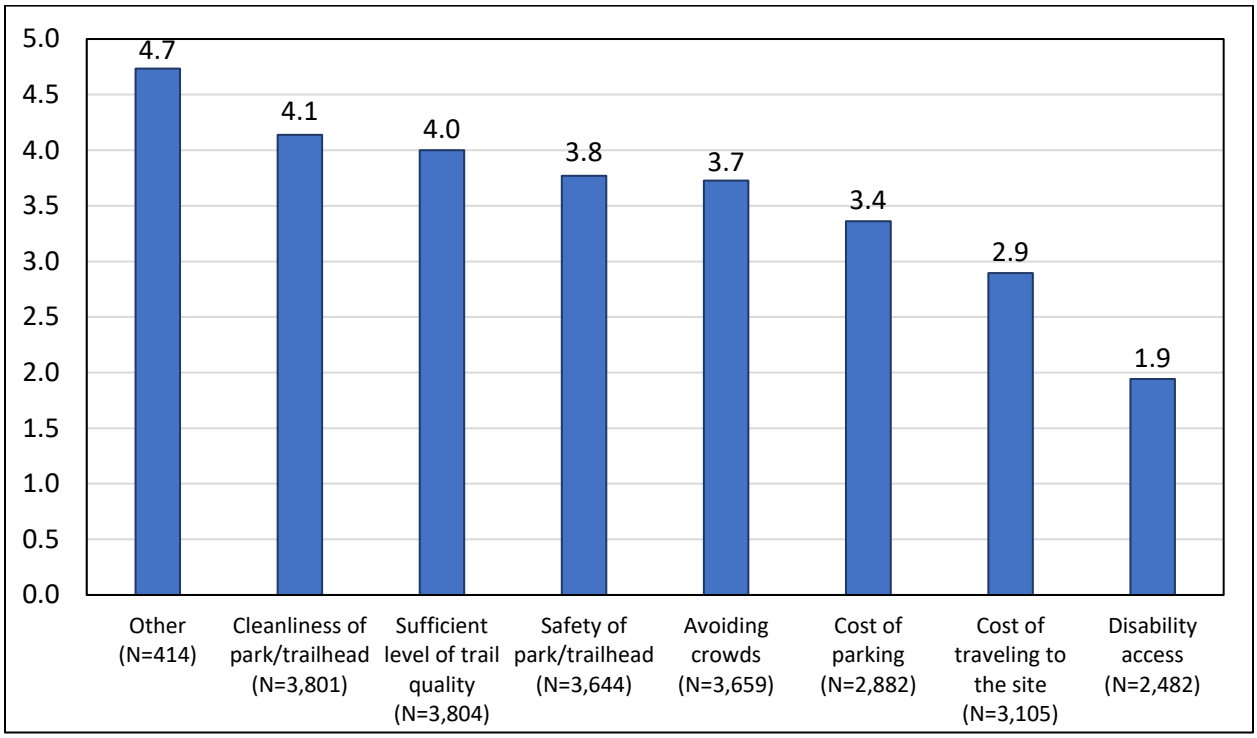
Factors Influencing Trailhead Decision

The 2018 survey also asked respondents to rate factors which influenced their decision to visit the particular trailhead they were surveyed at. The factors ranged from travel costs to issues of trailhead accessibility, safety, quality, and cleanliness, and were assessed on a Likert scale of 1 to 5 (where 1 is “unimportant” and 5 is “very important”). These questions were not asked on the 2002 survey, which only asked the general reason respondents chose to visit the SMMNRA, and thus represent new information on visitor choices.

Visitors highly valued the cleanliness of the park and/or trailhead (mean rating 4.1), followed by trail quality (4.0) and safety (3.8) (Figure 8-4). Disability access had the lowest importance to

visitors (1.9). The average rating for "Other" factors was the highest (4.7), though it should be noted that the sample size was much smaller (N=418) when compared to the sample sizes for other factors. Common write-in responses included aesthetics (beauty, views, overlooks, body of water, geology, scenery, wildlife), availability and ease of parking, level of trail difficulty, whether dogs were allowed, presence of amenities such as bathrooms and drinking fountains, distance from home/work and commute time, and trail accessibility for children and bicyclists.

Figure 8-4. Mean Value of Factors Influencing Trailhead Decision



Trail characteristics which had the highest rating for each respondent were identified, as these represented the most important factors in their decision to visit the trailhead. The results are very similar to those shown in Figure 8-4. The percentage of respondents who selected a "5" for each category was considered a "high rating." The cleanliness of the park and/or trailhead had the higest share of high ratings (44%), followed by sufficient level of trail quality (39%), safety of park and/or trailhead (35%), avoiding crowds (34%), cost of parking (26%), cost of traveling to the site (18%), and other (8%). Disability access had the fewest number of high ratings (Table 8-3).

Table 8-3. Factors Influencing Trailhead Decision

	Unimportant		Somewhat Unimportant		Neutral		Somewhat Important		Very Important		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Cleanliness of park/trailhead	183	4.2%	149	3.4%	551	12.6%	996	22.7%	1,922	43.9%	3,801	86.8%
Sufficient level of trail quality	236	5.4%	165	3.8%	657	15.0%	1,053	24.0%	1,693	38.6%	3,804	86.8%
Safety of park/trailhead	382	8.7%	269	6.1%	700	16.0%	751	17.1%	1,542	35.2%	3,644	83.2%
Avoiding crowds	392	8.9%	261	6.0%	786	17.9%	737	16.8%	1,483	33.9%	3,659	83.5%
Cost of parking	672	15.3%	203	4.6%	534	12.2%	358	8.2%	1,115	25.5%	2,882	65.8%
Cost of traveling to the site	956	21.8%	343	7.8%	643	14.7%	398	9.1%	765	17.5%	3,105	70.9%
Disability access	1,573	35.9%	203	4.6%	280	6.4%	129	2.9%	297	6.8%	2,482	56.7%
Other	10	0.2%	4	0.1%	11	0.3%	36	0.8%	353	8.1%	414	9.4%
Sample Total	4,381		4,381		4,381		4,381		4,381		4,381	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Certain factors influenced a respondent's trailhead decision, depending on the trailhead. Generally, trailheads were rated differently across different factors, suggesting either that there are tradeoffs in the attributes of each trailhead, that visitors select different trailheads based on unique preferences, or that both play a role. Parking costs were the most influential factors for respondents surveyed at Wilacre Park, San Vicente, and Runyon Canyon, while those at the Stunt Ranch Trail, Wilacre Park, and Rancho Sierra Vista Main Parking Lot cared more about travel costs (Table A8-7; Table A8-8).

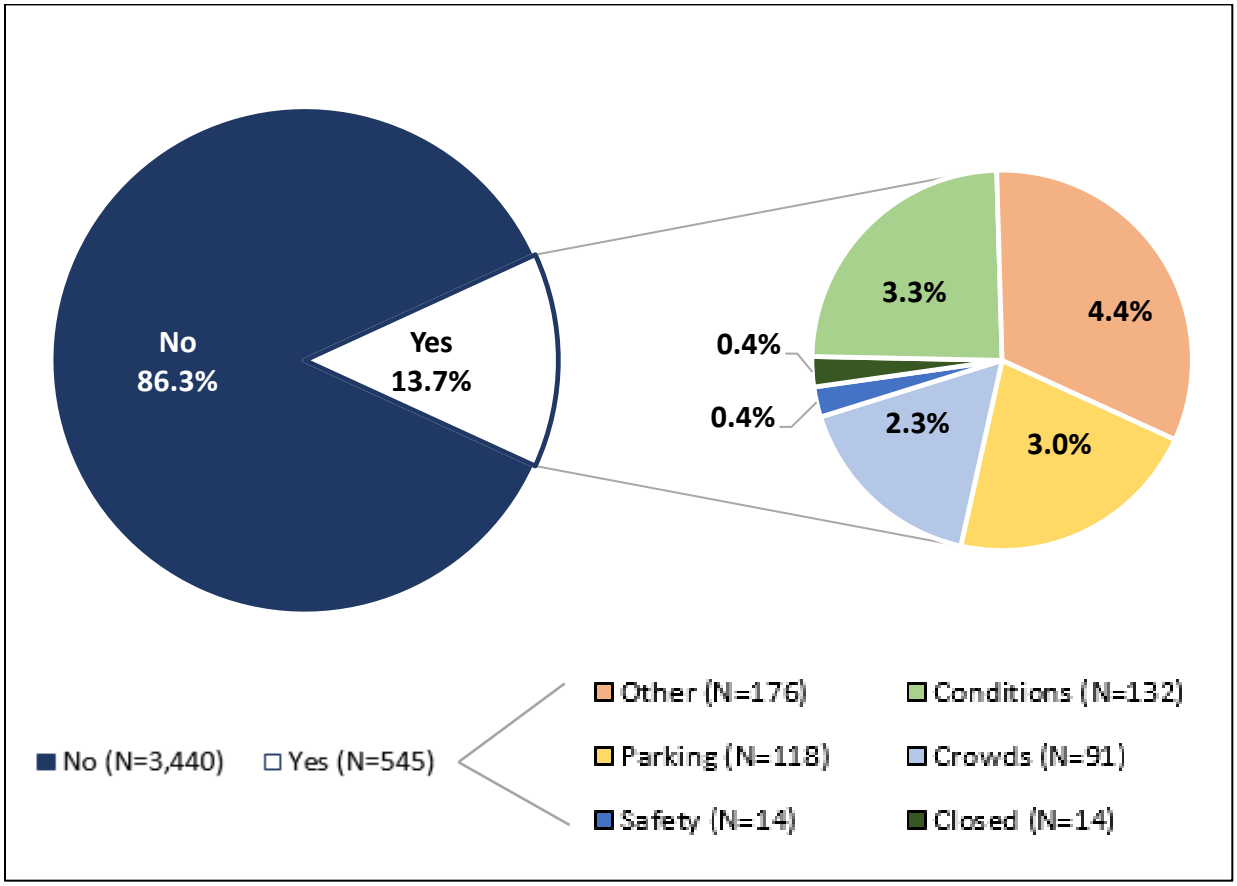
Respondents considered avoiding crowds to be of high importance when deciding to travel to the Rocky Oaks Main Parking Lot, Franklin Canyon Hastain Trailhead, and the Zuma/Trancas Canyons (Backbone Trail) Encinal Canyon Trailhead (Table A8-9). At the Reseda Boulevard Main Parking Lot ("Top of Reseda"), Wilacre Park, and Rancho Sierra Visa Main Parking Lot participants highly valued disability access (Table A8-10). Visitors surveyed at Wilacre Park, Caballero Canyon Trailhead, and Rancho Sierra Vista Main Parking Lot considered the safety of the park and trail (Table A8-11) at higher rates than other sites. Finally, trail quality and cleanliness of the park and/or trailhead were the most important factors for respondents at Will Rogers State Historic Park, Rancho Sierra Vista Main Parking Lot, and Wilacre Park (Table A8-12; Table A8-13).

Factors Influencing Return Visitation

Several survey questions centered around aspects influencing return visitation. Respondents were asked if they had ever arrived at a trailhead and then left without using the trails, if they would consider returning to the trailhead they were surveyed at, and to rank the factors that might keep them from returning to the trailhead again. Participants could rank the factors on a scale of 1 to 3, with 1 being the least important factor, and 3 being the most important. Again, this question was not asked of respondents on the 2002 survey (which instead asked if any specific activities occurring at the trailhead impacted the user experience) and provides new insights.

The majority of respondents reported that they never left a trailhead early (86%). Among the 14% who left a trail before carrying out their planned activity, the most common reasons cited were issues with parking, crowds, and trail conditions (Table 8-3). Over 98% of visitors (N=3,993) said they would return to the trailhead they were surveyed at (Table A8-14). Participants reported issues of trailhead cleanliness, trail difficulty, travel distance, and desire to explore different trailheads as the main reasons for not wanting to return to their current trail.

Figure 8-5. Leaving Trailhead Early and, if Yes, Reasons for Doing So



When respondents were asked to rate factors that kept them from visiting the trailhead again or more frequently, lack of parking was the most important factor (Table 8-4). Other factors of high importance were parking costs and entrance fees, feeling unsafe or unwelcome, and crowding at the trailhead. On the other hand, respondents reported not being able to find a babysitter, concern about the presence (or lack therof) of a ranger, lack of signs or information in appropriate languages, lack of amenities or activities they want, and difficulty getting to the trailhead as the least important factors affecting their likelihood to return to the trail (Table 8-4).

Table 8-4. Factors Influencing Return Visitation to Trailhead

	Least Important		Somewhat Important		Most Important		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
No parking	605	14%	284	6%	1,327	27%	2,216	46%
Cost of entrance fee	732	17%	346	7%	1,029	21%	2,107	44%
Don't feel safe	724	17%	291	6%	1,025	21%	2,040	42%
Cost of parking	726	17%	446	9%	1,021	21%	2,193	45%
Congestion at park	596	14%	556	12%	1,011	21%	2,163	45%
Don't feel welcome	873	20%	260	5%	716	15%	1,849	38%
Too difficult to get to the trailhead	1,135	26%	397	8%	270	6%	1,802	37%
Lack of amenities I want to use	1,121	26%	434	9%	257	5%	1,812	38%
Lack of activities I want to participate in	1,192	27%	320	7%	229	5%	1,741	36%
Concern about the lack of a ranger presence	1,205	28%	383	8%	223	5%	1,811	37%
No signs/information in appropriate language	1,230	28%	316	7%	214	4%	1,760	36%
Concern about the presence of a ranger	1,229	28%	345	7%	203	4%	1,777	37%
Couldn't find a babysitter	1,463	33%	101	2%	124	3%	1,688	35%
Sample Total	4,381		4,831		4,831		4,831	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

To determine if factors preventing visitation differ across demographic and socioeconomic characteristics, the mean rating for the survey question was analyzed by gender, age, education, race and ethnicity, and income. Since the question was scored on a scale of 1 to 3 (with 3 being the most important factor), a mean rating closer to 3 indicates the reason was more influential in preventing return visitation. Between male and female respondents,

women rated congestion at the park, feeling unsafe, feeling unwelcome, a lack of amenities, difficulty getting to the trailhead, concern about the presence (or lack thereof) of a ranger, and a lack of signs or information in an appropriate langage as more important than men (95% confidence level or above). The remaining factors, including a lack of parking, parking costs, and entrance fees, were about equally important across gender (Table 8-5).

Table 8-5. Mean Rating of Factors Influencing Return Visitation to Trailhead, by Gender

	Male			Female			Sample Average		
	N.	Mean	S.D.	N.	Mean	S.D.	N.	Mean	S.D.
Concern about the lack of a ranger presence***	853	1.4	0.6	841	1.5	0.7	1,694	1.4	0.7
Concern about the presence of a ranger***	846	1.4	0.6	823	1.5	0.7	1,669	1.4	0.7
Congestion at park*	1,034	2.2	0.8	993	2.2	0.8	2,027	2.2	0.8
Cost of entrance fee	1,017	2.1	0.9	965	2.1	0.9	1,982	2.1	0.9
Cost of parking	1,058	2.1	0.9	993	2.1	0.9	2,051	2.1	0.9
Couldn't find a babysitter	813	1.2	0.6	768	1.2	0.6	1,581	1.2	0.6
Don't feel safe***	947	2.0	0.9	970	2.3	0.9	1,917	2.1	0.9
Don't feel welcome***	883	1.8	0.9	852	2.0	0.9	1,735	1.9	0.9
Lack of activities I want to participate in	830	1.4	0.7	806	1.5	0.7	1,636	1.4	0.7
Lack of amenities I want to use***	861	1.4	0.7	839	1.6	0.8	1,700	1.5	0.7
No parking	1,063	2.3	0.9	1,017	2.4	0.9	2,080	2.3	0.9
No signs/information in appropriate language***	834	1.3	0.6	817	1.5	0.8	1,651	1.4	0.7
Too difficult to get to the trailhead***	863	1.4	0.7	826	1.6	0.8	1,689	1.5	0.7
Sample Avg.	1,889			1,817			3,706		

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in means test, *P<0.05, **P<0.01, ***P<0.001.

Regarding income, surveyed visitors earning more than $100,000 a year found park congestion to be a more influential factor preventing return visitation than those earning less than $50,000 a year. Conversely, respondents with household incomes below $50,000 thought the presence of a ranger and a lack of signs or information in an appropriate language were more important factors than those with annual incomes above $100,000 (95% confidence level or above). Respondents in the lowest income category were also more impacted by difficulty in finding childcare (Table A8-18).

Respondents rated reasons differently according to their identified race and ethnicity (Table A8-17). Moreover, there were statistically significant differences between all non-White respondents and non-Hispanic White respondents. Non-White visitors found feeling unwelcome, difficulty getting to the trailhead, a lack of desired amenities, a lack of desired activities, concern about the presence (or lack thereof) of a ranger, not having signs or information in an appropriate language, and trouble finding childcare to be more influential in their decision to return to the trailhead than non-Hispanic Whites (95% confidence level or above). Table 8-6 also shows non-Hispanic White respondents rated congestion at the park (2.2) as more important than all non-White respondents combined (2.1) (99.9% confidence level).

Table 8-6. Mean Rating of Factors Influencing Return Visitation to Trailhead, by Race/Ethnicity (White/Non-White)

	White			Non-White			Sample Average		
	N.	Mean	S.D.	N.	Mean	S.D.	N.	Mean	S.D.
Concern about the lack of a ranger presence***	935	1.4	0.6	687	1.6	0.7	1,622	1.4	0.7
Concern about the presence of a ranger***	930	1.3	0.6	670	1.5	0.7	1,600	1.4	0.7
Congestion at park***	1,186	2.2	0.8	754	2.1	0.9	1,940	2.2	0.8
Cost of entrance fee	1,136	2.1	0.9	765	2.1	0.9	1,901	2.1	0.9
Cost of parking	1,167	2.1	0.9	798	2.1	0.9	1,965	2.1	0.9
Couldn't find a babysitter*	865	1.2	0.5	652	1.3	0.6	1,517	1.2	0.6
Don't feel safe	1,095	2.1	0.9	740	2.2	0.9	1,835	2.1	0.9
Don't feel welcome*	967	1.9	0.9	698	2.0	0.9	1,665	1.9	0.9
Lack of activities I want to participate in*	918	1.4	0.7	654	1.5	0.7	1,572	1.4	0.7
Lack of amenities I want to use***	954	1.5	0.7	680	1.6	0.8	1,634	1.5	0.7
No parking	1,186	2.3	0.9	807	2.3	0.9	1,993	2.3	0.9
No signs/information in appropriate language***	921	1.4	0.6	664	1.5	0.8	1,585	1.4	0.7
Too difficult to get to the trailhead***	939	1.5	0.7	687	1.6	0.8	1,626	1.5	0.7
Sample Avg.	2,255			1,322			3,577		

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in means test, *P<0.05, **P<0.01, ***P<0.001.

In general, the factors preventing return visitation did not vary widely with age or education, with some notable exceptions. For example, middle-aged respondents (41 to 64 years) considered congestion at the park to be of higher importance than younger (18 to 40 years) respondents. Participants in the younger age group rated difficulty getting to the trailhead, a lack of desired amenities, and a lack of signs or information in an appropriate language as more important factors preventing return visitation than middle age or older respondents (95% confidence level) (Table A8-15). College-educated respondents rated congestion at the park as a more influential factor in their decision not to return (2.2) than visitors with a high school degree (2.0). Furthermore, although not being able to find a babysitter was the lowest-ranked factor on average, current high school students found it to be more important (1.5) than college-educated respondents (1.2) (95% confidence level or above) (Table A8-16).

Park Recommendations and Protection Motivations

To understand how visitors view the SMMNRA broadly, several survey questions were explored which asked respondents how likely they were to recommend the park and the particular trailhead to a friend or colleague.[30] Participants could rank their answers on a scale of 1 to 9, with 1 being not likely at all, and 9 being extremely likely to recommend the park or trailhead. With the exception of the question regarding reasons for protecting the SMMNRA, these were also new questions that were not asked on the 2002 survey.

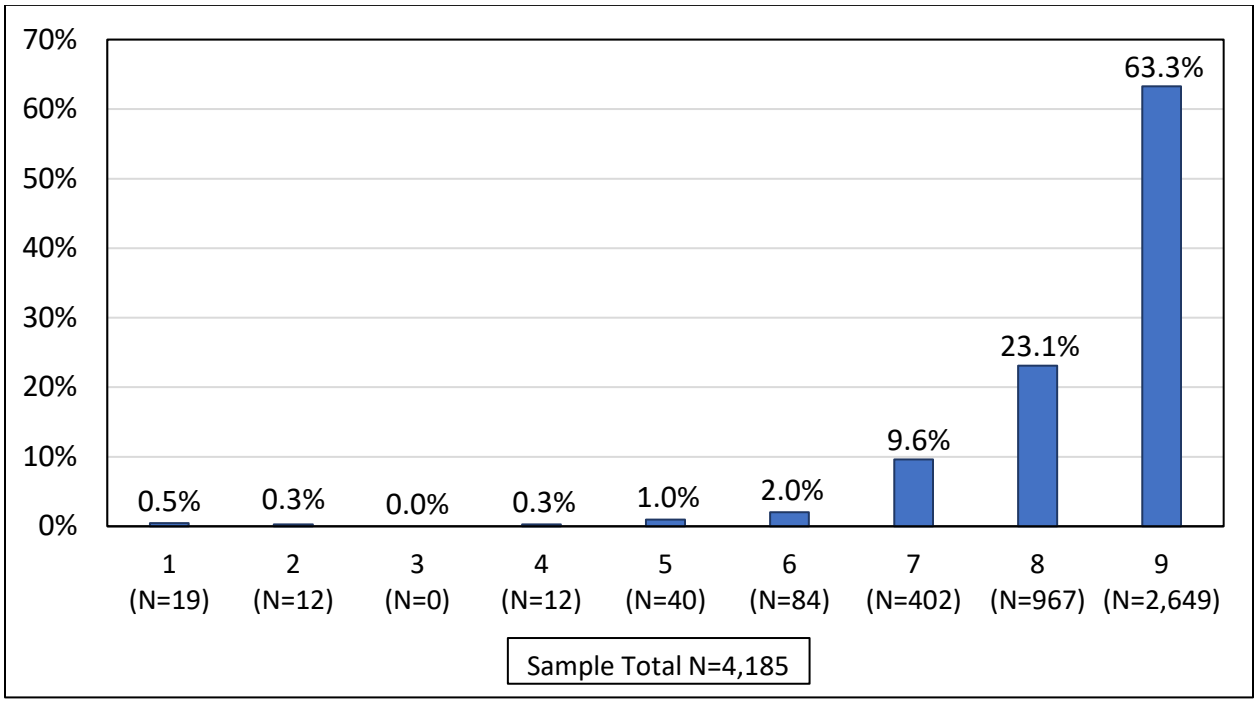
Not Likely At All	Very unlikely	Unlikely	Somewhat unlikely	Equally likely and unlikely	Somewhat Likely	Likely	Very Likely	Extremely Likely
1	2	3	4	5	6	7	8	9

When respondents were asked if they would recommend visiting any location in the SMMNRA, the average response was very high (8.4 out of 9). Additionally, over 86% of respondents reported they were either very likely or extremely likely to recommend the park (Figure 8-4). Female, middle age (41-64 years), and non-Hispanic White respondents were slightly more likely to recommend the park than males, those between 18 and 40 or over 65 years old, and all non-White visitors (95% confidence level or above) (Table A8-19; Table A8-20; Table A8-23). There was also a slight positive linear relationship between income and likelihood of

[30] Question 12a: How likely is it that you would recommend the Santa Monica Mountains National Recreation Area to a friend or colleague? Where 1 is not likely at all and 9 is extremely likely.
Question 13a: How likely is that you would recommend this particular trailhead to a friend or colleague? Where 1 is not likely at all and 9 is extremely likely.

recommending the park, with higher-income respondents reporting a higher average likelihood (8.5) than those in the lowest income group (8.3) (95% confidence level) (Table A8-24).

Figure 8-6. Likelihood of Recommending SMMNRA to a Friend or Colleague



Respondents were also asked to rank how likely they were to recommend the specific trailhead at which they were surveyed to a friend or colleague. Similar to the results for recommending the park in general, the average rating was also high (8.3 out of 9), and nearly 82% of respondents gave a ranking of 8 or higher (Table A8-25). Likewise, surveyed visitors who identified as female, were between 41 and 64 years old, or earned more than $100,000 a year were more likely to recommend the trailhead than males, respondents who were younger than 40 or older than 65, or those in the lowest income group (95% confidence level) (Table A8-26; Table A8-27, Table A8-31).

When recommendations were analyzed for each trailhead, average scores at all but one trailhead were at least 8 or above, indicating that, in general, most visitors would still recommend the trailheads they were surveyed at to their friends or colleagues (Table A8-32). Respondents at Escondido Canyon Winding Way Trailhead reported an average likelihood of 7.8; some respondents noted the trail had litter and animal excrement that had not been picked up.

Surveyed visitors could also write-in an explanation for their likelihood of recommending any location in the SMMNRA, including the specific trailhead where they took the survey. Considering the explanations among "very likely" and "extremely likely," ratings found many common themes. Participants noted the accessibility and convenience of being able to travel to the park from an urban area, and that they enjoyed how many of the trails were dog-friendly, safe, clean, and well-maintained. Most responses had to do with environmental, intrinsic, and aesthetic values, including the beauty, scenery, terrain, open space, views, wildness, clean air, peacefulness, and tranquility. Respondents also appreciated the variety of trail options in terms of type and difficulty, and the friendliness of other park visitors they encountered along the trail.

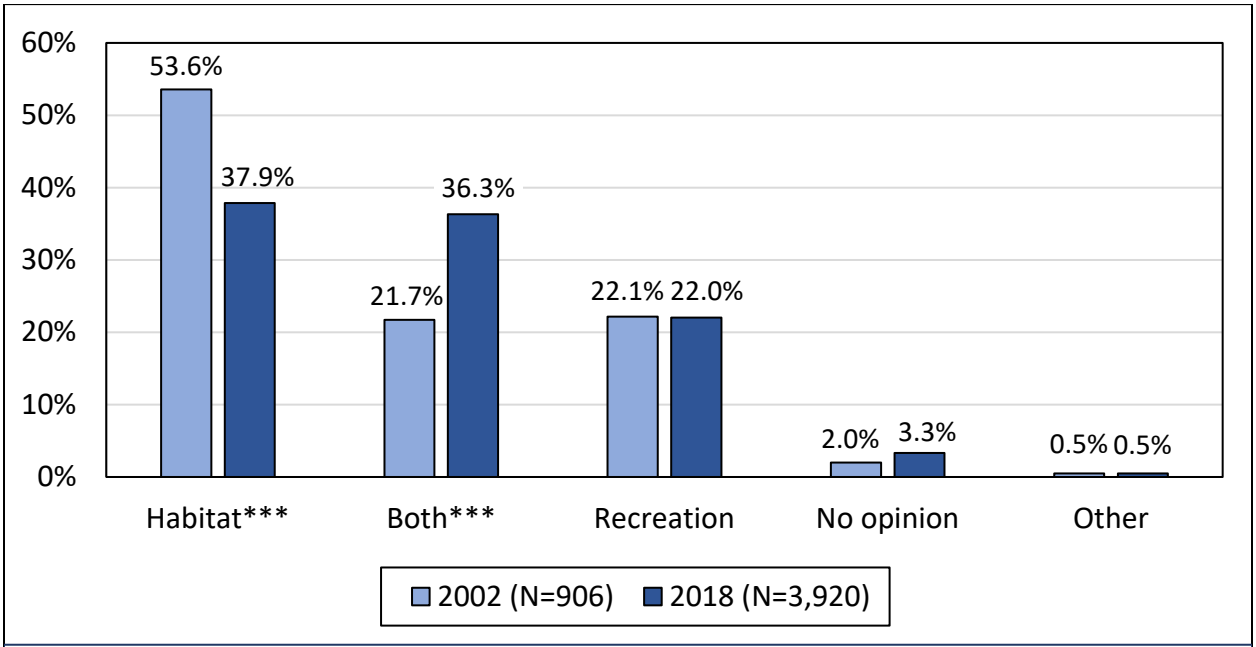
Finally, the survey asked respondents to identify what they think is the most important reason to protect the Santa Monica Mountains. They could choose one of four options provided in Question 25.[31] It is important to note that the survey question asked respondents to select only one reason, but over one-third of respondents who answered Question 25 selected two responses. Therefore, the analysis below accounts for multiple responses to this question.

Figure 8-6 shows that the majority of respondents (38%) wanted to protect the Santa Monica Mountains in order to provide habitats for plants and wildlife. The next most popular reason (36%) was to both provide recreational opportunities and habitats for plants and wildlife. A notable proportion of surveyed visitors (22%) wanted to protect SMMNRA only to provide recreational opportunities.

There was a decline in the amount of respondents who said protecting the SMMNRA was important for providing habitat from 2002 (54%) to 2018 (38%), yet the proportion of visitors that selected both providing recreational opportunities and providing habitat increased nearly 15% across survey years (99.9% confidence level). The percentage of respondents who selected recreation alone, no opinion, or other remained relatively unchanged from 2002 to 2018 (Figure 8-6).

[31] Question 25: In your opinion, the most important reason to protect the Santa Monica Mountains is (select one): To provide recreational opportunities; To provide habitat for plants and wildlife; No opinion; Other.

Figure 8-7. Most Important Reason to Protect the SMMNRA, by Survey Year



1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001

Reasons participants gave for protecting the SMMNRA varied across sociodemographic variables. Men were more likely to mark recreational opportunities alone, while women were more likely to select habitat alone, as well as both recreational opportunities and habitat (99.9% confidence level) (Table A8-32). Higher rates of respondents in the middle and older age groups (41 years or older) reported recreational opportunities alone, or both recreational opportunities and habitat, than those in the younger age category (18 to 40 years) (Table A8-33).

Though rates varied across racial and ethnic groups (Table A8-35), more non-Hispanic White visitors thought the SMMNRA should be protected to provide habitat for plants and wildlife, and more non-White visitors had no opinion (Table A8-36). There is also a significant relationship between income and reasons for protecting the park. Table 8-7 shows that surveyed visitors were more likely to believe the park should be protected to provide recreational opportunities alone as household income increases (i.e. they are more affluent). The inverse appears true for visitors who believe it should be protected to provide habitat for plants and wildlife alone (Table 8-7).

Table 8-7. Most Important Reason for Protecting the SMMNRA, by Income

	<$50K		$50K – $100K		$100K – $150K		>$150K		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
To provide recreational opportunities	103	16.7%	185	22.6%	111	21.5%	219	26.4%	618	22.2%
To provide habitat for plants and wildlife	284	46.0%	311	37.9%	197	38.2%	297	35.8%	1,089	39.1%
Both	188	30.5%	300	36.6%	200	38.8%	292	35.2%	980	35.2%
No opinion	34	5.5%	22	2.7%	8	1.6%	16	1.9%	80	2.9%
Other	8	1.3%	2	0.2%	0	0.0%	6	0.7%	16	0.6%
Sample Total	617	100.0%	820	100.0%	516	100.0%	830	100.0%	2,783	100.0%

1. There is a statistically significant relationship between the two variables at P<0.001. Note that cell sizes approach 0.

9 Trailhead Comparisons

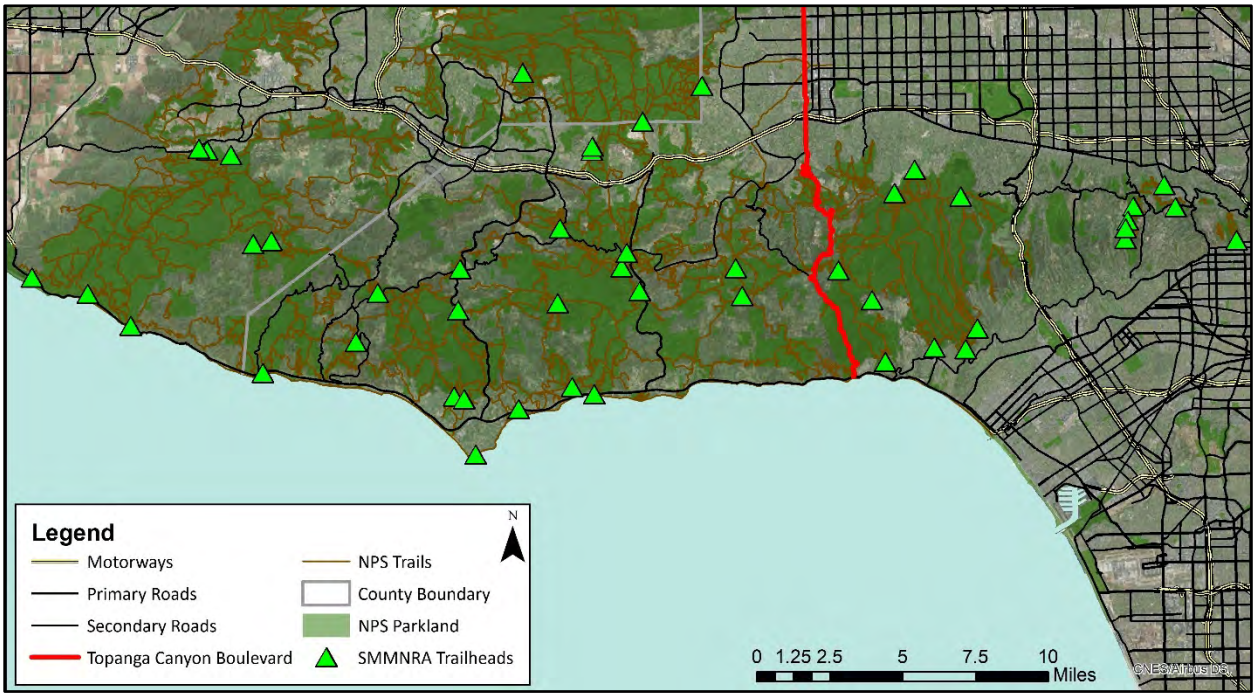
This final results section includes two analyses to examine trail differences through the lenses of user demographics, planning and travel, activities and time spent in the park, amenity use and preferences, and attitudes towards the park. The first analysis compares trailheads based on their location in either the western or eastern areas of the national recreation area. In the second analysis, trailheads are grouped into three functional use categories (primary, secondary, and tertiary) and then compared.

Since trailheads in the eastern section of the park are closer to denser urban development, and western trailheads tend to be near less developed land and suburban neighborhoods, the patterns borne from this directional distinction may prove useful for NPS planning purposes. Likewise, any differences in visitor characteristics, preferences, or attitudes among primary, secondary, and tertiary trailheads may assist NPS in understanding the intensity, frequency, and types of trail use among locations to make decisions related to resource allocation and trailhead and amenity maintenance.

Comparison of Eastern and Western Trailheads

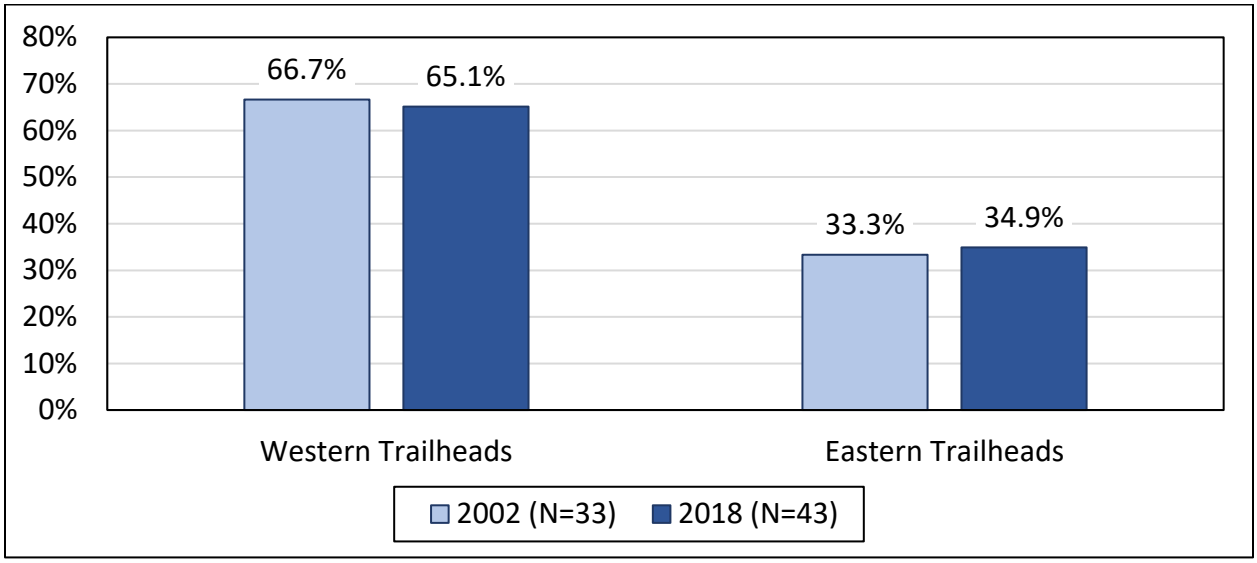
The first trailhead analysis aims to analyze visitor characteristics and attitudes based on the geographic orientation of trailheads in the SMMNRA. For the purpose of this analysis, western trails are geographically defined as those located in more suburban areas of San Fernando and Conejo Valleys, as well as of Santa Monica, Malibu, and West Los Angeles (NPS 2002 Survey). The 2002 Survey report defines eastern trails as those close to denser urban areas, such as the greater metropolitan area of Los Angeles and parts of the San Fernando Valley. Keeping with the 2002 delineation, Topanga Canyon Boulevard was used as the boundary separating eastern and western trailheads.

Figure 9-1. Location of Eastern vs. Western Trailheads



There are 15 trailheads on the eastern side of Topanga Canyon Boulevard and 28 on the western side (Table A9-1). The 2002 survey, which was conducted at a total of 33 sites (23 trailheads and 10 neighborhood entrances), included 11 eastern sites and 22 western sites. While the 2018 survey was administered at more sites, the share of eastern and western trails remained roughly the same across survey years (Figure 9-2).

Figure 9-2. Percentage of Eastern vs. Western Trailheads, by Survey Year



Overall, about 58% of survey participants visited western trails versus 42% on eastern trails. These results represent a slight change from the 2002 survey, where 55% visited western trailheads (55%), compared to eastern (45%). These differences were not statistically significant at the 95% confidence level or above, indicating that about the same proportion of respondents visited eastern and western trailheads across survey years.

Table 9-1. Respondents at Eastern vs. Western Trailheads, by Survey Year

	2002		2018	
	N.	Pct.	N.	Pct.
Western	320	54.5%	2,547	58.1%
Eastern	267	45.5%	1,834	41.9%
Total	587	100.0%	4,381	100.0%
1. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.				

User Demographics

There were few differences in the socioeconomic and demographic profile of visitors surveyed at eastern and western trailheads. While a higher proportion of male participants visited western trails (60%) compared to females (57%), and more females (43%) were surveyed at eastern trails than males (40%), these differences were not statistically significant (Table A9-2). Likewise, differences across educational attainment (Table A9-3), race/ethnicity (Table A9-4), and income were varied but not significant.

Roughly equal proportions of non-Hispanic White respondents visited either western trails (about 58%) or eastern trails (about 41%), compared to all non-White respondents grouped together (Table A9-5). Survey participants earning between $100,000 and $150,000 visited western sites, and those earning between $50,000 to $100,000 visited eastern sites, at higher rates than other income groups (Table A9-6).

Trails in both locations had a similar mean participant age, with an average of 41 years for eastern sites and 42 years for western sites. There is a significant relationship between age and trail location, where a higher proportion of respondents between 41 and 64 years old visit western sites than other age groups (95% confidence level). Those between 18 and 40 years of age were more likely to visit eastern sites (Table 9-2). Among household structure variables, there was a relationship between single adults and trailhead location, with western trails having a higher proportion (56%) than eastern (44%), at the 99.9% confidence level (Table A9-7).

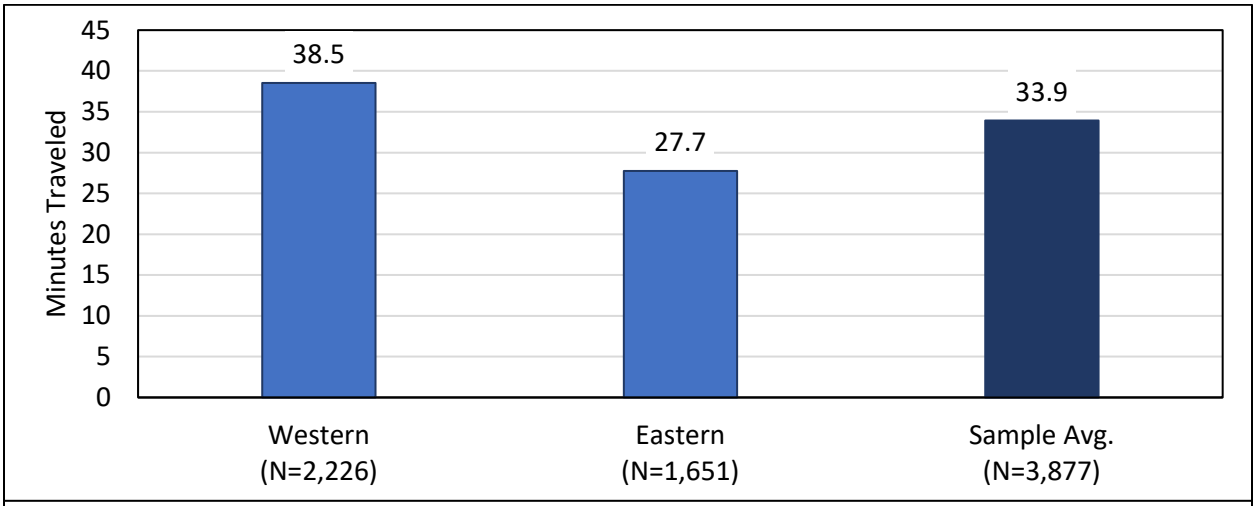
Table 9-2. Respondents at Eastern vs. Western Trailheads, by Age

	Western		Eastern		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
18 to 40 Years	1,095	56.9%	831	43.1%	1,926	100.0%
41 to 64 Years	933	61.1%	595	38.9%	1,528	100.0%
65+ Years	168	60.0%	112	40.0%	280	100.0%
Sample Total	2,196	58.8%	1,538	41.2%	3,734	100.0%
1. There is a statistically significant relationship between the two variables at P<0.05.						

Planning and Travel

As mentioned in Chapter 4, the three dominant modes of transportation to SMMNRA trailheads were by automobile (86%), walking or jogging (9%), and biking (3%). All other modes accounted for less than 1% of the share of respondents. Considering the differences among the top three modes, it appears that a greater proportion of participants to western trailheads traveled by automobile and bicycle than those visiting eastern trails, while those to eastern sites were more likely to walk or jog to the trail than those at western sites (Table A9-8). Respondents generally took less than 34 minutes to travel to their destination (Figure 9-3). However, the average visitor travel time to a western trailhead was nearly 11 minutes longer (39 minutes) compared to visits to eastern trailheads (28 minutes).

Figure 9-3. Mean Minutes Traveled, by Eastern vs. Western Trailheads



1. The difference in mean minutes traveled is statistically significant at P<0.001.

Activities and Time Spent in SMMNRA

As shown in Table 9-3, higher proportions of respondents engaged in camping, horseback riding, mountain biking, picnicking, rock climbing, sightseeing, and swimming at western trailheads, while those visiting eastern trails were more likely to hike, walk dogs, or engage in "other" activities (99% confidence level or above). Survey participants spent an average of 177

minutes (3 hours) on the western side of the park and 114 minutes (almost 2 hours) on the eastern side (Table A9-9). This difference of 64 minutes is statistically significant (99.9% confidence level). When analyzed by hour categories (i.e., <1 hour, 1 to 2 hours, etc.), results showed that respondents were more likely to spend between 1 and 2 hours on an eastern trailhead, while those on western trails were more likely to spend less than 1 hour, or 2 or more hours (Table A9-10).

Table 9-3. All Activities Engaged in at SMMNRA, Eastern vs. Western Trailheads

	Western		Eastern		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	359	14.1%	227	12.4%	585	13.4%
Camping***	144	5.7%	48	2.6%	192	4.4%
Hiking**	2,138	83.9%	1,603	87.4%	3,741	85.4%
Horseback Riding**	84	3.3%	33	1.8%	117	2.7%
Jogging	494	19.4%	391	21.3%	885	20.2%
Mountain Biking**	338	13.3%	192	10.5%	590	13.5%
Painting/Crafts	68	2.7%	51	2.8%	119	2.7%
Photography	643	25.2%	423	23.1%	1,066	24.3%
Picnicking**	212	8.3%	106	5.8%	318	7.3%
Rock Climbing***	241	9.5%	114	6.2%	355	8.1%
Sightseeing***	1,350	53.0%	860	46.9%	2,210	50.4%
Sunbathing	229	9.0%	135	7.4%	364	8.3%
Wading/Swimming***	202	7.9%	77	4.2%	279	6.4%
Walking dog(s)***	419	16.5%	377	20.6%	796	18.2%
Other**	150	5.9%	146	8.0%	296	6.8%
Sample Total	2,547		1,834		4,381	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001

Amenity Use and Preferences

There were distinct and statistically significant, although not dramatic, differences between the amenities that respondents used, wanted improved, and wanted added to trailheads by location. Visitors surveyed at western sites were more likely to use parking, bathrooms, maps of trailheads, picnic tables, on-site staff or rangers, campgrounds, and fire pits, while visitors at eastern sites were more likely to use overlooks and viewpoints, benches, drinking fountains, Wi-Fi, off-leash dog areas, telephones, and sports facilities (Table A9-11).

Higher rates of respondents at western trailheads wanted bathrooms and campgrounds improved, compared to those at eastern trails who wanted improvements to drinking fountains, off-leash dog areas, on-site law enforcement, vending machines and food providers, and telephones at higher rates (Table 9-4). In terms of amenities that participants wanted

added to trails, those surveyed at western sites were more likely to want additional drinking fountains, cellular service, benches, shade structures, and overlooks and viewpoints. Finally, at eastern trailheads, respondents wanted additional off-leash dog areas, parking, and vending machines or food providers at higher rates (Table A9-12).

Table 9-4. Amenities that Respondents Want Improved, by Eastern vs. Western Trailheads

	Western		Eastern		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques	37	1.4%	26	1.4%	63	1.4%
Bathrooms**	822	31.9%	511	27.9%	1,333	30.4%
Benches	218	8.5%	149	8.1%	367	8.4%
Bike racks	29	1.1%	24	1.3%	53	1.2%
Campgrounds**	80	3.1%	33	1.8%	113	2.6%
Cellular service	284	11.0%	202	11.0%	486	11.1%
Dog off-leash areas***	162	6.3%	176	9.6%	338	7.7%
Drinking fountains*	404	15.7%	334	18.2%	738	16.8%
Educational information	67	2.6%	35	1.9%	102	2.3%
Electrical hookups	17	0.7%	15	0.8%	32	0.7%
Fire pits	51	2.0%	30	1.6%	81	1.8%
First aid services	53	2.1%	51	2.8%	104	2.4%
Hitching post	15	0.6%	4	0.2%	19	0.4%
Law enforcement onsite*	47	1.8%	52	2.8%	99	2.3%
Maps of trailheads/trails	309	12.0%	219	11.9%	528	12.1%
Overlook/viewpoint	182	7.1%	142	7.7%	324	7.4%
Park programs	52	2.0%	33	1.8%	85	1.9%
Parking	493	19.2%	362	19.7%	855	19.5%
Picnic tables	92	3.6%	51	2.8%	143	3.3%
Shade structures	157	6.1%	114	6.2%	271	6.2%
Sports facilities	16	0.6%	16	0.9%	32	0.7%
Staff/rangers onsite	62	2.4%	52	2.8%	114	2.6%
Telephones*	16	0.6%	23	1.3%	39	0.9%
Trash cans	358	13.9%	271	14.8%	629	14.4%
Vending/food providers*	29	1.1%	35	1.9%	64	1.5%
Visitor center	54	2.1%	34	1.9%	88	2.0%
Wi-Fi	199	7.7%	143	7.8%	342	7.8%
Sample Total	2,574		1,834		4,381	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.

Frequency of Visits, Attitudes toward Park, Value of Access

Overall, about 82% of all survey respondents indicated that they were repeat visitors. There was a higher proportion of repeat visitors at eastern (85%) compared to western trails (80%), whereas there were more first-time visitors at western sites than eastern (Table A9-13). A similar pattern can be seen in Table A9-14, which shows whether respondents normally visit the trailhead they were surveyed at. Namely, respondents on eastern trailheads were more likely to normally visit the trail they were surveyed at (75%) than those on western trailheads (64%).

Regarding how visitors valued access, slightly higher rates of respondents at western trailheads (60%) indicated that providing recreational opportunities was the most important reason to protect the SMMNRA versus eastern trailheads (56%), though it remained the most popular reason overall. While a higher proportion of respondents at eastern trails (39%) thought that providing habitat for plants and wildlife was an important reason to protect the park than on western trails (37%), these differences were not statistically significant (Table A9-15).

Comparison of Primary, Secondary, and Tertiary Trailheads

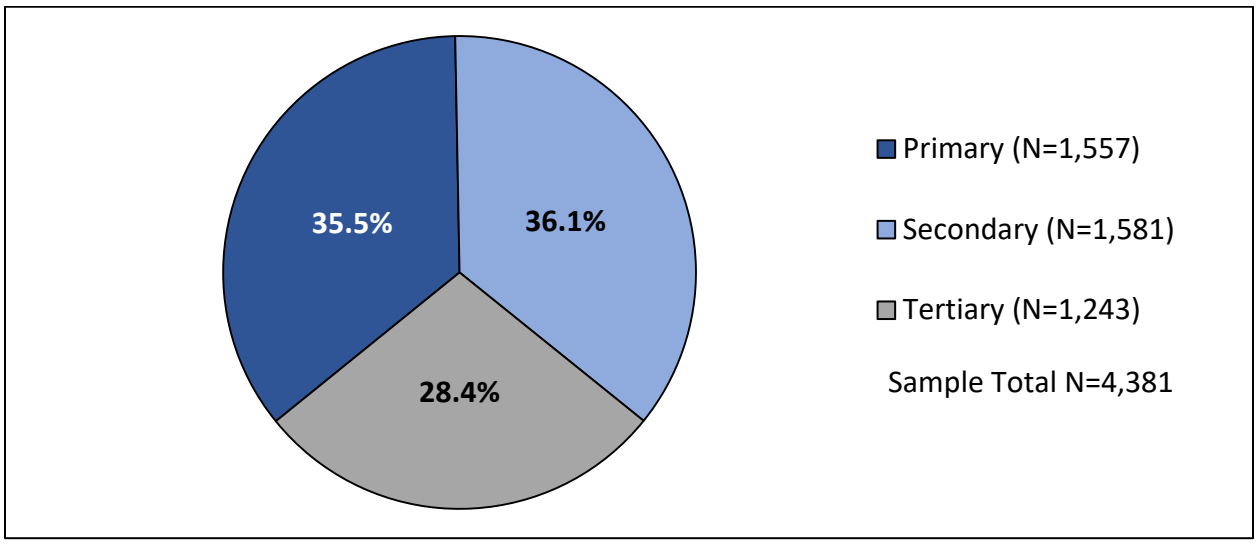
In the 2014 visitor count analysis, NPS identified and defined primary, secondary, and tertiary trailheads based on both the amount of use and amenities available at each site. [32] Visitor count data is used as a proxy for the amount of use, where trailheads with the highest visitor counts are considered "heavy use," and those with the fewest visitors are "low use." As NPS defines it, primary trailheads are those that are heavily used and have a full complement of amenities (2014). Secondary trailheads are either heavily used with no amenities, or moderately used with limited amenities (NPS 2014 Visitor Count). Tertiary trailheads are trails with low use, generally have no amenities, and may or may not have parking (NPS 2014 Visitor Count).

This analysis uses the same trailhead classifications that NPS employed in the 2014 visitor count analysis. The 2014 count included 15 primary, 14 secondary, and 16 tertiary trailheads (N=45). The section below analyzes 14 primary, 13 secondary, and 16 tertiary trailheads (N=43), as no respondents were surveyed in 2018 at the Cheeseboro Canyon/Simi Hills Outer Parking Lot and the Rancho Sierra Vista Wendy Trailhead. Refer to Appendix 8 for a full list of trailheads ranked by functional use, including visitor count totals (Table A9-16).

[32] The 2002 survey analysis conducted a similar analysis but compared only primary and secondary trailheads. For this analysis, visitor characteristics were also analyzed by the tertiary rank.

Figure 9-4 shows the proportion of respondents surveyed at primary and secondary trailheads was about the same (36%), and those at tertiary trailheads accounted for about 28% of the sample total (N=4,381). The most notable differences across trailhead groups related to activities and time spent, not demographics.

Figure 9-4. Number of Respondents, by Primary, Secondary, or Tertiary Trailhead



User Demographics

There are some variations in the visitor profile of survey participants among primary, secondary, and tertiary trailheads. In terms of gender, a higher proportion of females were surveyed at primary trailheads, while a higher proportion of males were surveyed at tertiary trailheads (significant difference at the 95% confidence level). Secondary trails had an equal amount of male and female participants (Table A9-17). While trail use varied by education, the relationship between the variables is not statistically significant (Table A9-19).

There are statistically significant relationships between the variables of age, race and ethnicity, income, and trailhead rank at the 95% confidence level or above. Respondents in the youngest age group (18 to 40 years) were more likely to visit secondary trailheads, while middle age (41 to 64 years) respondents and those over the age of 65 were more likely to visit primary trails (Table A9-18).

Trail use among different trailhead ranks varied by race and ethnicity, with a greater proportion of non-Hispanic White respondents surveyed at primary trailheads, and a higher share of non-Hispanic Black, Asian, and Hispanic or Latino respondents at secondary trailheads (Table A9-20). However, the difference in proportions between non-Hispanic White and all non-White survey participants is not statistically significat at secondary or tertiary trailheads, incidating roughly equal use between the two groups (Table A9-21).

In terms of income, respondents earning between $50,000 and $100,000 a year visited secondary trailheads at higher rates than primary or tertiary trails (Table 9-5). Participants earning between $100,000 and $150,000 or more than $150,000 a year appear to visit primary and secondary trails at roughly the same rate (36%), while those earning less than $50,000 a year visited secondary and tertiary trails at the same rate (34%). Single adults and those living with friends or unrelated adults were more likely to visit secondary trails, while couples with children under the age of 18 visited primary trails at higher rates (95% confidence level or above) (Table A9-22).

Table 9-5. Respondents at Primary, Secondary, and Tertiary Trailheads, by Income

	Primary		Secondary		Tertiary		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
<$50,000	202	31.0%	226	34.7%	223	34.3%	651	100.0%
$50,000 to $100,000	306	35.4%	337	39.0%	222	25.7%	865	100.0%
$100,000 to $150,000	193	35.9%	195	36.2%	150	27.9%	538	100.0%
>$150,000	313	36.4%	311	36.1%	237	27.5%	861	100.0%
Sample Total	1,014	34.8%	1,069	36.7%	832	28.5%	2,915	100.0%
1. There is a statistically significant relationship between the two variables at P<0.05.								

Planning and Travel

Among the three dominant modes of transportation used to reach the SMMNRA, respondents surveyed at primary trailheads were more likely to arrive by automobile than on foot or bicycle. More visitors walked or jogged to secondary trails, and tertiary trails had roughly equal rates of visitors arrive by automobile and bicycle (Table A9-23). The mean travel time to primary and tertiary trailheads was about the same (36 and 37 minutes, respectively), while participants surveyed at secondary trailheads spent significantly less time traveling to the park (29 minutes) (Table A9-24).

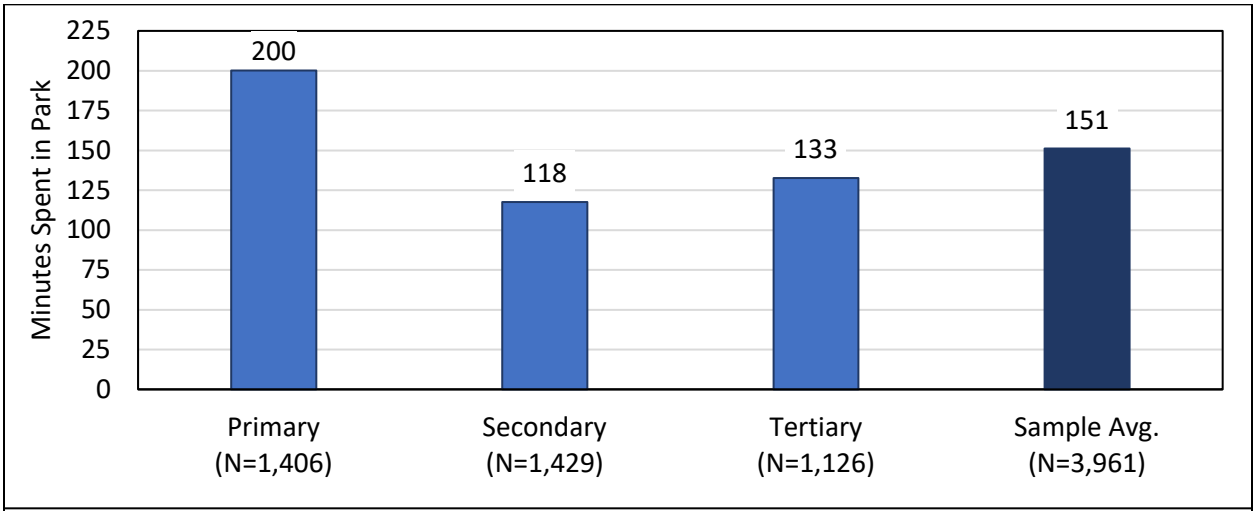
Activities and Time Spent in SMMNRA

The most notable differences across trailhead groups, however, were in terms of activities and time spent. At primary trails, surveyed visitors were more likely to sightsee, bird watch, picnic, wade or swim, and camp. Secondary trails had more joggers, dog walkers, and respondents engaging in "other" activities, and tertiary trails had higher rates of rock climbers. Across trailhead ranks, similar proportions of respondents engaged in hiking (85%) , photography (24%), mountain biking (13%), sunbathing (8%), horseback riding (3%), and painting and crafts (3%) (Table A9-25).

Visitors surveyed at primary trails spent the longest time in the park, at an average of 200 minutes (or about 3 hours and 20 minutes). This was more than an hour longer than those who visited secondary (117 minutes) or tertiary (133 minutes) trailheads (Figure 9-5). When time spent in the park was analyzed across hour categories, results showed that respondents visiting

secondary and tertiary trails were more likely to spend less than 2 hours at the park. Higher rates of survey participants at primary and tertiary trailhead spent between 2 and 5 hours in the SMMNRA, while those at primary trailheads were more likely to spend over 6 hours (Table A9-26).

Figure 9-5. Mean Time Spent in SMMNRA, by Trailhead Rank



1. The difference in mean time spent is statistically significant at P<0.01 between all combinations of trailhead ranks.

Amenity Use and Preferences

The differences among the amenities respondents used, wanted improved, and wanted added varied across trailhead ranks, though the results are largely intuitive. Since existing amenity infrastructure was a factor in whether trailheads were designated as primary, secondary, or tertiary, there are unsurprising trends associated with amenity use and preference across trailhead ranks. For example, respondents at primary trails used amenities at higher rates than those at secondary or tertiary trails, with a few exceptions (Table A9-27). More participants used parking and on-site staff and rangers at primary and tertiary trailheads, and secondary trailheads had the highest share of respondents using off-leash dog areas and telephones (99% confidence level or above).

Visitors surveyed at secondary and tertiary trailheads were more likely to want improvements made to bathrooms, parking, drinking fountains, trash cans, benches, and first aid services. At primary locations, more respondents wanted cellular service, maps of trails and trailheads, and programming put on by the park or another entity (95% confidence level or above) (Table A9-28). Considering statistically significant results, more survey participants at primary trails wanted additional Wi-Fi connectivity, cellular service, off-leash dog areas, vending machines and food providers, educational information, and electrical hookups. Furthermore, there is a positive linear relationship between amenities participants want added and trailhead rank, with higher rates of visitors at tertiary locations desiring additional drinking fountains, bathrooms, trash cans, benches, parking, overlooks and viewpoints, and picnic tables (95% confidence level or above) (Table A9-29).

Frequency of Visits, Attitudes Towards Park, and Value of Access

The majority of visitors at each trailhead type were repeat visitors (about 82% overall), and the differences between trailhead ranks were not statistically significant (Table A9-30). When asked if they normally visit the trailhead, respondents at secondary trails were more likely to be a normal visitor than respondents at primary or tertiary trails (99.9% confidence level) (Table A9-31). Finally, the highest share of survey participants who believe the SMMNRA should be protected to provide recreational opportunities were found at secondary trails (61%), while more respondents at primary trails believe it should be protected to provide habitat for plants and wildlife (41%) (Table 9-6).

Table 9-6. Most Important Reason for Protecting the SMMNRA, by Trailhead Rank

	Primary		Secondary		Tertiary		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
To provide recreational opportunities	791	56.7%	853	60.5%	633	57.1%	2,278	58.2%
To provide habitat for plants and wildlife	566	40.5%	491	34.8%	430	38.8%	1,487	38.0%
No opinion	34	2.4%	59	4.2%	37	3.3%	130	3.3%
Other	4	0.3%	7	0.5%	8	0.7%	19	0.5%
Sample Total	1,396	100.0%	1,410	100.0%	1,108	100.0%	3,914	100.0%

1. There is a statistically significant relationship between the two variables at P<0.01. Note that cell sizes approach 0.

Conclusion

The purpose of this report was to assess the 2018 SMMNRA visitor survey and count, especially as it compares to the 2002 survey and 2014 count. This analysis can help to inform NPS's strategic allocation of resources at park trailheads, and to provide a benchmark for additional trailhead sites that may be constructed in the future. More broadly, the results of the report can enhance the park area's contribution to the region's green space access.The following key findings identify some of the major results from this visitor survey.

Key Findings

The major purpose of this study was to update information on visitor demographics and user experiences which was last obtained in a major recreational visitor survey in 2002. This report analyzes the data collected from a survey distributed at 45 trailheads in the park over 4 days in June 2018. In particular, analysis looked at visitor demographics, travel and activity use, and preferred amenities and values. Much of this information was then compared to the 2002 survey to understand changes and trends in visitation. Below are some of the key findings from the report.

Visitor Demographics and Characteristics

- The average visitor continues to be wealthier, whiter, older, and higher educated than the average resident of Los Angeles.
- There was a growth in diversity of survey respondents with an increase in percentage of visitors from all non-White races/ethnicities, including a doubling of Hispanic/Latino visitors compared to 2002 survey respondents.
- Most visitors are childless, come in small groups of friends/family, and spend 1-2 hours in the park.

Activities and Trip Planning/Travel

- Average travel time increased by about 6 minutes since 2002.
- Car/van/bus/SUV remains the main travel mode to SMMNRA for over 80% of visitors.
- Walking/jogging to SMMNRA nearly doubled among visitors, suggesting an increase of local visitors to the parks.
- Hiking remains the most common activity (over 80% of visitors) and has grown since the 2002 survey.
- All other types of activities, except for sunbathing, dog walking, and photography, saw a drop in the proportion of visitors engaging in them.
- The most popular activities overall are hiking, sightseeing, and photography.[33]

[33] Respondents could indicate multiple activites for which the engaged while at the trailhead- sums to more than 100%. "Photography" likely was interpreted by visitors as "taking pictures", versus professional or hobby-related

- Activities differed by gender, age, and race/ethnicity (see report for further information on statistically significant differences).

Economic Valuation

- Estimates of respondents' valuation of the park were calculated from travel costs and trip time from respondents home ZIP codes to trailhead destinations.
- The average respondent traveled 35 miles roundtrip at a cost of $18.59 (range from $0 to $183.35).
- Travel distance, cost, and time are all statistically significantly higher for younger, lower-income, non-White respondents.
- Western trailheads had higher average travel distance, cost, and time than Eastern trailheads while certain activities (camping, swimming) were associated with increased expenditures.
- 62% of surveyed respondents stated they were willing to financially contribute to future upkeep of the park, further demonstrating the economic value of the SMMNRA to visitors.

Amenities Used and Desired

- The three most-used amenities were parking, overlooks and viewpoints, bathrooms, and trash cans.
- Parking was the most commonly used amenity (and also the most commonly cited reason for why respondents would avoid visiting or returning to a trail).
- Bathrooms were the most frequently cited amenity in need of improvement or addition to trailheads.
- Drinking fountains, trash cans, trailhead maps, and cell service were the other most commonly cited amenities which visitors desired to see improved or added.
- At present the actual provision of cellular service in SMMNRA is somewhat low; only about 15% of visitors had full access and less than a third had some access. Nearly one-quarter of visitors had no cellular access while around one-third were not sure if they had access.
- A majority of the respondents who desired better cell service stated safety reasons and access to emergency services as why they would like this access.

Value of Trail Characteristics and Access

- The most valued overall aspects of the trails were cleanliness, level of trail quality, and safety.
- The fourth aspect was avoiding crowds followed by costs of parking and travel.
- Visitors did, however, prioritize different considerations for different trails. This suggests that SMMNRA trailheads provide different user experiences which visitors select based on their differing preferences and needs.

photography by visitors coming to specifically photograph sunsets, wildlife, flowers, etc., with higher-end equipment.

- The top reasons given for leaving a trail or choosing not to return were: no parking available, entrance fee, and safety.
- A large majority of visitors were very likely to recommend SMMNRA and their particular visited trailhead to a friend (on a scale of 1 to 9 the average value for each was 8).
- Over 80% of respondents gave a top score of 8 or 9 for recommending SMMNRA and for their particular trailhead.
- Respondents also recognized the two missions of the SMMNRA. When asked the most important reason for protecting the SMMNRA, the top option selected was for plant and animal habitat, followed by both habitat and recreation values, and then recreation value alone.

Eastern vs. Western and Primary, Secondary, and Tertiary Trailhead Trends

- The respondents at eastern and western trailheads did not significantly differ in terms of age, race, gender, income, or educational attainment.
- Travel to trailheads did differ, with more respondents traveling by automobile and bike to western trailheads while more respondents jogged and walked to eastern than western trailheads.
- The amenities desired by respondents also differed based on both the location (east versus west) and rank (primary, secondary, tertiary) of the trailhead where they were surveyed.
- Roughly equal proportions of resopndents visited primary and secondary trailheads (35.5% and 36.1% respectively) with slightly flewer (28.4%) at tertiary trailheads.
- A higher percentage of males visited tertiary trails and the younger age group visited secondary trails more while middle-aged and older respondents visited primary trailheads more.
- Respondents spent significantly longer amounts of time at primary trailheads than secondary or tertiary (the average visit length to primary trails was an hour longer).

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Chapter 1 Appendix

Santa Monica Mountains National Recreation Area Visitor Survey - Recreational Trail Use

1. How did you learn about the trailhead you visited (or plan to visit) today? (select all that apply)
   - Facebook
   - Twitter
   - Instagram
   - Agency website (National Park Service, California State Parks, LA Mountains, LA County, etc.)
   - Other website or online media
     - Please list _____
   - Friends, family, and/or acquaintances
   - Guidebook
   - Newspaper or other printed media

2a. Did you have trouble finding the trailhead? y/n

2b. What navigation strategy did you use? (select all that apply)
   - Maps (digital or paper)
   - Directions from social media
   - Road signs
   - Directions from friends/acquaintances
   - Asked a stranger for directions
   - Park ranger(s) or other park staff gave directions
   - I know the route
   - Other _____

**** If you are not a Southern California resident, SKIP now to question 5**

3. If you are a resident of the southern California region, approximately how long did it take for you to

   get from home to the trail today? _____ minutes _____ hours

4. To estimate the distance you live from the trail, what is the closest major intersection to your home?

   _____ (write intersection)

5. What is your residential zip code? _____

6. How did you travel to the trail today? (select one only)
   - Car/truck/SUV/van
   - Public transportation
   - Group transportation (club/organization)
   - Motorcycle/scooter
   - Bicycle

- Walk/jog
- Horseback
- Other (type) _____

7. Did you pay for parking today? ☐ Yes ☐ No
   - If yes, how much? _____

8. From the list below, which three activities have you engaged in today or plan to engage in today? (please rank the three you select on a scale of 1-3; 1=least important, 3=most important)

Place an X by the 3 activities you plan to do today.		**Of the three activities, rank their importance from 1 to 3**		
		Least Important = 1	**Moderately Important= 2**	**Most Important = 3**
	Sightseeing			
	Hiking			
	Picnicking			
	Mountain Biking			
	Bird Watching			
	Walking dog(s)			
	Jogging			
	Camping			
	Horseback Riding			
	Rock Climbing			
	Painting/Crafts			
	Photographing			
	Sunbathing			
	Wading/Swimming			
	Other (Type) _____			

9. In light of your three chosen activities, what other destinations did you rule out before deciding to visit this trailhead today?
   - Please list
     - o _____
     - o _____

- o _____
- o _____
- o _____

10. In deciding whether to visit this location, how would you rate your consideration of each of the following? (1=unimportant, 5=very important)

	How would you rate your consideration of each aspect				
	Unimportant	Of Little Importance	Neither unimportant or important	Important	Very Important
	1	2	3	4	5
Cost of parking	1	2	3	4	5
Cost of traveling to the site	1	2	3	4	5
Avoiding crowds	1	2	3	4	5
Disability Access	1	2	3	4	5
Safety of park and/or trailhead	1	2	3	4	5
Sufficient level of trail quality	1	2	3	4	5
Cleanliness of park and/or trailhead	1	2	3	4	5
Other _____	1	2	3	4	5

11a. Which of the following amenities did you or will you use during your visit today? (Select all that apply)

- o Parking
- o Bathrooms
- o Maps of trailheads and trails (individual paper maps or posted maps)
- o Educational information/Interpretive services
- o Benches
- o Barbeques
- o Camp grounds
- o Trash cans
- o In-person staff/rangers
- o Shade structures
- o Visitor Center
- o Drinking fountains
- o Vending machines or other food providers
- o First aid services
- o Wi-Fi connectivity
- o Telephones
- o Cellular Service
- o Programs put on by the park or other entity
- o Sports facilities (e.g. soccer fields, bocce ball fields)
- o Bike racks
- o Fire pits
- o Picnic tables
- o Electrical hookups
- o Law enforcement personnel onsite
- o Hitching post
- o Overlook/viewpoint
- o Dog off-leash area/access

11b. If you could improve only two of the amenities you selected in the previous question (11a) that would significantly impact your park experience, which two would they be?
(Select two from the list below)

- o Parking
- o Bathrooms
- o Maps of trailheads and trails (individual paper maps or posted maps)
- o Educational information/Interpretive services
- o Benches
- o Barbeques
- o Camp grounds
- o Trash cans
- o In-person staff/rangers

- o Shade structures
- o Visitor Center
- o Drinking fountains
- o Vending machines or other food providers
- o First aid services
- o Wi-Fi connectivity
- o Telephones
- o Cellular Service
- o Programs put on by the park or other entity
- o Sports facilities (e.g. soccer fields, bocce ball fields)
- o Bike racks
- o Fire pits
- o Picnic tables
- o Electrical hookups
- o Law enforcement personnel onsite
- o Hitching post
- o Overlook/viewpoint
- o Dog off-leash area/access

11c. Which three of the following amenities (listed below) that are not already provided at this trailhead would significantly improve your experience of the park if they were made available?
(Select three from the list below)

- o Parking
- o Bathrooms
- o Maps of trailheads and trails (individual paper maps or posted maps)
- o Educational information/Interpretive services
- o Benches
- o Barbeques
- o Camp grounds
- o Trash cans
- o In-person staff/rangers
- o Shade structures
- o Visitor Center
- o Drinking fountains
- o Vending machines or other food providers
- o First aid services
- o Wi-Fi connectivity
- o Telephones
- o Cellular Service
- o Programs put on by the park or other entity
- o Sports facilities (e.g. soccer fields, bocce ball fields)
- o Bike racks

- Fire pits
- Picnic tables
- Electrical hookups
- Law enforcement personnel onsite
- Hitching post
- Overlook/viewpoint
- Dog off-leash area/access

12a. How likely is it that you would recommend the **Santa Monica Mountains National Recreation Area** (SAMO) to a friend or colleague? Where 1 is not likely at all and 9 is extremely likely. (Select one number from 1-Not Likely at All to 9-Extremely Likely)

Not Likely At All	Very unlikely	Unlikely	Somewhat unlikely	Equally likely and unlikely	Somewhat Likely	Likely	Very Likely	Extremely Likely
1	2	3	4	5	6	7	8	9

12b. Please tell us why you chose that score. _____

_____

13a. How likely is it that you would recommend **this particular trailhead** to a friend or colleague? Where

1 is not likely at all and 9 is extremely likely. (Select one number from 1 to 9)

Not Likely At All	Very unlikely	Unlikely	Somewhat unlikely	Equally likely and unlikely	Somewhat Likely	Likely	Very Likely	Extremely Likely
1	2	3	4	5	6	7	8	9

13b. Please tell us why you chose that score. _____

_____

14. Did you have internet access at the trailhead and/or while on the trail? (select one answer)

- Yes
- No
- Some of the time
- Don't know

15. Would you find it valuable for any of the following reasons to have internet access? (Check all that apply)

- To communicate with other members of your party
- To access emergency medical services
- To deal with car difficulties

- To alert rangers to hazardous conditions onsite
- To post photos or comments from your trip to social media
- To navigate the trail
- To learn about trail and trailhead features and amenities
- Other _____

16. Did you have trouble navigating the park? y/n

If yes, explain _____

17. Did you have trouble learning about features and amenities that this trailhead and trail offer?

☐ Yes ☐ No

If yes, explain _____

18. What type of group are you here with? (Select one)

- Alone
- Family
- Friends
- Family & friends
- Religious organization/church
- Youth club
- Educational
- Other organization or club
- Other (type) _____

19. How many pets/animals are in your group today? (Write a number below)

Dogs _____

Horses _____

20. What are the ages and gender (the gender to which the person most identifies) of the people in your group today? (Fill out estimated age and gender for as many people as are in your group or up to 15 people in your group)

	Age	Gender
Person 1		
Person 2		
Person 3		
Person 4		
Person 5		
Person 6		
Person 7		
Person 8		
Person 9		
Person 10		
Person 11		
Person 12		

Person 13		
Person 14		
Person 15		

21. About how long will/did you spend in the park today? _____ hrs.

22. Is this your first visit to the SAMO? ☐ Yes ☐ No

****If this is your first visit to the SMMNRA, please skip to question 25.**

23. Is this the trail you normally visit in the SAMO? ☐ Yes ☐ No

24. Have you visited any trailhead repeatedly in the last year? ☐ Yes ☐ No

- If yes, list the trailheads you visited and identify how many times you visited each one in the last year.

Name of Trail	**Number of visits**

- If not, which other trails have you visited in the last year? And when did you last visit?

	Name of Trail	**Date Visited**	**Day of the Week** (if remembered)	**Time of Day** (if remembered)
Trail #1				
Trail #2				
Trail #3				
Trail #4				
Trail #5				

25. In your opinion, the most important reason to protect the Santa Monica Mountains is (select one):

- To provide recreational opportunities
- To provide habitat for plants and wildlife
- No opinion
- Other (type) _____

26a. Do you have a physical condition that could interfere with your ability to recreate or your choice of recreational activities?

☐ Yes ☐ No

26b. If yes, please explain _____

_____

27. Which of the following factors have kept you (or would keep you) from visiting this trailhead again or more frequently? Select all that apply and please rank your answers on a scale of 1-3; 1=least important, 3=most important).

	How would you rate the importance of each to deciding whether to visit or not		
	Least Important	Moderately Important	Most Important
	1	2	3
No Parking	1	2	3
Cost of parking	1	2	3
Cost of entrance fee	1	2	3
Don't feel welcome	1	2	3
Don't feel safe	1	2	3
Congestion at park	1	2	3
Concern about the presence of a ranger	1	2	3
Concern about the lack of a ranger presence	1	2	3
Couldn't find a babysitter	1	2	3
Too difficult to get to the trailhead	1	2	3
No signs or information in appropriate language	1	2	3
Lack of amenities that I want to use	1	2	3
Lack of activities that I want to participate in	1	2	3
Other _____	1	2	3

28. Have you ever arrived at the trailhead and decided to leave and not do your planned activity?

☐ No ☐ Yes If yes, why?_____

29a. Would you come back again to this trailhead? ☐ Yes ☐ No

29b. Why or why not? _____

If yes, when? _____

Voluntary Personal Information:

30. What is your age? _____

31. To which gender identity do you most identify?

- Female
- Male
- Choose not to Answer

32. Do you have children under the age of 18 in your household? ☐ Yes ☐ No

- If yes, what age(s)? _____, _____, _____, _____, _____

33. What are the ages, gender (the gender to which they most closely identify), and relationships to you of the people that live with you in your household?

	Gender	Age	Relationship
Person 1			
Person 2			
Person 3			
Person 4			
Person 5			
Person 6			
Person 7			
Person 8			
Person 9			
Person 10			

34. What is the highest level of education you have completed (or achieved)? (Select one)

- High school student
- No high school diploma or GED
- High school graduate or GED
- College

35. Are you Hispanic or Latino? (select one)

- Yes, Hispanic or Latino
- No, not Hispanic or Latino

36. What is your race? (select one or more)

- American Indian or Alaska native
- Asian
- Black or African-American
- Native Hawaiian or other Pacific Islander
- White
- Other, not listed
- Do not wish to answer

37. What language(s) do you speak at home?

_____ (language 1)
_____ (language 2)
_____ (language 3)

38. What is your household income? (Select one)

- Less than $25,000

- $25,000 - $50,000
- $50,001 – $75,000
- $75,001 - $100,000
- $100,001 - $125,000
- $125,001 - $150,000
- $150,001 – $175,000
- $175,001 - $200,000
- Greater than $200,000
- Do not wish to answer

39. If you needed to report litter, potentially hazardous conditions, vandalism, etc., which of the following entities would you contact? (Select all that apply)

- National Park Service (NPS)
- Mountains Recreation and Conservation Authority (MRCA)
- California State Parks
- Santa Monica Mountains Conservancy
- Santa Monica Mountains Fund
- The City of Los Angeles
- The City of Santa Monica
- Neighborhood Councils
- Other _____
- Don't know

40. Who do you think funds the upkeep and maintenance of this trailhead and trail? (circle all that apply)

- National Park Service (NPS)
- Mountains Recreation and Conservation Authority (MRCA)
- California State Parks
- Santa Monica Mountains Conservancy
- Santa Monica Mountains Fund
- The City of Los Angeles
- The City of Santa Monica
- Neighborhood Councils
- The local residents
- Other _____
- Don't know

41. Would you be willing to contribute financially to the future upkeep and provision of services of this trailhead and trail? y/n

Thank you very much for your time and participation. Hope you enjoy (or enjoyed) your trail visit.

Chapter 2 Appendix

Appendix 2a) Frequency Statistics For Each Survey Question

Q1. How did you learn about the trailhead you visited (or plan to visit) today? (Select all that apply)

Information Type	N.	Pct.
Friends, family, and/or acquaintances	2,731	62.3%
Guidebook	118	2.7%
Agency website	100	2.3%
Instagram	96	2.2%
Facebook	92	2.1%
Newspaper	19	0.4%
Twitter	15	0.3%
Other	1,266	28.9%
Sample Total	4,381	
1. Respondents could select more than 1 category, so the percentages do not add up to 100%.		

Q2a. Did you have trouble finding the trailhead? (Y/N)

Trouble Finding	N.	Pct.
No	4,123	95.2%
Yes	118	2.7%
Sample Total	4,331	100.0%

Q2b. What navigation strategy did you use? (Select all that apply)

Navigation Strategy	N.	Pct.
Maps	1,525	34.8%
Social media	151	3.4%
Road signs	632	14.4%
Directions from friends/acquantainces	635	14.5%
Directions from a stranger	182	4.2%
Park ranger(s) or staff	121	2.8%
I know the route	1809	41.3%
Other	285	6.5%
Sample Total	4,381	
1. Respondents could select more than 1 category, so the percentages do not add up to 100%.		

Q3. If you are a resident of the Southern California region, approximately how long did it take for you to get from home to the trail today? (Minutes)

Time (Minutes)	N.	Mean	S.D.	Min	Max
Sample Average	3,877	33.9	31.7	0	390

Time Category	N.	Pct.
0 - 20 Minutes	1,386	35.7%
20 - 40 Minutes	1,249	32.2%
40 - 60 Minutes	472	12.2%
60 - 80 Minutes	450	11.6%
80 - 100 Minutes	154	4.0%
100 - 120 Minutes	24	0.6%
120 - 140 Minutes	87	2.2%
140 - 180 Minutes	33	0.9%
180+ Minutes	22	0.6%
Sample Average	3,877	100.0%

Q6. How did you travel to the trail today? (Select only one)

Mode of Travel	N.	Pct.
Automobile	3,767	86.0%
Walk/jog	384	8.8%
Bicycle	128	2.9%
Public transportation	23	0.5%
Group transportation	18	0.4%
Motorcycle/scooter	13	0.3%
Horseback	11	0.3%
Unknown	37	0.8%
Sample Total	4,381	100.0%

Q7a. Did you pay for parking today? (Y/N)

Parking Cost	N.	Pct.
No	3,813	89.9%
Yes	428	10.1%
Sample Total	4,241	100.0%

Q7b. If yes, how much?

Parking Cost (US Dollars)	N.	Mean	S.D.	Min	Max
Sample Average	4,241	$ 0.91	$ 3.22	$ -	$ 60.00

Q8. From the list below, which three activities have you engaged in today or plan to engage in today? (Please rank the three you select on a scale of 1-3; 1=least important, 3=most important)

Activity Type	None Selected N.	None Selected Pct.	Least Important N.	Least Important Pct.	Moderately Important N.	Moderately Important Pct.	Most Important N.	Most Important Pct.	Selected (Not Ranked) N.	Selected (Not Ranked) Pct.	Sample Total N.
Bird Watching	3,796	86.6%	121	2.8%	60	1.4%	65	1.5%	339	7.7%	4,381
Camping	4,189	95.6%	70	1.6%	23	0.5%	22	0.5%	77	1.8%	4,381
Hiking	639	14.6%	350	8.0%	296	6.8%	865	19.7%	2,230	50.9%	4,380
Horseback Riding	4,264	97.3%	63	1.4%	13	0.3%	8	0.2%	33	0.8%	4,381
Jogging	3,496	79.8%	135	3.1%	95	2.2%	121	2.8%	534	12.2%	4,381
Mountain Biking	3,801	86.8%	109	2.5%	29	0.7%	95	2.2%	347	7.9%	4,381
Painting/ Crafts	4,262	97.3%	73	1.7%	9	0.2%	10	0.2%	27	0.6%	4,381
Photography	3,315	75.7%	221	5.0%	130	3.0%	142	3.2%	573	13.1%	4,381
Picnicking	4,063	92.7%	90	2.1%	47	1.1%	33	0.8%	148	3.4%	4,381
Rock Climbing	4,026	91.9%	90	2.1%	39	0.9%	51	1.2%	175	4.0%	4,381
Sightseeing	2,171	49.6%	218	5.0%	480	11.0%	322	7.3%	1,190	27.2%	4,381
Sunbathing	4,017	91.7%	110	2.5%	25	0.6%	44	1.0%	185	4.2%	4,381
Wading/ Swimming	4,102	93.6%	81	1.8%	39	0.9%	27	0.6%	132	3.0%	4,381
Walking dog(s)	3,585	81.8%	126	2.9%	103	2.4%	135	3.1%	432	9.9%	4,381
Other	4,085	93.2%	53	1.2%	46	1.0%	38	0.9%	159	3.6%	4,381
Sample Total	4,381	100.0%	4,381	100.0%	4,381	100.0%	4,381	100.0%	4,381	100.0%	4,381

Activity Type	N.	Pct.
Bird Watching	585	13.4%
Camping	192	4.4%
Hiking	3,741	85.4%
Horseback Riding	117	2.7%
Jogging	885	20.2%
Mountain Biking	580	13.2%
Painting/Crafts	119	2.7%
Photography	1,066	24.3%
Picnicking	318	7.3%
Rock Climbing	355	8.1%
Sightseeing	2,210	50.4%
Sunbathing	364	8.3%
Wading/Swimming	279	6.4%
Walking dog(s)	796	18.2%
Other	296	6.8%
Sample Total	4,381	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q10. In deciding whether to visit this location, how would you rate your consideration of each of the following? (1=Unimportant, 5=Very Important)

Factor Considered	Blank		Unimportant		Somewhat Unimportant		Neutral		Somewhat Important		Very Important		Not Applicable		Sample Total
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.
Cost of parking	532	12.1%	672	15.3%	203	4.6%	534	12.2%	358	8.2%	1,115	25.5%	967	22.1%	4,381
Cost of traveling to the site	550	12.6%	956	21.8%	343	7.8%	643	14.7%	398	9.1%	765	17.5%	726	16.6%	4,381
Avoiding crowds	439	10.0%	392	8.9%	261	6.0%	786	17.9%	737	16.8%	1,483	33.9%	283	6.5%	4,381
Disability access	648	14.8%	1,573	35.9%	203	4.6%	280	6.4%	129	2.9%	297	6.8%	1,251	28.6%	4,381
Safety of park and/ or trailhead	458	10.5%	382	8.7%	269	6.1%	700	16.0%	751	17.1%	1,542	35.2%	279	6.4%	4,381
Sufficient level of trail quality	424	9.7%	236	5.4%	165	3.8%	657	15.0%	1,053	24.0%	1,693	38.6%	153	3.5%	4,381
Cleanliness of park and/ or trailhead	435	9.9%	183	4.2%	149	3.4%	551	12.6%	996	22.7%	1,922	43.9%	145	3.3%	4,381
Other	3,966	90.5%	10	0.2%	4	0.1%	11	0.3%	36	0.8%	353	8.1%	1	0.0%	4,381
Sample Total	4,381	100%	4,381	100%	4,381	100%	4,381	100%	4,381	100%	4,381	100%	4,381	100%	4,381

Factor Considered	N.	Mean	S.D.
Cost of parking	2,882	3.4	1.6
Cost of traveling to the site	3,105	2.9	1.6
Avoiding crowds	3,659	3.7	1.3
Disability access	2,482	1.9	1.4
Safety of park and/or trailhead	3,644	3.8	1.3
Sufficient level of trail quality	3,804	4.0	1.2
Cleanliness of park and/or trailhead	3,801	4.1	1.1
Other	414	4.7	0.8
Sample Avg.	3,998	3.6	0.9

1. Where Unimportant=1, Somewhat Unimportant=2, Neutral=3, Somewhat Important=4, Very Important=5, and excluding "Blank" and "Not Applicable."

Q11a. Which of the following amenities did you or will you use during your visit today? (Select all that apply)

Amenity Type	N.	Pct.
Barbeques	72	1.6%
Bathrooms	1,967	44.9%
Benches	1,300	29.7%
Bike racks	67	1.5%
Camp grounds	168	3.8%
Cellular service	833	19.0%
Dog off-leash areas	292	6.7%
Drinking fountains	885	20.2%
Educational information/interpretive services	162	3.7%
Electrical hookups	47	1.1%
Fire pits	103	2.4%
First aid services	108	2.5%
Hitching post	54	1.2%
Law enforcement onsite	113	2.6%
Maps of trailheads/trails	801	18.3%
Overlook/viewpoint	2,212	50.5%
Park programs	124	2.8%
Parking	2,610	59.6%
Picnic tables	491	11.2%
Shade structures	516	11.8%
Sports facilities	45	1.0%
Staff/rangers onsite	374	8.5%
Telephones	122	2.8%
Trash cans	1,914	43.7%
Vending/food providers	63	1.4%
Visitor center	212	4.8%
Wifi	294	6.7%
Other	27	0.6%
Sample Total	4,381	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q11b. If you could improve only two of the amenities you selected in the previous question (11a) that would significantly impact your park experience, which two would they be? (Select two from the list below)

Amenity Type	N.	Pct.
Barbeques	63	1.4%
Bathrooms	1,333	30.4%
Benches	367	8.4%
Bike racks	53	1.2%
Camp grounds	113	2.6%
Cellular service	486	11.1%
Dog off-leash areas	338	7.7%
Drinking fountains	738	16.8%
Educational information/interpretive services	102	2.3%
Electrical hookups	32	0.7%
Fire pits	81	1.8%
First aid services	104	2.4%
Hitching post	19	0.4%
Law enforcement onsite	99	2.3%
Maps of trailheads/trails	528	12.1%
Overlook/viewpoint	324	7.4%
Park programs	85	1.9%
Parking	855	19.5%
Picnic tables	143	3.3%
Shade structures	271	6.2%
Sports facilities	32	0.7%
Staff/rangers onsite	114	2.6%
Telephones	39	0.9%
Trash cans	629	14.4%
Vending/food providers	64	1.5%
Visitor center	88	2.0%
Wifi	342	7.8%
Other	119	2.7%
Sample Total	4,381	
1. Respondents could select more than 1 category, so the percentages do not add up to 100%.		

Q11c. Which three of the following amenities (listed below) that are not already provided at this trailhead would significantly improve your experience of the park if they were made available? (Select three from the list below)

Amenity Type	N.	Pct.
Barbeques	128	2.9%
Bathrooms	902	20.6%
Benches	390	8.9%
Bike racks	111	2.5%
Camp grounds	174	4.0%
Cellular service	457	10.4%
Dog off-leash areas	380	8.7%
Drinking fountains	797	18.2%
Educational information/interpretive services	149	3.4%
Electrical hookups	77	1.8%
Fire pits	156	3.6%
First aid services	183	4.2%
Hitching post	28	0.6%
Law enforcement onsite	118	2.7%
Maps of trailheads/trails	492	11.2%
Overlook/viewpoint	168	3.8%
Park programs	152	3.5%
Parking	334	7.6%
Picnic tables	201	4.6%
Shade structures	388	8.9%
Sports facilities	89	2.0%
Staff/rangers onsite	153	3.5%
Telephones	46	1.0%
Trash cans	441	10.1%
Vending/food providers	168	3.8%
Visitor center	169	3.9%
Wifi	473	10.8%
Other	86	2.0%
Sample Total	4,381	
1. Respondents could select more than 1 category, so the percentages do not add up to 100%.		

Q12a. How likely is it that you would recommend the Santa Monica Mountains National Recreation Area to a friend or colleague? Where 1 is not likely and 9 is extremely likely. (Select one number from 1 to 9)

Rating	N.	Mean	S.D.	Min	Max
Sample Average	4,185	8.4	1.0	1.0	9.0

Rating Categories	N.	Pct.
Not likely at all	19	0.5%
Very unlikely	12	0.3%
Unlikely	0	0.0%
Somewhat unlikely	12	0.3%
Equally likely and unlikely	40	1.0%
Somewhat likely	84	2.0%
Likely	402	9.6%
Very likely	967	23.1%
Extremely likely	2,649	63.3%
Sample Total	4,185	100.0%

Q13a. How likely is it that you would recommend this particular trailhead to a friend or colleague? Where 1 is not likely at all and 9 is extremely likely. (Select one number from 1 to 9)

Rating	N.	Mean	S.D.	Min	Max
Sample Average	4,029	8.3	1.1	1.0	9.0

Rating Categories	N.	Pct.
Not likely at all	16	0.4%
Very unlikely	11	0.3%
Unlikely	7	0.2%
Somewhat unlikely	28	0.7%
Equally likely and unlikely	52	1.3%
Somewhat likely	125	3.1%
Likely	490	12.2%
Very likely	962	23.9%
Extremely likely	2,338	58.0%
Sample Total	4,029	100.0%

Q14. Did you have internet access at the trailhead and/or while at the trail? (Select one answer)

Internet Access	N.	Pct.
Yes	618	15.2%
No	981	24.1%
Some of the time	1,150	28.3%
I don't know	1,316	32.4%
Sample Total	4,065	100.0%

Q15. Would you find it valuable for any of the following reasons to have internet access? (Check all that apply)

Reasons	N.	Pct.
To communicate with other members of party	1,676	38.3%
To access emegency medical services	2,499	57.0%
To deal with car difficulties	794	18.1%
To alert rangers to hazardous conditions onsite	1,276	29.1%
To post photos/comments from social media	985	22.5%
To navigate the trail	1,551	35.4%
To learn about the trail/head features and amenities	712	16.3%
Other	199	4.5%
Sample Total	4,381	
1. Respondents could select more than 1 category, so the percentages do not add up to 100%.		

Q16. Did you have trouble navigating to the park? (Y/N)

Trouble Navigating	N.	Pct.
No	3,789	94.1%
Yes	239	5.9%
Sample Total	4,028	100.0%

Q17. Did you have trouble learning about features and amenities that this trailhead has to offer? (Y/N)

Trouble Learning	N.	Pct.
No	3,676	93.4%
Yes	258	6.6%
Sample Total	3,934	100.0%

Q18. What type of group are you here with? (Select one)

Group Type	N.	Pct.
Alone	671	17.9%

Family	810	21.6%
Friends	1,179	31.5%
Family & Friends	935	25.0%
Religious organization/church	4	0.1%
Youth club	6	0.2%
Educational	6	0.2%
Other organization or club	51	1.4%
Other	82	2.2%
Sample Total	3,744	100.0%

Q19. How many pets/animals are in your group today?

Pets/Animals	N.	Pct.
Dogs	887	93.5%
Horses	62	6.5%
Sample Total	949	100.0%

Q21. About how long will/did you spend in the park today?

Time (Minutes)	N.	Mean	S.D.	Min	Max
Sample Average	3,951	151.6	330.4	1.0	10,080.0

Time Categories	N.	Pct.
Less than 1 hour	160	4.0%
1 - 2 hours	1,555	39.4%
2 - 3 hours	1,341	33.9%
3 - 4 hours	506	12.8%
4 - 5 hours	193	4.9%
5 - 6 hours	55	1.4%
6+ hours	141	3.6%
Sample Total	3,951	100.0%

Q22. Is this your first visit to the Santa Monica Mountains? (Y/N)

First Visit	N.	Pct.
No	3,304	82.1%
Yes	718	17.9%
Sample Total	4,022	100.0%

Q23. Is this the trail you normally visit in the Santa Monica Mountains? (Y/N)

Normally Visit	N.	Pct.
No	1,075	31.4%
Yes	2,347	68.6%
Sample Total	3,422	100.0%

Q24. Have you visited any trailhead repeatedly in the last year? (Y/N)

Previously Visited	N.	Pct.
No	971	29.1%
Yes	2,364	70.9%
Sample Total	3,335	100.0%

Q25. In your opinion, the most important reason to protect the Santa Monica Mountains is (select one):

Reason	N.	Pct.
To provide recreational opportunities	863	22.0%
To provide habitat for plants and wildlife	1,485	37.9%
To provide both recreational opportunities and habitat	1,423	36.3%
No opinion	130	3.3%
Other	19	0.5%
Sample Total	3,920	100.0%

Q26. Do you have a physical condition that could interfere with your ability to recreate or your choice of recreational activities? (Y/N)

Physical Condition	N.	Pct.
No	3,732	93.4%
Yes	236	5.9%
Sample Total	3,995	100.0%

Q27. Have you ever arrived at the trailhead and decided to leave and not do your planned activity? (Y/N)

Left TH Early	N.	Pct.
No	3,440	86.3%
Yes	545	13.7%
Sample Total	3,985	100.0%

Q28. Would you come back again to this trailhead? (Y/N)

Return to TH	N.	Pct.
No	61	1.5%
Yes	3,932	98.5%
Sample Total	3,993	100.0%

Q29. Which of the following factors have kept you (or would keep you) from visiting this trailhead again or more frequently? (Select all that apply and please rate your answers on a scale of 1-3; 1=Least Important, 3=Most Important)

Factors	None Selected N.	None Selected Pct.	Least Important N.	Least Important Pct.	Somewhat Important N.	Somewhat Important Pct.	Most Important N.	Most Important Pct.	Sample Total N.
Concern about the lack of a ranger presence	2,570	58.7%	1,205	27.5%	383	7.9%	223	4.6%	4,381
Concern about the presence of a ranger	2,604	59.4%	1,229	28.1%	345	7.1%	203	4.2%	4,381
Congestion at park	2,218	50.6%	596	13.6%	556	11.5%	1,011	20.9%	4,381
Cost of entrance fee	2,274	51.9%	732	16.7%	346	7.2%	1,029	21.3%	4,381
Cost of parking	2,188	49.9%	726	16.6%	446	9.2%	1,021	21.1%	4,381
Couldn't find a babysitter	2,693	61.5%	1,463	33.4%	101	2.1%	124	2.6%	4,381
Don't feel safe	2,341	53.4%	724	16.5%	291	6.0%	1,025	21.2%	4,381
Don't feel welcome	2,532	57.8%	873	19.9%	260	5.4%	716	14.8%	4,381
Lack of activities I want to participate in	2,640	60.3%	1,192	27.2%	320	6.6%	229	4.7%	4,381
Lack of amenities I want to use	2,569	58.6%	1,121	25.6%	434	9.0%	257	5.3%	4,381
No parking	2,165	49.4%	605	13.8%	284	5.9%	1,327	27.5%	4,381
No signs/information in appropriate language	2,621	59.8%	1,230	28.1%	316	6.5%	214	4.4%	4,381
Too difficult to get to the trailhead	2,579	58.9%	1,135	25.9%	397	8.2%	270	5.6%	4,381
Other	4,037	92.1%	N/A	N/A	N/A	N/A	344	7.1%	4,381
Sample Total	4,381		4,381		4,831		4,831		4,831

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q30. What is your age?

Age (Years)	N.	Mean	S.D.	Min	Max
Sample Average	3,734	41.7	15.0	18.0	91.0

Age Categories	N.	Pct.
18 to 23 Years	298	8.0%
23 to 28 Years	496	13.3%
28 to 33 Years	533	14.3%
33 to 38 Years	385	10.3%
38 to 43 Years	320	8.6%
43 to 48 Years	307	8.2%
48 to 53 Years	375	10.0%
53 to 58 Years	378	10.1%
58 to 63 Years	292	7.8%
63 to 68 Years	169	4.5%
67 to 73 Years	113	3.0%
73 or More Years	68	1.8%
Sample Total	3,734	100.0%

Age Categories	N.	Pct.
18 to 41 Years	1,926	51.6%
41 to 65 Years	1,528	40.9%
65 or More Years	280	7.5%
Sample Total	3,734	100.0%

Q31. To which gender do you most identify?

Gender	N.	Pct.
Male	1,889	50.3%
Female	1,817	48.4%
Prefer not to answer	48	1.3%
Sample Total	3,754	100.0%

Q32. Do you have children under the age of 18 in your household? (Y/N)

Children <18 Years	N.	Pct.
No	2,809	76.4%
Yes	867	23.6%
Sample Total	3,676	100.0%

If yes, what age(s)?

Ages of Children <18	N.	Pct.
Less than 1 Year	22	1.7%
1 Years	54	4.1%
2 Years	52	4.0%
3 Years	57	4.3%
4 Years	58	4.4%
5 Years	69	5.3%
6 Years	51	3.9%
7 Years	61	4.7%
8 Years	63	4.8%
9 Years	70	5.3%
10 Years	91	6.9%
11 Years	76	5.8%
12 Years	87	6.6%
13 Years	86	6.6%
14 Years	64	4.9%
15 Years	112	8.5%
16 Years	101	7.7%
17 Years	137	10.5%
Sample Total	1,311	100.0%

Q34. What is the highest level of education you have completed (or achieved)? (Select one)

Education Level	N.	Pct.
Current High School Student	120	3.3%
No High School Diploma or GED	37	1.0%
High School Graduate or GED	327	8.9%
College	3,193	86.8%
Sample Total	3,677	100.0%

Q35. Are you Hispanic or Latino? (Select one)

Ethnicity	N.	Pct.
No	2,857	79.1%
Yes	754	20.9%
Sample Total	3,611	100.0%

Q36. What is your race? (Select all that apply)

Race	N.	Pct.
White	2,480	71.9%
Black or African-American	92	2.7%
Asian	265	7.7%
American Indian or Alaska Native	54	1.6%
Native Hawaiian or Other Pacific Islander	28	0.8%
2 or More Races	141	4.1%
Other, Not Listed	216	6.3%
Do Not Wish to Answer	175	5.1%
Sample Total	3,451	100.0%

Race and Ethnicity		N.	Pct.
Non-Hispanic	White	2,255	63.0%
	Black	84	2.3%
	Asian	258	7.2%
	Am. Indian	36	1.0%
	Pac. Islander	19	0.5%
	Other	76	2.1%
	2+ Races	95	2.7%
Hispanic/Latino		754	21.1%
Sample Total		3,577	100.0%

Q37. What languages do you speak at home?

Language(s)	N.	Pct.
English	3,424	96.1%
Spanish	654	18.4%
French	118	3.3%
Other	77	2.2%
German	58	1.6%
Chinese	56	1.6%
Farsi	54	1.5%
Russian	47	1.3%
Tagalog	36	1.0%
Italian	36	1.0%
Hebrew	34	1.0%
Armenian	20	0.6%
Korean	20	0.6%
Portuguese	19	0.5%
Japanese	18	0.5%
Polish	17	0.5%
Dutch	14	0.4%
Swedish	12	0.3%
Vietnamese	11	0.3%
Arabic	11	0.3%
Hindi	11	0.3%
Norwegian	7	0.2%
Sample Total	3,562	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q38. What is your household income? (Select one)

Income Categories	N.	Pct.
Less than $25,000	221	6.1%
$25,001 - $50,000	430	11.8%
$50,001 - $75,000	448	12.3%
$75,001 - $100,000	417	11.5%
$100,001-$125,000	312	8.6%
$125,001-$150,000	226	6.2%
$150,001 - $175,000	174	4.8%
$175,001 - $200,000	157	4.3%
More than $200,000	530	14.6%
Do Not Wish to Answer	719	19.8%
Sample Total	3,634	100.0%

Income Categories	N.	Pct.
<$50,000	651	17.9%
$50,000 to $100,000	865	23.8%
$100,000 to $150,000	538	14.8%
>$150,000	861	23.7%
Do Not Wish to Answer	719	19.8%
Sample Total	3,634	100.0%

Q39. If you needed to report litter, potentially hazardous conditions, vandalism, etc., which of the following entities would you contact? (Select all that apply)

Governing Entity	N.	Pct.
National Park Service	1,550	35.4%
Santa Monica Mountains Fund	232	5.3%
Neighborhood Councils	78	1.8%
City of Santa Monica	191	4.4%
California State Parks	834	19.0%
City of Los Angeles	284	6.5%
Mountains Recreation and Conservation Authority (MRCA)	221	5.0%
Santa Monica Mountains Conservancy	461	10.5%
Other	146	3.3%
I Don't Know	1,207	27.6%
Sample Total	4,381	
1. Respondents could select more than 1 options, so percentages do not add to 100%.		

Q40. Who do you think funds the upkeep and maintenance of this trailhead and trail? (Select all that apply)

Governing Entity	N.	Pct.
National Park Service	1,410	32.2%
Santa Monica Mountains Fund	793	18.1%
Neighborhood Councils	117	2.7%
City of Santa Monica	280	6.4%
California State Parks	1,305	29.8%
City of Los Angeles	408	9.3%
Mountains Recreation and Conservation Authority (MRCA)	312	7.1%
Santa Monica Mountains Conservancy	888	20.3%
Local Residents	199	4.5%
Other	97	2.2%
I Don't Know	890	20.3%
Sample Total	4,381	
1. Respondents could select more than 1 options, so percentages do not add to 100%.		

Q41. Would you be willing to contribute financially to the future upkeep and provision of services of this trailhead and trail? (Y/N)

Willingnesss to Contribute	N.	Pct.
No	1,215	37.8%
Yes	1,996	62.2%
Sample Total	3,211	100.0%

Appendix 2b) Frequency Statistics For Each Survey Question, By Activities

Statistics by activity group for each question are shown in tabular form in Chapter 2b Appendix.

Q1. How did you learn about the trailhead you visited (or plan to visit) today? (Select all that apply)

	Friends, family, etc.		Guide-book		Agency website		Insta-gram		Face-book		News-paper		Twitter		Other		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	15	16.3%	372	13.6%	3	20.0%	11	9.3%	15	15.6%	4	21.1%	22	22.0%	149	11.8%	585	13.4%
Camping	6	6.5%	123	4.5%	3	20.0%	6	5.1%	7	7.3%	0	0.0%	8	8.0%	45	3.6%	192	4.4%
Hiking	85	92.4%	2,334	85.5%	14	93.3%	101	85.6%	87	90.6%	15	78.9%	84	84.0%	1,069	84.4%	3,741	85.4%
Horseback Riding	4	4.3%	71	2.6%	2	13.3%	1	0.8%	5	5.2%	0	0.0%	3	3.0%	31	2.4%	117	2.7%
Jogging	25	27.2%	591	21.6%	7	46.7%	10	8.5%	31	32.3%	3	15.8%	14	14.0%	214	16.9%	885	20.2%
Mountain Biking	10	10.9%	376	13.8%	3	20.0%	20	16.9%	11	11.5%	2	10.5%	15	15.0%	157	12.4%	580	13.2%
Painting/ Crafts	4	4.3%	77	2.8%	2	13.3%	2	1.7%	5	5.2%	0	0.0%	3	3.0%	28	2.2%	119	2.7%
Photography	25	27.2%	605	22.2%	7	46.7%	32	27.1%	52	54.2%	4	21.1%	34	34.0%	336	26.5%	1,066	24.3%
Picnicking	15	16.3%	190	7.0%	4	26.7%	14	11.9%	9	9.4%	1	5.3%	11	11.0%	87	6.9%	318	7.3%
Rock Climbing	15	16.3%	229	8.4%	6	40.0%	12	10.2%	15	15.6%	1	5.3%	4	4.0%	88	7.0%	355	8.1%
Sightseeing	54	58.7%	1,351	49.5%	12	80.0%	61	51.7%	62	64.6%	10	52.6%	62	62.0%	656	51.8%	2,210	50.4%
Sunbathing	11	12.0%	239	8.8%	7	46.7%	9	7.6%	14	14.6%	1	5.3%	6	6.0%	87	6.9%	364	8.3%
Wading/ Swimming	10	10.9%	177	6.5%	3	20.0%	6	5.1%	11	11.5%	0	0.0%	11	11.0%	70	5.5%	279	6.4%
Walking dog(s)	16	17.4%	519	19.0%	5	33.3%	11	9.3%	17	17.7%	2	10.5%	10	10.0%	244	19.3%	796	18.2%
Other	4	4.3%	186	6.8%	0	0.0%	11	9.3%	6	6.3%	0	0.0%	4	4.0%	101	8.0%	296	6.8%
Sample Total	92		2,731		15		118		96		19		100		1,266		4,381	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q2a. Did you have trouble finding the trailhead? (Y/N)

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	546	13.2%	33	15.9%	579	13.4%
Camping	179	4.3%	11	5.3%	190	4.4%
Hiking	3,510	85.1%	191	91.8%	3,701	85.5%
Horseback Riding	11	0.3%	55	26.4%	116	2.7%
Jogging	839	20.3%	36	17.3%	875	20.2%
Mountain Biking	558	13.5%	14	6.7%	572	13.2%
Painting/Crafts	113	2.7%	5	2.4%	118	2.7%
Photography	984	23.9%	71	34.1%	1,055	24.4%
Picnicking	296	7.2%	17	8.2%	313	7.2%
Rock Climbing	325	7.9%	24	11.5%	349	8.1%
Sightseeing	2,065	50.1%	123	59.1%	2,188	50.5%
Sunbathing	333	8.1%	26	12.5%	359	8.3%
Wading/Swimming	259	6.3%	17	8.2%	276	6.4%
Walking dog(s)	761	18.5%	29	13.9%	790	18.2%
Other	282	6.8%	13	6.3%	295	6.8%
Sample Total	4,123		208		4,331	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q2b. What navigation strategy did you use? (Select all that apply)

	Maps		Social media		Road signs		Directions from a friend, etc.		Directions from a stranger		Park ranger or staff		I know the route		Other		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	188	12.3%	13	8.6%	97	15.3%	84	13.2%	38	20.9%	21	17.4%	243	13.4%	34	11.9%	585	13.4%
Camping	79	5.2%	6	4.0%	40	6.3%	28	4.4%	11	6.0%	17	14.0%	46	2.5%	7	2.5%	192	4.4%
Hiking	1,339	87.8%	127	84.1%	559	88.4%	534	84.1%	169	92.9%	106	87.6%	1,490	82.4%	233	81.8%	3,741	85.4%
Horseback Riding	41	2.7%	2	1.3%	17	2.7%	18	2.8%	8	4.4%	4	3.3%	45	2.5%	4	1.4%	117	2.7%
Jogging	256	16.8%	31	20.5%	138	21.8%	136	21.4%	41	22.5%	20	16.5%	423	23.4%	45	15.8%	885	20.2%
Mountain Biking	167	11.0%	25	16.6%	76	12.0%	95	15.0%	19	10.4%	9	7.4%	312	17.2%	30	10.5%	580	13.2%
Painting/ Crafts	50	3.3%	3	2.0%	19	3.0%	19	3.0%	8	4.4%	3	2.5%	46	2.5%	3	1.1%	119	2.7%
Photography	478	31.3%	43	28.5%	195	30.9%	151	23.8%	52	28.6%	42	34.7%	317	17.5%	67	23.5%	1,066	24.3%
Picnicking	142	9.3%	9	6.0%	63	10.0%	45	7.1%	17	9.3%	16	13.2%	84	4.6%	20	7.0%	318	7.3%
Rock Climbing	142	9.3%	17	11.3%	54	8.5%	62	9.8%	21	11.5%	12	9.9%	115	6.4%	18	6.3%	355	8.1%
Sightseeing	932	61.1%	86	57.0%	389	61.6%	330	52.0%	115	63.2%	79	65.3%	740	40.9%	135	47.4%	2,210	50.4%
Sunbathing	144	9.4%	13	8.6%	63	10.0%	51	8.0%	28	15.4%	16	13.2%	114	6.3%	21	7.4%	364	8.3%
Wading/ Swimming	118	7.7%	13	8.6%	56	8.9%	44	6.9%	24	13.2%	11	9.1%	80	4.4%	10	3.5%	279	6.4%
Walking dog(s)	256	16.8%	25	16.6%	92	14.6%	115	18.1%	25	13.7%	15	12.4%	384	21.2%	54	18.9%	796	18.2%
Other	74	4.9%	13	8.6%	45	7.1%	45	7.1%	11	6.0%	4	3.3%	163	9.0%	26	9.1%	296	6.8%
Sample Total	1,525		151		632		635		182		121		1,809		285		4,381	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q3. If you are a resident of the Southern California region, approximately how long did it take for you to get from home to the trail today? (Minutes)

	N.	Mean	S.D.
Bird Watching	522	35.7	32.1
Camping	161	58.1	41.6
Hiking	3,327	34.3	31.6
Horseback Riding	101	34.9	30.9
Jogging	800	30.5	31.9
Mountain Biking	519	31.4	32.9
Painting/Crafts	102	41.5	32.4
Photography	908	42.8	35.9
Picnicking	271	46.2	34.4
Rock Climbing	309	46.9	37.1
Sightseeing	1,906	38.6	33.5
Sunbathing	292	42.7	32.8
Wading/Swimming	229	51.0	39.7
Walking dog(s)	739	27.3	25.9
Other	270	31.4	29.2
Sample Avg.	3,877	33.9	31.7

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q6. How did you travel to the trail today? (Select only one)

	Auto-mobile		Public transp.		Group transp		Motor-cycle/ scooter		Bicycle		Walk/ jog		Horse-back		Unknown		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	506	13.4%	1	4.3%	3	16.7%	1	7.7%	12	9.4%	54	14.1%	4	36.4%	4	10.8%	585	13.4%
Camping	169	4.5%	0	0.0%	1	5.6%	0	0.0%	3	2.3%	16	4.2%	1	9.1%	2	5.4%	192	4.4%
Hiking	3,302	87.7%	22	95.7%	16	88.9%	12	92.3%	35	27.3%	339	88.3%	2	18.2%	13	35.1%	3,741	85.4%
Horseback Riding	95	2.5%	1	4.3%	1	5.6%	1	7.7%	0	0.0%	10	2.6%	9	81.8%	0	0.0%	117	2.7%
Jogging	752	20.0%	3	13.0%	4	22.2%	2	15.4%	13	10.2%	107	27.9%	1	9.1%	3	8.1%	885	20.2%
Mountain Biking	431	11.4%	4	17.4%	2	11.1%	3	23.1%	117	91.4%	22	5.7%	1	9.1%	0	0.0%	580	13.2%
Painting/ Crafts	109	2.9%	1	4.3%	1	5.6%	0	0.0%	0	0.0%	8	2.1%	0	0.0%	0	0.0%	119	2.7%
Photography	941	25.0%	11	47.8%	4	22.2%	5	38.5%	19	14.8%	77	20.1%	1	9.1%	5	13.5%	1,066	24.3%
Picnicking	288	7.6%	3	13.0%	5	27.8%	0	0.0%	4	3.1%	16	4.2%	1	9.1%	1	2.7%	318	7.3%
Rock Climbing	319	8.5%	1	4.3%	1	5.6%	2	15.4%	4	3.1%	25	6.5%	1	9.1%	2	5.4%	355	8.1%
Sightseeing	1,960	52.0%	15	65.2%	13	72.2%	8	61.5%	42	32.8%	161	41.9%	5	45.5%	6	16.2%	2,210	50.4%
Sunbathing	310	8.2%	3	13.0%	2	11.1%	1	7.7%	4	3.1%	40	10.4%	2	18.2%	2	5.4%	364	8.3%
	Auto-mobile		Public transp.		Group transp		Motor-cycle/ scooter		Bicycle		Walk/ jog		Horse-back		Unknown		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Wading/ Swimming	252	6.7%	1	4.3%	1	5.6%	1	7.7%	3	2.3%	20	5.2%	1	9.1%	0	0.0%	279	6.4%

Walking dog(s)	677	18.0%	1	4.3%	3	16.7%	1	7.7%	9	7.0%	102	26.6%	2	18.2%	1	2.7%	796	18.2%
Other	254	6.7%	1	4.3%	0	0.0%	1	7.7%	9	7.0%	31	8.1%	0	0.0%	0	0.0%	296	6.8%
Sample Total	3,767		23		18		13		128		384		11		37		4,381	
1. Respondents could select more than 1 category, so the percentages do not add up to 100%.																		

Q7a. Did you pay for parking today? (Y/N)

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	504	13.2%	62	14.5%	566	13.3%
Camping	144	3.8%	43	10.0%	187	4.4%
Hiking	3,236	84.9%	398	93.0%	3,634	85.7%
Horseback Riding	103	2.7%	11	2.6%	114	2.7%
Jogging	804	21.1%	58	13.6%	862	20.3%
Mountain Biking	533	14.0%	37	8.6%	570	13.4%
Painting/Crafts	98	2.6%	18	4.2%	116	2.7%
Photography	911	23.9%	128	29.9%	1,039	24.5%
Picnicking	251	6.6%	59	13.8%	310	7.3%
Rock Climbing	308	8.1%	36	8.4%	344	8.1%
Sightseeing	1,885	49.4%	266	62.1%	2,151	50.7%
Sunbathing	297	7.8%	59	13.8%	356	8.4%
Wading/Swimming	206	5.4%	66	15.4%	272	6.4%
Walking dog(s)	732	19.2%	45	10.5%	777	18.3%
Other	256	6.7%	34	7.9%	290	6.8%
Sample Total	3,813		428		4,241	
1. Respondents could select more than 1 category, so the percentages do not add up to 100%.						

Q7b. If yes, how much?

	N.	Mean	S.D.
Bird Watching	566	1.0	3.5
Camping	187	3.6	8.8
Hiking	3,634	1.0	3.4
Horseback Riding	114	0.7	2.2
Jogging	862	0.6	2.2
Mountain Biking	570	0.6	2.9
Painting/Crafts	116	1.6	4.7
Photography	1,039	1.1	3.6
Picnicking	310	1.8	4.5
Rock Climbing	344	1.0	3.0
Sightseeing	2,151	1.1	3.5
Sunbathing	356	1.5	3.9
Wading/Swimming	272	2.7	5.6
Walking dog(s)	777	0.5	2.1
Other	290	1.1	3.9
Sample Avg.	4,241	0.9	3.2

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q10. In deciding whether to visit this location, how would you rate your consideration of each of the following? (1=Unimportant, 5=Very Important)

	Cost of parking		Cost of traveling to the site		Avoiding crowds		Disability access		Safety of park and/ or TH		Sufficient level of trail quality		Cleanliness of park and/or TH		Other		Sample Total
	N.	Mean	N.	Mean	N.	Mean	N.	Mean	N.	Mean	N.	Mean	N.	Mean	N.	Mean	N.
Bird Watching	397	3.4	433	2.8	509	3.9	358	2.2	498	3.9	514	4.1	526	4.3	69	4.9	585
Camping	148	3.1	163	2.9	174	3.8	141	2.3	173	3.8	176	4.0	176	4.2	19	4.8	192
Hiking	2,514	3.3	2,700	2.9	3,157	3.7	2,159	1.9	3,165	3.8	3,295	4.0	3,288	4.1	358	4.7	3,741
Horseback Riding	75	3.4	83	2.6	101	3.9	85	2.3	101	4.0	104	4.1	104	4.3	7	5.0	117
Jogging	591	3.4	634	2.9	737	3.6	531	2.1	737	3.8	768	4.1	767	4.2	70	4.8	885
Mountain Biking	360	3.4	392	2.8	487	3.9	336	2.0	472	3.7	502	4.1	495	4.1	45	4.5	580
Painting/ Crafts	88	3.6	96	2.8	108	3.8	85	2.3	105	3.8	108	4.0	109	4.1	16	4.6	119
Photography	767	3.4	839	2.9	946	3.7	662	2.1	946	3.8	974	4.0	973	4.1	117	4.7	1,066
Picnicking	243	3.4	251	2.8	278	3.8	224	2.2	283	3.8	286	4.0	287	4.2	30	4.8	318
Rock Climbing	247	3.3	273	2.9	313	3.7	231	2.1	313	3.6	318	3.8	323	4.1	25	4.8	355
Sightseeing	1,536	3.3	1,668	2.9	1,913	3.7	1,317	2.0	1,907	3.8	1,963	4.0	1,975	4.1	199	4.8	2,210
Sunbathing	269	3.3	287	2.9	320	3.6	253	2.2	317	3.6	329	3.9	328	4.1	34	4.8	364
Wading/ Swimming	213	3.3	220	2.9	241	3.6	192	2.0	243	3.4	251	3.8	252	4.1	26	4.8	279
Walking dog(s)	517	3.4	570	2.9	682	3.8	465	1.9	684	3.9	718	4.1	714	4.2	104	4.8	796
Other	197	3.2	210	2.8	251	3.6	155	1.8	248	3.7	261	4.0	264	4.1	53	4.9	296
Sample Total	2,882	3.4	3,105	2.9	3,659	3.7	2,482	1.9	3,644	3.8	3,804	4.0	3,801	4.1	414	4.7	4,381

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q12a. How likely is it that you would recommend the Santa Monica Mountains National Recreation Area to a friend or colleague? Where 1 is not likely and 9 is extremely likely. (Select one number from 1 to 9)

	N.	Mean	S.D.
Bird Watching	562	8.5	1.1
Camping	189	8.3	1.2
Hiking	3,590	8.4	1.0
Horseback Riding	113	8.3	1.3
Jogging	851	8.5	0.9
Mountain Biking	562	8.5	1.1
Painting/Crafts	116	8.3	1.1
Photography	1,029	8.4	1.0
Picnicking	309	8.3	1.1
Rock Climbing	343	8.3	1.1
Sightseeing	2,125	8.4	1.0
Sunbathing	355	8.3	1.1
Wading/Swimming	267	8.3	1.0
Walking dog(s)	764	8.5	0.9
Other	288	8.5	1.0
Sample Avg.	4,185	8.4	1.0

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q13a. How likely is it that you would recommend this particular trailhead to a friend or colleague? Where 1 is not likely at all and 9 is extremely likely (Select one number from 1 to 9)

	N.	Mean	S.D.
Bird Watching	547	8.3	1.1
Camping	182	8.0	1.3
Hiking	3,468	8.3	1.1
Horseback Riding	108	8.0	1.7
Jogging	814	8.4	1.0
Mountain Biking	545	8.4	1.1
Painting/Crafts	113	8.2	1.1
Photography	1,008	8.2	1.1
Picnicking	295	8.2	1.2
Rock Climbing	330	8.2	1.1
Sightseeing	2,058	8.3	1.1
Sunbathing	337	8.1	1.2
Wading/Swimming	253	8.2	1.0
Walking dog(s)	739	8.4	1.0
Other	277	8.3	1.2
Sample Avg.	4,029	8.3	1.1

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q14. Did you have internet access at the trailhead and/or while at the trail? (Select one answer)

	Yes		No		Some of the time		I don't know		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	73	11.8%	144	14.7%	156	13.6%	174	13.2%	547	13.5%
Camping	26	4.2%	67	6.8%	49	4.3%	43	3.3%	185	4.6%
Hiking	526	85.1%	839	85.5%	1,006	87.5%	1,117	84.9%	3,488	85.8%
Horseback Riding	17	2.8%	35	3.6%	26	2.3%	31	2.4%	109	2.7%
Jogging	128	20.7%	235	24.0%	238	20.7%	217	16.5%	818	20.1%
Mountain Biking	80	12.9%	137	14.0%	166	14.4%	167	12.7%	550	13.5%
Painting/ Crafts	16	2.6%	257	26.2%	317	27.6%	277	21.0%	1,017	25.0%
Photography	166	26.9%	257	26.2%	317	27.6%	277	21.0%	1,017	25.0%
Picnicking	44	7.1%	85	8.7%	74	6.4%	96	7.3%	299	7.4%
Rock Climbing	41	6.6%	103	10.5%	104	9.0%	87	6.6%	335	8.2%
Sightseeing	319	51.6%	535	54.5%	572	49.7%	653	49.6%	2,079	51.1%
Sunbathing	45	7.3%	97	9.9%	96	8.3%	104	7.9%	342	8.4%
Wading/ Swimming	36	5.8%	79	8.1%	64	5.6%	83	6.3%	262	6.4%
Walking dog(s)	123	19.9%	166	16.9%	215	18.7%	242	18.4%	746	18.4%
Other	42	6.8%	54	5.5%	74	6.4%	110	8.4%	280	6.9%
Sample Total	618		981		1,150		1,316		4,065	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q15. Would you find it valuable for any of the following reasons to have internet access? (Check all that apply)

	Comm. w/other members of party		Access emergency medical services		Deal w/car difficulties		Alert rangers to problems onsite		Post photos/ comments from social media		Navigate the trail		Learn about the TH		Other		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	199	12%	339	14%	132	17%	186	15%	130	13%	199	13%	113	16%	20	10%	585	13%
Camping	91	5%	113	5%	39	5%	64	5%	60	6%	79	5%	45	6%	13	7%	192	4%
Hiking	1,441	86%	2,164	87%	707	89%	1,114	87%	888	90%	1,366	88%	642	90%	172	86%	3,741	85%
Horseback Riding	48	3%	67	3%	28	4%	41	3%	32	3%	50	3%	24	3%	6	3%	117	3%
Jogging	369	22%	518	21%	154	19%	290	23%	218	22%	327	21%	152	21%	50	25%	885	20%
Mountain Biking	229	14%	331	13%	82	10%	181	14%	108	11%	203	13%	82	12%	27	14%	580	13%
Painting/ Crafts	53	3%	72	3%	28	4%	39	3%	38	4%	56	4%	24	3%	8	4%	119	3%
Photography	495	30%	638	26%	241	30%	348	27%	352	36%	471	30%	228	32%	34	17%	1,066	24%
Picnicking	139	8%	173	7%	73	9%	97	8%	86	9%	137	9%	66	9%	14	7%	318	7%
Rock Climbing	159	9%	207	8%	77	10%	126	10%	90	9%	153	10%	73	10%	23	12%	355	8%
Sightseeing	930	55%	1,306	52%	462	58%	694	54%	597	61%	894	58%	431	61%	86	43%	2,210	50%
Sunbathing	156	9%	216	9%	82	10%	123	10%	107	11%	147	9%	75	11%	16	8%	364	8%
Wading/ Swimming	128	8%	152	6%	67	8%	88	7%	86	9%	113	7%	60	8%	10	5%	279	6%
Walking dog(s)	315	19%	492	20%	150	19%	259	20%	196	20%	306	20%	138	19%	35	18%	796	18%
Other	96	6%	182	7%	47	6%	85	7%	51	5%	95	6%	42	6%	27	14%	296	7%
Sample Total	1,676		2,499		794		1,276		985		1,551		712		199		4,381	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q16. Did you have trouble navigating to the park? (Y/N)

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	512	13.5%	27	11.3%	539	13.4%
Camping	179	4.7%	6	2.5%	185	4.6%
Hiking	3,247	85.7%	209	87.4%	3,456	85.8%
Horseback Riding	103	2.7%	5	2.1%	108	2.7%
Jogging	767	20.2%	48	20.1%	815	20.2%
	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Mountain Biking	516	13.6%	26	10.9%	542	13.5%
Painting/Crafts	108	2.9%	4	1.7%	112	2.8%
Photography	935	24.7%	66	27.6%	1,001	24.9%
Picnicking	277	7.3%	22	9.2%	299	7.4%
Rock Climbing	315	8.3%	16	6.7%	331	8.2%
Sightseeing	1,907	50.3%	136	56.9%	2,043	50.7%
Sunbathing	324	8.6%	17	7.1%	341	8.5%
Wading/Swimming	251	6.6%	10	4.2%	261	6.5%
Walking dog(s)	397	10.5%	49	20.5%	746	18.5%
Other	264	7.0%	14	5.9%	278	6.9%
Sample Total	3,789		239		4,028	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q17. Did you have trouble learning about features and amenities that this trailhead has to offer? (Y/N)

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	491	13.4%	37	14.3%	528	13.4%
Camping	167	4.5%	12	4.7%	179	4.6%
Hiking	3,143	85.5%	236	91.5%	3,379	85.9%
Horseback Riding	99	2.7%	7	2.7%	106	2.7%
Jogging	753	20.5%	53	20.5%	806	20.5%
Mountain Biking	509	13.8%	22	8.5%	531	13.5%
Painting/Crafts	105	2.9%	6	2.3%	111	2.8%
Photography	907	24.7%	80	31.0%	987	25.1%
Picnicking	273	7.4%	14	5.4%	287	7.3%
Rock Climbing	305	8.3%	22	8.5%	327	8.3%
Sightseeing	1,854	50.4%	151	58.5%	2,005	51.0%
Sunbathing	305	8.3%	28	10.9%	333	8.5%
Wading/Swimming	235	6.4%	18	7.0%	253	6.4%
Walking dog(s)	672	18.3%	50	19.4%	722	18.4%
Other	251	6.8%	19	7.4%	270	6.9%
Sample Total	3,676		258		3,934	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q18. What type of group are you here with? (Select one)

	Alone		Family		Friends		Family & Friends		Religious org/ church		Youth club		Educat-ional		Other org/club		Other		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	86	13%	116	14%	155	13%	137	15%	2	50%	2	33%	0	0%	0	0%	2	2%	510	14%
Camping	12	2%	41	5%	5	0%	64	7%	1	25%	1	17%	1	17%	0	0%	1	1%	175	5%
Hiking	548	82%	734	91%	1,012	86%	839	90%	3	75%	4	67%	4	67%	40	78%	69	84%	3,253	87%
Horseback Riding	12	2%	10	1%	42	4%	32	3%	0	0%	0	0%	0	0%	1	2%	3	4%	100	3%
Jogging	188	28%	114	14%	198	17%	179	19%	2	50%	2	33%	0	0%	18	35%	20	24%	721	19%
Mountain Biking	103	15%	71	9%	157	13%	102	11%	1	25%	1	17%	1	17%	9	18%	15	18%	460	12%
Painting/ Crafts	7	1%	17	2%	40	3%	31	3%	1	25%	3	50%	1	17%	2	4%	3	4%	105	3%
Photography	130	19%	205	25%	326	28%	255	27%	1	25%	3	50%	0	0%	13	25%	20	24%	953	25%
Picnicking	22	3%	70	9%	96	8%	90	10%	1	25%	2	33%	0	0%	4	8%	9	11%	294	8%
Rock Climbing	28	4%	47	6%	132	11%	92	10%	3	75%	0	0%	0	0%	1	2%	5	6%	308	8%
Sightseeing	256	38%	468	58%	658	56%	509	54%	3	75%	3	50%	5	83%	25	49%	42	51%	1,969	53%
Sunbathing	39	6%	74	9%	115	10%	91	10%	1	25%	1	17%	0	0%	0	0%	8	10%	329	9%
Wading/ Swimming	21	3%	53	7%	87	7%	80	9%	1	25%	1	17%	0	0%	0	0%	4	5%	247	7%
Walking dog(s)	148	22%	149	18%	176	15%	193	21%	1	25%	1	17%	1	17%	5	10%	17	21%	691	18%
Other	57	8%	62	8%	84	7%	47	5%	0	0%	1	17%	1	17%	3	6%	5	6%	260	7%
Sample Total	671		810		1,179		935		4		6		6		51		82		3,744	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q19. How many pets/animals are in your group today?

	Number of Dogs		Number of Horses		Total Pets/Animals	
	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	118	13.3%	31	50.0%	149	15.7%
Camping	48	5.4%	1	1.6%	49	5.2%
Hiking	817	92.1%	42	67.7%	859	90.5%
Horseback Riding	24	2.7%	30	48.4%	54	5.7%
Jogging	140	15.8%	2	3.2%	142	15.0%
Mountain Biking	72	8.1%	4	6.5%	76	8.0%
Painting/Crafts	20	2.3%	5	8.1%	25	2.6%
Photography	150	16.9%	10	16.1%	160	16.9%
Picnicking	47	5.3%	4	6.5%	51	5.4%
Rock Climbing	42	4.7%	1	1.6%	43	4.5%
Sightseeing	390	44.0%	36	58.1%	426	44.9%
Sunbathing	45	5.1%	5	8.1%	50	5.3%
Wading/Swimming	56	6.3%	0	0.0%	56	5.9%
Walking dog(s)	619	69.8%	6	9.7%	625	65.9%
Other	35	3.9%	0	0.0%	35	3.7%
Sample Total	887		62		949	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q21. About how long will/did you spend in the park today?

	N.	Mean	S.D.
Bird Watching	529	160.2	286.1
Camping	173	779.3	1,378.0
Hiking	3,401	153.4	345.1
Horseback Riding	107	148.7	218.5
Jogging	805	120.8	193.6
Mountain Biking	535	148.0	237.0
Painting/Crafts	109	302.6	1,073.7
Photography	979	163.0	277.2
Picnicking	292	248.6	523.2
Rock Climbing	327	176.8	194.2
Sightseeing	2,008	154.2	315.3
Sunbathing	326	232.8	673.9
Wading/Swimming	247	368.1	974.8
Walking dog(s)	729	129.0	292.1
Other	279	148.4	287.2
Sample Avg.	3,961	151.2	330.1

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q22. Is this your first visit to the Santa Monica Mountains? (Y/N)

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	441	13.3%	100	13.9%	541	13.5%
Camping	120	3.6%	57	7.9%	177	4.4%
Hiking	2,799	84.7%	651	90.7%	3,450	85.8%
Horseback Riding	80	2.4%	28	3.9%	108	2.7%
Jogging	700	21.2%	116	16.2%	816	20.3%
Mountain Biking	486	14.7%	51	7.1%	537	13.4%
Painting/Crafts	80	2.4%	31	4.3%	111	2.8%
Photography	709	21.5%	288	40.1%	997	24.8%
Picnicking	225	6.8%	72	10.0%	297	7.4%
Rock Climbing	248	7.5%	88	12.3%	336	8.4%
Sightseeing	1,529	46.3%	520	72.4%	2,049	50.9%
Sunbathing	243	7.4%	90	12.5%	333	8.3%
Wading/Swimming	181	5.5%	71	9.9%	252	6.3%
Walking dog(s)	650	19.7%	92	12.8%	742	18.4%
Other	251	7.6%	30	4.2%	281	7.0%
Sample Total	3,304		718		4,022	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q23. Is this the trail you normally visit in the Santa Monica Mountains? (Y/N)

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	155	14.4%	316	13.5%	471	13.8%
Camping	61	5.7%	80	3.4%	141	4.1%
Hiking	955	88.8%	1,966	83.8%	2,921	85.4%
Horseback Riding	33	3.1%	59	2.5%	92	2.7%
Jogging	176	16.4%	550	23.4%	726	21.2%
Mountain Biking	117	10.9%	368	15.7%	485	14.2%
Painting/Crafts	36	3.3%	52	2.2%	88	2.6%
Photography	341	31.7%	441	18.8%	782	22.9%
Picnicking	103	9.6%	164	7.0%	270	7.9%
Rock Climbing	106	9.9%	164	7.0%	270	7.9%
Sightseeing	643	59.8%	165	7.0%	271	7.9%
Sunbathing	106	9.9%	165	7.0%	271	7.9%
Wading/Swimming	85	7.9%	118	5.0%	203	5.9%
Walking dog(s)	175	16.3%	473	20.2%	648	18.9%
Other	64	6.0%	183	7.8%	247	7.2%
Sample Total	1,075		2,347		3,422	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q24. Have you visited any trailhead repeatedly in the last year? (Y/N)

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	137	14.1%	316	13.4%	453	13.6%
Camping	68	7.0%	70	3.0%	138	4.1%
Hiking	875	90.1%	1,971	83.4%	2,846	85.3%
Horseback Riding	26	2.7%	61	2.6%	87	2.6%
Jogging	170	17.5%	528	22.3%	698	20.9%
Mountain Biking	76	7.8%	396	16.8%	472	14.2%
Painting/Crafts	27	2.8%	56	2.4%	83	2.5%
Photography	287	29.6%	468	19.8%	755	22.6%
Picnicking	93	9.6%	140	5.9%	233	7.0%
Rock Climbing	89	9.2%	166	7.0%	255	7.6%
Sightseeing	589	60.7%	1,027	43.4%	1,616	48.5%
Sunbathing	105	10.8%	154	6.5%	259	7.8%
Wading/Swimming	77	7.9%	114	4.8%	191	5.7%
Walking dog(s)	140	14.4%	490	20.7%	630	18.9%
Other	52	5.4%	179	7.6%	231	6.9%
Sample Total	971		2,364		3,335	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q25. In your opinion, the most important reason to protect the Santa Monica Mountains is (select one):

	Recreational opportunities		Habitat for plants/ wildlife		Both recreation and habitat		No opinion		Other		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	83	9.6%	247	16.6%	186	13.1%	9	6.9%	1	5.3%	526	13.4%
Camping	36	4.2%	67	4.5%	62	4.4%	5	3.8%	1	5.3%	171	4.4%
Hiking	717	83.1%	1,313	88.4%	1,207	84.8%	115	88.5%	15	78.9%	3,367	85.9%
Horseback Riding	24	2.8%	38	2.6%	35	2.5%	4	3.1%	2	10.5%	103	2.6%
Jogging	166	19.2%	271	18.2%	326	22.9%	29	22.3%	5	26.3%	797	20.3%
Mountain Biking	161	18.7%	129	8.7%	216	15.2%	15	11.5%	3	15.8%	524	13.4%
Painting/ Crafts	21	2.4%	38	2.6%	43	3.0%	4	3.1%	1	5.3%	107	2.7%
Photography	197	22.8%	397	26.7%	342	24.0%	30	23.1%	4	21.1%	970	24.7%
Picnicking	79	9.2%	98	6.6%	96	6.7%	11	8.5%	1	5.3%	285	7.3%
Rock Climbing	68	7.9%	99	6.7%	129	9.1%	19	14.6%	1	5.3%	316	8.1%
Sightseeing	418	48.4%	774	52.1%	727	51.1%	76	58.5%	6	31.6%	2,001	51.0%
Sunbathing	63	7.3%	129	8.7%	116	8.2%	15	11.5%	1	5.3%	324	8.3%
Wading/ Swimming	45	5.2%	96	6.5%	86	6.0%	12	9.2%	1	5.3%	240	6.1%
Walking dog(s)	147	17.0%	277	18.7%	276	19.4%	9	6.9%	5	26.3%	714	18.2%
Other	55	6.4%	120	8.1%	94	6.6%	4	3.1%	3	15.8%	276	7.0%
Sample Total	863		1,485		1,423		130		19		3,920	
1. Respondents could select more than 1 category, so the percentages do not add up to 100%.												

Q26. Do you have a physical condition that could interfere with your ability to recreate or your choice of recreational activities? (Y/N)

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	493	13.2%	45	17.1%	538	13.5%
Camping	171	4.6%	9	3.4%	180	4.5%
Hiking	3,201	85.8%	228	86.7%	3,429	85.8%
Horseback Riding	102	2.7%	6	2.3%	108	2.7%
Jogging	785	21.0%	35	13.3%	820	20.5%
Mountain Biking	501	13.4%	34	12.9%	535	13.4%
Painting/Crafts	105	2.8%	7	2.7%	112	2.8%
Photography	908	24.3%	81	30.8%	989	24.8%
Picnicking	270	7.2%	21	8.0%	291	7.3%
Rock Climbing	309	8.3%	16	6.1%	325	8.1%
Sightseeing	1,905	51.0%	133	50.6%	2,038	51.0%
Sunbathing	311	8.3%	25	9.5%	336	8.4%
Wading/Swimming	236	6.3%	12	4.6%	248	6.2%
Walking dog(s)	675	18.1%	53	20.2%	728	18.2%
Other	249	6.7%	27	10.3%	276	6.9%
Sample Total	3,732		263		3,995	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q27. Have you ever arrived at the trailhead and decided to leave and not do your planned activity? (Y/N)

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	458	13.3%	79	14.5%	537	13.5%
Camping	168	4.9%	12	2.2%	180	4.5%
Hiking	2,966	86.2%	458	84.0%	3,424	85.9%
Horseback Riding	90	2.6%	18	3.3%	108	2.7%
Jogging	699	20.3%	121	22.2%	820	20.6%
Mountain Biking	459	13.3%	75	13.8%	534	13.4%
Painting/Crafts	96	2.8%	15	2.8%	111	2.8%
Photography	879	25.6%	109	20.0%	988	24.8%
Picnicking	259	7.5%	31	5.7%	290	7.3%
Rock Climbing	295	8.6%	30	5.5%	325	8.2%
Sightseeing	1,812	52.7%	219	40.2%	2,031	51.0%
Sunbathing	298	8.7%	38	7.0%	336	8.4%
Wading/Swimming	221	6.4%	25	4.6%	246	6.2%
Walking dog(s)	604	17.6%	129	23.7%	733	18.4%
Other	229	6.7%	49	9.0%	278	7.0%
Sample Total	3,440		545		3,985	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q28. Would you come back again to this trailhead? (Y/N)

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	9	14.8%	530	13.5%	539	13.5%
Camping	4	6.6%	175	4.5%	179	4.5%
Hiking	51	83.6%	3,373	85.8%	3,424	85.8%
Horseback Riding	4	6.6%	104	2.6%	108	2.7%
Jogging	10	16.4%	808	20.5%	818	20.5%
Mountain Biking	8	13.1%	530	13.5%	538	13.5%
Painting/Crafts	3	4.9%	108	2.7%	111	2.8%
Photography	22	36.1%	966	24.6%	988	24.7%
Picnicking	8	13.1%	280	7.1%	288	7.2%
Rock Climbing	4	6.6%	321	8.2%	325	8.1%
Sightseeing	34	55.7%	2,003	50.9%	2,037	51.0%
Sunbathing	10	16.4%	326	8.3%	336	8.4%
Wading/Swimming	5	8.2%	243	6.2%	248	6.2%
Walking dog(s)	7	11.5%	726	18.5%	733	18.4%
Other	3	4.9%	276	7.0%	279	7.0%
Sample Total	61		3,932		3,993	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q30. What is your age?

	N.	Mean	S.D.
Bird Watching	504	42.1	15.9
Camping	173	36.6	12.8
Hiking	3,217	40.8	15.0
Horseback Riding	100	36.5	15.8
Jogging	767	38.6	13.0
Mountain Biking	495	46.0	13.8
Painting/Crafts	104	35.1	15.2
Photography	924	37.2	14.1
Picnicking	272	37.2	14.7
Rock Climbing	306	33.1	12.6
Sightseeing	1,924	38.1	14.5
Sunbathing	320	33.0	12.2
Wading/Swimming	229	35.1	13.8
Walking dog(s)	699	41.7	14.5
Other	259	44.8	15.4
Sample Avg.	3,734	41.7	15.0

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q31. To which gender do you most identify?

	Male		Female		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.

Bird Watching	241	13%	257	14%	498	13%
Camping	89	5%	81	4%	170	5%
Hiking	1,538	81%	1,654	91%	3,192	85%
Horseback Riding	41	2%	55	3%	96	3%
Jogging	426	23%	335	18%	761	20%
Mountain Biking	367	19%	123	7%	490	13%
Painting/Crafts	42	2%	58	3%	100	3%
Photography	442	23%	474	26%	916	24%
Picnicking	124	7%	138	8%	262	7%
Rock Climbing	168	9%	129	7%	297	8%
Sightseeing	948	50%	948	52%	1,896	51%
Sunbathing	146	8%	163	9%	309	8%
Wading/Swimming	104	6%	120	7%	224	6%
Walking dog(s)	287	15%	408	22%	695	19%
Other	117	6%	140	8%	257	7%
Sample Total	1,889		1,817		3,754	
1. Respondents could select more than 1 category, so the percentages do not add up to 100%.						

Q32. Do you have children under the age of 18 in your household? (Y/N)

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	389	13.8%	113	13.0%	502	13.7%
Camping	118	4.2%	53	6.1%	171	4.7%
Hiking	2,448	87.1%	727	83.9%	3,175	86.4%
Horseback Riding	85	3.0%	14	1.6%	99	2.7%
Jogging	536	19.1%	220	25.4%	759	20.6%
Mountain Biking	336	12.0%	146	16.8%	482	13.1%
Painting/Crafts	87	3.1%	174	20.1%	912	24.8%
Photography	738	26.3%	174	20.1%	912	24.8%
Picnicking	203	7.2%	60	6.9%	263	7.2%
Rock Climbing	247	8.8%	53	6.1%	300	8.2%
Sightseeing	1,490	53.0%	397	45.8%	1,887	51.3%
Sunbathing	269	9.6%	46	5.3%	315	8.6%
Wading/Swimming	178	6.3%	48	5.5%	226	6.1%
Walking dog(s)	534	19.0%	160	18.5%	694	18.9%
Other	204	7.3%	53	6.1%	257	7.0%
Sample Total	2,809		867		3,676	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q34. What is the highest level of education you have completed (or achieved)? (Select one)

	High School Student		No HS Degree /GED		HS Degree/ GED		College		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	21	18%	8	22%	50	15%	435	14%	514	14%
Camping	8	7%	2	5%	17	5%	142	4%	169	5%
Hiking	98	82%	30	81%	283	87%	2,762	87%	3,173	86%
Horseback Riding	8	7%	2	5%	14	4%	80	3%	104	3%
Jogging	34	28%	13	35%	73	22%	631	20%	751	20%
Mountain Biking	23	19%	5	14%	36	11%	420	13%	484	13%
Painting/Crafts	6	5%	1	3%	9	3%	89	3%	105	3%
Photography	30	25%	9	24%	103	31%	772	24%	914	25%
Picnicking	15	13%	2	5%	33	10%	224	7%	274	7%
Rock Climbing	19	16%	4	11%	35	11%	252	8%	310	8%
Sightseeing	65	54%	11	30%	185	57%	1,631	51%	1,892	51%
Sunbathing	16	13%	2	5%	33	10%	265	8%	316	9%
Wading/Swimming	11	9%	2	5%	24	7%	190	6%	227	6%
Walking dog(s)	34	28%	4	11%	52	16%	602	19%	692	19%
Other	7	6%	2	5%	17	5%	238	7%	264	7%
Sample Total	120		37		327		3,193		3,677	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q35. Are you Hispanic or Latino? (Select one) and Q36. What is your race? (Select all that apply)

	Non-Hispanic														Hispanic or Latino		Sample Total	
	White		Black		Asian		Am. Indian		Pac. Isl.		Other		2+ Races					
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.				
Bird Watching	304	13%	16	19%	24	9%	4	11%	4	21%	11	14%	17	18%	110	15%	490	14%
Camping	87	4%	8	10%	13	5%	4	11%	1	5%	4	5%	8	8%	41	5%	166	5%
Hiking	1,901	84%	76	90%	224	87%	30	83%	16	84%	66	87%	85	89%	682	90%	3,080	86%
Horseback Riding	63	3%	5	6%	6	2%	2	6%	1	5%	1	1%	5	5%	19	3%	102	3%
Jogging	409	18%	34	40%	37	14%	10	28%	5	26%	11	14%	29	31%	204	27%	739	21%
Mountain Biking	333	15%	11	13%	28	11%	4	11%	1	5%	6	8%	11	12%	80	11%	474	13%
Painting/ Crafts	58	3%	5	6%	8	3%	1	3%	1	5%	1	1%	7	7%	19	3%	100	3%
Photography	495	22%	30	36%	84	33%	8	22%	6	32%	19	25%	27	28%	225	30%	894	25%
Picnicking	153	7%	10	12%	26	10%	5	14%	3	16%	2	3%	9	9%	56	7%	264	7%
Rock Climbing	157	7%	14	17%	26	10%	2	6%	1	5%	7	9%	8	8%	91	12%	306	9%
Sightseeing	1,081	48%	51	61%	166	64%	15	42%	13	68%	37	49%	56	59%	434	58%	1,853	52%
Sunbathing	173	8%	12	14%	18	7%	2	6%	2	11%	12	16%	14	15%	73	10%	306	9%
Wading/ Swimming	134	6%	9	11%	12	5%	2	6%	2	11%	5	7%	13	14%	44	6%	221	6%
Walking dog(s)	459	20%	12	14%	35	14%	5	14%	3	16%	14	18%	22	23%	115	15%	665	19%
Other	169	7%	5	6%	18	7%	3	8%	1	5%	9	12%	4	4%	37	5%	246	7%
Sample Total	2,255		84		258		36		19		76		95		754		3,577	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q38. What is your household income? (Select one)

	<$50K		$50K-$100K		$100K-$150K		>$150K		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	105	16%	99	11%	89	17%	111	13%	404	14%
Camping	37	6%	46	5%	24	4%	31	4%	138	5%
Hiking	589	90%	757	88%	467	87%	697	81%	2,510	86%
Horseback Riding	23	4%	24	3%	13	2%	16	2%	76	3%
Jogging	138	21%	197	23%	120	22%	180	21%	635	22%
Mountain Biking	51	8%	101	12%	76	14%	155	18%	383	13%
Painting/Crafts	26	4%	26	3%	15	3%	14	2%	81	3%
Photography	217	33%	233	27%	130	24%	148	17%	728	25%
Picnicking	61	9%	71	8%	35	7%	45	5%	212	7%
Rock Climbing	83	13%	83	10%	30	6%	50	6%	246	8%
Sightseeing	403	62%	463	54%	286	53%	387	45%	1,539	53%
Sunbathing	81	12%	98	11%	31	6%	39	5%	249	9%
Wading/Swimming	47	7%	60	7%	35	7%	43	5%	185	6%
Walking dog(s)	95	15%	154	18%	117	22%	190	22%	556	19%
Other	41	6%	62	7%	38	7%	65	8%	206	7%
Sample Total	651		865		538		861		2,915	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Q41. Would you be willing to contribute financially to the future upkeep and provision of services of this trailhead and trail? (Y/N)

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	142	11.7%	295	14.8%	437	13.6%
Camping	64	5.3%	82	4.1%	146	4.5%
Hiking	1,050	86.4%	1,713	85.8%	2,763	86.0%
Horseback Riding	35	2.9%	45	2.3%	80	2.5%
Jogging	225	18.5%	446	22.3%	671	20.9%
Mountain Biking	124	10.2%	287	14.4%	411	12.8%
Painting/Crafts	37	3.0%	48	2.4%	85	2.6%
Photography	337	27.7%	469	23.5%	806	25.1%
Picnicking	96	7.9%	133	6.7%	229	7.1%
Rock Climbing	113	9.3%	148	7.4%	261	8.1%
Sightseeing	676	55.6%	989	49.5%	1,665	51.9%
Sunbathing	126	10.4%	140	7.0%	266	8.3%
Wading/Swimming	86	7.1%	106	5.3%	192	6.0%
Walking dog(s)	192	15.8%	414	20.7%	606	18.9%
Other	77	6.3%	152	7.6%	229	7.1%
Sample Total	1,215		1,996		3,211	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Chapter 3 Appendix

Geographic Characteristics

Figure A3-1. Number of Respondents, by ZIP Code (Southern California Region)

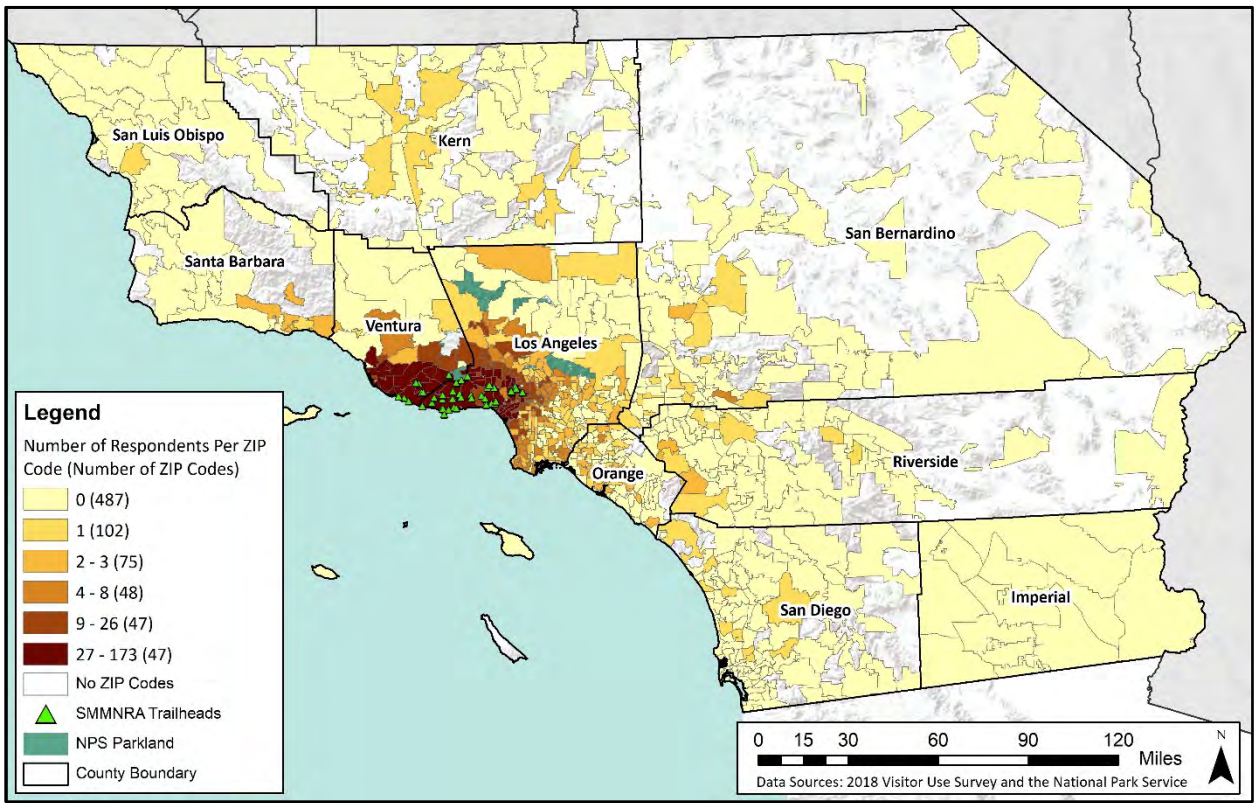
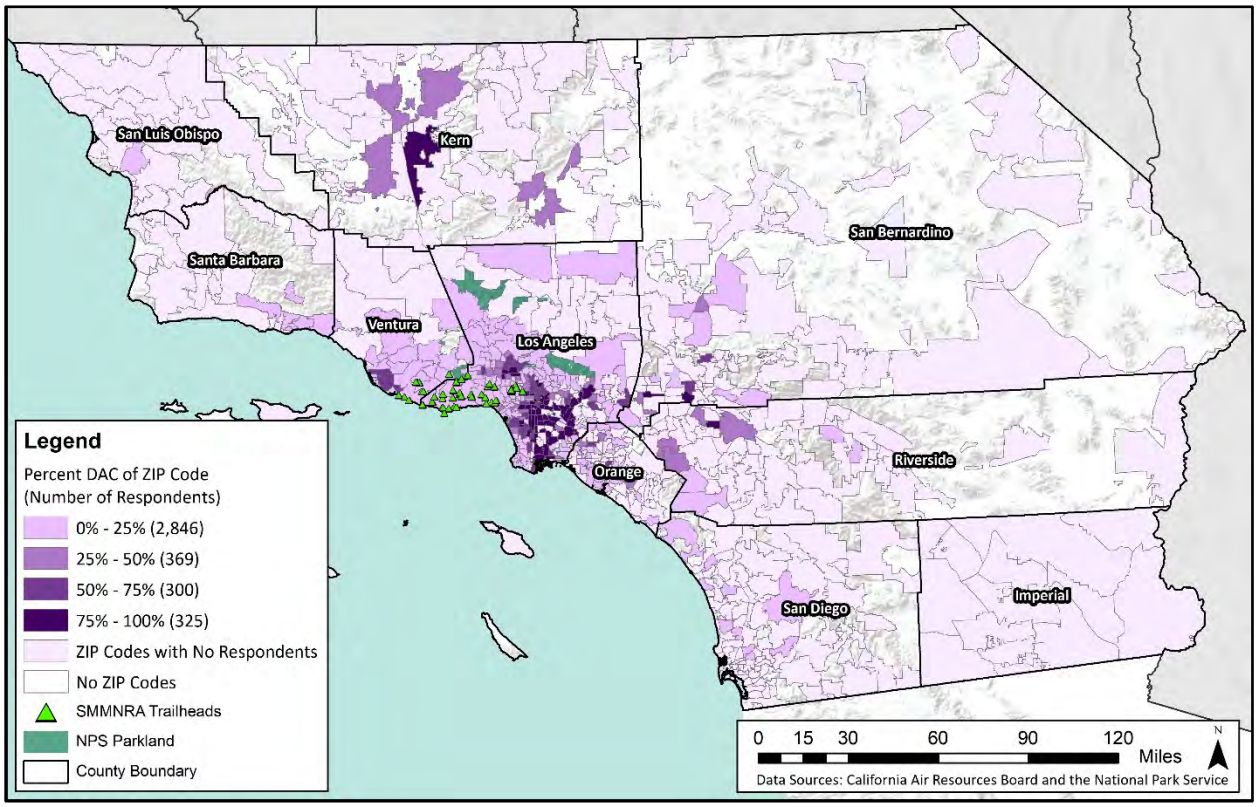


Figure A3-2. Percent DAC of Respondent's ZIP Code (Southern California Region)



Chapter 4 Appendix

Navigation to the Trailhead

Table A4-1. Strategies Used to Navigate to SMMNRA Trailhead(s), by Gender

	Male		Female		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Maps*	637	33.7%	669	36.8%	1,306	34.8%
Social media	59	3.1%	69	3.8%	128	3.4%
Road signs	260	13.8%	280	15.4%	540	14.4%
Friends/Acquaintances*	254	13.4%	291	16.0%	545	14.5%
Stranger	63	3.3%	83	4.6%	146	3.9%
Park ranger/staff	52	2.8%	55	3.0%	107	2.9%
I know the route***	848	44.9%	702	38.6%	1,550	41.3%
Other	133	7.0%	118	6.5%	251	6.7%
Sample Total	1,889		1,817		3,754	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Table A4-2. Strategies Used to Navigate to SMMNRA Trailhead(s), by Age

	18 - 40 Years		41 - 64 Years		65+ Years		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Maps***	881	45.7%	393	25.7%	42	15.0%	1,316	35.2%
Social media	70	3.6%	54	3.5%	4	1.4%	128	3.4%
Road signs***	327	17.0%	182	11.9%	35	12.5%	544	14.6%
Friends/Acquaintances	290	15.1%	221	14.5%	37	13.2%	548	14.7%
Stranger***	96	5.0%	47	3.1%	2	0.7%	145	3.9%
Park ranger/staff	64	3.3%	38	2.5%	6	2.1%	108	2.9%
I know the route***	555	28.8%	831	54.4%	173	61.8%	1,559	41.8%
Other***	100	5.2%	126	8.2%	25	8.9%	251	6.7%
Sample Total	1,926		1,528		280		3,734	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Chi-square test for independence, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Table A4-3. Strategies Used to Navigate to SMMNRA Trailhead(s), by Education

	HS Student		No HS Degree/ GED		HS Degree/ GED		College		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Maps	41	34.2%	6	16.2%	112	34.3%	1,131	35.4%	1,290	35.1%
Social media	2	1.7%	3	8.1%	10	3.1%	113	3.5%	128	3.5%
Road signs	12	10.0%	5	13.5%	48	14.7%	473	14.8%	538	14.6%
Friends/ Acquaintances*	30	25.0%	7	18.9%	49	15.0%	457	14.3%	543	14.8%
Stranger	8	6.7%	1	2.7%	9	2.8%	127	4.0%	145	3.9%
Park ranger/ staff	4	3.3%	1	2.7%	14	4.3%	87	2.7%	106	2.9%
I know the route	37	30.8%	13	35.1%	130	39.8%	1,351	42.3%	1,531	41.6%
Other	4	3.3%	2	5.4%	21	6.4%	221	6.9%	248	6.7%
Sample Total	120		37		327		3,193		3,677	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Chi-square test for independence, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Table A4-4. Strategies Used to Navigate to SMMNRA Trailhead(s), by Race/Ethnicity

	Non-Hispanic														Hispanic or Latino		Sample Total	
	White		Black		Asian		Am.Ind.		Pac. Isl.		Other		2+ Races					
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.				
Maps***	758	34%	26	31%	117	45%	12	33%	10	53%	19	25%	42	44%	287	38%	1,271	36%
Social media	64	3%	3	4%	14	5%	0	0%	1	5%	4	5%	4	4%	33	4%	123	3%
Road signs***	287	13%	11	13%	62	24%	5	14%	5	26%	12	16%	15	16%	135	18%	532	15%
Friends/Acquaintances	317	14%	15	18%	36	14%	3	8%	4	21%	12	16%	11	12%	132	18%	530	15%
Stranger***	62	3%	6	7%	15	6%	1	3%	1	5%	3	4%	9	9%	42	6%	139	4%
Park ranger/staff	61	3%	1	1%	9	3%	0	0%	0	0%	2	3%	7	7%	25	3%	105	3%
I know the route***	1,048	46%	32	38%	69	27%	15	42%	4	21%	34	45%	32	34%	232	31%	1,466	41%
Other	164	7%	2	2%	15	6%	2	6%	1	5%	2	3%	9	9%	45	6%	240	7%
Sample Total	2,255		84		258		36		19		76		95		754		3,577	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Chi-square test for independence, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Table A4-5. Strategies Used to Navigate to SMMNRA Trailhead(s), by Income

	<$50K		$50K - $100K		$100K - $150K		>$150K		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Maps***	258	39.6%	319	36.9%	196	36.4%	265	30.8%	1,065	36.5%
Social media	26	4.0%	28	3.2%	23	4.3%	22	2.6%	99	3.4%
Road signs**	118	18.1%	143	16.5%	80	14.9%	101	11.7%	442	15.2%
Friends/Acquaintances	97	14.9%	138	16.0%	77	14.3%	123	14.3%	435	14.9%
Stranger	35	5.4%	25	2.9%	21	3.9%	30	3.5%	111	3.8%
Park ranger/staff	27	4.1%	22	2.5%	13	2.4%	26	3.0%	88	3.0%
I know the route***	205	31.5%	317	36.6%	242	45.0%	413	48.0%	1,177	40.4%
Other*	34	5.2%	43	5.0%	40	7.4%	72	8.4%	189	6.5%
Sample Total	651		865		538		861		2,915	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Chi-square test for independence, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Trouble Finding the Park

Table A4-6. Trouble Finding Trailhead(s), by Gender

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Male	1,794	95.9%	76	4.1%	1,870	100.0%
Female	1,708	94.8%	93	5.2%	1,801	100.0%
Sample Total	3,502	95.4%	169	4.6%	3,671	100.0%

Table A4-7. Trouble Finding Trailhead(s), by Age

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
18 - 40 Years	1,784	93.7%	119	6.3%	1,903	100.0%
41 - 64 Years	1,469	96.8%	49	3.2%	1,518	100.0%
65+ Years	274	98.6%	4	1.4%	278	100.0%
Sample Total	3,527	95.4%	172	4.6%	3,699	100.0%

1. There is a statistically significant relationship between the two variables at P<0.001. Note that cell sizes approach 0.

Table A4-8. Trouble Finding Trailhead(s), by Education

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
HS Student	110	92.4%	9	7.6%	119	100.0%
No HS Degree/GED	34	94.4%	2	5.6%	36	100.0%
HS Degree/GED	301	93.8%	20	6.2%	321	100.0%
College	3,025	95.6%	139	4.4%	3,164	100.0%
Sample Total	3,470	95.3%	170	4.7%	3,640	100.0%

Table A4-9. Trouble Finding Trailhead(s), by Race/Ethnicity

		No		Yes		Sample Total	
		N.	Pct.	N.	Pct.	N.	Pct.
Non-Hispanic	White	2,158	96.4%	81	3.6%	2,239	100.0%
	Black	76	91.6%	7	8.4%	83	100.0%
	Asian	2,378	943.7%	14	5.6%	252	100.0%
	Am. Indian	34	97.1%	1	2.9%	35	100.0%
	Pac. Islander	18	100.0%	0	0.0%	18	100.0%
	Other	71	94.7%	4	5.3%	75	100.0%
	2+ Races	89	93.7%	6	6.3%	95	100.0%
Hispanic/Latino		694	93.2%	51	6.8%	745	100.0%
Sample Total		3,378	95.4%	164	4.6%	3,542	100.0%

1. There is a statistically significant relationship between the two variables at P<0.01. Note that cell sizes approach 0.

Table A4-10. Trouble Finding Trailhead(s), by Race/Ethnicity (White/Non-White)

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Non-Hispanic White***	2,158	96.4%	81	3.6%	2,239	100.0%
Non-White***	1,220	93.6%	83	6.4%	1,303	100.0%
Sample Total	3,378	95.4%	164	4.6%	3,542	100.0%

1. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.

Travel Time to Trailhead(s)

Table A4-11. Mean Travel Time to SMMNRA Trailhead(s), by Gender

	N.	Mean	S.D.
Male	1,661	33.7	32.7
Female	1,642	33.5	29.7
Sample Avg.	3,303	33.6	31.3

Table A4-12. Mean Travel Time to SMMNRA Trailhead(s), by Age

	N.	Mean	S.D.
18 - 40 Years	1,678	40.3	33.5
41 - 64 Years	1,396	27.7	28.4
65+ Years	250	22.5	19.3
Sample Avg.	3,324	33.7	31.3

1. The difference in mean travel time is statistically significant at P<0.001 between all combinations of age groups.

Table A4-13. Mean Travel Time to SMMNRA Trailhead(s), by Education

	N.	Mean	S.D.
HS Student	105	41.4	47.0
No HS Degree/GED	36	41.6	34.4
HS Degree/GED	286	38.1	39.8
College	2,853	32.9	29.6
Sample Avg.	3,280	33.7	31.4
1. The difference in mean travel time is statistically significant at P<0.05 between HS Degree/GED and College.			

Table A4-14. Mean Travel Time to SMMNRA Trailhead(s), Race/Ethnicity

		N.	Mean	S.D.
Non-Hispanic	White	2,005	29.8	28.0
	Black	73	33.7	29.9
	Asian	231	40.6	33.6
	Am. Indian	32	37.4	37.4
	Pac. Islander	19	45.3	31.0
	Other	66	38.3	36.4
	2+ Races	85	37.8	30.0
Hispanic/Latino		684	42.0	38.2
Sample Avg.		3,195	33.9	31.7

Common Modes of Transport to SMMNRA

Table A4-15. Mean Travel Time to SMMNRA Trailhead(s), by Mode of Transportation

	N.	Mean	S.D.
Automobile	3,372	35.1	31.2
Public transportation	15	54.0	33.8
Group transportation	10	25.3	11.6
Motorcycle/scooter	11	31.8	25.5
Bicycle	115	34.4	44.9
Walk/jog	331	21.5	28.6
Horseback	8	17.4	22.4
Other	15	37.9	38.0
Sample Total	3,877	33.9	31.7

1. The difference in mean travel time (minutes) is statistically significant at P<0.05 or below between Automobile and Group, Automobile and Walk/jog, Public and Group, Public and Walk/jog, Public and Horseback, and Bicycle and Walk/jog.

Table A4-16. Mode of Transportation to SMMNRA Trailhead(s), by Gender

	Male		Female		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Automobile***	1,589	84.1%	1,613	88.8%	3,202	86.4%
Public transportation	13	0.7%	8	0.4%	21	0.6%
Group transportation	8	0.4%	6	0.3%	14	0.4%
Motorcycle/scooter	6	0.3%	3	0.2%	9	0.2%
Bicycle***	95	5.0%	11	0.6%	106	2.9%
Walk/jog	169	8.9%	159	8.8%	328	8.9%
Horseback	1	0.1%	6	0.3%	7	0.2%
Other	8	0.4%	11	0.6%	19	0.5%
Sample Total	1,889	100.0%	1,817	100.0%	3,706	100.0%

1. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.

Table A4-17. Mode of Transportation to SMMNRA Trailhead(s), by Age

	18 - 40 Years		41 - 64 Years		65+ Years		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Automobile	1,714	93.9%	1,293	84.6%	215	76.8%	3,222	86.3%
Public transportation	18	1.0%	3	0.2%	0	0.0%	21	0.6%
Group transportation	5	0.3%	5	0.3%	5	1.8%	15	0.4%
Motorcycle/scooter	7	0.4%	2	0.1%	0	0.0%	9	0.2%
Bicycle	31	1.7%	67	4.4%	10	3.6%	108	2.9%
Walk/jog	138	7.6%	146	9.6%	48	17.1%	332	8.9%
Horseback	1	0.1%	5	0.3%	1	0.4%	7	0.2%
Other	12	0.7%	7	0.5%	0	0.0%	20	0.5%
Sample Total	1,826	100.0%	1,528	100.0%	280	100.0%	3,734	100.0%

1. There is a statistically significant relationship between the two variables at P<0.001. Note that cell sizes approach 0.

Table A4-18. Mode of Transportation to SMMNRA Trailhead(s), by Education

	HS Student		No HS Degree/GED		HS Degree/GED		College		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Automobile	98	81.7%	31	83.8%	274	83.8%	2,775	86.9%	3,178	86.4%
Public transportation	1	0.8%	1	2.7%	5	1.5%	14	0.4%	21	0.6%
Group transportation	1	0.8%	0	0.0%	1	0.3%	14	0.4%	16	0.4%
Motorcycle/scooter	1	0.8%	0	0.0%	1	0.3%	7	0.2%	9	0.2%
Bicycle	7	5.8%	1	2.7%	6	1.8%	87	2.7%	101	2.7%
Walk/jog	11	9.2%	4	10.8%	37	11.3%	276	8.6%	328	8.9%
Horseback	1	0.8%	0	0.0%	0	0.0%	8	0.3%	9	0.2%
Other	0	0.0%	0	0.0%	3	0.9%	12	0.4%	15	0.4%
Sample Total	120	100.0%	37	100.0%	327	100.0%	3,193	100.0%	3,677	100.0%

Table A4-19. Mode of Transportation to SMMNRA Trailhead(s), by Race/Ethnicity

	Non-Hispanic														Hispanic or Latino		Sample Total	
	White		Black		Asian		Am. Ind.		Pac. Isl.		Other		2+ Races					
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.				
Automobile	1,924	85.3%	69	82.1%	227	88.0%	30	83.3%	18	94.7%	65	85.5%	83	87.4%	684	90.7%	3,101	86.7%
Public Transp.	6	0.3%	0	0.0%	6	2.3%	0	0.0%	0	0.0%	0	0.0%	1	1.1%	6	0.8%	19	0.5%
Group Transp.	8	0.4%	1	1.2%	4	1.6%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	0.4%	16	0.4%
Motorcycle/ scooter	6	0.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	1.1%	1	0.1%	8	0.2%
Bicycle	79	3.5%	1	1.2%	6	2.3%	1	2.8%	0	0.0%	3	3.9%	0	0.0%	10	1.3%	100	2.8%
Walk/jog	215	9.5%	12	14.3%	14	5.4%	4	11.1%	1	5.3%	7	9.2%	9	9.5%	47	6.2%	309	8.6%
Horseback	7	0.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	1.3%	1	1.1%	0	0.0%	9	0.3%
Other	10	0.4%	1	1.2%	1	0.4%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	0.4%	15	0.4%
Sample Total	2,255	100%	84	100%	258	100.0%	36	100%	19	100%	76	100%	95	100%	754	100%	3,577	100%

1. There is a statistically significant relationship between the two variables at P<0.01. Note that cell sizes approach 0.

Table A4-20. Mode of Transportation to SMMNRA Trailhead(s), by Income

	<$50K		$50K - $100K		$100K - $150K		>$150K		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Automobile	576	88.5%	766	88.6%	469	87.2%	730	84.8%	2,541	87.2%
Public transportation	9	1.4%	5	0.6%	1	0.2%	1	0.1%	16	0.5%
Group transportation	4	0.6%	3	0.3%	0	0.0%	6	0.7%	13	0.4%
Motorcycle/scooter	2	0.3%	2	0.2%	1	0.2%	0	0.0%	5	0.2%
Bicycle	12	1.8%	16	1.8%	15	2.8%	39	4.5%	82	2.8%
Walk/jog	45	6.9%	65	7.5%	50	9.3%	83	9.6%	243	8.3%
Horseback	1	0.2%	1	0.1%	2	0.4%	1	0.1%	5	0.2%
Other	2	0.3%	7	0.8%	0	0.0%	1	0.1%	10	0.3%
Sample Total	651	100.0%	865	100.0%	538	100.0%	861	100.0%	2,915	100.0%

1. There is a statistically significant relationship between the two variables at P<0.001. Note that cell sizes approach0.

Chapter 5 Appendix

Distance Traveled Analysis

Table A5-1. Mean Round-Trip Miles Traveled, by County (of Home ZIP Code)

County	N.	Mean.	S.D.
Kern	4	238.1	37.9
Los Angeles	3,034	31.7	29.2
Orange	54	132.0	25.0
Riverside	12	226.1	46.7
San Bernardino	18	196.8	40.8
San Diego	10	261.2	47.0
San Luis Obispo	1	332.6	.
Santa Barbara	14	142.2	47.9
Ventura	750	28.7	20.3
Sample Avg.	3,897	35.2	37.4

1. The difference in mean miles traveled is statistically significant at P<0.05 or below between all combinations of Counties, except between Kern and Riverside, Kern and San Bernardino, Kern and San Diego, Orange and Santa Barbara, Riversdie and San Bernardino, and Riverside and Orange,.

Table A5-2. Mean Round-Trip Miles Traveled, by Trailhead

Code	Trailhead Name	N.	Mean.	S.D.
BBT	BBT/Topanga Ridge Mtway Lois Ewen Overlook	28	37.2	19.6
CAB	Caballero Canyon	100	13.4	12.0
CC	Corral Canyon	22	48.5	17.3
CHA	Charmlee Wilderness Park	82	63.1	33.4
CHC	Cheeseboro Canyon China Flat Trailhead	49	13.6	16.4
CHMI	Cheeseboro Canyon Main Parking Inner Lot	107	18.6	14.1
CXG	Circle X Ranch Grotto Trail	63	92.6	54.3
CXM	Circle X Ranch Mishe Mokwa Trailhead	93	77.6	40.9
CXS	Circle X Ranch Sandstone Peak Trailhead	116	77.6	33.5
EC	Escondido Canyon	135	70.2	40.0
Code	Trailhead Name	N.	Mean.	S.D.

FRAH	Franklin Canyon Hastain Trailhead	88	11.9	7.0
FRAR	Franklin Canyon Ranch Parking Lot	45	13.7	6.5
FRAW	Franklin Canyon WODOC Parking Lot	86	19.5	14.5
FRY	Fryman Canyon	72	14.4	26.9
LEON	Leo Carrillo State Park	37	95.2	59.5
MALB	Malibu Creek State Park Backbone Trail	46	45.3	22.7
MALL	Malibu Creek state Park Mulholland/Las Virgenes	99	47.3	42.3
MALM	Malibu Creek State Park Main Entrance	90	68.4	47.1
PAM	Paramount Ranch	61	49.2	67.1
PD	Point Dume	31	54.2	34.5
PMB	Point Mugu State Park Big Sycamore Canyon Trailhead	122	63.2	49.5
PMC	Point Mugu State Park Chumash Trailhead	124	36.2	36.1
PML	Point Mugu State Park La Jolla Canyon Trailhead	69	56.3	39.4
RES	Top of Reseda	121	19.1	17.8
ROM	Rocky Oaks Parking Lot	15	43.6	23.7
RSVM	Rancho Sierra Vista Parking Lot	226	17.0	20.8
RUN	Runyon Canyon	259	12.0	17.0
SAN	San Vicente Park	116	26.0	27.6
SC	Solstice Canyon	137	53.9	22.7
STU	Stunt Ranch	30	23.8	22.9
TEM	Temescal Gateway Park	155	26.5	27.7
TOPL	Topanga State Park Los Leones Trailhead	141	30.4	24.6
TOPS	Topanga State Park Sullivan Ridge Fire Rd	92	27.8	26.6
TOPT	Topanga State Park Trippet Ranch Parking	89	34.7	27.1
TOPY	Topanga State Park Santa Ynez Trailhead	76	31.0	17.8
Code	Trailhead Name	N.	Mean.	S.D.
UPPL	Upper Las Virgenes Canyon Las Virgenes Rd	67	18.3	15.3
UPPV	Upper Las Virgenes Canyon Victory Trailhead	206	16.1	26.3

WILA	Wilacre Park	132	11.9	12.4
WILL	Will Rogers SHP	67	17.5	29.1
ZUB	Zuma/Trancas Canyon Backbone Trail	38	34.8	30.9
ZUC	Zuma Canyon (Bonsall) Trailhead	42	49.5	38.0
ZUK	Zuma/Trancas Canyon Kanan Rd	49	46.4	34.0
ZUR	Zuma Ridge (Busch) Trailhead	74	30.9	21.8
Sample Avg.		3,897	35.2	37.4

Table A5-3. Mean Round-Trip Miles Traveled, by Trailhead and Race/Ethnicity (White/Non-White)

TH Code	Trailhead Name	Non-Hispanic White			Non-White			Sample Average		
		N.	Mean	S.D.	N.	Mean	S.D.	N.	Mean	S.D.
BBT	BBT/Topanga Ridge Mtway Lois Ewen Overlook	16	33.7	17.0	7	47.2	22.1	23	37.8	19.2
CAB	Caballero Canyon	40	12.4	12.3	42	15.0	12.9	82	13.7	12.6
CC	Corral Canyon	15	46.9	16.7	3	53.4	10.1	18	48.0	15.7
CHA**	Charmlee Wilderness Park	33	53.8	27.9	27	78.7	37.2	60	65.0	34.5
CHC	Cheeseboro Canyon China Flat	32	9.3	9.7	9	17.7	21.1	41	11.1	13.2
CHMI	Cheeseboro Canyon Main Parking Inner Lot	78	18.4	14.2	9	23.7	21.3	87	18.9	15.0
CXG	Circle X Ranch Grotto Trail	28	95.1	60.4	27	90.9	54.3	55	93.0	57.0
CXM	Circle X Ranch Mishe Mokwa	54	75.9	42.5	26	83.8	39.2	80	78.5	41.4
TH Code	Trailhead Name	Non-Hispanic White			Non-White			Sample Average		
		N.	Mean	S.D.	N.	Mean	S.D.	N.	Mean	S.D.
CXS	Circle X Ranch Sandstone Peak	43	74.7	29.1	52	78.0	37.5	95	76.5	33.8
EC	Escondido Canyon	51	74.0	49.0	65	68.9	33.9	116	71.1	41.1
FRAH	Franklin Canyon Hastain Trailhead	55	12.0	6.2	16	13.2	9.9	71	12.3	7.1
FRAR	Franklin Canyon Ranch Parking Lot	33	13.0	6.2	9	17.5	7.1	42	13.9	6.6

FRAW	Franklin Canyon WODOC Parking	54	19.1	15.2	19	24.2	15.7	73	20.4	15.4
FRY	Fryman Canyon	44	15.3	34.0	18	15.2	8.2	62	15.3	28.8
LEON	Leo Carrillo State Park	18	78.3	43.6	17	111.0	72.1	35	94.2	60.6
MALB	Malibu Creek State Park Backbone Trail	29	46.6	25.2	6	41.0	20.9	35	45.6	24.4
MALL	Malibu Creek state Park Mulholland/Las Virgenes	50	46.0	53.2	34	55.9	28.3	84	50.0	44.9
MALM	Malibu Creek State Park Main Entrance	33	59.0	48.2	31	75.2	40.4	64	66.9	45.0
PAM	Paramount Ranch	38	48.6	66.5	12	56.1	92.7	50	50.4	72.7
PD	Point Dume	19	52.3	34.5	6	74.5	41.9	25	57.6	36.8
PMB	Point Mugu State Park Big Sycamore Canyon	70	57.3	33.7	32	65.4	57.6	102	59.8	42.5
PMC	Point Mugu State Park Chumash	26	38.1	25.4	76	34.5	41.9	102	35.4	38.3
PML	Point Mugu State Park La Jolla Cnyn	27	59.0	28.3	29	50.5	42.2	56	54.6	36.1
RES	Top of Reseda	55	18.3	19.0	42	19.1	11.6	97	18.6	16.1
ROM	Rocky Oaks Parking Lot	9	40.4	24.9	2	51.6	25.0	11	42.4	24.1
RSVM	Rancho Sierra Vista Parking Lot	139	15.8	18.7	58	21.5	25.7	197	17.5	21.1
RUN**	Runyon Canyon	123	8.7	8.1	88	16.3	23.1	211	11.9	16.5
TH Code	Trailhead Name	Non-Hispanic White			Non-White			Sample Average		
		N.	Mean	S.D.	N.	Mean	S.D.	N.	Mean	S.D.
SAN	San Vicente Park	60	23.9	12.6	34	24.7	13.5	94	24.2	12.9
SC*	Solstice Canyon	53	49.3	18.8	63	58.6	23.9	116	54.3	22.1
STU	Stunt Ranch	17	26.3	29.1	5	29.2	13.2	22	27.0	26.1
TEM	Temescal Gateway Park	79	28.1	35.7	44	26.3	16.1	123	27.5	30.1
TOPL*	Topanga State Park Los Leones	75	25.6	26.6	48	36.2	21.7	123	29.7	25.3
TOPS**	Topanga State Park Sullivan Ridge Fire Rd	49	22.7	27.3	25	44.5	26.5	74	30.0	28.8

TOPT	Topanga State Park Trippet Ranch Parking Lot	51	33.7	28.5	27	38.4	26.1	78	35.3	27.6
TOPY***	Topanga State Park Santa Ynez	39	25.5	12.9	28	39.3	17.9	67	31.3	16.6
UPPL**	Upper Las Virgenes Canyon Las Virgenes Rd	43	18.6	16.4	7	11.5	1.4	50	17.6	15.4
UPPV	Upper Las Virgenes Canyon Victory Trailhead	100	15.4	29.8	82	16.9	23.6	182	16.1	27.1
WILA	Wilacre Park	60	11.9	12.6	36	14.0	14.7	96	12.7	13.4
WILL	Will Rogers SHP	45	18.8	35.0	11	13.5	7.0	56	17.8	31.5
ZUB	Zuma/Trancas Canyon Backbone Trail	23	33.3	27.4	6	55.6	50.9	29	37.9	33.7
ZUC***	Zuma Canyon (Bonsall)	28	39.0	24.6	6	113.9	46.6	34	52.2	40.8
ZUK	Zuma/Trancas Canyon Kanan Rd	31	43.7	35.8	11	57.1	34.4	42	47.2	35.5
ZUR*	Zuma Ridge (Busch) Trailhead	51	27.7	15.9	10	45.3	28.0	61	30.6	19.3
Sample Avg.***		2,016	31.7	35.4	1,205	41.6	40.2	3,221	35.4	37.6
1. Two-sample difference in means test, *P<0.05, **P<0.01, ***P<0.001.										

Table A5-4. Mean Round-Trip Miles Traveled, by Gender

	N.	Mean	S.D.
Male	1,690	34.2	35.6
Female	1,653	36.1	39.6
Sample Avg.	3,343	35.2	37.6

Table A5-5. Mean Round-Trip Miles Traveled, by Age

	N.	Mean	S.D.
18 - 40 Years	1,696	42.8	40.1
41 - 64 Years	1,413	28.5	33.4
65+ Years	254	22.0	30.3
Sample Avg.	3,363	35.2	37.5
1. The difference in mean miles traveled is statistically significant at P<0.01 between all combinations of age groups.			

Table A5-6. Mean Round-Trip Miles Traveled, by Education

	N.	Mean	S.D.
HS Student	107	35.7	35.2

No HS Degree/GED	33	36.2	29.1
HS Degree/GED	292	40.7	45.5
College	2,888	34.8	37.0
Sample Avg.	3,320	35.3	37.7
1. The difference in mean miles traveled is statistically significant at P<0.05 between HS Degree/GED and College.			

Table A5-7. Mean Round-Trip Miles Traveled, by Race/Ethnicity

		N.	Mean	S.D.
Non-Hispanic	White	2,016	31.7	35.4
	Black	68	34.6	31.8
	Asian	235	42.0	37.0
	Am. Indian	34	51.8	72.0
	Pac. Islander	18	38.4	26.9
	Other	65	31.2	33.8
	2+ Races	84	36.9	31.0
Hispanic/Latino		701	43.3	41.4
Sample Avg.		3,221	35.4	37.6
1. The difference in mean miles traveled is statistically significant at P<0.05 or below between White and Asian, White and Hispanic/Latino, and Other and Hispanic/Latino.				

Table A5-8. Mean Round-Trip Miles Traveled, by Race/Ethnicity (White/Non-White)

	N.	Mean	S.D.
Non-Hispanic White	2,016	31.7	35.4
Non-White	1,205	41.6	40.2
Sample Avg.	3,221	35.4	37.6
1. The difference in mean miles traveled is statistically significant at P<0.001.			

Aggregate Economic Value of Park Visits

Table A5-9. Aggregate Value of Access and Travel Time to Trailhead, by County (of Home ZIP Code)

	Aggregate Value of Access			Round Trip Travel Time		
	N.	Mean	S.D.	N.	Mean	S.D.
Kern	3	$120.78	$12.64	3	226.7	200.3
Los Angeles	2,807	$17.14	$17.11	2,807	65.9	60.3
Orange	48	$67.03	$27.25	48	215.2	79.1
Riverside	11	$124.77	$25.00	11	252.4	102.5
San Bernardino	15	$104.06	$39.75	15	215.3	86.6
San Diego	9	$146.17	$28.67	9	176.7	136.3
San Luis Obispo	1	$181.25	.	1	90.0	.
Santa Barbara	11	$66.99	$27.56	11	122.0	70.8
Ventura	695	$15.39	$12.27	695	52.4	38.7
Sample Avg.	3,600	$18.77	$21.04	3,600	67.1	62.7

1. The difference in mean aggregate value of access is statistically significant at P<0.05 or below between all combinations of counties except between Kern and Riverside, Kern and San Bernardino, Kern and San Diego, Orange and Santa Barbara, Riverside and San Bernardino, Riverside and San Diego, and San Bernardino and Santa Barbara.
2. The difference in mean travel time is statistically significant at P<0.05 or below betwee Los Angeles and Orange, Los Angeles and Riverside, Los Angeles and San Bernardino, Los angeles and San Luis Obispo, Los Angeles and Santa Barbara, Los Angeles and Ventura, Orange and San Luis Obispo, Orange and Santa Barbara, Orange and Ventura, Riverside and San Luis Obispo, Riverside and Santa Barbara, Riverside and Ventura, San Bernardino and San Luis Obispo, San Bernardino and Santa Barbara, San Bernardino and Ventura, San Diego and Ventura, San Luis Obispo and Ventura, and Santa Barbara and Ventura.

Table A5-10. Aggregate Value of Access and Travel Time to Trailhead, by Trailhead

TH Code	Trailhead Name	Aggregate Value of Access			Round Trip Travel Time		
		N.	Mean	S.D	N.	Mean	S.D.
BBT	BBT/Topanga Ridge Mtway Lois Ewen Overlook	25	$17.87	$12.57	25	78.0	49.9
CAB	Caballero Canyon	89	$7.16	$6.57	89	33.9	32.1
CC	Corral Canyon	20	$30.87	$11.40	20	87.1	45.5
CHA	Charmlee Wilderness Park	75	$37.66	$19.16	75	102.4	49.1
CHC	Cheeseboro Canyon China Flat	45	$7.34	$9.54	45	37.0	57.5
CHMI	Cheeseboro Canyon Main Parking Inner Lot	100	$9.40	$8.33	100	31.9	32.3
CXG	Circle X Ranch Grotto Trail	56	$45.82	$30.11	56	126.6	$78.98
CXM	Circle X Ranch Mishe Mokwa	85	$39.93	$19.33	85	126.3	66.5
CXS	Circle X Ranch Sandstone Peak	102	$40.28	$17.79	102	120.2	49.6
EC	Escondido Canyon	129	$37.97	$24.68	129	120.7	65.9
FRAH	Franklin Canyon Hastain	83	$6.42	$4.03	83	40.0	20.6
FRAR	Franklin Canyon Ranch Parking	39	$7.01	$4.28	39	52.1	48.6
FRAW	Franklin Canyon WODOC Parking	80	$9.94	$8.45	80	53.7	30.2
FRY	Fryman Canyon	71	$5.87	$4.34	71	30.9	22.5
LEON	Leo Carrillo State Park	33	$52.96	$42.51	33	151.5	84.1
MALB	Malibu Creek State Park Backbone Trail	41	$23.22	$11.69	41	78.6	44.7
MALL	Malibu Creek state Park Mulholland/Las Virgenes	91	$24.92	$24.25	91	75.1	65.6
MALM	Malibu Creek State Park Main Entrance	87	$42.42	$27.59	87	116.0	73.3
PAM	Paramount Ranch	57	$23.06	$36.34	57	65.6	86.6
PD	Point Dume	31	$28.78	$20.43	31	90.6	82.0
PMB	Point Mugu State Park Big Sycamore Canyon Trailhead	111	$38.16	$31.79	111	98.1	74.3
PMC	Point Mugu State Park Chumash	117	$19.31	$20.54	117	59.7	55.2
PML	Point Mugu State Park La Jolla Canyon Trailhead	65	$30.84	$20.71	65	77.9	55.5
RES	Top of Reseda	110	$10.01	$10.64	110	58.9	86.3
ROM	Rocky Oaks Parking Lot	15	$23.37	$13.56	15	71.3	42.6
RSVM	Rancho Sierra Vista Parking Lot	210	$8.31	$11.64	210	35.9	36.1
RUN	Runyon Canyon	252	$5.20	$9.75	252	43.7	42.5
SAN	San Vicente Park	110	$11.04	$8.97	110	63.8	56.7
SC	Solstice Canyon	128	$28.39	$13.87	128	96.4	45.4
TH Code	Trailhead Name	Aggregate Value of Access			Round Trip Travel Time		
		N.	Mean	S.D.	N.	Mean	S.D.
STU	Stunt Ranch	31	$10.05	$6.71	31	42.6	41.3
TEM	Temescal Gateway Park	147	$16.43	$17.02	147	67.3	65.9

TOPL	Topanga State Park Los Leones	137	$16.56	$13.65	137	69.7	52.8
TOPS	Topanga State Park Sullivan Ridge Fire Rd	88	$12.54	$15.41	88	69.3	76.3
TOPT	Topanga State Park Trippet Ranch Parking Lot	78	$21.23	$16.35	78	84.1	66.4
TOPY	Topanga State Park Santa Ynez	74	$16.36	$10.82	74	77.8	84.4
UPPL	Upper Las Virgenes Canyon Las Virgenes Rd	61	$7.39	$10.01	61	42.2	54.4
UPPV	Upper Las Virgenes Cnyn Victory	194	$7.68	$10.52	194	29.9	24.4
WILA	Wilacre Park	120	$5.92	$6.27	120	38.1	32.6
WILL	Will Rogers SHP	58	$14.36	$18.54	58	47.7	49.1
ZUB	Zuma/Trancas Canyon Backbone Trail	36	$19.09	$17.35	36	65.5	48.7
ZUC	Zuma Canyon (Bonsall) Trailhead	38	$26.84	$22.42	38	84.8	75.8
ZUK	Zuma/Trancas Canyon Kanan Rd	44	$22.44	$18.99	44	72.5	42.2
ZUR	Zuma Ridge (Busch) Trailhead	66	$13.98	$11.38	66	47.3	55.6
	Sample Avg.	3,629	$18.66	$21.06	3,629	67.1	62.8

Table A5-11. Aggregate Value of Access and Travel Time to Trailhead, by Gender

	Aggregate Value of Access			Round Trip Travel Time		
	N.	Mean	S.D.	N.	Mean	S.D.
Male	1,583	$17.81	$20.24	1,583	67.0	66.1
Female	1,531	$19.47	$22.22	1,531	66.6	59.6
Sample Avg.	3,114	$18.63	$21.25	3,114	66.8	63.0
1. The difference in mean aggregate value of access is statistically significant at P<0.05.						

Table A5-12. Aggregate Value of Access and Travel Time to Trailhead, by Age

	Aggregate Value of Access			Round Trip Travel Time		
	N.	Mean	S.D.	N.	Mean	S.D.
18 - 40 Years	1,567	$22.99	$22.68	1,567	80.6	67.9
41 - 64 Years	1,333	$15.10	$19.11	1,333	54.7	56.8
65+ Years	235	$9.97	$14.25	235	44.5	38.3
Sample Avg.	3,135	$18.66	$21.16	3,135	66.9	63.1
1. The difference in mean aggregate value of access is statistically significant at P<0.001 between all combinations of age groups. 2. The difference in mean travel time is statistically significant at P<0.001 between all combinations of age groups.						

Table A5-13. Aggregate Value of Access and Travel Time to Trailhead, by Education

	Aggregate Value of Access			Round Trip Travel Time		
	N.	Mean	S.D.	N.	Mean	S.D.
HS Student	98	$17.16	$20.14	98	81.4	96.4
No HS Degree/GED	31	$15.94	$16.33	31	85.0	73.1
HS Degree/GED	269	$20.35	$25.06	269	75.4	80.1

College	2,698	$18.69	$21.01	2,698	65.2	59.3
Sample Avg.	3,096	$18.75	$21.33	3,096	66.8	63.1
1. The difference in mean travel time is statistically significant at P<0.05 between HS Degree/GED and College.						

Table A5-14. Aggregate Value of Access and Travel Time to Trailhead, by Race/Ethnicity (White/Non-White)

	Aggregate Value of Access			Round Trip Travel Time		
	N.	Mean	S.D.	N.	Mean	S.D.
Non-Hispanic White	1,888	$16.65	$19.86	1,888	58.8	56.2
Non-White	1,120	$22.35	$22.91	1,120	81.1	72.5
Sample Avg.	3,008	$18.77	$21.22	3,008	67.1	63.6
1. The difference in mean aggregate value of access is statistically significant at P<0.001.						
2. The difference in mean travel time is statistically significant at P<0.001.						

Willingness to Financially Contribute to the SMMNRA

Table A5-15. Willingness to Financially Contribute to Future Park Upkeep and Service Provision, by Gender

	Male		Female		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
No*	560	35.8%	580	39.3%	1,140	37.5%
Yes*	1,005	64.2%	897	60.7%	1,902	62.5%
Sample Total	1,565	100.0%	1,477	100.0%	3,042	100.0%
1. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.						

Table A5-16. Willingness to Financially Contribute to Future Park Upkeep and Service Provision, by Age

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
18 - 40 Years	728	44.7%	900	55.3%	1,628	100.0%
41 - 64 Years	355	29.1%	863	70.9%	1,218	100.0%
65+ Years	64	29.5%	153	70.5%	217	100.0%
Sample Total	1,147	37.4%	1,916	62.6%	3,063	100.0%
1. There is a statistically significant relationship between the two variables at P<0.001.						

Table A5-17. Willingness to Financially Contribute to Future Park Upkeep and Service Provision, by Education

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.

HS Student	50	46.3%	58	53.7%	108	100.0%
No HS Degree/GED	17	51.5%	16	48.5%	33	100.0%
HS Degree/GED	130	47.6%	143	52.4%	273	100.0%
College	992	36.3%	1,741	63.7%	2,733	100.0%
Sample Total	1,189	37.8%	1,958	62.2%	3,147	100.0%
1. There is a statistically significant relationship between the two variables at P<0.001.						

Table A5-18. Willingness to Financially Contribute to Future Park Upkeep and Service Provision, by Race/Ethnicity

		No		Yes		Sample Total	
		N.	Pct.	N.	Pct.	N.	Pct.
Non-Hispanic	White	674	35.2%	1,243	64.8%	1,917	100.0%
	Black	32	44.4%	40	55.6%	72	100.0%
	Asian	86	38.1%	140	61.9%	226	100.0%
	Am. Indian	8	28.6%	21	75.0%	28	100.0%
	Pac. Islander	4	25.0%	12	75.0%	16	100.0%
	Other	28	45.2%	34	54.8%	62	100.0%
	2+ Races	31	38.8%	49	61.3%	80	100.0%
Hispanic/Latino		292	44.1%	370	55.9%	662	100.0%
Sample Total		1,155	37.7%	1,909	62.3%	3,064	100.0%
1. There is a statistically significant relationship between the two variables at P<0.01.							

Table A5-X19. Willingness to Financially Contribute to Future Park Upkeep and Service Provision, by Race/Ethnicity (White/Non-White)

	White		Non-White		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
No***	674	35.2%	481	41.9%	1,155	37.7%
Yes***	1,243	64.8%	666	58.1%	1,909	62.3%
Sample Total	1,917	100.0%	1,147	100.0%	3,064	100.0%
1. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.						

Chapter 6 Appendix

Active and Passive Forms of Park Use

Table A6-1. Active and Passive Forms of Park Use, by Gender

	Male		Female		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Active and passive	1,179	62%	1,219	67%	2,398	65%
Active only	655	35%	557	31%	1,212	33%
Passive only	40	2%	27	1%	67	2%
Other	15	1%	14	1%	29	1%
Sample Total	1,889	100%	1,817	100%	3,706	100%

1. Other refers to respondents who marked "Other" on the survey and/or wrote in an activity which was unable to be coded as active or passive.
2. There is a statistically significant relationship between the two variables at P<0.05

Table A6-2. Active and Passive Forms of Park Use, by Education

	HS Student		No HS Degree/GED		HS Degree/GED		College		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Active and passive	75	62.5%	18	48.6%	219	67.0%	2,073	64.9%	2,385	64.9%
Active only	41	34.2%	18	48.6%	88	26.9%	1,039	32.5%	1,186	32.3%
Passive only	4	3.3%	1	2.7%	13	4.0%	85	2.7%	72	2.0%
Other	0	0.0%	0	0.0%	7	2.1%	27	0.8%	34	0.9%
Sample Total	120	100.0%	37	100.0%	327	100.0%	3,193	100.0%	3,677	100.0%

1. Other refers to respondents who marked "Other" on the survey and/or wrote in an activity which was unable to be coded as active or passive.
2. There is a statistically significant relationship between the two variables at P<0.01.

Table A6-3. Active and Passive Forms of Park Use, by Race/Ethnicity

		Active and passive		Active only		Passive only		Other		Sample Total	
		N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Non-Hispanic	White	1,403	62.2%	788	34.9%	44	2.0%	20	0.9%	2,255	100%
	Black	60	71.4%	20	23.8%	3	3.6%	1	1.2%	84	100%
	Asian	185	71.7%	65	25.2%	7	2.7%	1	0.4%	258	100%
	Am. Indian	21	58.3%	14	38.9%	1	2.8%	0	0.0%	36	100%
	Pac. Islander	15	78.9%	2	10.5%	2	10.5%	0	0.0%	19	100%
	Other	52	68.4%	23	30.3%	1	1.3%	0	0.0%	76	100%
	2+ Races	67	70.5%	25	26.3%	2	2.1%	1	1.1%	95	100%
Hispanic		522	69.2%	209	27.7%	14	1.9%	9	1.2%	754	100%
Sample Total		2,325	65.0%	1,146	32.0%	74	2.1%	32	0.9%	3,577	100%

1. Other refers to respondents who marked "Other" on the survey and/or wrote in an activity which was unable to be coded as active or passive.
2. There is a statistically significant relationship between the two variables at P<0.01.

Table A6-4. Active and Passive Forms of Park Use, by Race/Ethnicity (White/Non-White)

	White		Non-White		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Active and passive***	1,403	62.2%	922	69.7%	2,325	65.0%
Active only***	788	34.9%	358	27.1%	1,146	32.0%
Passive only	44	2.0%	30	2.3%	74	2.1%
Other	20	0.9%	12	0.9%	32	0.9%
Sample Total	2,255	100.0%	1,322	100.0%	3,577	100.0%

1. Other refers to respondents who marked "Other" on the survey and/or wrote in an activity which was unable to be coded as active or passive.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001

All Activities Engaged in at Park

Table A6-5. All Activities Engaged in at SMMNRA, by Gender

	Male		Female		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	241	13%	257	14%	498	13%
Camping	89	5%	81	4%	170	5%
Hiking***	1,538	81%	1,654	91%	3,192	85%
Horseback Riding	41	2%	55	3%	96	3%
Jogging **	426	23%	335	18%	761	20%
Mountain Biking***	367	19%	123	7%	490	13%
Painting/Crafts	42	2%	58	3%	100	3%
Photography	442	23%	474	26%	916	24%
Picnicking	124	7%	138	8%	262	7%
Rock Climbing*	168	9%	129	7%	297	8%
Sightseeing	948	50%	948	52%	1,896	51%
Sunbathing	146	8%	163	9%	309	8%
Wading/Swimming	104	6%	120	7%	224	6%
Walking dog(s)***	287	15%	408	22%	695	19%
Other	117	6%	140	8%	257	7%
Sample Total	1,889		1,817		3,754	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001

Table A6-6. All Activities Engaged in at SMMNRA, by Age

	18 - 40 Years		41 - 64 Years		65+ Years		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	253	13%	206	13%	45	16%	504	13%
Camping	108	6%	61	4%	4	1%	173	5%
Hiking	1,756	91%	1,231	81%	230	82%	3,217	86%
Horseback Riding	68	4%	26	2%	6	2%	100	3%
Jogging	451	23%	301	20%	15	5%	767	21%
Mountain Biking	172	9%	285	19%	38	14%	495	13%
Painting/Crafts	78	4%	20	1%	6	2%	104	3%
Photography	602	31%	281	18%	41	15%	924	25%
Picnicking	175	9%	84	5%	13	5%	272	7%
Rock Climbing	235	12%	64	4%	7	3%	306	8%
Sightseeing	1,204	63%	617	40%	103	37%	1,924	52%
Sunbathing	244	13%	72	5%	4	1%	320	9%
Wading/Swimming	158	8%	63	4%	8	3%	229	6%
Walking dog(s)	350	18%	305	20%	44	16%	699	19%
Other	109	6%	118	8%	32	11%	259	7%
Sample Total[1]	1,926		1,528		280		3,734	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Table A6-7. All Activities Engaged in at SMMNRA, by Education

	HS Student		No HS Degree/GED		HS Degree/GED		College		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	21	18%	8	22%	50	15%	435	14%	514	14%
Camping	8	7%	2	5%	17	5%	142	4%	169	5%
Hiking	98	82%	30	81%	283	87%	2,762	87%	3,173	86%
Horseback Riding	8	7%	2	5%	14	4%	80	3%	104	3%
Jogging	34	28%	13	35%	73	22%	631	20%	751	20%
Mountain Biking	23	19%	5	14%	36	11%	420	13%	484	13%
Painting/Crafts	6	5%	1	3%	9	3%	89	3%	105	3%
Photography	30	25%	9	24%	103	31%	772	24%	914	25%
Picnicking	15	13%	2	5%	33	10%	224	7%	274	7%
Rock Climbing	19	16%	4	11%	35	11%	252	8%	310	8%
Sightseeing	65	54%	11	30%	185	57%	1,631	51%	1,892	51%
Sunbathing	16	13%	2	5%	33	10%	265	8%	316	9%
Wading/Swimming	11	9%	2	5%	24	7%	190	6%	227	6%
	HS Student		No HS Degree/GED		HS Degree/GED		College		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Walking dog(s)	34	28%	4	11%	52	16%	602	19%	692	19%
Other	7	6%	2	5%	17	5%	238	7%	264	7%
Sample Total	120		37		327		3,193		3,677	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.

Table A6-8. All Activities Engaged in at SMMNRA, by Race/Ethnicity (White/Non-White)

	White		Non-White		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	304	13%	186	14%	490	14%
Camping**	87	4%	79	6%	166	5%
Hiking***	1,901	84%	1,179	89%	3,080	86%
Horseback Riding	63	3%	39	3%	102	3%
Jogging***	409	18%	330	25%	739	21%
Mountain Biking***	333	15%	141	11%	474	13%
Painting/Crafts	58	3%	42	3%	100	3%
Photography***	495	22%	399	30%	894	25%
Picnicking	153	7%	111	8%	264	7%
Rock Climbing***	157	7%	149	11%	306	9%
Sightseeing***	1,081	48%	772	58%	1,853	52%
Sunbathing*	173	8%	133	10%	306	9%
Wading/Swimming	134	6%	87	7%	221	6%
Walking dog(s)***	459	20%	206	16%	665	19%
Other	169	7%	77	6%	249	7%
Sample Total	2,255		1,322		3,577	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001

Table A6-9. All Activities Engaged in at SMMNRA, by Physical Condition or Disability

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	493	13.2%	45	17.1%	538	13.5%
Camping	171	4.6%	9	3.4%	180	4.5%
Hiking	3,201	85.8%	228	86.7%	3,429	85.8%
Horseback Riding	102	2.7%	6	2.3%	108	2.7%
Jogging**	785	21.0%	35	13.3%	820	20.5%
Mountain Biking	501	13.4%	34	12.9%	535	13.4%
Painting/Crafts	105	2.8%	7	2.7%	112	2.8%
	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Photography*	908	24.3%	81	30.8%	989	24.8%
Picnicking	270	7.2%	21	8.0%	291	7.3%
Rock Climbing	309	8.3%	16	6.1%	325	8.1%
Sightseeing	1,905	51.0%	133	50.6%	2,038	51.0%
Sunbathing	311	8.3%	25	9.5%	336	8.4%
Wading/Swimming	236	6.3%	12	4.6%	248	6.2%
Walking dog(s)	675	18.1%	53	20.2%	728	18.2%
Other*	249	6.7%	27	10.3%	276	6.9%
Sample Total	3,732		263		3,995	

Time Spent in the Park

Table A6-10. Time (Hours) Spent in SMMNRA, by Age

	18 - 40 Years		41 - 64 Years		65+ Years		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
< 1 hour	61	3%	78	5%	9	3%	148	4%
1 - 2 hours	684	37%	621	42%	105	40%	1,410	39%
2 - 3 hours	662	36%	465	32%	88	33%	1,215	34%
3 - 4 hours	235	13%	182	12%	32	12%	449	13%
4 - 5 hours	102	6%	70	5%	10	4%	182	5%
5 - 6 hours	31	2%	15	1%	4	2%	50	1%
6+ hours	70	4%	44	3%	17	6%	131	4%
Sample Total	1,845	100%	1,475	100%	265	100%	3,585	100%
1. There is a statistically significant relationship between the two variables at P<0.01 using a chi-square test.								

Table A6-11. Time (Hours) Spent in SMMNRA, by Education

	HS Student		No HS Degree/GED		HS Degree/GED		College		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
< 1 hour	14	12%	1	3%	12	4%	118	4%	145	4%
1 - 2 hours	43	37%	11	31%	108	35%	1,237	40%	1,399	40%
2 - 3 hours	27	23%	15	43%	109	36%	1,051	34%	1,202	34%
3 - 4 hours	20	17%	4	11%	38	12%	373	12%	435	12%
4 - 5 hours	4	3%	1	3%	23	7%	152	5%	180	5%
5 - 6 hours	3	3%	1	3%	2	1%	42	1%	48	1%
6+ hours	4	3%	2	6%	15	5%	107	3%	128	4%
Sample Total	115	100%	35	100%	307	100%	3,080	100%	3,537	100%
1. There is a statistically significant relationship between the two variables at P<0.01 using a chi-square test.										

Tabel A6-12. Time (Hours) Spent in SMMNRA, by Race/Ethnicity

	Non-Hispanic												Hispanic or Latino		Sample Total	
	White		Black		Asian		American Indian		Pacific Islander		Other		2+ Races					
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
< 1 hour	84	4%	2	3%	13	5%	1	3%	1	5%	1	1%	4	4%	29	4%	135	4%
1 - 2 hours	872	40%	41	51%	79	33%	12	34%	6	32%	33	45%	44	48%	266	38%	1,353	40%
2 - 3 hours	724	33%	22	28%	95	39%	12	34%	9	47%	26	36%	23	25%	250	35%	1,161	34%
3 - 4 hours	253	12%	12	15%	33	14%	4	11%	2	11%	7	10%	14	15%	99	14%	424	12%
4 - 5 hours	125	6%	2	3%	8	3%	3	9%	0	0%	3	4%	1	1%	31	4%	173	5%
5 - 6 hours	32	1%	1	1%	5	2%	0	0%	0	0%	1	1%	1	1%	6	1%	46	1%
6+ hours	73	3%	0	0%	9	4%	3	9%	1	5%	2	3%	5	5%	28	4%	121	4%
Sample Total	2,163	100%	80	100%	242	100%	35	100%	19	100%	73	100%	92	100%	709	100%	3,413	100%

Table A7-13. Time (Hours) Spent in SMMNRA, by Race/Ethnicity (White/Non-White)

	White		Non-White		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
< 1 hour	84	4%	51	4%	135	4%
1 - 2 hours	872	40%	481	38%	1,353	40%
2 - 3 hours	724	33%	437	35%	1,161	34%
3 - 4 hours	253	12%	171	14%	424	12%
4 - 5 hours**	125	6%	48	4%	173	5%
5 - 6 hours	32	1%	14	1%	46	1%
6+ hours	73	3%	48	4%	121	4%
Sample Total	2,163	100%	1,250	100%	3,413	100%

Chapter 7 Appendix

Current Amenity Use

Table A7-1. Amenities Used by Respondents, by Gender

	Male		Female		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques	33	1.7%	28	1.5%	61	1.6%
Bathrooms***	808	42.8%	912	50.2%	1,720	46.4%
Benches***	534	28.3%	611	33.6%	1,145	30.9%
Bike racks	37	2.0%	24	1.3%	61	1.6%
Campgrounds	78	4.1%	70	3.9%	148	4.0%
Cellular service	355	18.8%	386	21.2%	741	20.0%
Dog off-leash area***	103	5.5%	158	8.7%	261	7.0%
Drinking fountains	391	20.7%	383	21.1%	774	20.9%
Educational information***	51	2.7%	98	5.4%	149	4.0%
Electrical hookups	15	0.8%	26	1.4%	41	1.1%
Fire pits	45	2.4%	46	2.5%	91	2.5%
First aid services	43	2.3%	52	2.9%	95	2.6%
Hitching post	23	1.2%	23	1.3%	46	1.2%
Law enforcement onsite	44	2.3%	59	3.2%	103	2.8%
Maps of trailheads/trails***	324	17.2%	396	21.8%	720	19.4%
Overlook/viewpoint***	955	50.6%	1,026	56.5%	1,981	53.5%
Park programs**	41	2.2%	70	3.9%	111	3.0%
Parking*	1,125	59.6%	1,155	63.6%	2,280	61.5%
Picnic tables	203	10.7%	226	12.4%	429	11.6%
Shade structures**	202	10.7%	257	14.1%	459	12.4%
Sports facilities*	25	1.3%	12	0.7%	37	1.0%
Staff/rangers onsite***	138	7.3%	194	10.7%	332	9.0%
Telephones	52	2.8%	53	2.9%	105	2.8%
Trash cans*	827	43.8%	860	47.3%	1,687	45.5%
Vending/food providers	24	1.3%	31	1.7%	55	1.5%
Visitor center	82	4.3%	100	5.5%	182	4.9%
Wi-Fi***	95	5.0%	159	8.8%	254	6.9%
Sample Total	1,889		1,817		3,706	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001

Table A7-2. Amenities Used by Respondents, by Age

	18 - 40 Years		41 - 64 Years		65+ Years		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques	39	2.0%	26	1.7%	0	0.0%	65	1.7%
Bathrooms	923	47.9%	678	44.4%	138	49.3%	1,739	46.6%
Benches***	684	35.5%	404	26.4%	73	26.1%	1,161	31.1%
Bike racks*	29	1.5%	32	2.1%	0	0.0%	61	1.6%
Campgrounds	82	4.3%	67	4.4%	4	1.4%	153	4.1%
Cellular service***	461	23.9%	244	16.0%	43	15.4%	748	20.0%
Dog off-leash area**	161	8.4%	89	5.8%	14	5.0%	264	7.1%
Drinking fountains**	448	23.3%	281	18.4%	56	20.0%	785	21.0%
Educational information	79	4.1%	56	3.7%	15	5.4%	150	4.0%
Electrical hookups	27	1.4%	15	1.0%	1	0.4%	43	1.2%
Fire pits	50	2.6%	40	2.6%	1	0.4%	91	2.4%
First aid services***	72	3.7%	22	1.4%	4	1.4%	98	2.6%
Hitching post	27	1.4%	17	1.1%	1	0.4%	45	1.2%
Law enforcement onsite	52	2.7%	44	2.9%	8	2.9%	104	2.8%
Maps of trailheads/trails***	447	23.2%	233	15.2%	50	17.9%	730	19.6%
Overlook/viewpoint***	1,148	59.6%	709	46.4%	141	50.4%	1,998	53.5%
Park programs	53	2.8%	41	2.7%	14	5.0%	108	2.9%
Parking*	1,224	63.6%	910	59.6%	164	58.6%	2,298	61.5%
Picnic tables*	249	12.9%	165	10.8%	25	8.9%	439	11.8%
Shade structures**	276	14.3%	159	10.4%	30	10.7%	465	12.5%
Sports facilities*	29	1.5%	9	0.6%	1	0.4%	39	1.0%
Staff/rangers onsite**	195	10.1%	110	7.2%	33	11.8%	338	9.1%
Telephones***	81	4.2%	25	1.6%	2	0.7%	108	2.9%
Trash cans***	947	49.2%	649	42.5%	109	38.9%	1,705	45.7%
Vending/food providers*	38	2.0%	17	1.1%	1	0.4%	56	1.5%
Visitor center**	96	5.0%	65	4.3%	26	9.3%	187	5.0%
Wi-Fi	136	7.1%	107	7.0%	15	5.4%	258	6.9%
Sample Total	1,926		1,528		280		3,734	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Chi-square test for independence, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Table A7-3. Amenities Used by Respondents, by Education

	HS Student		No HS Degree/GED		HS Degree/ GED		College		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques*	5	4.2%	1	2.7%	10	3.1%	48	1.5%	64	1.7%
Bathrooms	51	42.5%	17	45.9%	154	47.1%	1,491	46.7%	1,713	46.6%
Benches***	48	40.0%	9	24.3%	127	38.8%	950	29.8%	1,134	30.8%
Bike racks***	5	4.2%	3	8.1%	8	2.4%	43	1.3%	59	1.6%
Campgrounds**	11	9.2%	2	5.4%	19	5.8%	118	3.7%	150	4.1%
Cellular service	22	18.3%	9	24.3%	83	25.4%	621	19.4%	735	20.0%
Dog off-leash area	12	10.0%	0	0.0%	17	5.2%	227	7.1%	256	7.0%
Drinking fountains	20	16.7%	5	13.5%	83	25.4%	650	20.4%	758	20.6%
Educational information	7	5.8%	3	8.1%	13	4.0%	127	4.0%	150	4.1%
Electrical hookups***	3	2.5%	1	2.7%	12	3.7%	25	0.8%	41	1.1%
Fire pits	6	5.0%	0	0.0%	8	2.4%	75	2.3%	89	2.4%
First aid services***	9	7.5%	2	5.4%	19	5.8%	67	2.1%	97	2.6%
Hitching post**	4	3.3%	2	5.4%	7	2.1%	31	1.0%	44	1.2%
Law enforcement onsite**	8	6.7%	0	0.0%	14	4.3%	79	2.5%	101	2.7%
Maps of trailheads/trails	21	17.5%	4	10.8%	62	19.0%	641	20.1%	728	19.8%
Overlook/viewpoint**	68	56.7%	9	24.3%	164	50.2%	1,720	53.9%	1,961	53.3%
Park programs	3	2.5%	2	5.4%	15	4.6%	89	2.8%	109	3.0%
Parking	67	55.8%	18	48.6%	197	60.2%	1,980	62.0%	2,262	61.5%
Picnic tables***	19	15.8%	4	10.8%	61	18.7%	356	11.1%	440	12.0%
Shade structures**	16	13.3%	1	2.7%	53	16.2%	379	11.9%	449	12.2%
Sports facilities*	4	3.3%	1	2.7%	5	1.5%	29	0.9%	39	1.1%
Staff/rangers onsite	8	6.7%	1	2.7%	40	12.2%	287	9.0%	336	9.1%
Telephones***	16	13.3%	2	5.4%	19	5.8%	71	2.2%	108	2.9%
Trash cans	61	50.8%	17	45.9%	170	52.0%	1,427	44.7%	1,675	45.6%
Vending/food providers**	6	5.0%	0	0.0%	7	2.1%	44	1.4%	57	1.6%
Visitor center	8	6.7%	0	0.0%	17	5.2%	158	4.9%	183	5.0%
Wi-Fi	14	11.7%	2	5.4%	27	8.3%	208	6.5%	251	6.8%
Sample Total	120		37		327		3,193		3,677	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Chi-square test for independence, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Table A7-4. Amenities Used by Respondents, by Race/Ethnicity

	Non-Hispanic														Hispanic or Latino		Sample Total	
	White		Black		Asian		Am. Indian		Pac. Island		Other		2+ Races					
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques***	23	1%	0	0%	5	2%	3	8%	1	5%	1	1%	3	3%	25	3%	61	2%
Bathrooms***	996	44%	29	35%	149	58%	23	64%	10	53%	39	51%	40	42%	376	50%	1,662	46%
Benches***	615	27%	33	39%	94	36%	10	28%	8	42%	19	25%	27	28%	288	38%	1,094	31%
Bike racks	29	1%	1	1%	5	2%	1	3%	1	5%	0	0%	2	2%	20	3%	59	2%
Campgrounds***	60	3%	6	7%	17	7%	2	6%	1	5%	4	5%	7	7%	51	7%	148	4%
Cellular service*	410	18%	22	26%	54	21%	9	25%	6	32%	13	17%	18	19%	182	24%	714	20%
Dog off-leash area	150	7%	7	8%	15	6%	2	6%	1	5%	8	11%	9	9%	50	7%	242	7%
Drinking fountains	453	20%	13	15%	51	20%	11	31%	5	26%	18	24%	16	17%	169	22%	736	21%
Educational information	89	4%	2	2%	12	5%	1	3%	1	5%	2	3%	6	6%	31	4%	144	4%
Electrical hookups**	15	1%	2	2%	2	1%	2	6%	0	0%	1	1%	1	1%	18	2%	41	1%
Fire pits***	38	2%	1	1%	7	3%	2	6%	1	5%	4	5%	7	7%	27	4%	87	2%
First aid services***	26	1%	6	7%	10	4%	2	6%	4	21%	2	3%	2	2%	39	5%	91	3%
Hitching post***	15	1%	4	5%	2	1%	1	3%	0	0%	1	1%	1	1%	17	2%	41	1%
Law enforcement onsite**	52	2%	1	1%	11	4%	2	6%	3	16%	0	0%	1	1%	27	4%	97	3%
Maps of trailheads/trails*	411	18%	18	21%	71	28%	5	14%	6	32%	14	18%	16	17%	160	21%	701	20%
Overlook/viewpoint	1,186	53%	50	60%	139	54%	13	36%	10	53%	45	59%	56	59%	401	53%	1,900	53%
Park programs**	56	2%	1	1%	12	5%	0	0%	0	0%	7	9%	5	5%	23	3%	104	3%
Parking*	1,377	61%	35	42%	164	64%	22	61%	14	74%	46	61%	61	64%	474	63%	2,193	61%
Picnic tables***	223	10%	7	8%	37	14%	5	14%	4	21%	10	13%	11	12%	123	16%	420	12%
Shade structures**	235	10%	12	14%	49	19%	4	11%	2	11%	12	16%	11	12%	110	15%	435	12%
Sports facilities**	15	1%	3	4%	1	0%	1	3%	1	5%	1	1%	0	0%	13	2%	35	1%
Staff/rangers onsite	198	9%	6	7%	21	8%	3	8%	1	5%	5	7%	14	15%	75	10%	323	9%
Telephones***	32	1%	9	11%	11	4%	2	6%	0	0%	5	7%	3	3%	40	5%	102	3%
Trash cans***	955	42%	40	48%	116	45%	14	39%	9	47%	43	57%	35	37%	400	53%	1,612	45%
Vending/food providers***	15	1%	3	4%	10	4%	3	8%	0	0%	0	0%	1	1%	24	3%	56	2%
Visitor center**	94	4%	3	4%	23	9%	3	8%	0	0%	6	8%	4	4%	40	5%	173	5%
Wi-Fi***	113	5%	5	6%	31	12%	6	17%	2	11%	7	9%	9	9%	71	9%	244	7%
Sample Total	2,255		84		258		36		19		76		95		754		3,577	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Chi-square test for independence, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Table A7-5. Amenities Used by Respondents, by White/Non-White

	White		Non-White		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques***	23	1%	38	3%	61	2%
Bathrooms***	996	44%	666	50%	1,662	46%
Benches***	615	27%	479	36%	1,094	31%
Bike racks*	29	1%	30	2%	59	2%
Campgrounds***	60	3%	88	7%	148	4%
Cellular service***	410	18%	304	23%	714	20%
Dog off-leash area	150	7%	92	7%	242	7%
Drinking fountains	453	20%	283	21%	736	21%
Educational information	89	4%	55	4%	144	4%
Electrical hookups***	15	1%	26	2%	41	1%
Fire pits***	38	2%	49	4%	87	2%
First aid services***	26	1%	65	5%	91	3%
Hitching post***	15	1%	26	2%	41	1%
Law enforcement onsite	52	2%	45	3%	97	3%
Maps of trailheads/trails**	411	18%	290	22%	701	20%
Overlook/viewpoint	1,186	53%	714	54%	1,900	53%
Park programs*	56	2%	48	4%	104	3%
Parking	1,377	61%	816	62%	2,193	61%
Picnic tables***	223	10%	197	15%	420	12%
Shade structures***	235	10%	200	15%	435	12%
Sports facilities*	15	1%	20	2%	35	1%
Staff/rangers onsite	198	9%	125	9%	323	9%
Telephones***	32	1%	70	5%	102	3%
Trash cans***	955	42%	657	50%	1,612	45%
Vending/food providers***	15	1%	41	3%	56	2%
Visitor center*	94	4%	79	6%	173	5%
Wi-Fi***	113	5%	131	10%	244	7%
Sample Total	2,255		1,322		3,577	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample test of proportions *P<0.05, **P<0.01, ***P<0.001

Improving Existing Amenities

Table A7-6. Amenities that Respondents Want Improved, by Gender

	Male		Female		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques**	38	2.0%	17	0.9%	55	1.5%
Bathrooms***	510	27.0%	653	35.9%	1,163	31.4%
Benches	159	8.4%	155	8.5%	314	8.5%
Bike racks	29	1.5%	16	0.9%	45	1.2%
Campgrounds	58	3.1%	39	2.1%	97	2.6%
Cellular service	216	11.4%	214	11.8%	430	11.6%
Dog off-leash area	141	7.5%	158	8.7%	299	8.1%
Drinking fountains	352	18.6%	299	16.5%	651	17.6%
Educational information	41	2.2%	52	2.9%	93	2.5%
Electrical hookups	7	0.4%	14	0.8%	21	0.6%
Fire pits	35	1.9%	31	1.7%	66	1.8%
First aid services	45	2.4%	40	2.2%	85	2.3%
Hitching post	6	0.3%	10	0.6%	16	0.4%
Law enforcement onsite	40	2.1%	42	2.3%	82	2.2%
Maps of trailheads/trails	247	13.1%	221	12.2%	468	12.6%
Overlook/viewpoint	150	7.9%	136	7.5%	286	7.7%
Park programs	34	1.8%	43	2.4%	77	2.1%
Parking	380	20.1%	354	19.5%	734	19.8%
Picnic tables	68	3.6%	57	3.1%	125	3.4%
Shade structures	116	6.1%	119	6.5%	235	6.3%
Sports facilities	17	0.9%	9	0.5%	26	0.7%
Staff/rangers onsite	51	2.7%	50	2.8%	101	2.7%
Telephones	18	1.0%	15	0.8%	33	0.9%
Trash cans	271	14.3%	270	14.9%	541	14.6%
Vending/food providers	26	1.4%	33	1.8%	59	1.6%
Visitor center	38	2.0%	35	1.9%	73	2.0%
Wi-Fi	135	7.1%	157	8.6%	292	7.9%
Sample Total	1,889		1,817		3,706	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001

Table A7-7. Amenities that Respondents Want Improved, by Age

	18 - 40 Years		41 - 64 Years		65+ Years		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques	36	1.9%	17	1.1%	1	0.4%	54	1.4%
Bathrooms	662	34.4%	436	28.5%	69	24.6%	1,167	31.3%
Benches	179	9.3%	111	7.3%	26	9.3%	316	8.5%
Bike racks	23	1.2%	22	1.4%	0	0.0%	45	1.2%
Campgrounds**	64	3.3%	33	2.2%	0	0.0%	97	2.6%
Cellular service**	248	12.9%	161	10.5%	19	6.8%	428	11.5%
Dog off-leash area	152	7.9%	131	8.6%	17	6.1%	300	8.0%
Drinking fountains	353	18.3%	251	16.4%	50	17.9%	654	17.5%
Educational information	44	2.3%	41	2.7%	9	3.2%	94	2.5%
Electrical hookups	18	0.9%	10	0.7%	0	0.0%	28	0.7%
Fire pits***	49	2.5%	17	1.1%	1	0.4%	67	1.8%
First aid services**	61	3.2%	25	1.6%	2	0.7%	88	2.4%
Hitching post	9	0.5%	5	0.3%	2	0.7%	16	0.4%
Law enforcement onsite***	28	1.5%	46	3.0%	12	4.3%	86	2.3%
Maps of trailheads/trails	245	12.7%	204	13.4%	26	9.3%	475	12.7%
Overlook/viewpoint**	169	8.8%	109	7.1%	11	3.9%	289	7.7%
Park programs	37	1.9%	34	2.2%	6	2.1%	77	2.1%
Parking***	435	22.6%	273	17.9%	32	11.4%	740	19.8%
Picnic tables	65	3.4%	51	3.3%	10	3.6%	126	3.4%
Shade structures	123	6.4%	97	6.3%	21	7.5%	241	6.5%
Sports facilities**	22	1.1%	5	0.3%	0	0.0%	27	0.7%
Staff/rangers onsite***	34	1.8%	58	3.8%	10	3.6%	102	2.7%
Telephones	16	0.8%	14	0.9%	2	0.7%	32	0.9%
Trash cans**	315	16.4%	197	12.9%	34	12.1%	546	14.6%
Vending/food providers	36	1.9%	21	1.4%	1	0.4%	58	1.6%
Visitor center	45	2.3%	22	1.4%	5	1.8%	72	1.9%
Wi-Fi**	172	8.9%	112	7.3%	11	3.9%	295	7.9%
Sample Total	1,926		1,528		280		3,734	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Chi-square test for independence, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Table A7-8. Amenities that Respondents Want Improved, by Education

	HS Student		No HS Degree/GED		HS Degree/ GED		College		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques	2	1.7%	0	0.0%	9	2.8%	39	1.2%	50	1.4%
Bathrooms**	41	34.2%	21	56.8%	106	32.4%	987	30.9%	1,155	31.4%
Benches**	14	11.7%	6	16.2%	40	12.2%	249	7.8%	309	8.4%
Bike racks***	6	5.0%	0	0.0%	6	1.8%	31	1.0%	43	1.2%
Campgrounds	4	3.3%	2	5.4%	12	3.7%	76	2.4%	94	2.6%
Cellular service	14	11.7%	6	16.2%	40	12.2%	360	11.3%	420	11.4%
Dog off-leash area	10	8.3%	0	0.0%	23	7.0%	265	8.3%	298	8.1%
Drinking fountains	23	19.2%	11	29.7%	62	19.0%	559	17.5%	655	17.8%
Educational information	2	1.7%	1	2.7%	4	1.2%	88	2.8%	95	2.6%
Electrical hookups**	3	2.5%	0	0.0%	7	2.1%	18	0.6%	28	0.8%
Fire pits	1	0.8%	0	0.0%	8	2.4%	57	1.8%	66	1.8%
First aid services**	5	4.2%	3	8.1%	14	4.3%	66	2.1%	88	2.4%
Hitching post*	1	0.8%	1	2.7%	3	0.9%	10	0.3%	15	0.4%
Law enforcement onsite	6	5.0%	1	2.7%	7	2.1%	70	2.2%	84	2.3%
Maps of trailheads/trails***	7	5.8%	3	8.1%	24	7.3%	434	13.6%	468	12.7%
Overlook/viewpoint	10	8.3%	5	13.5%	34	10.4%	235	7.4%	284	7.7%
Park programs	0	0.0%	1	2.7%	11	3.4%	64	2.0%	76	2.1%
Parking	25	20.8%	11	29.7%	66	20.2%	627	19.6%	729	19.8%
Picnic tables*	4	3.3%	2	5.4%	20	6.1%	95	3.0%	121	3.3%
Shade structures	10	8.3%	4	10.8%	28	8.6%	195	6.1%	237	6.4%
Sports facilities***	2	1.7%	3	8.1%	1	0.3%	23	0.7%	29	0.8%
Staff/rangers onsite	4	3.3%	3	8.1%	12	3.7%	80	2.5%	99	2.7%
Telephones	3	2.5%	1	2.7%	6	1.8%	21	0.7%	31	0.8%
Trash cans***	26	21.7%	12	32.4%	56	17.1%	438	13.7%	532	14.5%
Vending/food providers*	4	3.3%	2	5.4%	9	2.8%	41	1.3%	56	1.5%
Visitor center	2	1.7%	2	5.4%	8	2.4%	63	2.0%	75	2.0%
Wi-Fi**	11	9.2%	3	8.1%	42	12.8%	234	7.3%	290	7.9%
Sample Total	120		37		327		3,193		3,677	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Chi-square test for independence, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Table A7-9. Amenities that Respondents Want Improved, by Race/Ethnicity

	Non-Hispanic														Hispanic or Latino		Sample Total	
	White		Black		Asian		Am. Indian		Pac. Island		Other		2+ Races					
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques	30	1.3%	1	1.2%	1	0.4%	0	0.0%	1	5.3%	3	3.9%	2	2.1%	13	1.7%	51	1.4%
Bathrooms***	627	27.8%	35	41.7%	110	42.6%	8	22.2%	11	57.9%	21	27.6%	24	25.3%	297	39.4%	1,133	31.7%
Benches***	168	7.5%	10	11.9%	26	10.1%	0	0.0%	4	21.1%	5	6.6%	1	1.1%	87	11.5%	301	8.4%
Bike racks	22	1.0%	3	3.6%	1	0.4%	0	0.0%	0	0.0%	2	2.6%	0	0.0%	15	2.0%	43	1.2%
Campgrounds	46	2.0%	3	3.6%	8	3.1%	0	0.0%	1	5.3%	5	6.6%	2	2.1%	27	3.6%	92	2.6%
Cellular service*	231	10.2%	11	13.1%	28	10.9%	5	13.9%	1	5.3%	7	9.2%	12	12.6%	114	15.1%	409	11.4%
Dog off-leash area	200	8.9%	5	6.0%	18	7.0%	4	11.1%	2	10.5%	7	9.2%	8	8.4%	43	5.7%	287	8.0%
Drinking fountains	403	17.9%	17	20.2%	39	15.1%	5	13.9%	3	15.8%	19	25.0%	7	7.4%	140	18.6%	633	17.7%
Educational information	56	2.5%	1	1.2%	7	2.7%	0	0.0%	0	0.0%	4	5.3%	4	4.2%	20	2.7%	92	2.6%
Electrical hookups***	9	0.4%	2	2.4%	0	0.0%	2	5.6%	0	0.0%	1	1.3%	0	0.0%	12	1.6%	26	0.7%
Fire pits***	35	1.6%	1	1.2%	1	0.4%	0	0.0%	3	15.8%	8	10.5%	2	2.1%	16	2.1%	66	1.8%
First aid services***	34	1.5%	4	4.8%	9	3.5%	0	0.0%	1	5.3%	2	2.6%	2	2.1%	34	4.5%	86	2.4%
Hitching post	9	0.4%	1	1.2%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	1.1%	6	0.8%	17	0.5%
Law enforcement onsite	41	1.8%	3	3.6%	4	1.6%	2	5.6%	1	5.3%	0	0.0%	2	2.1%	24	3.2%	77	2.2%
Maps of trailheads/ trails	308	13.7%	9	10.7%	30	11.6%	2	5.6%	3	15.8%	11	14.5%	14	14.7%	77	10.2%	454	12.7%
Overlook/viewpoint	165	7.3%	12	14.3%	24	9.3%	1	2.8%	0	0.0%	6	7.9%	4	4.2%	64	8.5%	276	7.7%
Park programs	40	1.8%	2	2.4%	6	2.3%	2	5.6%	2	10.5%	1	1.3%	2	2.1%	14	1.9%	69	1.9%
Parking***	393	17.4%	17	20.2%	65	25.2%	9	25.0%	4	21.1%	11	14.5%	23	24.2%	189	25.1%	711	19.9%
Picnic tables*	60	2.7%	2	2.4%	14	5.4%	0	0.0%	0	0.0%	5	6.6%	1	1.1%	34	4.5%	116	3.2%
Shade structures	141	6.3%	3	3.6%	21	8.1%	2	5.6%	1	5.3%	3	3.9%	4	4.2%	52	6.9%	227	6.3%
Sports facilities***	9	0.4%	1	1.2%	0	0.0%	0	0.0%	0	0.0%	1	1.3%	1	1.1%	16	2.1%	28	0.8%
Staff/rangers onsite	61	2.7%	5	6.0%	5	1.9%	1	2.8%	0	0.0%	0	0.0%	2	2.1%	18	2.4%	92	2.6%
Telephones*	12	0.5%	2	2.4%	2	0.8%	0	0.0%	0	0.0%	3	3.9%	1	1.1%	9	1.2%	29	0.8%
Trash cans***	279	12.4%	15	17.9%	37	14.3%	7	19.4%	3	15.8%	15	19.7%	9	9.5%	153	20.3%	518	14.5%
Vending/ food providers***	19	0.8%	2	2.4%	5	1.9%	1	2.8%	0	0.0%	0	0.0%	1	1.1%	24	3.2%	52	1.5%
Visitor center	36	1.6%	2	2.4%	9	3.5%	0	0.0%	0	0.0%	2	2.6%	3	3.2%	19	2.5%	71	2.0%
Wi-Fi***	135	6.0%	15	17.9%	22	8.5%	2	5.6%	2	10.5%	9	11.8%	14	14.7%	85	11.3%	284	7.9%
Sample Total	2,255		84		258		36		19		76		95		754		3,577	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Chi-square test for independence, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Table A7-10. Amenities that Respondents Want Improved, by Race/Ethnicity (White/Non-White)

	White		Non-White		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques	30	1.3%	21	1.6%	51	1.4%
Bathrooms***	627	27.8%	506	38.3%	1,133	31.7%
Benches**	168	7.5%	133	10.1%	301	8.4%
Bike racks	22	1.0%	21	1.6%	43	1.2%
Campgrounds**	46	2.0%	46	3.5%	92	2.6%
Cellular service**	231	10.2%	178	13.5%	409	11.4%
Dog off-leash area*	200	8.9%	87	6.6%	287	8.0%
Drinking fountains	403	17.9%	230	17.4%	633	17.7%
Educational information	56	2.5%	36	2.7%	92	2.6%
Electrical hookups**	9	0.4%	17	1.3%	26	0.7%
Fire pits	35	1.6%	31	2.3%	66	1.8%
First aid services***	34	1.5%	52	3.9%	86	2.4%
Hitching post	9	0.4%	8	0.6%	17	0.5%
Law enforcement onsite	41	1.8%	36	2.7%	77	2.2%
Maps of trailheads/trails*	308	13.7%	146	11.0%	454	12.7%
Overlook/viewpoint	165	7.3%	111	8.4%	276	7.7%
Park programs	40	1.8%	29	2.2%	69	1.9%
Parking***	393	17.4%	318	24.1%	711	19.9%
Picnic tables**	60	2.7%	56	4.2%	116	3.2%
Shade structures	141	6.3%	86	6.5%	227	6.3%
Sports facilities***	9	0.4%	19	1.4%	28	0.8%
Staff/rangers onsite	61	2.7%	31	2.3%	92	2.6%
Telephones*	12	0.5%	17	1.3%	29	0.8%
Trash cans***	279	12.4%	239	18.1%	518	14.5%
Vending/food providers***	19	0.8%	33	2.5%	52	1.5%
Visitor center*	36	1.6%	35	2.6%	71	2.0%
Wi-Fi***	135	6.0%	149	11.3%	284	7.9%
Sample Total	2,255		1,322		3,577	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample test of proportions *P<0.05, **P<0.01, ***P<0.001.

Adding New Amenities

Table A7-11. Amenities that Respondents Want Added, by Gender

	Male		Female		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques	61	3.2%	46	2.5%	107	2.9%
Bathrooms	376	19.9%	406	22.3%	782	21.1%
Benches	164	8.7%	179	9.9%	343	9.3%
Bike racks	54	2.9%	43	2.4%	97	2.6%
Campgrounds	77	4.1%	68	3.7%	145	3.9%
Cellular service	213	11.3%	195	10.7%	408	11.0%
Dog off-leash areas**	154	8.2%	195	10.7%	349	9.4%
Drinking fountains	361	19.1%	333	18.3%	694	18.7%
Educational information	61	3.2%	75	4.1%	136	3.7%
Electrical hookups	32	1.7%	34	1.9%	66	1.8%
Fire pits	72	3.8%	63	3.5%	135	3.6%
First aid services	81	4.3%	75	4.1%	156	4.2%
Hitching post	13	0.7%	13	0.7%	26	0.7%
Law enforcement onsite	47	2.5%	59	3.2%	106	2.9%
Maps of trailheads/trails	213	11.3%	224	12.3%	437	11.8%
Overlook/viewpoint	88	4.7%	62	3.4%	150	4.0%
Park programs*	58	3.1%	82	4.5%	140	3.8%
Parking	151	8.0%	136	7.5%	287	7.7%
Picnic tables	95	5.0%	80	4.4%	175	4.7%
Shade structures	171	9.1%	172	9.5%	343	9.3%
Sports facilities	41	2.2%	40	2.2%	81	2.2%
Staff/rangers onsite	61	3.2%	68	3.7%	129	3.5%
Telephones	16	0.8%	23	1.3%	39	1.1%
Trash cans*	166	8.8%	205	11.3%	371	10.0%
Vending/food providers	86	4.6%	68	3.7%	154	4.2%
Visitor center	80	4.2%	76	4.2%	156	4.2%
Wi-Fi	211	11.2%	202	11.1%	413	11.1%
Sample Total	1,889		1,817		3,706	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.

Table A7-12. Amenities that Respondents Want Added, by Education

	HS Student		No HS Degree/GED		HS Degree/ GED		College		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques*	2	1.7%	2	5.4%	18	5.5%	87	2.7%	109	3.0%
Bathrooms	31	25.8%	12	32.4%	62	19.0%	667	20.9%	772	21.0%
Benches*	13	10.8%	5	13.5%	45	13.8%	280	8.8%	343	9.3%
Bike racks	5	4.2%	1	2.7%	14	4.3%	81	2.5%	101	2.7%
Campgrounds	8	6.7%	3	8.1%	18	5.5%	121	3.8%	150	4.1%
Cellular service*	13	10.8%	4	10.8%	53	16.2%	336	10.5%	406	11.0%
Dog off-leash areas	14	11.7%	0	0.0%	33	10.1%	296	9.3%	343	9.3%
Drinking fountains	28	23.3%	7	18.9%	73	22.3%	569	17.8%	677	18.4%
Educational information	9	7.5%	1	2.7%	10	3.1%	115	3.6%	135	3.7%
Electrical hookups**	2	1.7%	3	8.1%	11	3.4%	49	1.5%	65	1.8%
Fire pits	5	4.2%	1	2.7%	15	4.6%	115	3.6%	136	3.7%
First aid services	8	6.7%	3	8.1%	19	5.8%	130	4.1%	160	4.4%
Hitching post	1	0.8%	0	0.0%	2	0.6%	24	0.8%	27	0.7%
Law enforcement onsite	7	5.8%	1	2.7%	10	3.1%	89	2.8%	107	2.9%
Maps of trailheads/trails	13	10.8%	4	10.8%	27	8.3%	392	12.3%	436	11.9%
Overlook/viewpoint	4	3.3%	3	8.1%	17	5.2%	126	3.9%	150	4.1%
Park programs	2	1.7%	0	0.0%	10	3.1%	130	4.1%	142	3.9%
Parking*	16	13.3%	5	13.5%	18	5.5%	241	7.5%	280	7.6%
Picnic tables	6	5.0%	1	2.7%	16	4.9%	156	4.9%	179	4.9%
Shade structures	9	7.5%	2	5.4%	29	8.9%	300	9.4%	340	9.2%
Sports facilities	1	0.8%	2	5.4%	11	3.4%	70	2.2%	84	2.3%
Staff/rangers onsite	6	5.0%	3	8.1%	12	3.7%	105	3.3%	126	3.4%
Telephones	2	1.7%	0	0.0%	8	2.4%	31	1.0%	41	1.1%
Trash cans***	13	10.8%	9	24.3%	48	14.7%	295	9.2%	365	9.9%
Vending/food providers	5	4.2%	1	2.7%	17	5.2%	129	4.0%	152	4.1%
Visitor center	6	5.0%	2	5.4%	17	5.2%	132	4.1%	157	4.3%
Wi-Fi ***	13	10.8%	2	5.4%	58	17.7%	340	10.6%	413	11.2%
Sample Total	120		37		327		3,193		3,677	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Chi-square test for independence, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Table A7-13. Amenities that Respondents Want Added, by Race/Ethnicity

	Non-Hispanic								Hispanic or Latino		Sample Total	
	White		Black		Asian		Am. Indian		Pac. Islander		Other		2+ Races					
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques	61	2.7%	4	4.8%	8	3.1%	0	0.0%	1	5.3%	4	5.3%	2	2.1%	31	4.1%	111	3.1%
Bathrooms***	425	18.8%	29	34.5%	65	25.2%	7	19.4%	6	31.6%	12	15.8%	21	22.1%	192	25.5%	757	21.2%
Benches	193	8.6%	9	10.7%	27	10.5%	3	8.3%	3	15.8%	8	10.5%	8	8.4%	78	10.3%	329	9.2%
Bike racks	57	2.5%	3	3.6%	2	0.8%	2	5.6%	0	0.0%	3	3.9%	4	4.2%	24	3.2%	95	2.7%
Campgrounds*	72	3.2%	6	7.1%	11	4.3%	2	5.6%	2	10.5%	2	2.6%	6	6.3%	45	6.0%	146	4.1%
Cellular service**	226	10.0%	17	20.2%	41	15.9%	4	11.1%	5	26.3%	9	11.8%	10	10.5%	93	12.3%	405	11.3%
Dog off-leash areas	225	10.0%	5	6.0%	22	8.5%	5	13.9%	2	10.5%	6	7.9%	9	9.5%	65	8.6%	339	9.5%
Drinking fountains	419	18.6%	22	26.2%	40	15.5%	6	16.7%	4	21.1%	10	13.2%	13	13.7%	148	19.6%	662	18.5%
Educational information	75	3.3%	5	6.0%	8	3.1%	1	2.8%	1	5.3%	1	1.3%	3	3.2%	35	4.6%	129	3.6%
Electrical hookups**	28	1.2%	2	2.4%	4	1.6%	3	8.3%	1	5.3%	1	1.3%	2	2.1%	24	3.2%	65	1.8%
Fire pits	71	3.1%	5	6.0%	8	3.1%	1	2.8%	2	10.5%	3	3.9%	2	2.1%	40	5.3%	132	3.7%
First aid services***	65	2.9%	9	10.7%	11	4.3%	1	2.8%	0	0.0%	1	1.3%	2	2.1%	64	8.5%	153	4.3%
Hitching post	16	0.7%	0	0.0%	2	0.8%	0	0.0%	0	0.0%	1	1.3%	1	1.1%	5	0.7%	25	0.7%
Law enforcement onsite*	52	2.3%	7	8.3%	8	3.1%	1	2.8%	1	5.3%	1	1.3%	1	1.1%	30	4.0%	101	2.8%
Maps of trailheads/trails	283	12.5%	4	4.8%	28	10.9%	4	11.1%	0	0.0%	14	18.4%	14	14.7%	78	10.3%	425	11.9%
Overlook/viewpoint**	76	3.4%	4	4.8%	20	7.8%	4	11.1%	0	0.0%	5	6.6%	4	4.2%	35	4.6%	148	4.1%
Park programs	83	3.7%	5	6.0%	10	3.9%	2	5.6%	1	5.3%	7	9.2%	7	7.4%	20	2.7%	135	3.8%
Parking***	130	5.8%	5	6.0%	23	8.9%	2	5.6%	2	10.5%	5	6.6%	13	13.7%	93	12.3%	273	7.6%
Picnic tables	101	4.5%	7	8.3%	12	4.7%	2	5.6%	1	5.3%	3	3.9%	1	1.1%	47	6.2%	174	4.9%
Shade structures	191	8.5%	4	4.8%	27	10.5%	3	8.3%	2	10.5%	7	9.2%	11	11.6%	75	9.9%	320	8.9%
Sports facilities***	38	1.7%	2	2.4%	3	1.2%	0	0.0%	1	5.3%	0	0.0%	3	3.2%	33	4.4%	80	2.2%
Staff/rangers onsite	70	3.1%	4	4.8%	7	2.7%	0	0.0%	1	5.3%	2	2.6%	5	5.3%	33	4.4%	122	3.4%
Telephones	20	0.9%	1	1.2%	3	1.2%	1	2.8%	1	5.3%	1	1.3%	1	1.1%	11	1.5%	39	1.1%
Trash cans***	187	8.3%	11	13.1%	29	11.2%	2	5.6%	1	5.3%	10	13.2%	6	6.3%	123	16.3%	369	10.3%
Vending/food providers**	69	3.1%	7	8.3%	16	6.2%	1	2.8%	0	0.0%	6	7.9%	5	5.3%	45	6.0%	149	4.2%
Visitor center***	71	3.1%	10	11.9%	16	6.2%	0	0.0%	1	5.3%	5	6.6%	4	4.2%	44	5.8%	151	4.2%
Wi-Fi ***	205	9.1%	20	23.8%	43	16.7%	5	13.9%	2	10.5%	9	11.8%	16	16.8%	103	13.7%	403	11.3%
Sample Total	2,255		84		258		36		19		76		95		754		3,577	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Chi-square test for independence, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Table A7-14. Amenities that Respondents Want Added, by Income

	<$50K		$50K-$100K		$100K-$150K		>$150K		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques	26	4.0%	31	3.6%	16	3.0%	17	2.0%	90	3.1%
Bathrooms	153	23.5%	176	20.3%	129	24.0%	176	20.4%	634	21.7%
Benches	66	10.1%	64	7.4%	59	11.0%	82	9.5%	271	9.3%
Bike racks	14	2.2%	26	3.0%	10	1.9%	25	2.9%	75	2.6%
Campgrounds**	41	6.3%	28	3.2%	27	5.0%	28	3.3%	124	4.3%
Cellular service	76	11.7%	105	12.1%	60	11.2%	80	9.3%	321	11.0%
Dog off-leash areas	58	8.9%	85	9.8%	48	8.9%	104	12.1%	295	10.1%
Drinking fountains	126	19.4%	171	19.8%	120	22.3%	160	18.6%	577	19.8%
Educational information**	38	5.8%	22	2.5%	18	3.3%	28	3.3%	106	3.6%
Electrical hookups	15	2.3%	18	2.1%	7	1.3%	8	0.9%	48	1.6%
Fire pits*	32	4.9%	40	4.6%	15	2.8%	21	2.4%	108	3.7%
First aid services***	47	7.2%	43	5.0%	15	2.8%	22	2.6%	127	4.4%
Hitching post	6	0.9%	6	0.7%	3	0.6%	8	0.9%	23	0.8%
Law enforcement onsite	24	3.7%	25	2.9%	12	2.2%	27	3.1%	88	3.0%
Maps of trailheads/trails	70	10.8%	96	11.1%	69	12.8%	114	13.2%	349	12.0%
Overlook/viewpoint	24	3.7%	44	5.1%	17	3.2%	41	4.8%	126	4.3%
Park programs	21	3.2%	38	4.4%	23	4.3%	32	3.7%	114	3.9%
Parking	55	8.4%	69	8.0%	44	8.2%	59	6.9%	227	7.8%
Picnic tables	33	5.1%	46	5.3%	23	4.3%	37	4.3%	139	4.8%
Shade structures	61	9.4%	85	9.8%	57	10.6%	74	8.6%	277	9.5%
Sports facilities***	23	3.5%	27	3.1%	7	1.3%	9	1.0%	66	2.3%
Staff/rangers onsite	31	4.8%	25	2.9%	12	2.2%	24	2.8%	92	3.2%
Telephones	12	1.8%	10	1.2%	3	0.6%	8	0.9%	33	1.1%
Trash cans*	86	13.2%	85	9.8%	47	8.7%	74	8.6%	292	10.0%
Vending/food providers**	40	6.1%	40	4.6%	15	2.8%	27	3.1%	122	4.2%
Visitor center	26	4.0%	42	4.9%	21	3.9%	35	4.1%	124	4.3%
Wi-Fi	83	12.7%	110	12.7%	65	12.1%	78	9.1%	336	11.5%
Sample Total	651		865		538		861		2,915	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Chi-square test for independence, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Internet Access and Usage

Table A7-15. Internet Access, by Trailhead

	Yes		No		Sometimes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
BBT	2	10.5%	7	36.8%	10	52.6%	19	100.0%
CAB	25	32.5%	14	18.2%	38	49.4%	77	100.0%
CC	5	35.7%	5	35.7%	4	28.6%	14	100.0%
CHA	7	11.3%	36	58.1%	19	30.6%	62	100.0%
CHC	19	55.9%	3	8.8%	12	35.3%	34	100.0%
CHMI	11	15.5%	26	36.6%	34	47.9%	71	100.0%
CXG	2	4.3%	31	67.4%	13	28.3%	46	100.0%
CXM	15	21.1%	26	36.6%	30	42.3%	71	100.0%
CXS	9	11.1%	38	46.9%	34	42.0%	81	100.0%
EC	11	10.4%	69	65.1%	26	24.5%	106	100.0%
FRAH	4	6.3%	32	50.8%	27	42.9%	63	100.0%
FRAR	4	13.3%	17	56.7%	9	30.0%	30	100.0%
FRAW	10	18.9%	19	35.8%	24	45.3%	53	100.0%
FRY	22	52.4%	5	11.9%	15	35.7%	42	100.0%
LEON	5	16.1%	14	45.2%	12	38.7%	31	100.0%
MALB	10	23.8%	13	31.0%	19	45.2%	42	100.0%
MALL	17	23.9%	18	25.4%	36	50.7%	71	100.0%
MALM	9	14.5%	32	51.6%	21	33.9%	62	100.0%
PAM	14	35.0%	12	30.0%	14	35.0%	40	100.0%
PD	16	44.4%	10	27.8%	10	27.8%	36	100.0%
PMB	8	9.6%	39	47.0%	36	43.4%	83	100.0%
PMC	28	29.2%	30	31.3%	38	39.6%	96	100.0%
PML	9	20.0%	21	46.7%	15	33.3%	45	100.0%
RES	21	25.3%	26	31.3%	36	43.4%	83	100.0%
ROM	4	57.1%	2	28.6%	1	14.3%	7	100.0%
RSVM	37	25.7%	34	23.6%	73	50.7%	144	100.0%
RUN	48	25.0%	45	23.4%	99	51.6%	192	100.0%
SAN	13	16.9%	27	35.1%	37	48.1%	77	100.0%
SC	8	7.5%	75	70.8%	23	21.7%	106	100.0%
STU	9	47.4%	5	26.3%	5	26.3%	19	100.0%
TEM	27	28.4%	21	22.1%	47	49.5%	95	100.0%
TOPL	22	22.2%	17	17.2%	60	60.6%	99	100.0%
TOPS	12	17.9%	20	29.9%	35	52.2%	67	100.0%
TOPT	12	19.4%	29	46.8%	21	33.9%	62	100.0%
TOPY	9	17.0%	27	50.9%	17	32.1%	53	100.0%
UPPL	10	21.7%	17	37.0%	19	41.3%	46	100.0%
UPPV	32	22.7%	38	27.0%	71	50.4%	141	100.0%
	Yes		No		Sometimes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
WILA	36	43.4%	10	12.0%	37	44.6%	83	100.0%

WILL	17	36.2%	13	27.7%	17	36.2%	47	100.0%
ZUB	8	27.6%	8	27.6%	13	44.8%	29	100.0%
ZUC	4	11.1%	18	50.0%	14	38.9%	36	100.0%
ZUK	14	38.9%	9	25.0%	13	36.1%	36	100.0%
ZUR	13	25.0%	23	44.2%	16	30.8%	52	100.0%
Sample Total	618	22.5%	981	35.7%	1,150	41.8%	2,749	100.0%

Table A7-16. Reasons Why Internet Access is Valuable, by Age

	18 - 40 Years		41 - 64 Years		65+ Years		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
To communicate with other members of party***	880	45.7%	565	37.0%	61	21.8%	1,506	40.3%
To access emergency medical services	1,197	62.1%	918	60.1%	167	59.6%	2,282	61.1%
To deal with car difficulties***	452	23.5%	223	14.6%	41	14.6%	716	19.2%
To alert rangers to hazardous conditions onsite	621	32.2%	468	30.6%	74	26.4%	1,163	31.1%
To post photos/comments from social media***	605	31.4%	273	17.9%	24	8.6%	902	24.2%
To navigate the trail***	862	44.8%	499	32.7%	52	18.6%	1,413	37.8%
To learn about the trail/head features and amenities***	386	20.0%	233	15.2%	36	12.9%	655	17.5%
Other	80	4.2%	85	5.6%	10	3.6%	175	4.7%
Sample Total	1,926		1,528		280		3,734	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Chi-square test for independence, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Table A7-17. Reasons Why Internet Access is Valuable, by Education

	HS Student		No HS Degree/GED		HS Degree/ GED		College		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
To communicate with other members of party	48	40.0%	11	29.7%	145	44.3%	1,275	39.9%	1,479	40.2%
To access emergency medical services***	69	57.5%	11	29.7%	211	64.5%	1,956	61.3%	2,247	61.1%
To deal with car difficulties	17	14.2%	4	10.8%	66	20.2%	615	19.3%	702	19.1%
	HS Student		No HS Degree/GED		HS Degree/ GED		College		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
To alert rangers to hazardous conditions onsite	42	35.0%	8	21.6%	112	34.3%	987	30.9%	1,149	31.2%
To post photos/comments from social media*	24	20.0%	9	24.3%	99	30.3%	746	23.4%	878	23.9%
To navigate the trail	44	36.7%	10	27.0%	121	37.0%	1,219	38.2%	1,394	37.9%
To learn about the trail/head features and amenities	25	20.8%	5	13.5%	62	19.0%	548	17.2%	640	17.4%
Other	6	5.0%	2	5.4%	8	2.4%	151	4.7%	167	4.5%
Sample Total	120		37		327		3,193		3,677	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Chi-square test for independence, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Table A7-18. Reasons Why Internet Access is Valuable, by Race/Ethnicity

	Non-Hispanic												Hispanic or Latino		Sample Total	
	White		Black		Asian		Am. Indian		Pac. Islander		Other		2+ Races			
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
To communicate with other members of party***	823	37%	38	45%	129	50%	16	44%	11	58%	35	46%	48	50.5%	343	46%	1,443	40%
To access emergency medical services	1,368	61%	55	66%	153	59%	17	47%	12	63%	47	62%	53	55.8%	484	64%	2,189	61%
To deal with car difficulties**	394	18%	21	25%	59	22%	2	6%	7	37%	17	22.4%	18	19%	169	22%	687	19%
To alert rangers to hazardous conditions onsite***	659	29%	32	38%	78	30%	8	22%	8	42%	29	38.2%	25	26%	283	38%	1,122	31%
To post photos/ comments from social media***	474	21%	27	32%	65	25%	10	28%	6	32%	20	26.3%	35	37%	228	30%	865	24%
To navigate the trail***	817	36%	39	46%	121	47%	7	19%	9	47%	24	31.6%	33	35%	314	42%	1,364	38%
To learn about the trail/head features and amenities	372	17%	21	25%	49	19%	4	11%	4	21%	15	19.7%	18	19%	143	19%	626	18%
Other*	110	5%	4	5%	9	4%	3	8%	0	0%	8	10.5%	3	3%	23	3%	160	5%
Sample Total	2,255		84		258		36		19		76		95		754		3,577	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Chi-square test for independence, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Table A7-19. Reasons Why Internet Access is Valuable, by Race/Ethnicity (White/Non-White)

	White		Non-White		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
To communicate with other members of party***	823	36.5%	620	46.9%	1,443	40.3%
To access emergency medical services	1,368	60.7%	821	62.1%	2,189	61.2%
To deal with car difficulties***	394	17.5%	293	22.2%	687	19.2%
To alert rangers to hazardous conditions onsite***	659	29.2%	463	35.0%	1,122	31.4%
To post photos/comments from social media***	474	21.0%	391	29.6%	865	24.2%
To navigate the trail**	817	36.2%	547	41.4%	1,364	38.1%
To learn about the trail/head features and amenities*	372	16.5%	254	19.2%	626	17.5%
Other	110	4.9%	50	3.8%	160	4.5%
Sample Total	2,255		1,322		3,577	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample test of proportions *P<0.05, **P<0.01, ***P<0.001.

Table A7-20. Reasons Why Internet Access is Valuable, by Income

	<$50K		$50K-$100K		$100K-$150K		>$150K		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
To access emergency medical services	395	60.7%	521	60.2%	338	62.8%	528	61.3%	1,171	40.2%
To communicate with other members of party	283	43.5%	345	39.9%	204	37.9%	339	39.4%	1,782	61.1%
To navigate the trail	267	41.0%	343	39.7%	205	38.1%	324	37.6%	570	19.6%
To alert rangers to hazardous conditions onsite	219	33.6%	272	31.4%	157	29.2%	263	30.5%	911	31.3%
To post photos/comments from social media**	183	28.1%	235	27.2%	132	24.5%	177	20.6%	727	24.9%
To deal with car difficulties**	158	24.3%	161	18.6%	94	17.5%	157	18.2%	1,139	39.1%
To learn about the trail/head features and amenities	134	20.6%	140	16.2%	91	16.9%	153	17.8%	518	17.8%
Other	28	4.3%	35	4.0%	18	3.3%	53	6.2%	134	4.6%
Sample Total	651		865		538		861		2,915	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Chi-square test for independence, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Chapter 8 Appendix

Visitation Trends

Table A8-1. All Activities Engaged in at SMMNRA, by First Time Visitor

	No		Yes		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	441	13.3%	100	13.9%	541	13.5%
Camping***	120	3.6%	57	7.9%	177	4.4%
Hiking***	2,799	84.7%	651	90.7%	3,450	85.8%
Horseback Riding*	80	2.4%	28	3.9%	108	2.7%
Jogging**	700	21.2%	116	16.2%	816	20.3%
Mountain Biking***	486	14.7%	51	7.1%	537	13.4%
Painting/Crafts**	80	2.4%	31	4.3%	111	2.8%
Photography***	709	21.5%	288	40.1%	997	24.8%
Picnicking**	225	6.8%	72	10.0%	297	7.4%
Rock Climbing***	248	7.5%	88	12.3%	336	8.4%
Sightseeing***	1,529	46.3%	520	72.4%	2,049	50.9%
Sunbathing***	243	7.4%	90	12.5%	333	8.3%
Wading/Swimming***	181	5.5%	71	9.9%	252	6.3%
Walking dog(s)***	650	19.7%	92	12.8%	742	18.4%
Other***	251	7.6%	30	4.2%	281	7.0%
Sample Total	3,304		718		4,022	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001

Table A8-2. Normally Visit the Trailhead (Where Survey Was Administered), by Survey Year

	2002		2018	
	N.	Pct.	N.	Pct.
No	264	28.9%	1,075	31.4%
Yes	648	71.1%	2,347	68.6%
Sample Total	912	100.0%	3,422	100.0%

1. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.

Most Popular Time to Visit

Table A8-3. Most Popular Day to Visit SMMNRA, by Survey Year

	2002		2018	
	N.	Pct.	N.	Pct.
Weekday**	234	25.7%	52	37.4%
Weekend	661	72.5%	104	74.8%
Sample Total	912		139	
1. Respondents could select more than 1 category, so the percentages do not add up to 100%. 2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001				

Table A8-4. Number of Respondents, by Day of Week

	N.	Pct.
Weekday	1,675	38.2%
Weekend	2,706	61.8%
Sample Total	4,381	100.0%

Table A8-5. Number of Respondents, by Time of Day

	N.	Pct.
Morning	2,615	59.7%
Evening	1,766	40.3%
Sample Total	4,381	100.0%

Table A8-6. All Activities Engaged in at SMMNRA, by Time of Day

	Afternoon		Morning		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching	245	13.9%	340	13.0%	585	13.4%
Camping	78	4.4%	114	4.4%	192	4.4%
Hiking	1,516	85.8%	2,225	85.1%	3,741	85.4%
Horseback Riding	50	2.8%	67	2.6%	117	2.7%
Jogging	365	20.7%	520	19.9%	885	20.2%
Mountain Biking	233	13.2%	347	13.3%	580	13.2%
Painting/Crafts	50	2.8%	69	2.6%	119	2.7%
Photography	436	24.7%	630	24.1%	1,066	24.3%
Picnicking	136	7.7%	182	7.0%	318	7.3%
Rock Climbing*	163	9.2%	192	7.3%	355	8.1%
Sightseeing*	923	52.3%	1,287	49.2%	2,210	50.4%
Sunbathing*	166	9.4%	198	7.6%	364	8.3%
Wading/Swimming	122	6.9%	157	6.0%	279	6.4%
	Afternoon		Morning		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Walking dog(s)	303	17.2%	493	18.9%	796	18.2%
Other	129	7.3%	167	6.4%	296	6.8%
Sample Total	1,766		2,615		4,381	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001

Factors Influencing Visitor Experience

Table A8-7. Importance of Parking Costs In Decision to Visit Trailhead (Where Survey Was Administered)

	Unimportant		Somewhat Unimportant		Neutral		Somewhat Important		Important		Sample Total	
Code	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
BBT	7	38.9%	2	11.1%	3	16.7%	1	5.6%	5	27.8%	18	100.0%
CAB	13	20.0%	5	7.7%	9	13.8%	6	9.2%	32	49.2%	65	100.0%
CC	5	23.8%	3	14.3%	8	38.1%	2	9.5%	3	14.3%	21	100.0%
CHA	30	39.5%	13	17.1%	12	15.8%	11	14.5%	10	13.2%	76	100.0%
CHC	6	28.6%	0	0.0%	2	9.5%	3	14.3%	10	47.6%	21	100.0%
CHMI	12	19.4%	2	3.2%	7	11.3%	11	17.7%	30	48.4%	62	100.0%
CXG	11	21.2%	7	13.5%	14	26.9%	4	7.7%	16	30.8%	52	100.0%
CXM	17	22.1%	7	9.1%	16	20.8%	8	10.4%	29	37.7%	77	100.0%
CXS	17	18.1%	12	12.8%	22	23.4%	9	9.6%	34	36.2%	94	100.0%
EC	34	30.1%	7	6.2%	19	16.8%	13	11.5%	40	35.4%	113	100.0%
FRAH	16	27.6%	1	1.7%	11	19.0%	10	17.2%	20	34.5%	58	100.0%
FRAR	4	12.5%	2	6.3%	7	21.9%	4	12.5%	15	46.9%	32	100.0%
FRAW	11	18.6%	5	8.5%	11	18.6%	9	15.3%	23	39.0%	59	100.0%
FRY	11	17.5%	3	4.8%	9	14.3%	9	14.3%	31	49.2%	63	100.0%
LEON	8	25.0%	4	12.5%	10	31.3%	2	6.3%	8	25.0%	32	100.0%
MALB	6	15.8%	1	2.6%	9	23.7%	10	26.3%	12	31.6%	38	100.0%
MALL	16	20.8%	4	5.2%	21	27.3%	10	13.0%	26	33.8%	77	100.0%
MALM	19	20.7%	9	9.8%	29	31.5%	9	9.8%	26	28.3%	92	100.0%
PAM	13	25.5%	5	9.8%	5	9.8%	8	15.7%	20	39.2%	51	100.0%
PD	9	22.5%	4	10.0%	10	25.0%	3	7.5%	14	35.0%	40	100.0%
PMB	27	25.2%	10	9.3%	24	22.4%	15	14.0%	31	29.0%	107	100.0%
PMC	25	29.8%	2	2.4%	11	13.1%	5	6.0%	41	48.8%	84	100.0%
PML	18	30.0%	4	6.7%	10	16.7%	14	23.3%	14	23.3%	60	100.0%
RES	17	21.8%	2	2.6%	17	21.8%	6	7.7%	36	46.2%	78	100.0%
ROM	5	41.7%	0	0.0%	1	8.3%	1	8.3%	5	41.7%	12	100.0%
RSVM	23	17.0%	6	4.4%	24	17.8%	12	8.9%	70	51.9%	135	100.0%
	Unimportant		Somewhat Unimportant		Neutral		Somewhat Important		Important		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
RUN	42	27.3%	2	1.3%	12	7.8%	16	10.4%	82	53.2%	154	100.0%
SAN	7	9.9%	4	5.6%	9	12.7%	13	18.3%	38	53.5%	71	100.0%
SC	20	16.0%	10	8.0%	20	16.0%	19	15.2%	56	44.8%	125	100.0%
STU	3	14.3%	1	4.8%	2	9.5%	4	19.0%	11	52.4%	21	100.0%
TEM	22	19.5%	10	8.8%	23	20.4%	18	15.9%	40	35.4%	113	100.0%
TOPL	21	17.8%	11	9.3%	25	21.2%	16	13.6%	45	38.1%	118	100.0%
TOPS	21	38.9%	1	1.9%	9	16.7%	7	13.0%	16	29.6%	54	100.0%

TOPT	26	35.1%	10	13.5%	16	21.6%	11	14.9%	11	14.9%	74	100.0%
TOPY	8	16.0%	6	12.0%	7	14.0%	8	16.0%	21	42.0%	50	100.0%
UPPL	6	17.1%	2	5.7%	9	25.7%	1	2.9%	17	48.6%	35	100.0%
UPPV	59	43.1%	14	10.2%	26	19.0%	8	5.8%	30	21.9%	137	100.0%
WILA	10	11.0%	2	2.2%	8	8.8%	7	7.7%	64	70.3%	91	100.0%
WILL	14	23.7%	4	6.8%	12	20.3%	7	11.9%	22	37.3%	59	100.0%
ZUB	6	18.8%	2	6.3%	9	28.1%	3	9.4%	12	37.5%	32	100.0%
ZUC	10	24.4%	1	2.4%	3	7.3%	10	24.4%	17	41.5%	41	100.0%
ZUK	6	13.3%	2	4.4%	15	33.3%	9	20.0%	13	28.9%	45	100.0%
ZUR	11	24.4%	1	2.2%	8	17.8%	6	13.3%	19	42.2%	45	100.0%
Sample Total	672		203		534		358		1,115		2,882	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. There is a statistically significant relationship between the two variables at P<0.001.

Table A8-8. Importance of Travel Costs In Decision to Visit Trailhead (Where Survey Was Administered)

	Unimportant		Somewhat Unimportant		Neutral		Somewhat Important		Important		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
BBT	9	45.0%	2	10.0%	4	20.0%	4	20.0%	1	5.0%	20	100.0%
CAB	20	26.7%	8	10.7%	9	12.0%	9	12.0%	29	38.7%	75	100.0%
CC	9	40.9%	5	22.7%	4	18.2%	3	13.6%	1	4.5%	22	100.0%
CHA	28	35.9%	11	14.1%	14	17.9%	14	17.9%	11	14.1%	78	100.0%
CHC	12	38.7%	1	3.2%	4	12.9%	4	12.9%	10	32.3%	31	100.0%
CHMI	23	31.5%	6	8.2%	19	26.0%	7	9.6%	18	24.7%	73	100.0%
CXG	16	27.6%	10	17.2%	16	27.6%	8	13.8%	8	13.8%	58	100.0%
CXM	26	30.6%	10	11.8%	19	22.4%	13	15.3%	17	20.0%	85	100.0%
CXS	21	20.2%	17	16.3%	29	27.9%	14	13.5%	23	22.1%	104	100.0%
EC	35	28.5%	16	13.0%	27	22.0%	21	17.1%	24	19.5%	123	100.0%
	Unimportant		Somewhat Unimportant		Neutral		Somewhat Important		Important		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
FRAH	19	28.8%	7	10.6%	14	21.2%	6	9.1%	20	30.3%	66	100.0%
FRAR	3	10.0%	4	13.3%	7	23.3%	9	30.0%	7	23.3%	30	100.0%
FRAW	27	37.0%	8	11.0%	18	24.7%	5	6.8%	15	20.5%	73	100.0%
FRY	18	29.5%	4	6.6%	15	24.6%	8	13.1%	16	26.2%	61	100.0%
LEON	11	31.4%	4	11.4%	8	22.9%	4	11.4%	8	22.9%	35	100.0%
MALB	5	12.8%	5	12.8%	11	28.2%	11	28.2%	7	17.9%	39	100.0%
MALL	24	28.9%	14	16.9%	17	20.5%	12	14.5%	16	19.3%	83	100.0%
MALM	20	22.0%	15	16.5%	25	27.5%	15	16.5%	16	17.6%	91	100.0%
PAM	19	33.9%	7	12.5%	8	14.3%	8	14.3%	14	25.0%	56	100.0%
PD	18	46.2%	5	12.8%	6	15.4%	2	5.1%	8	20.5%	39	100.0%
PMB	33	30.6%	13	12.0%	27	25.0%	16	14.8%	19	17.6%	108	100.0%

PMC	33	34.7%	12	12.6%	17	17.9%	9	9.5%	24	25.3%	95	100.0%
PML	20	29.9%	5	7.5%	15	22.4%	16	23.9%	11	16.4%	67	100.0%
RES	20	23.5%	5	5.9%	17	20.0%	12	14.1%	31	36.5%	85	100.0%
ROM	4	33.3%	0	0.0%	6	50.0%	0	0.0%	2	16.7%	12	100.0%
RSVM	37	27.6%	7	5.2%	23	17.2%	15	11.2%	52	38.8%	134	100.0%
RUN	56	29.6%	19	10.1%	20	10.6%	21	11.1%	73	38.6%	189	100.0%
SAN	21	25.9%	6	7.4%	18	22.2%	10	12.3%	26	32.1%	81	100.0%
SC	30	23.6%	12	9.4%	30	23.6%	24	18.9%	31	24.4%	127	100.0%
STU	4	17.4%	3	13.0%	3	13.0%	3	13.0%	10	43.5%	23	100.0%
TEM	46	38.7%	18	15.1%	26	21.8%	6	5.0%	23	19.3%	119	100.0%
TOPL	32	27.8%	12	10.4%	26	22.6%	20	17.4%	25	21.7%	115	100.0%
TOPS	25	42.4%	1	1.7%	16	27.1%	2	3.4%	15	25.4%	59	100.0%
TOPT	38	45.2%	13	15.5%	16	19.0%	8	9.5%	9	10.7%	84	100.0%
TOPY	17	29.3%	7	12.1%	9	15.5%	9	15.5%	16	27.6%	58	100.0%
UPPL	7	18.4%	4	10.5%	8	21.1%	6	15.8%	13	34.2%	38	100.0%
UPPV	76	49.4%	13	8.4%	23	14.9%	10	6.5%	32	20.8%	154	100.0%
WILA	19	20.7%	6	6.5%	20	21.7%	10	10.9%	37	40.2%	92	100.0%
WILL	21	39.6%	6	11.3%	12	22.6%	5	9.4%	9	17.0%	53	100.0%
ZUB	13	39.4%	6	18.2%	8	24.2%	2	6.1%	4	12.1%	33	100.0%
ZUC	15	33.3%	6	13.3%	6	13.3%	5	11.1%	13	28.9%	45	100.0%
ZUK	11	23.9%	8	17.4%	9	19.6%	7	15.2%	11	23.9%	46	100.0%
ZUR	15	32.6%	2	4.3%	14	30.4%	5	10.9%	10	21.7%	46	100.0%
Sample Total	956		343		643		398		765		3,105	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. There is a statistically significant relationship between the two variables at P<0.001.

Table A8-9. Importance of Avoiding Crowds In Decision to Visit Trailhead (Where Survey Was Administered)

	Unimportant		Somewhat Unimportant		Neutral		Somewhat Important		Important		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
BBT	4	14.3%	3	10.7%	6	21.4%	5	17.9%	10	35.7%	28	100.0%
CAB	9	10.7%	5	6.0%	22	26.2%	18	21.4%	30	35.7%	84	100.0%
CC	3	12.5%	1	4.2%	10	41.7%	2	8.3%	8	33.3%	24	100.0%
CHA	9	10.6%	3	3.5%	16	18.8%	19	22.4%	38	44.7%	85	100.0%
CHC	4	9.1%	1	2.3%	10	22.7%	5	11.4%	24	54.5%	44	100.0%
CHMI	6	6.4%	6	6.4%	23	24.5%	25	26.6%	34	36.2%	94	100.0%
CXG	7	11.3%	2	3.2%	17	27.4%	12	19.4%	24	38.7%	62	100.0%
CXM	4	4.2%	7	7.4%	20	21.1%	28	29.5%	36	37.9%	95	100.0%
CXS	9	7.8%	12	10.4%	28	24.3%	22	19.1%	44	38.3%	115	100.0%
EC	19	14.2%	9	6.7%	30	22.4%	31	23.1%	45	33.6%	134	100.0%
FRAH	4	4.7%	3	3.5%	9	10.6%	13	15.3%	56	65.9%	85	100.0%
FRAR	3	7.5%	1	2.5%	2	5.0%	11	27.5%	23	57.5%	40	100.0%

FRAW	8	9.9%	5	6.2%	11	13.6%	21	25.9%	36	44.4%	81	100.0%
FRY	5	7.1%	2	2.9%	12	17.1%	12	17.1%	39	55.7%	70	100.0%
LEON	1	3.0%	6	18.2%	10	30.3%	6	18.2%	10	30.3%	33	100.0%
MALB	3	6.1%	1	2.0%	4	8.2%	14	28.6%	27	55.1%	49	100.0%
MALL	9	9.7%	8	8.6%	21	22.6%	12	12.9%	43	46.2%	93	100.0%
MALM	9	9.3%	15	15.5%	24	24.7%	15	15.5%	34	35.1%	97	100.0%
PAM	5	7.5%	5	7.5%	18	26.9%	13	19.4%	26	38.8%	67	100.0%
PD	4	8.5%	2	4.3%	10	21.3%	6	12.8%	25	53.2%	47	100.0%
PMB	14	11.7%	9	7.5%	31	25.8%	23	19.2%	43	35.8%	120	100.0%
PMC	18	17.1%	11	10.5%	29	27.6%	20	19.0%	27	25.7%	105	100.0%
PML	8	10.7%	6	8.0%	13	17.3%	15	20.0%	33	44.0%	75	100.0%
RES	12	12.6%	4	4.2%	18	18.9%	20	21.1%	41	43.2%	95	100.0%
ROM	1	6.7%	0	0.0%	1	6.7%	2	13.3%	11	73.3%	15	100.0%
RSVM	19	9.8%	10	5.2%	40	20.6%	29	14.9%	96	49.5%	194	100.0%
RUN	62	26.1%	31	13.0%	67	28.2%	24	10.1%	54	22.7%	238	100.0%
SAN	3	3.0%	5	5.0%	15	15.0%	29	29.0%	48	48.0%	100	100.0%
SC	13	9.0%	7	4.9%	28	19.4%	35	24.3%	61	42.4%	144	100.0%
STU	5	17.9%	0	0.0%	2	7.1%	9	32.1%	12	42.9%	28	100.0%
TEM	11	7.8%	12	8.5%	39	27.7%	34	24.1%	45	31.9%	141	100.0%
TOPL	15	11.7%	9	7.0%	38	29.7%	30	23.4%	36	28.1%	128	100.0%
TOPS	10	13.2%	2	2.6%	14	18.4%	15	19.7%	35	46.1%	76	100.0%
TOPT	10	10.8%	7	7.5%	19	20.4%	24	25.8%	33	35.5%	93	100.0%
TOPY	7	9.9%	4	5.6%	6	8.5%	13	18.3%	41	57.7%	71	100.0%
	Unimportant		Somewhat Unimportant		Neutral		Somewhat Important		Important		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
UPPL	3	5.7%	2	3.8%	12	22.6%	7	13.2%	29	54.7%	53	100.0%
UPPV	23	12.6%	12	6.6%	47	25.7%	38	20.8%	63	34.4%	183	100.0%
WILA	11	9.9%	11	9.9%	18	16.2%	27	24.3%	44	39.6%	111	100.0%
WILL	11	17.5%	5	7.9%	12	19.0%	17	27.0%	18	28.6%	63	100.0%
ZUB	2	5.3%	2	5.3%	4	10.5%	8	21.1%	22	57.9%	38	100.0%
ZUC	1	2.2%	5	10.9%	11	23.9%	9	19.6%	20	43.5%	46	100.0%
ZUK	3	5.9%	5	9.8%	9	17.6%	11	21.6%	23	45.1%	51	100.0%
ZUR	5	7.8%	5	7.8%	10	15.6%	8	12.5%	36	56.3%	64	100.0%
Sample Total	392		261		786		737		1,483		3,659	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. There is a statistically significant relationship between the two variables at P<0.001.

Table A8-10. Importance of Disability Access In Decision to Visit Trailhead (Where Survey Was Administered)

	Unimportant		Somewhat Unimportant		Neutral		Somewhat Important		Important		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.

BBT	13	81.3%	0	0.0%	0	0.0%	1	6.3%	2	12.5%	16	100.0%
CAB	30	52.6%	1	1.8%	10	17.5%	7	12.3%	9	15.8%	57	100.0%
CC	10	52.6%	2	10.5%	4	21.1%	1	5.3%	2	10.5%	19	100.0%
CHA	43	64.2%	8	11.9%	5	7.5%	4	6.0%	7	10.4%	67	100.0%
CHC	20	76.9%	3	11.5%	2	7.7%	0	0.0%	1	3.8%	26	100.0%
CHMI	48	82.8%	3	5.2%	3	5.2%	1	1.7%	3	5.2%	58	100.0%
CXG	32	71.1%	6	13.3%	3	6.7%	0	0.0%	4	8.9%	45	100.0%
CXM	44	71.0%	5	8.1%	5	8.1%	2	3.2%	6	9.7%	62	100.0%
CXS	55	66.3%	5	6.0%	10	12.0%	5	6.0%	8	9.6%	83	100.0%
EC	50	50.5%	10	10.1%	15	15.2%	6	6.1%	18	18.2%	99	100.0%
FRAH	35	66.0%	5	9.4%	8	15.1%	2	3.8%	3	5.7%	53	100.0%
FRAR	15	60.0%	3	12.0%	1	4.0%	3	12.0%	3	12.0%	25	100.0%
FRAW	32	66.7%	7	14.6%	3	6.3%	2	4.2%	4	8.3%	48	100.0%
FRY	36	72.0%	1	2.0%	8	16.0%	1	2.0%	4	8.0%	50	100.0%
LEON	11	47.8%	2	8.7%	5	21.7%	2	8.7%	3	13.0%	23	100.0%
MALB	19	67.9%	0	0.0%	3	10.7%	2	7.1%	4	14.3%	28	100.0%
MALL	42	60.9%	3	4.3%	13	18.8%	5	7.2%	6	8.7%	69	100.0%
MALM	42	59.2%	5	7.0%	11	15.5%	4	5.6%	9	12.7%	71	100.0%
PAM	34	69.4%	3	6.1%	4	8.2%	3	6.1%	5	10.2%	49	100.0%
	Unimportant		Somewhat Unimportant		Neutral		Somewhat Important		Important		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
PD	20	64.5%	1	3.2%	3	9.7%	3	9.7%	4	12.9%	31	100.0%
PMB	53	64.6%	7	8.5%	5	6.1%	6	7.3%	11	13.4%	82	100.0%
PMC	44	55.7%	6	7.6%	10	12.7%	7	8.9%	12	15.2%	79	100.0%
PML	38	65.5%	5	8.6%	7	12.1%	4	6.9%	4	6.9%	58	100.0%
RES	40	54.8%	4	5.5%	6	8.2%	4	5.5%	19	26.0%	73	100.0%
ROM	6	75.0%	1	12.5%	0	0.0%	0	0.0%	1	12.5%	8	100.0%
RSVM	54	47.4%	5	4.4%	24	21.1%	7	6.1%	24	21.1%	114	100.0%
RUN	103	64.0%	16	9.9%	15	9.3%	8	5.0%	19	11.8%	161	100.0%
SAN	42	56.0%	12	16.0%	10	13.3%	2	2.7%	9	12.0%	75	100.0%
SC	63	63.0%	9	9.0%	11	11.0%	6	6.0%	11	11.0%	100	100.0%
STU	12	66.7%	3	16.7%	1	5.6%	1	5.6%	1	5.6%	18	100.0%
TEM	54	61.4%	7	8.0%	14	15.9%	4	4.5%	9	10.2%	88	100.0%
TOPL	60	68.2%	10	11.4%	8	9.1%	2	2.3%	8	9.1%	88	100.0%
TOPS	38	71.7%	2	3.8%	4	7.5%	3	5.7%	6	11.3%	53	100.0%
TOPT	45	73.8%	4	6.6%	4	6.6%	3	4.9%	5	8.2%	61	100.0%
TOPY	33	68.8%	5	10.4%	4	8.3%	2	4.2%	4	8.3%	48	100.0%
UPPL	15	57.7%	4	15.4%	3	11.5%	1	3.8%	3	11.5%	26	100.0%
UPPV	79	66.4%	7	5.9%	11	9.2%	7	5.9%	15	12.6%	119	100.0%
WILA	37	52.9%	4	5.7%	9	12.9%	3	4.3%	17	24.3%	70	100.0%
WILL	31	67.4%	4	8.7%	4	8.7%	1	2.2%	6	13.0%	46	100.0%
ZUB	23	79.3%	3	10.3%	2	6.9%	0	0.0%	1	3.4%	29	100.0%
ZUC	23	62.2%	5	13.5%	5	13.5%	2	5.4%	2	5.4%	37	100.0%

ZUK	26	78.8%	3	9.1%	0	0.0%	2	6.1%	2	6.1%	33	100.0%
ZUR	23	62.2%	4	10.8%	7	18.9%	0	0.0%	3	8.1%	37	100.0%
Sample Total	1,573		203		280		129		297		2,482	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. There is a statistically significant relationship between the two variables at P<0.001.

Table A8-11. Importance of Trail Safety In Decision to Visit Trailhead (Where Survey Was Administered)

	Unimportant		Somewhat Unimportant		Neutral		Somewhat Important		Important		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
BBT	3	11.1%	4	14.8%	8	29.6%	5	18.5%	7	25.9%	27	100.0%
CAB	5	6.0%	5	6.0%	11	13.1%	13	15.5%	50	59.5%	84	100.0%
CC	4	17.4%	1	4.3%	7	30.4%	7	30.4%	4	17.4%	23	100.0%
CHA	8	10.0%	5	6.3%	17	21.3%	18	22.5%	32	40.0%	80	100.0%
CHC	4	9.3%	3	7.0%	12	27.9%	6	14.0%	18	41.9%	43	100.0%
CHMI	8	8.5%	7	7.4%	19	20.2%	24	25.5%	36	38.3%	94	100.0%
CXG	7	12.1%	2	3.4%	13	22.4%	12	20.7%	24	41.4%	58	100.0%
CXM	14	15.4%	10	11.0%	14	15.4%	29	31.9%	24	26.4%	91	100.0%
CXS	8	7.3%	12	11.0%	23	21.1%	31	28.4%	35	32.1%	109	100.0%
EC	13	9.6%	12	8.9%	29	21.5%	21	15.6%	60	44.4%	135	100.0%
FRAH	9	10.8%	5	6.0%	19	22.9%	13	15.7%	37	44.6%	83	100.0%
FRAR	1	2.5%	5	12.5%	6	15.0%	12	30.0%	16	40.0%	40	100.0%
FRAW	9	11.0%	5	6.1%	13	15.9%	16	19.5%	39	47.6%	82	100.0%
FRY	7	10.1%	4	5.8%	16	23.2%	16	23.2%	26	37.7%	69	100.0%
LEON	0	0.0%	3	8.3%	9	25.0%	6	16.7%	18	50.0%	36	100.0%
MALB	7	15.2%	4	8.7%	10	21.7%	6	13.0%	19	41.3%	46	100.0%
MALL	12	13.0%	11	12.0%	22	23.9%	14	15.2%	33	35.9%	92	100.0%
MALM	9	9.5%	12	12.6%	22	23.2%	21	22.1%	31	32.6%	95	100.0%
PAM	8	12.5%	5	7.8%	11	17.2%	16	25.0%	24	37.5%	64	100.0%
PD	5	11.9%	7	16.7%	6	14.3%	11	26.2%	13	31.0%	42	100.0%
PMB	16	14.2%	6	5.3%	24	21.2%	24	21.2%	43	38.1%	113	100.0%
PMC	13	11.7%	9	8.1%	27	24.3%	16	14.4%	46	41.4%	111	100.0%
PML	4	5.3%	4	5.3%	18	23.7%	16	21.1%	34	44.7%	76	100.0%
RES	12	11.8%	4	3.9%	16	15.7%	13	12.7%	57	55.9%	102	100.0%
ROM	2	13.3%	1	6.7%	1	6.7%	5	33.3%	6	40.0%	15	100.0%
RSVM	15	7.7%	12	6.1%	25	12.8%	33	16.8%	111	56.6%	196	100.0%
RUN	35	14.2%	19	7.7%	42	17.0%	49	19.8%	102	41.3%	247	100.0%
SAN	14	14.3%	8	8.2%	18	18.4%	20	20.4%	38	38.8%	98	100.0%
SC	13	9.4%	13	9.4%	36	26.1%	30	21.7%	46	33.3%	138	100.0%
STU	5	17.2%	2	6.9%	3	10.3%	3	10.3%	16	55.2%	29	100.0%
TEM	12	8.6%	3	2.1%	27	19.3%	38	27.1%	60	42.9%	140	100.0%
TOPL	18	13.4%	11	8.2%	34	25.4%	27	20.1%	44	32.8%	134	100.0%

TOPS	9	11.8%	7	9.2%	17	22.4%	12	15.8%	31	40.8%	76	100.0%
TOPT	11	11.7%	8	8.5%	18	19.1%	26	27.7%	31	33.0%	94	100.0%
TOPY	11	16.4%	2	3.0%	15	22.4%	10	14.9%	29	43.3%	67	100.0%
	Unimportant		Somewhat Unimportant		Neutral		Somewhat Important		Important		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
UPPL	4	8.0%	4	8.0%	4	8.0%	13	26.0%	25	50.0%	50	100.0%
UPPV	12	6.3%	8	4.2%	33	17.4%	43	22.6%	94	49.5%	190	100.0%
WILA	3	2.5%	8	6.7%	10	8.3%	24	20.0%	75	62.5%	120	100.0%
WILL	4	6.3%	2	3.2%	14	22.2%	8	12.7%	35	55.6%	63	100.0%
ZUB	5	13.9%	3	8.3%	4	11.1%	11	30.6%	13	36.1%	36	100.0%
ZUC	7	15.2%	4	8.7%	6	13.0%	9	19.6%	20	43.5%	46	100.0%
ZUK	9	18.4%	2	4.1%	10	20.4%	14	28.6%	14	28.6%	49	100.0%
ZUR	7	11.5%	7	11.5%	11	18.0%	10	16.4%	26	42.6%	61	100.0%
Sample Total	382		269		700		751		1,542		3,644	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. There is a statistically significant relationship between the two variables at P<0.001.

Table A8-12. Importance of Trail Quality In Decision to Visit Trailhead (Where Survey Was Administered)

	Unimportant		Somewhat Unimportant		Neutral		Somewhat Important		Important		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
BBT	2	7.1%	1	3.6%	9	32.1%	11	39.3%	5	17.9%	28	100.0%
CAB	3	3.4%	1	1.1%	18	20.7%	19	21.8%	46	52.9%	87	100.0%
CC	2	8.7%	0	0.0%	7	30.4%	6	26.1%	8	34.8%	23	100.0%
CHA	6	7.0%	4	4.7%	16	18.6%	26	30.2%	34	39.5%	86	100.0%
CHC	0	0.0%	6	12.5%	10	20.8%	10	20.8%	22	45.8%	48	100.0%
CHMI	7	6.9%	5	5.0%	9	8.9%	31	30.7%	49	48.5%	101	100.0%
CXG	5	7.9%	1	1.6%	11	17.5%	18	28.6%	28	44.4%	63	100.0%
CXM	6	6.1%	7	7.1%	19	19.4%	34	34.7%	32	32.7%	98	100.0%
CXS	9	7.8%	6	5.2%	25	21.7%	35	30.4%	40	34.8%	115	100.0%
EC	5	3.6%	5	3.6%	35	25.0%	30	21.4%	65	46.4%	140	100.0%
FRAH	3	3.6%	3	3.6%	16	19.0%	24	28.6%	38	45.2%	84	100.0%
FRAR	1	2.6%	3	7.7%	3	7.7%	15	38.5%	17	43.6%	39	100.0%
FRAW	5	6.0%	1	1.2%	13	15.5%	26	31.0%	39	46.4%	84	100.0%
FRY	4	5.6%	1	1.4%	17	23.9%	29	40.8%	20	28.2%	71	100.0%
LEON	0	0.0%	2	5.6%	6	16.7%	15	41.7%	13	36.1%	36	100.0%
MALB	2	4.3%	4	8.7%	6	13.0%	12	26.1%	22	47.8%	46	100.0%
MALL	10	10.2%	6	6.1%	23	23.5%	22	22.4%	37	37.8%	98	100.0%
MALM	6	6.3%	6	6.3%	23	24.2%	27	28.4%	33	34.7%	95	100.0%
PAM	11	15.9%	2	2.9%	12	17.4%	19	27.5%	25	36.2%	69	100.0%
	Unimportant		Somewhat		Neutral		Somewhat		Important		Sample	

			Unimportant				Important				Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
PD	4	9.3%	2	4.7%	10	23.3%	14	32.6%	13	30.2%	43	100.0%
PMB	7	5.7%	7	5.7%	24	19.7%	32	26.2%	52	42.6%	122	100.0%
PMC	9	8.0%	7	6.2%	15	13.3%	34	30.1%	48	42.5%	113	100.0%
PML	4	5.1%	0	0.0%	14	17.9%	20	25.6%	40	51.3%	78	100.0%
RES	7	6.9%	2	2.0%	19	18.8%	18	17.8%	55	54.5%	101	100.0%
ROM	1	7.1%	3	21.4%	0	0.0%	4	28.6%	6	42.9%	14	100.0%
RSVM	7	3.4%	7	3.4%	20	9.8%	50	24.4%	121	59.0%	205	100.0%
RUN	23	8.8%	15	5.7%	31	11.8%	74	28.2%	119	45.4%	262	100.0%
SAN	6	5.7%	8	7.5%	16	15.1%	32	30.2%	44	41.5%	106	100.0%
SC	8	5.6%	10	7.0%	21	14.8%	46	32.4%	57	40.1%	142	100.0%
STU	4	14.8%	0	0.0%	6	22.2%	5	18.5%	12	44.4%	27	100.0%
TEM	6	4.0%	2	1.3%	25	16.8%	46	30.9%	70	47.0%	149	100.0%
TOPL	8	5.8%	6	4.4%	28	20.4%	41	29.9%	54	39.4%	137	100.0%
TOPS	12	14.6%	4	4.9%	16	19.5%	18	22.0%	32	39.0%	82	100.0%
TOPT	10	10.3%	2	2.1%	20	20.6%	29	29.9%	36	37.1%	97	100.0%
TOPY	7	9.6%	2	2.7%	17	23.3%	17	23.3%	30	41.1%	73	100.0%
UPPL	1	1.8%	2	3.5%	7	12.3%	15	26.3%	32	56.1%	57	100.0%
UPPV	10	5.2%	7	3.6%	21	10.8%	52	26.8%	104	53.6%	194	100.0%
WILA	2	1.6%	4	3.3%	19	15.6%	26	21.3%	71	58.2%	122	100.0%
WILL	2	2.9%	2	2.9%	12	17.6%	11	16.2%	41	60.3%	68	100.0%
ZUB	4	10.8%	2	5.4%	5	13.5%	8	21.6%	18	48.6%	37	100.0%
ZUC	1	2.1%	1	2.1%	9	18.8%	19	39.6%	18	37.5%	48	100.0%
ZUK	2	3.8%	3	5.7%	11	20.8%	15	28.3%	22	41.5%	53	100.0%
ZUR	4	6.3%	3	4.8%	13	20.6%	18	28.6%	25	39.7%	63	100.0%
Sample Total	236		165		657		1,053		1,693		3,804	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. There is a statistically significant relationship between the two variables at P<0.001.

Table A8-13. Importance of Trail Cleanliness In Decision to Visit Trailhead (Where Survey Was Administered)

	Unimportant		Somewhat Unimportant		Neutral		Somewhat Important		Important		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
RUN	13	4.9%	19	7.1%	29	10.8%	59	22.0%	148	55.2%	268	100.0%
RSVM	7	3.3%	4	1.9%	21	10.0%	51	24.3%	127	60.5%	210	100.0%
UPPV	11	5.6%	5	2.5%	17	8.6%	46	23.4%	118	59.9%	197	100.0%

TEM	4	2.7%	2	1.3%	17	11.4%	40	26.8%	86	57.7%	149	100.0%
WILA	2	1.7%	3	2.6%	11	9.4%	24	20.5%	77	65.8%	117	100.0%
EC	8	5.6%	8	5.6%	23	16.2%	32	22.5%	71	50.0%	142	100.0%
SC	4	2.8%	6	4.2%	20	14.0%	44	30.8%	69	48.3%	143	100.0%
TOPL	5	3.6%	4	2.9%	29	21.2%	38	27.7%	61	44.5%	137	100.0%
PMC	8	7.4%	6	5.6%	13	12.0%	24	22.2%	57	52.8%	108	100.0%
PMB	6	5.0%	7	5.8%	17	14.0%	35	28.9%	56	46.3%	121	100.0%
RES	8	7.7%	4	3.8%	15	14.4%	23	22.1%	54	51.9%	104	100.0%
MALL	4	4.2%	6	6.3%	11	11.5%	22	22.9%	53	55.2%	96	100.0%
CHMI	5	5.2%	5	5.2%	11	11.5%	24	25.0%	51	53.1%	96	100.0%
FRAW	3	3.5%	3	3.5%	4	4.7%	24	28.2%	51	60.0%	85	100.0%
CAB	2	2.3%	1	1.1%	13	14.9%	22	25.3%	49	56.3%	87	100.0%
FRAH	1	1.2%	3	3.6%	12	14.5%	20	24.1%	47	56.6%	83	100.0%
CXS	4	3.5%	6	5.3%	25	21.9%	33	28.9%	46	40.4%	114	100.0%
SAN	6	5.7%	3	2.8%	18	17.0%	35	33.0%	44	41.5%	106	100.0%
TOPT	3	3.1%	3	3.1%	18	18.8%	29	30.2%	43	44.8%	96	100.0%
WILL	2	3.0%	2	3.0%	9	13.4%	11	16.4%	43	64.2%	67	100.0%
CXM	4	4.1%	4	4.1%	20	20.6%	28	28.9%	41	42.3%	97	100.0%
CHA	4	4.8%	3	3.6%	10	12.0%	26	31.3%	40	48.2%	83	100.0%
MALM	6	6.3%	7	7.3%	15	15.6%	30	31.3%	38	39.6%	96	100.0%
PML	6	7.8%	3	3.9%	8	10.4%	24	31.2%	36	46.8%	77	100.0%
FRY	2	2.7%	1	1.4%	16	21.9%	20	27.4%	34	46.6%	73	100.0%
TOPY	7	9.7%	0	0.0%	15	20.8%	16	22.2%	34	47.2%	72	100.0%
UPPL	1	1.7%	1	1.7%	8	13.3%	17	28.3%	33	55.0%	60	100.0%
TOPS	10	12.5%	3	3.8%	19	23.8%	16	20.0%	32	40.0%	80	100.0%
PAM	3	4.3%	2	2.9%	14	20.0%	22	31.4%	29	41.4%	70	100.0%
CXG	6	9.4%	2	3.1%	9	14.1%	19	29.7%	28	43.8%	64	100.0%
CHC	2	4.3%	1	2.1%	8	17.0%	9	19.1%	27	57.4%	47	100.0%
MALB	3	6.7%	3	6.7%	4	8.9%	10	22.2%	25	55.6%	45	100.0%
ZUR	4	6.3%	6	9.5%	11	17.5%	17	27.0%	25	39.7%	63	100.0%
PD	3	6.4%	1	2.1%	9	19.1%	11	23.4%	23	48.9%	47	100.0%
FRAR	1	2.5%	2	5.0%	2	5.0%	13	32.5%	22	55.0%	40	100.0%
	Unimportant		Somewhat Unimportant		Neutral		Somewhat Important		Important		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
ZUK	2	4.0%	2	4.0%	12	24.0%	16	32.0%	18	36.0%	50	100.0%
ZUC	2	4.3%	1	2.2%	10	21.7%	16	34.8%	17	37.0%	46	100.0%
LEON	0	0.0%	0	0.0%	5	13.5%	16	43.2%	16	43.2%	37	100.0%
ZUB	3	8.1%	4	10.8%	7	18.9%	8	21.6%	15	40.5%	37	100.0%
STU	4	14.8%	0	0.0%	3	11.1%	6	22.2%	14	51.9%	27	100.0%
BBT	0	0.0%	2	7.7%	9	34.6%	5	19.2%	10	38.5%	26	100.0%
ROM	2	13.3%	0	0.0%	1	6.7%	4	26.7%	8	53.3%	15	100.0%
CC	2	8.7%	1	4.3%	3	13.0%	11	47.8%	6	26.1%	23	100.0%
Sample	183		149		551		996		1,922		3,801	

Total						

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. There is a statistically significant relationship between the two variables at P<0.001.

Factors Influencing Return Visitation

Table A8-14. Would You Return to the Trailhead (Where Survey Was Administered)

	N.	Pct.
No	61	1.5%
Yes	3,932	98.5%
Sample Total	3,993	100.0%

Table A8-15. Mean Rating of Factors Influencing Return Visitation to Trailhead, by Age

	18 - 40 Years			41 - 64 Years			65+ Years			Sample Average		
	N.	Mean	S.D.	N.	Mean	S.D.	N.	Mean	S.D.	N.	Mean	S.D.
Concern about the lack of a ranger presence	1,096	1.4	0.7	557	1.5	0.7	64	1.5	0.8	1,717	1.5	0.7
Concern about the presence of a ranger	1,088	1.4	0.7	545	1.4	0.7	61	1.4	0.7	1,694	1.4	0.7
Congestion at park	1,214	2.1	0.8	736	2.3	0.8	101	2.3	0.8	2,051	2.2	0.8
Cost of entrance fee	1,239	2.2	0.9	678	2.1	0.9	95	2.2	0.9	2,012	2.1	0.9
Cost of parking	1,268	2.1	0.9	709	2.1	0.9	102	2.2	0.9	2,079	2.1	0.9
Couldn't find a babysitter	1,051	1.2	0.6	503	1.2	0.5	53	1.2	0.5	1,607	1.2	0.6
Don't feel safe	1,187	2.1	0.9	670	2.1	0.9	85	2.2	0.9	1,942	2.1	0.9
Don't feel welcome	1,119	1.9	0.9	582	1.9	0.9	61	2.0	1.0	1,762	1.9	0.9
Lack of activities I want to participate in	1,074	1.5	0.7	529	1.4	0.7	60	1.5	0.8	1,663	1.4	0.7
	18 - 40 Years			41 - 64 Years			65+ Years			Sample Average		
	N.	Mean	S.D.	N.	Mean	S.D.	N.	Mean	S.D.	N.	Mean	S.D.
Lack of amenities I want to use	1,115	1.5	0.7	553	1.5	0.7	59	1.4	0.7	1,727	1.5	0.7
No parking	1,284	2.3	0.9	725	2.3	0.9	94	2.4	0.9	2,103	2.3	0.9
No signs/information in appropriate language	1,090	1.5	0.7	527	1.3	0.6	62	1.3	0.6	1,679	1.4	0.7
Too difficult to get to the trailhead	1,111	1.6	0.7	544	1.4	0.7	61	1.4	0.8	1,716	1.5	0.7
Sample Total	1,926			1,528			280			3,734		

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. The difference in mean rating is statistically significant at P<0.05 or below between 18-40 Years and 41-64 Years for congestion at the park, lack of amenities, no signs/information in an appropriate language, and difficulty getting to the trailhead.

3. The difference in mean rating is statistically signficant at P<0.05 or below between 18-40 Years and 65+ Years for no sings/information in an appropriate language.

Table A8-16. Mean Rating of Factors Influencing Return Visitation to Trailhead, by Education

	HS Student			No HS Degree/GED			HS Degree/ GED			College			Sample Average		
	N.	Mean	S.D.	N.	Mean	S.D.	N.	Mean	S.D.	N.	Mean	S.D.	N.	Mean	S.D.
Concern about the lack of a ranger presence	50	1.7	0.8	12	1.8	0.8	157	1.4	0.7	1,456	1.4	0.7	1,675	1.5	0.7
Concern about the presence of a ranger	47	1.7	0.8	11	1.6	0.7	160	1.4	0.7	1,433	1.4	0.7	1,651	1.4	0.7
Congestion at park	59	2.2	0.9	13	1.8	0.9	185	2.0	0.9	1,751	2.2	0.8	2,008	2.2	0.8
Cost of entrance fee	59	2.1	0.9	14	1.7	1.0	181	2.2	0.9	1,709	2.1	0.9	1,963	2.1	0.9
Cost of parking	64	2.2	0.9	17	1.8	1.0	185	2.1	0.9	1,764	2.1	0.9	2,030	2.1	0.9
Couldn't find a babysitter	45	1.5	0.8	12	1.8	1.0	158	1.3	0.6	1,349	1.2	0.5	1,564	1.2	0.6
Don't feel safe	54	2.1	0.9	11	2.2	1.0	170	2.0	0.9	1,659	2.2	0.9	1,894	2.1	0.9
Don't feel welcome	48	2.0	1.0	11	2.0	1.0	165	1.8	0.9	1,496	1.9	0.9	1,720	1.9	0.9
Lack of activities I want to participate in	49	1.7	0.8	10	1.6	0.8	156	1.4	0.7	1,407	1.4	0.7	1,622	1.4	0.7
Lack of amenities I want to use	49	1.7	0.9	11	1.5	0.9	163	1.6	0.8	1,461	1.5	0.7	1,684	1.5	0.7
No parking	65	2.3	0.9	20	2.4	0.9	189	2.2	0.9	1,777	2.3	0.9	2,051	2.3	0.9
No signs/information in appropriate language	49	1.5	0.8	12	1.5	0.8	159	1.5	0.7	1,415	1.4	0.7	1,635	1.4	0.7
Too difficult to get to the trailhead	52	1.8	0.9	11	1.5	0.7	162	1.5	0.7	1,449	1.5	0.7	1,674	1.5	0.7
Sample Total	120			37			327			3,193			3,677		

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. The difference in mean rating is statistically significant at P<0.05 or below between HS Student and College for couldn't find a babysitter, and between HS Degree/GED and College for congestion at the park.

Table A8-17a. Mean Rating of Factors Influencing Return Visitation to Trailhead, by Race/Ethnicity

	Non-Hispanic												Sample Average		
	White			Black			Asian			Am. Indian					
	N.	Mean	S.D.	N.	Mean	S.D.	N.	Mean	S.D.	N.	Mean	S.D.	N.	Mean	S.D.
Concern about the lack of a ranger presence	935	1.4	0.6	40	1.6	0.7	144	1.5	0.7	14	1.6	0.8	1,622	1.4	0.7
Concern about the presence of a ranger	930	1.3	0.6	40	1.7	0.9	142	1.6	0.7	14	1.4	0.8	1,600	1.4	0.7
Congestion at park	1,186	2.2	0.8	44	2.0	0.9	155	2.2	0.8	17	2.5	0.8	1,940	2.2	0.8
Cost of entrance fee	1,136	2.1	0.9	45	2.0	1.0	153	2.1	0.9	14	2.1	1.0	1,901	2.1	0.9

Cost of parking	1,167	2.1	0.9	50	2.1	0.9	161	2.2	0.9	16	2.3	1.0	1,965	2.1	0.9
Couldn't find a babysitter	865	1.2	0.5	41	1.3	0.7	138	1.2	0.6	14	1.2	0.6	1,517	1.2	0.6
Don't feel safe	1,095	2.1	0.9	44	2.2	0.9	153	2.4	0.8	14	2.1	0.9	1,835	2.1	0.9
Don't feel welcome	967	1.9	0.9	40	1.9	1.0	150	2.2	0.9	13	1.8	0.9	1,665	1.9	0.9
Lack of activities I want to participate in	918	1.4	0.7	40	1.6	0.8	137	1.6	0.8	14	1.6	0.9	1,572	1.4	0.7
Lack of amenities I want to use	954	1.5	0.7	39	1.6	0.8	141	1.7	0.8	14	1.9	0.9	1,634	1.5	0.7
No parking	1,186	2.3	0.9	47	2.3	0.9	165	2.4	0.9	16	2.6	0.8	1,993	2.3	0.9
No signs/information in appropriate language	921	1.4	0.6	38	1.6	0.8	139	1.6	0.8	13	1.5	0.9	1,585	1.4	0.7
Too difficult to get to the trailhead	939	1.5	0.7	42	1.7	0.8	149	1.8	0.8	13	1.5	0.9	1,626	1.5	0.7
Sample Total	2,255			84			258			36			3,577		

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. The difference in mean rating for “Concern about the lack of a ranger present” is statistically significant at P<0.05 or below between Black and 2+ Races, Asian and 2+ races, Pac. Islander and 2+ Races, and 2+ Races and Hispanic/Latino.
3. The difference in mean rating for “Concern about the presence of a ranger” is statistically significant at P<0.05 or below between White and Asian, White and Hispanic/Latino, Asian and 2+ Races, and 2+ Races and Hispanic/Latino.
4. The difference in mean rating for “Congestion at park” is statistically significant at P<0.05 or below between White and Hispanic/Latino, and 2+ Races and Hispanic/Latino.
5. The difference in mean rating for “Cost of entrance fee” is statistically significant at P<0.05 or below between Other and Hispanic/Latino.
6. The difference in mean rating for “Don’t feel safe” is statistically significant at P<0.05 or below between White and Asian, Asian and 2+ Races, Asian and Hispanic/Latino, and Other and Hispanic/Latino.
7. The difference in mean rating for “Don’t feel welcome” is statistically significant at P<0.05 or below between White and Asian, White and Other, Asian and 2+ Races, Asian and Hispanic/Latino, Other and 2+ Races, and Other and Hispanic/Latino.
8. The difference in mean rating for “Lack of activities I want to participate in” is statistically significant at P<0.05 or below between White and Asian, and Asian and 2+ Races.
9. The difference in mean rating for “Lack of amenities I want to use” is statistically significant at P<0.05 or below between White and Asian, White and Hispanic/Latino, Asian and 2+ Races, and 2+ Races and Hispanic/Latino.
10. The difference in mean rating for “No signs/information in appropriate language” is statistically significant at P<0.05 or below between White and Asian, and White and Hispanic/Latino.
11. The difference in mean rating for “Too difficult to get to the trailhead” is statistically significant at P<0.05 or below between White and Asian, and Asian and Hispanic/Latino.

Table A8-17b. Mean Rating of Factors Influencing Return Visitation to Trailhead, by Race/Ethnicity

	Non-Hispanic									Hispanic or Latino			Sample Average		
	Pac. Islander			Other			2+ Races								
	N.	Mean	S.D.	N.	Mean	S.D.	N.	Mean	S.D.	N.	Mean	S.D.	N.	Mean	S.D.
Concern about the lack of a ranger presence	9	1.9	0.8	37	1.5	0.7	49	1.2	0.5	394	1.6	0.8	1,622	1.4	0.7
Concern about the presence of a ranger	8	1.6	0.7	34	1.5	0.7	49	1.3	0.6	383	1.5	0.7	1,600	1.4	0.7

Congestion at park	10	2.0	0.9	41	2.0	0.9	57	2.3	0.8	430	2.0	0.9	1,940	2.2	0.8
Cost of entrance fee	10	2.2	0.9	43	2.4	0.8	59	2.3	0.9	441	2.1	0.9	1,901	2.1	0.9
Cost of parking	11	2.2	0.9	37	2.2	0.8	64	2.3	0.9	459	2.0	0.9	1,965	2.1	0.9
Couldn't find a babysitter	9	1.8	1.0	35	1.1	0.5	46	1.2	0.5	369	1.3	0.6	1,517	1.2	0.6
Don't feel safe	10	2.5	0.8	41	2.4	0.9	58	2.0	0.9	420	2.0	0.9	1,835	2.1	0.9
Don't feel welcome	9	2.2	0.8	39	2.3	0.9	51	1.8	0.9	396	1.9	0.9	1,665	1.9	0.9
Lack of activities I want to participate in	8	1.5	0.8	36	1.5	0.7	47	1.3	0.5	372	1.5	0.7	1,572	1.4	0.7
Lack of amenities I want to use	10	2.0	0.8	37	1.6	0.8	48	1.4	0.6	391	1.6	0.8	1,634	1.5	0.7
No parking	11	2.2	0.9	40	2.4	0.8	59	2.3	0.9	469	2.3	0.9	1,993	2.3	0.9
No signs/information in appropriate language	9	1.8	0.8	36	1.5	0.7	50	1.5	0.8	379	1.5	0.7	1,585	1.4	0.7
Too difficult to get to the trailhead	8	1.8	0.9	38	1.7	0.8	48	1.5	0.7	389	1.5	0.8	1,626	1.5	0.7
Sample Total	19			76			95			754			3,577		

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. The difference in mean rating for “Concern about the lack of a ranger present” is statistically significant at P<0.05 or below between Black and 2+ Races, Asian and 2+ races, Pac. Islander and 2+ Races, and 2+ Races and Hispanic/Latino.
3. The difference in mean rating for “Concern about the presence of a ranger” is statistically significant at P<0.05 or below between White and Asian, White and Hispanic/Latino, Asian and 2+ Races, and 2+ Races and Hispanic/Latino.
4. The difference in mean rating for “Congestion at park” is statistically significant at P<0.05 or below between White and Hispanic/Latino, and 2+ Races and Hispanic/Latino.
5. The difference in mean rating for “Cost of entrance fee” is statistically significant at P<0.05 or below between Other and Hispanic/Latino.
6. The difference in mean rating for “Don’t feel safe” is statistically significant at P<0.05 or below between White and Asian, Asian and 2+ Races, Asian and Hispanic/Latino, and Other and Hispanic/Latino.
7. The difference in mean rating for “Don’t feel welcome” is statistically significant at P<0.05 or below between White and Asian, White and Other, Asian and 2+ Races, Asian and Hispanic/Latino, Other and 2+ Races, and Other and Hispanic/Latino.
8. The difference in mean rating for “Lack of activities I want to participate in” is statistically significant at P<0.05 or below between White and Asian, and Asian and 2+ Races.
9. The difference in mean rating for “Lack of amenities I want to use” is statistically significant at P<0.05 or below between White and Asian, White and Hispanic/Latino, Asian and 2+ Races, and 2+ Races and Hispanic/Latino.
10. The difference in mean rating for “No signs/information in appropriate language” is statistically significant at P<0.05 or below between White and Asian, and White and Hispanic/Latino.
11. The difference in mean rating for “Too difficult to get to the trailhead” is statistically significant at P<0.05 or below between White and Asian, and Asian and Hispanic/Latino.

Table A8-18. Mean Rating of Factors Influencing Return Visitation to Trailhead, by Income

	<$50K			$50K - $100K			$100K - $150K			>$150K			Sample Average		
	N.	Mean	S.D.	N.	Mean	S.D.	N.	Mean	S.D.	N.	Mean	S.D.	N.	Mean	S.D.
Concern about the lack of a ranger presence	337	1.5	0.7	418	1.4	0.7	239	1.4	0.7	348	1.4	0.7	1,342	1.4	0.7
Concern about the presence of a ranger	333	1.5	0.7	414	1.4	0.7	228	1.3	0.6	347	1.4	0.7	1,322	1.4	0.7

Congestion at park	382	2.1	0.8	488	2.2	0.8	287	2.3	0.8	447	2.3	0.8	1,604	2.2	0.8
Cost of entrance fee	388	2.2	0.9	492	2.2	0.9	273	2.2	0.9	421	2.1	0.9	1,574	2.1	0.9
Cost of parking	400	2.2	0.9	510	2.2	0.9	270	2.1	0.9	441	2.1	0.9	1,621	2.1	0.9
Couldn't find a babysitter	319	1.3	0.6	396	1.1	0.4	217	1.2	0.6	328	1.2	0.6	1,260	1.2	0.5
Don't feel safe	367	2.1	0.9	458	2.2	0.9	264	2.2	0.9	422	2.2	0.9	1,511	2.1	0.9
Don't feel welcome	347	1.9	0.9	429	2.0	0.9	242	1.9	0.9	368	1.9	0.9	1,386	1.9	0.9
Lack of activities I want to participate in	324	1.5	0.7	408	1.4	0.7	231	1.5	0.7	345	1.4	0.7	1,308	1.5	0.7
Lack of amenities I want to use	340	1.6	0.7	422	1.6	0.7	235	1.5	0.7	358	1.4	0.7	1,355	1.5	0.7
No parking	401	2.2	0.9	518	2.4	0.9	290	2.4	0.8	433	2.3	0.9	1,642	2.3	0.9
No signs/information in appropriate language	330	1.5	0.8	411	1.4	0.7	235	1.4	0.7	340	1.3	0.7	1,316	1.4	0.7
Too difficult to get to the trailhead	341	1.6	0.7	426	1.5	0.7	234	1.5	0.7	348	1.5	0.7	1,349	1.5	0.7
Sample Total	651			865			538			861			2,915		

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. The difference in mean rating is statistically significant at P<0.05 or below between <$50K and $50K-$100K for concern about the lack of a ranger present and couldn't find a babysitter.
3. The difference in mean rating is statistically significant at P<0.05 or below between <$50K and $100K-$150K and between <$50K and >$150K for concern about the presence of a ranger, congestion at the park, and no signs/information in appropriate language.

Park Recommendations and Protection Motivations

Table A8-19. Mean Likelihood of Recommending SMMNRA to a Friend or Colleague, by Gender

	N.	Mean	S.D.
Male	1,847	8.4	1.1
Female	1,790	8.5	1.0
Sample Avg.	3,637	8.4	1.0
1. The difference in mean rating is statistically significant at P<0.05.			

Table A8-20. Mean Likelihood of Recommending SMMNRA to a Friend or Colleague, by Age

	N.	Mean	S.D.
18 - 40 Years	1,895	8.4	1.0
41 - 64 Years	1,494	8.5	1.0
65+ Years	275	8.4	1.2
Sample Avg.	3,664	8.4	1.0
1. The difference in mean rating is statistically significant at P<0.001 between 18-40 Years and 41-64 Years.			

Table A8-21. Mean Likelihood of Recommending SMMNRA to a Friend or Colleague, by Education

	N.	Mean	S.D.
HS Student	116	8.3	1.2
No HS Degree/GED	36	7.7	1.8
HS Degree/GED	320	8.3	1.1
College	3,143	8.5	1.0
Sample Avg.	3,615	8.4	1.0
1. The difference in mean rating is statistically significant at P<0.05 between No HS Degree/GED and College.			

Table A8-22. Mean Likelihood of Recommending SMMNRA to a Friend or Colleague, by Race/Ethnicity

		N.	Mean	S.D.
Non-Hispanic	White	2,214	8.5	1.0
	Black	82	8.2	1.4
	Asian	255	8.3	1.0
	Am. Indian	36	8.6	0.7
	Pac. Islander	18	8.3	0.7
	Other	75	8.3	1.3
	2+ Races	92	8.4	0.9
Hispanic/Latino		739	739	1.1
Sample Avg.		3511	3,511	1.0
1. The difference in mean rating is statistically significant at P<0.05 between White and Asian.				

Table A8-23. Mean Likelihood of Recommending SMMNRA to a Friend or Colleague, by Race/Ethnicity (White/Non-White)

	N.	Mean	S.D.
Non-Hispanic White	2,214	8.5	1.0
Non-White	1,297	8.4	1.1
Sample Avg.	3,511	8.4	1.0
1. The difference in mean rating is statistically significant at P<0.01.			

Table A8-24. Mean Likelihood of Recommending SMMNRA to a Friend or Colleague, by Income

	N.	Mean	S.D.
<$50K	636	8.3	1.2
$50K-$100K	848	8.4	1.0
$100K-$150K	531	8.5	0.9
>$150K	847	8.5	0.9
Sample Avg.	2,862	8.5	1.0
1. The difference in mean rating is statistically significant at P<0.05 or below between <$50K and $100K-$150K, <$50K and >$150K, and $50K-$100K and >$150K.			

Table A8-25. Likelihood of Recommending the Trailhead (Where Survey Was Administered) to a Friend or Colleague

	N.	Pct.
1	16	0.4%
2	11	0.3%
3	7	0.2%

4	28	0.7%
5	52	1.3%
6	125	3.1%
7	490	12.2%
8	962	23.9%
9	2,338	58.0%
Sample Total	4,029	100.0%

Table A8-26. Mean Likelihood of Recommending the Trailhead (Where Survey Was Administered) to a Friend or Colleague, by Gender

	N.	Mean	S.D.
Male	1,818	8.3	1.2
Female	1,760	8.4	1.1
Sample Avg.	3,578	8.3	1.1
1. The difference in mean rating is statistically significant at P<0.05.			

Table A8-27 Mean Likelihood of Recommending the Trailhead (Where Survey Was Administered) to a Friend or Colleague, by Age

	N.	Mean	S.D.
18 - 40 Years	1,869	8.2	1.1
41 - 64 Years	1,476	8.4	1.1
65+ Years	265	8.3	1.3
Sample Avg.	3,610	8.3	1.1
1. The difference in mean rating is statistically significant at P<0.001 between 18-40 Years and 41-64 Years.			

Table A8-28. Mean Likelihood of Recommending the Trailhead (Where Survey Was Administered) to a Friend or Colleague, by Education

	N.	Mean	S.D.
HS Student	109	8.0	1.6
No HS Degree/GED	35	7.6	1.9
HS Degree/GED	308	8.2	1.1
College	3,088	8.3	1.1
Sample Avg.	3,540	8.3	1.1
1. The difference in mean rating is statistically significant at P<0.05 betweenNo HS Degree/GED and College.			

Table A8-29. Mean Likelihood of Recommending the Trailhead (Where Survey Was Administered) to a Friend or Colleague, by Race/Ethnicity

		N.	Mean	S.D.
Non-Hispanic	White	2214	8.3	1.1
	Black	2,155	8.3	1.1
	Asian	79	8.1	1.1
	Am. Indian	252	8.6	0.8
	Pac. Islander	34	8.4	0.7
	Other	19	8.2	1.1
	2+ Races	73	8.2	1.1
Hispanic/Latino		725	8.3	1.2
Sample Avg.		3,427	8.3	1.1

1. The difference in mean rating is statistically significant at P<0.05 or below between Asian and Other.

Table A8-30. Mean Likelihood of Recommending the Trailhead (Where Survey Was Administered) to a Friend or Colleague, by Race/Ethnicity (White/Non-White)

	N.	Mean	S.D.
Non-Hispanic White	2,155	8.3	1.1
Non-White	1,272	8.3	1.2
Sample Avg.	3,427	8.3	1.1

Table A8-31. Mean Likelihood of Recommending the Trailhead (Where Survey Was Administered) to a Friend or Colleague, by Income

	N.	Mean	S.D.
<$50K	625	8.2	1.2
$50K-$100K	831	8.3	1.1
$100K-$150K	514	8.4	1.0
>$150K	828	8.4	1.0
Sample Avg.	2,798	8.3	1.1

1. The difference in mean rating is statistically significant at P<0.05 or below between <$50K and $100K-$150K and between <$50K and >$150K.

Table A8-32. Most Important Reason for Protecting the SMMNRA, by Gender

	Male		Female		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
To provide recreational opportunities***	481	26.7%	301	17.3%	782	22.1%
To provide habitat for plants and wildlife***	628	34.8%	719	41.4%	1,344	38.0%
Both***	629	34.9%	720	41.5%	1,285	36.3%
No opinion	61	3.4%	50	2.9%	111	3.1%
Other	12	0.7%	6	0.3%	18	0.5%
Sample Total	1,803	100.0%	1,737	100.0%	3,540	100.0%

1. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.

Table A8-33. Most Important Reason for Protecting the SMMNRA, by Age

	18 - 40 Years		41 - 64 Years		65+ Years		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
To provide recreational opportunities	371	19.2%	355	24.2%	65	24.5%	791	22.2%
To provide habitat for plants and wildlife	724	37.4%	534	36.4%	97	36.6%	1,355	38.0%
Both	655	33.8%	543	37.0%	98	37.0%	1,296	36.3%
No opinion	82	4.2%	24	1.6%	4	1.5%	110	3.1%
Other	4	0.2%	10	0.7%	1	0.4%	15	0.4%
Sample Total	1,936	100.0%	1,466	100.0%	265	100.0%	3,567	100.0%

1. There is a statistically significant relationship between the two variables at P<0.001. Note that cell sizes approach 0.

Table A8-34. Most Important Reason for Protecting the SMMNRA, by Education

	HS Student		No HS Degree/GED		HS Degree/ GED		College		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
To provide recreational opportunities	24	20.9%	10	27.8%	51	16.5%	691	22.7%	776	22.1%
To provide habitat for plants and wildlife	38	33.0%	15	41.7%	120	38.8%	1,173	38.5%	1,346	38.4%
Both	47	40.9%	6	16.7%	113	36.6%	1,092	35.8%	1,258	35.9%
No opinion	5	4.3%	4	11.1%	23	7.4%	76	2.5%	110	3.1%
Other	1	0.9%	1	2.8%	2	0.6%	14	0.5%	18	0.5%
Sample Total	115	100.0%	36	100.0%	309	100.0%	3,048	100.0%	3,508	100.0%

1. There is a statistically significant relationship between the two variables at P<0.001. Note that cell sizes approach 0.

Table A8-35. Most Important Reason for Protecting the SMMNRA, by Race/Ethnicity

	Recreation	Habitat	Both	No	Other	Sample

							Opinion				Total	
		N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Non-Hispanic	White	461	21.4%	857	39.8%	783	36.4%	39	1.8%	14	0.6%	2,154	100%
	Black	26	32.9%	18	22.8%	30	38.0%	5	6.3%	0	0.0%	79	100%
	Asian	64	25.6%	89	35.6%	83	33.2%	14	5.6%	0	0.0%	250	100%
	Am. Indian	10	29.4%	11	32.4%	13	38.2%	0	0.0%	0	0.0%	34	100%
	Pac. Islander	4	21.1%	7	36.8%	6	31.6%	2	10.5%	0	0.0%	19	100%
	Other	14	19.2%	24	32.9%	29	39.7%	5	6.8%	1	1.4%	73	100%
	2+ Races	15	16.5%	40	44.0%	33	36.3%	3	3.3%	0	0.0%	91	100%
Hispanic/Latino		154	21.8%	262	37.2%	245	34.8%	40	5.7%	4	0.6%	705	100%
Sample Total		748	22.0%	1,308	38.4%	1,222	35.9%	108	3.2%	19	0.6%	3,405	100%

1. There is a statistically significant relationship between the two variables at P<0.001. Note that cell sizes approach 0.

Table A8-36. Most Important Reason for Protecting the SMMNRA, by Race/Ethnicity (White/Non-White)

	White		Non-White		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
To provide recreational opportunities	461	21.4%	287	22.9%	748	22.0%
To provide habitat for plants and wildlife*	857	39.8%	451	36.1%	1,308	38.4%
Both	753	35.0%	439	35.1%	1,222	35.9%
No opinion***	39	1.8%	69	5.5%	108	3.2%
Other	14	0.6%	5	0.4%	19	0.6%
Sample Total	2,154	100.0%	1,251	100.0%	3,405	100.0%

1. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.

Chapter 9 Appendix

Comparison of Eastern and Western Trailheads

Table A9-1. Trailheads, by East vs. West and Visitor Counts

Code	Trailhead Name	2018 Survey Respondents		2018 Visitor Count	
		N.	Pct.	N.	Pct.
	Western Trailheads	2,547	58.1%	14,204	37.9%
BBT	BBT/Topanga Ridge Mtwy Lois Ewen Overlook	32	0.7%	574	1.5%
CHA	Charmlee Wilderness Park Main Parking Lot	96	2.2%	180	0.5%
CHC	Cheeseboro Canyon/Simi Hills China Flat Trailhead	51	1.2%	150	0.4%
CHMI	Cheeseboro Canyon/Simi Hills Main Parking- Inner Lot	111	2.5%	465	1.2%
CHMO	Cheeseboro Canyon/Simi Hills Main Parking- Outer Lot	0	0.0%	396	1.1%
CXG	Circle X Ranch Grotto Trail at Campground	70	1.6%	109	0.3%
CXM	Circle X Ranch Mishe Mokwa Trailhead	108	2.5%	201	0.5%
CXS	Circle X Ranch Sandstone Peak Trailhead	131	3.0%	223	0.6%
CC	Corral Canyon Sara Wan Trailhead	24	0.5%	237	0.6%
EC	Escondido Canyon Winding Way Trailhead	150	3.4%	562	1.5%
LEON	Leo Carrillo State Park Nicholas Flat Trailhead	41	0.9%	203	0.5%
MALB	Malibu Creek State Park Backbone Trail Parking Lot at Top of Corral Canyon Rd	55	1.3%	168	0.4%
MALM	Malibu Creek State Park Main Entrance	113	2.6%	807	2.2%
MALL	Malibu Creek State Park Mulholland/Las Virgenes 4 Corners	105	2.4%	368	1.0%
PAM	Paramount Ranch Main Parking Lot (Western Town Entrance)	81	1.8%	576	1.5%
PD	Point Dume View Area at Top of Preserve	59	1.3%	1,349	3.6%
PMB	Point Mugu State Park Big Sycamore Canyon Trailhead	137	3.1%	1,022	2.7%
PMC	Point Mugu State Park Chumash Trailhead	134	3.1%	1,065	2.8%
PML	Point Mugu State Park La Jolla Canyon Trailhead	81	1.8%	419	1.1%
RSVM	Rancho Sierra Vista Main Parking Lot	236	5.4%	1,136	3.0%
RSVW	Rancho Sierra Vista Wendy Trailhead	0	0.0%	695	1.9%
ROM	Rocky Oaks Main Pkg	18	0.4%	108	0.3%
SC	Solstice Canyon	159	3.6%	634	1.7%
STU	Stunt Ranch Stunt High Trail at Stunt Rd: 1 Mile Marker	35	0.8%	176	0.5%
UPPL	Upper Las Virgenes Canyon Las Virgenes Rd (North)	74	1.7%	307	0.8%
UPPV	Upper Las Virgenes Canyon Victory Trailhead	216	4.9%	1,257	3.4%
ZUB	Zuma/Trancas Canyons Backbone Trail Encinal Canyon Trailhead	40	0.9%	189	0.5%
ZUk	Zuma/Trancas Canyons Kanan Rd Backbone Trail Trailhead	60	1.4%	140	0.4%
ZUC	Zuma/Trancas Canyons Zuma Canyon (Bonsall) Trailhead	51	1.2%	247	0.7%
ZUR	Zuma/Trancas Canyons Zuma Ridge (Busch) Trailhead	79	1.8%	241	0.6%
	Trailhead Name	2018		2018	

Code		Survey Respondents		Visitor Count	
		N.	Pct.	N.	Pct.
	Eastern Trailheads	1,834	41.9%	23,307	62.1%
CAB	Caballero Canyon Trailhead	105	2.4%	916	2.4%
FRAH	Franklin Canyon Hastain Trailhead	92	2.1%	305	0.8%
FRAR	Franklin Canyon Ranch Parking Lot	51	1.2%	244	0.7%
FRAW	Franklin Canyon WODOC Parking Lot	95	2.2%	613	1.6%
FRY	Fryman Canyon Nancy Pohl Overlook	78	1.8%	852	2.3%
RUN	Runyon Canyon	318	7.3%	7,829	20.9%
SAN	San Vicente Park- Dirt Mulholland	125	2.9%	1,190	3.2%
TEM	Temescal Gateway Park	169	3.9%	1,928	5.1%
RES	Top of Reseda Blvd. Main Parking Lot	128	2.9%	1,165	3.1%
TOPL	Topanga State Park Los Leones Trailhead	160	3.7%	1,067	2.8%
TOPY	Topanga State Park Santa Ynez Trailhead	85	1.9%	177	0.5%
TOPS	Topanga State Park Sullivan Ridge Fire Rd, gate at Casale Rd	101	2.3%	555	1.5%
TOPT	Topanga State Park Trippet Ranch Parking Lot	107	2.4%	698	1.9%
WILA	Wilacre Park	140	3.2%	4,220	11.3%
WILL	Will Rogers State Historic Park	80	1.8%	1,548	4.1%
	Sample Total	4,381	100.0%	37,511	100.0%

User Demographics

Table A9-2. Respondents at Eastern vs. Western Trailheads, by Gender

	Male		Female		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Western	1,140	60.3%	1,040	57.2%	2,180	58.8%
Eastern	749	39.7%	777	42.8%	1,526	41.2%
Sample Total	1,889	100.0%	1,817	100.0%	3,706	100.0%
1. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.						

Table A9-3. Respondents at Eastern vs. Western Trailheads, by Education

	Western		Eastern		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
HS Student	70	58.3%	50	41.7%	120	100.0%
No HS Degree/GED	26	70.3%	11	29.7%	37	100.0%
HS Degree/GED	202	61.8%	125	38.2%	327	100.0%
College	1,854	58.1%	1,339	41.9%	3,193	100.0%
Sample Total	2,152	58.5%	1,525	41.5%	3,677	100.0%
1. Chi-square test for independence P=0.283. Note that cell sizes approach 0.						

Table A9-4. Respondents at Eastern vs. Western Trailheads, by Race/Ethnicity

	Western	Eastern	Sample Total

		N.	Pct.	N.	Pct.	N.	Pct.
Non-Hispanic	White	1,305	57.9%	950	42.1%	2,255	100.0%
	Black	40	47.6%	44	52.4%	84	100.0%
	Asian	160	62.0%	98	38.0%	258	100.0%
	American Indian or Native Alaskan	26	72.2%	10	27.8%	36	100.0%
	Native Hawaiian or Pacific Islander	14	73.7%	5	26.3%	19	100.0%
	Other	41	53.9%	35	46.1%	76	100.0%
	2+ Races	55	57.9%	40	42.1%	95	100.0%
Hispanic		455	60.3%	299	39.7%	754	100.0%
Sample Total		2,096	58.6%	1,481	41.4%	3,577	100.0%
1. Chi-square test for independence P=0.098. Note that cell sizes approach 0.							

Table A9-5. Respondents at Eastern vs. Western Trailheads, by Race/Ethnicity (White/Non-White)

	White		Non-White		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Western	1,305	57.9%	791	59.8%	2,096	58.6%
Eastern	950	42.1%	531	40.2%	1,481	41.4%
Sample Total	2,255	100.0%	1,322	100.0%	3,577	100.0%
1. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.						

Table A9-6. Respondents at Eastern vs. Western Trailheads, by Income

	Western		Eastern		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
<$50,000	384	59.0%	267	41.0%	651	100.0%
$50,000 to $100,000	497	57.5%	368	42.5%	865	100.0%
$100,000 to $150,000	333	61.9%	205	38.1%	538	100.0%
>$150,000	513	59.6%	348	40.4%	861	100.0%
Sample Total	1,727	58.6%	1,188	41.4%	2,915	100.0%
1. Chi-square test for independence P=0.428. Note that cell sizes approach 0.						

Table A9-7. Respondents at Eastern vs. Western Trailheads, by Household Structure

	Western		Eastern		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Single***	1,334	55.8%	1,057	44.2%	2,391	
Friends/unrelated adults	106	57.3%	79	42.7%	185	
Couple without children under 18	454	59.1%	314	40.9%	768	
Single parent with children under 18	295	61.7%	183	38.3%	478	
Couple with children under 18	235	60.4%	154	39.6%	389	
Multigenerational/extended familial household	54	66.7%	27	33.3%	81	
Sample Total	2,547	58.1%	1,834	41.9%	4,381	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Chi-square test for independence, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Planning and Travel

Table 9-8. Mode of Transport, by Eastern vs. Western Trailheads

	Western		Eastern		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Automobile	2,231	59.5%	1,521	40.5%	3,752	100.0%
Public transportation	7	30.4%	16	69.6%	23	100.0%
Group transportation	12	66.7%	6	33.3%	18	100.0%
Motorcycle/scooter	8	61.5%	5	38.5%	13	100.0%
Bicycle	68	52.7%	61	47.3%	129	100.0%
Walk/jog	193	48.6%	204	51.4%	397	100.0%
Horseback	10	90.9%	1	9.1%	11	100.0%
Other	1	50.0%	1	50.0%	2	100.0%
Sample Total	2,530	58.2%	1,815	41.8%	4,345	100.0%

1. There is a statistically significant relationship between the two variables at P<0.001. Note that cell sizes approach 0.

Activities and Time

Table A9-9. Mean Time Spent in SMMNRA, by Eastern vs. Western Trailheads

	N.	Mean	S.D.
Western	2,318	177.2	420.8
Eastern	1,643	114.5	102.5
Sample Avg.	3,961	151.2	330.1

1. The difference in mean time spent is statistically significant at P<0.001.

Table A9-10. Time (Hours) Spent in SMMNRA, by Eastern vs. Western Trailheads

	Western		Eastern		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
< 1 hour	102	4.4%	68	4.1%	170	4.3%
1 - 2 hours***	792	34.2%	763	46.4%	1,555	39.3%
2 - 3 hours	808	34.9%	533	32.4%	1,341	33.9%
3 - 4 hours**	322	13.9%	184	11.2%	506	12.8%
4 - 5 hours***	141	6.1%	52	3.2%	193	4.9%
5 - 6 hours	39	1.7%	16	1.0%	55	1.4%
6+ hours***	114	4.9%	27	1.6%	141	3.6%
Sample Total	2,318	100%	1,643	100%	3,961	100%
1. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001						

Amenity Use and Preferences

Table A9-11. Amenities Used by Respondents, by Eastern vs. Western Trailheads

	Western		Eastern		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques	49	1.9%	23	1.3%	72	1.6%
Bathrooms*	1,189	46.2%	778	42.4%	1,967	44.9%
Benches***	650	25.3%	650	35.4%	1,300	29.7%
Bike racks	34	1.3%	33	1.8%	67	1.5%
Campgrounds***	132	5.1%	36	2.0%	168	3.8%
Cellular service	465	18.1%	368	20.1%	833	19.0%
Dog off-leash areas***	129	5.0%	163	8.9%	292	6.7%
Drinking fountains***	411	16.0%	474	25.8%	885	20.2%
Educational information	103	4.0%	59	3.2%	162	3.7%
Electrical hookups	33	1.3%	14	0.8%	47	1.1%
Fire pits***	79	3.1%	24	1.3%	103	2.4%
First aid services	69	2.7%	39	2.1%	108	2.5%
Hitching post	26	1.0%	28	1.5%	54	1.2%
Law enforcement onsite	62	2.4%	51	2.8%	113	2.6%
Maps of trailheads/trails***	526	20.4%	275	15.0%	801	18.3%
Overlook/viewpoint***	1,236	48.0%	976	53.2%	2,212	50.5%
Park programs	78	3.0%	46	2.5%	124	2.8%
Parking***	1,641	63.8%	969	52.8%	2,610	59.6%
Picnic tables*	313	12.2%	178	9.7%	491	11.2%
Shade structures	302	11.7%	214	11.7%	516	11.8%
Sports facilities***	15	0.6%	30	1.6%	45	1.0%
Staff/rangers onsite***	270	10.5%	104	5.7%	374	8.5%
	Western		Eastern		Sample Total	
	N.	Pct.	N.	N.	Pct.	N.
Telephones*	60	2.3%	62	3.4%	122	2.8%
Trash cans	1,086	42.2%	828	45.1%	1,914	43.7%
Vending/food providers	40	1.6%	23	1.3%	63	1.4%
Visitor center	132	5.1%	80	4.4%	212	4.8%
Wi-Fi*	155	6.0%	139	7.6%	294	6.7%
Sample Total	2,574		1,834		4,381	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.

Table A9-12. Amenities that Respondents Want Added, by Eastern vs. Western Trailheads

	Western		Eastern		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques	75	2.9%	53	2.9%	128	2.9%
Bathrooms	504	19.6%	398	21.7%	902	20.6%
Benches***	264	10.3%	126	6.9%	390	8.9%
Bike racks	60	2.3%	51	2.8%	111	2.5%
Campgrounds	101	3.9%	73	4.0%	174	4.0%
Cellular service*	291	11.3%	166	9.1%	457	10.4%
Dog off-leash areas*	201	7.8%	179	9.8%	380	8.7%
Drinking fountains***	520	20.2%	277	15.1%	797	18.2%
Educational information	94	3.7%	55	3.0%	149	3.4%
Electrical hookups	49	1.9%	28	1.5%	77	1.8%
Fire pits	93	3.6%	63	3.4%	156	3.6%
First aid services	103	4.0%	80	4.4%	183	4.2%
Hitching post	16	0.6%	12	0.7%	28	0.6%
Law enforcement onsite	60	2.3%	58	3.2%	118	2.7%
Maps of trailheads/trails	288	11.2%	204	11.1%	492	11.2%
Overlook/viewpoint*	114	4.4%	54	2.9%	168	3.8%
Park programs	85	3.3%	67	3.7%	152	3.5%
Parking***	159	6.2%	175	9.5%	334	7.6%
Picnic tables	121	4.7%	80	4.4%	201	4.6%
Shade structures**	254	9.9%	134	7.3%	388	8.9%
Sports facilities	47	1.8%	42	2.3%	89	2.0%
Staff/rangers onsite	79	3.1%	74	4.0%	153	3.5%
Telephones	25	1.0%	21	1.1%	46	1.0%
Trash cans	267	10.4%	174	9.5%	441	10.1%
Vending/food providers**	80	3.1%	88	4.8%	168	3.8%
Visitor center	105	4.1%	64	3.5%	169	3.9%
Wi-Fi	257	10.0%	216	11.8%	473	10.8%
Sample Total	2,574		1,834		4,381	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.

Frequency of Visits, Attitudes Towards Park, and Value of Access

Table A9-13. First Time Visitors, by Eastern vs. Western Trailheads

	Western		Eastern		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
No***	1,882	79.8%	1,422	85.4%	3,304	82.1%
Yes***	475	20.2%	243	14.6%	718	17.9%
Sample Total	2,357	100.0%	1,665	100.0%	4,022	100.0%
1. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.						

Table A9-14. Normally Visit the Trailhead (Where Survey Was Administered), by Eastern vs. Western Trailheads

	Western		Eastern		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
No***	705	35.8%	370	25.5%	1,075	31.4%
Yes***	1,265	64.2%	1,082	74.5%	2,347	68.6%
Sample Total	1,970	100.0%	1,452	100.0%	3,422	100.0%
1. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.						

Table A9-15. Most Important Reason for Protecting the SMMNRA, by Eastern vs. Western Trailheads

	Western		Eastern		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
To provide recreational opportunities*	1,369	59.7%	909	56.1%	2,278	58.2%
To provide habitat for plants and wildlife	853	37.2%	634	39.1%	1,487	38.0%
No opinion*	64	2.8%	66	4.1%	130	3.3%
Other	8	0.3%	11	0.7%	19	0.5%
Sample Total	2,294	100.0%	1,620	100.0%	3,914	100.0%
1. There is a statistically significant relationship between the two variables at P<0.05 Note that cell sizes approach 0.						

Comparison of Primary, Secondary, and Tertiary Trailheads

Table A9-16. Trailheads by Trailhead Rank and Visitor Counts

Trail Name	2018 Survey Respondents		2018 Visitor Count	
	N.	Pct.	N.	Pct.
Primary Trailheads	1,557	35.5%	10,869	29.0%
Charmlee Wilderness Park Main Parking Lot	96	2.2%	180	0.5%
Cheeseboro Canyon/Simi Hills Main Parking- Inner Lot	111	2.5%	465	1.2%
Cheeseboro Canyon/Simi Hills Main Parking- Outer Lot	0	0.0%	396	1.1%
Franklin Canyon Ranch Parking Lot	51	1.2%	244	0.7%
Franklin Canyon WODOC Parking Lot	95	2.2%	613	1.6%
Leo Carrillo State Park Nicholas Flat Trailhead	41	0.9%	203	0.5%
Malibu Creek State Park Main Entrance	113	2.6%	807	2.2%
Paramount Ranch Main Parking Lot (Western Town Entrance)	81	1.8%	576	1.5%
Point Mugu State Park Big Sycamore Canyon Trailhead	137	3.1%	1,022	2.7%
Point Mugu State Park La Jolla Canyon Trailhead	81	1.8%	419	1.1%
Rancho Sierra Vista Main Parking Lot	236	5.4%	1,136	3.0%
Solstice Canyon	159	3.6%	634	1.7%
Temescal Gateway Park	169	3.9%	1,928	5.1%
Topanga State Park Trippet Ranch Parking Lot	107	2.4%	698	1.9%
Will Rogers State Historic Park	80	1.8%	1,548	4.1%
Secondary Trailheads	1,581	36.1%	20,553	54.8%
Caballero Canyon Trailhead	105	2.4%	916	2.4%
Circle X Ranch Grotto Trail at Campground	70	1.6%	109	0.3%
Circle X Ranch Mishe Mokwa Trailhead	108	2.5%	201	0.5%
Point Dume View Area at Top of Preserve	59	1.3%	1,349	3.6%
Rancho Sierra Vista Wendy Trailhead	0	0.0%	695	1.9%
Rocky Oaks Main Pkg	18	0.4%	108	0.3%
Runyon Canyon	318	7.3%	7,829	20.9%
San Vicente Park- Dirt Mulholland	125	2.9%	1,190	3.2%
Top of Reseda Blvd. Main Parking Lot	128	2.9%	1,165	3.1%
Topanga State Park Los Leones Trailhead	160	3.7%	1,067	2.8%
Upper Las Virgenes Canyon Las Virgenes Rd (North)	74	1.7%	307	0.8%
Upper Las Virgenes Canyon Victory Trailhead	216	4.9%	1,257	3.4%
Wilacre Park	140	3.2%	4,220	11.3%
Zuma/Trancas Canyons Kanan Rd Backbone Trail Trailhead	60	1.4%	140	0.4%
Tertiary Trailheads	1,243	28.4%	6,089	16.2%
BBT/Topanga Ridge Mtwy Lois Ewen Overlook	32	0.7%	574	1.5%
Cheeseboro Canyon/Simi Hills China Flat Trailhead	51	1.2%	150	0.4%
Circle X Ranch Sandstone Peak Trailhead	131	3.0%	223	0.6%

Tertiary Trailheads Cont.	2018 Survey Responents		2018 Visitor Count	
	N.	Pct.	N.	Pct.
Corral Canyon Sara Wan Trailhead	24	0.5%	237	0.6%
Escondido Canyon Winding Way Trailhead	150	3.4%	562	1.5%
Franklin Canyon Hastain Trailhead	92	2.1%	305	0.8%
Fryman Canyon Nancy Pohl Overlook	78	1.8%	852	2.3%
Malibu Creek State Park Backbone Trail Parking Lot at Top of Corral Canyon Rd	55	1.3%	168	0.4%
Malibu Creek State Park Mulholland/Las Virgenes 4 Corners	105	2.4%	368	1.0%
Point Mugu State Park Chumash Trailhead	134	3.1%	1,065	2.8%
Stunt Ranch Stunt High Trail at Stunt Rd: 1 Mile Marker	35	0.8%	176	0.5%
Topanga State Park Santa Ynez Trailhead	85	1.9%	177	0.5%
Topanga State Park Sullivan Ridge Fire Rd, gate at Casale Rd	101	2.3%	555	1.5%
Zuma/Trancas Canyons Backbone Trail Encinal Canyon Trailhead	40	0.9%	189	0.5%
Zuma/Trancas Canyons Zuma Canyon (Bonsall) Trailhead	51	1.2%	247	0.7%
Zuma/Trancas Canyons Zuma Ridge (Busch) Trailhead	79	1.8%	241	0.6%
Sample Total	4,381	100.0%	37,511	100.0%

User Demographics

Table A9-17. Trailhead Rank, by Gender

	Male		Female		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Primary*	629	33.3%	674	37.1%	1,303	35.2%
Secondary	695	36.8%	661	36.4%	1,356	36.6%
Tertiary*	565	29.9%	482	26.5%	1,047	28.3%
Sample Total	1,889	100.0%	1,817	100.0%	3,706	100.0%
1. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.						

Table A9-18. Trailhead Rank, by Age

	Primary		Secondary		Tertiary		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
18 to 40 Years	628	32.6%	751	39.0%	547	28.4%	1,926	100.0%
41 to 64 Years	562	36.8%	542	35.5%	424	27.7%	1,528	100.0%
65+ Years	132	47.1%	69	24.6%	79	28.2%	280	100.0%
Sample Total	1,322	35.4%	1,362	36.5%	1,050	28.1%	3,734	100.0%
1. There is a statistically significant relationship between the two variables at P<0.001.								

Table A9-19. Trailhead Rank, by Education

	Primary		Secondary		Tertiary		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
HS Student	43	35.8%	44	36.7%	33	27.5%	120	100.0%
No HS Degree/GED	11	29.7%	13	35.1%	13	35.1%	37	100.0%
HS Degree/GED	112	34.3%	107	32.7%	108	33.0%	327	100.0%
College	1,146	35.9%	1,163	36.4%	884	27.7%	3,193	100.0%
Sample Total	1,312	35.7%	1,327	36.1%	1,038	28.2%	3,677	100.0%
1. Chi-square test for independence P=0.495. Note that cell sizes approach 0.								

Table A9-20. Trailhead Rank, by Race/Ethnicity

		Primary		Secondary		Tertiary		Sample Total	
		N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Non-Hispanic	White	843	37.4%	785	34.8%	627	27.8%	2,255	100.0%
	Black	15	17.9%	48	57.1%	21	25.0%	84	100.0%
	Asian	85	32.9%	91	35.3%	82	31.8%	258	100.0%
	American Indian or Native Alaskan	10	27.8%	14	38.9%	12	33.3%	36	100.0%
	Native Hawaiian or Pacific Islander	6	31.6%	4	21.1%	9	47.4%	19	100.0%
	Other	21	27.6%	35	46.1%	20	26.3%	76	100.0%
	2+ Races	42	44.2%	31	32.6%	22	23.2%	95	100.0%
Hispanic		255	33.8%	273	36.2%	226	30.0%	754	100.0%
Sample Total		1,277	35.7%	1,281	35.8%	1,019	28.5%	3,577	100.0%
1. There is a statistically significant relationship between the two variables at P<0.001. Note that cell sizes approach 0.									

Table A9-21. Trailhead Rank, by Race/Ethnicity (White/Non-White)

	White		Non-White		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.
Primary**	843	37.4%	434	32.8%	1,277	35.7%
Secondary	785	34.8%	496	37.5%	1,281	35.8%
Tertiary	627	27.8%	392	29.7%	1,019	28.5%
Sample Total	2,255	100.0%	1,322	100.0%	3,577	100.0%
1. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.						

Table A9-22. Trailhead Rank, by Household Structure

	Primary		Secondary		Tertiary		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Single*	812	34.0%	900	37.6%	679	28.4%	2,391	
Friends/unrelated adults**	45	24.3%	76	41.1%	64	34.6%	185	
Couple w/o kids under 18	294	38.3%	264	34.4%	210	27.3%	768	
Single parent w/ kids under 18	178	37.2%	168	35.1%	132	27.6%	478	
Couple w/ kids under 18***	171	44.0%	122	31.4%	96	24.7%	389	
Multigenerational/extended familial household	25	30.9%	28	34.6%	28	34.6%	81	
Sample Total	1,557	35.5%	1,581	36.1%	1,243	28.4%	4,381	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Chi-square test for independence, *P<0.05, **P<0.01, ***P<0.001. Note that cell sizes approach 0.

Planning and Travel

Table A9-23. Mode of Transport, by Trailhead Rank

	Primary		Secondary		Tertiary		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Automobile	1,358	36.2%	1,281	34.1%	1,113	29.7%	3,752	100.0%
Public transportation	5	21.7%	16	69.6%	2	8.7%	23	100.0%
Group transportation	9	50.0%	4	22.2%	5	27.8%	18	100.0%
Motorcycle/scooter	5	38.5%	6	46.2%	2	15.4%	13	100.0%
Bicycle	41	31.8%	49	38.0%	39	30.2%	129	100.0%
Walk/jog	123	31.0%	204	51.4%	70	17.6%	397	100.0%
Horseback	6	54.5%	2	18.2%	3	27.3%	11	100.0%
Other	0	0.0%	1	50.0%	1	50.0%	2	100.0%
Sample Total	1,547	35.6%	1,563	36.0%	1,235	28.4%	4,345	100.0%

1. There is a statistically significant relationship between the two variables at P<0.001. Note that cell sizes approach 0.

Table A9-24. Mean Minutes Traveled, by Trailhead Rank

	N.	Mean	S.D.
Primary	1,370	36.4	33.0
Secondary	1,383	29.1	29.5
Tertiary	1,124	37.0	32.1
Sample Avg.	3,877	33.9	31.7

1. The difference in mean minutes traveled is statistically significant at P<0.001 between Primary and Secondary, and Secondary and Tertiary.

Activities and Time Spent in SMMNRA

Table A9-25. All Activities Engaged in at SMMNRA, by Trailhead Rank

	Primary		Secondary		Tertiary		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Bird Watching***	254	16.3%	178	11.3%	153	12.3%	585	13.4%
Camping***	101	6.5%	47	3.0%	44	3.5%	192	4.4%
Hiking	1,342	86.2%	1,331	84.2%	1,068	85.9%	3,741	85.4%
Horseback Riding	47	3.0%	36	2.3%	34	2.7%	117	2.7%
Jogging***	269	17.3%	387	24.5%	229	18.4%	885	20.2%
Mountain Biking	191	12.3%	217	13.7%	172	13.8%	580	13.2%
Painting/Crafts	47	3.0%	44	2.8%	28	2.3%	119	2.7%
Photography	384	24.7%	362	22.9%	320	25.7%	1,066	24.3%
Picnicking***	145	9.3%	82	5.2%	91	7.3%	318	7.3%
Rock Climbing***	85	5.5%	132	8.3%	138	11.1%	355	8.1%
Sightseeing**	837	53.8%	776	49.1%	597	48.0%	2,210	50.4%
Sunbathing	126	8.1%	143	9.0%	95	7.6%	364	8.3%
Wading/Swimming**	125	8.0%	79	5.0%	75	6.0%	279	6.4%
Walking dog(s)**	248	15.9%	320	20.2%	228	18.3%	796	18.2%
Other*	103	6.6%	125	7.9%	68	5.5%	396	9.0%
Sample Total	1,557		1,581		1,243		4,381	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001

Table A9-26. Time (Hours) Spent in SMMNRA, by Trailhead Rank

	Primary		Secondary		Tertiary		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
< 1 hour	45	3.2%	82	5.7%	43	3.8%	170	4.3%
1 - 2 hours	505	35.9%	626	43.8%	424	37.7%	1,555	39.3%
2 - 3 hours	516	36.7%	456	31.9%	369	32.8%	1,341	33.9%
3 - 4 hours	177	12.6%	165	11.5%	164	14.6%	506	12.8%
4 - 5 hours	63	4.5%	52	3.6%	78	6.9%	193	4.9%
5 - 6 hours	15	1.1%	19	1.3%	21	1.9%	55	1.4%
6+ hours	85	6.0%	29	2.0%	27	2.4%	141	3.6%
Sample Total	1,406	100%	1,429	100%	1,126	100%	3,961	100%
1. There is a statistically significant relationship between the two variables at P<0.001.								

Amenity Use and Preferences

Table A9-27. Amenities Used by Respondents, by Trailhead Rank

	Primary		Secondary		Tertiary		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques***	40	2.6%	21	1.3%	11	0.9%	72	1.6%
Bathrooms***	1,021	65.6%	576	36.4%	370	29.8%	1,967	44.9%
Benches***	554	35.6%	551	34.9%	195	15.7%	1,300	29.7%
Bike racks	23	1.5%	30	1.9%	14	1.1%	67	1.5%
Campgrounds***	99	6.4%	39	2.5%	30	2.4%	168	3.8%
Cellular service	283	18.2%	325	20.6%	225	18.1%	833	19.0%
Dog off-leash areas***	90	5.8%	140	8.9%	62	5.0%	292	6.7%
Drinking fountains***	380	24.4%	378	23.9%	127	10.2%	885	20.2%
Educational information***	81	5.2%	52	3.3%	29	2.3%	162	3.7%
Electrical hookups*	24	1.5%	16	1.0%	7	0.6%	47	1.1%
Fire pits***	72	4.6%	20	1.3%	11	0.9%	103	2.4%
First aid services	39	2.5%	38	2.4%	31	2.5%	108	2.5%
Hitching post	20	1.3%	24	1.5%	10	0.8%	54	1.2%
Law enforcement onsite	39	2.5%	43	2.7%	31	2.5%	113	2.6%
Maps of trailheads/trails***	357	22.9%	265	16.8%	179	14.4%	801	18.3%
Overlook/viewpoint***	817	52.5%	839	53.1%	556	44.7%	2,212	50.5%
Park programs**	59	3.8%	45	2.8%	20	1.6%	124	2.8%
Parking***	1,043	67.0%	785	49.7%	782	62.9%	2,610	59.6%
Picnic tables***	266	17.1%	144	9.1%	81	6.5%	491	11.2%
Shade structures***	232	14.9%	195	12.3%	89	7.2%	516	11.8%
Sports facilities	19	1.2%	17	1.1%	9	0.7%	45	1.0%
Staff/rangers onsite***	183	11.8%	97	6.1%	94	7.6%	374	8.5%
Telephones**	28	1.8%	56	3.5%	38	3.1%	122	2.8%
Trash cans***	733	47.1%	715	45.2%	466	37.5%	1,914	43.7%
Vending/food providers	25	1.6%	27	1.7%	11	0.9%	63	1.4%
Visitor center	125	8.0%	50	3.2%	37	3.0%	212	4.8%
Wi-Fi	106	6.8%	115	7.3%	73	5.9%	294	6.7%
Sample Total	1,557		1,581		1,243		4,381	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.

Table A9-28. Amenities that Respondents Want Improved, by Trailhead Rank

	Primary		Secondary		Tertiary		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques	26	1.7%	22	1.4%	15	1.2%	63	1.4%
Bathrooms***	411	26.4%	502	31.8%	420	33.8%	1,333	30.4%
Benches**	105	6.7%	158	10.0%	104	8.4%	367	8.4%
Bike racks	19	1.2%	20	1.3%	14	1.1%	53	1.2%
Campgrounds	49	3.1%	34	2.2%	30	2.4%	113	2.6%
Cellular service*	201	12.9%	162	10.2%	123	9.9%	486	11.1%
Dog off-leash areas	119	7.6%	121	7.7%	98	7.9%	338	7.7%
Drinking fountains***	204	13.1%	339	21.4%	195	15.7%	738	16.8%
Educational information	47	3.0%	32	2.0%	23	1.9%	102	2.3%
Electrical hookups	14	0.9%	12	0.8%	6	0.5%	32	0.7%
Fire pits	35	2.2%	25	1.6%	21	1.7%	81	1.8%
First aid services**	27	1.7%	52	3.3%	25	2.0%	104	2.4%
Hitching post	5	0.3%	5	0.3%	9	0.7%	19	0.4%
Law enforcement onsite	35	2.2%	40	2.5%	24	1.9%	99	2.3%
Maps of trailheads/trails**	211	13.6%	157	9.9%	160	12.9%	528	12.1%
Overlook/viewpoint	115	7.4%	119	7.5%	90	7.2%	324	7.4%
Park programs**	41	2.6%	33	2.1%	11	0.9%	85	1.9%
Parking***	234	15.0%	313	19.8%	308	24.8%	855	19.5%
Picnic tables	50	3.2%	53	3.4%	40	3.2%	143	3.3%
Shade structures***	95	6.1%	135	8.5%	41	3.3%	271	6.2%
Sports facilities	17	1.1%	9	0.6%	6	0.5%	32	0.7%
Staff/rangers onsite	37	2.4%	51	3.2%	26	2.1%	114	2.6%
Telephones	12	0.8%	19	1.2%	8	0.6%	39	0.9%
Trash cans***	164	10.5%	253	16.0%	212	17.1%	629	14.4%
Vending/food providers	21	1.3%	29	1.8%	14	1.1%	64	1.5%
Visitor center	37	2.4%	31	2.0%	20	1.6%	88	2.0%
Wi-Fi	135	8.7%	116	7.3%	91	7.3%	342	7.8%
Sample Total	1,557		1,581		1,243		4,381	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.

Table A9-29. Amenities that Respondents Want Added, by Trailhead Rank

	Primary		Secondary		Tertiary		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
Barbeques	56	3.6%	43	2.7%	29	2.3%	128	2.9%
Bathrooms***	106	6.8%	420	26.6%	376	30.2%	902	20.6%
Benches***	94	6.0%	138	8.7%	158	12.7%	390	8.9%
Bike racks	47	3.0%	39	2.5%	25	2.0%	111	2.5%
Campgrounds	64	4.1%	60	3.8%	50	4.0%	174	4.0%
Cellular service**	193	12.4%	139	8.8%	125	10.1%	457	10.4%
Dog off-leash areas**	155	10.0%	110	7.0%	115	9.3%	380	8.7%
Drinking fountains***	176	11.3%	321	20.3%	300	24.1%	797	18.2%
Educational information**	72	4.6%	43	2.7%	34	2.7%	149	3.4%
Electrical hookups***	47	3.0%	18	1.1%	12	1.0%	77	1.8%
Fire pits	66	4.2%	53	3.4%	37	3.0%	156	3.6%
First aid services	62	4.0%	71	4.5%	50	4.0%	183	4.2%
Hitching post	14	0.9%	7	0.4%	7	0.6%	28	0.6%
Law enforcement onsite*	36	2.3%	56	3.5%	26	2.1%	118	2.7%
Maps of trailheads/trails	163	10.5%	170	10.8%	159	12.8%	492	11.2%
Overlook/viewpoint*	58	3.7%	49	3.1%	61	4.9%	168	3.8%
Park programs	62	4.0%	56	3.5%	34	2.7%	152	3.5%
Parking***	62	4.0%	151	9.6%	121	9.7%	334	7.6%
Picnic tables*	55	3.5%	80	5.1%	66	5.3%	201	4.6%
Shade structures**	139	8.9%	163	10.3%	86	6.9%	388	8.9%
Sports facilities	37	2.4%	36	2.3%	16	1.3%	89	2.0%
Staff/rangers onsite	54	3.5%	67	4.2%	32	2.6%	153	3.5%
Telephones	15	1.0%	17	1.1%	14	1.1%	46	1.0%
Trash cans***	96	6.2%	165	10.4%	180	14.5%	441	10.1%
Vending/food providers*	75	4.8%	58	3.7%	35	2.8%	168	3.8%
Visitor center	69	4.4%	61	3.9%	39	3.1%	169	3.9%
Wi-Fi**	198	12.7%	166	10.5%	109	8.8%	473	10.8%
Sample Total	1,557		1,581		1,243		4,381	

1. Respondents could select more than 1 category, so the percentages do not add up to 100%.
2. Two-sample difference in proportions test, *P<0.05, **P<0.01, ***P<0.001.

Frequency of Visits, Attitudes Towards Park, and Value of Access

Table A9-30. First Time Visitors, by Trailhead Rank

	Primary		Secondary		Tertiary		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
No	1,162	81.4%	1,212	83.5%	930	81.3%	3,304	82.1%
Yes	265	18.6%	239	16.5%	214	18.7%	718	17.9%
Sample Total	1,427	100.0%	1,451	100.0%	1,144	100.0%	4,022	100.0%
1. Chi-square test for independence P=0.228. Note that cell sizes approach 0.								

Table A9-31. Normally Visit the Trailhead (Where Survey Was Administered), by Trailhead Rank

	Primary		Secondary		Tertiary		Sample Total	
	N.	Pct.	N.	Pct.	N.	Pct.	N.	Pct.
No	415	34.6%	323	25.6%	337	35.1%	1,075	31.4%
Yes	786	65.4%	937	74.4%	624	64.9%	2,347	68.6%
Sample Total	1,201	100.0%	1,260	100.0%	961	100.0%	3,422	100.0%
1. There is a statistically significant relationship between the two variables at P<0.001. Notes that cell sizes approach 0.								